Ecological Report
for the
Cross Florida Greenway Recreational Improvement Area Project

June 2008

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SECTION 1

Introduction

The Cross Florida Greenway Recreational Improvement Area Project (Project) is being proposed to provide recreational improvements for the Greenway system. The proposed Project is located in southwestern Levy County, Florida, a portion of which is within the Town of Inglis, with the remainder located within unincorporated Levy County. The majority of the site parallels the northern bank of the Cross Florida Barge Canal within the Marjorie Harris Carr Cross Florida Greenway (CFG) State Recreation and Conservation Area beginning at U.S. Highway 19 (US 19) and continuing approximately 2.5 miles east. An access road is proposed to extend north to County Road 40 (CR 40). The Project Location Figure included as Appendix A and USGS Quadrangle Map included as Appendix B depicts the location of the proposed Project.

The proposed Project facilities include:

- Upland excavation along the north bank of the Cross Florida Barge Canal south of the Inglis Lock for construction of a concrete parking area;
- 50 foot wide access road from CR 40 to the upland excavation area with a bridge over the Inglis Lock Bypass Channel; and
- Stormwater treatment swales along the access road to meet the water quality requirements.

All work along the Cross Florida Barge Canal will be upland of the mean high water line. Future permitting efforts will be required to excavate in front of the concrete parking area to the Cross Florida Barge Canal in order to allow this concrete paved area to be used as a barge slip/boat ramp.

Ecological field surveys were conducted during April 2008 to identify land uses, jurisdictional wetlands and waterbodies, suitable habitat for species of concern, and other ecological features in the vicinity of the proposed Project boundary. This Ecological Report summarizes the ecological conditions in the vicinity of the proposed Project site based on the results of field surveys and desktop evaluations.

SECTION 2

Project Land Use

The proposed Project consists of an upland excavation off of the Cross Florida Barge Canal, a new gravel access road, a new bridge over the Inglis Lock Bypass Channel, and a new paved pedestrian and bicycle path. These Project facilities will encompass approximately 6.61 acres of land, the majority of which is currently classified as Open Land. Table 1 summarizes the proposed facility areas and land uses.

TABLE 1
Proposed Facilities for the Cross Florida Greenway Recreational Improvement Project

Facility	Land Area (acres)	Current Land Cover	Proposed Land Cover
Gravel Access Road	5.91	Open Land, Transportation, Tree Plantation	Transportation
Upland Excavation/Concrete Platform - Future Recreation	0.56	Open Land	Transportation
Inglis Lock Bypass Channel Bridge	0.14	Reservoir	Stream or Waterway (Transportation)
Total	7.42		

Existing land cover types within the proposed Project boundaries were classified based on Florida Land Use, Cover, and Forms Classification System (FLUCFCS) Level III codes, as interpreted and mapped by the Southwest Florida Water Management District (SWFWMD, 1999) or observations made during field surveys performed by CH2M HILL ecologists in April 2008. Existing and proposed land use acreages and percentages are provided in Table 2 and are described below in order of decreasing prevalence. A Project Land Use Figure is provided as Appendix C.

TABLE 2
Land Cover for the Cross Florida Greenway Recreational Improvement Project

		Existing Land Cover		Proposed Land Cover	
Land Cover	**FLUCFCS Code**	**Project Area (acres)**	**Percent of Total Project Area**	**Project Area (acres)**	**Percent of Total Project Area**
Other Open Lands	190	2.03	31		
Transportation	810	1.27	19	6.47	98
Tree Plantations	440	3.17	48	-	-
Reservoir	530	0.14	2	-	-
Streams and Waterways (Transportation)	510	-	-	0.14	2

Other Open Lands (Code 190)

Other Open Lands currently encompass 2.03 ac., representing 31 percent of land covered by the proposed Project. Other Open Lands consists of parcels that are undeveloped and are without indicators of the intended land use. This land cover is generally comprised of turf grass or ruderal species such as bahia grass (*Panicum notatum*), dog fennel (*Eupatorium capillifolium*), or annual ragweed (*Ambrosia artemisifolia*).

