Natural Resources Evaluation

Florida Department of Transportation

District 7

Interstate 75/SR 93A

Limits of Project: From Moccasin Wallow Road to South of US 301/SR 43

Manatee and Hillsborough Counties, Florida

Work Program Item Segment Number: 419235-2

ETDM Number: 8001 & 14267

Date: December 2021

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

Interstate 75/SR 93A
Project Development & Environment (PD&E) Study

From Moccasin Wallow Road to
South of US 301/SR 43

Natural Resources Evaluation

Work Program Item Segment No. 419235-2
Manatee and Hillsborough Counties, Florida

Prepared for:

Florida Department of Transportation
District Seven

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate capacity improvements along approximately 25 miles of Interstate 75 (I-75) (State Road (SR) 93A) from Moccasin Wallow Road in Manatee County to south of US 301 (SR 43) in Hillsborough County. The design year for the improvements is 2045. This PD&E Study is being conducted concurrently with the PD&E Study for the portion of I-75 that extends from south of US 301 (SR 43) to north of Bruce B. Downs (BBD) Boulevard in Hillsborough County, Florida (WPI Segment No. 419235-3).

The objective of the PD&E Study is to assist the FDOT and the Office of Environmental Management in reaching a decision on the type, location, and conceptual design of the necessary improvements for I-75 to safely and efficiently accommodate future travel demand. This PD&E Study will document the need for the improvements as well as the procedures utilized to develop and evaluate various improvement alternatives including elements such as proposed typical sections, special designation of travel lanes, preliminary horizontal alignments, and interchange enhancement alternatives. The anticipated social, physical, and natural environmental effects and costs of these improvements will be identified. The alternatives will be evaluated and compared based on a variety of parameters utilizing a matrix format. This process will identify the alternative that will best balance the benefits (such as improved traffic operations and safety) with the impacts (such as environmental effects and construction costs). The PD&E Study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), to qualify for federal-aid funding of subsequent development phases (design, right-of-way acquisition, and construction).

The project was evaluated through the FDOT's Efficient Transportation Decision Making (ETDM) process. This project is designated as ETDM project #8001 and #14267. An ETDM Programming Screen Summary Report was published on March 29, 2007, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical and social resources. Based on the ETAT comments, the FHWA determined that this project qualified as a Type 2 Categorical Exclusion (CE).

This Natural Resources Evaluation (NRE) was prepared as part of this PD&E Study. This report summarizes the possible impacts to wetlands, protected species and habitat, and Essential Fish Habitat (EFH). Measures to avoid, minimize and mitigate for any potential are also proposed. Roadway improvements for I-75 will generally occur within the existing FDOT right of way, but additional right of way will be required for some interchange improvements, stormwater management facilities (SMF), and floodplain compensation (FPC) sites.

Protected Species & Habitat

The study area was assessed for the presence of suitable habitat for federal and/or state listed and protected species in accordance with *50 Code of Federal Regulations (CFR) Part 402 of the Endangered Species Act (ESA) of 1973*, as amended, *Chapters 5B-40: Preservation of Native Flora of Florida and 68A-27 Florida Administrative Code (F.A.C.) Rules Relating to Endangered or Threatened Species, and*

Part 2, Chapter 16 – Protected Species and Habitat of the FDOT *PD&E Manual* (July 2020). Desktop/agency database searches, analysis of GIS data, and field surveys were conducted in January 2008, October 2018, and August/September 2019 in order to determine protected species and suitable habitat that exists within the study area. A summary of the species effect determinations is provided in the table below.

Protected Species Effect Determination Summary

Species	Common Name	State Listed Status	Federal Listed Status	Effect Determination
Reptiles				
Caretta caretta	Loggerhead sea turtle	FT	T	No Effect
Chelonia mydas	Green sea turtle	FT	T	No Effect
Drymarchon corais couperi	Eastern indigo snake	FT	T	MANLAA
Eretmochelys imbircata	Hawksbill sea turtle	FE	E	No Effect
Gopherus polyephemus	Gopher tortoise	ST	C	No Adverse Effect Anticipated
Lepidochelys kempii	Kemp's ridley sea turtle	FE	E	No Effect
Pituophis melanoleucus mugitus	Florida pine snake	ST	--	No Adverse Effect Anticipated
Stilosoma extenuata	Short-tailed snake	ST	--	No Effect Anticipated
Birds				
Ammodramus savannarum floridanus	Florida grasshopper sparrow	FE	E	No Effect
Aphelocoma coerulescens	Florida scrub-jay	FT	T	MANLAA
Athene cunicularia floridana	Florida burrowing owl	ST	--	No Adverse Effect Anticipated
Calidris canutus rufa	Rufa red knot	FT	T	No Effect
Charadrius melodus	Piping Plover	FT	T	No Effect
Charadrius nivosus	Snowy plover	ST	--	No Adverse Effect Anticipated
Egretta caerulea	Little blue heron	ST	--	No Adverse Effect Anticipated
Egretta rufescens	Reddish egret	ST	--	No Adverse Effect Anticipated
Egretta tricolor	Tricolored heron	ST	--	No Adverse Effect Anticipated
Falco sparverius paulus	Southeastern American kestrel	ST	--	No Adverse Effect Anticipated
Grus canadensis pratensis	Florida sandhill crane	ST	--	No Adverse Effect Anticipated
Haematopus palliatus	American oystercatcher	ST	--	No Adverse Effect Anticipated
Haliaeetus leucocephalus	Bald eagle[1,2]	--	--	No Adverse Impact
Laterallus jamaicensis	Eastern black rail	ST	T	MANLAA
Mycteria americana	Wood stork	FT	T	MANLAA

Species	Common Name	State Listed Status	Federal Listed Status	Effect Determination
Pandion haliaetus	Osprey[2]	--	--	No Adverse Impact
Platalea ajaja	Roseate spoonbill	ST	--	No Adverse Effect Anticipated
Polyborus planus audubonii	Audubon's crested caracara	FT	T	MANLAA
Rynchops niger	Black skimmer	ST	--	No Adverse Effect Anticipated
Sternula antillarum	Least tern	ST	--	No Adverse Effect Anticipated
Mammals				
Trichechus manatus	West Indian manatee	FT	T	MANLAA
Ursus americanus floridanus	Florida black bear[3]	--	--	No Adverse Impact
Fish				
Acipenser oxyrinchus desotoi	*Gulf sturgeon*	FT	T	MANLAA
Pristis pectinata	*Smalltooth Sawfish*	FE	E	MANLAA
Plants				
Bonamia grandiflora	Florida bonamia	FE	T	No Effect
Campanula robinsiae	Robin's bellflower	FE	E	No Effect
Chionanthus pygmaeus	Pygmy fringetree	FE	E	No Effect
Chrysopsis floridana	Florida golden aster	FE	E	MANLAA
Harrisia aboriginum	Aboriginal prickly-apple	FE	E	No Effect
Lechea cernua	Nodding pinweed	ST	--	No Adverse Effect Anticipated
Lechea divaricata	Pine pinweed	SE	--	No Adverse Effect Anticipated
Nolina brittoniana	Britton's bear grass	FE	E	No Effect
Zephyranthes simpsonii	Simpson's zephyr lily	ST	--	No Adverse Effect Anticipated

MANLAA=May Affect, Not Likely to Adversely Affect
FT=Federal Threatened, T=Threatened, FE=Federal Endangered, E=Endangered, ST=State-designated Threatened
C=Candidate for listing under ESA, SE=State-designated Endangered
1 Protected under the Bald and Golden Eagles Protection Act (16 U.S.C. 668-668c)
2 Protected under the Migratory Bird Treaty Act (16 U.S.C. §§ 703–712)
3 Protected under the Florida Black Bear Conservation Rule (68A-4.009, F.A.C.)

USFWS Critical Habitat

The study area was assessed for Critical Habitat designated by Congress in *50 CFR Part 17.* The project area includes USFWS designated Critical Habitat for the West Indian manatee within the Little Manatee River. Potential impacts to this Critical Habitat are limited to 1.84 acres on the interior of the existing bridge structure over the Little Manatee River for the Preferred Alternative. The project will have no adverse modifications of Critical Habitat.

Wetlands

Pursuant to Executive Order 11990 entitled "Protection of Wetlands," (May 1977) the U.S. Department of Transportation (USDOT) has developed a policy, Preservation of the Nation's Wetlands

(USDOT Order 5660.1A), dated August 24, 1978, which requires all federally-funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, as well as *Part 2, Chapter 9 – Wetlands and Other Surface Waters* of the FDOT *PD&E Manual* (July 2020), project alternatives were assessed to determine potential wetland impacts associated with the construction of each alternative.

Proposed impacts total approximately 41.76 acres to wetlands and 6.90 acres to other surface waters, for a total of 48.66 acres of impact to wetlands and surface waters. The results of this PD&E study indicate there are no practicable alternatives to the proposed impacts due to the need to increase roadway capacity and safety considerations. Furthermore, all impacts have been avoided and minimized to the greatest degree possible and have been limited to those areas required to meet minimum safety requirements.

Wetland mitigation options include purchase of wetland mitigation credits through an approved mitigation bank, or creation, restoration or enhancement of wetlands within the project watersheds. The mitigation will satisfy the requirements of Part IV, Chapter 373, F.S. and 33 U.S.C § 1344.

Total Wetland and Surface Water Impacts

Habitat Type	FLUCCS	Impact Acreage
Freshwater Forested / Shrub Wetland	630	39.27
Freshwater Emergent Wetland	640	0.78
Estuarine and Marine Wetland	642	1.71
	Wetland Impacts Total	**41.76**
Riverine	510	1.92
Reservoirs	530	4.98
	Surface Water Impacts Total	**6.90**
	Total Impacts	**48.66**

Essential Fish Habitat

Essential Fish Habitat (EFH), as defined by the *Magnuson-Stevens Fishery Conservation and Management Act* (16 U.S.C. Subsection 1801, et. Seq.), is present within portions of the Alafia and Little Manatee Rivers. Pursuant to *Part 2, Chapter 17 – Essential Fish Habitat* of the FDOT PD&E Manual (July 2020), coordination with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) was conducted to identify EFH resources within the project study area. Impacts to EFH over the Alafia and Little Manatee Rivers are limited to 1.82 acres of riverine habitat. The FDOT has determined the potential adverse effects on EFH will be **minimal** as a result of the project.

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SECTION 1 INTRODUCTION

1.1 PD&E STUDY PURPOSE

The objective of this Project Development and Environment (PD&E) Study is to assist the Florida Department of Transportation (FDOT) Office of Environmental Management (OEM) in reaching a decision on the type, location, and conceptual design of the necessary improvements for I-75 to safely and efficiently accommodate future travel demand. This study documents the need for the improvements as well as the procedures utilized to develop and evaluate various improvements, including elements such as proposed typical sections, preliminary horizontal alignments, and interchange enhancement alternatives.

The PD&E Study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), to qualify for federal-aid funding of subsequent development phases (design, right-of-way acquisition, and construction).

To initiate agency coordination, the project has been screened through the Programming Screen of the FDOT's Efficient Transportation Decision Making (ETDM) process as ETDM Project No. 8001, and an updated Advanced Notification (AN) was run under ETDM Project No. 14267. ETDM Project No. 14267 includes project limits from Moccasin Wallow Road in Manatee County to north of Bruce B. Downs in Hillsborough County. The portion of the corridor from south of US 301 to north of Bruce B. Downs in Hillsborough County is being studied under a separate PD&E Study (WPI Segment No. 419235-3) and was previously screened through the ETDM process as Project No. 8002. An ETDM Programming Screen Summary Report was published on March 29, 2007, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. Based on the ETAT comments, the Federal Highway Administration (FHWA) determined that this project qualified as a Type 2 Categorical Exclusion.

1.2 PROJECT PURPOSE AND NEED

1.2.1 Purpose

The purpose of the project is to evaluate alternatives to address the corridor's capacity and relieve congestion. These improvements are expected to enhance the overall safety and improve the operating conditions of the facility within the project limits.

1.2.2 Need

I-75 is a south-north interstate highway that is a major trade and tourism corridor. I-75 is part of the highway network that provides access to regional intermodal facilities such as several general aviation airports, MacDill Air Force Base, several seaports, transit stations, cruise ship terminals and major CSX intermodal rail facilities. It is part of the SIS and is a vital link in the transportation network that connects the Tampa Bay region to the remainder of the state and the nation.

I-75 is a critical evacuation route as shown on the Florida Division of Emergency Management's evacuation route network. Improvements to I-75 will improve evacuation efforts, when needed, will enhance access to activity centers in the area, and movement of goods and freight in the greater Tampa Bay region. Statewide and regional transportation plans and studies by FDOT and the Hillsborough County Transportation Planning Organization (TPO) identify the need for interstate improvements.

1.3 PROJECT DESCRIPTION

The Florida Department of Transportation (FDOT), District Seven, is conducting a Project Development and Environment (PD&E) study to evaluate improvements along approximately 23 miles of I-75/State Road (SR) 93A from Moccasin Wallow Road in Manatee County to south of US 301/SR 43 in Hillsborough County, Florida. The design year for the improvements is 2045. This PD&E study is being conducted concurrently with the PD&E study for the section of I-75 that extends from south of US 301 to north of Bruce B. Downs Boulevard in Hillsborough County (WPI Segment No. 419235-3). The project location map is shown on **Figure 1-1**.

1.4 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

1.4.1 Existing Facility

I-75 is a limited access (L.A.) freeway that travels in a generally south-north direction from a southern terminus at SR 826 (Palmetto Expressway) in Hialeah, Florida, to a northern terminus in Sault Sainte Marie, Michigan, near the border with Canada. In Florida, I-75 is included in the State Highway System (SHS), designated as SR 93A; the Strategic Intermodal System (SIS); and the Federal Aid Interstate System. I-75 serves as a major evacuation route throughout the state.

Within the project limits, I-75 is classified as a Rural (south of 21st Avenue SE) Principal Arterial -- Interstate and Urban (north of 21st Avenue SE) Principal Arterial – Interstate. The roadway is generally three lanes in each direction from Moccasin Wallow Road to Gibsonton Drive and three lanes plus one auxiliary lane in each direction from Gibsonton Drive to south of US 301. All travel lanes are 12-ft wide and 12-ft inside and outside shoulders are provided, including 10-ft paved. The median width is a minimum of 88-ft wide; several areas near the south end of the project have a wider median where the roadway has been partially bifurcated. The existing typical sections are shown in **Figure 1-2**.

The existing L.A. right of way (ROW) varies throughout the study limits; however, in most areas, the minimum ROW width is 348 feet. For a segment north of SR 674, the ROW on the west side narrows by as much as 46-ft just north of the interchange, yielding a total ROW of only 302-ft. Several areas near the south end have a ROW as wide as 556 feet, where the two roadways are partially bifurcated with a wider median. The posted speed limit is 70 miles per hour (mph).

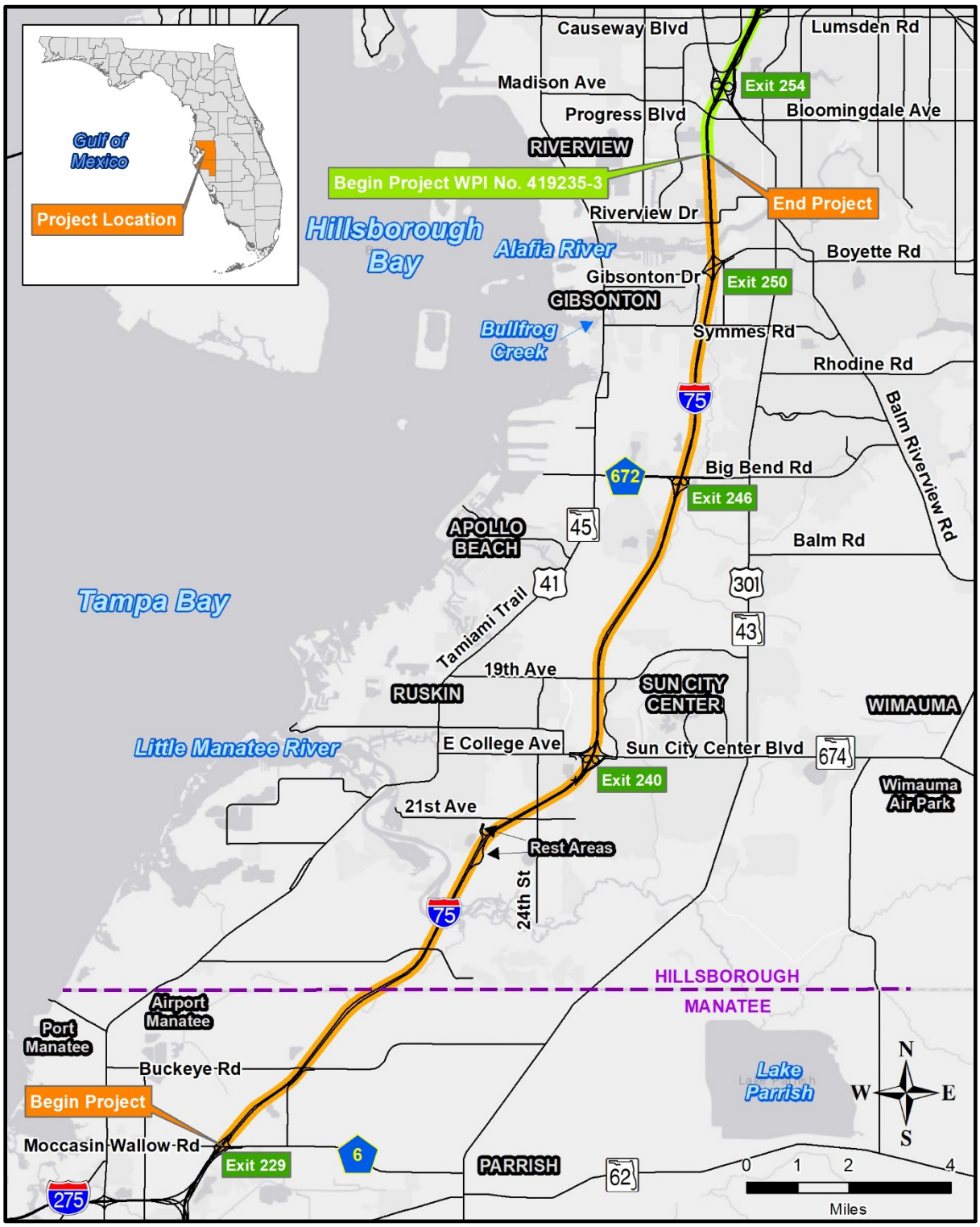


Figure 1-1 Project Location Map

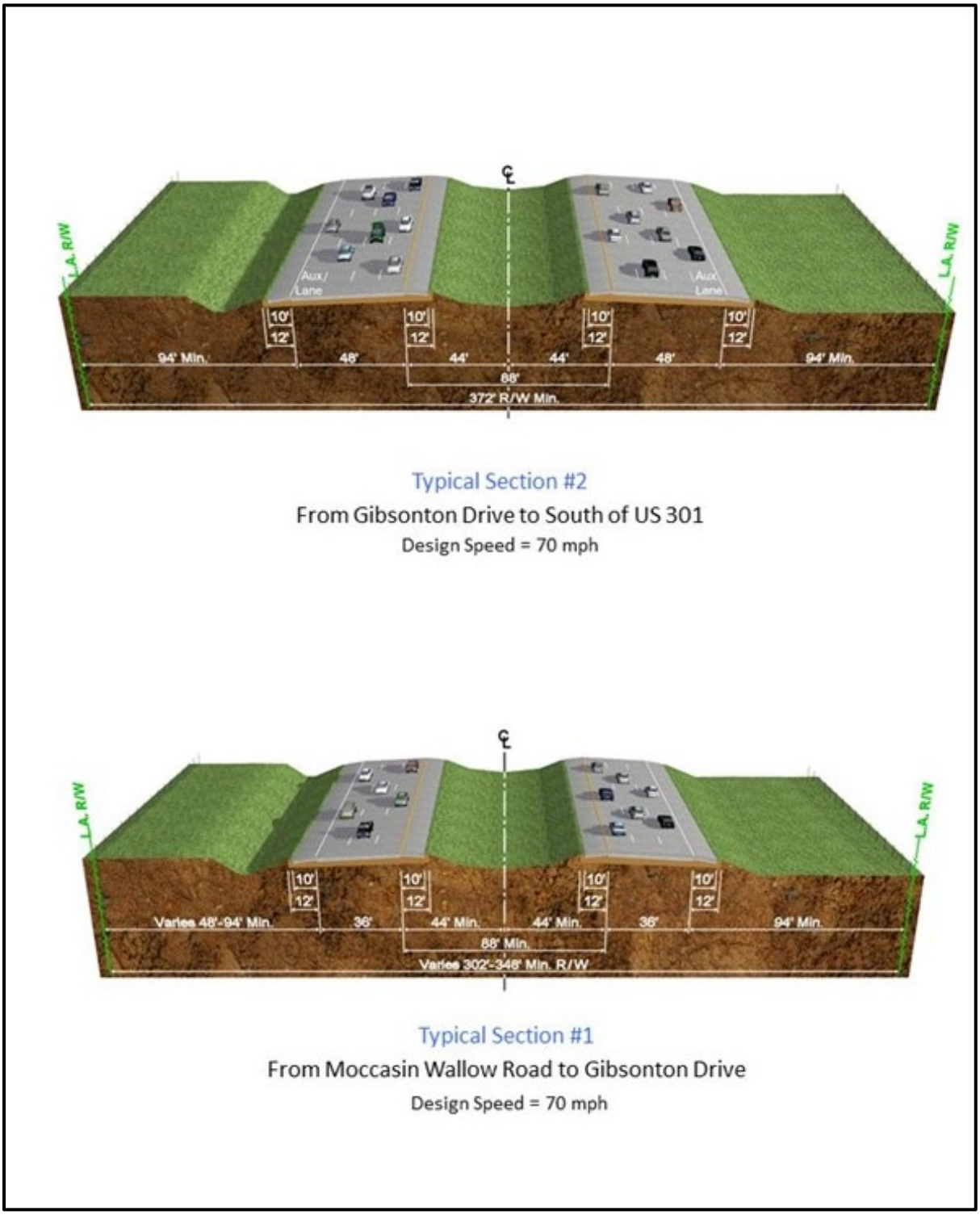


Figure 1-2 Existing Roadway Typical Sections

There are three interchanges along I-75 within the project limits. They are located at SR 674/East College Avenue/Sun City Center Boulevard, County Road (CR) 672/Big Bend Road, and Gibsonton Drive. Existing rest area facilities for northbound and southbound travelers are situated approximately 3-miles south of SR 674. The study area includes 22 bridge structures, including crossings over Curiosity Creek, the Little Manatee River, Bullfrog Creek and the Alafia River.

Interstate 75 has not had capacity improvements from Moccasin Wallow Road to south of US 301 since its original construction in the early 1980's.

1.4.2 Proposed Improvements

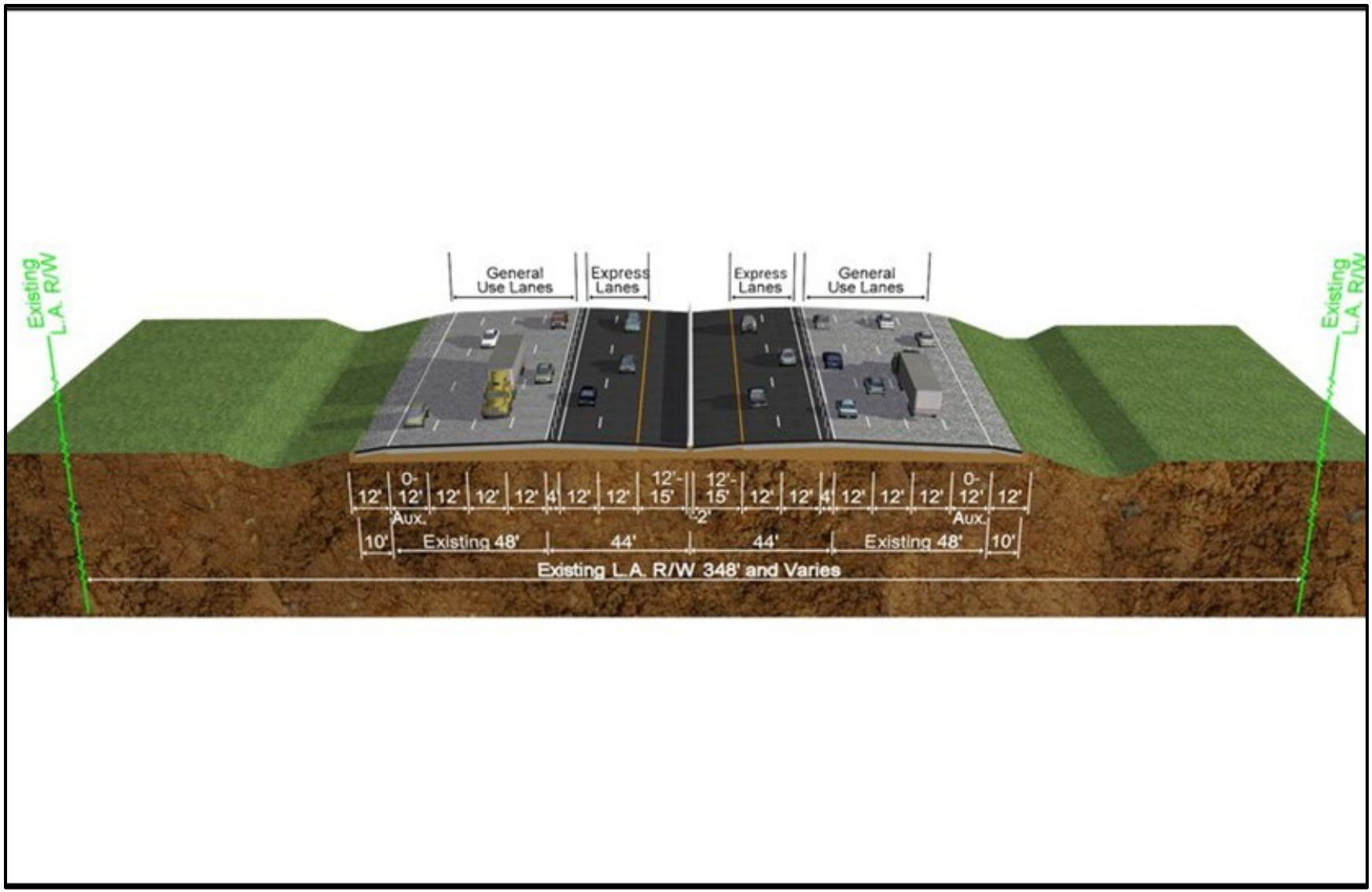
All alternatives have been evaluated with regard to environmental impacts, costs, and operational factors. Based on these evaluations, a preferred build alternative utilizing two typical sections was identified for the I-75 mainline within the study area.

The Preferred Build Alternative Typical Section includes the existing mainline lanes to be designated as General Use Lanes (GULs). The three 12-foot lanes in each direction will remain from Moccasin Wallow Road to Gibsonton Drive and the three lanes plus one auxiliary lane in each direction will remain north of Gibsonton Drive to south of US 301. Outside shoulders will remain at 12-feet wide. Adjacent to the GULs, within the median, two 12-foot Express Lanes (ELs) with 12 to 15-foot inside shoulders will be added in each direction. The inside shoulders will be 15-feet wide where median barrier is proposed and 12-feet wide (10-foot paved) in bifurcated areas. The ELs will be separated from the GULs by a 4-foot painted and delineated buffer. The preferred alternative typical section is shown in **Figure 1-3**.

Three ingress and three egress connections between the ELs and GULs will be located within the limits of the project in each direction. The ELs are proposed to be managed by limiting direct access for traffic to/from existing interchanges, collection of tolls, vehicle occupancy and/or vehicle type.

As previously stated, there are three interchanges along I-75 within the project limits. They are located at SR 674/East College Avenue/Sun City Center Boulevard, CR 672/Big Bend Road, and Gibsonton Drive. The Big Bend Road interchange improvements are currently being constructed as part of a separate design-build project (WPI Segment No. 424513-3) and considered as an existing condition for this project.

The proposed improvements will include construction of 30 Stormwater Management Facilities (SMF) and 15 Floodplain Compensation (FPC) sites. A number of these SMF and FPC sites within common drainage basins are combined at a single location, and several of the SMFs are located at existing interchange locations within the existing ROW. Additional ROW at a total of 28 locations is required for constructing the offsite SMF and FPC sites. No additional ROW is required for the I-75 mainline or interchange improvements.


Existing L.A. R/W
General Use Lanes
Express Lanes
Express Lanes
General Use Lanes
Existing L.A. R/W
12'
0-12'
12'
12'
12'
4'
12'
12'
12'-15'
-2'
12'-15'
12'
12'
4'
12'
12'
12'
0-12'
12'
Aux.
Aux.
10'
Existing 48'
44'
44'
Existing 48'
10'
Existing L.A. R/W 348' and Varies

1.5 REPORT PURPOSE

This *Natural Resources Evaluation* (NRE) is one of several technical reports being prepared as part of this PD&E Study. This report documents the project's involvement with wetlands and surface waters. Pursuant to Presidential Executive Order 11990 entitled "Protection of Wetlands," the U.S. Department of Transportation (USDOT) has developed a policy, Preservation of the Nation's Wetlands (USDOT Order 5660.1A), dated August 24, 1978, which requires all federally-funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, as well as *Part 2, Chapter 9 – Wetlands and Surface Waters* of the FDOT *PD&E Manual* (July 2020) project alternatives were assessed to determine potential wetland impacts associated with construction of each alternative.

This report also documents existing wildlife resources and assesses existing habitat types found within the project area for potential occurrences of protected plant and animal species in accordance with *Part 2, Chapter 16 – Protected Species and Habitat* of the FDOT *PD&E Manual*. Potential impacts to protected species and critical habitat that may support these species are also addressed in this report.

An Essential Fish Habitat (EFH) assessment is also included as part of this report in accordance with *Part 2, Chapter 17 – Essential Fish Habitat* of the FDOT *PD&E Manual* (July 2020) and the requirements of the *Magnuson-Stevens Fishery Conservation and Management Act* (Magnuson-Stevens Act). This assesses waters and substrate necessary to fish for spawning, breeding, feeding, and development to maturity.

SECTION 2 EXISTING ENVIRONMENTAL CONDITIONS

2.1 EXISTING LAND USE

Existing land use vegetative cover along the study area was classified utilizing a variety of resources including the FDOT's *Florida Land Use, Cover and Forms Classification System* (FLUCCS), (1999), National Wetlands Inventory (NWI), the Natural Resources Conservation Service's (NRCS) Soil Surveys for Hillsborough and Manatee Counties, U.S. Geological Survey (USGS) topographical maps, aerial photographs (2007 & 2008), land use mapping from the Southwest Florida Water Management District (SWFWMD, 2017), and field verification during habitat and species reviews. For evaluating existing land use within the project area, the Preferred SMF and FPC sites as well as a 500-foot buffer from the centerline of both directional lanes of I-75 was utilized. **Appendix A** provides a map of existing land use types for the study area.

Land use along the southern portion of the study area is dominated by agricultural use with moderately interspersed urban and built up areas primarily associated with major interchanges. The northern portion of the study area is dominated by urban and built up land uses but still maintains a moderate amount of open lands.

Field reviews generally agreed with the SWFWMD's land use mapping; however, minor updates to the SWFWMD's base map were made in August/September 2019. A mosaic of upland and wetland community types were found within the areas mapped as agricultural and transportation. Most upland habitats adjacent to the study area have been developed as low to medium density residential and agricultural uses, as well as a few commercial and retail facilities. Upland habitats that have not been developed consist of palmetto prairie, pine flatwoods, and xeric oak. Although undeveloped at the time of surveys, most of these habitats have moderate levels of disturbance and are not considered pristine. **Table 2-1** provides a summary of land use cover types and prevalence within and immediately adjacent to the study area.

2.1.1 Natural and Biological Features

Major rivers within the study area in Hillsborough County include the Alafia and Little Manatee, and the principal stream system is Bullfrog Creek. Drainage is directed to the west toward Old Tampa Bay, Hillsborough Bay and Tampa Bay. Flatwoods are common in the western, southern, and northeastern portions of the county. A wide variety of intermittent ponds, marshes, and swamps are found in this flatwoods habitat. Drainage within the flatwoods habitat is generally slow and is aided by the creek and riverine systems.

The Little Manatee River is the primary river system within the Manatee County portion of the study area. Numerous stream systems feed into this river throughout the county. Manatee County is relatively flat with wide expanses of agricultural activity throughout eastern portions of the county. Agricultural activity has given way to large areas of residential development in the past 10 years.

Table 2-1 Existing Land Use

FLUCCS	Land Use Description	Acreage (Approx. 500' from Centerlines)	Percent Cover
110	Residential Low Density < 2 Dwelling Units	190.4	5.1%
120	Residential Medium Density 2 - >5 Dwelling Units	129.8	3.5%
130	Residential High Density	141.6	3.8%
140	Commercial and Services	98.3	2.6%
170	Institutional	17.3	0.5%
180	Recreational	8.3	0.2%
190	Open Land	285.5	7.6%
210	Cropland and Pastureland	220.3	5.9%
214	Row Crops	10.2	0.3%
220	Tree Crops	3.7	0.1%
240	Nurseries and Vineyards	10.3	0.3%
250	Specialty Farms	1.4	<0.1%
260	Other Open Lands (Rural)	266.3	7.1%
320	Shrub and Brushland	69.1	1.8%
330	Mixed Rangeland	63.6	1.7%
411	Pine Flatwoods	186.2	5.0%
434	Hardwood Conifer Mixed	178.6	4.7%
510	Steams and Waterways	163.6	4.4%
520	Lakes	0.6	<0.1%
540	Bays and Estuaries	34.4	0.9%
615	Stream and Lake Swamps (Bottomland)	19.1	0.5%
620	Wetland Coniferous Forests	31.5	0.8%
630	Wetland Forested Mixed	151.9	4.0%
641	Freshwater Marshes	80.3	2.1%
642	Saltwater Marshes	14.5	0.4%
643	Wet Prairies	18.3	0.5%
644	Emergent Aquatic Vegetation	3.9	0.1%
653	Intermittent Ponds	3.3	0.1%
810	Transportation	1205.6	32.1%
820	Communication	2.6	0.1%
830	Utilities	143.8	3.8%
	TOTAL	**3754.3**	**100.0%**

Riverine systems provide travel corridors for wildlife through developed and undeveloped habitats such as those that exist along the study area. Additionally, these riverine systems provide a great deal of foraging area for wetland dependent species.

Overall topography along the corridor varies with elevations identified along the study area ranging from about 5 ft. National Geodetic Vertical Datum (NGVD) to about 50 ft. Elevation at the northern end of the project is about 30 ft. NGVD while the southern end is about 25 ft. NGVD.

2.2 EXISTING UPLANDS

Upland communities identified within and directly adjacent to the study area are provided in this section. These communities are classified according to FLUCCS (FDOT 1999). Field reviews confirmed community boundaries, dominant vegetation, nuisance and exotic vegetation coverage in natural communities, and were conducted to determine the presence or potential for occurrence of threatened and endangered species. Nuisance and exotic species coverage is only discussed for habitats that maintain a more natural character. The native habitat types described below also have greater potential of supporting protected species. Federal and state protected species observed during field surveys are also included, where applicable. These protected species, and the study area habitats in which they may be expected to occur, are also discussed in greater detail in **Section 3.**

Residential (FLUCCS 110 - 130)

This classification encompasses residential lands ranging from high-density urban housing developments to low-density rural areas with a low number of homes per acre. Along the study area, Residential, Low Density (FLUCCS 110) is more prevalent than either Medium Density (FLUCCS 120) or High Density (FLUCCS 130). Bahia grass (*Paspalum notatum*) and other sod type grasses are present in all residential lands. An open canopy of slash pine (*Pinus elliottii*) and oak species (*Quercus* spp.) are more common in the low-density residential areas along with some native shrubs and forbs reminiscent of the original native habitats. Evidence of the gopher tortoise (*Gopherus polyphemus*), a state-protected species, was identified in some of the low-density residential areas. Additional protected species which utilize gopher tortoise burrows are also likely present.

Commercial and Services (FLUCCS 140)

These classifications are predominantly associated with the distribution of products and services. Along the corridor these areas are generally small with parking facilities and moderate sized landscape areas with sod grasses. Small medical offices are the most common facilities. No protected species were observed within this land use during field surveys for this project, and it is unlikely that the area would be occupied by these species. This land use is not anticipated to be impacted by the project.

Institutional (FLUCCS 170)

This classification incorporates educational, religious, health, and military facilities. Vegetative species cover was dominated by mowed and maintained sod grasses. No protected species were observed within this land use during field surveys for this project, and it is unlikely that the area would be occupied by these species. This land use is not anticipated to be impacted by the project.

Recreational (FLUCCS 180)

Recreational areas are those areas whose physical structure indicates that active user-oriented recreation is, or could be, occurring within the given physical area. Vegetative species cover was dominated by mowed and maintained sod grasses. No protected species were observed within this land use during field surveys for this project, and it is unlikely that the area would be occupied by these species.

Open Lands (FLUCCS 190)

These land use types include undeveloped land and inactive land with street patterns but without structures found within urban areas. These areas were generally cleared of canopy and shrub species and maintained low growing forbs and grass species. No protected species were observed within this land use during field surveys for this project, though it could provide foraging habitat for the gopher tortoise and commensal species. This land use will be impacted due to the preferred pond sites.

Cropland and Pastureland (FLUCCS 210)

This land use type includes lands that are managed for row crops or pasture production of livestock. A mix of improved and unimproved pasturelands is present along the study area. Bahia grass and Bermuda grass (*Cynodon dactylon*) are the dominant species found within the pasturelands along with a mix of shrubs and trees. Subdominant grasses included bluestems (*Andropogon* spp.) and dropseed grasses (*Sporobolus* spp.) When present, the shrubs observed included falsewillow (*Baccharis* spp.), wax myrtle (*Myrica cerifera*), and Brazilian pepper (*Schinus terebinthifolius*). Evidence of the gopher tortoise was observed in the unimproved pastures, but was more evident within the improved pastures. Additional protected species which utilize gopher tortoise burrows are also likely present. Although no longer protected by the *Endangered Species Act* (ESA), an active bald eagle (*Haliaeetus leucocephalus*) nest was located on a cell phone tower within a pasture area within 660 feet of the project right of way. This land use will be impacted due to the preferred pond sites.

Row Crops (FLUCCS 214)

Vegetables such as corn, tomatoes, potatoes, and beans are typical row crops grown in Florida. At the time of field surveys most row crop species were not readily apparent and other than crop vegetation only occasional weedy species were observed. No protected species were observed within this land use during field surveys for this project, though it could provide foraging habitat for the gopher tortoise and commensal species. This land use will be impacted due to the preferred pond sites.

Tree Crops and Nurseries and Vineyards (FLUCCS 220 & 240)

Nurseries, floricultural areas, and seed-and-sod activities that are used perennially and generally not rotated with other uses are the agricultural operations of this land use. Most vegetation in these areas was planted material (potted and in ground) with cleared, mowed and maintained sod species interspersed. No protected species were observed within this land use during field surveys for this

project, though it could provide foraging habitat for the gopher tortoise and commensal species. This land use will be impacted due to the preferred pond sites.

Specialty Farms (FLUCCS 250)

The specialty farm located within the project area is specifically aquaculture based (FLUCCS 254), however; for our mapping and numerical purposes, it has been grouped into specialty farms. This category is identified in the aerial by the clearly visible, numerous, and consecutive ponds. Mowed and maintained sod grass is present on what limited land is still present in these areas. No protected species were observed within this land use during field surveys for this project, and it is unlikely that the area would be occupied by these species. This land use is not anticipated to be impacted by the project.

Other Open Lands (FLUCCS 260)

Agricultural lands with an undetermined usage fall into this category. These lands were generally dominated by Bahia grass with some areas maintaining moderate numbers of pioneer shrub species and occasional oak or slash pine trees. Nuisance and exotic species coverage in these areas is moderate to high when present and generally consisted of Brazilian pepper. No protected species were observed within this land use during field surveys for this project, though it could provide foraging habitat for the gopher tortoise and commensal species. This land use will be impacted due to the preferred pond sites.

Shrub and Brushland (FLUCCS 320)

A variety of shrub species including saw palmettos (*Serenoa repens*), gallberry (*Ilex glabra*), wax myrtle, coastal scrub, and other shrubs and brush dominate this habitat type. Saw palmetto, Brazilian pepper, and falsewillow were the most prevalent shrub species. Occasional oak trees, slash pines, and cabbage palms (*Sabal palmetto*) were also observed. Understory vegetation was dominated by bluestem grasses, with winged sumac (*Rhus copallinum*), slender goldenrod (*Euthamia caroliniana*), muscadine grape (*Vitus rotundifolia*), and cogongrass (*Imperata cylindrica*) also observed. Nuisance and exotic species coverage in these areas is variable but generally considered low to moderate when present. Active and inactive gopher tortoise burrows were identified in this habitat. Additional protected species which utilize gopher tortoise burrows are also likely present. Although no longer protected by the ESA, a bald eagle was observed flying low over this habitat in the vicinity of an active nest. Simpson's zephyr lily (*Zephyranthes simpsonii*) and nodding pinweed (*Lechea cernua*), both state-protected floral species, were observed in this habitat type. This land use will be impacted due to the preferred pond sites.

Mixed Rangeland (FLUCCS 330)

When more than one-third intermixture of either grassland or shrub-brushland range species occurs, the specific classification is changed to Mixed Rangeland. Where the intermixture is less than one-third, it is classified as the dominant type of rangeland, whether Grassland or Shrub and Brushland categories. A variety of shrub species including saw palmettos, gallberry, wax myrtle, coastal scrub,

and other shrubs and brush were found in this habitat type. Active and inactive gopher tortoise burrows were identified in this habitat. Additional protected species which utilize gopher tortoise burrows are also likely present. This land use is not anticipated to be impacted by the project.

Pine Flatwoods (FLUCCS 411)

This habitat type included many types of upland coniferous forests, including upland coniferous forests (FLUCCS 410), pine flatwoods (FLUCCS 411), sand pine (FLUCCS 413), and xeric oak (FLUCCS 421). For our mapping and calculations, these habitat types have been shown as FLUCCS 411. Any natural forested habitat which is dominated by a coniferous canopy of at least 66 percent type is included in this habitat type. Generally, these areas are found within the right of way and consisted of remnant pine flatwoods with cleared understory and possibly some planted slash pine. Understory vegetation in these areas is generally mowed and maintained with some saw palmetto, Hercule's club (*Zanthoxylum clava-herculis*), but encroachment of Brazilian pepper and muscadine grape in the understory of some areas has occurred. Other species observed included white beggar-ticks and Caesarweed (*Urena lobata*). Brazilian pepper was the primary exotic species observed with coverage ranging from low to high. Active and inactive gopher tortoise burrows were identified in this habitat. Additional protected species which utilize gopher tortoise burrows are also likely present. Nodding pinweed, a state-protected plant species, was also observed in this habitat. In more xeric oak alike habitats, two populations of Florida golden aster (*Chrysopsis floridana*), which is federally and state listed as endangered, were also documented. Scrub-jays were not observed in this habitat. Due to the small size, fragmented locations, and overgrown structure, utilization of the habitat by the Florida scrub-jay is unlikely. This land use will be impacted due to the preferred pond sites.

Hardwood – Conifer Mixed (FLUCCS 434)

Neither conifers nor hardwoods achieve 66% dominance in this habitat. This habitat was likely pine flatwoods (FLUCCS 411) at one time, but overgrowth of hardwoods and exotic species has occurred. Presence of these hardwoods and exotics is likely due to fire suppression. Due to the similarity of characteristics, this category also includes tree plantations (FLUCCS440) for our mapping and calculation purposes. Canopy species including slash pine, red maple (*Acer rubrum*) and both laurel and live oaks (*Quercus virginiana*) are present. Saw palmetto is also present with an inverse relationship to the coverage of Brazilian pepper. Other species observed in this habitat include Caesarweed, dogfennel, falsewillow, goldenrod, and muscadine grape. Coverage of exotic species is low to moderate with Brazilian pepper the most abundant of these species. Other nuisance and exotic canopy species include Australian-pine (*Casuarina equisetifolia*) and silk tree (*Albizia julibrissin*). Evidence of the state-protected species, gopher tortoise, was identified at the edges of this habitat type. Additional protected species which utilize gopher tortoise burrows are also likely present. This land use will be impacted due to the preferred pond sites.

Transportation (FLUCCS 810)

These facilities are utilized for the movement of people and goods and as a result are major influences on land and define many land use boundaries. The transportation corridor for I-75 is dominated by a

grassy maintained right of way along with the transportation facilities. Upland and wetland habitats described above and below are interspersed along this maintained right of way. These maintained areas are dominated by Bermuda grass and Bahia grass. Other vegetation found within the maintained right of way includes white beggar-ticks, pennywort (*Hydrocotyle umbellata*), frog-fruit (*Phyla nodiflora*), slash pine, sabal palmetto, Brazilian pepper, and muscadine grape. Thin strips of planted pine, palmetto prairie, and xeric oak are also located within the transportation corridor. Brazilian pepper is present in the understory of the planted pine strips in moderate to high density. A few locations are generally free of Brazilian pepper, but these areas are infrequent. Protected species were observed within the transportation corridor but were generally limited to the thin strips of habitat which are not actively mowed. These species include the state-protected nodding pinweed and gopher tortoise. Additional protected associate species of the gopher tortoise are also likely present. A Florida sandhill crane (*Grus canadensis pratensis*), a state-protected species, was also observed flying over I-75 from east to west (location presented in **Figure 3-3**).

Communication (FLUCCS 820)

Airwave communications, radar and television antennas with associated structures are typical major types of communication facilities that will be identified in this category. These areas are generally heavily maintained areas with a prevalence of sod grasses and some landscape shrubbery, in addition to other low-lying grasses and forbs. No protected species were observed within this land use during field surveys for this project. This land use is not anticipated to be impacted by the project.

Utilities (FLUCCS 830)

This category includes power generation facilities and water treatment plants in addition to the transmission lines and aeration fields associated with the facilities. These areas are generally heavily maintained areas with a prevalence of sod grasses and some landscape shrubbery, in addition to other low-lying grasses and forbs. No protected species were observed within this land use during field surveys for this project, and it is unlikely that the area is utilized by these species. This land use is not anticipated to be impacted by the project.

2.3 EXISTING WETLANDS AND SURFACE WATERS

Wetlands and jurisdictional surface waters were identified adjacent to the study area or within the project right of way, as well as the preferred SMF and FPC locations. Several wetland habitats and a variety of surface water types are present. Wetlands include shallow wet prairies, herbaceous and shrubby marshes, estuarine wetlands, and a variety of forested wetland types. Surface waters include herbaceous, shrubby, and forested ditches and ponds. Wetlands and surface waters that have the potential to be impacted by the proposed improvements have been classified by the FLUCCS codes (FDOT 1999) as well as the U.S. Fish and Wildlife Service's (USFWS) *Wetlands and Deepwater Habitats Classifications*. Detailed descriptions of the wetland and surface water community types are provided below. Federal and state protected species observed during field surveys is also included, where applicable. These protected species, and the study area habitats in which they may be expected to

occur, are also discussed in greater detail in **Section 3.** Representative photographs of most wetland types are provided in **Appendix B**.

Steams and Waterways (FLUCCS 510)

Riverine Lower Perennial Open Water (R2UBH)

Bullfrog Creek intersects the project area on I-75 just north of Symmes Road and on Big Bend Road just east of the I-75 interchange. Water regimes range from intermittently flooded to permanently flooded. Primrose willow (*Ludwigia peruviana*) and paragrass (*Urochloa mutica*) are present within the creek system along with numerous weedy species along the creek banks. No listed or protected species were observed; however, this land use type may provide foraging habitat for the wood stork and other state listed wading birds.

Estuarine Subtidal Unconsolidated Bottom (E1UB)

This category includes both the Alafia and Little Manatee Rivers. Water regimes range from intermittently flooded to permanently flooded. Submerged aquatic vegetation are not readily visible within main water bodies but may be present in some areas depending on light penetration and salinity levels. No listed or protected species were observed; however, this land use type may provide foraging habitat for the West Indian manatee, as well as the wood stork and other state listed wading birds.

Lakes (FLUCCS 520)

Freshwater Pond (PUBH)

The Lakes category includes extensive inland water bodies, excluding reservoirs. There is one small lake within the project buffer, just north of the Big Bend Road interchange. Submerged aquatic vegetation are not readily visible within main water bodies but may be present in some areas depending on light penetration and salinity levels. This land use may provide potential habitat for the listed wading birds.

Stream and Lake Swamps (FLUCCS 615)

Palustrine Forested with Broad-Leaved Deciduous & Broad-Leaved Evergreen (PFO1/3)

According to the FLUCCS manual, this community, often referred to as bottomland or stream hardwoods, is usually found on, but not restricted to, river, creek and lake floodplain or overflow areas. Several stream and lake swamps are located along the study area and are generally located directly adjacent to or within the floodplain of the riverine and creek systems (Bullfrog and Curiosity Creeks). Interstate 75 spans Bullfrog Creek just north of Symmes Road and also on Big Bend Road just east of the I-75 interchange. Interstate 75 also spans Curiosity Creek about halfway between the Little Manatee River and the Moccasin Wallow Road interchange. Hydrologic conditions within these wetland areas generally consist of saturated soils to intermittent and seasonal flooding. Canopy species observed include: sweetgum (*Liquidambar styraciflua*), slash pine, cabbage palm, laurel oak, water oak and live oak. Oak species are generally the dominant tree species found within this habitat

type. Herbaceous and shrub species observed within this habitat type include the following: small-spike false nettle, St. Andrews cross (*Hypericum hypercoides*), primrose willow, wild coffee, castor bean (*Ricinus communis*), southern willow, elderberry, and shield ferns. Virginia creeper is the primary vining species present. All of these wetlands have a moderate level of disturbance and moderate to high cover of nuisance and exotic species. High cover of Brazilian pepper is present in all of these wetlands especially on the wetland fringe. Brazilian pepper and castor bean were the primary nuisance and exotic species observed. No listed or protected species were observed; however, this land use type may provide foraging habitat for the wood stork and other state listed wading birds.

Wetland Coniferous Forests (FLUCCS 620)

Palustrine Forested with Needle-Leaved Deciduous (PFO2)

This community is composed of pond cypress (*Taxodium ascendens*) or bald cypress (*T. distichum*) predominantly. A few cypress wetlands (FLUCCS 621) are located along the project corridor. Hydrologic conditions within these wetland areas generally consist of saturated soils to seasonal flooding. Bald cypress is the primary canopy species present. Herbaceous and shrub species observed within this habitat type include the following: swamp fern, small-spike false nettle, primrose willow, southern willow, shield fern, netted chainfern, and Virginia chainfern. Muscadine grape is the only vining species identified. All of these wetlands have a moderate level of disturbance and low to moderate overall cover of nuisance and exotic species. Brazilian pepper and primrose willow were the primary nuisance and exotic species observed in this habitat type. Brazilian pepper is located on the wetland fringe in dense cover. No listed or protected species were observed; however, this land use type may provide foraging habitat for the wood stork and other state listed wading birds.

Wetland Forested Mixed (630)

Palustrine Shrub-Scrub Broad-Leaved Deciduous & Broad-Leaved Evergreen (PSS1/3)

According to the FLUCCS manual this community is associated with topographic depressions and poorly drained soil. A large number of wetland scrubs are located along the project corridor. Hydrologic conditions within these wetlands generally consist of saturated soils to seasonal flooding. High cover of the shrub species southern willow and Brazilian pepper persist in these wetlands. Other herbaceous and shrub species observed within this habitat type include: falsewillow, bur-marigold (*Bidens laevis*), swamp fern, small-spike false nettle, buttonbush, dayflower (*Commelina diffusa*), flatsedges (*Cyperus* spp.), dogfennel, pennywort, softrush, primrose willow, wax myrtle, torpedograss (*Panicum repens*), elderberry, shield fern, and cattail. Sapling and subcanopy tree species are also occasionally observed and include red maple, laurel oak, and water oak. All of the wetlands have moderate to high levels of disturbance and moderate to high cover of nuisance and exotic species. Nuisance and exotic species observed include: Brazilian pepper, primrose willow, torpedograss, and cattail (*Typha* spp.).

Freshwater Marsh (FLUCCS 641)

Palustrine Emergent with Persistent Vegetation (PEM1)

According to the FLUCCS manual, this community is dominated by one or more of a list of freshwater herbaceous species. A number of freshwater marshes are located along the project corridor. Water levels within these marshes vary and range from permanently to seasonally flooded. These freshwater marshes support a variety of emergent species which include: bur-marigold, flatsedges, dogfennel, pennywort, softrush, needlepod rush (*Juncus scirpoides*), primrose willow, torpedograss, southern willow, sand cordgrass (*Spartina bakeri*), cattail, and paragrass. A moderate level of disturbance and moderate to high cover of nuisance and exotic species are present in these wetlands and include primrose willow, torpedograss, cattail, and paragrass. Cover of shrubby species is the major distinction between the freshwater marshes and the shrubby marsh category described below. One freshwater marsh located just north of the Little Manatee River is likely a created mitigation area. Additionally, herbaceous-dominated wetland ditches located within hydric soil mapping units are incorporated into this freshwater marsh category. No listed or protected species were observed; however, this land use type may provide foraging habitat for the wood stork and other state listed wading birds.

Saltwater Marsh (FLUCCS 642)

Estuarine Intertidal Emergent with Persistent Vegetation (E2EM1)

According to the FLUCCS manual, this community is dominated by one or more of a list of salt tolerant herbaceous species. Saltwater marshes are located along the study area and are associated with the Alafia and Little Manatee River crossings. Water levels within these marshes are semi-permanent and likely tidally influenced. These marshes are dominated by needle rush (*Juncus roemerianus*), with occasional Brazilian pepper and cabbage palm. Brazilian pepper is the primary nuisance/exotic species and occurs in low numbers. Field surveys identified the state-protected species little blue heron (*Egretta caerulea*) foraging in this habitat.

Wet Prairie (FLUCCS 643)

Palustrine Emergent with Persistent Vegetation (PEM1)

According to the FLUCCS manual, this classification is composed predominantly of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. A few wet prairies are located along the project corridor. Hydrologic conditions within these prairies generally appear to consist of saturated soils to intermittent flooding. Common species observed within the wet prairies include: bushy bluestem (*Andropogon glomeratus*), broomsedge bluestem, Mohr's thoroughwort (*Eupatorium mohrii*), redroot (*Lachnanthes caroliniana*), needlepod rush, maidencane (*Panicum hemitomon*), and Virginia chainfern. There is very little cover of nuisance and exotic species within the prairies.

Emergent Aquatic Vegetation (FLUCCS 644)

Palustrine Aquatic Bed (PABH/PABHx)

This category of wetland includes plant species that are both floating vegetation and vegetation which is found either partially or completely above the surface of water. A variety of man-made swales, ditches, and ponds are located along the corridor. These features are associated with the SMFs currently in place to serve I-75 and adjacent roadways. Other surface water features are man-made features located within upland soil mapping units. Vegetation within this area includes water lettuce (*Pistia stratiotes*), duck weed (*Lemna sp*.), and water lily. No listed or protected species were observed; however, this land use type may provide foraging habitat for the wood stork and other state listed wading birds.

Intermittent Ponds (FLUCCS 653)

Palustrine Emergent Persistent (PEM1)

According to the FLUCCS manual, this category of wetland is defined as a waterbody which exists for only a portion of the year. It may be referred to as a seasonal waterbody. Its existence relies upon water received directly from precipitation, runoff or spring flow. No protected species were observed during field reviews; however, this habitat type could provide habitat for the wood stork and other wading birds.

2.4 SOILS

Review of the United States Department of Agriculture (USDA) NRCS soil surveys for Hillsborough (HIL) and Manatee (MAN) Counties, Florida (1989 and 1983) identified 37 soil types within the study area. Myakka fine sand, 0 to 2 percent slopes (HIL #29), Pomello fine sand, 0 to 5 percent slopes (HIL #41), and EauGallie, wet, fine sand, 0 to 2 percent slopes (MAN #20) are dominant. Myakka fine sand, 0 to 2 percent slopes is overwhelmingly dominant, making up approximately 58 percent of the project buffer area. Myakka fine sand, 0 to 2 percent slopes is considered a prime farmland soil. According to the Florida Association of Environmental Soil Scientists' (FAESS) "Hydric Soils of Florida Handbook" (2007), the most common hydric soil types found within the study area include the following: Delray mucky loamy fine sand (MAN #15), Palmetto sand (MAN #38), Basinger, Holopaw, and Samsula soils, depressional (HIL #5), Malabar fine sand (HIL #27), and Chobee loamy fine sand (HIL #10). All of these state-listed soils are also federally listed with hydric classification obtained from NRCS**.** According to the FAESS a soil may not be classified as hydric in all situations. Nullifying factors include the inclusion of certain soil types or the composition of the dominant soil in addition to the soil being located within a specific landform type (i.e., marine terrace, sloughs, tidal marsh, etc.). Final determination of hydric condition for those soils which may be hydric will be determined during the permitting and design stage of this project.

