

DRAFT

Natural Resources Evaluation



Tampa Hillsborough Expressway Authority (THEA)

**East Selmon Expressway
Project Development and Environment (PD&E) Study
I-4 Connector to US 301
Hillsborough County, Florida**

March 2024

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EXECUTIVE SUMMARY

The Tampa Hillsborough Expressway Authority (THEA) is conducting a Project Development and Environment (PD&E) Study to evaluate the needs, costs, and effects of constructing improvements that will increase traffic capacity and safety on the Selmon Expressway (SR 618) from the I-4 Connector to US 301 in Hillsborough County (**Figure 1-1**). The project involves adding an additional lane in each direction along the mainline Selmon Expressway (SR 618) from the I-4 Connector to US 301. The total project length is 6.17 miles.

Within the project limits, the Selmon Expressway generally provides two or three lanes in each direction along the mainline lanes with access to the I-4 Connector, 50th Street, 78th Street and US 301. The REL (Reversible Express Lanes) is generally located in the median of the Selmon Expressway with three lanes from Downtown Tampa to Palm River Road and two lanes from Palm River Road across I-75 and into Brandon. The REL provides additional system capacity to the peak direction of traffic with access available to westbound traffic in the morning and eastbound traffic in the afternoon.

In accordance with Presidential Executive Order 11990, Federal Highway Administration (FHWA) Technical Advisory T6640.8A, Section 7(c) of the Endangered Species Act (ESA) of 1973 (ESA, P.L. 93-205), and FDOT's *Project Development and Environment Manual*, Part 2, Chapters 9 (July 1, 2020) and 16 (July 1, 2020), a Wetlands Evaluation and Protected Species and Habitat Assessment was conducted for the proposed improvements along the East Selmon Expressway (SR 618).

This Natural Resource Evaluation (NRE) was prepared as part of the PD&E study. This report reviews the proposed impacts to wetland systems and federal- and state-protected species, summarizes the results of these assessments, and identifies measures to avoid, minimize and mitigate for any proposed impacts. A summary of the analysis of potential project impacts for the proposed improvements to East Selmon Expressway (SR 618) is presented below.

Protected Species and Habitat

The project study area was evaluated for potential occurrences of federal- and state-listed plant and animal species in accordance with Section 7 of the ESA of 1973, as amended, and Chapters 5B-40 and 68A-27 of the F.A.C. The evaluation included coordination with the Florida Natural Areas Inventory (FNAI), literature review, database searches, and field assessments of the project study area to identify the potential occurrence of protected species and/or presence of federal-designated critical habitat. Field evaluations of the project study area and adjacent habitats and general wildlife surveys were conducted by project biologists in March of 2021.

Per the *Protected Species and Habitat Assessment*, 19 federally-listed species and 21 state-listed species have been reviewed for the potential to occur within the East Selmon Expressway (SR 618) study area. The project is not within any US Fish and Wildlife Service (USFWS) designated critical habitat. An effect determination was made for each of these federal- and state-listed species based on an analysis of the potential impacts of the proposed project on each species. Based on evaluation of collected data and field reviews, the federal- and state-listed species listed

in **Tables ES-1, Table ES-2, and Table ES-3** below have been reviewed for the potential to occur within or adjacent to the project study area.

Table ES-1 Federal Protected Species Effect Determinations

Project Impact Determination	Federal Listed Species
"No effect"	Florida bonamia (<i>Bonamia grandiora</i>)
	Florida golden aster (<i>Chrysopsis floridana</i>)
	Pygmy fringe-tree (<i>Chionanthus pygmaeus</i>)
	Audubon's crested caracara (<i>Caracara cheriway</i>)
	Eastern black rail (<i>Laterallus jamaicensis</i>)
	Florida grasshopper sparrow (<i>Ammodramus savannarum floridanus</i>)
	Florida scrub-jay (<i>Aphelocoma coerulescens</i>)
	Piping plover (<i>Charadrius melodus</i>)
	Red knot (<i>Calidris canutus rufa</i>)
	Wood stork (<i>Mycteria americana</i>)
	Florida bonneted bat (<i>Eumops floridanus</i>)
"May affect, but is not likely to adversely affect "	American alligator (<i>Alligator mississippiensis</i>)
	American crocodile (<i>Crocodylus acutus</i>)
	Eastern indigo snake (<i>Drymarchon couperi</i>)
	Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)
	Leatherback sea turtle (<i>Dermochelys coriacea</i>)
	Loggerhead sea turtle (<i>Caretta caretta</i>)
	Gulf sturgeon (<i>Acipenser oxyrinchus desotoi</i>)
	West Indian manatee (<i>Trichechus manatus latirostris</i>)

Table ES-2 State Protected Species Effect Determinations

Project Impact Determination	State Listed Species
“No effect anticipated”	Celestial lily (<i>Nemastylis floridana</i>)
	Cutthroatgrass (<i>Coleataenia abscissa</i>)
	Florida beargrass (<i>Nolina atopocarpa</i>)
	Florida spiny-pod (<i>Matelea floridana</i>)
	Giant orchid (<i>Pteroglossaspis ecristata</i>)
	Godfrey's swampprivet (<i>Forestiera godfreyi</i>)
	Incised groove-bur (<i>Agrimonia incisa</i>)
	Large-plumed beaksedge (<i>Rhynchospora megaplumosa</i>)
	Many-flowered grass-pink (<i>Calopogon multiflorus</i>)
	Nodding pinweed (<i>Lechea cernua</i>)
	Pondspice (<i>Litsea aestivalis</i>)
	Sand butterfly pea (<i>Centrosema arenicola</i>)
	Small's flax (<i>Linum carteri</i> var. <i>smallii</i>)
	Yellow fringeless orchid (<i>Platanthera integra</i>)
“No adverse effect anticipated”	Florida burrowing owl (<i>Athene cunicularia floridana</i>)
	Florida sandhill crane (<i>Antigone canadensis pratensis</i>)
	Little blue heron (<i>Egretta caerulea</i>)
	Tricolored Heron (<i>Egretta tricolor</i>)
	Roseate spoonbill (<i>Platalea ajaja</i>)
	Gopher tortoise (<i>Gopherus polyphemus</i>)
	Short-tailed snake (<i>Lampropeltis extenuata</i>)

Table ES-3 Other Species of Concern Effect Determinations

Project Impact Determination	Additional Protected Species
No impacts to primary or secondary buffer zones	Bald eagle (<i>Haliaeetus leucocephalus</i>)
No impacts anticipated	Monarch butterfly (<i>Danaus plexippus</i>)

Wetlands

For the purposes of this document, wetlands are defined as per 62.340 Florida Administrative Code (F.A.C.) and Section 373.019 (27), Florida Statutes (F.S.). Surface waters are defined as open water bodies or streams/waterways.

The No-Build Alternative would result in no impacts to wetlands or surface waters. Although unavoidable wetland impacts will occur as a result of the proposed Build Alternative, these wetlands are located within the existing roadway ROW and were previously disturbed by urban development, roadway construction, maintenance activities, and the prevalence of nuisance and exotic species in and around the wetlands. Wetlands and surface waters that may be impacted by the proposed improvements include reservoirs, mixed wetland hardwoods, and freshwater marshes, located throughout the corridor of the project study area (**Table ES-4**). The limits of the Build Alternative include 3.78 acres of wetlands and 18.50 acres of surface waters. Of the 18.50 acres of designated surface waters, 13.86 acres are permitted stormwater ponds. Proposed direct impacts to these wetlands and surface waters include up to 0.87 acres of wetlands and up to 8.55 acres of surface waters. All of the proposed surface water impacts within the Build Alternative are to permitted stormwater ponds. A description of land use, dominant vegetation, soil types, and other pertinent remarks regarding these communities is provided in subsequent sections of this report. The Uniform Mitigation Assessment Methodology (UMAM) analysis was performed on representative wetland impact areas. If all wetlands and surface waters within the Build Alternative were impacted, there would be an estimated loss of 5.998 functional units.

Any proposed wetland impacts which result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. Compensatory mitigation for this project will be completed through the use of a private mitigation bank and any other mitigation options that satisfy state and federal requirements.

Final determination of jurisdictional boundaries, in addition to mitigation requirements, will be coordinated between THEA and relevant permitting agencies during the final design phase of the project. The results of this PD&E Study indicate there are no practicable alternatives to the proposed impacts due to the need for a roadway widening to reduce traffic congestion and safety considerations. In accordance with Presidential Executive Order 11990, THEA has undertaken all actions to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. THEA has determined that there is no practicable alternative to construction impacts occurring in wetlands. The proposed project will have no significant short-term or long-term adverse impacts to wetlands because any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function within the project drainage basin. Furthermore, all wetland impacts have been avoided and minimized to the greatest extent possible and have been limited to those areas which are required to meet minimum safety requirements.

Table ES-4 Proposed Wetland and Surface Water Impacts within the Build Alternative

ID	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Proposed Impact Acreage¹
SW 03	5340	Reservoirs less than 10 acres	PEM1Fx	8.55
WL 03	6170	Mixed Wetland Hardwoods	PFO1C	0.28
WL 08	6410	Freshwater Marshes	PSS1Fx	0.59
Total Surface Water Impacts				8.55
Total Wetland Impacts				0.87
Total Proposed Impacts				9.42

¹ All proposed impacts to surface waters are located within existing permitted stormwater ponds.

PEM1Fx: Palustrine, Emergent, Persistent, Excavated

PFO1C: Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded

PSS1Fx: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded

Essential Fish Habitat

The proposed project is not located within or near any coastal resources and will not involve Essential Fish Habitat as none exists within the project study area.

1.0 INTRODUCTION

In accordance with Presidential Executive Order 11990, Federal Highway Administration (FHWA) Technical Advisory T6640.8A, Section 7I of the Endangered Species Act (ESA) of 1973 (ESA, P.L. 93-205), and the Florida Department of Transportation (FDOT) *Project Development and Environment (PD&E) Manual*, Part 2, Chapters 9 (July 1, 2020) and 16 (July 1, 2020), a Wetlands Evaluation and Protected Species and Habitat Assessment were conducted for the proposed widening of the East Selmon Expressway (SR 618).

This Natural Resource Evaluation (NRE) is prepared as part of this PD&E study. This report reviews the proposed impacts to wetland systems and federal- and state-protected species, summarizes the results of these assessments, and identifies measures to avoid, minimize and mitigate for any impacts.

The purpose of this PD&E study is to evaluate engineering and environmental data and document information that will aid in determining the type, preliminary design, and location of the proposed improvements. The study is being conducted to meet the requirements of the National Environmental Policy Act (NEPA) and other applicable federal and state laws, rules, and regulations.

2.0 PROJECT DESCRIPTION

The Tampa Hillsborough Expressway Authority (THEA) is conducting a PD&E Study to evaluate the needs, costs, and effects of constructing improvements that will increase traffic capacity and safety on the Selmon Expressway (SR 618) from the I-4 Connector to US 301 in Hillsborough County (**Figure 1-1**). The project involves adding an additional lane in each direction along the mainline Selmon Expressway (SR 618) from the I-4 Connector to US 301. The total project length is 6.17 miles.

Within the project limits, the Selmon Expressway generally provides two or three lanes in each direction along the mainline lanes with access to the I-4 Connector, 50th Street, 78th Street and US 301. The REL is generally located in the median of the Selmon Expressway with three lanes from Downtown Tampa to Palm River Road and two lanes from Palm River Road across I-75 and into Brandon. The REL provides additional system capacity to the peak direction of traffic with access available to westbound traffic in the morning and eastbound traffic in the afternoon.

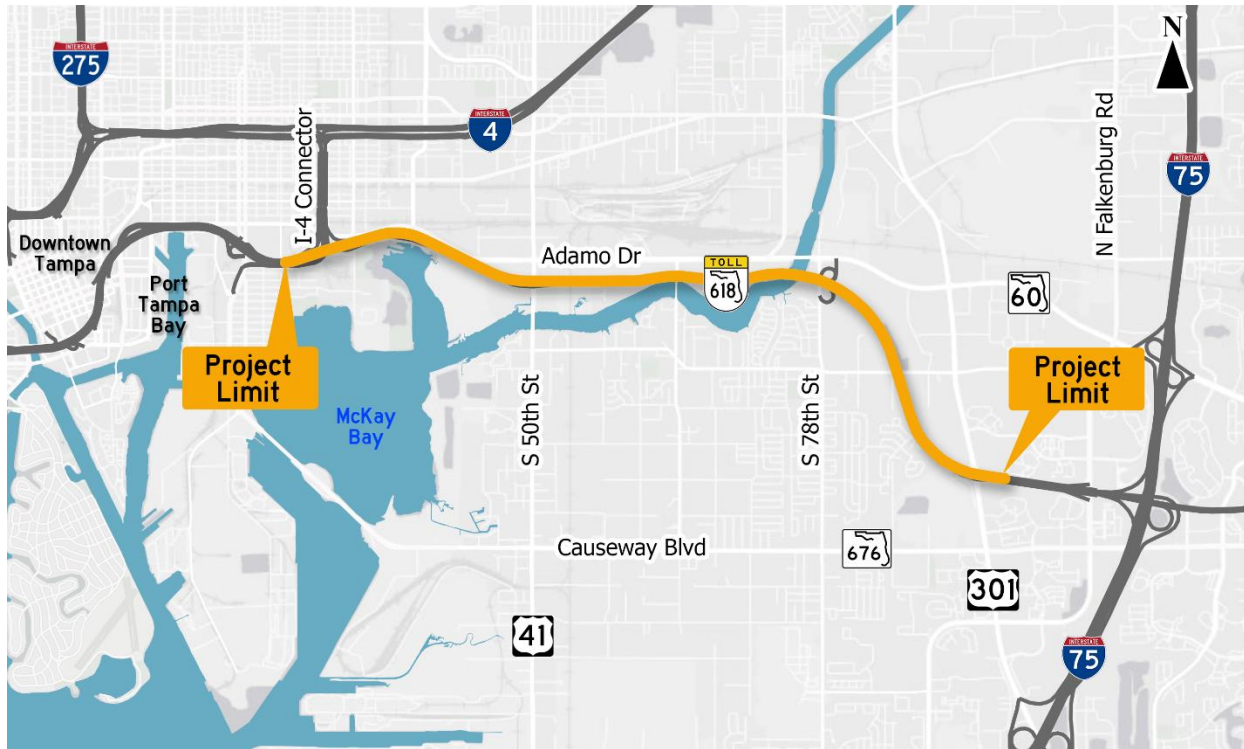


Figure 1-1 Project Location Map

2.1 Purpose and Need

The purpose of this project is to accommodate existing and future traffic demands and improve travel time reliability and safety on the Selmon Expressway from the I-4 Connector to US 301.

During the morning rush hour, congestion regularly occurs in the westbound direction from US 301 to 50th Street. Recent improvements by THEA that provides additional slip ramps (Contact #O-02520) between the local lanes and the REL is expected to improve traffic conditions along the westbound direction by encouraging traffic to shift to the REL. However, even with improved access to the REL, westbound segments, such as the two-lane section between 78th Street and 50th Street, will start to fail again by 2030.

During the afternoon rush hour, congestion occurs at the eastbound off-ramp to US 301. Both directions of travel along the mainline operate acceptably at a LOS D or better. However, by 2027, segments of the eastbound lanes where the mainline only has two lanes, such as 50th Street to 78th Street, will begin to fail.

Over the five year period from 2015 to 2019, there were 571 crashes within the project limits. One crash resulted in a fatality and twelve crashes resulted in severe injuries. Of the 571 crashes, 249 (44%) involved rear-end collisions indicating congestion as one of the primary contributing factors. High crash locations include the interchange areas at 50th Street, 78th Street, and US 301. Safety enhancements are needed to address THEA's Vision Zero safety goals to eliminate all traffic fatalities and serious injuries.

Improving the Selmon Expressway is critical for accommodating future travel demands, addressing congestion, and improving safety. Usage of the facility will continue to grow leading to more congestion and crashes if nothing is done. In 2019, 95,000 vehicles per day utilized the Selmon Expressway. By 2046, that number is expected to grow to 167,000, an increase of 75%. Population and economic growth in the region are directly linked to increasing traffic. The University of Florida Bureau of Economic and Business Research (BEBR) projects that the population of Hillsborough County will increase from 1,444,870 residents in 2019 to 1,919,900 residents in 2045, an increase of 33%. Furthermore, the portions of the Tampa Bay region contributing to traffic on the Selmon Expressway (consisting of parts of Hillsborough, Manatee, Polk, Pasco, Hernando, and Citrus counties) are expected to grow by 85% by 2045.

Improving the Selmon Expressway is also important for regional connectivity and hurricane evacuations. The Selmon Expressway connects Pinellas County and the City of St. Petersburg with Hillsborough County via the Gandy Boulevard Bridge and provides connectivity between Downtown Tampa, Port Tampa Bay, I-4 via the I-4 Connector, I-75, and Brandon.

2.2 Proposed Improvements

The alternatives under evaluation are the No-Build Alternative and the Build Alternative.

2.2.1 No-Build Alternative

The No-Build Alternative assumes that no new local lanes are constructed along the Selmon Expressway from the I-4 Connector to US 301. The results of the No-Build Alternative analysis formed the basis of the comparative analysis for the Build Alternative.

The advantages of the No-Build Alternative include:

- No impact to adjacent social, cultural, natural, or physical environments
- No utility impacts
- No expenditure of funds for design or construction

The disadvantages of the No-Build Alternative include:

- Does not address vehicular travel demands
- Does not alleviate traffic
- Rate of crashes in the study area would likely continue to increase

The No-Build Alternative will remain viable throughout the PD&E Study.

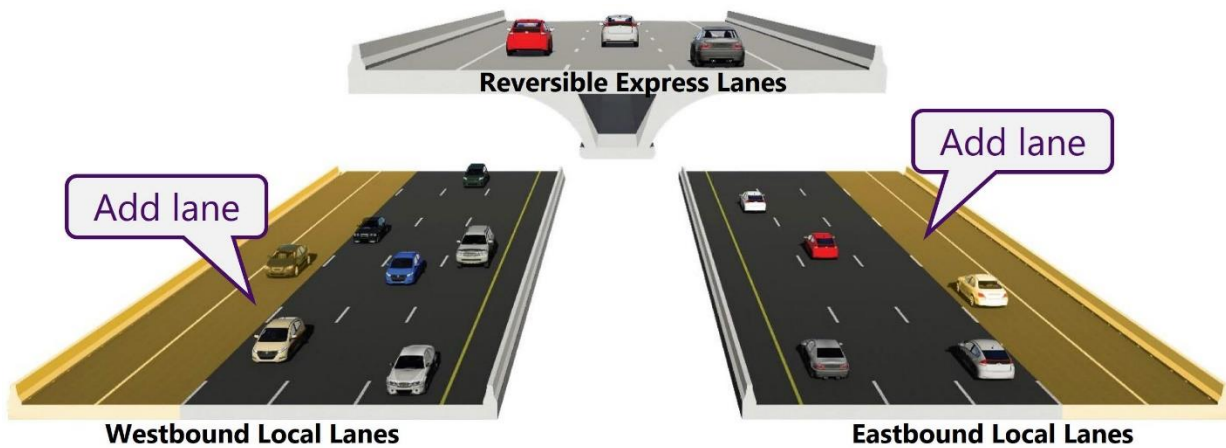
2.2.2 Build Alternative

The Build Alternative proposes to add an additional local lane in each direction of the Selmon Expressway from the I-4 Connector to US 301 (Error! Reference source not found.-1). In addition, the Build Alternative includes the following improvements:

- Add a signal at the intersection of 78th Street and the eastbound off-ramp
- Relocate the ramp from the Reversible Express Lanes (REL) to the westbound local lanes from west of US 301 to east of US 301.

All proposed improvements associated with the Build Alternative are located within existing right-of-way.

Figure 2-1 Build Alternative Typical Section



3.0 EXISTING CONDITIONS

Pursuant to Presidential Executive Order 11990 entitled “Protection of Wetlands,” the United States Department of Transportation (USDOT) has developed the policy Preservation of the Nation’s Wetlands (USDOT Order 5660.1A), dated August 24, 1978. In accordance with this policy, the project study area was evaluated to assess wetland or surface water impacts that may be associated with the proposed improvements.

The ROW within the project study area varies in width and extends along the East Selmon Expressway (SR 618) ROW from the I-4 Connector to I-75, as shown in **Figure 1-1**. From the I-4 Connector to 78th Street the limited access ROW is constrained to as little as 160 feet in some areas. From 78th Street to I-75 the typical limited access ROW extends 150 feet on either side of the Selmon Expressway centerline for a total width of 300 feet. The Selmon Expressway general toll lanes have two lanes in each direction with some segments having a third auxiliary lane. The Selmon Expressway RELs occupy the wide median with three lanes from Meridian Avenue to 78th Street and two lanes from 78th Street to the end of the project where they tie into Brandon Parkway.

This section presents a description of existing conditions within the project study area, including soils and land use/vegetative cover types within both wetlands and uplands. **Section 4.0** presents a description of the potential impacts to federal- and state- listed species and proposed conservation measures to off-set these impacts. **Section 5.0** presents a description of wetland and surface water impacts that would result from construction of the proposed project and a discussion of the mitigation options to offset these impacts.

3.1 Methodology

To assess the approximate locations and boundaries of existing wetland and upland communities within the project study area, the following site-specific data were collected and reviewed:

- Aerial photographs (scale, 1 inch = 400 feet), ESRI 2022;
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), *Soil Survey of Hillsborough County, Florida* (NRCS 1983);
- Florida Association of Environmental Soil Scientists, *Hydric Soils of Florida Handbook*, 4th Edition (Hurt, 2007);
- Florida Department of Transportation, Florida Land Use, Cover and Forms Classification System (FLUCFCS) Handbook, 3rd Edition (FDOT, 1999);
- Southwest Florida Water Management District (SWFWMD) FLUCFCS GIS Database (2020);
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory, Wetlands Online Mapper (January 2022); and
- USFWS, Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al., 1979).

For the purposes of this document, wetlands are defined as per 62-340 Florida Administrative Code (FAC) and Section 373.019 (27), (Florida Statutes [FS]). Surface waters are defined as open water bodies or streams/waterways, including roadside ditches.

Environmental scientists familiar with Florida's natural communities conducted field reviews of the project study area in March of 2021. Field reviews consisted of vehicular and pedestrian transects throughout natural habitat types found within the project study area. The purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo interpretation. During field investigations, wetland and surface water habitats within the project study area were visually inspected. Attention was given to identifying plant species composition for each community type. Exotic plant infestations and other disturbances such as soil subsidence, clearing, canals, power lines, etc., were noted. Attention was also given to identifying wildlife and signs of wildlife usage in each wetland and adjacent upland habitats within the project study area.

3.2 Results

Based on site-specific data reviews and field evaluations, a total of 21 soil types, 15 upland habitat types, and 15 wetland and surface water habitat types were identified within the project study area. The following subsections describe the soils, upland and wetland community types, and individual wetlands and surface waters that occur within the project study area.

3.2.1 Soils

Based on the *Soil Survey of Hillsborough County, Florida* (NRCS, 1989), the project study area is comprised of 21 soil types. **Appendix A** provides aerial maps depicting the boundaries of each soil type within the project study area in addition to individual soil descriptions and their general characteristics. According to the *Hydric Soils of Florida Handbook* (Hurt, 2007), eight (8) of the soil types reported within the project study area are classified as hydric, 13 are non-hydric. Of the 13 non-hydric soils, seven (7) are reported as having hydric soil inclusions. Mapped hydric soils comprise 425.47 acres (36.90 percent) and non-hydric soils cover 662.90 acres (57.50 percent) of the project study area.

Table 3-1 lists the soil types reported within the project study area, their corresponding NRCS reference numbers reported in the *Soil Survey of Hillsborough County, Florida* (NRCS, 1989), their hydric soils classification, and the approximate acreage and percentage of each soil type within the project study area.

Table 3-1 Soil Types and Coverage within the SR 618 Project Study Area

Map Unit Symbol	Soil Type	Hydric Y/N	Acres in Study Area	Percent of Study Area
4	Arents, nearly level	N	122.63	10.64%
5	Basinger, Holopaw, and Samsula soils, depressional	Y	19.90	1.73%
15	Felda fine sand, 0 to 2 percent slopes	Y	32.83	2.85%
17	Floridana fine sand, 0 to 2 percent slopes	Y	4.74	0.41%
22	Immokalee-Urban land complex	N	28.93	2.51%
24	Kesson muck, frequently flooded	Y	67.28	5.84%
27	Malabar fine sand, 0 to 2 percent slopes	Y	45.08	3.91%
29	Myakka fine sand, 0 to 2 percent slopes*	N*	148.72	12.90%
30	Myakka fine sand, frequently flooded	Y	50.97	4.42%
32	Myakka-Urban land complex*	N*	87.86	7.62%
33	Ona fine sand, 0 to 2 percent slopes*	N*	26.24	2.28%
38	Pinellas fine sand, 0 to 2 percent slopes*	N*	37.88	3.29%
41	Pomello fine sand, 0 to 5 percent slopes	N	3.12	0.27%
43	Quartzipsamments, nearly level*	N*	35.75	3.10%
44	St. Augustine fine sand, 0 to 2 percent slopes*	N*	10.45	0.91%
45	St. Augustine-Urban land complex*	N*	1.72	0.15%
46	St. Johns fine sand	Y	21.70	1.88%
52	Smyrna fine sand, 0 to 2 percent slopes	N	126.26	10.95%
56	Urban land, 0 to 2 percent slopes	N	27.88	2.42%
57	Wabasso fine sand, 0 to 2 percent slopes	N	5.46	0.47%
59	Winder fine sand, 0 to 2 percent slopes	Y	182.96	15.87%
99	Water	NA	64.55	5.60%
Total Hydric Soils			425.47	36.90%
Total Non-Hydric Soils			662.90	57.50%
Total Water			64.55	5.60%
Totals for Project Study Area			1152.93	100%

* May have hydric soil inclusions

3.2.2 Existing Land Use

A total of 14 upland and 14 wetland or surface water habitat types were found within the project study area. Descriptions and aerial maps depicting existing land uses and habitats within the project study area are provided in **Appendix B. Table 3-2** provides land use and habitat types and their FLUCFCS classifications, in addition to their total acreage and percent coverage within the project study area.

