# Natural Resources Evaluation

## Florida's Turnpike Enterprise

## Central Polk Parkway
## Project Development and Environment Study

**From US 17 (SR 35) to SR 60**
**New Alignment Project**
**Polk County, Florida**

Financial Project ID: 440897-4-22-01
ETDM No.: 14372

**December 2020**

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# Executive Summary

The Florida Department of Transportation (FDOT), Florida's Turnpike Enterprise (FTE), is conducting a Project Development and Environment (PD&E) study to evaluate a new tolled expressway, which includes a 2.2-mile extension of the Central Polk Parkway from US 17 (State Road [SR] 35) to SR 60 in Polk County, Florida. The purpose of this PD&E Study is to evaluate engineering and environmental data and document information that will support FTE and Polk County in determining the type, preliminary design and location of the proposed improvements. The study was conducted in order to meet the requirements of the FDOT, the National Environmental Policy Act (NEPA) and other related federal and state laws, rules and regulations.

This Natural Resources Evaluation (NRE) is being prepared as part of this PD&E study. This report reviews the possible impacts to wetland systems and federal- and state-protected species. The identification of measures to avoid, minimize and mitigate for any potential impacts is also discussed. The preferred alternative was assessed for the purposes of this evaluation. A summary of the analysis of potential project impacts for the proposed Central Polk Parkway is presented below.



### Protected Species

The project study area was evaluated for potential occurrences of federal- and state-protected 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 technical assistance with the U.S. Fish and Wildlife Service (USFWS), the Florida Fish and Wildlife Conservation Commission (FWC), and coordination with the Florida Natural Areas Inventory (FNAI). The evaluation also included literature and database reviews, as well as field assessments of the project study area to identify the potential occurrence of protected species and/or presence of federal-designated critical habitat. Project biologists conducted field evaluations of the project area and adjacent habitats in January, February, May, and June 2019.

Based on evaluation of collected data and field reviews, the federal- and state-protected species discussed in **Table ES-1, Table ES-2** and **Table ES-3** were observed or were determined to have the potential to occur within or adjacent to the project study area. An effect determination was made for each of these federally and state protected species based on an analysis of the potential impacts of the proposed project on each species.

### Wetland Evaluation

For the purposes of this document, wetlands are defined in accordance with Chapter 62-340 F.A.C., Section 373.019 (27) Florida Statutes (F.S.), and *Corps of Engineers Wetland Delineation Manual* (1987) with *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region* (2010).

## Table ES-1 Federal Protected Species Effect Determinations

| Project Effect Determination | Federal Listed Species |
|---|---|
| **"No effect"** | Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*) |
| | Florida Panther (*Puma concolor couguar*) |
| **"May affect, but is not likely to adversely affect"** | Scrub Buckwheat (*Eriogonum longifolium* var. *gnaphalifolium*) |
| | Britton's Beargrass (*Nolina brittoniana*) |
| | Lewton's Polygala (*Polygala lewtonii*) |
| | Carter's Warea (*Warea carteri*) |
| | Eastern Indigo Snake (*Drymarchon couperi*) |
| | Florida Scrub-jay (*Aphelocoma coerulescens*) |
| | Crested Caracara (*Caracara cheriway*) |
| | Wood Stork (*Mycteria americana*) |
| | Everglade Snail Kite (*Rostrhamus sociabilis*) |
| **"May affect"** | Blue-tailed Mole Skink (*Plestiodon egregius lividus*) |
| | Sand Skink (*Plestiodon reynoldsi*) |
| | Florida Bonneted Bat (*Eumops floridanus*) |

## Table ES-2 State Protected Species Effect Determinations

| Project Effect Determination | State Listed Species |
|---|---|
| **"No adverse effect anticipated"** | Incised Groove-bur (*Agrimonia incisa*) |
| | Ashe's Savory (*Calamintha ashei*) |
| | Many-flowered Grass-pink (*Calopogon multiflorus*) |
| | Sand Butterfly Pea (*Centrosema arenicola*) |
| | Piedmont Jointgrass (*Coelorachis tuberculosa*) |
| | Star Anise (*Illicium parviflorum*) |
| | Florida Spiny-pod (*Matelea floridana*) |
| | Celestial Lily (*Nemastylis floridana*) |
| | Hand Fern (*Ophioglossum palmatum*) |
| | Giant Orchid (*Orthochilus [Pteroglossaspis] ecristatus*) |
| | Plume Polyplody (*Pecluma plumula*) |
| | Comb Polyplody (*Pecluma ptilota* var. *boureauana*) |
| | Florida Willow (*Salix floridana*) |
| | Gopher Tortoise (*Gopherus polyphemus*) |
| | Short-tailed Snake (*Lampropeltis extenuata*) |
| | Florida Pine Snake ( *Pituophis melanoleucus mugitus*) |
| | Florida Sandhill Crane (*Antigone canadensis pratensis*) |
| | Florida Burrowing Owl (*Athene cunicularia floridana*) |
| | Little Blue Heron (*Egretta caerulea*) |
| | Tricolored Heron (*Egretta tricolor*) |
| | Southeastern American Kestrel (*Falco sparverius paulus*) |
| | Roseate Spoonbill (*Platalea ajaja*) |

## Table ES-3 Other Species of Concern Effect Determination

| Project Effect Determination | Other Species of Concern |
|---|---|
| **"No adverse effect anticipated"** | Bald Eagle (*Haliaeetus leucocephalus*) |

Although unavoidable wetland impacts will occur as a result of the proposed preferred alternative, these wetlands are located within the proposed road right-of-way (ROW) and were previously disturbed by extractive and agricultural activities, residential development, roadway construction, maintenance activities, and the invasion of nuisance and exotic species. Wetland habitat types proposed to be impacted by construction include wetland scrub, freshwater marshes, emergent aquatic vegetation, wet prairies, exotic wetland hardwoods, and intermittent ponds. Surface water habitat types proposed to be impacted include reservoirs and streams and waterways (**Table ES-4**). Impacts associated with the preferred alternative total 21.64 acres and include 14.53 acres of wetlands and 7.11 acres of surface waters. A description of land use, dominant vegetation, soil type, and other descriptors regarding these communities is provided in subsequent sections of this report. The Uniform Mitigation Assessment Method (UMAM) analysis was performed on representative wetland impact areas. Construction of the preferred alternative results in an estimated loss of 9.55 functional units.

**Table ES-4 Proposed Wetland and Surface Water Impacts by FLUCFCS Description**

| Impact Type | FLUCFCS Description | FLUCFCS Classification [1] | USFWS Classification [2] | Impact Acreage |
|---|---|---|---|---|
| Surface Waters | Streams and Waterways | 510 | R2UB2Hx, PSS1Cx, PEM1Cx | 1.68 |
| | Reservoirs | 530 | PUB2Hx | 5.43 |
| | | | ***Total Surface Water Impacts*** | **7.11** |
| Wetlands | Exotic Wetland Hardwood | 619 | PSS1C | 0.28 |
| | Wetland Scrub | 631 | PSS1C | 4.94 |
| | Freshwater Marshes | 641 | PEM1C | 5.06 |
| | Wet Prairie | 643 | PEM1C | 0.10 |
| | Emergent Aquatic Vegetation | 644 | PEM1C | 2.17 |
| | Intermittent Pond | 653 | PEM1C | 1.98 |
| | | | ***Total Wetland Impacts*** | **14.53** |
| | | | ***Total Impacts*** | **21.64** |

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999

[2] Cowardin, *et al.*, 1979

PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded
PEM1Cx: Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated
PSS1C: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded
PSS1Cx: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Excavated
PUB2Hx: Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated
R2UB2Hx: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated

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

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

due to the need to increase roadway capacity and safety considerations. In accordance with Presidential Executive Order (EO) 11990, the FTE 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 FTE 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 will be avoided and minimized to the greatest extent possible and have been limited to those areas of previous disturbance and those which are required to meet minimum safety requirements.

**Essential Fish Habitat**

The proposed project will not involve Essential Fish Habitat as none exists within the project study area.

# Section 1.0 Introduction

## *1.1 Project Description*

### *1.1.1 Project Background*

A Project Development and Environment (PD&E) study for the Central Polk Parkway, conducted by the FDOT, District One, FPID 423601-1-22-01, concluded in March 2011 with the approved State Environmental Impact Report. The 2011 PD&E study evaluated a new six-lane limited access facility with two recommended alternatives: the Western Leg (SR 60 to the Polk Parkway [SR 570]) and the Eastern Leg (SR 60 to I-4). In February of 2013, the design for Segment One (Polk Parkway [SR 570] to US 17 [SR 35]) of the Western Leg was partially completed to Phase I design by FDOT District One, FPID 431641-1-52-01. The District One project was placed on hold in April 2016 due to insufficient funding and traffic volume support. Segment One is currently under design by the FTE to provide a new four-lane divided limited access expressway from the Polk Parkway to US 17, FPID 440897-2-52-01. This new expressway will feature all electronic tolling (AET).

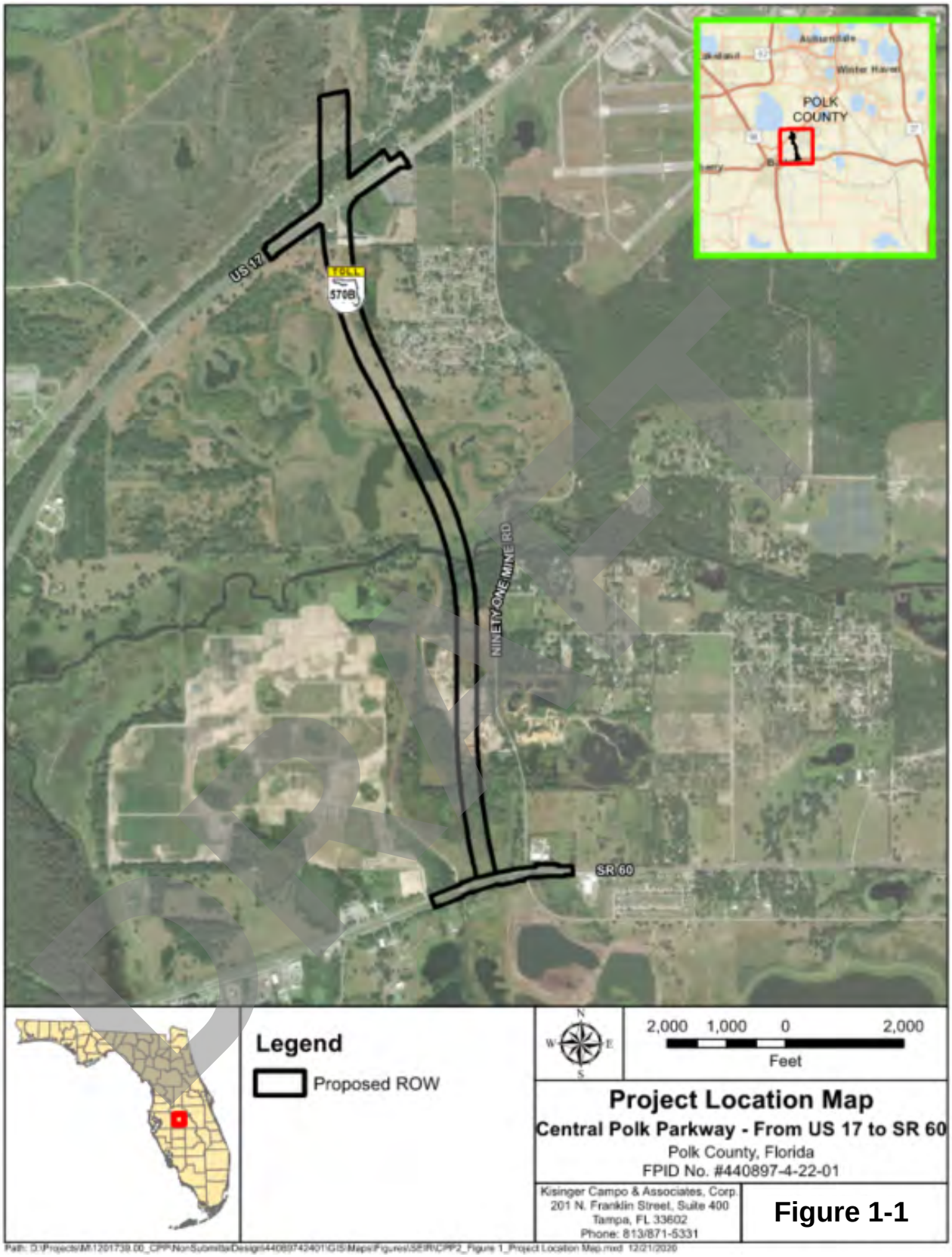
The east/west extension from US 17 to SR 60, which is being evaluated as part of this PD&E study, was not evaluated as part of the previous Central Polk Parkway PD&E study, FPID 423601-1-22-01. It should also be noted that the Central Polk Parkway nomenclature is still being utilized.

### *1.1.2 Project PD&E Study*

The FDOT's FTE is conducting a PD&E study to evaluate a new tolled four-lane limited access expressway located in Polk County, Florida. The study will evaluate extending the Central Polk Parkway beginning at US 17 approximately a half mile west of 91 Mine Road and terminating at SR 60 west of 91 Mine Road. The project is located in Sections 22, 27 and 34 of Township 29 South Range 25 East, and Section 3 of Township 30 South Range 25 East. The project limits (proposed ROW) are shown in **Figure 1-1**. The results of the study will support determination of the type, preliminary design and location of the proposed improvements.

The study evaluates the need for capacity improvements and provides engineering and environmental documentation and analysis to establish the optimal location of the Central Polk Parkway. Other components of the PD&E study include a preliminary engineering report, concept plans, environmental studies, a public involvement program and other information for use in the development of this project.

The project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process as project #14372. An ETDM *Programming Screen Summary Report* containing comments from the Environmental Technical Advisory Team (ETAT) was published on June 5, 2019. The ETAT evaluated the project's effects on various natural, physical and social resources. ETAT comments are summarized in **Section 2.4**.


POLK COUNTY
US 17
TOLL
570B
NINETY-ONE MINE RD
SR 60
Legend
Proposed ROW
N
W
E
S
2,000 1,000 0 2,000
Feet
Project Location Map
Central Polk Parkway - From US 17 to SR 60
Polk County, Florida
FPID No. #440897-4-22-01
Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331
Figure 1-1

## 1.2 Purpose and Need

The purpose of this study is to evaluate a new multi-lane limited access facility between US 17 and SR 60. This segment of the Central Polk Parkway will improve regional, north/south connectivity, enhance freight mobility and economic competitiveness, improve emergency evacuation times and accommodate future population growth. This project is a component of a larger regional east/west facility.

According to the University of Florida's Bureau of Economic and Business Research (BEBR), the population of Polk County is estimated to grow from 661,645 (2017) to 906,100 by 2040 (a 27 percent increase). The Central Polk Parkway from US 17 (SR 35) to SR 60 is anticipated to accommodate the increased travel demand expected from the projected freight, residential and employment growth.

The addition of a new east/west facility to the regional transportation network will relieve congestion from parallel facilities, including truck traffic, in central Polk County, particularly US 98 (SR 700), SR 540, US 17 (SR 35) and SR 60. The Central Polk Parkway will provide additional connections to the local roadway network and Strategic Intermodal System (SIS) facilities such as Polk Parkway (SR 570), US 98 (SR 700) and SR 60. The Polk Parkway is a beltway route that provides connections from Interstate 4 (I-4) to Polk County cities such as Winter Haven, Bartow, Auburndale, and the south side of Lakeland. SR 60 provides coast to coast connections including freight movement to and from the Florida's Gateway Intermodal Logistics Center. US 98 (SR 700) provides north-south connections throughout Polk County.

## 1.3 Proposed Improvements

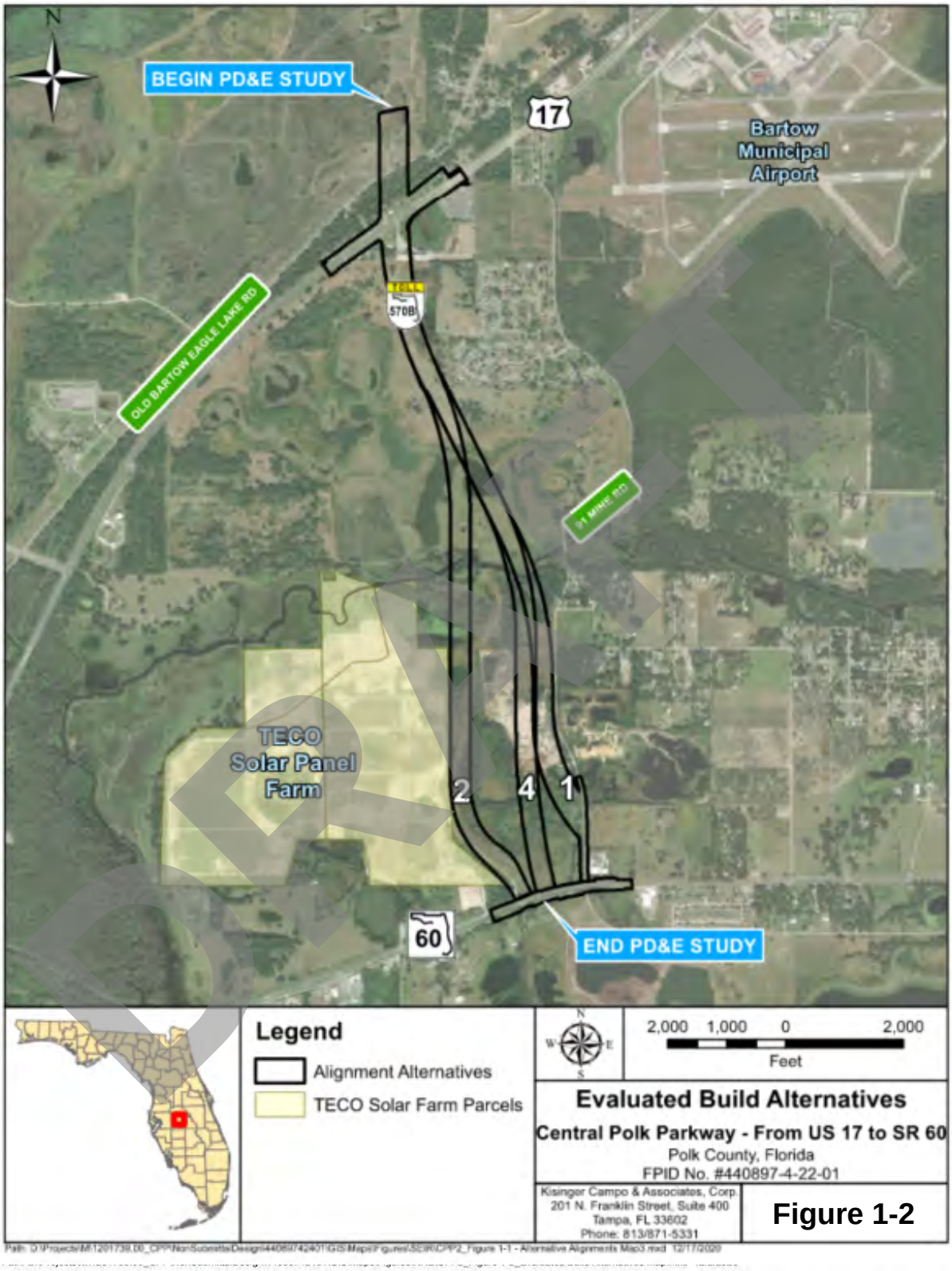
### 1.3.1 No-Build Alternative

The No-Build Alternative remains a viable option throughout the study process. It assumes that both normal and evacuation traffic volumes continue to increase in the future without construction of the roadway. The No-Build Alternative minimizes right-of-way and construction costs along with environmental impacts. However, it does not accomplish the purpose and need for this project.

### 1.3.2 Preferred Alternative

Three (3) build alternatives were evaluated in this PD&E study **(Figure 1-2)**. The preferred alternative (Alternative 4) was selected based on the natural, physical, social, and right of way information. A detailed alternatives analysis is included in the Preliminary Engineering Report. The preferred alternative includes a new diamond interchange connection with US 17 to the north and the alignment extends south to connect with SR 60 approximately 700 feet west of 91 Mine Road by means of an at grade intersection.

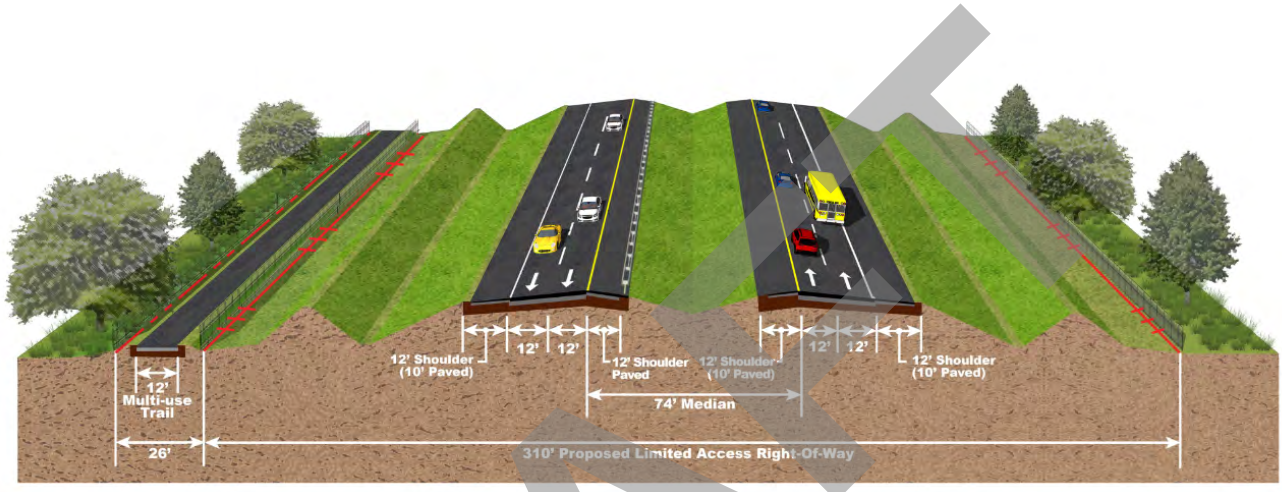
**Figure 1-2 Evaluated Build Alternatives**



## 1.3.3 Typical Section

The typical section (**Figure 1-3**) consists of a rural, four-lane divided, limited access facility with a 74-foot median, 12-foot travel lanes, 12-foot outside shoulders (10-foot paved), eight-foot median shoulders (4-foot paved) and open roadside ditches. A 12-foot multi-use recreational trail is also being evaluated as part of this PD&E study which will be located within a separate 26-foot right-of-way corridor to run parallel with the Central Polk Parkway alignment.

**Figure 1-3 Four-lane Typical Section**




## 1.4 Purpose of Report

The purpose of this report is to document wetlands and protected species within the proposed project study area. Pursuant to Presidential Executive Order 11990 entitled "Protection of Wetlands," the U.S. Department of Transportation (USDOT) has developed a policy, Preservation of the Nation's Wetlands (USDOT Order 5600.1A), dated August 24, 1978, which requires all federal-funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, as well as Part 2, Chapter 9 – Wetlands and Other Surface Waters of the FDOT PD&E Manual, four (4) project alternatives, three (3) Build and one (1) No-Build, were assessed to determine the potential wetland impacts associated with construction of each alternative. The No-Build Alternative would result in no impacts to wetlands or surface waters.

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

# Section 2.0 Existing Conditions

## *2.1 Introduction*

This section presents a description of existing conditions within the project study area, including soils and land use/vegetative cover types within both upland and wetland communities. **Section 3.0** presents a description of the potential impacts to federally and state protected species and proposed conservation measures to offset these impacts. **Section 4.0** presents a description of wetland and surface water impacts that would result from the construction of the proposed project and a discussion of the mitigation options to offset these impacts.

For this report, the project study area is defined as the proposed pond site parcels, the 12-foot multi-use recreational trail, and the 250-foot buffer around the preferred alternative proposed ROW (**Figure 2-1**).

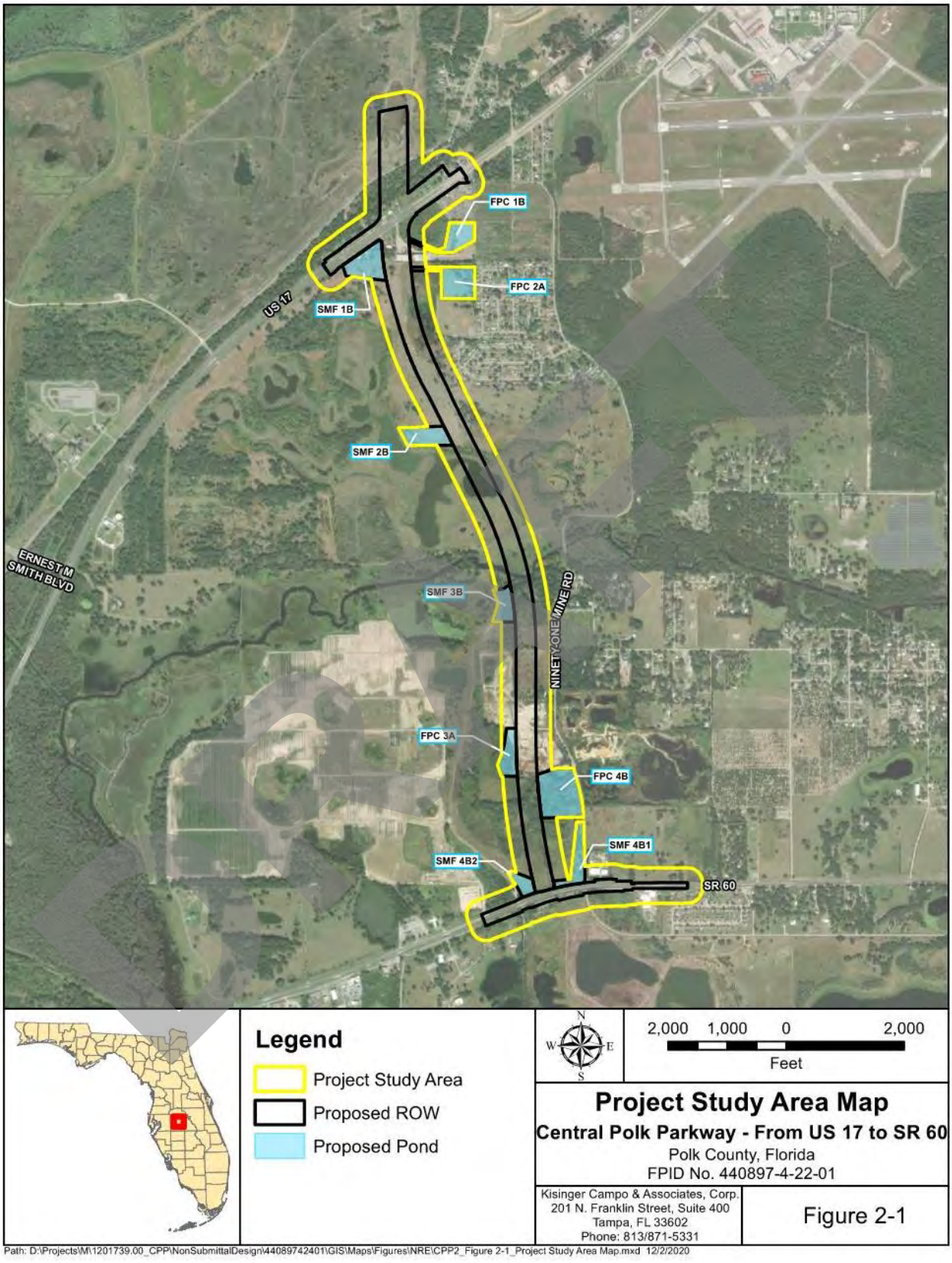
## *2.2 Methodology*

In order to assess the approximate locations and boundaries of existing wetland and upland communities within the project area, the following site-specific data was collected and reviewed:

- Aerial photographs, (scale 1"=200') ESRI 2018;
- Florida Association of Environmental Soil Scientists, Hydric Soils of Florida Handbook, 4th ed., (Hurt *et al*., 2007);
- Florida Department of Transportation (FDOT), Florida Land Use, Cover and Forms Classification System (FLUCFCS), 3rd ed., January 1999;
- Southwest Florida Water Management District (SWFWMD), Florida Land Use, Cover and Forms Classification System GIS Database, (SWFWMD 2011);
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Soil Survey of Polk County, Florida, 1990;
- USDA, NRCS. Web Soil Survey website (May 2018);
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI), Wetlands Online Mapper (January 2018); and
- USFWS, Classification of Wetlands and Deepwater Habitats of the United States (Cowardin *et al*., 1979).

For the purposes of this document, wetlands are defined in accordance with Chapter 62-340 F.A.C., Section 373.019 (27) F.S., and *Corps of Engineers Wetland Delineation Manual* (1987) with *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region* (2010). Surface waters are defined as open water bodies.

## Figure 2-1 Project Study Area Map



Environmental scientists familiar with Florida's natural communities conducted field reviews of the project study area in January, February, May, and June 2019. Field reviews consisted of pedestrian transects throughout all natural habitat types found within the project study area. The purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photographic interpretation. During field investigations, each wetland and surface water habitat within the study area was visually inspected and photographed. Attention was given to identifying plant species and 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 study area.

## *2.3 Results*

Based on site-specific data searches and field evaluations, a total of 21 soil types, 16 upland habitat types, and eight (8) wetland and surface water habitat types were identified within the study area. The following subsections describe the soils, upland and wetland community types, and individual wetlands and surface waters that occur within the study area.

### *2.3.1 Soils*

Based on the *Soil Survey of Polk County, Florida* (USDA, 1990), the study area is comprised of 21 soil types. **Appendix A** provides an aerial map depicting the boundaries of each soil type within the project study area. According to the *NRCS Web Soil Survey*, seven (7) soil types reported within the project study area are classified as hydric and 14 are listed as non-hydric. Of the 14 non-hydric soils, four (4) are reported as having possible hydric soil inclusions. Mapped hydric soils comprise 57.42 acres (14.23 percent) and non-hydric soils cover 341.06 acres (84.53 percent) of the study area. The remaining 4.99 acres (1.24 percent) of the study area is designated as open water.

**Table 2-1** lists the soil types reported within the study area, their corresponding USDA reference numbers reported in the *Soil Survey of Polk County, Florida*, their hydric classification, and the approximate acreage and percentage within the project study area.

### *2.3.2 Land Use*

A total of 16 upland, six (6) wetland and two (2) surface water habitat types were found within the project study area. Aerial maps depicting existing land uses and habitats within the project study area are provided in **Appendix B**. Each habitat type within the project study area was classified using the Florida Land Use, Cover and Forms Classification System (FLUCFCS; FDOT 1999) and the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979), if applicable. **Table 2-2** quantifies land use and habitat types, and provides their classifications, total acreage and percent coverage within the project study area.

**Table 2-1 NRCS Soil Types and Coverage within the Central Polk Parkway Study Area**

| Soil Number | Soil Type | Hydric (Y/N) | Acreage within the Project Study Area | Percent of Project Study Area |
|---|---|---|---|---|
| 2 | Apopka Fine Sand, 0 to 5 Percent Slopes | N | 7.16 | 1.77% |
| 3 | Candler Sand, 0 to 5 Percent Slopes | N | 35.80 | 8.87% |
| 7 | Pomona Fine Sand | N* | 79.40 | 19.68% |
| 8 | Hydraquents, Clayey | Y | 12.39 | 3.07% |
| 11 | Arents-Water Complex | N | 6.72 | 1.67% |
| 12 | Neilhurst Sand, 1 to 5 Percent Slopes | N* | 124.25 | 30.80% |
| 13 | Samsula Muck | Y | 19.48 | 4.83% |
| 15 | Tavares Fine Sand, 0 to 5 Percent Slopes | N | 20.61 | 5.11% |
| 16 | Urban Land | N | 0.33 | 0.08% |
| 19 | Floridana Mucky Fine Sand, Depressional | Y | 0.45 | 0.11% |
| 22 | Pomello Fine Sand | N | 36.09 | 8.94% |
| 23 | Ona Fine Sand | N* | 2.16 | 0.53% |
| 25 | Placid and Myakka Fine Sands, Depressional | Y | 12.25 | 3.04% |
| 26 | Lochloosa Fine Sand | N | 2.33 | 0.58% |
| 35 | Hontoon Muck | Y | 1.18 | 0.29% |
| 37 | Placid Fine Sand, Frequently Flooded | Y | 7.66 | 1.90% |
| 51 | Pomona-Urban Land Complex | N* | 7.25 | 1.80% |
| 57 | Haplaquents Clayey | Y | 4.01 | 0.99% |
| 58 | Udorthents, Excavated | N | 0.84 | 0.21% |
| 59 | Arents-Urban Land Complex, 0 to 5 Percent Slopes | N | 1.85 | 0.46% |
| 68 | Arents, 0 to 5 Percent Slopes | N | 16.27 | 4.03% |
| 99 | Water | N/A | 4.99 | 1.24% |
| | | ***Total Hydric*** | **57.42** | **14.23%** |
| | | ***Total Non-Hydric*** | **341.06** | **84.53%** |
| | | ***Total Water*** | **4.99** | **1.24%** |
| | | ***Total*** | **403.47** | **100.00%** |

*May have hydric soil inclusions

Upland communities comprise 353.99 acres (87.74 percent) of the project study area and include residential development, commercial and services, industrial, extractive, reclaimed land, tree crops, nurseries and vineyards, other open lands, mixed rangeland, upland coniferous forest, temperate hardwoods, hardwood-conifer mixed, mixed hardwoods, transportation, and utilities. Wetland and surface water communities comprise 49.48 acres (12.26 percent) of the project study area. Based on collected field data and in-house reviews, a total of eight (8) wetland and surface water habitat types – including six (6) wetlands and two (2) surface waters – were identified within the project study area. Wetland and surface water habitats include streams and waterways, reservoirs, exotic wetland hardwoods, wetland scrub, freshwater marshes, wet prairies, emergent aquatic vegetation, and intermittent ponds.

**Appendix C** provides descriptions of all identified wetland and surface water habitats, a table of their acreage within the project study area, and aerial maps of the location of these systems within the project study area. There are no wetlands or surface water designated as Outstanding Florida

Waters within the project study area. Representative photographs of each wetland and surface water community type are provided in **Appendix D**.

**Table 2-2 Land Use Types within the Central Polk Parkway Study Area**

| Habitat Type | FLUCFCS Classification[1] | FLUCFCS Description[1] | USFWS Classification[2] | Acreage within Project Study Area | Percent of Project Study Area |
|---|---|---|---|---|---|
| Developed | 120 | Medium Density Residential | N/A | 19.75 | 4.90% |
| | 140 | Commercial and Service | N/A | 20.98 | 5.20% |
| | 150 | Industrial | N/A | 2.92 | 0.72% |
| | 160 | Extractive | N/A | 45.29 | 11.23% |
| | 165 | Reclaimed Land | N/A | 136.44 | 33.82% |
| | 170 | Institutional | N/A | 5.37 | 1.33% |
| Undeveloped | 220 | Tree Crops | N/A | 9.58 | 2.37% |
| | 240 | Nurseries and Vineyards | N/A | 1.18 | 0.29% |
| | 260 | Other Open Lands [Rural] | N/A | 29.34 | 7.27% |
| | 330 | Mixed Rangeland | N/A | 4.56 | 1.13% |
| | 410 | Upland Coniferous Forest | N/A | 6.97 | 1.73% |
| | 425 | Temperate Hardwood | N/A | 0.06 | 0.01% |
| | 434 | Hardwood-Conifer Mixed | N/A | 29.20 | 7.24% |
| | 438 | Mixed Hardwoods | N/A | 11.39 | 2.82% |
| Infrastructure | 810 | Transportation | N/A | 23.96 | 5.94% |
| | 830 | Utilities | N/A | 7.00 | 1.74% |
| | | | ***Total Uplands*** | **353.99** | **87.74%** |
| Surface Waters | 510 | Streams and Waterways | R2UB2Hx, PSS1Cx, PEM1Cx | 3.26 | 0.81% |
| | 530 | Reservoirs | PUB2Hx | 10.29 | 2.55% |
| Wetlands | 619 | Exotic Wetland Hardwoods | PSS1C | 3.06 | 0.76% |
| | 631 | Wetland Scrub | PSS1C | 10.65 | 2.64% |
| | 641 | Freshwater Marshes | PEM1C | 13.10 | 3.24% |
| | 643 | Wet Prairies | PEM1C | 0.11 | 0.03% |
| | 644 | Emergent Aquatic Vegetation | PEM1C | 6.56 | 1.62% |
| | 653 | Intermittent Ponds | PEM1C | 2.45 | 0.61% |
| | | | ***Total Wetlands and Surface Waters*** | **49.48** | **12.26%** |
| | | | ***Total*** | **403.47** | **100.00%** |

[1] FDOT 1999

[2] Cowardin, *et al*., 1979

PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded

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

PSS1C: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded

PSS1Cx: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Excavated

PUB2Hx: Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated

R2UB2Hx: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated

## 2.4 ETDM Comments

The project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process as project No.: 14372. An ETDM *Programming Screen Summary Report* containing comments from the Environmental Technical Advisory Team (ETAT) was published on June 5, 2019. The ETAT evaluated the project's effects on various natural, physical and social resources.

### 2.4.1 Wetlands and Surface Waters

The U.S. Army Corps of Engineers (USACE) stated that approximately three (3) acres of Lacustrine Wetlands, 223 acres of Palustrine Wetlands, and six (6) acres of Riverine Wetlands lie within the 1,000-foot study area buffer. The USACE recommends continued emphasis on wetland avoidance and minimization throughout the planning process.

The Southwest Florida Water Management District (SWFWMD) recommended that a Formal Wetland Determination Petition is submitted prior to the Environmental Resource Permit (ERP) application submittal. SWFWMD stated that an analysis utilizing the Uniform Mitigation Assessment Method (UMAM) to determine the wetland mitigation required to offset the wetland impacts will be required.

The U.S. Fish and Wildlife Service (USFWS) noted that wetlands may occur within the study area buffer and that impacts should be avoided, where practicable. If wetland impacts are unavoidable, adequate mitigation should be provided that fully compensates for the loss of resources.

The National Marine Fisheries Service (NMFS) determined that the project will not directly impact any NMFS trust resources; however, the project has the potential to impact waterways and wetlands that drain to the Peace River, which drains to Charlotte Harbor. The NMFS recommends the design and implementation of stormwater treatment systems to prevent degraded water from reaching Peace River and Charlotte Harbor.

During this PD&E study, a wetland evaluation was prepared and documented in this NRE report in accordance with Part 2, Chapter 9 Wetlands and Other Surface Waters of the FDOT PD&E Manual to determine the potential adverse impacts to wetlands. All necessary measures will be taken to avoid and/or minimize impacts to wetlands to the greatest extent practicable during project design. Should avoidance and/or minimization not be practicable, a mitigation plan will be prepared. Please refer to the Pond Siting Report for details on the design and implementation of stormwater treatment systems. The FTE will reinitiate technical assistance with USFWS and coordinate with USACE and SWFWMD throughout the project's design phase, as applicable.

### 2.4.2 Wildlife and Habitat

Southwest Florida Water Management District (SWFWMD) commented that an Environmental Resource Permit (ERP) will be required for this project.

Florida Fish and Wildlife Conservation Commission (FWC) noted that primary wildlife issues associated with this project include: an increase in habitat fragmentation; direct loss of wetland habitats due to road construction; potential adverse effects to a moderate number of species listed

by the Federal Endangered Species Act as Endangered or Threatened, or by the State of Florida as Threatened; potential increase in wildlife roadkill; and potential water quality degradation as a result of additional stormwater runoff from the expanded roadway surface draining into adjacent wetlands and Peace Creek.

Florida Department of Agriculture and Consumer Services (FDACS) stated that there is potential to impact state and federally listed plant species, some of which are very limited in geographic distribution and have small populations. State and federally listed plant species have a low potential for occurrence throughout the project study area due to a high level of disturbance resulting from previous mining activities.

The USFWS stated that the project corridor is located in the Core Foraging Area of several active nesting colonies of the endangered wood stork. USFWS commented that the following federally listed species have the potential to occur in or near the project site: blue-tailed mole skink, Eastern indigo snake, Florida scrub-jay, sand skink, wood stork, and Federally listed plants. USFWS recommends that a Biological Assessment (Natural Resources Evaluation [NRE]) for the project be prepared during the PD&E study. USFWS requested that a wildlife passage be provided over the Peace River to allow safe passage for wildlife.

This NRE has been prepared in accordance with Part 2, Chapter 16, Protected Species and Habitat, of the PD&E Manual. Design phase surveys will be conducted for the listed species potentially occurring within the project study area and the effects on listed species will be re-evaluated. Avoidance, minimization and mitigation for unavoidable impacts was assessed during the alternatives development to avoid and minimize effects on protected species and wetlands. The FTE will reinitiate technical assistance with USFWS and coordinate with FWC and FDACS throughout the project's design phase.

# Section 3.0 Protected Species

## *3.1 Introduction*

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 Services (NOAA-NMFS) pursuant to the Endangered Species Act (ESA) of 1973 (as amended). The USFWS administers the federal list of animal species (50 CFR 17) and plant species (50 CFR 23). Impacts to critical habitat were also evaluated per Section 3(5)(A) of the ESA. The study area was also evaluated for the occurrence of Critical Habitat as defined by the ESA as amended, and 50 CFR Part 424.

Administered by the Florida Fish and Wildlife Conservation Commission (FWC), the State of Florida affords special protection to animal species identified as state-designated threatened or state species of special concern, 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.

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 preferred alternative may have on protected species.

## *3.2 Methodology*

In order to determine the potential for occurrence of federal- and state-protected plant and animal species within the project study area, available site-specific data was collected and evaluated.

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

- Aerial photographs, (scale 1"=200') ESRI 2018;
- Audubon. Florida Eagle Watch Nest Map website;
- Florida Association of Environmental Soil Scientists, Hydric Soils of Florida Handbook, 4th Edition (Hurt *et al*., 2007);
- Florida Department of Agriculture and Consumer Services (FDACS), Florida Forest Service, Florida's Federally Listed Plant Species website (2010);
- FDACS, Florida Forest Service, Notes on Florida's Endangered and Threatened Plants: Botany Contribution No. 38, 5th edition, (2010), website. May 2020;

- Florida Department of Transportation (FDOT*), Florida Land Use, Cover and Forms Classification System* (FLUCFCS), 3rd ed., January 1999;
- Florida Fish and Wildlife Conservation Commission (FWC), Florida's Endangered Species and Threatened Species, December 2018;
- FWC, Eagle Nest Locator website, May 2020;
- FWC, Wading Bird Rookeries website, September 1999;
- Florida Natural Areas Inventory (FNAI) Element Occurrence Data Report (http://www.fnai.org/trackinglist.cfm), June 2019;
- FNAI Biodiversity Matrix Map Server, May 2020;
- Southwest Florida Water Management District (SWFWMD), Florida Land Use, Cover and Forms Classification System GIS Database; (SWFWMD 2011);
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), *Soil Survey of Polk County, Florida*, 1990;
- USDA, NRCS. Web Soil Survey website (May 2018);
- U.S. Fish and Wildlife Service (USFWS), Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12, June 2007;
- USFWS, 2019 Wood Stork Nesting Colonies Maps, May 2020;
- USFWS, Critical Habitat Portal website, May 2020;
- USFWS, Information for Planning and Consultation (IPaC) Mapper, May 2020.