Soils within a 250-foot buffer from the centerline of both directional lanes of I-75 as well as the Preferred SMF and FPC sites were mapped and evaluated. Acreages and percentages of soil types

within the study buffer can be found in **Table 2-2**. A soils map can be found in **Appendix C**. Detailed descriptions of the dominant soil types are provided below:

- Myakka fine sand (HIL #29) – Nearly level, poorly drained soil in flatwoods on marine terraces. Slopes range from 0 to 2 percent. The surface layer is very dark gray fine sand about 5 inches thick. In most years, under natural conditions, the water table is within a depth of 6 to 18 inches. This soil is sometimes considered as hydric by both the FAESS and NRCS.
- EauGallie fine sand (MAN #20) – Nearly level, poorly drained soil in flatwoods on marine terraces. Slopes range from 0 to 2 percent. The surface layer is very dark gray fine sand about 5 inches thick. In most years, under natural conditions, the water table is within a depth of 6 to 18 inches. This soil is sometimes considered as hydric by both the FAESS and NRCS.
- Pomello fine sand (HIL #41) – Nearly level to gently sloping, moderately well drained soil found on ridges and knolls on marine terraces, with irregularly shaped areas. Slopes range from 0 to 5 percent. The surface layer is very dark gray fine sand about 3 inches thick. In most years, under natural conditions, the water table is at a depth of 24 to 42 inches. This soil is not considered hydric by either the FAESS or NRCS.

2.5 SIGNIFICANT WATERS AND PROTECTION AREAS

2.5.1 Outstanding Florida Waters

The Little Manatee River is designated as an Outstanding Florida Water (OFW). Currently there is an existing I-75 twin bridge structure over the river with a total of six (6) lanes and emergency pull off areas. Additional lanes will require an increase in bridge width with the Preferred Alternative resulting in the increase on the interior of the existing structure. Best management practices (BMPs) will be utilized during bridge construction to address water quality issues. Additionally, future design of stormwater management plans for the road expansion will incorporate design standards for the protection of OFWs.

2.5.2 Protection Areas

A variety of protected lands and/or conservation lands are present within the surrounding landscape around the I-75 corridor in the Hillsborough County portion of the project (**Figure 3-1**). Several sites are located directly adjacent to or are within the study area. These sites are discussed below.

The Golden Aster Scrub Nature Preserve, which is operated by the Hillsborough County Environmental Lands Acquisition and Protection Program (ELAPP), is located directly adjacent to I-75. This preserve is located on the west side of I-75 just north of the Big Bend Road interchange. Sand pine and oak scrub habitats dominate the landscape of this 1,236 acre preserve.

Table 2-2 NRCS Soils

Map Unit Symbol	Description	Acreage (Approx. 250' from Centerlines)	Percentage
Manatee Soils			
1	Adamsville variant fine sand	2.5	0.1%
4	Bradenton fine sand, 0 to 2% slopes	0.1	<0.1%
5	Bradenton fine sand, limestone substratum	11.5	0.6%
7	Canova, Anclote, and Okeelanta Soils	14.4	0.8%
12	Cassia fine sand, moderately well drained	57.5	3.1%
14	Chobee variant sandy clay loam	7.1	0.4%
15	Delray mucky loamy fine sand (hydric)	18.9	1.0%
16	Delray complex (hydric)	11.3	0.6%
17	Delray-EauGallie complex (hydric)	6.4	0.3%
19	Duette fine sand, 0 to 5% slopes	2.9	0.2%
20	EauGallie wet, fine sand, 0 to 2% slopes (hydric)	110.0	5.9%
22	Felda fine sand, 0 to 2% slopes (hydric)	40.2	2.1%
25	Floridana fine sand, 0 to 2% slopes (hydric)	9.0	0.5%
26	Floridana-Immokalee-Okeelanta association (hydric)	13.1	0.7%
35	Ona fine sand, orstein substratum (hydric)	8.1	0.4%
38	Palmetto sand (hydric)	39.7	2.1%
39	Parkwood variant-Chobee-Parkwood complex (hydric)	6.2	0.3%
48	Wabasso wet, fine sand (hydric)	9.0	0.5%
Hillsborough Soils			
3	Archbold fine sand	33.4	1.8%
4	Arents, nearly level	8.7	0.5%
5	Basinger, Holopaw, and Samsula soils, depressional (hydric)	33.5	1.8%
7	Candler fine sand, 0 to 5% slopes	0.6	<0.1%
10	Chobee loamy fine sand, frequently ponded, 0-1% slopes (hydric)	5.0	0.3%
14	Eaton mucky sand, depressional (hydric)	8.5	0.5%
15	Felda fine sand, 0 to 2% slopes (hydric)	5.5	0.3%
27	Malabar fine sand, 0 to 2% slopes (hydric)	56.4	3.0%
29	Myakka fine sand, 0 to 2% slopes (hydric)	1095.5	58.3%
30	Myakka fine sand, frequently flooded (hydric)	7.3	0.4%
33	Ona fine sand, 0 to 2% slopes (hydric)	6.5	0.3%
36	Orsino fine sand, 0 to 5% slopes (hydric)	7.2	0.4%
41	Pomello fine sand, 0 to 5% slopes	99.8	5.3%
46	St. Johns fine sand (hydric)	48.2	2.6%
52	Smyrna fine sand, 0 to 2% slopes	14.6	0.8%
56	Urban land, 0 to 2% slopes (hydric)	30.2	1.6%
60	Winder fine sand, frequently flooded (hydric)	10.2	0.5%
61	Zolfo fine sand, 0 to 2 percent slopes (hydric)	15.3	0.8%
99	Water	25.2	1.3%
	TOTAL	**1853.9**	**100%**

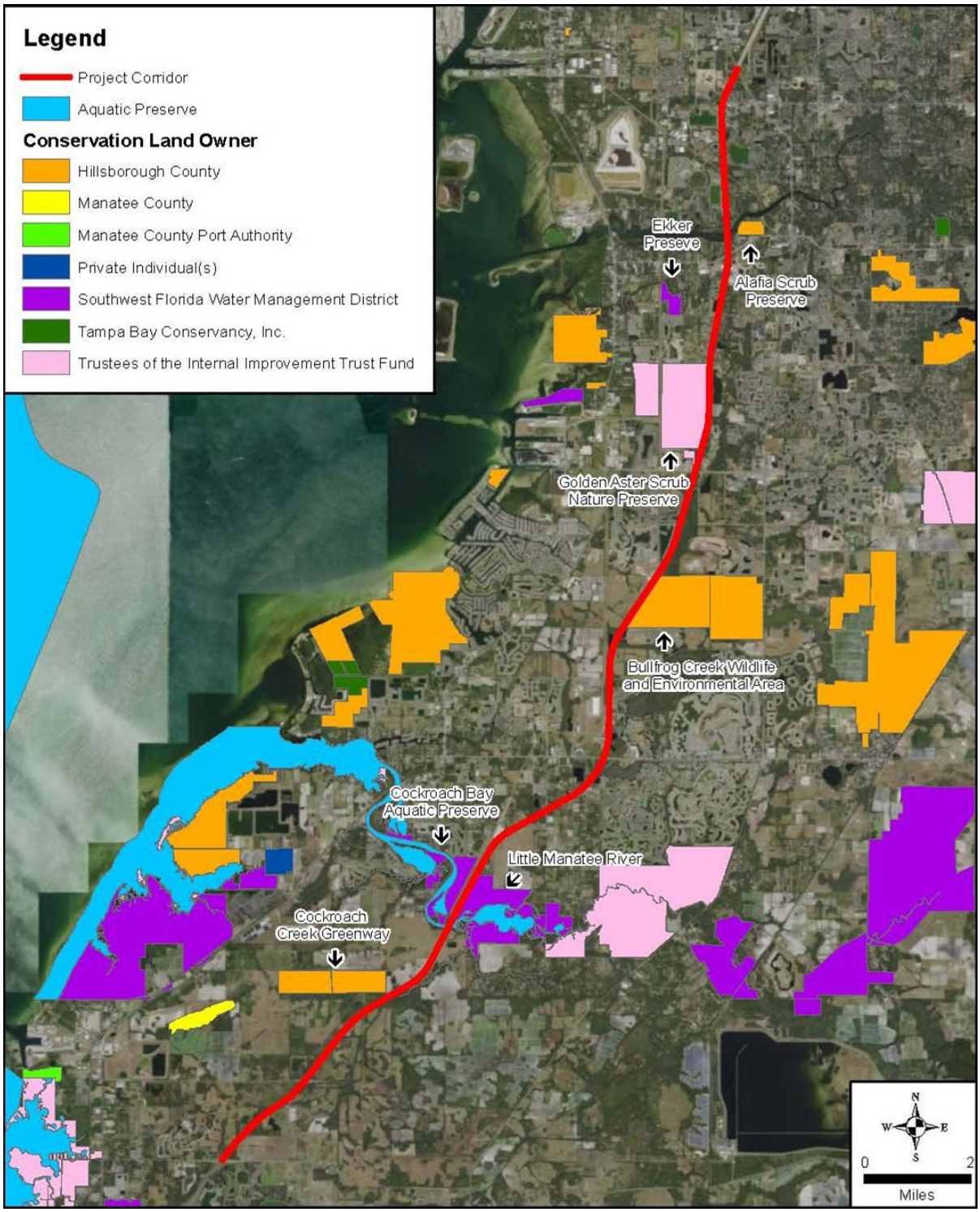


Figure 2-1 Protected Areas

The Bullfrog Creek Mitigation Park and Wildlife Environmental Area which is managed by the Florida Fish and Wildlife Conservation Commission (FWC) is also located directly adjacent to I-75. This site is located on the east side of I-75 about midway between Big Bend Road and Sun City Center Boulevard. This site is adjacent, on the east, to the Bullfrog Creek Scrub Preserve which is managed by Hillsborough County's ELAPP. FWC maintains this site as a gopher tortoise mitigation park, while the adjacent portion managed by ELAPP is designated as an upland mitigation bank. Upland scrub habitats dominate the landscape of both these areas with total area of 1,620 acres. The Preferred Alternative does not result in direct impacts to these management areas.

The Little Manatee River Preserve is adjacent to I-75 on both the east and west sides and is located at the Little Manatee River crossing. This site is dominated by estuarine and palustrine wetland systems which provide protection to the Little Manatee River. The property contains 1,902 acres and is managed by Hillsborough County's ELAPP. The Preferred Alternative does not result in direct impacts to this preserve.

The Cockroach Creek Greenway is located just west of I-75 in Hillsborough County near the Manatee County line. This preserve is approximately 500 acres in size and was purchased by the Hillsborough County ELAPP in 2001. This preserve provides protection to a portion of the headwaters of Cockroach Creek. Pine flatwoods with isolated wetlands and forested wetlands associated with the creek dominate the landscape of this preserve. The Preferred Alternative does not result in direct impacts to this preserve.

The Alafia Scrub Preserve is located just east of I-75 in Hillsborough County, directly south of the Alafia River. This preserve is approximately 80 acres in size and was purchased by the Hillsborough County ELAPP in 1998. This preserve provides trails and recreation, as well as protection to a portion of the Alafia River. The preserve includes habitats such as hammock, scrub, creeks, shoreline, and tidal marsh. The Preferred Alternative does not result in direct impacts to this preserve.

2.5.3 Aquatic Preserves

The Cockroach Bay Aquatic Preserve is a state-designated aquatic preserve (designated as such under *Chapter 18 - 20, Florida Administrative Code* [*F.A.C.*]). Limits of this preserve extend from Tampa Bay, up the Little Manatee River and terminate inside of the Little Manatee River State Park in the vicinity of U.S. Highway 301. The Preserve encompasses 8,583 acres. The existing I-75 bridge spans over the Preserve through the center of the FDOT right of way that is approximately 350 feet wide. This site is dominated by sea grass beds and estuarine and palustrine wetland systems. Widening of the bridge over the Little Manatee River may result in impacts to this preserve. These proposed impacts would occur within the footprint of the bridge crossing and within existing right of way. BMPs will be utilized during bridge construction to address water quality issues. Additionally, stormwater management plans for the road expansion will incorporate design standards for the protection of Aquatic Preserves and OFWs. Impacts to this aquatic preserve will be addressed through coordination and permitting with the SWFWMD.

SECTION 3 PROTECTED SPECIES AND HABITAT

The study area and preferred pond sites were assessed for the presence of suitable habitat for federal- and/or state-listed protected species in accordance with *50 Code of Federal Regulation (CFR) Part 402 of the ESA of 1973*, as amended, *Chapters 5B-40 and 68A-27 F.A.C.*, and *Part 2, Chapter 16 – Protected Species and Habitat* of the FDOT *PD&E Manual*.

3.1 METHODOLOGY

Literature reviews, agency data base searches, and preliminary field reviews (2008 and fall of 2019) of potential habitat areas were conducted to identify state and federally protected species occurring or potentially occurring within the study area. The Hillsborough and Manatee Counties Soil Surveys and recent aerial photographs were reviewed to determine habitat types occurring within and adjacent to the project action area, including the preferred pond sites. Information sources and databases utilized include the following:

- Florida Fish and Wildlife Conservation Commission (FWC) GIS Database(s)
- USFWS Information for Planning and Conservation (IPaC)
- USFWS GIS Database(s)
- USFWS – Critical Habitat for Threatened and Endangered Species
- USFWS – Wood Stork Active Nesting Colonies and Core Foraging Areas (CFA) (15-mile radius) 2010-2019
- National Marine Fisheries Service (NMFS) GIS Database(s)
- Florida Geographic Data Library (FGDL)
- Florida Natural Areas Inventory (FNAI) GIS Database(s)
- Atlas of Florida Plants
- Field Guide to the Rare Plants of Florida
- Southwest Florida Water Management District (SWFWMD) GIS Data
- National Wetland Inventory (NWI) GIS Data
- Audubon Center for Birds of Prey, Audubon EagleWatch Florida Nest Map Database

Based on the results of database searches, preliminary field reviews and review of aerial photographs and soil surveys, field survey methods for specific habitat types and lists of target species were developed. Additionally, the environmental concerns expressed by the ETAT members in the ETDM *Programming Screen Summary Report* were considered when identifying target species and survey methods. Field reviews consisted of vehicular surveys, roadside observations and detailed pedestrian surveys through natural areas and altered habitats with the potential to support protected species. In the absence of physical evidence of a protected species, evaluation of the appropriate habitat was conducted to determine the likelihood of a species being present. Original surveys were performed in the summer and fall of 2008 with additional observations in December 2009. Updated surveys

were undertaken in 2018 and 2019. Original surveys took place within the existing right of way of I-75. Updated surveys were conducted within the existing right of way of I-75 as well as preferred SMF and FPC site locations. Please refer to **Figure 3-1** for a depiction of the historic species occurrence results from the database searches based on a 1-mile radius from the study area. During all surveys visual observations were also conducted on adjacent lands. Any observations of protected plant and wildlife species or indicators of their presence (i.e., vocalizations, tracks, scat, burrows, etc.) within or immediately adjacent to the study area were documented. **Figure 3-2** provides results of listed wildlife and plant species surveys within the existing right of way of I-75, with visual observations conducted on adjacent lands.

Based on the above methods, a list of potentially occurring protected species was developed, and each species was assigned a low, moderate, or high likelihood for occurrence within habitats found in the study area. If a species or species indicator was observed during field reviews it is identified as present.

Low — Species with a low likelihood of occurrence within the study area are defined as those species that are known to occur in Hillsborough County or the bioregion, but preferred habitat is limited within the study area, or the species is rare or has been extirpated.

Moderate — Species with a moderate likelihood for occurrence are those species known to occur in Hillsborough or nearby counties, and for which suitable habitat is well represented within the study area, but no observations or positive indications exist to verify their presence.

High — Species with a high likelihood for occurrence are suspected within the study area based on known ranges and existence of sufficient preferred habitat on the I-75 corridor; are known to occur adjacent to the corridor; or have been previously observed or documented within the vicinity.

3.2 SURVEY RESULTS

The study area traverses a mix of primarily rural and moderate density residential areas. Rural and undeveloped lands provide habitat to many wildlife and plant species, some of which are protected, while the residential areas provide limited habitat value to flora and fauna. Descriptions are provided below for those species which are present within the study area, have been identified on the historic listed species occurrence, or have high potential to occur in habitats identified within the study area.

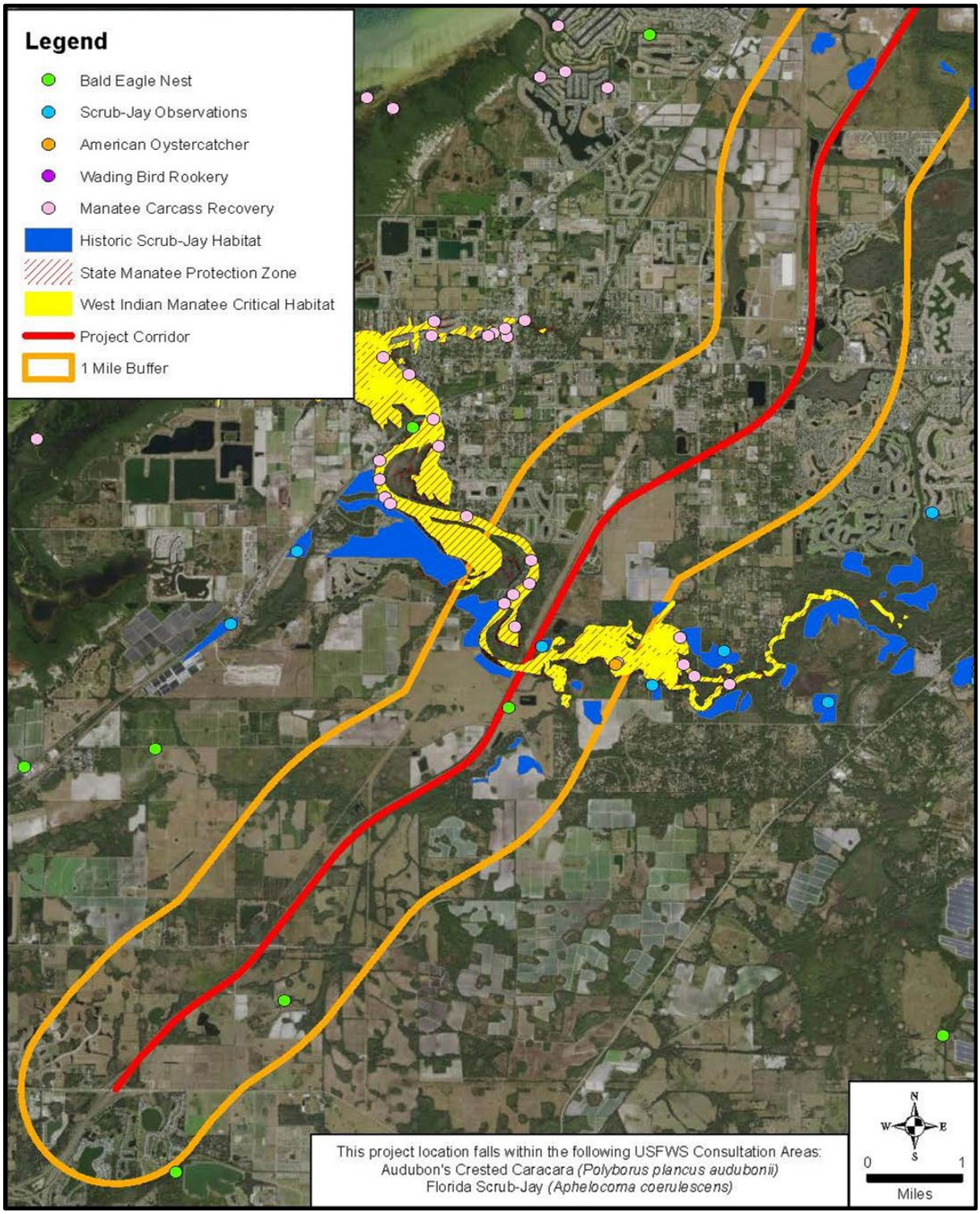


Figure 3-1 Historic Listed Species

(1 of 2)

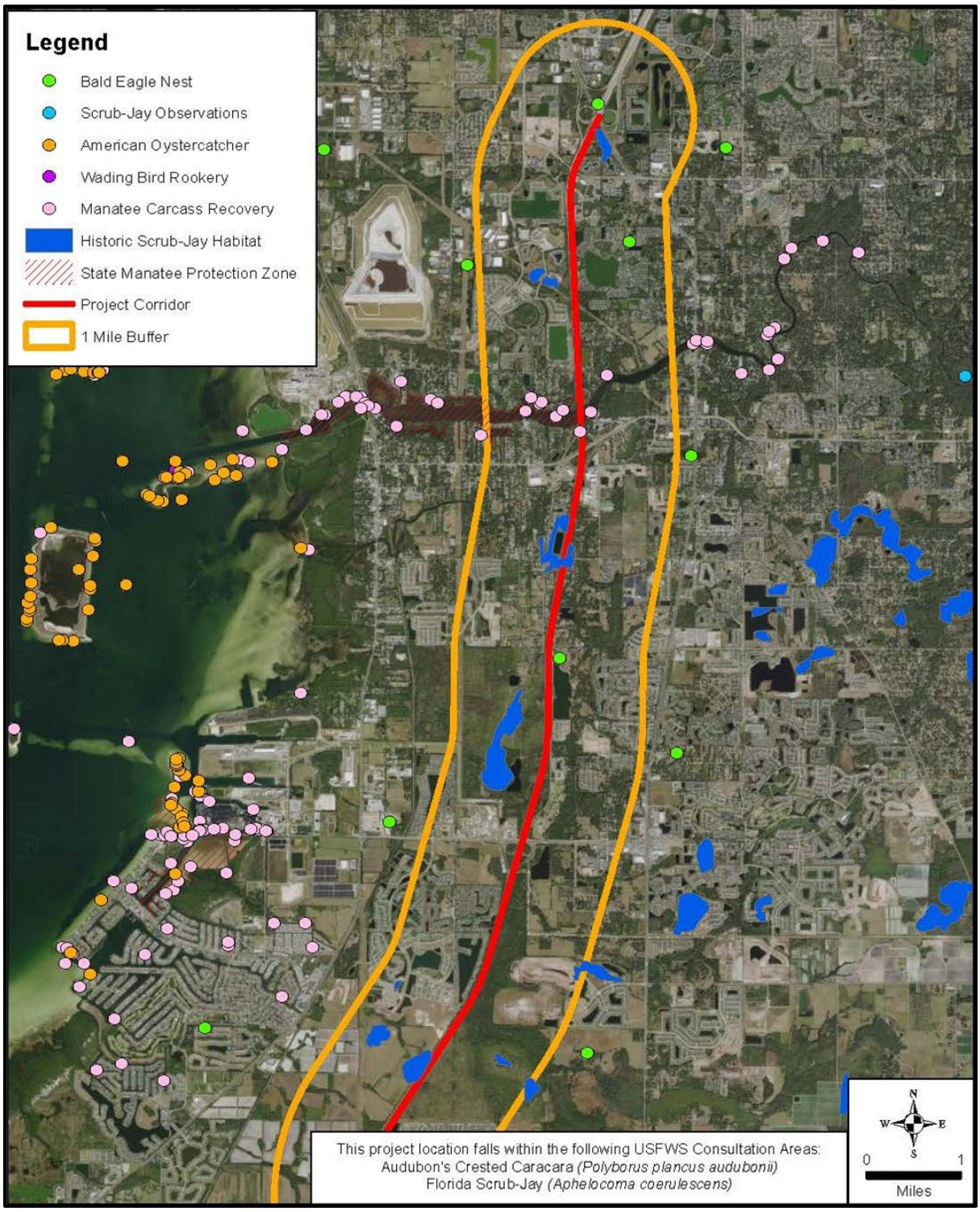


Figure 3-1 Historic Listed Species

(2 of 2)

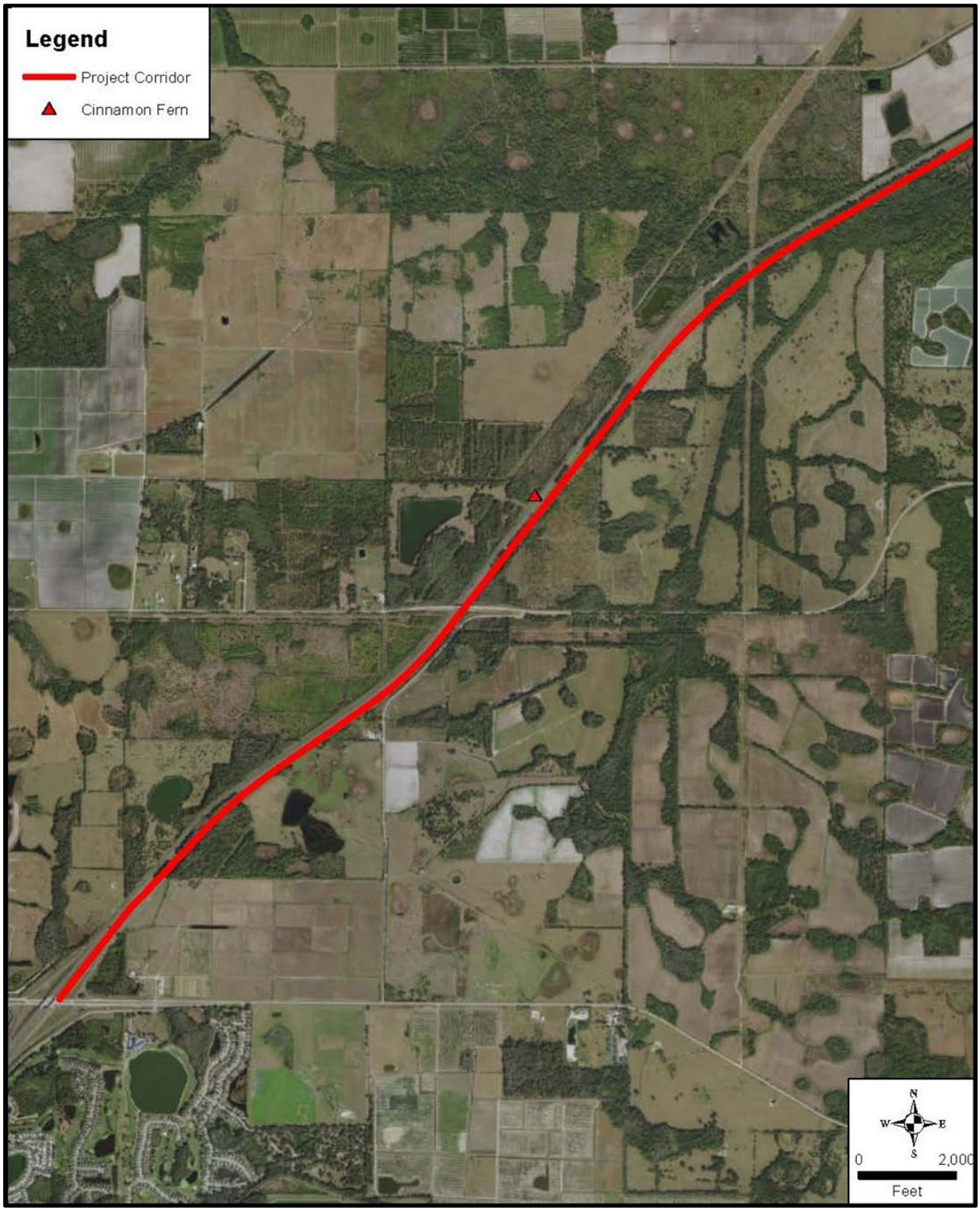


Figure 3-2 Observed Listed Species and Habitat

(1 of 5)

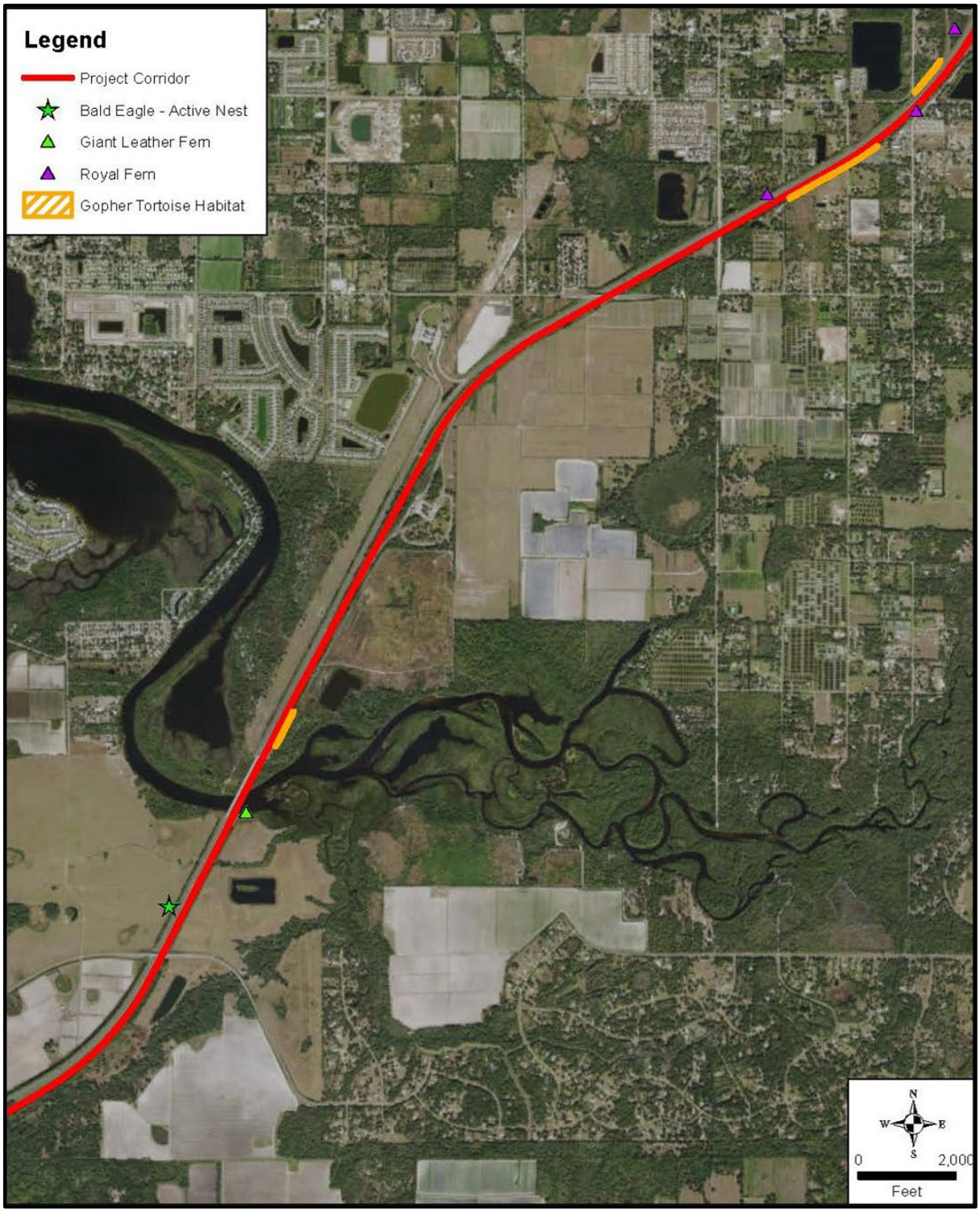


Figure 3-2 Observed Listed Species and Habitat

(2 of 5)

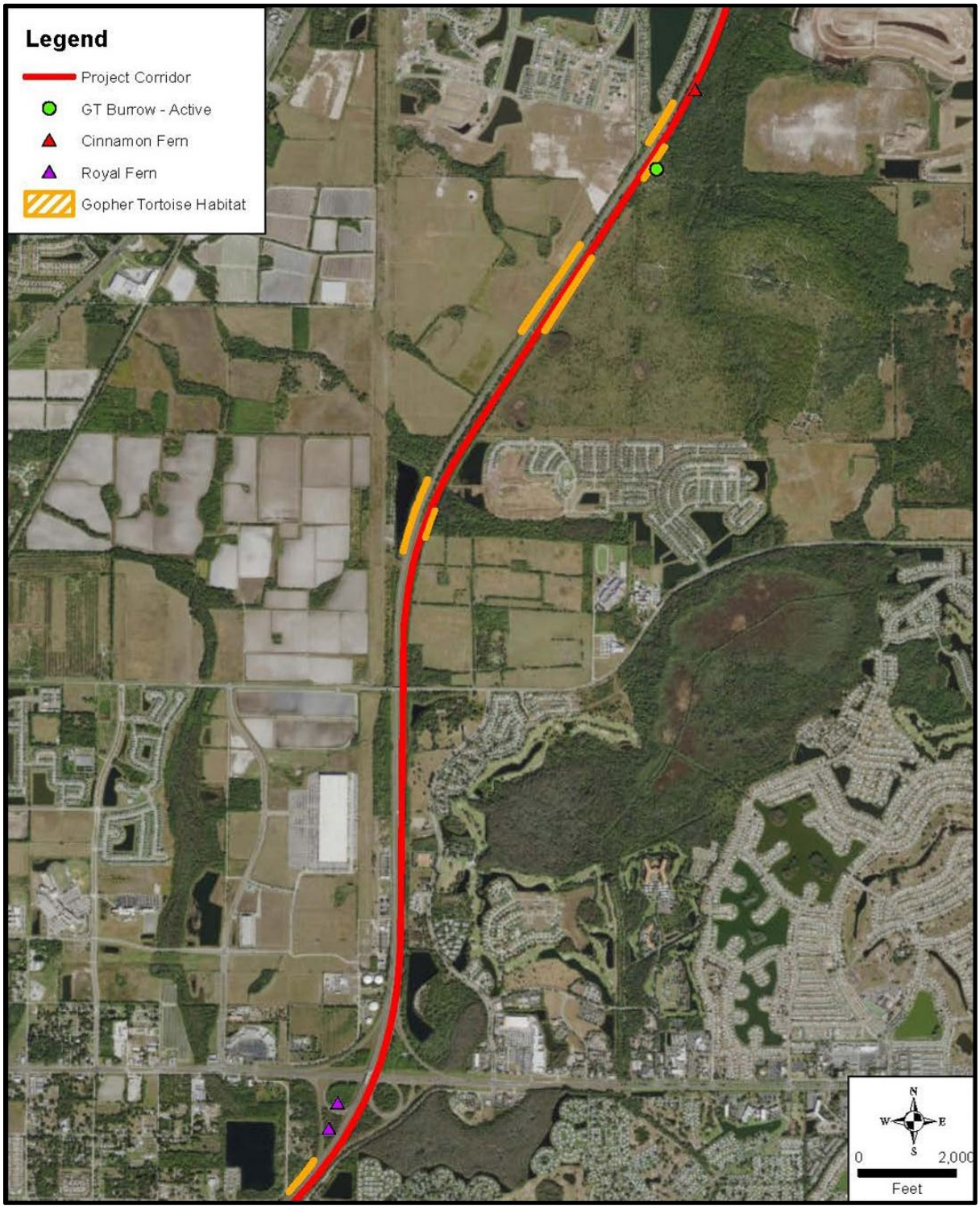


Figure 3-2 Observed Listed Species and Habitat

(3 of 5)

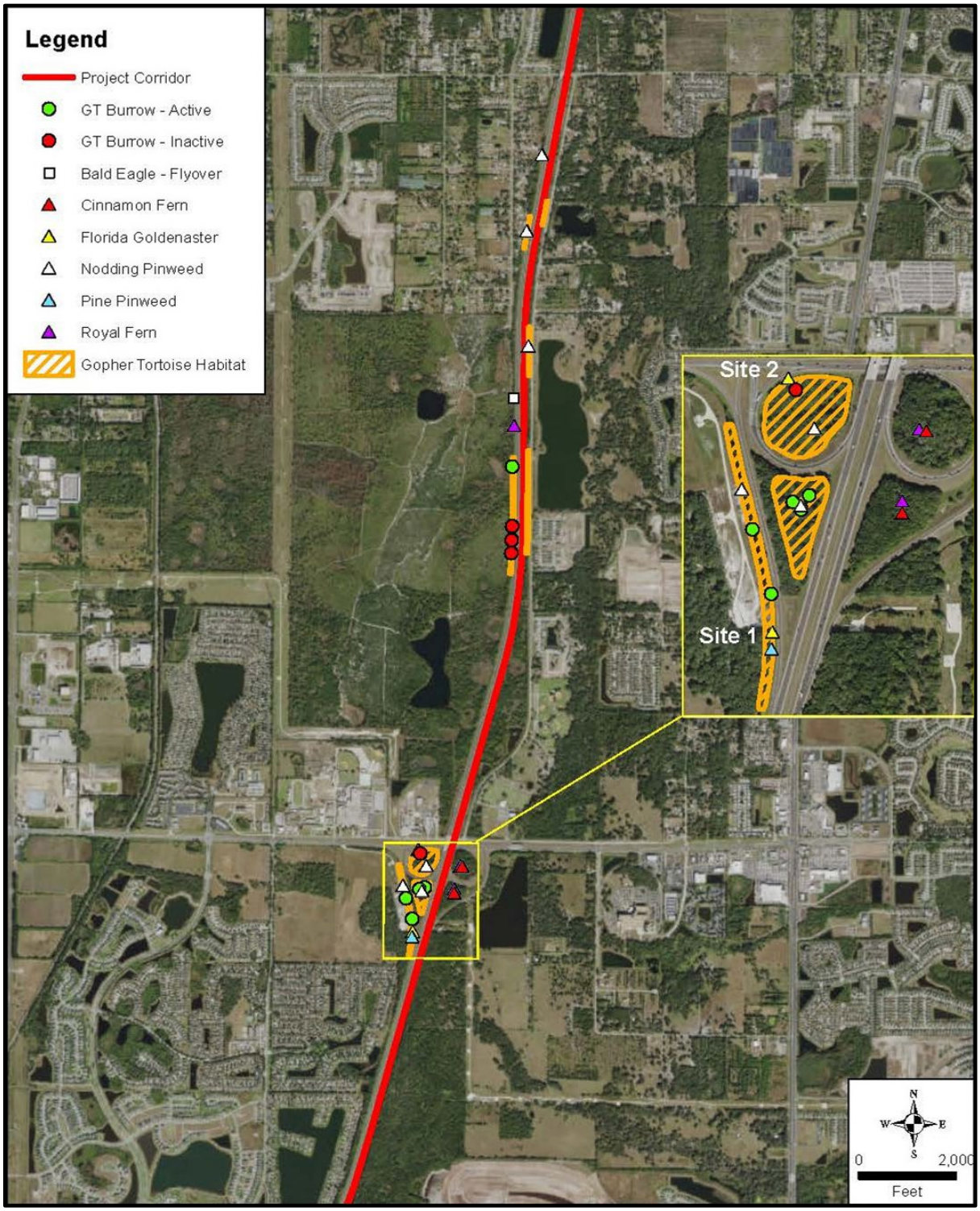


Figure 3-2 Observed Listed Species and Habitat

(4 of 5)

Figure 3-2 Observed Listed Species and Habitat

(5 of 5)

3.3 FEDERAL LISTED FAUNAL SPECIES

Federally listed and protected faunal species which have been identified within the vicinity of the study area or have the potential to occur are the eastern indigo snake (*Drymarchon corais couperi*), loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia mydas*), Hawksbill sea turtle (*Eretmochelys imbircata*), Kemp's ridley sea turtle (*Lepidochelys kempii*), Florida grasshopper sparrow (*Ammodramus savannarum floridanus*), Florida scrub-jay (*Aphelocoma coerulescens*), rufa red knot (*Calidris canatus rufa*), piping plover (*Charadrius melodus*), eastern black rail (*Laterallus jamaicensis jamaicensis*), wood stork, Audubon's crested caracara (*Polyborus planus audubonii*), and West Indian manatee (*Trichechus manatus*). All of these species are also afforded state protection. **Table 3-1** lists the federal and state protected wildlife species with the potential to occur within the study area, based on potential availability of suitable habitat and known ranges.

3.3.1 Eastern Indigo Snake

The eastern indigo snake is federally listed as threatened. Eastern indigo snakes are large, black, non-venomous snakes which are distributed throughout the southeastern United States. The eastern indigo snake occurs in a wide variety of habitats, including forested uplands and wetlands as well as wet and dry prairies. This species feeds on snakes, frogs, salamanders, toads, small mammals, birds and young turtles.

No individuals were observed during the field surveys; however, areas of suitable habitat for this species occurs within and adjacent to the study area. Occurrence of this species has been documented on the historic observations (**Figure 3-1**). Therefore, the probability of occurrence for this species within the study area is high. Project scientists identified potential eastern indigo snake habitat within or immediately adjacent to 27 SMF or FPC sites. The design of the ponds may partially or fully impact eastern indigo snake habitat at each location. The Preferred Ponds and associated potential impacts to protected species are included in **Section 3.10**.

To assure the protection of this species during construction, when it is most likely to be affected, the FDOT will require that the USFWS *Standard Protection Measures for the Eastern Indigo Snake* (**Appendix D**) be implemented, and these construction guidelines will be a part of the final project design. The most current guidelines will be obtained and followed at the time the project proceeds to permitting and construction phases. Prior to construction, 100% gopher tortoise (*Gopherus polyphemus*) burrow surveys of the project area will need to be conducted. In the event that more than 25 gopher tortoise burrows or more than 25 acres of xeric habitat will be disturbed, the FDOT will reinitiate Section 7 consultation with the USFWS. Since standard protection guidelines will be incorporated in the final project design and implemented during construction, pursuant to the USFWS *Eastern Indigo Snake Programmatic Effect Determination Key* (2010), this project may affect, not likely to adversely affect the eastern indigo snake [A -> B -> C -> D -> E (**Appendix E**)].

Table 3-1 Potentially Occurring Listed Wildlife Species

Species	Common Name	State Listed Status	Federal Listed Status	Habitat	Probability of Presence or Occurrence
REPTILES					
Caretta caretta	Loggerhead sea turtle	FT	T	Beach dune, coastal grassland, estuarine, marine	Low
Chelonia mydas	Green sea turtle	FT	T	Beach dune, coastal grassland, estuarine, marine	Low
Drymarchon corais couperi	Eastern indigo snake	FT	T	Hydric hammock, palustrine, sandhill, scrub, upland pine forest, mangrove swamp	High
Eretmochelys imbircata	Hawksbill sea turtle	FE	E	Beach dune, coastal grassland, estuarine, marine	Low
Gopherus polyephemus	Gopher tortoise	ST	C	Old field, sandhill, scrub, xeric hammock, ruderal, dry prairie, pine flatwoods	Present
Lepidochelys kempii	Kemp's ridley sea turtle	FE	E	Beach dune, coastal grassland, estuarine, marine	Low
Pituophis melanoleucus mugitus	Florida pine snake	ST	--	Hydric hammock, palustrine, sandhill, scrub, upland pine forest	Low
Stilosoma extenuata	Short-tailed snake	ST	--	Sandhill, scrub, xeric hammock, pine upland, scrubby flatwoods	Low
BIRDS					
Ammodramus savannarum floridanus	Florida grasshopper sparrow	FE	E	Dry prairie	Low
Aphelocoma coerulescens	Florida scrub-jay	FT	T	Scrub, scrubby flatwoods	Low
Athene cunicularia floridana	Florida burrowing owl	ST	--	Dry prairie, sandhill, pastures, golf courses, ruderal, athletic fields	Low
Calidris canutus rufa	Rufa red knot	FT	T	Beach dune, unconsolidated substrate, sandy beaches	Low
Charadrius melodus	Piping Plover	FT	T	Beach dune, unconsolidated substrate, sandy beaches	Low
Charadrius nivosus	Snowy plover	ST	--	Composite substrate, beach dune, tidal sand flats, sandy beaches	Low
Egretta caerulea	Little blue heron	ST	--	Estuarine, lacustrine, riverine, tidal marsh, tidal swamp	Present
Egretta rufescens	Reddish egret	ST	--	Tidal Marsh, unconsolidated substrate, mangrove island, barren sands, mudflats, estuarine	High
Egretta tricolor	Tricolored heron	ST	--	Estuarine, lacustrine, riverine, tidal marsh, tidal swamp	High
Falco sparverius paulus	Southeastern American kestrel	ST	--	Sandhill, mesic flatwoods, ruderal, dry prairie	Moderate
Grus canadensis pratensis	Florida sandhill crane	ST	--	Basin marsh, depression marsh, dry prairie, marl prairie, pastures	High

Species	Common Name	State Listed Status	Federal Listed Status	Habitat	Probability of Presence or Occurrence
Haematopus palliatus	American oystercatcher	ST	--	Beach dune, exposed marine and estuarine sunbstrate, mudflat, beach, sandbar	Low
Haliaeetus leucocephalus	Bald eagle[1]	--	--	Estuarine, lacustrine, riverine, tidal marsh, tidal swamp	Present
Laterallus jamaicensis jamaicensis	Eastern black rail	FT	T	Estuarine tidal swamp/marshes, coastal prairie, freshwater marsh	Low
Mycteria americana	Wood stork	FT	T	Estuarine tidal swamps/marshes, lacustrine, seepage stream, ditches, ruderal	High
Pandion haliaetus	Osprey[2]	--	--	Estuarine, lacustrine, riverine, tidal marsh, tidal swamp	High
Platalea ajaja	Roseate spoonbill	ST	--	Coastal marsh, tidal ponds, sloughs, freshwater marsh, mudflats, tidal swamps	High
Polyborus planus audubonii	Audubon's crested caracara	FT	T	Dry prairie, wet prairie, ruderal, prairie hammock, open xeric and mesic	Low
Rynchops niger	Black skimmer	ST	--	Beach dune, tidal marsh, beaches, sand dunes, large lakes in Central & South FL	Low
Sterna antillarum	Least tern	ST	--	Beach dune, coastal grassland, tidal marsh, lacustrine, sandy beaches	Low
MAMMALS					
Trichechus manatus	West Indian Manatee	FT	T	Alluvial stream, blackwater stream, spring fed stream, estuarine, marine	Present
Ursus americanus floridanus	Florida black bear[3]	--	--	Palustrine, terrestrial, pine flatwoods, sand pine scrub, cypress swamps	Low
FISH					
Acipenser oxyrinchus desotoi	*Gulf sturgeon*	FT	T	Coastal rivers from Louisiana to Florida and the Gulf of Mexico, occasionally in estuaries and bays in cooler months	Low
Pristis pectinata	*Smalltooth Sawfish*	FE	E	Shallow, tropical, coastal waters, and estuarine habitats such as seagrass beds, mangroves, and inshore bars	Moderate

MANLAA=May Affect, Not Likely to Adversely Affect
FT=Federal Threatened, T=Threatened, FE=Federal Endangered, E=Endangered, ST=State-designated Threatened
C=Candidate for listing under ESA, SE=State-designated Endangered
1 Protected under the Bald and Golden Eagles Protection Act (16 U.S.C. 668-668c)
2 Protected under the Migratory Bird Treaty Act (16 U.S.C. §§ 703–712)
3 Protected under the Florida Black Bear Conservation Rule (68A-4.009, F.A.C.)

3.3.2 Sea Turtles

The loggerhead and green sea turtles are federally listed as threatened. The hawksbill and Kemp's ridley sea turtles are federally listed as endangered. These four sea turtles can be found in the waters of the west coast of Florida. All of these species may be found in nearshore habitat including bays, estuaries, and inlets. While the Alafia and Little Manatee Rivers are contiguous to the Florida Gulf Coast, no suitable nesting or foraging habitat is present for these species within the project area. The project will have no effect on the loggerhead, green, Kemp's ridley, and hawksbill sea turtles.

3.3.3 Florida Grasshopper Sparrow

The Florida grasshopper sparrow is federally listed as endangered. The Florida grasshopper sparrow relies on dry grassland prairie habitats in southern and central Florida. The project is within the USFWS consultation area for the Florida grasshopper sparrow. No suitable grasshopper sparrow habitat is present within the project area and no individuals were observed during field reviews. Therefore, the project will have no effect on the Florida grasshopper sparrow.

3.3.4 Florida Scrub-Jay

The Florida scrub-jay is an endemic species which is federally listed as threatened. Florida scrub-jays are primarily associated with xeric or scrub habitat. Scrub-jays require open areas within scrub for foraging and caching food. Overgrown scrub is undesirable and results in the movement of scrub-jays to appropriate habitat.

The project is located within the USFWS Service Area and consultation area for the Florida scrub-jay. Preliminary surveys of areas deemed suitable for scrub-jay occupation within 3.2 kilometers of the study area were conducted in March 2019 to determine the potential for scrub-jay occurrence within the project action area, including the SMF and FPC site locations. It was found that historic scrub-jay habitat exists within FPC-34A&35A and SMF-35A. These two preferred pond locations are adjacent to each other and are located within heavily overgrown historic scrub habitat. The area no longer provides suitable habitat for the scrub-jay. Scrub-jays have been documented within the Golden Aster Preserve; however, they are located centrally within the preserve according to most recent surveys, and are approximately 0.3 mile from right of way. Future surveys for the Florida scrub-jay will be conducted after the final locations of the SMF and FPC sites have been determined.

Scrub habitat within the existing right of way and within SMF and FPC locations do not support scrub-jay populations at this time. The Preferred Alternative provides for widening to the inside of existing lanes which will not affect scrub habitat. Interchange improvements will likely impact scrub habitats located within the existing interchange formations; however, these habitats are too small, fragmented, and overgrown to support scrub-jays. Pond siting and floodplain compensation will not impact scrub-jay habitat. It has been determined that the project may affect, not likely to adversely affect the Florida scrub-jay.

3.3.5 Rufa Red Knot

The rufa red knot is federally listed as threatened. Red knots range across nearly the latitude gradient of the Western Hemisphere, with populations migrating from the Arctic tundra to the southern tip of South America. This highly migratory bird prefers coastal marine and estuarine habitats with large areas of exposed intertidal sediments. The red knot utilizes beaches and mud flats in Florida as stopover foraging. The project area does not contain suitable habitat for this species; therefore, the project will have no effect on the rufa red knot.

3.3.6 Piping Plover

The piping plover is federally listed as threatened. The piping plover is a migratory shorebird that utilizes unvegetated sandy beaches, sand flats, and mudflats along coastal habitats in Florida. The USFWS consultation area includes portions of Hillsborough and Manatee counties; however, the project lies outside of the consultation area limits. The project does not contain suitable habitat for this species; therefore, it will have no effect on the piping plover.

3.3.7 Eastern Black Rail

The eastern black rail is federally listed as threatened. This species inhabits densely vegetated upper tidal marshes along the Gulf coast from Florida to Texas, and is also found in inland marshes of the Florida peninsula, though prevalence is largely uninvestigated. The eastern black rail is one of the most secretive birds in North America, so presence is usually determined by sound. Small areas of tidal marshes are located along the Little Manatee River, and there are also inland marshes located within the project area. No individuals were observed or heard during field reviews, and there are no known historic occurrences within the study area. Therefore, the project may affect, not likely to adversely affect the eastern black rail.

3.3.8 Wood Stork

The wood stork is federally listed as threatened. Wood storks utilize freshwater and estuarine habitats for nesting, foraging, and roosting. Wood storks typically are colonial nesters and construct their nests in medium to tall trees located within wetlands or on islands.

No rookeries were observed during field surveys. Four wood stork rookeries were documented within a 15-mile radius (Wood Stork CFA radius for Central Florida populations) of the study area. Figure 3-3 depicts wood stork colonies documented within 15 miles of the study area. Detailed calculations of suitable foraging habitat (SFH) biomass may be required during future permitting phases of the project if SFH is lost and the USFWS continues to utilize these calculations to determine mitigation. As defined by the USFWS, SFH includes wetlands and surface waters which have areas of water that are relatively calm, uncluttered by dense thickets of aquatic vegetation, and have permanent or seasonal water depth between 2 and 15 inches. SFH can include freshwater emergent and forested wetlands, estuarine emergent and forested wetlands, and herbaceous ditches/swales, ponds, and riverine systems. Wet prairies and pastures may provide foraging habitat during periods

of high rainfall. SFH within the study area will be reevaluated during final permitting of the project as vegetative structure of wetlands will change over time and due to maintenance activities associated with other surface water systems.

Impacts to potential SFH for wood storks within the study area include 41.76 acres to wetlands and 6.90 acres to other surface waters for the Preferred Alternative, including Preferred Pond and FPC sites. Mitigation of wetland impacts will include the use of mitigation banks and/or any other mitigation options that satisfy state and federal requirements. Impacts to other surface water features will be compensated for in the future design of the stormwater management plan. Therefore, when utilizing the USACE *Wood Stork Key for Central and North Peninsular Florida (*2008), which can be found in **Appendix F**, the project may affect, not likely to adversely affect the wood stork (A -> B -> C -> D -> E).

3.3.9 Audubon's Crested Caracara

The Audubon's crested caracara is federally listed as threatened. The crested caracara prefers wet prairies with scattered cabbage palms in south central Florida. It may also be found in lightly wooded areas with saw palmetto, cypress, scrub oaks, and pastures. The USFWS consultation area for the Audubon's crested caracara includes portions of Hillsborough County; however, this project lies about a mile outside of the consultation area limits. Small areas of suitable habitat for this species are present within the study area and SMF/FPC sites. There are three historically documented sightings within the study area, the most recent of which being in 2020; however, no individuals or aggregations were observed during field reviews. Therefore, the project will have no effect on the Audubon's crested caracara.

3.3.10 West Indian Manatee

West Indian manatees are federal listed as endangered. West Indian manatees utilize estuarine habitats and have been documented in both the Alafia and Little Manatee Rivers. Aerial surveys and mortality locations were downloaded from http://ocean.floridamarine.org and are provided in **Figure 3-1**. The *Standard Manatee Conditions for In-Water Work* will be implemented, and these guidelines will be a part of the final project design. Current provisions (dated July 2011) are provided in **Appendix G**. When the project proceeds to permitting and construction phases, the most current provisions will be obtained and followed.

Impacts over the Alafia and Little Manatee Rivers are limited to 1.82 acres. Impacts will be temporary in nature and may limit some activity during construction. Movement and foraging within the two rivers will not be limited by increasing the bridge size as lanes will be added to the inner portions of the two existing bridges. The "Standard Manatee Conditions for In-Water Work" will be incorporated during construction and impacts will be temporary in nature. Therefore, when utilizing the USACE *Jacksonville District and the State of Florida Effect Determination Key for the Manatee in Florida* (2013), the project may affect, not likely to adversely affect, and have no adverse modification of critical habitat for the West Indian manatee [A-> B-> C-> G-> N-> O-> P (**Appendix H**)].

