STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TECHNICAL REPORT COVERSHEET

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ENVIRONMENTAL
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Natural Resources Evaluation Technical Memorandum

Florida Department of Transportation

District Seven

US 41 (SR 45)

Limits of Project: North of North Sportsman Point to North of East Arlington Street

Citrus, Florida

Financial Management Number: 257165-5

ETDM Number: N/A

Date: September 2023

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by the Federal Highway Administration and FDOT.

Natural Resources Evaluation
Technical Memorandum

US 41 (SR 45) from North of N Sportsman Point to North of E Arlington Street
Design Change and Right-of-Way Re-evaluation
Work Program Item Segment #257165-5-52-01

Citrus County, Florida

Prepared for:

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District Seven
District Environmental Management Office
11201 North McKinley Drive
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September 2023

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is proposing improvements to US 41 (State Road (SR) 45) from north of North (N) Sportsman Point to north of East (E) Arlington Street in Citrus County, Florida (Work Program Item Segment (WPIS) 257165-5-52-01). The proposed improvements consist of widening US 41 (SR 45) from its current two-lane rural section to a four-lane urban section for a distance of approximately 0.77 mile.

A Type II Categorical Exclusion (CE) was approved in 1996 for US 41 (SR 45) from SR 44 to the West Marion County Line (WPIS 237811-1) that included this project. A Design Change (DC) Re-evaluation of the project was conducted and approved in 1999 under WPIS 257165-1. A DC/Right-of-Way (ROW) Re-evaluation is currently underway based on Phase II design plans for this segment (WPIS 257165-5-52-01) of US 41 (SR 45).

This Natural Resources Evaluation (NRE) Technical Memorandum was prepared in support of the current Re-evaluation and documents the potential for protected species, wetlands and other surface waters (OSWs), and Essential Fish Habitat (EFH) involvement for the proposed improvements. The limit of disturbance for the proposed improvements, including the proposed Stormwater Management Facility (SMF), is referred to as the project area throughout the report. To evaluate land use and the potential effect to protected species, a buffer of 300-feet (ft) was utilized from the centerline of US 41 (SR 45). The project area with the buffer is referred to as the project action area. The project action area is anticipated to encompass areas that may be affected both directly and indirectly by the proposed action.

Protected Species and Habitat

The project action area was assessed for the presence of and suitable habitat for federal and state protected species in accordance with 50 Code of Federal Regulations (CFR) Part 402 of the Endangered Species Act (ESA) of 1973, as amended, Chapter 5B-40: *Preservation of Native Flora of Florida*, Florida Administrative Code (FAC), Chapter 68A-27: *Rules Relating to Endangered or Threatened Species* (FAC), and *Part 2, Chapter 16-Protected Species and Habitat* of the FDOT Project Development and Environment (PD&E) Manual.

No federally listed plant species were determined to have the potential to occur in the project action area based on a review of the Florida Natural Areas Inventory (FNAI) and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) databases. Additionally, no federally listed plant species were observed in or adjacent to the project action area during field reviews conducted in April, May, and June 2023. Therefore, the proposed improvements are anticipated to have "***no effect***" on federally protected plant species. Twelve state-listed plant species that potentially occur in Citrus County were evaluated. Eleven of the state-listed plant species were determined to have no potential to occur in the project action area due to a lack of suitable habitat and no documented occurrences. Potentially appropriate habitat for the Florida spiny pod (*Matelea floridana*) is present in

the project action area. However, there are no documented observations, and none were observed during field reviews in the project action area. If this species or other protected plant species are observed prior to construction, appropriate coordination will occur with the Florida Department of Agriculture and Consumer Services (FDACS). Therefore, there is **no effect anticipated** for state-listed plant species by the proposed project improvements.

The USFWS IPaC indicates the project limits are within the range for the loggerhead sea turtle (*Caretta caretta*); however, no suitable habitat is within the project limit. Therefore, the project will have "***no effect***" on the loggerhead sea turtle.

Table ES-1 below provides a summary of federal- and state-listed faunal species that have the potential to occur in the area with an effect determination for the proposed project action area. Only species officially listed as endangered or threatened by the USFWS or Florida Fish and Wildlife Conservation Commission (FWC) are given an effect determination.