Environmental scientists familiar with Florida natural communities conducted field reviews of the project study area and adjacent habitats in January, February, May, and June 2019. Field reviews consisted of pedestrian transects throughout the 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 photographic interpretation. During field investigations, upland and wetland communities within the study area were visually inspected. Attention was given to identifying dominant plant species and composition for each community. Additional attention was given to identifying potential wildlife and signs of wildlife usage in each wetland and upland community within the project study area. The FNAI was contacted for documented occurrences of listed species within one (1) mile of the study area (**Appendix E**).

Based on the evaluation of collected data, field reviews, FNAI data, and database searches, the federally and state protected species discussed in **Section 3.3** were considered as having the potential to occur within or adjacent to the project study area. Protected species documented

occurrence locations were received from the FNAI and FWC. 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 federally and state protected species based on an analysis of the potential impacts of the preferred alternative on each species.

## *3.3 Results*

Based on the information collected and field reviews conducted between January and June of 2019, a list of protected species with the potential to occur within the project study area was developed. This list includes a total of 37 federal or state protected species that have the potential for occurrence within the project study area. These protected species include 17 plants, six (6) reptiles, 12 birds and two (2) mammal species. **Table 3-1** presents a list of protected species with the potential to occur within the project study area, their federal or state protection status, preferred habitat, and ranking of potential occurrence. Locations of all listed species documented within one (1) mile of the project study area as well as the locations of all protected species observed during field reviews are also provided in **Appendix F**.

The potential for occurrence for each species was designated as Low, Moderate or High based on the type of habitat present within the project study area, its relative condition, if the species has been previously documented within one (1) mile of the project study area or if the species was observed in the project study area. A *Low* rating indicates that habitat for that species is present within the project study area but meets little to none of the habitat requirements of the species and the species has not been documented within proximity to the project study area. A *Moderate* rating indicates that suitable habitat exists and it is reasonable to assume the species is present. A *High* rating indicates that suitable habitat exists and the species was observed during field reviews. Protected plant species with preferred habitat exclusively limited to scrub were omitted due to a lack of suitable habitat within the project study area. Remaining state and federally listed plant species have a low potential for occurrence throughout the project study area due to a high level of disturbance resulting from previous mining activities. Because of the high level of soil disturbance, the potential for occurrences of the blue-tailed mole skink and sand skink were also ranked as low. Soil classifications have not been updated by the NRCS to show previous mining disturbances. Historical aerial imagery from March 21, 1971 of the project area is provided in **Appendix G**.

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 as a result 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 in **Sections 3.3.1** and **3.3.2** are the descriptions and "effect" determinations for each species.

## Table 3-1 Protected Species Potential for Occurrence

| Species | Designated Status | | | Habitat Preference | Suitable Habitat Acreages | Potential for Occurrence |
|---|---|---|---|---|---|---|
| | Federal | State | FDACS | | | |
| **Plants** | | | | | | |
| Incised Groove-Bur *Agrimonia incisa* | - | - | T | Sandhills and sometimes at the edges of more mesic habitats | 222.55 | Low |
| Ashe's Savory *Calamintha ashei* | - | - | T | Openings of pine scrub and disturbed areas such as abandoned fields, roadsides, and fire lanes | 235.07 | Low |
| Many-Flowered Grass-Pink *Calopogon multiflorus* | - | - | T | Dry to moist flatwoods with longleaf pine, wiregrass, and saw palmetto | 211.11 | Low |
| Sand Butterfly Pea *Centrosema arenicola* | - | - | E | Sandhills, scrubby flatwoods, and dry upland woods | 258.70 | Low |
| Piedmont Jointgrass *Coelorachis tuberculosa* | - | - | T | Margins of shallow lakes and ponds, and in marshes | 25.80 | Low |
| Scrub Buckwheat *Eriogonum longifolium* var. *gnaphalifolium* | T | - | E | Sandhill, oak hickory scrub, high pinelands, and turkey oak barrens with wiregrass, blue jack, and turkey oak | 240.30 | Low |
| Star Anise *Illicium parviflorum* | - | - | E | Banks of seepage streams, hydric hammocks, and baygalls | 11.45 | Low |
| Florida Spiny-Pod *Matelea floridana* | - | - | E | Upland hardwood forests | 40.65 | Low |
| Celestial Lily *Nemastylis floridana* | - | - | E | Wet flatwoods, prairies, marshes, and edges of cabbage palm hammocks | 13.07 | Low |
| Britton's Beargrass *Nolina brittoniana* | E | - | E | Scrub, sandhill, scrubby flatwoods, and xeric hammock | 211.11 | Low |
| Hand Fern *Ophioglossum palmatum* | - | - | E | In "boots" or old leaf bases of cabbage palms in maritime or wet hammocks | 11.45 | Low |
| Giant Orchid *Orthochilus (Pteroglassaspis) ecristatus* | - | - | T | Sandhill, scrub, pine flatwoods, and pine rocklands | 211.11 | Low |
| Plume Polyplody *Pecluma plumula* | - | - | E | Wet hammocks and swamps | 11.45 | Low |
| Comb Polypody *Pecluma ptilota* var. *bourgeauana* | - | - | E | Floodplain forests, moist hammocks, and swamps | 11.45 | Low |
| Lewton's Polygala *Polygala lewtonii* | E | - | E | Oak scrub, sandhill, and transition zones between high pine and turkey oak barrens | 211.11 | Low |

| Species | Designated Status | | | Habitat Preference | Suitable Habitat Acreages | Potential for Occurrence |
|---|---|---|---|---|---|---|
| | Federal | State | FDACS | | | |
| Florida Willow *Salix floridana* | - | - | E | Wet, mucky soils in bottomland forests, floodplains, hydric hammocks, swamps, edges or spring-runs, and streams | 24.04 | Low |
| Carter's Warea *Warea carteri* | E | - | E | Sandhill, scrubby flatwoods, and inland scrub habitat | 211.11 | Low |
| **Reptiles** | | | | | | |
| Eastern Indigo Snake *Drymarchon couperi* | T | - | - | Mesic flatwoods, upland pine forests, swamps, wet prairies, xeric pinelands, and scrub habitats | 280.93 | Moderate |
| Gopher Tortoise *Gopherus polyphemus* | C | T | - | Dry upland habitats including sandhills, scrub, xeric oak hammock, and dry pine flatwoods; also commonly uses disturbed habitats such as pastures, old fields, and road shoulders | 258.75 | High (Observed 2019) |
| Short-tailed Snake *Lampropeltis extenuata* | - | T | - | Dry upland habitats with open canopies and dry sandy soils including sandhill, rosemary-sand pine scrub and adjacent xeric oak hammocks | 258.75 | Moderate |
| Florida Pine Snake *Pituophis melanoleucus mugitus* | - | T | - | Dry sandy soils with open canopies. Sandhill, sand pine scrub, and scrubby flatwoods | 258.75 | Moderate |
| Blue-Tailed Mole Skink* *Plestiodon egregius lividus* | T | - | - | Central Florida in habitat with loose sandy areas, such as rosemary scrub, sand pine scrub, oak scrub, scrubby flatwoods, and turkey oak barrens | 119.91 | Low |
| Sand Skink* *Plestiodon reynoldsi* | T | - | - | Central Florida in habitat with loose sandy areas, such as rosemary scrub, sand pine scrub, oak scrub, scrubby flatwoods, and turkey oak barrens | 119.91 | Low |
| **Birds** | | | | | | |
| Florida Grasshopper Sparrow *Ammodramus savannarum floridanus* | E | - | - | Large areas of frequently burned dry prairie habitat with patchy open areas sufficient for foraging | 211.13 | Low |
| Florida Sandhill Crane *Antigone canadensis pratensis* | - | T | - | Wet and dry prairies, marshes, and marshy lake edges | 243.60 | High (Observed 2019) |

| Species | Designated Status | | | Habitat Preference | Suitable Habitat Acreages | Potential for Occurrence |
|---|---|---|---|---|---|---|
| | Federal | State | FDACS | | | |
| Florida Scrub-jay *Aphelocoma coerulescens* | T | - | - | Early successional stages of fire-dominated xeric oak communities located on well-drained, sandy soils; preferred habitat consists of scrub oaks between 3 and 10 feet tall, with open sand and scattered clumps of herbaceous vegetation | 40.59 | Low |
| Florida Burrowing Owl *Athene cunicularia floridana* | - | T | - | Areas of short, herbaceous groundcover; including prairies, sandhills, and farmland | 211.13 | Moderate |
| Crested Caracara *Caracara cheriway* | T | - | - | Open country such as dry prairie and pasture lands with scattered cabbage palm, cabbage palm/live oak hammocks, and shallow ponds and sloughs. Cabbage palms or live oaks with low-growing surrounding vegetation are required for nesting | 251.77 | Moderate |
| Little Blue Heron *Egretta caerulea* | - | T | - | Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps | 35.35 | High (Observed 2019) |
| Tricolored Heron *Egretta tricolor* | - | T | - | Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps | 35.35 | High (Observed 2019) |
| Southeastern American Kestrel *Falco sparverius paulus* | - | T | - | Pine scrub, dry prairies, mixed pine hardwood forests, and pine flatwoods | 240.33 | Moderate |
| Bald Eagle *Haliaeetus leucocephalus* | NL[1] | NL[2] | - | Large open water bodies, saltwater marshes, dry prairies, mixed pine, hardwood forests, wet prairies, marshes, pine flatwoods, and sandhills | 80.52 | High (Observed 2019) |
| Roseate Spoonbill *Platalea ajaja* | - | T | - | Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps | 35.35 | High (Observed 2019) |

| Species | Designated Status | | | Habitat Preference | Suitable Habitat Acreages | Potential for Occurrence |
|---|---|---|---|---|---|---|
| | Federal | State | FDACS | | | |
| Wood Stork *Mycteria americana* | T | - | - | Fresh and saltwater habitats such as fresh and saltwater marshes, tidal flats, wet prairies, cypress swamps, and agricultural environments | 49.48 | High (Observed 2019) |
| Everglade Snail Kite *Rostrhamus sociabilis* | E | - | - | Large open freshwater marshes and lakes with shallow water and a low density of emergent vegetation | 29.92 | Low |
| **Mammals** | | | | | | |
| Florida Bonneted Bat *Eumops floridanus* | E | - | - | Roosts in forested communities or artificial structures and forages in open areas | 47.62 | Moderate |
| Florida Panther *Puma concolor couguar* | E | - | - | A variety of habitats including upland forests, prairies, wetlands, stands of saw palmetto, and swamps | 271.92 | Moderate |

Notes:

E = endangered, T = threatened, C = candidate for listing, NL = not listed

*Due to the high level of disturbed soils resulting from mining activities, the blue-tailed mole skink and sand skink potential for occurrences were determined to be low.

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

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

## *3.3.1 Federal Species*

### 3.3.1.1 Plants

**Scrub Buckwheat (*Eriogonum longifolium* var. *gnaphalifolium*)**

Scrub buckwheat is a short perennial herb that is listed as ***threatened*** by the **USFWS** and ***endangered*** by the **FDACS**. This species is a member of the buckwheat (*Polygonaceae*) family and occurs on sandhill, oak-hickory scrub, high pinelands, and turkey oak barrens with wiregrass, blue jack, and turkey oak. The project study area contains approximately 240.30 acres of suitable habitat for scrub buckwheat within its sandhill habitats. Previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**); therefore, scrub buckwheat has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, scrub buckwheat was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" the scrub buckwheat.

**Britton's Beargrass (*Nolina brittoniana*)**

Britton's beargrass is a perennial herb with long, stiff leaves and clusters of small white flowers that is listed as ***endangered*** by the **USFWS** and the **FDACS**. This species is a member of the *Nolinoideae* subfamily and occurs on scrub, sandhill, scrubby flatwoods, and xeric hammock. The project study area contains approximately 211.11 acres of suitable habitat for Britton's beargrass within its sandhill habitats. Previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**); therefore, Britton's beargrass has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, Britton's beargrass was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" Britton's beargrass.

**Lewton's Polygala (*Polygala lewtonii*)**

Lewton's polygala is a short-lived perennial herb with bright pink flowers that is listed as ***endangered*** by the **USFWS** and the **FDACS**. This species is a member of the milkwort (*Polygalaceae*) family and occurs in oak scrub, sandhills, and transition zones between high pine and turkey oak barrens. The project study area contains approximately 211.11 acres of suitable habitat within its sandhill habitats. Previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**); therefore, Lewton's polygala has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, Lewton's polygala was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" Lewton's polygala.

**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** and the **FDACS**. This species is a member of the mustard (*Brassicaceae*) family and occurs on sandhill, scrubby flatwoods, and inland scrub habitat. The project study area contains approximately 211.11 acres of suitable habitat for Carter's warea within its sandhill habitats. Previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**); therefore, Carter's warea has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, Carter's warea was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" Carter's warea.

### 3.3.1.2 Reptiles

**Eastern Indigo Snake (*Drymarchon couperi*)**

The Eastern indigo snake is a large, glossy, black snake that is listed as ***threatened*** by the **USFWS**. This species can be found in a variety of habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, as well as human-altered habitats. It may also utilize gopher tortoise burrows for shelter to escape hot or cold ambient temperatures within its range. According to FNAI data, Eastern indigo snakes have the potential to occur within Polk County. While there is suitable habitat for this species throughout undeveloped communities of the project study area, the species has not been documented within one (1) mile of the project study area. Additionally, the Eastern indigo snake was not observed during field reviews. However, it is reasonable to expect that this species could utilize suitable habitat within the project study area. Approximately 280.93 acres of suitable habitat is available for the Eastern indigo snake within the project study area. The path followed through the Eastern Indigo Snake Determination of Effect Key was A>B>C>may affect (**Appendix H**). To minimize adverse impacts to the Eastern indigo snake, the FTE will commit to use the USFWS-approved Standard Protection Measures for the Eastern Indigo Snake (**Appendix I**, updated August 2013) during construction of the proposed roadway improvements. Additionally, the FTE will survey the project study area prior to construction to determine the presence and location of gopher tortoise burrows within the project study area. If gopher tortoises or burrows are found within 25 feet of the limits of construction, the FTE will reinitiate technical assistance with the FWC to secure all permits needed to relocate the tortoises and associated commensal species. With the implementation of these measures, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" the Eastern indigo snake. The FTE will reinitiate technical assistance with the USFWS during the project's design phase to revisit this effect determination relative to updates to project design and the implementation of specific protection actions and measures.

**Blue-tailed Mole Skink (*Plestiodon egregius lividus*) and Sand Skink (*Plestiodon reynoldsi*)**

The blue-tailed mole skink and sand skink are small lizards that are listed as ***threatened*** by the **USFWS**. Blue-tailed mole skinks are expected to occur with sand skinks where the two species overlap in distribution. These species are found in central Florida in habitat with loose sandy soils, such as rosemary scrub, sand pine scrub, oak scrub, scrubby flatwoods, and turkey oak barrens. They are also known to utilize disturbed habitats with suitable soils, such as pine plantations, citrus groves, open fields, and pastures. According to the Sand and Blue-tailed Mole Skink Consultation Guide (USFWS 2020), skink distribution is defined by three factors: location within a county designated by the USFWS with primary populations, at an elevation of 82 feet above sea level or higher, and is comprised of any of the 26 soil types designated as sand skink soil by the USFWS. Approximately 119.91 acres may require surveys to determine presence or absence for the blue-tailed mole skink and sand skink (**Appendix F**). Although there are suitable skink soils at a suitable elevation, much of these soils have been overturned by previous mining activities (**Appendix G**). Due to the high level of soil disturbance, the blue-tailed mole skink and sand skink potential for

occurrences were reduced to low. FNAI data has not documented the blue-tailed mole skink documented within one (1) mile of the project study area and these species were not observed during field reviews. Technical assistance with the USFWS initiated in March 2020 established that the FTE will conduct coverboard surveys pursuant to the Sand and Blue-tailed Mole Skink Consultation Guide (USFWS 2020) in areas of suitable habitat during the project's design phase. The FTE will reinitiate technical assistance with the USFWS during the project's design phase to determine soil suitability and the extent of skink habitat that will require coverboard surveys. With the implementation of this measure, it has been determined that the proposed project "**may affect**" the blue-tailed mole skink and sand skink.

### 3.3.1.3 Birds

**Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)**

The Florida grasshopper sparrow is a small, short-tailed, flat-headed sparrow that is listed as ***endangered*** by the **USFWS**. This species requires large areas of frequently burned dry prairie habitat with patchy open areas sufficient for foraging. It may persist in pasture lands that have not been intensively managed. While the project study area lies within the USFWS Florida Grasshopper Sparrow Consultation Area (**Appendix F**), suitable habitat within the project study area is not subject to routine fire management and only meets minimal habitat requirements for this species. Approximately 211.13 acres of suitable habitat are available within the pasture lands of the project study area. FNAI data has not documented the Florida grasshopper sparrow within one (1) mile of the project study area. Additionally, the closest Florida grasshopper sparrow population documented by USFWS is at Salt Lake Wildlife Management Area, which is located more than 39 miles from the project area. No Florida grasshopper sparrows were identified during field reviews. Technical assistance with the USFWS in March 2020 determined surveys would not be required. Based on the lack of frequently burned dry prairie habitat and technical assistance with the USFWS, it was also determined that the project will have "**no effect**" on the Florida grasshopper sparrow.

**Florida Scrub-jay (*Aphelocoma coerulescens*)**

The Florida scrub-jay is similar to the common blue jay in size and shape, with a pale blue crestless head, nape, wings, and tail. It is listed as ***threatened*** by the **USFWS**. Optimal scrub-jay habitat consists of low growing, scattered scrub species with patches of bare sandy soil such as those found in sand pine scrub and scrubby flatwoods habitats that are occasionally burned. In areas where these types of habitats are unavailable, Florida scrub-jays may be found in less optimal habitats such as pine flatwoods with scattered oaks. While the project study area is located within the USFWS Florida Scrub-jay Consultation Area (**Appendix F**), there is minimal suitable habitat for this species within the project study area and it was not observed during field reviews. Additionally, FNAI data has not documented the Florida scrub-jay within one (1) mile of the project study area. Approximately 40.59 acres of habitat are available for the Florida scrub-jay within the project study area. The FTE committed to conducting surveys pursuant to USFWS Florida Scrub-jay General Survey Guidelines and Protocol (USFWS 2007a) in areas of suitable

habitat during the project's design phase during technical assistance with the USFWS in March 2020. With the commitment to perform surveys and through technical assistance coordination with the USFWS, preliminarily, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" the Florida scrub-jay.

**Crested Caracara (*Caracara cheriway*)**

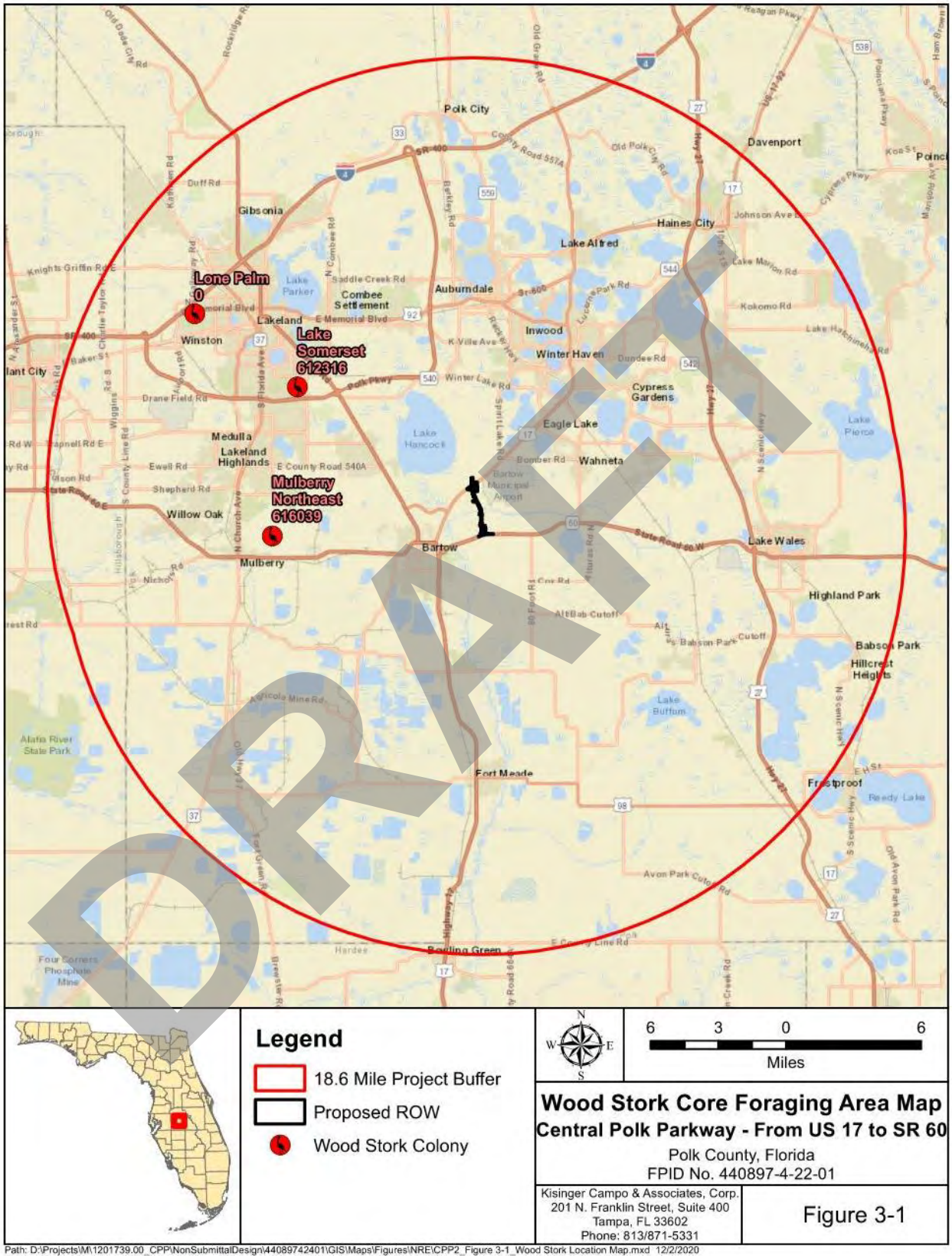
The crested caracara is a large, boldly patterned raptor with a crest that is listed as ***threatened*** by the **USFWS**. This species often inhabits open country, such as dry prairie and pasture lands with scattered cabbage palms and cabbage palm/live oak hammocks. It also requires cabbage palms or live oaks with low-growing surrounding vegetation for nesting. While the project is located within the USFWS Crested Caracara Consultation Area (**Appendix F**), FNAI data has not documented the species within one (1) mile of the project study area. Additionally, the crested caracara was not observed during field reviews. Approximately 251.77 acres of suitable habitat are available for the crested caracara within the project study area. The FTE committed to conducting surveys pursuant to the USFWS Crested Caracara Draft Survey Protocol (USFWS 2016) in areas of suitable habitat during the project's design phase during technical assistance with the USFWS in March 2020. With the commitment to perform surveys and through technical assistance with the USFWS, preliminarily, it has been determined that the project "**may affect, but is not likely to adversely affect**" the crested caracara.

**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 an opportunistic feeder 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 two (2) and 15 inches is considered optimal foraging habitat for this species. Suitable foraging habitat exists within the project study area and the species was observed during field reviews (**Appendix F**). According to the USFWS wood stork colony website, the project study area is located within the 18.6-mile core foraging area (CFA) of three (3) wood stork nesting colonies: Mulberry Northeast, Lake Somerset, and Lone Palm (**Figure 3-1**). One of the primary concerns for this species is loss of suitable foraging habitat within the core foraging area (CFA) of a wood stork colony. A wood stork foraging analysis (**Appendix J**) was conducted to determine the amount of biomass lost from wetlands and surface water impacts resulting from the preferred alternative. Approximately 49.48 acres of suitable habitat is available for the wood stork within the project study area. There are 14.53 acres of wetlands and 7.11 acres of surface waters that could be utilized by the wood stork for foraging in the preferred alternative. Results of the wood stork foraging analysis concluded that the preferred alternative will result in a total of 60.56 kg of lost biomass; 7.63 kg are from short hydroperiod wetlands and 52.93 kg are from long hydroperiod wetlands.

As part of this project, impacts to wetlands will be mitigated within the CFA of one (1) or more of the affected rookeries or at a regional mitigation bank that has been approved by the USFWS or

## Figure 3-1 Wood Stock Core Foraging Area Map



pursuant to Section 373.4137, F.S. The SWFWMD will be contacted to determine the need and extent for mitigation of wetlands and surface waters within the project area and the loss of wood stork foraging habitat will be mitigated through the acquisition of wetland and surface water credits. With the implementation of these measures, it was determined that additional surveys for the wood stork will not be required for this project. Additionally, the path followed through the Wood Stork Determination of Effect Key for southern counties was A>B>C>E>NLAA (**Appendix H**). Therefore, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" the wood stork.

**Everglade Snail Kite (*Rostrhamus sociabilis*)**

The Everglade snail kite is a medium-sized raptor that is listed as ***endangered*** by the **USFWS**. The Everglade snail kite is found primarily in lowland freshwater marshes in tropical and subtropical America from Florida, Cuba, and Mexico south to Argentina and Peru. Nesting almost always occurs over waters that maintain fairly consistent water levels, which deters predation. Although the project study area occurs within the USFWS Snail Kite Consultation Area (**Appendix F**), FNAI data has not documented the species within one (1) mile of the project study area and the Everglade snail kite was not observed during field reviews. Approximately 29.92 acres of foraging habitat are available for the Everglade snail kite within the project study area. Technical assistance with the USFWS in March 2020 determined that there is no need for additional surveys since suitable nesting habitat does not exist within the project area. However, the FTE will reinitiate technical assistance with the USFWS during the project's design phase to confirm the lack of nesting habitat within the project study area. Based on the lack of available nesting habitat within the project study area, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" the Everglade snail kite.

### 3.3.1.4 Mammals

**Florida Bonneted Bat (*Eumops floridanus*)**

The Florida bonneted bat is a large, free-tailed bat with joined ears that varies in color from dark gray to brownish gray or cinnamon brown. It is listed as ***endangered*** by the **USFWS**. Precise roosting and foraging habitat requirements are unknown; however, the species forages in open areas and is closely associated with forested communities due to their roosting habits. They are thought to nest in tree cavities or building crevices. The project study area is within the USFWS Florida Bonneted Bat Consultation Area (**Appendix F**). Approximately 47.62 acres of suitable roosting habitat are available for the Florida bonneted bat within the project study area. According to FNAI data, the Florida bonneted bat has not been documented within one (1) mile of the project study area. Additionally, no visual observations of individuals were made during field reviews. The FTE will commit to performing design-phase full acoustic and roost surveys to verify activity and occupancy status. The Florida bonneted bat determination of effect key cannot be completed until the design-phase surveys are complete (**Appendix H**). With the commitment to perform surveys, preliminarily, it has been determined that the proposed project "**may affect**" the Florida bonneted bat. The FTE will reinitiate technical assistance with the USFWS during the project's

design phase to revisit this effect determination relative to updates to project design and the implementation of specific actions and measures.

**Florida Panther (*Puma concolor couguar*)**

The Florida panther is a large, tan subspecies of the cougar that has black tips on the ears and tail and is listed as ***endangered*** by the **USFWS**. This species prefers a variety of habitats, including upland forests, prairies, wetlands, stands of saw palmetto, and swamps. The study area does not fall within the USFWS Consultation Area or the "Primary", "Secondary", or "Dispersal" zones for this species; however, the USFWS has documented the Florida panther in Polk County. Approximately 271.92 acres of suitable habitat is available for the Florida panther within the project study area. Though suitable habitat exists within undeveloped communities, FNAI data has not documented the species within one (1) mile of the project study area. Additionally, this species was not observed during field reviews. Since the project is not within the USFWS Consultation Area or the "Primary," "Secondary," or "Dispersal" zones, technical assistance with the USFWS determined that the proposed project will have "**no effect**" on the Florida panther.

## *3.3.2 State Species*

### 3.3.2.1 Plants

**Incised Groove-bur (*Agrimonia incisa*)**

The incised groove-bur is a herbaceous perennial with thickened tuberous roots that is listed as ***threatened*** by the **FDACS**. This species is a member of the rose (*Rosaceae*) family and occurs on sandhills and sometimes at the edges of more mesic habitats. The project study area contains approximately 222.55 acres of suitable habitat for the incised groove-bur within its sandhill habitats and along the edges of mesic oak hammocks. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the incised groove-bur has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, the incised groove-bur was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the incised groove-bur.

**Ashe's Savory (*Calamintha ashei*)**

Ashe's savory is a bushy shrub that has small whitish to lavender flowers that is listed as ***threatened*** by the **FDACS**. This species is a member of the mint (*Lamiaceae*) family and occurs mostly in openings of pine scrub in Florida, but can also be found in disturbed areas such as abandoned fields, roadsides, and fire lanes. The project study area contains approximately 235.07 acres of suitable habitat for Ashe's savory within its sandhill habitats and roadside areas. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), Ashe's savory has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project

study area. Additionally, Ashe's savory was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on Ashe's savory.

**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 sandhills and dry to moist flatwoods with longleaf pine, saw palmetto, and wiregrass. The project study area contains approximately 211.11 acres of suitable habitat for many-flowered grass-pink within its sandhill habitats. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the many-flowered grass-pink has been assigned a *low* potential for occurrence. According to FNAI data, the species was not documented within one (1) mile of the project study area. Additionally, the many-flowered grass-pink was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the many-flowered grass-pink.

**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 occurs on sandhills, scrubby flatwoods, and dry upland woods. The project study area contains approximately 258.70 acres of suitable habitat for the sand butterfly pea within its sandhill and upland forested habitats. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the sand butterfly pea has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, the sand butterfly pea was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the sand butterfly pea.

**Piedmont Jointgrass (*Coelorachis tuberculosa*)**

Piedmont jointgrass is a tall, slender, rhizomatous perennial grass that is listed as ***threatened*** by the **FDACS**. This species is a member of the grass (*Poaceae*) family and occurs in margins of shallow lakes and ponds, and in marshes. The project study area contains approximately 25.80 acres of suitable habitat for Piedmont jointgrass within its freshwater marshes and reservoirs. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), Piedmont jointgrass has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, piedmont jointgrass was not observed during field reviews.

Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on Piedmont jointgrass.

**Star Anise (*Illicium parviflorum*)**

Star anise is an evergreen shrub with small yellow flowers that is listed as ***endangered*** by the **FDACS**. This species is a member of the *Schisandraceae* family and occurs on banks of seepage streams, hydric hammocks, and baygalls. The project study area contains approximately 11.45 acres of suitable habitat for the star anise within its hydric hammock habitats. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the star anise has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, star anise was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the star anise.

**Florida Spiny-Pod (*Matelea floridana*)**

Florida spiny-pod is a twining, perennial vine that is listed as ***endangered*** by the **FDACS**. This species is a member of the dogbane (*Apocynaceae*) family and occurs in upland hardwood forests. The project study area contains approximately 40.65 acres of suitable habitat for the Florida spiny-pod within its hardwood hammock habitats. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the Florida spiny-pod has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, Florida spiny-pod was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the Florida spiny-pod.

**Celestial Lily (*Nemastylis floridana*)**

The celestial lily is a perennial herb with purple flowers 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 edges of cabbage palm hammocks. The project study area contains approximately 13.07 acres of suitable habitat for the celestial lily within its freshwater marsh habitats. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the celestial lily has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, the celestial lily was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the celestial lily.

**Hand Fern (*Ophioglossum palmatum*)**

The hand fern is a fleshy epiphytic fern with seven (7) lobes or fingers on long leaf stalks. It is listed as ***endangered*** by the **FDACS**. This species is a member of the hand fern (*Ophioglossaceae*) family and typically occurs in "boots" or old leaf bases of cabbage palms in maritime or wet hammocks. The project study area contains approximately 11.45 acres of available suitable habitat for the hand fern within its mesic hardwood hammock habitats. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the hand fern has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, the hand fern was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated"** on the hand fern.

**Giant Orchid (*Orthochilus [Pteroglossaspis] ecristatus*)**

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 and occurs on sandhill, scrub, pine flatwoods, and pine rocklands. The project study area contains approximately 211.11 acres of suitable habitat for the giant orchid within its sandhill habitats. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the giant orchid has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, the giant orchid was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the giant orchid.

**Plume Polyplody (*Pecluma plumula*)**

Plume polyplody is a small epiphytic fern that is listed as ***endangered*** by the **FDACS**. This species is a member of the fern (*Polypodiaceae*) family and occurs in wet hammocks and swamps. The project study area contains approximately 11.45 acres of available suitable habitat for plume polypody within its mesic hardwood hammock habitats. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the plume polypody has been assigned a *low* potential for occurrence. According to FNAI data, however, the species has not been documented within one (1) mile of the project study area. Additionally, plume polypody was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the plume polypody.

**Comb Polyplody (*Pecluma ptilota* var. *bourgeauana*)**

Comb polyplody is a small terrestrial or epiphytic fern that is listed as ***endangered*** by the **FDACS**. This species is a member of the fern (*Polypodiaceae*) family and occurs in floodplain forests, moist

hammocks, and swamps. The project study area contains approximately 11.45 acres of available suitable habitat for comb polypody within its mesic hardwood hammock habitats. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the comb polyplody has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, comb polypody was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the comb polypody.

**Florida Willow (*Salix floridana*)**

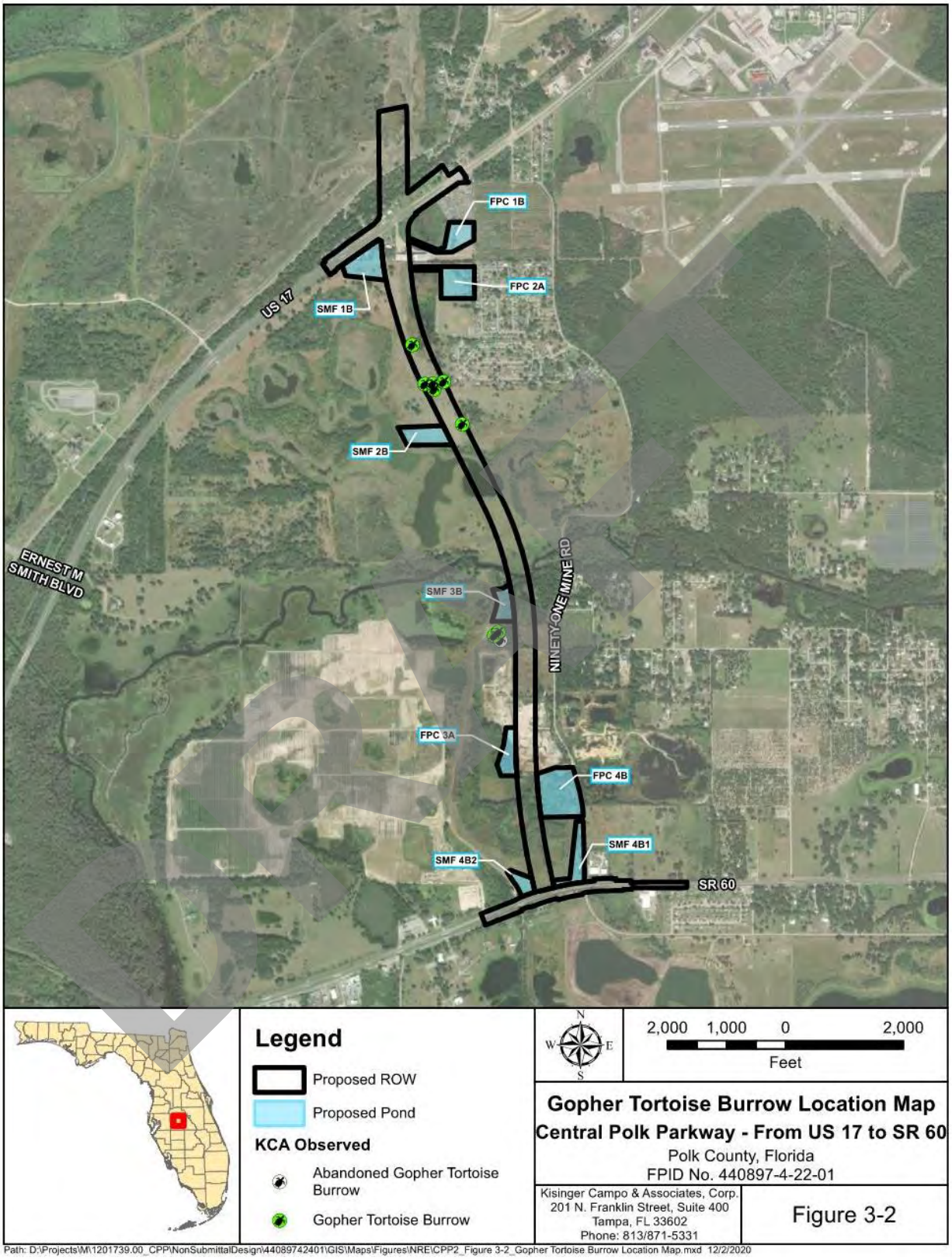
The Florida willow is a perennial shrub that is listed as ***endangered*** by the **FDACS**. This species is a member of the willow (*Salicaceae*) family and occurs in wet, mucky soils in bottomland forests, floodplains, hydric hammocks, swamps, edges or spring-runs, and streams. The project study area contains approximately 24.04 acres of available suitable habitat for the Florida willow within its hydric hammocks, wetland scrub, and at the edges of the Peace Creek. Considering that previous mining activities have severely disturbed suitable habitat within the project study area (**Appendix G**), the Florida willow has been assigned a *low* potential for occurrence. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, the Florida willow was not observed during field reviews. Based on the existing conditions of available suitable habitat within the project study area and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the Florida willow.

### 3.3.2.2 Reptiles

**Gopher Tortoise (*Gopherus polyphemus*)**

The gopher tortoise is a large terrestrial tortoise that is listed as ***threatened*** by the **FWC** and as a ***candidate*** species by the **USFWS**. This species requires well drained and loose sandy soils for burrowing, and low-growing herbs and grasses for food. These conditions are best found in the sandhill (longleaf pine-xeric oak) community, although tortoises are known to use many other habitats including sand pine scrub, xeric oak hammocks, dry prairies, pine flatwoods, and ruderal sites. Approximately 258.75 acres of suitable habitat is available for the gopher tortoise throughout the project study area. During field reviews, several active gopher tortoise burrows were observed (**Figure 3-2**). The most recent FWC Gopher Tortoise Permitting Guidelines will be followed if gopher tortoises or their burrows are found within 25 feet of the limits of construction. The FTE will reinitiate technical assistance with the FWC to secure all permits needed to relocate the tortoises and associated commensal species if the gopher tortoise burrows cannot be avoided. With the implementation of these measures and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the gopher tortoise.

## Figure 3-2 Gopher Tortoise Burrow Location Map



**Short-tailed Snake (*Lampropeltis extenuata*)**

The short-tailed snake is a grayish slender snake with numerous dark brown blotches and areas of red, orange, or yellow that is listed as ***threatened*** by the **FWC**. This species requires dry upland habitats with open canopies and dry sandy soils including sandhill, rosemary-sand pine scrub, and adjacent xeric oak hammocks. Short-tailed snakes may be considered commensal species of the gopher tortoise and found in burrows. The project study area contains approximately 258.75 acres of suitable habitat available for the short-tailed snake. This species was not observed during field reviews of the project study area. The FTE will survey the preferred alternative for gopher tortoise burrows prior to construction and will reinitiate technical assistance with the FWC to secure the necessary permits to relocate gopher tortoises and associated commensal species prior to construction. With the implementation of this measure and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the short-tailed snake.

**Florida Pine Snake (*Pituophis melanoleucus mugitus*)**

The Florida pine snake is a large, stocky, tan or rusty colored snake with an indistinct pattern of blotches. This snake is listed as ***threatened*** by the **FWC**. This species requires habitats with open canopies and dry sandy soils such as sandhills, sand pine scrub, and scrubby flatwoods, in which it burrows and often coexists with pocket gophers and gopher tortoises. Suitable habitat for the pine snake is available within the project study area in areas with identified gopher tortoise burrows. The project study area contains approximately 258.75 acres of suitable habitat available for the Florida pine snake. According to FNAI data, this species has the potential to occur in Polk County, but has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews. The FTE will survey the preferred alternative for gopher tortoise burrows prior to construction and will reinitiate technical assistance with the FWC to secure the necessary permits to relocate gopher tortoises and associated commensal species prior to construction. With the implementation of this measure and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the pine snake.

### 3.3.2.3 Birds

**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. Approximately 243.60 acres of suitable habitat is available for the Florida sandhill crane within the project study area. Nests are generally a mound of herbaceous plant material in shallow water or on the ground in marshy areas. Suitable nesting habitat is available within freshwater marshes throughout the project study area. Although FNAI data has not documented the species within one (1) mile of the project study area, the species was observed during field reviews. The FTE will survey areas of suitable nesting habitat prior to construction if construction activities take place during the nesting season (January through July), and will reinitiate technical assistance with the

FWC if nesting pairs are identified within 400 feet of the project's construction limits. With the implementation of these measures and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the Florida sandhill crane.

**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. Approximately 211.13 acres of suitable habitat is available for the Florida burrowing owl in pasture lands throughout the project study area. Burrowing owls may also utilize gopher tortoise burrows for shelter. According to FNAI data, this species has not been documented within one (1) mile of the project study area. Additionally, the Florida burrowing owl was not observed during field reviews of the project study area. The FTE will conduct pre-construction surveys and adhere to the components of the Imperiled Species Management Plan and permitting guidelines for this species. If burrowing owls are found, the FTE will reinitiate technical assistance with the FWC to discuss avoidance, minimization, and permitting options. With the implementation of this measure and through technical assistance with the FWC, it has been determined that the project will have "**no adverse effect anticipated**" on the Florida burrowing owl.

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

The little blue heron, tricolored heron, and roseate spoonbill are listed as ***threatened*** by the **FWC**. While each species is distinct, wading birds are discussed collectively since they occupy similar habitats and have similar feeding patterns. These wading birds nest and forage among both fresh water 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. Approximately 35.35 acres of suitable habitat for these wading birds is available throughout the project study area in much of the wetlands and surface waters. According to the FNAI database and the FWC Wading Rookery Database, there is one (1) active wading bird rookery documented within one (1) mile of the project study area; however, this rookery is not located within 330 feet of the project study area (**Appendix F**). Additionally, the little blue heron, tricolored heron, and roseate spoonbill were observed during field reviews of 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 functions and values. The mitigation of wetland impacts will be undertaken by the FTE. With the implementation of this measure and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the little blue heron, tricolored heron, and roseate spoonbill.