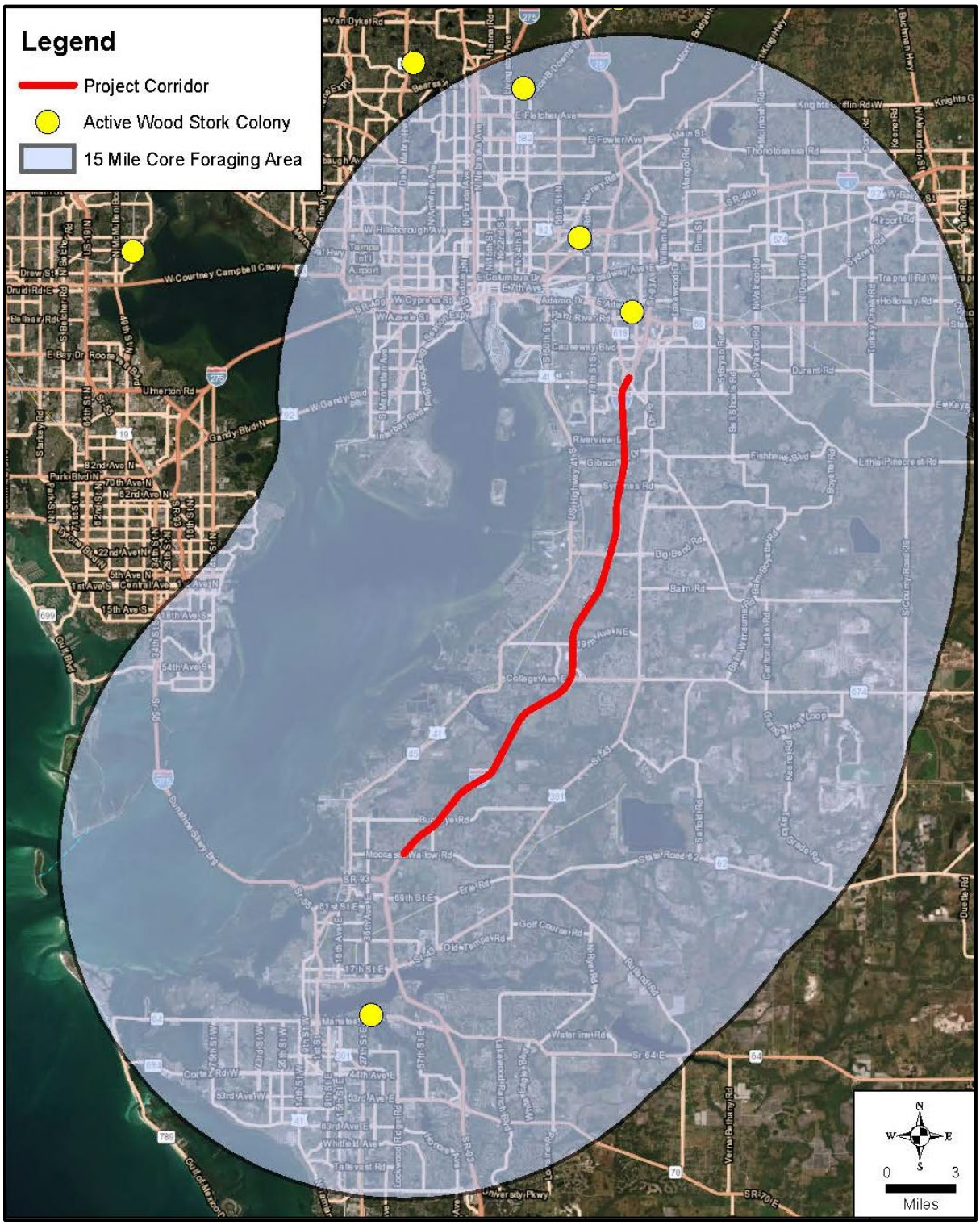


Figure 3-3 Wood Stork Colonies

3.3.11 Gulf Sturgeon

The Gulf sturgeon is listed as both state- and federally-threatened. The Gulf sturgeon is an anadromous fish, inhabiting coastal rivers from Louisiana to Florida during the warmer months, and the Gulf of Mexico and its estuaries and bays in the cooler months. The sturgeon forages in the Gulf of Mexico and spawns in most coastal rivers. This species is more common in Gulf waters and rivers near the Panhandle west to Mississippi, but has been documented as far south as Florida Bay. It is unlikely that Gulf sturgeon would be found as inland as the project area. The FDOT will implement BMPs and adhere to the *Construction Special Conditions for the Protection of the Gulf Sturgeon* (**Appendix I**) during construction of the proposed bridges. It is anticipated that the project may affect, not likely to adversely affect the Gulf sturgeon.

3.3.12 Smalltooth Sawfish

The smalltooth sawfish is a state- and federally-endangered species. Smalltooth sawfish normally inhabit shallow, tropical, coastal waters and estuarine habitats such as seagrass beds, mangroves, and inshore bars. They can be found in sheltered bays, estuaries, and mouths of rivers; some sawfish are even known to go upstream into fresh water in larger riverine systems. This species was historically found throughout most of the Gulf of Mexico and the Atlantic Ocean, but is now confined to peninsular Florida and only relatively common in areas of south Florida near the Everglades. The FDOT will implement BMPs during construction to control erosion, sedimentation, and turbidity and adhere to the NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions* (**Appendix J**) during construction. In addition, implementation of the conservation measures for the Gulf sturgeon will also minimize impacts to the sawfish. It is anticipated that the project may affect, not likely to adversely affect the smalltooth sawfish.

3.4 FEDERAL LISTED FLORAL SPECIES

One federally protected plant species, Florida golden aster, has been recorded within the study area. FDOT staff, William Moriaty, documented this species at two (2) separate locations in January 2008. Copies of the species occurrence reports submitted to the FNAI are provided in **Appendix K**. Staff ecologists also surveyed for and documented this species at the same two locations on November 13, 2008, and October 5, 2018. Details of the surveys and results are provided below. This species is listed as endangered by both the USFWS and FDACS-DPI. **Table 3-2** provides the same information for federal and state protected plant species. Definitions for likelihood of occurrence are provided below:

Cursory surveys were conducted at the two previously identified locations in addition to appropriate habitat identified elsewhere within the study area. This species was only located at the two original sites identified by William Moriaty, identified as Sites 1 and 2 (**Figure 3-2**, Page 4 of 5). Photographs of the two sites are provided in **Appendix L**.

Table 3-2 Potentially Occurring and Observed Listed Plant Species

Species	Common Name	State Listed Status	Federal Listed Status	Habitat	Probability of Presence or Occurrence
Bonamia grandiflora	Florida bonamia	FT	T	Sandy soil, scrub	Low
Campanula robinsiae	Robin's bellflower	FE	E	Hardwood swamps, freshwater ditches, ponds and wetlands, wet prairies	Low
Chionanthus pygmaeus	Pygmy fringetree	FE	E	Dry sandy soils of central FL scrub.	Low
Chrysopsis floridana	Florida golden aster	FE	E	Sand pine scrub, on bare sand.	Present
Harrisia aboriginum	Aboriginal prickly-apple	FE	E	Open coastal hammocks, shell middens	Low
Lechea cernua	Nodding pinweed	ST	--	Sand scrub, openings, fire maintained	Present
Lechea divaricata	Pine pinweed	SE	--	Dry sandy soil, scrubby flatwoods.	Present
Nolina brittoniana	Britton's beargrass	FE	E	Sandhills, xeric oak, scrubby flatwoods	Low
Zephyranthes simpsonii	Simpson's zephyr lily	ST	--	Wet pinelands and pastures, adjacent roadsides	Present

FE=Federal Endangered, E=Endangered, ST=State-designated Threatened, SE=State-designated Endangered, T=Threatened

Site 1 originally supported approximately 40± plants with many observed in flower. These plants appeared healthy and robust, although sand live oaks and saw palmetto are encroaching into the open habitat required by this plant. This area was originally provided protection from roadside maintenance by the installation of metal stakes; however, the stakes are no longer present. Installation of a power transmission line may have impacted the plants in this area.

Site 2 supported approximately 20± plants which were not yet in bloom but there were a few individuals with flower buds. Although this area was originally provided protection with steel stakes, there appeared to have been some mowing or possibly weed trimming activity which has cut many of the plants short. It was concluded that Site 2 is within SMF-25.

More detailed surveys will need to be conducted to confirm the continued presence and number of individuals during future permitting phases of the project. Mapping of species locations will allow for potential transplant of the individuals, by FNAI, to surrounding preservation tracts or allow for seed collection by organizations such as the Florida Native Plant Society (FNPS). Potential recipient sites exist in the surrounding community and include the Golden Aster Scrub Nature Preserve which is operated by Hillsborough County's ELAPP.

Interchange improvements for the proposed Big Bend Road interchange (WPI Segment No. 424513-3), where Site 1 and Site 2 are located, will be designed and constructed as part of the proposed design-build project. There is coordination ongoing as part of the Army Corps Section 404 permitting, and Section 7 consultation was initiated through the PD&E for this project. Further surveys and coordination may need to be conducted for this project during the design phase. It is anticipated that this project may affect, not likely to adversely affect the golden aster.

In addition to the golden aster, five other federally protected flora species were identified as having the potential to occur within the study area, including Florida bonamia (*Bonamia grandiflora*), Robin's bellflower (*Campanula robinsiae*), pygmy fringetree (*Chionanthus pygmaeus*), Aboriginal prickly-apple (*Harrisia aboriginum*), and Britton's beargrass (*Nolina brittoniana*). These five species were not observed and are not likely to be present within the project area due to lack of suitable habitat, therefore the project will have no effect on these five species.

3.5 STATE LISTED FAUNAL SPECIES

State listed and protected faunal species which were identified in the vicinity of the study area or have moderate to high potential to occur are the gopher tortoise, Florida pine snake (*Pituophis melanoleucus mugitus*), short-tailed snake (*Stilosoma extenuata*), Florida burrowing owl (*Athene cunicularia floridana*), southeastern American kestrel (*Falco sparverius paulus*), and a variety of wetland dependent avian species which include the snowy plover (*Charadrius nivosus*), little blue heron (*Egretta caerulea*), reddish egret (*E. rufescens*), tricolored heron (*E. tricolor*), Florida sandhill crane (*Grus canadensis pratensis*), American oystercatcher (*Haematopus palliatus*), roseate spoonbill (*Platalea ajaja*), black skimmer (*Rynchops niger*), and least tern (*Sternula antillarum*). It is currently

unknown if incidental take permits will be needed for this project, however; this will be revaluated in later components of the project.

3.5.1 Gopher Tortoise

The gopher tortoise is state-designated threatened and is a candidate for federal listing. Preferred habitats include xeric areas with sandy soils and open canopy with low groundcover. The gopher tortoise feeds primarily on new shoots of grasses and broad-leaf herbs, but may also consume mushrooms, fleshy fruits and some animal matter.

There were approximately 16 gopher tortoise burrows identified within the project action area as shown on **Figure 3-2**. Limited field surveys for this species were conducted, and the number of tortoise burrows is anticipated to increase when detailed surveys are completed prior to construction. Additionally, areas which appeared to be potential gopher tortoise habitat are also mapped on this figure. Project scientists identified potential gopher tortoise habitat within or immediately adjacent to a majority of the SMF or FPC sites. The design of the ponds may partially or fully impact potential gopher tortoise habitat. The Preferred Ponds and associated potential impacts to protected species are included in **Section 3.10**. A 100% gopher tortoise burrow survey of the study area has not been conducted at this time; however, it will be conducted prior to design.

The Preferred Alternative appears to impact the location of at least five existing active gopher tortoise burrows, and some preferred pond locations appear to contain tortoise burrows. Burrow impacts occur mainly within the interchange improvement areas. Comprehensive surveys for tortoises and their burrows will need to be conducted during the final design phase of the project. Tortoise burrows that are identified within the study area will require coordination between the FDOT and the FWC prior to construction in accordance with the FWC *Gopher Tortoise Permitting Guidelines*. Since the gopher tortoise populations will be resurveyed prior to construction and current rules require the relocation of the species, there is no adverse effect anticipated for the gopher tortoise.

3.5.2 Florida Pine Snake

The Florida pine snake is a state-designated threatened species whose habitat primarily includes scrub and open longleaf pine communities. Due to fire suppression and hardwood encroachment, very little suitable habitat for this species is present within the study area. It has been determined that there is no adverse effect anticipated for the Florida pine snake.

3.5.3 Short-tailed Snake

The short-tailed snake is listed as state-designated threatened. Short-tailed snakes inhabit sandy xeric habitats in central Florida suitable for burrowing underground. No suitable habitat for this species is present within the project area; therefore, there is no effect anticipated for the short-tailed snake.

3.5.4 Florida Burrowing Owl

The Florida burrowing owl is listed as state-designated threatened. This species inhabits open prairies and areas devoid of understory vegetation. Some pastures suitable for burrowing owls are present

within the study area; however, no individuals were observed during field reviews. Areas containing suitable habitat for burrowing owls will be reassessed during design and construction to confirm that this species is not present. There is no adverse effect anticipated for the Florida burrowing owl.

3.5.5 Southeastern American Kestrel

The southeastern American kestrel is state-designated threatened. This species nests during mid-March through June, typically in abandoned woodpecker cavities or man-made cavities. The kestrel prefers sparsely canopied habitats and low, open ground cover for foraging. This species feeds mainly on insects and lizards, although it occasionally consumes small rodents and birds.

Kestrels were not observed during field reviews. The non-listed kestrel subspecies occurs annually in Florida during the period of September through March. The listed non-migratory *F. s. paulus* can only be properly identified from April through August, when the migratory subspecies is not present in Florida. Moreover, impacts to the kestrel could occur from construction activities and/or foraging habitat removal. Likelihood for occurrence by the listed non-migratory species is high along the I-75 corridor in areas of potential habitat, which is minimal within the project action area. Kestrel surveys should be performed prior to construction to ensure individuals, breeding pairs, nests, and/or suitable foraging or nesting habitat are not present. Due to the minimal suitable habitat within the project area and precautions being implemented, there is no adverse effect anticipated for the southeastern American kestrel.

3.5.6 Wetland Dependent Avian Species

This category includes all state-listed wetland dependent avian species that have a potential to occur within the study area. These include the piping plover, little blue heron, reddish egret, tricolored heron, Florida sandhill crane, American oystercatcher, roseate spoonbill, black skimmer, and least tern. All these species are listed as state-designated threatened by the FWC.

Several wetland dependent bird species were observed during field surveys, with locations provided on **Figure 3-2**. A mixed wading bird rookery identified in the Florida Atlas of Breeding Sites for Herons and their Allies (Atlas #615336) was documented within one mile of the study area along the Little Manatee River (**Figure 3-2**). The Atlas was last updated in 1999 and identified the rookery as active. No rookeries were identified during field surveys.

Wetlands and surface waters that provide foraging potential for these species include herbaceous and saltwater marshes and herbaceous ditches/swales, ponds, and riverine systems. Impacts are limited to potential foraging habitat for the Preferred Alternative and include 41.76 acres to wetlands and 6.90 acres to other surface waters for the Preferred Alternative. Project scientists identified suitable foraging habitat within or immediately adjacent to 28 SMF or FPC sites. The design of the ponds may partially or fully impact suitable foraging habitat. The Preferred Ponds and associated potential impacts to protected species are included in **Section 3.10**. Mitigation of wetland impacts will include the use of mitigation banks and/or any other mitigation options that satisfy state and federal requirements. Impacts to other surface water features will be compensated for in the future design

of the stormwater management plan. Therefore, there is no adverse effect anticipated for these wetland dependent avian species.

3.6 STATE LISTED FLORAL SPECIES

In addition to the six federally protected plant species listed above in **Section 3.5**, six additional state protected flora species are present or have a high likelihood of occurring within the study area. Nodding pinweed (*Lechea cernua*), pine pinweed (*Lechea divaricate*), and Simpson's zephyr lily (*Zephyranthes simsonii*) are all present within the project action area. Locations for these species are provided in **Figure 3-2**. Nodding pinweed and Simpson's zephyr lily are listed as threatened by the FDACS-DPI. Pine pinweed is listed as endangered by the FDACS-DPI. Approximately 71 additional state protected plant species have the potential to occur within the study area. A comprehensive list of potentially occurring protected plant species is provided in **Appendix M**.

Most habitats within the study area have been degraded for agricultural and urban use and do not provide optimal conditions for these species, however the Preferred Alternative will likely result in the removal of some individuals of each of these species. Habitat conditions range from overgrown and partially undisturbed native habitats to extremely degraded, with a high cover of nuisance/exotic species. While suitable habitats exist elsewhere in the vicinity of the study area it is unlikely that the project will have long term impacts to regional populations of the six species listed above. Therefore, there is no adverse effect anticipated for these species.

For the remaining protected floral species located in **Appendix M**, no individuals were observed and neither were their respective suitable habitats present within the study area. Therefore, for the protected floral species located in **Appendix M**, there is no effect anticipated. Further evaluation and confirmation of species presence or non-presence will be provided during design phase. The FDOT will coordinate with the FDACS and Florida Native Plant Society (FNPS) to evaluate opportunities to relocate impacted individuals from the project footprint prior to construction commencement.

3.7 OTHER PROTECTED SPECIES

This section discusses species that are no longer listed by USFWS or FWC, but are still afforded protection. Species that have the potential to exist within the project area include the bald eagle (*Haliaeetus leucocephalus*), osprey (*Pandion haliaetus*), and Florida black bear (*Ursus americanus floridanus*).

3.7.1 Bald Eagle

Although the bald eagle is no longer afforded protection by the ESA, protection for the species is afforded through the Migratory Birds Program per the *Migratory Bird Treaty Act* (MBTA) and *Bald and Golden Eagle Protection Act* (BGEPA). The USFWS will still regulate activities if an active eagle nest is within 660 feet of a proposed activity. Bald eagles are also no longer listed by the FWC.

Bald eagles have been observed within the vicinity of the study area. Three nest sites located within 660 feet of the project action area were documented by Audubon Florida. Nest ID numbers,

developed by the FWC and Audubon Florida, for these three nests are MN063, HL008, and HL005. The location of these nests is provided on **Figure 3-1,** which also includes additional nests located within 1 mile of the study area. Eagle Nest MN063 was documented as "occupied" for the 2021 season according to Audubon Florida. This nest is located approximately 400 feet east of the I-75 right of way, south of Buckeye Road. Eagle Nest HL005 was last documented by the FWC as being active in 2001; the current status is listed as "unknown" for the 2021 season by Audubon Florida. No nest was observed at the HL005 site in 2019. All potential nest trees will be inspected during the nesting season prior to construction. Surveys and Audubon Florida data reviews to update locations of active bald eagle nest sites will be conducted during the permitting phase of the project, and monitoring will take place pursuant to the USFWS *Bald Eagle Monitoring Guidelines* if new nests are identified within 660 feet of proposed construction activities.

3.7.2 Osprey

Ospreys are afforded protection under the *Migratory Bird Treaty Act* (MBTA) (16 U.S.C.703-712) and are state protected by *Chapter 68A* of the *F.A.C.* Ospreys require nest sites in open surroundings for easy approach that are safe from ground predators, such as raccoons. They readily build nests on manmade structures, such as telephone poles and nest platforms designed especially for these birds.

No ospreys or osprey nests were observed during field reviews. Surveys to update locations of active osprey nest sites will be conducted during the permitting phase of the project, and permits will be acquired if impacts during construction are unavoidable. Avoidance of the nest will take place and nest structure replacement will occur if removal is required.

3.7.3 Florida Black Bear

The Florida black bear (*Ursus americanus floridanus*) was removed from the list of state-designated threatened species in 2012. This species is currently afforded protection under *Chapter 68A-4.009, F.A.C*. Current FWC distribution data for this species indicates that the likelihood of Florida black bears within the project area is rare/occasional. The project will not result in significant impacts to large scale forested habitats utilized by this species and is not located in close proximity to any known populations.

3.8 CRITICAL HABITAT

The study area was assessed for Critical Habitat (CH) designated by Congress in *50 CFR Part 17.* Review of the USFWS's available GIS data for CH resulted in the identification of CH for the West Indian manatee within the Little Manatee River. This CH was originally identified by the USFWS in September 1976 and based on knowledge of specific waterways in Florida which were known to be important to manatees at that time. A man-made industrial warm-water site (Tampa Electric Company's Big Bend Power Station), which is an important wintering ground for the manatees, is located about 6 miles to the north of the mouth of the Little Manatee River.

Potential impacts to this CH are limited to 1.84 acres on the interior of the existing bridge structure for the Preferred Alternative. Impacts will be temporary in nature and may limit some manatee activity during construction. Movement and foraging within the river will not be limited in the long term by increasing the bridge size as lanes will be added to the inner portion of the existing bridge. Since these standards will be incorporated during construction and impacts will be temporary in nature, the project will have no adverse modification of Critical Habitat for the West Indian manatee.

3.9 SMF AND FPC SPECIES EVALUATION

Preferred SMF and FPC site locations were evaluated for federal and state listed species occurrence. Field reviews of the of the preferred SMF and FPC sites were conducted in August and September 2019. A summary of the potential species occurrence and field observed species can be found below in **Table 3-3**.

An initial meeting was held with Dr. David Rydene, the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) Gulf Coast representative, on August 15, 2008, to discuss EFH for this project. Meeting minutes are provided in **Appendix N**. After review of the draft *WEBAR* previously submitted for this project, Dr. David Rydene indicated (via email dated 05-04-2010 – located in **Appendix N**) that the NMFS concurred with the findings of the draft *WEBAR*. As identified in the email, specifics of compensatory mitigation will need to be addressed once the project enters the final design stage.

3.10 ESSENTIAL FISH HABITAT

This EFH Assessment is included as part of this report in accordance with *Part 2, Chapter 17 – Essential Fish Habitat* of the FDOT *PD&E Manual* and the requirements of the Magnuson-Stevens Act. EFH includes all types of aquatic habitat, such as open waters, wetlands, seagrasses and substrate, necessary to fish for spawning, breeding, feeding, and development to maturity. Impacts to EFH over the Alafia and Little Manatee Rivers are limited to 1.82 acres of riverine habitat.

3.10.1 Magnuson-Stevens Act

Under the requirements of the Magnuson-Stevens Act, an EFH assessment is required for the proposed project. The Magnuson-Stevens Act created conservation and management standards established through Fishery Management Councils (FMCs) to implement the national standards in the Fishery Management Plans (FMP).

The 1996 amendments to the Magnuson-Stevens Act set forth a number of mandates for the NMFS, eight regional FMCs, and other federal agencies to identify and protect important marine and anadromous fish habitat. The FMCs, with assistance from NMFS, are required to identify and delineate EFH for all managed species. Federal action agencies that fund, permit, or carry out activities that may adversely impact EFH are required to consult with NMFS regarding the potential effects of their actions on EFH and to respond in writing to the NMFS's recommendations.

Table 3-3 Potentially Occurring and Observed Wildlife at SMF and FPC Sites

Pond Name	Wetland Impact	Estimated Wetland Impact Acreage	Potential Species Occurrence at SMF/FPC Site
FPC-1C	X	0.07	Wading birds and wood stork, eastern indigo snake
SMF-1C			Eastern indigo snake, gopher tortoise
SMF-2B	X	0.48	Wading birds and wood stork, eastern indigo snake
SMF-3A			Eastern indigo snake, gopher tortoise
FPC-3A			Eastern indigo snake, gopher tortoise
SMF-4A			Eastern indigo snake, gopher tortoise
SMF-5A & SMF-6A			Wading birds and wood stork, eastern indigo snake, gopher tortoise
FPC-5A & FPC-6A			Wading birds and wood stork, eastern indigo snake
SMF-7A			Wading birds and wood stork, eastern indigo snake, gopher tortoise
FPC-7A			Eastern indigo snake, gopher tortoise
SMF-8A	X	0.29	Wading birds and wood stork, eastern indigo snake, gopher tortoise
SMF-9A			Wading birds and wood stork, eastern indigo snake, gopher tortoise
SMF-10A & SMF-11B			Eastern indigo snake, gopher tortoise
SMF-12			(Rest Area – already constructed)
SMF-13B	X	0.05	Wading birds and wood stork
FPC-14B & FPC-15B			
SMF-14B & SMF-15B			Wading birds and wood stork, eastern indigo snake, gopher tortoise
SMF-16A			Eastern indigo snake, gopher tortoise
FPC-17B			Eastern indigo snake, gopher tortoise
SMF-17(3)	X	0.8	Wading birds and wood stork
SMF-17(2)	X	1.2	Wading birds and wood stork
SMF-17(1)	X	2.82	Wading birds and wood stork
SMF-17(4)			Eastern indigo snake, gopher tortoise
SMF-18(1)			Eastern indigo snake
SMF-18(2)	X	0.42	Wading birds and wood stork, eastern indigo snake
FPC-18A	X	2.63	Wading birds and wood stork
FPC-19B			Eastern indigo snake, gopher tortoise
SMF-19B			Eastern indigo snake, gopher tortoise
SMF-20A			Eastern indigo snake, gopher tortoise
SMF-21A	X	0.003	Wading birds and wood stork, gopher tortoise, eastern indigo snake

Pond Name	Wetland Impact	Estimated Wetland Impact Acreage	Potential Species Occurrence at SMF/FPC Site
SMF-22A			Eastern indigo snake
SMF-23A & SMF-24A			Eastern indigo snake, gopher tortoise
FPC-24A	X	0.64	Wading birds and wood stork, eastern indigo snake
SMF-25 (1-4)	X	4.27	Wading birds and wood stork, eastern indigo snake, gopher tortoise
SMF-26B			Eastern indigo snake
FPC-26B	X	0.41	Wading birds and wood stork
SMF-27A & SMF-28A			Wading birds and wood stork
FPC-27A			Eastern indigo snake, gopher tortoise
FPC-28A			Eastern indigo snake, gopher tortoise
FPC-29B	X	1.21	Wading birds and wood stork
SMF-29B			Eastern indigo snake, gopher tortoise
FPC-30A			Eastern indigo snake, gopher tortoise
SMF-30(1-4)	X	1.67	Wading birds and wood stork, gopher tortoise, eastern indigo snake
SMF-31 (1-3)		0.13	Wading birds and wood stork, gopher tortoise, eastern indigo snake
SMF-32 & SMF-33A			Eastern indigo snake, gopher tortoise
SMF-34B			Eastern indigo snake, gopher tortoise
FPC-34A & FPC-35A	X	0.05	Wading birds and wood stork, gopher tortoise, eastern indigo snake, Florida scrub-jay
SMF-35A	X	0.02	Wading birds and wood stork, gopher tortoise, eastern indigo snake, Florida scrub-jay
SMF-36A			Eastern indigo snake, gopher tortoise

3.10.2 EFH Involvement

The objective of the EFH Assessment is to describe how the actions associated with the proposed improvements to I-75 may affect EFH designated by the NMFS and Gulf Coast FMC for the Alafia and Little Manatee River systems, areas of influence of the study. Land development activities may adversely affect EFH either directly or indirectly (i.e., loss of prey items) and this activity, either site-specific or habitat wide, is to be identified and evaluated individually and cumulatively. In response to the EFH assessment, NMFS and the FMC may provide recommendations and/or comments to the responsible federal permitting agency. The information provided by NMFS is considered by the permitting agency and may be included in the recommendations as part of the Section 404 permit conditions.

According to NOAA guidelines for EFH (1998), EFH assessments must include:

- A description of the proposed action;
- An analysis of the effects, including cumulative effects, of the action on EFH, the managed species, and associated species by life history stage;
- The federal agency's reviews regarding the effects of the action on EFH; and
- Proposed mitigation, if applicable (*50 CFR 600.920 (g) [2]*).

The sections below include the analysis of effects and the federal agency's reviews regarding those effects on the EFH.

3.10.3 Description of Proposed Action

The proposed action evaluates the need to provide capacity and operational improvements along approximately 25 miles of I-75 from Moccasin Wallow Road in Manatee County to south of US 301 in Hillsborough County, Florida. Exact specifications can be seen in **Section 1.2**. A typical section is provided in **Section 1.3**.

3.10.4 Existing Conditions

Existing land use within the study area was determined utilizing a variety of resources including the National Wetlands Inventory (NWI), the Natural Resources Conservation Services (NRCS) Soil Surveys for Hillsborough County, U.S Geological Survey (USGS) topographical maps, aerial photographs, land use mapping from the Southwest Florida Water Management District (SWFWMD), and field verification during wetland and habitat reviews. More details can be found in **Section 2.1**.

3.10.5 Analysis of Effects on EFH

Interagency coordination between FDOT and NMFS resulted in a list of Major EFH categories for managed species in the Gulf of Mexico. As reported in the ETDM *Programming Screen Summary Report* of March 29, 2007, habitat within the Little Manatee River and the Alafia River has been identified as EFH. **Table 3-4** illustrates a list of the species considered to potentially utilize the study area.

Table 3-4 Managed Fisheries Species in Hillsborough County and the Study Area

Management Plan	Scientific Name	Common Name
Red Drum Fishery Management Plan	*Lutjanus campechanus*	Red Drum
Shrimp Fishery Management Plan	*Litopenaeus setiferus*	White Shrimp
Reef Fish Fishery Management Plan	*Mycteroperca microlepis*	Gag Grouper
Reef Fish Fishery Management Plan	*Lutjanus griseus*	Gray Snapper

Unconsolidated bottom portions of estuarine emergent wetlands, estuarine water column, and non-vegetated bottoms within the Alafia and Little Manatee River systems, are specific categories of EFH that may be impacted by the study. Furthermore, increased use of the I-75 corridor from Moccasin Wallow Road to U.S. 301 could result in an increase in the amount of stormwater runoff such as sediment, oil, grease, and other pollutants. These pollutants may reach downstream estuarine and marine habitats in Hillsborough Bay and Tampa Bay that are utilized by marine fishery resources.

Based on previous coordination, NMFS recommended that stormwater treatment systems be upgraded to prevent degraded water from reaching downstream habitats. BMPs should also be employed during the road construction to prevent sedimentation of estuarine and marine habitats. Consultation with NMFS will be re-initiated in the design please. Impacts to EFH over the Alafia and Little Manatee Rivers are limited to 1.82 acres. The FDOT has determined the potential adverse effects on EFH will be **minimal** as a result of the project.

3.10.6 Proposed Mitigation and Minimization Effects

Minimization and avoidance measures for wetland impacts were taken into consideration during this study. Besides the No Build Alternative, there are no practical avoidance alternatives to the construction of the proposed project within wetland areas. It is anticipated the proposed project will have no impacts to seagrasses or other submerged aquatic vegetation (SAV); therefore, no mitigation for SAV is proposed at this time. If any changes are made during design that may result in seagrass or other SAV impacts, mitigation measures will be developed with further consultation with the NMFS, USFWS and other appropriate agencies. Mitigation will be provided for wetland impacts as required.

Degradation of water quality resulting from construction of the project or excess pollutant loading of stormwater runoff from the project has the potential to adversely affect project waters. Impacts to water quality from construction activities will be avoided and minimized through the use of BMPs. BMPs generally include phased construction, turbidity screens, silt fences, cofferdams, and other construction techniques approved by the regulatory agencies. Stormwater runoff for the proposed improvements will be collected as part of the stormwater management system that has initially been evaluated as part of the Pond Siting Report prepared for this study. Stormwater management will be evaluated further and permitted during future project phases. The project will be designed to meet all state water quality standards at the time of permitting.

An EFH assessment has been prepared and consultation was initiated in 2010 in accordance with the Magnuson-Stevens Act. The NMFS indicated (via email dated May 4, 2010 – located in **Appendix N**) that the Service concurred with the findings of previous draft *WEBAR* from 2010. As identified in the correspondence, the specifics of compensatory mitigation will need to be addressed once the project enters the final design stage.

As identified in this report, the NMFS recommended that stormwater treatment systems be upgraded to prevent degraded water from reaching downstream habitats. BMPs should also be employed during the road construction to prevent sedimentation of estuarine and marine habitats. FDOT's

Standard Specification for Road and Bridge Construction and the NMFS' *Protected Species Construction Conditions* will be utilized as part of the BMPs for this project. Additionally, project commitments provide for coordination with the NMFS to assure that compensatory mitigation details be finalized once the project enters the final permitting and design stage.

SECTION 4 WETLANDS AND SURFACE WATERS

4.1 METHODOLOGY AND ASSESSMENT

In accordance with Executive Order 11990, *Protection of Wetlands* (May 1977), and *Part 2, Chapter 9 – Wetlands and Other Surface Waters* of the FDOT *PD&E Manual* (July 2020), the proposed project has been evaluated for potential effects to wetlands. A variety of resources including the NWI maps, NRCS Soil Surveys for Hillsborough and Manatee Counties, USGS topographical maps, aerial photographs (2021), and field surveys were employed to identify the wetland communities that occur within the study area. Wetland locations and boundaries were identified and approximated using aerial interpretation and field reconnaissance in the spring and summer of 2008, and summer of 2019. Wetland boundaries were visually approximated using the Corps of Engineers *Wetland Delineation Manual* (1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (2010), *The Florida Wetlands Delineation Manual* (1995), and *Rule 62-340, F.A.C., Delineation of the Landward Extent of Wetlands and Surface Waters*. Maps depicting all of the wetlands and jurisdictional surface water features within the project area are provided in **Appendix O.** Wetlands were also classified utilizing the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al*., 1979) developed by the USFWS.

Distinction between wetland habitat and other surface water systems was required on this project primarily due to the linear and generally man-made features which are present along much of the study area. Man-made systems such as excavated ditch systems were identified as wetlands only in the portions which are located within hydric soil mapping units and are otherwise identified as other surface waters. Shallow swale systems associated with the roadway are not considered wetlands or other surface waters and therefore were not evaluated or recorded during field surveys.

4.2 WETLAND IMPACT EVALUATION

All proposed improvements to the I-75 corridor are designed to occur within the existing right of way for the Preferred Alternative with the exception of right of way that will be needed for SMF and FPC sites and the Gibsonton Drive interchange. The Preferred Alternative will result in approximately 13.66 acres of impacts to wetlands and 4.87 acres of impacts to other surface waters for the mainline. In addition, approximately 28.09 acres of impacts to wetlands and 2.02 acres of impacts to surface waters are proposed for the construction of the SMF and FPC sites. Wetlands proposed for impact are generally of moderate to poor quality with moderate to high coverage of nuisance and exotic species present. Secondary impacts were evaluated using a 25-foot buffer, totaling 0.54 acres. Secondary impacts were limited within the project area since the majority of the widening is towards the median and the outside footprint of I-75 will remain as-is. The secondary impacts to wetland areas are mostly due to the construction of the new bridge over the Alafia River. Wetlands within the median were evaluated as full impacts. Secondary impacts were not evaluated for the SMF and FPC sites.

Table 4-1 summarizes potential mainline wetland impacts by habitat type for the Preferred Alternative. Compensatory mitigation will be proposed for all wetland impacts during the permitting phase for this project.

Table 4-1 Wetland and Surface Water Impacts on I-75 Mainline by Habitat Type

NWI	Wetland Type	FLUCCS	Impact Acreage Position
Palustrine			
PF01/PF02	Freshwater Forested/Shrub Wetland	630	11.96
Estuarine			
E2EM1	Saltwater Marshes	642	1.71
		Total Wetland Impacts	**13.67**
Other Surface Waters			
R2OW	Riverine	510	1.92
RUB4	Reservoirs	530	2.96
		Total OSW	**4.88**
		Total Wetland and Other Surface Water	**18.55**

Table 4-2 details the impacts associated with the preferred SMF and FPC sites. These impacts assume that all of the habitats within the pond sites will be impacted.

Table 4-2 Preferred SMF and FPC Wetland and Surface Water Impact by Habitat Type

NWI	Wetland Type	FLUCCS	Impact Acreage
Palustrine			
PF01/PF02	Freshwater Forested/Shrub Wetland	630	27.31
PEM1	Freshwater Emergent Wetland	640	0.78
		Total Wetlands	**28.09**
Surface Waters			
RUB4	Reservoirs	530	2.02
		Total OSW	**2.02**
Total Preferred SMF and FPC Wetland and Other Surface Water Impacts			**30.11**

4.3 AVOIDANCE AND MINIMIZATION

The Preferred Alternative will result in approximately 13.66 acres of impacts to wetlands and 4.87 acres of impacts to other surface waters for the mainline. In addition, approximately 28.09 acres of impacts to wetlands and 2.02 acres of impacts to surface waters are proposed for the construction of the SMF and FPC sites. Pond sites located adjacent to existing wetlands have the potential to draw down wetlands, which could alter the hydrology, vegetative communities, habitat and wildlife utilization. This will be evaluated further during design.

BMPs will be implemented during construction to avoid impacts to wetlands that are not to be directly impacted by the proposed roadway improvements, as mentioned above regarding secondary impacts. Both vegetative and structural BMPs will be utilized during construction. A Stormwater Pollution

Prevention Plan (SWPPP) and an erosion and sediment control plan will be developed during the design phase of this project and implemented during construction. The erosion control devices will be designed per the FDOT Standard Specifications for Road and Bridge Construction. Opportunities to minimize impacts to wetlands will be evaluated during future project phases.

4.4 WETLAND FUNCTIONAL ANALYSIS

Uniform Mitigation Assessment Method (UMAM) analyses were conducted to evaluate wetland function and values for representative wetlands for each type of wetland identified within the study area. UMAM values range from 0 to 1, with a value of 0 reflecting the lowest quality wetland and a value of 1 representing the highest quality wetland. Functional loss values are used to determine the amount of mitigation that would be required to offset the loss of wetland and surface water function caused by the proposed project. There is a total functional loss of 0.43 for freshwater emergent wetlands, total functional loss of 20.81 for freshwater forested wetlands, functional loss of 1.20 for estuarine wetlands, functional loss of 1.47 for riverine systems, and a functional loss of 1.00 for reservoirs. Acreages and scores can be seen in **Table 4-3**. Potential functional loss calculated to be 24.91 for impacts associated with the Preferred Alternative and all of the preferred pond sites. Data sheets for representative wetland and surface water types are included in **Appendix P**.

Table 4-3 UMAM Scores by Wetland and Surface Water Type

NWI	FLUCCS Description	Representative UMAM Score (Delta Value)	Mainline Impact Acreage	SMF/FPC Impact Acreage	Total Impact Acreage	Functional Loss Value
PEM1	Freshwater Emergent	0.30	-	0.78	0.78	0.43
PF01/PF02	Freshwater Forested	0.20	11.95	27.31	39.26	20.81
E2EM1	Estuarine Emergent	0.70	1.71	-	1.71	1.20
R2OW	Riverine	0.77	1.91	-	1.91	1.47
RUB4	Reservoirs	0.20	2.96	2.02	4.98	1.00
		Total	**18.54**	**30.12**	**48.66**	**24.91**

4.5 WETLAND IMPACT MITIGATION

Project constraints and right of way limits provide no practicable alternatives to avoid construction within wetlands. Whenever possible, permanent impacts will be limited to the smallest degree possible through design modification. Temporary impacts to wetlands will be conducted utilizing BMPs and FDOT's *Standard Specifications for Road and Bridge Construction*.

Several options for mitigation of wetland impacts exist for FDOT and consist of purchase of credits from an approved mitigation bank, including public or private mitigation banks and wetland creation, restoration, and / or preservation within the study watersheds (Alafia, Little Manatee, and the Tampa Bay and Coastal Areas). The Manatee, Hillsborough River, Tampa Bay, and Alafia River Mitigation

banks provide service to sizable portions of the I-75 corridor. The Manatee bank currently has no credits available, the Hillsborough River bank has freshwater forested and freshwater emergent credits available, the Tampa Bay bank has estuarine emergent credits available, and the Alafia River bank has freshwater forested credits available. The UMAM analysis discussed above would be utilized to determine how many credits would be required for banking purposes or used in conjunction with UMAM analysis for wetland creation, restoration, and / or preservation within the study watersheds. Mitigation options will be investigated further during the final design phase of the project.

4.6 ANTICIPATED PERMITS

All necessary permits will be acquired prior to construction of the proposed project improvements. Coordination and/or permitting is anticipated to be conducted with the following agencies as shown in **Table 4-4**.

Table 4-4 Permit Coordination

Coordinating Agency	Permit
United States Army Corps of Engineers (USACE)	Section 404 and/or Section 10 Permits
Southwest Florida Water Management District (SWFMWD)	Environmental Resource Permit (ERP)
Florida Department of Environmental Protection (FDEP)	National Pollutant Discharge Elimination System (NPDES) Permit and/or Section 404
United States Coast Guard (USCG)	Bridge Permit
Florida Fish and Wildlife Conservation Commission (FWC)	Gopher Tortoise Relocation Permit

SECTION 5 CONCLUSIONS AND COMMITMENTS

5.1 PROTECTED SPECIES AND HABITAT

The project area was assessed for the presence of federal and state listed and protected species as well as their suitable habitat in accordance with *50 CFR Part 402 of the ESA of 1973*, as amended, *Chapter 5B-40: Preservation of Native Flora of Florida*, *F.A.C., Chapter 68A-27: Rules Relating to Endangered or Threatened Species, F.A.C.*, and *Part 2, Chapter 16 – Protected Species and Habitat* of the FDOT *PD&E Manual*.

Table 5-1 Protected Species Effect Determination Summary

Species	Common Name	State Listed Status	Federal Listed Status	Effect Determination
Reptiles				
Caretta caretta	Loggerhead sea turtle	FT	T	No Effect
Chelonia mydas	Green sea turtle	FT	T	No Effect
Drymarchon corais couperi	Eastern indigo snake	FT	T	MANLAA
Eretmochelys imbircata	Hawksbill sea turtle	FE	E	No Effect
Gopherus polyephemus	Gopher tortoise	ST	C	No Adverse Effect Anticipated
Lepidochelys kempii	Kemp's ridley sea turtle	FE	E	No Effect
Pituophis melanoleucus mugitus	Florida pine snake	ST	--	No Adverse Effect Anticipated
Stilosoma extenuata	Short-tailed snake	ST	--	No Effect Anticipated
Birds				
Ammodramus savannarum floridanus	Florida grasshopper sparrow	FE	E	No Effect
Aphelocoma coerulescens	Florida scrub-jay	FT	T	MANLAA
Athene cunicularia floridana	Florida burrowing owl	ST	--	No Adverse Effect Anticipated
Calidris canutus rufa	Rufa red knot	FT	T	No Effect
Charadrius melodus	Piping Plover	FT	T	No Effect
Charadrius nivosus	Snowy plover	ST	--	No Adverse Effect Anticipated
Egretta caerulea	Little blue heron	ST	--	No Adverse Effect Anticipated
Egretta rufescens	Reddish egret	ST	--	No Adverse Effect Anticipated
Egretta tricolor	Tricolored heron	ST	--	No Adverse Effect Anticipated
Falco sparverius paulus	Southeastern American kestrel	ST	--	No Adverse Effect Anticipated
Grus canadensis pratensis	Florida sandhill crane	ST	--	No Adverse Effect Anticipated
Haematopus palliatus	American oystercatcher	ST	--	No Adverse Effect Anticipated

Species	Common Name	State Listed Status	Federal Listed Status	Effect Determination
Haliaeetus leucocephalus	Bald eagle[1,2]	--	--	No Adverse Impact
Laterallus jamaicensis jamaicensis	Eastern black rail[2]	FT	T	MANLAA
Mycteria americana	Wood stork	FT	T	MANLAA
Pandion haliaetus	Osprey[2]	--	--	No Adverse Impact
Platalea ajaja	Roseate spoonbill	ST	--	No Adverse Effect Anticipated
Polyborus planus audubonii	Audubon's crested caracara	FT	T	MANLAA
Rynchops niger	Black skimmer	ST	--	No Adverse Effect Anticipated
Sternula antillarum	Least tern	ST	--	No Adverse Effect Anticipated
Mammals				
Ursus americanus floridanus	Florida black bear[3]	--	--	No Adverse Impact
Trichechus manatus	West Indian manatee	FT	T	MANLAA
Fish				
Acipenser oxyrinchus desotoi	*Gulf sturgeon*	FT	T	MANLAA
Pristis pectinata	*Smalltooth Sawfish*	FE	E	MANLAA
Plants				
Bonamia grandiflora	Florida bonamia	FE	T	No Effect
Campanula robinsiae	Robin's bellflower	FE	E	No Effect
Chionanthus pygmaeus	Pygmy fringetree	FE	E	No Effect
Chrysopsis floridana	Florida golden aster	FE	E	MANLAA
Harrisia aboriginum	Aboriginal prickly-apple	FE	E	No Effect
Lechea cernua	Nodding pinweed	ST	--	No Adverse Effect Anticipated
Lechea divaricata	Pine pinweed	SE	--	No Adverse Effect Anticipated
Nolina brittoniana	Britton's bear grass	FE	E	No Effect
Zephyranthes simpsonii	Simpson's zephyr lily	ST	--	No Adverse Effect Anticipated

MANLAA=May Affect, Not Likely to Adversely Affect
FT=Federal Threatened, T=Threatened, FE=Federal Endangered, E=Endangered, ST=State-designated Threatened
C=Candidate for listing under ESA, SE=State-designated Endangered
1 Protected under the Bald and Golden Eagles Protection Act (16 U.S.C. 668-668c)
2 Protected under the Migratory Bird Treaty Act (16 U.S.C. §§ 703–712)
3 Protected under the Florida Black Bear Conservation Rule (68A-4.009, F.A.C.)

USFWS Critical Habitat

The study area was assessed for Critical Habitat designated by Congress in *50 CFR Part 17.* The project area includes USFWS designated Critical Habitat for the West Indian manatee within the Little Manatee River. Potential impacts to this Critical Habitat are limited to 1.84 acres on the interior of the existing bridge structure for the Preferred Alternative. The project will have no adverse modification of Critical Habitat.

5.2 WETLANDS

The proposed project impacts total approximately 41.76 acres to wetlands and 6.90 acres to other surface waters. Wetland mitigation options will be pursuant to 373.4137, F.S. and may include purchase of wetland mitigation credits through an approved mitigation bank, or creation, restoration or enhancement of wetlands within the project watersheds. The mitigation will satisfy the requirements of Part IV, Chapter 373, F.S. and 33 U.S.C. § 1344.

Table 5-2 Wetland and Surface Water Impacts

Habitat Type	FLUCCS	Impact Acreage
Freshwater Forested / Shrub Wetland	630	39.27
Freshwater Emergent Wetland	640	0.78
Estuarine and Marine Wetland	642	1.71
Wetland Impacts Total		**41.76**
Riverine	510	1.92
Reservoirs	530	4.98
Surface Water Impacts Total		**6.90**
Total Impacts		**48.66**

5.3 ESSENTIAL FISH HABITAT

EFH, as defined by the Magnuson-Stevens Act (16 U.S.C. Subsection 1801, et. Seq.), is present within portions of the Alafia and Little Manatee Rivers. Pursuant to *Part 2, Chapter 17 – Essential Fish Habitat* of the FDOT PD&E Manual, coordination with the NMFS was previously conducted. Habitats within the Little Manatee River and the Alafia River have been identified as EFH. An EFH assessment has been prepared, and consultation was previously initiated and will continue in accordance with the Magnuson-Stevens Act. Impacts to EFH over the Alafia and Little Manatee Rivers are limited to 1.82 acres of riverine habitat.

Multiple avenues of protection will be employed to negate and minimize any potential affects to the species above. Some of the measures employed will include BMPs during construction and adherence to FDOT's *Standard Specification for Road and Bridge Construction*. The FDOT has determined the potential adverse effects on EFH will be **minimal** as a result of the project.

5.4 IMPLEMENTATION MEASURES

- The FDOT's *Standard Specification for Road and Bridge Construction* will be used for this project during construction.
- Surveys for gopher tortoise burrows will be conducted prior to construction in accordance with FWC guidelines. If impacts to gopher tortoise burrows are unavoidable, permitting will be conducted in accordance with the FWC *Gopher Tortoise Permitting Guidelines*.
- Practicable measures to avoid or minimize wetland impacts will be addressed during final design for the project.

- Best Management Practices will be incorporated during construction to minimize wetland impacts.
- Unavoidable wetland impacts will be mitigated to satisfy all mitigation requirements of Part IV, Chapter 373,F.S. and 33 U.S.C. 1344 by purchase of mitigation bank credits, or creation, restoration, or enhancement of wetlands.
- FDOT will coordinate with the NMFS to address specific compensatory mitigation for potential EFH impacts during the design and permitting phase of the project.
- Project staging areas should be located in disturbed areas to avoid impacts to fish and wildlife habitat and will be approved by SWFWMD and USACE.
- The potential for incidental take permits will be reevaluated during final design for the project.
- The potential for a Bald and Golden Eagle permit will be reevaluated during final design for the project.
- All existing slow speed or no wake zones will apply to all vessels associated with construction.

5.5 COMMITMENTS

- To assure the protection of the eastern indigo snake during construction, the FDOT will incorporate the most current USFWS guideline *Standard Protection Measures for the Eastern Indigo Snake* if it is determined that the project's construction limits would involve this species habitat. **Appendix D** provides an example of the currently approved construction guidelines.
- Future surveys for the Florida scrub-jay will be conducted during design for the final SMF and FPC sites. If Florida scrub-jays are found or impacts to suitable habitat are proposed, the FDOT will re-initiate Section 7 consultation with the USFWS.
- To assure the protection of state and federal protected species during construction, the FDOT will implement a Marine Wildlife Watch Plan (MWWP), which will include the most current version of the FWC *Standard Manatee Conditions for In-Water Work* (**Appendix E**), the NOAA Fisheries Southeast Regional Office (SERO) *Protected Species Construction Conditions* (**Appendix I**) and the NMFS *Sea Turtle and Smalltooth Sawfish Construction Conditions* (**Appendix J**). The FDOT will require the construction contractor to abide by these guidelines during construction.
- To ensure the safety of protected marine species, the FDOT will apply low noise travel corridors or "quiet zones" for marine wildlife, the use of ramp-up procedures for pile driving, implementation of a MWWP, as well as adhering to no nighttime in-water work. In the event nighttime work is required, any in water work will be subject to the MWWP as approved by the USFWS and the FWC through re-initiation of ESA Section 7 Consultation.

- Two dedicated (minimum one primary), experienced manatee observers will be present when in-water work is performed. Primary observers will have experience observing manatees in the wild on construction projects similar to this one.
- All siltation barriers or coffer dams will be checked at least twice daily, in the morning and in the evening, for manatees that may have become entangled or entrapped in the site.
- Although culverts are unlikely for this project, any culverts larger than eight inches and less than eight feet in diameter will be grated to prevent manatee entrapment. The spacing between the bridge pilings will be at least 60 inches to allow for manatee movement between the pilings. If a minimum of 60-inch spacings is not provided between piles, further coordination will be conducted with the USFWS.
- No dredging is authorized for this project. If dredging is required, Section 7 consultation will be re-initiated with USFWS for the manatee.
- Blasting during construction or demolition is not anticipated; however, should the use of explosives for any portion of the project be proposed by the Contractor, a project-specific Blast Plan will be developed and incorporated into the existing MWWP. The FDOT will re-initiate ESA Section 7 Consultation with the USFWS and NMFS, and coordinate with the FWC regarding the potential effects of the proposed blasting events on the manatee.
- A ramp-up procedure will be utilized at the beginning of each pile-driving event. The procedure allows for a gradual increase in noise levels to give species (including the manatee) ample time to leave the project area prior to initiation of full noise levels. A ramp-up procedure is also required for impact hammer proofing of any pipe piles installed with a vibratory hammer.
- The contractor will be limited to one pile-driving operation at any time during construction. If additional pile-driving operations are proposed, Section 7 consultation will be initiated with the NMFS and USFWS as needed.
- Pile-driving and sheet-pile driving will be conducted only during the period between 30 minutes before official sunrise and 30 minutes after official sunset.
- Barges will be equipped with fender systems that provide a minimum standoff distance of four feet between wharves, bulkheads and vessels moored together to prevent crushing manatees.
- Kestrel surveys will be performed prior to construction to determine if individuals, breeding pairs, nests, and/or suitable foraging or nesting habitat are present.
- Surveys for federal and state listed plants will be conducted prior to construction during the appropriate survey season. If listed plants are observed within the project action area, the FDOT will continue coordination with the USFWS and FDACS to facilitate the relocation of protected plant individuals which may be impacted by the project.