Table ES-1 Protected Faunal Species Potentially Occurring in the Project Action Area

Scientific Name	Common Name	Federal Status	State Status	Effect Determination
Athene cunicularia floridana	Florida Burrowing Owl	-	ST	No Effect Anticipated
Laterallus jamaicensis jamaicensis	Eastern Black Rail	FT	FT	No Effect
Grus americana	Whooping Crane	EXPN	--	-
Picoides borealis	Red-Cockaded Woodpecker	FE	FE	No Effect
Aphelocoma coerulescens	Florida Scrub-Jay	FT	FT	No Effect
Egretta caerulea	Little Blue Heron	-	ST	No Adverse Effect Anticipated
Falco sparverius paulus	Southeastern American Kestrel	-	ST	No Effect Anticipated
Grus canadensis pratensis	Florida Sandhill Crane	-	ST	No Adverse Effect Anticipated
Haliaeetus leucocephalus	Bald Eagle	MBTA+	-	-
Drymarchon couperi	Eastern Indigo Snake	FT	FT	MANLAA
Lampropeltis extenuatum	Short-Tailed Snake	-	ST	No Effect Anticipated
Gopherus polyphemus	Gopher Tortoise	-	ST	No Adverse Effect Anticipated
Danaus pleixppus	Monarch Butterfly	C	-	-
Ursus americanus floridanus	Florida Black Bear	-	FBBMP	-

Legend: FE-Federally-Designated Endangered; FT-Federally-Designated Threatened; ST -State-Designated Threatened; C-Candidate; EXPN-Non-Essential Experimental Population; MBTA-Migratory Bird Treaty Act; MANLAA-may affect, but not likely to adversely affect; +-Also protected under the Bald and Golden Eagle Protection Act (BGEPA); FBBMP-Florida Black Bear Management Plan

The proposed improvements are within the USFWS Consultation Area for the red-cockaded woodpecker (RCW) (*Picoides borealis*) and the Florida scrub-jay (*Aphelocoma coerulescens*). However, there is no suitable habitat for the RCW or Florida scrub-jay in the project action area. The lack of suitable habitat was based on database reviews, field surveys, and a lack of historical or current observations of either species in the project action area. Therefore, the proposed improvements are anticipated to have "***no effect***" on the RCW and Florida scrub-jay.

The USFWS *Eastern Indigo Snake Programmatic Effect Determination Key* (revised August 2013) was used to determine that the proposed improvement "***may affect, but is not likely to adversely affect***" the eastern indigo snake (*Drymarchon couperi*).

Although no longer listed, the bald eagle (*Haliaeetus leucocephalus*) is protected by the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA), and the project was evaluated for the presence of bald eagle nests. The project action area is not within the 660-ft protection zone of any bald eagle nest. The Florida black bear (*Ursus americanus floridanus*) was delisted by FWC in June 2012, but is protected and managed under the Florida Black Bear Management Plan. The FWC Black Bear Related Calls layer in the FDOT Environmental Screening Tool (EST) shows an observation of a Florida black bear adjacent to E Flying Eagle Court, approximately 0.25 miles from the project limit. In addition, the FWC distribution map indicates that the project action area is in the "common" range of the Florida black bear.

There is no USFWS designated Critical Habitat within the project action area.

Wetlands and Other Surface Waters

Pursuant to Presidential Executive Order 11990 entitled *Protection of Wetlands*, (May 1977), the US Department of Transportation (USDOT) developed a policy, *Preservation of the Nation's Wetlands* (USDOT Order 5660.1A), dated August 24, 1978, which requires all federally funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, as well as *Part 2, Chapter 9 – Wetlands and Other Surface Waters* of the FDOT PD&E Manual, the proposed project area was evaluated for potential impacts to wetlands and OSWs.

Database and field reviews were conducted to determine if wetlands and OSWs were within the project area. Lake Connell is located adjacent to the proposed SMF 6c site. Impacts, resulting from construction of an outfall from SMF 6c, are limited to 0.04 acre (ac) to the emergent wetland (Wetland 3 [WL 3]) that borders Lake Connell, and 0.09 ac of OSW impacts at Lake Connell. Total Functional Loss (FL) was estimated at 0.019 units based on an analysis using the Uniform Mitigation Assessment Methodology (UMAM). No mitigation is anticipated to be required for the outfall impacts which are considered de minimis, with any loss of wetland function anticipated to be replaced by the proposed SMF.

Essential Fish Habitat

The proposed improvement was evaluated for EFH in accordance *with Part 2, Chapter 17- Essential Fish Habitat* of the FDOT PD&E Manual and the requirements of the Magnuson-Stevens Fishery

Conservation and Management Act (MSFCMA) of 1996. The EFH analysis assesses waters and substrate necessary to fish for spawning, breeding, feeding, and development to maturity. There are no estuarine or marine waters in the project action area that provide EFH. Therefore, there will be no involvement with EFH for the proposed improvement.

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1 INTRODUCTION

1.1 Project Description

The Florida Department of Transportation (FDOT) is proposing the widening of US 41 (State Road (SR) 45) from north of North (N) Sportsman Point to north of East (E) Arlington Street in Citrus County, Florida (Work Program Item Segment (WPIS) 257165-5-52-01). Project location maps are provided in **Appendix A**. The proposed improvements consist of widening US 41 (SR 45) from its current two-lane rural section to a four-lane urban section for a distance of approximately 0.77 mile.