**Southeastern American Kestrel (*Falco sparverius paulus*)**

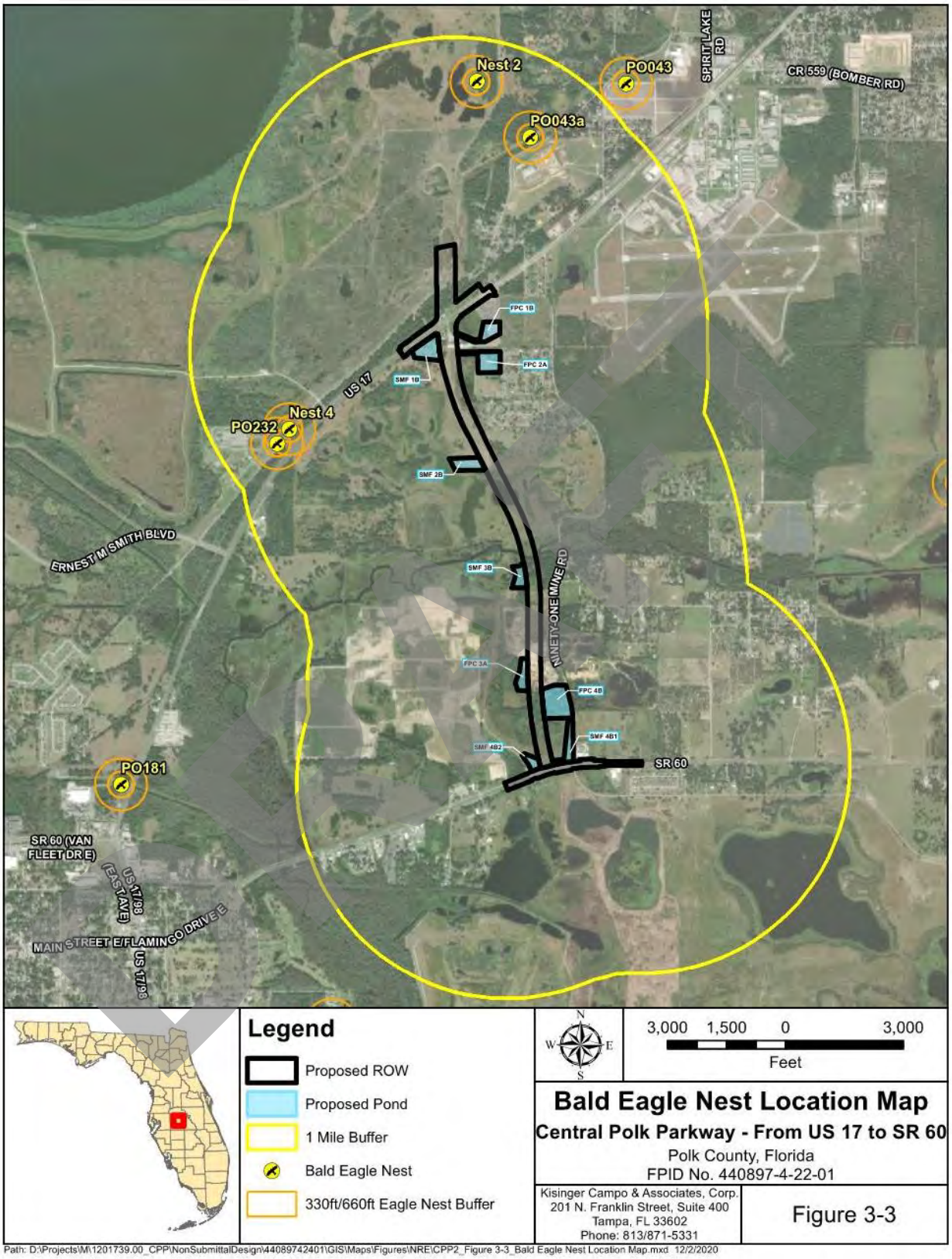
The southeastern American kestrel is the smallest falcon species found in the southeastern United States and is listed as ***threatened*** by the **FWC**. This species utilizes pine scrub habitat, dry prairies, mixed pine hardwood forests, and pine flatwoods. Approximately 240.33 acres of suitable habitat is available for the Southeastern American kestrel within the project study area. Nests are typically built in tall dead trees or utility poles with an unobstructed view of surroundings. Suitable nesting habitat is present throughout the project study area within its open pastures and forested areas. According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, the Southeastern American kestrel was not observed during field reviews. The FTE will conduct pre-construction surveys and adhere to the components of the Imperiled Species Management Plan and permitting guidelines for this species. If southeastern American kestrel nests are found, the FTE will reinitiate technical assistance with the FWC to discuss avoidance, minimization, and permitting options. With the implementation of this measure and through technical assistance with the FWC, it has been determined that the proposed project will have "**no adverse effect anticipated"** on the southeastern American kestrel.

## *3.3.3 Other Species of Concern*

**Bald Eagle (*Haliaeetus leucocephalus*)**

The bald eagle is a large raptor with a distinctive white head and yellow bill. This species has been de-listed from the Endangered Species Act by the **USFWS**. However, it remains federally protected under the Bald and Golden Eagle Protection Act (BGEPA) in accordance with 16 United States Code (USC) 668 and the Migratory Bird Treaty Act of 1918. In addition, the FWC has implemented a Species Action Plan for the Bald Eagle (FWC 2017). The bald eagle tends to utilize riparian habitats associated with coastal areas, lake shorelines, and riverbanks. Nests are generally located near water bodies that provide a dependable food source. Nests within Florida are closely monitored by the FWC, and the FWC Center for Biostatics and Modeling maintains a website of known bald eagle nest locations. This database was relinquished to the Audubon's Eagle Watch program in 2019. According to the Audubon Florida Eagle Watch Nest Map website, the closest bald eagle nest to the project study area is PO043a which is located approximately 0.64 miles northeast of the project's northern terminus (**Figure 3-3**). This nest was last surveyed and determined to be active in 2013. One additional documented nest (PO232) is located within one (1) mile of the project study area. Nest PO232 is located approximately 0.73 miles southwest of the project's northwestern terminus (**Figure 3-3**). This nest was last surveyed and determined to be active in 2013. However, osprey were observed utilizing this nest during 2019 field reviews. Two additional undocumented nests (Nest 2 and Nest 4) were observed within one (1) mile of the project study area during 2019 field reviews (**Figure 3-3**). Based on field observations, Nest 2 was determined to be active in 2019 and is located approximately 0.79 miles northeast of the project's northern terminus. Nest 4 was also determined to be active in 2019 and is located approximately 0.62 miles southwest of the project's western terminus along US 17. Nest 4 is suspected to be an alternate nest to PO232, which was observed being utilized by osprey in 2019. The project is

## Figure 3-3 Bald Eagle Nest Location Map



located outside of the primary (330 feet) and secondary (660 feet) buffer zones of all of the above-mentioned bald eagle nests (**Figure 3-3**).

Approximately 80.52 acres of suitable riparian habitat is available for the bald eagle within the project study area. During the project design and permitting phase, the FTE will review the project area for active bald eagle nests. If an active nest is identified within 660 feet of the proposed project area, the FTE will reinitiate technical assistance with the USFWS to secure all necessary approvals prior to the start of construction.

## *3.3.4 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, 50 CFR Part 424. The USFWS is 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.

## *3.3.5 Indirect, Secondary, and Cumulative Impacts*

Indirect and secondary effects are those that are reasonably certain to occur later in time as a result of the proposed project. They may occur outside of the area directly affected by the proposed project. Potential secondary effects include increased noise, traffic, and development, which could impact wildlife or result in a change in wildlife migration patterns by reducing habitat connectivity. Cumulative effects include the effects on the environment that results from the incremental impact of the action when added to other past, present, and future state, local, or private actions that are reasonably certain to occur in the project area. Cumulative effects can result from individually minor but collectively significant actions taking place over time. Future federal actions that are unrelated to the proposed project are not considered in the determination of cumulative effects because they require a separate consultation in accordance with Section 7 of the ESA. Indirect, secondary, and cumulative impacts will be further defined and addressed through agency coordination during the project's design phase. However, a brief summary of these impacts is provided in **Sections 3.3.5.1** and **3.3.5.2**.

### 3.3.5.1 Preferred Alternative

Indirect, secondary, and cumulative impacts associated with the proposed project have the potential to be high because this is a new roadway alignment. Indirect, secondary, and cumulative effects are anticipated to impact land use, visual and aesthetic resources, transportation, habitat connectivity, and population.

In areas designated for stormwater treatment, secondary impacts of increased nuisance/exotic vegetation are anticipated. Species such as Brazilian pepper (*Schinus terebinthifolia*) and cogongrass (*Imperata cylindrica*) are particularly aggressive and successful colonizers of the project study area. Therefore, the disturbance of construction may allow these species to colonize and outcompete native vegetation. Nuisance/exotic vegetation has negative impacts to native wildlife and their habitats as they take over the natural habitats upon which the species rely.

According to the University of Florida's Bureau of Economic and Business Research (BEBR), the population of Polk County is estimated to grow from 661,645 (2017) to 906,100 by 2040 (a 27 percent increase). The Central Polk Parkway is anticipated to accommodate the increased travel demand expected from the projected freight, residential and employment growth. The increased travel capacity and connectivity provided by the Central Polk Parkway will facilitate commercial development and economic competiveness. Visual and aesthetic resources will be converted as a result. As the general progression continues from agricultural and undeveloped land uses to residential and commercial development, habitat connectivity decreases and native wildlife may be negatively impacted. Technical assistance with USFWS and FWC in March 2020 determined that wildlife crossings would not be required due to the artificial nature of the project area.

### 3.3.5.2 No-Build Alternative

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

# Section 4.0 Wetland Evaluation

## *4.1 Introduction*

During field reviews of the project study area, environmental scientists delineated the approximate boundaries of existing wetland and surface water communities on 1"= 200' true-color aerial photographs. Each wetland and surface water habitat within the project study area was classified using FLUCFCS (FDOT 1999) and the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Cowardin *et al*., 1979). Approximate wetland boundaries were identified in accordance with the State of Florida Wetlands Delineation Manual (Chapter 62-340, Florida Administrative Code [F.A.C.]), the criteria found within the U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetland Delineation Manual (Y-87-1) and 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0) (ERDC/EL TR-10-20), EO 11990, and Part 2, Chapter 9 - Wetlands and Other Surface Waters of the FDOT PD&E Manual. 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.

## *4.2 Methodology*

In order to assess the approximate locations and boundaries of existing wetland and surface water communities within the project area, the following site-specific data was collected and reviewed:

- Florida Department of Transportation (FDOT), Florida Land Use Cover, and Forms Classification System (FLUCFCS), 3rd ed., January 1999;
- Southwest Florida Water Management District (SWFWMD), Florida Land Use, Cover and Forms Classification System GIS Database, (SWFWMD 2011);
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI), Wetlands Online Mapper (January 2018); and
- USFWS, Classification of Wetlands and Deepwater Habitats of the United States (Cowardin *et al*., 1979)

Environmental scientists familiar with Florida's natural communities conducted field reviews of the project study area in January, February, May, and June 2019. Field reviews consisted of pedestrian transects throughout all natural habitat types found within the project study area. The purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photographic interpretation. During field investigations, each wetland and surface water habitat within the study area was visually inspected and photographed. Wetland and surface water descriptions are provided in **Appendix C** and representative photographs are provided in **Appendix D**. Attention was given to identifying plant species and composition for each community. Exotic plant infestations and other disturbances such as soil subsidence, clearing, canals, power lines, etc., were noted.

## *4.3 Wetland and Surface Water Impacts*

Potential direct impacts to wetlands and surface waters were assessed for the preferred alternative of the Central Polk Parkway. Impacts associated with the preferred alternative total 21.64 acres and include 14.53 acres of wetlands and 7.11 acres of surface waters. **Table 4-1** shows the proposed wetland and surface water impacts within the project study area. A map showing the locations of the wetland and surface water impacts associated with the preferred alternative is provided in **Appendix K**.

**Table 4-1 Proposed Wetland and Surface Water Impacts within the Project Study Area for the Preferred Alternative**

| ID | FLUCFCS Classification [1] | USFWS Classification [2] | Acres within the Project Study Area | Preferred Alternative Impact Acreage |
|---|---|---|---|---|
| WL 1 | 641 | PEM1C | 5.47 | 3.65 |
| WL 2 | 641 | PEM1C | 1.66 | 0.00 |
| WL 3a | 653 | PEM1C | 1.02 | 1.02 |
| WL 3b | 643 | PEM1C | 0.11 | 0.10 |
| WL 4a | 631 | PSS1C | 3.03 | 1.48 |
| WL 4b | 619 | PSS1C | 3.06 | 0.28 |
| WL 5 | 653 | PEM1C | 0.64 | 0.17 |
| WL 6 | 653 | PEM1C | 0.79 | 0.79 |
| WL 7a | 641 | PEM1C | 3.20 | 0.81 |
| WL 7b | 644 | PEM1C | 6.56 | 2.17 |
| WL 8 | 641 | PEM1C | 0.48 | 0.00 |
| WL 9a | 631 | PSS1C | 1.32 | 0.69 |
| WL 9b | 641 | PEM1C | 2.29 | 0.60 |
| WL 10 | 631 | PSS1C | 2.68 | 0.53 |
| WL 11 | 631 | PSS1C | 3.62 | 2.24 |
| SW 1 | 510 | PSS1Cx | 0.62 | 0.21 |
| SW 2 | 510 | PSS1Cx | 0.26 | 0.26 |
| SW 3 | 530 | PUB2Hx | 10.29 | 5.43 |
| SW 4 | 510 | R2UBHx | 1.67 | 0.57 |
| SW 5 | 510 | PEM1Cx | 0.71 | 0.64 |
| | | ***Total Wetlands*** | **35.93** | **14.53** |
| | | ***Total Surface Waters*** | **13.55** | **7.11** |
| | | ***Total*** | **49.48** | **21.64** |

[1] FDOT 1999

[2] Cowardin, *et al*., 1979

PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded

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

PSS1C: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded

PSS1Cx: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Excavated

PUB2Hx: Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated

R2UB2Hx: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated

## 4.4 Uniform Mitigation Assessment Method Results

Functional loss was calculated by wetland and surface water habitat type for the preferred alternative using the Uniform Mitigation Assessment Method (UMAM). Construction of the preferred alternative results in a loss of 9.55 functional units. The completed UMAM data sheets for each habitat type are provided in **Appendix L**. The UMAM scores and values presented in **Table 4-2** are subject to agency review and may change during the state and federal permitting process.

**Table 4-2 Estimated UMAM[1] Functional Loss from Wetland and Surface Water Impacts of the Preferred Alternative**

| FLUCFCS Classification[2] | FLUCFCS Description | USFWS Classification[3] | UMAM Delta | Total Impact Acreage | Total Functional Loss |
|---|---|---|---|---|---|
| 510 | Streams and Waterways | PSS1Cx, PEM1Cx | 0.30 | 1.11 | 0.33 |
| 510 | Streams and Waterways | R2UB2Hx | 0.57 | 0.57 | 0.32 |
| 530 | Reservoirs | PUB2Hx | 0.47 | 5.43 | 2.55 |
| 619 | Exotic Wetland Hardwoods | PSS1C | 0.30 | 0.28 | 0.08 |
| 631 | Wetland Scrub | PSS1C | 0.43 | 4.94 | 2.12 |
| 641 | Freshwater Marshes | PEM1C | 0.47 | 5.06 | 2.38 |
| 643 | Wet Prairie | PEM1C | 0.30 | 0.10 | 0.03 |
| 644 | Emergent Aquatic Vegetation | PEM1C | 0.50 | 2.17 | 1.09 |
| 653 | Intermittent Pond | PEM1C | 0.33 | 1.98 | 0.65 |
| | | | ***Total*** | **21.64** | **9.55** |

[1] UMAM Scores have not been approved by permitting agencies and are subject to change during the permitting process.
[2] FDOT, 1999
[3] Cowardin, *et al.*, 1979
PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded
PEM1Cx: Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated
PSS1C: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded
PSS1Cx: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Excavated
PUB2Hx: Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated
R2UB2Hx: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated

## 4.5 Avoidance and Minimization

As part of this evaluation, three (3) build alternatives were evaluated in this PD&E study. The preferred alternative (Alternative 4) was selected based on the natural, physical, social, and right of way information. Wetlands and surface waters were considered in the selection of the preferred alternative to avoid and minimize impacts to wetlands to the greatest extent possible. A detailed alternatives analysis is included in the Preliminary Engineering Report.

## 4.6 Indirect, Secondary, and Cumulative Impacts

Indirect and secondary effects are those impacts that are reasonably certain to occur later in time as a result of the proposed project. They may occur outside of the area directly affected by the proposed project. Cumulative effects include the effects of future state, local, or private actions that are reasonably certain to occur in the project area. Indirect, secondary, and cumulative impacts will be further defined and addressed through agency coordination during the project's design phase. However, a brief summary of these impacts is provided in **Sections 4.6.1** and **4.6.2**.

### 4.6.1 Preferred Alternative

Indirect impacts are anticipated to occur as a result of the preferred alternative. Secondary impacts of edge effects will likely occur. At locations where natural areas meet development, edge effects such as increased cover of nuisance/exotic vegetation and changes in microclimate generally take place. The wetlands within the preferred alternative project footprint already experience edge effects due to previous mining activities. The severity of these edge effects should not increase; however, it is expected that these effects would migrate to the new transitional area between remaining wetlands and new construction. In areas designated for stormwater treatment, secondary impacts of increased nuisance/exotic vegetation are anticipated. Species such as Brazilian pepper (*Schinus terebinthifolia*) and cogongrass (*Imperata cylindrica*) are particularly aggressive and successful colonizers of the project study area. Therefore, the disturbance of construction may allow these species to colonize and outcompete native vegetation. Nuisance/exotic vegetation has negative impacts to wetlands and surface waters as these species may take over native vegetation. Since wetland impacts resulting from the construction of this project will be mitigated, no cumulative impacts are anticipated to occur.

### 4.6.2 No-Build Alternative

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

## 4.7 Mitigation

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 22 U.S.C. §1344. In accordance with EO 11990, the FTE 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 FTE 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.

Compensatory mitigation for this project will be completed using mitigation banks and other mitigation options to satisfy state and federal requirements. The project study area is currently

located within the service area of the Boran Ranch Mitigation Bank, Peace River Mitigation Bank, and Horse Creek Mitigation Bank.

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

# 5.0 Essential Fish Habitat

## *5.1 Summary*

The National Marine Fisheries Service (NMFS) determined that the project will not directly impact any NMFS trust resources; however, the project has the potential to impact waterways and wetlands that drain to the Peace River, which drains to Charlotte Harbor. The NMFS recommends the design and implementation of stormwater treatment systems to prevent degraded water from reaching the Peace River and Charlotte Harbor. The proposed project will not involve Essential Fish Habitat as none exists within the project study area.

Waterbodies within the project study area consist of man-made reservoirs and Peace Creek. Peace Creek is a man-made drainage canal that drains into the Peace River, which ultimately outfalls into Charlotte Harbor. The portion of Peace Creek that is within the project study area is located on newly reclaimed mined lands.

# Section 6.0 Permitting and Review Agencies

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

| Permit | Issuing Agency |
|---|---|
| Section 404 Dredge and Fill Permit | USACE |
| Environmental Resource Permit (ERP) | SWFWMD |
| National Pollutant Discharge Elimination System (NPDES) | FDEP |
| Sovereign Submerged Land (SSL) Easement | FDEP |
| Gopher Tortoise Relocation Permit (as necessary) | FWC |
| Incidental Take Permit (as necessary) | FWC |
| Incidental Take Permit (as necessary) | USFWS |

## *6.1 Federal Permits*

**Section 404 Dredge and Fill Permit**

It is anticipated that a standard permit will be required from the USACE. A standard permit will require compliance with the Section 404(b)(1) Clean Water Act (CWA) 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. The USACE is currently working toward delegation of Section 404 review to the Florida Department of Environmental Protection (FDEP), while retaining jurisdiction over some (retained) waters. It is likely that this project would be delegated to FDEP for review and issuance of federal dredge and fill authorization. In addition, consultation with the USFWS may be necessary for potential effects to federally listed protected species. Since this project will require a USACE permit for jurisdictional wetlands within the project study area, Section 7 Consultation with the USFWS will be initiated in place of Section 10 Consultation.

**USFWS Incidental Take Permit (as necessary)**

The project study area contains suitable habitat for the Eastern indigo snake, blue-tailed mole skink, sand skink, Florida grasshopper sparrow, Florida scrub-jay, crested caracara, and Florida bonneted bat. If Formal Consultation is required, the FTE will prepare a Biological Assessment (BA) to submit to the USFWS through the USACE for review. The USFWS will prepare a Biological Opinion (BO) in which the terms and conditions of mitigation and implementation measures will be finalized. When an action is reasonably certain to result in the incidental take of a species but is not likely to jeopardize its continued existence, the USFWS provides the USACE with an incidental take statement in the BO to be included in the Section 404 dredge and fill permit.

## *6.2 State Permits*

**Environmental Resource Permit (ERP)**

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. As with USACE permits, 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 require an individual ERP for this project.

**National Pollutant Discharge Elimination System (NPDES)**

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

**Gopher Tortoise Relocation Permit**

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

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

In accordance with the requirements of Rules 68A-25.002 and 68A-27.004 (F.A.C.), a permit for gopher tortoise capture/release activities must be secured from FWC before initiating any relocation work. A Conservation Permit is available for development projects that require the relocation of gopher tortoises when more than 10 burrows occur on the development site. The 10 or Fewer Burrows Permit is available for projects that contain 10 or fewer gopher tortoise burrows on the development site. Both of these permits allow for relocation either to an on-site preserve or off-site to a FWC-certified Recipient Site. The FWC will require a 100 percent gopher tortoise survey to be conducted within 90 days of construction commencement.

**FWC Incidental Take Permit (as necessary)**

Based on field reviews, suitable foraging and nesting habitat exists within the project study area for the species listed in **Section 3.0**. 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 is the preferred course of action, a Listed Species Incidental Take Permit is available for situations that require the removal of these species. Further technical assistance will be reinitiated during the design phase of the project.

**Sovereign Submerged Lands Easement**

A Sovereign Submerged Lands Title Determination request was submitted to the Division of State Lands in Tallahassee for Peace Creek within the project study area. The state determined that this portion of the project area is within state-owned lands and easements may be required. Because the portion of the Peace Creek within the project study area is located on newly reclaimed mined land, additional coordination with FDEP may be required during the project's design phase regarding this title determination. Typically, easements are obtained during the permitting phases of the project. A copy of the correspondence with the Division of State Lands is provided in **Appendix M**.

# Section 7.0 Conclusions

## *7.1 Protected Species and Habitat*

The project study area was evaluated for the presence of federal and/or state protected species and their suitable habitat in accordance with Section 7 of the ESA and Part 2, Chapter 16 of the PD&E Manual. **Tables 7-1**, **7-2**, and **7-3** summarize the effect determinations that have 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. Other protected species with the potential to occur in the project area include the bald eagle (*Haliaeetus leucocephalus*).

**Table 7-1 Federal Protected Species Effect Determinations**

| Project Effect Determination | Federal Listed Species |
|---|---|
| **"No effect"** | Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*) |
| | Florida Panther (*Puma concolor couguar*) |
| **"May affect, but is not likely to adversely affect"** | Scrub Buckwheat (*Eriogonum longifolium* var. *gnaphalifolium*) |
| | Britton's Beargrass (*Nolina brittoniana*) |
| | Lewton's Polygala (*Polygala lewtonii*) |
| | Carter's Warea (*Warea carteri*) |
| | Eastern Indigo Snake (*Drymarchon couperi*) |
| | Florida Scrub-jay (*Aphelocoma coerulescens*) |
| | Crested Caracara (*Caracara cheriway*) |
| | Wood Stork (*Mycteria americana*) |
| | Everglade Snail Kite (*Rostrhamus sociabilis*) |
| **"May affect"** | Blue-tailed Mole Skink (*Plestiodon egregius lividus*) |
| | Sand Skink (*Plestiodon reynoldsi*) |
| | Florida Bonneted Bat (*Eumops floridanus*) |

**Table 7-2 State Protected Species Effect Determinations**

| Project Effect Determination | State Listed Species |
|---|---|
| **"No adverse effect anticipated"** | Incised Groove-bur (*Agrimonia incisa*) |
| | Ashe's Savory (*Calamintha ashei*) |
| | Many-flowered Grass-pink (*Calopogon multiflorus*) |
| | Sand Butterfly Pea (*Centrosema arenicola*) |
| | Piedmont Jointgrass (*Coelorachis tuberculosa*) |
| | Star Anise (*Illicium parviflorum*) |
| | Florida Spiny-pod (*Matelea floridana*) |
| | Celestial Lily (*Nemastylis floridana*) |
| | Hand Fern (*Ophioglossum palmatum*) |
| | Giant Orchid (*Orthochilus [Pteroglossaspis] ecristatus*) |
| | Plume Polyplody (*Pecluma plumula*) |
| | Comb Polyplody (*Pecluma ptilota* var. *boureauana*) |
| | Florida Willow (*Salix floridana*) |
| | Gopher Tortoise (*Gopherus polyphemus*) |

| Project Effect Determination | State Listed Species |
|---|---|
| "No adverse effect anticipated" | Short-tailed Snake (*Lampropeltis extenuata*) |
| | Florida Pine Snake ( *Pituophis melanoleucus mugitus*) |
| | Florida Sandhill Crane (*Antigone canadensis pratensis*) |
| | Florida Burrowing Owl (*Athene cunicularia floridana*) |
| | Little Blue Heron (*Egretta caerulea*) |
| | Tricolored Heron (*Egretta tricolor*) |
| | Southeastern American Kestrel (*Falco sparverius paulus*) |
| | Roseate Spoonbill (*Platalea ajaja*) |

**Table 7-3 Other Species of Concern Effect Determination**

| Project Effect Determination | Other Species of Concern |
|---|---|
| "No adverse effect anticipated" | Bald Eagle (*Haliaeetus leucocephalus*) |

## *7.2 Wetland Evaluation*

Wetland and surface water habitat types to be impacted by the proposed construction include wetland scrubs, freshwater marshes, emergent aquatic vegetation, wet prairies, exotic wetland hardwoods, intermittent ponds, reservoirs and streams and waterways. Impacts associated with the preferred alternative total 21.64 acres and include 14.53 acres of wetlands and 7.11 acres of surface waters. A UMAM analysis (**Appendix L**) was performed to estimate the functional loss due to wetland impacts from the proposed preferred alternative. Construction of the preferred alternative results in a loss of 9.55 functional units. Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.

## *7.3 Implementation Measures*

Based on the field and literature reviews detailed in this report, federal and state protected species have the potential to occur within the project study area. In order to assure that the proposed project will not adversely impact these species, the FTE will adhere to the following:

- During the design and permitting phase of this project, gopher tortoise surveys will be conducted and if any burrows are found within 25 feet of construction limits, technical assistance with the FWC will be reinitiated to secure any necessary permits for gopher tortoises and associated commensal species before construction.
- If a bald eagle nest is observed within 660 feet of the project study area, the FTE will reinitiate technical assistance with the USFWS to discuss avoidance and minimization options and secure any necessary approvals prior to constructing the project.
- Impacts to suitable foraging habitat for the federally-protected wood stork will be mitigated through the purchase of credits from a USFWS-approved mitigation bank pursuant to Section 373.4137, F.S. or as otherwise agreed to by the FTE and the appropriate regulatory agencies.

- During the design and permitting phases of this project, the FTE will conduct a general plant survey concurrently with other wildlife surveys. If any federal or state protected plant species are found within 25 feet of construction limits, coordination will occur with USFWS (through USACE) and FDACS to secure any necessary permits.
- Compliance with Federal Endangered Species Act and other Wildlife Regulations of the FDOT Standard Specifications for Road and Bridge Construction manual will be adhered to for wildlife during construction.

## *7.4 Commitments*

- As needed, the FTE will perform updated wildlife surveys for the species discussed in this report and other wildlife species, during the project design phase to ascertain the involvement, if any, of listed species.
- The FTE will conduct design-phase coverboard surveys in accordance with the most recent USFWS guidelines to verify activity and occupancy status of the blue-tailed mole skink and sand skink. During the design and permitting phases of this project, the FTE will conduct Florida scrub-jay surveys in accordance with the most recent USFWS guidelines in areas of suitable habitat.
- During the design and permitting phases of this project, the FTE will conduct crested caracara surveys in accordance with the most recent USFWS guidelines in areas of suitable habitat.
- The FTE will conduct design-phase Florida bonneted bat surveys in accordance with the most recent USFWS guidelines.
- In an effort to mitigate impacts to protected plant species within the project study area, FTE will coordinate with FDACS and coordinate with local native plant organizations prior to construction for possible relocation of protected plants.
- The USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be implemented to assure that the Eastern indigo snake will not be adversely impacted by the project.
- The FTE will conduct design-phase surveys to verify activity and occupancy status of the Southeastern American kestrel.
- The FTE will conduct pre-construction surveys to determine the occupancy status of the Florida burrowing owl and will adhere to the components of the Imperiled Species Management Plan and permitting guidelines. If burrowing owls are found, the FTE will reinitiate technical assistance with the FWC to discuss avoidance, minimization, and permitting options.
- If Florida sandhill crane nests are observed during future surveys conducted prior to construction, then a 400-foot buffer will be implemented if construction occurs during the nesting season (January through July). The FTE will reinitiate technical assistance with the FWC during the project construction phase, if necessary.

## *7.5 Agency Coordination*

The ETAT evaluated the project's effects on various natural, physical and social resources. ETAT comments are summarized in **Section 2.4**. Coordination with FDEP took place on July 8, 2019 for a sovereign submerged lands determination for Peace Creek. For more details on the FDEP sovereign submerged lands determination, please refer to **Appendix M**. A technical assistance meeting with the USFWS was held on March 10, 2020 to determine the implementation of specific actions and measures relative to federally protected species with available suitable habitat within the project study area. Meeting notes for the technical assistance meeting with the USFWS are provided in **Appendix N**. A technical assistance meeting with the FWC was held on March 13, 2020 to determine the implementation of specific actions and measures relative to state protected species with available suitable habitat within the project study area. Meeting notes for the technical assistance meeting with the FWC are provided in **Appendix O**. A pre-application meeting with the SWFWMD was held on April 16, 2020 to discuss and review the environmental and drainage permitting requirements. Meeting notes for the SWFWMD pre-application meeting are provided in **Appendix P**.

Agency coordination will continue to take place during the project's design and permitting phases. Coordination with the USFWS, FWC, and FDACS will be required to determine species survey methodologies and to secure any necessary permits regarding protected species. Technical assistance with the USACE will be required to obtain the permits described in **Section 6.1**. Coordination with the SWFWMD will be required to request a Formal Wetland Determination petition and to obtain the permits described in **Section 6.2**. Coordination with the FDEP will be required to obtain necessary easements for the state owned lands within the project area. For more information on the permits required for this project, please see the permit list provided in **Section 6.0**.

# Section 8.0 References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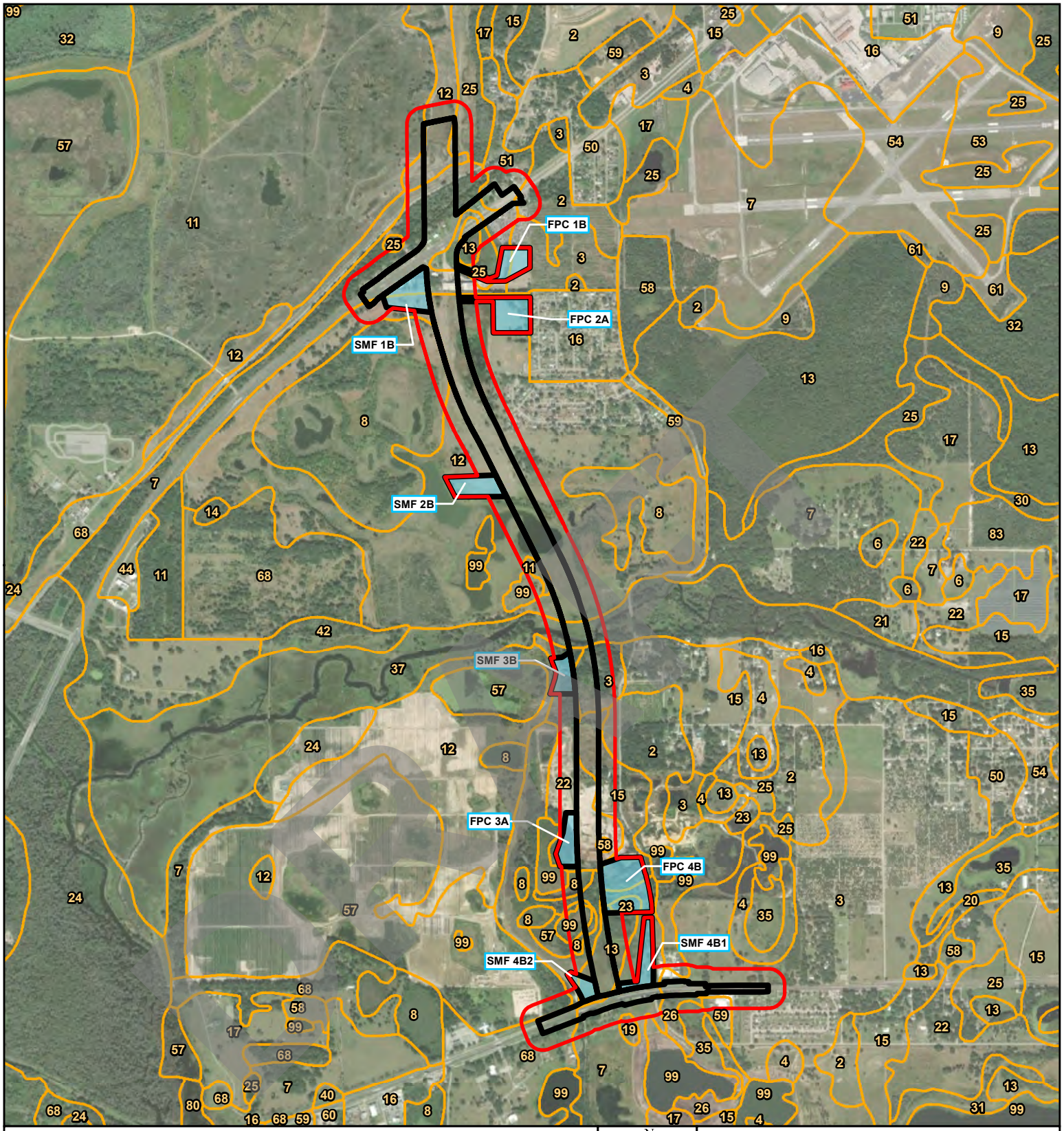
# *APPENDIX A*

## Soils Map




## Legend

- Project Study Area
- Proposed ROW
- Proposed Pond

2: APOPKA FINE SAND, 0 TO 5 PERCENT SLOPES

3: CANDLER SAND, 0 TO 5 PERCENT SLOPES

7: POMONA FINE SAND

8: HYDRAQUENTS, CLAYEY

11: ARENTS-WATER COMPLEX

12: NEILHURST SAND, 1 TO 5 PERCENT SLOPES

13: SAMSULA MUCK

15: TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES

16: URBAN LAND

19: FLORIDANA MUCKY FINE SAND, DEPRESSIONAL

22: POMELLO FINE SAND

23: ONA FINE SAND

25: PLACID AND MYAKKA FINE SANDS, DEPRESSIONAL

26: LOCHLOOSA FINE SAND

35: HONTOON MUCK

37: PLACID FINE SAND, FREQUENTLY FLOODED

51: POMONA-URBAN LAND COMPLEX

57: HAPLAQUENTS CLAYEY

58: UDORTHENTS, EXCAVATED

59: ARENTS-URBAN LAND COMPLEX, 0 TO 5 PERCENT SLOPES

68: ARENTS, 0 TO 5 PERCENT SLOPES

99: WATER

N W E S

2,000 1,000 0 2,000

Feet

# Soils Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida

FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix A

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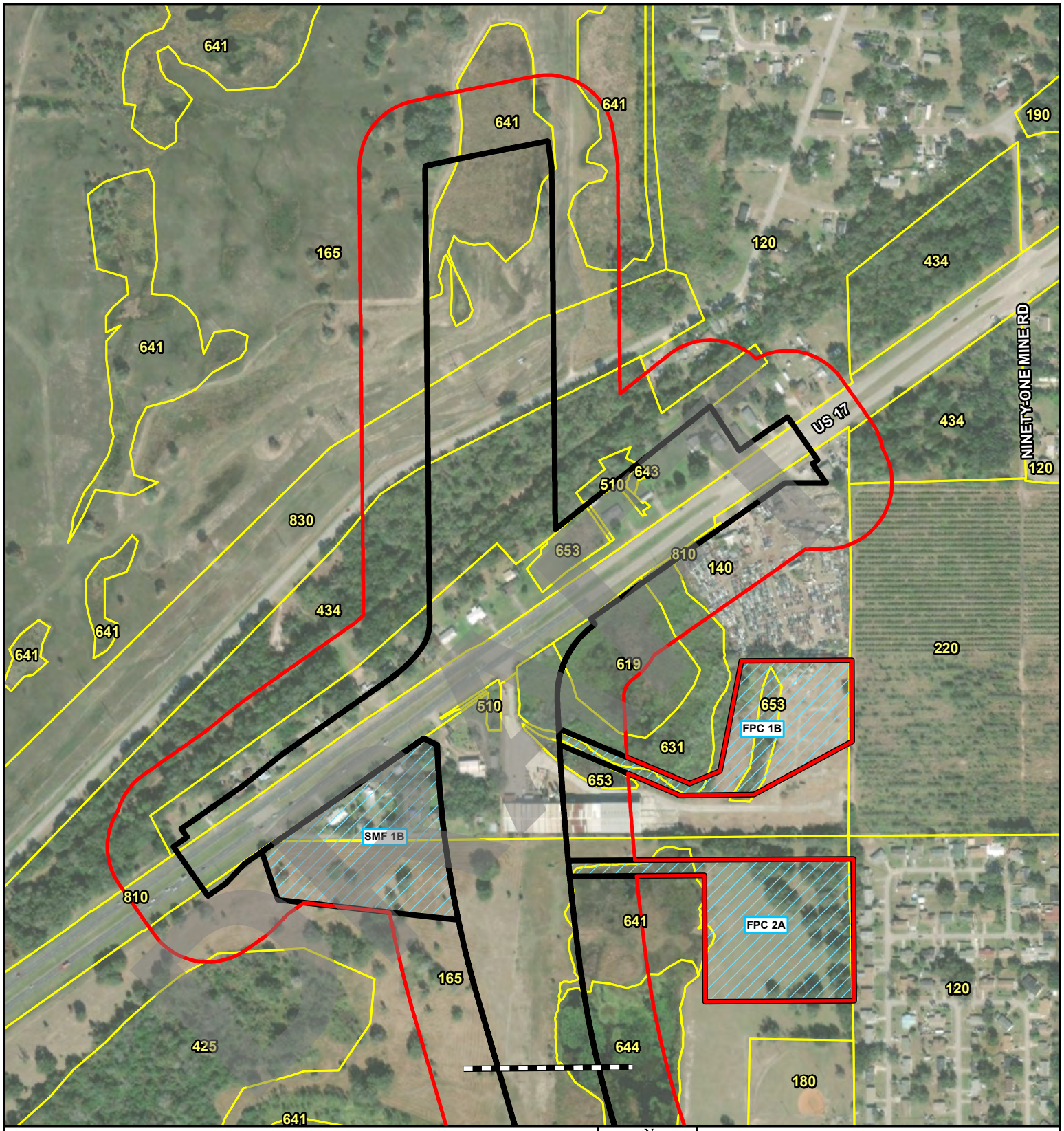
# *APPENDIX B*

## Land Use Map




## Legend

- Project Study Area
- Proposed ROW
- Proposed Pond

120: RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT

140: COMMERCIAL AND SERVICES

165: RECLAIMED LAND

180: RECREATIONAL

190: OPEN LAND

220: TREE CROPS

425: TEMPERATE HARDWOOD

434: HARDWOOD CONIFER MIXED

510: STREAMS AND WATERWAYS

619: EXOTIC WETLAND HARDWOODS

631: WETLAND SCRUB

641: FRESHWATER MARSHES

643: WET PRAIRIES

644: EMERGENT AQUATIC VEGETATION

653: INTERMITTENT PONDS

810: TRANSPORTATION

830: UTILITIES

N W E S

500 250 0 500

Feet

# Land Use Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida

FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix B



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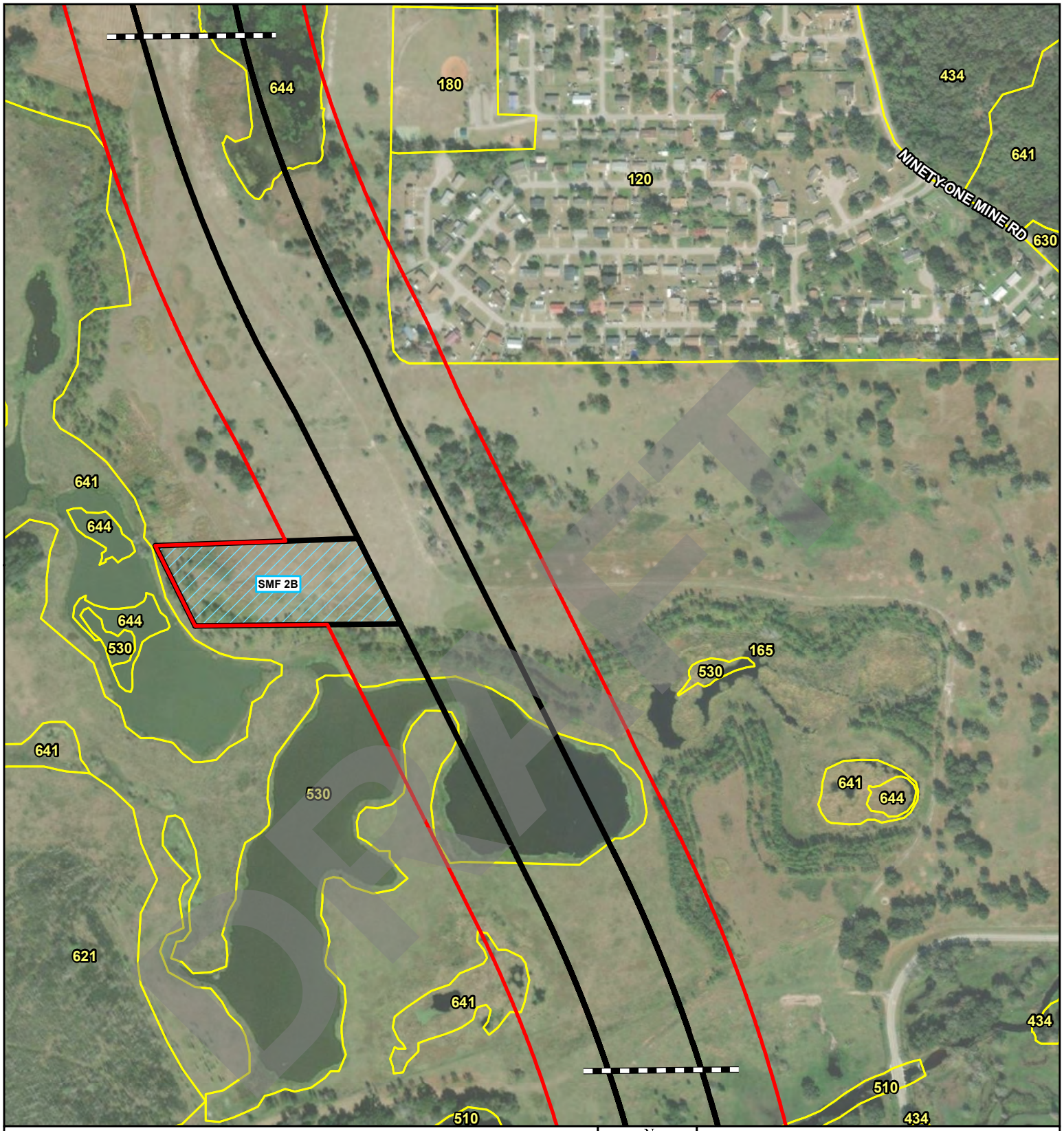


