STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TECHNICAL REPORT COVERSHEET

DRAFT

NATURAL RESOURCES EVALUATION REPORT

Florida Department of Transportation

Florida's Turnpike Enterprise

Suncoast Parkway Project Development and Environmental (PD&E) Study

Suncoast Parkway (SR 589) Widening

from South of Van Dyke Road to State Road 52 (MP 13-29)

Hillsborough and Pasco Counties, Florida

Financial Management Number: 448068-1-22-01

ETDM Number: 14503

February 28, 2025

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), Florida's Turnpike Enterprise (Enterprise) is conducting a Project Development and Environment (PD&E) Study to evaluate an approximately 16-mile segment along Suncoast Parkway (State Road [SR] 589) in Hillsborough and Pasco Counties, Florida. The proposed project limits extend from south of Van Dyke Road to SR 52 (milepost [MP] 13 to 29).

The purpose of the PD&E Study is to evaluate roadway capacity and safety improvements. This study will evaluate the benefits, costs, and impacts of widening Suncoast Parkway to eight lanes from south of Van Dyke Road to north of SR 54 and widening to six lanes from north of SR 54 to north of SR 52. As part of the study, all existing interchanges within the project limits and the need for a new interchange at Rangeland Boulevard are being evaluated. Existing interchanges include Van Dyke Road, Lutz Lake Fern Road, SR 54, Ridge Road, and SR 52.

In accordance with Presidential Executive Order (EO) 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 *Project Development and Environment (PD&E) Manual*, a Wetlands Evaluation and Protected Species and Habitat Assessment were conducted for the proposed improvements to Suncoast Parkway. The project was screened through the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) and the Preliminary Programming Screen was published on October 31, 2022 (ETDM #14503).

This Natural Resources Evaluation (NRE) reviews the potential 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 potential impacts. A summary of the analysis of potential project impacts for the proposed roadway improvements 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 Endangered Species Act of 1973, as amended, and Chapters 5B-40 and 68A-27 of the Florida Administrative Code (F.A.C.) The evaluation included, literature review, database searches, and field assessments of the project area to identify the potential occurrence of protected species and/or presence of federal designated critical habitat. Field evaluations of the project area and adjacent habitats and general wildlife surveys were conducted by project biologists on December 12-13, 2023 and September 5, 2024.

Per the PD&E Manual Chapter *Protected Species and Habitat Assessment*, eight (8) federally listed species, two federally proposed species, and 22 state listed species have been reviewed for the potential to occur within the project study area. The project is not within any U.S. Fish and Wildlife Service (USFWS) designated critical habitat. Based on evaluation of collected data and field reviews, the federal and state listed species listed in **Table ES-1** and **Table ES-2** below have been reviewed for the potential to occur within or adjacent to the project area. An effect determination was made for each of these federal and state listed species based on an analysis of the potential impacts of the Preferred Alternative on each species.

Table ES-1. Federal Protected Species Effect Determinations

Project Impact Determination	Federal Listed Species	
	Species	***Status****
No effect	***Flora***	
	Carter's warea (*Warea carteri*)	FE
	Florida golden aster (*Chrysopsis floridana*)	FE
	Pygmy fringe tree (*Chionanthus pygmaeus*)	FE
	Short-leaved rosemary (*Conradina brevifolia*)	FE
	Fauna	
	Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	FT
May affect, not likely to adversely affect	***Fauna***	
	Eastern indigo snake (*Drymarchon couperi*)	FT
	Florida scrub-jay (*Aphelocoma coerulescens*)	FT
	Wood stork (*Mycteria americana*)	FT

*FE – Federally endangered; FT – Federally threatened

Table ES-2. State Protected Species Effect Determinations

Project Impact Determination	State Listed Species	
	Species	***Status****
No effect anticipated	***Flora***	
	Craighead's nodding-caps (*Triphora craigheadii*)	SE
	Florida beargrass (*Nolina atopocarpa*)	ST
	Florida spiny-pod (*Matelea floridana*)	SE
	Florida willow (*Salix floridana*)	SE
	Nodding pinweed (*Lechea cernua*)	ST
No adverse effect anticipated	***Flora***	
	Celestial lily (*Nemastylis floridana*)	SE
	Cutthroat grass (*Panicum abscissum*)	SE
	Giant orchid (*Pteroglossaspis ecristata*)	ST
	Incised groove-bur (*Agrimonia incisa*)	ST
	Many-flowered grass-pink (*Calopogon multiflorus*)	ST
	Piedmont jointgrass (*Coelorachis tuberculosa*)	ST
	Pondspice (*Litsea aestivalis*)	SE
	Pygmy pipes (*Monotropsis reynoldsiae*)	SE
	Sand butterfly pea (*Centrosema arenicola*)	SE
	Yellow fringeless orchid (*Platanthera integra*)	SE
	Fauna	
	Florida burrowing owl (*Athene cunicularia floridana*)	ST
	Florida sandhill crane (*Antigone canadensis pratensis*)	ST
	Gopher tortoise (*Gopherus polyphemus*)	ST
	Little blue heron (*Egretta caerulea*)	ST

Project Impact Determination	State Listed Species	
	Species	***Status****
	Short-tailed snake (*Lampropeltis extenuata*)	ST
	Southeastern American kestrel (*Falco sparverius paulus*)	ST
	Tricolored heron (*Egretta tricolor*)	ST

*SE – State endangered; ST – State threatened

Wetlands

For the purposes of this document, wetlands are defined as per 62.340 F.A.C and Section 373.019 (27), Florida Statutes (F.S.). Surface waters are defined as open water bodies or streams/waterways. 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 U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual and regional supplement. The extent and types of wetlands in the project study area were documented in accordance with EO 11990, Protection of Wetlands, and the PD&E Manual.

Unavoidable wetland impacts will occur as a result of the proposed Preferred Alternative. The majority of the wetlands to be impacted by the proposed project include previously disturbed wetlands adjacent to existing roadways. A total of 6.15 acres of wetlands and 0.60 acres of other surface waters are present within the footprint of the Preferred Alternative (**Table ES-3**). Other surface waters include permitted facilities such as stormwater or flood compensation ponds. Impacts to these facilities typically do not require mitigation to offset impacts and are therefore excluded from functional loss and mitigation evaluations. A description of land use, dominant vegetation, soil types, and other information 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. Construction of the Preferred Alternative may result in an estimated loss of 4.85 functional units. Of the total estimated functional unit loss, 4.12 functional units would result from direct impacts and 0.73 functional units would result from secondary impacts.

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 regionally significant mitigation options that satisfy state and federal requirements. Mitigation alternatives for impacts to conservation easements will be coordinated with the various regulatory agencies including the holder of the conservation easements and will be defined more completely during any future design/permitting phase.

Final determination of jurisdictional boundaries, in addition to mitigation requirements, will be coordinated between the Enterprise and permitting agencies during the final design phase of the project. The results of the PD&E Study indicate there are no practicable alternatives to the

proposed impacts due to the need for a roadway extension to reduce traffic congestion and address safety considerations. In accordance with Presidential EO 11990, the Enterprise 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. The Enterprise 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. 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-3. Wetland and Other Surface Water Acres within the Preferred Alternative

Wetland ID	FLUCFCS: Description	USFWS Classification	Impact Acres
Direct			
Other Surface Water 04a	641: Freshwater Marshes	PEM1A	0.38
Other Surface Water 08b	530: Reservoirs	PUBHx	0.02
Other Surface Water 09	530: Reservoirs	PUBHx	0.11
Other Surface Water 12	530: Reservoirs	PUBHx	0.09
Wetland 02	621: Cypress	PFO2F	0.01
Wetland 03a	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.11
Wetland 03b	641: Freshwater Marshes	PEM1A	0.03
Wetland 03c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.48
Wetland 03d	620: Wetland Coniferous Forests	PFO4F	0.04
Wetland 03e	621: Cypress	PFO2F	0.08
Wetland 07	630: Wetland Forested Mixed	PFO1/4E	0.06
Wetland 08	630: Wetland Forested Mixed	PFO1/4E	0.25
Wetland 09a	641: Freshwater Marshes	PEM1A	0.03
Wetland 09c	630: Wetland Forested Mixed	PFO1/4E	0.06
Wetland 10	621: Cypress	PFO2F	0.14
Wetland 11	621: Cypress	PFO2F	0.02
Wetland 12a	620: Wetland Coniferous Forests	PFO4F	0.93
Wetland 12b	621: Cypress	PFO2F	0.59
Wetland 12c	640: Vegetated Non-Forested Wetlands	PUB2F	0.30
Wetland 13a	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.09
Wetland 13b	641: Freshwater Marshes	PEM1A	0.35
Wetland 13c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.08
Wetland 14b	641: Freshwater Marshes	PEM1A	1.05
Wetland 15b	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.76
Wetland 16b	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.69
		Direct Other Surface Water Impacts	**0.60**
		Direct Wetland Impacts	**6.15**
		Total Direct Impacts	**6.75**

PEM1A: Palustrine, Emergent, Persistent, Temporarily Flooded)
L1/2UB2H: Lacustrine, Limnetic/Littoral, Unconsolidated Bottom, Sand, Permanently Flooded)
PUBHx: Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated)
PFO1C: Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded)
R2UB2F: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Semipermanently Flooded)
PFO4F: Palustrine, Forested, Needle-Leaved Evergreen, Seasonally Flooded)
PFO2F: Palustrine, Forested, Needle-Leaved Deciduous, Seasonally Flooded)
PFO1/4E: Palustrine, Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Seasonally Flooded/Saturated)
PUB2F: Palustrine, Unconsolidated Bottom, Sand, Semipermanently Flooded)
PEM1J: Palustrine, Emergent, Persistent, Intermittently Flooded)
PEM1H: Palustrine, Emergent, Persistent, Permanently Flooded)
PEM2J: Palustrine, Emergent, Non-Persistent, Intermittently Flooded)

Essential Fish Habitat

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

1.0 INTRODUCTION

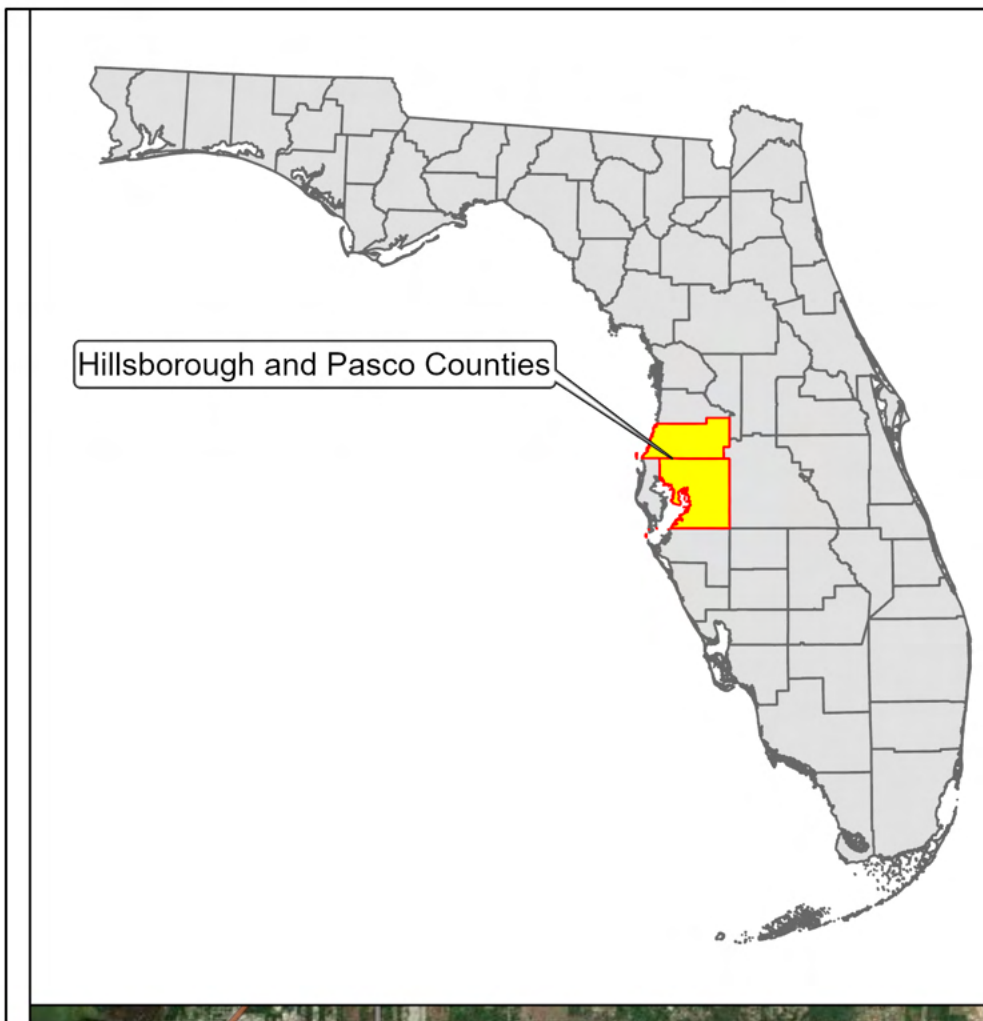
The Florida's Turnpike Enterprise (Enterprise) is conducting a PD&E Study to evaluate the widening of an approximately 16-mile segment along Suncoast Parkway (SR 589) from south of Van Dyke Road to north of SR 52 (milepost [MP] 13 to 29) in Hillsborough and Pasco Counties, Florida, as depicted in **Figure 1-1** (Project Location Map**)** and **Figure 1-2** (USGS Topographic Map**)**.

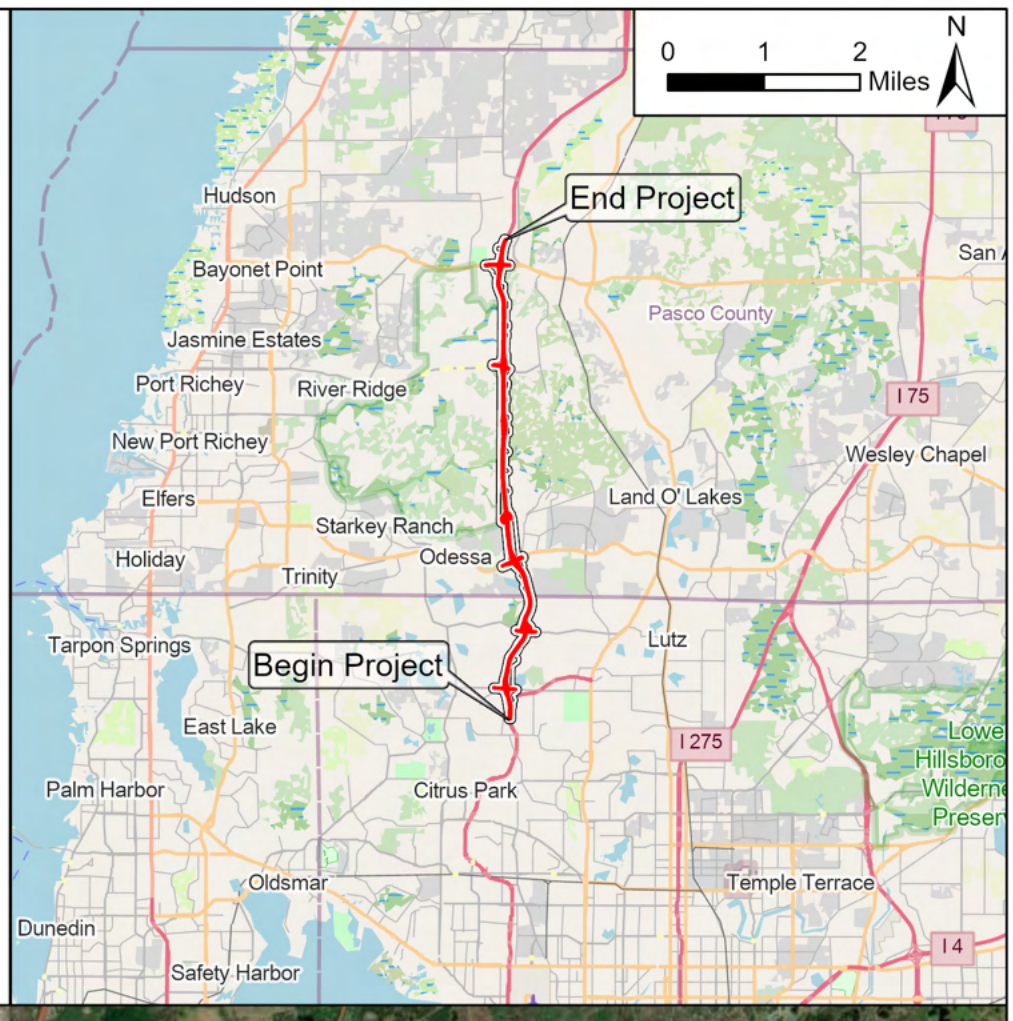
The purpose of the PD&E Study is to evaluate roadway capacity and safety improvements, as well as evaluate engineering and environmental data and document information that will aid in determining the type, preliminary design, and location of the proposed improvements. The study is being conducted to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

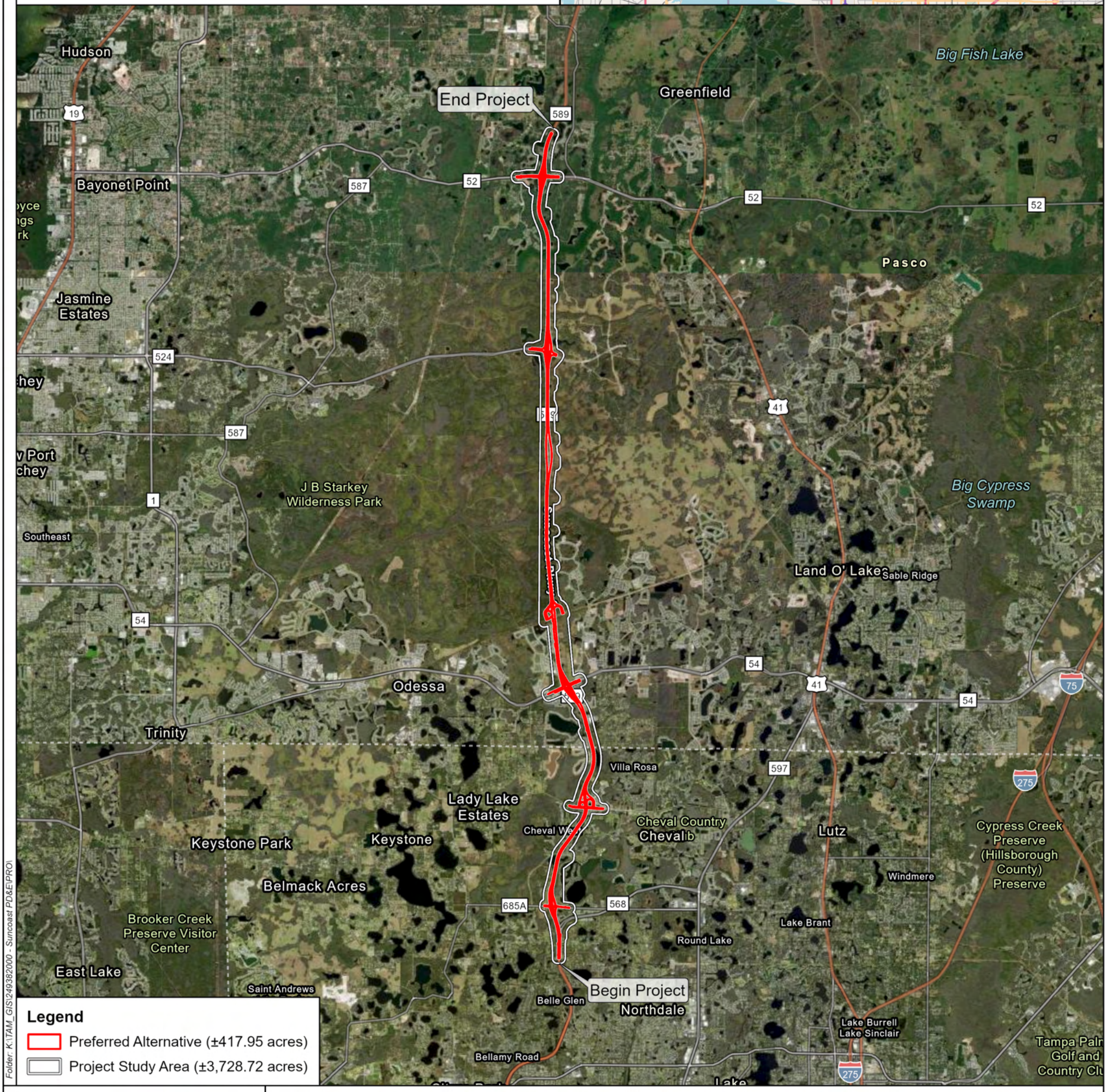
This study evaluated the benefits, costs, and impacts of widening this portion of Suncoast Parkway to eight lanes from south of Van Dyke Road to north of SR 54 and widening to six lanes from north of SR 54 to north of SR 52. As part of the study, all existing interchanges within the project limits and the need for a new interchange at Rangeland Boulevard are being evaluated.

In accordance with Presidential EO 11990, FHWA Technical Advisory T6640.8A, Section 7(c) of the ESA of 1973 (ESA, P.L. 93-205), and the FDOT *Project Development and Environment (PD&E) Manual*, a Wetlands Evaluation and Protected Species and Habitat Assessment were conducted for the proposed widening of Suncoast Parkway. The project was screened through the ETDM Environmental Screening Tool (EST) and the Preliminary Programming Screen was published on October 31, 2022 (ETDM #14503).

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







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Legend

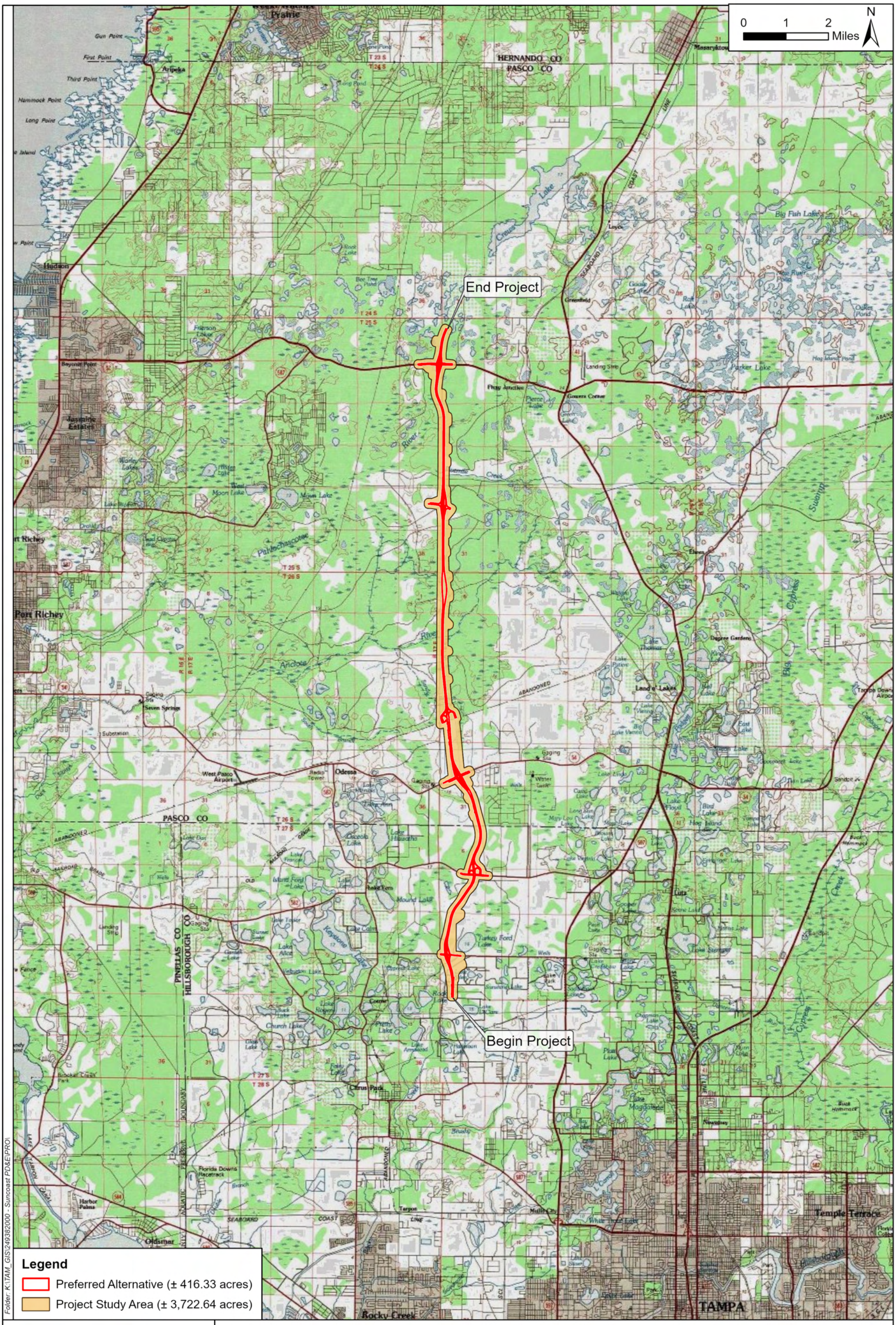
- Preferred Alternative (±417.95 acres)
- Project Study Area (±3,728.72 acres)

FDOT

Project Location Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 2 MILES	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 1-1



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USGS Topographic Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 2 MILES	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 1-2

2.0 PROJECT DESCRIPTION

The project proposes capacity improvements and potential new and/or modified interchanges along the Suncoast Parkway (SR 589) from south of Van Dyke Road to SR 52 (MP 13-29) in Hillsborough and Pasco Counties for a distance of approximately 16 miles. As part of the study, all existing interchanges within the project limits and the need for a new interchange at Rangeland Boulevard are being evaluated. Existing interchanges include Van Dyke Road, Lutz Lake Fern Road, SR 54, Ridge Road, and SR 52.

The Suncoast Parkway is currently a four lane (two lanes in each direction), tolled, limited access facility within the study limits. The proposed project includes widening to eight lanes from south of Van Dyke Road to north of SR 54 and widening to six lanes from north of SR 54 to north of SR 52. Within the study limits, the roadway is functionally classified as an Urban Principal Arterial - Freeway and Expressway and has a posted speed limit of 60 miles per hour (mph) from approximately MP 13 to MP 17 and 70 mph from MP 17 to MP 29. In addition, the Suncoast Trail, part of the greater Florida Shared-Use Non-motorized (SUN) Trail network, runs along the west side of the Suncoast Parkway from Lutz Lake Fern Road to the north beyond the project limits.

The Suncoast Parkway provides regional connectivity between Hillsborough, Pasco, Hernando, and Citrus counties. Within the project area, the Suncoast Parkway is a designated hurricane evacuation route and part of Florida's Strategic Intermodal System (SIS). Facilities on the SIS are subject to special standards and criteria for design speed, level of service, and other requirements.

Early planning efforts conducted by the Enterprise concluded that capacity improvements are needed along the Suncoast Parkway and at the interchanges to improve current and future peak period traffic operations and reduce the potential for traffic incidents.

2.1 Purpose and Need

The purpose of this project is to provide additional capacity on the Suncoast Parkway from south of Van Dyke Road to north of SR 52 to accommodate existing capacity and future traffic demand for vehicular and truck traffic. Goals of the project include enhancing safety and improving emergency evacuation capabilities.

The need for this project is to improve current and future peak period traffic operations and safety at the interchanges and throughout the corridor. The merge/diverge area of SR 54 and SR 52 interchanges currently has the highest number of vehicular crashes resulting from high congestion in the area. The proposed improvements will enhance travel time reliability, safety, and emergency response and evacuation times. The need for the project is based on the following criteria:

2.1.1 Capacity

According to the Florida's Turnpike Enterprise Traffic Trends Report dated July 2021, additional capacity will be needed by the year 2050 in order to address future transportation demand and maintain acceptable levels of service along the Suncoast Parkway. This project is needed to relieve current and projected future traffic congestion. The existing Annual Average Daily Traffic

(AADT) ranges from 56,800 south of SR 54 to 41,000 north of SR 54. The segment from south of Van Dyke Road to SR 54 is currently operating at or near the level of service (LOS) D capacity limit. By 2050, the AADT is expected to increase to 97,200 south of SR 54 and 75,400 north of SR 54. Based on traffic forecasts and the adopted LOS target (LOS D or better), six lanes are needed today from south of Van Dyke Road to north of SR 54 and eight lanes would be needed by 2040. From north of SR 54 to Ridge Road, six lanes would be needed by 2030. From Ridge Road to SR 52, six lanes would be needed by 2035.

2.1.2 Transportation Demand

The Suncoast Parkway serves local and regional trips as a limited access facility. It is part of the SIS and serves the commuters between the business and commercial centers in the City of Tampa and the more residential areas to the north and the northwest coastal communities such as Tarpon Springs, Holiday, and the City of New Port Richey.

By 2050, the population within Hillsborough and Pasco counties is expected to grow by 27%. During the same time period, travel demands on the Suncoast Parkway will increase by 70%. This is indicative of faster growth within the study area when compared to county-wide averages. Notable developments include the Moffitt Cancer Center and the Angeline home community. The Moffitt Cancer Center is a 775-acre medical campus off Ridge Road that will include 140 buildings and employ 14,000 people. Angeline is adjacent to the Moffitt Cancer Center and consists of a 6,200-acre mixed-use master-planned community that will include 7,500 single family homes.

Travel demand forecasts show that traffic on the Suncoast Parkway is expected to increase an average of 4% per year from 2023 to 2030 and 1.5% per year from 2030 to 2050. The segment from south of Van Dyke Road to SR 54 is currently operating at or near the LOS D limit. If nothing is done, congestion will continue to increase and the segments north of SR 54 will begin to exceed LOS standards by 2030. Proposed improvements would be designed to meet the established LOS D target to the greatest extent practicable in Design Year 2050.

2.1.3 Safety

The proposed improvements are needed to enhance safety. Between 2018 and 2022, there were 1,562 crashes within the study limits with a high concentration of crashes at the merge/diverge areas of the interchanges. A total of 653 crashes were reported along the Suncoast Parkway mainline, and the remaining 909 crashes occurred at the various existing interchanges with a higher concentration at the SR 54 and SR 52 interchanges. Eight fatal crashes were reported in the study area. Congestion is a major contributing factor. In the No-Build condition, congestion would likely continue to rise leading to an increase in crashes. According to the Florida Strategic Highway Safety Plan (March 2021), lane departure crashes are an emphasis area to focus safety improvements. Without any capacity improvements, the projected increase in transportation demand may result in a higher number of rear end and lane departure crashes that are associated with congestion. In addition to the capacity improvements, the project will assess safety-related improvements to avoid and minimize lane departure crashes and other crash types.

2.1.4 Project Status

The SIS Adopted 5-Year Plan from Fiscal Year (FY) 2021/2022 through FY 2025/2026 lists the project as funded for the PD&E phase. The project is also within two transportation planning regions: Hillsborough Transportation Planning Organization (TPO) and Pasco County Metropolitan Planning Organization (MPO). The project is not listed in the Hillsborough TPO 2045 Long Range Transportation Plan (LRTP). The Pasco County MPO lists the project as funded in the PD&E phase in their Cost Feasible Plan, which is known as the Mobility 2045 LRTP. The project is not currently listed in the FY 2021/2022 through 2024/2025 State Transportation Improvement Program (STIP). Additional coordination will take place during the PD&E Study to ensure planning document consistency between relevant documents.

2.2 Proposed Improvements

2.2.1 Existing Roadway Typical Section

The typical section for the Suncoast Parkway from south of Van Dyke Road to SR 52 is a four-lane divided expressway located within approximately 300 to 400 feet of right-of-way (ROW). The existing typical section is shown in **Figure 2-1**. This typical section includes a varying 50-foot to 64-foot median, 8-foot inside shoulders, two 12-foot travel lanes in both directions, and 12-foot outside shoulders. Beginning at Lutz Lake Fern Road, the Suncoast Trail, which is part of the greater SUN-Trail network, is located along the west side of the Suncoast Parkway and provides a 12-foot-wide path for both bicyclists and pedestrians.

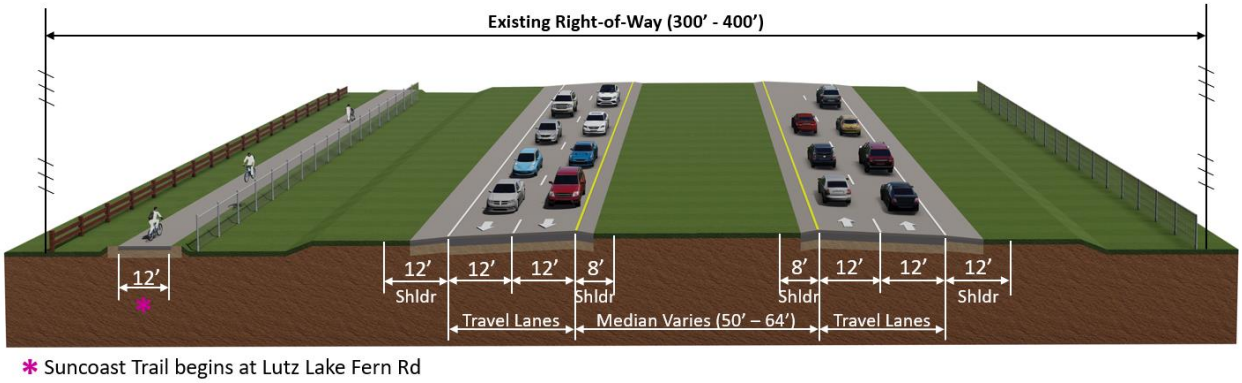

Figure 2-1. Existing Suncoast Parkway Typical Section

2.2.2 No-Build Alternative

The No-Build Alternative assumes that the proposed widening is not constructed. The results of the No-Build Alternative analysis formed the basis of the comparative analysis for the Build Alternatives.

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 ROW acquisition, design, or construction

The disadvantages of the No-Build Alternative include:

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

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

2.2.3 Alternatives Analysis Summary

Multiple conceptual alternatives were considered. The alternatives were developed in consideration of input from local agencies and public comments received at the public meetings. To define the Build Alternatives, the project is subdivided into two mainline segments and five interchanges:

- Mainline:
    - Van Dyke Road to north of SR 54 (Segment 1)
    - North of SR 54 to SR 52 (Segment 2)

- Interchanges:
    - Van Dyke Road
    - Lutz Lake Fern Road
    - SR 54
    - Rangeland Boulevard (new)
    - Ridge Road
    - SR 52

The Build Alternative for Segment 1 involves widening to eight lanes (four lanes in each direction). The Build Alternative for Segment 2 consists of widening the Suncoast Parkway to six lanes (three lanes in each direction).

Van Dyke Road Interchange (MP 14):

One Build Alternative was considered for this interchange. Operational improvements will be made to the ramp terminals and on Van Dyke Road. The proposed improvements include adding an additional left turn lane to the northbound and southbound off ramps and adding a turn lane along Van Dyke Road in the westbound direction to Ramblewood Road. A shared use path on the north side is proposed as part of the interchange modifications.