As per the Phase II design plans, the proposed roadway will include two 11-foot (ft) travel lanes, 6-ft wide on-road bike lanes, and 6-ft wide sidewalks in both directions separated by an 18 to 22-ft raised concrete median with a design speed of 40 miles per hour (mph).

The project has been designed in accordance with state water quality criteria, pursuant to Clean Water Act Section 401 Water Quality Certification, and best management practices (BMPs) will be implemented during construction to avoid water quality degradation. The stormwater management system will utilize a pond to meet the Southwest Florida Water Management District (SWFWMD) permitting requirements for treatment and attenuation. The stormwater management system is currently being designed. The proposed Stormwater Management Facility (SMF) 6c, as shown on the Phase II design plans, is included in this evaluation. SMF 6c is shown on **Appendix B, Figures 3, 4, and 5** and **Appendix C, Figure 6**. The Photo Exhibit in **Appendix D** provides photographs of the proposed SMF 6c site. The stormwater management system is anticipated to be submitted in August 2024 for review by the SWFWMD.

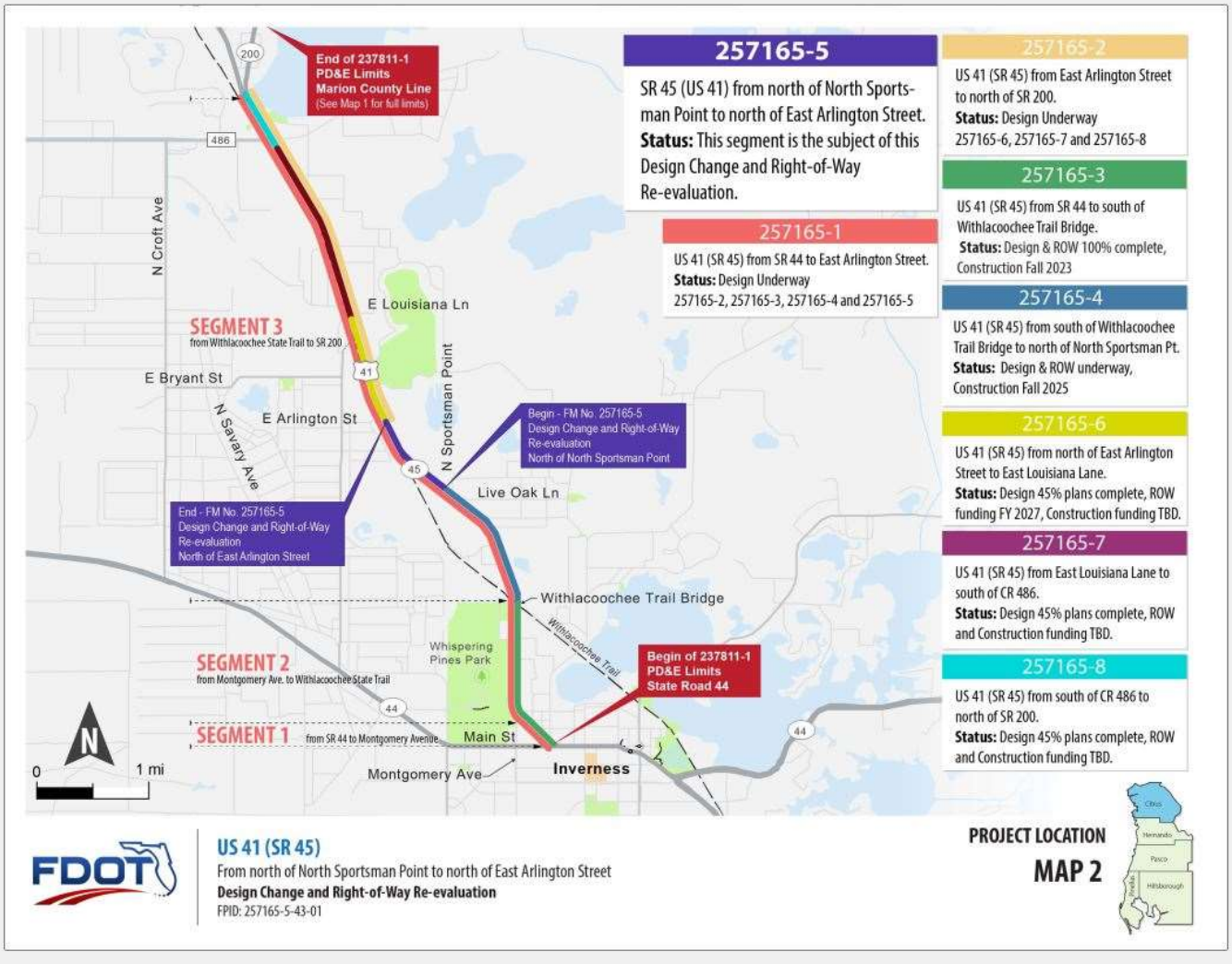
The limit of disturbance for the proposed improvements, including the SMF, is referred to as the project area throughout the report. To evaluate land use and potential protected species habitat, a buffer of 300-ft was utilized from the centerline of US 41 (SR 45). The project area with the buffer is referred to as the project action area. The project action area is anticipated to encompass areas that may be affected both directly and indirectly by the proposed action.