Existing land use within the project study area was determined through the interpretation of 1" = 100' scale aerial photography, review of land cover GIS data obtained from the SWFWMD, and field reconnaissance of the project corridor conducted in March of 2021.

Upland communities comprise 948.06 acres (83.23 percent) of the project study area and generally includes residential, commercial and services, industrial, open land, and transportation. Wetland and surface water communities comprise 204.87 acres (17.77 percent) of the project study area and include streams and waterways, reservoirs, bays and estuaries, mangrove swamps, wetland forested mixed, wetland shrub, freshwater marshes, and saltwater marshes. No conservation easements dedicated to SWFWMD are located within the project study area.

Table 3-2 Existing Land Uses within the SR 618 Road Widening Project Study Area

FLUCFCS Classification¹	FLUCFCS Description	USFWS Classification²	Acres within Study Area	Percent of Study Area
1100	Residential Low Density (<2 Dwelling Units per Acre)	NA	4.29	0.37%
1200	Residential Med Density (2-5 Dwelling Units per Acre)	NA	30.32	2.63%
1300	Residential High Density	NA	52.47	4.55%
1400	Commercial and Services	NA	119.82	10.39%
1500	Industrial	NA	223.16	19.36%
1700	Institutional	NA	44.23	3.84%
1900	Open Land	NA	29.55	2.56%
2100	Cropland and Pastureland	NA	15.01	1.30%
4340	Upland Hardwood - Coniferous Mix	NA	3.25	0.28%
4380	Mixed Hardwoods	NA	4.29	0.37%
8100	Transportation	NA	299.99	26.02%
8120	Railroads	NA	2.90	0.25%
8200	Communication	NA	0.70	0.06%
8300	Utilities	NA	8.19	0.71%
Total Uplands			948.06	82.23%
5100	Streams and Waterways	R2UBH	60.59	5.26%
5300	Reservoirs	PUBHx	1.42	0.12%
5340	Reservoirs less than 10 acres	PEM1Fx	38.35	3.33%
5400	Bays and Estuaries	E1UBL	12.69	1.10%
6120	Mangrove Swamps	E2SS3N	35.13	3.05%
6170	Mixed Wetland Hardwoods	PFO1Cx	0.28	0.02%
6210	Cypress	PFO2F	1.59	0.14%
6300	Wetland Forested Mixed	PFO1C	2.53	0.22%
6310	Wetland Shrub	PSS1F	12.55	1.09%
6400	Vegetated Non-Forested Wetlands	PEM1Cx	0.62	0.05%
6410	Freshwater Marshes	PSS1Fx	26.10	2.26%
6420	Saltwater Marshes	E2EM1N	8.28	0.72%
6430	Wet Prairies	PSS1F	2.56	0.22%
6440	Emergent Aquatic Vegetation	PEM1F	2.18	0.19%

FLUCFCS Classification ¹	FLUCFCS Description	USFWS Classification ²	Acres within Study Area	Percent of Study Area
Total Wetlands and Surface Waters			204.87	17.77%
Total			1152.93	100.00%

¹SWFWMD, 2020

²Cowardin, et al., 1979

R2UBH: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded

PUBHx: Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated

PEM1Fx: Palustrine, Emergent, Persistent, Semi-permanently Flooded, excavated

E1UBL: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal

E2SS3N: Estuarine, Intertidal, Scrub-Shrub, Broad-Leaved Deciduous, Regularly Flooded

PFO1Cx: Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded, excavated

PFO2F: Palustrine, Forested, Needle-Leaved Deciduous, Semipermanently Flooded

PFO1C: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded

PSS1F: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded

PEM1Cx: Palustrine, Emergent, Persistent, Seasonally Flooded, excavated

PSS1Fx: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded, excavated

E2EM1N: Estuarine, Intertidal, Emergent, Persistent, Regularly Flooded

PEM1F: Palustrine, Emergent, Persistent, Semipermanently Flooded

3.2.3 Wetlands and Surface Waters

During field reviews of the project study area, environmental scientists delineated the approximate boundaries of existing wetland and surface water communities on 1" = 200' true-color aerial photographs. Each wetland and surface water habitat within the project study area was classified using FLUCFCS (FDOT 1999) and the USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979). Approximate wetland boundaries were identified in accordance with the State of Florida Wetlands Delineation Manual [Chapter 62-340, Florida Administrative Code (F.A.C.)] and the criteria found within the U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetland Delineation Manual (Y-87-1) and 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0) (ERDC/EL TR-10-20).

Wetland lines were delineated within the project study area in March of 2021; however, they have not been reviewed or approved by regulatory agencies. Formal wetland boundary delineations and surveys will need to be updated as part of the state and federal permit process.

Based on collected field data and in-house reviews, a total of 14 wetland and surface water habitat types were observed within the project study area. These include streams and waterways, reservoirs, bays and estuaries, mangrove swamps, stream and lake swamps (bottomland), mixed wetland hardwoods, cypress, wetland forested mixed, wetland shrub, vegetated non-forested wetlands, freshwater marshes, saltwater marshes, wet prairies, and emergent aquatic vegetation.

Appendix C provides individual descriptions of the identified wetlands and surface waters, a table of their acreage within the project study area, and aerial maps of the location of these systems within the project study area. There are no wetlands or surface waters designated as Outstanding Florida Waterways, Aquatic Preserves, or Wild and Scenic Rivers within the project study area.

4.0 PROTECTED SPECIES

This project was evaluated for impacts to wildlife and habitat resources, including protected species, in accordance with 50 CFR Part 402 of the ESA of 1973, as amended, the Florida Endangered and Threatened Species Act, Section 379.2291, F.S., and Part 2, Chapter 16 of the PD&E Manual. Listed species are afforded special protective status by federal and state agencies. This special protection is federally administered by the United States Department of the Interior, USFWS, and National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NOAA-NMFS) pursuant to the ESA of 1973 (as amended). The USFWS administers the federal list of animal species (50 CFR 17) and plant species (50 CFR 23). Federal protection of marine species is the responsibility of the NOAA-NMFS.

Administered by the Florida Fish and Wildlife Conservation Commission (FWC), the State of Florida affords special protection to animal species designated as State-designated Threatened pursuant to Chapter 68A-27, F.A.C. The State of Florida also protects and regulates plant species designated as endangered, threatened, or commercially exploited as identified on the Regulated Plant Index (5B-40.0055, F.A.C.), which is administered by the Florida Department of Agriculture and Consumer Services (FDACS), Division of Plant Industry, pursuant to Chapter 5B-40, F.A.C. Protected species evaluations were completed in accordance with FHWA's 2002 Memorandum, titled "Management of the Endangered Species Act Environmental Analysis and Consultation Process". Species that are federally-listed are also considered state-listed species.

The project is located within the USFWS Consultation Areas (CAs) of multiple federally protected species, including the West Indian manatee (*Trichechus manatus latirostris*), Florida grasshopper sparrow (*Ammodramus savannarum floridanus*), piping plover (*Charadrius melodus*), Florida scrub-jay (*Aphelocoma coerulescens*), and within the Core Foraging Area (CFA) of six (6) active wood stork (*Mycteria americana*) colonies.

The following sections describe the methodology used to assess the potential for occurrence of protected species and to identify the effects that implementation of the proposed project alternatives may have on protected species.

4.1 Data Collection

Available site-specific data was collected and evaluated to determine federal- and state-listed protected plant and animal species that have potential to occur within the project study area and to identify the approximate locations of existing upland and wetland communities.

Literature reviewed and databases searched as part of this evaluation included:

- USFWS, Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12, June 2021;
- FWC, Florida's Endangered Species and Threatened Species, June 2021;
- Audubon Florida EagleWatch Public Nest website <https://www.arcgis.com/apps/webappviewer/index.html?id=9ade9794b8494d2b84c8dea339ea1428>), 2022;
- FWC, Wading Bird Rookeries website

(http://ocean.floridamarine.org/TRGIS/Description_Layers_Terrestrial.htm), 1999;

- FNAI Biodiversity Matrix Map Server, May 2022, (<https://www.fnai.org/BiodiversityMatrix/index.html>);
- USFWS, 2010-2019 Wood Stork Nesting Colonies Maps (<http://fgdl.org>), June 2022;
- USFWS, Information for Planning and Consultation (IPaC) Mapper, June 2022; and
- USFWS, Critical Habitat Portal website (<http://criticalhabitat.fws.gov/crithab/>).

Environmental scientists familiar with Florida natural communities conducted field reviews of the project study area, adjacent habitats, and general species surveys in March of 2021. Field reviews consisted of reviewing natural habitat types located within the project study area. The purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo interpretation. During field investigations, each upland and wetland community within the project study area were visually inspected. Attention was given to identifying dominant plant species composition for each community. Additional scrutiny was given to identifying wildlife and signs of wildlife usage in each wetland and upland community within the project study area. The FNAI biodiversity matrix for documented occurrences of listed species within one (1) mile of the project study area was reviewed (**Appendix E**).

Based on the evaluation of collected data, field reviews, the FNAI biodiversity matrix review, and database searches, the federal- and state-listed protected species discussed in **Section 4.2** were considered as having the potential to occur within or adjacent to the project study area. For a species to be considered potentially present, the project study area must be within the species' distribution range. An effect determination was then made for each federal- and state-listed species based on an analysis of the potential impacts associated with the proposed alternatives to each species.

4.2 Results

Based on the information collected and field reviews, a list of protected species with the potential to occur within the project study area was generated. This list includes a total of 40 federal or state protected species that have the potential for occurrence within the project study area. These protected species include 17 flora, eight (8) reptilian, two (2) mammalian, one (1) piscine, and 12 avian species. **Appendix F** presents a list of protected species with the potential to occur within the project study area, their federal or state protection status, preferred habitat, and a ranking of potential occurrence. According to FWC, the habitat distribution for the Southeastern American kestrel (*Falco sparverius paulus*) includes Hillsborough County; however, suitable habitat is not present onsite for this species and was therefore excluded from further evaluation.

The potential for occurrence for each species was designated as None, Low, Moderate, or High based on the type of habitat present within the project study area, its relative condition, and if the species has been previously documented or was observed in the project study area. A *None* rating indicates that no habitat for that species was found within the project study area. A *Low* rating indicates that minimal/suboptimal habitat for that species was found within the project study area, but the species has not been documented within the project study area. A *Moderate* rating

indicates that suitable habitat exists, and the species has been documented within one (1) mile of the project study area. A *High* rating indicates that suitable habitat exists, and the species was observed during field reviews.

While the proposed project has taken all practicable measures to avoid and minimize impacts to potentially occurring protected species and their habitats, unavoidable impacts may occur because of roadway and pond site construction. A determination of the anticipated project “effect” on protected species was made based on their probability of occurrence within the project study area, the proposed changes to their habitat quality, quantity and availability as a result of project construction, and how each species is expected to respond to anticipated habitat changes. Listed below are the “effect” determinations for each species.

4.2.1 Federal Protected Species

4.2.1.1 Flora

Florida Bonamia (*Bonamia grandiflora*)

The Florida bonamia is a morning glory vine with large, blue flowers that is listed as ***threatened*** by the **USFWS**. This species is a member of the morning-glory (*Convolvulaceae*) family and occurs on open or disturbed areas in white sand scrub on central Florida ridges that include scrub oaks, sand pine, and lichens. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, Florida bonamia has not been documented historically within one (1) mile of the project study area and was not observed during the field reviews of the project study area. Based on this information and the lack of preferred habitat within the project study area, it has been determined that the project will have “**no effect**” on the Florida bonamia.

Florida Golden Aster (*Chrysopsis floridana*)

The Florida golden aster is a perennial herb with small, golden flowers that is listed as **endangered** by the **USFWS**. This species is a member of the daisy (*Asteraceae*) family and occurs on sunny, bare patches of sand in sand pine scrub and scrubby flatwoods, as well as disturbed areas of loose sand. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, Florida bonamia has not been documented historically within one (1) mile of the project study area. Based on this information and the lack of preferred habitat within the project study area, it has been determined that the project will have “**no effect**” on the Florida golden aster.

Pygmy Fringe-tree (*Chionanthus pygmaeus*)

The pygmy fringe tree is a small shrubby tree with white and green flowers that is listed as **endangered** by the **USFWS**. This species is a member of the olive (*Oleaceae*) family and occurs on scrub, sandhill, and xeric hammocks, primarily on the Lake Wales Ridge. Potential preferred suitable habitat for this species was observed within the project study area. However, according to FNAI data, the pygmy fringe tree has not been historically documented within one (1) mile of the project study area and this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect**” on the pygmy fringe tree.

4.2.1.2 Fauna

Reptilian

American Alligator (*Alligator mississippiensis*)

The American alligator is a large aquatic reptile with a broad, rounded snout. This species is listed as **threatened** by the **USFWS** due to their similarity of appearance to the American crocodile. This species’ range stretches from east Texas, across to North Carolina, and extends down into southern Florida. They prefer freshwater lakes, slow-moving rivers, and associated wetlands, but they are occasionally found in brackish water. According to FNAI data, this species was listed as likely to occur within one (1) mile of the project study area. No American alligators were observed during field reviews; however, large wetland and surface water systems were observed during fieldwork that provide suitable habitat and it is reasonable to expect that this species could utilize suitable habitat within the project study area. Based on this information, it has been determined that the project “**may affect, but is not likely to adversely affect**” on the American alligator.

American Crocodile (*Crocodylus acutus*)

The American crocodile is a large, gray to brown crocodylian with a long, tapered snout. This species is listed as **endangered** by the **USFWS**. This species can be found in coastal estuarine marshes, tidal swamps, and creeks along edges of mainland and islands. They are usually associated with mangroves, though they typically nest on beaches, stream banks, and levees. According to FNAI data, this species was not listed as potentially occurring within one (1) mile of

the project study area. Additionally, no American crocodiles were observed during field reviews; however, large wetland and surface water systems were observed during fieldwork that provide suitable habitat and it is reasonable to expect that this species could utilize suitable habitat within the project study area. Based on this information, it has been determined that the project “**may affect, but is not likely to adversely affect**” on the American crocodile.

Eastern Indigo Snake (*Drymarchon couperi*)

The eastern indigo snake is a large, glossy black snake that is listed as **threatened** by the **USFWS**. This species can be found in a variety of habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, as well as human-altered habitats. It may also utilize gopher tortoise burrows for shelter to escape hot or cold ambient temperatures within its range. According to FNAI data, this species has not been historically documented within one (1) mile of the project study area. While there is suitable habitat for this species throughout the undeveloped areas of the project study area, the eastern indigo snake was not observed during field reviews and has not been documented within one (1) mile of the project study area. However, it is reasonable to expect that this species could utilize suitable habitat within the project study area. To minimize potential adverse impacts to the eastern indigo snake, THEA will implement the USFWS *Standard Protection Measures for the Eastern Indigo Snake* (updated August 2013) during construction (see **Appendix G**). Additionally, THEA will survey the project limits prior to construction to determine the presence and location of gopher tortoise burrows. If gopher tortoises or burrows are found within 25 feet of the limits of construction, THEA will reinitiate technical assistance with the FWC to secure all permits needed to relocate the tortoises and associated commensal species. With the implementation of these measures, it has been determined that the project “**may affect, not likely to adversely affect**” the eastern indigo snake. The path to this determination followed the key steps A →B→C→D→MANLAA as shown in **Appendix G**.

Hawksbill Sea Turtle (*Eretmochelys imbricata*) Leatherback Sea Turtle (*Dermochelys coriacea*) Loggerhead Sea Turtle (*Caretta caretta*)

The hawksbill sea turtle has an irregularly patterned, brown, carapace (upper shell) that is sharply serrated and somewhat heart shaped and is listed as **endangered** by the **USFWS**. They have a white to yellow plastron (lower shell) and the upper jaw is narrowly pointed as a beak, giving the turtle its name. Hawksbills inhabit marine coastal and oceanic waters, and are commonly associated with coral reefs, keys, and mangroves. While inhabiting these areas, their diet consists primarily of sponges. These sea turtles nest on sandy beaches and nesting in Florida is largely restricted to the southeastern coast between Volusia and Dade Counties, and Monroe County (NMFS and USFWS 1993).

The leatherback is large sea turtle with black with blue, pink, and white splotches throughout the body. The leatherback sea turtle is listed as **endangered** by the **USFWS**. The leatherback’s diet primarily consists of jellyfish and salps (sac-like filter feeders). Unlike other sea turtles with hard shells, the leatherback sea turtle has a shell comprised of a thick layer of fatty tissue overlaid with a mosaic of tiny bones and covered with a thin layer of skin. Leatherbacks average six feet (1.8 meters) in length and a weight range of 500 to 1,500 pounds (226.8-680.4 kilograms) (Stewart

and Johnson 2006). The leatherback sea turtle is the largest turtle in the world (NMFS and USFWS 1992). Leatherbacks are found in Florida's coastal waters, with most leatherbacks in Florida nesting along the Atlantic coast.

The loggerhead is a large sea turtle with a large head and reddish-brown carapace and is listed as **threatened** by the **USFWS**. Like leatherback sea turtles, a considerable portion of the loggerhead diet is comprised of jellyfish, though they also consume crabs, pelagic snails, barnacles, and other organisms. Loggerhead sea turtles inhabit the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans and nest on beaches from Texas to Virginia within the continental United States. Nesting concentrations occur on the coastal islands of North Carolina, South Carolina, and Georgia, and on the Atlantic and Gulf coasts of Florida, with approximately 80% of the nesting activity occurring in Brevard, Indian River, St. Lucie, Martin, Palm Beach and Broward counties (NMFS and USFWS 2008).

Nesting habitat is not present within the project site; however, suitable foraging habitat is present within the aquatic portions of the project site for these sea turtle species (hawksbill sea turtle, loggerhead sea turtle, and leatherback sea turtle). Additionally, a review of NOAA's and FWC's sea turtle strandings databases within one (1) mile of the project site revealed a total of three (3) stranding records within the past 10 years. Coordination is recommended with USFWS to determine what construction conditions will be required. It is recommended that the NMFS *Sea Turtle and Smalltooth Sawfish Construction Conditions (Appendix H)* be implemented if any in-water work is proposed. Based on this information, it has been determined that the project "**may affect, but is not likely to adversely affect**" on the hawksbill sea turtle, leatherback sea turtle, and loggerhead sea turtle.

Avian

Audubon's Crested Caracara (*Caracara cheriway*)

The crested caracara is a large, boldly patterned raptor with a crest that is listed as **threatened** by the **USFWS**. This species often inhabits open country, such as dry prairie and pasture lands with scattered cabbage palms, cabbage palm/live oak hammocks, and shallow ponds and sloughs. It also requires cabbage palms or live oaks with low-growing surrounding vegetation for nesting. No potential habitat for this species was observed within the project study area and the species was not observed during the field reviews. Additionally, the project study area lies outside the USFWS Crested Caracara Consultation Area. According to FNAI data, the crested caracara has not been documented within one (1) mile of the project study area. Based on this information, it has been determined that the project will have "**no effect**" on the crested caracara.

Eastern Black Rail (*Laterallus jamaicensis*)

The Eastern black rail is a wetland dependent bird that is listed as **threatened** by the **USFWS**. This species requires dense overhead cover and soils that are moist to saturated and interspersed with very shallow water. Potential habitat for this species was observed within the project study area; however, no individuals were observed during the field reviews. According to FNAI data, the Eastern black rail has not been documented within one (1) mile of the project study area. Based on this information, it has been determined that the project will have "**no effect**" on the Eastern black rail.

Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)

The Florida grasshopper sparrow is a small, short-tailed, flat-headed sparrow that is listed as **endangered** by the **USFWS**. This species requires large areas of frequently burned dry prairie habitat with patchy open areas sufficient for foraging. It may persist in pasture lands that have not been intensively managed. While the project study area lies within the USFWS Florida Grasshopper Sparrow CA, no potential habitat for this species was observed within the project study area and no individuals were observed during the field reviews. According to FNAI data, the Florida grasshopper sparrow has not been documented within one (1) mile of the project study area. Based on this information, it has been determined that the project will have “**no effect**” on the Florida grasshopper sparrow.

Florida Scrub-Jay (*Aphelocoma coerulescens*)

The Florida scrub-jay is similar to the common blue jay in size and shape, with a pale blue crestless head, nape, wings, and tail. It is listed as **threatened** by the **USFWS**. Optimal scrub-jay habitat consists of low growing, scattered scrub species with patches of bare sandy soil such as those found in sand pine scrub and scrubby flatwoods habitats that are occasionally burned. In areas where these types of habitats are unavailable, Florida scrub-jays may be found in less optimal habitats such as pine flatwoods with scattered oaks. The project study area lies within the USFWS Florida Scrub-jay CA; however, no potential habitat for this species was observed. According to FNAI data, the Florida scrub-jay has not been documented within one (1) mile of the project study area. Based on this information, it has been determined that the project will have “**no effect**” on the Florida scrub-jay.

Piping Plover (*Charadrius melodus*)

The piping plover is a small plover with a short, stout, black bill, yellow to greenish-olive legs, and very pale upperparts that is listed as **threatened** by the **USFWS**. This species can be found on open, sandy beaches and on tidal mudflats and sandflats along both coasts. No potential habitat for this species was observed within the project study area and no individuals were observed during the field reviews. According to FNAI data, the piping plover has not been documented within one (1) mile of the project study area. Based on this information, it has been determined that the project will have “**no effect**” on the piping plover.

Red Knot (*Calidris canutus rufa*)

This small, plump shorebird with mottled gray back plumage and a rust-colored breast is listed as **threatened** by the **USFWS**. The red knot migrates through Florida during winter where it utilizes non-vegetated to sparsely vegetated tidal mudflats and sand flats along inlets and creeks for foraging. Marginal foraging habitat is present within the project site for this species; however, there have been no documented sightings of the red knot within one (1) mile of the project site, and no individuals were observed during field reconnaissance. Based on this information, it has been determined that the project will have “**no effect**” on the red knot.

Wood Stork (*Mycteria americana*)

The wood stork is a large, white, wading bird that is listed as **threatened** by the **USFWS**. The wood stork is opportunistic and utilizes various habitat types including freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures, and ditches. Water that is relatively calm, uncluttered by dense aquatic vegetation, and with a permanent or seasonal water depth between 2 and 15 inches is considered suitable foraging habitat for this species. Potential suitable foraging habitat for this species was observed within the project study area; however, no individuals were observed foraging in the wetland or surface water areas. According to FNAI data, the wood stork has not been documented within one (1) mile of the project study area.

According to the USFWS wood stork colony website, the project study area is located within the Core Foraging Area (CFA) of six (6) active wood stork colonies: Cross Creek, Cypress Creek I-75, Ferman Corporation, Lake Forest, Northlakes – Sagebrush, Sheldon Road – Citrus Park. In Hillsborough, Pasco, and Pinellas Counties, suitable wetland and open water habitats within 15.0 miles of a wood stork nesting colony are considered Core Foraging Areas. The Ferman Corporation nesting colony is located within one (1) mile of the project study area (see **Figure 4-1**). The primary concern for this species is loss of suitable foraging habitat within the CFA of a wood stork colony. Since anticipated impacts are more than 0.5 acres, a wood stork suitable foraging analysis was completed (**Appendix I**). There are approximately 0.87 acres of wetlands and approximately 8.55 acres of surface waters that were analyzed as wood stork foraging habitat within the Build Alternative. Wood stork foraging biomass productivity is calculated based on hydroperiods of class of affected wetlands. The Build Alternative would result in the net loss of 0.039 kg total (fish and crayfish) biomass.

As part of this project, impacts to wetlands within the project study area will be mitigated for within the CFA of one (1) or more of the affected rookeries or at a regional mitigation bank that has been approved by the USFWS or pursuant to Section 373.4137, F.S. Therefore, it has been determined that the proposed project “**may affect, not likely to adversely affect**” the wood stork. The path to this determination followed the key steps A→B→C→E→MANLAA as shown in **Appendix G**.

Piscine

Gulf Sturgeon (*Acipenser oxyrinchus desotoi*)

The gulf sturgeon is a sub-species of the Atlantic sturgeon that is listed as **threatened** by the **USFWS**. This species can be found from Lake Pontchartrain and the Pearl River system in Louisiana and Mississippi to the Suwannee River in Florida. Sturgeon are anadromous, a term used to describe fish that spend a part of their lives in saltwater, yet travel upstream in freshwater rivers to spawn. According to FNAI data, this species was listed as potentially occurring within one (1) mile of the project study area. No gulf sturgeon were observed during field reviews; however, large wetland and surface water systems were observed during fieldwork that provide suitable habitat and it is reasonable to expect that this species could utilize suitable habitat within the project study area. Based on this information, it has been determined that the project “**may affect, but is not likely to adversely affect**” on the gulf sturgeon.