Transportation (Code 810)

The Transportation land cover encompasses a variety of transportation-related facilities, including roads and locks or water course control structures designed for transportation purposes. In the proposed Project area, this land cover class includes the Cross Florida Barge Canal structures, control buildings, and surrounding supporting land uses. The Transportation land cover currently represents 1.27 ac., or 19 percent of the area within the proposed Project boundaries. The proposed gravel access road, Inglis Lock Bypass Channel bridge, and concrete platform for the future boat ramp/barge slip would be classified as transportation and will represent 6.47 ac., or 98 percent of the land cover.

Tree Plantations (Code 440)

Approximately 3.17 ac., or 48 percent of the current proposed Project acreage is classified as Tree Plantations. These areas are predominantly planted with slash pine (*Pinus elliottii*). Understory and groundcover vegetation generally includes gallberry (*Ilex glabra*), saw palmetto (*Serenoa repens*), sand blackberry (*Rubus cuneifolis*), wax myrtle (*Myrica cerifera*), broomsedge (*Andropogon virginicus*), or blue maidencane (*Amphicarpum muhlenbergium*). The proposed access road would be constructed through an existing tree plantation area.

Streams and Waterways (Code 510) and Reservoirs (Code 530)

This category includes rivers, creeks, canals, and other linear surface waters. The Cross Florida Barge Canal would be classified as a stream or waterway; whereas the Inglis Lock Bypass Channel would be classified as a reservoir. Both surface waters are man-made

waterbodies constructed as part of the Cross Florida Barge Canal project. The Cross Florida Barge Canal is a larger surface water that begins downstream of the Inglis Dam and extends to the Gulf of Mexico. The Inglis Lock Bypass Channel is a smaller waterbody that branches off the Cross Florida Barge Canal to redirect freshwater from Lake Rousseau to the lower portion of the Withlacoochee River. The proposed Inglis Lock Bypass Channel bridge would span the Inglis Lock Bypass Channel covering 0.14 ac.

SECTION 3

Wetlands and Surface Waters

Wetland delineations were conducted by CH2M HILL ecologists in April 2008 in accordance with the definitions and methodologies defined in the 1987 United States Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory, 1987) and Florida Department of Environmental Protection (FDEP) Rule 62-340, Florida Administrative Code (F.A.C.) (FDEP, 2008). Wetlands and surface waters identified within the vicinity of the Project are described below and summarized in Table 3.

TABLE 3
Wetland and Surface Water Features Associated Within the Cross Florida Greenway Recreational Improvement Project Survey Corridor

Feature Name	Feature Type	FLUCFCS Code	Approximate Feature Area (acres)	Affected Area
Wetland - BCW	Cypress	621	0.34	None
Inglis Lock Bypass Channel	Stream or Waterway	510	32	0.14 ac (6,204 sq. ft.)

Wetlands

One wetland was identified by CH2M HILL ecologists located in the vicinity of the gravel access road proposed for the Project. This wetland is described below, and the Project Field Delineated Wetland Boundary Map included as Appendix D shows the wetland location in relation to the proposed Project facilities.

Wetland BCW - Small Cypress wetland encompassing approximately 0.34 ac. located within a tree plantation area. Pond cypress (*Taxodium ascendens*), laurel oak (*Quercus laurifolia*), and cabbage palm (*Sabal palmetto*) comprise the canopy vegetation. The shrub stratum is comprised of sugarberry (*Celtis laevigata*). Soil appeared to meet criteria for Hydric Soil Indicator S-6 (Stripped matrix).

The boundary of Wetland BCW was documented by CH2M HILL ecologists, then utilized for establishing the final proposed Project alignment. The proposed gravel access road and associated Project facilities were configured be over 25 feet away from the wetland boundary to avoid all primary and secondary impacts to this wetland. No other wetlands were identified within 250 feet of the Project area.

Surface Waters

The excavation for future development of a proposed concrete boat ramp/barge slip would occur on land adjacent to the Cross Florida Barge Canal.Only upland excavation is proposed at this time, and development of a proposed concrete boat ramp/barge slip in the area is expected to be proposed under a separate, future permit application.. The proposed Bypass Barge Canal bridge would span Inglis Lock Bypass Channel to facilitate access to the proposed Project from County Road 40 and creates 0.14 ac of shading over the surface water.