1.2 Project History

A Type 2 Categorical Exclusion (CE) document was approved by the Federal Highway Administration (FHWA) on February 21, 1996 for US 41 (SR 45) from SR 44 to the West Marion County line under WPIS 237811-1, a total of 16.87 miles. A Design Change (DC) Re-evaluation (WPIS 257165-1) was approved on August 4, 1999, which divided the project into three segments for the purposes of analyzing design alternatives, shifting the alignment from the east side of US 41 (SR 45) to the west side of US 41 (SR 45), and modifying the intersection at SR 200. The limits of the three segments included in the 1999 DC Re-evaluation are as follows: Segment 1: SR 44 to Montgomery Avenue, Segment 2: Montgomery Avenue to the Withlacoochee State Trail, and Segment 3: Withlacoochee State Trail (WST) to SR 200. The 1999 Re-evaluation included 38 SMF alternatives, many of which were eliminated as design progressed for each of the segments as the preferred alternatives were selected.

The current DC/Right-of-Way (ROW) Re-evaluation evaluates changes to the approved typical section within Segment 3 of the 1999 DC Re-evaluation from north of N Sportsman Point to north of E Arlington Street (WPIS 257165-5) that are included in the current Phase II design plans. A map showing the Re-evaluation segments is provided below as **Figure 1-1** (**DC and ROW Re-evaluation Map 2**). The typical section for the Phase II plans considered in the current DC/ROW Re-evaluation is a four-lane divided urban roadway with a total proposed ROW width of 100 ft minimum, whereas the 1999 DC Re-evaluation typical section is a four-lane divided urban section with a total ROW of 100 ft. The median width now varies from 18 ft to 22 ft, whereas the 1999 DC Re-evaluation shows a 22 ft median. The width of the travel lanes was reduced from 12 ft to 11 ft, the border area increased from 11.6 ft to 12 ft, and the bike lane increased from 4 ft to 6 ft wide. The total pavement width remains unchanged. The width of the sidewalks increased from 5 ft to 6 ft.

Figure 1-1 DC and ROW Re-evaluation Map 2



1.3 Purpose of the Project

US 41 (SR 45) is a major north-south road connecting Inverness at SR 44 to Dunnellon in Marion County. This route serves both local traffic and interregional movements. As one of the major routes in Citrus County, US 41 travel demand is anticipated to increase and thus exceed its capacity. The purpose of the project is to reduce congestion and provide better conditions for the movement of safety vehicles, such as fire engines and ambulances, to prevent an increase in accidents which would be likely to occur if congestion worsens, and to improve pedestrian and bicyclists access and movement.

1.4 Purpose of Report

The purpose of this Natural Resources Evaluation (NRE) Technical Memorandum is to document the natural resources analysis performed to support decisions related to the evaluation of the project Preferred Alternative and to summarize potential impacts to wetlands and other surface waters (OSWs), federal and state protected species, and Essential Fish Habitat (EFH). Measures considered to avoid, minimize, and mitigation for potential impacts resulting from the proposed project are also discussed. This NRE Technical Memorandum was conducted in accordance with the Project Development and Environment (PD&E) manual and applicable State and Federal natural resources regulations.

There are no estuarine or marine waters in the project action area that would provide EFH. Therefore, there will be no involvement with EFH for the proposed improvement.

1.5 Project Location

The proposed project is located in Section 1 of Township 19 South, Range 19 East (**Appendix A, Figure 1 - Project Quadrangle Map**) in Citrus County. The approximate latitude/longitude coordinates begin at 28.863333/-82.354226 and ends at 28.871898/-82.361430. The project is located northwest of Inverness, Florida (See **Appendix A, Figure 2 - Project Location Map**).

2 EXISTING ENVIRONMENTAL CONDITIONS

2.1 Existing Land Use

For evaluating the existing land use, a 300-ft buffer was created from the centerline of US 41 (SR 45) on each side of the roadway and around the SMF site. The area within the 300-ft buffer is referred to as the project action area. Desktop and document reviews were conducted for the project action area using the SWFWMD land use database and current aerial images. The FDOT Florida Land Use, Cover and Forms Classification System (FLUCFCS) Map is provided in **Appendix B, Figure 3**. Field evaluations were conducted for the project action area on April 13, May 3, and June 13, 2023 to confirm the FLUCFCS codes and to better define wetland and OSW boundaries. The SWFWMD FLUCFCS map did not indicate the area comprised of roadway (FLUCFCS 8140). The map was modified to indicate the paved surface of the road, shoulders, and slopes as roads and highways (FLUCFCS 8140).