Mammalian

Florida Bonneted Bat (*Eumops floridanus*)

The Florida bonneted bat is the largest bat species endemic to Florida and is listed as **endangered** by the **USFW**. This species roosts in natural tree cavities and man-made structures and forages within a variety of habitats including open fresh water, permanent or seasonal freshwater wetlands, within and above wetland and upland forests, wetland and upland shrub, and agricultural lands. In urban and residential areas drinking water, prey base, and suitable foraging can be found at golf courses, parking lots, and parks in addition to relatively small patches of natural habitat. The project site is outside the USFWS Consultation Area for the Florida bonneted bat. Based on this information, it has been determined that the project will have “**no effect**” on the Florida bonneted bat.

West Indian Manatee (*Trichechus manatus latirostris*)

The West Indian manatee large gray, nearly hairless, aquatic mammal is listed as **threatened** by the **USFWS**. The manatee is an herbivorous marine mammal typically found in coastal tidal rivers and streams, mangrove swamps, salt marshes, freshwater springs, and vegetated bottoms of the Gulf of Mexico and the Atlantic Ocean. No individuals were observed during field reconnaissance, however suitable habitat is present within the project site for this species, and there have been documented sightings of the West Indian manatee within one (1) mile of the project site. Additionally, the project study area is within the FWC Consultation Area for the West Indian manatee. The project site is not within a Manatee Protection Zone but is within a USFWS Warm Water Aggregation Area (WWAA). Restrictions may apply during construction within the WWAA based on type of project and/or require presence of dedicated manatee observers. Coordination with USFWS regarding the West Indian manatee is recommended to determine appropriate conservation measures. Based on this information, it has been determined that the project “**may affect, but is not likely to adversely affect**” on the West Indian manatee.

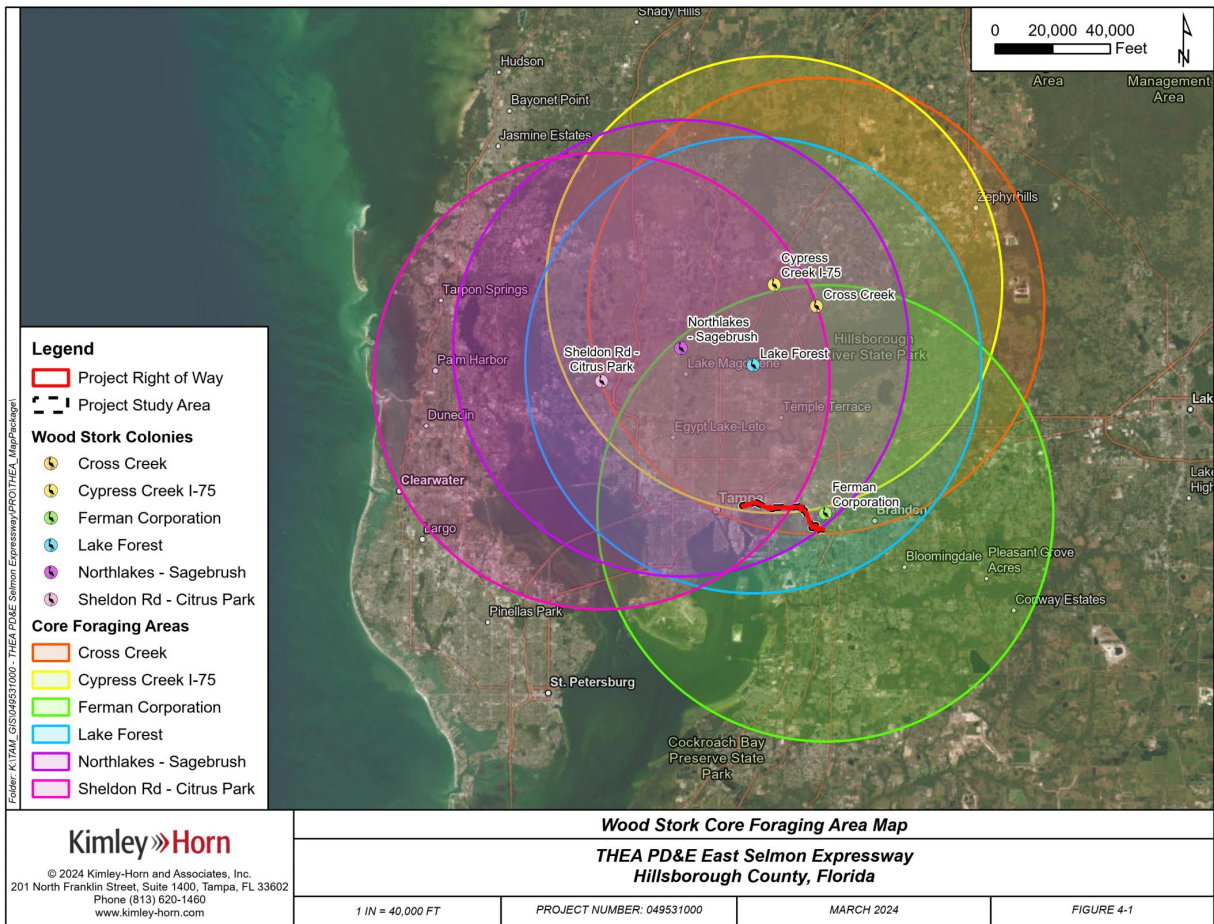


Figure 4-1 Wood Stork Core Foraging Area Location Map

4.2.2 State Protected Species

4.2.2.1 Flora

Celestial Lily (*Nemastylis floridana*)

The celestial lily is a perennial herb with a single, tall, slender stem and a dark blue flower that is listed as **endangered** by the **FDACS**. This species is a member of the iris (*Iridaceae*) family and occurs in wet flatwoods, prairies, marshes, and cabbage palm hammocks edges. Potential suitable habitat for this species was observed within the project study area. According to FNAI data, the celestial lily has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the celestial lily.

Cut-throat Grass (*Coleataenia abscissa*)

Cutthroat grass is a grass that grows approximately two (2) feet tall with purple panicles and is listed as **endangered** by the **FDACS**. This species is a member of the grass (*Poaceae*) family and occurs on dry prairies, mesic flatwoods, wet flatwoods, depressional marshes, and seepage slopes. Potential suitable habitat for this species was observed within the project study area. According to FNAI data, the cutthroat grass has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the cutthroat grass.

Florida Beargrass (*Nolina atopocarpa*)

Florida beargrass is a perennial herb with long, stiff leaves and clusters of small white flowers that is listed as **threatened** by the **FDACS**. This species is a member of the agave (*Agavaceae*) family and occurs on pine flatwoods and scrubby flatwoods. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, the Florida beargrass has been historically documented within one (1) mile of the project study area; however, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the Florida beargrass.

Florida Spiny-pod (*Matelea floridana*)

The Florida spiny-pod is a deciduous herbaceous vining plant that is listed as **endangered** by the **FDACS**. This species is a member of the milkweed (*Asclepiadaceae*) family and occurs on a variety of wooded habitats from fairly moist woods to upland hardwood forests. Potential suitable habitat for this species was observed within the project study area. According to FNAI data, the Florida spiny-pod has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the Florida spiny-pod.

Giant Orchid (*Pteroglossaspis ecristata*)

The giant orchid is a perennial herb with yellow-green flowers twisted in towards the stalk that is listed as **threatened** by the **FDACS**. This species is a member of the orchid (*Orchidaceae*) family. This species occurs on sandhill, scrub, pine flatwoods, and pine rocklands. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, the giant orchid has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the giant orchid.

Godfrey's Swampprivet (*Forestiera godfreyi*)

Godfrey's swampprivet is a deciduous shrub or small tree that grows to about 8-16 feet tall that is listed as **endangered** by the **FDACS**. This species is a member of the olive (*Oleaceae*) family

and occurs in upland hardwood forests with limestone at or near the surface, often on slopes above lakes and rivers. Potential suitable habitat for this species was observed within the project study area. According to FNAI data, Godfrey's swampprivet has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on Godfrey's Swampprivet.

Incised Groove-bur (*Agrimonia incisa*)

Incised groover-bur is a perennial herb that grows to about 4 feet tall with hairy leaves and yellow flowers that is listed as **threatened** by the **FDACS**. This species is a member of the rose (*Rosaceae*) family and occurs in dry to moist longleaf pine-oak woods, oak-hickory slopes, roadsides, sand or shell maritime thickets. Potential suitable habitat for this species was observed within the project study area. According to FNAI data, the incised groove-bur has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the incised groove-bur.

Large-plumed Beaksedge (*Rhynchospora megaplumosa*)

The large-plumed beaksedge is a perennial herb up to 90 cm tall, often forming clumps that is listed as **endangered** by the **FDACS**. This species is a member of the sedge (*Cyperaceae*) family and occurs in scrubby flatwoods and scrubby to mesic flatwoods transition areas. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, the large-plumed beaksedge has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the large-plumed beaksedge.

Many-flowered Grass-pink (*Calopogon multiflorus*)

The many-flowered grass-pink is a small plant with grass like leaves and dark pink flowers that is listed as **threatened** by the **FDACS**. This species is a member of the orchid (*Orchidaceae*) family and occurs on dry to moist flatwoods with longleaf pine, saw palmetto, and wiregrass. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, the many-flowered grass-pink has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the many-flowered grass pink.

Nodding Pinweed (*Lechea cernua*)

The nodding pinweed is a small erect forb that is listed as **threatened** by the **FDACS**. This species is a member of the rock-rose (*Cistaceae*) family and is found in deep sands, usually ancient dunes, on which the most common forest is a mixture of evergreen scrub oaks. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data,

the nodding pinweed has been historically documented within one (1) mile of the project study area. However, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the nodding pinweed.

Pondspice (*Litsea aestivalis*)

Pondspice is a shrub or small tree growing up to five (5) meters tall that is listed as **endangered** by the **FDACS**. This species is a member of the laurel (*Lauraceae*) family and typically occurs on peaty soils in edges of baygalls, flatwoods ponds, depression marshes, and cypress domes. Potential suitable habitat for this species was observed within the project study area. According to FNAI data, pondspice has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the pondspice.

Sand Butterfly Pea (*Centrosema arenicola*)

The sand butterfly pea is a large perennial vine with purplish-blue flowers that is listed as **endangered** by the **FDACS**. This species is a member of the pea (*Fabaceae*) family and typically occurs on sandhill, scrubby flatwoods, and dry upland woods. Potential suitable habitat for this species was observed within the project study area. According to FNAI data, the sand butterfly pea has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the sand butterfly pea.

Small's Flax (*Linum carteri* var. *smallii*)

Small's flax is a flowering annual herb growing up to 24 inches tall with smooth, narrowly wing-angled stems that is listed as **endangered** by the **FDACS**. This species is a member of the flax (*Linaceae*) family and is found in pine rocklands, pine flatwoods, adjacent disturbed areas. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, small's flax has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the small's flax.

Yellow Fringeless Orchid (*Platanthera integra*)

The yellow fringeless orchid is a terrestrial orchid with yellow-orange flowers that is listed as **endangered** by the **FDACS**. This species is a member of the orchid (*Orchidaceae*) family and is found in open wet prairies, wet flatwoods, bogs, seepage slopes, wet pine barrens, and peaty depressions. Potential suitable habitat for this species was observed within the project study area. According to FNAI data, the yellow fringeless orchid has the potential to occur within the project study area, but it has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have “**no effect anticipated**” on the yellow fringeless orchid.

4.2.2.2 Fauna

Reptilian

Gopher Tortoise (*Gopherus polyphemus*)

The gopher tortoise is listed as ***threatened*** by the **FWC** and is a candidate species for listing under the ESA by USFWS. This species requires well-drained and loose sandy soils for burrowing and low-growing herbs and grasses for food. These conditions are best found in the sandhill (longleaf pine-xeric oak) community, although tortoises are known to use many other habitats including sand pine scrub, xeric oak hammocks, dry prairies, pine flatwoods, and ruderal sites. Potential suitable habitat was observed within the project study area. According to FNAI data, individuals have been documented within one (1) mile of the project study area. If gopher tortoises or potentially occupied burrows are found within the project study area, THEA will coordinate with the FWC to secure all permits needed to relocate the tortoises and associated commensal species prior to construction. With the implementation of these measures, it has been determined that this project will have “**no adverse effect anticipated**” on the gopher tortoise.

Short-tailed Snake (*Lampropeltis extenuata*)

The short-tailed snake is small fossorial snake that is listed as ***threatened*** by **FWC**. This species can primarily be found burrowed in sandy soils, particularly longleaf pine and xeric (habitat that needs little water) oak sandhills, but they may also be found in scrub and xeric hammock habitats. Potential suitable habitat for this species was observed within the project study area; however, no individuals were observed during field reviews. Additionally, according to FNAI data, no individuals have been documented within one (1) mile of the project study area. Based on this information, it has been determined that the project will have “**no adverse effect anticipated**” on the short-tailed snake.

Avian

Florida Burrowing Owl (*Athene cunicularia floridana*)

The Florida burrowing owl is a small, ground-dwelling owl that is listed as ***threatened*** by the **FWC**. This species requires areas of short, herbaceous groundcover such as prairies, sandhills, and farmland. Potential suitable habitat for this species was observed within the project study area and no individuals were observed during field reviews. Additionally, according to FNAI data, no individuals have been documented within one (1) mile of the project study area. Based on this information, it has been determined that the project will have “**no adverse effect anticipated**” on the Florida burrowing owl.

Florida Sandhill Crane (*Antigone canadensis pratensis*)

The Florida sandhill crane is a tall, long-necked, long-legged crane that is listed as ***threatened*** by the **FWC**. This species requires wet and dry prairies, marshes, and marshy lake edges. Nests are generally a mound of herbaceous plant material in shallow water or on the ground in marshy areas. While there is minimal suitable habitat within the project study area, according to FNAI data, no individuals have been documented within one (1) mile of the project study area. Additionally, no individuals or nests were observed during field reviews. THEA will survey areas of suitable nesting habitat prior to construction if construction activities take place during the nesting season (January through July), and will coordinate with the FWC if nesting pairs are identified within 400 feet of the project’s construction limits. With the implementation of these measures, it has been determined that the project will have “**no adverse effect anticipated**” on the Florida sandhill crane.

Wading Birds - Little Blue Heron (*Egretta caerulea*), Tricolored Heron (*Egretta tricolor*) and Roseate Spoonbill (*Platalea ajaja*)

The little blue heron, tricolored heron, and roseate spoonbill are listed as ***threatened*** by the FWC. While each species is distinct, wading birds are discussed collectively since they occupy similar habitats and have similar feeding patterns. These wading birds nest and forage among both fresh and saltwater habitats such as freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps. The populations of these species have been primarily impacted by the destruction of wetlands for development and by the drainage of wetlands for flood control and agriculture. Potential suitable habitat for these species was observed within the project study area. According to FNAI data and the FWC Wading Bird Rookery Database, none of these species or their rookeries have been documented within the project study area and none were observed during field reviews.

The primary concern for impacts to these species is the loss of foraging habitat (wetlands). As part of implementing the proposed project, all wetland impacts will be mitigated to prevent a net loss of wetland habitat functions and values. Since the mitigation of wetland impacts will be undertaken by THEA, it has been determined that the proposed project will have “**no adverse effect anticipated**” on the little blue heron, tricolored heron, and roseate spoonbill.

4.2.2.3 Other Species of Concern

Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle is a large raptor with a distinctive white head and yellow bill. This species has been federally de-listed by the **USFWS**. However, it remains federally protected under the Bald and Golden Eagle Protection Act (BGEPA) in accordance with the 16 United States Code 668 and the Migratory Bird Treaty Act of 1918. In addition, the FWC has implemented a bald eagle management plan (FWC 2008). The bald eagle tends to utilize riparian habitat associated with coastal areas, lake shorelines, and river banks. Nests are generally located near water bodies that provide a dependable food source. The Florida Audubon closely monitors nests within Florida and maintains a website of known bald eagle nest locations, which was last updated in 2021. According to this database, two (2) active bald eagle nests are located within one (1) mile of the project study area. Bald eagle nest HL072 is located approximately 0.7 miles (3,608 feet) south of the Selmon Expressway (SR 618), and Bald eagle nest HL051 is located approximately 0.5 miles (2,511 feet) south of the Selmon Expressway (SR 618) (**Figure 4-2**). The project is located outside of both nest's primary (330 feet) and secondary (660 feet) buffer zones. These nests were last surveyed during the 2023 breeding season. No bald eagle nests were observed within 660 feet of the project study area during field reviews. During design and permitting, THEA will survey the project study area for eagle nests. If a nest is observed within 660 feet of the project limits, THEA will coordinate with the USFWS to secure all necessary permits.

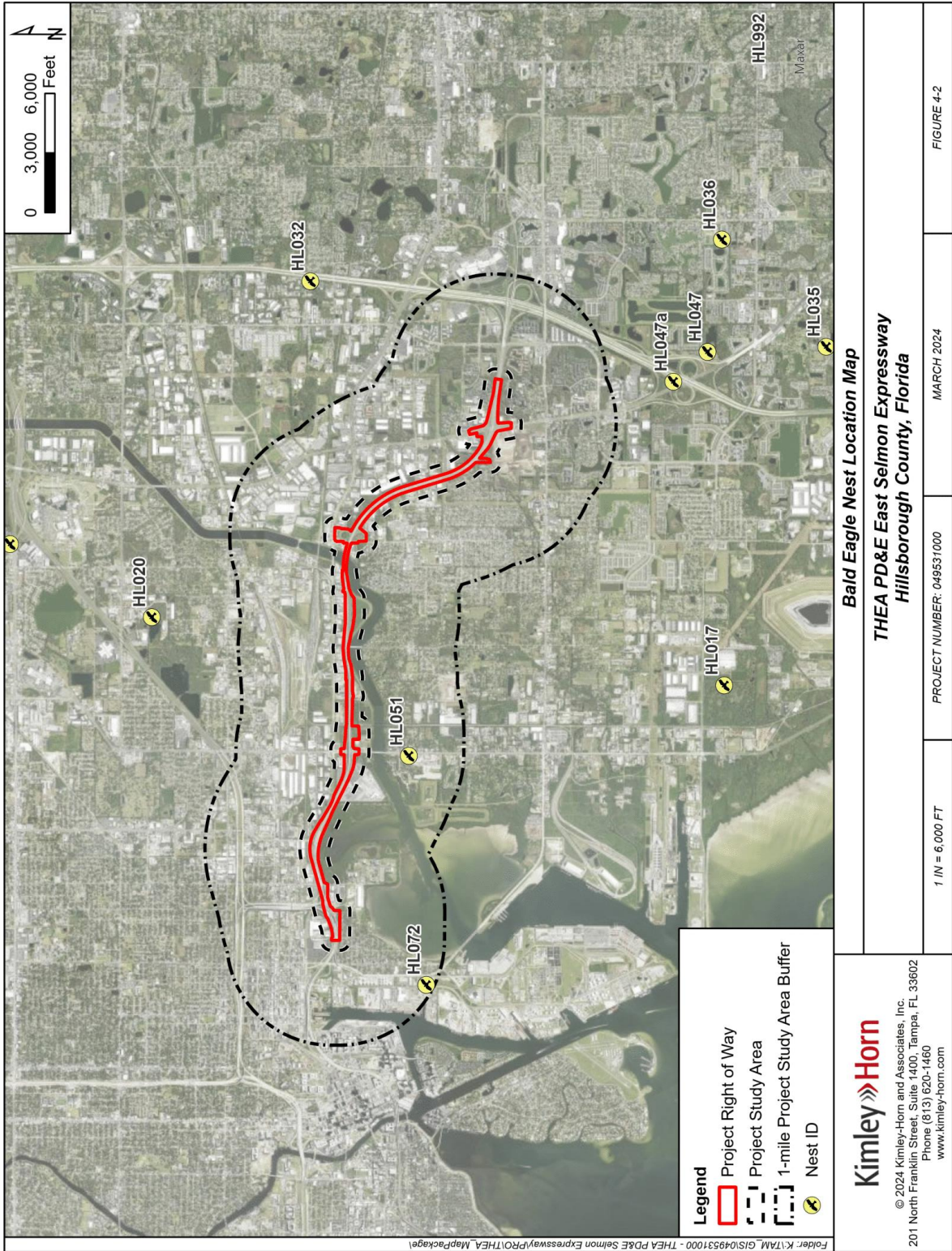


Figure 4-2 Bald Eagle Nest Location Map

4.2.3 Critical Habitat

The project study area was evaluated for the occurrence of Critical Habitat as defined by the ESA of 1973 as amended and 50 CFR part 424. The USFWS is the authority, as a federal agency, to protect critical habitat from destruction or adverse modification of the biological or physical constituent elements essential to the conservation of listed species. Critical Habitat is defined as the specific areas within the geographical area occupied by a species on which are found those physical or biological features essential to the conservation of the species and which defined may require special management considerations or protection. No designated Critical Habitat for any federal listed species occurs within the project study area. Based on this information, it has been determined that the proposed project will have “**no effect**” on any Critical Habitat.

4.2.4 Indirect, Secondary, and Cumulative Impacts

Indirect and secondary effects are those that are reasonably certain to occur later in time as a result of the proposed project and may occur outside of the area directly affected by the proposed project. Potential secondary effects include increased noise, traffic, lighting, and development, which could impact wildlife. Cumulative effects include the effects on the environment that results from the incremental impact of the action when added to other past, present, and future state, local, or private actions that are reasonably certain to occur in the project study area. Cumulative effects can result from individually minor but collectively significant actions taking place over time. Future federal actions that are unrelated to the proposed project are not considered in the determination of cumulative effects because they require a separate consultation in accordance with Section 7 of the ESA. Indirect, secondary, and cumulative impacts will be further defined and addressed through agency coordination during the project’s design phase. However, a brief summary of these impacts is provided in sections below.

4.2.4.1 Build Alternative

Indirect, secondary, and cumulative impacts associated with the proposed project will likely be low as the majority of the project is within existing roadway ROW. Indirect, secondary, and cumulative effects are anticipated to impact land use, visual and aesthetic resources and transportation.

Secondary impacts of increased nuisance/exotic vegetation are anticipated adjacent to areas of direct impacts. Species such as Brazilian pepper (*Schinus terebinthifolia*) and cogongrass (*Imperata cylindrica*) are particularly aggressive and successful colonizers. Therefore, the disturbance of construction may allow these species to colonize and outcompete native vegetation within a certain distance from the direct impact. Nuisance/exotic vegetation has negative impacts to native wildlife and their habitats as they take over the natural habitats upon which the species rely.

4.2.4.2 No-Build Alternative

There are no indirect, secondary, or cumulative impacts to wildlife associated with the No-Build Alternative.

5.0 WETLANDS EVALUATION

5.1 Wetland and Surface Water Impacts

The jurisdictional limits of wetlands and surface waters were estimated in accordance with the State unified wetland delineation methodologies as adopted by the Florida Department of Environmental Protection (FDEP) and the water management districts per Chapter 62-340, F.A.C. and described in *The Florida Wetlands Delineation Manual* and the USACE 1987 Wetland Delineation Manual and regional supplement. The extent and types of wetlands in the project study area were documented in accordance with Executive Order 11990, Protection of Wetlands, and Part 2, Chapter 9 of the PD&E Manual.

THEA has undertaken all actions to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. Nonetheless, THEA has determined that there is no practicable alternative to construction impacts occurring to wetlands. Any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function within the project drainage basin. Impacts to wetlands are unavoidable for the build alternatives due to their location within the project area. However, potential wetland impacts have been minimized to the extent possible by incorporating bridges over large wetland systems a stormwater management system which would be constructed to meet state water quality criteria, thereby minimizing water quality impacts from stormwater discharges from roadway surfaces.

For the purposes of this document, wetlands are defined as per 62-340 F.A.C. and Section 373.019 (27), F.S. Surface waters are defined as open water bodies. Formal wetland boundary delineation and surveys were not conducted as part of this study and will be completed as part of the state and federal permit process.

The project study area is defined as the area occupied by the build alternative (Build Alternative) for the roadway expansion as described in **Section 2.0**. The No-Build Alternative would result in no impacts to wetlands or surface waters. The limits of the Build Alternative include 3.78 acres of wetlands and 18.50 acres of surface waters. Of the 18.50 acres of designated surface waters, 13.86 acres are permitted stormwater ponds (**Table 5-1a**). Proposed direct impacts to wetlands and surface waters were assessed for the Build Alternative (**Table 5-1b**). Proposed direct impacts to these wetlands and surface waters include up to 0.87 acres of wetlands and up to 8.55 acres of surface waters. All of the proposed surface water impacts within the Build Alternative are to permitted stormwater ponds. A map showing the locations of the wetlands and surface waters associated with the Build Alternative is provided in **Appendix C**. Under Section Florida Statute 704.6(11)(a), the use of lands under conservation easements can be negotiated for the construction and operation of linear facilities including public transportation corridors.

Secondary and indirect impacts will be assessed using the UMAM at the time of permitting to determine functional loss within these systems.