Lutz Lake Fern Road Interchange (MP 16):

One Build Alternative was considered for this interchange. The proposed build alternative includes minor operational modifications to the Lutz Lake Fern Road interchange. Additional turn lanes and extending turn lanes at the intersections is being proposed at this interchange. In addition, a shared use path is proposed within the interchange area on both sides of Lutz Lake Fern Road.

SR 54 Interchange (MP 19):

Two Build Alternatives are being considered for this interchange.

Alternative 1: Tight Diamond Interchange

This alternative proposes to provide an additional right turn lane to the northbound off ramp, an additional right and left turn lane to the southbound off ramp, and an additional left turn lane from westbound SR 54 to the southbound on ramp. An additional through lane is also being proposed along SR 54 in the westbound direction beginning at the southbound off ramp, continuing past Crossings Boulevard, and up to South Branch Boulevard. Improvements would also include a shared use path on both sides within the interchange area.

Alternative 2: Diverging Diamond Interchange

This alternative proposes a diverging diamond interchange. The opposing lanes in a diverging diamond briefly cross to the other side of the roadway between ramps. The lanes will then cross back to the original side of the road.

Rangeland Boulevard Interchange (new) (MP 20):

As mentioned in the project description, the project evaluated the addition of a local access interchange to Suncoast Parkway. One alternative was evaluated at Rangeland Boulevard. The proposed improvements include a full access interchange that would provide loop ramps at the north side of Rangeland Boulevard. To accommodate the new interchange, there will be a potential need for additional ROW. In addition, the construction of the interchange requires modification to the Suncoast Trail. The trail would be reconstructed to deviate around the interchange ramps and trail users would cross Rangeland Boulevard through an at-grade crosswalk.

Ridge Road Interchange (MP 25):

At the Ridge Road interchange, one Build Alternative is being proposed. The alternative proposes to add a left and right turn lane to the northbound off ramp, realign the right turn lane from the southbound off ramp to improve the safety of the trail crossing and add a left turn lane from eastbound Ridge Road to the northbound on ramp. A shared use path is also being proposed on the north side within the interchange area.

SR 52 Interchange (MP 27):

One alternative is proposed at this interchange. The alternative proposes turn lane modifications which include adding a left and right turn lane to the northbound off ramp; and adding a second right turn lane from eastbound SR 52 to the southbound on ramp. Improvements would also include a shared use path on both sides within the interchange area.

2.2.4 Preferred Alternative Typical Sections

As described previously, the Preferred Alternative for the Suncoast Parkway mainline is subdivided into two segments. The Preferred Alternative for Segment 1 proposes to widen the mainline to eight lanes from Van Dyke Road to north of SR 54. The proposed improvements

include widening to the inside and outside to include four 12-foot-wide travel lanes in each direction separated by a 26-foot wide median with a barrier wall. **Figure 2-2** shows the proposed typical section for this segment of the Suncoast Parkway.

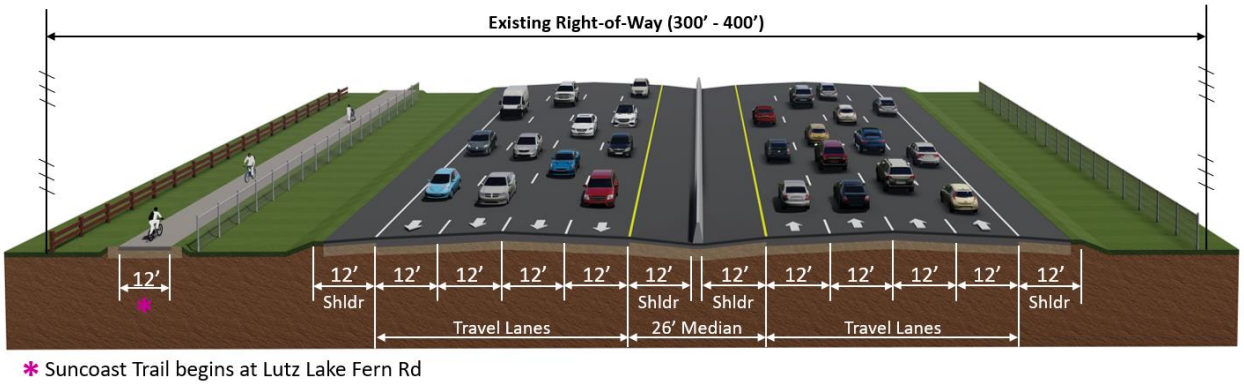

Figure 2-2. Proposed Typical Section – Segment 1

The Preferred Alternative for Segment 2 proposes to widen the mainline to six lanes for the segment from north of SR 54 to SR 52. The proposed improvements include widening to the inside to provide three 12-foot-wide travel lanes in each direction separated by a 40-foot wide median. **Figure 2-3** shows the proposed typical section for this segment of the Suncoast Parkway.

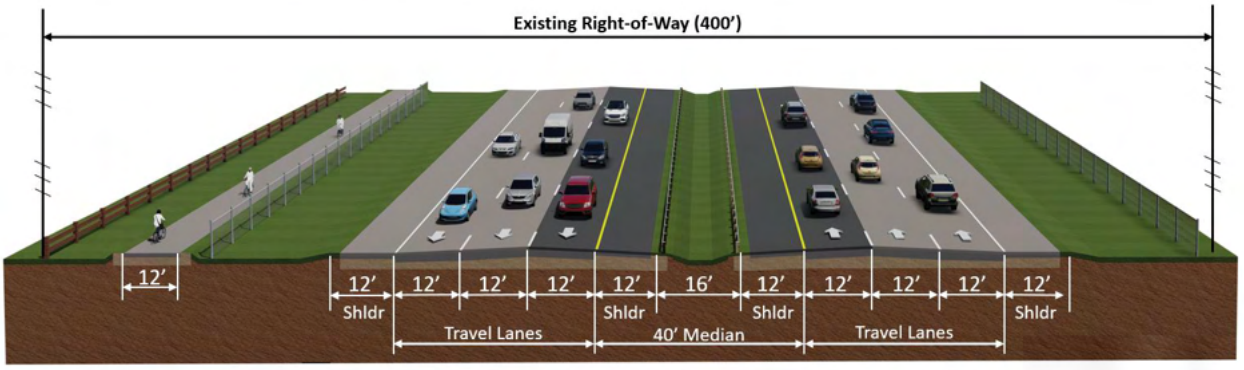

Figure 2-3. Proposed Typical Section – Segment 2

3.0 EXISTING CONDITIONS

The project study area extends approximately 500 feet from the existing ROW along the 16-mile segment of the Suncoast Parkway from south of Van Dyke Road to SR 52 in Hillsborough and Pasco Counties. 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.

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:

- FDOT, Efficient Transportation Decision Making Environmental Screening Tool, (https://etdmpub.fla-etat.org/est/), 2024;
- Aerial photographs (scale, 1 inch = 400 feet), ESRI 2022;
- University of Florida (UF), UF Digital Collections, *Aerial Photography: Florida*, (https://original-ufdc.uflib.ufl.edu/aerials), 2024;
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) *Web Soil Survey* (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx), 2024;
- 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 Geographic Information System (GIS) Database (2020);
- SWFWMD, *Southwest Florida Water Management District Geospatial Open Data Portal*. (https://data-swfwmd.opendata.arcgis.com/), 2024;
- USFWS, National Wetlands Inventory, Wetlands Online Mapper (https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper), 2024;
- USFWS, *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979);
- 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).

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 or streams/waterways, including roadside ditches.

Environmental scientists familiar with Florida's natural communities conducted field reviews of the study area on December 12-13, 2023 and September 5, 2024. Field reviews consisted of 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 types established through desktop literature reviews and aerial photo interpretation. During field investigations, wetland and surface water habitats within the project study area were visually

inspected and photographed. Attention was given to identifying plant species composition for each community. 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.

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. Approximate wetland boundaries were identified in accordance with the *State of Florida Wetlands Delineation Manual* (Chapter 62-340, F.A.C.) and the criteria found within the 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). Each wetland and surface water habitat within the project study area was classified using FLUCFCS and the USFWS *Classification of Wetlands and Deepwater Habitats of the United States*. Formal wetland boundary delineations and surveys were not conducted as a part of this study but will be completed as part of the state and federal permit process.

3.2 Results

Based on site-specific data searches and field evaluations, a total of 28 soil types, 19 upland habitat types, and 13 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 *Custom Soil Resource Report for Hillsborough County, Florida* and the *Custom Soil Resource Report for Pasco County, Florida* obtained from NRCS Web Soil Survey, the project study area is comprised of 28 soil types. **Appendix A** provides individual soil descriptions and their general characteristics. According to the *Hydric Soils of Florida Handbook*, 12 of the soil types reported within the project study area are classified as hydric and 16 are non-hydric. 8 of these non-hydric soils are reported as having hydric soil inclusions. Mapped hydric soils comprise approximately 1,122 acres (30 percent) of the project study area, non-hydric soils cover approximately 2,488 acres (67 percent), and the remaining 3 percent is open water.

Table 3-1 lists the soil types reported within the project study area, their corresponding NRCS reference numbers reported in the *Custom Soil Resource Report for Hillsborough County, Florida and the Custom Soil Resource Report for Pasco County, Florida*, their hydric classification, and the approximate acreage and percentage of each soil type within the project study area. **Figure 3-1** shows an aerial map depicting the boundaries of each soil type within the project study area in addition to individual soil descriptions and their general characteristics.

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

Map Unit Symbol	Soil Type	Hydric Y/N	Acres in Study Area	Percent of Study Area
Hillsborough County				
5	Basinger, Holopaw, and Samsula Soils, depressional	Y	142.20	3.82%
27	Malabar Fine Sand, 0 to 2 percent slopes	Y	166.28	4.47%
29	Myakka Fine Sand, 0 to 2 percent slopes	N	494.60	13.29%
41	Pomello Fine Sand, 0 to 5 percent slopes	N	0.30	0.01%
46	St. Johns Fine Sand	Y	0.50	0.01%
52	Smyrna Fine Sand, 0 to 2 percent slopes	N*	134.40	3.61%
Pasco County				
2	Pomona Fine Sand	N*	496.90	13.35%
3	Pineda Fine Sand	Y	84.39	2.27%
4	Felda Fine Sand, 0 to 2 percent slopes	Y	11.17	0.30%
5	Myakka-Myakka, Wet, Fine Sands, 0 to 2 percent slopes	N*	271.69	7.30%
6	Tavares Sand, 0 to 5 percent slopes	N	87.50	2.35%
8	Sellers Mucky Loamy Fine Sand	Y	394.46	10.60%
10	Wabasso-Wabasso, Wet, Fine Sand, 0 to 2 percent slopes	N*	29.67	0.80%
11	Adamsville Fine Sand, 0 to 2 percent slopes	N	91.28	2.45%
16	Zephyr Muck	Y	112.47	3.02%
17	Immokalee Fine Sand	N*	19.52	0.52%
21	Smyrna Fine Sand	N*	324.59	8.72%
22	Basinger Fine Sand, 0 to 2 percent slopes	Y	7.06	0.19%
23	Basinger Fine Sand, depressional, 0 to 1 percent slopes	Y	55.05	1.48%
26	Narcoossee Fine Sand, 0 to 2 percent slopes	N	61.29	1.65%
35	EauGallie Fine Sand	N*	243.34	6.54%
39	Chobee Soils, frequently flooded	Y	132.46	3.56%
40	Paisley Fine Sand, 0 to 1 percent slopes	N*	53.94	1.45%
42	Pomello Fine Sand, 0 to 5 percent slopes	N	69.62	1.87%
46	Cassia Fine Sand, 0 to 5 percent slopes	N	105.79	2.84%
52	Samsula Muck, frequently ponded, 0 to 1 percent slopes	Y	10.16	0.27%
57	Wabasso Variant Fine Sand	N*	4.00	0.11%
60	Palmetto-Zephyr-Sellers Complex	Y	5.79	0.16%
		Total Hydric Soils	**1,121.99**	**30.14%**
		Total Non-Hydric Soils	**2,488.43**	**66.85%**
		Total Water	**112.22**	**3.01%**
		Totals for Project Study Area	**3,722.64**	**100.00%**

* May have hydric soil inclusions

0 500 1,000 Feet N

Begin Project

Suncoast Parkway

Van Dyke Road

Suncoast Parkway

Lutz Lake Fern Road

Legend

- Preferred Alternative
- Project Study Area

NRCS Soils: Description * shading denotes NRCS hydric soils

- 5: Basinger, Holopaw, and Samsula Soils, depressional
- 27: Malabar Fine Sand, 0 to 2 percent slopes
- 29: Myakka Fine Sand, 0 to 2 percent slopes
- 46: St. Johns Fine Sand
- 52: Smyrna Fine Sand, 0 to 2 percent slopes
- 99: Water

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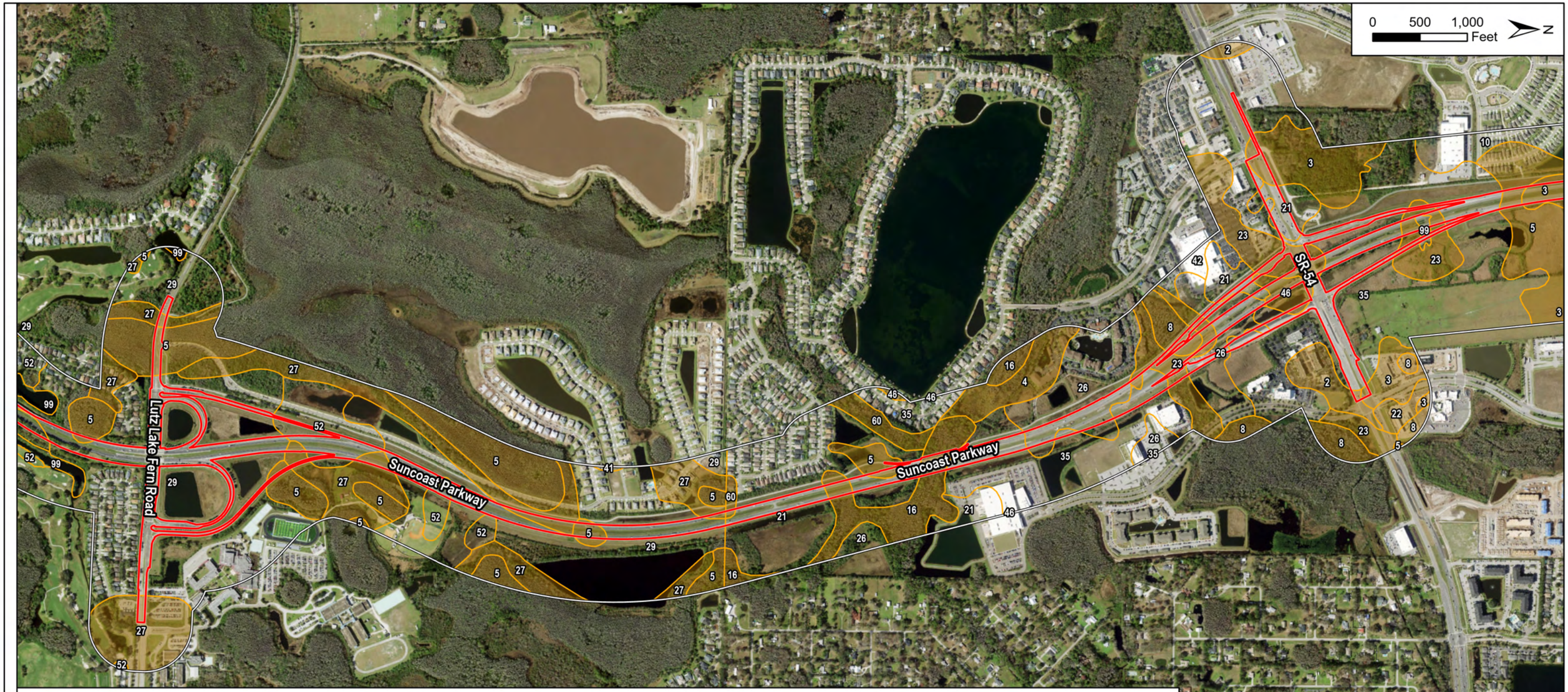
FDOT

NRCS Soils Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-1, Page 1 of 6



Legend

- Preferred Alternative
- Project Study Area

NRCS Soils: Description * shading denotes NRCS hydric soils

- 5: Basinger, Holopaw, and Samsula Soils, depressional
- 27: Malabar Fine Sand, 0 to 2 percent slopes
- 29: Myakka Fine Sand, 0 to 2 percent slopes
- 41: Pomello Fine Sand, 0 to 5 percent slopes
- 52: Smyrna Fine Sand, 0 to 2 percent slopes
- 2: Pomona Fine Sand
- 3: Pineda Fine Sand
- 4: Felda Fine Sand, 0 to 2 percent slopes
- 5: Myakka-Myakka, Wet, Fine Sands, 0 to 2 percent slopes
- 8: Sellers Mucky Loamy Fine Sand
- 10: Wabasso Fine Sand
- 16: Zephyr Muck
- 21: Smyrna Fine Sand
- 22: Basinger Fine Sand
- 23: Basinger Fine Sand, depressional, 0 to 1 percent slopes
- 26: Narcoossee Fine Sand, 0 to 2 percent slopes
- 35: Eaugallie Fine Sand
- 42: Pomello Fine Sand, 0 to 5 percent slopes
- 46: Cassia Fine Sand, 0 to 5 percent slopes
- 60: Palmetto-Zephyr-Sellers Complex
- 99: Water

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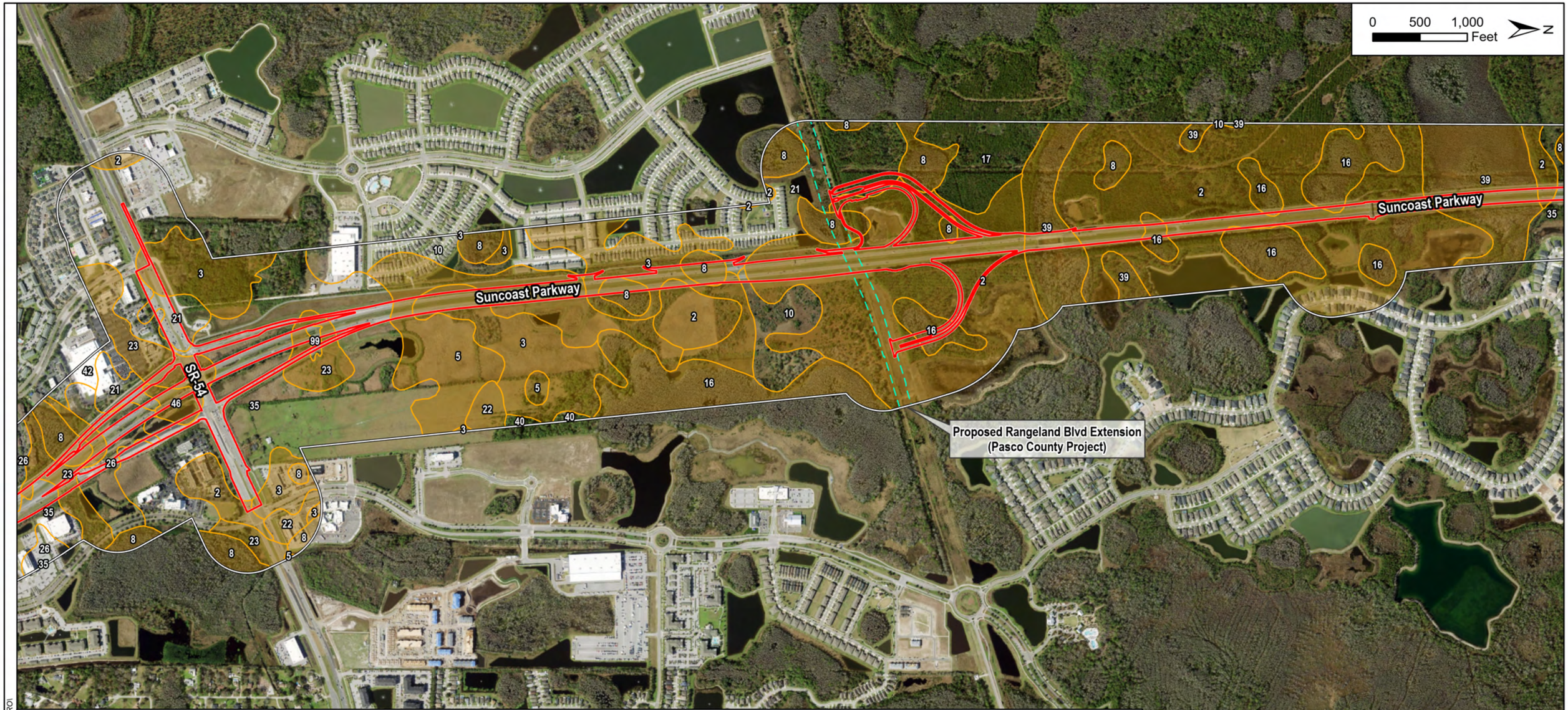
NRCS Soils Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-1, Page 2 of 6



Legend

- Preferred Alternative
- Project Study Area

NRCS Soils: Description * shading denotes NRCS hydric soils

- 2: Pomona Fine Sand
- 3: Pineda Fine Sand
- 4: Felda Fine Sand, 0 to 2 percent slopes
- 5: Myakka-Myakka, Wet, Fine Sands, 0 to 2 percent slopes
- 8: Sellers Mucky Loamy Fine Sand
- 10: Wabasso Fine Sand
- 16: Zephyr Muck
- 17: Immokalee Fine Sand
- 21: Smyrna Fine Sand
- 22: Basinger Fine Sand
- 23: Basinger Fine Sand, depressional, 0 to 1 percent slopes
- 26: Narcoossee Fine Sand, 0 to 2 percent slopes
- 35: Eaugallie Fine Sand
- 39: Chobee Soils, frequently flooded
- 40: Paisley Fine Sand, 0 to 1 percent slopes
- 42: Pomello Fine Sand, 0 to 5 percent slopes
- 46: Cassia Fine Sand, 0 to 5 percent slopes
- 99: Water

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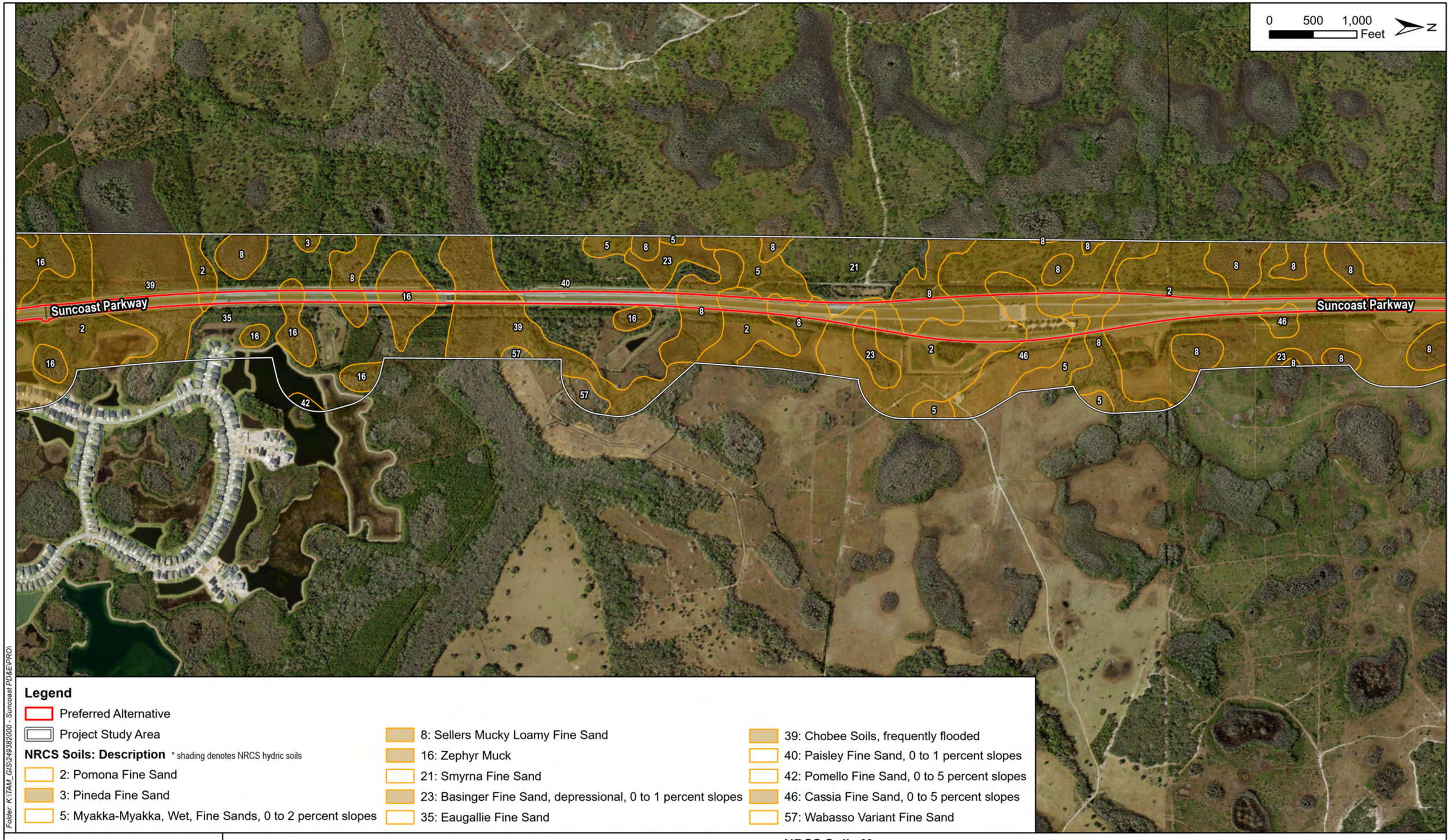
NRCS Soils Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-1, Page 3 of 6



Legend

- Preferred Alternative
- Project Study Area

NRCS Soils: Description * shading denotes NRCS hydric soils

- 2: Pomona Fine Sand
- 3: Pineda Fine Sand
- 5: Myakka-Myakka, Wet, Fine Sands, 0 to 2 percent slopes
- 8: Sellers Mucky Loamy Fine Sand
- 16: Zephyr Muck
- 21: Smyrna Fine Sand
- 23: Basinger Fine Sand, depressional, 0 to 1 percent slopes
- 35: Eaugallie Fine Sand
- 39: Chobee Soils, frequently flooded
- 40: Paisley Fine Sand, 0 to 1 percent slopes
- 42: Pomello Fine Sand, 0 to 5 percent slopes
- 46: Cassia Fine Sand, 0 to 5 percent slopes
- 57: Wabasso Variant Fine Sand

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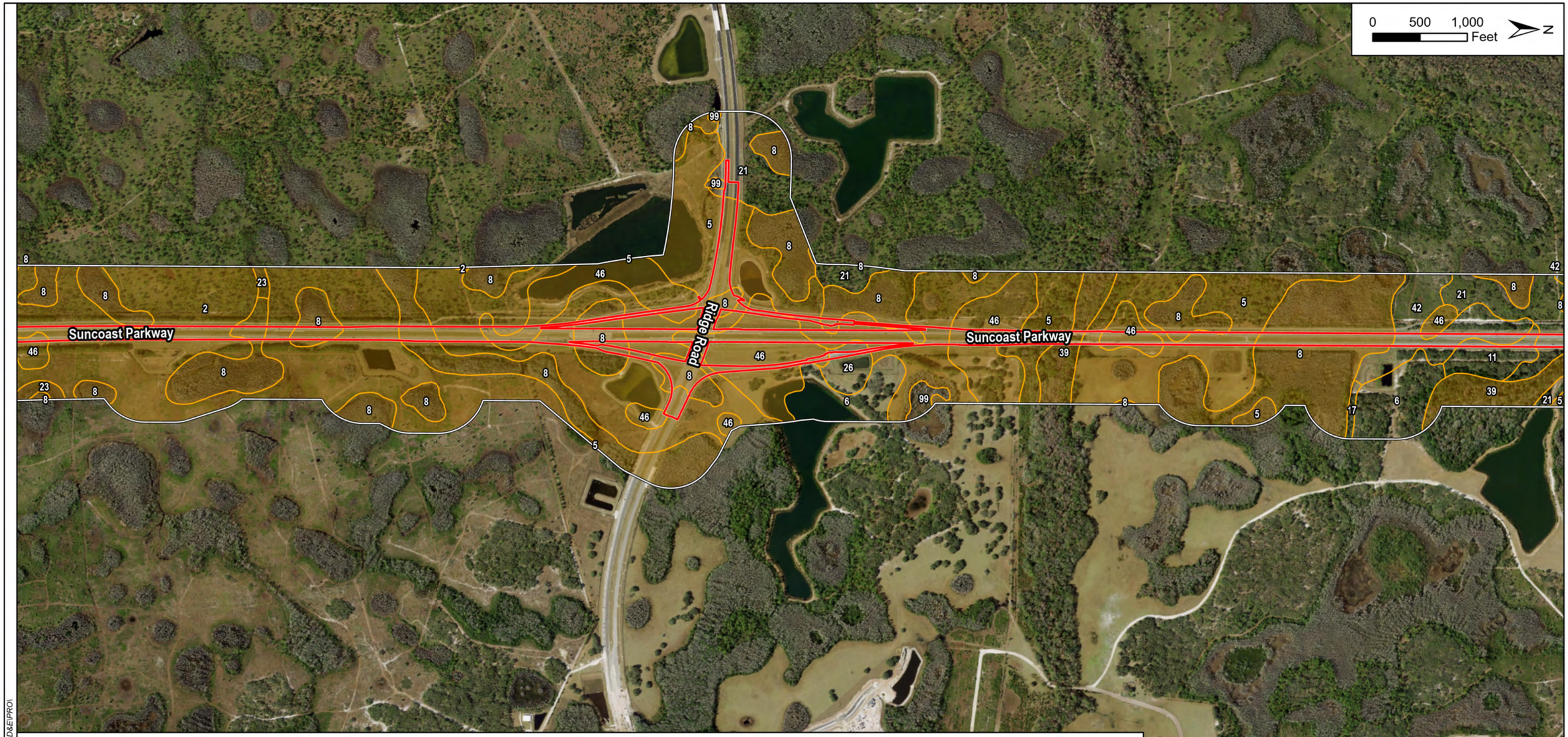
NRCS Soils Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-1, Page 4 of 6



Legend

- Preferred Alternative
- Project Study Area

NRCS Soils: Description * shading denotes NRCS hydric soils

- 2: Pomona Fine Sand
- 5: Myakka-Myakka, Wet, Fine Sands, 0 to 2 percent slopes
- 6: Tavares Sand, 0 to 5 percent slopes
- 8: Sellers Mucky Loamy Fine Sand
- 11: Adamsville Fine Sand, 0 to 2 percent slopes
- 17: Immokalee Fine Sand
- 21: Smyrna Fine Sand
- 23: Basinger Fine Sand, depressional, 0 to 1 percent slopes
- 26: Narcoossee Fine Sand, 0 to 2 percent slopes
- 39: Chobee Soils, frequently flooded
- 42: Pomello Fine Sand, 0 to 5 percent slopes
- 46: Cassia Fine Sand, 0 to 5 percent slopes
- 99: Water

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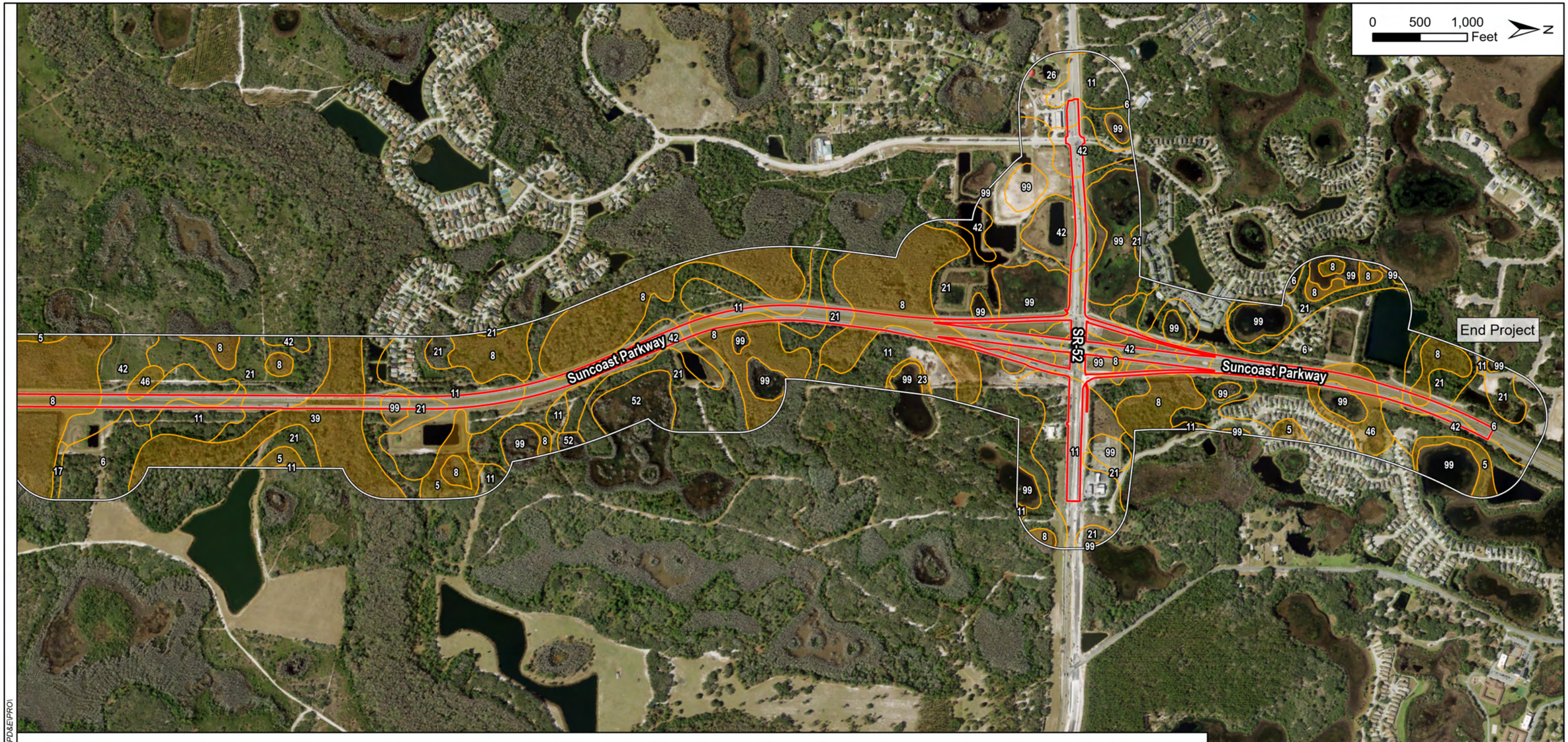
NRCS Soils Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	*PROJECT NUMBER: 249382000*	*FEBRUARY 2025*	*FIGURE 3-1, Page 5 of 6*



Legend

- Preferred Alternative
- Project Study Area

NRCS Soils: Description * shading denotes NRCS hydric soils

- 5: Myakka-Myakka, Wet, Fine Sands, 0 to 2 percent slopes
- 6: Tavares Sand, 0 to 5 percent slopes
- 8: Sellers Mucky Loamy Fine Sand
- 11: Adamsville Fine Sand, 0 to 2 percent slopes
- 17: Immokalee Fine Sand
- 21: Smyrna Fine Sand
- 23: Basinger Fine Sand, depressional, 0 to 1 percent slopes
- 26: Narcoossee Fine Sand, 0 to 2 percent slopes
- 39: Chobee Soils, frequently flooded
- 42: Pomello Fine Sand, 0 to 5 percent slopes
- 46: Cassia Fine Sand, 0 to 5 percent slopes
- 52: Samsula Muck, frequently ponded, 0 to 1 percent slopes
- 99: Water

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NRCS Soils Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-1, Page 6 of 6

3.2.2 Existing Land Use

Existing land use within the project study area was determined through interpretation of aerial photography, review of land cover GIS data obtained from SWFWMD, and field reconnaissance of the project study area conducted on December 12-13, 2023 and September 5, 2024. Land uses were characterized using their FLUCFCS descriptions.