Table 2-1 provides a summary of the existing land use within the project action area.

Table 2-1 Existing Land Use in the Project Action Area

Land Use Type	FLUCFCS Code	Acreage within the Action Area	Percent of Total Acreage*
Residential (Low Density)	1100	2.64	4.36
Residential (Medium Density)	1200	0.28	0.47
Commercial and Services	1400	16.49	27.18
Open Land	1900	6.29	10.37
Cropland and Pastureland	2100	0.10	0.16
Other Open Lands	2600	5.82	9.59
Upland Hardwood-Coniferous Mix	4340	21.90	36.10
Lakes	5200	0.29	0.48
Freshwater Marsh	6410	<0.01	0.00
Wet Prairie	6430	1.16	1.91
Roads and Highways	8140	5.69	9.38
TOTAL		**60.66**	**100**

The land use within the project action area consists primarily of mixed upland forest (36.10%) and developed lands (Residential [4.83%], Commercial and Services [27.18%], and Transportation [9.38%]). Open undeveloped land (Open Land [10.37%] and Other Open Lands [9.59%]), cropland and pastureland (0.16%), lakes (0.48%), and wetlands (Freshwater Marsh [<0.01%] and Wet Prairie [1.91%]) are also within the project action area.

2.2 Natural and Biological Features

Available habitat for protected species, potential wetland and OSW involvement, and current land usage was evaluated by reviewing aerial imagery and pertinent available data sources including soils data from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), 2022 SWFWMD FLUCFCS data, and the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI). A FLUCFCS Map showing land uses in the project action area is provided as **Appendix B, Figure 3**. The soils map and USFWS NWI map used to evaluate the project area are provided **Appendix B, Figure 4** and **Appendix B, Figure 5**, respectively.

The FDOT conducted field inspections on April 13, May 3, and June 13, 2023 to verify wetland and OSW jurisdictional boundaries, evaluate wetland characteristics, survey seasonal high-water levels, and determine potential wildlife habitat and usage. The wetland and OSWs boundary delineations were done in accordance with Chapter 62-340 of the Florida Administrative Code (FAC), the *Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1)*, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (2008). Upland hardwood-coniferous mixed forested areas were evaluated for the potential to provide foraging or nesting habitat for the red-cockaded woodpecker (RCW).

2.2.1 Upland Communities

Developed upland land uses comprise 41.39% of the project action area and consists of Low Density Residential areas (FLUCFCS 1100), Medium Density Residential areas (FLUCFCS 1200), Commercial and Services (FLUCFCS 1400), and Roads and Highways (FLUCFCS 8140).

Undeveloped upland land uses comprise 56.22% of the project action area and consist of open land (FLUCFCS 1900), cropland and pastureland (FLUCFCS 2100), other open lands (FLUCFCS 2600), and upland hardwood-conifer mixed forests (FLUCFCS 4340). These land uses are described below.

2.2.1.1 Urban Open Land (FLUCFCS 1900)

Open land includes undeveloped land within urban areas and inactive land with street patterns but without structures. Open land typically does not exhibit any indication of intended use. It may be in a transitional state and ultimately will be developed into a typical urban land use. Open land comprises 6.29 acres (ac) of the total project action area.

2.2.1.2 Cropland and Pastureland (FLUCFCS 2100)

Cropland and pastureland are agricultural land which is managed for the production of row or field crops and improved, unimproved, or woodland pastures. This land use is limited to the southeastern corner of the project action area and comprises 0.10 ac.

2.2.1.3 Other Open Lands (FLUCFCS 2600)

The other open lands category includes those agricultural lands whose intended usage cannot be determined. This land use is located on the western side of the project action area in a partially wooded area located between two commercial and services land uses. Other open lands account for 5.82 ac of the total project action area.

2.2.1.4 Upland Mixed Forests (FLUCFCS 4340)

Upland mixed forests are forested areas in which neither upland conifers nor hardwoods achieve a 66 percent canopy dominance. Upland mixed forests comprise a majority of the eastern side of the project action area including a section of the proposed SMF 6c site. Upland mixed forests accounts for 21.90 ac of the total project action area.