Table 5-1a Existing Wetland and Surface Water Acreage within the Build Alternative

ID	FLUCFCS Classification	FLUCFCS Description	USFWS Classification ¹	Acreage
SW 01	5100	Streams and Waterways	R2UBH	3.76
SW 03	5340	Reservoirs less than 10 acres	PEM1Fx	13.86
SW 04	5400	Bays and Estuaries	E1UBL	0.89
WL 01	6120	Mangrove Swamps	E2SS3N	0.92
WL 03	6170	Mixed Wetland Hardwoods	PFO1C	0.28
WL 06	6310	Wetland Shrub	PSS1F	0.44
WL 08	6410	Freshwater Marshes	PSS1Fx	2.09
WL 09	6420	Saltwater Marshes	E2EM1N	0.06
Total Surface Water Acreage				18.50
Total Wetland Acreage				3.78
Total Acreage				22.28

R2UBH: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded
 PEM1Fx: Palustrine, Emergent, Persistent, Excavated
 E1UBL: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal
 E2SS3N: Estuarine, Intertidal, Scrub-Shrub, Broad-Leaved Evergreen, Regularly Flooded
 PFO1C: Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded
 PSS1F: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded
 PSS1Fx: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded
 E2EM1N: Estuarine, Intertidal, Emergent, Persistent, Regularly Flooded

Table 5-1b Proposed Wetland and Surface Water Impacts within the Build Alternative

ID	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Proposed Impact Acreage ¹
SW 03	5340	Reservoirs less than 10 acres	PEM1Fx	8.55
WL 03	6170	Mixed Wetland Hardwoods	PFO1C	0.28
WL 08	6410	Freshwater Marshes	PSS1Fx	0.59
Total Surface Water Impacts				8.55
Total Wetland Impacts				0.87
Total Proposed Impacts				9.42

¹ All proposed impacts to surface waters are considered to be in existing stormwater ponds.

5.2 Uniform Mitigation Assessment Methodology

The UMAM per Chapter 62-345, F.A.C., is a state- and federally-approved method used to assess wetland function in the State of Florida. UMAM was developed by the FDEP and the water management districts to determine the amount of mitigation required to offset adverse impacts to wetlands. The methodology was designed to assess functions provided by wetlands, the amount those functions are reduced by a proposed impact, and the amount of mitigation necessary to offset the proposed functional losses. This method is also used to determine the degree of improvement in ecological value that will be created by proposed mitigation activities.

The UMAM assessment includes a Qualitative Characterization (Part 1) as well as a Quantitative Assessment and Scoring (Part 2). The Qualitative Assessment is a basic descriptor of the site being evaluated. The variables described include the following:

- Significant nearby features,
- Water classifications,
- Assessment area size,
- Hydrology and relationship to contiguous off-site wetlands,
- Uniqueness of the assessment area,
- Functions of the assessment area, and
- Wildlife utilization.

The Quantitative Assessment provides a score of the assessment area in both the current condition and “with impact” condition. The assessment scoring evaluates the following parameters:

- Location and landscape support,
- Water environment, and
- Community structure.

5.3 Uniform Mitigation Assessment Results

For this PD&E Study, representative UMAM scores were developed for each wetland and surface water habitat type (by FLUCFCS category) affected by the proposed project.

To calculate functional loss, the difference between the existing condition (current) scores and the proposed condition (with) scores for each habitat type within the Build Alternative was multiplied by the acreage of proposed impact to determine the lost value of functions to fish and wildlife resulting from construction of the Build Alternative. The completed UMAM data sheets for each habitat type within the Build Alternative are provided in **Appendix D**. Functional loss was calculated by habitat type for the Build Alternative. Construction of the Build Alternative may result in an estimated loss of up to 5.998 functional units.

These UMAM calculations are estimates and are based on existing conditions. The UMAM scores and values presented in **Table 5-2** are subject to agency review and may change during the state and federal permitting process.

**Table 5-2 Estimated UMAM Functional Loss for Wetlands
in the Build Alternative (Direct Impacts)**

Representative Wetlands	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	UMAM ¹ Delta	Impact Acres	Functional Loss
SW 03	5340	Reservoirs less than 10 acres	PEM1Fx	-0.63	8.55	5.418
WL 03	6170	Mixed Wetland Hardwoods	PFO1C	-0.60	0.28	0.169
WL 08	6410	Freshwater Marshes	PSS1F	-0.70	0.59	0.411
Total					8.84	5.998

¹ UMAM scores have not been approved by permitting agencies and are subject to change during the permitting process.

PEM1Fx: Palustrine, Emergent, Persistent, Excavated

PFO1C: Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded

PSS1F: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded

5.4 Avoidance and Minimization

As part of this evaluation, one (1) build alternative was evaluated in this PD&E study. The Build Alternative was selected based on the natural, physical, sociocultural, and ROW information. Avoidance and minimization measures for wetland and surface water impacts were considered in the design of the Build Alternative. A detailed analysis is included in the Preliminary Engineering Report.

5.5 Indirect, Secondary, and Cumulative Impacts

Indirect and secondary effects are those impacts that are reasonably certain to occur later in time as a result of the proposed project. They may occur outside of the area directly affected by the proposed project. Cumulative effects include the effects of future state, local, or private actions that are reasonably certain to occur in the project area. Indirect, secondary, and cumulative impacts will be further defined and addressed through agency coordination during the project's design phase. However, a brief summary of these impacts is provided below.

5.5.1 Build Alternative

Indirect impacts are anticipated to occur as a result of the Build Alternative. Secondary impacts of edge effects will likely occur. At locations where natural areas meet development, edge effects such as increased cover of nuisance/exotic vegetation and changes in microclimate generally take place. All of the wetlands within the Build Alternative project footprint already experience edge effects as they are within or adjacent to roadway ROW. In areas designated for stormwater treatment, secondary impacts of increased nuisance/exotic vegetation are anticipated. Species such as Brazilian pepper and cogongrass are particularly aggressive and successful colonizers within newly disturbed areas. Therefore, the disturbance of construction may allow these species to colonize and outcompete native vegetation. Nuisance/exotic vegetation has negative impacts to wetlands and surface waters as these species may take over native vegetation. Since any

wetland impacts resulting from the construction of this project will be mitigated, no cumulative impacts are anticipated to occur.

5.5.2 No-Build Alternative

There are no indirect, secondary, or cumulative impacts to wetlands associated with the No-Build Alternative.

5.6 Mitigation

In 2008, the USACE and the EPA issued regulations governing compensatory mitigation for activities authorized by the Department of the Army (Federal Register, 2008). These regulations, as promulgated in 33 Code of Federal Regulations (CFR) Part 332, establish a hierarchy for determining the type and location of compensatory mitigation. To briefly summarize, the rule establishes a preference for the use of mitigation bank credits if a mitigation bank has the appropriate number and resource type of credits available. If the permitted impacts are not in the service area of an approved mitigation bank, or if the appropriate number and resource type of credits are otherwise unavailable, then the rule establishes a preference for in lieu fee program credits. If an approved mitigation bank or in-lieu fee program cannot be used to provide the required compensatory mitigation, the rule establishes a preference for permittee responsible mitigation conducted under a watershed approach. Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements. The proposed project will have no significant short-term or long-term adverse impacts to wetlands because any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function.

Compensatory mitigation for this project will be completed using mitigation banks and other mitigation options to satisfy state and federal requirements. The project study area is currently located within the service area of the following mitigation banks: Big Bullfrog Creek, Mangrove Point, Nature Coast, Northshore Seagrass, and Tampa Bay.

All UMAM scores, UMAM calculations, preliminary wetland lines and determinations discussed are subject to revision and approval by the appropriate regulatory agencies during the permitting process. The exact type of mitigation used to offset wetland impacts from the proposed project will be coordinated with the USACE and SWFWMD during the design and permitting phase of this project.

6.0 PERMITTING REQUIREMENTS AND COORDINATION

The SWFWMD and USACE regulate impacts to wetlands within the project study area. Other agencies, including the USFWS, NMFS, EPA, and the FWC, review and comment on wetland permit applications. The FWC also issues permit for gopher tortoise relocation activities and incidental takes for state protected avian species and the USFWS is the lead agency for eagle nest take permitting or coordination. In addition, the FDEP regulates stormwater discharges from construction sites. The complexity of the permitting process will depend on the degree of the impact to jurisdictional areas. It is anticipated that the following permits will be required for this project:

<u>Permit</u>	<u>Issuing Agency</u>
Environmental Resource Permit (ERP)	SWFWMD
Section 408 Program	USACE
Section 404 Program	USACE
National Pollutant Discharge Elimination System (NPDES)	FDEP
Gopher Tortoise Relocation Permit (as necessary)	FWC
Incidental Take Permit (as necessary)	FWC
Incidental Take Permit (as necessary)	USFWS

Environmental Resource Permit

The project limits are located within the SWFWMD jurisdiction and a pre-application meeting with the District is recommended. SWFWMD requires an ERP for the construction of any project results in the creation of a new or modification of an existing surface water management system or results in impacts to waters of the state, including wetlands. The complexity associated with the ERP permitting process will depend on the size of the project and/or the extent of wetland impacts. If direct impacts occur, the SWFWMD would likely require an individual permit for this project.

USACE Section 408 Program

The authority to grant permission for temporary or permanent alterations to USACE Civil Works is contained in Section 14 of the Rivers and Harbors Act of 1899 and codified in 33 USC 408 (Section 408). Section 408 requires a permit for any modifications, alterations, or occupation of public works projects and would include alterations to the Tampa Bypass Canal covered within the project study area. Further coordination with USACE during the design and permitting phase is likely needed to determine the level of review for Section 408 permitting for this project.

USACE Section 404 Dredge and Fill Permit

It is anticipated that a Standard Section 404 Dredge and Fill permit will be required from the USACE. The permit will require compliance with the 404(b)(1) guidelines, including verification that all wetland impacts have first been avoided to the greatest extent possible, that unavoidable impacts have been minimized to the greatest extent possible, and lastly that unavoidable impacts have been mitigated in the form of wetlands creation, restoration, and/or enhancement. Pre-application meetings will be held with the USACE during the design and permitting phase of the proposed project.

NPDES

40 CFR Part 122 prohibits point source discharges of stormwater to Waters of the U.S. without a NPDES permit. Under the State of Florida's delegated authority to administer the NPDES program, construction sites that will result in greater than one (1) acre of disturbance must file for and obtain either coverage under an appropriate generic permit contained in Chapter 62-621, F.A.C., or an individual permit issued pursuant to Chapter 62-620, F.A.C. A major component of the NPDES permit is the development of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP identifies potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the site and discusses good engineering practices (i.e., best management practices) that will be used to reduce the pollutants.

FWC Gopher Tortoise Relocation Permit (as necessary)

At the time of the site reviews, no gopher tortoise individuals or burrows were observed within or adjacent to the project study area. If gopher tortoises or potentially occupied burrows are found within the project limits, FTE will coordinate with the FWC to secure all permits needed to relocate the tortoises and associated commensal species prior to construction. FWC requires the excavation and relocation of any gopher tortoise burrows and individuals within the project limits prior to construction.

According to the FWC Gopher Tortoise permitting guidelines, there are four (4) available options to address the presence of gopher tortoises on lands slated for development:

1. Avoid development,
2. Avoid destruction of tortoise burrows,
3. Relocate tortoises on site (permit required), or
4. Relocate tortoises off site (permit required).

In accordance with the requirements of Rules 68A-25.002 and 68A-27.004 F.A.C., a permit for gopher tortoise capture/release activities must be secured from FWC before initiating any relocation work. A Conservation Permit is available for development projects that require the relocation of gopher tortoises when more than 10 burrows occur on the development site. The 10 or Fewer Burrows Permit is available for projects that contain 10 or fewer gopher tortoise burrows on the development site. Both of these permits allow for relocation either to an on-site preserve

or off-site to a FWC-certified Recipient Site. The FWC will require a 100 percent gopher tortoise survey to be conducted within 90 days of construction commencement.

FWC Incidental Take Permit (as necessary)

Based on field reviews, suitable foraging and nesting habitat exists within the project study area for the species listed in **Section 4.2.2**. In accordance with 68A-27.001(4), 68A-27.003(a), 68A-25.002(10), 68A-27.003(2)(a), 68A-27.001(4), 68A-1.004, and 68A-27.005 F.A.C., a permit for removal of state protected species must be secured from the FWC before initiating incidental take. While avoidance and minimization are the preferred course of action, a Listed Species Incidental Take Permit is available for situations that require the removal of these species. Further technical assistance will be reinitiated during the design phase of the project.

USFWS Incidental Take Permit (as necessary)

The project study area contains suitable habitat for the federally protected eastern indigo snake. If formal consultation is required, THEA will prepare a Biological Assessment (BA) to submit to the USFWS. The USFWS will prepare a Biological Opinion (BO) in which the terms and conditions of mitigation and implementation measures will be finalized. When an action is reasonably certain to result in the incidental take of a species but is not likely to jeopardize its continued existence, the USFWS provides the USACE with an incidental take statement in the BO to be included in the Section 404 permit.

7.0 CONCLUSIONS

7.1 Protected Species and Habitat

The project study area was evaluated for the presence of federal and/or state protected species and their suitable habitat in accordance with Section 7 of the ESA and Part 2, Chapter 16 of the PD&E Manual. **Tables 7-1, 7-2, and 7-3** summarize the impact determination that has been made for each federal and state listed species based upon their probability ranking and the implementation measures and/or commitments to offset any potential impacts to each species.

Table 7-1 Federal Protected Species Effect Determinations

Project Impact Determination	Federal Listed Species
"No effect"	Florida bonamia (<i>Bonamia grandiora</i>)
	Florida golden aster (<i>Chrysopsis floridana</i>)
	Pygmy fringe-tree (<i>Chionanthus pygmaeus</i>)
	Audubon's crested caracara (<i>Caracara cheriway</i>)
	Eastern black rail (<i>Laterallus jamaicensis</i>)
	Florida grasshopper sparrow (<i>Ammodramus savannarum floridanus</i>)
	Florida scrub-jay (<i>Aphelocoma coerulescens</i>)
	Piping plover (<i>Charadrius melodus</i>)

	Red knot (<i>Calidris canutus rufa</i>)
	Wood stork (<i>Mycteria americana</i>)
	Florida bonneted bat (<i>Eumops floridanus</i>)
Project Impact Determination	Federal Listed Species
"May affect, but is not likely to adversely affect "	American alligator (<i>Alligator mississippiensis</i>)
	American crocodile (<i>Crocodylus acutus</i>)
	Eastern indigo snake (<i>Drymarchon couperi</i>)
	Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)
	Leatherback sea turtle (<i>Dermochelys coriacea</i>)
	Loggerhead sea turtle (<i>Caretta caretta</i>)
	Gulf sturgeon (<i>Acipenser oxyrinchus desotoi</i>)
	West Indian manatee (<i>Trichechus manatus latirostris</i>)

Table 7-2 State Protected Species Effect Determinations

Project Impact Determination	State Listed Species
"No effect anticipated"	Celestial lily (<i>Nemastylis floridana</i>)
	Cutthroatgrass (<i>Coleataenia abscissa</i>)
	Florida beargrass (<i>Nolina atopocarpa</i>)
	Florida spiny-pod (<i>Matelea floridana</i>)
	Giant orchid (<i>Pteroglossaspis ecristata</i>)
	Godfrey's swampprivet (<i>Forestiera godfreyi</i>)
	Incised groove-bur (<i>Agrimonia incisa</i>)
	Large-plumed beaksedge (<i>Rhynchospora megaplumosa</i>)
	Many-flowered grass-pink (<i>Calopogon multiflorus</i>)
	Nodding pinweed (<i>Lechea cernua</i>)
	Pondspice (<i>Litsea aestivalis</i>)
	Sand butterfly pea (<i>Centrosema arenicola</i>)
	Small's flax (<i>Linum carteri</i> var. <i>smallii</i>)
	Yellow fringeless orchid (<i>Platanthera integra</i>)
"No adverse effect anticipated "	Florida burrowing owl (<i>Athene cunicularia floridana</i>)
	Florida sandhill crane (<i>Antigone canadensis pratensis</i>)
	Little blue heron (<i>Egretta caerulea</i>)
	Tricolored heron (<i>Egretta tricolor</i>)
	Roseate spoonbill (<i>Platalea ajaja</i>)
	Gopher tortoise (<i>Gopherus polyphemus</i>)
	Short-tailed snake (<i>Lampropeltis extenuata</i>)

Table 7-3 Other Species of Concern Effect Determinations

Project Impact Determination	Additional Protected Species
No impacts to primary or secondary buffer zones	Bald eagle (<i>Haliaeetus leucocephalus</i>)
No impacts anticipated	Monarch butterfly (<i>Danaus plexippus</i>)

7.2 Wetland Evaluation

The proposed project alternatives were evaluated for impacts to wetlands in accordance with EO 11990 and Part 2, Chapter 9 of the PD&E Manual. The proposed project is not expected have significant short-term or long-term adverse impacts to wetlands. In accordance with EO 11990, THEA has undertaken all actions to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency’s responsibilities. Nonetheless, THEA has determined that there is no practicable alternative to construction impacts occurring in wetlands. Any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function within the project drainage basin.

Impacts resulting from the Build Alternative may include up to 0.87 acres of wetlands and up to 8.55 acres of surface waters. A UMAM analysis (**Appendix D**) was performed to determine an estimate to the functional loss due to wetland impacts from the Build Alternative. Construction of the Build Alternative results in an estimated loss of 5.998 functional units.

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.

7.3 Implementation Measures

Based on the field and literature reviews outlined in this report, federal- or state-listed protected species have the potential to occur within the project study area. To assure that the proposed project will not adversely impacts these species, THEA will adhere to the following:

- During the design and permitting phase of this project, a gopher tortoise survey will be conducted and if any burrows are found within 25 feet of construction limits, technical assistance with the FWC will be reinitiated to secure any necessary permits for gopher tortoises and associated commensal species before construction.

- If a bald eagle nest is observed within 660 feet of the project limits, THEA will coordinate with the USFWS to secure necessary approvals prior to constructing the project.
- Impacts to suitable foraging habitat for the federally-listed wood stork will be mitigated through the purchase of credits from a USFWS-approved mitigation bank pursuant to Section 373.4137, F.S. or as otherwise agreed to by THEA and the appropriate regulatory agencies.
- The NMFS *Sea Turtle and Smalltooth Sawfish Construction Conditions* will be implemented if any in-water work is proposed.
- Compliance with Federal ESA and other Wildlife Regulations of the FDOT Standard Specifications for Road and Bridge Construction manual will be adhered to during construction.

7.4 Commitments

Based on the field and literature reviews outlined in this report, federal- or state-listed species have the potential to occur within the project study area. In order to assure that the proposed project will not adversely impacts these species, THEA will make the following commitments:

- As needed, THEA will perform updated wildlife surveys for the species discussed in this report and other wildlife species, during the project design phase to ascertain the involvement, if any, of listed species.
- The most recent version of the USFWS Standard Protection Measures for the Eastern Indigo Snake will be adhered to during construction of the proposed project.
- If Florida sandhill crane nests are observed during future surveys prior to construction, then a 400-foot buffer will be used if construction occurs during the nesting season (January through July). THEA will coordinate with the FWC during the project construction phase, if necessary.

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APPENDIX A

Soils Descriptions and Map

4 – Arents, nearly level

Arents consist of somewhat poorly drained, nearly level soil material. This material has been excavated, reworked, and reshaped by earthmoving equipment. The slopes range from 0 to 5 percent. The water table varies with the amount of fill material and artificial drainage. Permeability and the available water capacity vary widely from one area to another. Arents is not classified as hydric.

5 – Basinger, Holopaw, and Samsula soils, depressional

Basinger, Holopaw, and Samula soils are poorly drained and sit nearly level in low, broad flats and sloughs in flatwoods. Its slopes are 0 to 2 percent and smooth to concave. In most years, the undrained areas in this map unit are ponded for about 6 months. Permeability is rapid throughout, and the available water capacity is low to very low. Basinger, Holopaw, and Samsula soils are classified as hydric.

15 – Felda fine sand, 0 to 2 percent slopes

Felda fine sand, 0 to 2 percent slopes, is nearly level and poorly drained. It can be found in broad sloughs and flatwoods with slope smooth to convex. The seasonal high water table sits at a depth of 10 inches for 2 to 6 months in most years. Permeability is rapid in the surface and subsurface and moderate in the subsoil. Its available water capacity is moderate. Felda fine sand is classified as hydric.

17 – Floridana fine sand, 0 to 2 percent slopes

Floridana fine sand, 0 to 2 percent slopes, is nearly level and very poorly drained. The seasonal high water table fluctuates from the soil surface to 10 inches. Permeability is rapid in the surface and subsurface and slow to very slow in the subsoil. Its available water capacity is moderate. Floridana fine sand is classified as hydric.

22 – Immokalee-Urban land complex

Immokalee-Urban complex consists of Immokalee soil that is nearly level and poorly drained. Slopes range from 0 to 2 percent. The Urban land part of this complex is covered by concrete, asphalt, buildings, or other impervious surfaces that obscure or alter the soils so that their identification is not feasible. The water table for Immokalee soils typically sit at a depth of about 10 inches for 2 months and 10 to 40 inches for 8 months or more. Permeability is rapid in the surface and subsurface layers and the available water capacity is low. Immokalee soil is classified as hydric and Urban land is classified as unranked.

24 – Kesson muck, frequently flooded

Kesson muck soil is level and very poorly drained, found in tidal swamps and marshes. Its slopes are dominantly less than 1 percent and linear. The seasonal high water table fluctuates from the soil surface to 6 inches. Permeability is rapid in the surface layer and the available water capacity is low. Kesson muck soil is classified as hydric.

27 – Malabar fine sand, 0 to 2 percent slopes

Malabar fine sand, 0 to 2 percent slopes, is nearly level and poorly drained. It can be found in low-lying sloughs and shallow depressions of flatwoods with slope linear to concave. The

seasonal high water table fluctuates from the soil surface to a depth of 10 inches for 2 to 6 months in most years. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Its available water capacity is low or very low. Malabar fine sand is classified as hydric.

29 – Myakka fine sand, 0 to 2 percent slopes

Myakka fine sand is nearly level, poorly drained, and found on broad plains and flatwoods. The slopes are 0 to 2 percent and linear to concave. The seasonal high water table sits within 10 inches of the surface for 1 to 4 months and drops to a depth of 40 inches during prolonged dry periods. Permeability is rapid in the surface and subsurface layers and moderate or moderately rapid in the subsoil. The available water capacity is low. Myakka fine sand, 0 to 2 percent slopes, is not classified as hydric.

30 – Myakka fine sand, frequently flooded

Myakka fine sand is level, poorly drained, and found in tidal areas. Slopes is dominantly less than 1 percent. The water table fluctuates from the soil surface to a depth of 10 inches and is affected by tidal fluctuations. Permeability is rapid in the surface and subsurface layers and moderate or moderately rapid in the subsoil. The available water capacity is low. Myakka fine sand, frequently flooded, is classified as hydric.

32 – Myakka-Urban land complex

Myakka-Urban complex consists of Myakka soil that is nearly level and poorly drained. Slopes range from 0 to 2 percent. The Urban land part of this complex is covered by concrete, asphalt, buildings, or other impervious surfaces that obscure or alter the soils so that their identification is not feasible. The water table for Myakka soils sits within 10 inches of the surface for 1 to 4 months and drops to a depth of 40 inches during prolonged dry periods. Permeability is rapid in the surface and subsurface layers, moderate to moderately rapid in the subsoil. Available water capacity is low. Myakka soil is not classified as hydric and Urban land is classified as unranked.

33 – Ona fine sand, 0 to 2 percent slopes

Ona fine sand is nearly level, poorly drained, and found on broad plains and flatwoods. The slopes are 0 to 2 percent. The seasonal high water table sits within 10 inches of the surface for more than 2 months and drops to a depth of 10 to 40 inches for 6 months or more. Permeability is rapid in the surface layer and moderate or moderately rapid in the subsoil. The available water capacity is low or moderate. Ona fine sand, 0 to 2 percent slopes, is not classified as hydric.

38 – Pinellas fine sand, 0 to 2 percent slopes

Pinellas fine sand is nearly level, poorly drained, and found on broad plains and flatwoods. The slopes are 0 to 2 percent. The seasonal high water table sits within 10 inches of the surface for less than 3 months and drops to a depth of more than 40 inches during prolonged dry periods. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. The available water capacity is low or moderate. Pinellas fine sand, 0 to 2 percent slopes, is not classified as hydric.

41 – Pomello fine sand, 0 to 5 percent slopes

Pomello fine sand, 0 to 5 percent slopes, is nearly level, moderately well drained, and found on low ridges and knolls of flatwoods. The slopes are smooth to convex. The seasonal high water

table sits 24 to 40 inches below the surface for 1 to 4 months of the year and drops to a depth of 40 to 60 inches during dry periods. Permeability is very rapid in the surface layers and moderately rapid in the subsoil. The available water capacity is very low in the surface layer and medium in the subsoil. Pomello fine sand is not classified as hydric.

43 – Quartzipsamments, nearly level

Quartzipsamments consist of moderately well drained to excessively well drained, nearly level soil material. They formed in accumulations of sand from phosphate mining operations. The water table that is variable and reliant on the water table of surrounding soils. In most areas, the seasonal high water table sits at a depth of more than 72 inches. Permeability is variable but generally very rapid, and the water available water capacity generally is very low. Quartzipsamments are not classified as hydric.