A total of 19 upland and 13 wetland and 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, FLUCFCS classifications, total acreage, and percent coverage within the project study area.

Upland communities comprise approximately 2,410 acres (65 percent) of the project study area and generally includes residential units, roads and highways, commercial and industrial land use, institutional land use, recreation areas, pastureland, scrub and brushland, hardwood and coniferous forests, tree plantations, pine flatwoods, and open lands. Wetland and surface water communities comprise approximately 1,312 acres (35 percent) of the project study area and is primarily comprised of reservoirs, freshwater marshes, and cypress forests, as well as several lakes, bottomlands, wet prairies, and hydric hardwood and coniferous forests.

Table 3-2. Existing Land Uses within the Suncoast Parkway Project Study Area

FLUCFCS Code	FLUCFCS Description	USFWS Classification	Acreage Within Study Area	Percent of Study Area
110	Residential Low Density (<2 Dwelling Units per Acre)	N/A	78.74	2.12%
120	Residential Med Density (2 to 5 Dwelling Units Per Acre)	N/A	89.15	2.39%
130	Residential High Density	N/A	157.73	4.24%
140	Commercial and Services	N/A	78.65	2.11%
150	Industrial	N/A	11.36	0.31%
170	Institutional	N/A	48.78	1.31%
180	Recreational	N/A	0.87	0.02%
182	Golf Courses	N/A	38.73	1.04%
190	Open Land	N/A	108.38	2.91%
210	Cropland and Pastureland	N/A	171.75	4.61%
260	Other Open Lands	N/A	155.33	4.17%
320	Shrub and Brushland	N/A	53.25	1.43%
410	Upland Coniferous Forest	N/A	58.40	1.57%
411	Pine Flatwoods	N/A	230.19	6.18%
412	Longleaf Pine - Xeric Oak	N/A	73.02	1.96%
434	Upland Hardwood - Coniferous Mix	N/A	84.41	2.27%
440	Tree Plantation	N/A	137.66	3.70%
810	Transportation	N/A	833.11	22.38%
830	Utilities	N/A	0.58	0.02%
		Total Uplands	**2,410.09**	**64.74%**

FLUCFCS Code	FLUCFCS Description	USFWS Classification	Acreage Within Study Area	Percent of Study Area
514	Ditches	PEM1A	0.03	0.00%
520	Lakes	L1/2UB2H	51.89	1.39%
530	Reservoirs	PUBHx	230.67	6.20%
610	Wetland Hardwood Forests	PFO1C	3.04	0.08%
615	Stream and Lake Swamps (Bottomland)	R2UB2F	194.31	5.22%
620	Wetland Coniferous Forests	PFO4F	68.77	1.85%
621	Cypress	PFO2F	431.94	11.60%
630	Wetland Forested Mixed	PFO1/4E	20.62	0.55%
640	Vegetated Non-Forested Wetlands	PUB2F	34.80	0.93%
641	Freshwater Marshes	PEM1A	247.48	6.65%
643	Wet Prairies	PEM1J	14.40	0.39%
644	Emergent Aquatic Vegetation	PEM1H	2.90	0.08%
653	Intermittent Ponds	PEM2J	11.70	0.31%
Total Wetlands and Surface Waters			**1,312.55**	**35.26%**
Project Study Area Total			**3,722.64**	**100.00%**

PEM1A: Palustrine, Emergent, Persistent, Temporarily Flooded

L1/2UB2H: Lacustrine, Limnetic/Littoral, Unconsolidated Bottom, Sand, Permanently Flooded

PUBHx: Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated

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

R2UB2F: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Semipermanently Flooded)

PFO4F: Palustrine, Forested, Needle-Leaved Evergreen, Seasonally Flooded

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

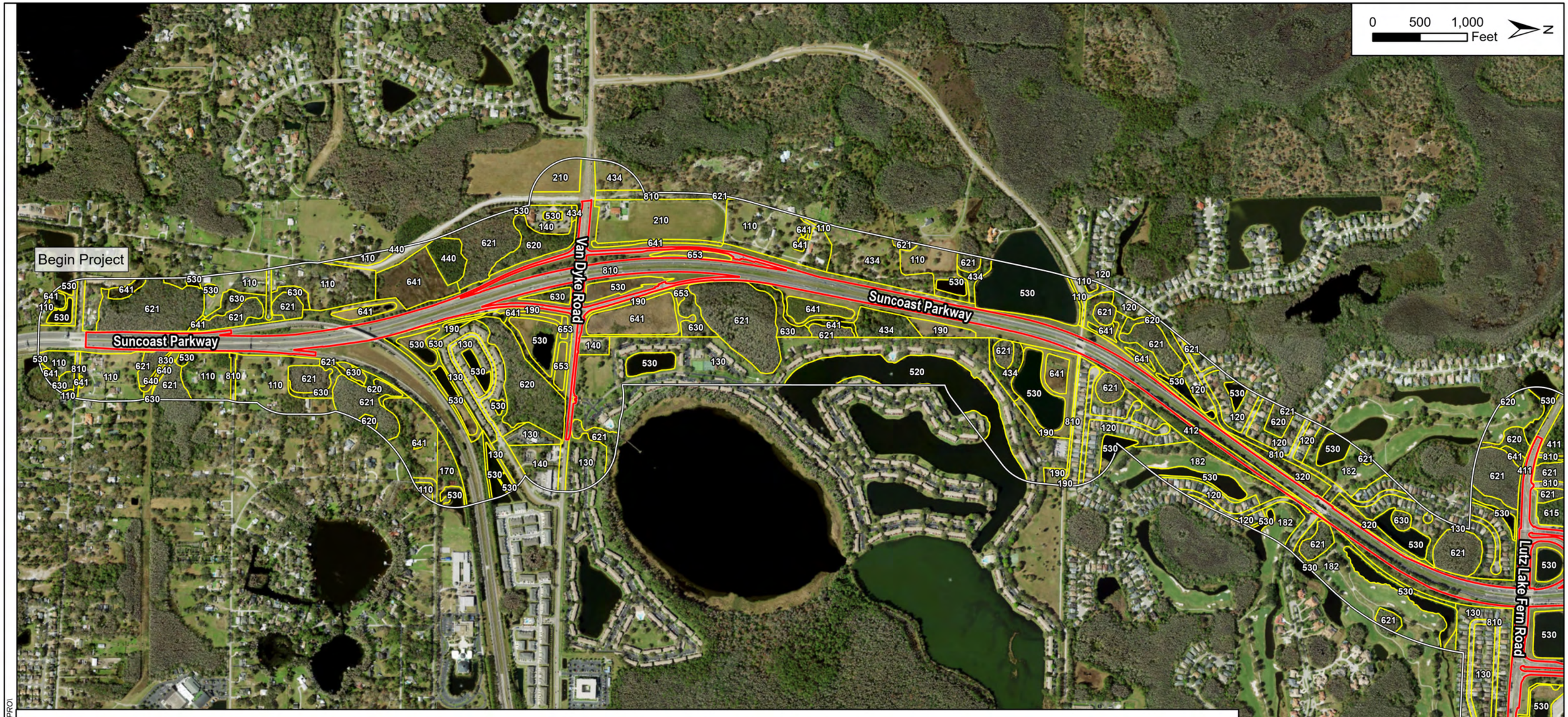
PFO1/4E: Palustrine, Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Seasonally Flooded/Saturated

PUB2F: Palustrine, Unconsolidated Bottom, Sand, Semipermanently Flooded

PEM1J: Palustrine, Emergent, Persistent, Intermittently Flooded

PEM1H: Palustrine, Emergent, Persistent, Permanently Flooded

PEM2J: Palustrine, Emergent, Non-Persistent, Intermittently Flooded



Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

- 110: Residential Low Density < 2 Dwelling Units Per Acre
- 120: Residential Med Density 2 To 5 Dwelling Units Per Acre
- 130: Residential High Density
- 140: Commercial And Services
- 170: Institutional
- 180: Recreational
- 182: Golf Courses
- 190: Open Land
- 210: Cropland And Pastureland
- 320: Shrub And Brushland
- 411: Pine Flatwoods
- 412: Longleaf Pine - Xeric Oak
- 434: Upland Hardwood - Coniferous Mix
- 440: Tree Plantation
- 520: Lakes
- 530: Reservoirs
- 615: Stream And Lake Swamps (Bottomland)
- 620: Wetland Coniferous Forests
- 621: Cypress
- 630: Wetland Forested Mixed
- 640: Vegetated Non-Forested Wetlands
- 641: Freshwater Marshes
- 653: Intermittent Ponds
- 810: Transportation
- 830: Utilities

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FDOT

Florida Land Use, Cover, and Forms Classification System Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-2, Page 1 of 6

0 500 1,000 Feet N

Suncoast Parkway

Lutz Lake Fern Road

SR-54

Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

- 110: Residential Low Density < 2 Dwelling Units Per Acre
- 120: Residential Med Density 2 To 5 Dwelling Units Per Acre
- 130: Residential High Density
- 140: Commercial And Services
- 150: Industrial
- 170: Institutional
- 180: Recreational
- 182: Golf Courses
- 190: Open Land
- 210: Cropland And Pastureland
- 260: Other Open Lands
- 320: Shrub And Brushland
- 411: Pine Flatwoods
- 434: Upland Hardwood - Coniferous Mix
- 530: Reservoirs
- 610: Wetland Hardwood Forests
- 615: Stream And Lake Swamps (Bottomland)
- 620: Wetland Coniferous Forests
- 621: Cypress
- 630: Wetland Forested Mixed
- 640: Vegetated Non-Forested Wetlands
- 641: Freshwater Marshes
- 653: Intermittent Ponds
- 810: Transportation

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Florida Land Use, Cover, and Forms Classification System Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-2, Page 2 of 6

0 500 1,000 Feet

N

Suncoast Parkway

SR-54

Proposed Rangeland Blvd Extension
(Pasco County Project)

Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

- 110: Residential Low Density < 2 Dwelling Units Per Acre
- 120: Residential Med Density 2 To 5 Dwelling Units Per Acre
- 130: Residential High Density
- 140: Commercial And Services
- 170: Institutional
- 190: Open Land
- 210: Cropland And Pastureland
- 260: Other Open Lands
- 320: Shrub And Brushland
- 410: Upland Coniferous Forest
- 411: Pine Flatwoods
- 434: Upland Hardwood - Coniferous Mix
- 440: Tree Plantation
- 530: Reservoirs
- 610: Wetland Hardwood Forests
- 615: Stream And Lake Swamps (Bottomland)
- 620: Wetland Coniferous Forests
- 621: Cypress
- 630: Wetland Forested Mixed
- 640: Vegetated Non-Forested Wetlands
- 641: Freshwater Marshes
- 810: Transportation

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FDOT

Florida Land Use, Cover, and Forms Classification System Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-2, Page 3 of 6

Folder: K:\TAM_GIS\249382000 - Suncoast PD&E\PRO\

Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

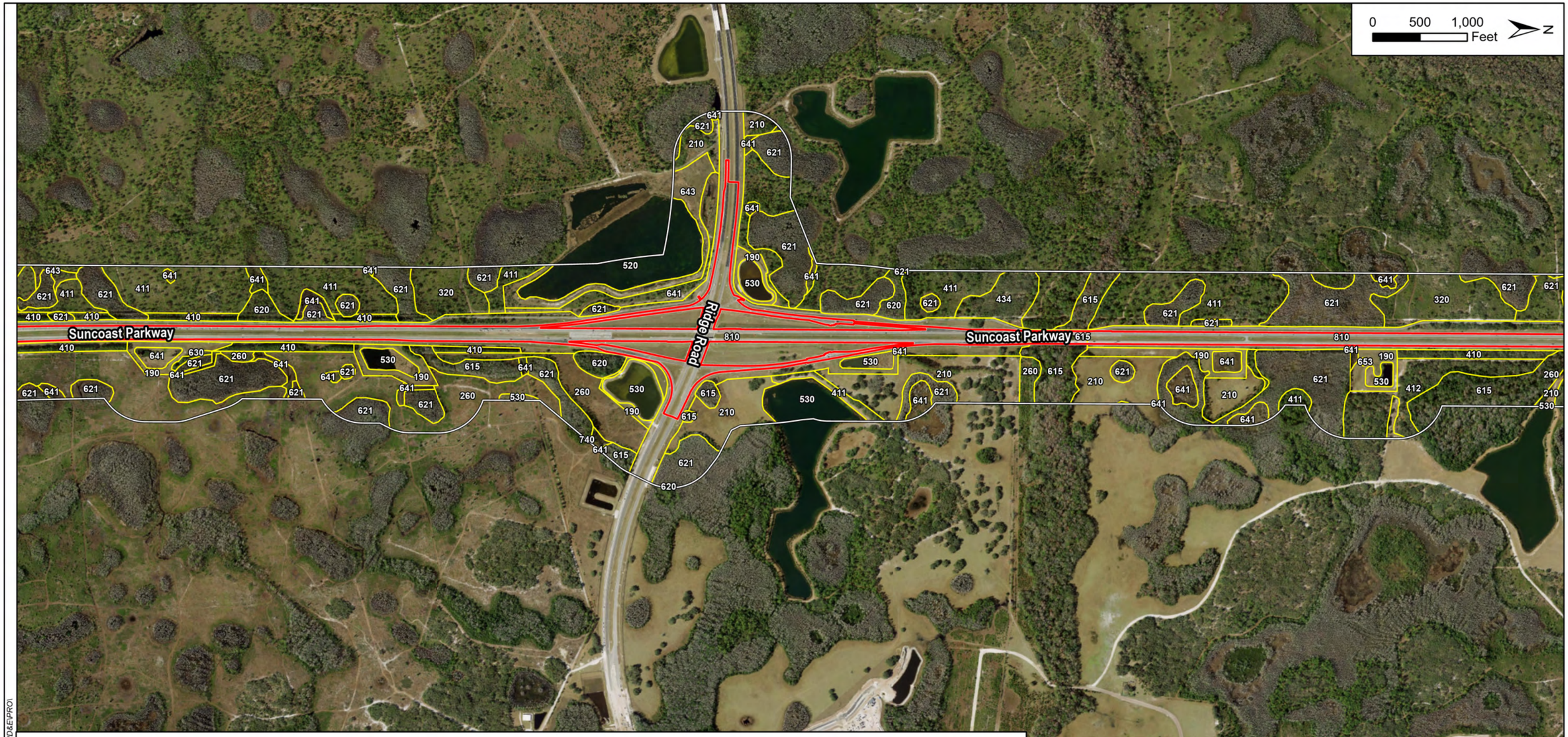
- 120: Residential Med Density 2 To 5 Dwelling Units Per Acre
- 190: Open Land
- 260: Other Open Lands
- 320: Shrub And Brushland
- 410: Upland Coniferous Forest
- 411: Pine Flatwoods
- 440: Tree Plantation
- 530: Reservoirs
- 615: Stream And Lake Swamps (Bottomland)
- 620: Wetland Coniferous Forests
- 621: Cypress
- 630: Wetland Forested Mixed
- 640: Vegetated Non-Forested Wetlands
- 641: Freshwater Marshes
- 643: Wet Prairies
- 653: Intermittent Ponds
- 810: Transportation

FDOT

Florida Land Use, Cover, and Forms Classification System Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-2, Page 4 of 6



Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

- 190: Open Land
- 210: Cropland And Pastureland
- 260: Other Open Lands
- 320: Shrub And Brushland
- 410: Upland Coniferous Forest
- 411: Pine Flatwoods
- 412: Longleaf Pine - Xeric Oak
- 434: Upland Hardwood - Coniferous Mix
- 520: Lakes
- 530: Reservoirs
- 615: Stream And Lake Swamps (Bottomland)
- 620: Wetland Coniferous Forests
- 621: Cypress
- 630: Wetland Forested Mixed
- 641: Freshwater Marshes
- 643: Wet Prairies
- 653: Intermittent Ponds
- 740: Disturbed
- 810: Transportation

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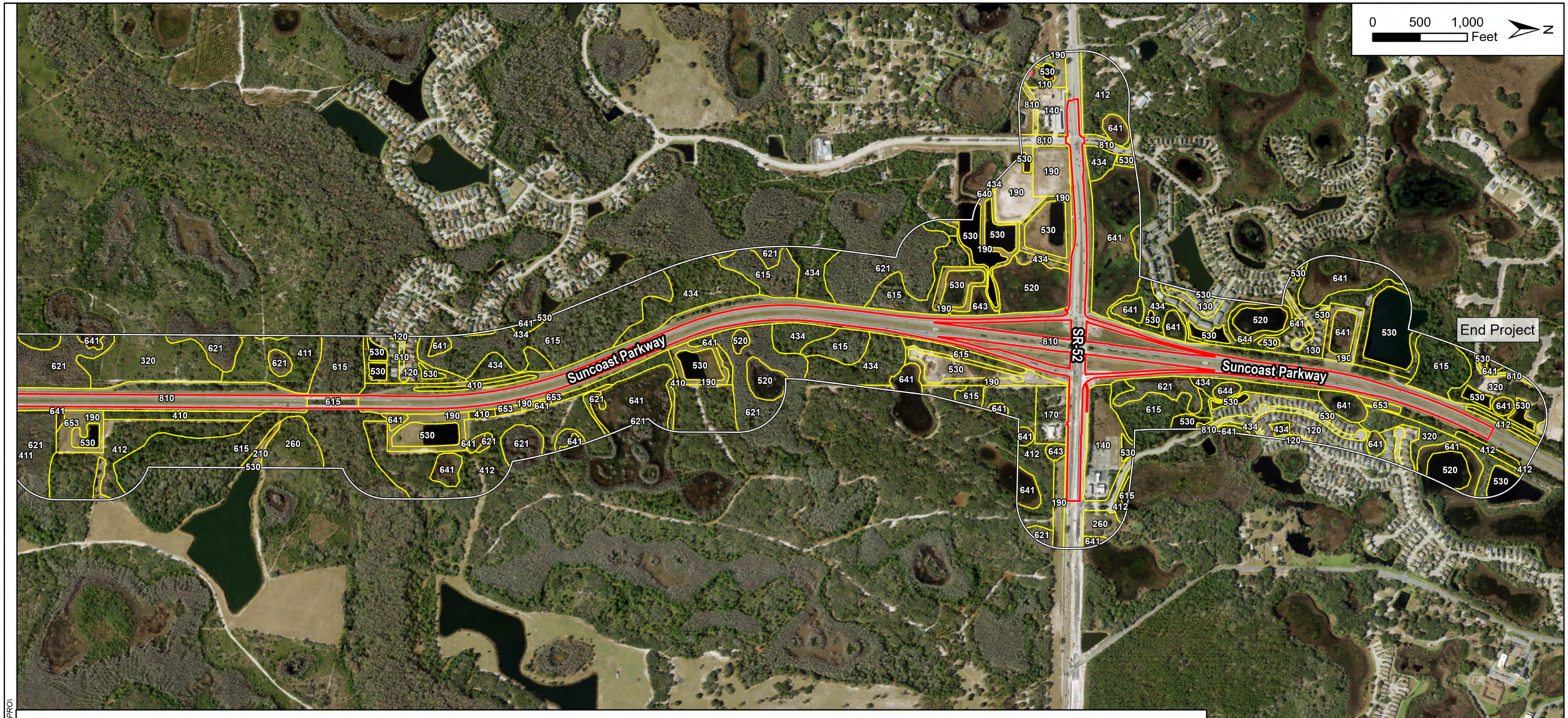
Florida Land Use, Cover, and Forms Classification System Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	*PROJECT NUMBER: 249382000*	*FEBRUARY 2025*	*FIGURE 3-2, Page 5 of 6*



Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

- 110: Residential Low Density < 2 Dwelling Units Per Acre
- 120: Residential Med Density 2 To 5 Dwelling Units Per Acre
- 130: Residential High Density
- 140: Commercial And Services
- 170: Institutional
- 190: Open Land
- 210: Cropland And Pastureland
- 260: Other Open Lands
- 320: Shrub And Brushland
- 410: Upland Coniferous Forest
- 411: Pine Flatwoods
- 412: Longleaf Pine - Xeric Oak
- 434: Upland Hardwood - Coniferous Mix
- 520: Lakes
- 530: Reservoirs
- 615: Stream And Lake Swamps (Bottomland)
- 621: Cypress
- 640: Vegetated Non-Forested Wetlands
- 641: Freshwater Marshes
- 643: Wet Prairies
- 644: Emergent Aquatic Vegetation
- 653: Intermittent Ponds
- 810: Transportation

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Florida Land Use, Cover, and Forms Classification System Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 1,000 FT	*PROJECT NUMBER: 249382000*	*FEBRUARY 2025*	*FIGURE 3-2, Page 6 of 6*

3.2.3 Wetlands and Surface Waters

Approximate wetland boundaries were mapped within the project study area during field reviews on December 12-13, 2023 and September 5, 2024. These mapped boundaries have not been reviewed or approved by regulatory agencies. Formal wetland boundary delineations and surveys were not conducted as a part of this study but will be completed as part of the state and federal permit process.

Based on collected field data and in-house reviews, a total of 13 wetland and surface water habitat types were identified within the project study area. These included 10 wetland types and 3 surface water and other surface water types. The wetland types were classified as wetland hardwood forests, stream and lake swamp bottomlands, wetland coniferous forests, cypress domes, wetland forested mixed, vegetated non-forested wetlands, freshwater marshes, wet prairies, and emergent aquatic vegetation. The surface waters and other surface waters included ditches, lakes, reservoirs, and intermittent ponds.

Appendix C provides individual descriptions of the identified wetlands and surface waters within the project study area, and **Figure 3-3** shows the location of these systems present within the Preferred Alternative. There are no wetlands or surface waters designated as Outstanding Florida Waters, Aquatic Preserves, or Wild and Scenic Rivers within the project study area.

Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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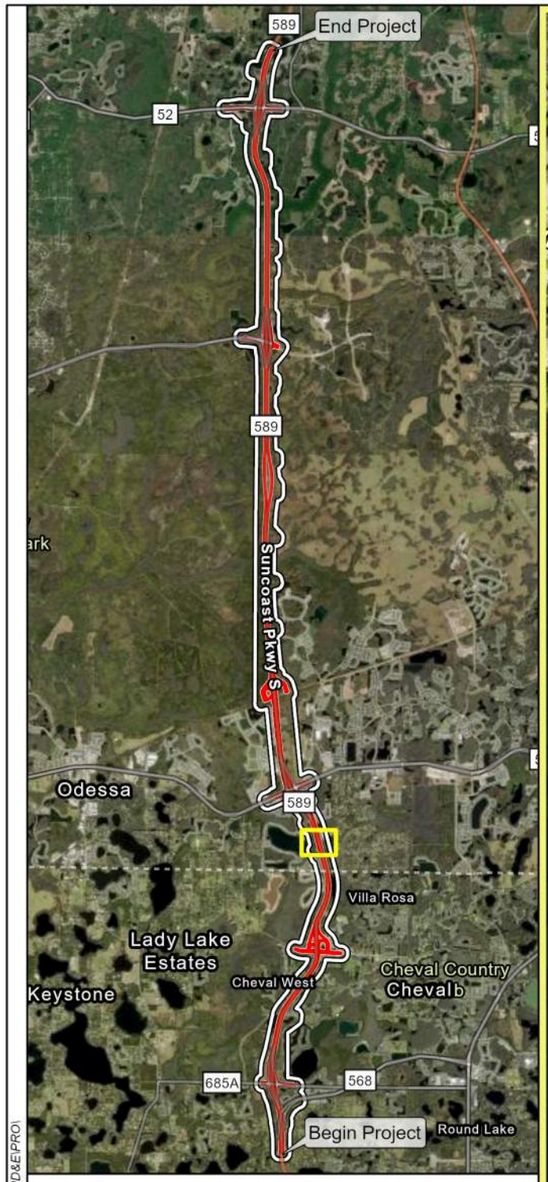
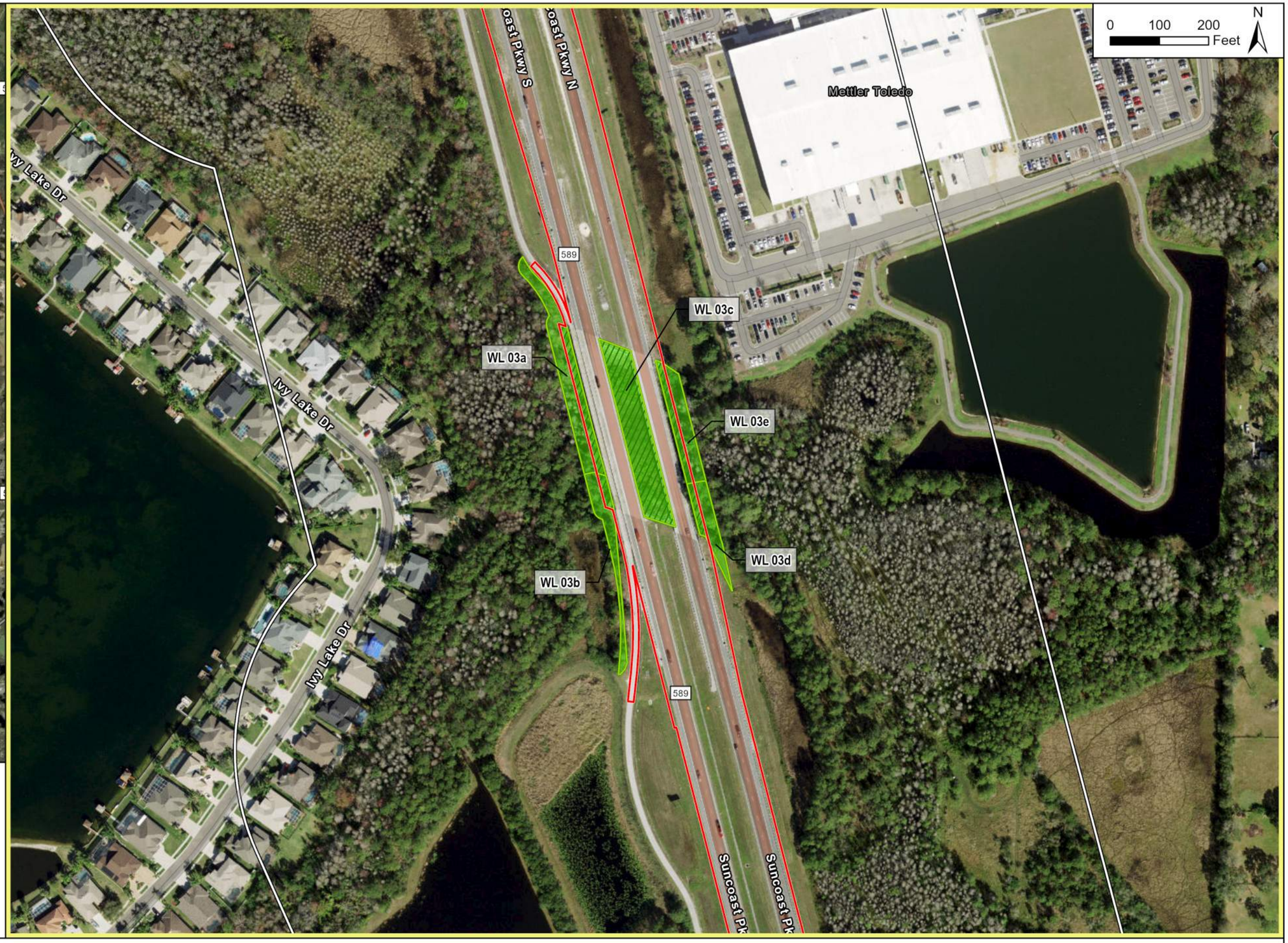
Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 1 of 13





Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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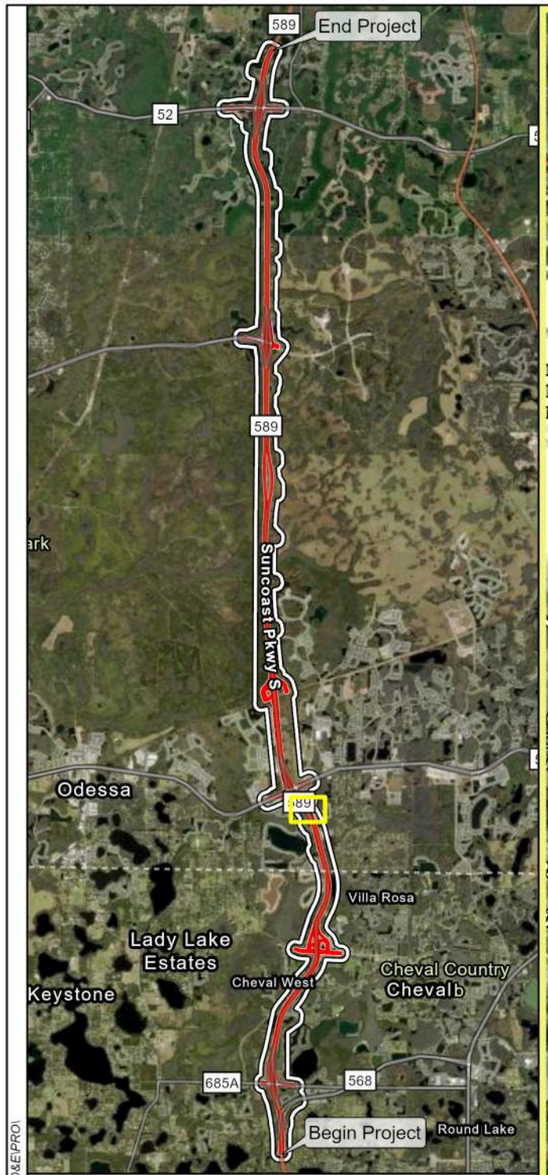
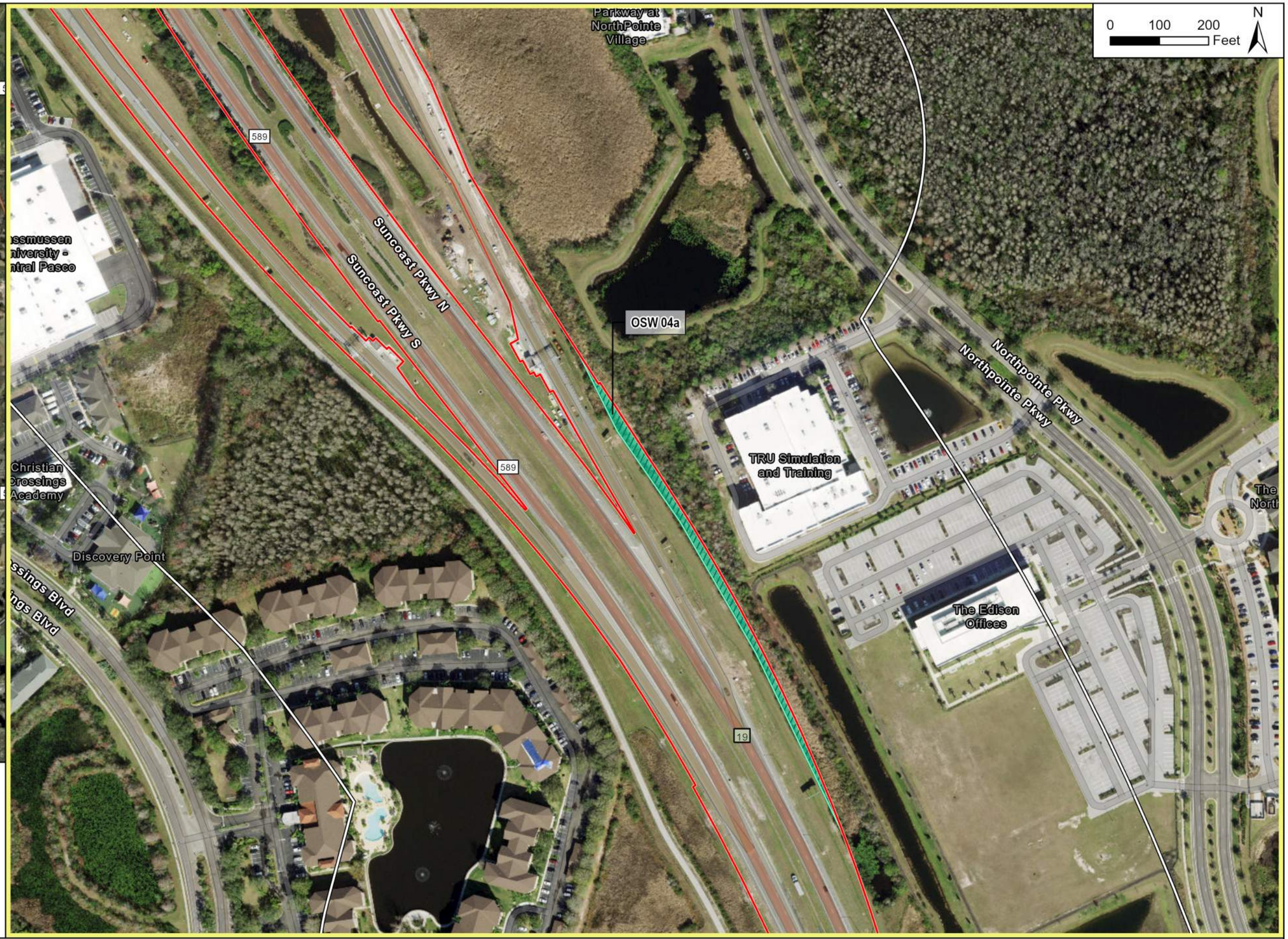
Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 2 of 13





Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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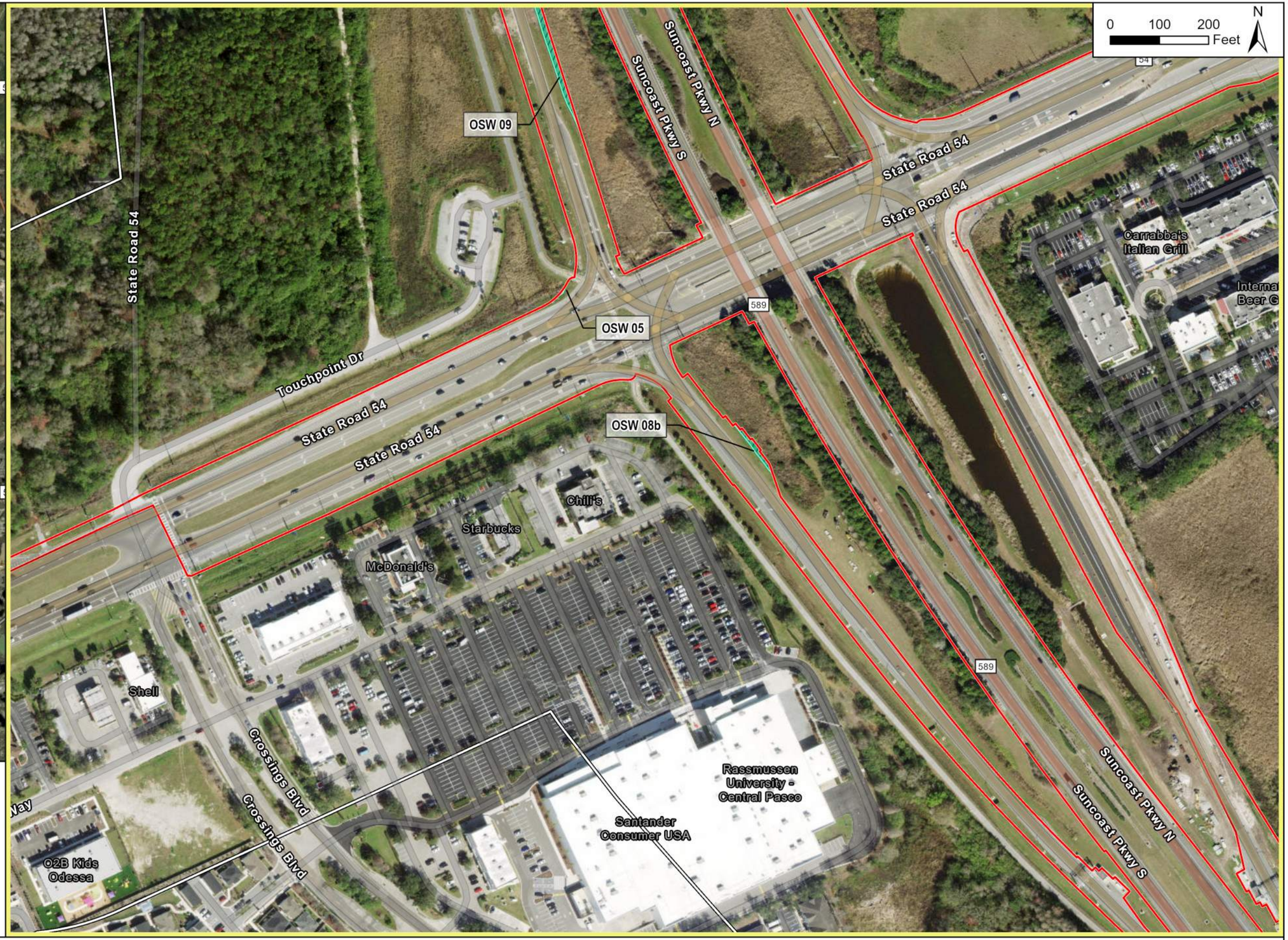
Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 3 of 13



Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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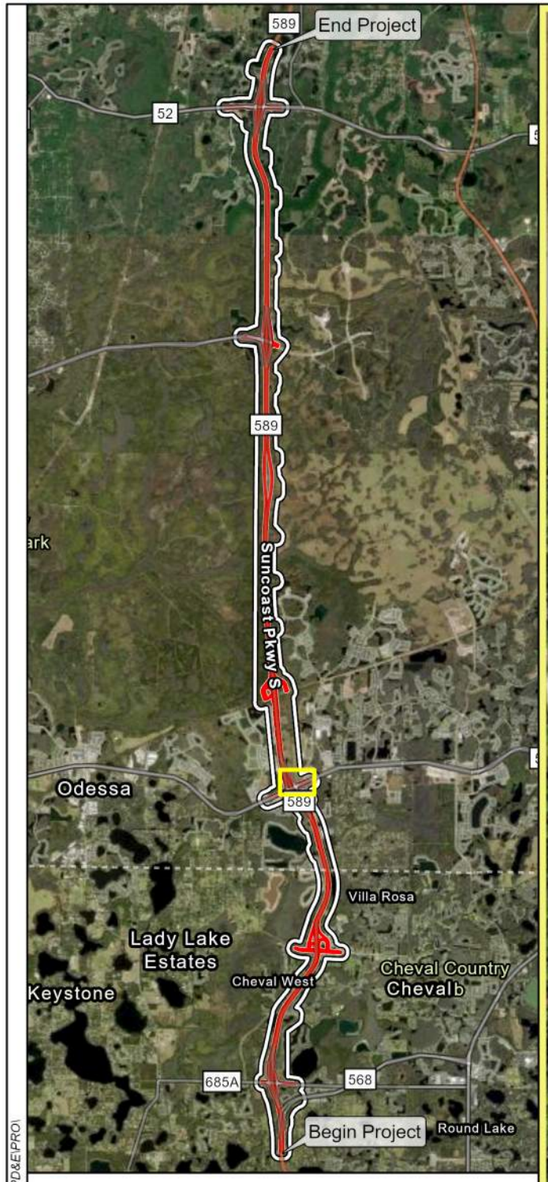
Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 4 of 13



Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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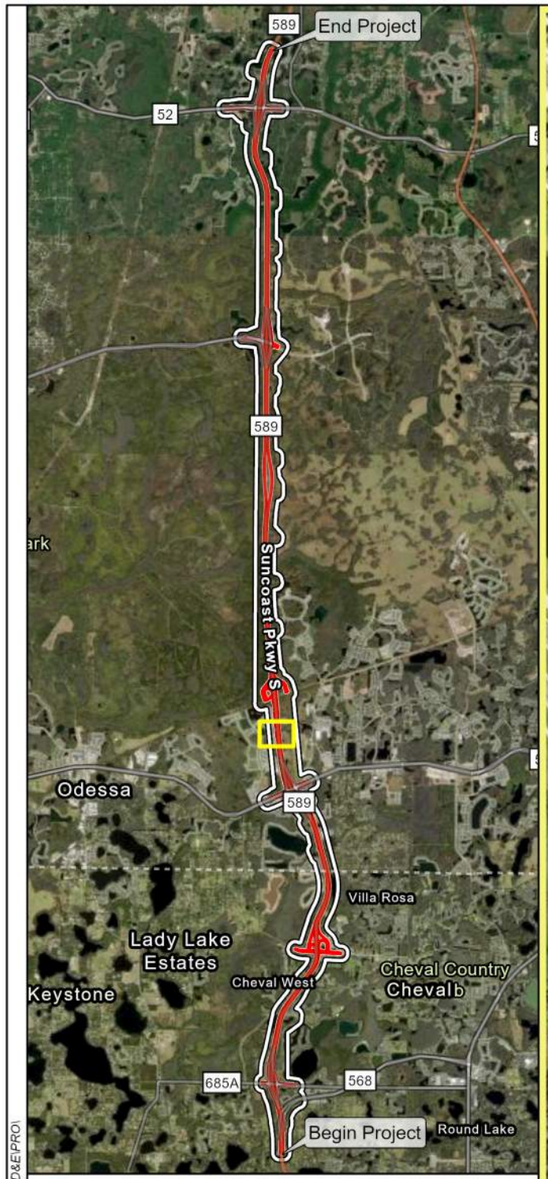
Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 5 of 13



Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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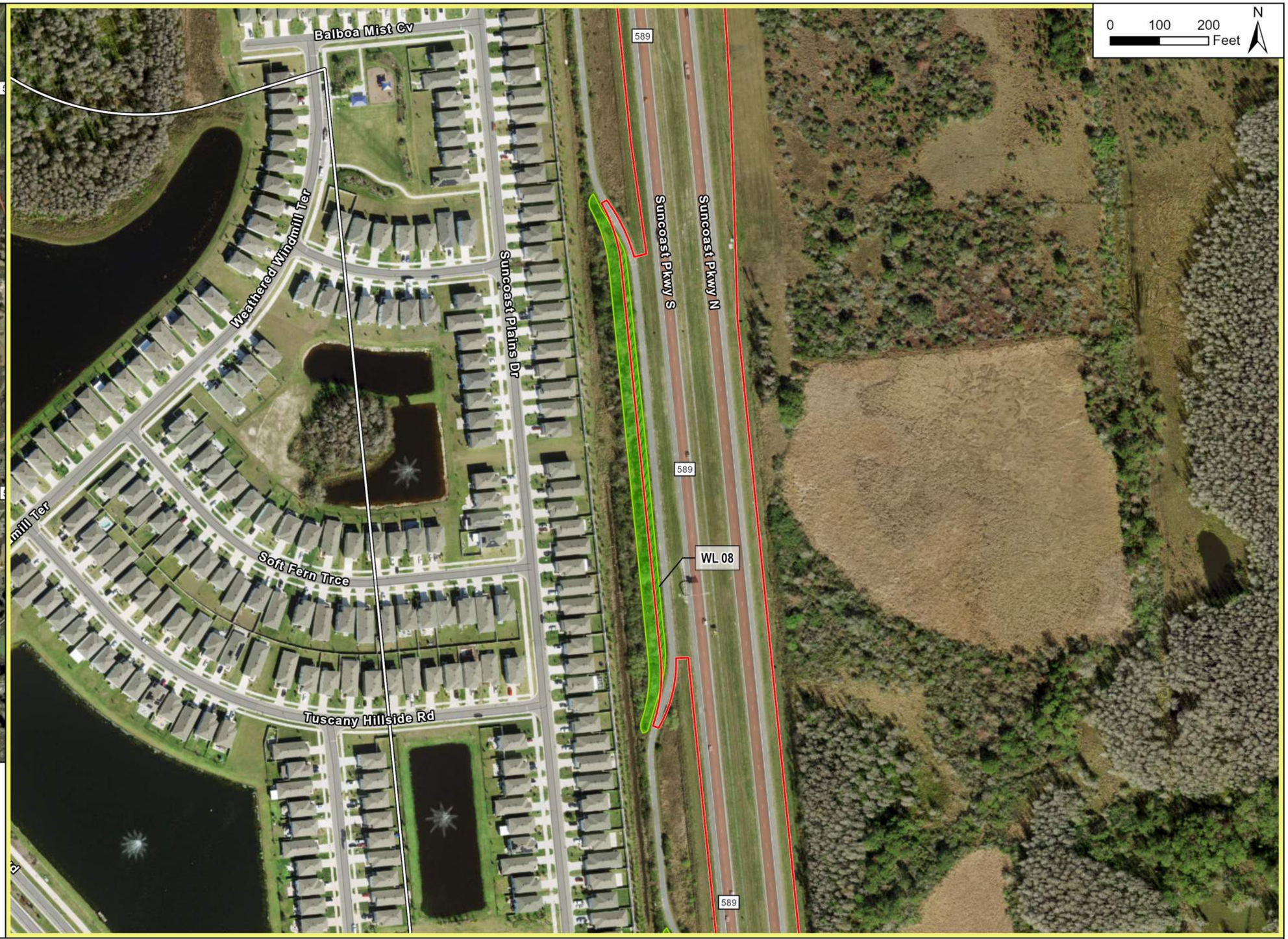
Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 6 of 13



Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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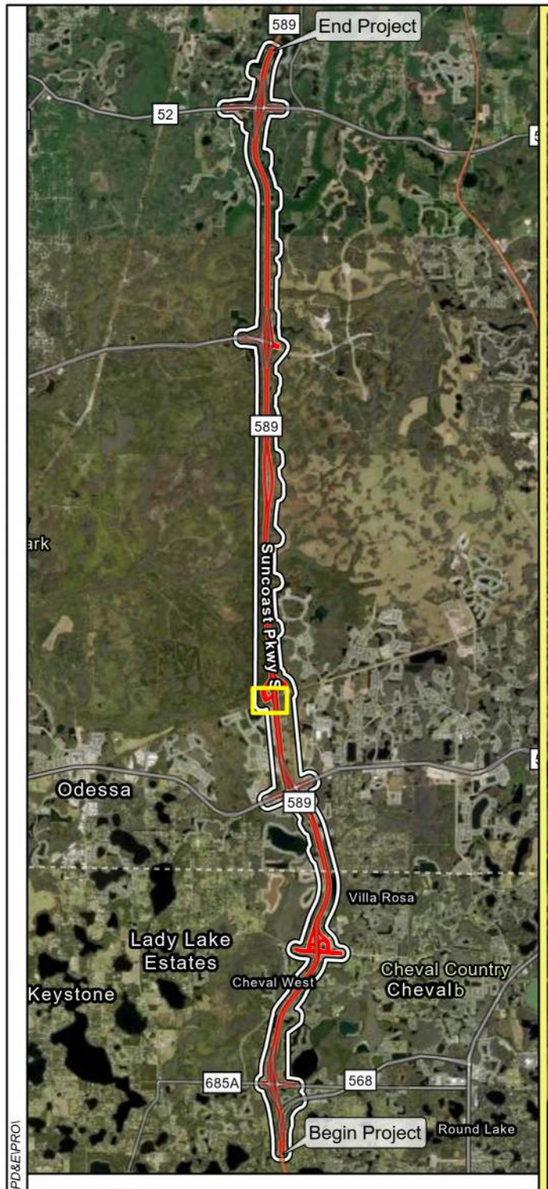
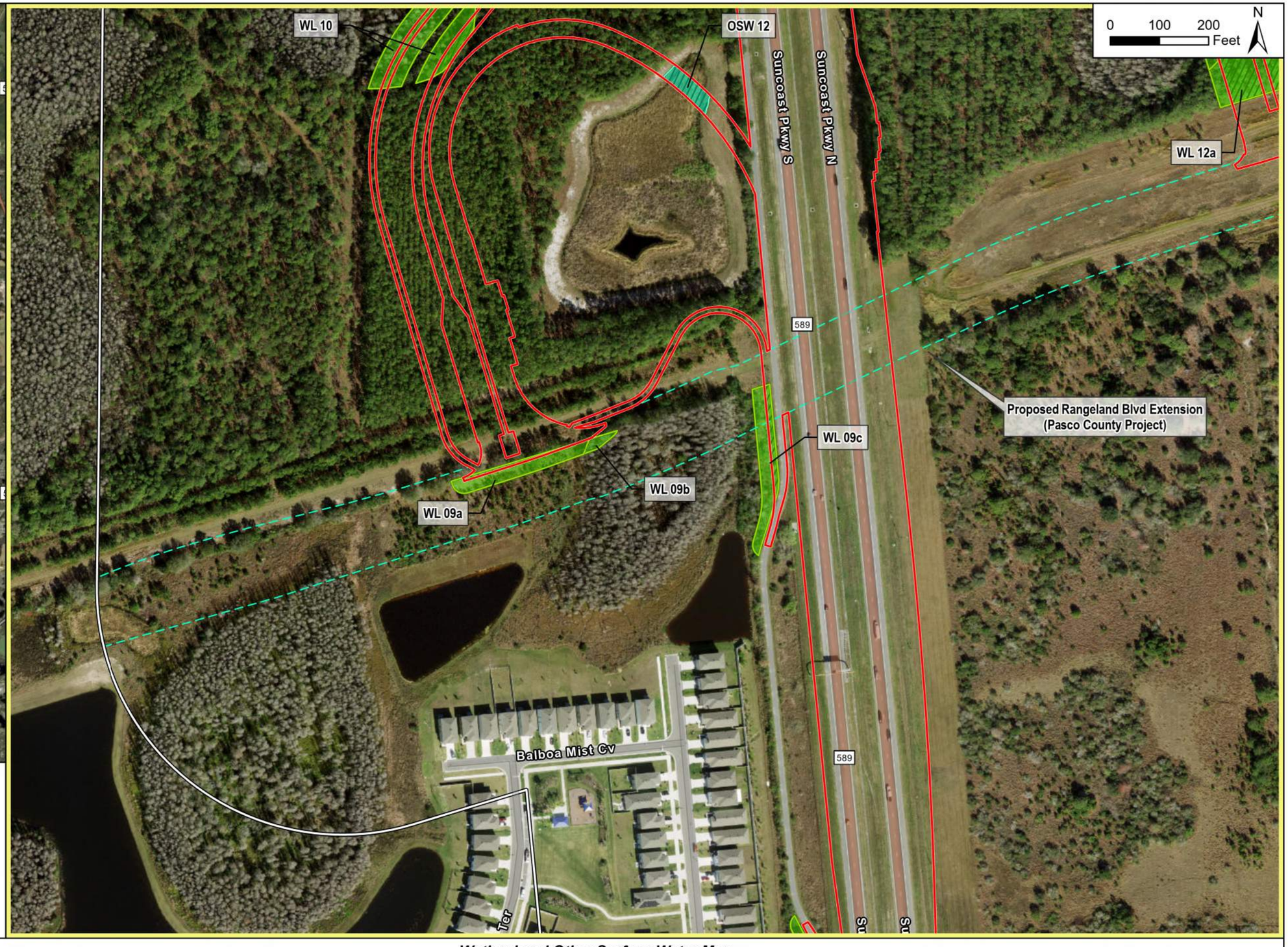
Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 7 of 13





Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
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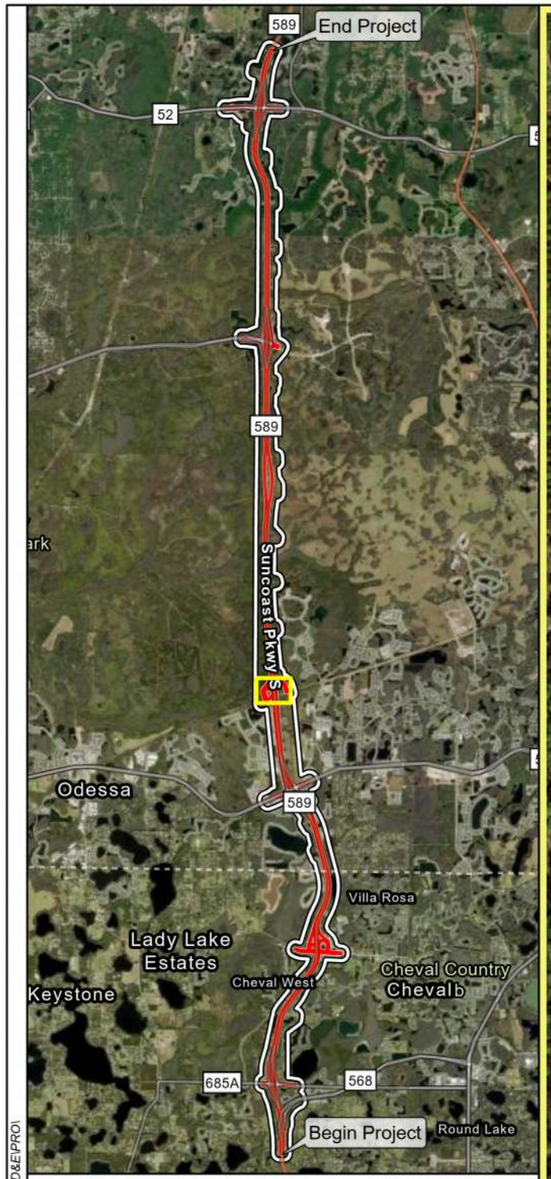
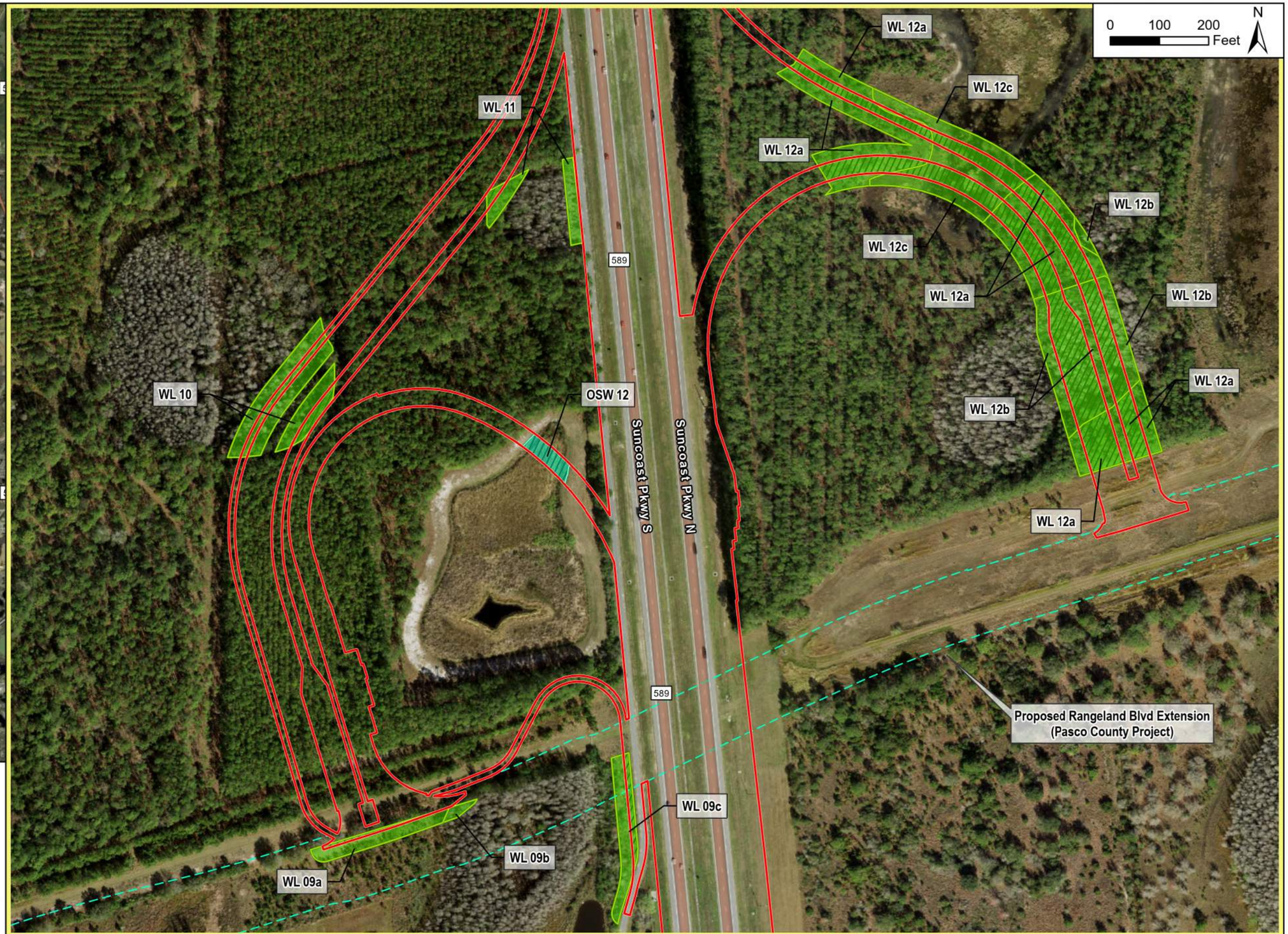
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 8 of 13





Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
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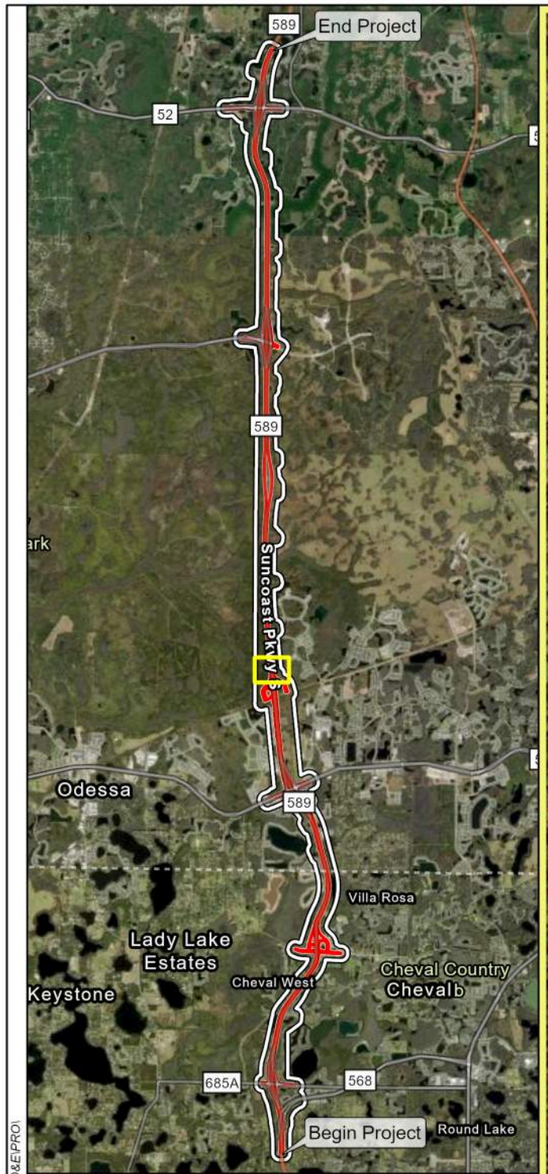
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 9 of 13



Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 10 of 13

Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 11 of 13

Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

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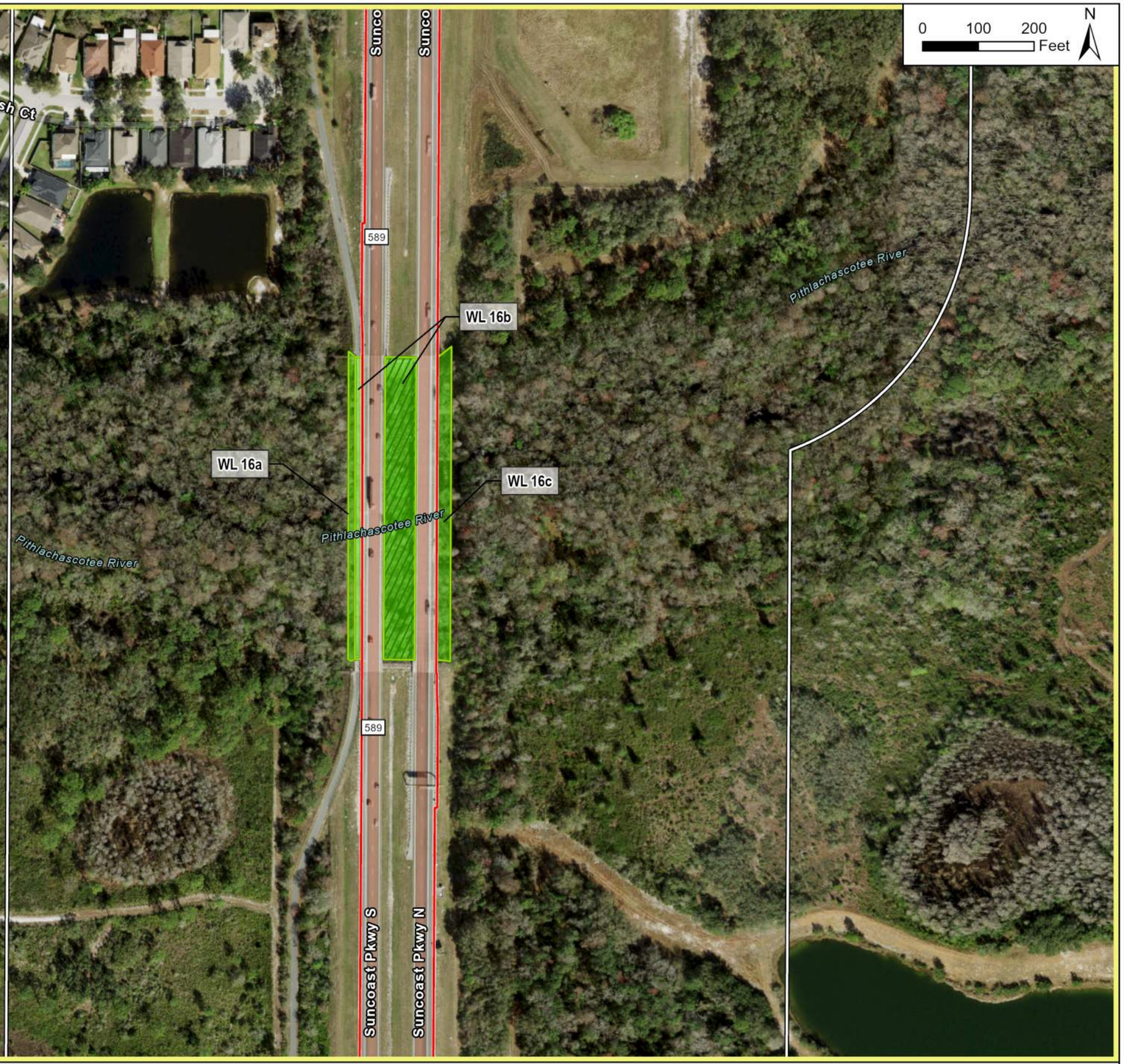

Legend

- Preferred Alternative
- Project Study Area
- Direct Wetland Impacts
- Direct Other Surface Water Impacts
- Secondary Wetland Impacts
- Secondary Other Surface Water Impacts

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Wetland and Other Surface Water Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 200 FT	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 3-3, Page 13 of 13

4.0 PROTECTED SPECIES

This project was evaluated for impacts to protected species and habitat resources in accordance with 50 CFR Part 402 of the Endangered Species Act (ESA) of 1973, as amended, the Florida Endangered and Threatened Species Act, Section 379.2291, F.S., and 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 Endangered Species Act 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 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 species are also considered state listed species.

The project is located within the USFWS Consultation Area (CA) of the Florida scrub-jay (*Aphelocoma coerulescens*), and within the Core Foraging Area (CFA) of 11 wood stork (*Mycteria americana*) colonies.

An ETDM Preliminary Programming Screen was published on October 31, 2022 containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. The USFWS, SWFWMD, FWC, Hillsborough TPO, and FDACS were commenting agencies for Protected Species and Habitat. Non-listed rare plants were not identified by stakeholders in the ETDM Programming Screen Summary Report process. The following comments were provided for consideration:

- Undisturbed uplands and wetlands within the proposed corridor are suitable habitat for the threatened eastern indigo snake (EIS) (*Drymarchon corais couperi*). The USFWS has known species occurrence data to support EIS on private lands east of Suncoast Parkway adjacent to the Starkey Wilderness Preserve. [USFWS]
- The action area falls within the Core Foraging Area (CFA) of the wood stork (*Mycteria americana*). It is very likely that wood storks are utilizing this area for foraging. There is an active wood stork colony approximate three miles away from the proposed project (Northlakes - Sagebrush). [USFWS]
- The project occurs within the Greater Tampa Bay Ecosystem Management Area (EMA) as well as the Springs Coast EMA and the North Florida ESO. Several Florida managed lands are found within the project area: Lone Star Ranch Conservation Easement, Starkey Wilderness Preserve, Suncoast Crossings East Conservation Easement, Suncoast

Crossings West Conservation Easement, Suncoast Parkway Easement, and Brooker Creek Headwaters Nature Preserve. Potential impact on prescribed burning due to the project could occur at Starkey Wilderness Preserve. The waterbodies within the project area include Anclote River Freshwater Segment, Bear Creek, Brooker Creek, Buckhorn Creek, Cross Cyrpess Branch, Fivemile Creek, Lake Le Clare Drain, Lake Thomas Outlet, Pithlachacotee River, Rocky Creek (Upper Segment), Sandy Branch, and South Branch Anclote River. The Upper Anclote River watershed could contain the rare and imperiled fish the blackbanded sunfish. [FWC]

- Significant Wildlife Habitat and adjacent habitats are located west of the Suncoast Parkway (SR 589) (also identified as Strategic Habitat Conservation Areas) and must be protected and conserved per Environmental and Sustainability Policies in the Hillsborough Comprehensive Plan. Over 7 focal species and natural are in the area. Objective 3.10 emphasizes the need to identify, enhance, promote, protect, and preserve Wildlife Corridors and linkages. [Hillsborough TPO]

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 Methodology

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, July 2022;
- USFWS, Critical Habitat Portal website (http://criticalhabitat.fws.gov/crithab/), 2024;
- USFWS, Information for Planning and Consultation (IPaC) data, (https://ipac.ecosphere.fws.gov/), 2024;
- Florida Natural Areas Inventory (FNAI) *Biodiversity Matrix* (https://www.fnai.org/BiodiversityMatrix/index.html), 2024;
- FWC, *Florida's Endangered Species and Threatened Species*, December 2022;
- FWC, *Terrestrial Resources Geographic Information System* (http://ocean.floridamarine.org/TRGIS/Description_Layers_Terrestrial.htm), 2024;
- Audubon Florida EagleWatch Public Nest website (https://www.arcgis.com/apps/webappviewer/index.html?id=9ade9794b8494d2b84c8dea339ea1428), 2024; and
- USFWS, 2010-2019 Wood Stork Nesting Colonies Maps (http://fgdl.org), 2024*;*

Environmental scientists familiar with Florida natural communities conducted field reviews of the project study area and adjacent habitats and general species surveys on December 12-13, 2023 and September 5, 2024. 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, upland and wetland communities within the project study area were visually inspected. Attention was given to identifying dominant plant species composition for each community. Additional attention 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 and USFWS IPaC data were reviewed for potential occurrences of listed species within one mile of the project study area (see **Appendix D**). IPaC identified the red-cockaded woodpecker (*Dryobates borealis)* and Everglade snail kite (*Rostrhamus sociabilis plumbeus*) as having the potential to occur in the project limits. However, since the project study area does not overlap the CA for either species they are not discussed in this report.

Based on the evaluation of collected data, field reviews, 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 of the Preferred Alternative 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 35 federal or state listed species, one federally proposed endangered species, one candidate species for federal listing, and one species with other protection requirements that have the potential for occurrence within the project study area. These protected species include 19 flora, six reptilian, 10 avian, two mammalian, and one insect species. **Table 4-1** presents a list of protected species with the potential to occur within the project study area, their federal or state protection status, suitable habitat, and a ranking of potential occurrence.

The potential for occurrence for each species was designated as No, 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 within the project study area. A *No* 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 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.