2.2.2 Wetland and Other Surface Water Communities

The existing US 41 (SR 45) is located on the eastern edge of the Brooksville Ridge. A NRCS Soils Map that identifies hydric soils can be found in **Appendix B, Figure 4**. The USFWS NWI Map is provided in **Appendix B, Figure 5** that shows wetlands and OSWs within or in the vicinity of the project area. A Wetlands and OSW Location Map is provided as **Appendix C, Figure 6.** The Photo Exhibit in **Appendix D** provides photos of the wetland and OSW anticipated to be impacted by the project**.**

No surface waters or OSWs were identified within the project area with the exception of Lake Connell adjacent to the proposed SMF 6c site. One wetland is located within the project area adjacent to and

associated with Lake Connell. The sections below provide descriptions of the OSW and wetland located within the project area including the NWI Cowardin code, FLUCFCS code, and NRCS soil type.

2.2.2.1 **Descriptions of Surface Water/Wetland**

Lake Connell - Surface Water 3 (SW 3)

Location:	Adjacent to Station (STA) 1208 to 1212 (approximate)
USFWS NWI Code:	L2AB3H
FLUCFCS Code:	5200 – Lakes
NRCS Soil Type:	99 – Water

Lake Connell is located on the east side of US 41 (SR 45), adjacent to SMF 6c. The section of the lake that intersects the project area is identified on the NWI map as Lacustrine, Littoral, Aquatic Bed, Rooted Vascular, Permanently Flooded (L2AB3H). The lake is surrounded by upland areas and does not connect directly to any Waters of the U.S. (WOUS). This surface water is not jurisdictional under Section 404 of the Clean Water Act due to its lack of connection to WOUS but is jurisdictional to the State.

Lake Connell Shoreline - Wetland 3 (WL 3)

Location:	Adjacent to Station (STA) 1208 to 1212 (approximate)
USFWS NWI Code:	L2AB3H/PEM1F
FLUCFCS Code:	6430 – Wet Prairie
NRCS Soil Type:	10 – Pompano fine sand, 0 to 1 percent slopes; 99 – Water

The shoreline of Lake Connell which will be impacted was identified as Wetland 3 (WL 3). This wetland is classified as a Lacustrine, Littoral, Aquatic Bed, Rooted Vascular, Permanently Flooded wetland (L2AB3H) on the NWI map. However, field reviews determined that WL 3 should be more appropriately classified as a Palustrine, Emergent, Persistent, Semi-permanently Flooded wetland (PEM1F). Vegetation noted in WL 3 included predominantly American white waterlily (*Nymphaea odorata*), Peruvian primrose willow (*Ludwigia peruviana*), Mexican primrose willow (*Ludwigia octovalvis*), blue waterhyssop (*Bacopa caroliniana*), buttonbush (*Cephalanthus occidentalis*), and lance-leaved arrowhead (*Sagittaria lancifolia).* Soils were identified by the NRCS map as Pompano find sand, frequently ponded, 0 to 1 percent slopes (hydric) and water. This wetland is not jurisdictional under Section 404 of the Clean Water Act due to its lack of connection or adjacency to WOUS but is jurisdictional to the State. Impacts to WL 3 are limited to the construction of an outfall connection to SMF 6c.

2.3 Soils

Soils within the proposed project area were evaluated using the NRCS *Soil Survey of Citrus County* (Web Soil Survey, accessed May 2023). The soil types found within the project area include Candler fine sand, 0 to 5 percent slopes; Pompano fine sand, frequently ponded, 0 to 1 percent slopes; Tavares fine sand, 0 to 5 percent slopes; and Lake fine sand, 0 to 5 percent slopes and 5 to 8 percent slopes (**Table 2-3**). Pompano fine sand, 0 to 1 percent slopes, is classified as hydric. The remaining soils in the project area are non-hydric. A NRCS Soils Map that identifies hydric soils can be found in **Appendix B**, **Figure 4**.

Table 2-3 Soils in the Proposed Project Area

Map Soil Unit	Soil Description	Hydric	Acreage in Proposed Improvement	Percent of Total Acreage
3	Candler fine sand, 0 to 2 percent slopes	No	2.86	19.18
10	Pompano fine sand, frequently ponded, 0 to 1 percent slopes	Yes	0.11	0.74
11	Tavares fine sand, 0 to 5 percent slopes	No	7.24	48.56
14	Lake fine sand, 0 to 5 percent slopes	No	4.08	27.36
15	Lake fine sand, 5 to 8 percent slopes	No	0.16	1.07
99	Water	N/A	0.46	3.09
TOTAL			**14.91**	**100**

3 PROTECTED SPECIES AND HABITAT

3.1 Methodology

The project action area was evaluated for the presence of protected species and their habitat, in addition to USFWS-designated Critical Habitat in accordance with 50 Code of Federal Regulations (CFR) Part 402 of the Endangered Species Act (ESA) of 1973, as amended; Chapter 5B-40: *Preservation of Native Flora of Florida*, (FAC); Chapter 68A-27: *Rules Relating to Endangered or Threatened Species* (FAC); the Migratory Bird Treaty Act (MBTA) of 1918; and *Part 2, Chapter 16 - Protected Species and Habitat* of the FDOT PD&E Manual.