The Cross Florida Barge Canal and Inglis Lock Bypass Channel are man-made surface waters that were constructed as part of the Cross Florida Barge Canal project. Water from the upper portion of the Withlacoochee River is impounded by the Inglis Dam to form Lake Rousseau then released into the Cross Florida Barge Canal. The Inglis Lock Bypass Channel branches off of the Cross Florida Barge Canal approximately 0.66 miles west of Lake Rousseau to redirect freshwater from Lake Rousseau to the lower portion of the Withlacoochee River. These surface water features are summarized in Table 3. Except for minor shading affects on the Inglis Lock Bypass Channel, no other surface waters would be affected by the proposed Project.

Avoidance, Minimization, and Mitigation

The proposed gravel access road and associated Project facilities were configured to avoid all primary and secondary wetland impacts. No wetlands are located within 25 feet of the proposed Project boundaries. During Project construction, appropriate erosion and sedimentation control best management practices will be implemented, as necessary, to protect wetland features adjacent to the Project.

The man-made Inglis Lock Bypass Channel is the only surface water that will be affected by the proposed Project. No natural waterbodies will be impacted by the Project.

Bank stabilization and bridge construction over the Inglis Lock Bypass Channel could result in short-term impacts to the surface water. To avoid or minimize impacts to surface waters, appropriate erosion and sedimentation control best management practices will be implemented preceding, during, and after construction activities. These best management practices include the use of turbidity curtains, erosion control matting, silt bags, rip rap and filter fabric bank stabilization. In addition, techniques to be utilized for construction of the proposed Project will be selected based on minimizing impacts to these surface waters.

Because there are no wetland impacts and only temporary minor impacts to a man-made surface water, no mitigation is proposed at this time. If it is determined that mitigation is needed, credits would likely be purchased from an existing mitigation bank.

SECTION 4

Threatened and Endangered Species

Based on a listed species report generated through the NatureServe Species Inventory for Levy and Citrus Counties (NatureServe, 2008), several protected species are known to occur in the vicinity of the site. Although the report identifies no documented occurrences of protected species on the Project site, it identified the site as having the potential to provide habitat for protected species including the gopher tortoise (*Gopherus polyphemus*), eastern indigo snake (*Drymarchon corais couperi*), Florida scrub-jay (*Aphelocoma coerulescens),* wood stork (*Mycteria americana*), and Florida manatee (*Trichechus manatus latirostris*). In order to more clearly define potential habitat or occurrences of listed species, detailed field surveys were conducted by CH2M HILL ecologists from December 04, 2007 through January 28, 2008 in the vicinity of the Project site.

The gopher tortoise and Florida manatee were the only listed species for which evidence of habitation (e.g., occurrences, nests, suitable habitat) were documented within the vicinity of the Project site. Several listed species are known to co-exist in gopher tortoise burrows, including the eastern indigo snake (*Drymarchon corais couperi*). No evidence of activity or occurrence of these commensal species were noted during field surveys. Descriptions of these species and occurrences at the Project site are provided below.

Gopher Tortoise (Gopherus polyphemus)

The gopher tortoise is currently classified by the State of Florida as a threatened species, its status having been elevated in 2007 from a Florida Species of Special Concern. Gopher tortoises prefer dry upland habitats such as sandhills, scrub, xeric oak, and dry pine flatwoods, as well as disturbed sites such as pastures, old fields, and road shoulders. They excavate burrows that serve as refuge for many other commensal species.

Gopher tortoises were observed in spoil areas along the Cross Florida Barge Canal during field surveys conducted by CH2M HILL ecologists. However, no burrows were located within the proposed Project boundaries. An additional gopher tortoise field survey will be conducted prior to construction to determine if any new burrows have been constructed within 50 feet of the Project boundaries. Burrows identified during pre-construction field surveys that are located within 50 feet of construction boundaries will be relocated to approved on-site recipient areas following project-specific guidance from the Florida Fish and Wildlife Conservation Commission (FWC). During construction activities, gopher tortoises adjacent to (outside of 50 feet) construction areas will likely remain in their burrows in response to increased noise levels and activities. However, during periods of minimal or no construction activity, gopher tortoises may move into construction areas and potentially be exposed to direct or indirect impacts. To prevent these potential impacts, silt fence or other FWC approved barricades will be utilized in adjacent areas with suitable habitat or identified burrows to prevent gopher tortoises from entering into construction areas. Barricades will be monitored and repaired or replaced, as necessary, throughout construction and will be removed following the completion of construction activities.