## Legend

- Project Study Area
- Proposed ROW
- Proposed Pond

120: RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT

165: RECLAIMED LAND

180: RECREATIONAL

425: TEMPERATE HARDWOOD

434: HARDWOOD CONIFER MIXED

510: STREAMS AND WATERWAYS

530: RESERVOIRS

621: CYPRESS

630: WETLAND FORESTED MIXED

641: FRESHWATER MARSHES

644: EMERGENT AQUATIC VEGETATION

N W E S

500 250 0 500

Feet

# Land Use Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida
FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
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Appendix B


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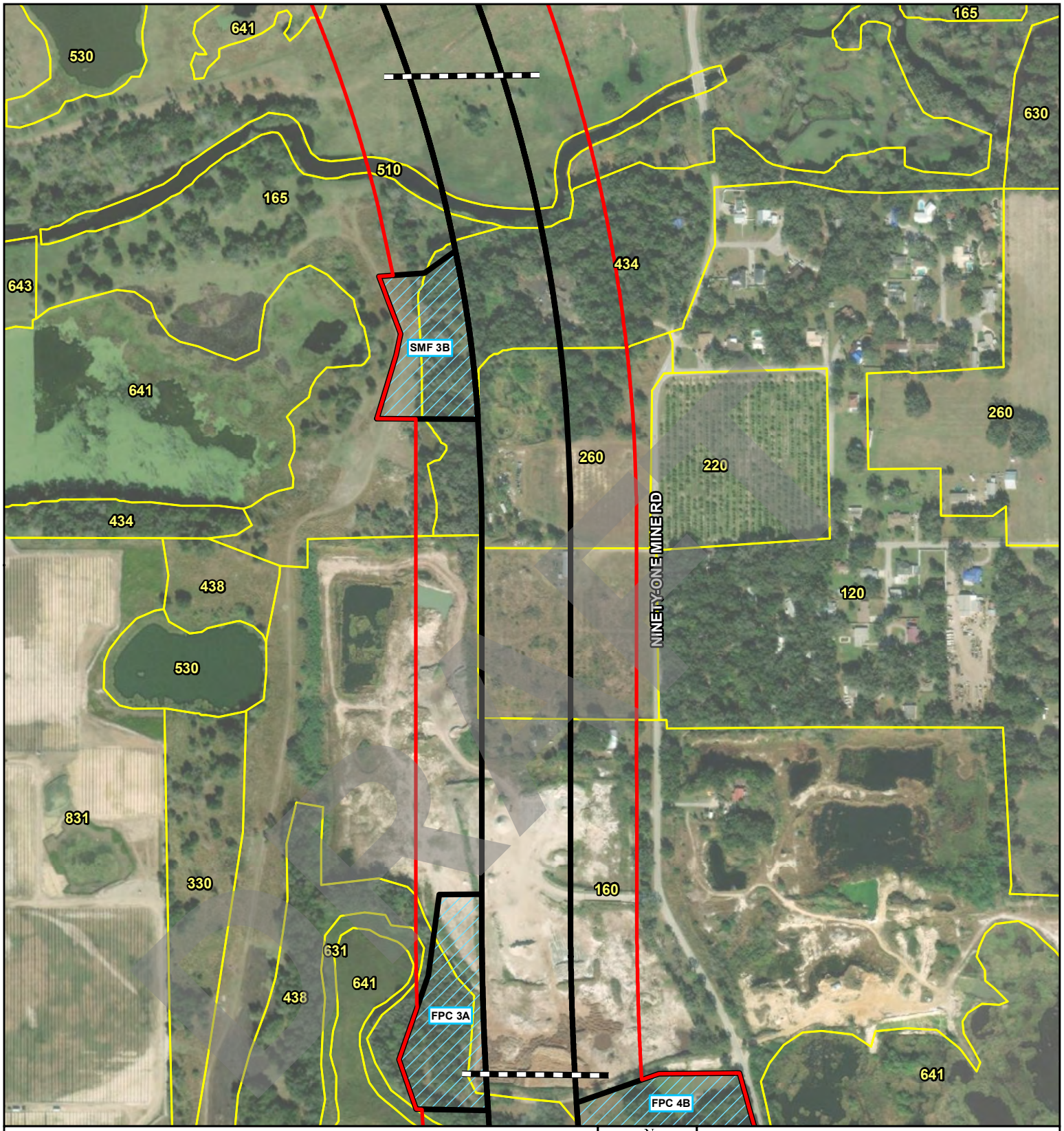


## Legend

- Project Study Area
- Proposed ROW
- Proposed Pond
- 120: RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT
- 160: EXTRACTIVE
- 165: RECLAIMED LAND
- 220: TREE CROPS
- 260: OTHER OPEN LANDS <RURAL>
- 330: MIXED RANGELAND
- 434: HARDWOOD CONIFER MIXED
- 438: MIXED HARDWOODS
- 510: STREAMS AND WATERWAYS
- 530: RESERVOIRS
- 621: CYPRESS
- 630: WETLAND FORESTED MIXED
- 631: WETLAND SCRUB
- 641: FRESHWATER MARSHES
- 643: WET PRAIRIES
- 831: ELECTRICAL POWER FACILITIES

N W E S

500 250 0 500

Feet

# Land Use Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida

FPID No. 440897-4-22-01

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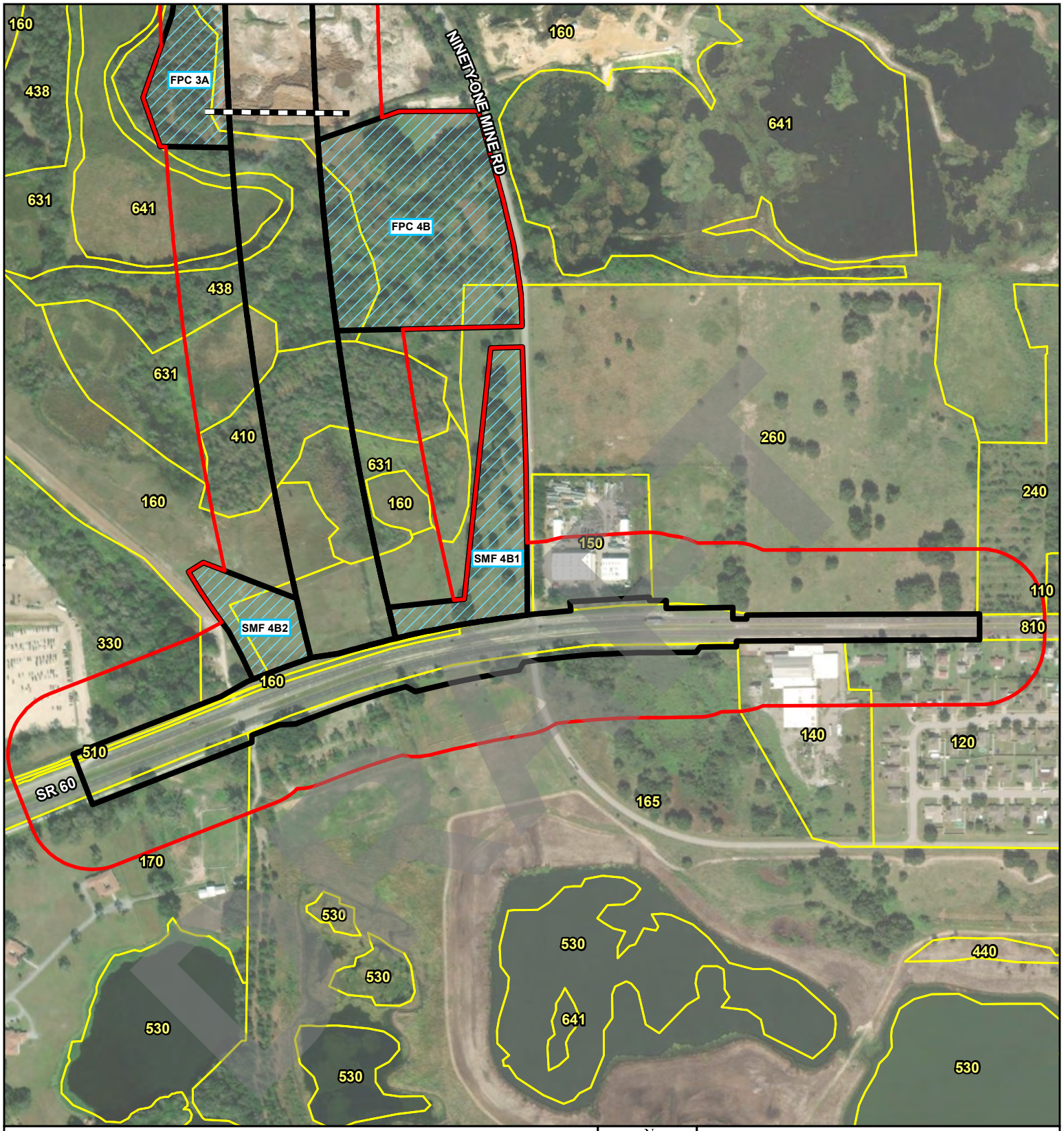


## Legend

- Project Study Area
- Proposed ROW
- Proposed Pond
- 110: RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS
- 120: RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT
- 140: COMMERCIAL AND SERVICES
- 150: INDUSTRIAL
- 160: EXTRACTIVE
- 165: RECLAIMED LAND
- 170: INSTITUTIONAL
- 240: NURSERIES AND VINEYARDS
- 260: OTHER OPEN LANDS <RURAL>
- 330: MIXED RANGELAND
- 410: UPLAND CONIFEROUS FORESTS
- 438: MIXED HARDWOODS
- 440: TREE PLANTATIONS
- 510: STREAMS AND WATERWAYS
- 530: RESERVOIRS
- 631: WETLAND SCRUB
- 641: FRESHWATER MARSHES
- 810: TRANSPORTATION

N W E S

500 250 0 500

Feet

# Land Use Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida

FPID No. 440897-4-22-01

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# *APPENDIX C*

## Wetland and Surface Water Table, Descriptions and Map

**Individual Wetlands and Surface Waters within the Central Polk Parkway Study Area**

| ID | FLUCFCS Classification [1] | USFWS Classification [2] | Acres within the Project Study Area |
|---|---|---|---|
| WL 1 | 641 | PEM1C | 5.47 |
| WL 2 | 641 | PEM1C | 1.66 |
| WL 3a | 653 | PEM1C | 1.02 |
| WL 3b | 643 | PEM1C | 0.11 |
| WL 4a | 631 | PSS1C | 3.03 |
| WL 4b | 619 | PSS1C | 3.06 |
| WL 5 | 653 | PEM1C | 0.64 |
| WL 6 | 653 | PEM1C | 0.79 |
| WL 7a | 641 | PEM1C | 3.20 |
| WL 7b | 644 | PEM1C | 6.56 |
| WL 8 | 641 | PEM1C | 0.48 |
| WL 9a | 631 | PSS1C | 1.32 |
| WL 9b | 641 | PEM1C | 2.29 |
| WL 10 | 631 | PSS1C | 2.68 |
| WL 11 | 631 | PSS1C | 3.62 |
| | | ***Total Wetlands*** | **35.93** |
| SW 1 | 510 | PSS1Cx | 0.62 |
| SW 2 | 510 | PSS1Cx | 0.26 |
| SW 3 | 530 | PUB2Hx | 10.29 |
| SW 4 | 510 | R2UBHx | 1.67 |
| SW 5 | 510 | PEM1Cx | 0.71 |
| | | ***Total Surface Waters*** | **13.55** |
| | | ***Total Wetlands and Surface Waters*** | **49.48** |

[1] FDOT 1999

[2] Cowardin, *et al*., 1979

PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded
PEM1Cx: Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated
PSS1C: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded
PSS1Cx: Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Excavated
PUB2Hx: Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated
R2UB2Hx: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated



## ***Individual Wetlands***

**Wetland 1**
**FLUCFCS: 641 (Freshwater Marshes)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 1 (WL 1) is a freshwater marsh that is located just north of Old Bartow Eagle Lake Road, approximately 0.4 miles west of the Thomas Street and Old Bartow Eagle Lake Road intersection. WL 1 is reclaimed habitat where soils and topography have been severely disturbed due to previous mining activities. Vegetation within WL 1 is dominated by cattail (*Typha* spp.). Other vegetative species include soft rush (*Juncus effusus)*, paragrass (*Urochloa mutica*), and smartweed (*Persicaria* spp.). Standing water was not observed at the time of evaluation. Upland habitat surrounding WL 1 consists of previously mined and reclaimed pasture land (FLUCFCS 165).

Wildlife observed at the time of evaluation included osprey (*Pandion haliaetus*) and cattle (*Bos taurus*). A total of 5.47 acres of this wetland is found within the project study area.

**Wetland 2**
**FLUCFCS: 641 (Freshwater Marshes)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 2 (WL 2) is a freshwater marsh that is located just north of Old Bartow Eagle Lake Road, approximately 0.2 miles west of the Thomas Street and Old Bartow Eagle Lake Road intersection. WL 2 is reclaimed habitat where soils and topography have been severely disturbed due to previous mining activities. Dominant vegetative species within WL 2 consist of Peruvian primrosewillow (*Ludwigia peruviana*), alligator flag (*Thalia geniculata*), Cuban bulrush (*Cyperus blepharoleptos*), soft rush, marsh pennywort (*Hydrocotyle umbellata*), and other various sedges (*Cyperus* spp.). At the time of evaluation, there was approximately 12-18 inches of standing water. Upland habitats surrounding WL 2 include a combination of reclaimed pasture land (FLUCFCS 165) and residential development (FLUCFCS 120). Wildlife was not observed at the time of evaluation. A total of 1.66 acres of this wetland is found within the project study area.

**Wetland 3a**
**FLUCFCS: 653 (Intermittent Ponds)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 3a (WL 3a) is an intermittent pond that is located just north of US 17 at the northern terminus of the project. WL 3a is part of a larger wetland system that includes SW 2 – streams and waterways – and WL 3b – a wet prairie. WL 3a is hydrologically connected to WL 4a and WL 4b via a culvert under US 17. Dominant vegetative species within WL 3a consist of Peruvian primrosewillow, Brazilian pepper (*Schinus terebinthifolia*), paragrass, bushy bluestem (*Andropogon glomeratus*), marsh pennywort, and various sedges. At the time of evaluation, soils were saturated but standing water was not observed. Upland habitats surrounding WL 3a include a combination of US 17 roadway (FLUCFCS 810), residential development (FLUCFCS 120), and hardwood conifer mixed forest (FLUCFCS 434). Wildlife was not observed at the time of evaluation. A total of 1.02 acres of this wetland is found within the project study area.

**Wetland 3b**
**FLUCFCS: 643 (Wet Prairies)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 3b (WL 3b) is a wet prairie that is located just north of US 17 at the northern terminus of the project. WL 3b is part of a larger wetland system that includes SW 2 – streams and waterways – and WL 3a – an intermittent pond. WL 3b is hydrologically connected to WL 4a and WL 4b via a culvert under US 17. Dominant vegetative species within WL 3a consist of Peruvian primrosewillow, marsh pennywort, paragrass, turkey tangle frogfruit (*Phyla nodiflora*), beggarticks (*Bidens alba*), and various sedges. At the time of evaluation, soils were saturated but standing water was not observed. Upland habitats surrounding WL 3a include a combination of US 17 roadway (FLUCFCS 810), residential development (FLUCFCS 120), and hardwood conifer mixed forest (FLUCFCS 434). Wildlife was not observed at the time of evaluation. A total of 0.11 acres of this wetland is found within the project study area.

**Wetland 4a**

**FLUCFCS: 631 (Wetland Scrub)**
**USFWS: PSS1C (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded)**

Wetland 4a (WL 4a) is a wetland scrub that is located just south of US 17, approximately 0.5 miles west of the US 17 and 91 Mine Road intersection. WL 4a is part of a larger wetland system that includes WL 4b – an exotic wetland hardwood. WL 4a is characterized by overgrown vegetation with a high percentage of exotics and is hydrologically connected to WL 3a, WL 3b and SW 2 via a culvert under US 17. Standing water at a depth of approximately 1-2 inches was observed at the time of evaluation. Dominant vegetation within WL 4a is comprised of Brazilian pepper, Carolina willow (*Salix caroliniana*), Peruvian primrosewillow, elderberry (*Sambucus nigra*), castor bean (*Ricinus communis*), cattail, and cogongrass (*Imperata cylindrica*). Upland habitats surrounding WL 4a include a combination of the US 17 roadway (FLUCFCS 810) and commercial development (FLUCFCS 140). Wildlife was not observed at the time of evaluation. A total of 3.03 acres of this wetland is found within the project study area.

**Wetland 4b**

**FLUCFCS: 619 (Exotic Wetland Hardwoods)**
**USFWS: PSS1C (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded)**

Wetland 4b (WL 4b) is a exotic wetland hardwood that is located just south of US 17, approximately 0.5 miles west of the US 17 and 91 Mine Road intersection. WL 4b is part of a larger wetland system that includes WL 4a – a wetland scrub. WL 4b is characterized by a high percentage of exotics and is hydrologically connected to WL 3a, WL 3b and SW 2 via a culvert under US 17. Standing water at a depth of approximately 2-6 inches was observed at the time of evaluation. Dominant vegetation within WL 4b is comprised almost entirely of Peruvian primrosewillow with scattered Brazilian pepper. Other hydrophytic vegetation within WL 4b included Carolina willow, torpedo grass (*Panicum repens*), marsh pennywort, and smartweed. Upland habitats surrounding WL 4b include a combination of the US 17 roadway (FLUCFCS 810) and commercial development (FLUCFCS 140). Wildlife was not observed at the time of evaluation. A total of 3.06 acres of this wetland is found within the project study area.

**Wetland 5**

**FLUCFCS: 653 (Intermittent Ponds)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 5 (WL 5) is an intermittent pond that is located just south of US 17, approximately 0.5 miles west of the US 17 and 91 Mine Road intersection. This wetland is characterized by open water with hydrophytic vegetation along the banks. At the time of evaluation, approximately 1-3 inches of standing water was observed. Dominant species within WL 5 included Carolina willow, Peruvian primrosewillow, cattail, American white waterlily (*Nymphaea odorata*), bulltongue arrowhead, alligator weed (*Alternanthera philoxeroides*), and paragrass. Upland habitat surrounding WL 5 consists of commercial development (FLUCFCS 140). Wildlife was not observed at the time of evaluation. A total of 0.64 acres of this wetland is found within the project study area.

**Wetland 6**

**FLUCFCS: 653 (Intermittent Ponds)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 6 (WL 6) is an intermittent pond that is located just south of US 17 at the northern terminus of the project. This wetland is characterized by open water with hydrophytic vegetation along the banks. At the time of evaluation, approximately 1-2 inches of standing water was observed. Dominant species within WL 6 included Carolina willow, Peruvian primrosewillow, cattail, American white waterlily, bulltongue arrowhead, alligator weed, and paragrass. Upland habitat surrounding WL 6 consists of commercial development (FLUCFCS 140). Wildlife was not observed at the time of evaluation. A total of 0.79 acres of this wetland is found within the project study area.

**Wetland 7a**

**FLUCFCS: 641 (Freshwater Marshes)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 7a (WL 7a) is a freshwater marsh that is located approximately 0.6 miles southwest of the US 17 and 91 Mine Road intersection. WL 7a is part of a larger wetland system that includes WL 7b – emergent aquatic vegetation. These systems are reclaimed habitats where soils and topography have been severely disturbed due to previous mining activities. At the time of evaluation, the soils within WL 7a were saturated. Dominant species within WL 7a included cattail, soft rush, bushy bluestem, torpedograss, cogongrass, and bermudagrass (*Cynodon dactylon*). Upland habitat surrounding WL 7a consists of reclaimed mine lands used as pasture (FLUCFCS 165). Wildlife observed at the time of evaluation included the snowy egret (*Egretta thula*) and the red-winged blackbird (*Agelaius phoeniceus*). A total of 3.20 acres of this wetland is found within the project study area.

**Wetland 7b**

**FLUCFCS: 644 (Emergent Aquatic Vegetation)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 7b (WL 7b) is emergent aquatic vegetation that is located approximately 0.6 miles southwest of the US 17 and 91 Mine Road intersection. WL 7b is part of a larger wetland system that includes WL 7a – a freshwater marsh. These systems are reclaimed habitats where soils and topography have been severely disturbed due to previous mining activities. WL 7b is characterized by open water with hydrophytic and emergent aquatic vegetation. Dominant vegetation within WL 7b consists of cattails, American white waterlily, dotted duckweed (*Landoltia punctata*), soft rush, and various sedges. Upland habitat surrounding WL 7b consists of reclaimed mine lands used as pasture (FLUCFCS 165). Wildlife observed at the time of evaluation included the wood stork (*Mycteria americana*) and the little blue heron (*Egretta caerulea*). A total of 6.56 acres of this wetland is found within the project study area.

**Wetland 8**

**FLUCFCS: 641 (Freshwater Marshes)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 8 (WL 8) is a freshwater marsh that is located approximately 0.4 miles northwest of the River Oaks Drive and 91 Mine Road intersection. WL 8 is reclaimed habitat where soils and topography have been severely disturbed due to previous mining activities. At the time of evaluation, standing water was not observed. Dominant species within WL 8 consist of Brazilian pepper, pickerel weed (*Pontederia cordata*), alligator flag, soft rush and various sedges. Upland habitats surrounding WL 8 consist of reclaimed mine lands used as pasture (FLUCFCS 165). Wildlife observed at the time of evaluation included a great blue heron (*Ardea herodias*). A total of 0.48 acres of this wetland is found within the project study area.

**Wetland 9a**

**FLUCFCS: 631 (Wetland Scrub)**
**USFWS: PSS1C (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded)**

Wetland 9a (WL 9a) is wetland scrub that is located approximately 0.2 miles southwest of the Snake Valley Road and 91 Mine Road intersection. WL 9a is part of a larger wetland system that includes WL 9b – a freshwater marsh. These systems are reclaimed habitats where soils and topography have been severely disturbed due to previous mining activities. Dominant vegetation within WL 9a consists of Carolina willow, Peruvian primrosewillow, soft rush, marsh pennywort, and various sedges. At the time of evaluation, approximately 12-18 inches of standing water was observed. Upland habitats surrounding WL 9a consist of reclaimed mine lands used as pasture (FLUCFCS 165), extractive land (FLUCFCS 160), and upland coniferous forest (FLUCFCS 410). Wildlife was not observed at the time of evaluation. A total of 1.32 acres of this wetland is found within the project study area.

**Wetland 9b**

**FLUCFCS: 641 (Freshwater Marsh)**
**USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)**

Wetland 9b (WL 9b) is a freshwater marsh that is located approximately 0.2 miles southwest of the Snake Valley Road and 91 Mine Road intersection. WL 9b is part of a larger wetland system and is surrounded by WL 9a – a wetland scrub. These systems are reclaimed habitats where soils and topography have been severely disturbed due to previous mining activities. Dominant vegetation within WL 9b consists of cattail, Peruvian primrosewillow, soft rush, dogfennel, and various grasses and sedges. At the time of evaluation, approximately 12-18 inches of water was observed. Wildlife was not observed. A total of 2.29 acres of this wetland is found within the project study area.

**Wetland 10**

| | | |
|---|---|---|
| **FLUCFCS:** | **631** | **(Wetland Scrub)** |
| **USFWS:** | **PSS1C** | **(Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded)** |

Wetland 10 (WL 10) is wetland scrub that is located on the north side of SR 60 near the project's southern terminus. WL 10 is reclaimed habitat where soils and topography have been severely disturbed due to previous mining activities. The canopy layer within WL 10 is limited to large Carolina willows. Other dominant vegetative species included Peruvian primrosewillow, alligator flag, cattail, soft rush, and marsh pennywort. Upland habitats surrounding WL 10 consist of previously mined lands being used as pasture (FLUCFCS 160) and mixed hardwoods (FLUCFCS 438). Extractive lands are characterized by open pasture. There was approximately 2-6 inches of standing water observed at the time of assessment. Low water quality was evidenced by siltation and signs of cattle usage. Wildlife observed at the time of evaluation included fish, frogs, ducks, a sandhill crane (*Antigone canadensis pratensis*) and a great egret (*Ardea alba*). A total of 2.68 acres of this wetland is found within the project study area.

**Wetland 11**

| | | |
|---|---|---|
| **FLUCFCS:** | **631** | **(Wetland Scrub)** |
| **USFWS:** | **PSS1C** | **(Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded)** |

Wetland 11 (WL 11) is wetland scrub that is located on the north side of SR 60 near the project's southern terminus. WL 11 is reclaimed habitat where soils and topography have been severely disturbed due to previous mining activities. The canopy layer within WL 11 is limited to large Carolina willows. Groundcover species are composed of soft rush, Carolina redroot (*Lachnanthes caroliana*), and dogfennel (*Eupatorium capillifolium*). The upland habitat surrounding WL 11 consists of reclaimed mine lands used as pasture (FLUCFCS 160 & FLUCFCS 260) and upland coniferous forest (FLUCFCS 410). The extractive and other open lands are characterized by open pasture. At the time of evaluation, no standing water or wildlife was observed. A total of 3.62 acres of this wetland is found within the project study area.

## ***Individual Surface Waters***

**Surface Water 1, 2, and 5**

| | | |
|---|---|---|
| **FLUCFCS:** | **510** | **(Streams and Waterways)** |
| **USFWS:** | **PSS1Cx** | **(Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Excavated)** |
| | **PEM1Cx** | **(Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated)** |

Surface Waters (SW) 1, 2, & 5 are roadside ditches located perpendicular and parallel to the north and south side of US 17 at the northern terminus of the project. These ditches are overgrown and dominated by exotic nuisance species. Vegetation includes Carolina willow, Brazilian pepper, Peruvian primrosewillow, alligator flag, paragrass, and cogongrass. The surrounding areas consist of a combination of residential areas (FLUCFCS 120), commercial services (FLUCFCS 140), and

hardwood-conifer mixed forests (FLUCFCS 434). A total of 0.62 acres of SW 1, 0.26 acres of SW 2, and 0.71 acres of SW 5 is found within the project study area.

**Surface Water 3**

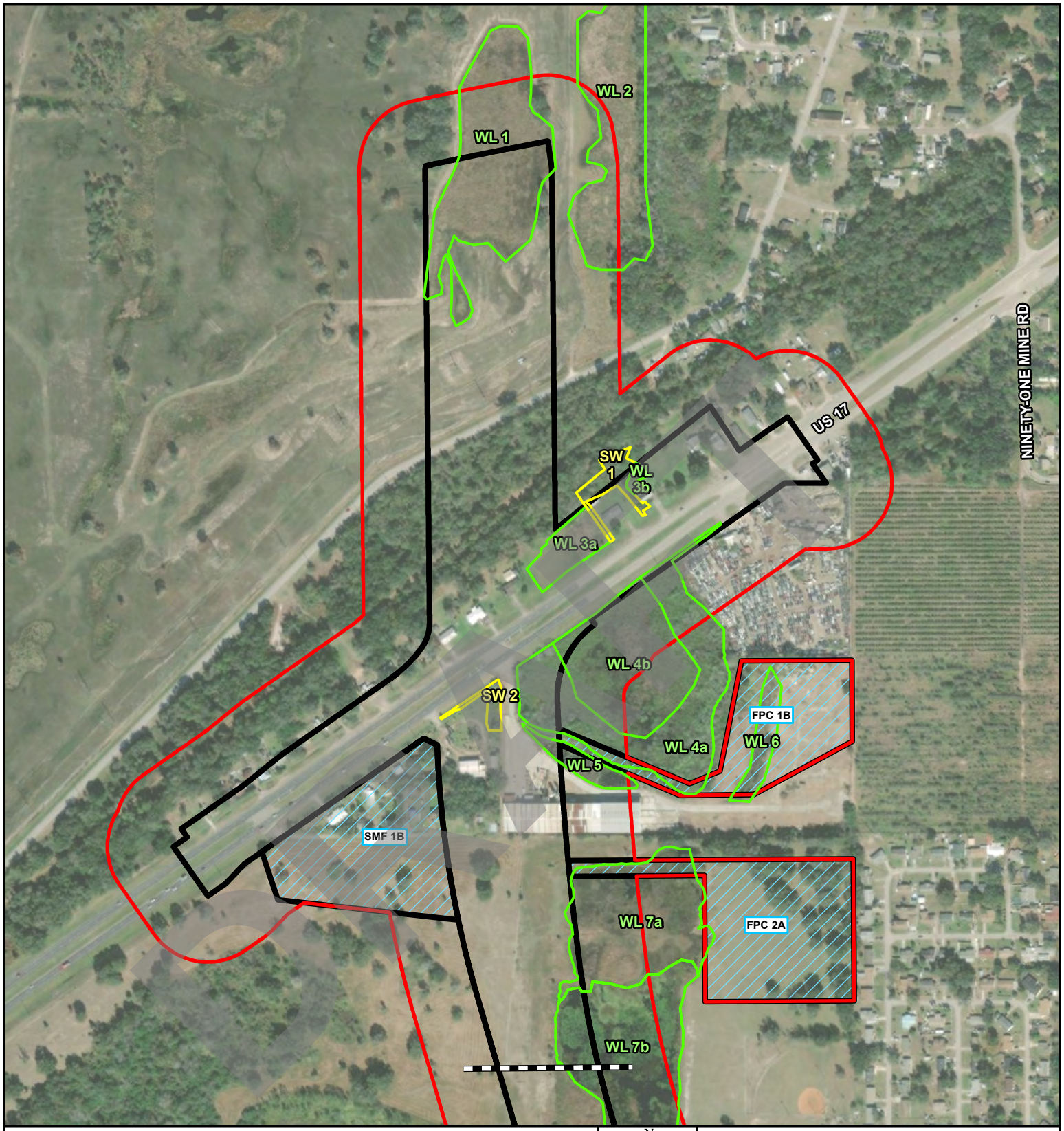
**FLUCFCS: 530 (Reservoirs)**
**USFWS: PUB2Hx (Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated)**

Surface Water 3 (SW 3) is a large reservoir located south of US 17, approximately 0.6 miles southeast of the US 17 and Crossover Road intersection. SW 3 was formed by reclamation of mined lands. SW 3 is characterized by open water with hydrophytic vegetation along the edges. Dominant vegetative species within this system includes water lettuce, soft rush, smartweed, paragrass, cogongrass, and various sedges. The surrounding areas consist of previously mined, reclaimed land currently used as pasture (FLUCFCS 165) and cypress (FLUCFCS 621). Wildlife observed at this surface water included wild hog (*Sus scrofa*), anhinga, great egret, and cattle. A total of 10.29 aces of this surface water is found within the project study area.

**Surface Water 4**

**FLUCFCS: 510 (Streams and Waterways)**
**USFWS: R2UB2Hx (Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated)**

Surface Water 4 (SW 4) is a portion of Peace Creek that runs from east to west through the project study area, and ultimately flows west into Peace River. The surrounding areas consist of reclaimed, previously mined, land used as pasture (FLUCFCS 165) and mixed hardwood conifer forests (FLUCFCS 434). Dominant vegetative species along the banks of SW 4 consist of laurel oak (*Quercus laurifolia*), cabbage palm (*Sabal palmetto*), lantana (*Lantana strigocamara*), smartweed, dogfennel, caesarweed, and cogongrass. Wildlife observed at this surface water included cattle and fish. A total of 1.67 acres of this surface water is found within the project study area.




## Legend

- Project Study Area
- Proposed ROW
- Proposed Pond
- Surface Water
- Wetland

N W E S

500 250 0 500

Feet

# Wetland and Surface Water Location Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida

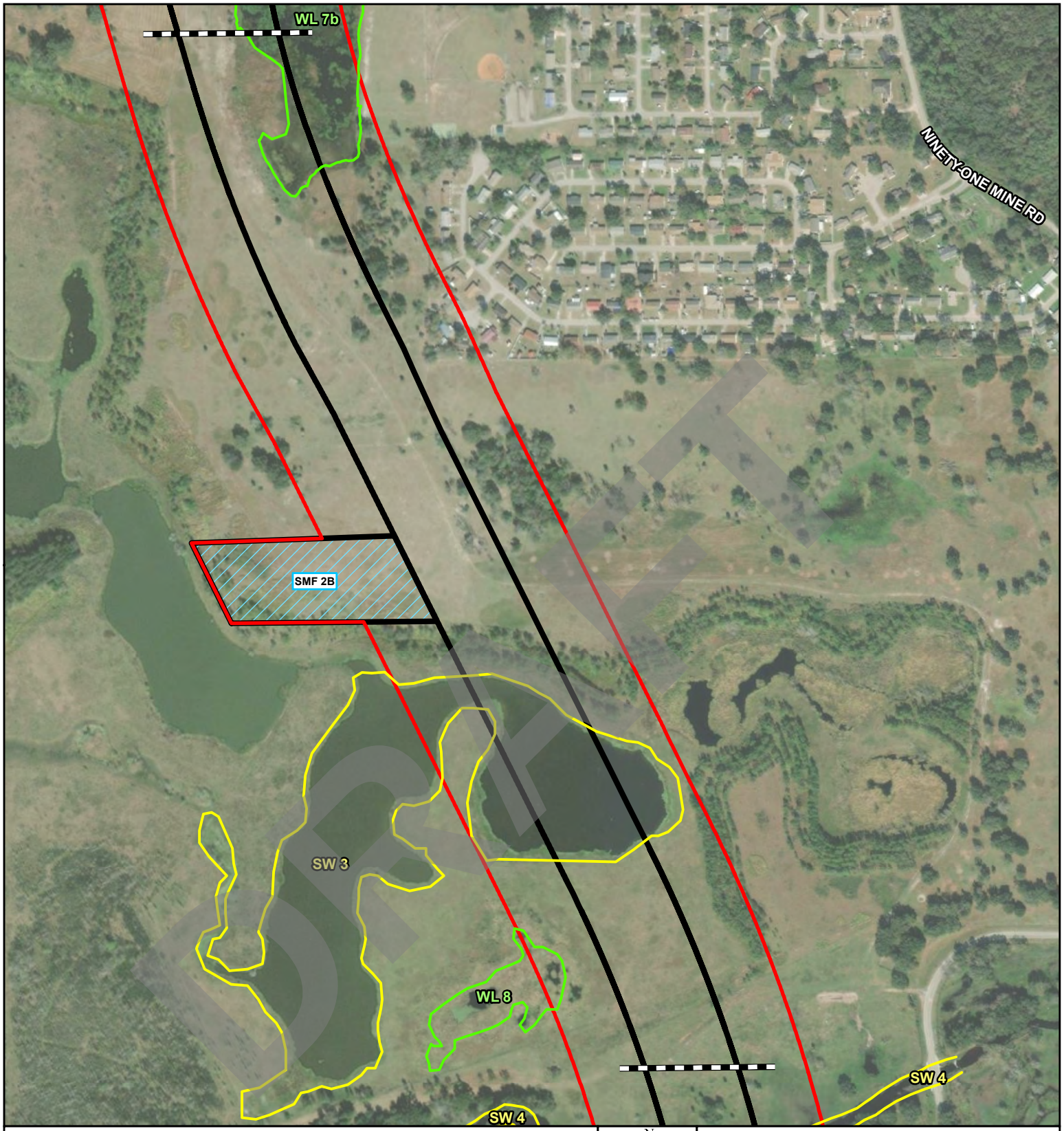
FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix C



Path: D:\Projects\M\1201739.00_CPP\NonSubmittalDesign\44089742401\GIS\Maps\Figures\NRE\CPP2_Appendix C_Wetlands Map.mxd 12/2/2020




## Legend

- Project Study Area
- Proposed ROW
- Proposed Pond
- Surface Water
- Wetland

N
W E
S

500 250 0 500
Feet

# Wetland and Surface Water Location Map

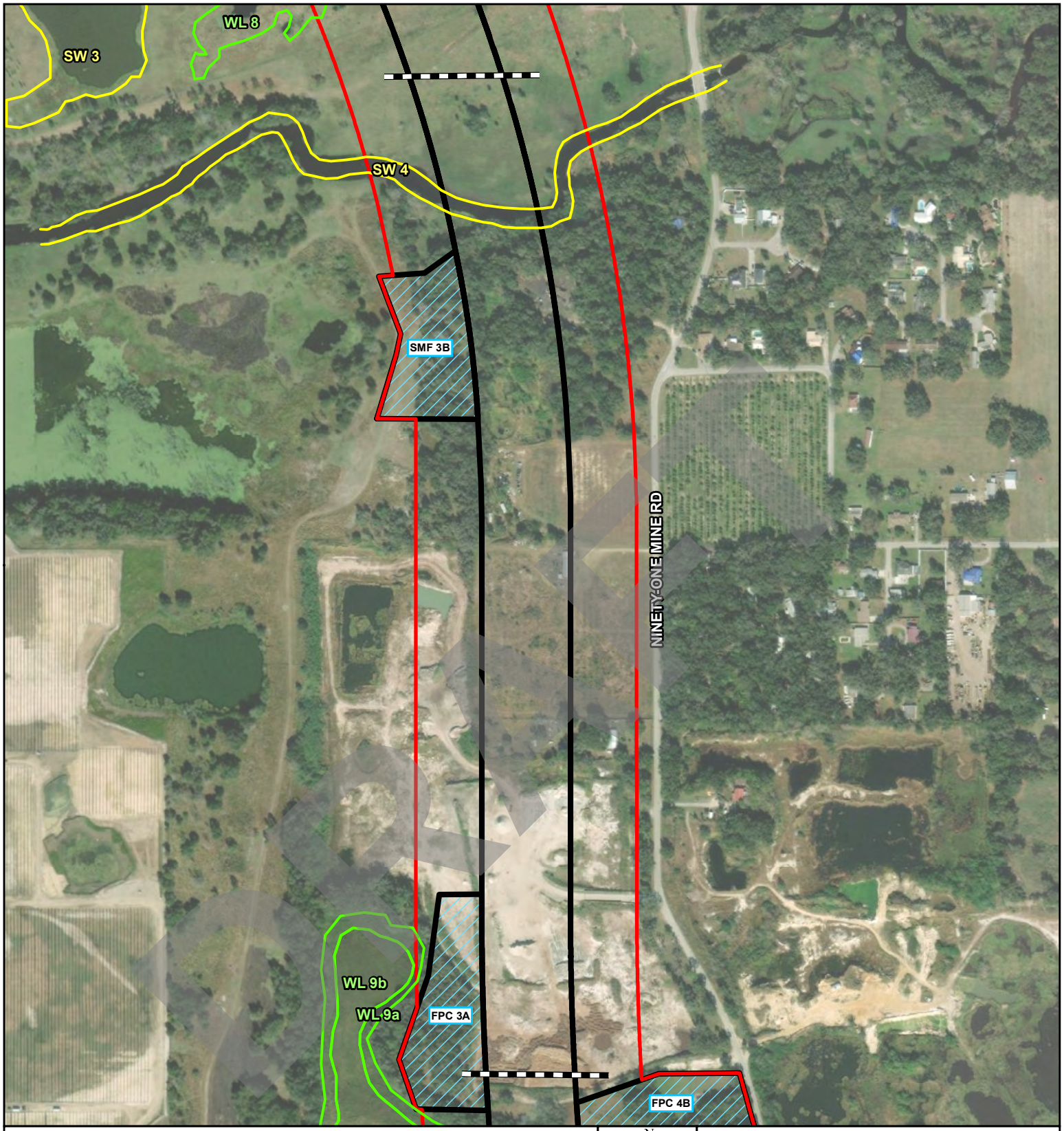
## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida
FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix C


Path: D:\Projects\M\1201739.00_CPP\NonSubmittalDesign\44089742401\GIS\Maps\Figures\NRE\CPP2_Appendix C_Wetlands Map.mxd 12/2/2020




## Legend

- Project Study Area
- Proposed ROW
- Proposed Pond
- Surface Water
- Wetland

N
W E
S

500 250 0 500
Feet

# Wetland and Surface Water Location Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida
FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
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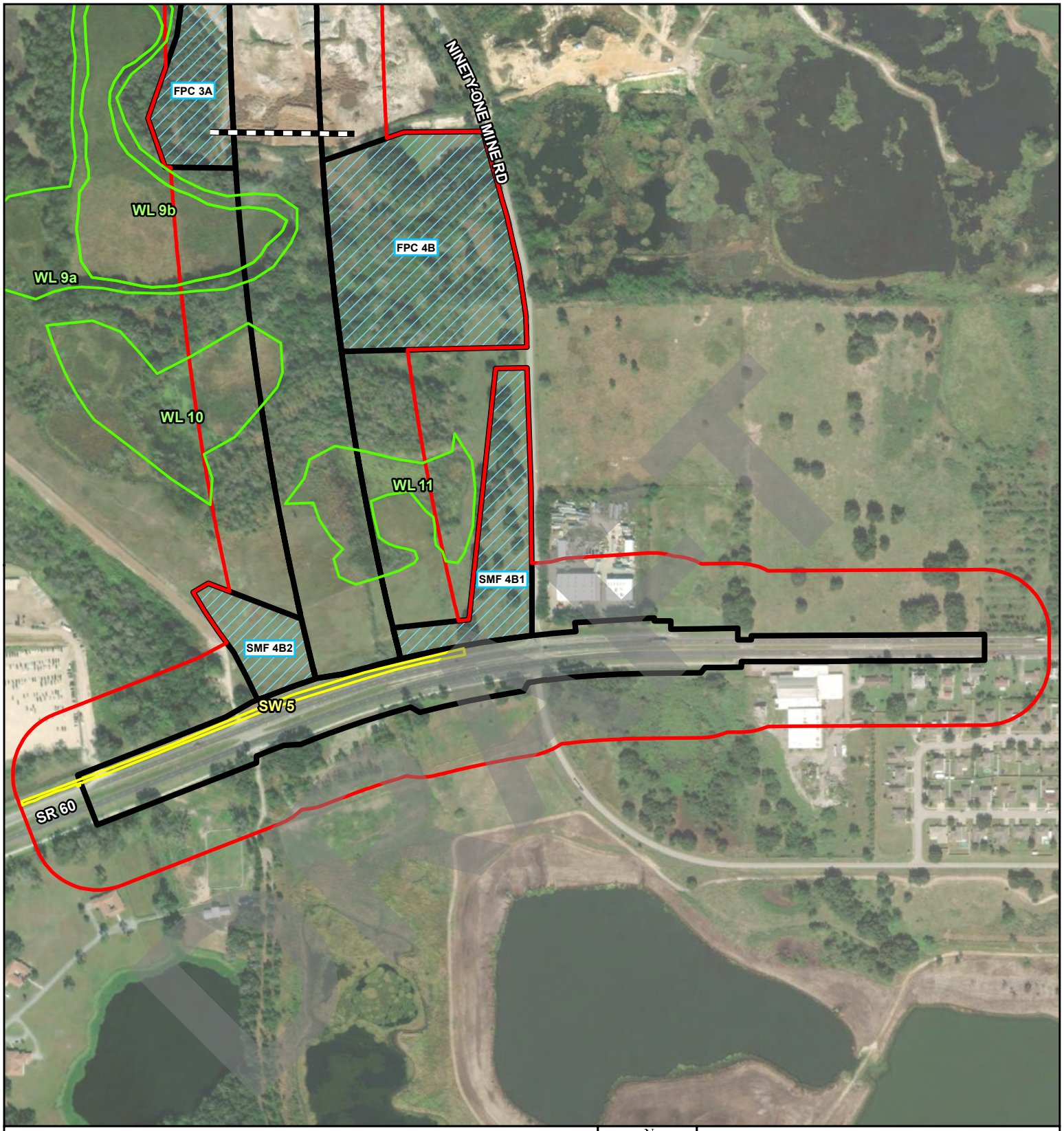
Path: D:\Projects\M\1201739.00_CPP\NonSubmittalDesign\44089742401\GIS\Maps\Figures\NRE\CPP2_Appendix C_Wetlands Map.mxd 12/2/2020




## Legend

- Project Study Area
- Proposed ROW
- Proposed Pond
- Surface Water
- Wetland

N
W E
S

500 250 0 500
Feet

# Wetland and Surface Water Location Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida
FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
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Appendix C


Path: D:\Projects\M\1201739.00_CPP\NonSubmittalDesign\44089742401\GIS\Maps\Figures\NRE\CPP2_Appendix C_Wetlands Map.mxd 12/2/2020

# *APPENDIX D*

## Representative Wetland and Surface Water Photographs

FLUCFCS: 619 – Exotic Wetland Hardwoods
USFWS: PSS1C (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded)

FLUCFCS: 631 – Wetland Scrub
USFWS: PSS1C (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded)

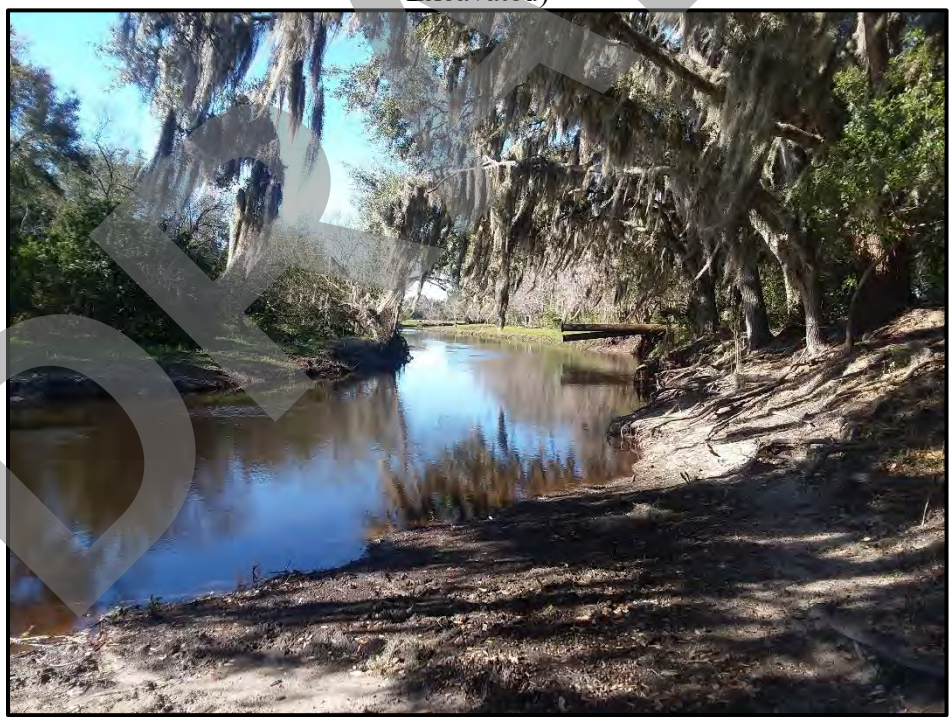
FLUCFCS: 641 – Freshwater Marshes
USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)

FLUCFCS: 643 – Wet Prairies
USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)

FLUCFCS: 644 – Emergent Aquatic Vegetation
USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)

FLUCFCS: 653 – Intermittent Pond
USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)

FLUCFCS: 510 – Streams and Waterways (Ditches)
USFWS: PSS1Cx (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Excavated)



FLUCFCS: 510 – Streams and Waterways (Peace Creek)
USFWS: R2UB2Hx (Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated)

FLUCFCS: 530 – Reservoirs
USFWS: PUB2Hx (Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated)

# *APPENDIX E*

## FNAI Data Report

FLORIDA Natural Areas INVENTORY

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

June 20, 2019

Christen Cerrito
Kisinger, Campo & Associates
201 North Franklin Street, Suite 400
Tampa, FL 33602

Dear Ms. Cerrito,

Thank you for requesting information from the Florida Natural Areas Inventory (FNAI). At your request we have produced the following report for your project area.