The following resources were utilized for this assessment:

- USFWS GIS Databases
- FDOT FLUCFCS, 3rd edition 1999
- SWFWMD Land Use Data (2022)
- Microsoft Bing Maps Aerial (2023)
- Florida Natural Areas Inventory (FNAI), Citrus County, Florida
- USFWS Information for Planning and Consultation (IPaC)
- Florida Geographic Data Library (FGDL)
- Florida Geographic Information Office (FGIO)
- Audubon Florida EagleWatch Nest Application (2023)
- Cornell Lab of Ornithology eBird database (2023)

The evaluated species for the project action area are discussed below. The list of potential species was preliminarily identified with a data search of the FNAI biodiversity matrix and the USFWS IPaC database (**Appendix E**). A review of both databases was conducted in May 2023. Historical recorded occurrences of potential species were reviewed, if available, on the FGDL, FGIO, and eBird databases with locations shown on the Historic Protected Species Occurrence Map (**Appendix F, Figure 7**). The species with the potential to occur in the project action area based on habitat types present are listed in **Table 3-1** below with the

likelihood of occurrence rated as low, moderate, high, or none.

The ratings are defined as follows:

- **NONE -** indicates that the species is known to occur in Citrus County, no suitable habitat is present in the project action area and/or immediately adjacent areas, historic recorded occurrences were not indicated in the area, surveys have confirmed a lack of presence, and/or the species is precluded from the area based on its habits or life history.
- **LOW -** indicates that the species is known to occur in Citrus County, suitable habitat is limited in the project action area and/or immediately adjacent areas, historic recorded occurrences were not indicated in the area, and/or the species is unlikely based on what is known about its habits or life history.
- **MODERATE -** indicates the species is known to occur in Citrus County, suitable habitat for that species is present in the proposed improvement and/or immediately adjacent areas, but the species has not been observed in past studies, past or current field surveys, or documented on the database. Species with a moderate rating may require Standard Construction Precautions during construction or additional surveys in construction. Standard Construction Precautions anticipated to be implemented for the project are provided in **Appendix G**.
- **HIGH -** indicates the species occurs in Citrus County, is suspected within the project action area based on known ranges and existence of sufficient preferred habitat in the project action area and/or immediately adjacent areas and has been previously observed or documented in the vicinity.

Table 3-1 Potentially Occurring Protected Species in the US 41 (SR 45) Project Action Area

SPECIES	COMMON NAME	FEDERAL LISTING (USFWS/ FDACS)	STATE LISTING (FWC)	HABITAT	PROBABILITY OF PRESENCE OR OCCURRENCE
BIRDS					
Athene cunicularia floridana	Florida Burrowing Owl	-	ST	Dry prairies, open grassland, open land	Low
Laterallus jamaicensis jamaicensis	Eastern Black Rail	FT	FT	Freshwater or saltwater marshes with dense vegetative cover	None
Grus americana	Whooping Crane	EXPN	FE	Shallow marshes, open grasslands	Low
Picoides borealis	Red-Cockaded Woodpecker	FE	FE	Open mature pine woodlands with a diversity of grass, forb and shrub species. Pine flatwoods, mixed longleaf and slash pine forests. Prefer mature pines.	None
Aphelocoma coerulescens	Florida Scrub-Jay	FT	FT	Scattered, often small and isolated patches of sand pine scrub, xeric oak scrub, and scrubby flatwoods	None
Egretta caerulea	Little Blue Heron	-	ST	Estuarine, lacustrine, riverine, tidal marsh, tidal swamp	Low
Grus canadensis pratensis	Florida Sandhill Crane	-	ST	Dry prairies, freshwater marshes, wet prairies	Low
Falco sparverius paulus	Southeastern American Kestrel	-	ST	Open fields and pastures with snags	Low
Haliaeetus leucocephalus	Bald Eagle	MBTA+	-	Estuarine, lacustrine, riverine, tidal marsh, tidal swamp	Low
REPTILES					
Drymarchon couperi	Eastern Indigo Snake	FT	FT	Various upland and some wetland habitats, associated with gopher tortoise burrows	High
Lampropeltis extenuatum	Short-tailed Snake	-	ST	Sandy soils in longleaf pine stands and xeric oak sandhills, scrub, xeric hammocks.	None
Gopherus polyphemus	Gopher Tortoise	-	ST	Xeric upland habitats, roadside grassed areas adjacent to natural habitats	High
MAMMALS					
Ursus americanus floridanus	Florida Black Bear	-	FBBMP	Highly variable (flatwoods, swamps, scrub oak, bayheads); prefer dense understory.	Low
INSECTS					
Danaus plexippus	Monarch Butterfly	C	-	Fields, roadside, open area, wet areas with milkweed and/or other flowering plants.	Low