Florida manatee (Trichechus manatus latirostris)

The Florida manatee is a year-round inhabitant of coastal Florida in coastal waters, estuaries, bays, rivers, and lakes. Manatees congregate around warm water discharges or inland waterways when waters turn colder in the winter. During the warm season, manatees are dispersed throughout coastal waters. The two main causes of manatee deaths are strikes by water craft and perinatal deaths (Fritts et al., 2002).

Potential impacts related to construction of the proposed Project increased noise levels. The proposed Project includes excavation of a segment of an upland portion of the northern Cross Florida Barge Canal bank. Construction techniques proposed for this portion of the Project will limit the activities to uplands, which will reduce potential impacts to manatees to that of temporary increased noise levels.

SECTION 5

Cultural Resources

Phase I level research was performed for the project area from December 2007 through March 2008. No cultural resources eligible for listing in the National Register of Historic Places (NHRP) were identified within the project area during the investigation.

SECTION 6

References

Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1. US Army Engineer Waterway Experiment Station, Vicksburg, MS.

Fritts, T.H., AB. Irvine, R.D. Jennings, L.A. Collum, W. Hoffman, and M.A McGehee. 2002. Turtles, birds, and mammals in the northern Gulf of Mexico and nearby Atlantic water (US: Fish and Wildlife Service, Division of Biological Services, Washington, D.C. FWS/OBS-82/65, 455 pp.

Florida Department of Environmental Protection (FDEP). 2008. Chapter 62-340 of the F.A.C. wetland definition. Website: www.dep.state.fl.us/legal/rules/surfacewater/62-340.pdf.

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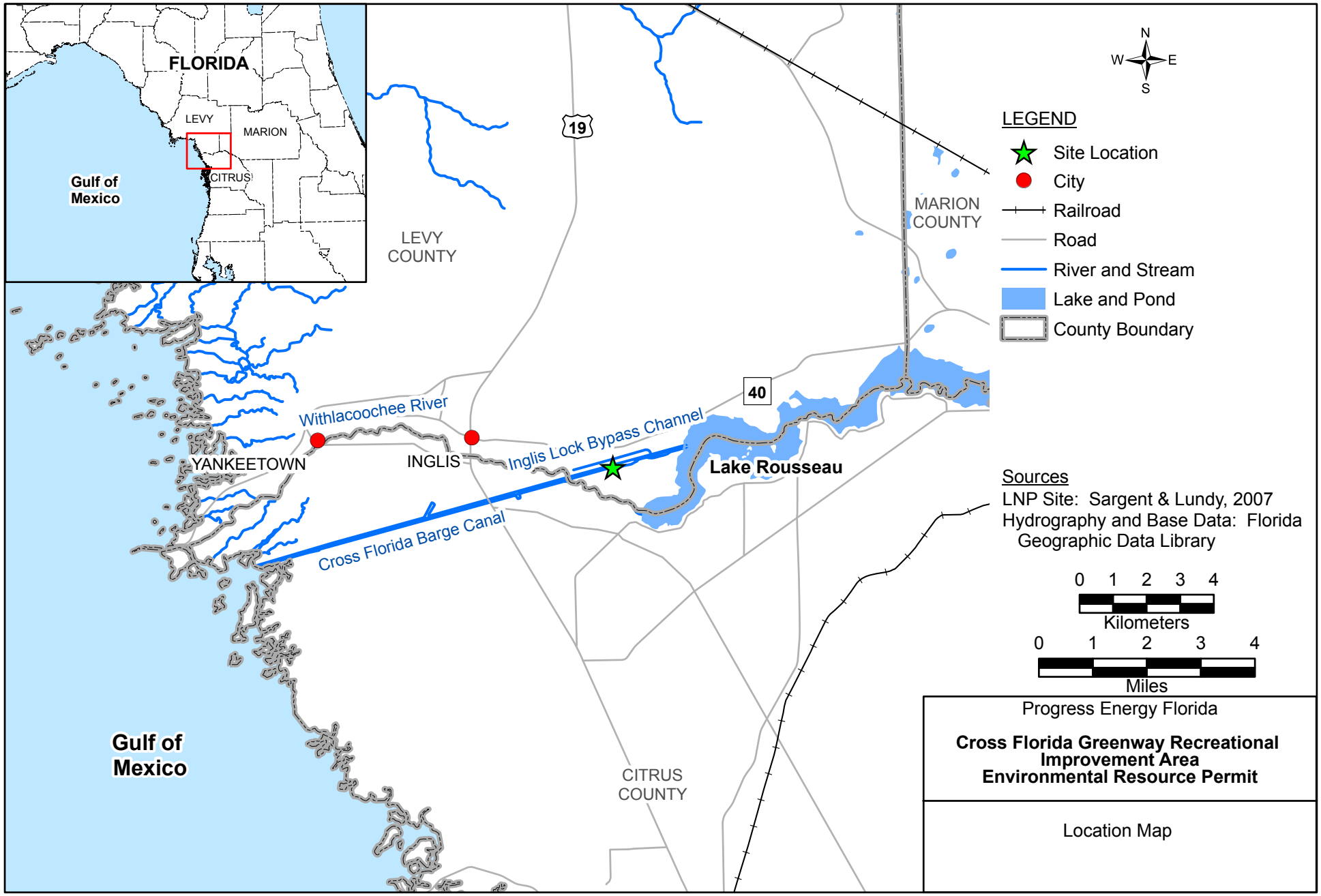
Florida Natural Areas Inventory. 2007. Threatened and Endangered Species Occurring in Levy County, Florida. Florida State University.