SECTION 6 REFERENCES

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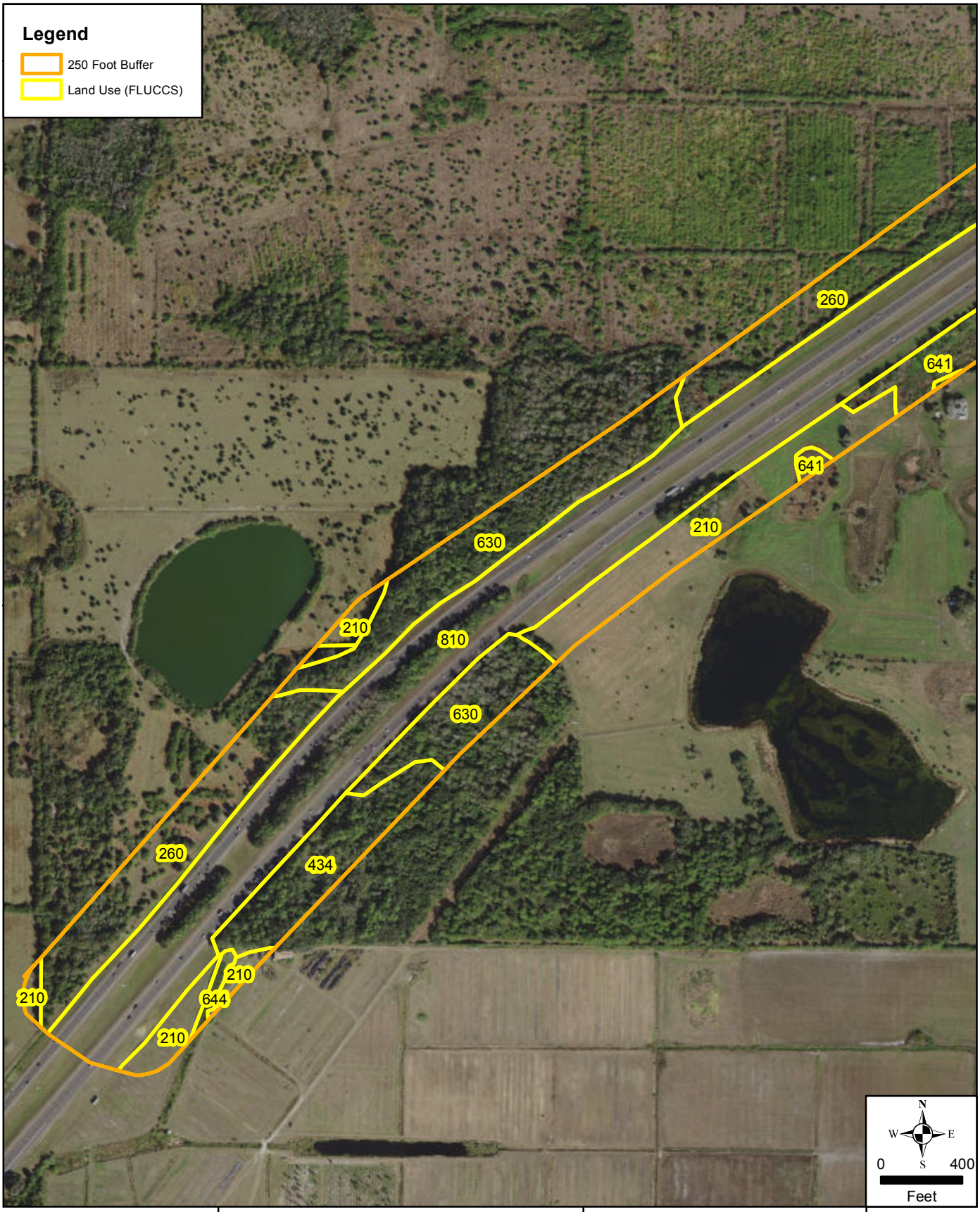
APPENDICES

APPENDIX A Existing Land Use Map



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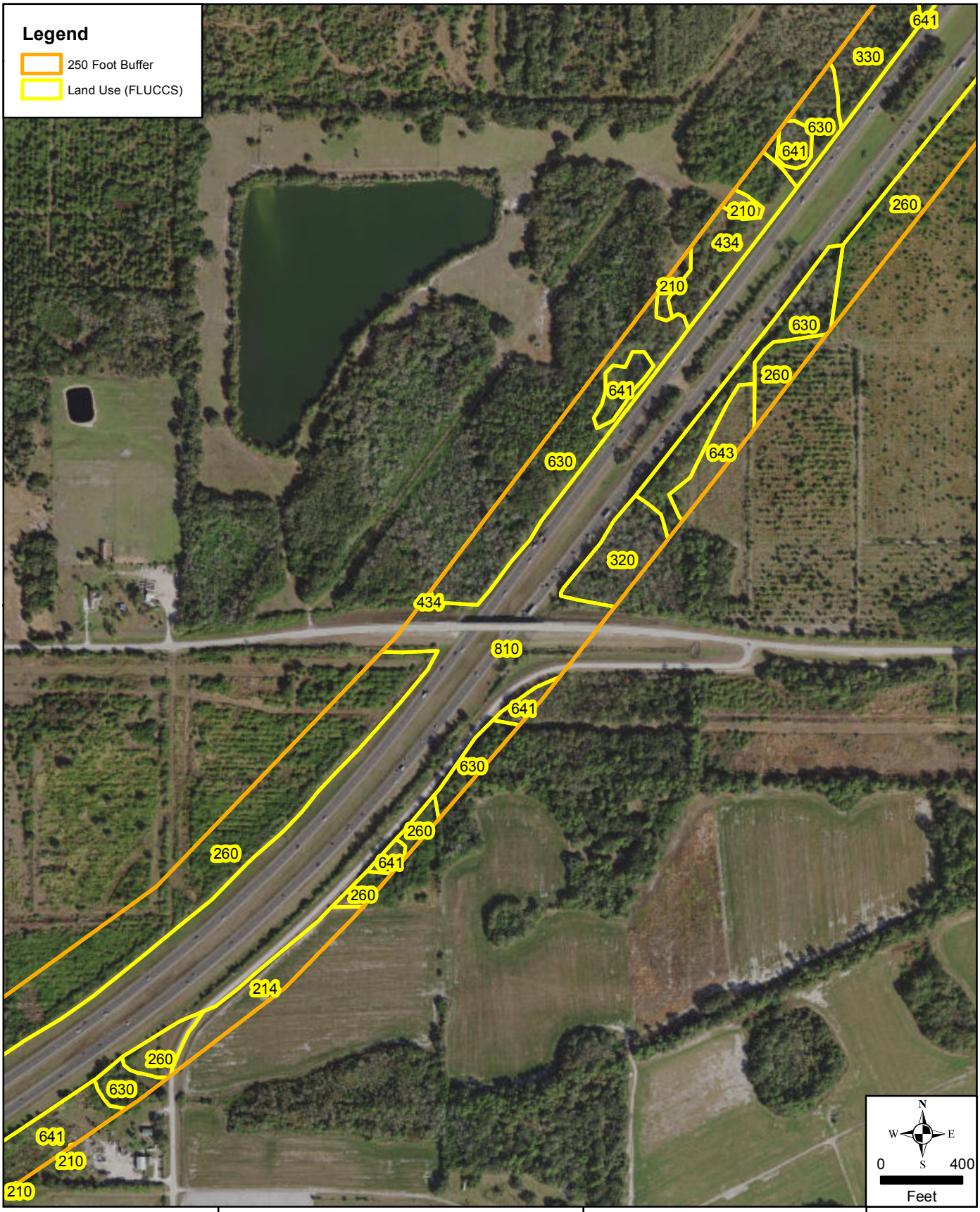

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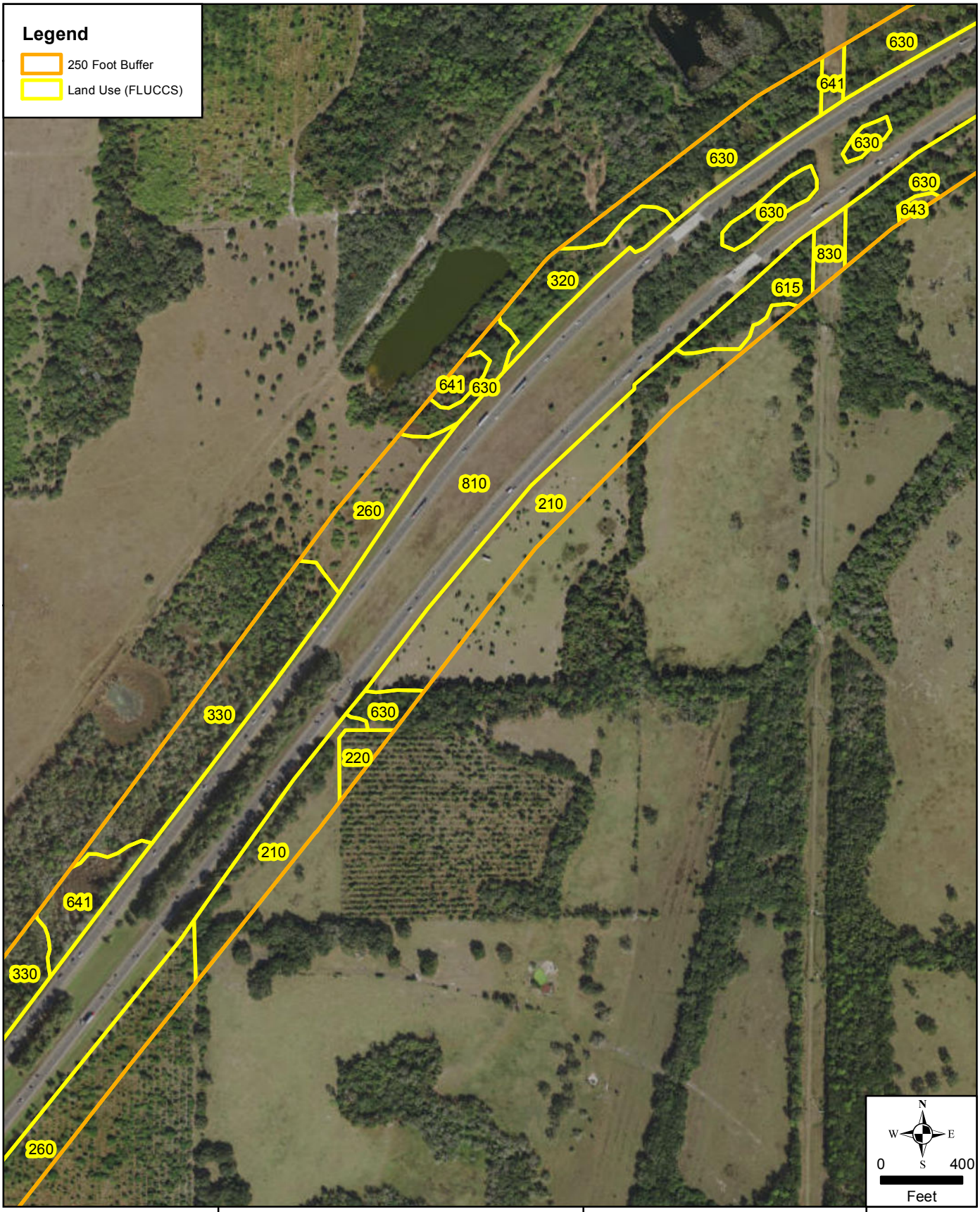

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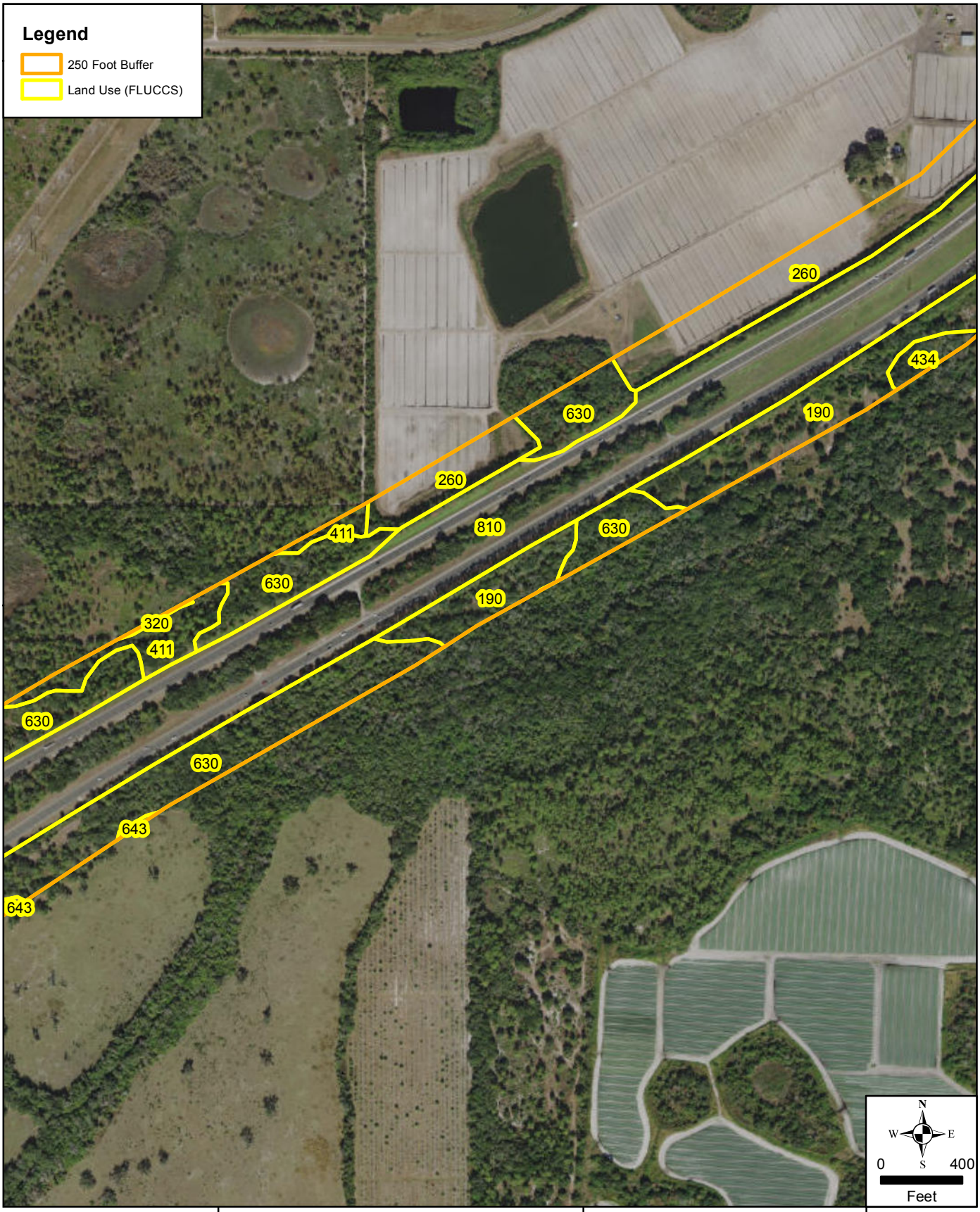

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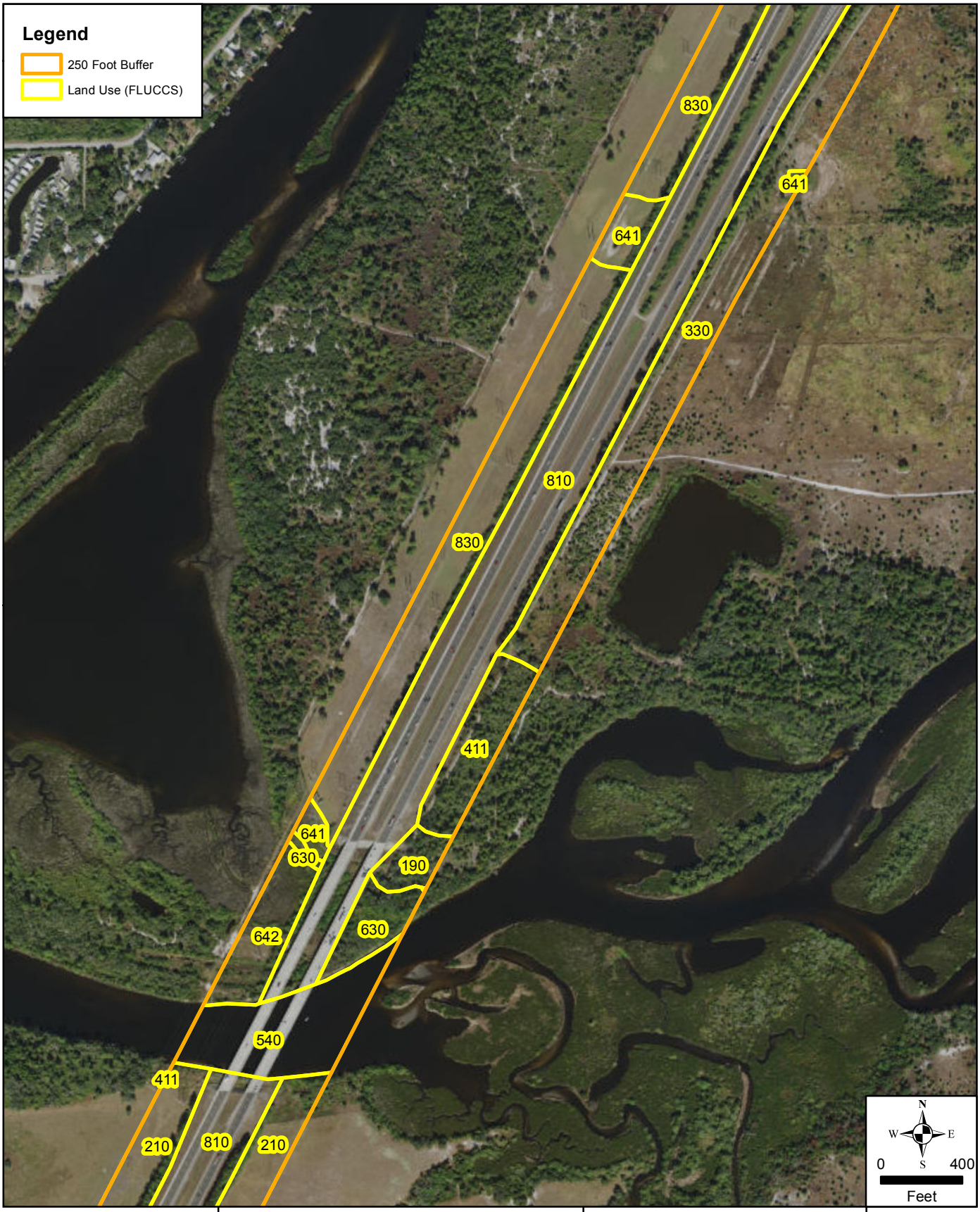

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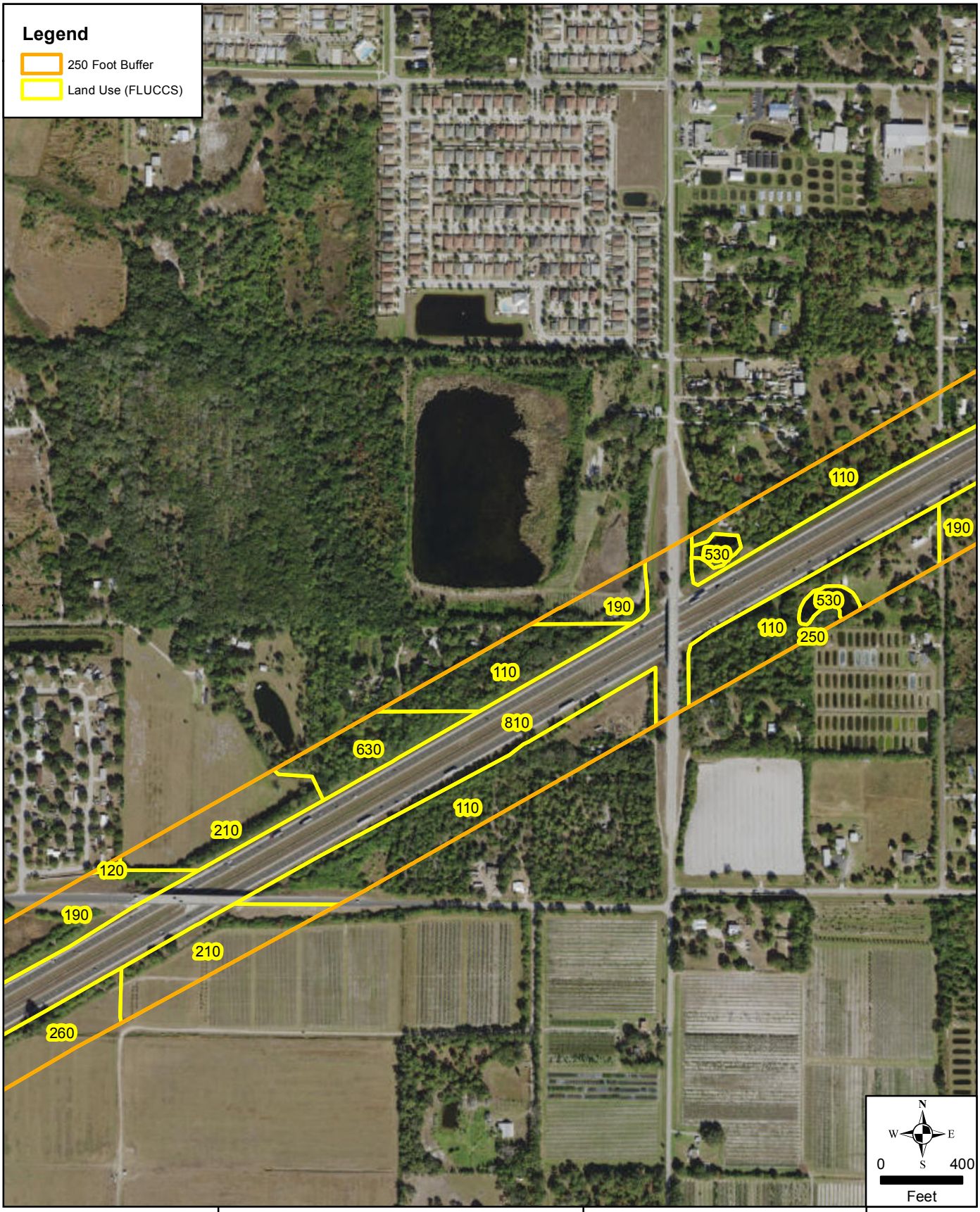

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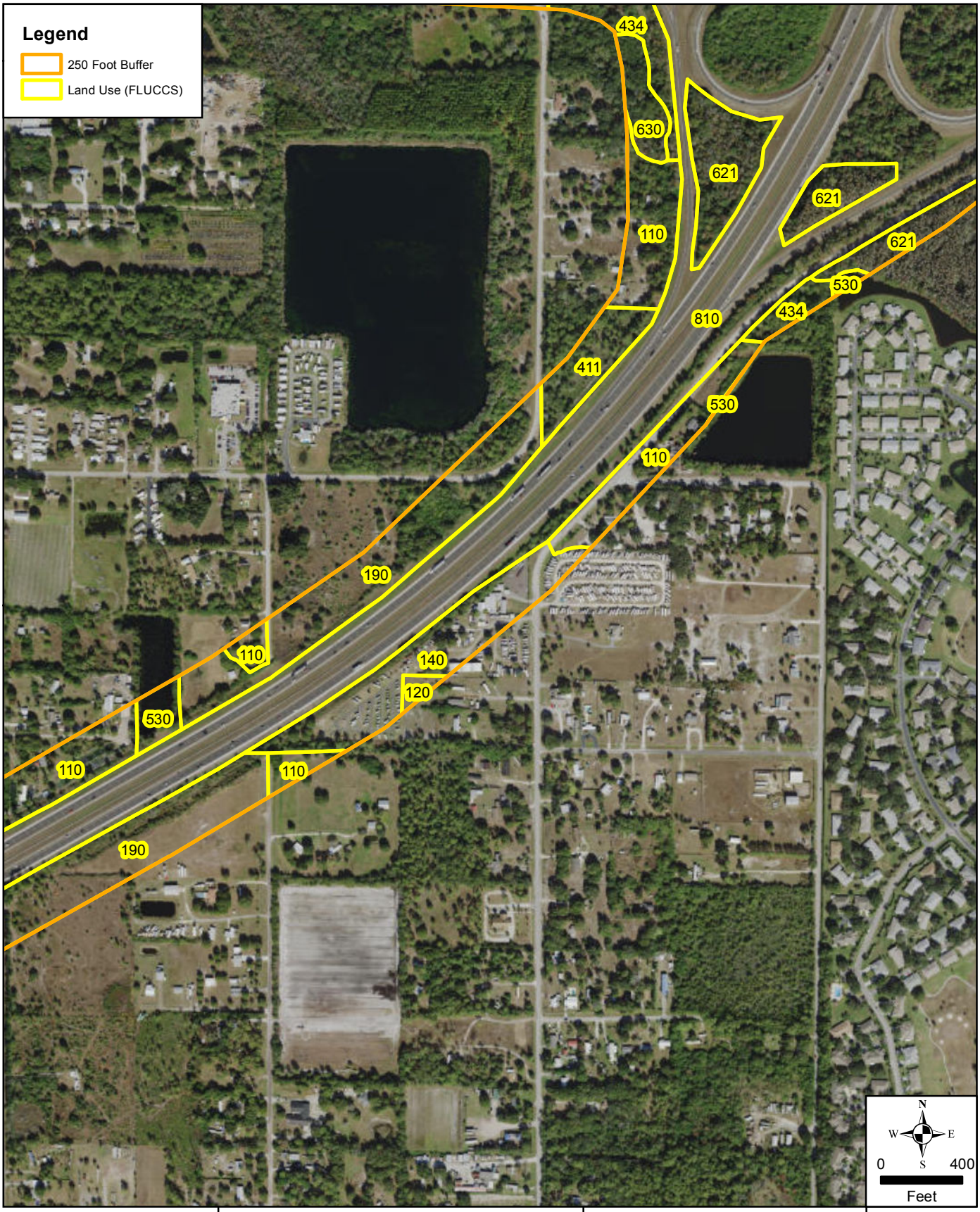

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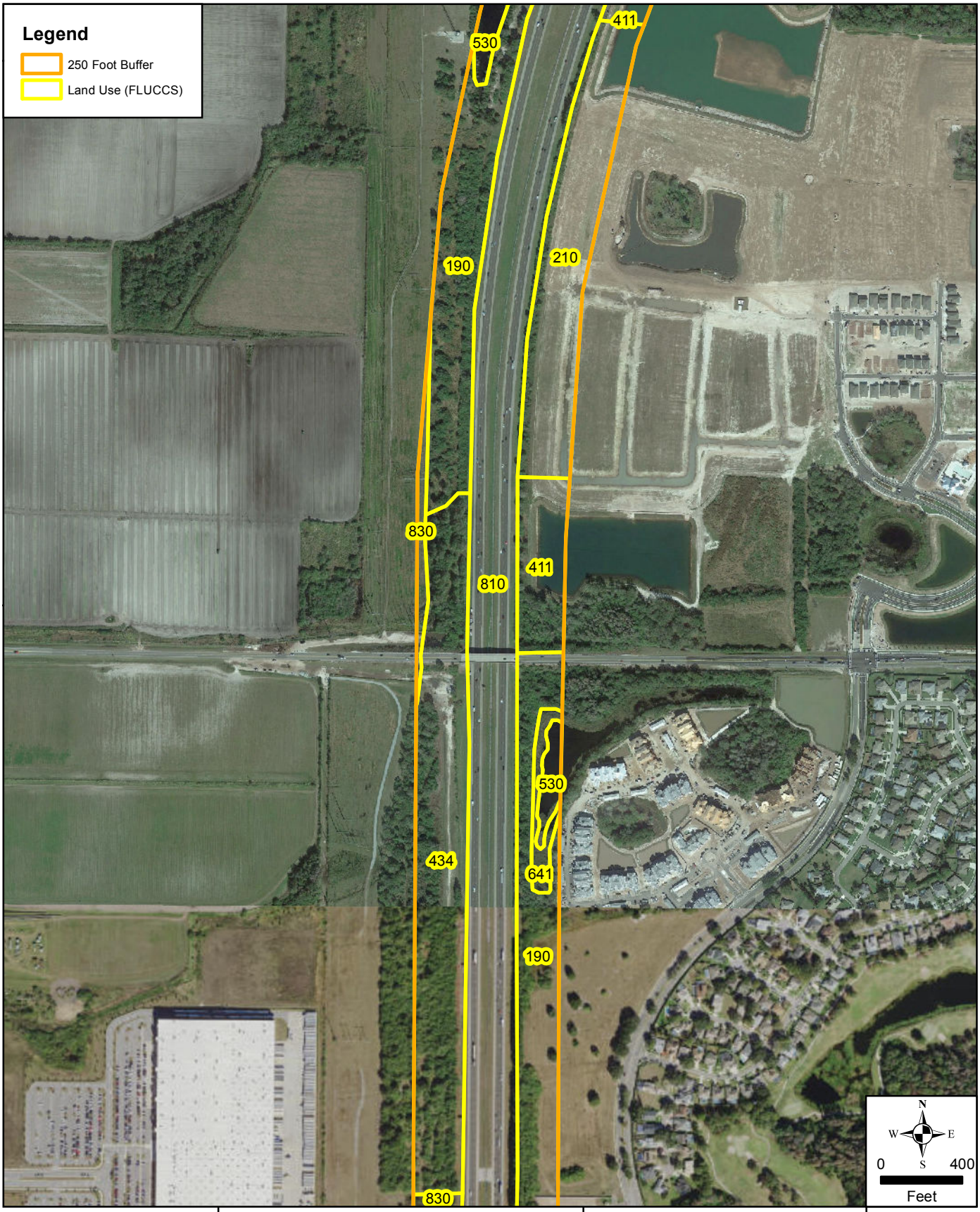

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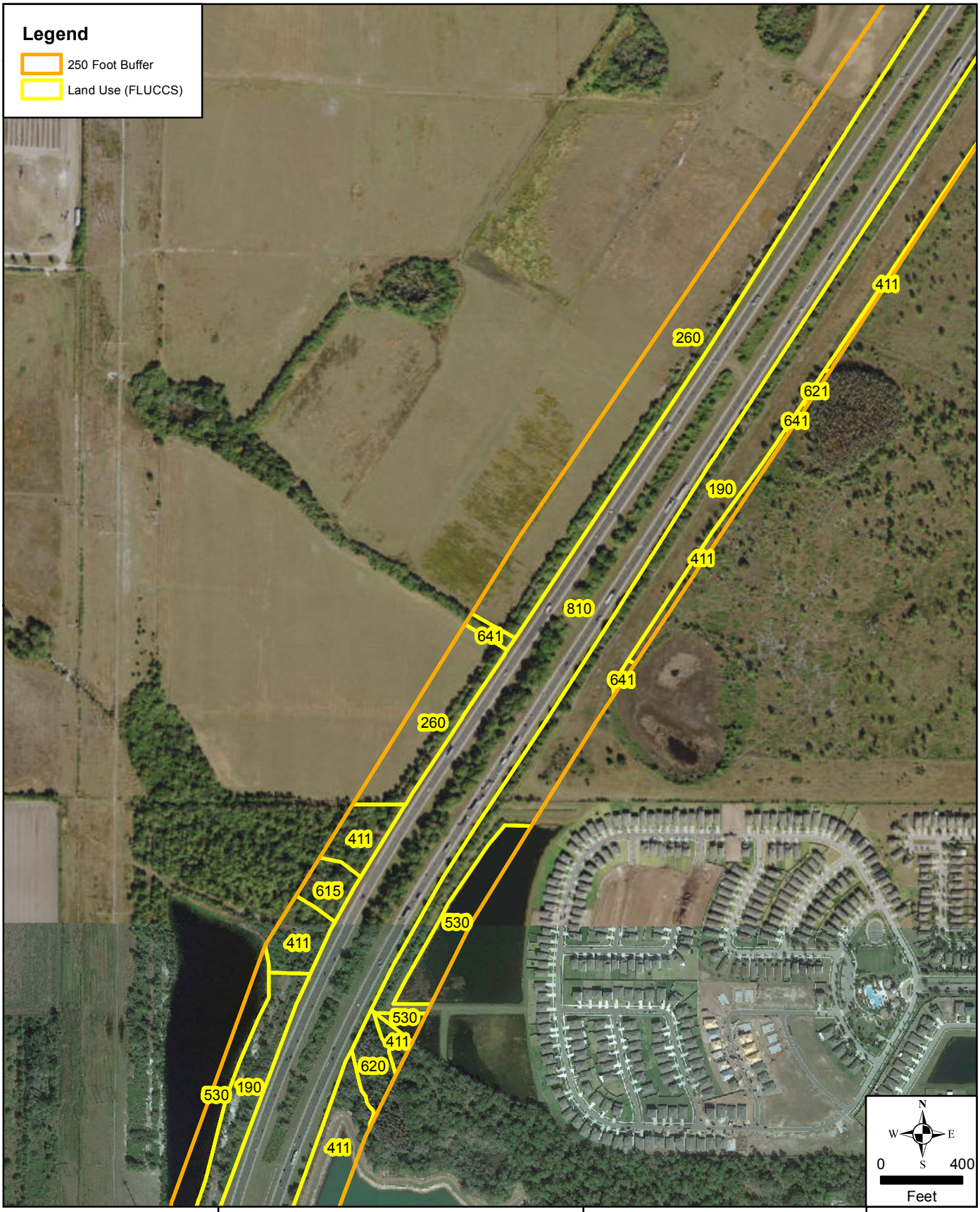

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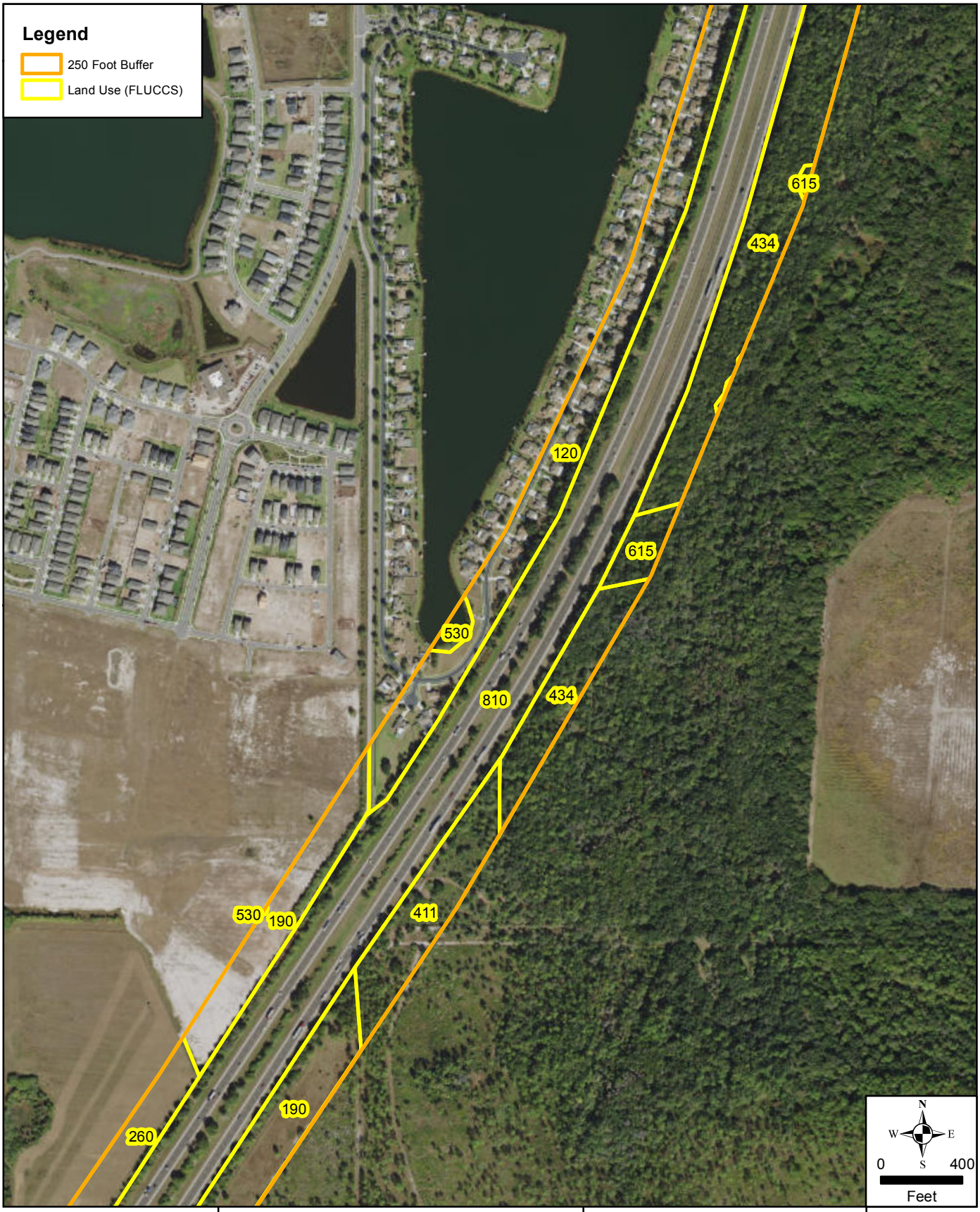

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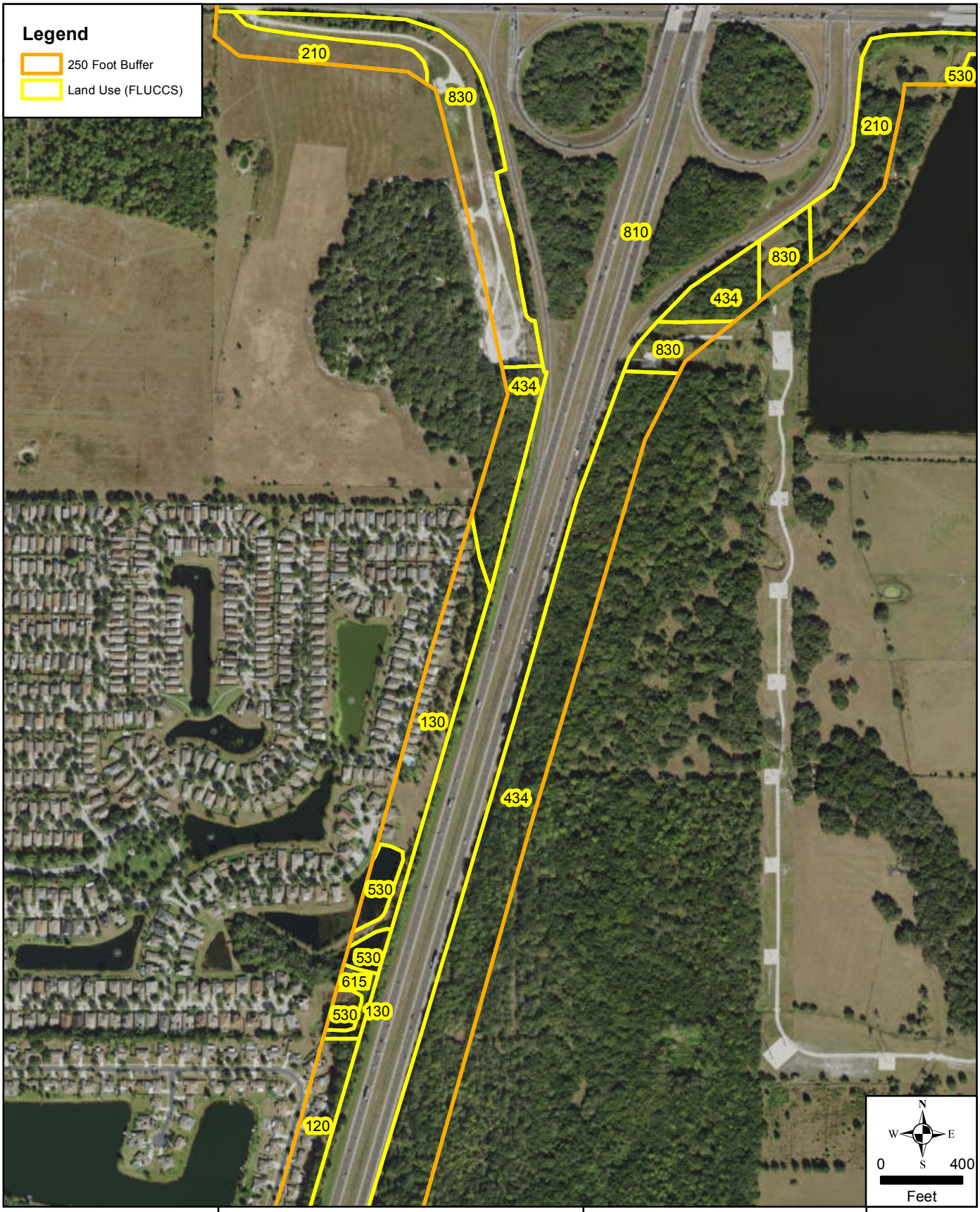

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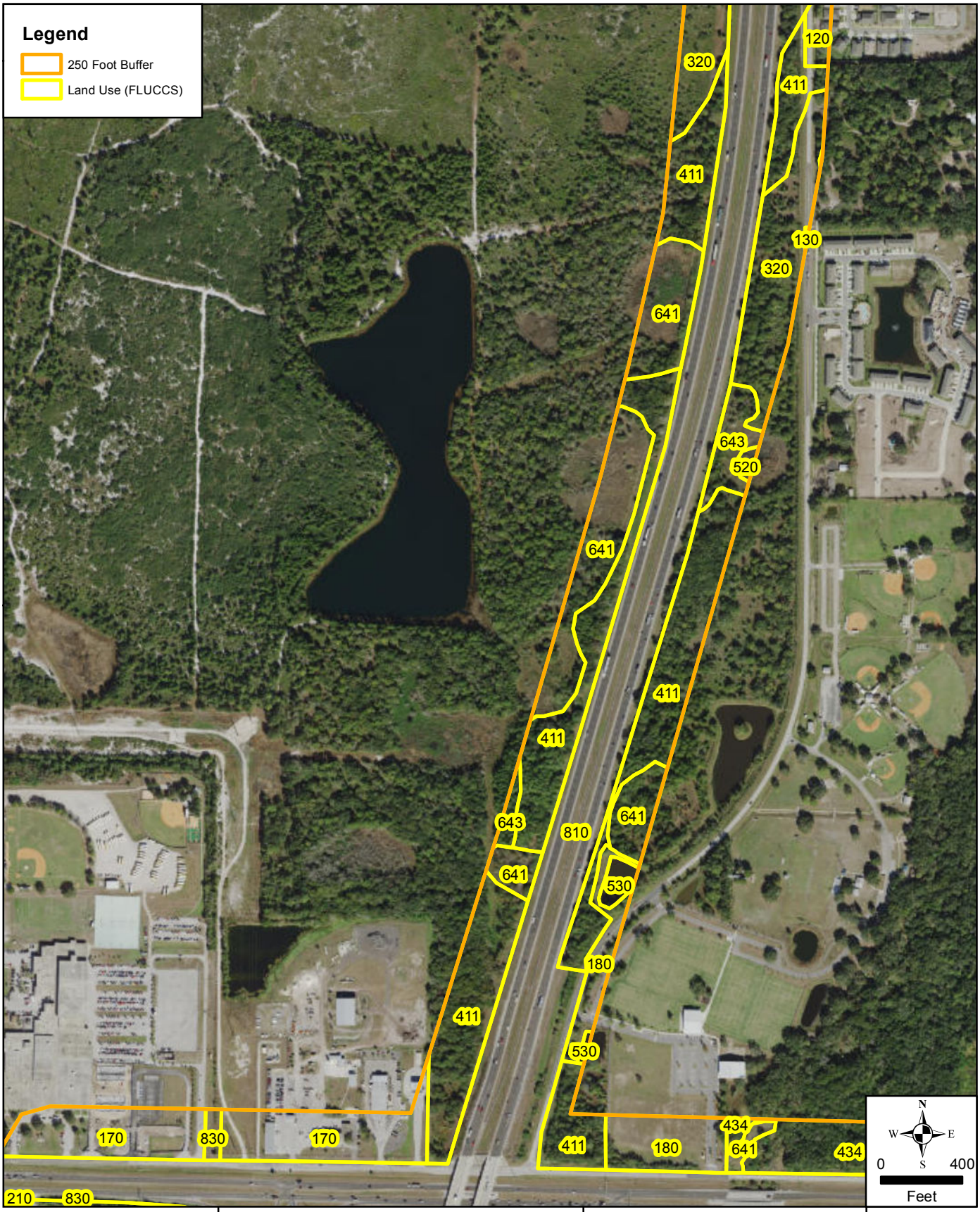

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FDOT	I-75 (SR 93A) PD&E Study Moccasin Wallow Road to US 301 WPI Segment No.: 419235-2 Hillsborough and Manatee Counties	Land Use (FLUCCS)	Appendix A Page 15 of 20

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I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to US 301
WPI Segment No.: 419235-2
Hillsborough and Manatee Counties

Land Use (FLUCCS)

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Moccasin Wallow Road to US 301
WPI Segment No.: 419235-2
Hillsborough and Manatee Counties

Land Use (FLUCCS)

FDOT

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to US 301
WPI Segment No.: 419235-2
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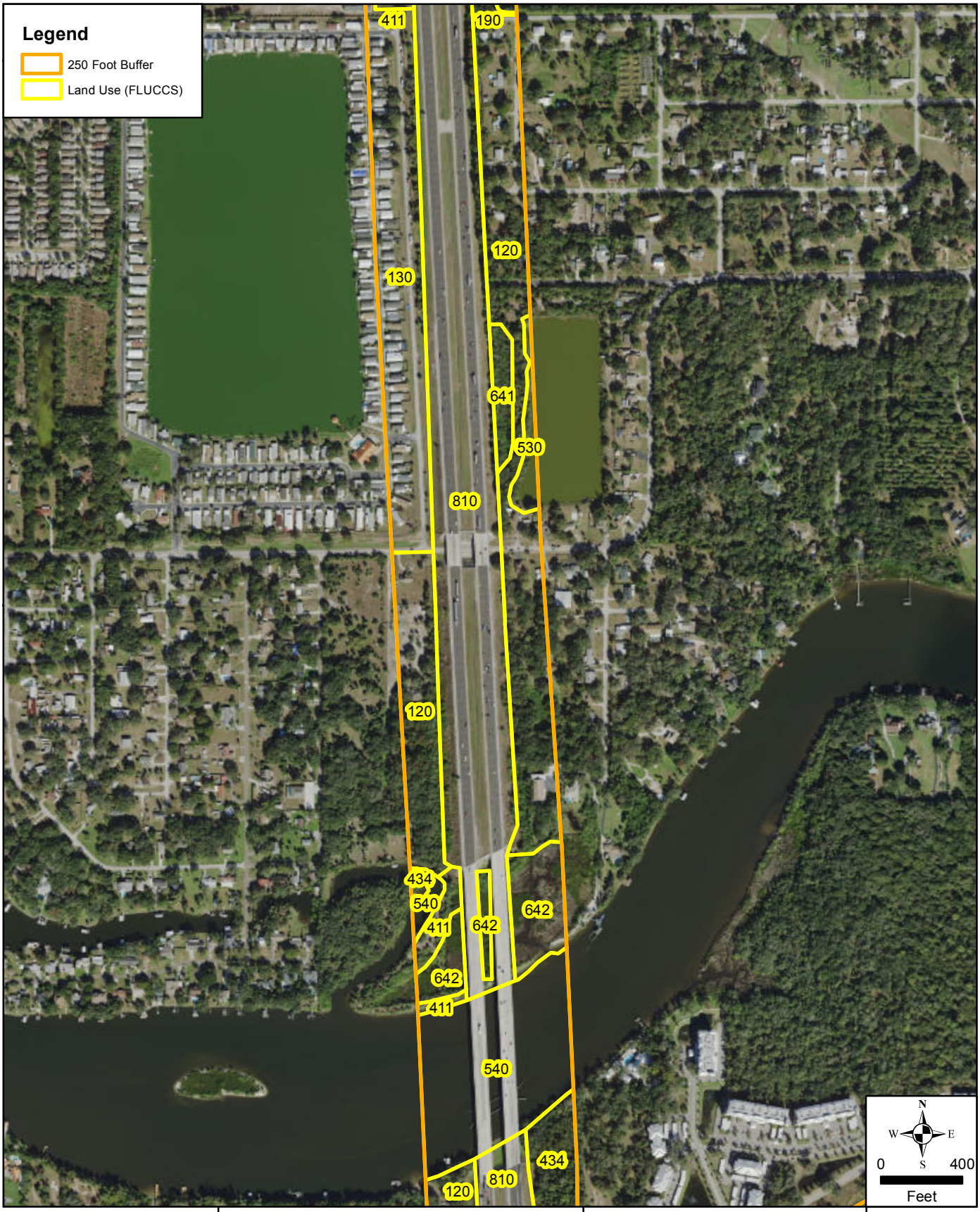
Land Use (FLUCCS)



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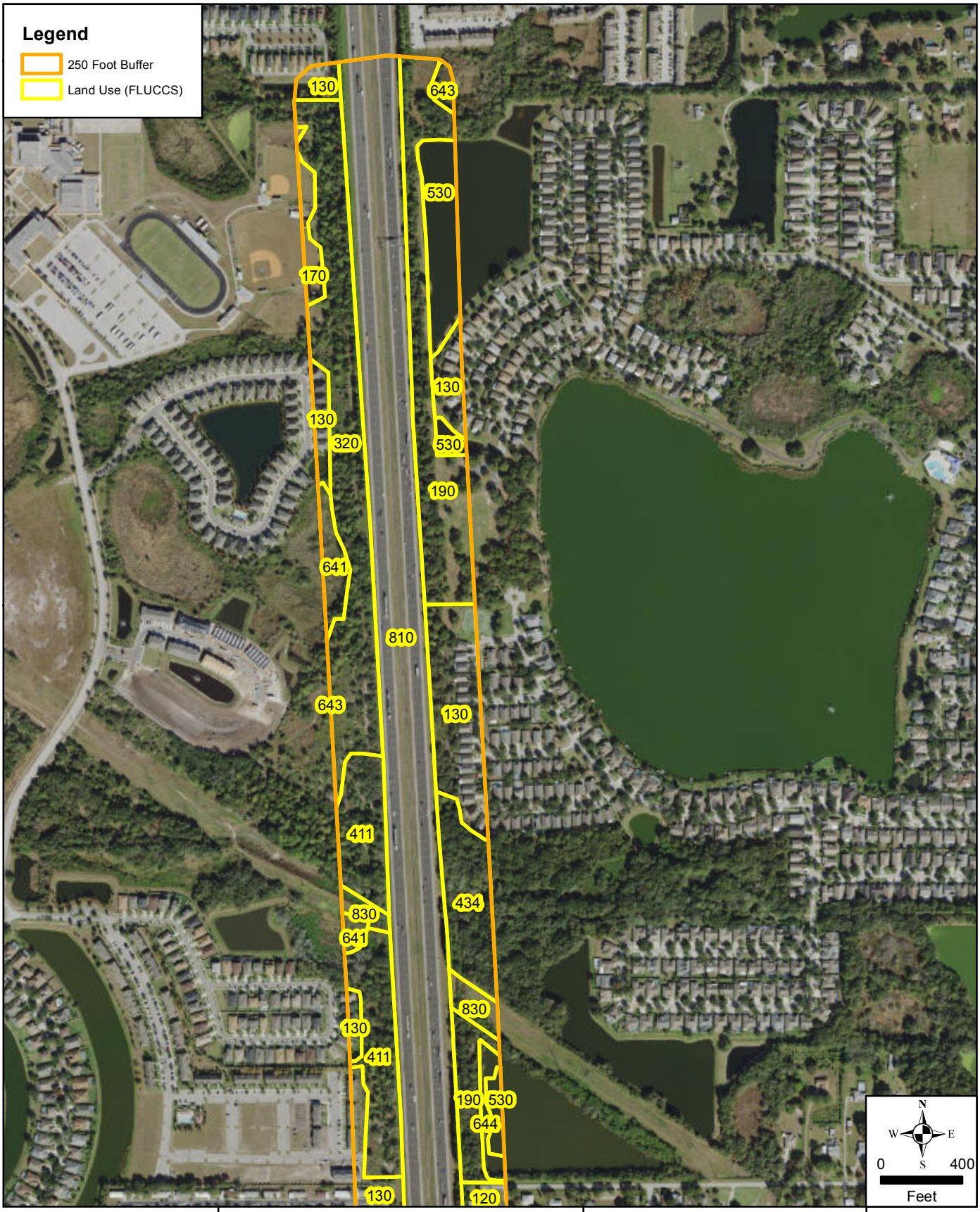
I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to US 301
WPI Segment No.: 419235-2
Hillsborough and Manatee Counties

Land Use (FLUCCS)



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FDOT

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to US 301
WPI Segment No.: 419235-2
Hillsborough and Manatee Counties

Land Use (FLUCCS)

APPENDIX B Representative Wetland Photographs

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Saltwater Marsh (FLUCFCS – 642 / NWI - E2EM)

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Wet Prairie (FLUCFCS – 643 / NWI - PEM)

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Shrubby Wetland (FLUCFCS – 631 / NWI - PSS)

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Wetland Hardwood Forest (FLUCFCS 610 / NWI - PFO)

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Mixed Wetland Hardwoods (FLUCFCS 617 / NWI - PFO)

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Cypress (FLUCFCS 621 / NWI - PFO)

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Riverine - Little Manatee River (FLUCFCS – 510 / NWI – E1OW).

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Riverine - Alafia River (FLUCFCS – 510 / NWI – E1OW).

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph Riverine - Curiosity Creek (FLUCFCS - 510 / NWI - ROW).

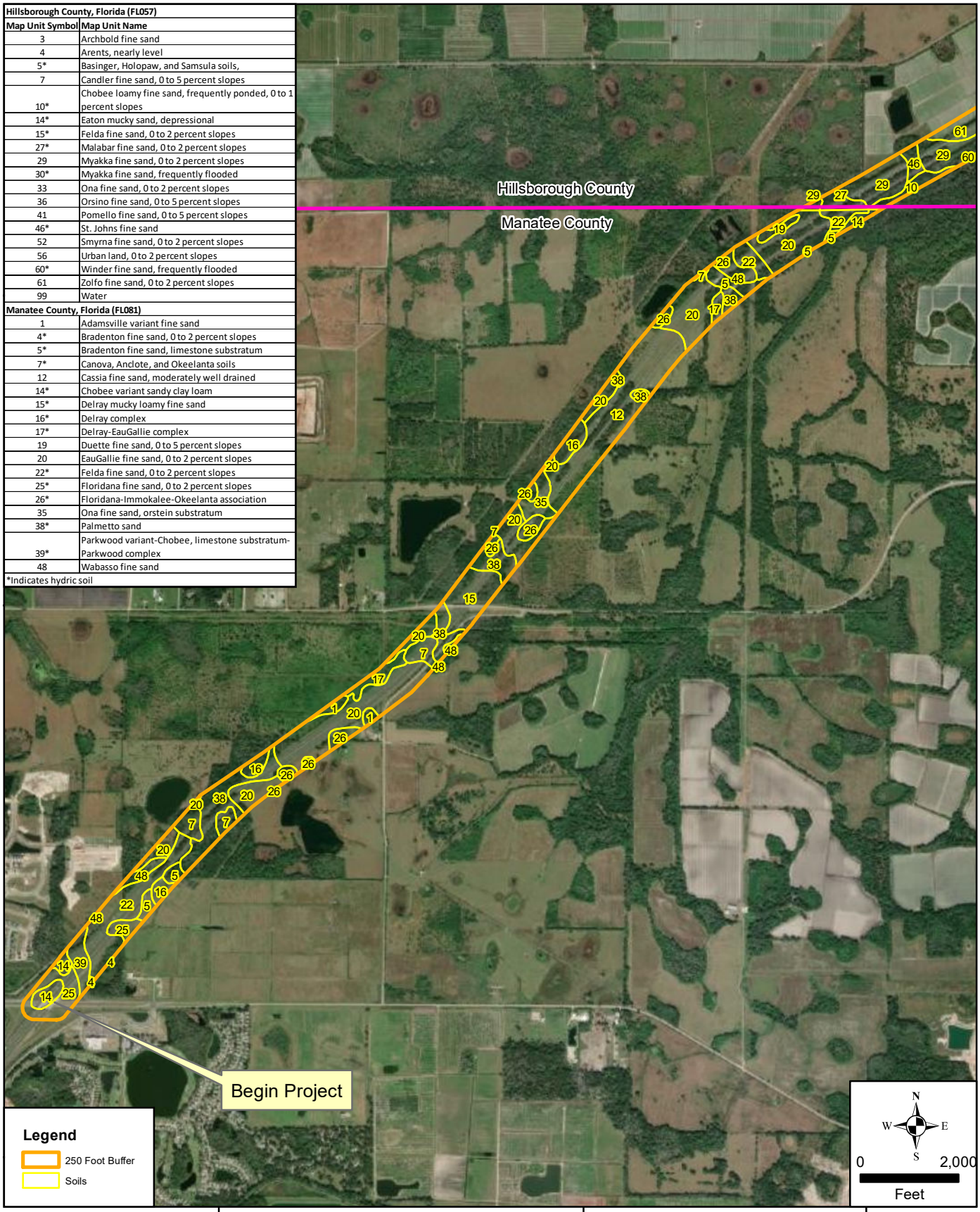
I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph Manmade - Herbaceous Ditch (FLUCFCS 641x / NWI - PEMx)

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Manmade -Shrubby Ditch (FLUCFCS 631x / NWI - PSSx)

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Gopher Tortoise Burrow

APPENDIX C Existing Soils Map

Hillsborough County, Florida (FL057)	
Map Unit Symbol	Map Unit Name
3	Archbold fine sand
4	Arents, nearly level
5*	Basinger, Holopaw, and Samsula soils,
7	Candler fine sand, 0 to 5 percent slopes
10*	Chobee loamy fine sand, frequently ponded, 0 to 1 percent slopes
14*	Eaton mucky sand, depressional
15*	Felda fine sand, 0 to 2 percent slopes
27*	Malabar fine sand, 0 to 2 percent slopes
29	Myakka fine sand, 0 to 2 percent slopes
30*	Myakka fine sand, frequently flooded
33	Ona fine sand, 0 to 2 percent slopes
36	Orsino fine sand, 0 to 5 percent slopes
41	Pomello fine sand, 0 to 5 percent slopes
46*	St. Johns fine sand
52	Smyrna fine sand, 0 to 2 percent slopes
56	Urban land, 0 to 2 percent slopes
60*	Winder fine sand, frequently flooded
61	Zolfo fine sand, 0 to 2 percent slopes
99	Water
Manatee County, Florida (FL081)	
1	Adamsville variant fine sand
4*	Bradenton fine sand, 0 to 2 percent slopes
5*	Bradenton fine sand, limestone substratum
7*	Canova, Anclote, and Okeelanta soils
12	Cassia fine sand, moderately well drained
14*	Chobee variant sandy clay loam
15*	Delray mucky loamy fine sand
16*	Delray complex
17*	Delray-EauGallie complex
19	Duette fine sand, 0 to 5 percent slopes
20	EauGallie fine sand, 0 to 2 percent slopes
22*	Felda fine sand, 0 to 2 percent slopes
25*	Floridana fine sand, 0 to 2 percent slopes
26*	Floridana-Immokalee-Okeelanta association
35	Ona fine sand, orstein substratum
38*	Palmetto sand
39*	Parkwood variant-Chobee, limestone substratum-Parkwood complex
48	Wabasso fine sand
*Indicates hydric soil	



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FDOT

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to US 301
WPI Segment No.: 419235-2
Hillsborough and Manatee Counties

NRCS Soil Survey

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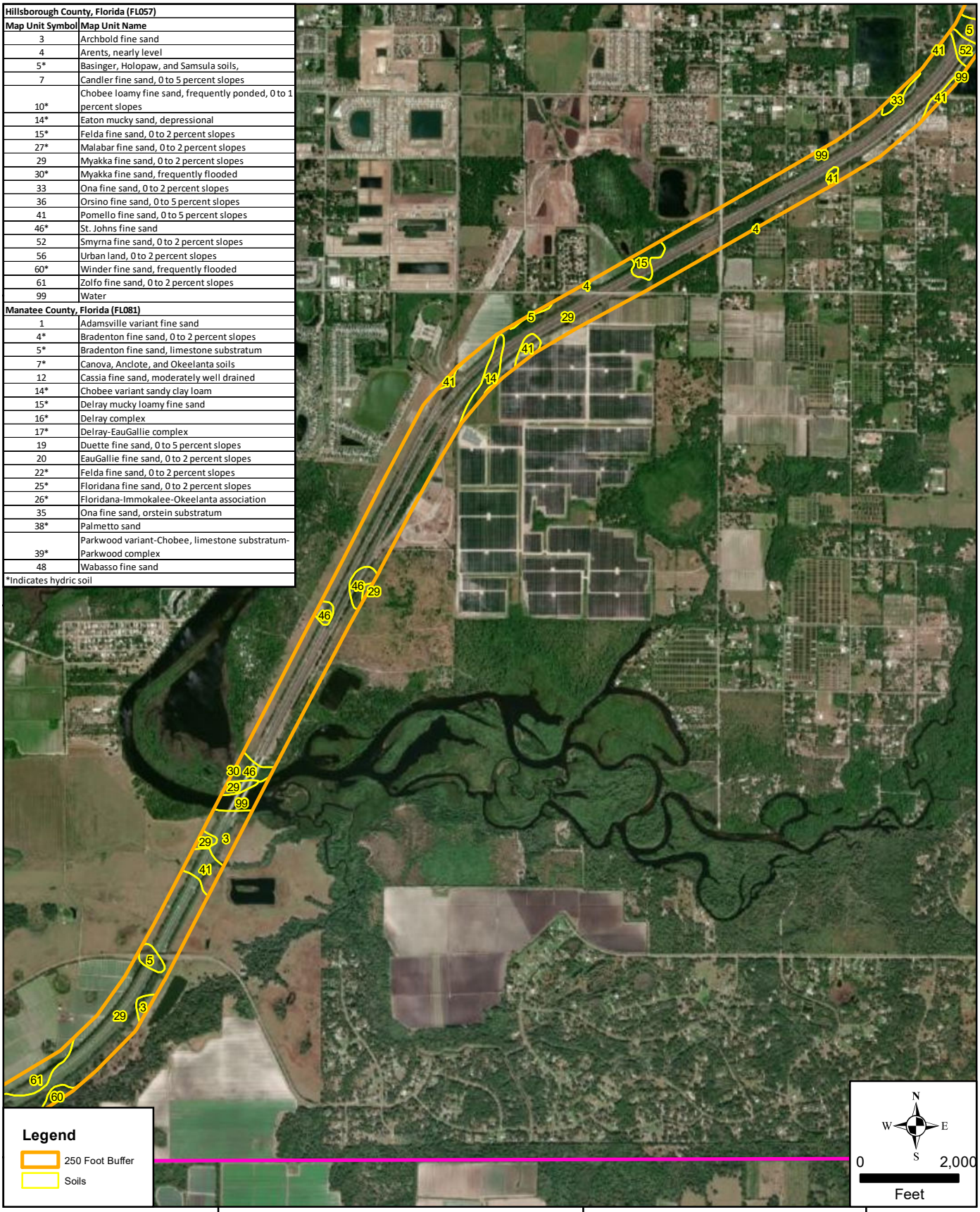