Table 4-1. Protected Species Potential for Occurrence within the Project Study Area

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Flora					
Carter's warea *Warea carteri*	FE		E	Scrub and sandhills with longleaf pine and wiregrass	No
Celestial lily *Nemastylis floridana*	NL		E	Wet flatwoods, prairies, marshes, and cabbage palm hammocks edges	Low
Craighead's nodding-caps *Triphora craigheadii*	NL		E	Mesic hardwood hammocks	No
Cutthroat grass *Panicum abscissum*	NL		E	Dry prairies, mesic flatwoods, wet flatwoods, depressional marshes, and seepage slopes	Low
Florida beargrass *Nolina atopocarpa*	NL		T	Wet pine flatwoods; deeply rooted in black, sandy-peaty high hydroperiod soil	Low
Florida golden aster *Chrysopsis floridana*	FE		E	Open areas in scrub	Low
Florida spiny-pod *Matelea floridana*	NL		E	Occurs on a variety of wooded habitats from fairly moist woods to upland hardwood forests	Low
Florida willow *Salix floridana*	NL		E	Springheads, edges of spring runs, hydric hammocks, and floodplains	No
Giant orchid *Pteroglossaspis ecristata*	NL		T	Sandhill, scrub, pine flatwoods, and pine rocklands	Moderate
Incised groove-bur *Agrimonia incisa*	NL		T	Dry to mesic longleaf pine-oak woods, oak-hickory slopes, roadsides, sand or shell maritime thickets	Low
Many-flowered grass-pink *Calopogon multiflorus*	NL		T	Well-drained soils of open, damp to somewhat drier pine savannas-flatwoods and meadows	Moderate
Nodding pinweed *Lechea cernua*	NL		T	Deep sands, usually ancient dunes, on which the most common forest is a mixture of evergreen scrub oaks	Low
Piedmont jointgrass *Coelorachis tuberculosa*	NL		T	Margins of lakes and ponds or in wet savanna swales	Low

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Pondspice *Litsea aestivalis*	NL		E	Margins of swamps, limesink ponds, bay heads, small ponds, pitcher plant savannas, natural doline ponds and in low wet woodlands	Moderate
Pygmy fringe tree *Chionanthus pygmaeus*	FE		E	Scrub, sandhills, hammocks, flatwoods, and transition zones between these habitats	Low
Pygmy pipes *Monotropsis reynoldsiae*	NL		E	Mixed hardwood forests, damp to dry hammocks, sand pine and oak scrub	Low
Sand butterfly pea *Centrosema arenicola*	NL		E	Sandhill, scrubby flatwoods, dry upland woods	Moderate
Short-leaved rosemary *Conradina brevifolia*	FE		E	Florida scrub habitat on white sand substrates among sand pines and oaks	No
Yellow fringeless orchid *Platanthera integra*	NL		E	Wet pine flatwoods, wet prairies, sunny seepage often on slopes, marshes, swamps, acid bogs, low pine barrens, organic black sandy peat, and depressions within pinelands	No
Avian					
Eastern black rail *Laterallus jamaicensis* ssp. *jamaicensis*	FT	FT		Salt and brackish marshes with dense cover but can also be found in upland areas of these marshes	Low
Florida burrowing owl *Athene cunicularia floridana*	NL	ST		Wide-open, sparsely vegetated areas like prairies, deserts, grasslands and agricultural fields	Low
Florida sandhill crane *Antigone canadensis pratensis*	NL	ST		Freshwater marshes, prairies, and pastures	High
Florida scrub-jay *Aphelocoma coerulescens*	FT	FT		Sand pine and xeric oak scrub, and scrubby flatwoods	Moderate
Little blue heron *Egretta caerulea*	NL	ST		Fresh, salt, and brackish water environments including swamps, estuaries, ponds, lakes, and rivers	Moderate

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Southeastern American kestrel *Falco sparverius paulus*	NL	ST		Open woodlands, sandhill, and fire maintained savannah pine habitats; will also use alternative habitats which include pastures and open fields located in residential areas	Low
Tricolored heron *Egretta tricolor*	NL	ST		Fresh, salt, and brackish water environments including swamps, estuaries, ponds, lakes, and rivers	Moderate
Wood stork *Mycteria americana*	FT	FT		Nest in mixed hardwood swamps, sloughs, mangroves, and cypress domes/strands in Florida; forage in a variety of wetlands including both freshwater and estuarine marshes, although limited to depths less than 10-12 inches	High
Reptilian					
Eastern indigo snake *Drymarchon couperi*	FT	FT		Pine flatwoods, hardwood forests, moist hammocks, and areas that surround cypress swamps	Moderate
Gopher tortoise *Gopherus polyphemus*	NL	ST		Open areas of pine scrub habitat, sandhills, and scrub and disturbed areas such as abandoned fields, roadsides, and fire lanes	High
Short-tailed snake *Lampropeltis extenuata*	NL	ST		Longleaf pine and xeric oak sandhills, also scrub and xeric hammock habitats	Low
Mammalian					
Florida black bear *Ursus americanus floridanus*	NL	NL*		Can be found almost anywhere in Florida, they prefer a mixture of flatwoods, swamps, scrub oak ridges, bayheads and hammock habitats	High
Tricolored bat *Perimyotis subflavus*	PE	NL		Roosts in caves, tree foliage, tree cavities, and occasionally buildings and other man-made structures	Low
Insect					

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Monarch butterfly *Danaus plexippus*	PT	NL		Habitat depends on the availability of the larval host plant, milkweed (genus Asclepias), which can be found in a variety of habitats	Low

FE: Federally Endangered; FT: Federally Threatened; PE: Proposed Endangered; PT: Proposed Threatened; ST: State Threatened; NL: Not Listed;

*Protected by the Florida Black Bear Conservation Rule (F.A.C. 68A-4.009)

4.2.1 Federal Protected Species

4.2.1.1 Flora

Carter's Warea (*Warea carteri*)

Carter's warea is an annual herb with many slender, branching stems and white flower clusters that is listed as ***endangered*** by the **USFWS**. This species is a member of the mustard (*Brassicaceae*) family and occurs on sandhill, scrubby flatwoods, and inland scrub habitat. The USFWS IPaC data indicates that project study area is within the habitat range of the Carter's warea, however no suitable habitat or individuals were observed within the project study area or within the limits of the Preferred Alternative during field reviews. According to FNAI data, it has not been documented within one mile of the project study area and this species is not known to occur within Hillsborough or Pasco Counties. Based on this information, it has been determined that the project will have "**no effect**" on the Carter's warea.

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 observed within the project study area but not within the limits of the Preferred Alternative. According to FNAI data, Florida golden aster has not been documented historically within one mile of the project study area and no individuals were observed during field reviews. Based on this information, 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 shrub/small 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. USFWS IPaC data indicates that project study area is within the habitat range of the pygmy fringe tree. Potential suitable habitat for this species was observed within the project study area but not within the limits of the Preferred Alternative. Additionally, according to FNAI data, the pygmy fringe tree has not been documented within one mile of the project study area and no individuals were observed during field reviews. Based on this information, it has been determined that the project will have "**no effect**" on the pygmy fringe tree.

Short-leaved Rosemary (*Conradina brevifolia*)

The short-leaved rosemary is a short-lived, erect, woody, perennial shrub that is listed as ***endangered*** by the **USFWS**. This species is a member of the mint (*Lamiaceae*) family and occurs on white sands of sand pine-oak scrub of the Lake Wales Ridge and the scattered overstory of sand pines and scrub oaks. USFWS IPaC data indicates that project study area is within the habitat range of the short-leaved rosemary, however this species is not known to occur within Hillsborough or Pasco Counties and no suitable habitat was present within the limits of the Preferred Alternative. No individuals were observed during field reviews and this species has not

been documented within one mile of the project study area, according to FNAI data. Based on this information, it has been determined that the project will have "**no effect**" on the short-leaved rosemary.

4.2.1.2 Fauna

Reptilian

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. While the eastern indigo snake was not observed during field reviews, there is suitable habitat for this species throughout the undeveloped areas of the project study area and according to FNAI database review, it has been documented within one mile of the project study area.

To minimize potential adverse impacts to the eastern indigo snake, the most recent version of the USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be utilized during construction (see **Appendix E**). Additionally, surveys for gopher tortoise burrows will be conducted during the design phase and burrows located within 25 ft of the project limits will be relocated per the most recent FWC gopher tortoise permitting guidelines . 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 *Eastern Indigo Snake Programmatic Effect Determination Key* (North Florida Ecological Service Office), steps A →B→C→D→MANLAA as shown in **Appendix E**.

Mammalian

Tricolored Bat (*Perimyotis subflavus*)

The tricolored bat is currently a ***proposed endangered*** species for federal listing with the **USFWS**. Although not federally protected, this species has state protections per Chapter 68A of the F.A.C. It is Florida's smallest bat and distinguished by its unique tricolored fur and pink forearms that contrast their black wings. This wide-ranging species is found throughout the central and eastern United States, and portions of Canada, Mexico, and Central America. Typically hibernating in caves and mines during the winter, tricolored bats in the southern U.S. have an increased utilization of culverts as hibernacula, with shorter hibernation durations and increased winter activity. The tricolored bat is mostly associated with forested habitats and requires habitat suitable for roosting, foraging, and commuting between winter and summer habitats. Roosting singly or in small groups, the tricolored bat prefers to roost in caves, tree foliage, tree cavities, Spanish moss, and man-made structures such as buildings and culverts. They form summer colonies in forested habitats, utilizing cavities, bark, and foliage. They forage most commonly over water courses and along forest edges.

Suitable roosting and foraging habitat is present within the project study area. If the listing status of the tricolored bat is elevated by USFWS to threatened or endangered during the design and permitting phase of the proposed project, the commits to initiating technical assistance with USFWS during the design and permitting phase to determine the appropriate survey methodology and regulations regarding the protection of this species.

Insect

Monarch Butterfly (*Danaus plexippus*)

The monarch butterfly is currently a ***proposed threatened*** species for federal listing by the **USFWS**. Candidate species are those species whose status is currently under review to determine whether it warrants listing under the ESA. Candidate species receive no statutory protection under the ESA. USFWS encourages cooperative conservation efforts for these species because they are species that may warrant future protection under the ESA. Monarchs can be found throughout Florida (and the United States) with a preferred habitat that includes wildflowers and specifically milkweeds. Wildflowers were observed occasionally throughout the project study area, though there are no dedicated "do not mow" or "designated wildflower" areas along the project corridor. Based this information, the project is *"not likely to jeopardize"* the monarch butterfly.

Avian

Eastern Black Rail (*Laterallus jamaicensis ssp. 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 (< 6 centimeters). The vegetative structure and depth of water is most important in determining suitable habitat for this species. If there are open patches within the vegetative structure, the eastern black rail is less likely to utilize the habitat as it increases the chance of predation. Additionally, if the water depth is greater than 6 cm these birds have a hard time traversing the area and reduces the reproductive success of the species. Along the south Atlantic, eastern black rail habitat can include the upland areas of salt and brackish marshes. Wetlands surveyed within the limits of the Preferred Alternative during field reviews did not contain suitable vegetative structure or hydrologic conditions for the eastern black rail. Additionally, no individuals were seen or heard during the field reviews, and the eastern black rail has not been documented within one mile of the project study area, according to FNAI data. Based on this information, it is anticipated that the project will have "**no effect**" on the eastern black rail.

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 Florida 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; Suboptimal suitable habitat was observed within the

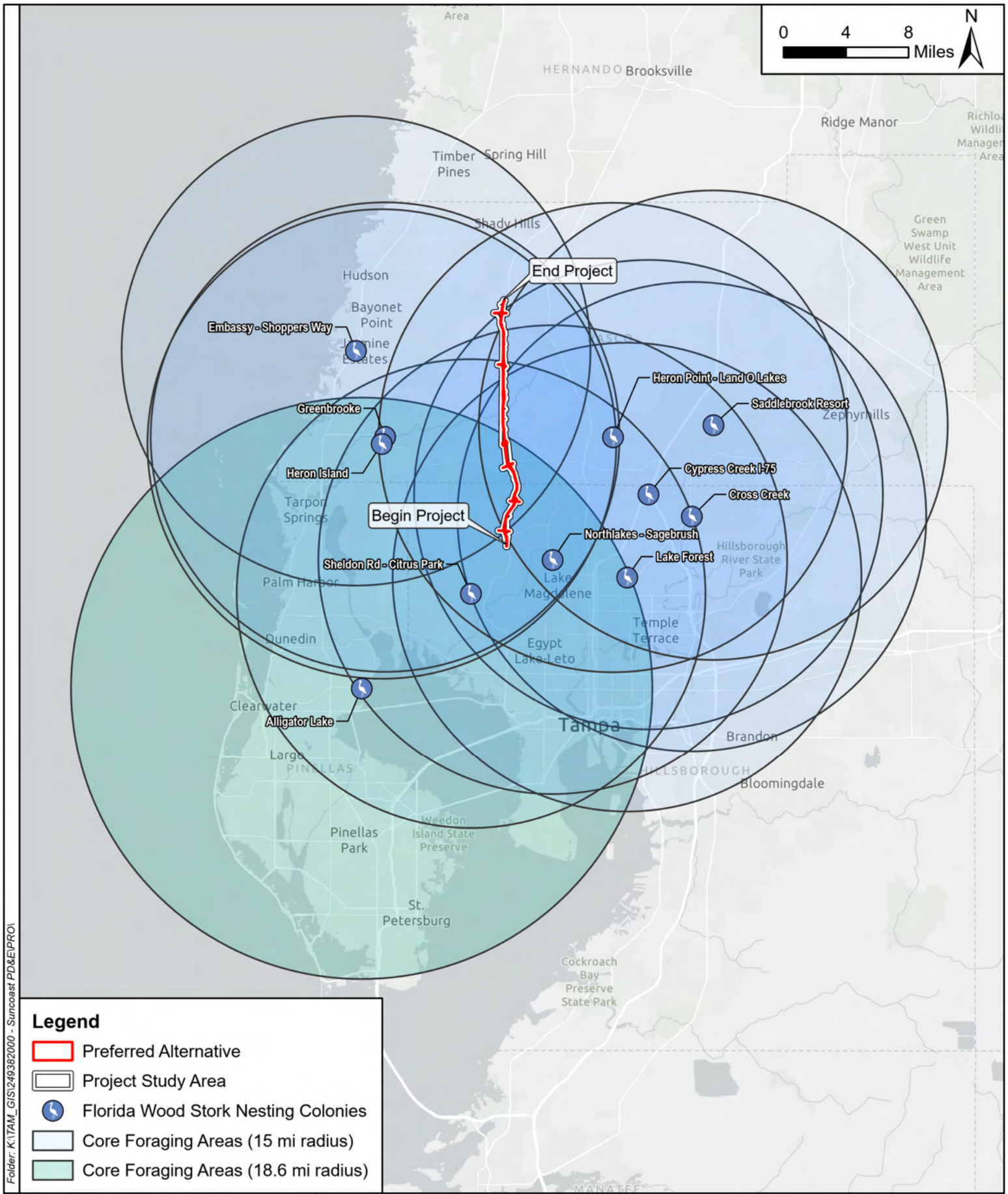
project study area however no suitable habitat is present within the proposed limits of the Preferred Alternative or within the ROW of the Suncoast Parkway. Additionally, no individuals were observed during field reviews and the Florida scrub-jay has not been documented within one mile of the project study area, according to FNAI data. Based on this information, it has been determined that the proposed project "**may affect, not likely to adversely affect**" the Florida scrub-jay.

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. According to FNAI data, the wood stork has been documented within one mile of the project study area. Additionally, suitable foraging habitat for this species was observed within the project study area and individuals were observed foraging near the project study area during field reviews.

According to the USFWS wood stork colony website, the project study area is located within the core foraging areas of 11 active wood stork colonies, each with 15-mile core foraging area buffers: Alligator Lake, Cross Creek, Cypress Creek at I-75, Lake Forest, Northlakes – Sagebrush, Saddlebrook Resort, and Sheldon Rd – Citrus Park (**Figure 4-1** Wood Stork Core Foraging Area Map). 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 F**). Within the proposed 6.75 acres of direct wetland and other surface water impact, there are approximately 4.02 acres of wetlands and approximately 0.60 acres of other surface waters that could be utilized by the wood stork for foraging in the Preferred Alternative. Wood stork foraging biomass productivity is calculated based on hydroperiods of class of affected wetlands. The Preferred Alternative may result in the net loss of 19.30 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 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 USFWS Effect Determination Key for the Wood Stork in North Florida, steps A→B→C→E→MANLAA as shown in **Appendix F**.



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FDOT

Wood Stork Core Foraging Areas Map

Suncoast Parkway (SR 589) PD&E Study
(ETDM Number: 14503; FPID: 448068-1-22-01)
Hillsborough County and Pasco County, Florida

1 IN = 8 MILES	PROJECT NUMBER: 249382000	FEBRUARY 2025	FIGURE 4-1

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. 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, however it has not been documented within one mile of the project study area and no individuals were observed during field reviews. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the celestial lily.

Craighead's Nodding-caps (*Triphora craigheadii*)

The Craighead's nodding-caps is a perennial herb that is listed as ***endangered*** by the **FDACS**. This species is a member of the orchid (*Orchidaceae*) family and is found on the surface of downed trees and in shaded outcrops of mesic hardwood hammocks. No suitable habitat was observed within the project study area and no individuals were observed during field reviews. Additionally, according to FNAI data, this species has not been documented within one mile of the project study area. Based on this information, it has been determined that the project will have "**no effect anticipated**" on the Craighead's nodding-caps.

Cutthroat Grass (*Panicum abscissum*)

Cutthroat grass is a grass that grows approximately two 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 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 adverse 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. Suitable habitat for this species was observed within the project study area however no suitable habitat is present within the limits of the Preferred Alternative. According to FNAI data, the Florida beargrass has the potential to occur within the project study area, but it has not been documented within one mile of the project study area and no individuals were observed during field reviews. 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. Suitable habitat for this species was observed within the project study area however no suitable habitat is present within the limits of the Preferred Alternative. 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 mile of the project study area. Additionally, this species was not observed within the project study area during field reviews. Based on this information, it has been determined that the project will have "**no effect anticipated**" on the Florida spiny-pod.

Florida Willow (*Salix floridana*)

The Florida willow is a tall tree or shrub with gray bark and brittle, reddish-brown twigs that is listed as ***endangered*** by the **FDACS**. This species is a member of the willow (*Salicaceae*) family and occurs in springheads, edges of spring runs, hydric hammocks, and floodplains. Potential suitable habitat for this species was identified within the study area; however, this species was not observed during field reviews and is not known to occur in Hillsborough or Pasco Counties. Additionally, according to FNAI data, this species has not been documented within one mile of the project study area. Based on this information, it has been determined that the project will have "**no effect anticipated**" on the Florida willow.

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 sandhills, scrub, pine flatwoods, and pine rocklands. Potential suitable habitat for this species was 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 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 adverse effect anticipated"** on the giant orchid.

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, and 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 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 adverse effect anticipated**" on the incised groove-bur.

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. Suitable habitat for this species was 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 mile of the project study area. During field reviews, this species was not observed within the project study area. Based on this information, it has been determined that the project will have "**no adverse 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. Suitable habitat for this species was not observed within the project study area. According to FNAI data, the nodding pinweed has not been historically documented within one 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 nodding pinweed.

Piedmont Jointgrass (*Coelorachis tuberculosa*)

Piedmont jointgrass is a perennial grass that is listed as ***threatened*** by the **FDACS**. This species is a member of the grass (*Poaceae*) family and is found mostly in moist to wet areas in bogs and pinewoods. Suitable habitat for this species is available within the study area; however, no individuals were observed during field reviews and it has not been documented within one mile of the study area, according to FNAI data. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the piedmont jointgrass.

Pondspice (*Litsea aestivalis*)

Pondspice is a shrub or small tree growing up to five 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 is available 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 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 adverse effect anticipated**" on the pondspice.

Pygmy Pipes (*Monotropsis reynoldsiae*)

Pygmy pipes is a parasitic perennial herb that is listed as ***endangered*** by the **FDACS**. This species is a member of the heath (Ericacese) family and lacks chlorophyll and is typically found in upland hardwood forests or oak scrubs. Potential suitable habitat for this species was observed within the project study area. According to FNAI data, the pygmy pipes has not been historically documented within one 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 adverse effect anticipated**" on the pygmy pipes.

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. Limited 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 mile of the project study area. Additionally, this species was not observed within the project study area during field reviews. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the sand butterfly pea.

Yellow Fringeless Orchid (*Platanthera integra*)

The yellow fringeless orchis 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 but not within the limits of the Preferred Alternative. 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 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 adverse 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**. 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. Suitable habitat for this species was observed within the project study area. According to FNAI data, individuals have been documented within one mile of the project study area. At the time of the site reviews, no gopher tortoise burrows were observed within or adjacent to the limits of the Preferred Alternative. Surveys for gopher tortoise burrows will be conducted during the design phase and permits to relocate tortoises will be obtained from the FWC if necessary. 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 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 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. 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 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. According to FNAI data, this species has not documented within one mile of the project study area. However, suitable habitat was observed within the project study area, and individuals were observed outside the project study area during field reviews. The Enterprise 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.

Southeastern American Kestrel (*Falco sparverius paulus*)

The southeastern American kestrel is the smallest falcon in United States. It is listed as ***threatened*** by the **FWC**. Kestrels are secondary cavity nesters using abandoned woodpecker cavities and prefer to nest in open pine habitats, woodland edges, prairies, and pastures throughout much of Florida. Nest sites are in tall dead trees or utility poles generally with an unobstructed view of surroundings. Open patches of grass or bare ground are necessary for kestrels to effectively utilize flatwoods settings, since thick palmettos may prevent detection of prey. According to FNAI data, no individuals have been documented within one mile of the project study area. Within the project study area, suitable habitat for the southeastern American kestrel was observed, but cavity trees were not observed during field reviews. Additionally, no individuals or nests were observed during field reviews. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the southeastern American kestrel.

Wading Birds - Little Blue Heron (*Egretta caerulea*) and Tricolored Heron (*Egretta tricolor*)

The little blue heron and tricolored heron 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. Suitable habitat for these species is available within the project study area. According to FNAI data and the FWC Wading Bird Rookery Database, neither of these species or their rookeries have been documented within the project study area.

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 impacts will be undertaken by the Enterprise, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the little blue heron and tricolored heron.

4.2.3 Other Species of Concern

Florida Black Bear (*Ursus americanus floridanus*)

The Florida black bear was removed from the FWC list of state-threatened species in August 2012; however, the Florida black bear remains protected under other rules and regulations, primarily through the Florida Black Bear Conservation Rule 68A-4.009 (F.A.C.) and the FWC Florida Black Bear Management Plan. Based on these regulations, pursuing, hunting, molesting, capturing, killing, or attempting those actions, whether or not such actions result in possession of the bear is unlawful. In addition, Rule 68A-4.009, F.A.C., generally prohibits anyone from possessing, injuring, shooting, wounding, trapping, collecting, or selling bears or their parts or attempting to engage in such actions without prior authorization from FWC. Black Bear Management Units (BMU) have also been established based on the seven geographically distinct bear subpopulations in Florida. The project study area is located within the South Central BMU and Big Bend BMU. According to FWC, black bears occasionally occur in the project study area.

Black bears are adaptable and inhabit a variety of forested habitats including seasonally inundated pine flatwoods, tropical hammocks, hardwood swamps, and xeric sand pine-scrub oak communities. Suitable habitat for this species was observed within the project study area. Based on a review of GIS databases, project limits are located within the common range for the bear and there are several reported bear nuisance reports within one mile of the project study area. However, no black bears or evidence of black bears were observed during field reconnaissance.

Contractors will be required to follow the FDOT Contractor Requirements for Unanticipated Interaction with Protected Species for the black bear as part of the FDOT Standard Specification for Road and Bridge Construction Section 7-1.4. By adhering to these standard specifications, adverse effects to the Florida black bear are not anticipated and the project will have *no anticipated impacts* on this species.

4.2.4 Non-Listed Rare Plants

Non-listed rare native plant species are generally not afforded the type of protection that state or federally protected listed plant or wildlife species are. However, some non-listed rare plants or

species of interest/concern are considered important to native plant organizations or members of the public interested in plant conservation (stakeholders). The FDOT Office of Environment Management (OEM) partnered with the Florida Wildflower Foundation (FWF) and the Florida Native Plant Society (FNPS) to form the Native Florida Plants FDOT Working Group. Through the working group, the FWF and FNPS can engage and review projects early in the process so that their comments regarding potential plants of concern can be considered by FDOT. The working group also includes representatives from FDACS to ensure the procedures under 581.185 Florida Statutes and Chapter 5B-40, F.A.C. are followed.

FDACS recommended surveys for rare and listed plants be conducted, and if present, plants should be protected or translocated to a suitable alternative site by a qualified organization such as the FDOT working group.

No non-listed rare plants were identified by stakeholders in the ETDM Programming Screen Summary Report. Additionally, the Peninsular Florida Genera of Concern List (2021) provided by FNPS was reviewed and the genera identified within the report were not observed during field reviews.

4.2.5 Critical Habitat

The project study area was evaluated for the occurrence of Critical Habitat as defined by the Endangered Species Act of 1973 as amended and 50 CFR part 424. The USFWS and NMFS have the authority 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.

5.0 WETLANDS EVALUATION

Pursuant to Presidential EO 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, which requires all federally-funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, the project study area was evaluated to assess potential wetland impacts that may be associated with the proposed improvements.

An ETDM Preliminary Programming Screen was published on October 31, 2022 containing comments from the ETAT on the project's effects on various natural, physical, and social resources. The USFWS, United States Environmental Protection Agency (USEPA), SWFWMD, Hillsborough TPO, FDEP, NMFS, and USACE were commenting agencies for Wetlands and Surface Waters. The following comments were provided for consideration:

- Starkey Wilderness Preserve, Suncoast Parkway Easement, Suncoast Crossings East Conservation Easement, Suncoast Crossings West Conservation Easement, and Lone Star Ranch Conservation Easement are Florida-managed lands within the 500-foot project buffer. [USEPA]
- Review of aerials and the EST indicates creation of the new roadway will be located in areas owned by the State of Florida, the SWFWMD, and privately owned lands. A heavy concentration of wetlands is located at the western side of the Suncoast Parkway north of SR 54 associated with Starkey Ranch. Wetlands and surface waters in these locations may be under existing conservation easements or under State Law preserving the areas. [SWFWMD]
- Hillsborough TPO Policies protect and conserve wetlands and surface waters (Objective 3.4, Policy 3.5.1, 3.5.2, 3.5.4, 3.5.8, and 4.1.4). Development is regulated in wetlands, 100-year floodplain, and/or habitats for Listed Species as provided under local rules and regulations including mitigation as required. (Policy 3.7.2). Natural plant communities and native trees are protected in proximity to wetlands and surface waters (Policy 5.2.2 and Policy 5.2.4). Please collaborate with Hillsborough County Environmental Protection Commission (EPC) and relevant agencies. [Hillsborough TPO]
- Undisturbed uplands and wetlands within the proposed corridor are suitable habitat for the threatened eastern indigo snake (EIS). The Service has known species occurrence data to support EIS on private lands east of Suncoast Parkway adjacent to the Starkey Wilderness Preserve. [USFWS]

5.1 Wetland and Surface Water Impacts

The limits of wetlands and surface waters were estimated in accordance with the State of Florida unified wetland delineation methodologies as adopted by the 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 EO 11990, Protection of Wetlands, and the PD&E Manual.

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, including natural features as well as roadside ditches. 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.

Potential direct and secondary impacts to wetlands and surface waters were assessed for the Preferred Alternative. A total of 6.15 acres of wetlands and 0.60 acres of other surface waters are present within the footprint of the Preferred Alternative (**Tables 5-1**). Other surface waters include permitted facilities such as stormwater or flood compensation ponds. Impacts to these facilities typically do not require mitigation to offset impacts and are therefore excluded from impact evaluations presented in **Table 5-2**. **Figure 3-3** shows the locations of the proposed wetland and surface water impacts. A description of all wetlands and surface waters identified within the project study area is provided in **Appendix C**.

Table 5-1. Proposed Wetland and Other Surface Water Impacts within the Preferred Alternative

Wetland ID	FLUCFCS: Description	USFWS Classification	Impact Acres
Direct			
Other Surface Water 04a	641: Freshwater Marshes	PEM1A	0.38
Other Surface Water 05	641: Freshwater Marshes	PEM1A	<0.01
Other Surface Water 08b	530: Reservoirs	PUBHx	0.02
Other Surface Water 09	530: Reservoirs	PUBHx	0.11
Other Surface Water 12	530: Reservoirs	PUBHx	0.09
Wetland 02	621: Cypress	PFO2F	0.01
Wetland 03a	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.11
Wetland 03b	641: Freshwater Marshes	PEM1A	0.03
Wetland 03c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.48
Wetland 03d	620: Wetland Coniferous Forests	PFO4F	0.04
Wetland 03e	621: Cypress	PFO2F	0.08
Wetland 07	630: Wetland Forested Mixed	PFO1/4E	0.06
Wetland 08	630: Wetland Forested Mixed	PFO1/4E	0.25
Wetland 09a	641: Freshwater Marshes	PEM1A	0.03
Wetland 09c	630: Wetland Forested Mixed	PFO1/4E	0.06
Wetland 10	621: Cypress	PFO2F	0.14
Wetland 11	621: Cypress	PFO2F	0.02
Wetland 12a	620: Wetland Coniferous Forests	PFO4F	0.93
Wetland 12b	621: Cypress	PFO2F	0.59
Wetland 12c	640: Vegetated Non-Forested Wetlands	PUB2F	0.30
Wetland 13a	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.09
Wetland 13b	641: Freshwater Marshes	PEM1A	0.35
Wetland 13c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.08
Wetland 14b	641: Freshwater Marshes	PEM1A	1.05
Wetland 15b	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.76
Wetland 16b	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.69
		Direct Other Surface Water Impacts	**0.60**
		Direct Wetland Impacts	**6.15**
		Total Direct Impacts	**6.75**
Secondary			
Wetland 02	621: Cypress	PFO2F	0.06
Wetland 03a	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.26
Wetland 03b	641: Freshwater Marshes	PEM1A	0.14
Wetland 03c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	<0.01
Wetland 03d	620: Wetland Coniferous Forests	PFO4F	0.11
Wetland 03e	621: Cypress	PFO2F	0.14
Wetland 04a	630: Wetland Forested Mixed	PFO1/4E	0.08
Wetland 07	630: Wetland Forested Mixed	PFO1/4E	0.22
Wetland 08	630: Wetland Forested Mixed	PFO1/4E	0.61

Wetland ID	FLUCFCS: Description	USFWS Classification	Impact Acres
Wetland 09a	641: Freshwater Marshes	PEM1A	0.16
Wetland 09b	621: Cypress	PFO2F	0.03
Wetland 09c	630: Wetland Forested Mixed	PFO1/4E	0.18
Wetland 10	621: Cypress	PFO2F	0.45
Wetland 11	621: Cypress	PFO2F	0.16
Wetland 12a	620: Wetland Coniferous Forests	PFO4F	1.05
Wetland 12b	621: Cypress	PFO2F	0.46
Wetland 12c	640: Vegetated Non-Forested Wetlands	PUB2F	0.47
Wetland 13a	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.20
Wetland 13b	641: Freshwater Marshes	PEM1A	<0.01
Wetland 13c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.20
Wetland 14a	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.18
Wetland 14b	641: Freshwater Marshes	PEM1A	0.27
Wetland 14c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.48
Wetland 15a	615: Stream And Lake Swamps (Bottomland)	R2UB2F	<0.01
Wetland 15b	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.18
Wetland 15c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.35
Wetland 16a	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.26
Wetland 16b	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.16
Wetland 16c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.32
		Secondary Wetland Impacts	**7.18**
		Total Secondary Impacts	**7.18**
		Total Impact Acres	**13.93**

PEM1A: Palustrine, Emergent, Persistent, Temporarily Flooded)
L1/2UB2H: Lacustrine, Limnetic/Littoral, Unconsolidated Bottom, Sand, Permanently Flooded)
PUBHx: Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated)
PFO1C: Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded)
R2UB2F: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Semipermanently Flooded)
PFO4F: Palustrine, Forested, Needle-Leaved Evergreen, Seasonally Flooded)
PFO2F: Palustrine, Forested, Needle-Leaved Deciduous, Seasonally Flooded)
PFO1/4E: Palustrine, Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Seasonally Flooded/Saturated)
PUB2F: Palustrine, Unconsolidated Bottom, Sand, Semipermanently Flooded)
PEM1J: Palustrine, Emergent, Persistent, Intermittently Flooded)
PEM1H: Palustrine, Emergent, Persistent, Permanently Flooded)
PEM2J: Palustrine, Emergent, Non-Persistent, Intermittently Flooded)

5.2 Secondary Impacts

Secondary effects are those impacts that are reasonably certain to occur later in time as a result of the proposed project, and which 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 or result in a change in wildlife migration patterns by reducing habitat connectivity. Secondary impacts will be further addressed through agency coordination during the project's design and permitting phase. A brief summary of these impacts is provided below.

Secondary impacts of edge effects (within 25 feet of direct wetland impacts) are anticipated to occur as a result of the Preferred Alternative. At locations where natural areas meet development, edge effects such as increased cover of nuisance/exotic vegetation and changes in microclimate generally take place adjacent to areas of direct disturbance. Some wetlands within the Preferred Alternative project footprint already experience edge effects due to neighboring community developments and utility lines that are present within the project study area. Species such as Brazilian pepper (*Schinus terebinthifolia*) and cogongrass (*Imperata cylindrica*) are particularly aggressive and successful colonizers. These species are already prevalent throughout the project study area. The severity of these edge effects will vary based on pre-existing exposure to habitat alteration. It is anticipated that edge effects migrate to the new transitional area between remaining wetlands and new construction and would be greater in previously undisturbed areas.

Direct and secondary wetland impacts will be further assessed during the design phase for this project and will also include identification of mitigation needs to offset any unavoidable wetland impacts, at which time mitigation required will be quantified and pursued.

5.3 Uniform Mitigation Assessment Methodology

The UMAM per Chapter 62-345, F.A.C., is a state and federally approved method used to assess wetlands 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
- Vegetative community.

Secondary impacts will also be assessed using the UMAM at the time of permitting to determine loss within these systems and to estimate the required mitigation to compensate for the wetland impacts.

5.4 Uniform Mitigation Assessment Methodology Results

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 Preferred 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 Preferred Alternative. The completed UMAM data sheets for each habitat type within the Preferred Alternative are provided in **Appendix G**. Functional loss was calculated by habitat type for the Preferred Alternative. Construction of the Preferred Alternative may result in an estimated loss of 4.85 functional units. Of the total estimated functional unit loss, 4.12 functional units would result from direct impacts and 0.73 functional units would result from secondary impacts.

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[1] Functional Loss for Wetlands in the Preferred Alternative

Wetland ID	FLUCFCS: Description	USFWS Classification	UMAM Delta	Impact Acres	Functional Loss
Direct					
Wetland 2	621: Cypress	PFO2F	0.73	0.01	0.01
Wetlands 3a, 13a, and 13c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.77	0.28	0.22
Wetlands 3b, 9a, 13b, and 14b	641: Freshwater Marshes	PEM1A	0.63	1.46	0.92
Wetlands 3c, 15b, and 16b	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.63	1.93	1.22
Wetland 3d	620: Wetland Coniferous Forests	PFO4F	0.67	0.04	0.02
Wetlands 3e, 10, and 12b	621: Cypress	PFO2F	0.77	0.81	0.62
Wetlands 7, 8, and 9c	630: Wetland Forested Mixed	PFO1/4E	0.67	0.37	0.25
Wetlands 11	621: Cypress	PFO2F	0.73	0.02	0.01
Wetland 12a	620: Wetland Coniferous Forests	PFO4F	0.67	0.93	0.62
Wetland 12c	640: Vegetated Non-Forested Wetlands	PUB2F	0.77	0.30	0.23
			Direct Impacts Total	**6.15**	**4.12**
Secondary					
Wetland 2	621: Cypress	PFO2F	0.10	0.06	0.01
Wetlands 3a, 13a, 13c, 14a, 14c, 15a, 15c, 16a, and 16c	615: Stream And Lake Swamps (Bottomland)	R2UB2F	0.13	2.24	0.30
Wetlands 3b, 9a, and 14b	641: Freshwater Marshes	PEM1A	0.07	0.58	0.04
Wetland 3d	620: Wetland Coniferous Forests	PFO4F	0.10	0.11	0.01
Wetlands 3e, 10, and 12b	621: Cypress	PFO2F	0.10	1.05	0.11
Wetlands 4a, 7, 8, and 9c	630: Wetland Forested Mixed	PFO1/4E	0.07	1.08	0.07
Wetlands 9b and 11	621: Cypress	PFO2F	0.13	0.18	0.02
Wetland 12a	620: Wetland Coniferous Forests	PFO4F	0.10	1.05	0.11
Wetland 12c	640: Vegetated Non-Forested Wetlands	PUB2F	0.13	0.47	0.06
			Secondary Impacts Total	**7.18**	**0.73**
			Total Impacts	**13.31**	**4.85**

PEM1A: Palustrine, Emergent, Persistent, Temporarily Flooded
L1/2UB2H: Lacustrine, Limnetic/Littoral, Unconsolidated Bottom, Sand, Permanently Flooded
PUBHx: Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated
PFO1C: Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded
R2UB2F: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Semipermanently Flooded)
PFO4F: Palustrine, Forested, Needle-Leaved Evergreen, Seasonally Flooded
PFO2F: Palustrine, Forested, Needle-Leaved Deciduous, Seasonally Flooded
PFO1/4E: Palustrine, Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Seasonally Flooded/Saturated
PUB2F: Palustrine, Unconsolidated Bottom, Sand, Semipermanently Flooded
PEM1J: Palustrine, Emergent, Persistent, Intermittently Flooded
PEM1H: Palustrine, Emergent, Persistent, Permanently Flooded
PEM2J: Palustrine, Emergent, Non-Persistent, Intermittently Flooded

5.5 Avoidance and Minimization

Wetlands and surface waters were considered in the alternatives analysis selection of the Preferred Alternative. A detailed alternatives analysis is included in the Preliminary Engineering Report under a separate cover.