NatureServe Explorer. 2008. Listed Species Potentially Occurring in Levy and Citrus Counties, Florida. http://www.natureserve.org/explorer

Southwest Florida Water Management District (SWFWMD). 1999. 1999 Land Use/Cover Classifications. http://www.swfwmd.state.fl.us/data/gis/.

APPENDIX A

Project Location Figure



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APPENDIX B

USGS Quadrangle Figure

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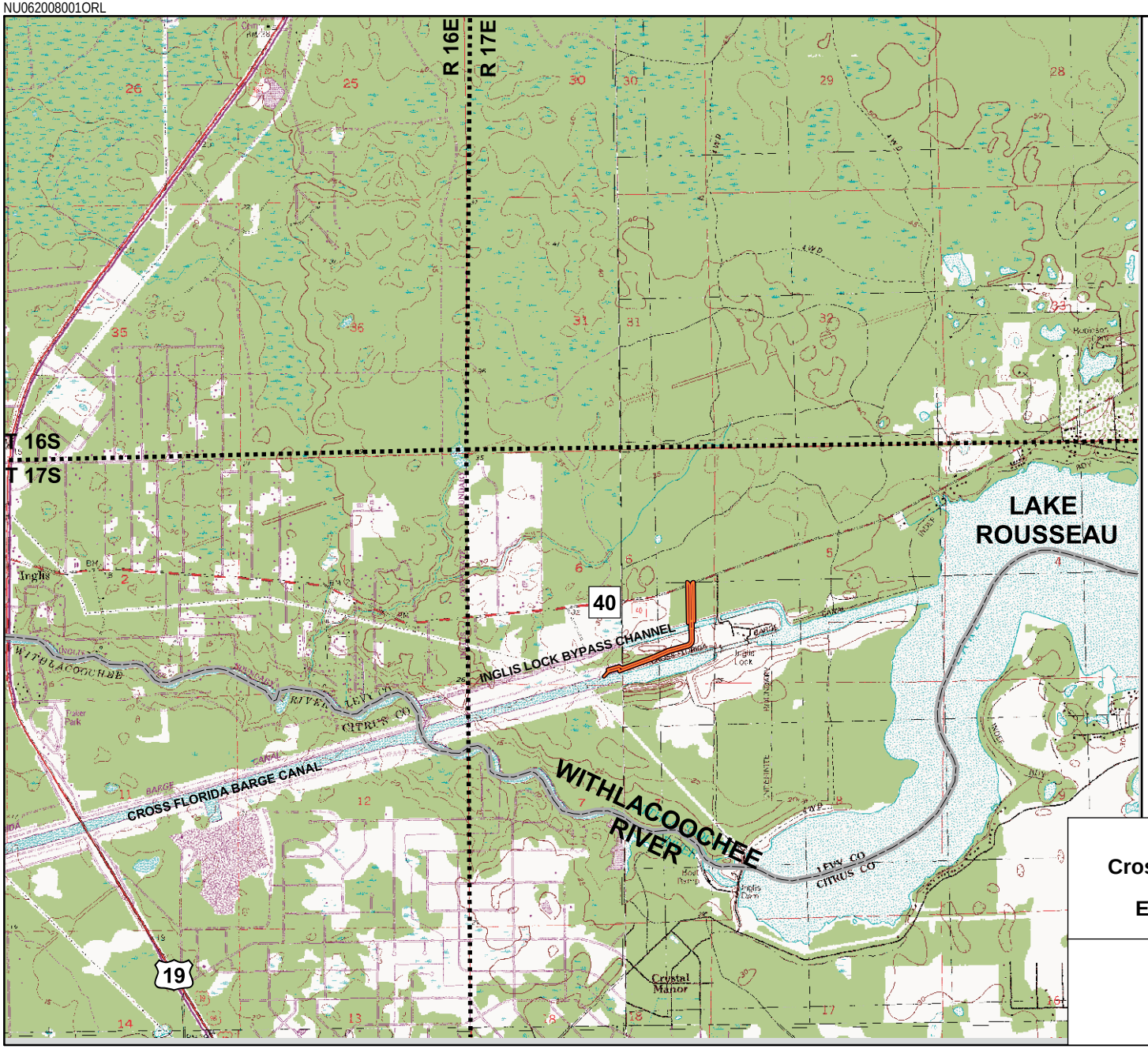