44 – St. Augustine fine sand, 0 to 2 percent slopes

St. Augustine fine sand is nearly level, somewhat poorly drained, and found on flats and ridges bordering Tampa Bay. The slopes are 0 to 2 percent and linear to concave. The seasonal high water table sits from 20 to 30 inches for 2 to 6 months and drops to a depth of 50 inches during prolonged dry periods. Permeability is moderately rapid or rapid. The available water capacity is low. St. Augustine fine sand, 0 to 2 percent slopes, is not classified as hydric.

45 – St. Augustine-Urban land complex

St. Augustine-Urban complex consists of St. Augustine soil that is nearly level and somewhat poorly drained. Slopes range from 0 to 2 percent. The Urban land part of this complex is covered by concrete, asphalt, buildings, or other impervious surfaces that obscure or alter the soils so that their identification is not feasible. The water table for St. Augustine soils sits from 20 to 30 inches for 2 to 6 months and drops to a depth of 50 inches during prolonged dry periods. Permeability is moderately rapid or rapid. Available water capacity is low. St. Augustine soil is not classified as hydric and Urban land is classified as unranked.

46 – St. Johns fine sand

St. Johns fine sand is nearly level, poorly drained, and found in low-lying plains and flatwoods. Slopes are 0 to 2 percent. The water table for St. Johns soils fluctuates from the surface to 15 inches for 2 to 6 months and drops to a depth of 15 to 30 inches during prolonged dry periods. Permeability is rapid in the surface and subsurface layers, and moderately slow to moderate in the subsoil. The available water capacity is moderate. St. Johns soil is classified as hydric.

52 – Smyrna fine sand, 0 to 2 percent slopes

Smyrna fine sand is nearly level, poorly drained, and found in broad, low-lying, convex swells in flatwoods. The water table fluctuates from the soil surface to a depth of 10 inches for more than 2 months of a year and between 10 to 40 inches for 6 months or more. Permeability is rapid in the surface and subsurface layers and moderate to moderately rapid in the subsoil. The available water capacity is low. Smyrna fine sand, 0 to 2 percent slopes, is not classified as hydric.

56 – Urban Land, 0 to 2 percent slopes

The Urban land is covered by concrete, asphalt, buildings, or other impervious surfaces that obscure or alter the soils so that their identification is not feasible. The slopes are dominantly less

than 2 percent, but range from less than 2 percent to 5 percent. Most areas of Urban Land are artificially drained by sewer systems, gutters, tile drains, and surface ditches. Urban Land is classified as unranked.

57 – Wabasso fine sand, 0 to 2 percent slopes

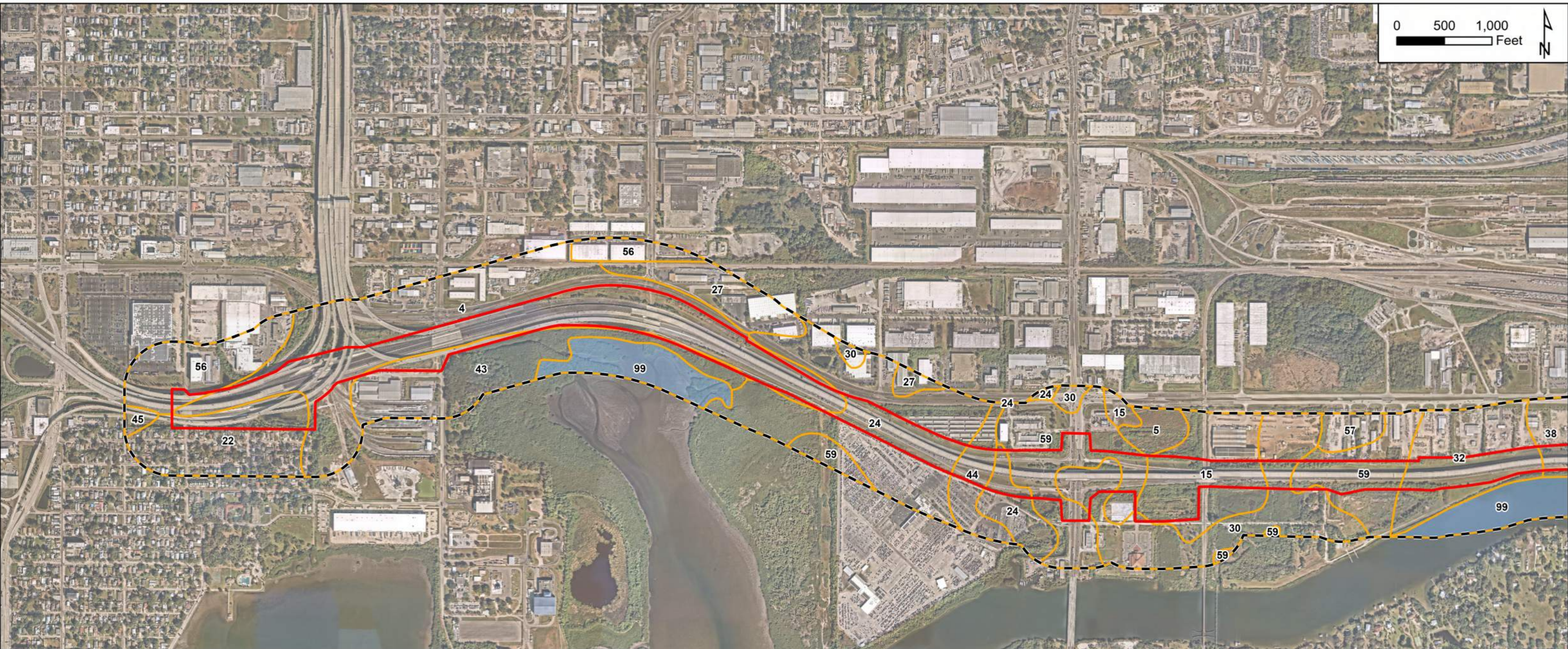
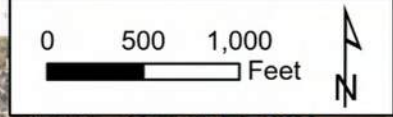
Wabasso fine sand is nearly level, poorly drained, and found on plains on the flatwoods. The slopes are smooth to convex and range from 0 to 2 percent. The seasonal high water table sits within 10 inches of the surface for 2 months and drops to a depth of 40 inches during prolonged dry periods. Permeability is rapid in the surface and subsurface layers and moderate in the upper part of the subsoil. The available water capacity is low or moderate. Wabasso fine sand is not classified as hydric.

59 – Winder fine sand, 0 to 2 percent slopes

Winder fine sand is nearly level, somewhat poorly drained, and found in low-lying sloughs in flatwoods. The slopes are smooth to convex and range from 0 to 2 percent. The seasonal high water table sits within 10 inches of the surface for 2 to 6 months. Permeability is rapid in the surface and subsurface layers. The available water capacity is low or moderate. Winder fine sand is classified as hydric.

99 – Water

Water has an unranked hydric soil rating.



Legend

Project Right of Way

Project Study Area

NRCS Soils: Description

<ul style="list-style-type: none"> 4: Arents, Nearly Level 5: Basinger, Holopaw, and Samsula Soils, depressional 15: Felda Fine Sand 22: Immokalee-Urban Land Complex 24: Kesson Muck, frequently flooded 27: Malabar Fine Sand 30: Myakka Fine Sand, frequently flooded 	<ul style="list-style-type: none"> 32: Myakka-Urban Land Complex 38: Pinellas Fine Sand 43: Quartzipsaments, nearly level 44: St. Augustine Fine Sand 45: St. Augustine-Urban Land Complex 56: Urban Land 57: Wabasso Fine Sand 59: Winder Fine Sand 99: Water
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NRCS Soils Map

**THEA PD&E East Selmon Expressway
Hillsborough County, Florida**

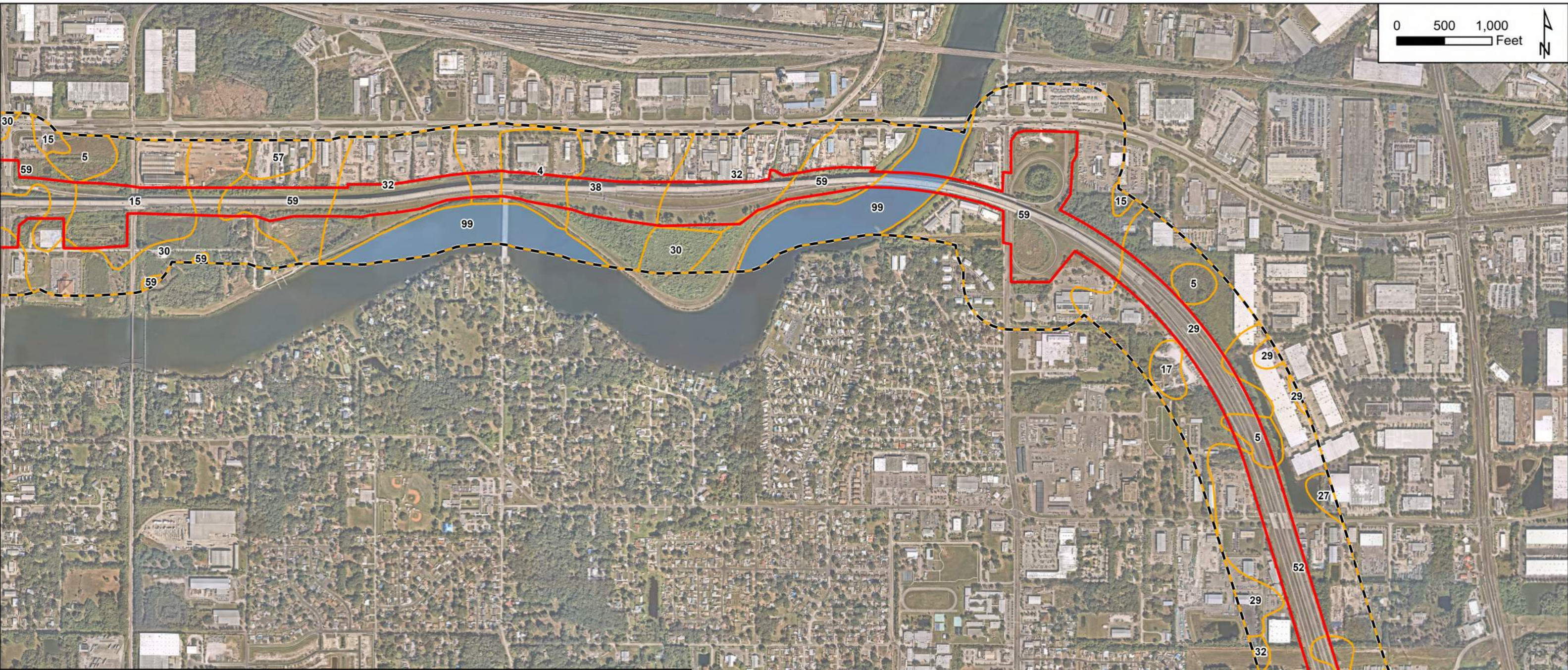
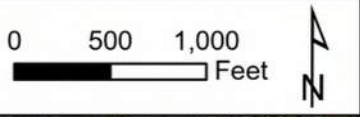
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1 IN = 1,000 FT

PROJECT NUMBER: 049531000

MARCH 2024

FIGURE 3: Page 1 of 3



Legend	
	Project Right of Way
	Project Study Area
NRCS Soils: Description	
	4: Arents, Nearly Level
	5: Basinger, Holopaw, and Samsula Soils, depressional
	15: Felda Fine Sand
	17: Floridana Fine Sand
	27: Malabar Fine Sand
	29: Myakka Fine Sand
	30: Myakka Fine Sand, frequently flooded
	32: Myakka-Urban Land Complex
	38: Pinellas Fine Sand
	41: Pomello Fine Sand, 0 to 5 percent slopes
	46: St. Johns Fine Sand
	52: Smyrna Fine Sand
	57: Wabasso Fine Sand
	59: Winder Fine Sand
	99: Water

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NRCS Soils Map

**THEA PD&E East Selmon Expressway
 Hillsborough County, Florida**

1 IN = 1,000 FT

PROJECT NUMBER: 049531000

MARCH 2024

FIGURE 3: Page 2 of 3

APPENDIX B

Land Use Descriptions and Map

Upland Habitats and Land Uses

FLUCFCS: 1100 Residential, Low Density Less Than Two Dwelling Units Per Acre

This land use falls under the low density residential classification as it contains less than two (2) dwelling units per acre. A single area of this land use can be found along E Washington Street, south of East Selmon Expressway (SR 618), as well as a portion of a parcel that lies within the 500-foot buffer boundary of the project study area. Residential, low density land use comprises 4.29 acres (0.37 percent) of the project study area.

FLUCFCS: 1200 Residential, Medium Density 2 to 5 Dwelling Units Per Acre

This land use falls under the medium density residential classification as it contains two (2) to five (5) dwelling units per acre. A few areas of this land use can be found primarily toward the eastern end of the project study area, with those subdivisions located on the south side of East Selmon Expressway (SR 618) and along US 301. Residential, medium density comprises 30.32 acres (2.63 percent) of the project study area.

FLUCFCS: 1300 Residential, High Density

Residential, high density, land use can be found along both the northern and the southern side of the project study area, concentrated at the western and eastern ends of East Selmon Expressway (SR 618). Residential, high density land use comprises 52.47 acres (4.55 percent) of the project study area.

FLUCFCS: 1400 Commercial and Services

The commercial and services land use is comprised of commercial areas that are predominantly associated with the distribution of products and services. This land use includes all secondary structures associated with an enterprise in addition to the main building and integral areas assigned to support the base unit. This land use is distributed throughout the project corridor, with areas of this land use on both sides of East Selmon Expressway (SR 618) and its intersecting roads. Within the project study area, this land use consists of parking, storage, hotels, restaurants, and retail stores. This area is developed with very little natural habitat present. Commercial and services facilities comprise 119.82 acres (10.39 percent) of the project study area.

FLUCFCS: 1500 Industrial

Industrial comprises the second largest land use for this project study area. This land use is distributed throughout the project corridor but is concentrated along the central portion of the area. Industrial can be found on both the north and south side of East Selmon Expressway (SR 618), including construction companies, distribution centers, rental companies, retail, and storage. This land use comprises 223.16 acres (19.36 percent) of the project study area.

FLUCFCS: 1700 Institutional

Institutional land use area is comprised of any building, grounds, or facility associated with educational, religious, health, and/or military institutions. Such areas can be found distributed throughout the project corridor, with areas of this land use on both sides of East Selmon Expressway (SR 618) and its intersecting roads. Within the project study area, this land use consists of medical facilities, education centers, public health departments, courthouses, and public offices. This land use comprises 44.23 acres (3.84 percent) of the project study area.

FLUCFCS: 1900 Open Lands

The open land classification includes undeveloped land within urban areas and inactive land with street patterns but without structures. Open lands in the study area consists of a variety of species, including trees such as Brazilian pepper live oak (*Quercus virginiana*), sabal palm (*Sabal palmetto*), and slash pine (*Pinus elliottii*), as well as ruderal species such as and bahiagrass (*Paspalum notatum*), basket grass (*Oplismenus burmannii*), cogon grass, frog fruit (*Phyla nodiflora*), and Mexican clovers (*Richardia* spp.). This land use is prevalent throughout the study area. Open lands consist of 114.20 acres (9.91 percent) of the project study area.

FLUCFCS: 2100 Cropland and Pastureland

Cropland and pastureland fall under the agriculture classification which is managed for the production of row or field crops and improved, unimproved, and woodland pastures. This land use is dominated by bahiagrass, cogon grass, natal grass (*Melinis repens*), blackberry (*Rubus* sp.), and dogfennel (*Eupatorium capillifolium*). Cropland and pastureland can be found on the south side of East Selmon Expressway (SR 618) near the intersection of US Highway 301 and consist of 29.55 acres (2.56 percent) of the project study area.

FLUCFCS: 4340 Upland Hardwood-Coniferous Mixed

Hardwood-coniferous mixed classification is reserved for those forested areas in which neither upland conifers nor hardwoods achieve a 66 percent crown canopy dominance. This land use is comprised of beauty berry (*Callicarpa americana*), firebush (*Hamelia patens*), live oak, sabal palm, slash pine, southern magnolia (*Magnolia grandiflora*) and very little understory. Hardwood-coniferous mixed can be found abutting several neighborhoods along the north and south sides of East Selmon Expressway (SR 618). This land use comprises 15.01 acres (1.30 percent) of the project study area.

FLUCFCS: 4380 Mixed Hardwoods

This land use is a hardwood community in which no single species or species group appears to achieve 66 percent dominance of the canopy. This class of hardwoods includes any combination of large and small hardwood tree species none of which can be identified as dominating the canopy. Mixed hardwoods can be found on the north side of East Selmon Expressway (SR 618), adjacent to a section of railroad tracks. This land use comprises 3.25 acres (0.28 percent) of the project study area.

FLUCFCS: 8100 Transportation

Transportation facilities are used for the movement of people and goods; therefore, they are major influences on land and many land use boundaries are outlined by them. This land use comprises the largest portion of a project study area as East Selmon Expressway (SR 618) is classified as transportation. Transportation comprises 299.99 acres (26.02 percent) of the project study area.

FLUCFCS: 8120 Railroads

Railroads are classified as transportation facilities. This land use can be found along the East Selmon Expressway (SR 618), specifically in the Channel District and Tampa Port. Railroads comprise 2.90 acres (0.25 percent) of the project study area.

FLUCFCS: 8200 Communications

The communications land use include airwave communications and radar and television antennas with associated structures. Communications comprise 0.70 acres (0.06 percent) of the project study area.

FLUCFCS: 8300 Utilities

Utilities land use usually include power generating facilities and water treatment plants including their related facilities such as transmission lines for electric generation plants and aeration fields for sewage treatment sites. Small facilities or those associated with an industrial, commercial or extractive land use are included within these larger respective categories. Utilities within the project area generally are comprised of power easements and comprise 8.19 acres (0.71 percent) of the project study area.

APPENDIX C
WETLAND AND SURFACE WATER DESCRIPTIONS AND MAP

Wetland and Surface Water Habitats

Name: SW 01
FLUCFCS: 5100 (Streams and Waterways)
USFWS: R2UBH (Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded)

This habitat type includes rivers, creeks, canals, and other linear bodies of water. These waterbodies consist primarily of the Tampa Bypass Canal as well as some excavated surface waters within the project study area and along the perimeter of the Selmon Expressway (SR 618). Dominant vegetation includes basket grass, beggarticks (*Bidens alba*), flatsedges (*Cyperus* spp.), three-flower beggarweed (*Grona triflora*), water hyacinth (*Eichhornia crassipes*), whitetop sedge (*Rhynchospora colorata*), and yellow-eyed grasses (*Xyris* spp.) Streams and waterways comprise 60.59 acres (5.26 percent) of the project study area.

Name: SW 03
FLUCFCS: 5340 (Reservoirs less than 10 acres)
USFWS: PEM1Fx (Palustrine, Emergent, Persistent, Excavated)

The reservoirs of this classification are comparatively smaller features that are located underneath and adjacent to the Selmon Expressway (SR 618) as well as bordering various developments within project study area. Similar to their larger counterparts (FLUCFCS 5300), dominant vegetation within the littoral edge of these reservoirs includes Brazilian pepper, Caorlina willow, fire-flag, flatsedges, Peruvian primrose-willow, slash pine, saltbush, waterhyssop. These smaller reservoirs comprise 38.35 acres (3.33 percent) of the project study area.

Name: SW 04
FLUCFCS: 5400 (Bays and Estuaries)
USFWS: E1UBL (Estuarine, Subtidal, Unconsolidated Bottom, Subtidal)

Bays and estuaries are inlets or arms of the sea that extend into the land. Waterbodies within this classification consist of segments or inlets of McKay Bay, the Tampa Bypass Canal, and the Port of Tampa. Bays and estuaries comprise 12.69 acres (1.10 percent) of the project study area.

Name: WL 01
FLUCFCS: 6120 (Mangrove Swamps)
USFWS: E2SS3N (Estuarine, Intertidal, Scrub-Shrub, Broad-Leaved Evergreen, Regularly Flooded)

This coastal hardwood community is composed of mangrove trees which is pure or predominant. These habitats are located along the southern side of the Selmon Expressway (SR 618) near the McKay Bay Wildlife Refuge and the Tampa Bypass Canal. Dominant vegetation consists of white mangrove (*Laguncularia racemosa*), Brazilian pepper (*Schinus terebinthifolius*), Seaside Mahoe (*Thespesia populnea*), and castor bean (*Ricinus communis*). Mangrove swamps comprise 35.13 acres (3.05 percent) of the project study area.

Name: WL 03
FLUCFCS: 6170 (Mixed Wetland Hardwoods)
USFWS: PFO1C (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded)

Mixed wetland hardwood communities are composed of a variety of hardwood species tolerant of hydric conditions yet exhibit an ill-defined mixture of species. This classification can be found within the right-of-way of the 78th St N on-ramp. Dominant vegetation includes Brazilian pepper,

laurel oak (*Quercus laurifolia*), sabal palm, slash pine, muscadine, and bitter melon (*Momordica charantia*). Mixed wetland hardwoods comprise 0.28 acres (0.02 percent) of the project study area.

Name: WL 04
FLUCFCS: 6210 (Cypress)
USFWS: PFO2F (Palustrine, Forested, Needle-Leaved Deciduous, Semipermanently Flooded)

These habitats are composed of bald cypress (*Taxodium distichum*) stands. Other vegetation observed within these communities included American elm (*Ulmus americana*), laurel oak, and sweetbay magnolia (*Magnolia virginiana*). This classification can be found near the southeastern end of the Selmon Expressway (SR 618) within the project study area. Cypress swamps comprise 1.59 acres (0.14 percent) of the project study area.

Name: WL 05
FLUCFCS: 6300 (Wetland Forested Mixed)
USFWS: PFO1C (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded)

This habitat type includes mixed wetland forest communities in which neither hardwood nor conifers dominate the canopy. These communities are scattered along the corridor of the Selmon Expressway (SR 618) within the project study area. Dominant vegetation includes Brazilian pepper, laurel oak, sabal palm, slash pine, muscadine, and bitter melon. Wetland forested mixed communities comprise 2.53 acres (0.22 percent) of the project study area.

Name: WL 06
FLUCFCS: 6310 (Wetland Shrub)
USFWS: PSS1F (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded)

This community is associated with topographic depressions and poorly drained soil. This classification can be found primarily contained within a single parcel along the northern edge of the Selmon Expressway (SR 618). Dominant vegetation consists of Brazilian pepper, Peruvian primrose-willow, sabal palm, and muscadine. Wetland shrub comprises 12.55 acres (1.09 percent) of the project study area.

Name: WL 07
FLUCFCS: 6400 (Vegetated Non-Forested Wetlands)
USFWS: PEM1Cx (Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated)

Vegetated non-forested wetlands include marshes as well as seasonably flooded basins and meadows. This classification can be found adjacent to other marsh habitats located on the eastern end of the project study area. Dominant vegetation consists of American pokeweed (*Phytolacca americana*), cabbage palm, saltbush, bushy bluestem (*Andropogon glomeratus var. pumilus*), and swamp fern (*Blechnum serrulatum*). Vegetated non-forested wetlands comprise 0.62 acres (0.05 percent) of the project study area.

Name: WL 08
FLUCFCS: 6410 (Freshwater Marshes)
USFWS: PSS1Fx (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded)

Freshwater marshes are characterized by their lack of tree cover and fall under the vegetated non-forested wetlands classification. These habitats are distributed throughout the project corridor but are concentrated along the eastern half of the Selmon Expressway. Dominant vegetation consists of bald cypress, golden chain tree (*Laburnum anagyroides*), saltbush, slash pine, wax myrtle (*Myrica cerifera*), Japanese climbing fern (*Lygonium japonicum*), swamp fern, and swiss cheese plant (*Monstera deliciosa*). Freshwater marshes comprise 26.10 acres (2.26 percent) of the project study area.