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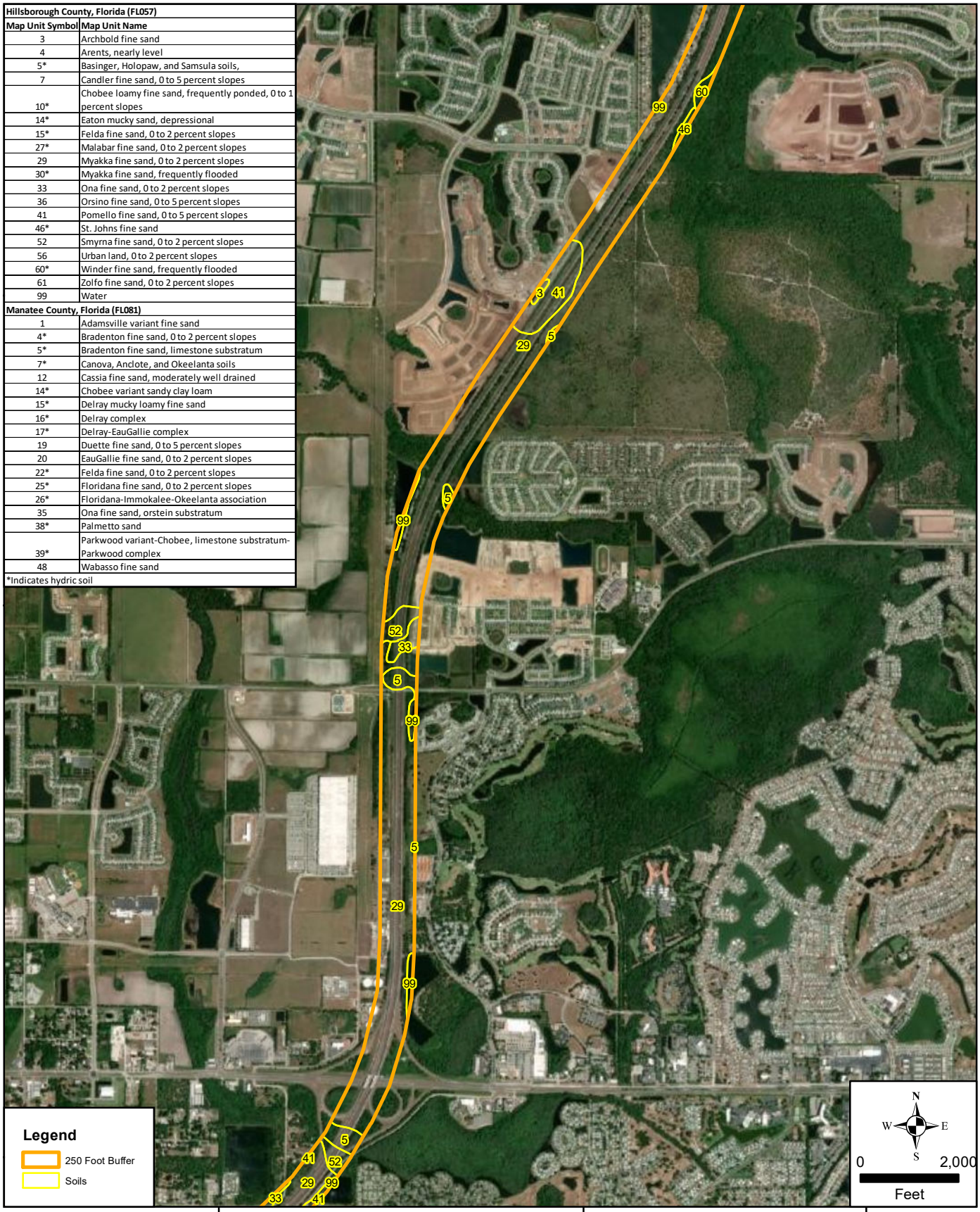

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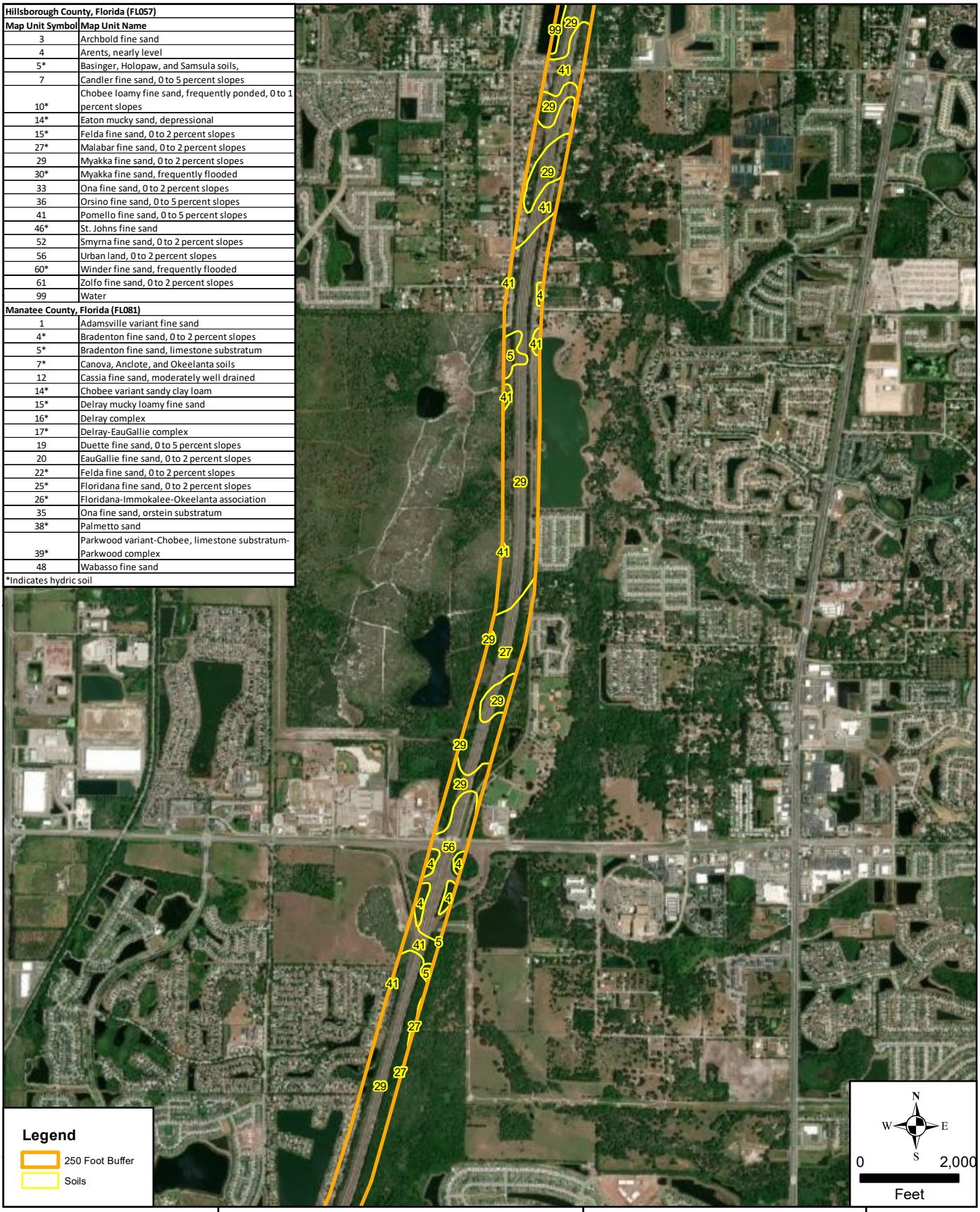

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Moccasin Wallow Road to US 301
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Hillsborough and Manatee Counties

NRCS Soil Survey

APPENDIX D Standard Protection Measures for the Eastern Indigo Snake

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

August 1, 2017

Donnie Kinard
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Subject: Consultation Key for the Eastern Indigo Snake – Revised

Dear Mr. Kinard:

This letter revises and replaces the January 25, 2010, and August 13, 2013, letters to the U.S. Army Corps of Engineers (Corps) regarding the use of the eastern indigo snake programmatic effect determination key (Key) for projects occurring within the South Florida Ecological Service's Office (SFESO) jurisdiction. This revision supersedes all prior versions of the Key in the SFESO area. The purpose of this revision is to clarify portions of the previous keys based on questions we have been asked, specifically related to habitat and refugia used by eastern indigo snakes (*Drymarchon corais couperi*), in the southern portion of their range and within the jurisdiction of the SFESO. This Key is provided pursuant to the Service's authorities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*). This Key revision has been assigned Service Consultation Code: 41420-2009-I-0467-R001.

The purpose of this Key is to assist the Corps (or other Federal action agency) in making appropriate effects determinations for the eastern indigo snake under section 7 of the Act, and streamline informal consultation with the SFESO for the eastern indigo snake when the proposed action can be walked through the Key. The Key is a tool available to the Corps (or other Federal action agency) for the purposes of expediting section 7 consultations. There is no requirement to use the Key. There will be cases when the use of the Key is not appropriate. These include, but are not limited to: where project specific information is outside of the scope of the Key or instances where there is new biological information about the species. In these cases, we recommend the Corps (or other Federal action agency) initiates traditional consultation pursuant to section 7 of the Act, and identify that consultation is being requested outside of the Key.

This Key uses project size and home ranges of eastern indigo snakes as the basis for making determinations of "may affect, but is not likely to adversely affect" (NLAA) and "may affect. and is likely to adversely affect" (may affect). Suitable habitat for the eastern indigo snake consists of a mosaic of habitats types, most of which occur throughout South Florida. Information on home ranges for individuals is not available in specific habitats in South Florida. Therefore, the SFESO uses the information from a 26-year study conducted by Layne and Steiner (1996) at Archbold Biological Station, Lake Placid, Florida, as the best available

information. Layne and Steiner (1996) determined the average home range size for a female eastern indigo snake was 46 acres and 184 acres for a male.

Projects that would remove/destroy less than 25 acres of eastern indigo snake habitat are expected to result in the loss of a portion of an eastern indigo snakes home range that would not impair the ability of the individual to feed, breed, and shelter. Therefore, the Service finds that take would not be reasonably certain to occur due to habitat loss. However, these projects have the potential to injure or kill an eastern indigo snake if the individual is crushed by equipment during site preparation or other project aspects. The Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013 or most current version) and the excavation of underground refugia (where a snake could be buried, trapped and/or injured), when implemented, are designed to avoid these forms of take. Consequently, projects less than 25 acres that include the Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013 or most current version) and a commitment to excavate underground refugia as part of the proposed action would be expected to avoid take and thus, may affect, but are not likely to adversely affect the species.

If a proposed project would impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, the Key should not be used. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range.

Projects that would remove 25 acres or more of eastern indigo snake habitat could remove more than half of a female eastern indigo snakes home range. This loss of habitat within a home range would be expected to significantly impair the ability of that individual to feed, breed, and shelter. Therefore, the Service finds take through habitat loss would be reasonably certain to occur and formal consultation is appropriate. Furthermore, these projects have the potential to injure or kill an eastern indigo snake if the individual is crushed by equipment during site preparation or other project aspects. The Service's *Standard Protection Measures* for the *Eastern Indigo Snake* (Service 2013 or most current version) and the excavation of underground refugia (where a snake could be buried, trapped and/or injured), when implemented, are designed to avoid these forms of take.

Eastern indigo snakes use a variety of habitat and are difficult to detect. Therefore, site specific information on the land use, observations of eastern indigo snakes within the vicinity, as well as other factors, as appropriate, will all be considered by the Service when making a final recommendation on the appropriate effects determination and whether it is appropriate to conclude consultation with the Corps (or other Federal action agency) formally or informally for projects that will impact 25 acres or more of habitat. Accordingly, when the use of the Key results in a determination of "may affect," the Corps (or other Federal action agency) is advised that consultation may be concluded informally or formally, depending on the project specific effects to eastern indigo snakes. Technical assistance from the Service can assist you in making a determination prior to submitting a request for consultation. In circumstances where the Corps (or other Federal action agency) desires to proceed with a consultation request prior to receiving

additional technical assistance from the Service, we recommend the agency documents the biological rationale for their determination and proceed with a request accordingly.

If the use of the Key results in a determination of "no effect," no further consultation is necessary with the SFESO. If the use of the Key results in a determination of "NLAA," the SFESO concurs with this determination based on the rationale provide above, and no further consultation is necessary for the effects of the proposed action on the eastern indigo snake. For "no effect" or "NLAA" determinations, the Service recommends that the Corps (or other Federal action agency) documents the pathway used to reach your no effect or NLAA determination in the project record and proceed with other species analysis as warranted.

Eastern Indigo Snake Programmatic Effect Determination Key
Revised July 2017
South Florida Ecological Service Office

Scope of the Key

This Key should be used only in the review of permit applications for effects determinations for the eastern indigo snake (*Drymarchon corais couperi*) within the South Florida Ecological Service's Office (SFESO) area (Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, and St. Lucie Counties). There is no designated critical habitat for the eastern indigo snake.

This Key is subject to revision as the Corps (or other Federal action agency) and Service deem necessary and in particular whenever there is new information on eastern indigo snake biology and effects of proposed projects.

The Key is a tool available to the Corps (or other Federal action agency) for the purposes of expediting section 7 consultations. There is no requirement to use the Key. There will be cases when the use of the Key is not appropriate. These include, but are not limited to: where project specific information is outside of the scope of the Key or instances where there is new biological information about the species. In these cases, we recommend the Corps (or other Federal action agency) initiates traditional consultation pursuant to section 7 of the Act, and identify that consultation is being requested outside of the Key.

Habitat

Habitat use varies seasonally between upland and wetland areas, especially in the more northern parts of the species' range. In southern parts of their range eastern indigo snakes are habitat generalists which use most available habitat types. Movements between habitat types in northern areas of their range may relate to the need for thermal refugia (protection from cold and/or heat).

In northern areas of their range eastern indigo snakes prefer an interspersion of tortoise-inhabited sandhills and wetlands (Landers and Speake 1980). In these northern regions eastern indigo

snakes most often use forested areas rich with gopher tortoise burrows, hollowed root channels, hollow logs, or the burrows of rodents, armadillos, or land crabs as thermal refugia during cooler seasons (Lawler 1977; Moler 1985a; Layne and Steiner 1996). The eastern indigo snake in the northern region is typically classified as a longleaf pine savanna specialist because here, in the northern four-fifths of its range, the eastern indigo snake is typically only found in vicinity of xeric longleaf pine–turkey oak sandhills inhabited by the gopher tortoise (Means 2006).

In the milder climates of central and southern Florida, comprising the remaining one fifth of its range, thermal refugia such as those provided by gopher tortoise burrows may not be as critical to survival of indigo snakes. Consequently, eastern indigo snakes in these regions use a more diverse assemblage of habitats such as pine flatwoods, scrubby flatwoods, floodplain edges, sand ridges, dry glades, tropical hammocks, edges of freshwater marshes, muckland fields, coastal dunes, and xeric sandhill communities; with highest population concentrations of eastern indigo snakes occurring in the sandhill and pineland regions of northern and central Florida (Service 1999). Eastern indigo snakes have also been found on agricultural lands with close proximity to wetlands (Zeigler 2006).

In south Florida, agricultural sites (*e.g.*, sugar cane fields and citrus groves) are occupied by eastern indigo snakes. The use of sugarcane fields by eastern indigo snakes was first documented by Layne and Steiner in 1996. In these areas there is typically an abundance of wetland and upland ecotones (due to the presence of many ditches and canals), which support a diverse prey base for foraging. In fact, some speculate agricultural areas may actually have a higher density of eastern indigo snakes than natural communities due to the increased availability of prey. Gopher tortoise burrows are absent at these locations but there is an abundance of both natural and artificial refugia. Enge and Endries (2009) reporting on the status of the eastern indigo snake included sugarcane fields and citrus groves in a Global Information Systems (GIS)-base map of potential eastern indigo snake habitat. Numerous sightings of eastern indigo snakes within sugarcane fields have been reported within south Florida (Florida Fish and Wildlife Conservation Commission Indigo Snake Database [Enge 2017]). A recent study associated with the Comprehensive Everglades Restoration Plan (CERP) (A-1 FEB Project formerly A-1 Reservoir; Service code: 41420-2006-F-0477) documented eastern indigo snakes within sugarcane fields. The snakes used artificial habitats such as piles of limerock, construction debris, and pump stations. Recent studies also associated with the CERP at the C-44 Project (Service code: 41420-2009-FA-0314), and C-43 Project (Service code: 41420-2007-F-0589) documented eastern indigo snakes within citrus groves. The snakes used artificial habitats such as boards, sheets of tin, construction debris, pipes, drain pipes in abandoned buildings and septic tanks.

In extreme south Florida (*i.e.*, the Everglades and Florida Keys), eastern indigo snakes also utilize tropical hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats. Though eastern indigo snakes have been found in all available habitats of south Florida it is thought they prefer hammocks and pine forests since most observations occur there and use of these areas is disproportionate compared to the relatively small total area of these habitats (Steiner *et al.* 1983).

Even though thermal stress may not be a limiting factor throughout the year in south Florida, eastern indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigo snakes use gopher tortoise burrows more (62 percent) than other underground refugia (Layne and Steiner 1996). Other underground refugia used include armadillo (*Dasypus novemcinctus*) burrows near citrus groves, cotton rat (*Sigmodon hispidus*) burrows, and land crab (*Cardisoma guanhumi*) burrows in coastal areas (Layne and Steiner 1996; Wilson and Porras 1983). Natural ground holes, hollows at the base of trees or shrubs, ground litter, trash piles, and crevices of rock-lined ditch walls are also used (Layne and Steiner 1996). These refugia are used most frequently where tortoise burrows are not available, principally in low-lying areas off the central and coastal ridges.

Minimization Measures

The Service developed protection measures for the eastern indigo snake "Standard Protection Measures for the Eastern Indigo Snake" (Service 2013) located at: https://www.fws.gov/verobeach/ReptilesPDFs/20130812_EIS%20Standard%20Protection%20Measures_final.pdf. These protections measures (or the most updated version) are considered a minimization measure for projects proposed within eastern indigo snake habitat.

Determinations

If the use of this Key results in a determination of "**no effect**," no further consultation is necessary with the SFESO.

If the use of this Key results in a determination of "**NLAA**," the SFESO concurs with this determination and no further consultation is necessary for the effects of the proposed action on the eastern indigo snake.

For no effect or NLAA determinations, the Corps (or other Federal action agency) should make a note in the project file indicating the pathway used to reach your no effect or NLAA determination.

If a proposed project would impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, the subsequent Key should not be used. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range.

If the use of this Key results in a determination of "**may affect**," consultation may be concluded informally or formally depending on project effects to eastern indigo snakes. Technical assistance from the Service can assist you in making a determination prior to submitting a request for consultation. In circumstances where the Corps desires to proceed with a consultation request prior to receiving additional technical assistance from the Service, we recommend the Corps document the biological rationale for their determination and proceed with a request accordingly.

A. Project is not located in open water or salt marsh.....go to B

Project is located solely in open water or salt marsh.....**no effect**

B. Permit will be conditioned for use of the Service's most current guidance for Standard Protection Measures For The Eastern Indigo Snake (currently 2013) during site preparation and project construction.....go to C

Permit will not be conditioned as above for the eastern indigo snake, or it is not known whether an applicant intends to use these measures and consultation with the Service is requested.....**may affect**

C. The project will impact less than 25 acres of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....go to D

The project will impact 25 acres or more of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....**may affect**

D. The project has no known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and/or injured during project activities.....**NLAA**

The project has known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and /or injured.....go to E

E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be excavated prior to site manipulation in the vicinity of the burrow[1]. If an eastern indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an eastern indigo snake, no work will commence until the snake has vacated the vicinity of proposed work.....**NLAA**[2]

Permit will not be conditioned as outlined above.....**may affect**

End Key

---

[1] If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a Florida Fish and Wildlife Conservation Commission Authorized Gopher Tortoise Agent permit. The excavation method selected should also minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the most current Gopher Tortoise Permitting Guidelines found at http://myfwc.com/gophertortoise.

[2] Please note, if the proposed project will impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, NLAA is not the appropriate conclusion. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range

Working with the Fish and Wildlife Foundation of Florida, the Service has established a fund to support conservation and recovery for the eastern indigo snake. Any project that has the potential to affect the eastern indigo snake and/or its habitat is encouraged to make a voluntary contribution to this fund. If you would like additional information about how to make a contribution and how these monies are used to support eastern indigo snake recovery please contact Ashleigh Blackford, Connie Cassler, or José Rivera at 772-562-3559.

This revised Key is effective immediately upon receipt by the Corps. Should circumstances change or new information become available regarding the eastern indigo snake and/or implementation of the Key, the determinations herein may be reconsidered and this Key further revised or amended.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. If you have any questions or comments regarding this Key, please contact the SFESO at 772-562-3909.

Sincerely,

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services

Cc:
Corps, Jacksonville, Florida (Dale Beter, Muriel Blaisdell, Ingrid Gilbert, Angela Ryan, Irene Sadowski, Victoria White, Alisa Zarbo)
Service, Athens, Georgia (Michelle Elmore)
Service, Jacksonville, Florida (Annie Dziergowski)
Service, Panama City, Florida (Sean Blomquist)

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APPENDIX E Eastern Indigo Snake Programmatic Effect Determination Key

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

August 1, 2017

Donnie Kinard
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Subject: Consultation Key for the Eastern Indigo Snake – Revised

Dear Mr. Kinard:

This letter revises and replaces the January 25, 2010, and August 13, 2013, letters to the U.S. Army Corps of Engineers (Corps) regarding the use of the eastern indigo snake programmatic effect determination key (Key) for projects occurring within the South Florida Ecological Service's Office (SFESO) jurisdiction. This revision supersedes all prior versions of the Key in the SFESO area. The purpose of this revision is to clarify portions of the previous keys based on questions we have been asked, specifically related to habitat and refugia used by eastern indigo snakes (*Drymarchon corais couperi*), in the southern portion of their range and within the jurisdiction of the SFESO. This Key is provided pursuant to the Service's authorities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*). This Key revision has been assigned Service Consultation Code: 41420-2009-I-0467-R001.

The purpose of this Key is to assist the Corps (or other Federal action agency) in making appropriate effects determinations for the eastern indigo snake under section 7 of the Act, and streamline informal consultation with the SFESO for the eastern indigo snake when the proposed action can be walked through the Key. The Key is a tool available to the Corps (or other Federal action agency) for the purposes of expediting section 7 consultations. There is no requirement to use the Key. There will be cases when the use of the Key is not appropriate. These include, but are not limited to: where project specific information is outside of the scope of the Key or instances where there is new biological information about the species. In these cases, we recommend the Corps (or other Federal action agency) initiates traditional consultation pursuant to section 7 of the Act, and identify that consultation is being requested outside of the Key.

This Key uses project size and home ranges of eastern indigo snakes as the basis for making determinations of "may affect, but is not likely to adversely affect" (NLAA) and "may affect. and is likely to adversely affect" (may affect). Suitable habitat for the eastern indigo snake consists of a mosaic of habitats types, most of which occur throughout South Florida. Information on home ranges for individuals is not available in specific habitats in South Florida. Therefore, the SFESO uses the information from a 26-year study conducted by Layne and Steiner (1996) at Archbold Biological Station, Lake Placid, Florida, as the best available

information. Layne and Steiner (1996) determined the average home range size for a female eastern indigo snake was 46 acres and 184 acres for a male.

Projects that would remove/destroy less than 25 acres of eastern indigo snake habitat are expected to result in the loss of a portion of an eastern indigo snakes home range that would not impair the ability of the individual to feed, breed, and shelter. Therefore, the Service finds that take would not be reasonably certain to occur due to habitat loss. However, these projects have the potential to injure or kill an eastern indigo snake if the individual is crushed by equipment during site preparation or other project aspects. The Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013 or most current version) and the excavation of underground refugia (where a snake could be buried, trapped and/or injured), when implemented, are designed to avoid these forms of take. Consequently, projects less than 25 acres that include the Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013 or most current version) and a commitment to excavate underground refugia as part of the proposed action would be expected to avoid take and thus, may affect, but are not likely to adversely affect the species.

If a proposed project would impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, the Key should not be used. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range.

Projects that would remove 25 acres or more of eastern indigo snake habitat could remove more than half of a female eastern indigo snakes home range. This loss of habitat within a home range would be expected to significantly impair the ability of that individual to feed, breed, and shelter. Therefore, the Service finds take through habitat loss would be reasonably certain to occur and formal consultation is appropriate. Furthermore, these projects have the potential to injure or kill an eastern indigo snake if the individual is crushed by equipment during site preparation or other project aspects. The Service's *Standard Protection Measures* for the *Eastern Indigo Snake* (Service 2013 or most current version) and the excavation of underground refugia (where a snake could be buried, trapped and/or injured), when implemented, are designed to avoid these forms of take.

Eastern indigo snakes use a variety of habitat and are difficult to detect. Therefore, site specific information on the land use, observations of eastern indigo snakes within the vicinity, as well as other factors, as appropriate, will all be considered by the Service when making a final recommendation on the appropriate effects determination and whether it is appropriate to conclude consultation with the Corps (or other Federal action agency) formally or informally for projects that will impact 25 acres or more of habitat. Accordingly, when the use of the Key results in a determination of "may affect," the Corps (or other Federal action agency) is advised that consultation may be concluded informally or formally, depending on the project specific effects to eastern indigo snakes. Technical assistance from the Service can assist you in making a determination prior to submitting a request for consultation. In circumstances where the Corps (or other Federal action agency) desires to proceed with a consultation request prior to receiving

additional technical assistance from the Service, we recommend the agency documents the biological rationale for their determination and proceed with a request accordingly.

If the use of the Key results in a determination of "no effect," no further consultation is necessary with the SFESO. If the use of the Key results in a determination of "NLAA," the SFESO concurs with this determination based on the rationale provide above, and no further consultation is necessary for the effects of the proposed action on the eastern indigo snake. For "no effect" or "NLAA" determinations, the Service recommends that the Corps (or other Federal action agency) documents the pathway used to reach your no effect or NLAA determination in the project record and proceed with other species analysis as warranted.

Eastern Indigo Snake Programmatic Effect Determination Key
Revised July 2017
South Florida Ecological Service Office

Scope of the Key

This Key should be used only in the review of permit applications for effects determinations for the eastern indigo snake (*Drymarchon corais couperi*) within the South Florida Ecological Service's Office (SFESO) area (Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, and St. Lucie Counties). There is no designated critical habitat for the eastern indigo snake.

This Key is subject to revision as the Corps (or other Federal action agency) and Service deem necessary and in particular whenever there is new information on eastern indigo snake biology and effects of proposed projects.

The Key is a tool available to the Corps (or other Federal action agency) for the purposes of expediting section 7 consultations. There is no requirement to use the Key. There will be cases when the use of the Key is not appropriate. These include, but are not limited to: where project specific information is outside of the scope of the Key or instances where there is new biological information about the species. In these cases, we recommend the Corps (or other Federal action agency) initiates traditional consultation pursuant to section 7 of the Act, and identify that consultation is being requested outside of the Key.

Habitat

Habitat use varies seasonally between upland and wetland areas, especially in the more northern parts of the species' range. In southern parts of their range eastern indigo snakes are habitat generalists which use most available habitat types. Movements between habitat types in northern areas of their range may relate to the need for thermal refugia (protection from cold and/or heat).

In northern areas of their range eastern indigo snakes prefer an interspersion of tortoise-inhabited sandhills and wetlands (Landers and Speake 1980). In these northern regions eastern indigo

snakes most often use forested areas rich with gopher tortoise burrows, hollowed root channels, hollow logs, or the burrows of rodents, armadillos, or land crabs as thermal refugia during cooler seasons (Lawler 1977; Moler 1985a; Layne and Steiner 1996). The eastern indigo snake in the northern region is typically classified as a longleaf pine savanna specialist because here, in the northern four-fifths of its range, the eastern indigo snake is typically only found in vicinity of xeric longleaf pine–turkey oak sandhills inhabited by the gopher tortoise (Means 2006).

In the milder climates of central and southern Florida, comprising the remaining one fifth of its range, thermal refugia such as those provided by gopher tortoise burrows may not be as critical to survival of indigo snakes. Consequently, eastern indigo snakes in these regions use a more diverse assemblage of habitats such as pine flatwoods, scrubby flatwoods, floodplain edges, sand ridges, dry glades, tropical hammocks, edges of freshwater marshes, muckland fields, coastal dunes, and xeric sandhill communities; with highest population concentrations of eastern indigo snakes occurring in the sandhill and pineland regions of northern and central Florida (Service 1999). Eastern indigo snakes have also been found on agricultural lands with close proximity to wetlands (Zeigler 2006).

In south Florida, agricultural sites (*e.g.*, sugar cane fields and citrus groves) are occupied by eastern indigo snakes. The use of sugarcane fields by eastern indigo snakes was first documented by Layne and Steiner in 1996. In these areas there is typically an abundance of wetland and upland ecotones (due to the presence of many ditches and canals), which support a diverse prey base for foraging. In fact, some speculate agricultural areas may actually have a higher density of eastern indigo snakes than natural communities due to the increased availability of prey. Gopher tortoise burrows are absent at these locations but there is an abundance of both natural and artificial refugia. Enge and Endries (2009) reporting on the status of the eastern indigo snake included sugarcane fields and citrus groves in a Global Information Systems (GIS)-base map of potential eastern indigo snake habitat. Numerous sightings of eastern indigo snakes within sugarcane fields have been reported within south Florida (Florida Fish and Wildlife Conservation Commission Indigo Snake Database [Enge 2017]). A recent study associated with the Comprehensive Everglades Restoration Plan (CERP) (A-1 FEB Project formerly A-1 Reservoir; Service code: 41420-2006-F-0477) documented eastern indigo snakes within sugarcane fields. The snakes used artificial habitats such as piles of limerock, construction debris, and pump stations. Recent studies also associated with the CERP at the C-44 Project (Service code: 41420-2009-FA-0314), and C-43 Project (Service code: 41420-2007-F-0589) documented eastern indigo snakes within citrus groves. The snakes used artificial habitats such as boards, sheets of tin, construction debris, pipes, drain pipes in abandoned buildings and septic tanks.

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Minimization Measures

The Service developed protection measures for the eastern indigo snake "Standard Protection Measures for the Eastern Indigo Snake" (Service 2013) located at: https://www.fws.gov/verobeach/ReptilesPDFs/20130812_EIS%20Standard%20Protection%20Measures_final.pdf. These protections measures (or the most updated version) are considered a minimization measure for projects proposed within eastern indigo snake habitat.

Determinations

If the use of this Key results in a determination of "**no effect**," no further consultation is necessary with the SFESO.

If the use of this Key results in a determination of "**NLAA**," the SFESO concurs with this determination and no further consultation is necessary for the effects of the proposed action on the eastern indigo snake.

For no effect or NLAA determinations, the Corps (or other Federal action agency) should make a note in the project file indicating the pathway used to reach your no effect or NLAA determination.

If a proposed project would impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, the subsequent Key should not be used. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range.

If the use of this Key results in a determination of "**may affect**," consultation may be concluded informally or formally depending on project effects to eastern indigo snakes. Technical assistance from the Service can assist you in making a determination prior to submitting a request for consultation. In circumstances where the Corps desires to proceed with a consultation request prior to receiving additional technical assistance from the Service, we recommend the Corps document the biological rationale for their determination and proceed with a request accordingly.

A. Project is not located in open water or salt marsh.....go to B

Project is located solely in open water or salt marsh.....**no effect**

B. Permit will be conditioned for use of the Service's most current guidance for Standard Protection Measures For The Eastern Indigo Snake (currently 2013) during site preparation and project construction.....go to C

Permit will not be conditioned as above for the eastern indigo snake, or it is not known whether an applicant intends to use these measures and consultation with the Service is requested.....**may affect**

C. The project will impact less than 25 acres of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....go to D

The project will impact 25 acres or more of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....**may affect**

D. The project has no known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and/or injured during project activities.....**NLAA**

The project has known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and /or injured.....go to E

E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be excavated prior to site manipulation in the vicinity of the burrow[1]. If an eastern indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an eastern indigo snake, no work will commence until the snake has vacated the vicinity of proposed work.....**NLAA**[2]

Permit will not be conditioned as outlined above.....**may affect**

End Key

---

[1] If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a Florida Fish and Wildlife Conservation Commission Authorized Gopher Tortoise Agent permit. The excavation method selected should also minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the most current Gopher Tortoise Permitting Guidelines found at http://myfwc.com/gophertortoise.

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This revised Key is effective immediately upon receipt by the Corps. Should circumstances change or new information become available regarding the eastern indigo snake and/or implementation of the Key, the determinations herein may be reconsidered and this Key further revised or amended.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. If you have any questions or comments regarding this Key, please contact the SFESO at 772-562-3909.

Sincerely,

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services

Cc:
Corps, Jacksonville, Florida (Dale Beter, Muriel Blaisdell, Ingrid Gilbert, Angela Ryan, Irene Sadowski, Victoria White, Alisa Zarbo)
Service, Athens, Georgia (Michelle Elmore)
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APPENDIX F Wood Stork Key for Central and North Peninsular Florida

THE CORPS OF ENGINEERS, JACKSONVILLE DISTRICT, U. S. FISH AND WILDLIFE SERVICE, JACKSONVILLE ECOLOGICAL SERVICES FIELD OFFICE AND STATE OF FLORIDA EFFECT DETERMINATION KEY FOR THE WOOD STORK IN CENTRAL AND NORTH PENINSULAR FLORIDA
September 2008

Purpose and Background

The purpose of this document is to provide a tool to improve the timing and consistency of review of Federal and State permit applications and Federal civil works projects, for potential effects of these projects on the endangered wood stork (*Mycteria americana*) within the Jacksonville Ecological Services Field Office (JAFL) geographic area of responsibility (GAR see below). The key is designed primarily for Corps Project Managers in the Regulatory and Planning Divisions and the Florida Department of Environmental Protection or its authorized designee, or Water Management Districts. The tool consists of the following dichotomous key and reference material. The key is intended to be used to evaluate permit applications and Corps' civil works projects for impacts potentially affecting wood storks or their wetland habitats. At certain steps in the key, the user is referred to graphics depicting known wood stork nesting colonies and their core foraging areas (CFA), footnotes, and other support documents. The graphics and supporting documents may be downloaded from the Corps' web page at http://www.saj.usace.army.mil/permit or at the JAFL web site at http://www.fws.gov/northflorida/WoodStorks. We intend to utilize the most recent information for both the graphics and supporting information; so should this information be updated, we will modify it accordingly. **Note: This information is provided as an aid to project review and analysis, and is not intended to substitute for a comprehensive biological assessment of potential project impacts. Such assessments are site-specific and usually generated by the project applicant or, in the case of civil works projects, by the Corps or project co-sponsor.**

Explanatory footnotes provided in the key must be closely followed whenever encountered.

Scope of the key

This key should only be used in the review of permit applications for effects determinations on wood storks within the JAFL GAR, and not for other listed species. Counties within the JAFL GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

The final effect determination will be based on project location and description, the potential effects to wood storks, and any measures (for example project components, special permit conditions) that avoid or minimize direct, indirect, and/or cumulative

impacts to wood storks and/or suitable wood stork foraging habitat. Projects that key to a "no effect" determination do not require additional consultation or coordination with the JAFL. Projects that key to "NLAA" also do not need further consultation; however, the JAFL staff will assist the Corps if requested, to answer questions regarding the appropriateness of mitigation options. Projects that key to a "may affect" determination equate to "likely to adversely affect" situations, and those projects should not be processed under the SPGP or any other programmatic general permit. For all "may affect" determinations, Corps Project Managers should request the JAFL to initiate formal consultation on the Wood stork.

Summary of General Wood Stork Nesting and Foraging Habitat Information

The wood stork is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks typically nest colonially in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water (Ogden 1991; Rodgers et al. 1996). Successful breeding sites are those that have limited human disturbance and low exposure to land based predators. Nesting sites protected from land-based predators are characterized as those surrounded by large expanses of open water or where the nest trees are inundated at the onset of nesting and remain inundated throughout most of the breeding cycle. These colonies have water depths between 0.9 and 1.5 meters (3 and 5 feet) during the breeding season.

In addition to limited human disturbance and land-based predation, successful nesting depends on the availability of suitable foraging habitat. Such habitat generally results from a combination of average or above-average rainfall during the summer rainy season, and an absence of unusually rainy or cold weather during the winter-spring breeding season (Kahl 1964; Rodgers et al. 1987). This pattern produces widespread and prolonged flooding of summer marshes that tends to maximize production of freshwater fishes, followed by steady drying that concentrate fish during the season when storks nest (Kahl 1964). Successful nesting colonies are those that have a large number of foraging sites. To maintain a wide range of foraging opportunities, a variety of wetland habitats exhibiting short and long hydroperiods should be present. In terms of wood stork foraging, the Service (1999) describes a short hydroperiod as one where a wetland fluctuates between wet and dry in 1 to 5-month cycles, and a long hydroperiod where the wet period is greater than five consecutive months. Wood storks during the wet season generally feed in the shallow water of short-hydroperiod wetlands and in coastal habitats during low tide. During the dry season, foraging shifts to longer hydroperiod interior wetlands as they progressively dry down (though usually retaining some surface water throughout the dry season).

Because of their specialized feeding behavior, wood storks forage most effectively in shallow-water areas with highly concentrated prey. Typical foraging sites for the wood stork include freshwater marshes, depressions in cypress heads, swamp sloughs, managed impoundments, stock ponds, shallow-seasonally flooded roadside or agricultural ditches, and narrow tidal creeks or shallow tidal pools. Good foraging conditions are characterized by water that is relatively calm, open, and having water depths between 5 and 15 inches (5 and 38 cm). Preferred foraging habitat includes wetlands exhibiting a mosaic of submerged and/or emergent aquatic vegetation, and shallow, open-water areas subject to hydrologic

regimes ranging from dry to wet. The vegetative component provides nursery habitat for small fish, frogs, and other aquatic prey, and the shallow, open-water areas provide sites for concentration of the prey during daily or seasonal low water periods.

WOOD STORK KEY

Although designed primarily for use by Corps Project Managers in the Regulatory and Planning Divisions, and State Regulatory agencies or their designees, project permit applicants and co-sponsors of civil works projects may find this key and its supporting documents useful in identifying potential project impacts to wood storks, and planning how best to avoid, minimize, or compensate for any identified adverse effects.

A. Project within 2,500 feet of an active colony site[1]……*May affect*

Project more than 2,500 feet from a colony site……go to B

B. Project does not affect suitable foraging habitat[2] (SFH)…….*no effect*

Project impacts SFH[2]……go to C

C. Project impacts to SFH are less than or equal to 0.5 acre[3]…….....*NLAA*[4]

Project impacts to SFH are greater than or equal to 0.5 acre..……..go to D

D. Project impacts to SFH not within a Core Foraging Area[5] (see attached map) of a colony site, and no wood storks have been documented foraging on site…….....NLAA[4]

Project impacts to SFH are within the CFA of a colony site, or wood storks have been documented foraging on a project site outside the CFA ……..….go to E

E. Project provides SFH compensation within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank preferably within the CFA, or consists of SFH compensation within the CFA consisting of enhancement, restoration or creation in a project phased approach that provides an amount of habitat and foraging function equivalent to that of impacted SFH (see *Wood Stork Foraging Habitat Assessment Procedure*[6] for guidance), is not contrary to the Service's *Habitat Management Guidelines For The Wood Stork In The Southeast Region* and in accordance with the CWA section 404(b)(1) guidelines……*NLAA*[4]

Project does not satisfy these elements.……....……...*May affect*

[1] An active nesting site is defined as a site currently supporting breeding pairs of wood storks, or has supported breeding wood storks at least once during the preceding 10-year period.

[2] Suitable foraging habitat (SFH) is described as any area containing patches of relatively open (< 25% aquatic vegetation), calm water, and having a permanent or seasonal water depth between 2 and 15 inches (5 to 38 cm). SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to, freshwater marshes and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. See above *Summary of General Wood Stork Nesting and Foraging Habitat Information*.

[3] On an individual basis, projects that impact less than 0.5 acre of SFH generally will not have a measurable effect on wood storks, although we request the Corps to require mitigation for these losses when appropriate. Wood Storks are a wide ranging species, and individually, habitat change from impacts to less than 0.5 acre of SFH is not likely to adversely affect wood storks. However, collectively they may have an effect and therefore regular monitoring and reporting of these effects are important.

[4] Upon Corps receipt of a general concurrence issued by the JAFL through the Programmatic Concurrence on this key, "NLAA" determinations for projects made pursuant to this key require no further consultation with the JAFL.

[5] The U.S. Fish and Wildlife Service (Service) has identified core foraging area (CFA) around all known wood stork nesting colonies that is important for reproductive success. In Central Florida, CFAs include suitable foraging habitat (SFH) within a 15-mile radius of the nest colony; CFAs in North Florida include SFH within a 13-mile radius of a colony. The referenced map provides locations of known colonies and their CFAs throughout Florida documented as active within the last 10 years. The Service believes loss of suitable foraging wetlands within these CFAs may reduce foraging opportunities for the wood stork.

[6]This draft document, *Wood Stork Foraging Habitat Assessment Procedure*, by Passarella and Associates, Incorporated, may serve as further guidance in ascertaining wetland foraging value to wood storks and compensating for impacts to wood stork foraging habitat.

Monitoring and Reporting Effects

For the Service to monitor cumulative effects, it is important for the Corps to monitor the number of permits and provide information to the Service regarding the number of permits issued that were determined "may affect, not likely to adversely affect." It is requested that information on date, Corps identification number, project acreage, project wetland acreage, and latitude and longitude in decimal degrees be sent to the Service quarterly.

Literature Cited

Kahl, M.P., Jr. 1964. Food ecology of the wood stork (*Mycteria americana*) in Florida. Ecological Monographs 34:97-117.

Ogden, J.C. 1991. Nesting by wood storks in natural, altered, and artificial wetlands in central and northern Florida. Colonial Waterbirds 14:39-45.

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APPENDIX G Standard Manatee Conditions for In-Water Work

Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

11201 N. McKinley Drive
Tampa, FL 33612-6456

STEPHANIE C. KOPELOUSOS
SECRETARY

February 11, 2008

Florida Natural Areas Inventory
1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303

RE: 2008 SURVEY OF STATE AND FEDERALLY ENDANGERED FLORIDA GOLDEN-ASTER AT THE INTERSTATE 275/C.R. 672 INTERCHANGE, HILLSBOROUGH COUNTY, FLORIDA: SECTION 10075, S.R. 93A

Attached is a survey taken of two sites in the Department of Transportation's Seventh District that contain the State and Federally Endangered Florida Golden-Aster (Chrysopsis Florida).

The survey was conducted on January 31, 2008 and is a part of the Department's on-going commitment to the management of such sites. Also attached is a copy of a Memorandum dated January 27, 1994 that first addressed this matter, as well as a copy of the most recent "District Seven District Vegetarian Management Plan" that further addresses this in Section I on pages 1 through 3.

If you have any questions, please call me at 1-800-226-7220, extension 27888, or e-mail me at william.moriaty@dot.state.fl.us.

Sincerely,

William D. Moriaty
District Maintenance Roadside Vegetation Coordinator

WDM/slk
Attachments
Certified Mail: 7007 2560 0001 2706 4605
cc: S. D. Nabong, P.E.
J. Beebe, P.E.
J. W. Simpson, R.L.A.
H. A. Hunt, P.E.
J. H. Caster, R.L.A. (M.S. 37)

Ref. Federally Endangered Plant Site 2-of Florida Golden-aster

FLORIDA NATURAL AREAS INVENTORY

Field Report Form for Occurrences of Rare Plants, Animals, and Natural Communities

This form should be used only for original field observations regarding a single species or community, at one location, and for (preferably) a single date. Please complete only those fields that are known to you. Use the back of the form or other sheets as necessary to report additional information, and if you have any questions or need assistance with the form, please call FNAI at 850-224-8207. Thanks for your help.

Your name: William Moriaty Phone: 800-226-7220 Ext. 27888 E-mail: william.moriaty@dot.state.fl.us

Address: Fla. Dept. of Transportation, 11201 N. McKinley Dr, Tampa, Fl 33612 Date Submitted: _____

Name(s) of observers: William Moriaty

Do you want us to protect (i.e., prevent disclosure to the general public) the identification and location information you provide below?

Yes ☐ No ☑ If so, reason for sensitivity _____

IDENTIFICATION (enter common name only if the scientific name is unknown)

Scientific name: Chrysopsis Floridana Common name: Florida Goldeo-aster

Basis for identification: Personal knowledge ☑ Reference key ☐ Field guide ☐ Museum specimen ☐ Expert ☐ Other ☐

Name of reference/guide/museum/expert: Official Lists in F.G.F.F.W.F.C. 06/01/94 Other _____

Did you take a photograph? Yes ☐ No ☑ (If possible, please attach a copy of the photo) Did you collect a specimen? Yes ☐ No ☑ If so, was a specimen deposited at a museum or herbarium? Yes ☐ No ☑ If so, collection # N/A

Do you think that your identification requires confirmation? Yes ☐ No ☑ Repository N/A

LOCATION

County: Hillsborough Site or managed area name, if known: Inner northwest infield of the I-75 (S.R. 93)/Big Bend Rd. interchange.

Precise directions to the occurrence that use a readily locatable and relatively permanent landmark on or near the site (such as a road intersection, bridge, or natural landform) as the starting point. Include distances and directions from landmarks, as appropriate. Please note – neither the directions nor the coordinate information will be provided to the general public if the data are to be considered sensitive, as indicated above.

Take Interstate 75 southbound to the off-ramp onto Big Bend Road (C.R. 672). Near the end of the ramp, slow down and pull off to the right and turn right immediately past the side ditch. Proceed west immediately south of the ditch and off-ramp approximately 200'-300' to a series of 6 flex post delineators. Plants are located adjacent to the 3 westernmost delineators.

Latitude 27.79153 N Longitude -82.35840 W Datum: NAD27 ☐ WGS84/NAD83 ☐ Unknown ☑

Source of latitude/longitude coordinates? GPS ☐ Other ☑ If other, describe Terra Server USA

If GPS: Make N/A model N/A accuracy N/A m DGPS? Yes ☐ No ☐ Unknown ☑ WAAS? Yes ☐ No ☐ Unknown ☑

If possible, mark the site on a copy of a DOQQ photograph or a USGS 7.5' topographic map and attach to this form. Otherwise, using the back side of the form, please provide a sketch of the vicinity showing the occurrence in relation to towns, roads, landforms, water bodies, and other natural features, including ecological communities. Please include also an indication of scale and a North arrow.

OBSERVATION INFORMATION

Date of observation (m/d/yyyy): 1/31/2008 Time of day 12:00 P.M. Estimate of total area observed _____ m^2 or 0.0068 acres. Percent of this area actually occupied by the population or community: 5 %. Approximate dimensions of the area occupied: length 30' width 10'

How did you collect the data? (e. g., visually observed from road, trap or capture methods, walking a path through community, formal survey, etc.)

Formal survey

Is there other suitable habitat (unobserved) in the vicinity? Yes ☑ No ☐ Don't know ☐ Extent? (e.g., acres, miles) 0.0047 acres

Have you been to this location before? Yes ☑ No ☐ If so, when? 1994-2004

Did you previously observe this species or community? Yes ☑ No ☐ Did not look for it ☐ If you have previously seen the population or community, do you think there is now more? ☐ less? ☐ about the same amount as before? ☑ or no way to compare ☐.

General description. Please provide a description or "word picture" of the area where this occurrence is located (i.e., the physical setting and ecological context), including habitat, dominant plant species, topography, hydrology, soils, adjacent communities, and surrounding land use.

The Golden-asters occur in a white sand Scrub community (G2+S2) of excessively well drained sandy soil. Topography is level. It is xeric although a ditch to the north collects and retains moisture as evidenced by growth of Tickseed and Meadow Beauty. The uncleared portion immediately south consists of mature Sand live Oak and Saw Palmetto.

For animals: Number of individuals (or nests, burrows, etc.) seen: _____ Age structure _____

Estimated total no. of individuals in population: _____ Basis? _____

Ecological & behavioral notes (e.g. reproductive stage, activity type [feeding, flying, nesting, etc.]): _____

For plants: Number of individuals (or clumps, etc.) seen within the observed area: Twenty-one (21)

Flowering? Yes☐ No☑ Fruiting? Yes☐ No☑ In bud? Yes☐ No☑ In leaf? Yes☑ No☐ Dormant? Yes☑ No☐

For communities: For each of three strata (tree, shrub, and ground layers), please list the dominant species comprising the stratum, together with an estimate of the height and percent cover for each stratum. (use the back of this form or another sheet, if necessary, to list additional species)

Stratum	height	% cover	Species
Tree	30'	65	Sand Live Oak
Shrub	6'	70	Saw Palmetto, Dwarf Blueberry
Ground	3'	25	Narrowleaf Silkgrass, Gopher Apple, Prickelypear

Describe species dominance relationships, vegetation heterogeneity, succession stage/dynamics, and any other unique aspects of the community or additional noteworthy species (including animals).

Dominant species immediately south of the target area is dominated by Sand live Oak and Saw Palmetto. Dominant species within the target area is Narrowleaf Silkgrass.

MANAGEMENT

Owner of site (if known): State of Florida, Department of Transportation

Is the owner or manager protecting or managing the property for this species or community? Yes☑ No☐ Don't know☐

Are there disturbances or threats (e. g., urban development, agriculture, vehicle use, forestry, logging, fire suppression, ditching/draining, impoundment, exotic species, and natural disturbance) in the vicinity of the site? Yes☑ No☐ Don't know☐

If so, please describe type and severity: There is Cogongrass approximately 100'-150' to the east although it does not appear to have spread over the years. Additional Threats include encroachment from Sand Live Oaks and Saw Palmettos. Urban development proposed west of the site may have a detrimental effect.

Is there evidence (e.g., fire breaks, scorching) of the use of fire at the site? Yes☐ No☑ Don't know☐ Describe and give dates of recent fires, if known _____

Comments on management history or needs: The first attempt at management was addressed in a Department Memorandum by this observer dated 01/27/94. It was then made a District Maintenance policy in the 1999 "District Seven Vegetation Management Plan" and has been addressed as such each year thereafter. Copies of the OTHER Memorandum and current Management Plan are attached.

Additional comments concerning the population or community, its ecological conditions, contact information for other knowledgeable people, etc.:

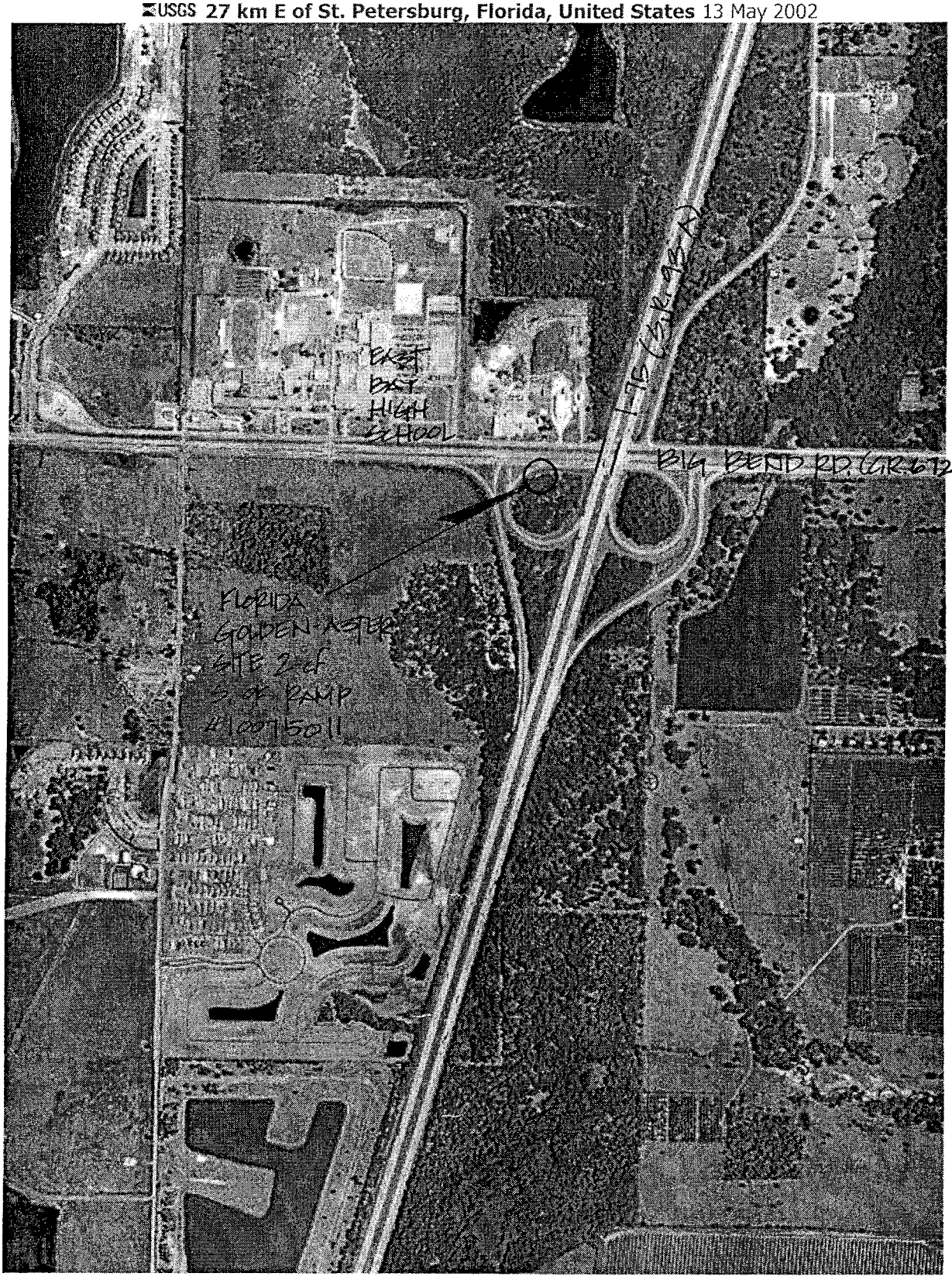
Population has varied between 15 and 24 over the years. Upon each monitoring by the observer since 1994 it has usually resulted in minimal clearing and trimming of competing vegetation by said observer in order to control competitive foliage from eliminating the target species. Also, this site was referred to as Site #3 in the Memorandum and is now Site 2 ref.

Please send this completed this form to:

Florida Natural Areas Inventory, 1018 Thomasville Rd., Suite 200-C, Tallahassee, FL 32303. THANK YOU!

DATE: 01/31/08 ; MAP Pg. 1 of 2.