The purpose of this Standard Data Report is to provide objective scientific information on natural resources located in the vicinity of a site of interest, in order to inform those involved in project planning and evaluation. This Report makes no determination of the suitability of a proposed project for this location, or the potential impacts of the project on natural resources in the area.

**Project:** Central Polk Parkway

**Date Received:** 06/14/19

**Location:** Polk County

## Element Occurrences

A search of our maps and database indicates that we currently have several element occurrences mapped in the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

*The element occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, element occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant. Extirpated element occurrences will be marked with an 'X' following the occurrence label on the enclosed map.*

## Likely and Potential Rare Species

In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity Matrix Report). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

*FNAI habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.*

Florida Resources and Environmental Analysis Center

Institute of Science and Public Affairs

The Florida State University

*FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.*

*The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.*

CLIP

The enclosed map shows natural resource conservation priorities based on the Critical Lands and Waters Identification Project. CLIP is based on many of the same natural resource data developed for the Florida Forever Conservation Needs Assessment, but provides an overall picture of conservation priorities across different resource categories, including biodiversity, landscapes, surface waters, and aggregated CLIP priorities (that combine the individual resource categories). CLIP is also based primarily on remote sensed data and is not intended to be the definitive authority on natural resources on a site.

For more information on CLIP, visit http://www.fnai.org/clip.cfm .

## Managed Areas

Portions of the site appear to be located within the Lake Hancock, managed by the Southwest Florida Water Management District.

*The Managed Areas data layer shows public and privately managed conservation lands throughout the state. Federal, state, local, and privately managed conservation lands are included.*

The Inventory always recommends that professionals familiar with Florida's flora and fauna conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. **The maps contain sensitive environmental information, please do not distribute or publish without prior consent from FNAI.** FNAI data may not be resold for profit.

Thank you for your use of FNAI services. An invoice will be mailed separately. If I can be of further assistance, please contact me at (850) 224-8207 or at kbrinegar@fnai.fsu.edu.

Sincerely,

Kerri Brinegar

Kerri Brinegar
GIS / Data Services

Encl

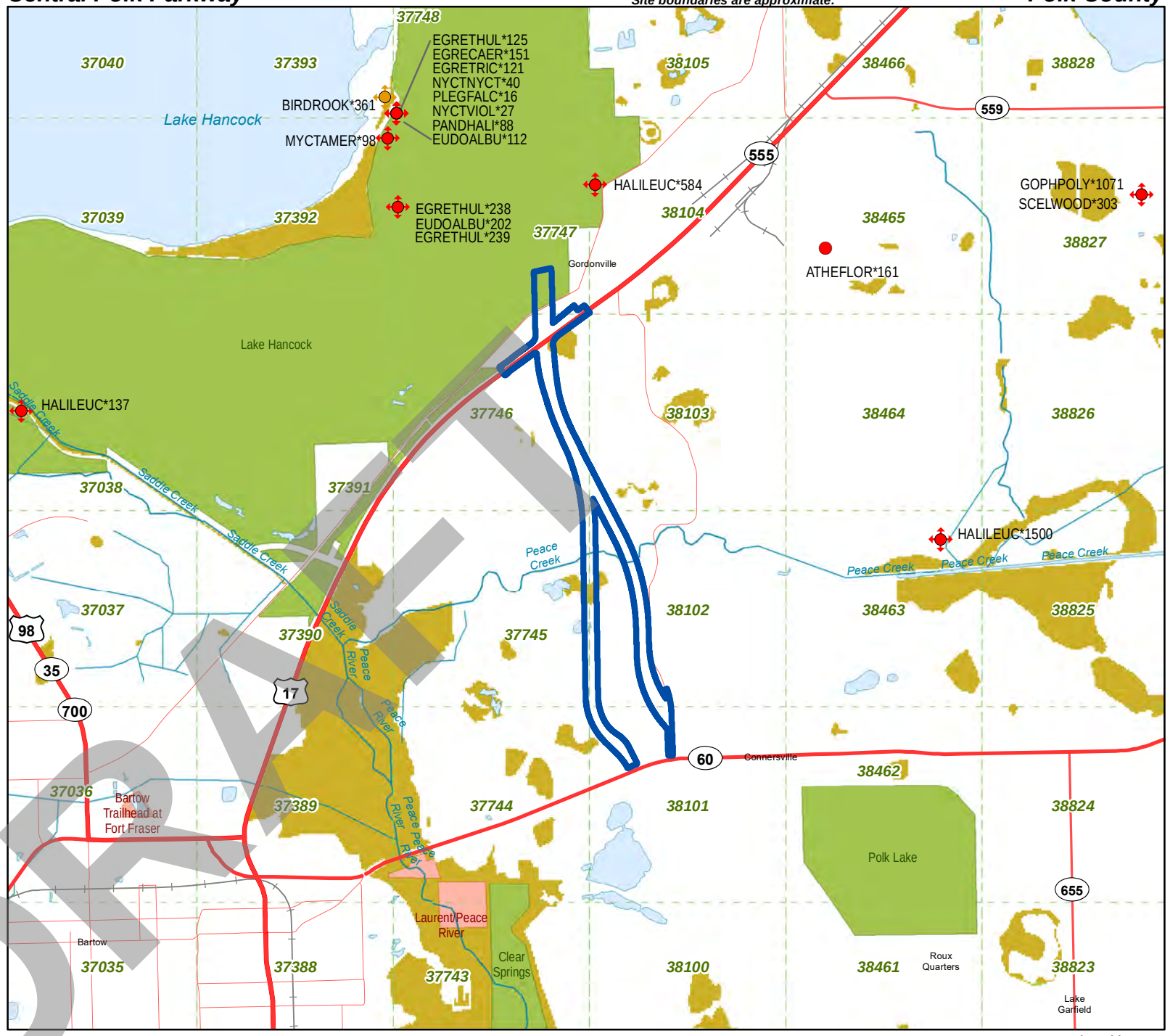
# Central Polk Parkway

Site boundaries are approximate.

Polk County

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

FLORIDA Natural Areas INVENTORY




## Element Occurrences

- Animals
- Plants
- Communities
- Other
- Data Sensitive
- Point Indicates General Vicinity of Element
- U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96

## Conservation Lands

- Federal
- State
- Local
- Private
- State Aquatic Preserves

## Land Acquisition Projects

- Florida Forever Board of Trustees Projects

- FNAI Rare Species Habitat
- FNAI Biodiversity Matrix Square Mile Units
- County Boundary
- Roads
- Water

N

0 0.5 1 2 Miles

**NOTE**

***This map contains environmentally sensitive information. Please do not distribute or publish without prior consent from FNAI. Map should not be interpreted without accompanying documents.***



*Map produced by KAB*
*6/20/2019*

# Central Polk Parkway

Site boundaries are approximate.

Polk County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FLORIDA Natural Areas INVENTORY

## CLIP v4.0 Resource Priorities

**Biodiversity Resource Category**

- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

**Landscape Resource Category**

- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

**Surface Water Resource Category**

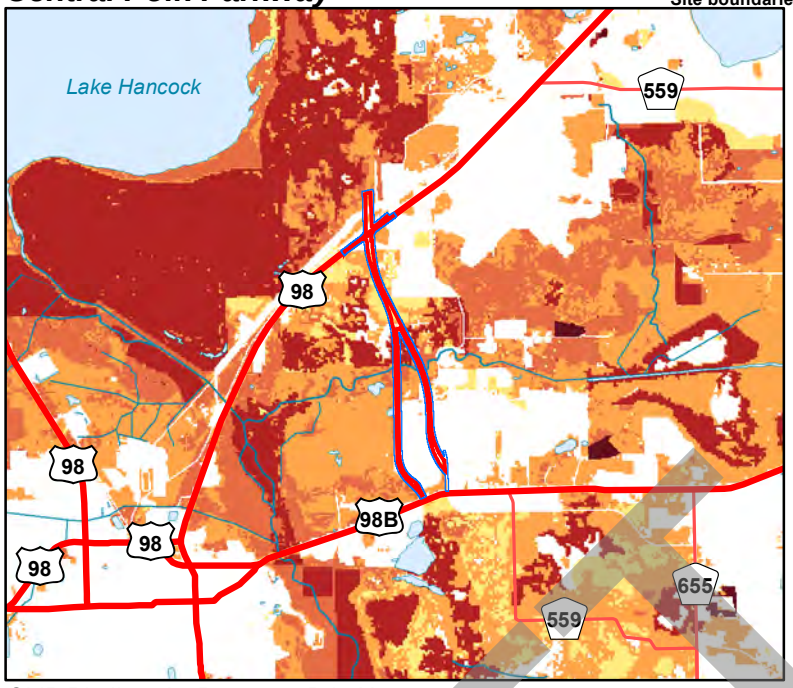
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

**Aggregated CLIP Priorities**

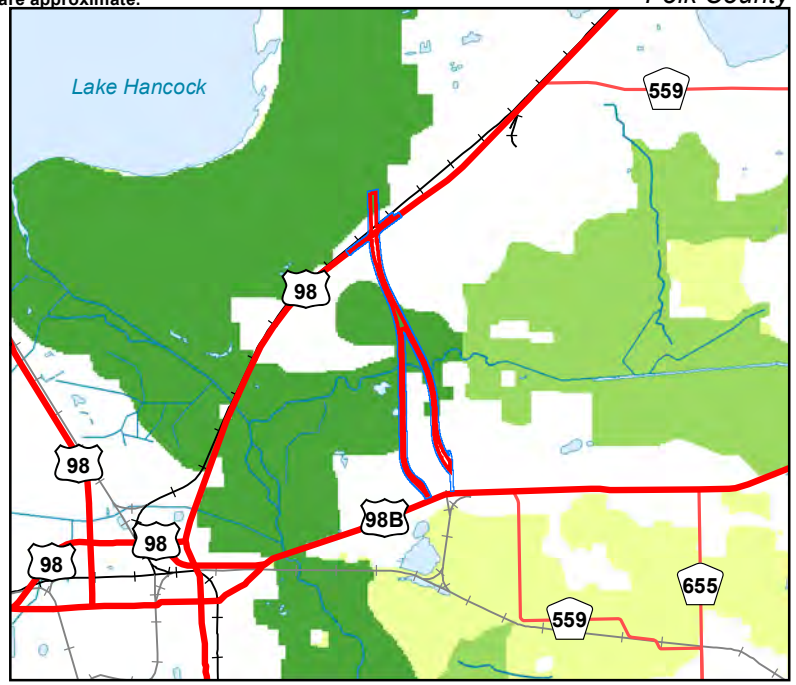
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Site Boundary

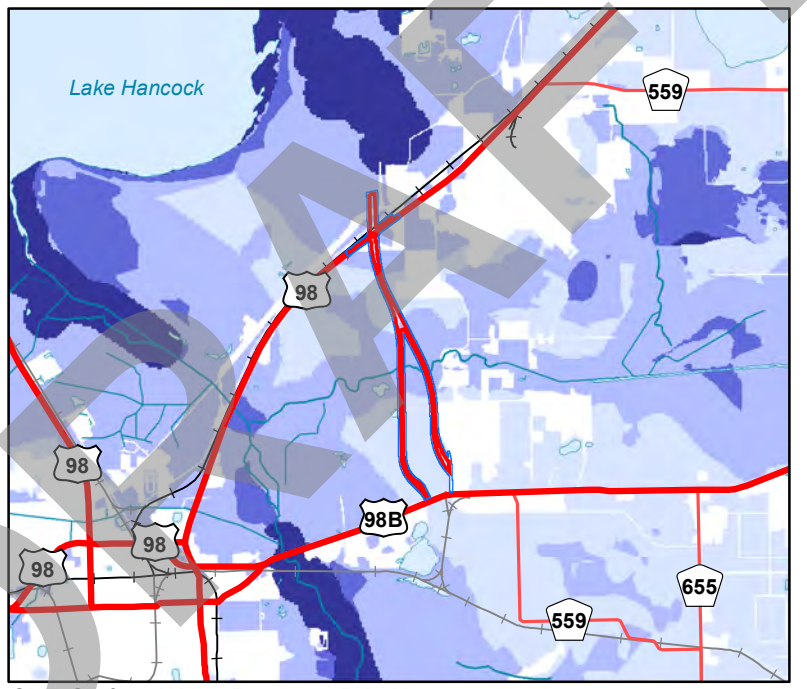
*Map should not be interpreted without accompanying documents.*



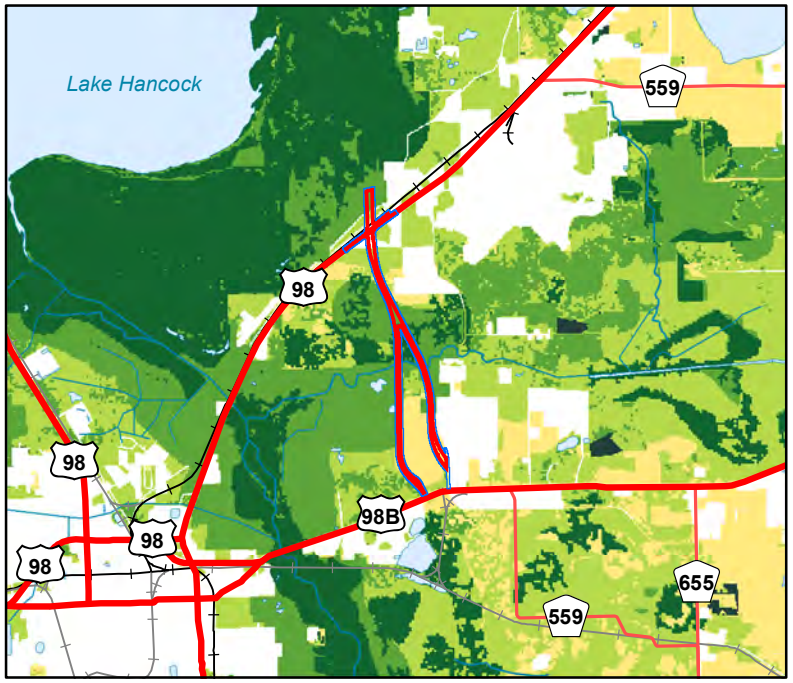

CLIP Biodiversity Resource Priorities




CLIP Landscape Resource Priorities




CLIP Surface Water Resource Priorities




CLIP Aggregated Resource Priorities

0 0.5 1 2 3 4 5 6 Miles


Critical Lands and Waters Identification Project (CLIP) is a cooperative effort between the FSU Florida Natural Areas Inventory, UF Center for Landscape Conservation Planning, and FL Fish & Wildlife Conservation Commission, with additional funding from FL Dept of Environmental Protection and US Fish & Wildlife Service.


*Map produced by KAB*
*6/21/2019*

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

# FNAI ELEMENT OCCURRENCE REPORT on or near

## *Central Polk Parkway*

| Map Label | Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing | Observation Date | Description | EO Comments |
|---|---|---|---|---|---|---|---|---|---|
| ATHEFLOR*161 | *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST | 1999-06-24 | Urban; airport | 1 burrow; 2 adults, 3 young (U99BOW01FLUS) |
| BIRDROOK*361 | Bird Rookery | | G5 | SNR | N | N | 1989-04-19 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01). | Multi-species rookery, 14 species. 11-100 birds 1976-04, 1-10 birds 1977-04, 11-100 birds 1978-04, 101-250 birds and 251-500 birds 1987-04-28 (two surveys), 101-250 birds 1989-04-19. Great Egret present 1987-04-28, 1989-04-19; Snowy Egret present 1987-04-28, 1989-04-19; Little Blue Heron present 1987-04-28, 1989-04-19; Tricolored Heron present 1987-04-28; White Ibis present 1987-04-28; Glossy Ibis present 1987-04-28; Black-crowned Night Heron present 1987-04-28; Yellow-crowned Night Heron present 1987-04-28; Wood Stork present 1987-04-28; Osprey present 1987-04-28, 1989-04-19; Great Blue Heron present 1976-04, 1977-04, 1978-04, 1987-04-28, 1989-04-19; Cattle Egret present 1987-04-28, 1989-04-19; Green-backed Heron present 1987-04-28; Double-crested Cormorant present 1987-04-28, 1989-04-19. Unidentified small white waders and unidentified large white waders present 1987-04-28 (second survey). |
| EGRECAER*151 | *Egretta caerulea* | Little Blue Heron | G5 | S4 | N | ST | 1989-04-19 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01). | Species present 1987-04-28 (both surveys) and 1989-04-19. Not observed 1976-04, 1977-04, and 1978-04. |
| EGRETHUL*125 | *Egretta thula* | Snowy Egret | G5 | S3 | N | N | 1989-04-19 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01). | Species present 1987-04-28 (both surveys) and 1989-04-19. Not observed 1976-04, 1977-04, and 1978-04. |
| EGRETHUL*238 | *Egretta thula* | Snowy Egret | G5 | S3 | N | N | 1987-04-29 | Artificial lake, pond, or borrow pit | 1987/04/29: B.A. Millsap, GFC, observed 20 individuals. WADING BIRD RECORD FROM MILLSAP'S OCCUR.DBF |

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
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# FNAI ELEMENT OCCURRENCE REPORT on or near

## *Central Polk Parkway*

| Map Label | Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing | Observation Date | Description | EO Comments |
|---|---|---|---|---|---|---|---|---|---|
| EGRETHUL*239 | *Egretta thula* | Snowy Egret | G5 | S3 | N | N | 1987-04-28 | Floodplain Swamp; swamp/river floodplain lake. | 1987/04/28: B.A. Millsap, GFC, observed 30 individuals. WADING BIRD RECORD FROM MILLSAP'S OCCUR.DBF (SITE # PO-01B). |
| EGRETRIC*121 | *Egretta tricolor* | Tricolored Heron | G5 | S4 | N | ST | 1987-04-28 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01). | Species present 1987-04-28 (first survey). Not observed 1976-04, 1977-04, and 1978-04, 1987-04-28 (second survey), and 1989-04-19. |
| EUDOALBU*112 | *Eudocimus albus* | White Ibis | G5 | S4 | N | N | 1987-04-28 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01). | Species present 1987-04-28 (second survey). Not observed 1976-04, 1977-04, and 1978-04, 1987-04-28 (first survey), and 1989-04-19. |
| EUDOALBU*202 | *Eudocimus albus* | White Ibis | G5 | S4 | N | N | 1987-04-28 | Floodplain Swamp; swamp/river floodplain lake. | 1987/04/28: B.A. Millsap, GFC, observed 10 individuals. WADING BIRD RECORD FROM MILLSAP'S OCCUR.DBF (SITE # PO-01B). |
| HALILEUC*584 | *Haliaeetus leucocephalus* | Bald Eagle | G5 | S3 | N | N | 2003 | No general description given | Nest status 1995-2003: Continuously active. (U03FWC01FLUS). Previous data (note different format) NEST; 1991: PRODUCED 2 YOUNG; 1990: ACTIVE, PRODUCED 0 YOUNG; 1989: PRODUCED 2 YOUNG; 1988: ACTIVE, PRODUCED 0 YOUNG; 1987: PRODUCED 2 YOUNG; 1986: PRODUCED 2 YOUNG; 1985-80: NO DATA; 1979: INACTIVE; 1978: ACTIVE, PRODUCED 0 YOUNG; 1977: ACTIVE, PRODUCED 0 YOUNG. |
| MYCTAMER*98 | *Mycteria americana* | Wood Stork | G4 | S2 | T | FT | 1987-04-28 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01FLUS). | Colony inactive in 2010 (U11TSA01FLUS). Colony active for 1 year in 1987; unknown number of nests (U11TSA01FLUS, U91RUN01FLUS, U82NES01FLUS). |
| NYCTNYCT*40 | *Nycticorax nycticorax* | Black-crowned Night-heron | G5 | S3 | N | N | 1987-04-28 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01). | Species present 1987-04-28 (second survey). Not observed 1976-04, 1977-04, 1978-04, 1987-04-28 (first survey), and 1989-04-19. |

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

# FNAI ELEMENT OCCURRENCE REPORT on or near

## *Central Polk Parkway*

| Map Label | Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing | Observation Date | Description | EO Comments |
|---|---|---|---|---|---|---|---|---|---|
| NYCTVIOL*27 | *Nyctanassa violacea* | Yellow-crowned Night-heron | G5 | S3 | N | N | 1987-04-28 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01). | Species present 1987-04-28 (second survey). Not observed 1976-04, 1977-04, 1978-04, 1987-04-28 (first survey), and 1989-04-19. |
| PANDHALI*88 | *Pandion haliaetus* | Osprey | G5 | S3S4 | N | N | 1989-04-19 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01). | Species present 1987-04-28 (second survey) and 1989-04-19. Not observed 1976-04, 1977-04, 1978-04, and 1987-04-28 (first survey). |
| PLEGFALC*16 | *Plegadis falcinellus* | Glossy Ibis | G5 | S3 | N | N | 1987-04-28 | Colony site is cypress along lake edge; habitat surrounding colony is cypress strand, lake, and willow marsh; nesting substrate is willows over water (U82NES01). | Species present 1987-04-28 (first survey). Not observed 1976-04, 1977-04, 1978-04, 1987-04-28 (second survey), and 1989-04-19. |

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# Florida Natural Areas Inventory

## Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| **Matrix Unit ID: 37744** | | | | | |
| **Likely** | | | | | |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S3 | T | FT |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Bonamia grandiflora* | Florida bonamia | G3 | S3 | T | E |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Carex chapmannii* | Chapman's sedge | G3 | S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Chionanthus pygmaeus* | pygmy fringe tree | G2G3 | S2S3 | E | E |
| *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 |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E | FE |
| *Eriogonum longifolium var. gnaphalifolium* | scrub buckwheat | G4T3 | S3 | T | E |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | C | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Hartwrightia floridana* | hartwrightia | G2 | S2 | N | T |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Lithobates capito* | Gopher Frog | G3 | S3 | N | N |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3 | N | N |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G3 | S3 | N | N |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Paronychia chartacea var. chartacea* | paper-like nailwort | G3T3 | S3 | T | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Polygala lewtonii* | Lewton's polygala | G2 | S2S3 | E | E |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Rostrhamus sociabilis* | Snail Kite | G4G5 | S2 | E | FE |
| *Sceloporus woodi* | Florida Scrub Lizard | G2G3 | S2S3 | N | N |
| *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 | G3 | S3 | E | E |
| **Matrix Unit ID: 37745** | | | | | |
| **Likely** | | | | | |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Bonamia grandiflora* | Florida bonamia | G3 | S3 | T | E |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |



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*Potential - This site lies within the known or predicted range of the species listed.*

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# Florida Natural Areas Inventory

## Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| *Carex chapmannii* | Chapman's sedge | G3 | S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Chionanthus pygmaeus* | pygmy fringe tree | G2G3 | S2S3 | E | E |
| *Clitoria fragrans* | scrub pigeon-wing | G3 | S3 | T | E |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Conradina brevifolia* | short-leaved rosemary | G2Q | S2 | E | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S3 | T | FT |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E | FE |
| *Eriogonum longifolium var. gnaphalifolium* | scrub buckwheat | G4T3 | S3 | T | E |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | C | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Hartwrightia floridana* | hartwrightia | G2 | S2 | N | T |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Lithobates capito* | Gopher Frog | G3 | S3 | N | N |
| *Lupinus aridorum* | scrub lupine | G3T1 | S1 | E | 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 | G3 | S3 | N | N |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Paronychia chartacea var. chartacea* | paper-like nailwort | G3T3 | S3 | T | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Plestiodon egregius lividus* | Blue-tailed Mole Skink | G5T2 | S2 | T | FT |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Polygala lewtonii* | Lewton's polygala | G2 | S2S3 | E | E |
| *Polygonella basiramia* | Florida jointweed | G3 | S3 | E | E |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Rostrhamus sociabilis* | Snail Kite | G4G5 | S2 | E | FE |
| *Sceloporus woodi* | Florida Scrub Lizard | G2G3 | S2S3 | N | N |
| *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 | G3 | S3 | E | E |

**Matrix Unit ID: 37746**

**Likely**

| | | | | | |
|---|---|---|---|---|---|
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |

**Potential**

| | | | | | |
|---|---|---|---|---|---|
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Bonamia grandiflora* | Florida bonamia | G3 | S3 | T | E |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Carex chapmannii* | Chapman's sedge | G3 | S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Chionanthus pygmaeus* | pygmy fringe tree | G2G3 | S2S3 | E | E |
| *Clitoria fragrans* | scrub pigeon-wing | G3 | S3 | T | E |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Conradina brevifolia* | short-leaved rosemary | G2Q | S2 | E | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S3 | T | FT |



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# Florida Natural Areas Inventory

## Biodiversity Matrix Report

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|---|---|---|---|---|---|
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E | FE |
| *Egretta thula* | Snowy Egret | G5 | S3 | N | N |
| *Eriogonum longifolium var. gnaphalifolium* | scrub buckwheat | G4T3 | S3 | T | E |
| *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 |
| *Hartwrightia floridana* | hartwrightia | G2 | S2 | N | T |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Lithobates capito* | Gopher Frog | G3 | S3 | N | N |
| *Lupinus aridorum* | scrub lupine | G3T1 | S1 | E | 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 | G3 | S3 | N | N |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Paronychia chartacea var. chartacea* | paper-like nailwort | G3T3 | S3 | T | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Plestiodon egregius lividus* | Blue-tailed Mole Skink | G5T2 | S2 | T | FT |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Polygala lewtonii* | Lewton's polygala | G2 | S2S3 | E | E |
| *Polygonella basiramia* | Florida jointweed | G3 | S3 | E | E |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Rostrhamus sociabilis* | Snail Kite | G4G5 | S2 | E | FE |
| *Sceloporus woodi* | Florida Scrub Lizard | G2G3 | S2S3 | N | N |
| *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 | G3 | S3 | E | E |

**Matrix Unit ID: 37747**

**Likely**

| | | | | | |
|---|---|---|---|---|---|
| *Haliaeetus leucocephalus* | Bald Eagle | G5 | S3 | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |

**Potential**

| | | | | | |
|---|---|---|---|---|---|
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Bird Rookery* | | G5 | SNR | N | N |
| *Bonamia grandiflora* | Florida bonamia | G3 | S3 | T | E |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Carex chapmannii* | Chapman's sedge | G3 | S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Chionanthus pygmaeus* | pygmy fringe tree | G2G3 | S2S3 | E | E |
| *Clitoria fragrans* | scrub pigeon-wing | G3 | S3 | T | 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 | S3 | T | FT |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E | FE |
| *Egretta caerulea* | Little Blue Heron | G5 | S4 | N | ST |



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# Florida Natural Areas Inventory

## Biodiversity Matrix Report

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|---|---|---|---|---|---|
| *Egretta thula* | Snowy Egret | G5 | S3 | N | N |
| *Egretta tricolor* | Tricolored Heron | G5 | S4 | N | ST |
| *Eriogonum longifolium var. gnaphalifolium* | scrub buckwheat | G4T3 | S3 | T | E |
| *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 |
| *Hartwrightia floridana* | hartwrightia | G2 | S2 | N | T |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Liatris ohlingerae* | Florida blazing star | G2 | S2 | E | E |
| *Lithobates capito* | Gopher Frog | G3 | S3 | N | N |
| *Lupinus aridorum* | scrub lupine | G3T1 | S1 | E | 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 | G3 | S3 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Nyctanassa violacea* | Yellow-crowned Night-heron | G5 | S3 | N | N |
| *Nycticorax nycticorax* | Black-crowned Night-heron | G5 | S3 | N | N |
| *Pandion haliaetus* | Osprey | G5 | S3S4 | N | N |
| *Paronychia chartacea var. chartacea* | paper-like nailwort | G3T3 | S3 | T | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Plegadis falcinellus* | Glossy Ibis | G5 | S3 | N | N |
| *Plestiodon egregius lividus* | Blue-tailed Mole Skink | G5T2 | S2 | T | FT |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Polygala lewtonii* | Lewton's polygala | G2 | S2S3 | E | E |
| *Polygonella basiramia* | Florida jointweed | G3 | S3 | E | E |
| *Polygonella myriophylla* | Small's jointweed | G3 | S3 | E | E |
| *Prunus geniculata* | scrub plum | G3 | S3 | E | E |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Rostrhamus sociabilis* | Snail Kite | G4G5 | S2 | E | FE |
| *Salix floridana* | Florida willow | G2 | S2 | N | E |
| *Sceloporus woodi* | Florida Scrub Lizard | G2G3 | S2S3 | N | N |
| *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 | G3 | S3 | E | E |
| **Matrix Unit ID: 38101** | | | | | |
| **Likely** | | | | | |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Bonamia grandiflora* | Florida bonamia | G3 | S3 | T | E |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Carex chapmannii* | Chapman's sedge | G3 | S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |



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# Florida Natural Areas Inventory

## Biodiversity Matrix Report

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|---|---|---|---|---|---|
| *Chionanthus pygmaeus* | pygmy fringe tree | G2G3 | S2S3 | E | E |
| *Coleataenia abscissa* | cutthroatgrass | G3 | S3 | N | E |
| *Drymarchon couperi* | Eastern Indigo Snake | G3 | S3 | T | FT |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E | FE |
| *Eriogonum longifolium var. gnaphalifolium* | scrub buckwheat | G4T3 | S3 | T | E |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | C | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Hartwrightia floridana* | hartwrightia | G2 | S2 | N | T |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Lithobates capito* | Gopher Frog | G3 | S3 | N | N |
| *Mustela frenata peninsulae* | Florida Long-tailed Weasel | G5T3? | S3 | N | N |
| *Nemastylis floridana* | celestial lily | G2 | S2 | N | E |
| *Neofiber alleni* | Round-tailed Muskrat | G3 | S3 | N | N |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Paronychia chartacea var. chartacea* | paper-like nailwort | G3T3 | S3 | T | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Plestiodon egregius lividus* | Blue-tailed Mole Skink | G5T2 | S2 | T | FT |
| *Polygala lewtonii* | Lewton's polygala | G2 | S2S3 | E | E |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Rostrhamus sociabilis* | Snail Kite | G4G5 | S2 | E | FE |
| *Sceloporus woodi* | Florida Scrub Lizard | G2G3 | S2S3 | N | N |
| *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 | G3 | S3 | E | E |
| **Matrix Unit ID: 38102** | | | | | |
| **Likely** | | | | | |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Bonamia grandiflora* | Florida bonamia | G3 | S3 | T | E |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Carex chapmannii* | Chapman's sedge | G3 | S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Chionanthus pygmaeus* | pygmy fringe tree | G2G3 | S2S3 | E | E |
| *Clitoria fragrans* | scrub pigeon-wing | G3 | S3 | T | 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 | S3 | T | FT |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E | FE |
| *Eriogonum longifolium var. gnaphalifolium* | scrub buckwheat | G4T3 | S3 | T | E |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | C | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Hartwrightia floridana* | hartwrightia | G2 | S2 | N | T |
| *Illicium parviflorum* | star anise | G2 | S2 | N | E |



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(850) 681-9364 Fax

# Florida Natural Areas Inventory

## Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Liatris ohlingerae* | Florida blazing star | G2 | S2 | E | E |
| *Lithobates capito* | Gopher Frog | G3 | S3 | N | N |
| *Lupinus aridorum* | scrub lupine | G3T1 | S1 | E | 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 | G3 | S3 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Paronychia chartacea var. chartacea* | paper-like nailwort | G3T3 | S3 | T | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Platanthera integra* | yellow fringeless orchid | G3G4 | S3 | N | E |
| *Plestiodon egregius lividus* | Blue-tailed Mole Skink | G5T2 | S2 | T | FT |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Polygala lewtonii* | Lewton's polygala | G2 | S2S3 | E | E |
| *Polygonella basiramia* | Florida jointweed | G3 | S3 | E | E |
| *Polygonella myriophylla* | Small's jointweed | G3 | S3 | E | E |
| *Prunus geniculata* | scrub plum | G3 | S3 | E | E |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Rostrhamus sociabilis* | Snail Kite | G4G5 | S2 | E | FE |
| *Salix floridana* | Florida willow | G2 | S2 | N | E |
| *Sceloporus woodi* | Florida Scrub Lizard | G2G3 | S2S3 | N | N |
| *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 | G3 | S3 | E | E |
| **Matrix Unit ID: 38103** | | | | | |
| **Likely** | | | | | |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Bonamia grandiflora* | Florida bonamia | G3 | S3 | T | E |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Carex chapmannii* | Chapman's sedge | G3 | S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Chionanthus pygmaeus* | pygmy fringe tree | G2G3 | S2S3 | E | E |
| *Clitoria fragrans* | scrub pigeon-wing | G3 | S3 | T | 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 | S3 | T | FT |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E | FE |
| *Eriogonum longifolium var. gnaphalifolium* | scrub buckwheat | G4T3 | S3 | T | E |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | C | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |



**Definitions:** *Documented - Rare species and natural communities documented on or near this site.*
*Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.*
*Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.*
*Potential - This site lies within the known or predicted range of the species listed.*

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# Florida Natural Areas Inventory

## Biodiversity Matrix Report

| Scientific Name | Common Name | Global Rank | State Rank | Federal Status | State Listing |
|---|---|---|---|---|---|
| *Hartwrightia floridana* | hartwrightia | G2 | S2 | N | T |
| *Heterodon simus* | Southern Hognose Snake | G2 | S2S3 | N | N |
| *Illicium parviflorum* | star anise | G2 | S2 | N | E |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Liatris ohlingerae* | Florida blazing star | G2 | S2 | E | E |
| *Lithobates capito* | Gopher Frog | G3 | S3 | N | N |
| *Lupinus aridorum* | scrub lupine | G3T1 | S1 | E | 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 | G3 | S3 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Paronychia chartacea var. chartacea* | paper-like nailwort | G3T3 | S3 | T | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Plestiodon egregius lividus* | Blue-tailed Mole Skink | G5T2 | S2 | T | FT |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Polygala lewtonii* | Lewton's polygala | G2 | S2S3 | E | E |
| *Polygonella basiramia* | Florida jointweed | G3 | S3 | E | E |
| *Polygonella myriophylla* | Small's jointweed | G3 | S3 | E | E |
| *Prunus geniculata* | scrub plum | G3 | S3 | E | E |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Rostrhamus sociabilis* | Snail Kite | G4G5 | S2 | E | FE |
| *Salix floridana* | Florida willow | G2 | S2 | N | E |
| *Sceloporus woodi* | Florida Scrub Lizard | G2G3 | S2S3 | N | N |
| *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 | G3 | S3 | E | E |
| **Matrix Unit ID: 38104** | | | | | |
| **Likely** | | | | | |
| *Haliaeetus leucocephalus* | Bald Eagle | G5 | S3 | N | N |
| *Mycteria americana* | Wood Stork | G4 | S2 | T | FT |
| **Potential** | | | | | |
| *Antigone canadensis pratensis* | Florida Sandhill Crane | G5T2 | S2 | N | ST |
| *Athene cunicularia floridana* | Florida Burrowing Owl | G4T3 | S3 | N | ST |
| *Bonamia grandiflora* | Florida bonamia | G3 | S3 | T | E |
| *Calamintha ashei* | Ashe's savory | G3 | S3 | N | T |
| *Calopogon multiflorus* | many-flowered grass-pink | G2G3 | S2S3 | N | T |
| *Carex chapmannii* | Chapman's sedge | G3 | S3 | N | T |
| *Centrosema arenicola* | sand butterfly pea | G2Q | S2 | N | E |
| *Chionanthus pygmaeus* | pygmy fringe tree | G2G3 | S2S3 | E | E |
| *Clitoria fragrans* | scrub pigeon-wing | G3 | S3 | T | 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 | S3 | T | FT |
| *Dryobates borealis* | Red-cockaded Woodpecker | G3 | S2 | E | FE |



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|---|---|---|---|---|---|
| *Eriogonum longifolium var. gnaphalifolium* | scrub buckwheat | G4T3 | S3 | T | E |
| *Gopherus polyphemus* | Gopher Tortoise | G3 | S3 | C | ST |
| *Gymnopogon chapmanianus* | Chapman's skeletongrass | G3 | S3 | N | N |
| *Lechea cernua* | nodding pinweed | G3 | S3 | N | T |
| *Liatris ohlingerae* | Florida blazing star | G2 | S2 | E | E |
| *Lithobates capito* | Gopher Frog | G3 | S3 | N | N |
| *Lupinus aridorum* | scrub lupine | G3T1 | S1 | E | 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 | G3 | S3 | N | N |
| *Nolina atopocarpa* | Florida beargrass | G3 | S3 | N | T |
| *Nolina brittoniana* | Britton's beargrass | G3 | S3 | E | E |
| *Paronychia chartacea var. chartacea* | paper-like nailwort | G3T3 | S3 | T | E |
| *Peucaea aestivalis* | Bachman's Sparrow | G3 | S3 | N | N |
| *Plestiodon egregius lividus* | Blue-tailed Mole Skink | G5T2 | S2 | T | FT |
| *Podomys floridanus* | Florida Mouse | G3 | S3 | N | N |
| *Polygala lewtonii* | Lewton's polygala | G2 | S2S3 | E | E |
| *Polygonella basiramia* | Florida jointweed | G3 | S3 | E | E |
| *Polygonella myriophylla* | Small's jointweed | G3 | S3 | E | E |
| *Prunus geniculata* | scrub plum | G3 | S3 | E | E |
| *Pteroglossaspis ecristata* | giant orchid | G2G3 | S2 | N | T |
| *Rostrhamus sociabilis* | Snail Kite | G4G5 | S2 | E | FE |
| *Salix floridana* | Florida willow | G2 | S2 | N | E |
| *Sceloporus woodi* | Florida Scrub Lizard | G2G3 | S2S3 | N | N |
| *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 | G3 | S3 | E | E |



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*Potential - This site lies within the known or predicted range of the species listed.*

## Elements and Element Occurrences

An **element** is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature.

An **element occurrence (EO)** is an area of land and/or water in which a species or natural community is, or was, present. An EO should have practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location.

## Element Ranking and Legal Status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

**FNAI GLOBAL ELEMENT RANK**

**G1** = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
**G2** = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
**G3** = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
**G4** = Apparently secure globally (may be rare in parts of range).
**G5** = Demonstrably secure globally.
**GH** = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).
**GX** = Believed to be extinct throughout range.
**GXC** = Extirpated from the wild but still known from captivity or cultivation.
**G#?** = Tentative rank (e.g., G2?).
**G#G#** = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).
**G#T#** = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).
**G#Q** = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).
**G#T#Q** = Same as above, but validity as subspecies or variety is questioned.
**GU** = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).
**GNA** = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
**GNR** = Element not yet ranked (temporary).
**GNRTNR** = Neither the element nor the taxonomic subgroup has yet been ranked.