The Enterprise 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. Measures have been taken to minimize harm to wetlands including minimizing water quality impacts from stormwater discharges from roadway surfaces through the use of stormwater management systems. The proposed project will have no significant short-term or long-term adverse impacts to wetlands and there is no practicable alternative to construction in wetlands. Any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function. Impacts to wetlands are unavoidable for the Preferred Alternative due to their location within the study area.

5.6 Mitigation

Compensatory mitigation for this project will be completed through the use of mitigation banks and any other regionally significant mitigation options that satisfy state and federal requirements. 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. 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.

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 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.

The project study area is currently located within the Tampa Bay Drainage Basin and the Upper Coastal Drainage Basin and within the service area of the Big Bullfrog Creek, Crystal River, Nature Coast, Old Florida, Tampa Bay, and Upper Coastal mitigation banks. Currently there are no impacts to wetlands under conservation easement; if this changes in the design and permit phase of the project, coordination with the various regulatory agencies including the holder of the conservation easements will be completed. Additionally, the Enterprise owns environmentally sensitive ROW between existing Conservation Lands and the limits of the Preferred Alternative (including adjacent to the Starkey Wilderness Preserve) that may be considered viable preservation additions to those lands. All suitable mitigation options will be fully vetted with the appropriate regulatory agencies during the final design and permitting phase of this project.

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

6.0 ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 et seq. Public Law 104-208) reflects the Secretary of Commerce and Fishery Management Council's authority and responsibilities for the protection of essential fishery habitat. The Act specifies that each federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any EFH identified under this Act.

The EFH evaluation was conducted in accordance with the FDOT PD&E Manual as well as the Magnusson-Stevens Fishery Conservation and Management Act. Based on the evaluation of the habitat within and adjacent to the project area, neither the aquatic habitat nor emergent wetlands meet the definition of EFH. In addition, NMFS EFH mapper was used to locate areas classified as EFH within the project area, though none were identified. With the habitats of the project area not meeting the criteria for classification as EFH and lack of existing EFH classification, there is no involvement with this resource.

7.0 PERMITTING REQUIREMENTS AND COORDINATION

The SWFWMD and USACE regulate impacts to wetlands within the project study area. Other agencies, including the USFWS, NMFS, EPA, FWC, and Hillsborough County Environmental Protection Commission (HCEPC) review and comment on wetland permit applications. The FWC also issues permits for gopher tortoise relocation activities and incidental takes for state protected avian species. 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 size of the project and/or the extent of wetland impacts. It is anticipated that the following permits will be required during the design and permitting phase for this project:

Permit	**Issuing Agency**
Environmental Resource Permit (ERP)	SWFWMD
Section 404 Dredge and Fill Permit	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 study area is located within the boundaries of the SWFWMD. SWFWMD requires an ERP when 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. Under current state rules, the SWFWMD will likely require an individual permit for this project.

USACE 404 Dredge and Fill Permit

The authority to grant permission for temporary or permanent alterations to Waters of the United States (WOTUS) is contained in Section 404 of the Clean Water Act. 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 phase of the proposed project.

FDEP NPDES Permit

40 CFR Part 122 prohibits point source discharges of stormwater to WOTUS 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 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. The construction contractor will be responsible for obtaining the NPDES permit.

FWC Gopher Tortoise Relocation Permit (as necessary)

At the time of the site reviews, no gopher tortoise burrows were observed within or adjacent to the Preferred Alternative. However, if gopher tortoises or burrows are found within the project limits, the Enterprise 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.

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. The FWC will require a 100 percent gopher tortoise survey to be conducted within 90 days of the relocation work.

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 actions, 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 if needed.

USFWS Incidental Take Permit (as necessary)

Based on field reviews, suitable foraging or nesting habitat exists within the project study area for the species listed in **Section 4.2.1**. A permit for removal of federally protected species must be secured from the USFWS before initiating incidental take. If formal consultation is required, the Enterprise would prepare a Biological Assessment (BA) to submit to the USFWS. 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 will then prepare a Biological Opinion (BO) in which the terms and conditions of mitigation and/or implementation measures will be finalized. Further technical assistance will be reinitiated during the design phase of the project, if needed.

8.0 CONCLUSIONS

8.1 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 the PD&E Manual. **Tables 8-1** and **8-2** 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 8-1. Federal Protected Species Impact Determinations

Project Impact Determination	Federal Listed Species	
	Species	***Status****
No effect	***Flora***	
	Carter's warea (*Warea carteri*)	FE
	Florida golden aster (*Chrysopsis floridana*)	FE
	Pygmy fringe tree (*Chionanthus pygmaeus*)	FE
	Short-leaved rosemary (*Conradina brevifolia*)	FE
	Fauna	
	Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	FT
May affect, not likely to adversely affect	***Fauna***	
	Eastern indigo snake (*Drymarchon couperi*)	FT
	Florida scrub-jay (*Aphelocoma coerulescens*)	FT
	Wood stork (*Mycteria americana*)	FT

*FE – Federally endangered; FT – Federally threatened

Table 8-2. State Protected Species Impact Determinations

Project Impact Determination	State Listed Species	
	Species	***Status****
No effect anticipated	***Flora***	
	Craighead's nodding-caps (*Triphora craigheadii*)	SE
	Florida beargrass (*Nolina atopocarpa*)	ST
	Florida spiny-pod (*Matelea floridana*)	SE
	Florida willow (*Salix floridana*)	SE
	Nodding pinweed (*Lechea cernua*)	ST
No adverse effect anticipated	***Flora***	
	Celestial lily (*Nemastylis floridana*)	SE
	Cutthroat grass (*Panicum abscissum*)	SE
	Giant orchid (*Pteroglossaspis ecristata*)	ST
	Incised groove-bur (*Agrimonia incisa*)	ST

Project Impact Determination	State Listed Species	
	Species	***Status****
	Many-flowered grass-pink (*Calopogon multiflorus*)	ST
	Piedmont jointgrass (*Coelorachis tuberculosa*)	ST
	Pondspice (*Litsea aestivalis*)	SE
	Pygmy pipes (*Monotropsis reynoldsiae*)	SE
	Sand butterfly pea (*Centrosema arenicola*)	SE
	Yellow fringeless orchid (*Platanthera integra*)	SE
	Fauna	
	Florida burrowing owl (*Athene cunicularia floridana*)	ST
	Florida sandhill crane (*Antigone canadensis pratensis*)	ST
	Gopher tortoise (*Gopherus polyphemus*)	ST
	Little blue heron (*Egretta caerulea*)	ST
	Short-tailed snake (*Lampropeltis extenuata*)	ST
	Southeastern American kestrel (*Falco sparverius paulus*)	ST
	Tricolored heron (*Egretta tricolor*)	ST

*SE – State endangered; ST – State threatened

8.2 Wetland Evaluation

The proposed project alternatives were evaluated for impacts to wetlands in accordance with EO 11990 and the PD&E Manual. The proposed project will not have significant short-term and long-term adverse impacts to wetlands. In accordance with EO 11990, the Enterprise 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, the Enterprise 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.

A UMAM analysis (**Appendix G**) was performed to determine an estimate to the functional loss due to wetland impacts from the Preferred Alternative. Construction of the Preferred Alternative may result in an estimated loss of 4.85 functional units. Of the total estimated functional unit loss, 4.12 functional units would result from direct impacts and 0.73 functional units would result from secondary impacts (**Table 5-2**).

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.

8.3 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, the Enterprise will adhere to the following:

- Surveys for gopher tortoise burrows, as well as commensal species, will be conducted during the design phase and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC.
- Surveys for the southeastern American kestrel will be conducted during the nesting season (May through August) in the design phase. If it is determined nest areas are found and could be impacted by the project, the Enterprise will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.
- Surveys for Florida sandhill crane nest sites will be conducted during the design phase. If it is determined nest areas are found and could be impacted by the project, the Enterprise will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.
- A survey for listed plant species will be performed during the design phase and coordination with FDACS will occur if impacts to these species are anticipated.
- Contractors will be required to follow the FDOT Contractor Requirements for Unanticipated Interaction with Protected Species for the black bear as part of the FDOT Standard Specification for Road and Bridge Construction Section 7-1.4.

8.4 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, the Enterprise will make the following commitments:

- If the listing status of the tricolored bat or monarch butterfly is elevated by USFWS to Threatened or Endangered, the Enterprise commits to initiating technical assistance with USFWS during the design and permitting phase to determine the appropriate survey methodology and regulations regarding the protection of this 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.

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APPENDIX A
NRCS Soil Descriptions

Hillsborough County

5 – Basinger, Holopaw, and Samsula Soils, depressional

Basinger, Holopaw, and Samsula soils are very poorly drained soils and can be found in depressions on marine terraces. They formed in herbaceous organic material over sandy or loamy marine deposits and the water table is typically at the surface. It's slopes range from 0 to 2 percent and sits nearly level to concave. Permeability is negligible and the available water capacity is moderately high to very high. The *Hydric Soils of Florida Handbook* (Hurt, 2007) classifies Basinger fine sand as hydric.

27 – Malabar Fine Sand, 0 to 2 percent slopes

Malabar fine sands are poorly drained soils and can be found in drainageways and flats on marine terraces. They formed in sandy or loamy marine deposits and the water table sits at a depth of about 3 to 18 inches. It's slopes range from 0 to 2 percent and sits nearly level to concave. Permeability is very high throughout and the available water capacity is high. The *Hydric Soils of Florida Handbook* classifies Malabar fine sand as hydric.

29 – Myakka Fine Sand, 0 to 2 percent slopes

Myakka fine sands are poorly drained soils and can be found in drainageways of flatwoods on marine terraces. They formed in sandy marine deposits and the water table sits at a depth of about 6 to 18 inches. It's slopes range from 0 to 2 percent and sits nearly level to concave. Permeability is very high and the available water capacity is moderately high to very high. Myakka fine sands are not classified as hydric by the *Hydric Soils of Florida Handbook*.

41 – Pomello Fine Sand, 0 to 5 percent slopes

Pomello fine sands are moderately drained soils and can be found primarily in ridges and knolls on marine terraces. They formed in sandy marine deposits, with slopes ranging from 0 to 5 percent and a convex down-slope shape with a linear across-slope shape. The water table is typically found between 24 and 42 inches below the surface. The soil has negligible permeability throughout with moderately high to high available water capacity. Pomello fine sands are not classified as hydric by the *Hydric Soils of Florida Handbook*.

46 – St. Johns Fine Sand

St. Johns fine sand are poorly drained soils and can be found primarily in flats on marine terraces. They derived from sandy marine deposits, with slopes that range from 0 to 2 percent and sits nearly level. The water table is typically near the surface, approximately 0 to 12 inches, but with no risk of flooding. The soil has very high permeability and moderately high to high available water capacity. The *Hydric Soils of Florida Handbook* classifies St. Johns fine sand as hydric.

52 – Smyrna Fine Sand, 0 to 2 percent slopes

Smyrna fine sands are poorly drained soils and are commonly found in flatwoods on marine terraces. They formed from sandy marine deposits, and its slopes range from 0 to 2 percent and sits nearly level. The water table is typically found between 6 and 18 inches below the surface with no risk of flooding. The soil very highly permeable throughout with moderately high to high

available water capacity. Smyrna fine sands are not classified as hydric by the *Hydric Soils of Florida Handbook*.

Pasco County

2 – Pomona Fine Sand

Pomona fine sand is a soil series found in flatwoods on marine terraces. It is classified into hydric and non-hydric soils, and both can be found within the project study area. It is primarily derived from sandy and loamy marine deposits, with slopes ranging from 0 to 2 percent and typically sits nearly level to slightly convex. The water table for non-hydric Pomona is typically found between 6t to 18 inches, whereas hydric Pomona soils have a water table between 0 and 6 inches. Pomona soils have high permeability and moderately high available water capacity; these are not generally classified as hydric, but may contain hydric inclusions, particularly in the hydric variant. According to the *Hydric Soils of Florida Handbook*, approximately 15 percent of the Pomona fine sand composition are classified as hydric soils within the project study area.

3 – Pineda Fine Sand

Pineda fine sands are poorly drained soils located on flats of marine terraces, primarily within isolated marshes and swamp areas. These soils form in sandy and loamy marine deposits and have slopes that range from 0 to 2 percent and are typically linear in shape. The water table is typically located at or near the surface, approximately 0 to 6 inches occasional frequency of ponding. Permeability is high and available water capacity ranges from very low to moderately high, depending on the composition of the horizon. The *Hydric Soils of Florida Handbook* classifies Pineda fine sand as hydric.

4 – Felda Fine Sand, 0 to 2 percent slopes

Felda fine sands are poorly drained soils typically found in flatwoods and drainage ways on marine terraces, formed from sandy and loamy marine deposits. Its slopes range from 0 to 2 percent, with a linear down-slope and typically sits nearly level to convex across-slope shape. The water table is usually within 3 to 18 inches from the surface and subject to minimal flooding or ponding. Permeability is very high and the available water capacity ranges from moderately high to high. The *Hydric Soils of Florida Handbook* classifies Felda fine sand as hydric.

5 – Myakka-Myakka, Wet, Fine Sands, 0 to 2 percent slopes

Myakka fine sand is a soil series found in flatwoods on marine terraces. It is classified into hydric and non-hydric soils, and both have been identified within the project study area. It is primarily derived from sandy marine deposits, with slopes ranging from 0 to 2 percent and typically sits nearly level to slightly convex. The water table typically sits between approximately 3 to 18 inches with minimal flooding or ponding. Permeability is high and the available water capacity ranges from moderately high to high. According to the *Hydric Soils of Florida Handbook*, hydric soils comprise approximately 15 percent of the Myakka fine sand composition and approximately 10 percent of the minor component within the project study area.

6 – Tavares Sand, 0 to 5 percent slopes

Tavares sands are moderately well-drained soils and can be found on knolls, ridges, and flats on marine terraces. The soils formed in eolian or sandy marine deposits. It's slopes range from 0 to 5 percent and typically have a convex down-slope with a linear across-slope shape. The water table is typically quite deep, ranging from approximately 42 to 72 inches, with no frequent flooding or ponding. Permeability is negligible with high to very high available water capacity. Tavares sands are not classified as hydric by the *Hydric Soils of Florida Handbook*.

8 – Sellers Mucky Loamy Fine Sand

Sellers mucky loamy fine sands are very poorly drained soils and can commonly be found in depressions and drainage ways on marine terraces. It has slopes ranging from 0 to 2 percent and features a concave shape both down-slope and across-slope. The water table is typically at the surface, with ponding frequent and flooding rare. Permeability is negligible throughout and the available water capacity ranges from high to very high. The *Hydric Soils of Florida Handbook* classifies Sellers mucky loamy fine sands as hydric.

10 – Wabasso-Wabasso, Wet, Fine Sand, 0 to 2 percent slopes

Wabasso fine sand is a soil series typically found in flatwoods on marine terraces. It is classified into hydric and non-hydric soils, and both have been identified within the project study area. They are formed in sandy and loamy marine deposits and its slopes range from 0 to 2 percent with linear across-slope and down-slope shapes. The water table typically sits between approximately 3 to 18 inches with minimal flooding or ponding. Permeability is very high and the available water capacity ranges from moderately high to high for both hydric and non-hydric variants. According to the *Hydric Soils of Florida Handbook*, approximately 15 percent of the Wabasso fine sand composition and approximately 7 percent of the minor component is considered hydric soils within the project study area.

11 – Adamsville Fine Sand, 0 to 2 percent slopes

Adamsville fine sands are somewhat poorly drained soils and are found in flats and rises on marine terraces. They are formed in sandy marine deposits and it's slopes range from 0 to 2 percent with linear across-slope and convex down-slope shapes. The water table typically ranges from 18 to 42 inches below the surface with no frequent flooding or ponding. Permeability is very low throughout, with the available water capacity ranging from high to very high. Adamsville fine sands are not classified as hydric by the *Hydric Soils of Florida Handbook*.

16 – Zephyr Muck

Zephyr muck is very poorly drained soil and can be found in depressions on marine terraces. It formed in organic material over sandy and loamy marine deposits. It's slopes range from 0 to 2 percent and it features concave down-slope and across-slope shapes. The water table is typically at the surface, resulting in frequent ponding but no flooding. The soils exhibits negligible permeability, with the available water capacity ranging from moderately low to moderately high. The *Hydric Soils of Florida Handbook* classifies Zephyr muck as hydric.

17 – Immokalee Fine Sand

Immokalee fine sand is a soil series typically found in flats and flatwoods on marine terraces and formed in sandy marine deposits. It is classified into hydric and non-hydric soils, and both have been identified within the project study area. Both hydric and non-hydric variants are classified as poorly drained soils with slopes ranging from 0 to 2 percent and the water table typically sits at a depth of 0 to 18 inches. The hydric variant has the water table closer to the surface, approximately 0 to 6 inches, whereas the non-hydric variant has the water table at approximately 6 to 18 inches. Permeability is high throughout and the available water capacity ranges from moderately high to high depending on the composition of the horizon. According to the *Hydric Soils of Florida Handbook*, approximately 15 percent of the Immokalee fine sand composition is considered hydric soils within the project study area.

21 – Smyrna Fine Sand

Smyrna fine sand is a poorly drained soil series typically found in flats on marine terraces and formed in sandy marine deposits. It is classified into hydric and non-hydric soils, and both have been identified within the project study area. It's slopes range from 0 to 2 percent and both variants feature convex down-slope and linear across-slope shapes. The water table typically sits at a depth of 0 to 18 inches with no frequent flooding or ponding; the hydric variant has the water table closer to the surface, approximately 0 to 6 inches, whereas the non-hydric variant has the water table at approximately 6 to 18 inches. Permeability is high throughout and the available water capacity ranges from moderately high to high for both variants. According to the *Hydric Soils of Florida Handbook*, approximately 15 percent of the Smyrna fine sand composition is considered hydric soils within the project study area.

22 – Basinger Fine Sand, 0 to 2 percent slopes

Basinger fine sands are poorly drained soils and can commonly be found in drainageways and flats on marine terraces. They are formed in sandy marine deposits and it's slopes range from 0 to 2 percent with linear to concave across-slope and linear to convex down-slope shapes. The water table typically sits at the surface, approximately 0 to 12 inches, with no flooding but frequent ponding at the surface. Permeability is negligible throughout and the available water capacity ranges from high to very high depending on the composition of the horizon. The *Hydric Soils of Florida Handbook* classifies Basinger fine sands as hydric.

23 – Basinger Fine Sand, depressional, 0 to 1 percent slopes

Basinger fine sands, depressional, are very poorly drained soils and can be found in depressions on marine terraces. They are formed in sandy marine deposits and it's slopes range from 0 to 1 percent with linear to concave across-slope and down-slope shapes. The water table typically sits at the surface, approximately 0 to 12 inches, with no flooding but frequent ponding at the surface. Permeability is negligible and throughout the available water capacity ranges from high to very high depending on the composition of the horizon. The *Hydric Soils of Florida Handbook* classifies Basinger fine sands as hydric.

26 – Narcoossee Fine Sand, 0 to 2 percent slopes

Narcoossee fine sand is a moderately well-drained soil located on ridges, rises, and knolls of marine terraces. Formed from sandy marine deposits, it has slopes ranging from 0 to 2 percent with a convex shape down-slope and linear across-slope. The water table lies between 24 to 42 inches below the surface, with no frequent flooding or ponding. Permeability is low, but the available water capacity is very high throughout. This soil is not classified as hydric according to the *Hydric Soils of Florida Handbook*.

35 – EauGallie Fine Sand

EauGallie fine sand is a poorly drained soil found on rises and flats of marine terraces that formed from sandy and loamy marine deposits. It is classified into hydric and non-hydric variants, and both have been identified within the project study area. It's slopes range from 0 to 2 percent with a convex to linear down-slope shape and linear across-slope shape. The water table sits between 0 to 18 inches, with the hydric variant ranging closer to the surface between 0 to 6 inches. Permeability is high throughout and the available water capacity ranges from moderately high to high. According to the *Hydric Soils of Florida Handbook*, approximately 15 percent of the EauGallie fine sand composition is considered hydric soils within the project study area.

39 – Chobee Soils, frequently flooded

Chobee soils are very poorly drained soils located in depressions on flood plains of marine terraces. They have slopes ranging from 0 to 2 percent with both concave down-slope and across-slope shapes. The water table sits between 0 to 6 inches if the surface, with frequent flooding but no frequent ponding. Permeability is very high, and the available water capacity ranges from very low to moderately high. The *Hydric Soils of Florida Handbook* classifies Chobee soils as hydric.

40 – Paisley Fine Sand, 0 to 1 percent slopes

Paisley fine sand is a poorly drained soil found on flats of marine terraces, which formed from sandy and loamy marine deposits. It is classified into hydric and non-hydric variants, and both have been identified within the project study area. It has nearly level slopes with linear shapes both down-slope and across-slope. The water table ranges from 0 to 12 inches, with the hydric variant sitting closer to the surface between 0 to 6 inches. Permeability is very high throughout and the available water capacity ranges from moderately low to moderately high. According to the *Hydric Soils of Florida Handbook*, approximately 25 percent of the EauGallie fine sand composition is considered hydric soils within the project study area.

42 – Pomello Fine Sand, 0 to 5 percent slopes

Pomello fine sand is a moderately well-drained soil found on knolls and ridges of marine terraces. They are formed from sandy marine deposits and it's slopes range from 0 to 5 percent with a convex down-slope shape and linear across-slope shape. The water table lies between 24 to 42 inches below the surface, with no frequent flooding or ponding. Permeability is low throughout, but the available water capacity is moderately high to high. Pomello fine sands are not classified as hydric by the *Hydric Soils of Florida Handbook*.

46 – Cassia Fine Sand, 0 to 5 percent slopes

Cassia fine sand is a somewhat poorly drained soil located on rises of marine terraces and formed from sandy marine deposits. It features slopes ranging from 0 to 5 percent with a convex down-slope shape and linear across-slope shape. The water table sits between 18 to 42 inches below the surface, and there is no frequent flooding or ponding. Permeability is very low and the available water capacity ranges from moderately high to high. Cassia fine sand is not classified as hydric according to the *Hydric Soils of Florida Handbook*.

52 – Samsula Muck, frequently ponded, 0 to 1 percent slopes

Samsula muck is a very poorly drained soil found in depressions on marine terraces. They formed in herbaceous organic material over sandy marine deposits and it's slopes range between 0 to 1 percent with concave down-slope and across-slope shapes. The water table typically is at the surface, causing frequent ponding. Permeability is negligible, but the available water capacity is high to very high. The *Hydric Soils of Florida Handbook* classifies Samsula muck as hydric.

57 – Wabasso Variant Fine Sand

Wabasso Variant fine sand is a poorly drained soil found in flatwoods and flats on marine terraces, overlying limestone bedrock. It is classified into hydric and non-hydric variants, and both have been identified within the project study area. It has slopes ranging from 0 to 2 percent and has nearly linear to convex down-slope shapes and linear across-slope shapes. The water table varies between 0 to 18 inches, with the hydric variant water table sitting closer to the surface between 0 to 6 inches. Permeability is high throughout and the available water capacity ranges from very low to moderately high. According to the *Hydric Soils of Florida Handbook*, approximately 20 percent of the Wabasso Variant fine sand composition is considered hydric soils within the project study area.

60 – Palmetto-Zephyr-Sellers Complex

The Palmetto-Zephyr-Sellers complex consists of very poorly drained soils found in depressions, drainageways, and flats on marine terraces. These soils formed in organic material over sandy or loamy marine deposits. They have slopes ranging from 0 to 2 percent with linear to concave down-slope shapes and concave across-slope. The water table typically is at the surface, resulting in frequent ponding. Permeability is typically very high but varies among the soils depending on the composition of the horizon, and with varying available water capacities. All three soils are classified as hydric according to the *Hydric Soils of Florida Handbook*.

APPENDIX B
Land Use Descriptions

Upland Habitats

FLUCFCS: 110 (Residential Low Density, Less Than Two Dwelling Units Per Acre)
This land use is classified as residential low density as it contains less than two dwelling units per acre. Several areas of this land use are located throughout the project study area. Residential low density land use comprises 78.74 acres (2.12 percent) of the project study area.

FLUCFCS: 120 (Residential Medium Density, Two to Five Dwelling Units Per Acre)
This land use is classified as residential medium density as it contains two to five dwelling units per acre. This land use can be found throughout the project study area, but is primarily concentrated at the northern and southern extents of the project limits. Residential medium density land use comprises 89.15 acres (2.39 percent) of the project study area.

FLUCFCS: 130 (Residential High Density)
This land use is classified as residential high density as it contains greater than five dwelling units per acre. Several areas of this land use are located throughout the project study area. Residential high density land use comprises 157.73 acres (4.24 percent) of the project study area.

FLUCFCS: 140 (Commercial and Services)
This commercial and services land use consists of land associated with the distribution of products and services, including secondary structures such as sheds, warehouses, office buildings, driveways, parking lot, and landscaped areas. This land use can primarily be found clustered near the interchanges of SR 52 and SR 54. Commercial and services land use comprises 78.65 acres (2.11 percent) of the project study area.

FLUCFCS: 150 (Industrial)
This land use consists of lands where manufacturing, assembly, or processing of materials and products are accomplished and includes facilities for administration and research, assembly, storage, warehousing, and shipping. This land use can be found throughout the project study area. Commercial and services comprises 11.36 acres (0.31 percent) of the project study area.

FLUCFCS: 170 (Institutional)
This land use consists medical, educational, or religious facilities. These facilities can primarily be found clustered near the interchanges of SR 52, SR 54, and Lutz Lake Fern Rd. Vegetation within these areas is dominated by bahiagrass (*Paspalum notatum*) with scattered or landscaped species such as red cedar (*Juniperus virginiana*), live oak (*Quercus virginiana*), and cabbage palm (*Sabal palmetto*). These institutional areas comprise 48.78 acres (1.31 percent) of the project study area.

FLUCFCS: 180 (Recreational)
This land use typically consists of large recreational areas within residential community developments. Vegetation within this area is dominated by mowed bahiagrass with scattered live oak, cabbage palm, and slash pine. Recreational land use comprises 0.87 acres (0.02 percent) of the project study area.

FLUCFCS: 182 (Golf Courses)
Golf courses fall under the Recreational classification and are comprised of areas designated for golf and country clubs and excludes residential properties located in the area. Though several examples are present near the Suncoast Parkway corridor, this classification primarily represents the TPC Tampa Bay Golf Course and Country Club, located on the southern side of the Lutz Lake Fern Rd interchange. This classification comprises 38.58 acres (1.03 percent) of the project study area.

FLUCFCS: 190 (Open Land)
This land use comprises undeveloped land which does not exhibit any structures or any indication of intended use. Open land is located along rights-of-way and around large reservoirs located throughout the project study area. This land use is dominated by bahiagrass with scattered Brazilian pepper, live oak, and cabbage palm primarily concentrated along the edges of these areas. Open land comprises 108.38 acres (2.91 percent) of the project study area.

FLUCFCS: 210 (Cropland and Pastureland)
Cropland and pastureland fall under the agriculture classification and is composed of land which has been cleared, tilled, reseeded with specific grasses, or regularly improved with brush control and fertilizer. This land use is scattered throughout the project study area, but is primarily concentrated near the Ridge Road interchange. Dominant vegetation within these areas includes bahiagrass, broomsedge (*Andropogon virginicus*), and dogfennel (*Eupatorium capillifolium*). Cropland and pastureland comprise 171.75 acres (4.61 percent) of the project study area.

FLUCFCS: 260 (Other Open Lands)
This land use comprises undeveloped land which does not exhibit any structures and includes those agricultural whose intended usage cannot be determined. This land use can primarily be found on the eastern side of the project study area between the interchanges of SR 52 and SR 54. Vegetation within these areas varies throughout the Suncoast Parkway corridor. Other open lands comprise 155.33 acres (4.17 percent) of the project study area.

FLUCFCS: 320 (Shrub and Brushland)
This rural open lands classification includes herbaceous or shrubby vegetated areas in rural settings. This classification represents several transitional areas that are primarily located bordering pine flatwoods along the western side of the project study area between the interchanges of SR 52 and SR 54. Dominant vegetation within these areas most commonly includes broomsedge, dogfennel, saw palmetto (*Serenoa repens*), lantana (*Lantana strigocamara*), and fetterbush (*Lyonia ferruginea*). Shrub and brushlands comprise 53.25 acres (1.43 percent) of the project study area.

FLUCFCS: 410 (Upland Coniferous Forest)
This forested classification primarily represents several large, landscaped areas typically found along the edge of more rural segments of the Suncoast Parkway ROW. Vegetation within these areas is most commonly dominated by slash pine, with other ornamentals such as red ceder, live oak, cabbage palm, and Brazilian pepper also commonly present. Upland coniferous forests comprise 58.40 acres (1.57 percent) of the project study area.

FLUCFCS: 411 (Pine Flatwoods)

The pine flatwoods class is dominated by either slash pine (*Pinus elliottii*) or longleaf pine (*Pinus palustris*) or both within the project study area. This classification is primarily concentrated within the J B Starkey Wilderness Preserve. The understory species varies throughout the area, but commonly includes saw palmetto, shrubby oaks (*Quercus* spp.), wax myrtle (*Myrica cerifera*), gallberry (*Ilex glabra*), fetterbush, and a variety of herbs and brush. Pine flatwoods comprise 230.19 acres (6.18 percent) of the project study area.

FLUCFCS: 412 (Longleaf Pine - Xeric Oak)

This forested classification is dominated by pine trees and can be distinguished from Pine Flatwoods by the presence of a prominent midstory canopy typically comprised of live oaks and other scrub oaks. This classification represents areas that are positioned between the pine flatwoods or other open lands classifications and residential or commercial land uses. Longleaf pine – xeric oak comprise 73.02 acres (1.96 percent) of the project study area.

FLUCFCS: 434 (Upland Hardwood - Coniferous Mixed)

The hardwood-conifer mixed land use includes forested uplands in which neither upland conifers nor hardwoods achieve crown canopy dominance. Dominant vegetation within these communities consists of slash pine, live oak, and cabbage palm. Hardwood - conifer mixed communities are scattered throughout the project study. Hardwood-coniferous mixed communities comprise 84.41 acres (2.27 percent) of the project study area.

FLUCFCS: 440 (Tree Plantation)

Within the project study area, this classification can primarily be found near the proposed Range Road interchange to the east of the J B Starkey Wilderness Preserve. Vegetation within these areas is dominated by monocultures of slash pine with an interspersed understory of primarily pine saplings, gallberry, wax myrtle, and saw palmetto. Tree plantations comprise 137.66 acres (22.38 percent) of the project study area.

FLUCFCS: 810 (Transportation)

Transportation land uses are facilities used for the movement of people and goods and encompass all areas used for intersections and ROW, including pavement, medians, and buffers, as well as hiking or biking trails such as the Suncoast Trail. Located throughout the project study area, this land use includes the existing Suncoast Parkway and the associated roadways and trails. Transportation comprises 833.11 acres (22.38 percent) of the project study area.

FLUCFCS: 830 (Utilities)

Utilities include power generating facilities and water treatment plants including their related facilities such as transmission lines for electric generation plants. This classification is located at the far southern end of the project study area and consists of a powerline easement that runs under Suncoast Parkway. The utilities classification comprises 0.58 acres (0.02 percent) of the project study area.

APPENDIX C
Wetland and Surface Water Descriptions

Wetland and Surface Water Habitats

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, including natural features as well as roadside ditches. Wetland IDs were only assigned wetland categories that are present within the footprint of the Preferred Alternative some wetland categories are only found outside of the Preferred Alternative but are present within the project study area.

FLUCFCS: 514 (Ditches)
USFWS: PEM1A (Palustrine, Emergent, Persistent, Temporarily Flooded)
Ditches include constructed creeks, canals, and other linear water bodies, typically excavated along roadsides in upland habitat. These waterways are located within the project study area. Vegetation observed within the littoral edge of the waterways included cattail (*Typha* sp.), softrush (*Juncus effusus*), and Peruvian primrose willow (*Ludwigia peruviana*). Ditches comprise 0.03 acres (<0.01 percent) of the project study area.

FLUCFCS: 520 (Lakes)
USFWS: L1/2UB2H (Lacustrine, Limnetic/Littoral, Unconsolidated Bottom, Sand, Permanently Flooded)
The lakes category includes extensive inland water bodies, excluding reservoirs. Both unnamed and named lakes are scattered throughout the periphery of project study area, including portions of Turkey Ford Lake and Lake Helen. Vegetation observed within the littoral edge of the lakes included cattail, Brazilian pepper, cabbage palm, laurel oak (*Quercus laurifolia*), Peruvian primrose willow, and Carolina willow (*Salix caroliniana*). Lakes comprise 51.89 acres (1.39 percent) of the project study area.

Wetland IDs: Other Surface Water 8b, 9, 10, 11, and 12
FLUCFCS: 530 (Reservoirs)
USFWS: PUBHx (Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated)
Reservoirs are artificial impoundments of water. Several reservoirs are scattered throughout the project study area. Vegetation observed within the littoral edge of the reservoirs included cattail, pickerel weed (*Pontederia cordata*), broadleaf arrowhead (*Sagittaria latifolia*), Brazilian pepper, Peruvian primrose willow, and Carolina willow. Reservoirs comprise 230.67 acres (6.20 percent) of the project study area.

FLUCFCS: 610 (Wetland Hardwood Forests)
USFWS: PFO1C (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded)
Wetland Hardwood Forests are wetland areas which meet the crown closure requirements for forestland and is dominated by a mixture of hardwood species, including red maple (*Acer rubrum*), sweetbay magnolia (*Magnolia virginiana*), and laurel oak. Wetland hardwood forests comprise 3.04 acres (0.08 percent) of the project study area.