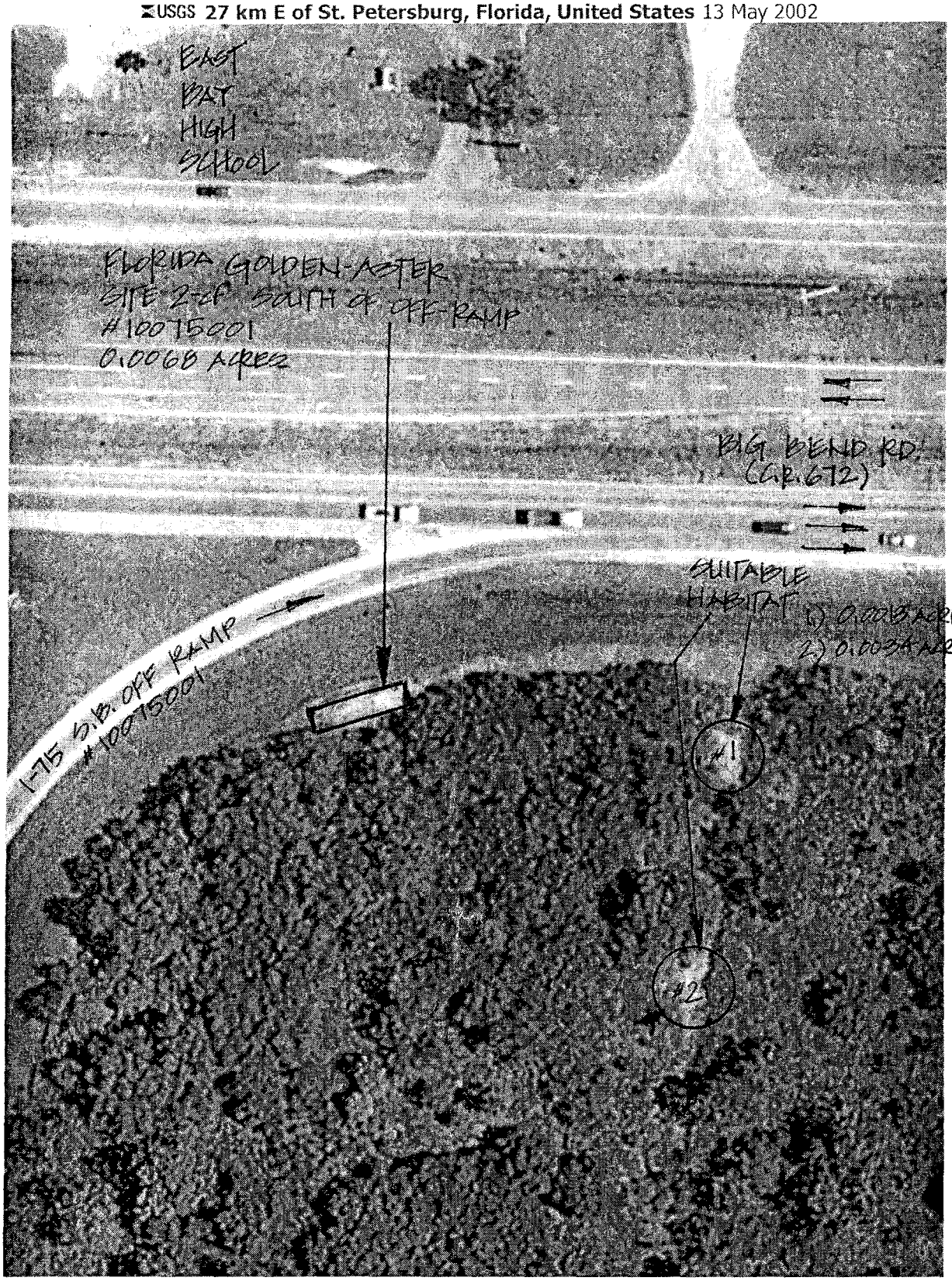
USGS **27 km E of St. Petersburg, Florida, United States** 13 May 2002



FLORIDA GOLDEN-ASTER SITE 2 of 3, HILLSBOROUGH COUNTY, FLORIDA

DATE: 6/26/08 ; MAP PG. 2 OF 2

USGS **27 km E of St. Petersburg, Florida, United States** 13 May 2002



FLORIDA GOLDEN-ASTER SITE 2 of 2 HILLSBOROUGH COUNTY, FLORIDA

Ref. Federally Endangered Plant Site 1-of Florida Golden-aster

FLORIDA NATURAL AREAS INVENTORY

Field Report Form for Occurrences of Rare Plants, Animals, and Natural Communities

This form should be used only for original field observations regarding a single species or community, at one location, and for (preferably) a single date. Please complete only those fields that are known to you. Use the back of the form or other sheets as necessary to report additional information, and if you have any questions or need assistance with the form, please call FNAI at 850-224-8207. Thanks for your help.

Your name: William Moriaty Phone: 800-226-7220 Ext. 27088 E-mail: William.moriaty@dot.state.fl.us

Address: Fl. Dept. of Transportation, 11201 N. McKinley Dr., Tampa, Fl. 33612 Date Submitted: 02/05/08

Name(s) of observers: William Moriaty

Do you want us to protect (i.e., prevent disclosure to the general public) the identification and location information you provide below?

Yes ☐ No ☑ If so, reason for sensitivity _____

IDENTIFICATION (enter common name only if the scientific name is unknown)

Scientific name: Chrysopsis Floridana Common name: Florida Golden-aster

Basis for identification: Personal knowledge ☑ Reference key ☐ Field guide ☐ Museum specimen ☐ Expert ☐ Other ☐

Name of reference/guide/museum/expert: Official Lists... F.G.+F.W.F.C. Other _____

Did you take a photograph? Yes ☐ No ☑ (If possible, please attach a copy of the photo) Did you collect a specimen? Yes ☐ No ☑ If so, was a specimen deposited at a museum or herbarium? Yes ☐ No ☑ If so, collection # N/A

Do you think that your identification requires confirmation? Yes ☐ No ☑ Repository N/A

LOCATION

County: Hillsborough Site or managed area name, if known: Southern portion of roadside west of the I-75 s.b. on-ramp from Big Bend Rd.

Precise directions to the occurrence that use a readily locatable and relatively permanent landmark on or near the site (such as a road intersection, bridge, or natural landform) as the starting point. Include distances and directions from landmarks, as appropriate. Please note – neither the directions nor the coordinate information will be provided to the general public if the data are to be considered sensitive, as indicated above.

Take Big Bend Rd. (C.R. 672) eastbound or westbound to the intersection at the southbound I-75 on-ramp. Take the I-75 on-ramp and look for a series of metal dilineators with white reflective tops west of the ramp north of the merge onto Interstate 75.

Latitude 27.78791 N Longitude -82.35937 W Datum: NAD27 ☐ WGS84/NAD83 ☐ Unknown ☑

Source of latitude/longitude coordinates? GPS ☐ Other ☐ If other, describe Terra Server USA

If GPS: Make N/A model N/A accuracy N/A m DGPS? Yes ☐ No ☐ Unknown ☑ WAAS? Yes ☐ No ☐ Unknown ☑

If possible, mark the site on a copy of a DOQQ photograph or a USGS 7.5' topographic map and attach to this form. Otherwise, using the back side of the form, please provide a sketch of the vicinity showing the occurrence in relation to towns, roads, landforms, water bodies, and other natural features, including ecological communities. Please include also an indication of scale and a North arrow.

OBSERVATION INFORMATION

Date of observation (m/d/yyyy): 1/31/2008 Time of day 1:00 PM. Estimate of total area observed _____ m^2 or 0.0860 acres. Percent of this area actually occupied by the population or community: 10 %. Approximate dimensions of the area occupied: length 250' width 15'

How did you collect the data? (e. g., visually observed from road, trap or capture methods, walking a path through community, formal survey, etc.)

Formal survey

Is there other suitable habitat (unobserved) in the vicinity? Yes ☑ No ☐ Don't know ☐ Extent? (e.g., acres, miles) * 1 acre

Have you been to this location before? Yes ☑ No ☐ If so, when? 1994 - 2004

* Note: Area is immediately west on private property slated for development.

Did you previously observe this species or community? Yes ☑ No ☐ Did not look for it ☐ If you have previously seen the population or community, do you think there is now more? ☐ less? ☑ about the same amount as before? ☐ or no way to compare ☐.

General description. Please provide a description or "word picture" of the area where this occurrence is located (i.e., the physical setting and ecological context), including habitat, dominant plant species, topography, hydrology, soils, adjacent communities, and surrounding land use.

The Golden-asters occur in a white sand Scrub community (G2+S2) of excessively well drained soil. Topography is level. It is xeric, although a ditch to the east collects and retains moisture. The undisturbed portion to the west consists of mature Sand Live Oak, Myrtle Oak, Chapman Oak and Saw Palmetto.

For animals: Number of individuals (or nests, burrows, etc.) seen: _____ Age structure _____

Estimated total no. of individuals in population: _____ Basis? _____

Ecological & behavioral notes (e.g. reproductive stage, activity type [feeding, flying, nesting, etc.]): _____

For plants: Number of individuals (or clumps, etc.) seen within the observed area: Seventy-nine (79)

Flowering? Yes☑ No☐ Fruiting? Yes☑ No☐ In bud? Yes☐ No☑ In leaf? Yes☑ No☐ Dormant? Yes☑ No☐

For communities: For each of three strata (tree, shrub, and ground layers), please list the dominant species comprising the stratum, together with an estimate of the height and percent cover for each stratum. (use the back of this form or another sheet, if necessary, to list additional species)

Stratum	height	% cover	Species
Tree	30'	75	Sand Live Oak, Myrtle Oak, Chapman Oak
Shrub	6'	60	Saw Palmetto
Ground	3'	20	Narrowleaf Silkgrass, Florida Pennyroyal, Wiregrass, Gopher Apple

Describe species dominance relationships, vegetation heterogeneity, succession stage/dynamics, and any other unique aspects of the community or additional noteworthy species (including animals).

Dominant species west of the target area is dominated by Sand Live, Myrtle and Chapman Oaks. Species within the target area is a mix of Narrowleaf Silkgrass, Florida Pennyroyal, Gopher Apple and Wiregrass.

MANAGEMENT

Owner of site (if known): State of Florida, Department of Transportation

Is the owner or manager protecting or managing the property for this species or community? Yes☑ No☐ Don't know☐

Are there disturbances or threats (e. g., urban development, agriculture, vehicle use, forestry, logging, fire suppression, ditching/draining, impoundment, exotic species, and natural disturbance) in the vicinity of the site? Yes☑ No☐ Don't know☐

If so, please describe type and severity: The largest threat has been the expansion and growth of Oaks and Palmetto to the west, resulting in the retreat of populations within the 10' maintenance easement east of the limited access chain link fence. Urban development is proposed immediately west of this site and may have an adverse effect

Is there evidence (e.g., fire breaks, scorching) of the use of fire at the site? Yes☐ No☑ Don't know☐ Describe and give dates of recent fires, if known _____

Comments on management history or needs: The first attempt at management was addressed in a Department Memorandum by this observer dated 01/27/94. It was then made a District Maintenance policy in the 1999 "District Seven Vegetation Management Plan", and has been addressed as such each year thereafter. Copies of the

OTHER Memorandum and current Management Plan are attached.

Additional comments concerning the population or community, its ecological conditions, contact information for other knowledgeable people, etc.:

As stated above, the population has dropped dramatically between the fence line and canopy (Qty. 170 in 1994, Qty 3 in 2008), but has been steady in the eastern portion west of the ditch (Qty. 15 in 1994, Qty. 76 in 2008). This is attributed to expansion of the existing canopy into the easement to the west, and frequent control of competing vegetation west of the ditch through mowing. Sites 1 and 2 in the Memorandum were combined with the first "District Seven Vegetation Management Plan" in 1999 and renamed Site 1-of.

Please send this completed this form to:

Florida Natural Areas Inventory, 1018 Thomasville Rd., Suite 200-C, Tallahassee, FL 32303. THANK YOU!

DATE: 01/21/08 : Map Pg. 1 of 2

Send To Printer Back To TerraServer Change to 11x17 Print Size Show Grid Lines Change to Landscape

USGS **27 km E of St. Petersburg, Florida, United States** 13 May 2002

Image courtesy of the U.S. Geological Survey

FLORIDA GOLDEN AGER SITE 1 of 2, HILLSBOROUGH COUNTY, FLORIDA

DATE: 9.21.08 : MAP PG. 2 OF 2

Send To Printer Back To TerraServer Change to 11x17 Print Size Show Grid Lines Change to Landscape

USGS **27 km E of St. Petersburg, Florida, United States** 13 May 2002

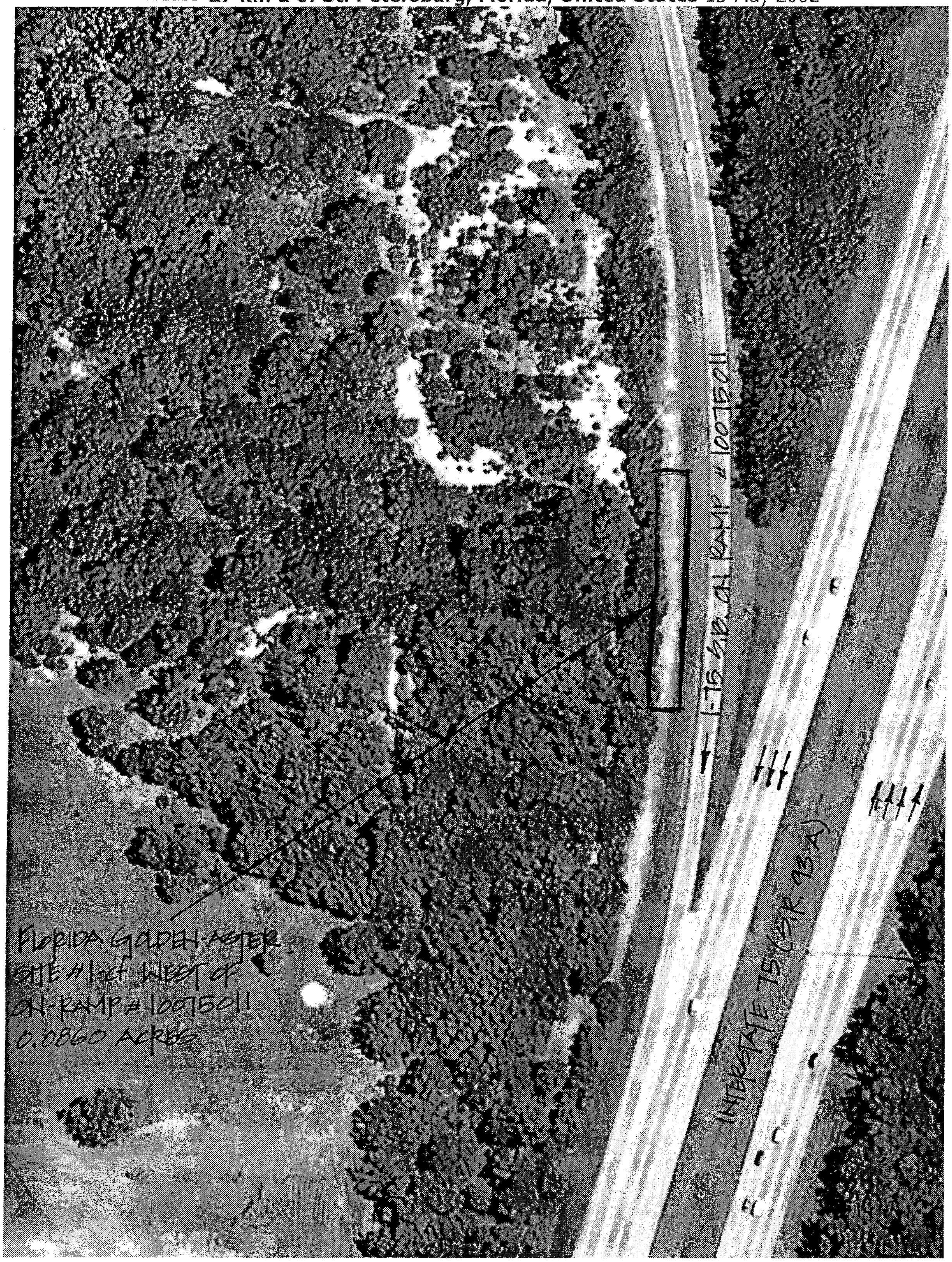


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Image courtesy of the U.S. Geological Survey

FLORIDA GOLDEN-ASTER SITE 1-cf HILLSBOROUGH COUNTY FLORIDA

APPENDIX H Effect Determination Key for the Manatee in Florida

THE CORPS OF ENGINEERS, JACKSONVILLE DISTRICT, AND THE STATE OF FLORIDA EFFECT DETERMINATION KEY FOR THE MANATEE IN FLORIDA
April 2013

Purpose and background of the key

The purpose of this document is to provide guidance to improve the review of permit applications by U.S. Army Corps of Engineers' (Corps) Project Managers in the Regulatory Division regarding the potential effects of proposed projects on the endangered West Indian manatee (*Trichechus manatus*) in Florida, and by the Florida Department of Environmental Protection or its authorized designee or Water Management District, for evaluating projects under the State Programmatic General Permit (SPGP) or any other Programmatic General Permits that the Corps may issue for administration by the above agencies. Such guidance is contained in the following dichotomous key. The key applies to permit applications for in-water activities such as, but not limited to: (1) dredging [new or maintenance dredging of not more than 50,000 cubic yards], placement of fill material for shoreline stabilization, and construction/placement of other in-water structures as well as (2) construction of docks, marinas, boat ramps and associated trailer parking spaces, boat slips, dry storage or any other watercraft access structures or facilities.

At a certain step in the key, the user is referred to graphics depicting important manatee areas or areas with inadequate protection. The maps can be downloaded from the Corps' web page at http://www.saj.usace.army.mil/Missions/Regulatory/SourceBook.aspx. We intend to utilize the most recent depiction of these areas, so should these areas be modified by statute, rule, ordinance and/or other legal mandate or authorization, we will modify the graphical depictions accordingly. These areas may be shaded or otherwise differentiated for identification on the maps.

Explanatory footnotes are provided in the key and must be closely followed whenever encountered.

Scope of the key

This key should only be used in the review of permit applications for effect determinations on manatees and should not be used for other listed species or for other aquatic resources such as Essential Fish Habitat (EFH). Corps Project Managers should ensure that consideration of the project's effects on any other listed species and/or on EFH is performed independently. This key may be used to evaluate applications for all types of State of Florida (State Programmatic General Permits, noticed general permits, standard general permits, submerged lands leases, conceptual and individual permits) and Department of the Army (standard permits, letters of permission, nationwide permits, and regional general permits) permits and authorizations. The final effect determination will be based on the project location and description; the potential effects to manatees, manatee habitat, and/or manatee critical habitat; and any measures (such as project components, standard construction precautions, or special conditions included in the authorization) to avoid or minimize effects to manatees or manatee critical habitat. Projects that key to a "may affect" determination equate to "likely to adversely affect" situations, and those projects should not be processed under the SPGP or any other programmatic general permit. For

all “may affect” determinations, Corps Project Managers shall refer to the Manatee Programmatic Biological Opinion, dated March 21, 2011, for guidance on eliminating or minimizing potential adverse effects resulting from the proposed project. If unable to resolve the adverse effects, the Corps may refer the applicant to the U.S. Fish and Wildlife Service (Service) for further assistance in attempting to revise the proposed project to a “may affect, not likely to adversely affect” level. The Service will coordinate with the Florida Fish and Wildlife Conservation Commission (FWC) and the counties, as appropriate. Projects that provide new access for watercraft and key to “may affect, not likely to adversely affect” may or may not need to be reviewed individually by the Service.

MANATEE KEY
Florida[1]
April 2013

The key is not designed to be used by the Corps' Regulatory Division for making their effect determinations for dredging projects greater than 50,000 cubic yards, the Corps' Planning Division in making their effect determinations for civil works projects or by the Corps' Regulatory Division for making their effect determinations for projects of the same relative scope as civil works projects. These types of activities must be evaluated by the Corps independently of the key.

A. Project is not located in waters accessible to manatees and does not directly or indirectly affect manatees (see Glossary).....*No effect*

Project is located in waters accessible to manatees **or** directly or indirectly affects manatees ..... B

B. Project consists of one or more of the following activities, all of which are *May affect*:

1. blasting or other detonation activity for channel deepening and/or widening, geotechnical surveys or exploration, bridge removal, movies, military shows, special events, etc.;

2. installation of structures which could restrict or act as a barrier to manatees;

3. new or changes to existing warm or fresh water discharges from industrial sites, power plants, or natural springs or artesian wells (but only if the new or proposed change in discharge requires a Corps permit to accomplish the work);

4. installation of new culverts and/or maintenance or modification of existing culverts (where the culverts are 8 inches to 8 feet in diameter, ungrated and in waters accessible, or potentially accessible, to manatees)[2];

5. mechanical dredging from a floating platform, barge or structure[3] that restricts manatee access to less than half the width of the waterway;

6. creation of new slips or change in use of existing slips, even those located in a county with a State-approved Manatee Protection Plan (MPP) in place and the number of slips is less than the MPP threshold, to accommodate docking for repeat use vessels, (*e.g.*, water taxis, tour boats, gambling boats, etc; or slips or structures that are not civil works projects, but are frequently used to moor large vessels (>100') for shipping and/or freight purposes; does not include slips used for docking at boat sales or repair facilities or loading/unloading at dry stack storage facilities and boat ramps); [Note: For projects within Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County, the reviewer should proceed to Couplet C.]

7. any type of in-water activity in a Warm Water Aggregation Area (WWAA) or No Entry Area (see Glossary and accompanying Maps[4]); [Note: For residential docking facilities in a Warm Water Aggregation Area that is not a Federal manatee sanctuary or No Entry Area, the reviewer should proceed to couplet C.]

8. creation or expansion of canals, basins or other artificial shoreline and/or the connection of such features to navigable waters of the U.S.; [Note: For projects proposing a single residential dock, the reviewer should proceed to couplet C; otherwise, project is a *May Affect*.]

9. installation of temporary structures (docks, buoys, etc.) utilized for special events such as boat races, boat shows, military shows, etc., but only when consultation with the U.S. Coast Guard and FWS has not occurred; [Note: See programmatic consultation with the U.S. Coast Guard on manatees dated May 10, 2010.].

Project is other than the activities listed above C

C. Project is located in an Important Manatee Area (IMA) (see Glossary and accompanying Maps[4]) ..... D

Project is not located in an Important Manatee Area (IMA) (see Glossary and accompanying Maps[4]) ..... G

D. Project includes dredging of less than 50,000 cubic yards ..... E

Project does not include dredging ..... G

E. Project is for dredging a residential dock facility or is a land-based dredging operation ..... N

Project not as above ..... F

F. Project proponent **does not elect** to follow all dredging protocols described on the maps for the respective IMA in which the project is proposed ..... *May affect*

Project proponent **elects** to follow all dredging protocols described on the maps for the respective IMA in which the project is proposed ..... G

G. Project provides new[5] access for watercraft, *e.g.*, docks or piers, marinas, boat ramps and associated trailer parking spaces, new dredging, boat lifts, pilings, floats, floating docks, floating vessel platforms, boat slips, dry storage, mooring buoys, or other watercraft access (residential boat lifts, pilings, floating docks, and floating vessel platforms installed in existing slips are not considered new access) or improvements allowing increased watercraft usage ..... H

Project does not provide new[5] access for watercraft, *e.g.*, bulkheads, seawalls, riprap, maintenance dredging, boardwalks and/or the maintenance (repair or rehabilitation) of currently serviceable watercraft access structures provided all of the following are met: (1) the number of slips is not increased; (2) the number of existing slips is not in question; and (3) the improvements do not allow increased watercraft usage ..... N

H. Project is located in the Braden River Area of Inadequate Protection (Manatee County) (see Glossary and accompanying AIP Map[4]) ..... *May affect*

Project is not located in the Braden River Area of Inadequate Protection (Manatee County) (see Glossary and accompanying AIP Map[4]) I

I. Project is for a multi-slip facility (see Glossary) ..... J

Project is for a residential dock facility or is for dredging (see Glossary) ..... N

J. Project is located in a county that currently has a State-approved MPP in place (BREVARD, BROWARD, CITRUS, CLAY, COLLIER, DUVAL, INDIAN RIVER, LEE, MARTIN, MIAMI-DADE, PALM BEACH, ST. LUCIE, SARASOTA, VOLUSIA) or shares contiguous waters with a county having a State-approved MPP in place (LAKE, MARION, SEMINOLE)[6] ..... K

Project is located in a county not required to have a State-approved MPP L

K. Project has been developed or modified to be consistent with the county's State-approved MPP **and** has been verified by a FWC review (or FWS review if project is exempt from State permitting) **or** the number of slips is below the MPP threshold ..... N

Project has not been reviewed by the FWC or FWS **or** has been reviewed by the FWC or FWS **and** determined that the project is not consistent with the county's State-approved MPP ..... *May affect*

L. Project is located in one of the following counties: CHARLOTTE, DESOTO[7], FLAGLER, GLADES, HENDRY, HILLSBOROUGH, LEVY, MANATEE, MONROE[7], PASCO[7], PINELLAS ..... M

Project is located in one of the following counties: BAY, DIXIE, ESCAMBIA, FRANKLIN, GILCHRIST, GULF, HERNANDO, JEFFERSON, LAFAYETTE, MONROE (south of Craig Key), NASSAU, OKALOOSA, OKEECHOBEE, PUTNAM, SANTA ROSA, ST. JOHNS, SUWANNEE, TAYLOR, WAKULLA, WALTON ..... N

M. The number of slips does not exceed the residential dock density threshold (see Glossary) ..... N

The number of slips exceeds the residential dock density threshold (see Glossary) ..... *May affect*

N. Project impacts to submerged aquatic vegetation[8], emergent vegetation or mangrove will have beneficial, insignificant, discountable[9] or no effects on the manatee[10] ..... O

Project impacts to submerged aquatic vegetation[8], emergent vegetation or mangrove may adversely affect the manatee[10] ..... *May affect*

O. Project proponent **elects** to follow standard manatee conditions for in-water work[11] and requirements, as appropriate for the proposed activity, prescribed on the maps[4] ..... P

Project proponent **does not elect** to follow standard manatee conditions for in-water work[11] and appropriate requirements prescribed on the maps[4] ..... *May affect*

P. If project is for a new or expanding[5] multi-slip facility and is located in a county with a State-approved MPP in place **or** in Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Putnam, St. Johns, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary.

If project is for a new or expanding[5] multi-slip facility and is located in Charlotte, Desoto, Flagler, Glades, Hendry, Hillsborough, Levy, Manatee, Monroe (north of Craig Key), Pasco, or Pinellas County, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations.

If project is for repair or rehabilitation of a multi-slip facility and is located in an Important Manatee Area, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations. If project is for repair or rehabilitation of a multi-slip facility and: (1) is not located in an Important Manatee Area; (2) the number of slips is not increased; (3) the number of existing slips is not in question; and (4) the improvements to the existing watercraft access structures do not allow increased watercraft usage, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary.

If project is a residential dock facility, shoreline stabilization, or dredging, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary. Note: For residential dock facilities located in a Warm Water Aggregation Area or in a No Entry area, seasonal restrictions may apply. See footnote 4 below for maps showing restrictions.

If project is other than repair or rehabilitation of a multi-slip facility, a new[5] multi-slip facility, residential dock facility, shoreline stabilization, or dredging, and does not provide new[5] access for watercraft or

improve an existing access to allow increased watercraft usage, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary.

[1] On the St. Mary's River, this key is only applicable to those areas that are within the geographical limits of the State of Florida.

[2] All culverts 8 inches to 8 feet in diameter must be grated to prevent manatee entrapment. To effectively prevent manatee access, grates must be permanently fixed, spaced a maximum of 8 inches apart (may be less for culverts smaller than 16 inches in diameter) and may be installed diagonally, horizontally or vertically. For new culverts, grates must be attached prior to installation of the culverts. Culverts less than 8 inches or greater than 8 feet in diameter are exempt from this requirement. If new culverts and/or the maintenance or modification of existing culverts are grated as described above, the determination of "*May affect, not likely to adversely affect*" is appropriate[11] and no further consultation with the Service is necessary.

[3] If the project proponent agrees to follow the standard manatee conditions for in-water work as well as any special conditions appropriate for the proposed activity, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations. These special conditions may include, but are not limited to, the use of dedicated observers (see Glossary for definition of dedicated observers), dredging during specific months (warm weather months vs cold weather months), dredging during daylight hours only, adjusting the number of dredging days, does not preclude or discourage manatee egress/ingress with turbidity curtains or other barriers that span the width of the waterway, etc.

[4] Areas of Inadequate Protection (AIPs), Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) and No Entry Areas are identified on these maps and defined in the Glossary for the purposes of this key. These maps can be viewed on the Corps' web page. If projects are located in a No Entry Area, special permits may be required from FWC in order to access these areas (please refer to Chapter 68C-22 F.A.C. for boundaries; maps are also available at FWC's web page).

[5] New access for watercraft is the addition or improvement of structures such as, but not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, pilings, floats, floating docks, floating vessel platforms, (maintenance dredging, residential boat lifts, pilings, floating docks, and floating vessel platforms installed in existing slips are not considered new access), boat slips, dry storage, mooring buoys, new dredging, etc., that facilitates the addition of watercraft to, and/or increases watercraft usage in, waters accessible to manatees. The repair or rehabilitation of any type of currently serviceable watercraft access structure is not considered new access provided all of the following are met: (1) the number of slips is not increased; (2) the number of existing slips is not in question; and (3) the improvements to the existing watercraft access structures do not result in increased watercraft usage.

[6] Projects proposed within the St. Johns River portion of Lake, Marion, and Seminole counties and contiguous with Volusia County shall be evaluated using the Volusia County MPP.

[7] For projects proposed within the following areas: the Peace River in DeSoto County; all areas north of Craig Key in Monroe County, and the Anclote and Pithlachascotee Rivers in Pasco County, proceed to Couplet M. For all other locations in DeSoto, Monroe (south of Craig Key) and Pasco Counties, proceed to couplet N.

[8] Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would not adversely affect the manatee or its critical habitat, proceed to couplet O.

Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would adversely affect the manatee or its critical habitat, the applicant can elect to avoid/minimize impacts to that vegetation. In that instance, where impacts are unavoidable and the applicant elects to abide by or employ construction techniques that exceed the criteria in the following documents, the reviewer should conclude that the impacts to SAV, marsh or mangroves would not adversely affect the manatee or its critical habitat and proceed to couplet O.

- "Construction Guidelines in Florida for Minor Piling-Supported Structures Constructed in or over Submerged Aquatic Vegetation (SAV), Marsh or Mangrove Habitat," prepared jointly by the U.S. Army Corps of Engineers and the National Marine Fisheries Service (August 2001) [refer to the Corps' web page], and

- "Key for Construction Conditions for Docks or Other Minor Structures Constructed in or over Johnson's seagrass (*Halophila johnsonii*)," prepared jointly by the National Marine Fisheries Service and U.S. Army Corps of Engineers (October 2002), for those projects within the known range of Johnson's seagrass occurrence (Sebastian Inlet to central Biscayne Bay in the lagoon systems on the east coast of Florida) [refer to the Corps' web page],

Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would adversely affect the manatee or its critical habitat, and the applicant does not elect to follow the above Guidelines, the Corps will need to request formal consultation on the manatee with the Service as *May affect*.

For activities other than docks and other piling-supported minor structures proposed in SAV, marsh, or mangroves (*e.g.*, new dredging, placement of riprap, bulkheads, etc.), if the reviewer determines the impacts to the SAV, marsh or mangroves will not adversely affect the manatee or its critical habitat, proceed to couplet O, otherwise the Corps will need to request formal consultation on the manatee with the Service as *May affect*.

[9] See Glossary, under "is not likely to adversely affect."

[10] Federal reviewers, when making your effects determination, consider effects to manatee designated critical habitat pursuant to section 7(a)(2) of the Endangered Species Act. State reviewers, when making your effects determination, consider effects to manatee habitat within the entire State of Florida, pursuant to Chapter 370.12(2)(b) Florida Statutes.

[11] See the Corps' web page for manatee construction conditions. At this time, manatee construction precautions c and f are not required in the following Florida counties: Bay, Escambia, Franklin, Gilchrist, Gulf, Jefferson, Lafayette, Okaloosa, Santa Rosa, Suwannee, and Walton.

[12] By letter dated April 25, 2013, the Corps received the Service's concurrence with "*May affect, not likely to adversely affect*" determinations made pursuant to this key for the following activities: (1) selected non-watercraft access projects; (2) watercraft-access projects that are residential dock facilities, excluding those located in the Braden River AIP; (3) launching facilities solely for kayaks and canoes, and (4) new or expanding multi-slip facilities located in Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County.

Additionally, in the same letter dated April 25, 2013, the Corps received the Service's concurrence for "*May affect, not likely to adversely affect*" determinations specifically made pursuant to Couplet G of the key for the repair or rehabilitation of currently serviceable multi-slip watercraft access structures provided all of the following are met: (1) the project is not located in an IMA, (2) the number of slips is not increased; (3) the number of existing slips is not in question; and (4) the improvements to the existing watercraft access structures do not allow increased watercraft usage. Upon receipt of such a programmatic concurrence, no further consultation with the Service for these projects is required.

GLOSSARY

Areas of inadequate protection (AIP) – Areas within counties as shown on the maps where the Service has determined that measures intended to protect manatees from the reasonable certainty of watercraft-related take are inadequate. Inadequate protection may be the result of the absence of manatee or other watercraft speed zones, insufficiency of existing speed zones, deficient speed zone signage, or the absence or insufficiency of speed zone enforcement.

Boat slip – A space on land or in or over the water, other than on residential land, that is intended and/or actively used to hold a stationary watercraft or its trailer, and for which intention and/or use is confirmed by legal authorization or other documentary evidence. Examples of boat slips include, but are not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, floats, floating docks, pilings, boat davits, dry storage, etc.

Critical habitat – For listed species, this consists of: (1) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act (ESA), on which are found those physical or biological features (constituent elements) (a) essential to the conservation of the species and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the ESA, upon a determination by the Secretary that such areas are essential for the conservation of the species. Designated critical habitats are described in 50 CFR 17 and 50 CFR 226.

Currently serviceable – Currently, serviceable means usable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects – The direct or immediate effects of the project on the species or its habitat.

Dredging – For the purposes of this key, the term dredging refers to all in-water work associated with dredging operations, including mobilization and demobilization activities that occur in water or require vessels.

Emergent vegetation – Rooted emergent vascular macrophytes such as, but not limited to, cordgrass (*Spartina alterniflora and S. patens*), needle rush (J*uncus roemerianus*), swamp sawgrass (*Cladium mariscoides*), saltwort (*Batis maritima*), saltgrass (*Distichlis spicata*), and glasswort (*Salicornia virginica*) found in coastal salt marsh-related habitats (tidal marsh, salt marsh, brackish marsh, coastal marsh, coastal wetlands, tidal wetlands).

Formal consultation – A process between the Services and a Federal agency or applicant that: (1) determines whether a proposed Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat; (2) begins with a Federal agency's written request and submittal of a complete initiation package; and (3) concludes with the issuance of a biological opinion and incidental take statement by either of the Services. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed

action “is not likely to adversely affect” listed species or designated critical habitat). [50 CFR 402.02, 50 CFR 402.14]

Important manatee areas (IMA) – Areas within certain counties where increased densities of manatees occur due to the proximity of warm water discharges, freshwater discharges, natural springs and other habitat features that are attractive to manatees. These areas are heavily utilized for feeding, transiting, mating, calving, nursing or resting as indicated by aerial survey data, mortality data and telemetry data. Some of these areas may be federally-designated sanctuaries or state-designated “seasonal no entry” zones. Maps depicting important manatee areas and any accompanying text may contain a reference to these areas and their special requirements. Projects proposed within these areas must address their special requirements.

Indirect effects – Those effects that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur. Examples of indirect effects include, but are not limited to, changes in water flow, water temperature, water quality (*e.g.*, salinity, pH, turbidity, nutrients, chemistry), prop dredging of seagrasses, and manatee watercraft injury and mortality. Indirect effects also include watercraft access developments in waters not currently accessible to manatees, but watercraft access can, is, or may be planned to waters accessible to manatees by the addition of a boat lift or the removal of a dike or plug.

Informal consultation – A process that includes all discussions and correspondence between the Services and a Federal agency or designated non-Federal representative, prior to formal consultation, to determine whether a proposed Federal action may affect listed species or critical habitat. This process allows the Federal agency to utilize the Services’ expertise to evaluate the agency’s assessment of potential effects or to suggest possible modifications to the proposed action which could avoid potentially adverse effects. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed action “is not likely to adversely affect” listed species or designated critical habitat). [50 CFR 402.02, 50 CFR 402.13]

In-water activity – Any type of activity used to construct/repair/replace any type of in-water structure or fill; the act of dredging.

In-water structures – watercraft access structures – Docks or piers, marinas, boat ramps, boat slips, boat lifts, floats, floating docks, pilings (depending on use), boat davits, etc.

In-water structures – other than watercraft access structures – Bulkheads, seawalls, riprap, groins, boardwalks, pilings (depending on use), etc.

Is likely to adversely affect – The appropriate finding in a biological assessment (or conclusion during informal consultation) if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions and the effect is not: discountable, insignificant, or beneficial (see definition of “is not likely to adversely affect”). An “is likely to adversely affect” determination requires the initiation of formal consultation under section 7 of the ESA.

Is not likely to adversely affect – The appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial. **Discountable effects** are those extremely unlikely to occur. **Insignificant effects** relate to the size of the impact and should never reach the scale where take occurs. **Beneficial effects** are contemporaneous positive effects without any adverse effects to the species. Based on best judgment, a person would not (1) be able to meaningfully measure, detect, or evaluate insignificant effects or (2) expect discountable effects to occur.

Manatee Protection Plan (MPP) – A manatee protection plan (MPP) is a comprehensive planning document that addresses the long-term protection of the Florida manatee through law enforcement, education, boat facility siting, and habitat protection initiatives. Although MPPs are primarily developed by the counties, the plans are the product of extensive coordination and cooperation between the local governments, the FWC, the Service, and other interested parties.

Manatee Protection Plan thresholds – The smallest size of a multi-slip facility addressed under the purview of a Manatee Protection Plan (MPP). For most MPPs, this threshold is five slips or more. For Brevard, Clay, Citrus, and Volusia County MPPs, this threshold is three slips or more.

Mangroves – Rooted emergent trees along a shoreline that, for the purposes of this key, include red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*) and white mangrove (*Laguncularia racemosa*).

May affect – The appropriate conclusion when a proposed action may pose <u>any</u> effects on listed species or designated critical habitat. When the Federal agency proposing the action determines that a "may affect" situation exists, then they must either request the Services to initiate formal consultation or seek written concurrence from the Services that the action "is not likely to adversely affect" listed species. For the purpose of this key, all "may affect" determinations equate to "likely to adversely affect" and Corps Project Managers should request the Service to initiate formal consultation on the manatee or designated critical habitat. **No effect** – the appropriate conclusion when the action agency determines its proposed action will not affect a listed species or designated critical habitat.

Multi-slip facility – Multi-slip facilities include commercial marinas, private multi-family docks, boat ramps and associated trailer parking spaces, dry storage facilities and any other similar structures or activities that provide access to the water for multiple (five slips or more, except in Brevard, Clay, Citrus, and Volusia counties where it is three slips or more) watercraft. In some instances, the Corps and the Service may elect to review multiple residential dock facilities as a multi-slip facility.

New access for watercraft – New dredging and the addition, expansion or improvement of structures such as, but not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, pilings, floats, floating docks, floating vessel platforms, (residential boat lifts, pilings, floats, and floating vessel platforms installed in existing slips are not considered new access), boat slips, dry storage, mooring buoys, etc., that facilitates the addition of watercraft to, and/or increases watercraft usage in, waters accessible to manatees.

Observers – During dredging and other in-water operations within manatee accessible waters, the standard manatee construction conditions require all on-site project personnel to watch for manatees to ensure that those standard manatee construction conditions are met. Within important manatee areas (IMA) and under special circumstances, heightened observation is needed. **Dedicated Observers** are those having some prior experience in manatee observation, are dedicated only for this task, and must be someone other than the dredge and equipment operators/mechanics. **Approved Observers** are dedicated observers who also must be approved by the Service (if Federal permits are involved) and the FWC (if state permits are involved), prior to work commencement. Approved observers typically have significant and often project-specific observational experience. Documentation on prior experience must be submitted to these agencies for approval and must be submitted a minimum of 30 days prior to work commencement. When dedicated or approved observers are required, observers must be on site during all in-water activities, and be equipped with polarized sunglasses to aid in manatee observation. For prolonged in-water operations, multiple observers may be needed to perform observation in shifts to reduce fatigue (recommended shift length is no longer than six hours). Additional information concerning observer approval can be found at FWC's web page.

Residential boat lift – A boat lift installed on a residential dock facility.

Residential dock density ratio threshold – The residential dock density ratio threshold is used in the evaluation of multi-slip projects in some counties without a State-approved Manatee Protection Plan and is consistent with 1 boat slip per 100 linear feet of shoreline (1:100) owned by the applicant.

Residential dock facility – A residential dock facility means a private residential dock which is used for private, recreational or leisure purposes for single-family or multi-family residences designed to moor no more than four vessels (except in Brevard, Clay, Citrus, and Volusia counties which allow only two vessels). This also includes normal appurtenances such as residential boat lifts, boat shelters with open sides, stairways, walkways, mooring pilings, dolphins, etc. In some instances, the Corps and the Service may elect to review multiple residential dock facilities as a multi-slip facility.

Submerged aquatic vegetation (SAV) – Rooted, submerged, aquatic plants such as, but not limited to, shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), star grass (*Halophila engelmanni*), Johnson's seagrass (*Halophila johnsonii*), sago pondweed (*Potamogeton pectinatus*), clasping-leaved pondweed (*Potamogeton perfoliatus*), widgeon grass (*Ruppia maritima*), manatee grass (*Syringodium filiforme*), turtle grass (*Thalassia testudinum*), tapegrass (*Vallisneria americana*), and horned pondweed (*Zannichellia palustris*).

Warm Water Aggregation Areas (WWAAs) and **No Entry Areas** – Areas within certain counties where increased densities of manatees occur due to the proximity of artificial or natural warm water discharges or springs and are considered necessary for survival. Some of these areas may be federally-designated manatee sanctuaries or state-designated seasonal "no entry" manatee protection zones. Projects proposed within these areas may require consultation in order to offset expected adverse impacts. In addition, special permits may be required from the FWC in order to access these areas.

Watercraft access structures – Docks or piers, marinas, boat ramps and associated trailer parking spaces, boat slips, boat lifts, floats, floating docks, pilings, boat davits, dry storage, etc.

Waters accessible to manatees – Although most waters of the State of Florida are accessible to the manatee, there are some areas such as landlocked lakes that are not. There are also some weirs, salinity control structures and locks that may preclude manatees from accessing water bodies. If there is any question about accessibility, contact the Service or the FWC.

Appendix I Construction Special Conditions for the Protection of the Gulf Sturgeon

CONSTRUCTION SPECIAL PROVISIONS
STURGEON PROTECTION GUIDELINES

The shortnose sturgeon (Acipenser brevirostrum) and the gulf sturgeon (A. oxyrinchus desotoi) are listed under the Endangered Species Act as endangered and threatened, respectively. These species are under the jurisdiction of the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS). In Florida, the lower St Johns River is habitat for shortnose sturgeon. Major portions of the Suwannee and Withlacoochee Rivers are designated as critical habitat for the gulf sturgeon.

The following special provisions will be incorporated into any construction contract where involvement with sturgeon may occur:

The FDOT will coordinate with the NMFS and USFWS early in the project development stage of new bridge projects. All efforts should be made to avoid known spawning habitats, nursery areas, feeding areas and thermal refuges.

1. Advise construction personnel of the potential presence of these species, of their endangered status and federal protection, and of the need to avoid any actions that would jeopardize these species.

2. The Florida Department of Transportation (FDOT) shall advise all FDOT project personnel and Contractor personnel on the project that there are civil and criminal penalties for harming, harassing or killing sturgeon, which are protected under the Endangered Species Act of 1973. The FDOT and the Contractor will be held responsible for any sturgeon harmed, harassed, or killed as a result of the project activity.

3. The FDOT shall provide information to all FDOT and Contract personnel for identification of sturgeon.

4. Appropriate work shift personnel will be instructed in the appearance, habits, biology, migratory patterns, and preservation of sturgeon. At least one of these trained personnel will be on site during construction activities to maintain a constant surveillance for these species, assure the cessation of activities (such as dredging, excess turbidity, and construction barge activity), which may endanger these species, and assure that uninhibited passage for the animals is provided.

5. Post signs on site warning of the presence of sturgeon, of their endangered status, and precautions needed.

6. Turbidity from construction activity will be adequately controlled to prevent degradation of the quality and transparency of the water. When sturgeon are present, turbidity curtains of appropriate dimension will be used to restrict the

animals access to the work area. Pollution booms or turbidity curtains should use tangle resistant or hemp rope when anchoring, or employ surface anchors to prevent entangling sturgeon. Continuous surveillance will be maintained in order to free animals which may become trapped in silt or turbidity barriers.

7. No dredging of the river bottom will be conducted for barge access.

8. Drilled shaft pile construction will be used whenever prudent and feasible as determined by FDOT.

9. Care shall be taken in lowering equipment or material below the water surface and into the stream bed. These precautions will be taken to ensure no harm occurs to any sturgeon which may have entered the construction area undetected.

10. Construction debris shall not be discarded into the water.

11. If the use of explosives is necessary, no blasting will occur during sturgeon spawning season or in known spawning, staging, feeding, or vital nursery areas.

    The following protection measures will be employed for blasting:

    A. For each explosive charge, detonation will **not** occur if a sturgeon is known to be within a circular area ("the danger zone") encompassing the detonation site defined by the following radius:

    $$r = 560(\sqrt[3]{W})$$

    Where: r = radius of danger zone in feet
    W = weight of explosive charge in pounds (tetryl or TNT)

    B. In the event that a sturgeon is killed during blasting, the NMFS and/or the USFWS will be notified immediately.

12. Any dead sturgeon will be secured on site for carcass analysis by notified agency representative.

13. Following completion of the project, a report summarizing any involvement with sturgeon will be prepared for NMFS and/or USFWS.

Appendix J Sea Turtle and Smalltooth Sawfish Construction Conditions

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.

b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.

c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.

d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.

e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.

f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006
O:\forms\Sea Turtle and Smalltooth Sawfish Construction Conditions.doc

APPENDIX K FNAI Reports for Florida Golden Aster

Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

11201 N. McKinley Drive
Tampa, FL 33612-6456

STEPHANIE C. KOPELOUSOS
SECRETARY

February 11, 2008

Florida Natural Areas Inventory
1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303

RE: 2008 SURVEY OF STATE AND FEDERALLY ENDANGERED FLORIDA GOLDEN-ASTER AT THE INTERSTATE 275/C.R. 672 INTERCHANGE, HILLSBOROUGH COUNTY, FLORIDA: SECTION 10075, S.R. 93A

Attached is a survey taken of two sites in the Department of Transportation's Seventh District that contain the State and Federally Endangered Florida Golden-Aster (Chrysopsis Florida).

The survey was conducted on January 31, 2008 and is a part of the Department's on-going commitment to the management of such sites. Also attached is a copy of a Memorandum dated January 27, 1994 that first addressed this matter, as well as a copy of the most recent "District Seven District Vegetarian Management Plan" that further addresses this in Section I on pages 1 through 3.

If you have any questions, please call me at 1-800-226-7220, extension 27888, or e-mail me at william.moriaty@dot.state.fl.us.

Sincerely,

William D. Moriaty
District Maintenance Roadside Vegetation Coordinator

WDM/slk
Attachments
Certified Mail: 7007 2560 0001 2706 4605
cc: S. D. Nabong, P.E.
J. Beebe, P.E.
J. W. Simpson, R.L.A.
H. A. Hunt, P.E.
J. H. Caster, R.L.A. (M.S. 37)

Ref. Federally Endangered Plant Site 2-of Florida Golden-aster

FLORIDA NATURAL AREAS INVENTORY

Field Report Form for Occurrences of Rare Plants, Animals, and Natural Communities

This form should be used only for original field observations regarding a single species or community, at one location, and for (preferably) a single date. Please complete only those fields that are known to you. Use the back of the form or other sheets as necessary to report additional information, and if you have any questions or need assistance with the form, please call FNAI at 850-224-8207. Thanks for your help.

Your name: William Moriaty Phone: 800-226-7220 Ext. 27888 E-mail: william.moriaty@dot.state.fl.us

Address: Fla. Dept. of Transportation, 11201 N. McKinley Dr, Tampa, Fl 33612 Date Submitted: _____

Name(s) of observers: William Moriaty

Do you want us to protect (i.e., prevent disclosure to the general public) the identification and location information you provide below?

Yes ☐ No ☑ If so, reason for sensitivity _____

IDENTIFICATION (enter common name only if the scientific name is unknown)

Scientific name: Chrysopsis Floridana Common name: Florida Goldeo-aster

Basis for identification: Personal knowledge ☑ Reference key ☐ Field guide ☐ Museum specimen ☐ Expert ☐ Other ☐

Name of reference/guide/museum/expert: Official Lists in F.G.F.F.W.F.C. 06/01/94 Other _____

Did you take a photograph? Yes ☐ No ☑ (If possible, please attach a copy of the photo) Did you collect a specimen? Yes ☐ No ☑ If so, was a specimen deposited at a museum or herbarium? Yes ☐ No ☑ If so, collection # N/A

Do you think that your identification requires confirmation? Yes ☐ No ☑ Repository N/A

LOCATION

County: Hillsborough Site or managed area name, if known: Inner northwest infield of the I-75 (S.R. 93)/Big Bend Rd. interchange.

Precise directions to the occurrence that use a readily locatable and relatively permanent landmark on or near the site (such as a road intersection, bridge, or natural landform) as the starting point. Include distances and directions from landmarks, as appropriate. Please note – neither the directions nor the coordinate information will be provided to the general public if the data are to be considered sensitive, as indicated above.

Take Interstate 75 southbound to the off-ramp onto Big Bend Road (C.R. 672). Near the end of the ramp, slow down and pull off to the right and turn right immediately past the side ditch. Proceed west immediately south of the ditch and off-ramp approximately 200'-300' to a series of 6 flex post delineators. Plants are located adjacent to the 3 westernmost delineators.

Latitude 27.79153 N Longitude -82.35840 W Datum: NAD27 ☐ WGS84/NAD83 ☐ Unknown ☑

Source of latitude/longitude coordinates? GPS ☐ Other ☑ If other, describe Terra Server USA

If GPS: Make N/A model N/A accuracy N/A m DGPS? Yes ☐ No ☐ Unknown ☑ WAAS? Yes ☐ No ☐ Unknown ☑

If possible, mark the site on a copy of a DOQQ photograph or a USGS 7.5' topographic map and attach to this form. Otherwise, using the back side of the form, please provide a sketch of the vicinity showing the occurrence in relation to towns, roads, landforms, water bodies, and other natural features, including ecological communities. Please include also an indication of scale and a North arrow.

OBSERVATION INFORMATION

Date of observation (m/d/yyyy): 1/31/2008 Time of day 12:00 P.M. Estimate of total area observed _____ m^2 or 0.0068 acres. Percent of this area actually occupied by the population or community: 5 %. Approximate dimensions of the area occupied: length 30' width 10'

How did you collect the data? (e. g., visually observed from road, trap or capture methods, walking a path through community, formal survey, etc.)

Formal survey

Is there other suitable habitat (unobserved) in the vicinity? Yes ☑ No ☐ Don't know ☐ Extent? (e.g., acres, miles) 0.0047 acres

Have you been to this location before? Yes ☑ No ☐ If so, when? 1994-2004

Did you previously observe this species or community? Yes ☑ No ☐ Did not look for it ☐ If you have previously seen the population or community, do you think there is now more? ☐ less? ☐ about the same amount as before? ☑ or no way to compare ☐.

General description. Please provide a description or "word picture" of the area where this occurrence is located (i.e., the physical setting and ecological context), including habitat, dominant plant species, topography, hydrology, soils, adjacent communities, and surrounding land use.

The Golden-asters occur in a white sand Scrub community (G2+S2) of excessively well drained sandy soil. Topography is level. It is xeric although a ditch to the north collects and retains moisture as evidenced by growth of Tickseed and Meadow Beauty. The uncleared portion immediately south consists of mature Sand live Oak and Saw Palmetto.

For animals: Number of individuals (or nests, burrows, etc.) seen: _____ Age structure _____

Estimated total no. of individuals in population: _____ Basis? _____

Ecological & behavioral notes (e.g. reproductive stage, activity type [feeding, flying, nesting, etc.]): _____

For plants: Number of individuals (or clumps, etc.) seen within the observed area: Twenty-one (21)

Flowering? Yes☐ No☑ Fruiting? Yes☐ No☑ In bud? Yes☐ No☑ In leaf? Yes☑ No☐ Dormant? Yes☑ No☐

For communities: For each of three strata (tree, shrub, and ground layers), please list the dominant species comprising the stratum, together with an estimate of the height and percent cover for each stratum. (use the back of this form or another sheet, if necessary, to list additional species)

Stratum	height	% cover	Species
Tree	30'	65	Sand Live Oak
Shrub	6'	70	Saw Palmetto, Dwarf Blueberry
Ground	3'	25	Narrowleaf Silkgrass, Gopher Apple, Prickelypear

Describe species dominance relationships, vegetation heterogeneity, succession stage/dynamics, and any other unique aspects of the community or additional noteworthy species (including animals).

Dominant species immediately south of the target area is dominated by Sand live Oak and Saw Palmetto. Dominant species within the target area is Narrowleaf Silkgrass.

MANAGEMENT

Owner of site (if known): State of Florida, Department of Transportation

Is the owner or manager protecting or managing the property for this species or community? Yes☑ No☐ Don't know☐

Are there disturbances or threats (e. g., urban development, agriculture, vehicle use, forestry, logging, fire suppression, ditching/draining, impoundment, exotic species, and natural disturbance) in the vicinity of the site? Yes☑ No☐ Don't know☐

If so, please describe type and severity: There is Cogongrass approximately 100'-150' to the east although it does not appear to have spread over the years. Additional Threats include encroachment from Sand Live Oaks and Saw Palmettos. Urban development proposed west of the site may have a detrimental effect.

Is there evidence (e.g., fire breaks, scorching) of the use of fire at the site? Yes☐ No☑ Don't know☐ Describe and give dates of recent fires, if known _____

Comments on management history or needs: The first attempt at management was addressed in a Department Memorandum by this observer dated 01/27/94. It was then made a District Maintenance policy in the 1999 "District Seven Vegetation Management Plan" and has been addressed as such each year thereafter. Copies of the OTHER Memorandum and current Management Plan are attached.

Additional comments concerning the population or community, its ecological conditions, contact information for other knowledgeable people, etc.:

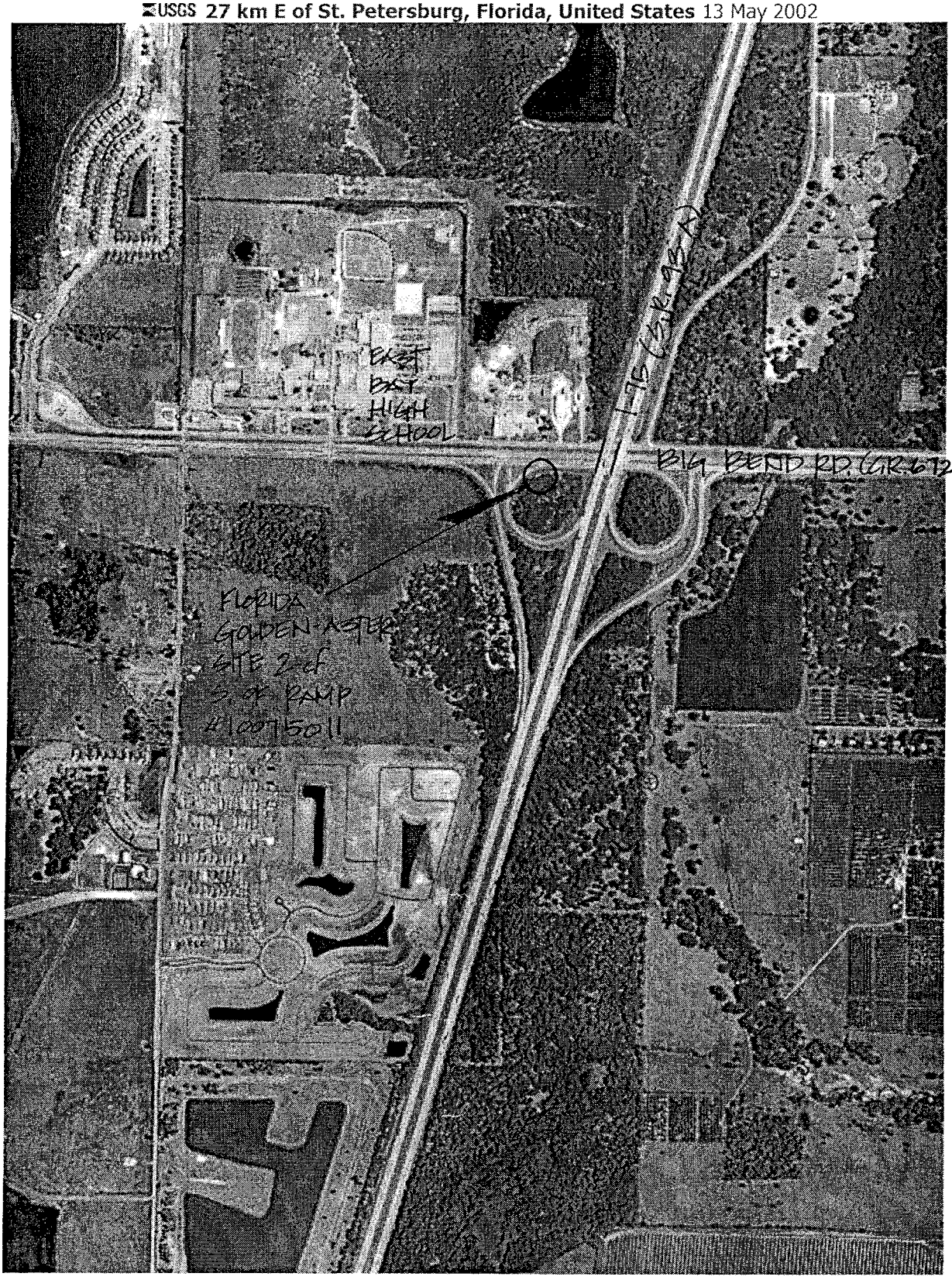
Population has varied between 15 and 24 over the years. Upon each monitoring by the observer since 1994 it has usually resulted in minimal clearing and trimming of competing vegetation by said observer in order to control competitive foliage from eliminating the target species. Also, this site was referred to as Site #3 in the Memorandum and is now Site 2 ref.