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LEGEND

- Project Site
- 40 County Road
- 19 US Highway
- Lake and Pond
- Swamp and Marsh
- County Boundary

Sources

United States Geological Survey
Quadrangle Maps for:
Yankeetown, FL (1955-Revised 1993)
Yankeetown S.E, FL (1991)

0 0.6 1.2
Kilometers

0 0.6 1.2
Miles

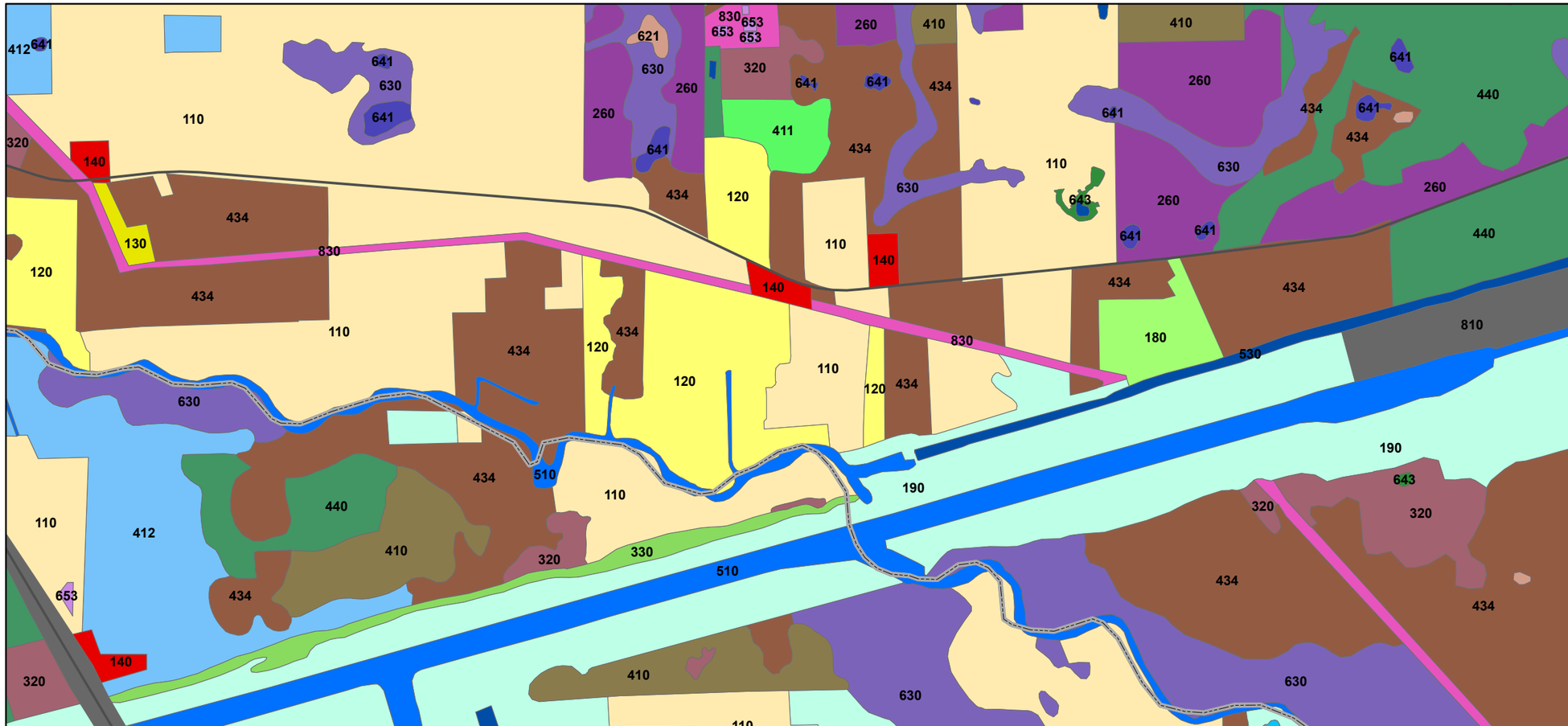
Progess Energy Florida

Cross Florida Greenway Recreational Improvement Area
Environmental Resource Permit

USGS Quadrangle Map

APPENDIX C

Projected Land Use Figure



LEGEND

Major Road

County Boundary

Sources

FLUCCS Land Use: SWFWMD 2007

0 0.25 0.5
Kilometers

0 0.25 0.5
Miles

SWFWMD FLUCCS III Land Use 2007

LEVEL 3 CODE, DESCRIPTION

- 110, RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS
- 120, RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT
- 130, RESIDENTIAL HIGH DENSITY
- 140, COMMERCIAL AND SERVICES
- 150, INDUSTRIAL
- 160, EXTRACTIVE
- 170, INSTITUTIONAL
- 180, RECREATIONAL
- 182, GOLF COURSES
- 190, OPEN LAND
- 210, CROPLAND AND PASTURELAND
- 214, ROW CROPS
- 230, FEEDING OPERATIONS
- 240, NURSERIES AND VINEYARDS
- 250, SPECIALTY FARMS
- 255, TROPICAL FISH FARMS
- 260, OTHER OPEN LANDS <RURAL>
- 310, HERBACEOUS
- 320, SHRUB AND BRUSHLAND
- 330, MIXED RANGELAND
- 410, UPLAND CONIFEROUS FOREST
- 411, PINE FLATWOODS
- 412, LONGLEAF PINE - XERIC OAK