Name: WL 09
FLUCFCS: 6420 (Saltwater Marshes)
USFWS: E2EM1N (Estuarine, Intertidal, Emergent, Persistent, Regularly Flooded)

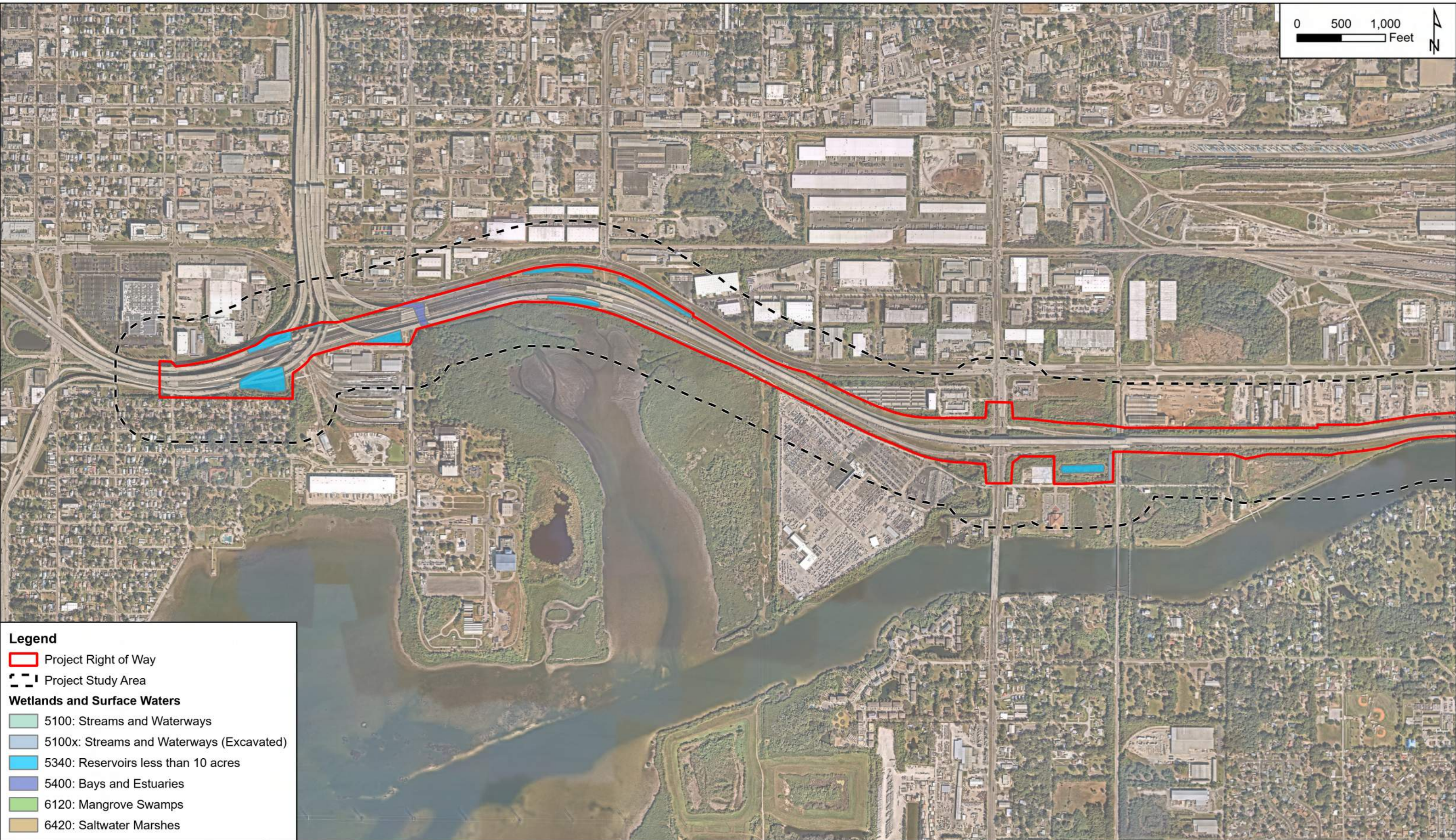
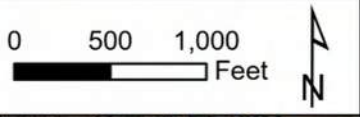
Saltwater marshes are characterized by their lack of tree cover however the communities in these habitats are dominated by halophilic flora and fauna. Saltwater marshes are concentrated south of the Selmon Expressway (SR 618) near the McKay Bay Wildlife Refuge. Dominant vegetation consists of white mangrove and Brazilian pepper, with pennyworts (*Hydrocotyle* spp.) and glasswort (*Salicornia* sp.) present as ground cover. Reservoirs comprise 8.28 acres (0.72 percent) of the project study area.

Name: WL 10
FLUCFCS: 6430 (Wet Prairies)
USFWS: PSS1F (Palustrine, Scrub-Shrub, Persistent, Semipermanently Flooded)

Wet prairies are composed predominately of grassy vegetation on hydric soils and are usually distinguished from marshes by having less water and shorter herbage. This classification can be found surrounding freshwater marshes near the intersection of the Selmon Expressway (SR 618) and U.S. Highway 301. Dominant vegetation includes laurel oak, golden chain tree, sabal palm, saltbush, slash pine, wax myrtle, Japanese climbing fern, and swamp fern. Wet prairies comprise 2.56 acres (0.22 percent) of the project study area.

Name: WL 11
FLUCFCS: 6440 (Emergent Aquatic Vegetation)
USFWS: PEM1F (Palustrine, Emergent, Persistent, Semipermanently Flooded)

This habitat type is characterized by floating vegetation. These aquatic vegetation communities are primarily located on the eastern end of the project study area. Dominant vegetation consists of water lily (*Nymphaea odorata*), duckweed (*Lemna minor*), water lettuce (*Pistia stratiotes*), maiden cane (*Panicum hemitomom*), torpedo grass (*Panicum repens*), and cattails. Emergent aquatic vegetation communities comprise 2.18 acres (0.19 percent) of the total project study area.



Legend

- Project Right of Way
- Project Study Area

Wetlands and Surface Waters

- 5100: Streams and Waterways
- 5100x: Streams and Waterways (Excavated)
- 5340: Reservoirs less than 10 acres
- 5400: Bays and Estuaries
- 6120: Mangrove Swamps
- 6420: Saltwater Marshes

Wetlands and Surface Waters Map
THEA PD&E East Selmon Expressway
Hillsborough County, Florida

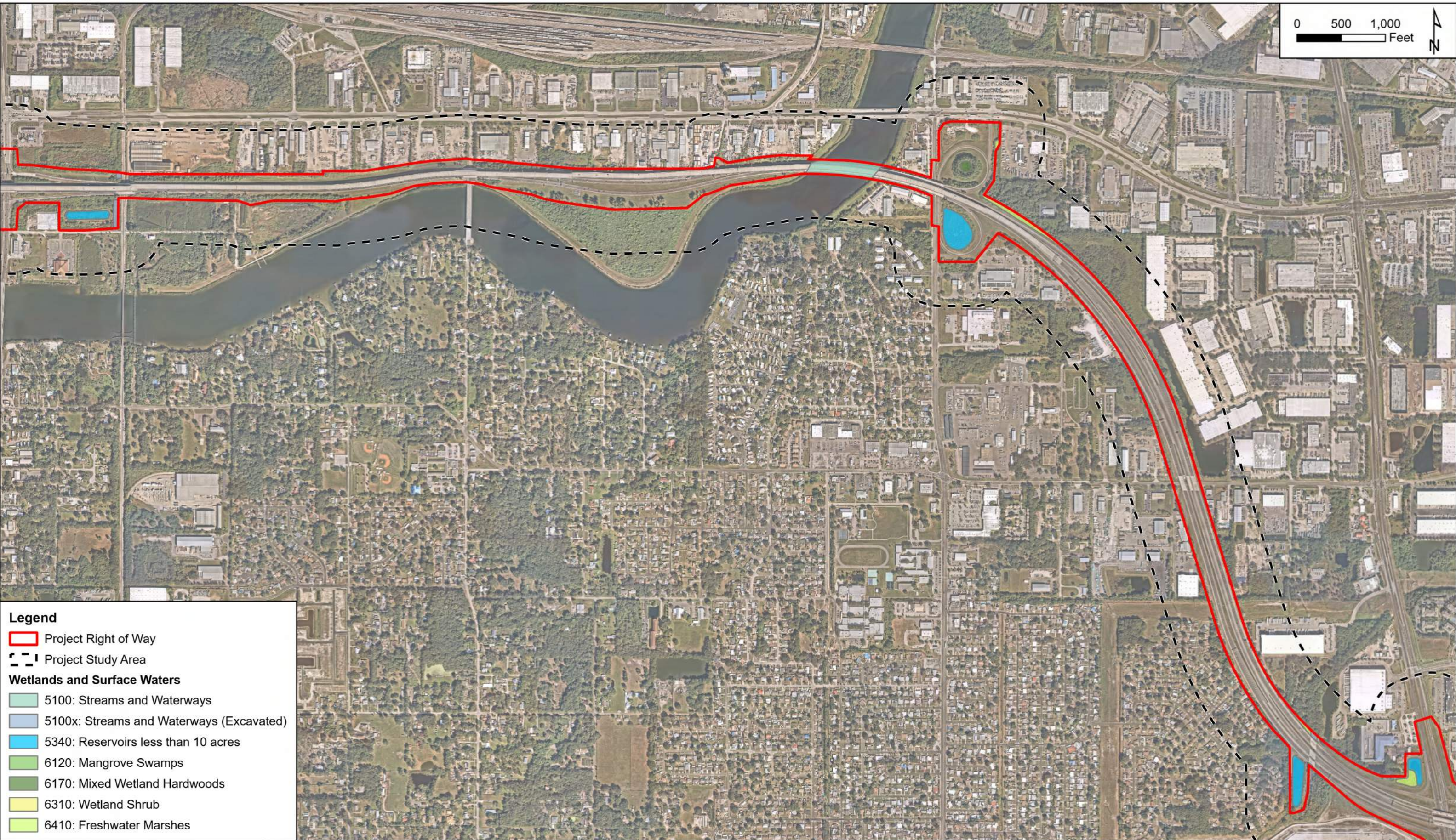
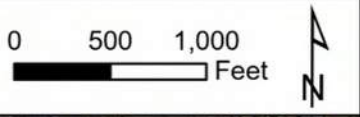
Kimley»Horn
 © 2024 Kimley-Horn and Associates, Inc.
 201 North Franklin Street, Suite 1400, Tampa, FL 33602
 Phone (813) 620-1460
 www.kimley-horn.com

1 IN = 1,000 FT

PROJECT NUMBER: 049531000

MARCH 2024

FIGURE 5: Page 1 of 3



Legend

- Project Right of Way
- Project Study Area

Wetlands and Surface Waters

- 5100: Streams and Waterways
- 5100x: Streams and Waterways (Excavated)
- 5340: Reservoirs less than 10 acres
- 6120: Mangrove Swamps
- 6170: Mixed Wetland Hardwoods
- 6310: Wetland Shrub
- 6410: Freshwater Marshes

Wetlands and Surface Waters Map
THEA PD&E East Selmon Expressway
Hillsborough County, Florida

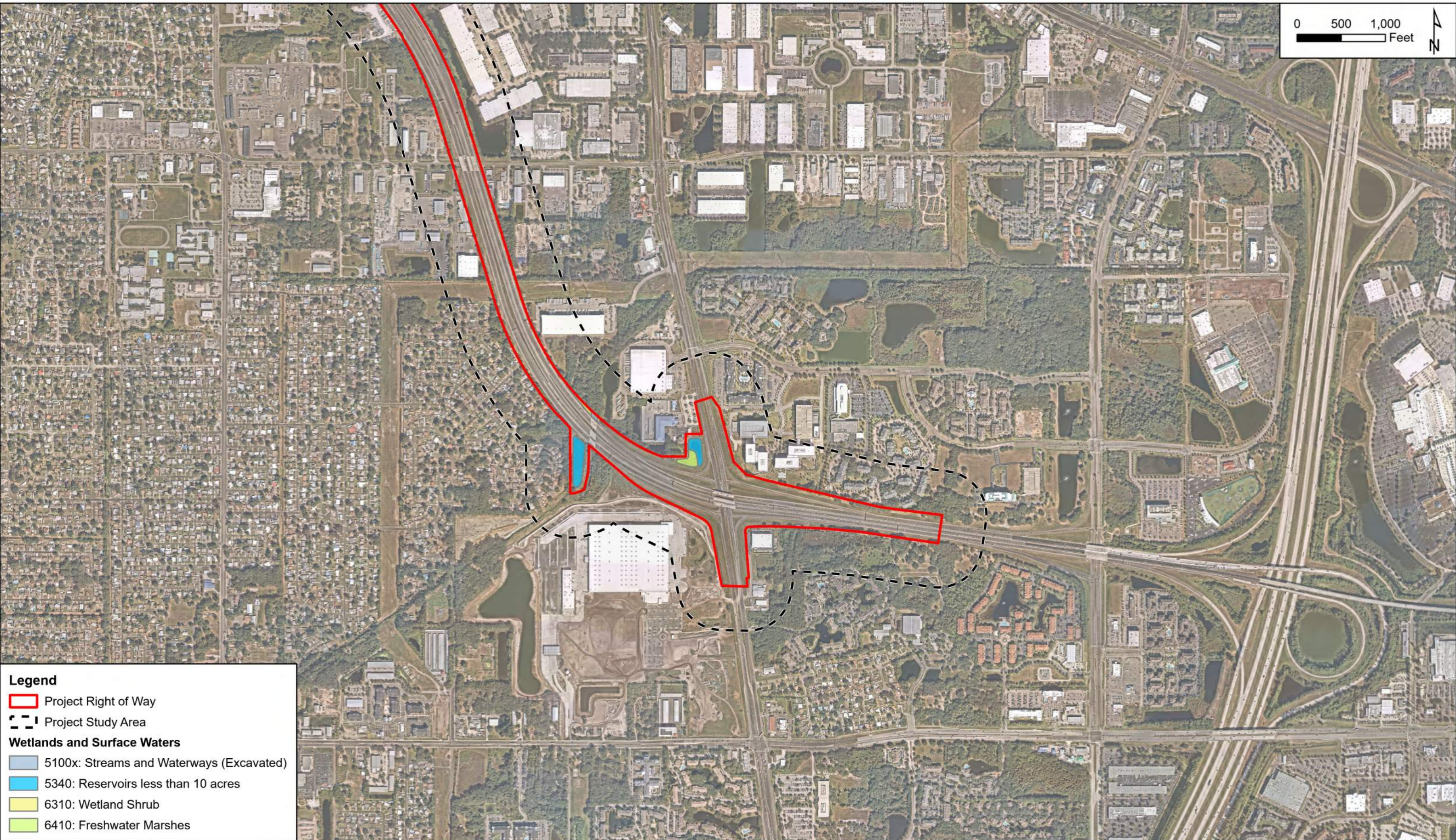
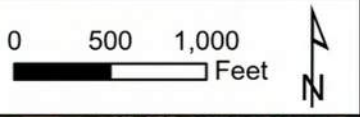
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1 IN = 1,000 FT

PROJECT NUMBER: 049531000

MARCH 2024

FIGURE 5: Page 2 of 3



Legend

- Project Right of Way
- Project Study Area
- Wetlands and Surface Waters**
- 5100x: Streams and Waterways (Excavated)
- 5340: Reservoirs less than 10 acres
- 6310: Wetland Shrub
- 6410: Freshwater Marshes

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APPENDIX D
UNIFORM MITIGATION ASSESSMENT METHODOLOGY
FORMS

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

Site/Project Name THEA PD&E		Application Number TBD		Assessment Area Name or Number Surface Water 3 Direct	
FLUCCs code 5340 Reservoirs less than 10 acres		Further classification (optional) N/A		Impact or Mitigation Site? Impact (Direct)	Assessment Area Size 8.55
Basin/Watershed Name/Number Tampa Bay and Coastal Areas (13)	Affected Waterbody (Class) Class I		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Surface Water 3 consists of the stormwater management ponds located adjacent to SR 618 as well as bordering various developments. There are 8 such reservoirs that may be impacted within the project study area.					
Assessment area description The assessment area is 9.52 acres of impact within the proposed project study area.					
Significant nearby features SR 618			Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique		
Functions Potential wildlife habitat			Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) fishes, amphibians, wading birds, and small terrestrial mammals			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Sandhill crane - T, Wood stork - T, Threatened wading birds		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None					
Additional relevant factors: None					
Assessment conducted by: Kimley-Horn			Assessment date(s):		

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

Site/Project Name <p align="center">THEA PD&E</p>	Application Number <p align="center">TBD</p>	Assessment Area Name or Number <p align="center">Surface Water 3</p>
Impact or Mitigation <p align="center">Impact (Direct)</p>	Assessment conducted by: <p align="center">Kimley-Horn</p>	Assessment date:

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

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

.500(6)(a) Location and Landscape Support	Surface water 3 consists of the stormwater management ponds located adjacent to SR 618 as well as bordering various developments within the project study area.
w/o pres or current 6	with 0
.500(6)(b)Water Environment (n/a for uplands)	The hydrology of Surface Water 3 is primarily derived of stormwater runoff from SR 618 with no direct outside hydrologic connections.
w/o pres or current 7	with 0
.500(6)(c)Community structure	Surface water 3 is primarily occupied by Brazilian pepper (<i>Schinus terebinthifolia</i>), Caorlina willow (<i>Salix caroliniana</i>), fire-flag (<i>Thalia geniculata</i>), flatsedges (<i>Cyperus</i> spp.), Peruvian primrose-willow (<i>Ludwigia peruviana</i>), slash pine (<i>Pinus elliotii</i>), saltbush (<i>Baccharis halimifolia</i>), waterhyssop (<i>Bacopa monnieri</i>).
1. Vegetation and/or 2. Benthic Community	
w/o pres or current 6	with 0

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres 0.63	with 0

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

For impact assessment areas
FL = delta x acres = 5.415

Delta = [with-current]
-0.63

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 THEA PD&E		Application Number TBD	Assessment Area Name or Number Wetland 3 Direct
FLUCCs code 6170 Mixed Wetland Hardwoods	Further classification (optional) N/A	Impact or Mitigation Site? Impact (Direct)	Assessment Area Size 0.28
Basin/Watershed Name/Number Tampa Bay and Coastal Areas (13)	Affected Waterbody (Class) Class I	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Wetland 3 is a mixed wetland hardwood located within the right-of-way of the 78th St N on-ramp.			
Assessment area description The assessment area is 0.28 acres of impact within the proposed project study area.			
Significant nearby features SR 618	Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique		
Functions Potential wildlife habitat	Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) birds and small terrestrial mammals	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Wood stork - T, Sandhill crane - T, Threatened wading birds		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None			
Additional relevant factors: None			
Assessment conducted by: Kimley-Horn		Assessment date(s):	

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

Site/Project Name THEA PD&E	Application Number TBD	Assessment Area Name or Number Wetland 3
Impact or Mitigation Impact (Direct)	Assessment conducted by: Kimley-Horn	Assessment date:

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

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

.500(6)(a) Location and Landscape Support	Wetland 3 is a mixed wetland hardwood located within the right-of-way of the 78th St N on-ramp.								
<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td>6</td> <td>0</td> </tr> </table>	w/o pres or current	with	6	0					
w/o pres or current	with								
6	0								
.500(6)(b)Water Environment (n/a for uplands)	The hydrology of Wetland 3 has been impacted by development and is primarily derived of stormwater runoff from SR 618 with no direct outside hydrologic connections.								
<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td>6</td> <td>0</td> </tr> </table>	w/o pres or current	with	6	0					
w/o pres or current	with								
6	0								
.500(6)(c)Community structure	Wetland 3 is primarily occupied by Brazilian pepper (<i>Schinus terebinthifolia</i>), laurel oak (<i>Quercus laurifolia</i>), sabal palm (<i>Sabal palmetto</i>), slash pine (<i>Pinus elliotii</i>), muscadine (<i>Vitis rotundifolia</i>), and bitter melon (<i>Momordica charantia</i>).								
<table border="1"> <tr> <td>1. Vegetation and/or</td> <td></td> </tr> <tr> <td>2. Benthic Community</td> <td></td> </tr> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td>6</td> <td>0</td> </tr> </table>	1. Vegetation and/or		2. Benthic Community		w/o pres or current	with	6	0	
1. Vegetation and/or									
2. Benthic Community									
w/o pres or current	with								
6	0								

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
or w/o pres	
with	
0.60	0

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

For impact assessment areas
FL = delta x acres = 0.168

Delta = [with-current]
-0.60

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 THEA PD&E		Application Number TBD	Assessment Area Name or Number Wetland 8 Direct
FLUCCs code 6410 Freshwater Marshes	Further classification (optional) N/A	Impact or Mitigation Site? Impact (Direct)	Assessment Area Size 0.59
Basin/Watershed Name/Number Tampa Bay and Coastal Areas (13)	Affected Waterbody (Class) Class I	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Wetland 8 consists of forested freshwater marshes located within the right of ways of SR 618. There are 3 freshwater marshes that may be impacted within the project study area.			
Assessment area description The assessment area is 5.90 acres of impact within the proposed project study area.			
Significant nearby features SR 618; I-75	Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique		
Functions Potential wildlife habitat	Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) small terrestrial mammals and wading birds	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Wood stork - T, Sandhill crane - T, Threatened wading birds		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None			
Additional relevant factors: None			
Assessment conducted by: Kimley-Horn	Assessment date(s):		

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

Site/Project Name <p align="center">THEA PD&E</p>	Application Number <p align="center">TBD</p>	Assessment Area Name or Number <p align="center">Wetland 8</p>
Impact or Mitigation <p align="center">Impact (Direct)</p>	Assessment conducted by: <p align="center">Kimley-Horn</p>	Assessment date:

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

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

.500(6)(a) Location and Landscape Support	Wetland 8 consists of forested freshwater marshes located within the right of ways of SR 618 and I-75.				
<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td align="center">7</td> <td align="center">0</td> </tr> </table>	w/o pres or current	with	7	0	
w/o pres or current	with				
7	0				
.500(6)(b)Water Environment (n/a for uplands)	The hydrology of Wetland 8 have been impacted by development and are primarily derived of stormwater runoff from SR 618 and I-75 with no direct outside hydrologic connections.				
<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td align="center">7</td> <td align="center">0</td> </tr> </table>	w/o pres or current	with	7	0	
w/o pres or current	with				
7	0				
.500(6)(c)Community structure	Wetland 8 is primarily occupied by bald cypress, golden chain tree (<i>Laburnum anagyroides</i>), saltbush (<i>Baccharis halimifolia</i>), slash pine (<i>Pinus elliotii</i>), wax myrtle (<i>Myrica cerifera</i>), Japanese climbing fern (<i>Lygonium japonicum</i>), swamp fern (<i>Telmatoblechnum serrulatum</i>), and swiss cheese plant (<i>Monstera deliciosa</i>).				
<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td align="center">7</td> <td align="center">0</td> </tr> </table>	w/o pres or current	with	7	0	
w/o pres or current	with				
7	0				

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
or w/o pres	
with	
0.70	0

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

For impact assessment areas
FL = delta x acres = 0.413

Delta = [with-current]
-0.70

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

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

APPENDIX E

FNAI BIODIVERSITY MATRIX REPORT



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

Florida Natural Areas Inventory

Biodiversity Matrix Query Results

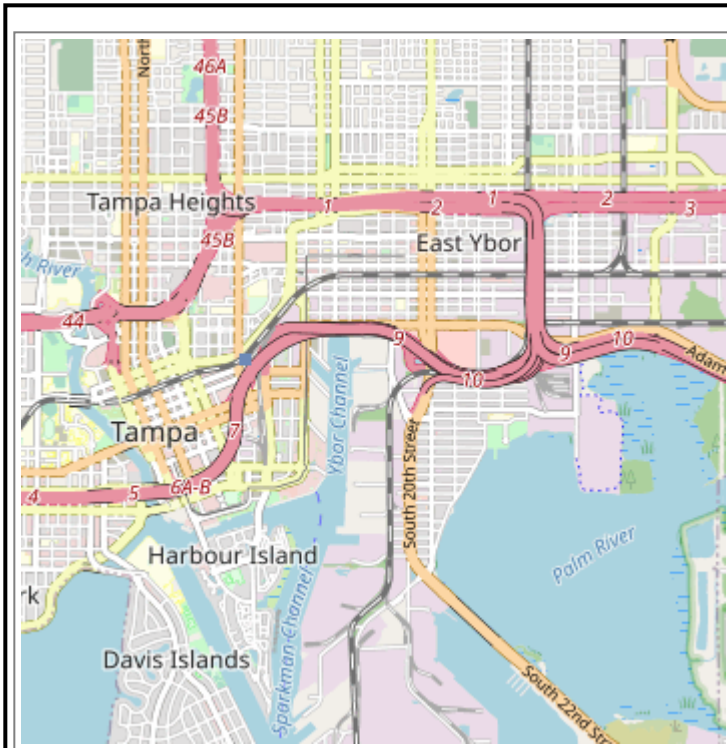
UNOFFICIAL REPORT

Created 6/6/2022

(Contact the FNAI Data Services Coordinator at 850.224.8207 or kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 4 Matrix Units: 25776 , 25777 , 26046 , 26047



Descriptions

DOCUMENTED - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

DOCUMENTED-HISTORIC - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit; however the occurrence has not been observed/reported within the last twenty years.