Please send this completed this form to:

Florida Natural Areas Inventory, 1018 Thomasville Rd., Suite 200-C, Tallahassee, FL 32303. THANK YOU!

DATE: 01/31/08 ; MAP Pg. 1 of 2.

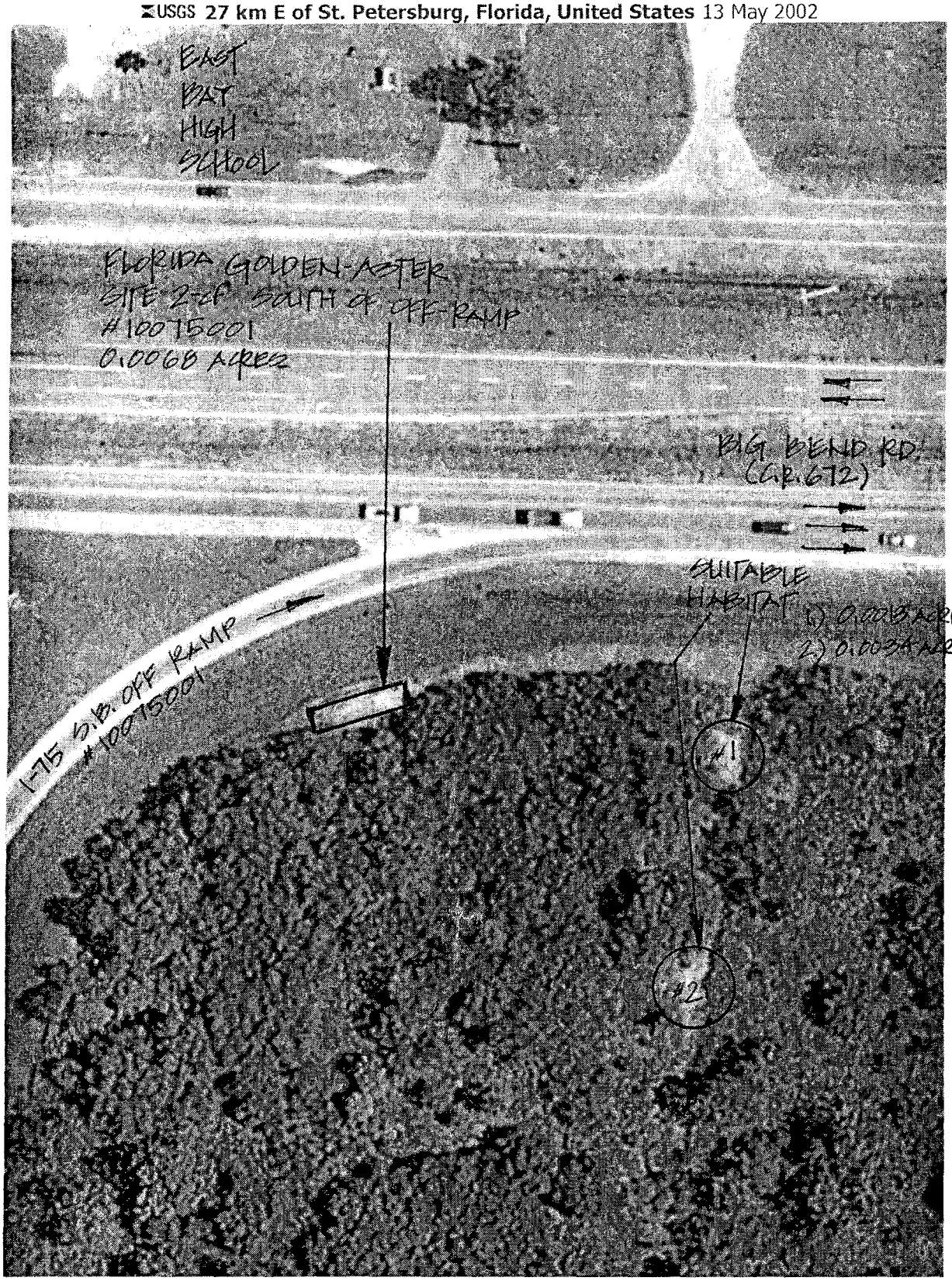
USGS **27 km E of St. Petersburg, Florida, United States** 13 May 2002



FLORIDA GOLDEN-ASTER SITE 2 of 3, HILLSBOROUGH COUNTY, FLORIDA

DATE: 6/26/08 ; MAP PG. 2 OF 2

USGS **27 km E of St. Petersburg, Florida, United States** 13 May 2002



FLORIDA GOLDEN-ASTER SITE 2 of 2 HILLSBOROUGH COUNTY, FLORIDA

Ref. Federally Endangered Plant Site 1-of Florida Golden-aster

FLORIDA NATURAL AREAS INVENTORY

Field Report Form for Occurrences of Rare Plants, Animals, and Natural Communities

This form should be used only for original field observations regarding a single species or community, at one location, and for (preferably) a single date. Please complete only those fields that are known to you. Use the back of the form or other sheets as necessary to report additional information, and if you have any questions or need assistance with the form, please call FNAI at 850-224-8207. Thanks for your help.

Your name: William Moriaty Phone: 800-226-7220 Ext. 27088 E-mail: William.moriaty@dot.state.fl.us

Address: Fl. Dept. of Transportation, 11201 N. McKinley Dr., Tampa, Fl. 33612 Date Submitted: 02/05/08

Name(s) of observers: William Moriaty

Do you want us to protect (i.e., prevent disclosure to the general public) the identification and location information you provide below?

Yes ☐ No ☑ If so, reason for sensitivity _____

IDENTIFICATION (enter common name only if the scientific name is unknown)

Scientific name: Chrysopsis Floridana Common name: Florida Golden-aster

Basis for identification: Personal knowledge ☑ Reference key ☐ Field guide ☐ Museum specimen ☐ Expert ☐ Other ☐

Name of reference/guide/museum/expert: Official Lists... F.G.+F.W.F.C. Other _____

Did you take a photograph? Yes ☐ No ☑ (If possible, please attach a copy of the photo) Did you collect a specimen? Yes ☐ No ☑ If so, was a specimen deposited at a museum or herbarium? Yes ☐ No ☑ If so, collection # N/A

Do you think that your identification requires confirmation? Yes ☐ No ☑ Repository N/A

LOCATION

County: Hillsborough Site or managed area name, if known: Southern portion of roadside west of the I-75 s.b. on-ramp from Big Bend Rd.

Precise directions to the occurrence that use a readily locatable and relatively permanent landmark on or near the site (such as a road intersection, bridge, or natural landform) as the starting point. Include distances and directions from landmarks, as appropriate. Please note – neither the directions nor the coordinate information will be provided to the general public if the data are to be considered sensitive, as indicated above.

Take Big Bend Rd. (C.R. 672) eastbound or westbound to the intersection at the southbound I-75 on-ramp. Take the I-75 on-ramp and look for a series of metal dilineators with white reflective tops west of the ramp north of the merge onto Interstate 75.

Latitude 27.78791 N Longitude -82.35937 W Datum: NAD27 ☐ WGS84/NAD83 ☐ Unknown ☑

Source of latitude/longitude coordinates? GPS ☐ Other ☐ If other, describe Terra Server USA

If GPS: Make N/A model N/A accuracy N/A m DGPS? Yes ☐ No ☐ Unknown ☑ WAAS? Yes ☐ No ☐ Unknown ☑

If possible, mark the site on a copy of a DOQQ photograph or a USGS 7.5' topographic map and attach to this form. Otherwise, using the back side of the form, please provide a sketch of the vicinity showing the occurrence in relation to towns, roads, landforms, water bodies, and other natural features, including ecological communities. Please include also an indication of scale and a North arrow.

OBSERVATION INFORMATION

Date of observation (m/d/yyyy): 1/31/2008 Time of day 1:00 PM. Estimate of total area observed _____ m^2 or 0.0860 acres. Percent of this area actually occupied by the population or community: 10 %. Approximate dimensions of the area occupied: length 250' width 15'

How did you collect the data? (e. g., visually observed from road, trap or capture methods, walking a path through community, formal survey, etc.)

Formal survey

Is there other suitable habitat (unobserved) in the vicinity? Yes ☑ No ☐ Don't know ☐ Extent? (e.g., acres, miles) * 1 acre

Have you been to this location before? Yes ☑ No ☐ If so, when? 1994 - 2004

* Note: Area is immediately west on private property slated for development.

Did you previously observe this species or community? Yes ☑ No ☐ Did not look for it ☐ If you have previously seen the population or community, do you think there is now more? ☐ less? ☑ about the same amount as before? ☐ or no way to compare ☐.

General description. Please provide a description or "word picture" of the area where this occurrence is located (i.e., the physical setting and ecological context), including habitat, dominant plant species, topography, hydrology, soils, adjacent communities, and surrounding land use.

The Golden-asters occur in a white sand Scrub community (G2+S2) of excessively well drained soil. Topography is level. It is xeric, although a ditch to the east collects and retains moisture. The undisturbed portion to the west consists of mature Sand Live Oak, Myrtle Oak, Chapman Oak and Saw Palmetto.

For animals: Number of individuals (or nests, burrows, etc.) seen: _____ Age structure _____

Estimated total no. of individuals in population: _____ Basis? _____

Ecological & behavioral notes (e.g. reproductive stage, activity type [feeding, flying, nesting, etc.]): _____

For plants: Number of individuals (or clumps, etc.) seen within the observed area: Seventy-nine (79)

Flowering? Yes☑ No☐ Fruiting? Yes☑ No☐ In bud? Yes☐ No☑ In leaf? Yes☑ No☐ Dormant? Yes☑ No☐

For communities: For each of three strata (tree, shrub, and ground layers), please list the dominant species comprising the stratum, together with an estimate of the height and percent cover for each stratum. (use the back of this form or another sheet, if necessary, to list additional species)

Stratum	height	% cover	Species
Tree	30'	75	Sand Live Oak, Myrtle Oak, Chapman Oak
Shrub	6'	60	Saw Palmetto
Ground	3'	20	Narrowleaf Silkgrass, Florida Pennyroyal, Wiregrass, Gopher Apple

Describe species dominance relationships, vegetation heterogeneity, succession stage/dynamics, and any other unique aspects of the community or additional noteworthy species (including animals).

Dominant species west of the target area is dominated by Sand Live, Myrtle and Chapman Oaks. Species within the target area is a mix of Narrowleaf Silkgrass, Florida Pennyroyal, Gopher Apple and Wiregrass.

MANAGEMENT

Owner of site (if known): State of Florida, Department of Transportation

Is the owner or manager protecting or managing the property for this species or community? Yes☑ No☐ Don't know☐

Are there disturbances or threats (e. g., urban development, agriculture, vehicle use, forestry, logging, fire suppression, ditching/draining, impoundment, exotic species, and natural disturbance) in the vicinity of the site? Yes☑ No☐ Don't know☐

If so, please describe type and severity: The largest threat has been the expansion and growth of Oaks and Palmetto to the west, resulting in the retreat of populations within the 10' maintenance easement east of the limited access chain link fence. Urban development is proposed immediately west of this site and may have an adverse effect

Is there evidence (e.g., fire breaks, scorching) of the use of fire at the site? Yes☐ No☑ Don't know☐ Describe and give dates of recent fires, if known _____

Comments on management history or needs: The first attempt at management was addressed in a Department Memorandum by this observer dated 01/27/94. It was then made a District Maintenance policy in the 1999 "District Seven Vegetation Management Plan", and has been addressed as such each year thereafter. Copies of the

OTHER Memorandum and current Management Plan are attached.

Additional comments concerning the population or community, its ecological conditions, contact information for other knowledgeable people, etc.:

As stated above, the population has dropped dramatically between the fence line and canopy (Qty. 170 in 1994, Qty 3 in 2008), but has been steady in the eastern portion west of the ditch (Qty. 15 in 1994, Qty. 76 in 2008). This is attributed to expansion of the existing canopy into the easement to the west, and frequent control of competing vegetation west of the ditch through mowing. Sites 1 and 2 in the Memorandum were combined with the first "District Seven Vegetation Management Plan" in 1999 and renamed Site 1-of.

Please send this completed this form to:

Florida Natural Areas Inventory, 1018 Thomasville Rd., Suite 200-C, Tallahassee, FL 32303. THANK YOU!

DATE: 01/21/08 : Map Pg. 1 of 2

Send To Printer Back To TerraServer Change to 11x17 Print Size Show Grid Lines Change to Landscape

USGS **27 km E of St. Petersburg, Florida, United States** 13 May 2002

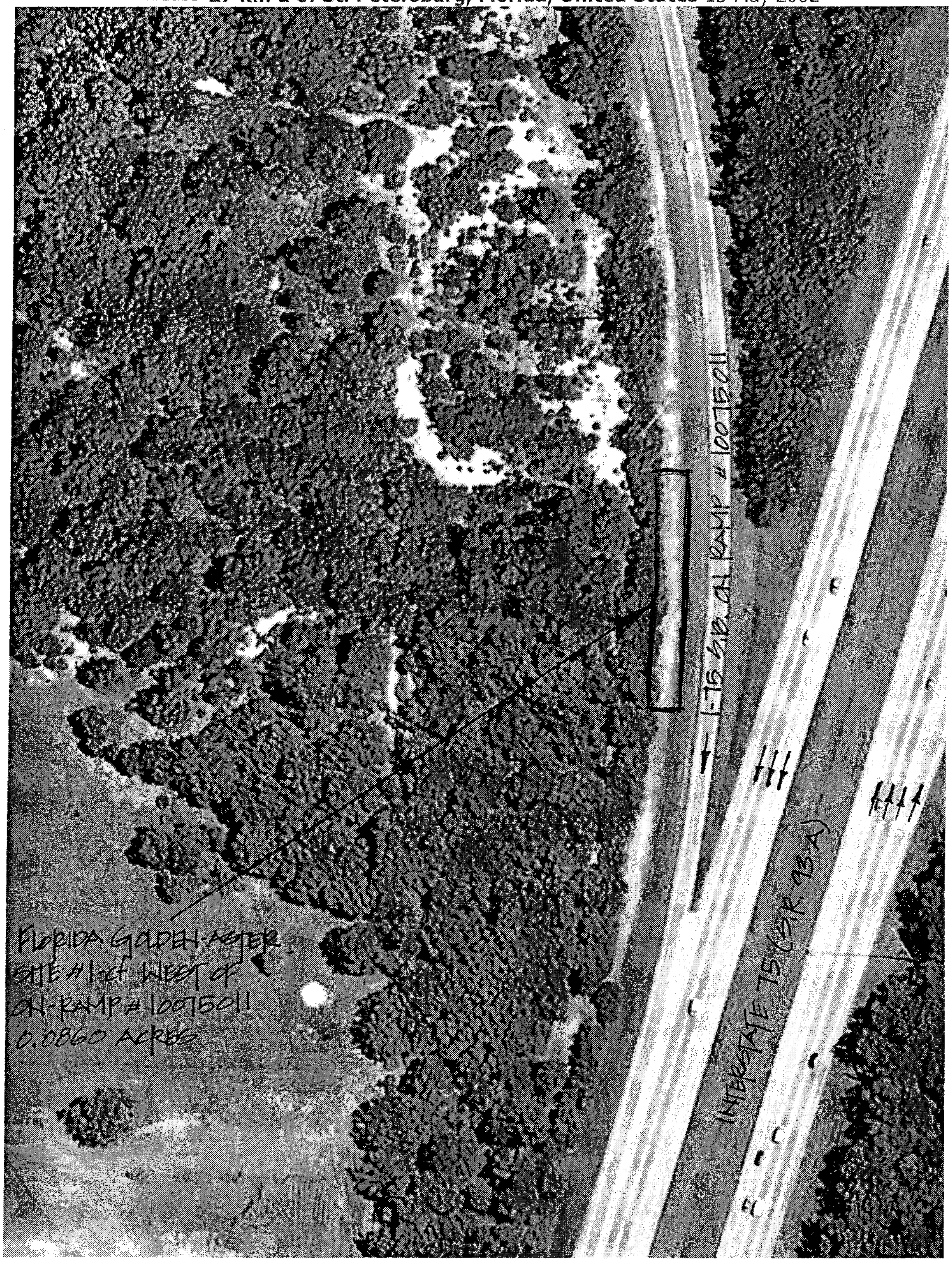
Image courtesy of the U.S. Geological Survey

FLORIDA GOLDEN AGER SITE 1 of 2, HILLSBOROUGH COUNTY, FLORIDA

DATE: 9.21.08: MAP PG. 2 OF 2

Send To Printer Back To TerraServer Change to 11x17 Print Size Show Grid Lines Change to Landscape

USGS **27 km E of St. Petersburg, Florida, United States** 13 May 2002



0 50 m 0 50yd

Image courtesy of the U.S. Geological Survey

FLORIDA GOLDEN-ASTER SITE 1-cf, HILLSBOROUGH COUNTY, FLORIDA

APPENDIX L Florida Golden Aster Photographs

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Florida Goldenaster (*Chrysopsis floridana*) – Site #1

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Florida Goldenaster (*Chrysopsis floridana*) in Bloom – Site #1

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Florida Goldenaster (*Chrysopsis floridana*) – Site #2

I-75 PD& E (Moccasin Wallow Road to Hwy 301) – Representative Photograph
Florida Goldenaster (*Chrysopsis floridana*) Pre-Flowering Vegetative – Site #2

APPENDIX M Potentially Occurring Protected Plant Species

Potentially Occurring Protected Plant Species

SPECIES	COMMON NAME	FWS	DCA	HABITAT	PROBABILITY OF PRESENCE OR OCCURRENCE[4]
Acoelorraphe wrightii	Everglades palm	T	--	Freshwater and brackish marshes, brackish swamps	Low
Acrostichum aureum	Golden leather fern	T	--	Marine and estuarine tidal swamp and tidal marsh	Low
Adiantum tenerum	Brittle maidenhair fern	E	--	Rockland hammock, sinkhole, on limestone, upland hardwood forest, streambanks	Low
Agrimonia incisa	Incised agrimony	T	--	Sandhills, upland pine	Low
Asclepias curtissii	Curtiss' milkweed	E	--	Dry hammocks, scrub, and flatwoods.	Low
Asplenium erosum	Auricled spleenwort	E	--	Live oaks in mesic hammocks, strand swamp.	Low
Calopogon multiflorus	Many-flowered grass pink	T	--	Damp pinelands and meadows (fire maintained).	Low
Campanula robinsiae	Robin's bellflower	E	E	Hardwood swamps, freshwater ditches, ponds and wetlands, wet prairies	Low
Carex chapmannii	Chapman's sedge	T	--	Hydric hammocks	Moderate
Celosia nitida	West Indian cock's comb	E	--	Sandy soil, scrub, upland hardwoods	Low
Celtis iguanaea	Iguana hackberry	E	---	Hydric hammocks	Low
Centrosema arenicola	Pineland butterfly pea	E	--	Sandhills, xeric oak, srubby flatwoods	Moderate
Ctenitis sloanei	Red-hair comb fern	E	--	Limestone ledges, rockland hammocks, cypress strand swamps.	Low
Dendrophylax porrectus	Threadroot orchid	T	--	Old orange groves, strand swamps, hardwood swamps, hammocks	Moderate
Drosera intermedia	Water sundew	T	--	Seepage slopes, wet flatwoods, depression marshes, sinkhole lakes, ditches	Moderate
Encyclia tampensis	Butterfly orchid	C	--	Mangrove, cypress and hardwood swamps and hammocks	Low
Epidendrum conopseum	Greenfly orchid	C	--	Cypress and hardwood swamps, moist hammocks	Low
Eragrostris pectinacea var. *tracyi*	Sanibel Island lovegrass	E	--	Coastal dunes, maritime hammocks, old fields	Low
Garberia heterophylla	Garberia	T	--	Dry sandy pine or pine-oak scrub and prairies	Low

SPECIES	COMMON NAME	FWS	DCA	HABITAT	PROBABILITY OF PRESENCE OR OCCURRENCE[4]
Glandularia tampensis	Tampa mock vervain	E	--	Sandy soil, upland hardwoods, pine savannah, pine flatwoods	Low
Gonolobus suberosus	Angularfruit milkvine	T	--	Hardwood hammocks	Moderate
Gossypium hirsutum	Upland cotton	T	--	Disturbed roads, hammocks, shrub thickets	Low
Habenaria distans	Rein orchid	E	--	Hydric hammocks, strand swamps	Low
Lantana depressa var. *sanibelensis*	Depressed shrub verbena	E	--	Limestone ledges, rockland hammocks	Low
Lilium catesbaei	Catesby's lily	T	--	Wet flatwoods, bogs, usually with grasses	Low
Liparis nervosa	Pantropical widelip orchid	E	--	Cypress and hardwood swamps, moist hammocks	Moderate
Lobelia cardinalis	Cardinal flower	T	--	Riverbanks, springs, coastal hammocks	Low
Lycopodium cernuum	Nodding clubmoss	C	--	Wet depressions, ditches, moist areas	Moderate
Lythrum flagellare	Lowland loosestrife	E	--	Low open ground, swamps, thickets.	Low
Matelea floridana	Florida milkvine	E	--	Bluffs, pine-oak-hickory woods.	Low
Matelea pubiflora	Trailing milkvine	E	--	Sandy soils, xeric oak, sandhills	Moderate
Nephrolepis biserrata	Giant sword fern	T	--	Mesic hammocks, roadside, clearings, swamps	Moderate
Neottia bifolia	Southern twayblade	T	--	Rich humus of low moist woods, sphagnum moss, stream banks	Low
Nolina atopocarpa	Florida beargrass	T	--	Wet pine flatwoods	Low
Nymphaea jamesoniana	Jameson's waterlily	E	--	Freshwater ponds	Low
Ophioglossum palmatum	Hand fern	E	--	Grows in bases of cabbage palm leaves in hydric hammocks, strand swamps	Low
Opuntia stricta	Erect pricklypear	T	--	Coastal dunes, xeric scrub oak, sandy soils	Low
Orthochilus ecristatus	Giant Orchid	T	--	Sand pine scrub, sandhills, pine rockland	Low
Pecluma dispersa	Polypoda fern	E	--	Hammocks	Low
Pecluma plumula	Plume polypoda fern	E	--	Hammocks	Low
Pecluma ptilota var. *bourgeauana*	Comb polypod	E	--	Hammocks, swamps	Low

SPECIES	COMMON NAME	FWS	DCA	HABITAT	PROBABILITY OF PRESENCE OR OCCURRENCE[4]
Pinguicula caerulea	Blue flowered butterwort	T	--	Sandy to sandy-peaty soils of pine flatwoods, ditches, roadsides	Moderate
Pinguicula lutea	Yellow flowered butterwort	T	--	Sandy-peaty soils, pine flatwoods, seepage bogs, diches, roadsides	Moderate
Platanthera blephariglottis var. *conspicua*	white-fringed orchid	T	--	Marshes, meadows, bogs, depressions in pine savannahs	Low
Platanthera ciliaris	Yellow-fringed orchid	T	--	Bogs, swamps, marshes, pine savannahs, and flatwoods, floodplain forests	Low
Platanthera cristata	Golden fringed orchid	T	--	Sphagnum and sedge bogs, meadows, pine savannahs, flatwoods, wet prairies, swamps, and seepage slopes	Low
Platanthera flava	Southern tubercled orchid	T	--	Wet thickets, hydric hammocks, wet prairies, and wet meadows	Low
Platanthera nivea	Snowy orchid	T	--	Bogs, wet pine savannas and flatwoods, wet prairies	Low
Pogonia ophioglossoides	Rose pogonia	T	--	Sphagnum bogs, meadows, swamps, pine savannahs, pine flatwoods, prairies	Low
Rhapidophyllum hystrix	Needle palm	C	--	River bluffs, ravine slopes, hammocks, bottomlands	Low
Rhynchospora megaplumosa	Longbristle beaksedge	E	--	Scrubby flatwoods	Low
Rudbeckia nitida	St. John's-Susan	E	--	Moist flatwoods, prairies, roadside ditches	Moderate
Sacoila lanceolata var. *lanceolata*	Leafless beak orchid	T	--	Open pastures, roadside, wet pine flatwoods, sandhills	Moderate
Sarracenia minor	Hooded pitcherplant	T	--	Flatwoods, bogs, ditches,	Low
Scaevola plumieri	Beachberry	T	--	Coastal dunes	Low
Schizachyrium niveum	Pinescrub bluestem	E	--	Sandhill and rosemary sandy scrub	Low
Schwalbea americana	Chaffseed	E	E	Seasonal wet pine flatwoods, palustrine pine savannah	Low
Spiranthes longilabris	Long-lip ladies' tresses	T	--	Flatwoods, prairies, marshes, sandy bogs.	Moderate
Stachys crenata	Shade betony	E	--	Hammocks	Low
Tephrosia angustissima var. *curtissii*	Curtiss' hoarypea	E	--	Coastal Scrub	Low

SPECIES	COMMON NAME	FWS	DCA	HABITAT	PROBABILITY OF PRESENCE OR OCCURRENCE[4]
Thelypteris serrata	Toothed lattice-vein fern	E	--	Cypress and hardwood swamps, moist hammocks	Moderate
Tillandsia balbisiana	Northern needleleaf	T	--	Hammocks	Moderate
Tillandsia fasciculata	Common wild pine	E	--	Hammocks, cypress swamps, pinelands	Moderate
Tillandsia flexuosa	Twisted air plant, banded air plant	T	--	Shell ridges or mounds, hammocks, swamps, mangrove, pinelands, scrub	Moderate
Tillandsia utriculata	Giant wild pine	E	--	Hammocks, cypress swamps, pinelands	Moderate
Tricerma phyllanthoides	Florida mayten	T	--	Hammocks, dunes.	Low
Triphora amazonica (=*Triphora latifolia*)	Broad-leaved nodding-caps	E	--	Hardwood hammocks	Low
Vachellia tortuosa	Poponax	E	--	Dune scrub, desert	Low
Zamia pumila (= *Z. floridana*, *Z. integrifolia*, *Z. umbrosa*)	Florida coontie	C	--	Well-drained sandy or loamy soils	Low
Zephyranthes atamasca var. *treatiae*	Treat's zephyrlily	T	--	Low ground, rich moist woods, wet pastures & meadows, limestone out-crops in woods	Low

Notes: Status determined by Atlas of Florida Plants, Institute for Systematic Botany, University of South Florida and Plants Database, US Department of Agriculture, Natural Resources Conservation Service

[T - threatened, E - endangered]

**Habitats described by:*

Bell, C.R. and B.J. Taylor. 1982. Florida wild flowers and roadside plants. Laurel Hill Press, Chapel Hill, NC 308 pp.

Coile, Nancy C. 1996. Notes on Florida's Endangered and Threatened Plants. Florida Department of Agricultural and Consumer Services, Gainesville, FL, 88 pp.

FNAI - Florida Natural Areas Inventory; Matrix of habitats and distribution by county of rare/endangered species in Florida, published April 1990/

Godfrey, R.K. 1988. Trees, shrubs, and woody vines of northern Florida, and adjacent Georgia and Alabama. Univ. Georgia Press. Athens, GA 734 pp.

NatureServe. 2020. NatureServe Explorer. NatureServe, Arlington, VA. Available at https://explorer.natureserve.org/

Ward, D.B. (publ. data not listed). Volume five: plants in P.C.H. Pritchard (ed.), Rare and endangered biota of Florida. University Presses of Florida, Gainesville. 175 pp.

Wunderlin, R.P. 1982. Guide to the vascular plants of Florida. University Presses of Florida. Gainesville. 472 pp.

***Likelihood of occurrence: None, low, moderate, or high based on best available data and selective field observations.*

APPENDIX N EFH Meeting Minutes

MEMORANDUM

TO: **Project File**

FROM: **Quest Ecology**

SUBJECT: **I-75 PD&E Study from Moccassin Wallow Rd. to U.S. 301) Essential Fish Habitat (EFH)/NMFS Meeting 8-15-08**

DATE: **August 22, 2008**

CC: **Meeting Attendees**

A meeting with Dr. David Rydene, the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) Gulf Coast representative, was held on Friday, August 15, 2008 at the Quest Ecology Inc. office in Wimauma, Florida. In attendance were Chris Salico and Corey Carter of American Consulting Engineers of Florida LLC (ACE); Roberto Gonzalez of the Florida Department of Transportation (FDOT) District 7; and Mike Pshar, Vivienne Handy, and Laura Morris of Quest Ecology Inc. (Quest). The purpose of the meeting was to discuss Essential Fish Habitat (EFH) issues and potential locations of concern within the corridor. EFH is defined as those waters and substrate necessary for fish to spawn, breed, feed, or grow to maturity.

In preparation for the meeting, Quest prepared several aerials of the corridor that detailed water ways that were in question of meeting EFH status. Dr.Rydene confirmed two of the waterways as EFH, the Little Manatee River and the Alafia River. Other waterways identified on the corridor are not considered EFH because they are not tidally influenced systems. An EFH assessment will be required for the Little Manatee and Alafia river systems.

Fish species that would potentially be impacted within these river systems was also discussed. As reported in the ETDM Summary Report of March 29, 2007, habitat within the Little Manatee River and the Alafia River has been identified as EFH for juvenile red drum and sub-adult penaeid shrimp by the Gulf of Mexico Fishery Management Council. Dr. Rydene confirmed this and also stated that these waterways are not suitable habitat for gray snapper or gag grouper and neither the Little Manatee nor the Alafia River systems are categorized as habitat areas of particular concern (HAPC).

-----Original Message-----
From: David Rydene [mailto:David.Rydene@noaa.gov]
Sent: Tuesday, May 04, 2010 3:42 PM
To: Santos, Manuel
Cc: Severson, Joseph
Subject: NMFS response to I-75 (Moccasin Wallow Rd. to US 301) WEBAR

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Wetland Evaluation and Biological Assessment Report for the widening of I-75 from Moccasin Wallow Road to US 301 (WPI Segment Number 419235-2) in Manatee County and Hillsborough County, Florida that was sent to NMFS on 4/22/2010. NMFS concurs with report's wetland evaluations and the general conclusions of the report, however, further coordination will be needed as specifics of the compensatory mitigation were not provided in the report.

Best Regards, Dave Rydene

--
David Rydene, Ph.D.
Fishery Biologist
National Marine Fisheries Service
Habitat Conservation Division
263 13th Avenue South
St. Petersburg, FL 33701
Office (727) 824-5379
Cell (727) 512-6782
Fax (727) 824-5300

APPENDIX O Wetland and Surface Water Map

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250
Feet

Page 1 of 40

Legend

- Wetlands
- Surface Waters
- Wetland Impacts
- Surface Water Impacts
- Construction Limits
- Recommended Pond Sites

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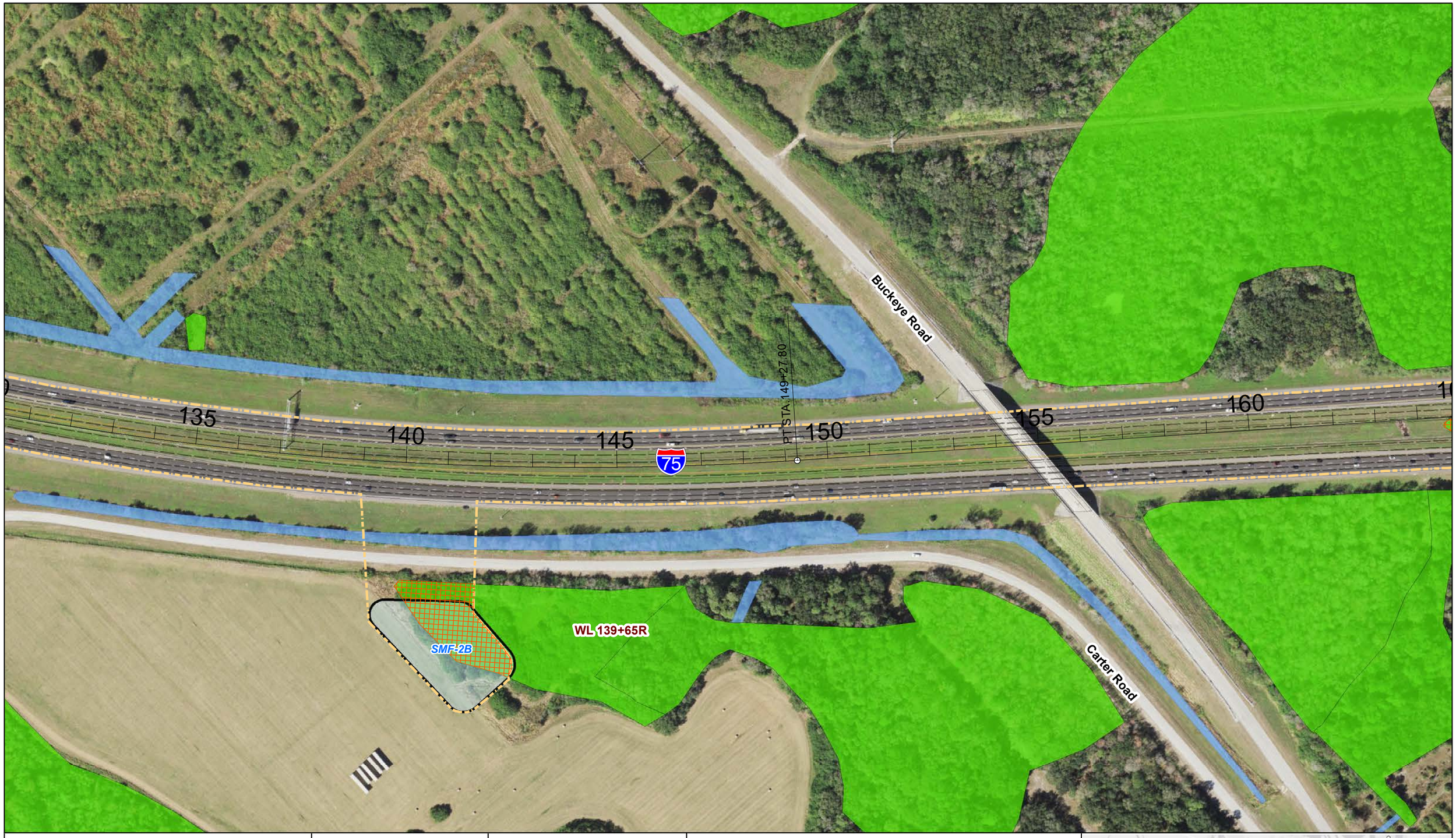

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165 170 175 180 185 190 195

WL 164+70C

WL 170+00C

75

SMF-3A

FPC-3A

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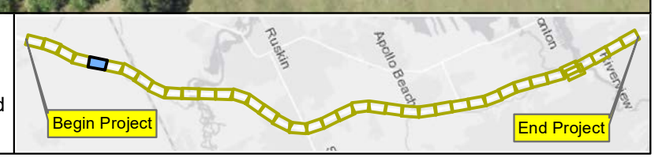

195
200
205
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220
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PC STA 221+11.15
SMF-4A
FPC-5A&6A

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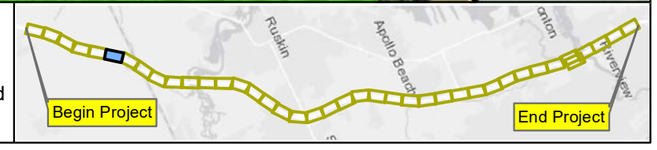

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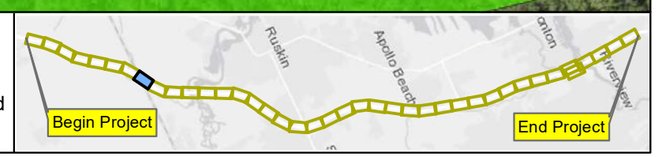

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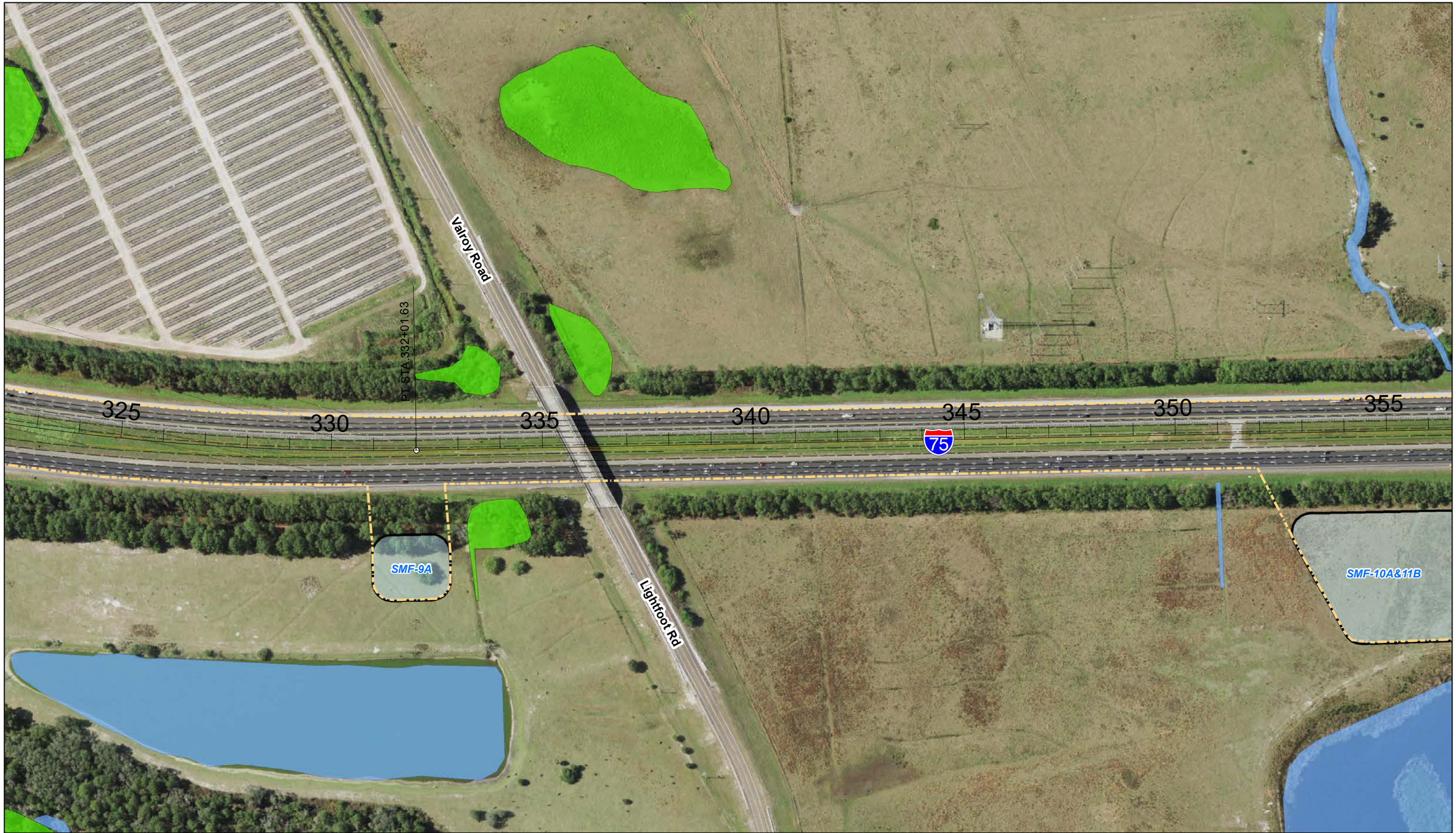

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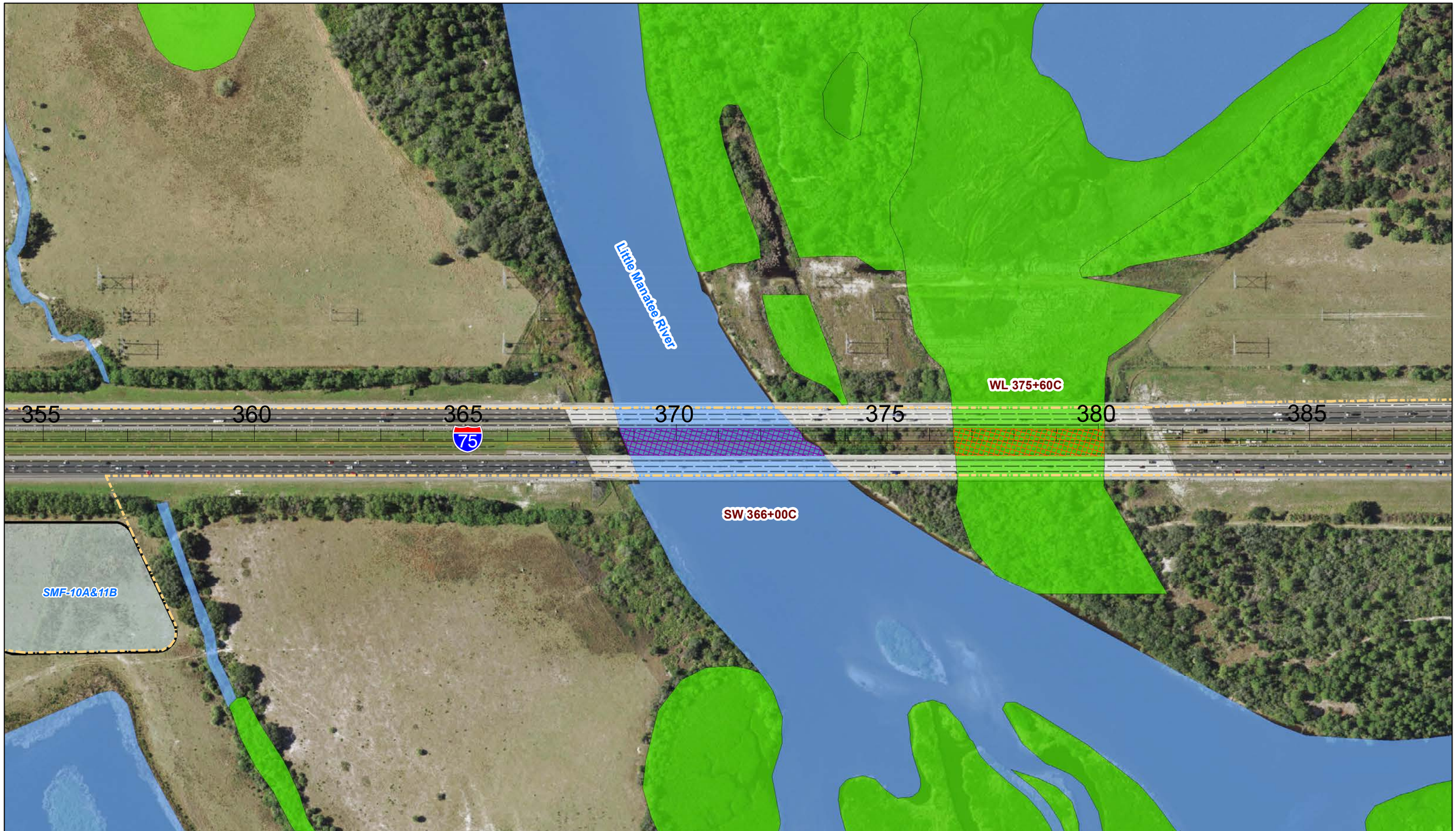

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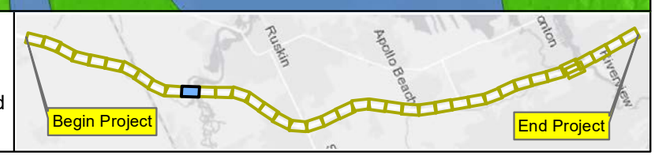

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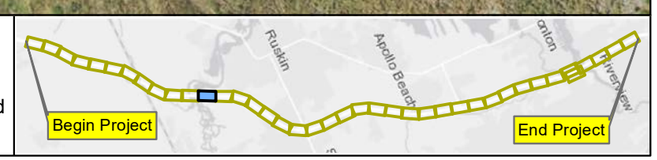

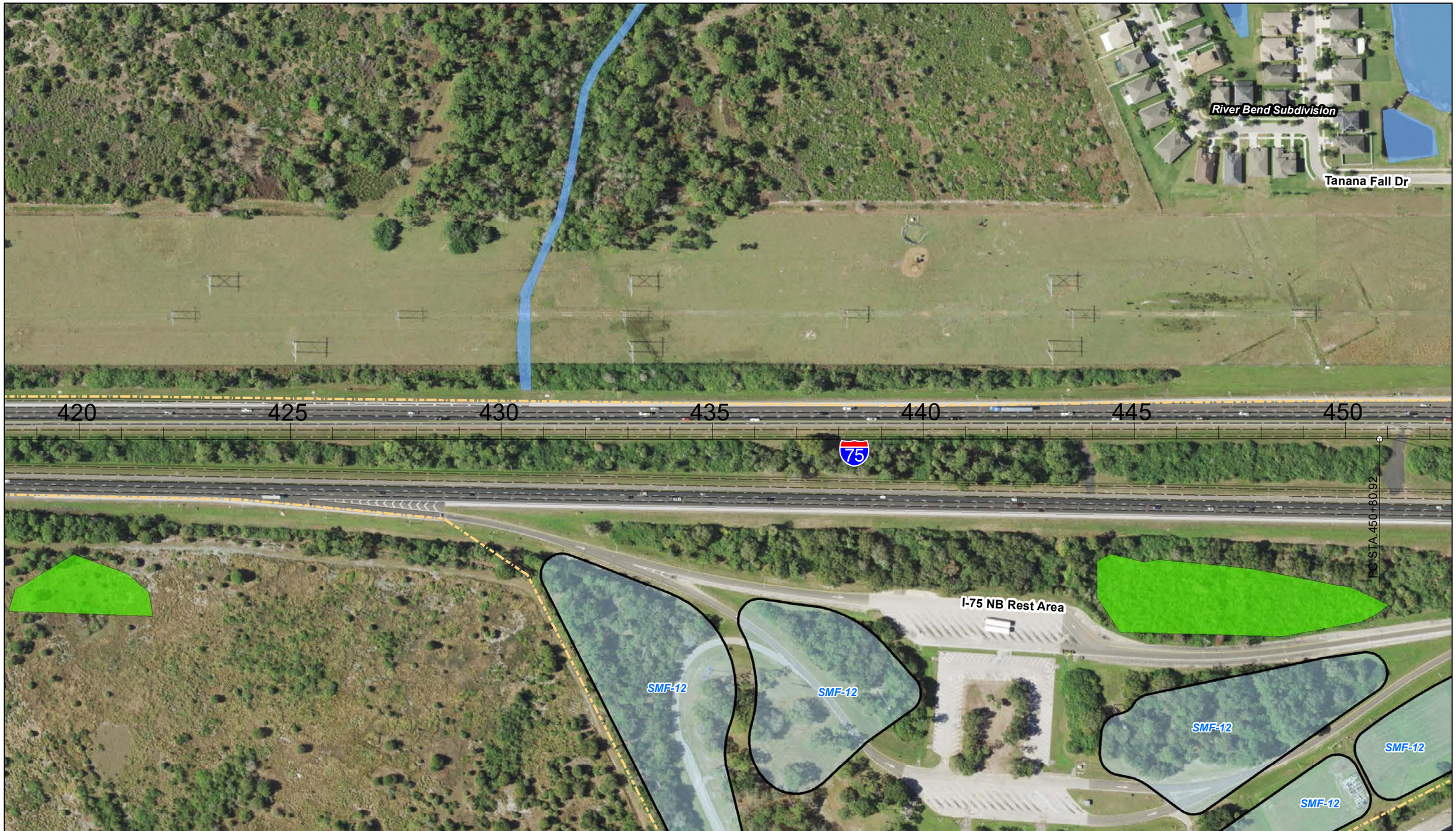

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River Bend Subdivision

Tanana Fall Dr

I-75 SB Rest Area

455 460 465 470 475 480

75

PC STA 450+80.92

PI STA 483+97.55

SMF-12

SMF-12

SMF-12

SMF-13B

I-75 (SR 93A) PD&E Study
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Park Village Dr

Park Village Dr

Park Village

21st Avenue SE

485 490 495 500 505 75 510 515

PI STA 483+97.55

SW 512+50R

SMF-14B&15B

FPC-14B&15B

21st Ave SE

I-75 (SR 93A) PD&E Study
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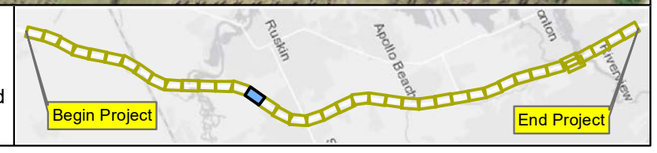

FDOT

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Wetlands and Surface Waters Map

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Feet

Legend

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- Recommended Pond Sites

27th Street SE

30th Street SE

14th Avenue SE

33rd Street SE

SMF-16A

PC STA. 556+01.83

550 555 560 565 570 575 580

75

30th Street SE

33rd Street SE

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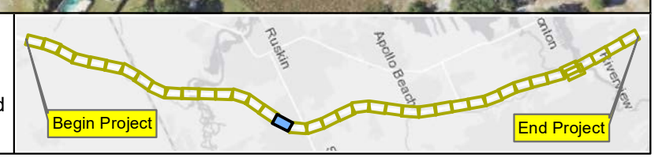

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- Recommended Pond Sites

SMF-17(4)

610

615

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625

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635

640

PT STA 635+82.85

75

SW 610+00R

SMF-18(2)

SMF-18(1)

SW 612+80R

WL 613+30R

SW 610+20R

FPC-18A

Cypress Village Blvd

Fairway Palms Condominiums

FDOT

I-75 (SR 93A) PD&E Study

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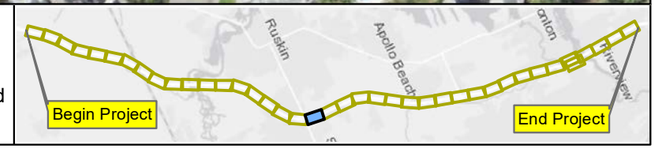

645
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SMF-20A
Medical Offices
FPC-19B
SMF-19B
Cypress Village Blvd
Calle Rosa Pl
Cypress Creek Village
Begin Project
End Project

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SMF-20A

675 680 685 690 695 700 705

75

PC STA.698+99

19th Avenue NE

Shadetree Apartments

Cypress Mill Subdivision

FDOT

I-75 (SR 93A) PD&E Study
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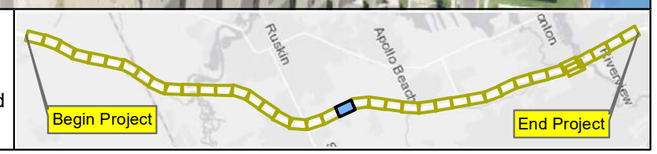

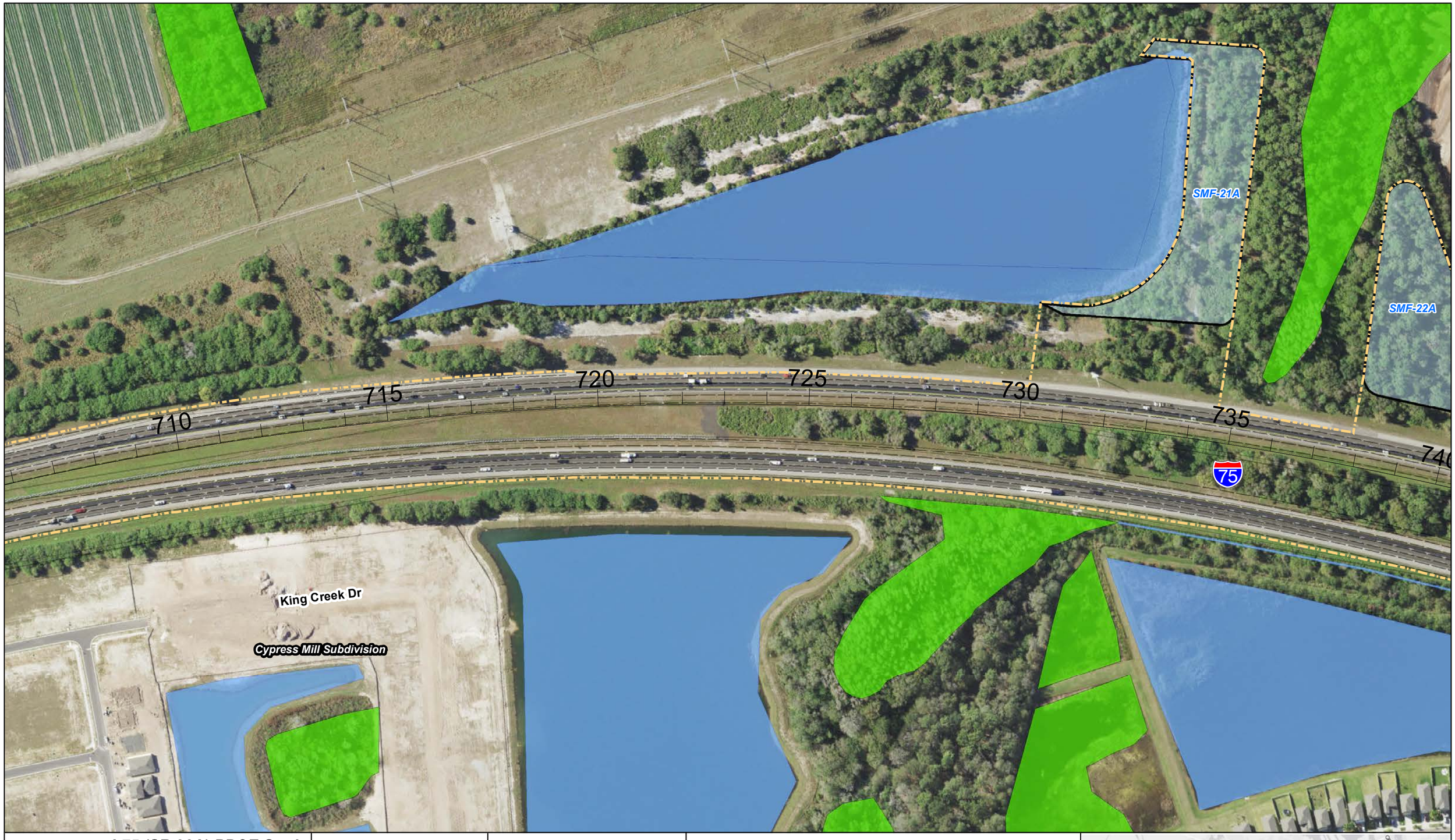

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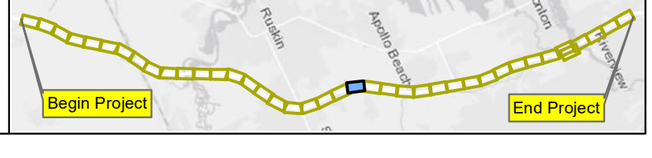