Wetland IDs: Wetland 3a, 3c, 13a, 13c, 14a, 14c, 15a, 15b 15c, 16a, 16b and 16c
FLUCFCS: 615 (Streams and Lake Swamps, Bottomland)
USFWS: R2UB2F (Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Semipermanently Flooded)

Streams and lake swamps (bottomland) are characterized as overflow area and are dominated by hardwood species. This habitat type can primarily be found around rivers and creeks within the project study area, such as surrounding the South Branch Anclote River, Sandy Branch River, Anclote River, Fivemile Creek, and Pithlachascotee River. While cypress (*Taxodium* spp.) can be found throughout this classification, dominant vegetation observed in this habitat also included a mixture of laurel oak, red maple, and buttonbush (*Cephalanthus occidentalis*). Streams and lake swamps (bottomland) comprise 194.31 acres (5.22 percent) of the project study area.

Wetland IDs: Wetland 3d and 12a
FLUCFCS: 620 (Wetland Coniferous Forests)
USFWS: PFO4F (Palustrine, Forested, Needle-Leaved Evergreen, Seasonally Flooded)

Wetland Coniferous Forests are wetland areas which meet the crown closure requirements for forestland and the canopy is dominated by a mixture of coniferous species, mainly slash and longleaf pine, with an interspersed understory of primarily pine saplings, gallberry, wax mytle, and saw palmetto. Wetland coniferous forests comprise 68.77 acres (1.85 percent) of the project study area.

Wetland IDs: Wetlands 2, 3e, 9b, 10, 11, and 12b
FLUCFCS: 621 (Cypress)
USFWS: PFO2F (Palustrine, Forested, Needle-Leaved Deciduous, Seasonally Flooded)

This classification primarily represents cypress dome communities and is composed of a canopy of pond cypress (*Taxodium ascendens*) or bald cypress (*Taxodium distichum*). These habitats can readily be found scattered throughout the project study area, as well as some bottomland habitats whose canopies consist primarily of cypress instead of hardwood species. Cypress comprises 431.94 acres (11.60 percent) of the project study area.

Wetland IDs: Wetland 7, 8 and 9c
FLUCFCS: 630 (Wetland Forested Mixed)
USFWS: PFO1/4E (Palustrine, Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Seasonally Flooded/Saturated)

This habitat type includes mixed wetland forest communities in which neither hardwood nor conifers dominate the canopy. These communities primarily represent landscaped wetlands along roadsides near residential community developments. Vegetation observed in this habitat included Brazilian pepper, laurel oak, cabbage palm, red maple, punktree, and southern magnolia. Wetland forested mixed communities comprise 20.62 acres (0.55 percent) of the project study area.

Wetland IDs: Wetland 12c
FLUCFCS: 640 (Vegetated Non-Forested Wetlands)
USFWS: PUB2F (Palustrine, Unconsolidated Bottom, Sand, Semipermanently Flooded)

Vegetated non-forested wetlands include short herbaceous marshes and seasonally flooded basins and meadows. This classification can be found throughout the project study area, but primarily represents a large sparsely vegetated wetland located to the east of Suncoast Parkway. Vegetated non-forested wetlands comprise 34.80 acres (0.93 percent) of the project study area.

Wetland IDs: Wetland 3b, 9a, 13b, and 14b; Other Surface Water 4a, 4b, 5, and 6
FLUCFCS: 641 (Freshwater Marshes)
USFWS: PEM1A (Palustrine, Emergent, Persistent, Temporarily Flooded)

Freshwater marsh is characterized by its lack of tree cover and falls under the vegetated non-forested wetlands classification. These communities common and scattered throughout the project study area. Vegetation observed in this habitat included torpedo grass (*Panicum repens*), Peruvian primrose willow, buttonbush, Carolina willow, and various sedges (*Cyperus* spp.). Freshwater marsh communities comprise 247.48 acres (6.65 percent) of the project study area.

FLUCFCS: 643 (Wet Prairies)
USFWS: PEM1J (Palustrine, Emergent, Persistent, Intermittently Flooded)

This habitat type is composed predominately of grassy vegetation on hydric soils and is distinguished from marshes by having less water and shorter herbage. Vegetation observed within this habitat included bushy bluestem, whitetop sedge, and yellow-eyed grass. Wet prairies comprise 14.40 acres (0.39 percent) of the project study area.

FLUCFCS: 644 (Emergent Aquatic Vegetation)
USFWS: PEM1H (Palustrine, Emergent, Persistent, Permanently Flooded)

This category of wetland plant species includes both floating vegetation and vegetation which is found either partially or completely above the surface of the water. This classification primarily represents the littoral edges of lakes located throughout the project study area. Emergent aquatic vegetation comprises 2.90 acres (0.08 percent) of the project study area.

FLUCFCS: 653 (Intermittent Ponds)
USFWS: PEM2J (Palustrine, Emergent, Non-Persistent, Intermittently Flooded)

This category of wetland is defined as a waterbody which exists for only a portion of the year. This habitat type is comprised primarily of floodplain compensation areas and are located throughout the project study area. These communities are composed predominately of grassy vegetation on hydric soils and is distinguished from wet prairies due to their location within constructed dry detention ponds and by their regular maintenance. Vegetation observed within this habitat included bahiagrass, torpedo grass, whitetop sedge (*Rhynchospora colorata*), and yellow-eyed grass (*Xyris* spp.). Intermittent ponds comprise 11.70 acres (0.31 percent) of the project study area.

APPENDIX D
FNAI Biodiversity Matrix and USFWS IPaC Reports

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

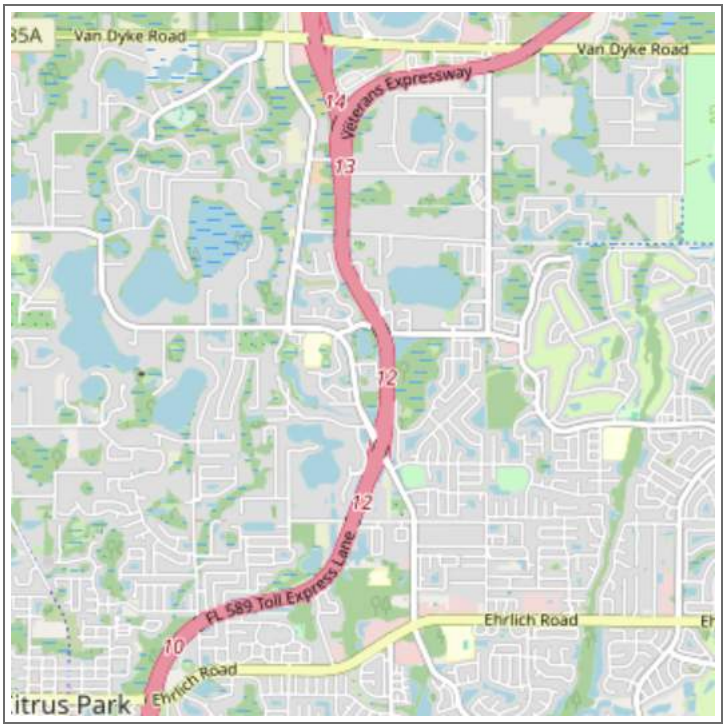
UNOFFICIAL REPORT

Created 9/22/2024

(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 3 Matrix Units: 24212 , 24213 , 24214



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: 24212

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24213

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: 24214

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit IDs: 24212 , 24213 , 24214

26 **Potential** Elements Common to Any of the 3 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Antigone canadensis pratensis 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
Coelorachis tuberculosa Piedmont jointgrass	G3	S3	N	T
Coleataenia abscissa cutthroatgrass	G3	S3	N	E
Conradina brevifolia short-leaved rosemary	G2Q	S2	E	E
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Gymnopogon chapmanianus Chapman's skeletongrass	G3	S3	N	N
Lampropeltis extenuata Short-tailed Snake	G3	S3	N	ST
Lechea cernua nodding pinweed	G3	S3	N	T
Lithobates capito Gopher Frog	G2G3	S3	N	N
Litsea aestivalis pondspice	G3?	S2	N	E
Matelea floridana Florida spiny-pod	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N

Nolina atopocarpa Florida beargrass	G3	S3	N	T
Peucaea aestivalis 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
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Ursus americanus floridanus Florida Black Bear	G5T4	S4	N	N

Unofficial Report

These results are considered unofficial. FNAI offers a Standard Data Request option for those needing certifiable data.

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Florida Natural Areas Inventory

Biodiversity Matrix Query Results

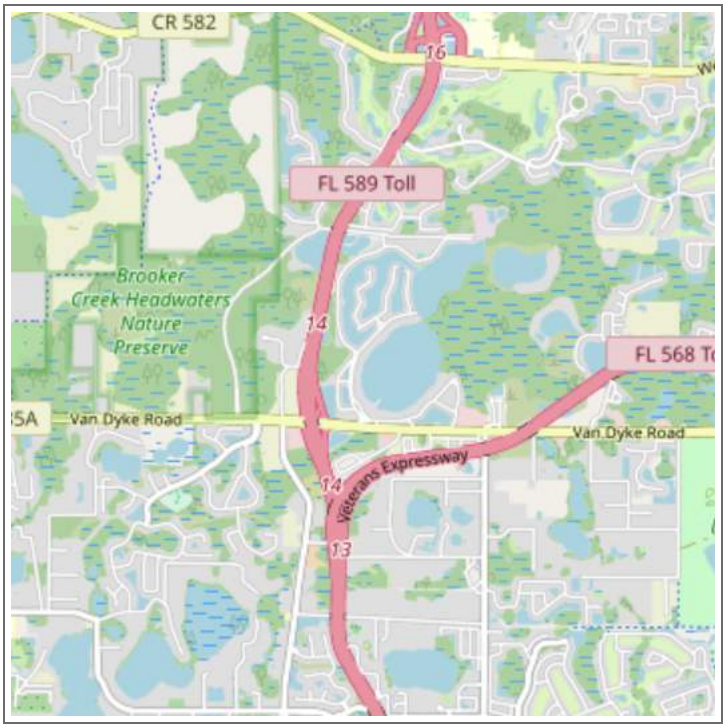
UNOFFICIAL REPORT

Created 9/22/2024

(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 3 Matrix Units: 23962 , 24215 , 24472



Descriptions

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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: 23962

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24215

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24472

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit IDs: 23962 , 24215 , 24472

32 **Potential** Elements Common to Any of the 3 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Antigone canadensis pratensis 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
Coelorachis tuberculosa Piedmont jointgrass	G3	S3	N	T
Coleataenia abscissa cutthroatgrass	G3	S3	N	E
Conradina brevifolia short-leaved rosemary	G2Q	S2	E	E
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Egretta caerulea Little Blue Heron	G5	S4	N	ST
Egretta thula Snowy Egret	G5	S3	N	N
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
Lithobates capito Gopher Frog	G2G3	S3	N	N
Litsea aestivalis pondspice	G3?	S2	N	E

Matelea floridana Florida spiny-pod	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N
Nolina atopocarpa Florida beargrass	G3	S3	N	T
Peucaea aestivalis 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
Rostrhamus sociabilis Snail Kite	G4G5	S2	E	FE
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Selonodon mandibularis Large-Jawed Cebrionid Beetle	G2G4	S2S4	N	N
Ursus americanus floridanus Florida Black Bear	G5T4	S4	N	N
Warea carteri Carter's warea	G1	S1	E	E

Unofficial Report

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Florida Natural Areas Inventory

Biodiversity Matrix Query Results

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Created 9/22/2024

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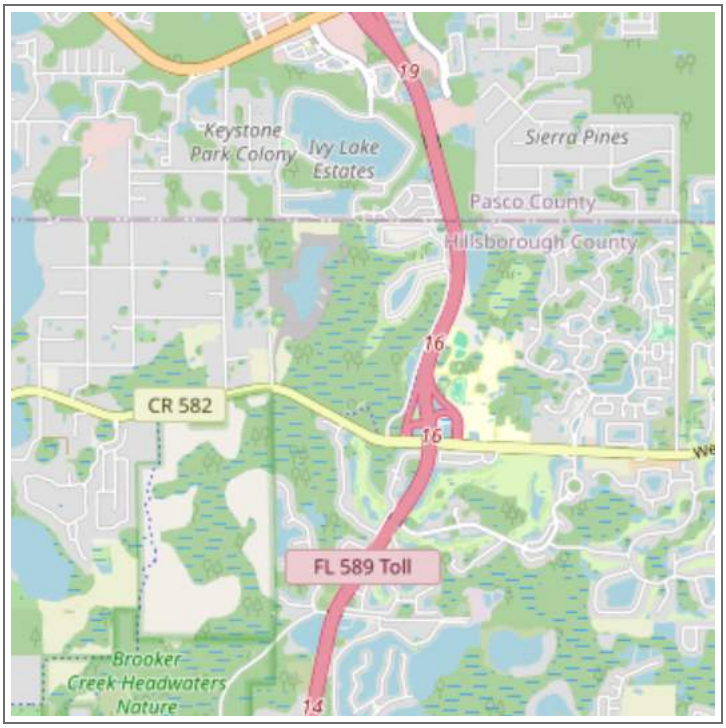
NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 3 Matrix Units: 24216 , 24217 , 24218



Descriptions

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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: 24216

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24217

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24218

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit IDs: 24216 , 24217 , 24218

29 **Potential** Elements Common to Any of the 3 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Antigone canadensis pratensis 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
Coelorachis tuberculosa Piedmont jointgrass	G3	S3	N	T
Coleataenia abscissa cutthroatgrass	G3	S3	N	E
Conradina brevifolia short-leaved rosemary	G2Q	S2	E	E
Corynorhinus rafinesquii Rafinesque's Big-eared Bat	G3G4	S1	N	N
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
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
Lithobates capito Gopher Frog	G2G3	S3	N	N
Litsea aestivalis pondspice	G3?	S2	N	E
Matelea floridana Florida spiny-pod	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N

Nemastylis floridana celestial lily	G2	S2	N	E
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N
Nolina atopocarpa Florida beargrass	G3	S3	N	T
Peucaea aestivalis 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
Rostrhamus sociabilis Snail Kite	G4G5	S2	E	FE
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Ursus americanus floridanus Florida Black Bear	G5T4	S4	N	N
Warea carteri Carter's warea	G1	S1	E	E

Unofficial Report

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Florida Natural Areas Inventory

Biodiversity Matrix Query Results

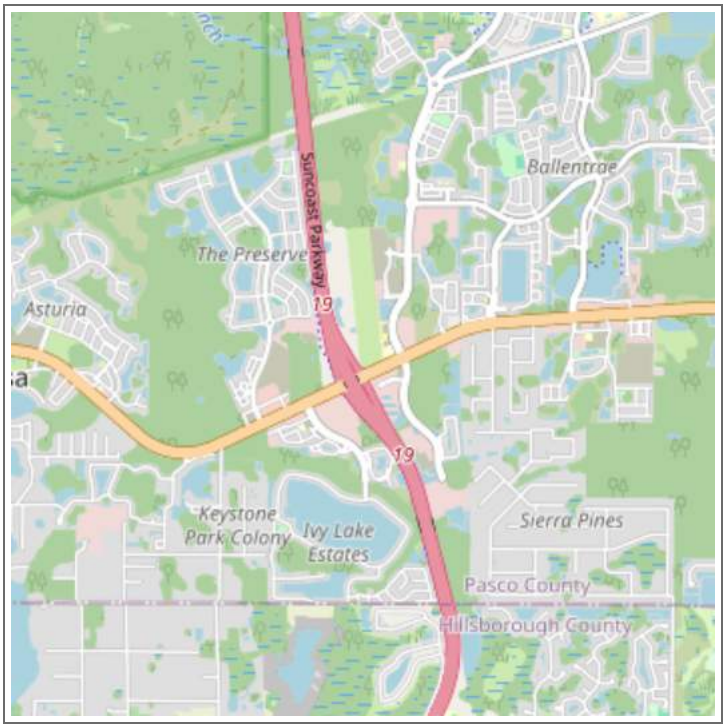
UNOFFICIAL REPORT

Created 9/22/2024

(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 3 Matrix Units: 23966 , 24219 , 24476



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: 23966

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24219

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24476

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
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit IDs: 23966 , 24219 , 24476

29 **Potential** Elements Common to Any of the 3 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Antigone canadensis pratensis 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
Coelorachis tuberculosa Piedmont jointgrass	G3	S3	N	T
Coleataenia abscissa cutthroatgrass	G3	S3	N	E
Conradina brevifolia short-leaved rosemary	G2Q	S2	E	E
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Dryobates borealis Red-cockaded Woodpecker	G3	S2	E, PT	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
Lampropeltis extenuata Short-tailed Snake	G3	S3	N	ST
Lechea cernua nodding pinweed	G3	S3	N	T
Lithobates capito Gopher Frog	G2G3	S3	N	N
Litsea aestivalis pondspice	G3?	S2	N	E
Matelea floridana Florida spiny-pod	G2	S2	N	E

Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N
Nolina atopocarpa Florida beargrass	G3	S3	N	T
Peucaea aestivalis 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
Rostrhamus sociabilis Snail Kite	G4G5	S2	E	FE
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Ursus americanus floridanus Florida Black Bear	G5T4	S4	N	N
Warea carteri Carter's warea	G1	S1	E	E

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Florida Natural Areas Inventory

Biodiversity Matrix Query Results

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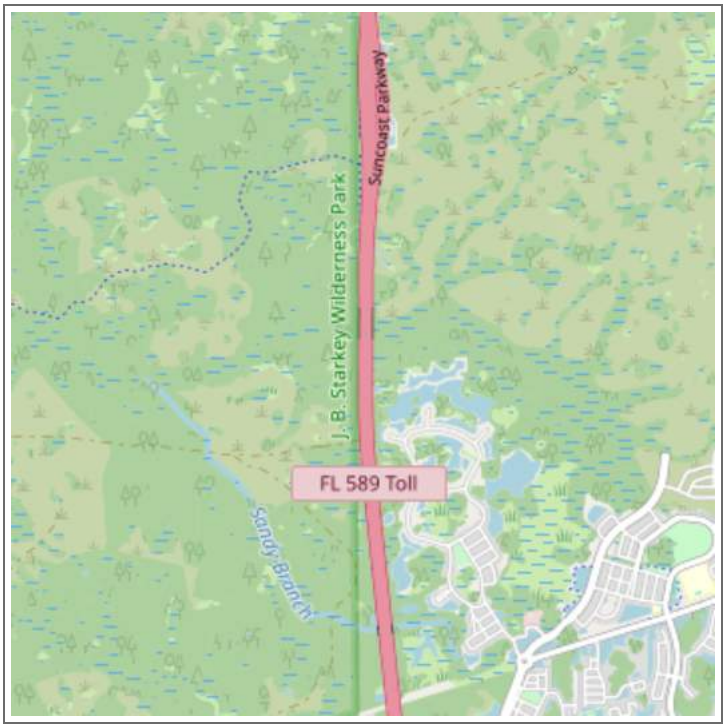
Created 9/22/2024

(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 10 Matrix Units: 23967 , 23968 , 23969 , 23970 , 23971 , 24220 , 24221 , 24222 , 24223 , 24224



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: 23967

1 **Documented** Element Found

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

0 **Documented-Historic** Elements Found

2 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N

Matrix Unit ID: 23968

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 23969

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 23970

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 23971

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Scrub	G2	S2	N	N

Matrix Unit ID: 24220

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24221

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24222

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24223

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 24224

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Scrub	G2	S2	N	N

Matrix Unit IDs: 23967 , 23968 , 23969 , 23970 , 23971 , 24220 , 24221 , 24222 , 24223 , 24224

30 **Potential** Elements Common to Any of the 10 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Antigone canadensis pratensis 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
Coelorachis tuberculosa Piedmont jointgrass	G3	S3	N	T
Coleataenia abscissa cutthroatgrass	G3	S3	N	E
Conradina brevifolia short-leaved rosemary	G2Q	S2	E	E
Dryobates borealis Red-cockaded Woodpecker	G3	S2	E, PT	FE
Enneacanthus chaetodon Blackbanded Sunfish	G3G4	S1S3	N	N
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
Lithobates capito Gopher Frog	G2G3	S3	N	N
Litsea aestivalis pondspice	G3?	S2	N	E
Matelea floridana Florida spiny-pod	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N

Nolina atopocarpa Florida beargrass	G3	S3	N	T
Notophthalmus perstriatus Striped Newt	G2G3	S2	N	C
Peucaea aestivalis 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
Rostrhamus sociabilis Snail Kite	G4G5	S2	E	FE
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Ursus americanus floridanus Florida Black Bear	G5T4	S4	N	N
Warea carteri Carter's warea	G1	S1	E	E

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

Report for 10 Matrix Units: 23972 , 23973 , 23974 , 23975 , 23976 , 24225 , 24226 , 24227 , 24228 , 24229

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: 23972

1 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N

Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 23973

2 **Documented** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Peucaea aestivalis Bachman's Sparrow	G3	S3	N	N

0 **Documented-Historic** Elements Found

5 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Sandhill	G3	S2	N	N
Scrub	G2	S2	N	N

Matrix Unit ID: 23974

1 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST

0 **Documented-Historic** Elements Found

6 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Sandhill	G3	S2	N	N
Sandhill upland lake	G3	S2	N	N
Scrub	G2	S2	N	N

Matrix Unit ID: 23975

1 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST

0 **Documented-Historic** Elements Found

5 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Sandhill upland lake	G3	S2	N	N
Scrub	G2	S2	N	N

Matrix Unit ID: 23976

1 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mycteria americana Wood Stork	G4	S2	T	FT
Sandhill upland lake	G3	S2	N	N
Scrub	G2	S2	N	N

Matrix Unit ID: 24225

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

6 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Sandhill	G3	S2	N	N
Sandhill upland lake	G3	S2	N	N
Scrub	G2	S2	N	N

Matrix Unit ID: 24226

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing

Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Sandhill	G3	S2	N	N

Matrix Unit ID: 24227

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Scrub	G2	S2	N	N

Matrix Unit ID: 24228

1 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Scrub	G2	S2	N	N

Matrix Unit ID: 24229

1 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST

0 **Documented-Historic** Elements Found

5 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT

Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT
Sandhill upland lake	G3	S2	N	N
Scrub	G2	S2	N	N

Matrix Unit IDs: 23972 , 23973 , 23974 , 23975 , 23976 , 24225 , 24226 , 24227 , 24228 , 24229

35 **Potential** Elements Common to Any of the 10 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Antigone canadensis pratensis 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
Coelorachis tuberculosa Piedmont jointgrass	G3	S3	N	T
Coleataenia abscissa cutthroatgrass	G3	S3	N	E
Corynorhinus rafinesquii Rafinesque's Big-eared Bat	G3G4	S1	N	N
Digitaria floridana Florida fingergrass	G1	S1	N	N
Dryobates borealis Red-cockaded Woodpecker	G3	S2	E, PT	FE
Egretta caerulea Little Blue Heron	G5	S4	N	ST
Egretta thula Snowy Egret	G5	S3	N	N
Enneacanthus chaetodon Blackbanded Sunfish	G3G4	S1S3	N	N
Eudocimus albus White Ibis	G5	S4	N	N
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
Lechea cernua nodding pinweed	G3	S3	N	T
Lithobates capito Gopher Frog	G2G3	S3	N	N
Litsea aestivalis pondspice	G3?	S2	N	E
Matelea floridana Florida spiny-pod	G2	S2	N	E
Monotropsis reynoldsiae pygmy pipes	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N
Nolina atopocarpa Florida beargrass	G3	S3	N	T
Notophthalmus perstriatus Striped Newt	G2G3	S2	N	C

Peucaea aestivalis 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
Rostrhamus sociabilis Snail Kite	G4G5	S2	E	FE
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Triphora craigheadii Craighead's nodding-caps	G1	S1	N	E
Ursus americanus floridanus Florida Black Bear	G5T4	S4	N	N
Warea carteri Carter's warea	G1	S1	E	E

Unofficial Report

These results are considered unofficial. FNAI offers a Standard Data Request option for those needing certifiable data.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. 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 and Pasco counties, Florida

Local office

Florida Ecological Services Field Office

(352) 448-9151
(772) 562-4288
fw4flesregs@fws.gov

777 37th St
Suite D-101
Vero Beach, FL 32960-3559

https://www.fws.gov/office/florida-ecological-services

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 species[1] 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 Fisheries[2]).

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.

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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
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Eastern Black Rail Laterallus jamaicensis ssp. jamaicensis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10477	Threatened
Everglade Snail Kite Rostrhamus sociabilis plumbeus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7713	Endangered
Florida Scrub-jay Aphelocoma coerulescens Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6174	Threatened
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN
Wood Stork Mycteria americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8477	Threatened

Reptiles

NAME	STATUS

Eastern Indigo Snake Drymarchon couperi — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/646

Hawksbill Sea Turtle Eretmochelys imbricata — Endangered
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/3656

Leatherback Sea Turtle Dermochelys coriacea — Endangered
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/1493

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Pygmy Fringe-tree Chionanthus pygmaeus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1084	Endangered

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.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

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

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* 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.	Breeds Sep 1 to Jul 31

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "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.

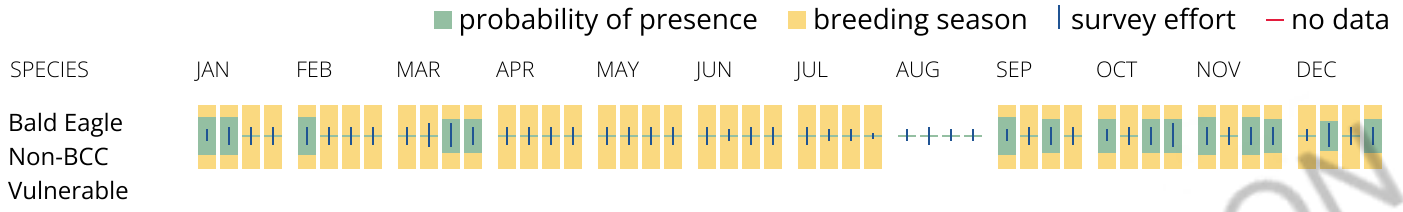
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence 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). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles 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 Rapid Avian Information Locator (RAIL) Tool.

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. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

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, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON

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

Bachman's Sparrow Peucaea aestivalis — Breeds May 1 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6177

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.

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

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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

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

Least Tern Sternula antillarum antillarum — Breeds Apr 25 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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

Painted Bunting Passerina ciris — Breeds Apr 25 to Aug 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Pectoral Sandpiper Calidris melanotos — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Setophaga discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Semipalmated Sandpiper Calidris pusilla — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Short-billed Dowitcher Limnodromus griseus — 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/9480

Swallow-tailed Kite Elanoides forficatus — Breeds Mar 10 to Jun 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8938

Worthington's Marsh Wren Cistothorus palustris griseus — Breeds Apr 10 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "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.

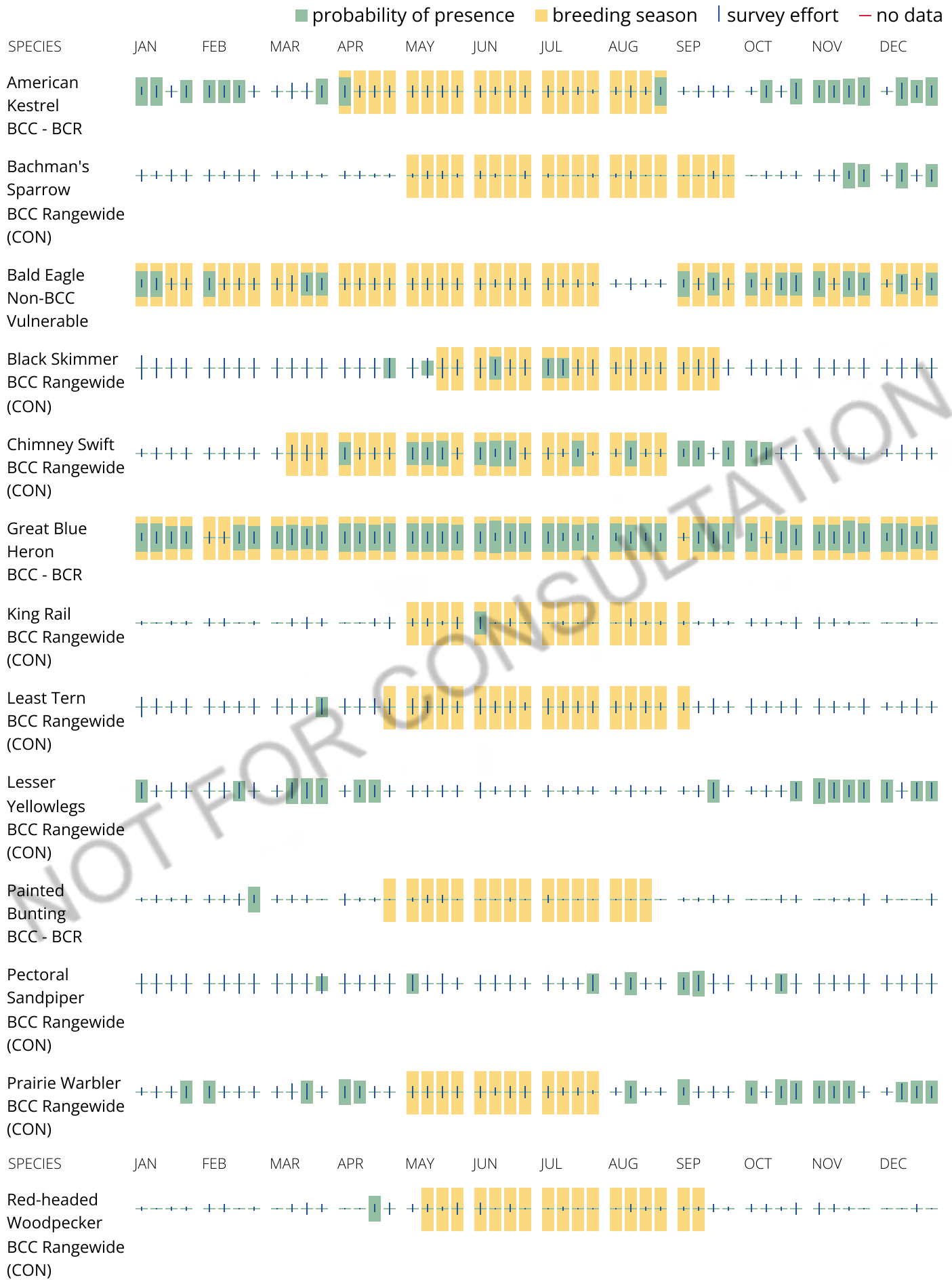
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

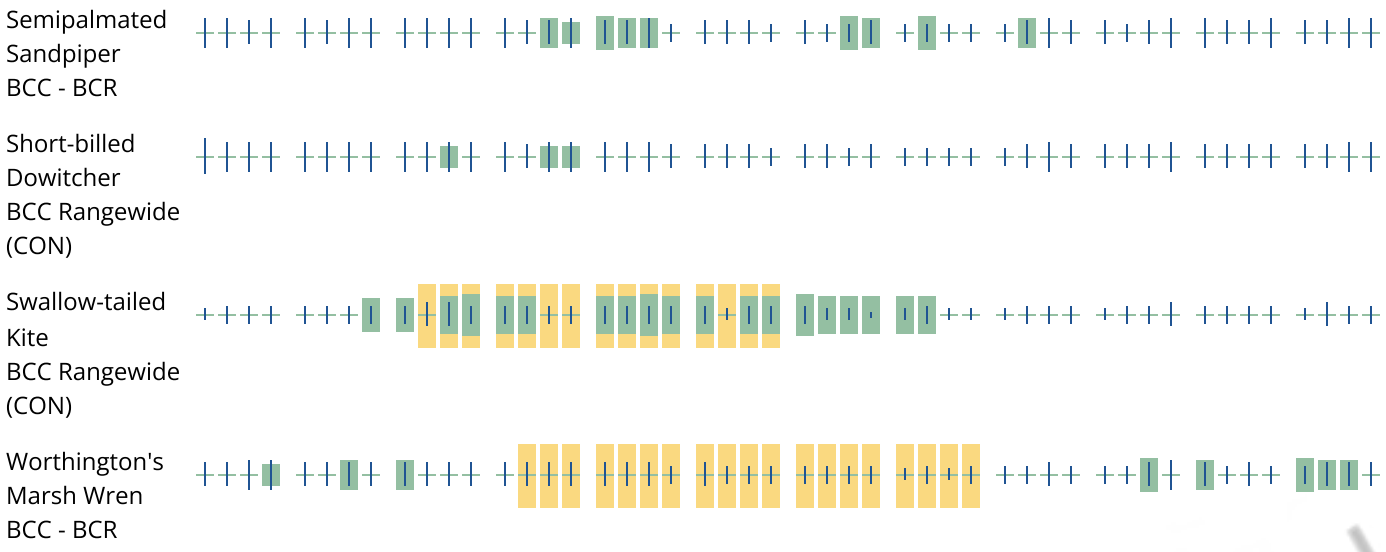
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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.





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 list of migratory birds that potentially occur 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 Rapid Avian Information Locator (RAIL) 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 or migrating in my 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 query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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.

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 (NWI)

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.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1F
- PEM1C
- PEM1/FO2F
- PEM1A

FRESHWATER FORESTED/SHRUB WETLAND

- PFO6F
- PFO2F
- PFO1/3C
- PFO3C
- PFO2/3C
- PFO1C
- PFO1/4C
- PFO3/2C
- PFO4C
- PSS6F
- PSS3C
- PFO1/4A
- PFO4A
- PFO6C
- PFO3/1C

FRESHWATER POND

- PUBH
- PUBHx
- PAB3H
- PABHx
- PAB4H

PABH

LAKE

L1UBHx
L2AB3H
L2UBHx

RIVERINE

R5UBFx
R5UBH
R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

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 tuberficid 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.

APPENDIX E
Standard Protection Measures for the Eastern Indigo Snake and Species Determination Key Path

United States Department of the Interior

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

August 1, 2017

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

Subject: Consultation Key for the Eastern Indigo Snake – Revised

Dear Mr. Kinard:

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

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

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

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

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

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

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

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

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

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

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

Scope of the Key

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

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

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

Habitat

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

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

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

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

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

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

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

Minimization Measures

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

Determinations

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

End Key

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

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

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

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

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

Sincerely,

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services

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

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STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

U.S. Fish and Wildlife Service

December 2023

The Standard Protection Measures for the Eastern Indigo Snake (Plan) below has been developed by the U.S. Fish and Wildlife Service (USFWS) in Florida and Georgia for use by project proponents and their construction personnel help minimize adverse impacts to eastern indigo snakes. However, implementation of this Plan does not replace any state of federal consultation or regulatory requirements. At least 30 days prior to any land disturbance activities, the project proponent shall notify the appropriate USFWS Field Office (see Field Office contact information) via e-mail that the Plan will be implemented as described below.

As long as the signatory of the e-mail certifies compliance with the below Plan (including use of the approved poster and pamphlet (USFWS Eastern Indigo Snake Conservation webpage), no further written confirmation or approval from the USFWS is needed regarding use of this Plan as a component of the project.

If the project proponent 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. The project proponent 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.

STANDARD PROTECTION MEASURES

BEFORE AND DURING CONSTRUCTION ACTIVITIES:

- All Project personnel shall be notified about the potential presence and appearance of the federally protected eastern indigo snake (*Drymarchon couperi*).
- All personnel shall be advised that there are civil and criminal penalties for harassing, harming, pursuing, hunting, shooting, wounding, killing, capturing, or collecting the species, in knowing violation of the Endangered Species Act of 1973.
- The project proponent or designated agent will post educational posters in the construction office and throughout the construction site. The posters must be clearly visible to all construction staff and shall be posted in a conspicuous location in the

Project field office until such time that Project construction has been completed and time charges have stopped.