LIKELY - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; or
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

POTENTIAL - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

Matrix Unit ID: 25776

0 Documented Elements Found

0 Documented-Historic Elements Found

1 Likely Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 25777

0 Documented Elements Found

0 Documented-Historic Elements Found

0 **Likely** Elements Found**Matrix Unit ID: 26046**0 **Documented** Elements Found0 **Documented-Historic** Elements Found1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 260470 **Documented** Elements Found0 **Documented-Historic** Elements Found1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit IDs: 25776 , 25777 , 26046 , 2604735 **Potential** Elements Common to Any of the 4 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Acipenser oxyrinchus desotoi Gulf Sturgeon	G3T2T3	S2?	T	FT
Agrimonia incisa incised groove-bur	G3	S2	N	T
Antigone canadensis pratensis Florida Sandhill Crane	G5T2	S2	N	ST
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST
Bolbocerosoma hamatum Bicolored Burrowing Scarab Beetle	G3G4	S3	N	N
Calopogon multiflorus many-flowered grass-pink	G2G3	S2S3	N	T
Centrosema arenicola sand butterfly pea	G2Q	S2	N	E
Charadrius melodus Piping Plover	G3	S2	T	FT
Chrysopsis floridana Florida goldenaster	G3	S3	E, PDL	E
Coleataenia abscissa cutthroatgrass	G3	S3	N	E
Dermochelys coriacea Leatherback Sea Turtle	G2	S2	E	FE
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Eretmochelys imbricata Hawksbill Sea Turtle	G3	S1	E	FE
Eumops floridanus Florida bonneted bat	G1	S1	E	FE
Forestiera godfreyi Godfrey's swampprivet	G2	S2	N	E
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Gymnopogon chapmanianus	G3	S3	N	N

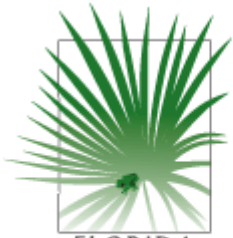
Chapman's skeletoingrass				
Heterodon simus	G2	S2S3	N	N
Southern Hognose Snake				
Lampropeltis extenuata	G3	S3	N	ST
Short-tailed Snake				
Lechea cernua	G3	S3	N	T
nodding pinweed				
Linum carteri var. smallii	G2T2	S2	N	E
Small's flax				
Lithobates capito	G2G3	S3	N	N
Gopher Frog				
Litsea aestivalis	G3?	S2	N	E
pondspice				
Matelea floridana	G2	S2	N	E
Florida spiny-pod				
Mustela frenata peninsulae	G5T3?	S3?	N	N
Florida Long-tailed Weasel				
Nemastylis floridana	G2	S2	N	E
celestial lily				
Nolina atopocarpa	G3	S3	N	T
Florida beargrass				
Phyllophaga elongata	G3	S3	N	N
Elongate June Beetle				
Podomys floridanus	G3	S3	N	N
Florida Mouse				
Pteroglossaspis ecristata	G2G3	S2	N	T
giant orchid				
Rallus longirostris scottii	G5T3?	S3?	N	N
Florida Clapper Rail				
Sciurus niger niger	G5T5	S3	N	N
Southeastern Fox Squirrel				
Selonodon mandibularis	G2G4	S2S4	N	N
Large-Jawed Cebrioid Beetle				
Setophaga discolor paludicola	G5T3	S3	N	N
Florida Prairie Warbler				
Trichechus manatus latirostris	G2G3T2	S2S3	T	N
Florida Manatee				

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Unofficial Report

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1018 Thomasville Road
 Suite 200-C
 Tallahassee, FL 32303
 850-224-8207
 850-681-9364 fax
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FLORIDA
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Florida Natural Areas Inventory

Biodiversity Matrix Query Results

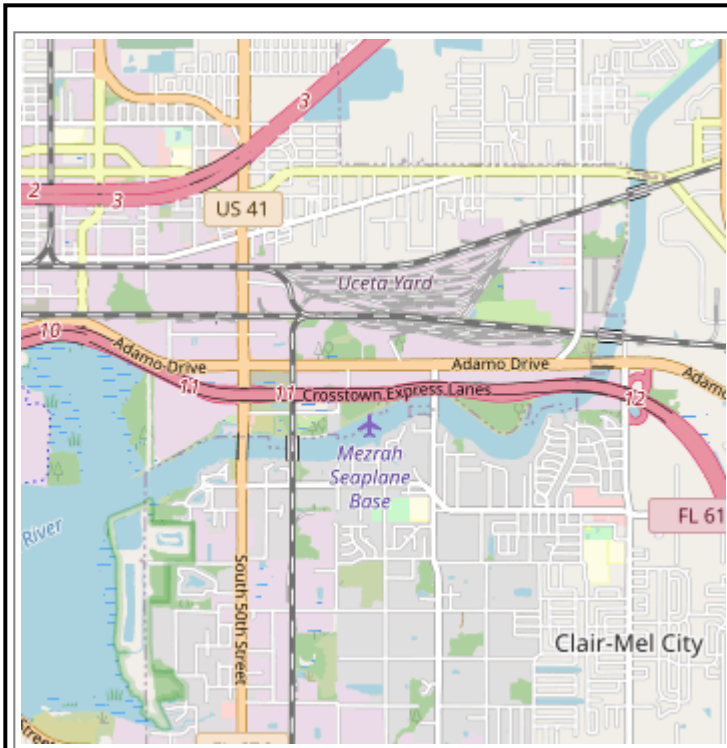
UNOFFICIAL REPORT

Created 6/6/2022

(Contact the FNAI Data Services Coordinator at 850.224.8207 or kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 8 Matrix Units: 26317 , 26318 , 26589 , 26590 , 26863 , 26864 , 27139 , 27140



Descriptions

DOCUMENTED - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

DOCUMENTED-HISTORIC - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit; however the occurrence has not been observed/reported within the last twenty years.

LIKELY - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; or
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

POTENTIAL - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

Matrix Unit ID: 26317

0 Documented Elements Found

0 Documented-Historic Elements Found

1 Likely Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26318

0 Documented Elements Found

0 Documented-Historic Elements Found

1 Likely Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 265890 **Documented** Elements Found0 **Documented-Historic** Elements Found**1 Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 265900 **Documented** Elements Found0 **Documented-Historic** Elements Found**1 Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 268630 **Documented** Elements Found0 **Documented-Historic** Elements Found0 **Likely** Elements Found**Matrix Unit ID: 26864**0 **Documented** Elements Found0 **Documented-Historic** Elements Found**1 Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 271390 **Documented** Elements Found0 **Documented-Historic** Elements Found**1 Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana	G4	S2	T	FT

Wood Stork

Matrix Unit ID: 271400 **Documented** Elements Found0 **Documented-Historic** Elements Found1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit IDs: 26317, 26318, 26589, 26590, 26863, 26864, 27139, 2714034 **Potential** Elements Common to Any of the 8 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Acipenser oxyrinchus desotoi Gulf Sturgeon	G3T2T3	S2?	T	FT
Agrimonia incisa incised groove-bur	G3	S2	N	T
Antigone canadensis pratensis Florida Sandhill Crane	G5T2	S2	N	ST
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST
Bolbocerosoma hamatum Bicolored Burrowing Scarab Beetle	G3G4	S3	N	N
Calopogon multiflorus many-flowered grass-pink	G2G3	S2S3	N	T
Centrosema arenicola sand butterfly pea	G2Q	S2	N	E
Charadrius melodus Piping Plover	G3	S2	T	FT
Coleataenia abscissa cutthroatgrass	G3	S3	N	E
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Eretmochelys imbricata Hawksbill Sea Turtle	G3	S1	E	FE
Eumops floridanus Florida bonneted bat	G1	S1	E	FE
Forestiera godfreyi Godfrey's swampprivet	G2	S2	N	E
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Gymnopogon chapmanianus Chapman's skeletongrass	G3	S3	N	N
Heterodon simus Southern Hognose Snake	G2	S2S3	N	N
Lampropeltis extenuata Short-tailed Snake	G3	S3	N	ST
Lechea cernua nodding pinweed	G3	S3	N	T
Linum carteri var. smallii Small's flax	G2T2	S2	N	E
Lithobates capito Gopher Frog	G2G3	S3	N	N
Litsea aestivalis pondspice	G3?	S2	N	E
Matelea floridana Florida spiny-pod	G2	S2	N	E

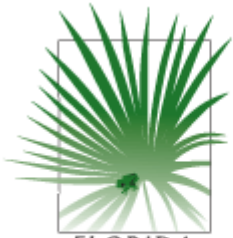
<i>Mustela frenata peninsulae</i> Florida Long-tailed Weasel	G5T3?	S3?	N	N
<i>Nemastylis floridana</i> celestial lily	G2	S2	N	E
<i>Nolina atopocarpa</i> Florida beargrass	G3	S3	N	T
<i>Peucaea aestivalis</i> Bachman's Sparrow	G3	S3	N	N
<i>Phyllophaga elongata</i> Elongate June Beetle	G3	S3	N	N
<i>Podomys floridanus</i> Florida Mouse	G3	S3	N	N
<i>Pteroglossaspis ecristata</i> giant orchid	G2G3	S2	N	T
<i>Rallus longirostris scottii</i> Florida Clapper Rail	G5T3?	S3?	N	N
<i>Sciurus niger niger</i> Southeastern Fox Squirrel	G5T5	S3	N	N
<i>Selonodon mandibularis</i> Large-Jawed Cebrionid Beetle	G2G4	S2S4	N	N
<i>Setophaga discolor paludicola</i> Florida Prairie Warbler	G5T3	S3	N	N
<i>Trichechus manatus latirostris</i> Florida Manatee	G2G3T2	S2S3	T	N

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Natural Areas
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Florida Natural Areas Inventory

Biodiversity Matrix Query Results

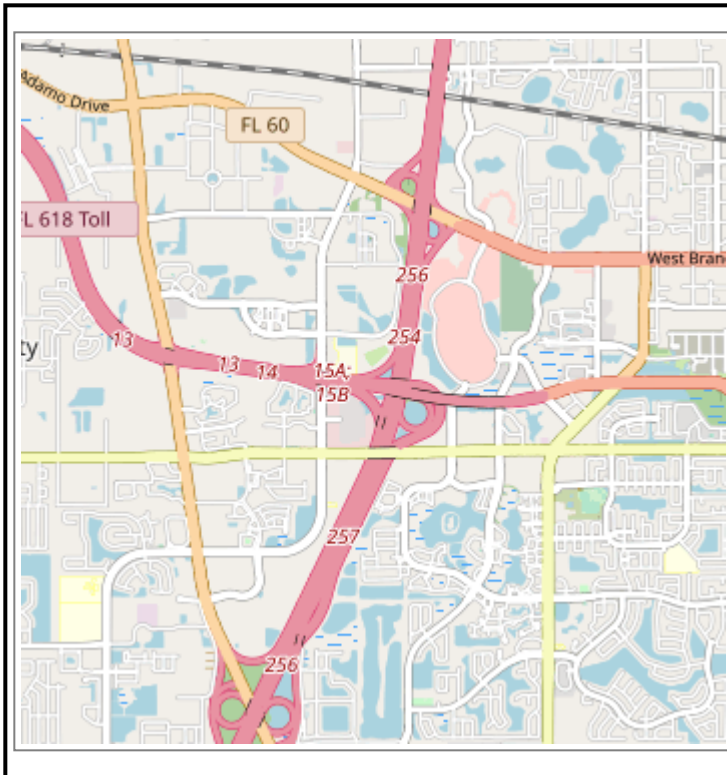
UNOFFICIAL REPORT

Created 6/6/2022

(Contact the FNAI Data Services Coordinator at 850.224.8207 or kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 5 Matrix Units: 27138 , 27415 , 27695 , 27983 , 28271



Descriptions

DOCUMENTED - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

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LIKELY - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; or
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

POTENTIAL - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

Matrix Unit ID: 27138

0 Documented Elements Found

0 Documented-Historic Elements Found

1 Likely Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 27415

0 Documented Elements Found

0 Documented-Historic Elements Found

2 Likely Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Mesic flatwoods</i>	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 276950 **Documented** Elements Found0 **Documented-Historic** Elements Found**5 Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Alligator mississippiensis American Alligator	G5	S4	SAT	FT(S/A)
<i>Antigone canadensis pratensis</i> Florida Sandhill Crane	G5T2	S2	N	ST
Egretta caerulea Little Blue Heron	G5	S4	N	ST
Mycteria americana Wood Stork	G4	S2	T	FT
Platalea ajaja Roseate Spoonbill	G5	S2	N	ST

Matrix Unit ID: 279830 **Documented** Elements Found0 **Documented-Historic** Elements Found**5 Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Alligator mississippiensis American Alligator	G5	S4	SAT	FT(S/A)
<i>Antigone canadensis pratensis</i> Florida Sandhill Crane	G5T2	S2	N	ST
Egretta caerulea Little Blue Heron	G5	S4	N	ST
Mycteria americana Wood Stork	G4	S2	T	FT
Platalea ajaja Roseate Spoonbill	G5	S2	N	ST

Matrix Unit ID: 282710 **Documented** Elements Found0 **Documented-Historic** Elements Found**5 Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Alligator mississippiensis American Alligator	G5	S4	SAT	FT(S/A)
<i>Antigone canadensis pratensis</i> Florida Sandhill Crane	G5T2	S2	N	ST
Egretta caerulea	G5	S4	N	ST

Little Blue Heron				
Mycteria americana	G4	S2	T	FT
Wood Stork				
Platalea ajaja	G5	S2	N	ST
Roseate Spoonbill				

Matrix Unit IDs: 27138 , 27415 , 27695 , 27983 , 28271**27 Potential** Elements Common to Any of the 5 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Antigone canadensis pratensis</i> Florida Sandhill Crane	G5T2	S2	N	ST
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST
Calopogon multiflorus many-flowered grass-pink	G2G3	S2S3	N	T
Centrosema arenicola sand butterfly pea	G2Q	S2	N	E
Chrysopsis floridana Florida goldenaster	G3	S3	E, PDL	E
<i>Coleataenia abscissa</i> cutthroatgrass	G3	S3	N	E
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Eumops floridanus Florida bonneted bat	G1	S1	E	FE
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Gymnopogon chapmanianus Chapman's skeletongrass	G3	S3	N	N
Heterodon simus Southern Hognose Snake	G2	S2S3	N	N
<i>Lampropeltis extenuata</i> Short-tailed Snake	G3	S3	N	ST
Lechea cernua nodding pinweed	G3	S3	N	T
<i>Linum carteri</i> var. <i>smallii</i> Small's flax	G2T2	S2	N	E
<i>Lithobates capito</i> Gopher Frog	G2G3	S3	N	N
Litsea aestivalis pondspice	G3?	S2	N	E
Matelea floridana Florida spiny-pod	G2	S2	N	E
<i>Mustela frenata peninsulae</i> Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Nolina atopocarpa Florida beargrass	G3	S3	N	T
<i>Peucaea aestivalis</i> Bachman's Sparrow	G3	S3	N	N
Platanthera integra yellow fringeless orchid	G3G4	S3	N	E
Podomys floridanus Florida Mouse	G3	S3	N	N
Pteroglossaspis ecristata giant orchid	G2G3	S2	N	T
Rhynchospora megaplumosa large-plumed beaksedge	G2	S2	N	E
<i>Sciurus niger niger</i> Southeastern Fox Squirrel	G5T5	S3	N	N
<i>Setophaga discolor paludicola</i>	G5T3	S3	N	N

Florida Prairie Warbler

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IPaC resource list

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IPaC is experiencing problems with the map layer services and you may get an "Unexpected error" dialog when loading your project, if you have layers displayed or add a layer to your project. Removing those layers from your map should fix the issue. We are working on the issue and hope to have it resolved soon.

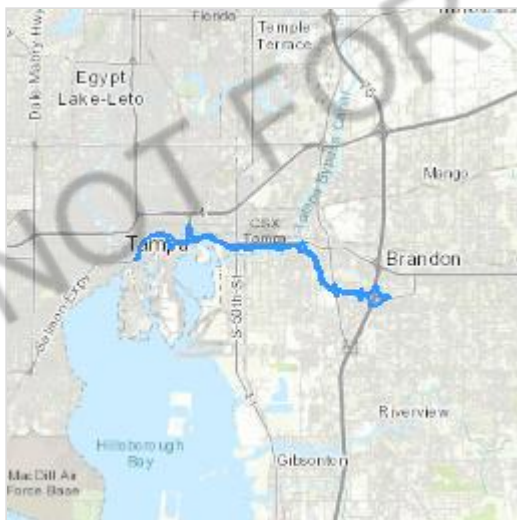


However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Hillsborough County, Florida



Local office

Florida Ecological Services Field Office

[TBD](#)

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
<p>West Indian Manatee <i>Trichechus manatus</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/4469</p>	<p>Threatened Marine mammal</p>

Birds

NAME	STATUS
<p>Audubon's Crested Caracara <i>Polyborus plancus audubonii</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8250</p>	<p>Threatened</p>
<p>Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10477</p>	<p>Threatened</p>
<p>Florida Grasshopper Sparrow <i>Ammodramus savannarum flridanus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/32</p>	<p>Endangered</p>
<p>Florida Scrub-jay <i>Aphelocoma coerulescens</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6174</p>	<p>Threatened</p>
<p>Red Knot <i>Calidris canutus rufa</i> Wherever found There is proposed critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/1864</p>	<p>Threatened</p>

Wood Stork *Mycteria americana* Threatened
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/8477>

Reptiles

NAME	STATUS
American Crocodile <i>Crocodylus acutus</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/6604	Threatened
Eastern Indigo Snake <i>Drymarchon couperi</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/646	Threatened
Gopher Tortoise <i>Gopherus polyphemus</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6994	Candidate
Hawksbill Sea Turtle <i>Eretmochelys imbricata</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3656	Endangered
Leatherback Sea Turtle <i>Dermochelys coriacea</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle <i>Caretta caretta</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/1110	Threatened

Insects

NAME	STATUS
------	--------

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Flowering Plants

NAME

STATUS

Florida Bonamia *Bonamia grandiflora*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2230>**Florida Golden Aster** *Chrysopsis floridana*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/5352>**Pygmy Fringe-tree** *Chionanthus pygmaeus*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1084>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

- American Kestrel** *Falco sparverius paulus* Breeds Apr 1 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
<https://ecos.fws.gov/ecp/species/9587>
- American Oystercatcher** *Haematopus palliatus* Breeds Apr 15 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/8935>
- Bald Eagle** *Haliaeetus leucocephalus* Breeds Sep 1 to Jul 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
<https://ecos.fws.gov/ecp/species/1626>
- Black Skimmer** *Rynchops niger* Breeds May 20 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/5234>
- Great Blue Heron** *Ardea herodias occidentalis* Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
- Gull-billed Tern** *Gelochelidon nilotica* Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/9501>
- King Rail** *Rallus elegans* Breeds May 1 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/8936>
- Lesser Yellowlegs** *Tringa flavipes* Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/9679>

<p>Magnificent Frigatebird <i>Fregata magnificens</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Oct 1 to Apr 30
<p>Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31
<p>Reddish Egret <i>Egretta rufescens</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7617</p>	Breeds Mar 1 to Sep 15
<p>Ruddy Turnstone <i>Arenaria interpres morinella</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480</p>	Breeds elsewhere
<p>Swallow-tailed Kite <i>Elanoides forficatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938</p>	Breeds Mar 10 to Jun 30
<p>Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 20 to Aug 5
<p>Wilson's Plover <i>Charadrius wilsonia</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 1 to Aug 20

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



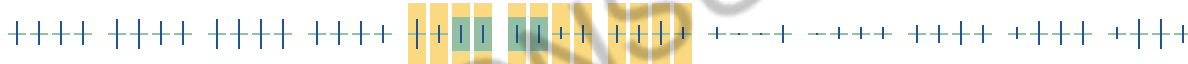
Black Skimmer
 BCC Rangewide
 (CON) (This is a
 Bird of
 Conservation
 Concern (BCC)
 throughout its
 range in the
 continental
 USA and
 Alaska.)



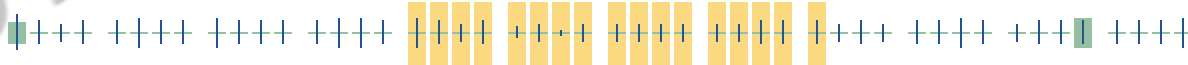
Great Blue
 Heron
 BCC - BCR (This
 is a Bird of
 Conservation
 Concern (BCC)
 only in
 particular Bird
 Conservation
 Regions (BCRs)
 in the
 continental
 USA)



Gull-billed Tern
 BCC Rangewide
 (CON) (This is a
 Bird of
 Conservation
 Concern (BCC)
 throughout its
 range in the
 continental
 USA and
 Alaska.)



King Rail
 BCC Rangewide
 (CON) (This is a
 Bird of
 Conservation
 Concern (BCC)
 throughout its
 range in the
 continental
 USA and
 Alaska.)



NOT FOR CONSULTATION

Lesser
Yellowlegs
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



Magnificent
Frigatebird
BCC - BCR (This
is a Bird of
Conservation
Concern (BCC)
only in
particular Bird
Conservation
Regions (BCRs)
in the
continental
USA)



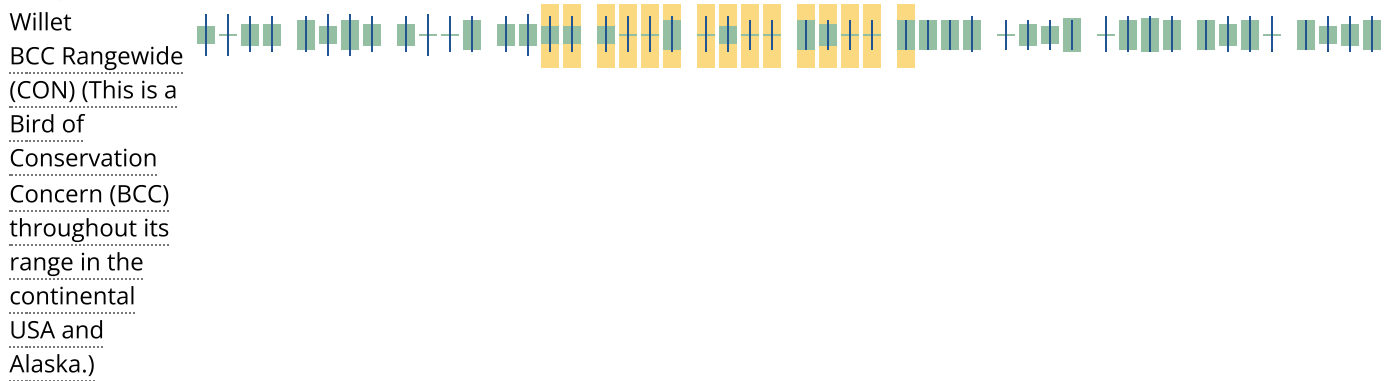
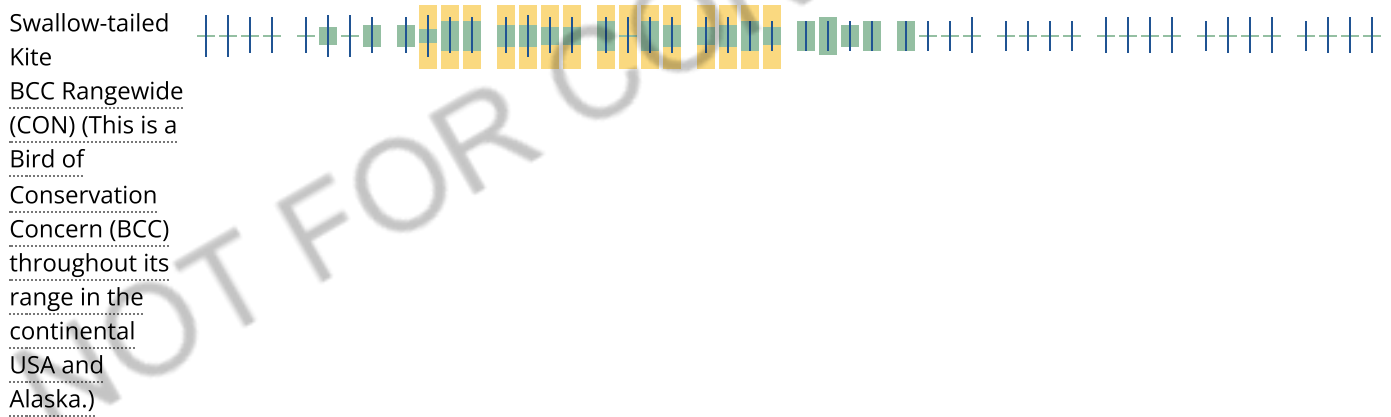
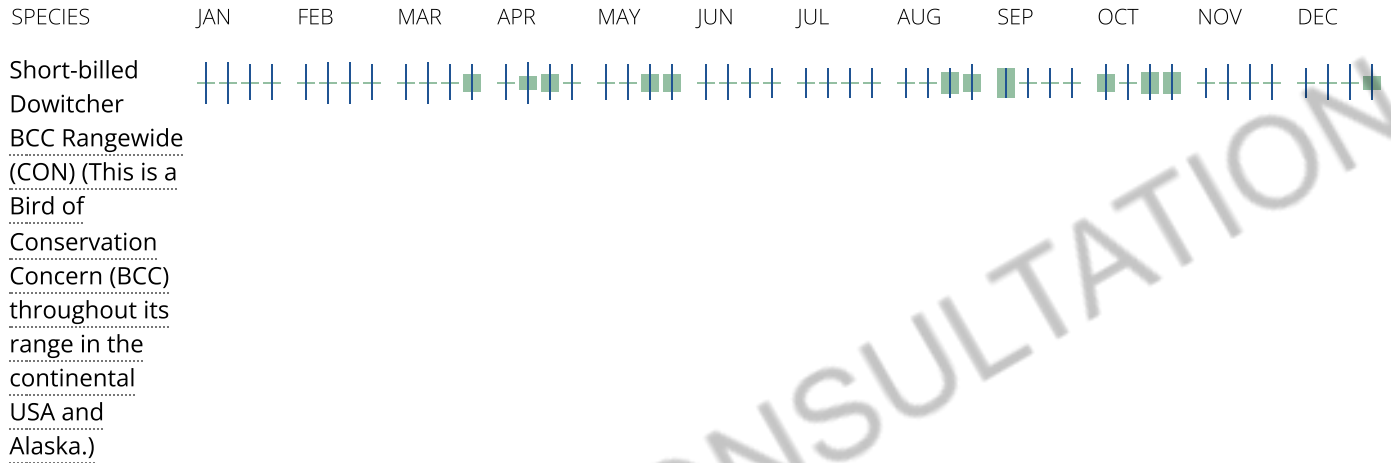
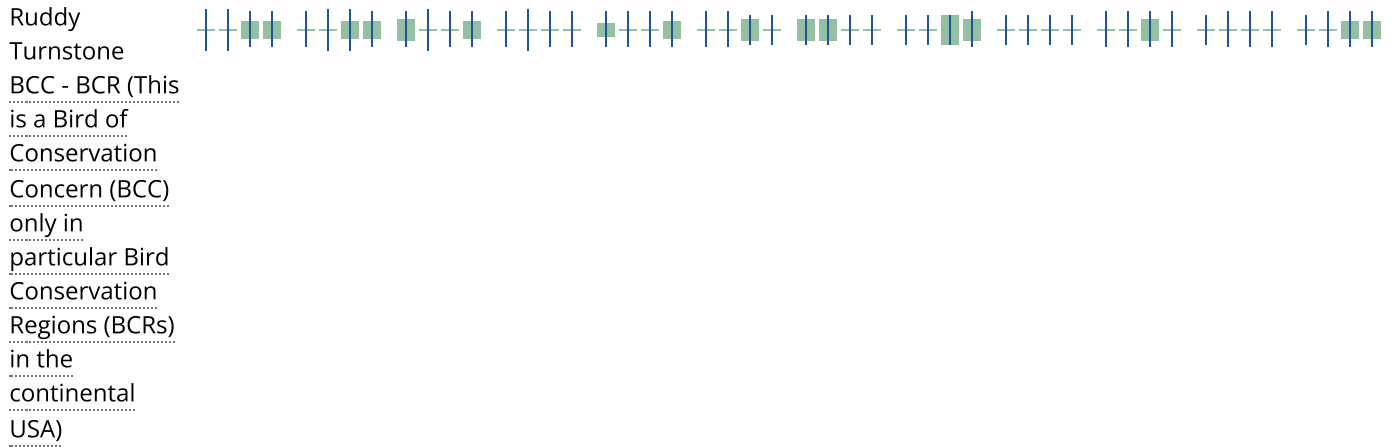
Prairie Warbler
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



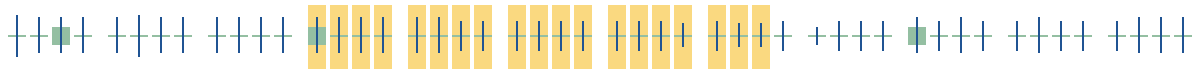
Reddish Egret
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



NOT FOR CONSULTATION



Wilson's Plover
 BCC Rangewide
 (CON) (This is a
 Bird of
 Conservation
 Concern (BCC)
 throughout its
 range in the
 continental
 USA and
 Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

NOT FOR CONSULTATION

Marine mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act¹ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora².