Wayfarer Ave

Waterset Subdivision

Del Coronado Dr

Covington Garden Dr

SMF-22A

740 745 750 755 760 765 770

75

PT STA 743+40.97

Trent Creek Dr

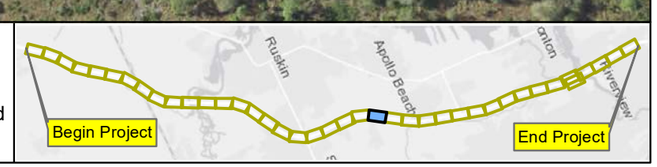
I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

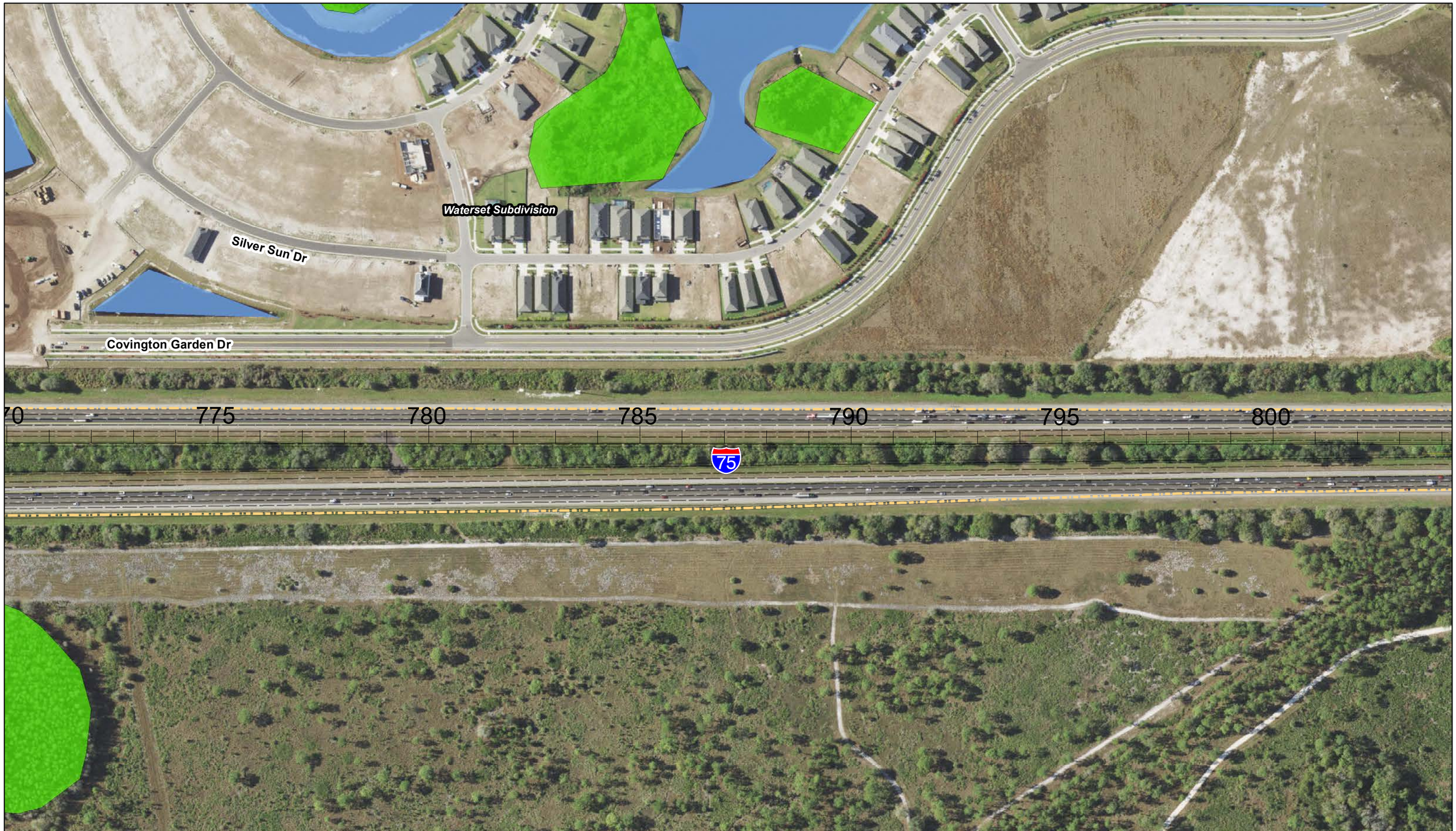
Wetlands and Surface Waters Map

0 125 250
Feet

Legend

- Wetlands
- Surface Waters
- Wetland Impacts
- Surface Water Impacts
- Construction Limits
- Recommended Pond Sites





I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

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0 125 250
Feet

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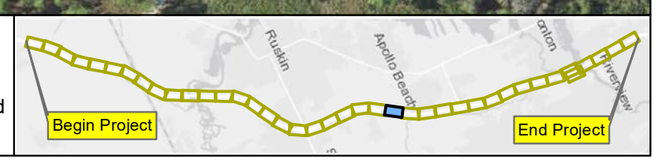

Waterset Subdivision

Colmar Pl

Lake St. Clair Subdivision

Clair Shore Dr

PC STA.814+03.22

805 810 815 820 825 830 835

75

SMF-23A&24A

FPC-24A

WL 811+80R

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
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Manatee and Hillsborough Counties

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0 125 250
Feet

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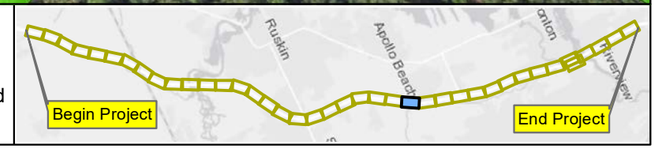

Covington Park Subdivision

Nottinghill Sky Drive

Lake St. Clair Subdivision

Clair Shore Dr

PT STA 849+71.83

835 840 845 850 855 860 865

75

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

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Feet

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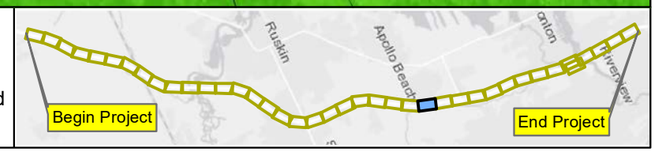

FDOT

I-75 (SR 93A) PD&E Study

Moccasin Wallow Road to south of US 301

FPID: 419235-2

Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250

Feet

N

Legend

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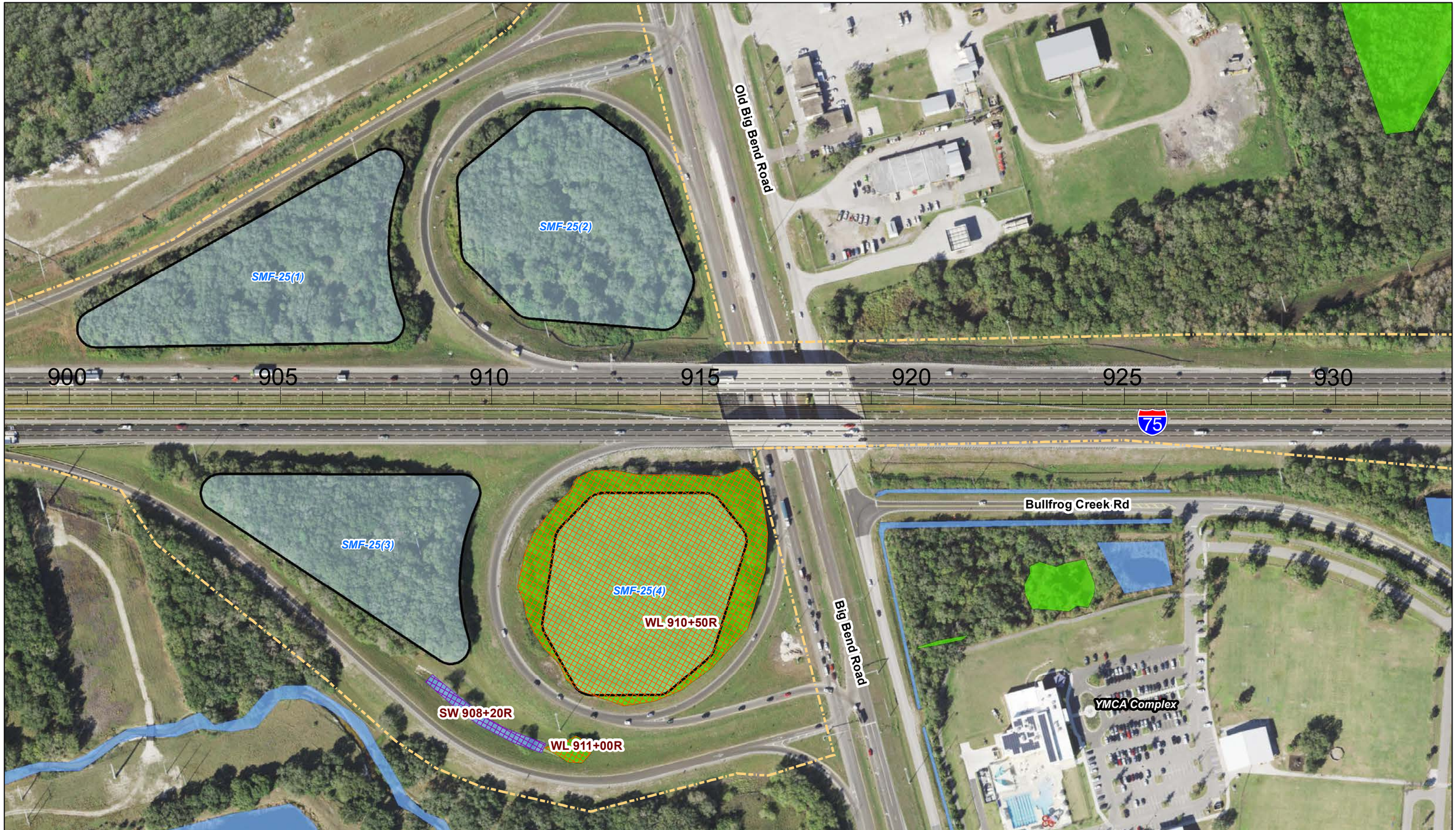

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
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Manatee and Hillsborough Counties

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Legend

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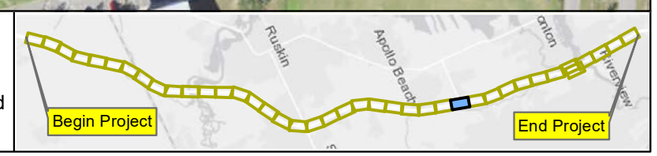
- Construction Limits
- Recommended Pond Sites



I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250
Feet

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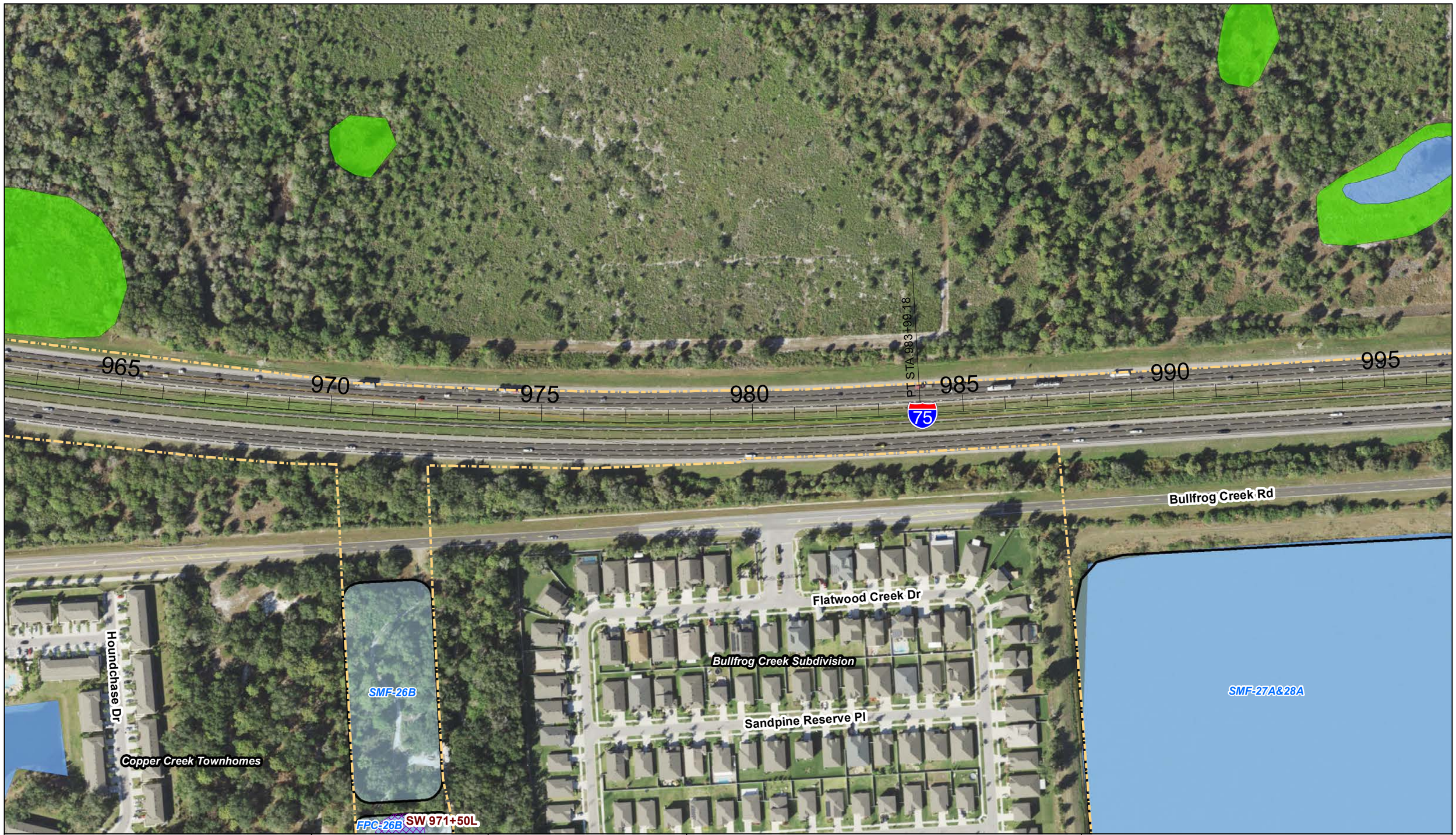

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
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Manatee and Hillsborough Counties

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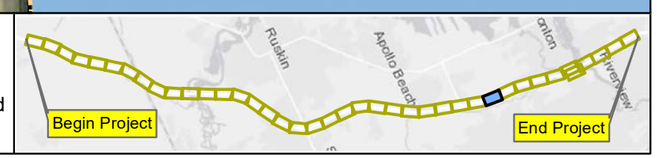

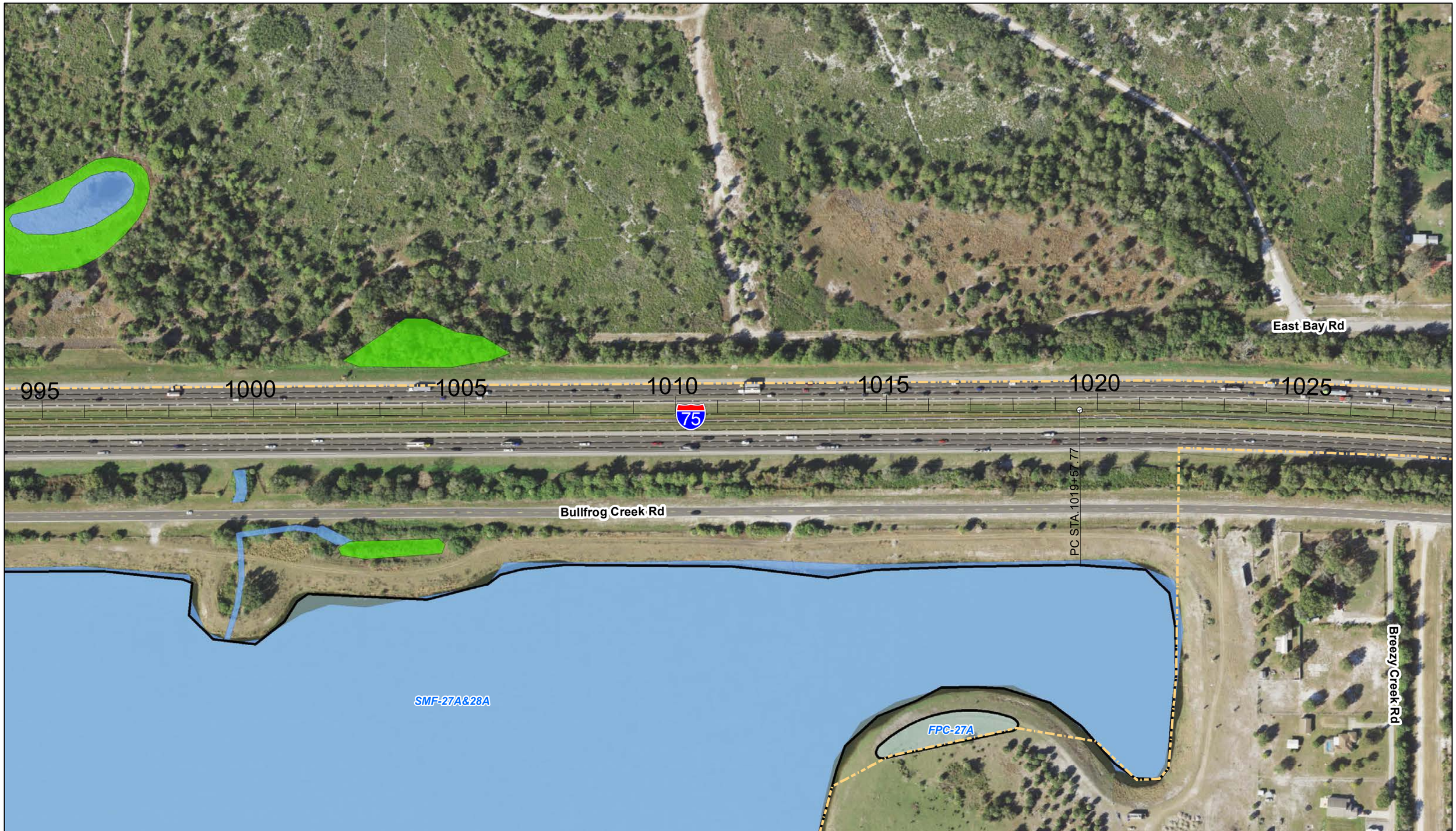

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250
Feet

N

Legend

- Wetlands
- Surface Waters
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- Surface Water Impacts
- Construction Limits
- Recommended Pond Sites

East Bay Road

East Bay Rd

1030 1035 1040 1045 1050 1055 106

75

PT STA 1041+30.25

Bullfrog Creek Rd

Breezy Creek Rd

FPC-28A

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250
Feet

N

Legend

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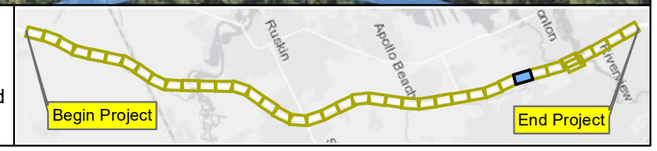

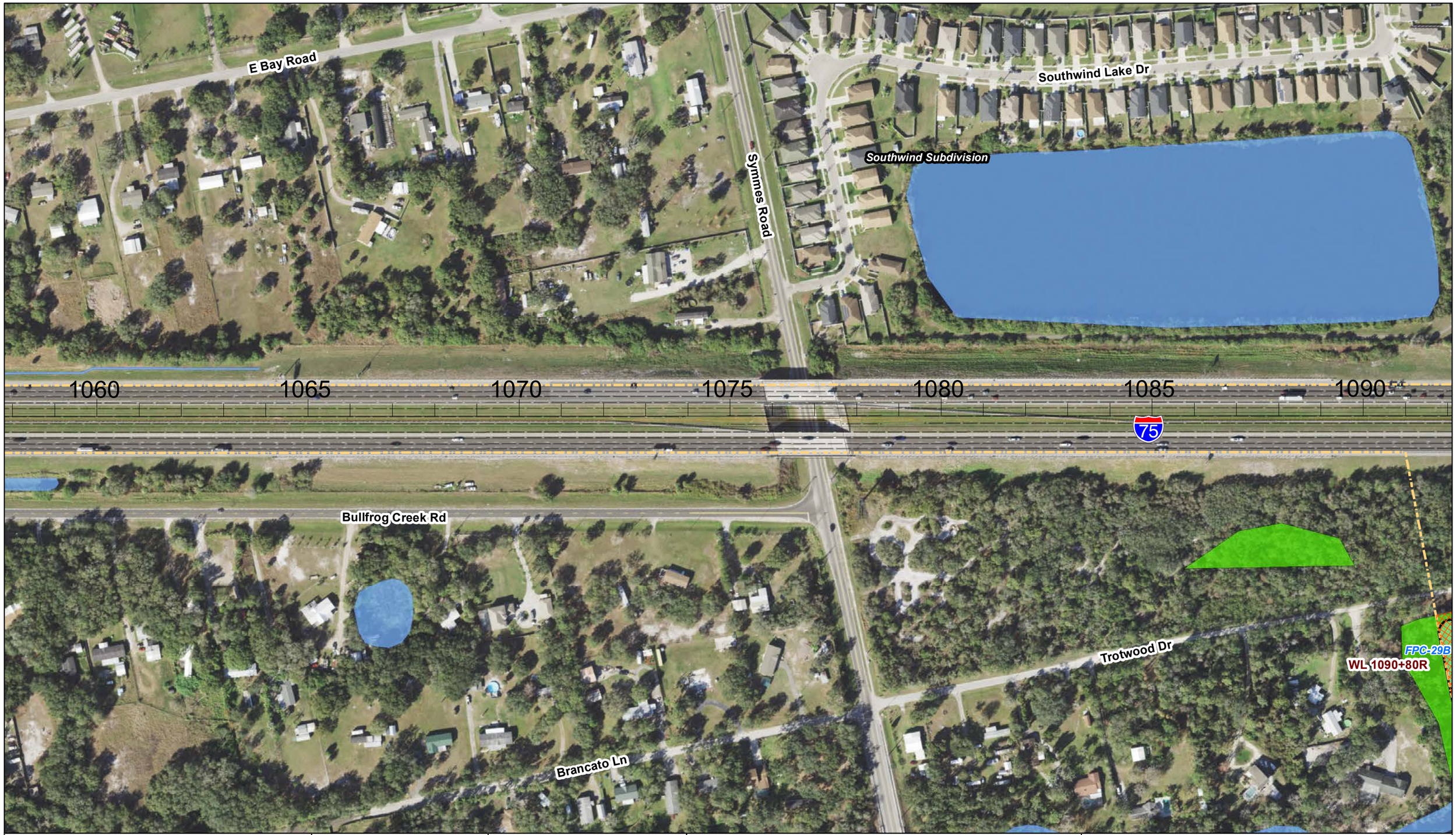

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250
Feet

Legend

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- Recommended Pond Sites

East Bay Lakes Subdivision

Bullfrog Creek Estates

Cypress Harbor Dr

Cypress Harbor Dr

Bullfrog Ct

FPC-30A

Bullfrog Creek

SW 1109+00C

PC STA 1118+59.93

1090

1095

1100

1105

1110

1115

1120

615

75

WL 1105+70C

WL 1105+70C

Bullfrog Creek

SMF-29B

WL 1090+80R

FPC-29B

FDOT

I-75 (SR 93A) PD&E Study

Moccasin Wallow Road to south of US 301

FPID: 419235-2

Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250

Feet

N

Legend

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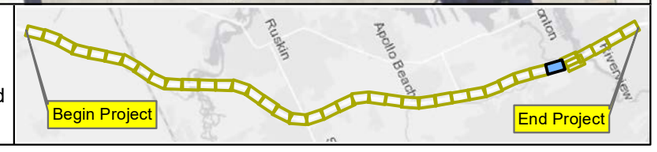

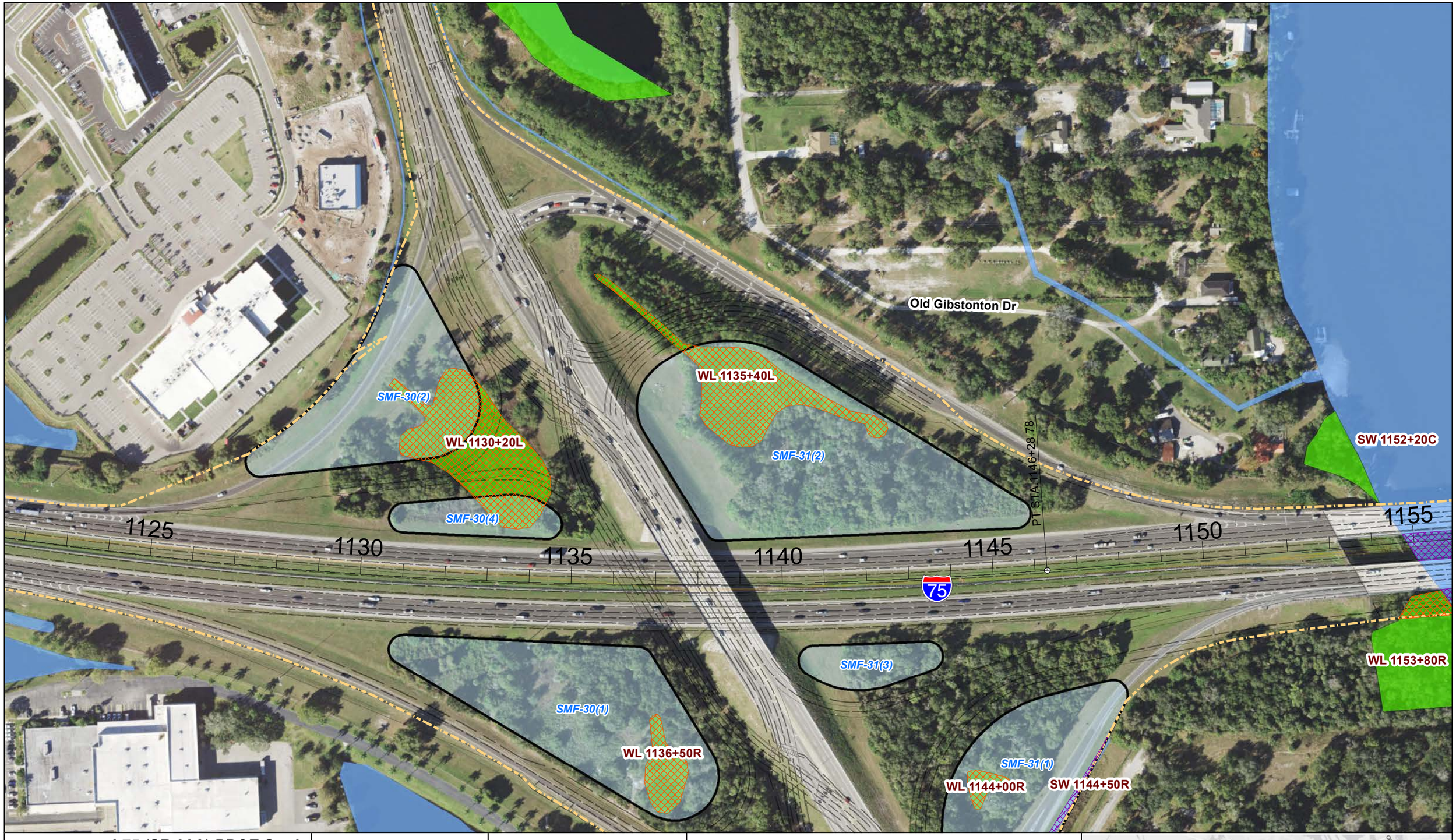

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250
Feet
N

Legend

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I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250
Feet
N

Legend

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- Surface Water Impacts
- Construction Limits
- Recommended Pond Sites

SMF-32&33A

Treasure Bayou

Riverview Dr

Fantasia Park Way

SW 1152+20C

WL 1162+00R

1155 1160 1165 1170 1175 1180 1185

75

642

SW 1164+20R

WL 1153+80R

WL 1162+00R

SW 1152+20C

Riverview Dr

Van Fleet Rd

FDOT

I-75 (SR 93A) PD&E Study

Moccasin Wallow Road to south of US 301

FPID: 419235-2

Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250

Feet

N

Legend

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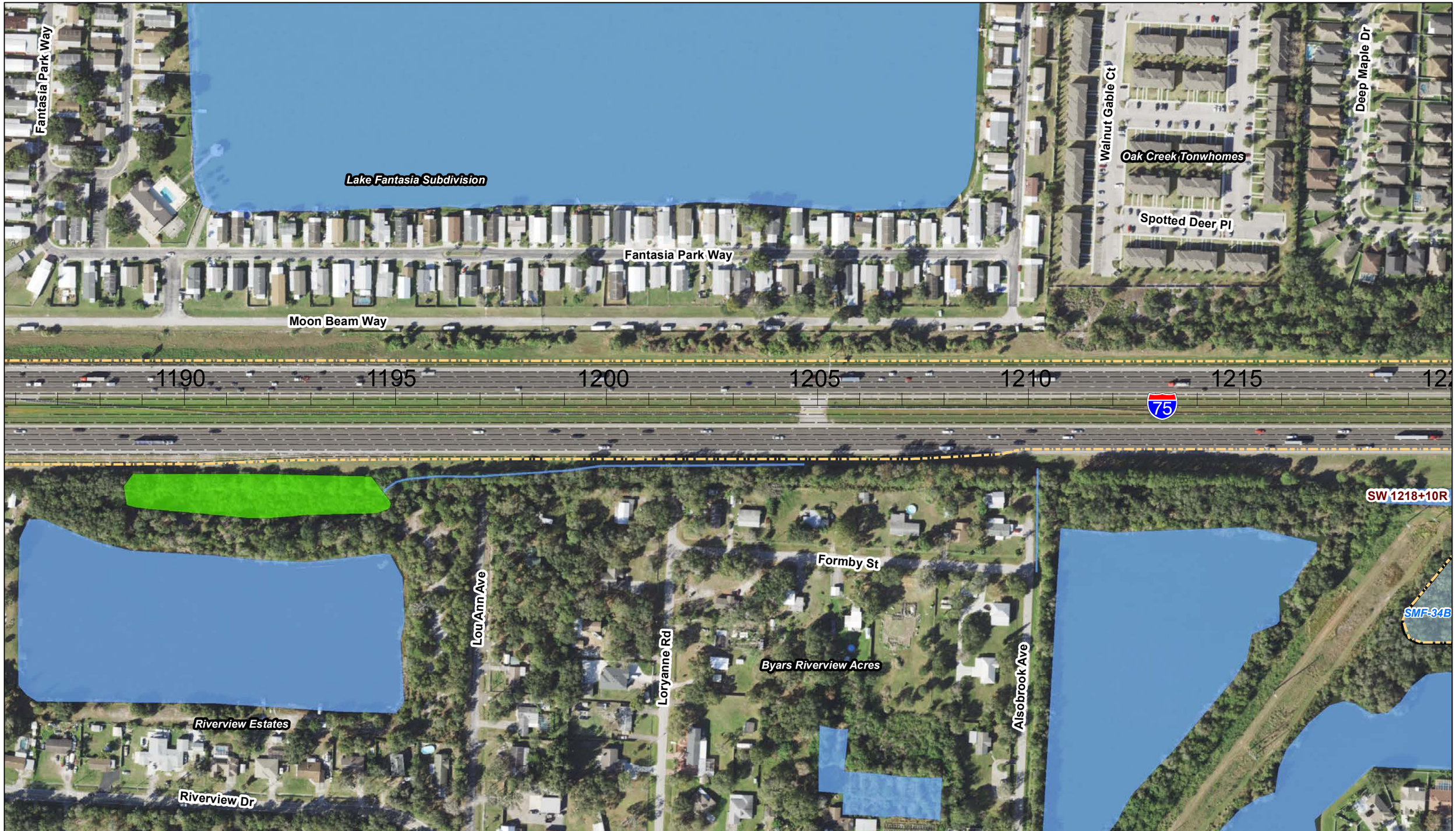
- Construction Limits
- Recommended Pond Sites



I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250
Feet

Legend

- Wetlands
- Surface Waters
- Wetland Impacts
- Surface Water Impacts
- Construction Limits
- Recommended Pond Sites

Deep Maple Dr
Deep Maple Dr
Eagle Palms Villas
Indigo Trl Loop
Eagle Palms Subdivision
Moonlit Meadows Loop
FPC-34A&35A
SMF-35A
WL 1219+00L
1220
1225
1230
1235
1240
1245
1250
75
SW 1218+10R
SMF-34B
Colony Pointe Dr
Lake St. Charles Subdivision
Waterton Dr
Waterton Dr
Colonial Lake Dr

I-75 (SR 93A) PD&E Study
Moccasin Wallow Road to south of US 301
FPID: 419235-2
Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250
Feet
N

Legend
- Wetlands
- Surface Waters
- Wetland Impacts
- Surface Water Impacts
- Construction Limits
- Recommended Pond Sites

Begin Project
End Project

Spoto High School

End Project

1250 1255 1260 1265 1270 1275 1280

75

PC STA. 1275+66.16

SMF-36A

Waterton Dr

I-75 (SR 93A) PD&E Study

Moccasin Wallow Road to south of US 301

FPID: 419235-2

Manatee and Hillsborough Counties

Wetlands and Surface Waters Map

0 125 250

Feet

N

Legend

- Wetlands
- Surface Waters
- Wetland Impacts
- Surface Water Impacts
- Construction Limits
- Recommended Pond Sites

APPENDIX P Wetlands and Surface Waters Impact Summary Table

Appendix N Wetlands and Surface Waters Impact Summary Table

Wetland/Surface Water ID	NWI/USFWS	FLUCCS	Project Impact Acreage		Total Project Impacts
			Roadway	SMF & FPC	
WETLANDS					
WL 75+70R	Freshwater Forested/Shrub Wetland	630	-	0.07	0.07
WL 81+60C	Freshwater Forested/Shrub Wetland	630	1.44	-	1.44
WL 139+65R	Freshwater Forested/Shrub Wetland	630	-	0.72	0.72
WL 164+70C	Freshwater Forested/Shrub Wetland	630	0.53	-	0.53
WL 170+00C	Freshwater Forested/Shrub Wetland	630	0.97	-	0.97
WL 238+50C	Freshwater Forested/Shrub Wetland	630	0.76	-	0.76
WL 268+00C	Freshwater Forested/Shrub Wetland	630	0.15	-	0.15
WL 274+50C	Freshwater Forested/Shrub Wetland	630	0.33	-	0.33
WL 283+50C	Freshwater Forested/Shrub Wetland	630	1.21	-	1.21
WL 289+70C	Freshwater Forested/Shrub Wetland	630	0.36	-	0.36
WL 305+00L	Freshwater Emergent Wetland	640	-	0.29	0.29
WL 375+60C	Estuarine and Marine Wetland	642	0.52	-	0.52
WL 590+60L	Freshwater Forested/Shrub Wetland	630	3.89	-	3.89
WL 593+20R	Freshwater Forested/Shrub Wetland	630	-	5.60	5.60
WL 599+00L	Freshwater Forested/Shrub Wetland	630	-	1.29	1.29
WL 602+50R	Freshwater Forested/Shrub Wetland	630	-	5.40	5.40
WL 605+00R	Freshwater Forested/Shrub Wetland	630	1.17	-	1.17
WL 608+00R	Freshwater Forested/Shrub Wetland	630	0.36	-	0.36
WL 613+30R	Freshwater Forested/Shrub Wetland	630	-	3.33	3.33
WL 811+80R	Freshwater Forested/Shrub Wetland	630	-	0.71	0.71
WL 910+50R	Freshwater Forested/Shrub Wetland	6630	-	5.90	5.90
WL 936+40L	Freshwater Forested/Shrub Wetland	630	0.03	-	0.03
WL 1090+80R	Freshwater Forested/Shrub Wetland	630	-	1.29	1.29

Wetland/Surface Water ID	NWI/USFWS	FLUCCS	Project Impact Acreage		Total Project Impacts
			Roadway	SMF & FPC	
WL 1105+70C	Freshwater Forested/Shrub Wetland	630	0.61	-	0.61
WL 1130+20L	Freshwater Forested/Shrub Wetland	630	-	1.66	1.66
WL 1135+40L	Freshwater Forested/Shrub Wetland	630	-	1.23	1.23
WL 1136+50R	Freshwater Emergent Wetland	640	-	0.33	0.33
WL 1144+00R	Freshwater Forested/Shrub Wetland	630	-	0.12	0.12
WL 1153+80R	Freshwater Forested/Shrub Wetland	630	0.13	-	0.13
WL 1162+00R	Estuarine and Marine Wetland	642	0.38	-	0.38
WL 1162+00R	Estuarine and Marine Wetland	642	0.15	-	0.15
WL 1162+00R	Estuarine and Marine Wetland	642	0.64	-	0.64
WL 1164+20R	Estuarine and Marine Wetland	642	0.02	-	0.02
WL 1219+00L	Freshwater Emergent Wetland	640	-	0.162	0.162
		Total Wetland Impacts	**13.65**	**28.10**	**41.75**
SURFACE WATERS					
SW 212+10R	Reservoir	530	-	0.00	0.00
SW 256+20L	Reservoir	530	-	0.83	0.83
SW 274+5L	Reservoir	530	0.06	-	0.06
SW 287+10L	Reservoir	530	0.20	-	0.20
SW 366+00C	Riverine	510	0.65	-	0.65
SW 469+30R	Reservoir	530	-	0.16	0.16
SW 470+90R	Reservoir	530	0.01	-	0.01
SW 512+50R	Reservoir	530	0.24	-	0.24
SW 588+00L	Reservoir	530	0.06	-	0.06
SW 609+50R	Reservoir	530	0.28	-	0.28
SW 610+00R	Reservoir	530	-	0.42	0.42
SW 610+20R	Reservoir	530	1.64	-	1.64
SW 612+80R	Reservoir	530	-	0.14	0.14
SW 908+20R	Reservoir	530	0.18	-	0.18
SW 911+00R	Reservoir	530	0.10	-	0.10
SW 971+50L	Reservoir	530	-	0.19	0.19
SW 1109+00C	Riverine	510	0.05	-	0.05
SW 1144+50R	Reservoir	530	0.11	-	0.11
SW 1144+50R	Reservoir	530	0.07	-	0.07
SW 1144+50R	Reservoir	530	-	0.13	0.13
SW 1152+20C	Riverine	510	510	-	1.17
SW 1164+20R	Riverine	510	0.04	-	0.04
SW 1218+10R	Reservoir	530	-	0.15	0.15
		Total Surface Water Impacts	**4.86**	**2.02**	**6.88**

APPENDIX Q UMAM Data Sheets

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

Site/Project Name	Application Number	Assessment Area Name or Number
I-75 Moccasin Wallow Rd to Hwy 301		PSS1 & PSS1/3 - Shrub Wetlands

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
631		Impact	0.78

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Alafia River, Tampa Bay and Coastal Areas, & Little Manatee		Little Manatee River is an OFW and located in the vicinity of the identified wetlands

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

These shrub wetlands are located within the I-75 ROW corridor between Moccasin Wallow Rd north to Hwy 301. Connectivity of these wetlands ranges from apparent isolation within interchange cloverleafs to being part of the stormwater system for I-75. There are a few shrub wetlands which extend offsite and are part of larger wetland systems.

Assessment area description

This wetland type incorporate small shrub wetlands and shrubby wetland swales (wetland vegetated swales located within hydric soil mapping units). All wetlands have been impacted to some degree by previous roadway installation and surrounding development.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The Little Manatee River and Alafia River are most significant hydrologic features in the area.	Shrubby ditched wetlands are very common in the area. Other shrub wetlands with impacts such as those observed on this corridor are also common.

Functions	Mitigation for previous permit/other historic use
These shrub wetlands do provide some function as part of the surface water treatment system for I-75 and they also provide low to moderate quality wildlife habitat.	A large extent of these shrub wetlands has been incorporated into the I-75 ROW stormwater system

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)
Small amphibians and reptiles such as frogs, lizards, turtles, and snakes, avian species including passerine birds, small mammals such as armidillos, rodents, and racoons. Wading bird species may utilize the small portions of the shrubby wetlands for foraging when water and access is present.	State Listed Species: - Wading bird species: Little Blue Heron (SSC), Roseate Spoonbill (SSC), Sandhill Crane (T), Snowy Egret (SSC), Tricolored Heron (SSC), White Ibis (SSC), and Wood Stork (E). Foraging will be limited to small accessible areas and also limited due to location within the R-O-W and low to moderate habitat quality. Federally Listed Species: Wood Stork (E) - same as above

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Evidence of passerine avian species, frogs, and raccoons were all recorded.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Quest Ecology	5/20/2020

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
I-75 Moccasin Wallow Rd to Hwy 301		PSS1 & PSS1/3 - Shrub Wetlands
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Quest Ecology	5/20/2020

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 water functions	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	Shrub wetlands located w/in ROW, many are maintained periodically through mowing, most are part of the stormwater management facilities. Nuisance / exotic species were found w/in the wetlands and located in the adjacent uplands and wetland landscape. Wildlife access is limited by I-75, ROW fencing, and area developments. Agricultural lands which are also adjacent provide minimal support for wildlife and allow for exposure to predation over open fields. Several shrub wetlands have been further isolated by location w/in interchange clover leafs.	3	
.500(6)(b)Water Environment (n/a for uplands)	Water quality observations included high input of roadway run-off, algae (green and rust colored types) observed in areas of standing water, and oil sheen. Plant species which are tolerant of degraded water quality and water level fluctuation were observed and prevalent in many of the shrub wetlands. Soil erosion observed in many of the wetland swales and rutting of soils from mowing.	3	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	High occurrence of the nuisance / exotic species primrose willow (*Ludwigia peruviana*), torpedo grass (*Panicum repens*), Brazilian pepper (*Schinus terebinthifolius*), cattail (*Typha* spp.), and paragrass (*Urochloa mutica*) exists for most of the wetlands. Land management practices have greatly limited vegetation diversity and cover is periodically removed through land management practices.	4	

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.33	

Delta = [with-current]

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 = 0.43

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
I-75 Moccasin Wallow Rd to Hwy 301		PFO1/3, PFO1/4, & PFO2 - Forested Wetlands

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
615, 617	0	Impact	39.26

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Alafia River, Tampa Bay and Coastal Areas, & Little Manatee		Little Manatee River is an OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

These forested wetlands are located within the I-75 ROW corridor between Moccasin Wallow Rd north to Hwy 301. Connectivity of these wetlands ranges from apparent isolation within interchange cloverleafs to being part of the stormwater system for I-75. There are a few forested wetlands which extend offsite and are part of larger systems.

Assessment area description

Forested wetlands are located within the I-75 ROW corridor between Moccasin Wallow Rd north to Hwy 301. Systems range from forested ditches which are part of the surface water system, portions of larger forested systems which continue outside of the ROW, to forested systems isolated within the intersection cloverleafs. All systems have been impacted by previous roadway installation and surrounding development.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The Little Manatee River and Alafia River are most significant hydrologic features in the area.	Forested ditch systems are very common in the area. Other forested systems with impacts such as those observed on this corridor are also common.

Functions	Mitigation for previous permit/other historic use
These forested wetlands are functioning as part of the surface water treatment system for I-75 and they provide isolated and fragmented pieces of wildlife habitat.	Portions of the forested wetlands have developed as part of the I-75 ROW stormwater system

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)
Small amphibians and reptiles such as frogs, lizards, turtles, and snakes, avian species including passerine birds and some hawks, small mammals such as armadillos, rodents, and raccoons	State Listed Species: - Eastern Indigo Snake (T) & Sherman's Fox Squirrel (SSC) possibly use the areas for foraging and or habitation. Utilization would be highly limited due to the fragmentation of habitat and location within the ROW. Federally Listed Species: Eastern Indigo (T) - same as above

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Evidence of passerine avian species, red shouldered hawks, gray squirrels, frogs, and raccoons were all recorded.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Quest Ecology	5/20/2020

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
I-75 Moccasin Wallow Rd to Hwy 301		PEM1x, PFO3x, & PSS1/3x
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Quest Ecology	5/20/2020

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 water functions	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	These are man-made surface waters located w/in I-75 ROW, most are regularly maintained through mowing and other mechanical practices. Nuisance / exotic species are located w/in and adjacent to most of the surface waters and wildlife access is limited by ROW fences and adjacent development. Agricultural lands which are also adjacent provide minimal support for wildlife and allow for exposure to predation over open fields. Several surface waters have been isolated by location w/in interchange clover leafs. Treatment and storage within the existing stormwater system does not likely meet current standards and maybe introducing less than desirable water into the drainage basin.	2	
.500(6)(b)Water Environment (n/a for uplands)	No water was observed within the swales and would be intermittent and reliant upon rainfall events. Water level within ditches was variable with little or no water observed. Ponds maintained varying amount of water. Some adventitious roots were observed indicating standing water. High algae content and low visibility was present in most areas where standing water was observed. Numerous vegetative species that are tolerant of water quality degradation and water quantity alterations are present in these surface waters.	2	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	High occurrence of the nuisance / exotic species primrose willow (*Ludwigia peruviana*), torpedo grass (*Panicum repens*), Brazilian pepper (*Schinus terebinthifolius*), cattail (*Typha* spp.), and paragrass (*Urochloa mutica*) exists for these surface waters. Forested ditches systems have some mature (at least 4 in dbh) but younger canopy species. Land management practices are regularly removing or reducing vegetative cover within the surface waters in addition to causing damage to soil structure.	2	

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.20	

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

For impact assessment areas
FL = delta x acres = 1.00

Delta = [with-current]

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
I-75 Moccasin Wallow Rd to Hwy 301		E2EM1 - Saltwater Marsh

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
642		Impact	1.71

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Alafia River, Tampa Bay and Coastal Areas, & Little Manatee		Little Manatee River is an OFW and located in the vicinity of the identified wetlands

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

These saltwater marshes are located within the I-75 ROW corridor adjacent to the Alafia and Little Manatee Rivers. These systems are influenced tidally and create buffers between the open water portions of the rivers and adjacent uplands.

Assessment area description

This assessment area incorporates the saltwater marshes associated with the Alafia and Little Manatee Rivers. All wetlands have been impacted to some degree by previous roadway installation and surrounding development.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The Little Manatee River and Alafia River are most significant hydrologic features in the area.	Saltwater marshes along the Alafia and Little Manatee Rivers are the most unique herbaceous wetlands found along this corridor but they remain relatively common on the river landscape.

Functions	Mitigation for previous permit/other historic use
These herbaceous wetlands may provide some function as part of the surface water treatment of runnoff prior to entering the rivers and they also provide moderate quality wildlife habitat.	Portions of these herbaceous wetlands have been incorporated into the I-75 ROW stormwater system

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)
Small amphibians and reptiles such as frogs, lizards, turtles, and snakes, avian species including passerine birds and some hawks, small mammals such as armadillos, rodents, and raccoons. Wading bird species may utilize the herbaceous ditches and ponds for foraging when water is present.	State Listed Species: - American Alligator (SSC), wading bird species: Little Blue Heron (SSC), Roseate Spoonbill (SSC), Sandhill Crane (T), Snowy Egret (SSC), Tricolored Heron (SSC), White Ibis (SSC), and Wood Stork (E). Foraging may occur but maybe limited due to location within the ROW and moderate habitat quality. Federally Listed Species: American Alligator (T S/A) and Wood Stork (E) - same as above

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Evidence of passerine avian species, frogs, wading bird species, and raccoons were all recorded.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Quest Ecology	5/20/2020

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
I-75 Moccasin Wallow Rd to Hwy 301		E2EM1 - Saltwater Marsh
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Quest Ecology	5/20/2020

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

Optimal (10)	**Moderate (7)**	**Minimal (4)**	**Not Present (0)**
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	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:	These saltwater marshes are located along the perimeter of the Alafia and Little Manatee Rivers. Nuisance / exotic species were found w/in the wetlands and located in the adjacent uplands and wetland landscape. Wildlife access is somewhat limited by I-75, ROW fencing, and area developments. Agricultural lands which are also adjacent provide minimal support for wildlife and allow for exposure to predation over open fields. Numerous small boat dock facilites located along the river corridor bisect and fragment the saltwater marsh habitats.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with:	Water quality within the adjacent river systems has been degraded by surrounding residential and agricultural development. Removal of native plant material associated with these types of developments often provides increased soil erosion and runoff, in addition to the introduction of fertilizers and herbicides required to maintain non-native vegetation / landscaping. Cattle activity along the river corridor causes increased soil erosion along the river bank and increased introduction of waste products which carry bacteria and increase nutrient loads. Untreated runoff from impervious surfaces which dot the surrounding landscape also create additional impacts to the rivers' water quality. The Alafia River is also utilized as a water source for Tampa Bay Water (a regional water authority) which decreases water levels and flows within the River.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with:	Moderate occurrence of the nuisance / exotic species Brazilian pepper (*Schinus terebinthifolius*) and cattail (*Typha* spp.) exists for most of the wetlands.

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.70	with:

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

For impact assessment areas
FL = delta x acres = 1.20

Delta = [with-current]

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
I-75 Moccasin Wallow Rd to Hwy 301		R2OW/E1OW - Riverine

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510		Impact	1.91

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Alafia River, Tampa Bay and Coastal Areas, & Little Manatee	III	Little Manatee River is an OFW and located in the vicinity of the identified creeks

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Two freshwater creeks, Bullfrog Creek and Curiosity Creek are found along the corridor. Both creeks ultimately drain into Tampa Bay. Stormwater management facilities in the area likely are connected directly or indirectly to these creeks. Runoff from surrounding uplands (agricultural and residential) is likely intercepted by these creeks.

Assessment area description

Bullfrog and Curiosity Creeks are both relative small systems with shrubby to forested fringes. Nuisance and exotic species are prevalent both adjacent to and within the creek waters. Flow is intermittent and it is likely that the creeks may dry out during times of the year. Bullfrog Creek crosses the project area in two locations: on I-75 just north of Symmes Road and on Big Bend just east of the I-75 interchange. Curiosity Creek crosses the project about halfway between the Little Manatee River and the Moccasin Wallow Road interchange.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The Little Manatee and Alafia Rivers and Tampa Bay are most significant features in the area.	Small impacted creek systems are relatively common in the surrounding landscape.

Functions	Mitigation for previous permit/other historic use
Functions that are provided by both creeks include the following: flood control, moderate corridor for wildlife, riparian habitat for both plants and animals, creek flow increases dissolved oxygen, and introduces helpful and harmful sediments and nutrients into Tampa Bay,	Unknown if the creeks have been utilized for mitigation in previous permits.

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)
Small amphibians and reptiles such as frogs, lizards, turtles, snakes, and alligators, avian species including passerine birds, small mammals such as armadillos, rodents, and raccoons. Wading bird species may utilize the portions of the open water for foraging when water and access is present.	State Listed Species: - American Alligator (SSC), wading bird species: Little Blue Heron (SSC), Roseate Spoonbill (SSC), Sandhill Crane (T), Snowy Egret (SSC), Tricolored Heron (SSC), White Ibis (SSC), and Wood Stork (E). Foraging will be limited to portions of open water. Federally Listed Species: American Alligator (T S/A) and Wood Stork (E) - same as above

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Evidence of passerine avian species, frogs, and small fish were all recorded.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
B. Meinecke	5/20/2020

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
I-75 Moccasin Wallow Rd to Hwy 301		R2UB2/E1OW - Riverine
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	B. Meinecke	5/20/2020

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 water functions	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:	Two river systems (Alafia and the Little Manatee) pass underneath existing bridge structures on the I-75 corridor. Low density residential development and agricultural lands are located along both river systems upstream and downstream of the bridge structures. Numerous small dock structures associated with residential lots dot the landscape of both rivers. Nuisance / exotic species were located within the adjacent river areas in low to moderate coverage. Wildlife access is somewhat limited by development and agriculture that is present along much of the river corridor. Agricultural lands provide less than optimal support for wildlife and allow for exposure to predation over open fields. Introduction of agricultural and residential runoff into the river systems provide less than optimal conditions downstream. Both river systems empty into Tampa Bay which is a significant natural resource in this area.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 7 with:	Water quality within the river systems has been degraded by surrounding residential and agricultural development. Removal of native plant material associated with these types of developments often provides increased soil erosion and runoff, in addition to the introduction of fertilizers and herbicides required to maintain non-native vegetation / landscaping. Cattle activity along the river corridor causes increased soil erosion along the river bank and increased introduction of waste products which carry bacteria and increase nutrient loads. Untreated runoff from impervious surfaces which dot the surrounding landscape also create additional impacts to the rivers' water quality. The Alafia River is also utilized as a water source for Tampa Bay Water (a regional water authority) which decreases water levels and flows within the River.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 8 with:	Very little vegetation is located within the open water portions of the river. Some sea grasses may be located within these river areas but due to the tannic nature of the rivers density and coverage of these species would be low if present. Generally these portions of the river would consist of unconsolidated mud bottoms and provide some habitat for benthic species. Soil, silt, and pollution runoff can decrease the viability of these areas for benthic species and wildlife.

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.77 with:	Preservation adjustment factor =	FL = delta x acres = 1.47
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

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

Site/Project Name	Application Number	Assessment Area Name or Number
I-75 Moccasin Wallow Rd to Hwy 301		RUB4

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
530	Reservoirs	Impact	4.98

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Alafia River, Tampa Bay and Coastal Areas, & Little Manatee		Little Manatee River is an OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

These man-made surface water systems are located within the I-75 ROW corridor between Moccasin Wallow Rd north to Hwy 301. These swales, ditches, and ponds are part of the I-75 surface water system and connected to offsite and onsite wetlands.

Assessment area description

Vegetative structure within these man-made systems ranges from low growing, regularly maintained herbaceous species to shrubby vegetation to immature forested areas. All habitat types are maintained with varying degrees of frequency and are part of the stormwater treatment and storage system. Nuisance / exotic coverage within these man-made systems ranges from moderate to high.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The Little Manatee River and Alafia River are most significant hydrologic features in the area.	Stormwater treatment swales, ditches, and ponds are very common throughout this developed landscape.

Functions	Mitigation for previous permit/other historic use
These man-made systems provide stormwater treatment and storage for I-75. They also provide minimal, fragmented, and rather undesirable wildlife habitat.	The identified swales, ditches, and ponds have been created from upland soil types during the past construction of I-75 and were created as part of the stormwater treatment system.

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)
Small amphibians and reptiles such as frogs, lizards, turtles, and snakes, avian species including passerine birds and some hawks, small mammals such as armadillos, rodents, and raccoons. Wading bird species may utilize the herbaceous ditches and ponds for foraging when water is present.	State Listed Species: - Wading Bird species: Little Blue Heron (SSC), Roseate Spoonbill (SSC), Snowy Egret (SSC), Tricolored Heron (SSC), White Ibis (SSC), and Wood Stork (E). Foraging may occur but would be highly limited due to location within the ROW and poor habitat quality. Federally Listed Species: Wood Stork (E) - same as above

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Evidence of passerine avian species was recorded.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Quest Ecology	5/20/2020

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
I-75 Moccasin Wallow Rd to Hwy 301		RUB4
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Quest Ecology	5/20/2020

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 water functions	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	These are man-made surface waters located w/in I-75 ROW, most are regularly maintained through mowing and other mechanical practices. Nuisance / exotic species are located w/in and adjacent to most of the surface waters and wildlife access is limited by ROW fences and adjacent development. Agricultural lands which are also adjacent provide minimal support for wildlife and allow for exposure to predation over open fields. Several surface waters have been isolated by location w/in interchange clover leafs. Treatment and storage within the existing stormwater system does not likely meet current standards and maybe introducing less than desirable water into the drainage basin.	2	
.500(6)(b)Water Environment (n/a for uplands)	No water was observed within the swales and would be intermittent and reliant upon rainfall events. Water level within ditches was variable with little or no water observed. Ponds maintained varying amount of water. Some adventitious roots were observed indicating standing water. High algae content and low visibility was present in most areas where standing water was observed. Numerous vegetative species that are tolerant of water quality degradation and water quantity alterations are present in these surface waters.	2	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	High occurrence of the nuisance / exotic species primrose willow (*Ludwigia peruviana*), torpedo grass (*Panicum repens*), Brazilian pepper (*Schinus terebinthifolius*), cattail (*Typha* spp.), and paragrass (*Urochloa mutica*) exists for these surface waters. Forested ditches systems have some mature (at least 4 in dbh) but younger canopy species. Land management practices are regularly removing or reducing vegetative cover within the surface waters in addition to causing damage to soil structure.	2	

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.20	

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

For impact assessment areas
FL = delta x acres = 1.00

Delta = [with-current]

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

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