- 420, UPLAND HARDWOOD FORESTS - PART 1
- 434, HARDWOOD CONIFER MIXED
- 440, TREE PLANTATIONS
- 510, STREAMS AND WATERWAYS
- 520, LAKES
- 530, RESERVOIRS
- 540, BAYS AND ESTUARIES
- 572, GULF OF MEXICO
- 610, WETLAND HARDWOOD FORESTS
- 612, MANGROVE SWAMPS
- 615, STREAM AND LAKE SWAMPS (BOTTOMLAND)
- 620, WETLAND CONIFEROUS FORESTS
- 621, CYPRESS
- 630, WETLAND FORESTED MIXED
- 641, FRESHWATER MARSHES
- 642, SALTWATER MARSHES
- 643, WET PRAIRIES
- 644, EMERGENT AQUATIC VEGETATION
- 653, INTERMITTENT PONDS
- 660, SALT FLATS
- 710, BEACHES OTHER THAN SWIMMING BEACHES
- 740, DISTURBED LAND
- 810, TRANSPORTATION
- 820, COMMUNICATIONS
- 830, UTILITIES

Progress Energy Florida

Cross Florida Greenway Recreational Improvement Area

Florida Land Use Land Cover Classification System Level III

FIGURE

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APPENDIX D

Field Delineated Wetland Boundary Figure

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LEGEND

Field Delineated Wetland Boundary

County Boundary

Sources

Field Delineated Wetland Boundary: CH2MHILL

TC Aerials: SWFWMD 2006

0 0.25 0.5
Kilometers

0 0.25 0.5
Miles

Progress Energy Florida

Cross Florida Greenway Recreational Improvement Area Environmental Resource Permit

Field Delineated Wetland Boundaries

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