**FNAI STATE ELEMENT RANK**

**S1** = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
**S2** = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
**S3** = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
**S4** = Apparently secure in Florida (may be rare in parts of range).
**S5** = Demonstrably secure in Florida.
**SH** = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).
**SX** = Believed to be extirpated throughout Florida.
**SU** = Unrankable; due to a lack of information no rank or range can be assigned.
**SNA** = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
**SNR** = Element not yet ranked (temporary).

## FEDERAL LEGAL STATUS

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

**C** = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
**E** = Endangered: species in danger of extinction throughout all or a significant portion of its range.
**E, T** = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
**E, PDL** = Species currently listed endangered but has been proposed for delisting.
**E, PT** = Species currently listed endangered but has been proposed for listing as threatened.
**E, XN** = Species currently listed endangered but tracked population is a non-essential experimental population.
**T** = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
**PE** = Species proposed for listing as endangered
**PS** = Partial status: some but not all of the species' infraspecific taxa have federal
**PT** = Species proposed for listing as threatened
**SAT** = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
**SC** = Not currently listed, but considered a "species of concern" to USFWS.

## STATE LEGAL STATUS

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

**Animals:** Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

**C** = Candidate for listing at the Federal level by the U. S. Fish and Wildlife Service
**FE** = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
**FT** = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
**FXN** = Federal listed as an experimental population in Florida
**FT(S/A)** = Federal Threatened due to similarity of appearance
**ST** = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
**SSC** = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
**N** = Not currently listed, nor currently being considered for listing.

**Plants:** Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: http://www.doacs.state.fl.us/pi/.

**E** = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
**T** = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
**N** = Not currently listed, nor currently being considered for listing.

## Element Occurrence Ranking

FNAI ranks of quality of the element occurrence in terms of its viability (EORANK). Viability is estimated using a combination of factors that contribute to continued survival of the element at the location. Among these are the size of the EO, general condition of the EO at the site, and the conditions of the landscape surrounding the EO (e.g. an immediate threat to an EO by local development pressure could lower an EO rank).

**A** = Excellent estimated viability
**A?** = Possibly excellent estimated viability
**AB** = Excellent or good estimated viability
**AC** = Excellent, good, or fair estimated viability
**B** = Good estimated viability
**B?** = Possibly good estimated viability
**BC** = Good or fair estimated viability
**BD** = Good, fair, or poor estimated viability
**C** = Fair estimated viability
**C?** = Possibly fair estimated viability
**CD** = Fair or poor estimated viability
**D** = Poor estimated viability
**D?** = Possibly poor estimated viability
**E** = Verified extant (viability not assessed)
**F** = Failed to find
**H** = Historical
**NR** = Not ranked, a placeholder when an EO is not (yet) ranked.
**U** = Unrankable
**X** = Extirpated

*For additional detail on the above ranks see: http://www.natureserve.org/explorer/eorankguide.htm

FNAI also uses the following EO ranks:

**H?** = Possibly historical
**F?** = Possibly failed to find
**X?** = Possibly extirpated

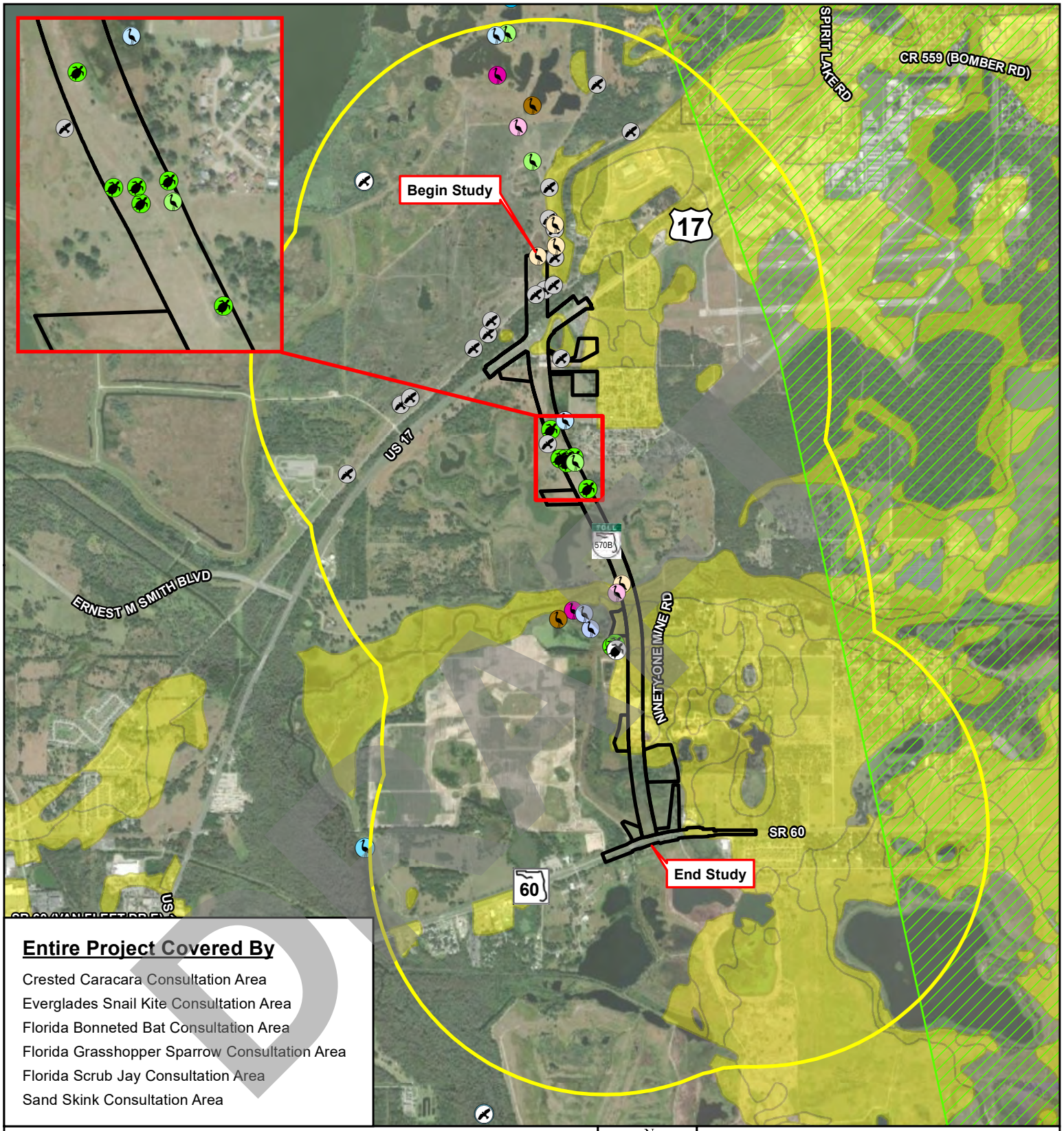
The following offers further explanation of the H and X ranks as they are used by FNAI:

The rank of H is used when there is a lack of recent field information verifying the continued existence of an EO, such as (a) when an EO is based only on historical collections data; or (b) when an EO was ranked A, B, C, D, or E at one time and is later, without field survey work, considered to be possibly extirpated due to general habitat loss or degradation of the environment in the area. This definition of the H rank is dependent on an interpretation of what constitutes "recent" field information. Generally, if there is no known survey of an EO within the last 20 to 40 years, it should be assigned an H rank. While these time frames represent suggested maximum limits, the actual time period for historical EOs may vary according to the biology of the element and the specific landscape context of each occurrence (including anthropogenic alteration of the environment). Thus, an H rank may be assigned to an EO before the maximum time frames have lapsed. Occurrences that have not been surveyed for periods exceeding these time frames should not be ranked A, B, C, or D. The higher maximum limit for plants and communities (i.e., ranging from 20 to 40 years) is based upon the assumption that occurrences of these elements generally have the potential to persist at a given location for longer periods of time. This greater potential is a reflection of plant biology and community dynamics. However, landscape factors must also be considered. Thus, areas with more anthropogenic impacts on the environment (e.g., development) will be at the lower end of the range, and less-impacted areas will be at the higher end.

The rank of X is assigned to EOs for which there is documented destruction of habitat or environment, or persuasive evidence of eradication based on adequate survey (i.e., thorough or repeated survey efforts by one or more experienced observers at times and under conditions appropriate for the Element at that location).

# *APPENDIX F*

## Protected Species Location Map




## Entire Project Covered By

- Crested Caracara Consultation Area
- Everglades Snail Kite Consultation Area
- Florida Bonneted Bat Consultation Area
- Florida Grasshopper Sparrow Consultation Area
- Florida Scrub Jay Consultation Area
- Sand Skink Consultation Area

## Legend

- Preferred Alternative
- 1 Mile Buffer
- Florida Scrub Jay Mitigation Service Area
- Potential Sand Skink Habitat
- Osprey (Documented)
- Wading Bird Rookery

**KCA Field Observations**

- Abandoned Gopher Tortoise Burrow
- Gopher Tortoise Burrow
- Florida Sandhill Crane
- Florida Sandhill Crane Nest
- Little Blue Heron
- Osprey Nest
- Roseate Spoonbill
- Southeastern American Kestrel
- Tricolor Heron
- Wood Stork

N W E S

3,000 1,500 0 3,000

Feet

# Protected Species Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida

FPID No. #440897-4-22-01

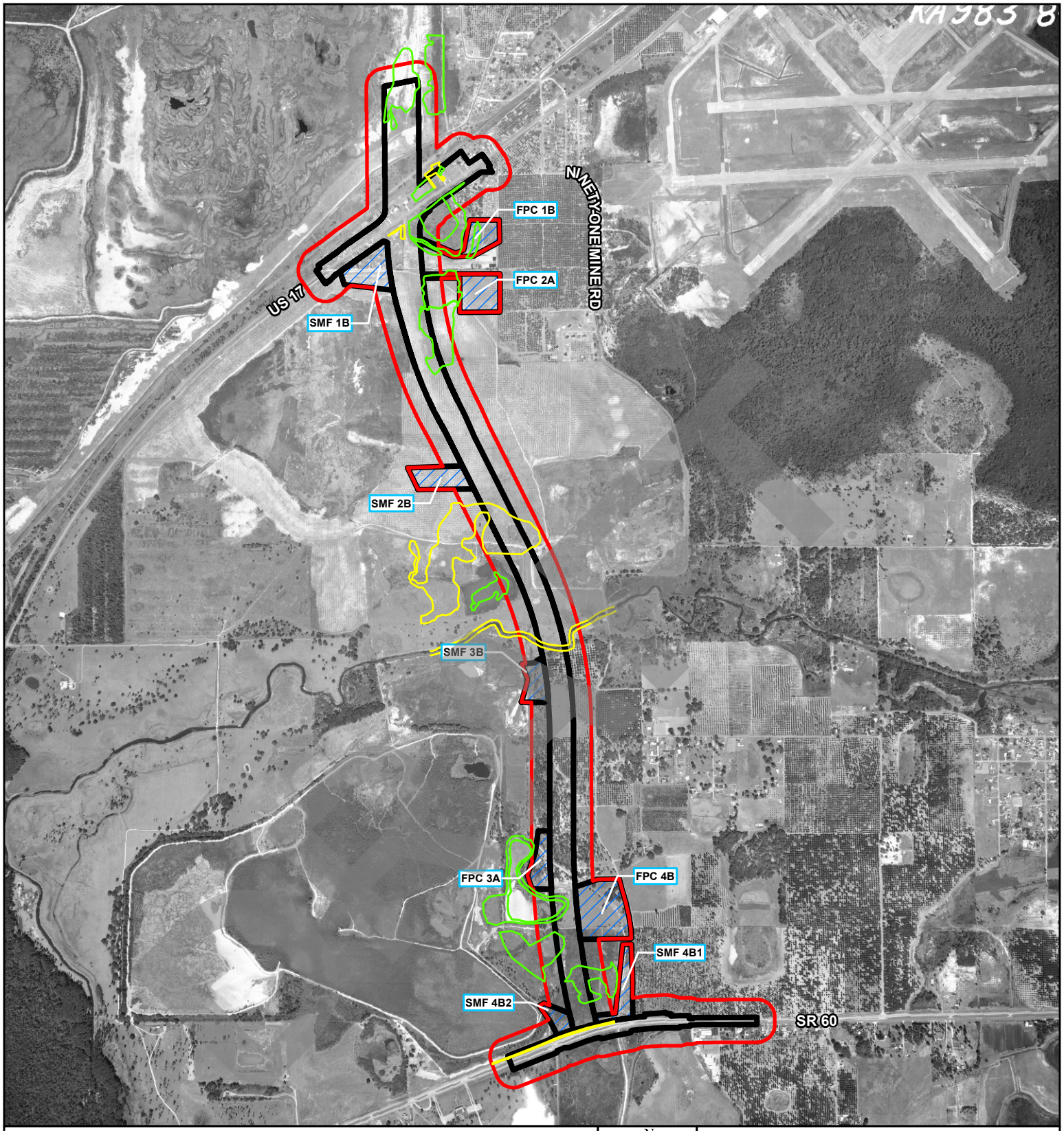
Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix F

Path: D:\Projects\M\1201739.00_CPP\NonSubmittalDesign\44089742401\GIS\Maps\Figures\NRE\CPP2_Appendix F_Protected Species Location Map.mxd 12/16/2020

# *APPENDIX G*

## Historical Aerial Imagery Map




## Legend

Imagery Date: 3/21/1971

- Surface Water
- Wetland
- Project Study Area
- Proposed ROW
- Proposed Pond

N W E S

2,000 1,000 0 2,000

Feet

# Historic Aerial Imagery Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida

FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix G

Path: D:\Projects\M\1201739.00_CPP\NonSubmittalDesign\44089742401\GIS\Maps\Figures\NRE\CPP2_Appendix G_Historic Aerial Map.mxd 12/2/2020

# *APPENDIX H*

## Species Determination of Effect Keys (Eastern Indigo Snake, Wood Stork, and Florida Bonneted Bat)

# Eastern Indigo Snake Determination of Effect Key

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

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

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

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

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

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

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

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

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

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

**End Key**

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

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

# Wood Stork Determination of Effect Key

The SFESO recognizes a 29.9 kilometer [km] (18.6-mile) core foraging area (CFA) around all known wood stork colonies in south Florida. Enclosure 2 (to be updated as necessary) provides locations of colonies and their CFAs in south Florida that have been documented as active within the last 10 years. The Service believes loss of suitable wetlands within these CFAs may reduce foraging opportunities for the wood stork. To minimize adverse effects to the wood stork, we recommend compensation be provided for impacts to foraging habitat. The compensation should consider wetland type, location, function, and value (hydrology, vegetation, prey utilization) to ensure that wetland functions lost due to the project are adequately offset. Wetlands offered as compensation should be of the same hydroperiod and located within the CFAs of the affected wood stork colonies. The Service may accept, under special circumstances, wetland compensation located outside the CFAs of the affected wood stork nesting colonies. On occasion, wetland credits purchased from a "Service Approved" mitigation bank located outside the CFAs could be acceptable to the Service, depending on location of impacted wetlands relative to the permitted service area of the bank, and whether or not the bank has wetlands having the same hydroperiod as the impacted wetland.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing the Wood Stork Effect Determination Key below. If the use of this key results in a Corps determination of "no effect" for a particular project, the Service supports this determination. If the use of this Key results in a determination of NLAA, the Service concurs with this determination[1]. This Key is subject to revisitation as the Corps and Service deem necessary.

The Key is as follows:

A. Project within 0.76 km (0.47 mile)[2] of an active colony site[3] ..... "*may affect*[4]"

Project impacts Suitable Foraging Habitat (SFH)[5] at a location greater than 0.76 km (0.47 mile) from a colony site..... ....."*go to* B"

[1] With an outcome of "no effect" or "NLAA" as outlined in this key, and the project has less than 20.2 hectares (50 acres) of wetland impacts, the requirements of section 7 of the Act are fulfilled for the wood stork and no further action is required. For projects with greater than 20.2 hectares (50 acres) of wetland impacts, written concurrence of NLAA from the Service is necessary.

[2] Within the secondary zone (the average distance from the border of a colony to the limits of the secondary zone is 0.76 km (2,500 feet, or 0.47 mi).

[3] An active colony is defined as a colony that is currently being used for nesting by wood storks or has historically over the last 10 years been used for nesting by wood storks.

[4] Consultation may be concluded informally or formally depending on project impacts.

[5] Suitable foraging habitat (SFH) includes wetlands that typically have shallow-open water areas that are relatively calm and have a permanent or seasonal water depth between 5 to 38 cm (2 to 15 inches) deep. Other shallow non-wetland water bodies are also SFH. 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, small ponds, shallow, seasonally flooded roadside or agricultural ditches, seasonally flooded pastures, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs.

Project does not affect SFH……..…..*"no effect*[1]*"*.

B. Project impact to SFH is less than 0.20 hectare (one-half acre)[6]……..……*NLAA*[1]"

Project impact to SFH is greater in scope than 0.20 hectare (one-half acre)....……*go to* C

C. Project impacts to SFH not within the CFA (29.9 km, 18.6 miles) of a colony site ……..…….…….……*go to* D

Project impacts to SFH within the CFA of a colony site ……..……...…….*go to* E

D. Project impacts to SFH have been avoided and minimized to the extent practicable; compensation (Service approved mitigation bank or as provided in accordance with Mitigation Rule 33 CFR Part 332) for unavoidable impacts is proposed in accordance with the CWA section 404(b)(1) guidelines; and habitat compensation replaces the foraging value matching the hydroperiod[7] of the wetlands affected and provides foraging value similar to, or higher than, that of impacted wetlands. See Enclosure 3 for a detailed discussion of the hydroperiod foraging values, an example, and further guidance[8]…….. *NLAA*[1]"

Project not as above..…... "*may affect*[4]*"*

E. Project provides SFH compensation in accordance with the CWA section 404(b)(1) guidelines and is not contrary to the HMG; habitat compensation is within the appropriate CFA or within the service area of a Service-approved mitigation bank; and habitat compensation replaces foraging value, consisting of wetland enhancement or restoration matching the hydroperiod[7] of the wetlands affected, and provides foraging value similar

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[6] On an individual basis, SFH impacts to wetlands less than 0.20 hectare (one-half acre) generally will not have a measurable effect on wood storks, although we request that the Corps require mitigation for these losses when appropriate. Wood storks are a wide ranging species, and individually, habitat change from impacts to SFH less than one-half acre are 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.

[7] Several researchers (Flemming et al. 1994; Ceilley and Bortone 2000) believe that the short hydroperiod wetlands provide a more important pre-nesting foraging food source and a greater early nestling survivor value for wood storks than the foraging base (grams of fish per square meter) than long hydroperiod wetlands provide. Although the short hydroperiod wetlands may provide less fish, these prey bases historically were more extensive and met the foraging needs of the pre-nesting storks and the early-age nestlings. Nest productivity may suffer as a result of the loss of short hydroperiod wetlands. We believe that most wetland fill and excavation impacts permitted in south Florida are in short hydroperiod wetlands. Therefore, we believe that it is especially important that impacts to these short hydroperiod wetlands within CFAs are avoided, minimized, and compensated for by enhancement/restoration of short hydroperiod wetlands.

[8] For this Key, the Service requires an analysis of foraging prey base losses and enhancements from the proposed action as shown in the examples in Enclosure 3 for projects with greater than 2.02 hectares (5 acres) of wetland impacts. For projects with less than 2.02 hectares (5 acres) of wetland impacts, an individual foraging prey base analysis is not necessary although type for type wetland compensation is still a requirement of the Key.

to, or higher than, that of impacted wetlands. See Enclosure 3 for a detailed discussion of the hydroperiod foraging values, an example, and further guidance[8]……..... *"NLAA[1]"*

Project does not satisfy these elements ……..……..…..…..…..."*may affect*[4]"

This Key does not apply to Comprehensive Everglades Restoration Plan projects, as they will require project-specific consultations with the Service.

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 where the effect determination was: "may affect, not likely to adversely affect." We request that the Corps send us an annual summary consisting of: project dates, Corps identification numbers, project acreages, project wetland acreages, and project locations in latitude and longitude in decimal degrees.

Thank you for your cooperation and effort in protecting federally listed species. If you have any questions, please contact Allen Webb at extension 246.

Sincerely yours,

Paul Souza
Field Supervisor
South Florida Ecological Services Office

Enclosures

cc: w/enclosures (electronic only)
Corps, Jacksonville, Florida (Stu Santos)
EPA, West Palm Beach, Florida (Richard Harvey)
FWC, Vero Beach, Florida (Joe Walsh)
Service, Jacksonville, Florida (Billy Brooks)

# Florida Bonneted Bat Determination of Effect Key

**Florida Bonneted Bat Consultation Key[#]**

Use the following key to evaluate potential effects to the Florida bonneted bat (FBB) from the proposed project. Refer to the Glossary as needed.

1a. Proposed project or land use change is partially or wholly within the Consultation Area (Figure 1).....**Go to 2**
1b. Proposed project or land use change is wholly outside of the Consultation Area (Figure 1).....**No Effect**

2a. Potential FBB roosting habitat exists within the project area.....**Go to 3**
2b. No potential FBB roosting habitat exists within the project area.....**Go to 13**

3a. Project size/footprint* ≤ 5 acres (2 hectares)..... **Conduct Limited Roost Survey (Appendix C)** then **Go to 4**
3b. Project size/footprint* > 5 acres (2 hectares).....**Conduct Full Acoustic/Roost Surveys (Appendix B)** then **Go to 6**

4a. Results show FBB roosting is likely .....**Go to 5**
4b. Results do not show FBB roosting is likely.....**MANLAA-P if BMPs (Appendix D) used and survey reports are submitted. Programmatic concurrence.**

5a. Project will affect roosting habitat.....**LAA[+] Further consultation with the Service required.**
5b. Project will not affect roosting habitat.....**MANLAA-C with required BMPs (Appendix D). Further consultation with the Service required.**

6a. Results show some FBB activity.....**Go to 7**
6b. Results show no FBB activity.....**No Effect**

7a. Results show FBB roosting is likely.....**Go to 8**
7b. Results do not show FBB roosting is likely.....**Go to 10**

8a. Project will not affect roosting habitat.....**Go to 9**
8b. Project will affect roosting habitat.....**LAA[+] Further consultation with the Service required.**

9a. Project will affect* > 50 acres (20 hectares) (wetlands and uplands) of foraging habitat.....**LAA[+] Further consultation with the Service required.**
9b. Project will affect* ≤ 50 acres (20 hectares) (wetlands and uplands) of foraging habitat..... **MANLAA-C with required BMPs (Appendix D). Further consultation with the Service required.**

10a. Results show high FBB activity/use.....**Go to 11**
10b. Results do not show high FBB activity/use.....**Go to 12**

11a. Project will affect* > 50 acres (20 hectares) (wetlands and uplands) of FBB habitat (roosting and/or foraging)..... **LAA[+] Further consultation with the Service required.**
11b. Project will affect* ≤ 50 acres (20 hectares) (wetlands and uplands) of FBB habitat (roosting and/or foraging)..... **MANLAA-C with required BMPs (Appendix D). Further consultation with the Service required.**

12a. Project will affect* > 50 acres (20 hectares) (wetlands and uplands) of FBB habitat..... **LAA[+] Further consultation with the Service required.**
12b. Project will affect* ≤ 50 acres (20 hectares) (wetlands and uplands) of FBB habitat..... **MANLAA-P if BMPs (Appendix D) used and survey reports are submitted. Programmatic concurrence.**

13a. FBB foraging habitat exists within the project area and foraging habitat will be affected…..……..**Go to 14**

13b. FBB foraging habitat exists within the project area and foraging habitat will not be affected **OR** no FBB foraging habitat exists within the project area…..……..**No Effect**

14a. Project size* > 50 acres (20 hectares) (wetlands and uplands) ……..…….....**Go to 15**

14b. Project size* ≤ 50 acres (20 hectares) (wetlands and uplands) ……...….. **MANLAA-P if BMPs (Appendix D) used. Programmatic concurrence.**

15a. Project is within 8 miles (12.9 kilometers) of high quality potential roosting areas^……..……**Conduct Full Acoustic Survey (Appendix B) and Go to 16**

15b. Project is not within 8 miles (12.9 kilometers) of high quality potential roosting area^…….....….**MANLAA-P if BMPs (Appendix D) used. Programmatic concurrence.**

16a. Results show some FBB activity……...…….....**Go to 17**

16b. Results show no FBB activity……..…….…....**No Effect**

17a. Results show high FBB activity/use……...…...…....**LAA[+] Further consultation with the Service required.**

17b. Results do not show high FBB activity/use……...…….. **MANLAA-P if BMPs (Appendix D) used and survey reports submitted. Programmatic concurrence.**

[#] If you are within the urban environment and you are renovating an existing artificial structure (with or without additional ground disturbing activities), these Guidelines do not apply. The Service is developing separate guidelines for consultation in these situations. Until the urban guidelines are complete, please contact the Service for additional guidance

*****Includes wetlands and uplands that are going to be altered along with a 250- foot (76.2- meter) buffer around these areas if the parcel is larger than the altered area.

[+]Project modifications could change the **LAA** determinations in numbers 5, 8, 9, 11, 12, and 17 to **MANLAA** determinations.

^Determining if **high quality potential roosting areas** are within 8 mi (12.9 km) of a project is intended to be a desk-top exercise looking at most recent aerial imagery, not a field exercise.

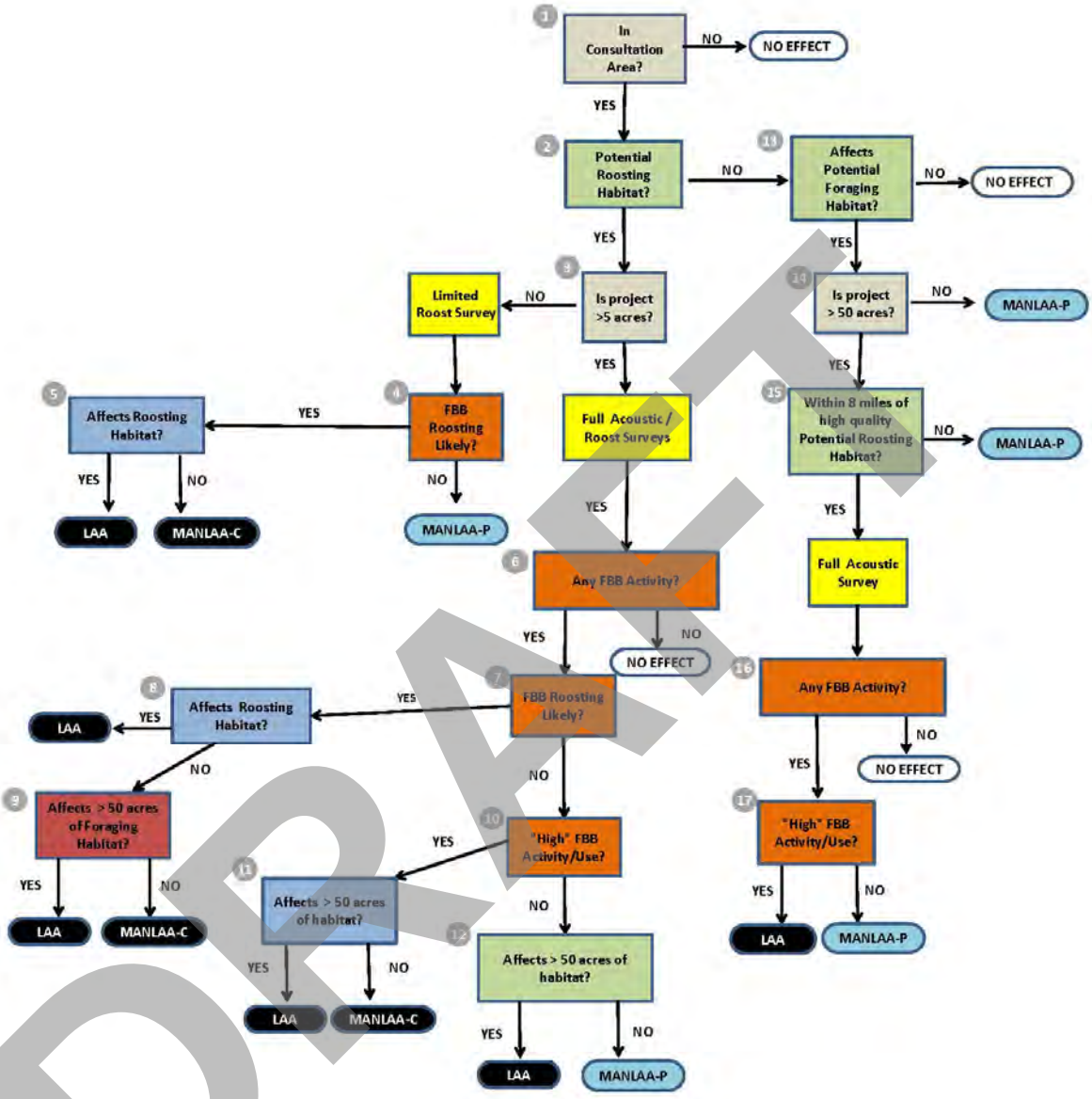





Figure 3. Florida bonneted bat Consultation Flowchart. "**No effect**" determinations do not need Service concurrence. "May affect, but not likely to adversely affect", **MANLAA-P,** in blue have programmatic concurrence through the transmittal letter of these Guidelines, and therefore no further consultation with the Service is necessary unless assistance is needed in interpreting survey results. **MANLAA-C** determinations in black require further consultation with the Service. Applicants are expected to incorporate the appropriate **BMPs** to reach a **MANLAA** determination. "May affect, and is likely to adversely affect", **LAA, (**also in black) determinations require consultation with the Service. Further consultation with the Service may identify project modifications that could change the **LAA** determinations in numbers 5, 8, 9, 11, 12, and 17 to **MANLAA** determinations. The Service requests Florida bonneted bat survey reports for all determinations.

# *APPENDIX I*

## Standard Protection Measures for the Eastern Indigo Snake

**STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE**
**U.S. Fish and Wildlife Service**
**August 12, 2013**

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

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

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

## POSTER INFORMATION

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

**DESCRIPTION**: The eastern indigo snake is one of the largest non-venomous snakes in North America, with individuals often reaching up to 8 feet in length. They derive their name from the glossy, blue-black color of their scales above and uniformly slate blue below. Frequently, they have orange to coral reddish coloration in the throat area, yet some specimens have been reported to only have cream coloration on the throat. These snakes are not typically aggressive and will attempt to crawl away when disturbed. Though indigo snakes rarely bite, they should NOT be handled.

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

**LIFE HISTORY:** The eastern indigo snake occurs in a wide variety of terrestrial habitat types throughout Florida. Although they have a preference for uplands, they also utilize some wetlands

and agricultural areas. Eastern indigo snakes will often seek shelter inside gopher tortoise burrows and other below- and above-ground refugia, such as other animal burrows, stumps, roots, and debris piles. Females may lay from 4 - 12 white eggs as early as April through June, with young hatching in late July through October.

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

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

**IF YOU SEE A <u>LIVE</u> EASTERN INDIGO SNAKE ON THE SITE:**

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

**IF YOU SEE A <u>DEAD</u> EASTERN INDIGO SNAKE ON THE SITE:**

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

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

**North Florida Field Office – (904) 731-3336**
**Panama City Field Office – (850) 769-0552**
**South Florida Field Office – (772) 562-3909**

## PRE-CONSTRUCTION ACTIVITIES

1. The applicant or designated agent will post educational posters in the construction office and throughout the construction site, including any access roads. The posters must be clearly visible to all construction staff. A sample poster is attached.

2. Prior to the onset of construction activities, the applicant/designated agent will conduct a meeting with all construction staff (annually for multi-year projects) to discuss identification of the snake, its protected status, what to do if a snake is observed within the project area, and applicable penalties that may be imposed if state and/or federal regulations are violated. An educational brochure including color photographs of the snake will be given to each staff member in attendance and additional copies will be provided to the construction superintendent to make available in the onsite construction office (a final brochure for Plan compliance, to be printed double-sided on 8.5" x 11" paper and then properly folded, is attached). Photos of eastern indigo snakes may be accessed on USFWS and/or FWC websites.

3. Construction staff will be informed that in the event that an eastern indigo snake (live or dead) is observed on the project site during construction activities, all such activities are to cease until the established procedures are implemented according to the Plan, which includes notification of the appropriate USFWS Field Office. The contact information for the USFWS is provided on the referenced posters and brochures.

## DURING CONSTRUCTION ACTIVITIES

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

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

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

## POST CONSTRUCTION ACTIVITIES

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

# *APPENDIX J*

## Wood Stork Foraging Habitat Assessment

# 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 proposed preferred alternative for the Central Polk Parkway from US 17 to SR 60, a distance of approximately 2.2 miles. The purpose of this PD&E study is to evaluate engineering and environmental data and document information that will aid FTE and Polk County in determining the type, preliminary design, and location of the proposed improvements. The study was conducted in order 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 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 5 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, 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. In Polk County, suitable wetland and open water habitats within 18.6 miles of a wood stork nesting colony are considered Core Foraging Areas (CFA) by the 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 to 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 density per hydroperiod; and (2) the fish biomass per hydroperiod;
3. Prey Size Suitability: the suitability of prey size for the wood stork, which provides an adjustment to the fish 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 FORAGING HABITATS WITHIN THE PROJECT STUDY AREA*

The proposed project study area contains wood stork foraging habitat and is located within the 18.6-mile CFA of three (3) active wood stork nesting colonies: Mulberry Northeast, Lake Somerset, and Lone Palm. There are 14.53 acres of wetlands and 7.11 acres of surface waters that could be utilized by the wood stork for foraging in the preferred alternative. These wetlands and surface waters 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 percentages used in the Wood Stork Biomass Analysis.

The wetland habitats within the Central Polk Parkway from US 17 to SR 60 project area vary in the percentage of exotic vegetation. As a result, **Foraging Suitability Values** 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 | FORAGING SUITABILITY VALUE (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**

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 proposed project includes the construction of a four-lane divided limited access facility with 12-foot travel lanes, 10-foot paved shoulders, and a 8-foot median shoulders, and open roadside ditches. A 12-foot multi-use recreational trail is also being evaluated as part of this PD&E study which will be located within a separate 26-foot right-of-way corridor to run parallel with the Central Polk Parkway alignment. The project will be constructed in a single, disruptive event, with the associated permanent disturbance resulting in a loss of habitat currently available to the wood stork. Fragmentation of habitat will also occur as a result of project construction. This section analyzes the impacts of the proposed project on the wood stork and wood stork habitat.

For assessment purposes, this wood stork biomass analysis addresses the loss of wetlands and surface waters within the proposed right-of-way of the preferred alternative. For the assessment of the preferred alternative, 14.53 acres of wetlands and 7.11 acres of surface waters were analyzed.

The analysis determined that the preferred alternative will result in the net loss of 60.56 kg total (fish and crayfish) biomass. Of the 60.56 kg, 7.63 kg of total biomass are from short hydroperiod wetlands and 52.93 kg of total biomass are from long hydroperiod wetlands. **Table 2** presents the analysis of the impacts to wood stork foraging habitat and forage resulting from the preferred alternative.

## *5.0 MITIGATION*

Mitigation for the proposed project will provide adequate functional units of compensatory credits for encroachment into USACE-regulated wetlands and surface waters. These mitigation measures will include compensation for the loss of wood stork foraging habitat and prey resulting from construction of the project. Compensation for the loss of wetlands, as well as wood stork habitat

**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** | **F.S.V.** | **m^2** | **m^2 suitable** | **crayfish & fish g/m^2** | **available biomass** | **32.5% consum.** | **Biomass (kg)** |
| Class 3 (120-180 days) | 3.65 | 0-25 | 1 | 14,771.09 | 14,771.09 | 1.32 | 19,497.83 | 6,336.80 | 6.34 |
| Class 3 (120-180 days) | 1.12 | 25-50 | 0.64 | 4,532.50 | 2,900.80 | 1.32 | 3,829.05 | 1,244.44 | 1.24 |
| Class 3 (120-180 days) | 0.90 | 75-90 | 0.03 | 3,642.19 | 109.27 | 1.32 | 144.23 | 46.87 | 0.05 |
| Class 5 (240-300 days) | 0.81 | 25-50 | 0.64 | 3,277.97 | 2,097.90 | 2.93 | 6,146.84 | 1,997.72 | 2.00 |
| Class 5 (240-300 days) | 3.72 | 50-75 | 0.37 | 15,054.37 | 5,570.12 | 2.93 | 16,320.44 | 5,304.14 | 5.30 |
| Class 5 (240-300 days) | 0.28 | 75-90 | 0.03 | 1,133.12 | 33.99 | 2.93 | 99.60 | 32.37 | 0.03 |
| Class 6 (300-330 days) | 0.60 | 25-50 | 0.64 | 2,428.12 | 1,554.00 | 3.36 | 5,221.44 | 1,696.97 | 1.70 |
| Class 6 (300-330 days) | 1.70 | 50-75 | 0.37 | 6,879.68 | 2,545.48 | 3.36 | 8,552.82 | 2,779.67 | 2.78 |
| Class 7 (330-365 days) | 8.17 | 0-25 | 1 | 33,062.95 | 33,062.95 | 3.63 | 120,018.52 | 39,006.02 | 39.01 |
| Class 7 (330-365 days) | 0.69 | 25-50 | 0.64 | 2,792.34 | 1,787.10 | 3.63 | 6,487.17 | 2,108.33 | 2.11 |
| **Total Short Hydroperiod (Classes 1, 2 & 3)** | 5.67 | | | 22,945.77 | 17,781.15 | | 23,471.12 | 7,628.11 | 7.63 |
| **Total Long Hydroperiod (Classes 4, 5, 6 & 7)** | 15.97 | | | 64,628.56 | 46,651.54 | | 162,846.83 | 52,925.22 | 52.93 |
| **Total** | **21.64** | | | **87,574.33** | **64,432.69** | | **186,317.95** | **60,553.33** | **60.56** |

and foraging, will be provided at a state and federal approved mitigation bank. Mitigation for the loss of foraging habitat will compensate for the same amount of short and long hydroperiod foraging habitat.

## *6.0 SUMMARY*

The preferred alternative will result in the direct loss of 21.64 acres of suitable wood stork foraging areas. Wood stork foraging biomass productivity is calculated based on the hydroperiods class of affected wetlands. The preferred alternative will impact 5.67 acres of short hydroperiod wetlands and 15.97 acres of long hydroperiod wetlands (see **Table 2**). Analysis results concluded that the preferred alternative will result in the net loss of 60.56 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 USFWS-approved mitigation bank.

## *7.0 REFERENCES*


Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and 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;

Ogden, J.C. 1990. *Habitat Management Guidelines for the Wood Stork in the Southeast Region*. U.S. Fish and Wildlife Service Southeast Region. Atlanta, Georgia. 14 pp.

U.S. Fish and Wildlife Service. 2012. Wood Stork Foraging Habitat Assessment Methodology.

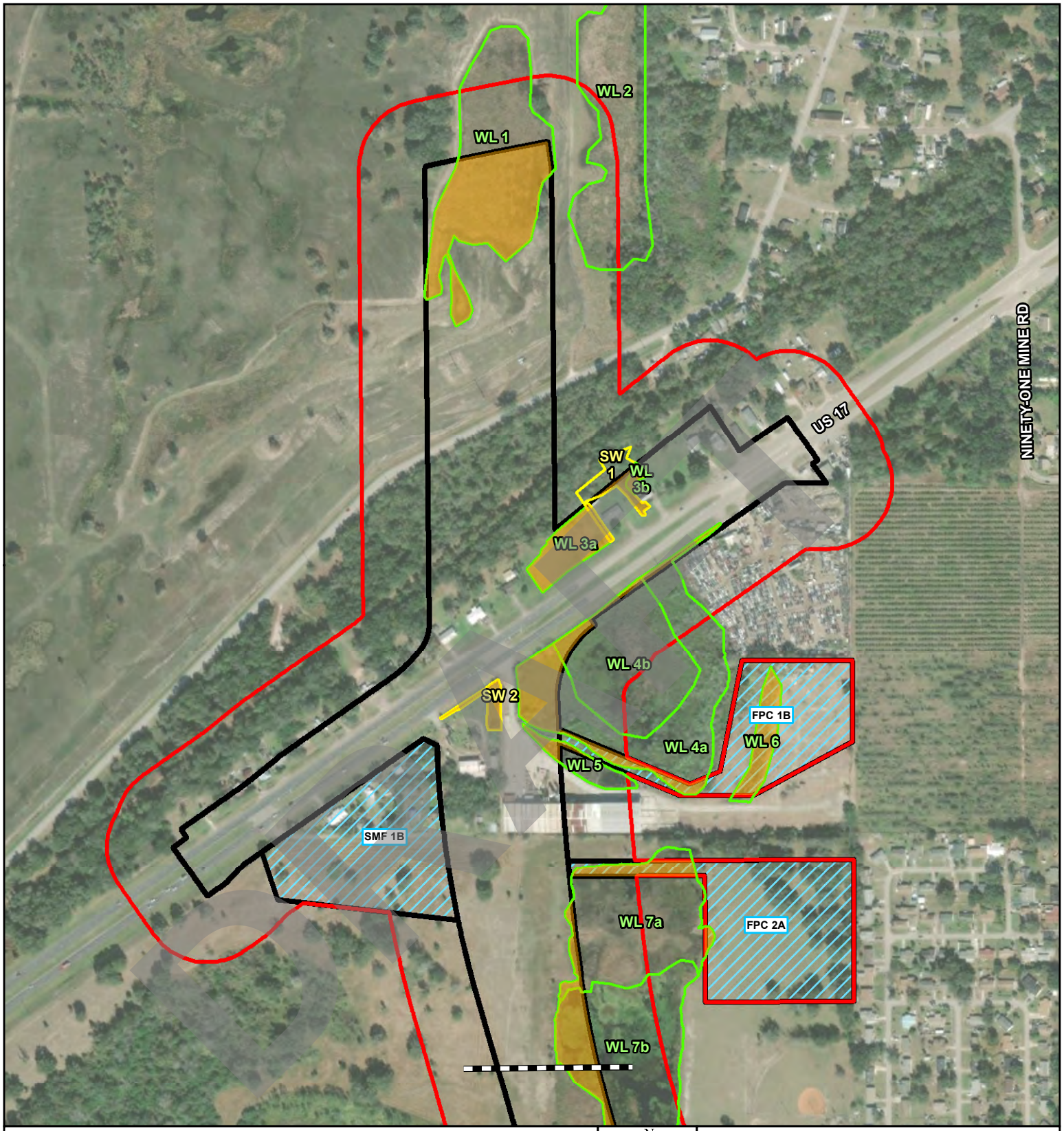
U.S. Fish and Wildlife Service. 1997. Revised Recovery Plan for the U.S. Breeding Population of the Wood Stork. U.S. Fish and Wildlife Service, Atlanta, Georgia. 41 pp.

U.S. Fish and Wildlife Service. 2010. United States Department of the Interior, Fish and Wildlife Service, Jacksonville District Corps of Engineers, South Florida Programmatic Concurrence for the Wood Stork, Wood Stork Effect Determination Key. 34 pp.