- Prior to the onset of construction activities, the project proponent or 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 pamphlet 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. Photos of eastern indigo snakes may be accessed on USFWS, Florida Fish and Wildlife Conservation Commission and/or Georgia Department of Natural Resources websites.
- Each day, prior to the commencement of maintenance or construction activities, the Contractor shall perform a thorough inspection for the species of all worksite equipment.
- If an eastern indigo snake (alive, dead or skin shed) 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 Office. The contact information for the USFWS is provided below and on the referenced posters and pamphlets.
- During initial site clearing activities, an onsite observer is recommended 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).
- Periodically during construction activities, the project area should be visited 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.
- For erosion control use biodegradable, 100% natural fiber, net-free rolled erosion control blankets to avoid wildlife entanglement.

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 (See USFWS Field Office Contact Information).

USFWS FIELD OFFICE CONTACT INFORMATION

Georgia Field Office: Phone: (706) 613-9493, email: gaes_assistance@fws.gov
Florida Field Office: Phone: (352) 448-9151, email: fw4flesregs@fws.gov

POSTER & PAMPHLET INFORMATION

Posters with the following information shall be placed at strategic locations on the construction site and along any proposed access roads (final posters for Plan compliance are available on our website in English and Spanish and should be printed on 11 x 17in or larger paper and laminated (USFWS Eastern Indigo Snake Conservation webpage). Pamphlets are also available on our webpage and should be printed on 8.5 x 11in paper and folded, and available and distributed to staff working on the site.

POSTER CONTENT (ENGLISH):

ATTENTION

Federally-Threatened Eastern Indigo Snakes may be present on this site!

Killing, harming, or harassing eastern indigo snakes is strictly prohibited and punishable under State and Federal Law.

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

• Stop land disturbing activities and allow the snake time to move away from the site without interference. Do NOT attempt to touch or handle the snake.

• Take photographs of the snake, if possible, for identification and documentation purposes.

• Immediately notify supervisor/agent, and a U.S. Fish and Wildlife Service (USFWS) Ecological Services Field Office, with the location information and condition of the snake.

• If the snake is located near clearing or construction activities that will cause harm to the snake, the activities must pause until a representative of the USFWS returns the call (within one day) with further guidance.

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

• Stop land disturbing activities and immediately notify supervisor/applicant, and a USFWS Ecological Services Field 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.

DESCRIPTION: The eastern indigo snake is one of the largest non-venomous snakes in North America, reaching up to 8 ft long. Named for the glossy, blue-black scales above and slate blue below, they often have orange to reddish color (cream color in some cases)

in the throat area. They are not typically aggressive.

SIMILAR SPECIES: The black racer resembles the eastern indigo snake. However, black racers have a white or cream chin, and thinner bodies.

LIFE HISTORY: Eastern indigo snakes live in a variety of terrestrial habitat types. Although they prefer uplands, they also use wetlands and agricultural areas. They will shelter inside gopher tortoise burrows, other animal burrows, stumps, roots, and debris piles. Females may lay from 4 to 12 white eggs as early as April through June, with young hatching in late July through October.

PROTECTED STATUS: The eastern indigo snake is protected by the USFWS, Florida Fish and Wildlife Conservation Commission, and Georgia Department of Natural Resources. Any attempt to kill, harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or engage eastern indigo snakes is prohibited by the U.S. Endangered Species Act. Penalties include a maximum fine of $25,000 for civil violations and up to $50,000 and/or imprisonment for criminal offenses. Only authorized individuals with a permit (or an Incidental Take Statement associated with a USFWS Biological Opinion) may handle an eastern indigo snake.

Please contact your nearest USFWS Ecological Services Field Office if a live or dead eastern indigo snake is encountered:

Florida Office: (352) 448-9151

Georgia Office: (706) 613-9493

POSTER CONTENT (SPANISH):

ATENCIÓN

¡Especie amenazada, la culebra Índigo del Este, puede ocupar el área!

Matar, herir o hostigar culebras Índigo del Este es estrictamente prohibido bajo la Ley Federal.

SI VES UNA CULEBRA ÍNDIGO DEL ESTE O UNA CULEBRA NEGRA VIVA EN EL ÁREA:

• Pare excavación y permite el movimiento de la culebra fuera del área sin interferir. NO atentes tocar o recoger la culebra.

• Fotografié la culebra si es posible para identificación y documentación.

• Notifique supervisor/agente, y la Oficina de Campo de Servicios Ecológicos del Servicio Federal de Pesca y Vida Silvestre (USFWS) apropiada con información acerca del sitio y condición de la culebra.

• Si la culebra está cerca de un área de construcción que le pueda causar daño, las actividades deben parar hasta un representante del USFWS regrese la llamada (dentro de un día) con más orientación.

SI VES UNA CULEBRA ÍNDIGO DEL ESTE MUERTA EN EL ÁREA:

• Pare excavación. Notifique supervisor/aplicante, y la Oficina de Campo de Servicios Ecológicos apropiada con información acerca del sitio y condición de la culebra.

• Fotografié la culebra si es posible para identificación y documentación.

• Emerge completamente la culebra en agua y congele la especie hasta que personal apropiado de la agencia de vida silvestre la recoja.

DESCRIPCIÓN. La culebra Índigo del Este es una de las serpientes sin veneno más grande en Norte América, alcanzando hasta 8 pies de largo. Su nombre proviene del color azul-negro brilloso de sus escamas, pero pueden tener un color anaranjado-rojizo (color crema en algunos casos) en su mandíbula inferior. No tienden a ser agresivas.

SERPIENTES PARECIDAS. La corredora negra, que es de color negro sólido, es la única otra serpiente que se asemeja a la Índigo del Este. La corredora negra se diferencia por una mandíbula inferior color blanca o crema y un cuerpo más delgado.

HÁBITATS Y ECOLOGÍA. La culebra Índigo del Este vive en una variedad de hábitats, incluyendo tierras secas, humedales, y áreas de agricultura. Ellas buscan refugio en agujeros o huecos de tierra, en especial madrigueras de tortugas de tierra. Las hembras ponen 4 hasta 12 huevos blancos entre abril y junio, y la cría emergen entre julio y octubre.

PROTECCIÓN LEGAL. La culebra Índigo del Este es clasificada como especie amenazada por el USFWS, la Comisión de Conservación de Pesca y Vida Silvestre de Florida y el Departamento de Recursos Naturales de Georgia. Intento de matar, hostigar, herir, lastimar, perseguir, cazar, disparar, capturar, colectar o conducta parecida hacia las culebras Índigo del Este es prohibido por la Ley Federal de Especies en Peligro de Extinción. Penalidades incluyen un máximo de $25,000 por violaciones civiles y $50,000 y/o encarcelamiento por actos criminales. Solos individuales autorizados con un permiso o Determinación de toma incidental (Incidental Take Statement) asociado con una Opinión Biológico del USFWS pueden recoger una Índigo del Este.

Por favor de contactar tu Oficina de Campo de Servicios Ecológicos más cercana si encuentras una culebra Índigo del Este viva o muerta:

Oficina de Florida: (352) 448-9151

Oficina de Georgia: (706) 613-9493

APPENDIX F
Wood Stork Foraging Assessment Memorandum

WOOD STORK FORAGING HABITAT ASSESSMENT

1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) Florida's Turnpike Enterprise (FTE) 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 a 16-mile segment of Suncoast Parkway (SR 589) in Hillsborough and Pasco Counties. The purpose of this PD&E Study is to evaluate engineering and environmental data and document information that will support District Seven in determining the type, preliminary design, and location of the proposed improvements. 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 both Hillsborough and Pasco County, 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 11 active wood stork nesting colony: Alligator Lake, Cross Creek, Cypress Creek I-75, Embassy – Shoppers Way, Greenbrooke, Heron Island, Heron Point – Land O Lakes, Lake Forest, Northlakes – Sagebrush, Saddlebrook Resort, and Sheldon Rd – Citrus Park. Within the proposed 6.75 acres of direct wetland and other surface water impact, there are approximately 4.02 acres of wetlands and approximately 0.60 acres of other surface waters that could be utilized by the wood stork for foraging in the Preferred Alternative. These 4.62 acres were analyzed as suitable wood stork foraging habitat in this assessment. The 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 Fort Hamer Road 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 Preferred Alternative for Suncoast Parkway includes widening Suncoast Parkway to eight lanes from south of Van Dyke Road to north of SR 54 and widening to six lanes from north of SR 54 to north of SR 52. Impacts will primarily 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 Preferred Alternative. For the assessment of the Preferred Alternative, approximately 4.02 acres of wetlands and approximately 0.60 acres of other surface waters were analyzed.

The analysis determined that the Preferred Alternative may result in the net loss of 19.30 kg total (fish and crayfish) biomass. **Table 2** presents the analysis of the impacts to wood stork foraging habitat for the Preferred Alternative.

Table 2 – Preferred 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)**
Short Hydroperiods							
Class 3: 120-180 days	0.02	0-25	1.00	87.93	87.93	0.86	0.04
Total Short Hydroperiod	**0.02**			**87.93**	**87.93**	**0.86**	**0.04**

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 Hydroperiods							
Class 5: 240-300 days	0.06	0-25	1.00	241.48	241.48	1.90	0.23
Class 5: 240-300 days	0.03	26-50	0.64	111.55	71.39	1.90	0.04
Class 6: 300-330 days	4.15	0-25	1.00	16,782.69	16,782.69	12.01	18.33
Class 6: 300-330 days	0.36	26-50	0.64	1,473.29	942.90	2.18	0.66
Total Long Hydroperiod	**4.60**			**18,609.01**	**18,038.46**	**17.99**	**19.26**
Total	**4.62**			**18,696.94**	**18,126.39**	**18.85**	**19.30**

5.0 MITIGATION

Impacts to wetlands within the Preferred Alternative will be mitigated for within the CFA of the affected rookery 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 11 active wood stork nesting colony: Alligator Lake, Cross Creek, Cypress Creek I-75, Embassy – Shoppers Way, Greenbrooke, Heron Island, Heron Point – Land O Lakes, Lake Forest, Northlakes – Sagebrush, Saddlebrook Resort, and Sheldon Rd – Citrus Park. There are approximately 4.02 acres of wetlands and approximately 0.60 acres of other surface waters that were analyzed as wood stork foraging habitat within the Preferred Alternative. Wood stork foraging biomass productivity is calculated based on hydroperiods of class of affected wetlands. The Preferred Alternative may potentially result in the net loss of 19.30 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.

Kahl, M.P., Jr. 1964. Food Ecology of the Wood Stork (*Mycteria americana*) in Florida. Ecological Monographs 34:97 117.

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U.S. Fish and Wildlife Service. 2019. Wood Stork Nesting Colonies and Core Foraging Areas, GIS Shapefiles.

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

Purpose and Background

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

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

Scope of the key

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

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

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

Summary of General Wood Stork Nesting and Foraging Habitat Information

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

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

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

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

WOOD STORK KEY

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

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

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

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

Project impacts SFH[2]……go to C

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

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

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

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

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

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

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

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

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

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

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

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

Monitoring and Reporting Effects

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

Literature Cited

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

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Rodgers, J.A., Jr., S.T. Schwikert, and A. Shapiro-Wenner. 1996. Nesting habitat of wood storks in north and central Florida, USA. Colonial Waterbirds 19:1-21.

U.S. Fish and Wildlife Service. 1999. South Florida multi-species recovery plan. Fish and Wildlife Service; Atlanta, Georgia. Available from: http://verobeach.fws.gov/Programs/Recovery/vbms5.html.

APPENDIX G
Uniform Mitigation Assessment Methodology Form

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3a, 13a, and 13c

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
615 - Stream and Lake Swamps (Bottomland)	N/A	Impact (Direct)	0.28 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 3a, 13a, and 13c consist of stream bottomlands primarily located adjacent to bridged segments of Suncoast Parkway. These wetlands connect downstream to the Anclote River or the Pithlachascotee River.

Assessment area description

This assessment area consists of an assemblage of relatively undisturbed or otherwise inaccessable bottomlands throughout the project limits, totalling approximately 0.28 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; South Branch Anclote River, Anclote River	Not Unique

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

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, amphibians, small fish, aquatic invertebrates	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3a, 13a, and 13c
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support w/o pres or current: 7 with: 0	Wetlands 3a, 13a, and 13c consist of relatively undisturbled or otherwise inacessable bottomlands located adjacent to bridged segments of Suncoast Parkway. The component wetlands within the AA are portions of larger wetland systems that are available in sufficient quantity and variety to provide habitat and support to wildlife, although somewhat limited by nearby development.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 8 with: 0	The hydrology of the AA is primarily derived from the conveyance of water through the respective branches of the Anclote River or Pithlachascotee River.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 8 with: 0	The majority of plant cover within the AA appears appropriate with moderate vegetative diversity and minimal invasive encroachment observed. Species composition, abundance, recruitment, and strata are mostly appropriate for this type of system and consisted primarily of red maple, laurel oak, sweetbay magnolia, and cypress.	

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.767	with: 0

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

For impact assessment areas
FL = delta x acres = 0.215

Delta = [with-current]
-0.767

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3a, 13a, 13c, 14a, 14c, 15a, 15c, 16a, 16c

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
615 - Stream and Lake Swamps (Bottomland)	N/A	Impact (Secondary)	2.24 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 3a, 13a, 13c, 14a, 14c, 15a, 15c, 16a, and 16c consist of stream bottomlands primarily located adjacent to bridged segments of Suncoast Parkway. These wetlands connect downstream to the Anclote River or the Pithlachascotee River.

Assessment area description

This assessment area consists of an assemblage of relatively undisturbed or otherwise inaccessable bottomlands throughout the project limits, totalling approximately 2.24 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; South Branch Anclote River, Sandy Branch River, Anclote River, Fivemile Creek, Pithlachascotee River	Not Unique

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

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, amphibians, small fish, aquatic invertebrates	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3a, 13a, 13c, 14a, 14c, 15a, 15c, 16a, 16c
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	September 2024

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 6	Wetlands 3a, 13a, 13c, 14a, 14c, 15a, 15c, 16a, and 16c consist of relatively undisturbled or otherwise inacessable bottomlands located adjacent to bridged segments of Suncoast Parkway. The component wetlands within the AA are portions of larger wetland systems that are available in sufficient quantity and variety to provide habitat and support to wildlife, although somewhat limited by nearby development.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 8	with: 7	The hydrology of the AA is primarily derived from the conveyance of water through the respective branches of the Anclote River or Pithlachascotee River.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 8	with: 6	The majority of plant cover within the AA appears appropriate with moderate vegetative diversity and minimal invasive encroachment observed. Species composition, abundance, recruitment, and strata are mostly appropriate for this type of system and consisted primarily of red maple, laurel oak, sweetbay magnolia, and cypress.

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.767	with: 0.63333

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

For impact assessment areas
FL = delta x acres = 0.299

Delta = [with-current]
-0.133

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3c, 15b, 16b

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
615 - Stream and Lake Swamps (Bottomland)	N/A	Impact (Direct)	1.93 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 3c, 15b, and 16b consist of stream bottomlands located under bridged segments of Suncoast Parkway. These wetlands connect downstream to the Anclote River or the Pithlachascotee River.

Assessment area description

This assessment area consists of an assemblage of bottomlands that are somewhat impacted by the overhead bridges within the project limits, totalling approximately 1.93 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; South Branch Anclote River, Fivemile Creek, Pithlachascotee River	Not Unique

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

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, amphibians, small fish, aquatic invertebrates	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3c, 15b, 16b
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support w/o pres or current: 5 with: 0	Wetlands 3c, 15b, and 16b consist of stream bottomlands located under bridged segments of Suncoast Parkway. The component wetlands within the AA are portions of larger wetland systems that are available in sufficient quantity and variety to provide habitat and support to wildlife, although these functions are significantly limited by their location.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 7 with: 0	The hydrology of Wetlands 3c, 15b, and 16b is primarily derived from the conveyance of water through their respective branches of the Anclote River or the Pithlachascotee River.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 7 with: 0	The majority of plant cover within the AA appears appropriate with moderate vegetative diversity observed. Species composition and abundance are mostly appropriate for this type of system, however canopy strata and recruitment is somewhat impacted due to their location underneath Suncoast Parkway.	

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.633	0

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

For impact assessment areas	
FL = delta x acres =	1.222

Delta = [with-current]
-0.633

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 3d

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
620 - Wetland Coniferous Forests	N/A	Impact (Direct)	0.04 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetland 3d consists of a coniferous wetland located adjacent to a bridged segment of Suncoast Parkway. This wetland connects downstream to the South Branch Anclote River.

Assessment area description

This assessment area consists of a portion of a large transitional forested fringe that is dominated by a canopy of slash pine and is positioned between bottomland habitat and a roadside freshwater marsh.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; South Branch Anclote River	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 3d
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support w/o pres or current: 6 with: 0	Wetland 3d consists of a transitional forested fringe located adjacent to a bridged segment of Suncoast Parkway is positioned between bottomland habitat and a roadside freshwater marsh. The AA is a portion of a larger wetland system that is available in sufficient quantity to provide habitat and support to wildlife, although somewhat limited by nearby development.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 7 with: 0	The hydrology of Wetland 3d is derived from the conveyance of water through this segment of the South Branch Anclote River.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 7 with: 0	The majority of plant cover within the AA appears appropriate with moderate vegetative diversity observed in the understory. Species composition and abundance are mostly appropriate for this type of system, with minor encroachment of invasive exotics along the forested fringe.	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.667	with: 0	

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

For impact assessment areas
FL = delta x acres = 0.027

Delta = [with-current]
-0.667

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 3d

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
620 - Wetland Coniferous Forests	N/A	Impact (Secondary)	0.11 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetland 3d consists of a coniferous wetland located adjacent to a bridged segment of Suncoast Parkway. This wetland connects downstream to the South Branch Anclote River.

Assessment area description

This assessment area consists of a portion of a large transitional forested fringe that is dominated by a canopy of slash pine and is positioned between bottomland habitat and a roadside freshwater marsh.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; South Branch Anclote River	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 3d
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 6	with: 5	Wetland 3d consists of a transitional forested fringe located adjacent to a bridged segment of Suncoast Parkway is positioned between bottomland habitat and a roadside freshwater marsh. The AA is a portion of a larger wetland system that is available in sufficient quantity to provide habitat and support to wildlife, although somewhat limited by nearby development.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 6	The hydrology of Wetland 3d is derived from the conveyance of water through this segment of the South Branch Anclote River.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 6	The majority of plant cover within the AA appears appropriate with moderate vegetative diversity observed in the understory. Species composition and abundance are mostly appropriate for this type of system, with minor encroachment of invasive exotics along the forested fringe.

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.667	with: 0.56667

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

For impact assessment areas
FL = delta x acres = 0.011

Delta = [with-current]
-0.100

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 12a

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
620 - Wetland Coniferous Forests	N/A	Impact (Direct)	0.93 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetland 12a is portion of a larger isolated wetland system located on the eastern side of Suncoast Parkway and part of an area that was previously utilized as a pine plantation.

Assessment area description

This assessment area is located at the new proposed interchange and consists of a near monoculture of planted pine.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 12a
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support w/o pres or current: 8 with: 0	Wetland 12a is portion of a larger isolated wetland system located on the eastern side of Suncoast Parkway and part of an area that was previously utilized as a pine plantation. Habitats around the AA are available in enough quatity and variety to support most wildlife.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 7 with: 0	Water levels and flows within Wetland 12a appear to be somewhat appropriate considering natural variation. Much of the planted pine within this portion of the silviculture area is characterized by their relatively stunted height, indicative of a high frequency and degree of inundation/saturation.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 5 with: 0	Vegetation within Wetland 12a is dominated by of a canopy of planted slash pine with an interspersed understory of primarily pine saplings, gallberry, wax mytle, and saw palmetto.	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.667	with: 0	

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

For impact assessment areas
FL = delta x acres = 0.620

Delta = [with-current]
-0.667

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 12a

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
620 - Wetland Coniferous Forests	N/A	Impact (Secondary)	1.05 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetland 12a is portion of a larger isolated wetland system located on the eastern side of Suncoast Parkway and part of an area that was previously utilized as a pine plantation.

Assessment area description

This assessment area is located at the new proposed interchange and consists of a near monoculture of planted pine.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 12a
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 8	with: 6
Wetland 12a is portion of a larger isolated wetland system located on the eastern side of Suncoast Parkway and part of an area that was previously utilized as a pine plantation. Habitats around the AA are available in enough quatity and variety to support most wildlife.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 6
Water levels and flows within Wetland 12a appear to be somewhat appropriate considering natural variation. Much of the planted pine within this portion of the silviculture area is characterized by their relatively stunted height, indicative of a high frequency and degree of inundation/saturation.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 5	with: 5
Vegetation within Wetland 12a is dominated by of a canopy of planted slash pine with an interspersed understory of primarily pine saplings, gallberry, wax mytle, and saw palmetto.		

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.667	with: 0.56667	

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

For impact assessment areas
FL = delta x acres = 0.105

Delta = [with-current]
-0.100

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3e, 10, 12b

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
621 - Cypress	N/A	Impact (Direct)	0.81 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 3e, 10, and 12b are cypress swamps located within the project study area that are generally located near more rural segments of Suncoast Parkway. Wetland 3e connects downstream to the Southern Branch Anclote River; Wetlands 10 and 12b are isolated wetlands.

Assessment area description

This assessment area consists of an assemblage of relatively undisturbed cypress swamps within the project limits, totalling approximately 0.81 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; Southern Branch Anclote River, Sandy Branch River, Starkey Wilderness Preserve	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat, carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, amphibians, small fish, aquatic invertebrates	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3e, 10, 12b
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0
Wetlands 3e, 10, and 12b are cypress swamps located within the project study area that are generally located near more rural segments of Suncoast Parkway. The component wetlands within the AA are portions of larger wetlands that are available in sufficient quantity and variety to provide habitat and support to wildlife, although somewhat limited by residential and sylviculture nearby land uses.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 8	with: 0
Water levels and flows within the AA appear to be appropriate considering natural variation. Hydrologic conditions are relatively buffered from nearby development due to their positions within the study area.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 8	with: 0
The majority of plant cover, diversity, and condition within the AA appears appropriate with minimal invasive encroachment observed. Species composition, abundance, recruitment, and strata appear appropriate for this type of system and consisted primarily of cypress, loblolly bay, and red maple, as well as an understory of wax myrtle, buttonbush, and leather fern.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.767	with: 0

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

For impact assessment areas
FL = delta x acres = 0.621

Delta = [with-current]
-0.767

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3e, 10, 12b

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
621 - Cypress	N/A	Impact (Secondary)	1.05 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 3e, 10, and 12b are cypress swamps located within the project study area that are generally located near more rural segments of Suncoast Parkway. Wetland 3e connects downstream to the Southern Branch Anclote River; Wetlands 10 and 12b are isolated wetlands.

Assessment area description

This assessment area consists of an assemblage of relatively undisturbed cypress swamps within the project limits, totalling approximately 1.05 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; Southern Branch Anclote River, Sandy Branch River, Starkey Wilderness Preserve	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat, carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, amphibians, small fish, aquatic invertebrates	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3e, 10, 12b
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support w/o pres or current: 7 with: 6	Wetlands 3e, 10, and 12b are cypress swamps located within the project study area that are generally located near more rural segments of Suncoast Parkway. The component wetlands within the AA are portions of larger wetlands that are available in sufficient quantity and variety to provide habitat and support to wildlife, although somewhat limited by residential and sylviculture nearby land uses.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 8 with: 7	Water levels and flows within the AA appear to be appropriate considering natural variation. Hydrologic conditions are relatively buffered from nearby development due to their positions within the study area.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 8 with: 7	The majority of plant cover, diversity, and condition within the AA appears appropriate with minimal invasive encroachment observed. Species composition, abundance, recruitment, and strata appear appropriate for this type of system and consisted primarily of cypress, loblolly bay, and red maple, as well as an understory of wax myrtle, buttonbush, and leather fern.	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.767	with: 0.66667	

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

For impact assessment areas
FL = delta x acres = 0.105

Delta = [with-current]
-0.100

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 11

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
621 - Cypress	N/A	Impact (Direct)	0.02 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetland 11 is a roadside cypress swamp that has historically been disturbed or altered to some degree.

Assessment area description

This assessment area consists of a cypress dome within the project limits adjacent to Suncoast Parkway, totalling approximately 0.02 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat, carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, amphibians, small fish, aquatic invertebrates	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 11
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0
Wetland 11 is a roadside cypress swamp that has historically been disturbed or altered to some degree. The AA is adjacent to some areas that have the potential to provide habitat and support to wildlife, although these functions are somewhat limited by their location adjacent to roadside or residential development.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 0
Water levels and flows within the AA appear to be somewhat appropriate considering natural variation. Hydrologic conditions are somewhat impacted due to their position within the study area.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 8	with: 0
The majority of plant cover and diversity within the AA appears appropriate with minor invasive encroachment only observed along portions that abut areas of routine mowing and maintenance. Species composition, abundance, recruitment, and strata appear appropriate for this type of system.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.733	0

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

For impact assessment areas
FL = delta x acres = 0.015

Delta = [with-current]
-0.733

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 9b and 11

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
621 - Cypress	N/A	Impact (Secondary)	0.18 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 9b and 11 are roadside cypress swamps that have historically been disturbed to some degree.

Assessment area description

This assessment area consists of two cypress domes within the project limits adjacent to Suncoast Parkway, totalling approximately 0.18 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat, carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, amphibians, small fish, aquatic invertebrates	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 9b and 11
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	September 2024

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 5	Wetlands 9b and 11 are roadside cypress swamps that have historically been disturbed or altered to some degree. The component wetlands within the AA are adjacent to some areas that have the potential to provide habitat and support to wildlife, although these functions are somewhat limited by their location adjacent to roadside or residential development.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 6	Water levels and flows within the AA appear to be somewhat appropriate considering natural variation. Hydrologic conditions are somewhat impacted due to their position within the study area.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 8	with: 7	The majority of plant cover and diversity within the AA appears appropriate with minor invasive encroachment only observed along portions that abut areas of routine mowing and maintenance. Species composition, abundance, recruitment, and strata appear appropriate for this type of system.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.733	0.6

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

For impact assessment areas
FL = delta x acres = 0.024

Delta = [with-current]
-0.133

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 7, 8, and 9c

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
630 - Wetland Forested Mixed	N/A	Impact (Direct)	0.37 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 7, 8, and 9c are roadside mixed wetland forests located between Suncoast Parkway and a residential community development.

Assessment area description

This assessment area consists of three mixed forested wetlands within the project limits adjacent to Suncoast Parkway, totalling approximately 0.37 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals and wading birds	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 7, 8, and 9c
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	September 2024

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 6	with: 0	Wetlands 7, 8, and 9c are roadside mixed wetland forests that have historically been disturbed or altered to some degree located between Suncoast Parkway and a residential community development.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 0	The hydrology of the component wetlands within the AA have historically been altered or engineered to some degree; however, water levels and flows within the AA appear to be somewhat appropriate considering natural variation. Hydrologic conditions are somewhat impacted due to their position adjacent to Suncoast Parkway and nearby developments.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 0	The majority of plant cover within the AA appears somewhat appropriate; Species diversity and composition are mostly appropriate for this type of habitat, though somewhat limited due to their location between Suncoast Parkway and a residential development.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.667	0

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

For impact assessment areas
FL = delta x acres = 0.247

Delta = [with-current]
-0.667

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 4a, 7, 8, and 9c

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
630 - Wetland Forested Mixed	N/A	Impact (Secondary)	1.08 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 7, 8, and 9c are roadside mixed wetland forests located between Suncoast Parkway and a residential community development.

Assessment area description

This assessment area consists of three mixed forested wetlands within the project limits adjacent to Suncoast Parkway, totalling approximately 1.08 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals and wading birds	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 4a, 7, 8, and 9c
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	September 2024

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 6	with: 6	Wetlands 7, 8, and 9c are roadside mixed wetland forests that have historically been disturbed or altered to some degree located between Suncoast Parkway and a residential community development.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 6	The hydrology of the component wetlands within the AA have historically been altered or engineered to some degree; however, water levels and flows within the AA appear to be somewhat appropriate considering natural variation. Hydrologic conditions are somewhat impacted due to their position adjacent to Suncoast Parkway and nearby developments.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 6	The majority of plant cover within the AA appears somewhat appropriate; Species diversity and composition are mostly appropriate for this type of habitat, though somewhat limited due to their location between Suncoast Parkway and a residential development.

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.667	with: 0.6

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

For impact assessment areas
FL = delta x acres = 0.072

Delta = [with-current]
-0.067

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 12c

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
640 - Vegetated Non-Forested Wetlands	N/A	Impact (Direct)	0.30 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetland 12c consists of a portion of a large sparsely vegetated wetland located to the east of Suncoast Parkway and partially surrounded by forested wetlands.

Assessment area description

This assessment area consists of a portion of a larger somewhat isolated short-herbaceous wetland.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; Sandy Branch	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat, foraging habitat for wading birds, carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals and wading birds	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 12c
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support w/o pres or current: 8 with: 0	Wetland 12c consists of a portion of a large sparsely vegetated wetland located to the east of Suncoast Parkway. Habitats outside the AA are available in sufficient quantity and variety to provide habitat and support for most wildlife. Land uses outside the AA do not have significant adverse impacts on wildlife.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 8 with: 0	Water levels and flows within Wetland 12c appear to be appropriate considering natural variation. Hydrologic conditions are relatively buffered from nearby development due to their position within the study area, however the opportunity for the AA to provide benefits to downstream habitats is somewhat limited due to a series of culverts that restrict flow from the larger wetland system to the Sandy Branch or Anclote River.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 7 with: 0	Vegetation within the AA was sparcely vegetated but primarily comprised of some appropriate hydrophytic grasses and sedges, with a greater abundace and diversity of appropriate herbaceous species (such as maidencane, softrush, whitetop sedge, yellow-eyed grasses, and St. Johns wort) located in the larger wetland system outside the AA.	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.767	with: 0	

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

For impact assessment areas
FL = delta x acres = 0.230

Delta = [with-current]
-0.767

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 12c

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
640 - Vegetated Non-Forested Wetlands	N/A	Impact (Secondary)	0.47 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetland 12c consists of a portion of a large sparsely vegetated wetland located to the east of Suncoast Parkway and partially surrounded by forested wetlands.

Assessment area description

This assessment area consists of a portion of a larger somewhat isolated short-herbaceous wetland.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; Sandy Branch	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat, foraging habitat for wading birds, carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals and wading birds	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetland 12c
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support w/o pres or current: 8 with: 6	Wetland 12c consists of a portion of a large sparsely vegetated wetland located to the east of Suncoast Parkway. Habitats outside the AA are available in sufficient quantity and variety to provide habitat and support for most wildlife. Land uses outside the AA do not have significant adverse impacts on wildlife.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 8 with: 7	Water levels and flows within Wetland 12c appear to be appropriate considering natural variation. Hydrologic conditions are relatively buffered from nearby development due to their position within the study area, however the opportunity for the AA to provide benefits to downstream habitats is somewhat limited due to a series of culverts that restrict flow from the larger wetland system to the Sandy Branch or Anclote River.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 7 with: 6	Vegetation within the AA was sparcely vegetated but primarily comprised of some appropriate hydrophytic grasses and sedges, with a greater abundace and diversity of appropriate herbaceous species (such as maidencane, softrush, whitetop sedge, yellow-eyed grasses, and St. Johns wort) located in the larger wetland system outside the AA.	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.767	with: 0.63333	

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

For impact assessment areas
FL = delta x acres = 0.063

Delta = [with-current]
-0.133

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3b, 9a, 13b, and 14b

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marshes	N/A	Impact (Direct)	1.46 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 3b, 9a, 13b, and 14b are freshwater marshes located throughout the project study area that are at least partially adjacent or connected to relatively undeveloped habitats.

Assessment area description

This assessment area consists of an assemblage of freshwater marshes located along roadsides and under bridges within the project limits, totalling approximately 1.46 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; South Branch Anclote River, Sandy Branch River, Anclote River	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat, foraging habitat for wading birds, water conveyance, nutrient transport	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals and wading birds	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3b, 9a, 13b, and 14b
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	September 2024

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

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

.500(6)(a) Location and Landscape Support w/o pres or current: 5 with: 0	The component wetlands within this AA are generally positioned between residential and/or raodside development on one side and adjacent or hydrologically connected to more natural habitats on another. Wetlands 3b, 9a, 13b, and 14b are freshwater marshes located throughout the project study area that are at least partially adjacent to larger habitats that provide support to most wildlife, although the component wetlands within the AA do not provide the same level of support.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 7 with: 0	Water levels and flows within the AA appear to be appropriate considering natural variation. Hydrologic conditions are relatively buffered from nearby development but still somewhat impacted due to their position adjacent to or underneath Suncoast Parkway.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 7 with: 0	The diversity, composition, and abundance of species appear appropriate for this type of habitat with only minor encroachment of invasive exotics observed. Plant communities are in generally good condition, however recruitment and size distribution are somewhat impacted by general mowing and maintenance.	

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.633	with: 0

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

For impact assessment areas	
FL = delta x acres =	0.925

Delta = [with-current]
-0.633

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3b, 9a, and 14b

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marshes	N/A	Impact (Secondary)	0.58 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper Coastal Drainage	Class III	N/A

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

Wetlands 3b, 9a, and 14b are freshwater marshes located throughout the project study area that are at least partially adjacent or connected to relatively undeveloped habitats.

Assessment area description

This assessment area consists of an assemblage of freshwater marshes located along roadsides and under bridges within the project limits, totalling approximately 0.58 acres. Vegetation across the component wetlands within the AA is consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Suncoast Parkway; South Branch Anclote River, Sandy Branch River, Anclote River	Not Unique

Functions	Mitigation for previous permit/other historic use
Potential wildlife habitat, foraging habitat for wading birds, water conveyance, nutrient transport	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals and wading birds	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:	Assessment date(s):
Kimley-Horn	September 2024

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

Site/Project Name	Application Number	Assessment Area Name or Number
Suncoast Parkway PD&E	TBD	Wetlands 3b, 9a, and 14b
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	September 2024

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

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	5	5	The component wetlands within this AA are generally positioned between residential and/or raodside development on one side and adjacent or hydrologically connected to more natural habitats on another. Wetlands 3b, 9a, 13b, and 14b are freshwater marshes located throughout the project study area that are at least partially adjacent to larger habitats that provide support to most wildlife, although the component wetlands within the AA do not provide the same level of support.
.500(6)(b)Water Environment (n/a for uplands)	7	6	Water levels and flows within the AA appear to be appropriate considering natural variation. Hydrologic conditions are relatively buffered from nearby development but still somewhat impacted due to their position adjacent to or underneath Suncoast Parkway.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	7	6	The diversity, composition, and abundance of species appear appropriate for this type of habitat with only minor encroachment of invasive exotics observed. Plant communities are in generally good condition, however recruitment and size distribution are somewhat impacted by general mowing and maintenance.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.633	0.56667

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

For impact assessment areas
FL = delta x acres = 0.039

Delta = [with-current]
-0.067

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

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