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walrus, polar bears, manatees, and dugongs] and NOAA Fisheries³ [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take (to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill) of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The [Endangered Species Act](#) (ESA) of 1973.
2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

West Indian Manatee *Trichechus manatus*
<https://ecos.fws.gov/ecp/species/4469>

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA](#)

[Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

THERE ARE NO KNOWN COASTAL BARRIERS AT THIS LOCATION.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should

seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

APPENDIX F
PROTECTED SPECIES POTENTIAL FOR OCCURRENCE

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Flora					
Celestial lily (<i>Nemastylis floridana</i>)			E	Wet flatwoods, prairies, marshes, and cabbage palm hammocks edges.	Low
Cutthroatgrass (<i>Coleataenia abscissa</i>)			E	Dry prairies, mesic flatwoods, wet flatwoods, depressional marshes, and seepage slopes.	Low
Florida beargrass (<i>Nolina atopocarpa</i>)			T	Pine flatwoods, scrubby flatwoods.	None
Florida bonamia (<i>Bonamia grandiora</i>)	T			Open and disturbed areas in white sand scrub on central Florida ridges that include scrub oaks, sand pine, and lichens.	None
Florida golden aster (<i>Chrysopsis floridana</i>)	E			Occurs on sunny, bare patches of sand in sand pine scrub and scrubby flatwoods, as well as disturbed areas of loose sand.	None
Florida spiny-pod (<i>Matelea floridana</i>)			E	Occurs on a variety of wooded habitats from fairly moist woods to upland hardwood forests.	Low
Giant orchid (<i>Pteroglossaspis ecristata</i>)			T	Sandhill, scrub, pine flatwoods, and pine rocklands.	None

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Godfrey's swampprivet (<i>Forestiera godfreyi</i>)			E	Upland hardwood forests with limestone at or near the surface.	Low
Incised groove-bur (<i>Agrimonia incisa</i>)			T	Dry to moist longleaf pine-oak woods, oak-hickory slopes, roadsides, sand or shell maritime thickets.	Low
Large-plumed beaksedge (<i>Rhynchospora megaplumosa</i>)			E	Occurs in scrubby flatwoods and scrubby to mesic flatwoods transition areas.	None
Many-flowered grass-pink (<i>Calopogon multiflorus</i>)			T	Dry to moist flatwoods with longleaf pine, wiregrass, and saw palmetto.	None
Nodding pinweed (<i>Lechea cernua</i>)			T	Deep sands, usually ancient dunes, on which the most common forest is a mixture of evergreen scrub oaks.	None
Pondspice (<i>Litsea aestivalis</i>)			E	Peaty soils in edges of baygalls, flatwoods ponds, depression marshes, and cypress domes.	Low
Pygmy fringe-tree (<i>Chionanthus pygmaeus</i>)	E			Scrub, sandhills, and xeric hammocks.	Low
Sand butterfly pea (<i>Centrosema arenicola</i>)			E	Sandhill, scrubby flatwoods, and dry upland woods.	Low
Small's flax (<i>Linum carteri</i> var. <i>smallii</i>)			E	Pine rocklands, pine flatwoods, adjacent disturbed areas.	None

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Yellow fringeless orchid (<i>Platanthera integra</i>)			E	Open wet prairies, wet flatwoods, bogs, seepage slopes, wet pine barrens, and peaty depressions.	Low
Reptilian					
American alligator (<i>Alligator mississippiensis</i>)	T(S/A)			Freshwater lakes, slow-moving rivers, and associated wetlands	Moderate
American crocodile (<i>Crocodylus acutus</i>)	T			Coastal estuarine marshes, tidal swamps, and creeks along edges of mainland and islands.	Low
Eastern indigo snake (<i>Drymarchon couperi</i>)	T			Mesic flatwoods, upland pine forests, swamps, wet prairies, xeric pinelands, and scrub habitats.	Low
Gopher tortoise (<i>Gopherus polyphemus</i>)	C	T		Typically found in dry upland habitats including sandhills, scrub, xeric oak hammock, and dry pine flatwoods; also, commonly uses disturbed habitats such as pastures, old fields, and road shoulders.	Low
Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	E			Coastal and oceanic waters, commonly associated with coral reefs, keys, and mangroves	Moderate

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	E			Coastal and oceanic waters, commonly associated with coral reefs, keys, and mangroves	Moderate
Loggerhead sea turtle (<i>Caretta caretta</i>)	T			Coastal and oceanic waters, commonly associated with coral reefs, keys, and mangroves	Moderate
Short-tailed snake (<i>Lampropeltis extenuata</i>)		T		Sandy soils, particularly longleaf pine and xeric oak sandhills.	Low
Avian					
Audubon's crested caracara (<i>Caracara cheriway</i>)	T			Open country such as dry prairie and pasture lands with scattered cabbage palm, cabbage palm/live oak hammocks, and shallow ponds and sloughs. Cabbage palms or live oaks with low-growing surrounding vegetation are required for nesting.	None
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	NL1	NL2		Large open water bodies, saltwater marshes, dry prairies, mixed pine, hardwood forests, wet prairies, marshes, pine flatwoods, and sandhills.	Low

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Eastern black rail (<i>Laterallus jamaicensis</i>)	T			Dense overhead cover and soils that are moist to saturated and interspersed with very shallow water.	Low
Florida burrowing owl (<i>Athene cunicularia floridana</i>)		T		Areas of short, herbaceous groundcover; including prairies, sandhills, and farmland.	Low
Florida grasshopper sparrow (<i>Ammodramus savannarum floridanus</i>)	E			Requires large areas of frequently burned dry prairie habitat with patchy open areas sufficient for foraging. May persist in pasture lands that have not been intensively managed so as to remove all vegetation.	Low
Florida sandhill crane (<i>Antigone canadensis pratensis</i>)		T		Wet and dry prairies, marshes, and marshy lake edges.	Low
Florida scrub-jay (<i>Aphelocoma coerulescens</i>)	T			Typically found in early successional stages of fire-dominated xeric oak communities located on well-drained, sandy soils; preferred habitat consists of scrub oaks between 3 and 10 feet tall, with open sand and scattered clumps of herbaceous vegetation.	None

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Little blue heron (<i>Egretta caerulea</i>)		T		Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps.	Low
Piping plover (<i>Charadrius melodus</i>)	T			Open, sandy beaches and on tidal mudflats and sandflats along both coasts.	None
Red knot (<i>Calidris canutus rufa</i>)	T			Non-vegetated to sparsely vegetated tidal mudflats and sand flats along inlets and creeks.	Low
Roseate spoonbill (<i>Platalea ajaja</i>)		T		Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps.	Low
Wood stork (<i>Mycteria americana</i>)	T			Fresh and saltwater habitats such as fresh and saltwater marshes, tidal flats, wet prairies, cypress swamps, and agricultural environments.	High
Piscene					
Gulf sturgeon (<i>Acipenser oxyrinchus desotoi</i>)	T			Sturgeon are anadromous: Hatch in freshwater rivers, head out to sea as juveniles, and return to rivers when	Low

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
				they reach adulthood to over summer or spawn.	
Mammalian					
Florida bonneted bat (<i>Eumops floridanus</i>)	E			Natural tree cavities and man-made structures	None
West Indian manatee (<i>Trichechus manatus latirostris</i>)	T			Coastal tidal rivers and streams, mangrove swamps, salt marshes, freshwater springs, and vegetated bottoms of the Gulf of Mexico and the Atlantic Ocean.	Moderate

Notes:

E = endangered, T = threatened, SSC = species of special concern, T(S/A) = Federal Threatened due to similarity of appearance, C = candidate, NL = not listed

¹ While not listed under the ESA, the Bald Eagle is federally protected under the Bald and Golden Eagle Protection Act.

² While not listed under Chapter 68A-27 FAC, the Bald Eagle is state protected under the FWC Bald Eagle Management Plan (2008).

APPENDIX G
STANDARD PROTECTION MEASURES FOR THE EASTERN
INDIGO SNAKE

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE U.S. Fish and Wildlife Service

March 23, 2021

The eastern indigo snake protection/education plan (Plan) below has been developed by the U.S. Fish and Wildlife Service (USFWS) in Florida and Georgia for use by applicants and their construction personnel. At least **30 days prior** to any clearing/land alteration activities, the applicant shall notify the appropriate USFWS Field Office via e-mail that the Plan will be implemented as described below (North Florida Field Office: jaxregs@fws.gov; South Florida Field Office: verobeach@fws.gov; Panama City Field Office: panamacity@fws.gov; Georgia Field Office: gaes_assistance@fws.gov). As long as the signatory of the e-mail certifies compliance with the below Plan (including use of the attached poster and brochure), no further written confirmation or approval from the USFWS is needed and the applicant may move forward with the project.

If the applicant decides to use an eastern indigo snake protection/education plan other than the approved Plan below, written confirmation or approval from the USFWS that the plan is adequate must be obtained. At least 30 days prior to any clearing/land alteration activities, the applicant shall submit their unique plan for review and approval. The USFWS will respond via e-mail, typically within 30 days of receiving the plan, either concurring that the plan is adequate or requesting additional information. A concurrence e-mail from the appropriate USFWS Field Office will fulfill approval requirements.

The Plan materials should consist of: 1) a combination of posters and pamphlets (see **Poster Information** section below); and 2) verbal educational instructions to construction personnel by supervisory or management personnel before any clearing/land alteration activities are initiated (see **Pre-Construction Activities** and **During Construction Activities** sections below).

POSTER INFORMATION

Posters with the following information shall be placed at strategic locations on the construction site and along any proposed access roads (a final poster for Plan compliance, to be printed on 11 x 17in or larger paper and laminated, is attached):

DESCRIPTION: The eastern indigo snake is one of the largest non-venomous snakes in North America, with individuals often reaching up to 8 feet in length. They derive their name from the glossy, blue-black color of their scales above and uniformly slate blue below. Frequently, they have orange to coral reddish coloration in the throat area, yet some specimens have been reported to only have cream coloration on the throat.

These snakes are not typically aggressive and will attempt to crawl away when disturbed. Though indigo snakes rarely bite, they should NOT be handled.

SIMILAR SNAKES: The black racer is the only other solid black snake resembling the eastern indigo snake. However, black racers have a white or cream chin, thinner bodies, and WILL BITE if handled.

LIFE HISTORY: The eastern indigo snake occurs in a wide variety of terrestrial habitat types throughout Florida and Georgia. Although they have a preference for uplands, they also utilize some wetlands and agricultural areas and often move seasonally between upland and lowland habitats, particularly in the northern portions of its range (North Florida and Georgia). Eastern indigo snakes will often seek shelter inside gopher tortoise burrows and other below- and above-ground refugia, such as other animal burrows, stumps, roots, and debris piles. Reliance on xeric sandhill habitats throughout the northern portion of the range in northern Florida and Georgia is due to the dependence on gopher tortoise burrows for shelter during winter. Breeding occurs during October through February. Females may lay from 4 - 12 white eggs as early as April through June, with young hatching in late July through October.

PROTECTION UNDER FEDERAL AND STATE LAW: The eastern indigo snake is classified as a Threatened species by both the USFWS and the Florida Fish and Wildlife Conservation Commission. Taking of eastern indigo snakes is prohibited by the Endangered Species Act without a permit is defined by the USFWS as an attempt to kill, harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or engage in any such conduct. Penalties include a maximum fine of \$25,000 for civil violations and up to \$50,000 and/or imprisonment for criminal offenses, if convicted.

Only individuals currently authorized through an issued Incidental Take Statement in association with a USFWS Biological Opinion, or by a Section 10(a)(1)(A) permit issued by the USFWS, to handle an eastern indigo snake are allowed to do so.

IF YOU SEE A LIVE EASTERN INDIGO SNAKE ON THE SITE:

- Cease clearing activities and allow the live eastern indigo snake sufficient time to move away from the site without interference;
- Personnel must NOT attempt to touch or handle snake due to protected status.
- Take photographs of the snake, if possible, for identification and documentation purposes. Â
- Immediately notify supervisor or the applicants designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- If the snake is located in a vicinity where continuation of the clearing or construction activities will cause harm to the snake, the activities must halt until such time that a representative of the USFWS returns the call (within one day) with further guidance as to when activities may resume.

IF YOU SEE A DEAD EASTERN INDIGO SNAKE ON THE SITE:

- Cease clearing activities and immediately notify supervisor or the applicants designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

Telephone numbers of USFWS Florida Field Offices to be contacted if a live or dead eastern indigo snake is encountered:

North Florida Field Office: (904) 731-3336

Panama City Field Office: (850) 769-0552

South Florida Field Office: (772) 562-3909

Georgia Field Office: (706) 613-9493

PRE-CONSTRUCTION ACTIVITIES

1. The applicant or designated agent will post educational posters in the construction office and throughout the construction site, including any access roads. The posters must be clearly visible to all construction staff. A sample poster is attached.
2. Prior to the onset of construction activities, the applicant/designated agent will conduct a meeting with all construction staff (annually for multi-year projects) to discuss identification of the snake, its protected status, what to do if a snake is observed within the project area, and applicable penalties that may be imposed if state and/or federal regulations are violated. An educational brochure including color photographs of the snake will be given to each staff member in attendance and additional copies will be provided to the construction superintendent to make available in the onsite construction office (a final brochure for Plan compliance, to be printed double-sided on 8.5 x 11in paper and then properly folded, is attached). Photos of eastern indigo snakes may be accessed on USFWS and/or FWC or GADNR websites.
3. Construction staff will be informed that in the event that an eastern indigo snake (live or dead) is observed on the project site during construction activities, all such activities are to cease until the established procedures are implemented according to the Plan, which includes notification of the appropriate USFWS Field Office. The contact information for the USFWS is provided on the referenced posters and brochures.

DURING CONSTRUCTION ACTIVITIES

1. During initial site clearing activities, an onsite observer may be utilized to determine whether habitat conditions suggest a reasonable probability of an eastern indigo snake sighting (example: discovery of snake sheds, tracks, lots of refugia and cavities present in the area of clearing activities, and presence of gopher tortoises and burrows).

2. If an eastern indigo snake is discovered during gopher tortoise relocation activities (i.e. burrow excavation), the USFWS shall be contacted within one business day to obtain further guidance which may result in further project consultation.

3. Periodically during construction activities, the applicants designated agent should visit the project area to observe the condition of the posters and Plan materials, and replace them as needed. Construction personnel should be reminded of the instructions (above) as to what is expected if any eastern indigo snakes are seen.

POST CONSTRUCTION ACTIVITIES

Whether or not eastern indigo snakes are observed during construction activities, a monitoring report should be submitted to the appropriate USFWS Field Office within 60 days of project completion. The report can be sent electronically to the appropriate USFWS e-mail address listed on page one of this Plan.

APPENDIX H
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

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APPENDIX I
WOOD STORK FORAGING ASSESSMENT MEMORANDUM

WOOD STORK FORAGING HABITAT ASSESSMENT

1.0 INTRODUCTION

The Tampa Hillsborough Expressway Authority (THEA) is conducting a Project Development and Environment (PD&E) Study to evaluate the needs, costs, and effects of constructing improvements that will increase traffic capacity and safety on the Selmon Expressway (State Route (SR) 618) from the I-4 Connector to US 301 in Hillsborough County. The purpose of this PD&E Study is to evaluate engineering and environmental data and document information that will support THEA in determining the type, preliminary design, and location of the proposed improvements. Depending on the needs, this future capacity improvement is anticipated to include adding an additional lane in each direction along the mainline Selmon Expressway (SR 618) from the I-4 Connector to US 301. The total project length is 6.17 miles. The study was conducted to meet the requirements of the FDOT, the National Environmental Policy Act (NEPA), and other related federal and state laws, rules, and regulations.

2.0 WOOD STORK NESTING AND SUITABLE FORAGING HABITAT

The wood stork (*Mycteria americana*) 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 in swamps or on islands surrounded by relatively broad expanses of open water. 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 areas 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.

In addition to limited human disturbance and land-based predation, successful nesting depends on the availability of suitable foraging habitat. 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, swamps sloughs, managed impoundments, stock ponds, shallow-seasonally flooded roadside or agricultural ditches, and narrow tidal creeks or shallow tidal pools. Suitable foraging habitat is described as wetland or open water areas that are relatively calm, uncluttered by dense thickets of aquatic vegetation and have a water depth between 2 and 15 inches. Preferred foraging habitat includes wetlands exhibiting a mosaic of submerged and/or emergent aquatic vegetation, and shallow, open-water areas subject to hydraulic regimes that exhibit short and long hydroperiods. The vegetative component provides nursery habitat for small fish, crayfish, 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. Within Hillsborough, Pinellas, and Pasco Counties, suitable wetland and open water habitats within 15.0 miles of a wood stork nesting colony are considered Core Foraging Areas (CFA) by the U.S. Fish and Wildlife Service (USFWS).

The loss of wetland habitats, or wetland function, has been the primary cause of the wood stork population decline in the United States. The alteration of wetlands and the manipulation of wetland hydroperiods to suit human needs have also reduced the amount of available habitat to wood storks and affected prey base availability. The altered hydrology of these systems has also enhanced the invasion of these systems by exotic plant species. These exotic plants can produce a dense understory and closed canopy, limiting suitability of these wetland systems for foraging by wood storks, although a sufficient prey base may be present in the wetlands.

Four (4) variables are indicative of the necessities and functions of optimal or suitable foraging habitat required by the wood stork:

1. *Vegetation Density*: the density of vegetation within habitats suitable for wood stork foraging;
2. *Wetland Hydroperiods*: the hydroperiod of the wetland, which includes two (2) subcomponents; (1) the fish and crayfish density per hydroperiod; and (2) the fish and crayfish biomass per hydroperiod;
3. *Prey Size Suitability*: the suitability of prey size for the wood stork, which provides an adjustment to the fish and crayfish biomass per hydroperiod and is referenced hereafter as the “wood stork suitability prey base”; and
4. *Competition with other wading bird species*: the likelihood that the wood stork is the wading bird species that actually consumes the concentrated prey.

3.0 SUITABLE WOOD STORK FORAGING HABITATS WITHIN THE BUILD ALTERNATIVE

The proposed project study area contains wood stork foraging habitat and is located within the CFA of six (6) active wood stork nesting colonies: Cross Creek, Cypress Creek I-75, Ferman Corporation, Lake Forest, Northlakes – Sagebrush, and Sheldon Road – Citrus Park. There are approximately 6.18 acres of wetlands and approximately 9.52 acres of surface waters that could be utilized by the wood stork for foraging in the Build Alternative that were used in this habitat assessment. These wetlands were grouped by similar habitat types and evaluated relative to exotic species density and hydroperiod.

Exotic Vegetation Density

Wood stork habitat quality can be adversely affected by the level of exotic species infestation within wetlands and surface waters. The availability of the prey base for wood storks and other foraging wading birds is reduced by the restriction of access caused from dense and thick exotic vegetation. **Table 1** provides the foraging suitability value (FSV) percentages used in the Wood Stork Biomass Analysis.

The wetland habitats within the Selmon Expressway (SR 618) project study area vary in the percentage of exotic vegetation. Depending on the percent of exotics present, FSVs of 100, 64, 37, and 3 were assigned to the potential foraging habitat available to wood storks within the project study area.

Table 1 – Exotic Vegetation Cover Percentage Foraging Suitability Value

PERCENTAGE OF EXOTIC VEGETATION	FSV (PERCENT)
Between 0 and 25 Percent Exotics	100
Between 25 and 50 Percent Exotics	64
Between 50 and 75 Percent Exotics	37
Between 75 and 90 Percent Exotics	3
Between 90 and 100 Percent Exotics	0

Hydroperiod

The hydroperiod of the wetlands potentially affected by a project is an important consideration in determining effects on wood stork foraging habitat due to the dependency of fish and crayfish (potential foraging biomass) on hydroperiod. Wetlands and surface waters within the project area were grouped according to hydroperiod class.

4.0 IMPACTS

The Build Alternative would add additional lanes along the Selmon Expressway REL and Local Lanes. The proposed typical section of the Selmon Expressway consists of three (3) mainline lanes in each direction and three (3) RELs throughout. Impacts will be limited to wetlands previously impacted by roadway activity and will utilize the existing corridor right of way to further minimize impacts. This section analyzes the impacts of the proposed project on the wood stork and wood stork foraging habitat.

For assessment purposes, this wood stork biomass analysis addresses the loss of wetlands within the proposed right-of-way of the Build Alternative. For the assessment of the Build Alternative, approximately 0.87 acres of wetlands and approximately 8.55 acres of surface waters were analyzed.

The analysis determined that the Build Alternative may result in the net loss of 0.039 kg total (fish and crayfish) biomass. **Table 2** presents the analysis of the impacts to wood stork foraging habitat for the Build Alternative.

Table 2 – Build Alternative Wood Stork Foraging Analysis Summary

Wood Stork Foraging Analysis Summary - Total Biomass (Including Crayfish and Fish)							
Impact Area							
Hydroperiods	Acres	% Exotics	FSV	m ²	m ² suitable	Crayfish and fish biomass g/m ²	Biomass loss (kg)
Long Hydroperiod (Class 7)	8.55	75-90	0.03	34620.43	1038.61	1.18	0.037
Long Hydroperiod (Class 6)	0.59	75-90	0.03	2375.79	71.27	1.09	0.002
Short Hydroperiod (Class 3)	0.28	75-90	0.03	1141.98	34.26	0.43	0.000
Total	9.42			38138.20	1144.15		0.039

5.0 MITIGATION

Impacts to wetlands within the Build Alternative will be mitigated for within the CFA of one or more of the affected rookeries or at a regional mitigation bank that has been approved by the USFWS or pursuant to Section 373.4137, F.S. Wetland mitigation will include compensation for the loss of wood stork foraging habitat and prey resulting from construction of the proposed project. Compensation for the loss of wetlands, as well as wood stork habitat and foraging area (long term hydroperiod wetlands), will be provided at a state and federal approved mitigation bank.

6.0 SUMMARY

The proposed project study area contains wood stork foraging habitat and is located within the CFA of six (6) active wood stork nesting colonies: Cross Creek, Cypress Creek I-75, Ferman Corporation, Lake Forest, Northlakes – Sagebrush, Sheldon Road – Citrus Park. There are approximately 0.87 acres of wetlands and approximately 8.55 acres of surface waters that were analyzed as wood stork foraging habitat within the Build Alternative. Wood stork foraging biomass productivity is calculated based on hydroperiods of class of affected wetlands. The Build Alternative may potentially result in the net loss of 0.039 kg total (fish and crayfish) biomass. Loss of potential wood stork foraging habitat attributable to the project will be offset by providing the equivalent credits at a federally approved mitigation bank.

7.0 REFERENCES

- Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services. Technical Publication FWS/OBS-79/31. 131 pp.
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