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

# *APPENDIX K*

## Preferred Alternative Wetland and Surface Water Impact Map




## Legend

- Project Study Area
- Potential Impact
- Proposed ROW
- Proposed Pond
- Surface Water
- Wetland

N
W E
S

500 250 0 500
Feet

# Wetland and Surface Water Impact Map

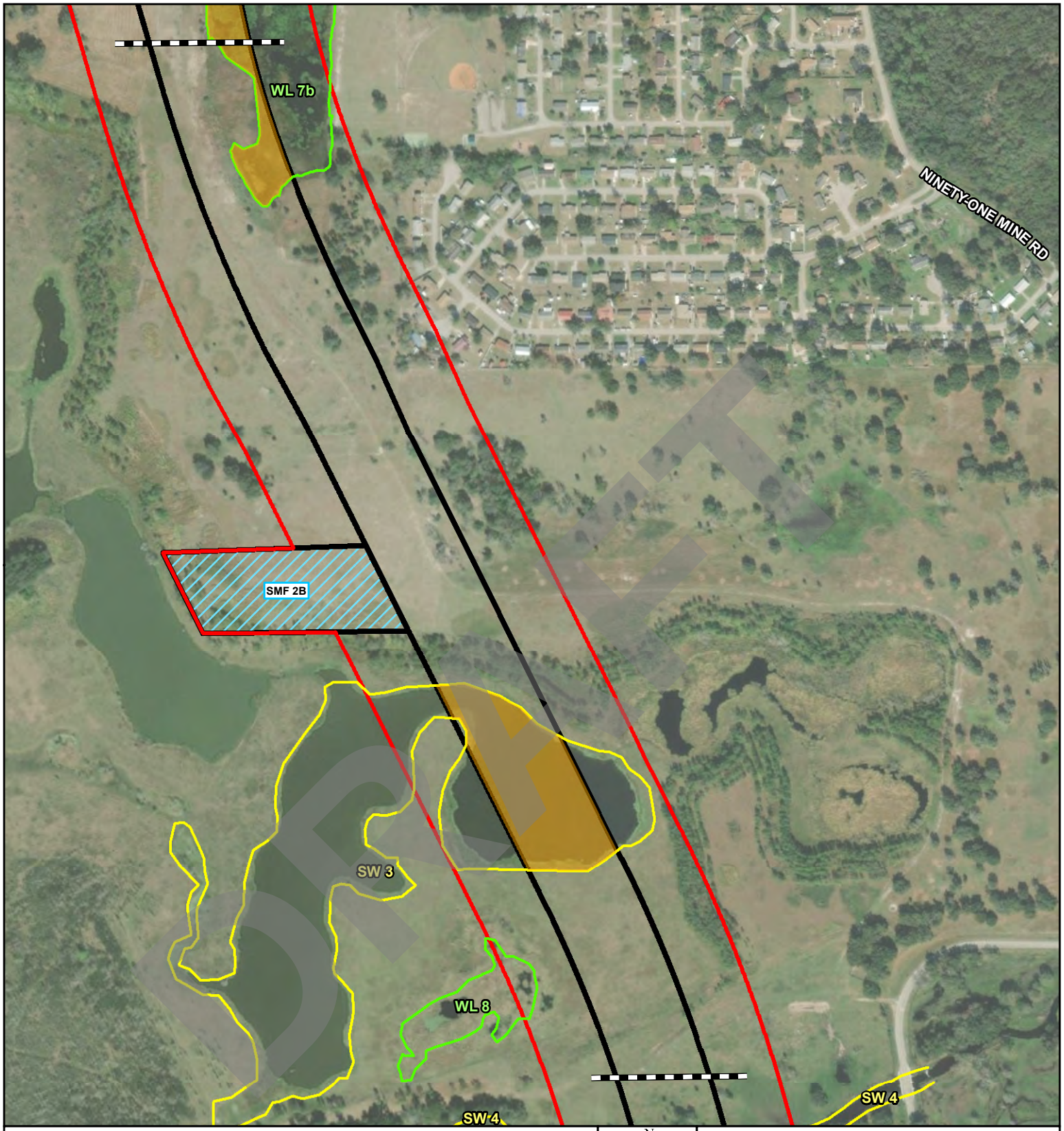
## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida
FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix K


Path: D:\Projects\M\1201739.00_CPP\NonSubmittalDesign\44089742401\GIS\Maps\Figures\NRE\CPP2_Appendix K_Wetlands Impact Map.mxd 12/2/2020




## Legend

- Project Study Area
- Potential Impact
- Proposed ROW
- Proposed Pond
- Surface Water
- Wetland

N
W E
S

500 250 0 500
Feet

# Wetland and Surface Water Impact Map

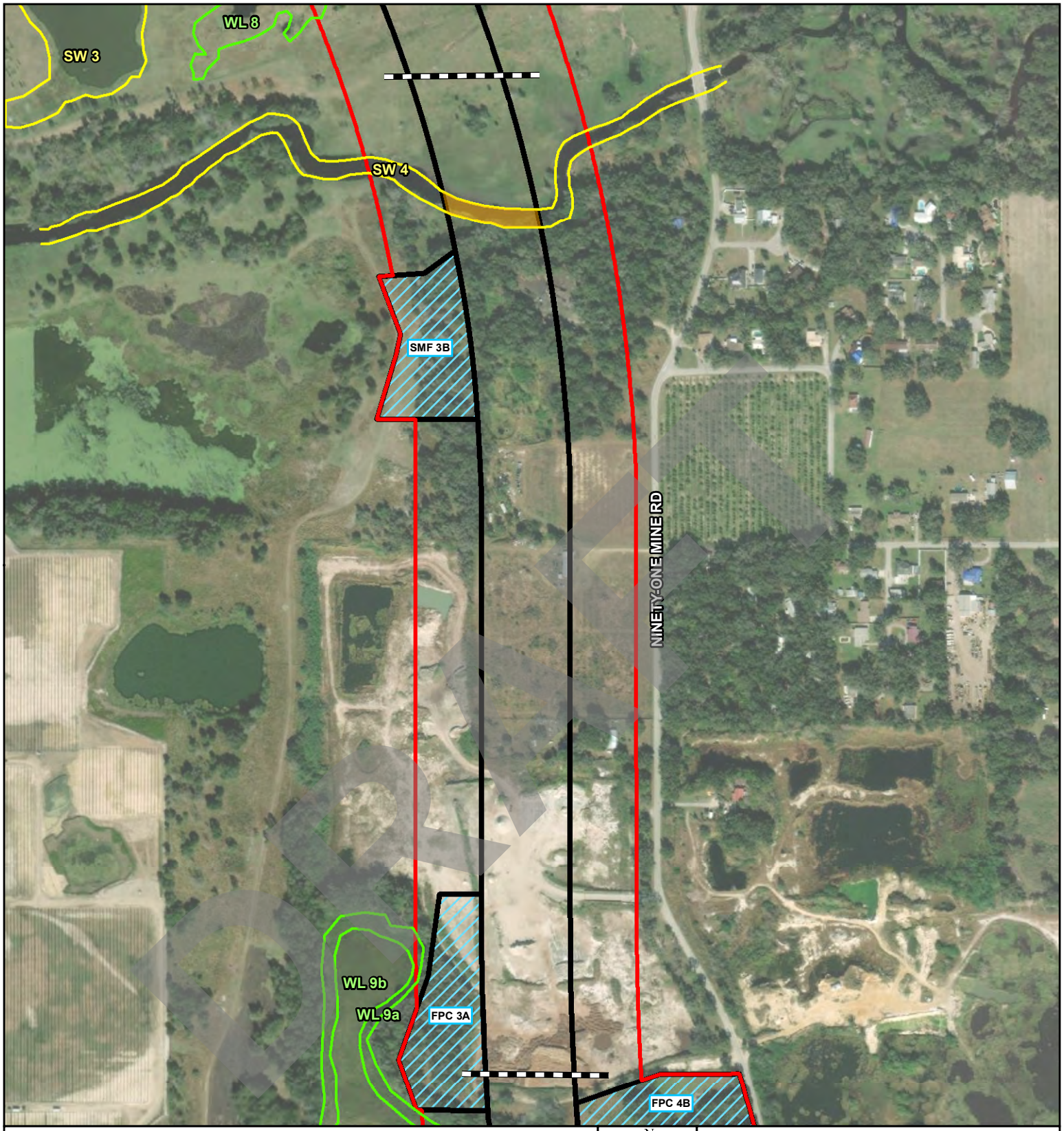
## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida
FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix K


Path: D:\Projects\M\1201739.00_CPP\NonSubmittalDesign\44089742401\GIS\Maps\Figures\NRE\CPP2_Appendix K_Wetlands Impact Map.mxd 12/2/2020




## Legend

- Project Study Area
- Potential Impact
- Proposed ROW
- Proposed Pond
- Surface Water
- Wetland

N
W E
S

500 250 0 500
Feet

# Wetland and Surface Water Impact Map

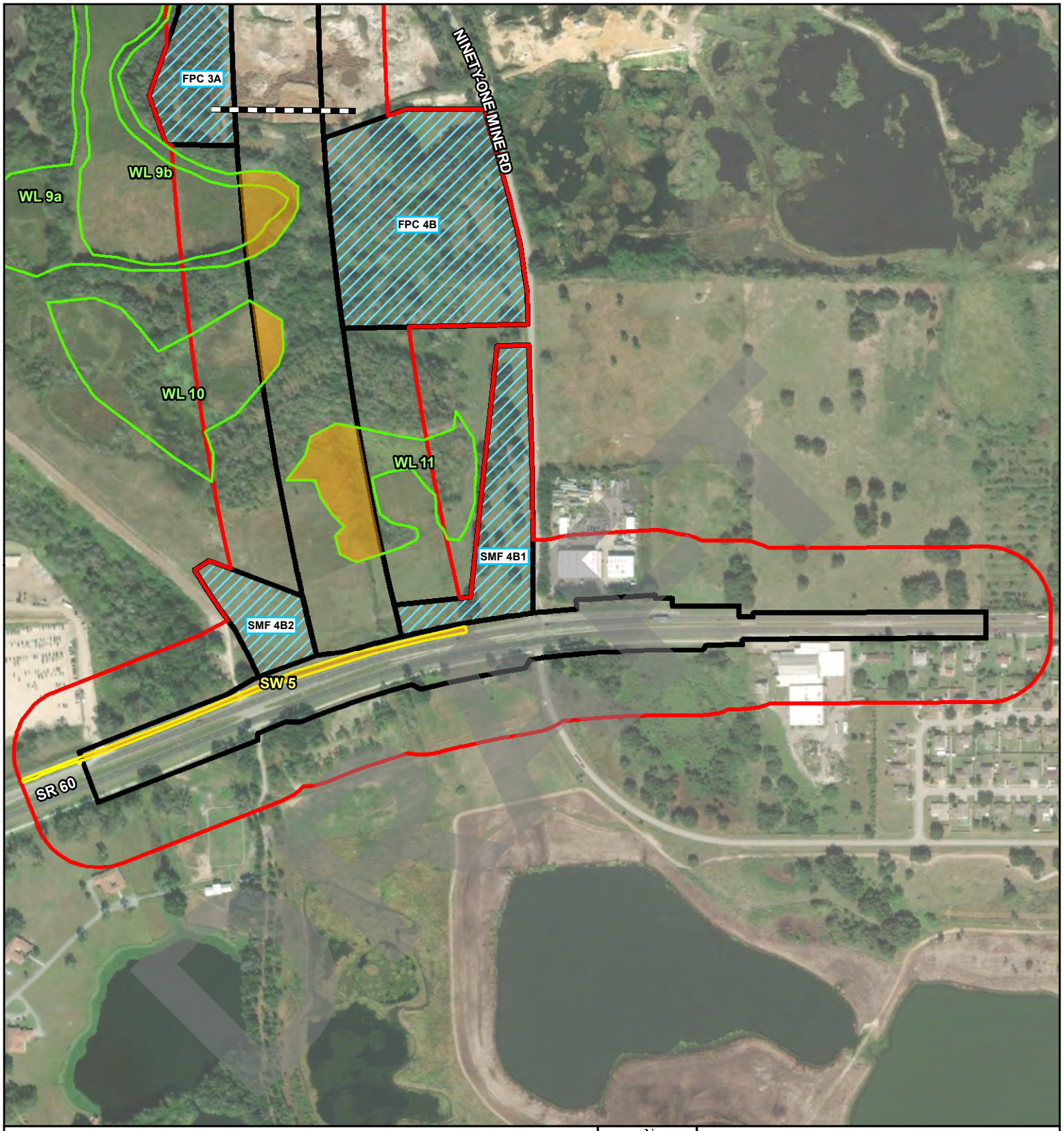
## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida
FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix K


Path: D:\Projects\M\1201739.00_CPP\NonSubmittalDesign\44089742401\GIS\Maps\Figures\NRE\CPP2_Appendix K_Wetlands Impact Map.mxd 12/2/2020




## Legend

- Project Study Area
- Potential Impact
- Proposed ROW
- Proposed Pond
- Surface Water
- Wetland

N
W E
S

500 250 0 500
Feet

# Wetland and Surface Water Impact Map

## Central Polk Parkway - From US 17 to SR 60

Polk County, Florida
FPID No. 440897-4-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix K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# *APPENDIX L*

## UMAM Datasheets

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

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | SW 1, 2 & 5 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 510 - Streams and Waterways (Ditches) | PSS1Cx - Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Excavated; PEM1Cx - Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated | Impact | 1.11 |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River Basin | Class III | None |

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

Roadside drainage ditches are located at the northern and southern terminus of the project study area along US 17 and SR 60. Hydrological connections to other ditches are available via culverts under the surrounding roadways.

Assessment area description

Dominant vegetation includes Brazilian pepper, Carolina willow, Peruvian primrose willow, cattail, alligator flag, bulltongue arrowhead, paragrass, and cogongrass.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The study area crosses Peace Creek. | None |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Foraging habitat for wading birds, fish, small mammals, and invertebrates. Food web support and stormwater runoff treatment and attenuation. | None |

| 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) |
|---|---|
| Anurans, snakes, lizards, small fish, wading birds, hawks, song birds, deer, wild hog, raccoon, and other small to medium size mammals. | Florida sandhill crane (ST, high intensity foraging)<br>Wood stork (FT, high intensity foraging)<br>Little blue heron (ST, high intensity foraging)<br>Tricolored heron (ST, high intensity foraging)<br>Roseate spoonbill (ST, high intensity foraging)<br>Crested caracara, (FT, low intensity foraging) |

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

Songbirds by call, frogs, fish, and great blue heron by observation.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Christen Cerrito | 8-Jul-19 |

## 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | SW 1, 2 & 5 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Christen Cerrito | 8-Jul-19 |

| 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: 3 | with: 0 |
| Roadside ditches within the project study area are located at the northern and southern terminus of the project, along US 17 and SR 60. Wildlife access is limited by the surrounding roadways. Portions of the assessment areas are located on hydric soils but surrounding development impedes access, soil hydrology, and water quality. Surroundings include a combination of extractive and mixed hardwood-conifer forests, US 17, SR 60, residential development and commercial services. Hydrological connections to other roadside ditches within the vicinity are available through culverts under the surrounding roadways. Cover of invasive exotic species is dominant throughout these systems. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 3 | with: 0 |
| Water quality is adversely affected by runoff received from US 17. Water levels, flows, and indicators are appropriate considering natural variation. Soil moisture is appropriate with no evidence of soil desiccation, oxidation, or subsidence. Soil erosion from roadway runoff creates minor alteration in flow rates. Vegetation and plant community composition is dominated by nuisance exotic invasive vegetation. Long duration of standing water in deeper cut portions of these excavated ditches exhibited signs of degraded water quality. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 3 | with: 0 |
| Roadside ditches are dominated by overgrown exotic vegetation. These assessment areas are dominated by Peruvian primrosewillow (*Ludwigia peruviana* ), Brazilian pepper (*Schinus terebinthifolius* ), Carolina willow (*Salix caroliniana* ), cattail (*Typha* sp.), bulltongue arrowhead (*Sagitaria lancifolia* ), alligator flag (*Thalia geniculata* ), cogongrass (*Imperata cylindrica* ), and paragrass (*Urochloa mutica* ). Typical age/structure of plant community. Regeneration and recruitment are near-normal. Land management practices are minimal with fire suppression, water control features, commercial activities and mowing/maintenance that have caused a shift in the plant community. Nuisance exotic invasive vegetation was present at approximately 80 percent cover at the time of assessment. Topographic features are reduced and habitat and fish and wildlife support is high but less than optimal. | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres: 0.30 | with: 0.00 |
|---|---|---|

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

| For impact assessment areas |
|---|
| FL = delta x acres = 0.33 |

| Delta = [with-current] |
|---|
| -0.30 |

| 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | SW 4 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 510 - Streams and Waterways (Peace Creek) | R2UB2Hx - Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated | Impact | 0.57 |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River Basin | Class III | None |

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

Peace Creek intersects the project study area at the center. Within the project study area, Peace Creek is surrounded by reclaimed mined lands now used as pasture and mixed hardwood-conifer forest. This creek has been altered (channelized) to help with flood control within the Peace River Basin.

Assessment area description

Dominant vegetation along the banks of Peace Creek includes laurel oak, cabbage palm, lantana, dogfennel, ceasarsweed, smartweed, cogongrass, and various sedges.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| None | None |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Foraging habitat for wading birds, fish, small mammals, and invertebrates. Food web support and stormwater runoff treatment and attenuation. | None |

| 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) |
|---|---|
| Anurans, snakes, lizards, small fish, wading birds, hawks, song birds, deer, wild hog, raccoon, and other small to medium size mammals. | Florida sandhill crane (ST, high intensity foraging)<br>Wood stork (FT, high intensity foraging)<br>Little blue heron (ST, high intensity foraging)<br>Tricolored heron (ST, high intensity foraging)<br>Roseate spoonbill (ST, high intensity foraging)<br>Crested caracara, (FT, low intensity foraging) |

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

Songbirds by call, cows, frogs, fish, and great egret by observation.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Christen Cerrito | 8-Jul-19 |

## 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | SW 4 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Christen Cerrito | 8-Jul-19 |

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

| | | |
|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 5 | with: 0 |
| The portion of Peace Creek located within the project study area is bordered by a combination of reclaimed mined lands currently being used as pasture and mixed hardwood-conifer forests. It is located on hydric soils and cover of invasive exotics is minimal. Wildlife access is unrestricted as the creek is surrounded by agricultural pasture land. However, the surrounding habitat is reclaimed land where soils and topography have been severely disturbed due to previous mining activities. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 7 | with: 0 |
| Peace Creek flows east to west and is connected to Peace River, which ultimately flows into Charlotte Harbor. Water quality is somewhat affected by runoff received from cattle access. Flowing water was observed at the assessment area. Soil moisture is appropriate with no evidence of soil desiccation, oxidation, or subsidence. Soil erosion from agricultural activities creates minor alteration in flow rates. Vegetation and plant community composition are appropriate in all strata and there are no signs of hydrologic stress. The assessment area is permanently flooded. Topographic alteration affects hydrology and hydroperiod. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 5 | with: 0 |
| Predominantly open water, a mixture of desirable and undesirable species are present in ground and shrub strata. Existing vegetation along banks includes laurel oak (*Quercus laurifolia* ), cabbage palm (*Sabal palmetto* ), lantana (*Lantana strigocamara* ), dogfennel (*Eupatorium capillifolium* ), caesarsweed (*Urena lobata* ), smartweed (*Persicaria* spp.), cogongrass (*Imperata cylindrica* ), and various sedges (*Cyperus* spp.). Invasive exotic species are present at minimal densities. Typical age structure of plant community. Regeneration and recruitment are near-normal. Land management practices are minimal with fire suppression, water control features, agricultural activities and mowing/maintenance that have caused a shift in the plant community. The creek is mostly characterized by open water. Habitat and fish and wildlife support is moderate. | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres: 0.57 | with: 0.00 |
|---|---|---|

| Delta = [with-current] |
|---|
| -0.57 |

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

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

| For impact assessment areas |
|---|
| FL = delta x acres = 0.32 |

| 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | SW 3 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 530 - Reservoirs | PUB2Hx - Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated | Impact | 5.43 |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River Basin | Class III | None |

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

A reservoir is located north of Peace Creek; this system is reclaimed habitat from previous mining activities. Surrounding habitat includes reclaimed pasture lands and a cypress wetland.

Assessment area description

Dominant vegetation includes water lettuce, soft rush, paragrass, smartweed, cogongrass and various sedges.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The study area crosses Peace Creek. | None |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Nesting and feeding habitat for anurans, reptiles, and wading birds. Foraging and denning habitat for small and medium size mammals. | None |

| 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) |
|---|---|
| Anurans, snakes, lizards, small fish, wading birds, hawks, song birds, deer, wild hog, raccoon, and other small to medium size mammals. | Florida sandhill crane (ST, high intensity foraging)<br>Wood stork (FT, high intensity foraging)<br>Little blue heron (ST, high intensity foraging)<br>Tricolored heron (ST, high intensity foraging)<br>Roseate spoonbill (ST, high intensity foraging)<br>Everglade snail kite (FT, low intensity foraging) |

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

Songbirds by call, cows, wild hogs, frogs, fish, anhinga, and great egret by observation.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Christen Cerrito | 8-Jul-19 |

## 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | SW 3 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Christen Cerrito | 8-Jul-19 |

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

| | | |
|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 4 | with: 0 |
| The reservoir within the project study area is reclaimed habitat where soil and topography have been severely disturbed due to previous mining activities. Surrounding habitats include reclaimed pasture and a cypress wetland. Wildlife access is partially restricted by fencing around the system. The system is located on nonhydric soils and cover of invasive exotic species is moderate throughout the system. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 4 | with: 0 |
| Water quality is adversely affected by cattle access. Water levels, flows, and indicators are appropriate considering natural variation. Soil moisture is appropriate with no evidence of soil desiccation, oxidation, or subsidence. Soil erosion from agricultural activities creates minor alteration in flow rates. Vegetation and plant community composition are appropriate in all strata and there are no signs of hydrologic stress. The assessment area is permanently flooded. Topographic alteration affects hydrology and hydroperiod as this system is reclaimed habitat from previous mining activities. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 6 | with: 0 |
| The reservoir within the project study area is mostly open water but contains a combination of native and exotic vegetation along the banks. The assessment area is an excavated reservoir dominated by water lettuce *(Pistia stratiotes* ), soft rush (*Juncus effusus* ), smartweed (*Persicaria* spp.), cogongrass (*Imperata cylindrica* ), paragrass (*Urochloa mutica* ) and various sedges (*Cyperus* spp.). Typical age/structure of plant community. Regeneration and recruitment are near-normal. Land management practices are minimal with fire suppression, water control features, agricultural activities and mowing/maintenance that have caused a shift in the plant community. This system is characterized by mostly open water with approximately 40 percent cover of nuisance exotic invasive vegetation. Topographic features are reduced and habitat and fish and wildlife support is high. | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres: 0.47 | with: 0.00 |
|---|---|---|

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

| For impact assessment areas |
|---|
| FL = delta x acres = 2.55 |

| Delta = [with-current] |
|---|
| -0.47 |

| 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 4b |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 619 - Exotic Wetland Hardwoods | PSS1C - Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded | Impact | 0.28 |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River Basin | Class III | None |

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

An exotic hardwood wetland is located at the projects northern terminus, south of US 17. This wetland system is bordered by US 17 and commercial property. It is hydrologically connected to WL 2a, 2b and SW 2 via a culvert under US 17.

Assessment area description

Exotic wetland hardwoods within the project study area are dominated by Peruvian primrose willow, Brazilian pepper, Carolina willow, torpedo grass, smartweed, and marsh pennywort.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| US 17 and commercial property. | This system is not unique to the regional landscape. |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Nesting and feeding habitat for anurans, reptiles, and avian species. Foraging and denning habitat for small and medium size mammals. | This system is not part of a previously permitted system. |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Anurans, snakes, lizards, small fish, wading birds, hawks, song birds, deer, wild hog, raccoon, and other small to medium sized mammals. | little blue heron (ST, foraging), tricolored heron (ST, foraging), wood stork (FT, foraging), roseate spoonbill (ST, foraging), American alligator (FT, habitat and foraging), and Eastern indigo snake (FT, feeding and refuge) |

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): |
|---|---|
| Christen Cerrito | 8-Jul-19 |

## 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 4b |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Christen Cerrito | 8-Jul-19 |

| 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: 3 | with: 0 | The exotic wetland hardwood within the project study area is bounded by US 17 and commercial property. Wildlife access is limited due to barriers (US 17) and adjacent land uses (commercial). WL 4b Is located on hydric soils and is hydrologically connected to WL 3a, 3b, and SW 1 via a culvert under US 17. Cover of invasive exotic species is dominant throughout the system. |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 3 | with: 0 | Water quality is adversely affected by runoff received from US 17. Water levels, flows, and indicators are appropriate considering natural variation. Soil moisture is appropriate with no evidence of soil desiccation, oxidation, or subsidence. Soil erosion from roadway runoff and foreign debris creates minor alteration in flow rates. Vegetation and plant community composition are appropriate in all strata and there are no signs of hydrologic stress. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 3 | with: 0 | The exotic wetland hardwood within the project study area is comprised of almost entirely Peruvian primrose willow (*Ludwigia peruviana* ) with scattered Brazilian pepper (*Schinus terebinthifolia)* . Other hydrophytic vegetative species within the system included Carolina willow (*Salix carolinana* ), cattail (*Typha sp.* ) torpedograss (*Panicum repens* ), smartweed (*Persicaria* sp.), and marsh pennywort (*Hydrocotyle umbellata* ). Invasive exotic species are present at high densities. Regeneration and recruitment are near-normal. Land management practices are minimal with fire suppression, water control features, agricultural activities and mowing/maintenance that have caused a shift in the plant community. There was approximately 90 percent cover of overgrown nuisance exotic invasive vegetation at the time of assessment. Habitat and fish and wildlife support is suboptimal. |

| Score = sum of above scores/30 (if uplands, divide by 20) | | |
|---|---|---|
| current or w/o pres: 0.30 | with: 0.00 | |

| Delta = [with-current] |
|---|
| -0.30 |

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

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

| For impact assessment areas |
|---|
| FL = delta x acres = 0.08 |

| 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 4a, 9a, 10 & 11 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 631 - Wetland Scrub | PSS1C - Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded | Impact | 4.94 |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River Basin | Class III | None |

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

Wetland scrub is located just north of SR 60 and just south of US 17. These areas are surrounded by a combination of pasture lands, industrial and commercial development, and upland oak hammocks. Hydrological connections are available via culverts under roadways and soil hydrology.

Assessment area description

Dominant vegetation includes Carolina willow, Peruvian primrose willow, Brazilian pepper, soft rush, Carolina redroot, Alligator flag, smartweed, torpedograss and cogongrass.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The study area crosses Peace Creek. | None |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Nesting and feeding habitat for anurans, reptiles, and wading birds. Foraging and denning habitat for small and medium size mammals. | None |

| 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) |
|---|---|
| Anurans, snakes, lizards, small fish, wading birds, hawks, song birds, deer, wild hog, raccoon, and other small to medium size mammals. | Florida sandhill crane (ST, high intensity foraging)<br>Wood stork (FT, high intensity foraging)<br>Little blue heron (ST, high intensity foraging)<br>Tricolored heron (ST, high intensity foraging)<br>Roseate spoonbill (ST, high intensity foraging) |

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

Songbirds by call, frogs, fish, ducks, great egrets, and sandhill cranes by observation.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Christen Cerrito | 8-Jul-19 |

## 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 4a, 9a, 10 & 11 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Christen Cerrito | 8-Jul-19 |

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

| | | |
|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 5 | with: 0 |
| Wetland scrubs within the project study area are bordered by US 17, SR 60, commercial services, and extractive upland pasture lands. Wetland scrubs within the project area are reclaimed habitats where soils and topography have been severely disturbed due to previous mining activities. Wildlife access is limited due to barriers (US 17 & SR 60) and adjacent land uses (commercial). WL 4a, 9a, 10 and 11 are located on hydric soils. WL 4a is hydrologically connected to WL 3a, 3b, and SW 2 via a culvert under US 17. WL 9a is hydrologically connected to its adjacent freshwater marsh - WL 9b. WL 10 and WL 11 are isolated systems. Cover of invasive exotic species is dominant throughout these systems. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 4 | with: 0 |
| Water quality is adversely affected by cattle access. Water levels, flows, and indicators are appropriate considering natural variation. Soil moisture is appropriate with no evidence of soil desiccation, oxidation, or subsidence. Soil erosion from agricultural activities creates minor alteration in flow rates. Vegetation and plant community composition are appropriate in all strata and there are signs of hydrologic stress. The assessment areas are seasonally flooded. Topographic alteration affects hydrology and hydroperiod as these systems are reclaimed habitats from previous mining activities. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 4 | with: 0 |
| Wetland scrub is characterized by a dense shrubby canopy comprised of Peruvian primrose willow (*Ludwigia peruviana*), Brazilian pepper (*Schinus terebinthifolius*), and Carolina willow (*Salix carolinana*). Herbaceous groundcover species consist of torpedograss (*Panicum repens*), smartweed (*Persicaria* sp.), soft rush (*Juncus effusus*), Carolina redroot (*Lachnanthes caroliniana*), alligator flag (*Thalia geniculata*), and cogongrass (*Imperata cylindrica*). Invasive exotic species are present at approximately 60 percent cover. Typical age/structure of plant community. Regeneration and recruitment are near-normal. Land management practices are minimal with fire suppression, water control features, agricultural activities and mowing/maintenance that have caused a shift in the plant community. Wetland scrubs within the project study area are located land that has been historically mined and has been severely disturbed. Habitat and fish and wildlife support is suboptimal. | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres: 0.43 | with: 0.00 |
|---|---|---|

| Delta = [with-current] |
|---|
| -0.43 |

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

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

| For impact assessment areas |
|---|
| FL = delta x acres = 2.12 |

| 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 1, 2, 7a, 8 & 9b |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 641 - Freshwater Marshes | PEM1C - Palustrine, Emergent, Persistent, Seasonally Flooded | Impact | 5.06 |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River Basin | Class III | None |

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

Freshwater marshes are located throughout the project study area. These areas are surrounded by a combination of pasture lands, industrial and commercial development, extractive land and upland oak hammocks. Freshwater marshes within the project study area are often surrounded by other wetland habitats.

Assessment area description

Dominant vegetation includes Peruvian primrosewillow, soft rush, Cuban bulrush, alligator flag, bushy bluestem, smartweed, marsh pennywort, and other various sedges.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The study area crosses Peace Creek. | None |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Nesting and feeding habitat for anurans, reptiles, and wading birds. Foraging and denning habitat for small and medium size mammals. | None |

| 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) |
|---|---|
| Anurans, snakes, lizards, small fish, wading birds, hawks, song birds, deer, wild hog, raccoon, and other small to medium size mammals. | Florida sandhill crane (ST, high intensity foraging)<br>Wood stork (FT, high intensity foraging)<br>Little blue heron (ST, high intensity foraging)<br>Tricolored heron (ST, high intensity foraging)<br>Roseate spoonbill (ST, high intensity foraging)<br>Crested caracara (FT, low intensity foraging) |

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

Songbirds by call, wild hogs, frogs, fish, ducks, great egret, cattle egret, snowy egret, little blue heron, tricolored heron, wood stork, limpkin, glossy ibis, red-winged black bird, and anhinga by observation. Cows present near edges of freshwater marshes during every site visit.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Christen Cerrito | 8-Jul-19 |

## 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 1, 2, 7a, 8 & 9b |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Christen Cerrito | 8-Jul-19 |

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

| | | |
|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 5 | with: 0 |
| Freshwater marshes within the project study area are bordered by a combination of extractive and reclaimed mined land currently being used as pasture, mixed hardwood-conifer forests, and commercial services. Freshwater marshes within the project area are reclaimed habitats where soils and topography have been severely disturbed due to previous mining activities. Wildlife access is mostly unrestricted for freshwater marshes within the project study area. Some of the assessment areas are located on hydric soils. WL 7a is hydrologically connected to adjacent emergent aquatic vegetation - WL 7b - and WL 9b is hydrologically connected to adjacent wetland scrub - WL 9a. Cover of WL 1, 2, and 8 are isolated systems. invasive exotic species is moderate throughout these systems. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 5 | with: 0 |
| Water quality is adversely affected by cattle access. Water levels, flows, and indicators are appropriate considering natural variation. Soil moisture is appropriate with no evidence of soil desiccation, oxidation, or subsidence. Soil erosion from agricultural activities creates minor alteration in flow rates. Vegetation and plant community composition are appropriate in all strata and there are no signs of hydrologic stress. The assessment areas are seasonally flooded. Topographic alteration affects hydrology and hydroperiod as these systems are reclaimed habitats from previous mining activities. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 4 | with: 0 |
| Dominant vegetative species of freshwater marshes within the project study area consist of Peruvian primrosewillow (*Ludwigia peruviana* ), alligator flag (*Thalia geniculata* ), marsh pennywort (*Hydrocotyle umbellata* ), Cuban bulrush (*Cyperus blepharoleptos* ), smartweed (*Persicaria* spp.), soft rush (*Juncus effusus* ), bushy bluestem (*Andropogon glomeratus* ), cogongrass (*Imperata cylindrica* ), and other various sedges (*Cyperus* spp. ). Invasive exotic species are present at moderate densities. Typical age structure of plant community. Regeneration and recruitment are near-normal. Land management practices are minimal with fire suppression, water control features, agricultural activities and mowing/maintenance that have caused a shift in the plant community. Freshwater marshes within the project study area are located on lands that were historically mined and have been severely disturbed. They contain approximately 40-60 percent nuisance/exotic vegetation and habitat and fish and wildlife support is moderate. | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres: 0.47 | with: 0.00 |
|---|---|---|

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

| For impact assessment areas |
|---|
| FL = delta x acres = 2.38 |

| Delta = [with-current] |
|---|
| -0.47 |

| 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 3b |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 643 - Wet Prairies | PEM1C - Palustrine, Emergent, Persistent, Seasonally Flooded | Impact | 0.10 |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River Basin | Class III | None |

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

A wet prairie is located at the projects northern terminus, north of US 17. The wet prairie within the project study area is surrounded by upland mixed conifer hardwood forest, residential property, streams and waterways, and US 17. WL 3b is hydrologically connected to adjacent roadside drainage ditch - SW 1 - which connects WL 3b to WL 3a.

Assessment area description

The wet prairie within the project study area is dominated by Peruvian primrose willow, marsh pennywort, frogfruit, beggarticks, and various sedges.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| US 17 and residential property. | This system is not unique to the regional landscape. |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Foraging habitat for anurans, reptiles, and avian species. Foraging and denning habitat for small and medium size mammals. | This system is not part of a previously permitted system. |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Anurans, snakes, lizards, small fish, wading birds, hawks, song birds, deer, wild hog, raccoon, and other small to medium size mammals. | little blue heron (ST, foraging), tricolored heron (ST, foraging), wood stork (FT, foraging), roseate spoonbill (ST, foraging), American alligator (FT, habitat and foraging), and Eastern indigo snake (FT, feeding and refuge) |

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): |
|---|---|
| Christen Cerrito | 8-Jul-19 |

## 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 3b |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Christen Cerrito | 8-Jul-19 |

| 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: 3 | with: 0 |
| The wet prairie within the project study area is bordered by residential units, mixed conifer hardwood forest, a drainage ditch, and US 17. Wildlife access is limited due to barriers (US 17) and adjacent land uses (residential). This system is located on hydric soils. WL 3b is bordered by a drainage ditch - SW 1 - that drains the surrounding residential properties and hydrologically connects WL 3b to WL 3a. This wet prairie is also hydrologically connected to WL 4a and WL 4b which drain the assessment area via a culvert under US 17. Invasive exotic species are moderately present throughout the system. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 3 | with: 0 |
| Water quality is adversely affected by runoff received from US 17. Water levels, flows, and indicators are appropriate considering natural vegetation. Soil moisture is appropriate with no evidence of soil desiccation, oxidation, or subsidence. Soil erosion from runoff received from US 17 creates minor alterations in flow rates. The assessment area is seasonally flooded. Vegetative community composition is appropriate in all strata but exhibit some signs of hydrologic stress. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 3 | with: 0 |
| The wet prairie within the project study area is dominated by herbaceous vegetation including Peruvian primrose willow (*Ludwigia peruviana* ), marsh pennywort (*Hydrocotyle umbellata* ), turkey tangle frogfruit (*Phyla nodiflora* ), beggarticks (*Bidens alba* ), paragrass (*Urochloa mutica* ), and various sedges (*Cyperus spp.* ). Plant community age and structure are a little unusual due to hydrologic stress. Invasive exotic species were moderate within the system. There is near-normal regeneration and recruitment. Land management practices are minimal with fire suppression, water control features, and mowing/maintenance that have caused a shift in the plant community. Nuisance exotic invasive vegetation was present at approximately 70 percent cover at the time of assessment. Habitat and fish and wildlife support is minimal. | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres: 0.30 | with: 0.00 |
|---|---|---|

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

| For impact assessment areas |
|---|
| FL = delta x acres = 0.03 |

| Delta = [with-current] |
|---|
| -0.30 |

| 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 7b |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 644 - Emergent Aquatic Vegetation | PEM1C - Palustrine, Emergent, Persistent, Seasonally Flooded | Impact | 2.17 |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River Basin | Class III | None |

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

Emergent aquatic vegetation is located at the northern terminus of the project, just south of the industrial development along US 17. This wetland is surrounded by pasture lands. WL 7b is hydrologically connected to adjacent freshwater marsh - WL 7a.

Assessment area description

Dominant vegetation includes cattails, American white waterlily, dotted duckweed, soft rush, and various sedges.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The study area crosses Peace Creek. | None |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Nesting and feeding habitat for anurans, reptiles, and wading birds.<br>Foraging and denning habitat for small and medium size mammals. | None |

| 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) |
|---|---|
| Anurans, snakes, lizards, small fish, wading birds, hawks, song birds, deer, wild hog, raccoon, and other small to medium size mammals. | Florida sandhill crane (ST, high intensity foraging)<br>Wood stork (FT, high intensity foraging)<br>Little blue heron (ST, high intensity foraging)<br>Tricolored heron (ST, high intensity foraging)<br>Roseate spoonbill (ST, high intensity foraging)<br>Crested caracara (FT, low intensity foraging) |

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

Songbirds by call, frogs, fish, ducks, great egret, cattle egret, snowy egret, little blue heron, and wood stork observation.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Christen Cerrito | 8-Jul-19 |

## 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 7b |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Christen Cerrito | 8-Jul-19 |

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

| | | |
|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 5 | with: 0 |
| The emergent aquatic vegetation within the project study area is reclaimed habitat where soils and topography have been severely disturbed due to previous mining activities. Habitats surrounding emergent aquatic vegetation within the project study area includes reclaimed upland pasture lands. Wildlife access is mostly unrestricted. This system is located on hydric soils and is hydrologically connected to the adjacent freshwater marsh - WL 7a. Cover of invasive exotic species is minimal. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 4 | with: 0 |
| Water quality is adversely affected by cattle access. Water levels, flows, and indicators are appropriate considering natural variation. Soil moisture is appropriate with no evidence of soil desiccation, oxidation, or subsidence. Soil erosion from agricultural activities creates minor alteration in flow rates. Vegetation and plant community composition are appropriate in all strata and there are no signs of hydrologic stress. The assessment area is seasonally flooded. Topographic alteration affects hydrology and hydroperiod as these systems are reclaimed habitats from mining activities. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 6 | with: 0 |
| Emergent aquatic vegetation within the project study area consists of cattails (*Typha* spp.), soft rush (*Juncus effusus* ), American white water lily (*Nymphea odorata* ), dotted duckweed (*Landoltia punctata* ) and various sedges (*Cyperus* spp.). Nuisance exotic invasive vegetation is present at minimal densities below 20 percent. Typical age/structure of plant community. Regeneration and recruitment are near-normal. Land management practices are minimal with fire suppression, water control features, agricultural activities and mowing/maintenance that have caused a shift in the plant community. Topographic features are reduced and habitat and fish and wildlife support is high. | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres: 0.50 | with: 0.00 |
|---|---|---|

| Delta = [with-current] |
|---|
| -0.50 |

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

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

| For impact assessment areas |
|---|
| FL = delta x acres = 1.09 |

| 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 3a, 5, & 6 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 653 - Intermittent Pond | PEM1C - Palustrine, Emergent, Persistent, Seasonally Flooded | Impact | 1.98 |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River Basin | Class III | None |

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

Intermittent ponds are located at the northern terminus of the project, north and south of US 17. Habitats surrounding these systems include commercial and residential development and US 17. WL 3a is hydrologically connected to its adjacent roadside drainage ditch - SW 1 - which connects WL 3a to WL 3b. WL 3a is also hydrologically connected to WL 4a and WL 4b via a culvert under US 17.

Assessment area description

Dominant vegetation includes Peruvian primrose willow, Carolina willow, alligator flag, cattail, bulltongue arrowhead, American white waterlily, and alligator weed.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| The study area crosses Peace Creek. | None |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Nesting and feeding habitat for anurans, reptiles, and wading birds. Foraging and denning habitat for small and medium size mammals. | None |

| 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) |
|---|---|
| Anurans, snakes, lizards, small fish, wading birds, hawks, song birds, deer, wild hog, raccoon, and other small to medium size mammals. | Florida sandhill crane (ST, high intensity foraging)<br>Wood stork (FT, high intensity foraging)<br>Little blue heron (ST, high intensity foraging)<br>Tricolored heron (ST, high intensity foraging)<br>Roseate spoonbill (ST, high intensity foraging) |

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

Songbirds by call, frogs and fish by observation.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| Christen Cerrito | 8-Jul-19 |

## 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 |
|---|---|---|
| Central Polk Parkway from SR 35 (US17) to SR 60 | | WL 3a, 5, & 6 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact | Christen Cerrito | 8-Jul-19 |

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

| | w/o pres or current | with | |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | 3 | 0 | Intermittent ponds within the project study area are bordered by US 17, commercial services, and upland berms. WL 3a and 5 are located on hydric soils. Wildlife access is limited by barriers such as US 17 and the surrounding development. WL 3a is hydrologically connected to WL 4a and 4b via a culvert under US 17. WL 5 and WL 6 are isolated systems. Cover of invasive exotic species is moderate throughout these systems. |
| .500(6)(b)Water Environment (n/a for uplands) | 3 | 0 | Water quality is adversely affected by runoff received from roadway runoff. Water levels, flows, and indicators are appropriate considering natural variation. Soil moisture is appropriate with no evidence of soil dessication, oxidation, or subsidence. Soil erosion from roadway runoff creates minor alteration in flow rates. Vegetation and plant community composition are appropriate in all strata but exhibit some signs of hydrologic stress. The assessment areas are seasonally flooded. Topographic alteration affects hydrology and hydroperiod. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | 4 | 0 | Intermittent ponds within the project study area are disturbed wetlands dominated by cattail (*Typha* sp.), Peruvian primrosewillow *(Ludwigia peruviana* ), Carolina willow (*Salix caroliniana* ), cogongrass (*Imperata cylindrica* ), American white water lily (*Nymphea odorata* ), alligator flag (*Thalia geniculata* ), bulltongue arrowhead (*Sagittaria lancifolia)* , alligator weed (*Alternanthera philoxeroides)* , and paragrass (*Urochloa mutica* ). Typical age/structure of plant community. Regeneration and recruitment are near-normal. Land management practices are minimal with fire suppression, water control features, commercial activities and mowing/maintenance that have caused a shift in the plant community. There was approximately 55 percent cover of nuisance exotic invasive vegetation at the time of assessment. Topographic features are reduced and habitat and fish and wildlife support is moderate. |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.33 | 0.00 |

| Delta = [with-current] |
|---|
| -0.33 |

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

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

| For impact assessment areas |
|---|
| FL = delta x acres = 0.65 |

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

# *APPENDIX M*

## State Lands Determination Correspondence

July 8, 2019

Division of State Lands
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, MS 101
Tallahassee, FL 32399

Re: **Sovereignty Submerged Lands Determination Request**
**Central Polk Parkway from SR 35 (US 17) to SR 60**
**Polk County**
**Sections 22, and 27, Township 29 S, Range 25 E**
**Section 34, Township 29 S, Range 23 E**
**Section 03, Township 30 S, Range 25 E**
**FPID Number: 440897-4-22-01**

To Whom It May Concern,

Kisinger Campo & Associates is conducting an environmental analysis on the behalf of the Florida Department of Transportation, District 1 (FDOT D1), Florida's Turnpike Enterprise for the proposed construction of the Central Polk Parkway from SR 35 (US 17) to SR 60 in Polk County, Florida. The project crosses a freshwater creek: the Peace Creek. It's location can be seen on the attached Project Location Map and Quadrangle Map.

As part of our environmental analysis, we are requesting a Sovereignty Submerged Lands determination for the above listed waterway. Please refer to the attached figures to facilitate your determination.

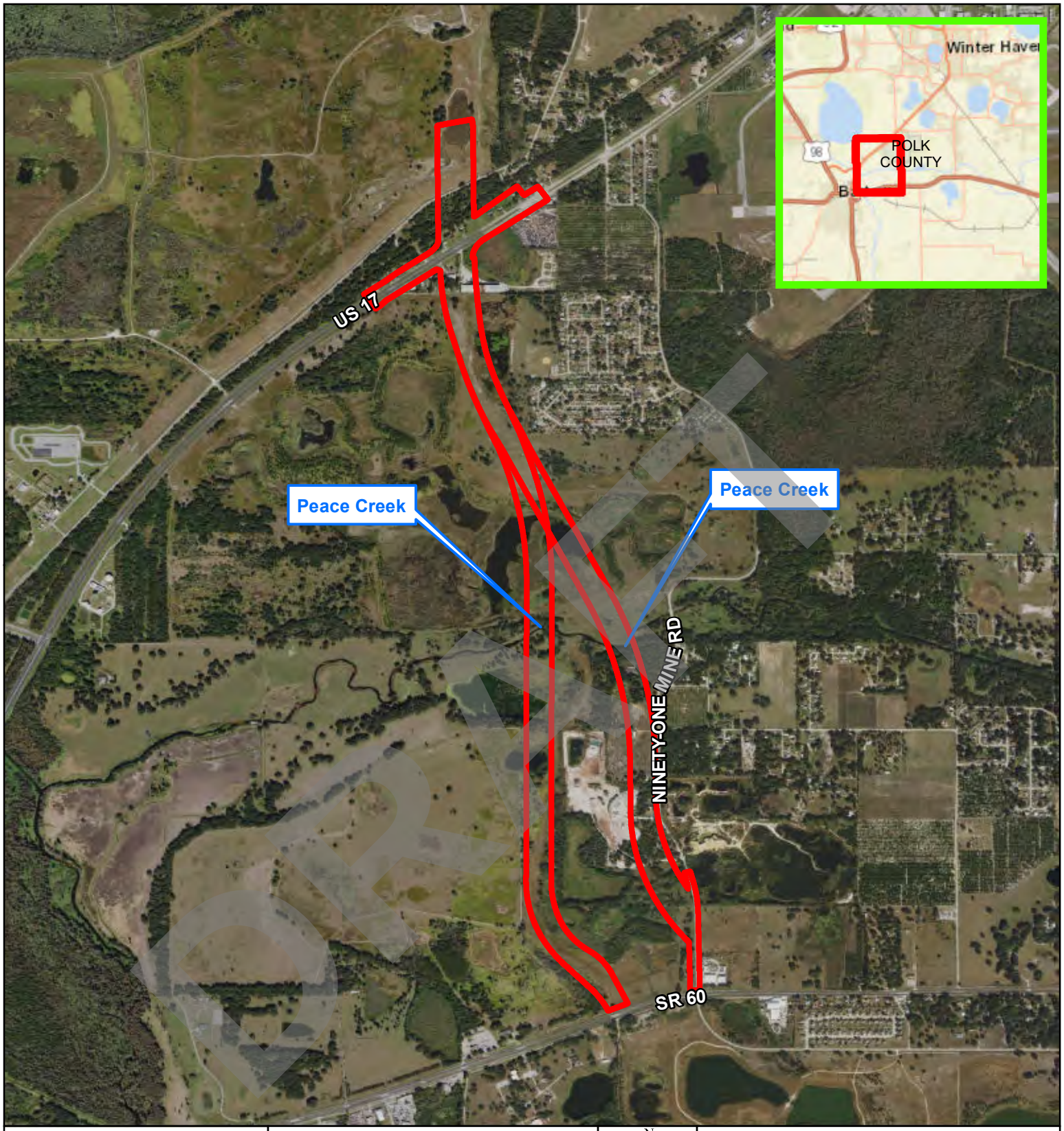
We appreciate your prompt response to this request for a Sovereignty Submerged Lands determination for the referenced channels. If you have any questions or require additional information, please contact me at christen.cerrito@kisingercampo.com or 813.871.5331.

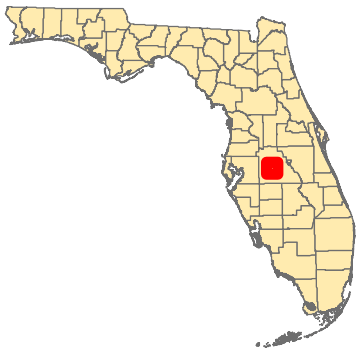
Sincerely,

Christen Cerrito

Christen Cerrito
Environmental Scientist

Attachments: Project Location Map
Project Quadrangle Map



## Legend

Project Area

N
W E
S

2,000 1,000 0 2,000

Feet

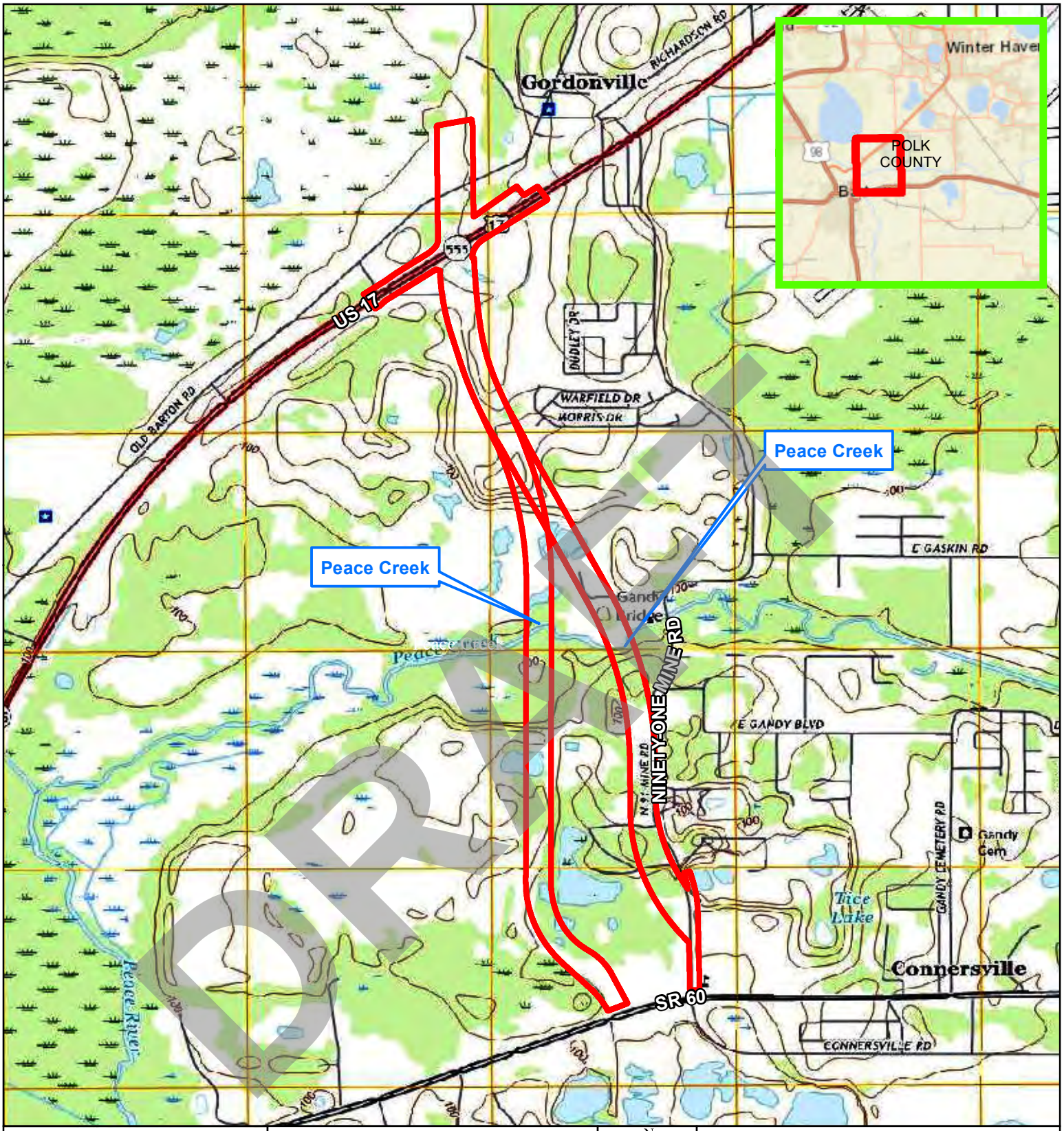
# Central Polk Parkway - From US 17 to SR 60

Polk County, Florida

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331
Fax: 813/871-5135

Figure 1

Path: M:\1201739.00_CPP\44089742401\100 Environmental\104 Environmental Data Report\GIS\Maps\CPP2_Project Location Map.mxd 7/22/2019




## Legend

Project Area

N
W E
S

2,000 1,000 0 2,000

Feet

# Project Quadrangle Map
# Central Polk Parkway - From US 17 to SR 60
Polk County, Florida

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331
Fax: 813/871-5135

Figure 2

Path: M:\1201739.00_CPP\44089742401\100 Environmental\104 Environmental Data Report\GIS\Maps\CPP2_Project_Quadrangle_Map.mxd 7/22/2019

# FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

**Ron DeSantis**
Governor

**Jeanette Nuñez**
Lt. Governor

**Noah Valenstein**
Secretary


July 26, 2019

Christen Cerrito
Environmental Scientist
Kisinger Campo & Associates
201 N. Franklin Street, Suite 400
Tampa, Florida 33602

Re: Proposed Central Polk Parkway Extension begins at SR 35 (US 17) and ends at SR 60 - Peace Creek – Polk County, Florida

Dear Ms. Cerrito,

This letter is in response to your recent inquiry requesting a State lands title determination for the proposed Central Polk Parkway Extension begins at SR 35 (US 17) and ends at SR 60 crossings for Peace Creek in Polk County, Florida.

Records on file within the Title and Land Records Section indicate that the submerged lands lying below the ordinary high water line of Peace Creek at the proposed crossings are State-owned sovereign submerged lands.

The conclusions stated herein are based on a review of records currently available within the Department of Environmental Protection as supplemented, in some cases, by information furnished by the requesting party and do not constitute a legal opinion of title. A permit from the Department of Environmental Protection and other federal, state and local agencies may be required prior to conducting activities.

If this office can be of any further assistance regarding this determination, please address your questions to Eric Sellers, PSM, Professional Land Surveyor II, mail station No. 108 at the above letterhead address, by telephone at (850) 245-2607, or by e-mail at Eric.Sellers@FloridaDEP.gov.

Sincerely,

Marcus Ashman, PSM, Program Manager
Division of State Lands
Bureau of Survey and Mapping
Attachment:
MJA/els
F:\Eric\Peace_Creek




**Legend**

Project_Site

# 2017 AERIAL
# PEACE CREEK
# POLK COUNTY

FOR ILLUSTRATIVE AND INFORMATIONAL PURPOSES ONLY

F:\Eric\Peace_Creek

# *APPENDIX N*

## USFWS Technical Assistance Meeting Notes

Florida Department of Transportation

RON DESANTIS
GOVERNOR

Florida's Turnpike Enterprise
P.O. Box 613069, Ocoee, FL 34761
407-532-3999

KEVIN J. THIBAULT, P.E.
SECRETARY

**FDOT, Florida's Turnpike Enterprise/USFWS Technical Assistance Meeting Notes**
**FPID 440897-4 Central Polk Parkway**
**Segment 2 from US 17 (SR 35) to SR 60**
**Polk County**

Date: March 10, 2020
Time: 1:00 PM
Conference Call

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1. **Introductions**
   - **Turnpike Environmental Administrator – Philip Stein**
   - **Turnpike Environmental Permits Coordinator – Annemarie Hammond**
   - **HNTB/Turnpike Project Manager – Stephanie Underwood**
   - **Atkins/Turnpike Permits Coordinator – Fred Gaines**
   - **Atkins/Turnpike Permits Coordinator – Tiffany Crosby**
   - **USFWS Staff – John Wrublik**
   - **KCA Project Manager – Thomas Presby**
   - **KCA Senior Environmental Scientist – Catie Neal**

2. **Project Overview (map provided)**
   - Current Alignment
     - 2.2 miles through various land uses (residential/commercial, reclaimed mined land, pasture, forests, and wetlands – herbaceous and forested)
   - ETDM #14372 published on Dec 3, 2010
   - The following federal listed species have the potential for occurrence within the project area (Figure 2)
     - Eastern indigo snake (*Drymarchon couperi*)
     - Blue-tailed mole skink (*Plestiodon egregius lividus*)
     - Sand skink (*Plestiodon reynoldsi*)
     - Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)
     - Florida scrub-jay (*Aphelocoma coerulescens*)
     - Crested caracara (*Caracara cheriway*)
     - Wood stork (*Mycteria americana*)
     - Everglade snail kite (*Rostrhamus sociabilis*)
     - Florida bonneted bat (*Eumops floridanus*)
     - Florida panther (*Puma concolor couguar*)

- 48.69 acres of wetlands and surface waters within the project area
  - 15 wetlands and 4 surface waters
  - 21.09 acres of wetlands/surface water impacts

*Turnpike provided a brief overview of limits and explained that this project is the continuation of Segment 1 that was previously discussed with USFWS in December 2019. Turnpike explained this project will be a new corridor consisting of above listed land uses. The Peace Creek Drainage Canal is included within the project limits.*

*USFWS indicated at the start of the meeting that the meeting minutes will be reviewed by USFWS, but no concurrence agreement on the determinations will be provided.*

**3. Eastern indigo Snake**

- 265.35 acres of potential habitat within the project area
- No observations within the project area and no documented occurrences within one mile
- Estimated more than 25 acres of habitat will be impacted
- Determination based on key "A>B>C"
- ***May affect anticipated***
- Potential mitigation provided by Platt Branch. Quantities determined by home ranges for male and female snakes

*Turnpike indicated that the majority of project area is considered potential habitat for the eastern indigo snake. There are no surveys proposed during the design phase. There are more than 25 acres of impacts anticipated, resulting in a "may affect" determination using key. No documented occurrences.*

*USFWS indicated that if there are no occurrences within 0.62 miles then the determination can be "may affect, not likely to adversely affect" (MANLAA). USFWS indicated that new guidelines with the 0.62 mile guidance are being developed. USFWS verified there were no documented occurrences with 0.62 miles and confirmed the MANLAA determination can be used for the PD&E phase.*

*Turnpike asked for confirmation that despite greater than 25 acres of impacts are anticipated the MANLAA determination applies. USFWS confirmed that is correct.*

**4. Blue-tailed mole skink & sand skink**

- 77.91 acres of suitable sand skink soils present (map provided)
- No observations within the project area and no documented occurrences within one mile
- Full survey protocol proposed for Design phase
- ***May affect anticipated***
- Potential mitigation provided by Conservation bank credit purchase

*Turnpike indicated that there are no documented occurrences of sand skinks within the project area. As the project is within the Consultation Area, Turnpike anticipates standard survey protocol for the Design phase. Turnpike indicated that many suitable soils based on the NRCS may be historically mined soils and inquired if these areas could be eliminated from survey if Turnpike provides aerials showing mining operation that altered the soils.*

*USFWS indicated that aerial maps alone would be insufficient to exclude mined areas. However, information provided by a NRCS Soil Scientist confirming the lack of current soil suitability would be accepted. If a soil scientist performs surveys, then NRCS will provide a report and USFWS would use that information to make any determinations. If sandy soils are present, then surveys would still be required. However, if vegetation is not appropriate then surveys may not be necessary. USFWS indicated that if thick grasses are present then no surveys are required.*

*Turnpike inquired if there are DEP records showing mining in the area, should they be sent to USFWS. USFWS indicated that they could be provided but it is not necessary without the NRCS field review.*

*Turnpike indicated that pending the results of the survey a "may effect" determination is being used.*

*USFWS agreed with the approach.*

**5. Florida grasshopper sparrow**

- 192.82 acres of potential habitat in pasturelands within the project area
- No observations within the project area and no documented occurrences within one mile
- Technical assistance with USFWS will be re-initiated during design phase to determine if surveys are required
- No impacts anticipated
- ***May affect, but not likely to adversely affect***

*Since the project is within the grasshopper sparrow Consultation Area, Turnpike indicated that if we were to follow the key, then surveys would be required. However, there is no prairie habitat available. Most of the project area is composed of previously mined lands that are now being utilized as pasture. Surveys in the Design phase are not proposed as the known populations of grasshopper sparrows are many miles away.*

*USFWS agreed that surveys would not be required and indicated that a "No Effect" determination should be sufficient.*

**6. Florida scrub-jay**

- 41.35 acres of potential habitat in scrub-shrub within the project area
- No observations within the project area and no documented occurrences within one mile
- Technical assistance with USFWS re-initiated during Design phase to determine if surveys are required
- ***May affect, but not likely to adversely affect***
- Potential mitigation provided by Conservation Bank credit purchase

*Turnpike indicated that there is some remnant scrub within the project area, but it is very overgrown (Type II or III). Since the project is within the Consultation Area, surveys are proposed within those areas during the Design phase following standard protocol. However, technical assistance will be re-initiated during the Design phase to confirm.*

*USFWS agreed with the approach.*

**7. Audubon's crested caracara**

- 234.24 acres of potential habitat in pasturelands within the project area
- No observations within the project area and no documented occurrences within one mile
- Full survey protocol proposed for Design phase
- ***May affect, but not likely to adversely affect***
- Potential mitigation to be coordinated with FWS as required

*The project is within the crested caracara Consultation Area. Turnpike indicated that there are no observations within the project area. Habitat is very similar to that of Segment 1. Surveys are proposed during the Design phase following standard protocol.*

*USFWS agreed with the approach.*

**8. Wood stork**

- 34.61 acres of potential habitat within the project area
- One (1) observation within the project area
- Located within the 18.6-mile core foraging area (CFA) of three (3) nesting colonies
  - Mulberry Northeast
  - Lake Summerset
  - Lone Palm
- Foraging analysis conducted to determine biomass loss – mitigation to occur via ERP during Design
- Determination based on key "A>B>C>E"
- ***May affect, but not likely to adversely affect***

*Turnpike indicated that herbaceous wetlands are available for foraging within the project area. The project is also located within a CFA of 3 colonies. Mitigation will take place via the ERP during the Design phase.*

*USFWS agreed with the approach.*

**9. Everglade snail kite**

- 29.88 acres of potential habitat in freshwater marshes within the project area
- No observations within the project area and no documented occurrences within one mile
- Technical assistance with USFWS re-initiated during Design phase to determine if surveys are required
- ***May affect, but not likely to adversely affect***

*The project is within the Consultation Area. Turnpike indicated that the key resulted in a MANLA determination, but based on the lack of occurrences and habitat available within the project area, Turnpike is anticipating "no effect" and surveys are not currently proposed for the Design phase.*

*USFWS agreed that if no suitable nesting habitat is available, then surveys would not be required.*

*Turnpike confirmed that technical assistance would be re-initiated during the Design phase to confirm if suitable nesting habitat is available.*

**10. Florida bonneted bat**

- 48.40 acres of potential habitat in forested communities within the project area
- No observations within the project area and no documented occurrences within one mile
- Full acoustic and roosting survey protocol proposed for Design phase
- Determination based on key "1a>2a>3b>?" cannot be completed until survey results are determined
- ***May affect***

*Turnpike indicated that full acoustic and roosting survey protocol is proposed for the Design phase as the project is within the Consultation Area for the species. Results of the survey will likely result with a "May affect" determination and the use of BMPs. Turnpike will request Technical Assistance in Design phase to get survey details verified ahead of time.*

*Turnpike inquired about the age of the trees available within the project area and how they might affect a survey design. Much of the area was reclaimed in the 1980s and 1990s resulting in a lack of old growth trees. Is there an opportunity during the Design phase to provide some of that information? Or will full surveys be assumed despite the age of the trees?*

*USFWS replied that there is an opportunity to discuss previous mining activities and reclaimed habitat relative to the species. USFWS indicated that unless the trees are extremely immature, then surveys will likely be required.*

**11. Florida panther**

- 254.34 acres of potential habitat within the project area
- No observations within the project area and no documented occurrences within one mile
- Technical assistance with USFWS re-initiated during Design phase
- Determination based on key "A>B"
- ***May affect***

*Turnpike indicated that the project does not fall within the Focus area and there are no documented occurrences.*

*USFWS replied that if the project is not in the focus area, then there are no concerns. If Turnpike wants to keep in the report, then a "No Effect" determination can be used.*

**12. Bald Eagle Coordination**

- 80.57 acres of potential nesting habitat within the project area
- Observed during field reviews and three (3) documented nests within one mile of the project area
  - PO043a is located 0.2 miles northeast of the project's northern terminus (last active 2013)
  - PO232 is located 0.8 miles southwest of the project's northern terminus (last active 2013)
  - Nest 2 is located 0.72 miles northeast of the project's northern terminus (last active 2019-2020)
  - Previous coordination with Ulgonda Kirkpatrick on adjacent CPP Segment 1

*Turnpike explained there are currently no bald eagle nests within 660 feet of the project area. However, Turnpike will request Technical Assistance as needed in Design if anything changes.*

*USFWS replied that Ulgonda Kirkpatrick should be the point of contact for bald eagles.*

**13. Anticipated Permits**

- Section 404 Dredge and Fill Permit (USACE)
- Environmental Resource Permit (ERP – SWFWMD)
- National Pollutant Discharge Elimination System (NPDES – FDEP)
- Gopher Tortoise Relocation Permit (as necessary) (FFWCC)
- Incidental Take Permit (as necessary – FFWCC)
- Incidental Take Permit (as necessary – USFWS)

*Turnpike listed the anticipated permits for the project. Turnpike does not anticipate needing an ITP for species unless the surveys come back differently than expected (sand skink, caracara, eastern indigo). Standard Section 7 consultation by the US Army Corps of Engineers is expected.*

*USFWS agreed.*

### 14. Wildlife Crossings

*Turnpike inquired if the project area would be considered a wildlife corridor and whether a wildlife crossing should be considered. Based on current FDOT criteria, a wildlife crossing would not be warranted. Turnpike requested confirmation if the project area is considered a wildlife corridor warranting a crossing for wildlife. Any wildlife crossing would be a by-product of the bridge spans over the Peace Creek Drainage Canal and floodplain as is currently proposed for the concept plans in PD&E.*

*USFWS replied that no wildlife crossing would be required and agreed that a bridge would provide a wildlife crossing but is not required. No additional wildlife crossings are necessary.*

### 15. Roundtable/Questions/Comments

*Turnpike inquired if there are any additional wildlife habitat concerns based on the reclaimed areas.*

*USFWS indicated there were no other concerns.*

*Turnpike requested concurrence that the existing reclaimed wetland areas would be treated as natural systems and impacts to those systems would be mitigated directly and not require additional mitigation to address previous mining reclamation responsibilities. USFWS agreed with this approach.*

# *APPENDIX O*

## FWC Technical Assistance Meeting Notes

Florida Department of Transportation

RON DESANTIS
GOVERNOR

Florida's Turnpike Enterprise
P.O. Box 613069, Ocoee, FL 34761
407-532-3999

KEVIN J. THIBAULT, P.E.
SECRETARY

**FDOT, Florida's Turnpike Enterprise/FWC Technical Assistance Meeting Notes**
**FPID 440897-4 Central Polk Parkway**
**Segment 2 from US 17 (SR 35) to SR 60**
**Polk County**

Date: 3/13/2020
Time: 1:30 pm
Conference Call

---

1. **Introductions**
   - **Turnpike Environmental Administrator – Philip Stein**
   - **Turnpike Environmental Permits Coordinator – Annemarie Hammond** AH
   - **FWC Staff – Brian Barnett**
   - **HNTB/Turnpike Project Manager – Stephanie Underwood**
   - **Atkins/Turnpike Permits Coordinator – Fred Gaines**
   - **Atkins/Turnpike Permits Coordinator – Tiffany Crosby**
   - **KCA Project Manager – Thomas Presby**
   - **KCA Senior Environmental Scientist – Catie Neal**

2. **Project Overview (map provided)**
   - Current Alignment
     - 2.2 miles through various land uses (residential/commercial, reclaimed mined land, pasture, forests, and wetlands – herbaceous and forested)
   - 48.69 acres of wetlands and surface waters within the project area, approximately 21.09 acres of wetlands/surface water impacts anticipated
   - ETDM #14372 published on Dec 3, 2010
   - The following state listed species have the potential for occurrence within the project area (Figure 2)
     - Southeastern American kestrel (*Falco sparverius paulus*)
     - Florida sandhill crane (*Antigone canadensis pratensis*)
     - Wading birds
       - Little blue heron (*Egretta caerulea*)
       - Tricolored heron (*Egretta tricolor*)
       - Roseate spoonbill (*Platalea ajaja*)
     - Florida burrowing owl (*Athene cunicularia floridana*)
     - Short-tailed snake (*Lampropeltis extenuata*)
     - Florida pine snake (*Pituophis melanoleucus mugitus*)
     - Gopher tortoise (*Gopherus polyphemus*)
     - State protected plants

*Turnpike provided a background of the project and explained this project is the extension to Segment 1 discussed with FWC in January 2020. This segment was evaluated by FDOT, District 1. Turnpike described the general areas where mining took place (northern portion). The Peace Creek Drainage Canal is within the project area but was mined and reclaimed and currently is not a natural system. There are 49 acres of wetlands/surface waters within the project area and approximately 21 acres if anticipated impacts.*

**3. Southeastern American kestrel**

- 222.77 acres of suitable habitat within the project area (open woodlands, previously mined lands, sandhill, and pine habitats)
- No observations of the Southeastern American kestrel within the project area and no known documentation within one mile
- No known nests within the project area
- Design and pre-construction surveys proposed
- If a nest is found, avoid as practicable, and minimize impacts by maintaining a 150-meter buffer of active nests; an FWC Incidental Take Permit may be required if impacts cannot be avoided
- ***No adverse effect anticipated***

*Turnpike indicted there is a lot of habitat available within the project area. Surveys to be conducted during the Design phase. If any nests are found, then Turnpike will discuss with FWC at that time. No adverse effect anticipated.*

*FWC had no comment.*

**4. Florida sandhill crane**

- 225.24 acres of potential habitat within the project area (freshwater marshes, previously mined lands, prairies, and pasture)
- Two (2) observations of the FL sandhill crane within the project area and no other known documentation within one mile (map provided)
- No known nests within project area
- Design and pre-construction surveys proposed
- If a nest is found, avoid as practicable, and minimize impacts by maintaining a 400-foot buffer; an FWC Incidental Take Permit may be required if project results in unavoidable impacts
  - Mitigation to occur via ERP with freshwater marsh credits
- ***No adverse effect anticipated***

*Turnpike indicated that there is suitable nesting habitat on site. Observations have been made, but none are nest locations. A precautionary ITP may be considered. Coordination will take place during the Design phase. No adverse effect anticipated.*

*FWC had no comment*

**5. Wading birds (little blue heron, tricolored heron, and roseate spoonbill)**

- 34.61 acres of herbaceous wetlands within the project area
- Three (3) observations of wading birds within the project area
- One rookery documented within one mile (map provided)
- Design surveys proposed
- Mitigation to occur via ERP with wetland mitigation credits
- ***No adverse effect anticipated***

*Turnpike indicated that wading birds have been observed within the project area. Habitat is available. There are no rookeries within the project area, but one exists within a mile. Wading bird nests within the project area are not anticipated. Mitigation will take place via ERP. No adverse effect anticipated.*

*FWC had no comment*

**6. Florida burrowing owl**

- 192.82 acres of potential habitat within the project area (improved pasture)
- No observations of the FL burrowing owl within the project area and no known documentation within one mile – closest documented observation is 1.25 miles away at the airport
- Design surveys proposed
- If a burrow is found that cannot be avoided, an FWC Incidental Take Permit will be obtained
- ***No adverse effect anticipated***

*Turnpike indicated suitable habitat is available within the project area. No observations have been made within the project area. Closest documented occurrence is approximately 1.25 miles away at the airport. Standard surveys are proposed during Design phase. Turnpike will coordinate as needed for ITP with FWC. No adverse effect anticipated.*

*FWC had no comment.*

***7.*** **Short-tailed snake**

- 241.21 acres of potential habitat within project area (upland habitats with open canopies and dry sandy soils, pasture)
- No observations of the short-tailed snake within the project area and no known documentations within one mile
- No surveys proposed- cryptic species
- ***No adverse effect anticipated***

*Turnpike indicated that this species was not included in the Segment 1 discussion. Remnant scrub is available in both projects. Do we need to evaluate for this species?*

*FWC indicated that the species will be included as a potential commensal with the gopher tortoise permit, surveys are not required.*

*Turnpike indicated this species was a big concern for the Suncoast project and they were required to add extra protection measures. Is that anticipated for this project?*

*FWC indicated no, it is a rare situation. If it is observed on site, then FWC will need to be notified. This project will not require the extra fencing requirement. FWC indicated that Turnpike could add educational aspect if Turnpike desired.*

**8. Florida pine snake**

- 241.21 acres of potential habitat within project area (well-drained, sandy soils with moderate to open canopy and previously mined lands)
- No observations of the pine snake within the project area and no known documentation within one mile
- No surveys proposed – cryptic species
- Mitigation to occur via FWC Gopher Tortoise Relocation Permit obtained for unavoidable impacts to burrows and commensals – implement FWC guidelines for Priority Commensals
- ***No adverse effect anticipated***

*Turnpike indicated that remnant scrub is present within the project area. This species will be addressed via the gopher tortoise permit commensal. Turnpike is aware that there are new guidelines coming out and this species will be re-addressed as the new information is issued by FWC.*

*FWC had no comment*

**9. Gopher tortoise**

- 241.21 acres of potential habitat within the project area (well-drained, sandy soils found in pine systems, scrub, hammocks, dry prairies, and previously mined lands)
- Nine (9) burrows observed within the project area and no other known documentation within one mile (map provided)
- FTE will obtain an FWC Gopher Tortoise Relocation Permit for any unavoidable impacts as required by FWC guidelines
- ***No adverse effect anticipated***

*Turnpike indicated that suitable habitat is present. Turnpike will obtain required permits during the Design phase. No adverse effect.*

*FWC had no comment.*

**10. Protected plants**

- Includes incised groove-bur (*Agrimonia incisa*), ashe's savory (*Calamintha ashei*), many-flowered grass-pink (*Calopogon multiflorus*), sand butterfly pea (*Centrosema arenicola*), piedmont jointgrass (*Coelorachis tuberculosa*), star anise (*Illicium parviflorum*), Florida spiny-pod (*Matelea floridana*), celestial lily (*Nemastylis floridana*), hand fern (*Ophioglossum palmatum*), giant orchid (*Orthochilus eristatus*), plume polyplody (*Pecluma plumula*), comb polyplody (*Pecluma ptilota var. bourgeauana*), and Florida willow (*Salix floridana*)

- No observations of any protected plants within the project area and no known documentations within one mile
- Any species observed during other surveys during design will be documented
- If protected plant species are observed within the proposed impacts limits, FTE will coordinate with the Florida Department of Agriculture and Consumer Services (FDACS) and local native plant societies to address any impacts to protected plants
- ***No adverse effect anticipated***

*Turnpike indicated that there have been no observations of protected plant species. There is limited natural habitat present within the project area. Turnpike does not anticipate observations of protected plant species but will continue to look for them as other surveys are conducted. Turnpike will coordinate with local native plant societies and FDACS to address any issues. No effect anticipated.*

*FWC had no comment.*

**11. Southern fox squirrel**

- Potential habitat with project area
- No observations within the project area
- Pre-construction surveys
- No impacts anticipated
- ***No adverse effect anticipated***

*Turnpike stated that southern fox squirrel nests are protected. Pre-construction surveys will take place to document any potential nests. If the nests cannot be avoided, then Turnpike will coordinate with FWC as necessary.*

*FWC provided no comment.*

**12. Osprey**

- No nests within the project area
- Design surveys
- Inactive nest removal
- ***No adverse effect anticipated***

*Turnpike indicated that there are currently no nests within the project area. However, if a nest is observed within the proposed construction area, it will be removed during the Design phase. Turnpike only removes inactive nests.*

*FWC had no comment*.

**13. Federal Species**

- Species being addressed with USFWS include:
  - Eastern indigo snake (*Drymarchon couperi*)
  - Bluetail mole skink (*Plestiodon egregius lividus*)
  - Sand skink (*Plestiodon reynoldsi*)
  - Florida scrub-jay (*Aphelocoma coerulescens*)

- Audubon's crested caracara (*Caracara cheriway*)
- Wood stork (*Mycteria americana*)
- Everglade snail kite (*Rostrhamus sociabilis*)
- Florida grasshopper sparrow (*Ammodramus savannarum floridanus)*
- Florida bonneted bat (*Eumops floridanus*)
- Florida panther (*Puma concolor couguar*)
- Bald eagle (*Haliaeetus leucocephalus*)

*Turnpike indicated that discussions with USFWS for federal species are ongoing and will continue throughout the Design phase.*

**14. Anticipated Permits**

- Section 404 Dredge and Fill Permit (USACE)
- Environmental Resource Permit (ERP – SWFWMD)
- National Pollutant Discharge Elimination System (NPDES – FDEP)
- Gopher Tortoise Relocation Permit (as necessary) (FFWCC)
- Incidental Take Permit (as necessary – FFWCC)
- Incidental Take Permit (as necessary – USFWS)

*Turnpike listed the anticipated permits. A state listed species ITP is not currently anticipated but Turnpike will coordinate with FWC during the Design phase.*

*FWC had no comment.*

**15. Wildlife Corridor/Crossings**

- FWS ETAT comment to provide wildlife passage over the Peace River (creek)
- Critical habitat, document use/need, conservation land adjacent, etc.
- Current proposed design

*Turnpike indicated that Peace Creek Drainage Canal was part of the Clear Springs Mine and is a reclaimed system. Turnpike requested FWC's opinion on the project area, specifically, the Drainage Canal as being a significant wildlife corridor to determine if wildlife crossings should be included in the concept plans. Currently, there are no wildlife crossings proposed because the FDOT Wildlife Crossing Guidelines do not indicate they are warranted. No critical habitat or conservation lands exist on either side of the proposed roadway. However, the current PD&E concept includes a large bridge over the drainage canal floodplain to avoid impacts.*

*FWC responded that if bridging the entire floodplain, then it likely provides connectivity anyways.*

*Turnpike inquired if changes with the current PD&E concept plans occur which reduces or eliminates the proposed bridge over the Drainage Canal, would additional wildlife crossing(s) need to be considered?*

*FWC responded that this area would be a low priority area because of the artificial nature. Additionally, the project area consists mostly of pasture right up to the bank of the Peace Creek Drainage Canal. A general wildlife crossing will likely be addressed because of the need for a bridge. This is not the typical area FWC would prioritize for a wildlife crossing. A bridge is better*

*than a culvert. No black bears, panther or their habitat present; therefore, a wildlife crossing would not be a priority or requested.*

*Turnpike indicated that there are no other wildlife connectivity issues proposed to be addressed.*

*FWC agreed with the approach.*

**16. Roundtable/Questions/Comments**

*FWC indicated the multi-species ITP to address potential construction encounters discussed during the Segment 1 would require some time for internal discussion. FWC has experienced a large turnover in staff and they will require some time for new staff to become settled.*

*Turnpike indicated they would check back in with FWC in 6 months to a year, or possibly closer to permitting for Segment 1.*

# *APPENDIX P*

## SWFWMD Pre-Application Meeting Notes

**FINANCIAL PROJECT NO.: 440897-4-22-01**
**CENTRAL POLK PARKWAY PD&E FROM US 17 (SR 35) TO SR 60**
**PROJECT DEVELOPMENT & ENVIRONMENT STUDY**
**PRE-APPLICATION MEETING WITH THE SWFWMD**
**April 16, 2020 AT 10 am via Microsoft Teams Meeting**

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*Note: The italicized text below in the meeting agenda are the topic points and notes that were discussed throughout the meeting.*

**Attendees**
SWFWMD: Dave Kramer, Gaya Sharpe, Albert Gagne, Rob McDaniel FTE: Phillip Stein, Stephanie Underwood, Tiffany Crosby, Adriana Kirwan, Annemarie Hammond, Fred Gaines, Erin Yao KCA: Ali Tayebnejad, Nicole Selly, Tom Presby

## I. Introductions

The Central Polk Parkway Segment 2 project is currently in the FDOT Project Development and Environment (PD&E) study phase with the no-build option remaining a viable option through the public hearing. If the PD&E study results in a preferred alignment, the proposed project is being evaluated as a four lane extension of the Central Polk Parkway Segment 1 from SR 35 (U.S. 17) to SR 60, approximately 2.2 miles in Polk County. Access to this new alignment, if viable, is being proposed from the south at SR 60 by an at-grade intersection and the facility will feature All-Electronic Tolling (AET). This project also includes a new interchange at SR 35 (U.S. 17). The purpose of this meeting is to discuss and review the environmental and drainage permitting requirements.

*Fred Gaines provided overview of the project and purpose for the meeting.*

*Tom Presby provided a detailed overview of the project.*

## II. Summary of Drainage Approach

- Existing condition
  - The project has open basins that outfall to Lake Hancock to the north, Peace Creek in the middle, and Upper Peace River at the south end of the project.
  - Existing permits
- Joint use pond opportunities
  - Any projects to improve Peace Creek or upper Peace River water quality that this project can benefit by partnering?
  - *Ali Tayebnejad asked, if there are any other projects that the SWFWMD is aware of that the CPP project can partner with?*
  - *Dave Kramer stated that he was not aware of any, but would ask district staff the question.*
- Stormwater criteria
  - Water Quality: For wet detention, treatment will be provided for the first one inch of stormwater runoff from the contributing basin.
  - Water Quantity: For an open basin, the 25-year/24-hour post-development peak discharge rate must be attenuated to no greater than the 25-year/24-hour pre-development discharge rate.
- Stormwater management facilities (SMF), and floodplain compensation (FPC) sites will be

sized for an ultimate six-lane typical section.

- Four stormwater ponds and four floodplain compensation ponds are being evaluated in the PD&E Pond Siting Report.
- The project crosses three basins: Lake Hancock, Peace Creek, and Upper Peace River
    - SFM 1 is located in the Lake Hancock basin.
    - There is anticipated treatment credit from the regional pond in FPID No. 440897-2_ CPP Segment 1 to the north.
    - *Fred Gaines noted that this could be done for the future*
    - *Dave Kramer noted the concept works for SWFWMD – the size of the area was discussed in the previous meeting and SWFWMD agreed*
    - *Rob McDaniel noted that the WBID map shows 2 different basins – they show the basin south of U.S. 17 flows south*
    - *Ali Tayebnejad noted that basin boundaries used for both SWFWMD Lake Hancock and Peace Creek models show this area is flowing to Lake Hancock. Reviewing the lidar contours, shows that once the two existing wetland/ponds fill up it flows north through a cross drain under U.S. 17.*
    - *Rob McDaniel said to document this and provide to SWFWMD*
    - *Fred Gaines noted that there are numerous WBIDS – KCA design to show how the water flows*
    - *Rob McDaniel noted that he was looking at site specific topography – show how it flows today*
    - SMF 2 and 3 are located in Peace Creek basin.
    - The Turnpike is coordinating whether there may be treatment credit from the City of Winter Heaven's Sustainable Water Resource Management Plans which is planning to provide large storage lakes within the Peace Creek upstream of our project. This coordination will continue through the design phase.
    - SMF 4b1, and 4b2 are located in the upper Peace River basin
- The Upper Peace River and the Lake Hancock are impaired for nutrients, but do not directly connect to our project, therefore nutrient loading calculations are not required
- The project concept it is being evaluated is crossing the Peace Creek 2400' floodplain and 1200' regulated floodway with a bridge spanning both.
- Floodplain encroachments were evaluated using the latest FEMA effective maps dated 12/22/2016.
- Floodplain compensation is provided using cup-for-cup methodology in FPC 1 through 4.
- *Rob McDaniel noted KCA was using the FEMA Maps*
- *Did KCA look at ay models?*
- *Ali Tayebnejad-yes, we did, but FEMA map was more conservative and was used.*
- *Rob McDaniel asked if KCA was relying on the City of Winter Haven*
- *Ali Tayebnejad noted that additional coordination was needed with the City of Winter Haven and the ponds we show are conceptual and do not rely on the City of Winter Heaven treatment credit. The ponds that the City showed are also conceptual.*
- *Tiffany Crosby asked if the design was stacking the floodplain volume on top of the stormwater volume the same as the design project.*
- *Ali Tayebnejad said not doing this for the PD&E project*
- *Fred Gaines noted that the ponds and FPC's shown today are completely preliminary…. Design will refine more and discuss in a future meeting with SWFWMD.*

## III. Environmental

- **Wetlands/Surface Waters**
  - 15 wetlands and 4 surface waters
  - Overall (48.69 acres) with 16.01 acres of anticipated impacts – Mainline and Proposed Pond Sites
    - Herbaceous (9.74 acres)
    - Forested (0.28 acres)
    - Channels (0.57 acres)
    - Reservoirs (5.43 acres)
    - Potential wetland impacts WL 1, WL 2, WL 3a, WL 3b, and SW 1 will be mitigated for with the permitting of Central Polk Parkway Segment 1 Design
  - Three Mitigation Banks within Peace River Basin
    - Boran Ranch Mitigation Bank
    - Peace River Mitigation Bank
    - Circle B Bar Mitigation Bank
    - *KCA to remove review mitigation banks and remove Circle B Bar from documents*
- **Protected Species**
  - Technical Assistance with FFWCC and USFWS conducted March 2020 and will continue through design.
- **Anticipated Permits**
  - Individual Environmental Resource Permit – SWFWMD