SPECIES	COMMON NAME	FEDERAL LISTING (USFWS/ FDACS)	STATE LISTING (FWC)	HABITAT	PROBABILITY OF PRESENCE OR OCCURRENCE
PLANTS					
Agrimonia incisa	Incised Groove-Bur	-	ST	Fire maintained sandhill, upland pine, and mixed woodland. Open pine woods, old roads, edges of hardwood forest or mesic habitats	None
Asplenium verecundum	Modest spleenwort	-	SE	Rockland hammocks, sinkholes, limestone outcrops	None
Calopogon multiflorus	Many-Flowered Grass-Pink	-	ST	Dry to moist flatwoods with longleaf pine, wiregrass, and saw palmetto	None
Centrosema arenicola	Sand Butterfly Pea	-	SE	Sandhill, scrubby flatwoods, dry upland woods; fire maintained	None
Matelea floridana	Florida Spiny Pod	-	SE	Sandhill, upland pine, dry hammocks	Low
Montropsis reynoldsiae	Pygmy Pipes	-	SE	Upland hardwood forests, sand pine and oak scrub.	None
Nemastylis floridana	Celestial Lily	-	SE	Wet flatwoods, prairies, marshes, cabbage palm hammock edges.	None
Nolina atopocarpa	Florida Beargrass	-	ST	Grassy areas of mesic and wet flatwoods	None
Pteroglossaspis ecristata	Giant Orchid	-	ST	Sandhill, scrub, pine flatwoods, pine rocklands, old fields	None
Pycnanthemum floridanum	Florida Mountain-Mint	-	ST	In sandhill communities in moist areas; roadside ditches, shade intolerant	None
Spigelia loganioides	Pinkroot	-	SE	Floodplain forests, upland and hydric hardwood hammocks over limestone	None
Triphora craigheadii	Craighead's Nodding-Caps	-	SE	Mesic hardwood hammocks	None

FE-Federally-Designated Endangered; FT-Federally-Designated Threatened; EXPN-Experimental, Non-Essential Population; ST – State-Designated Threatened; C-Candidate Species; MBTA- Migratory Bird Treaty Act; +- also protected under the Bald and Golden Eagle Protection Act (BGEPA); FWC-Florida Fish and Wildlife Conservation Commission; USFWS-US Fish and Wildlife Service; FBBMP-Florida Black Bear Management Plan; FDACS-Florida Department of Agriculture and Consumer Services

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3.2 Previous Agency Coordination

The 1996 Type II CE and the 1999 Re-evaluation concluded there was no potential significant impact or effect to protected species from the proposed improvements. Coordination with the Florida Fish and Wildlife Conservation Commission (FWC) for this project is anticipated to occur in August 2024 when the SWFWMD permit application is submitted.

3.3 Federally Listed Faunal Species

In November 2010, the FWC established an imperiled species rule which states that all species listed by the USFWS and National Marine Fisheries Service (NMFS) that occur in Florida are also included on the Florida Endangered and Threatened Species List as Federally-designated Endangered, Federally-designated Threatened, Federally-designated Due to Similarity of Appearance, or Federally-designated Non-Essential Experimental population species. Thus, all federally listed species evaluated below are also state-listed species protected by the FWC. The USFWS IPaC provided the federal listed species with the potential to occur in the vicinity of the project limits. Historical species observation data was provided by the Florida Geographic Data Library (FGDL); Florida Geographic Information Office (FGIO); Audubon Florida EagleWatch Nest Application (2023); Cornell Lab of Ornithology eBird database (2023), FNAI data, and FWC databases.

The loggerhead sea turtle was listed on the USFWS IPaC report generated for the project action area. However, as an estuarine/marine species, the loggerhead sea turtle has no potential to occur in the vicinity of the project or within the project limits. The project will have "***no effect***" on the loggerhead sea turtle.

3.3.1 Eastern Black Rail

The eastern black rail (*Laterallus jamaicensis jamaicensis*) is federally listed as threatened. This species can be found in salt and brackish marshes as well as densely vegetated upper tidal marshes along the Gulf coast from Florida to Texas. The eastern black rail has been documented in inland marshes of the Florida peninsula. The eastern black rail's preferred habitat is within grasses of marshes that have dense, emergent cover.

A review of the eBird database (https://eBird.org/home) indicated no observations of the eastern black rail in the project action area, and none were observed during field reviews conducted in the project action area. The proposed project action area does not have areas of marsh with dense, emergent grasses that would provide suitable habitat for the rail. Because the proposed project action area lacks suitable habitat for the species, the probability of occurrence of the species is considered "none". Therefore, the proposed improvements will have "***no effect***" on the eastern black rail.

3.3.2 Florida Scrub-Jay

The Florida scrub-jay (*Aphelocoma coerulescens*) is an endemic species to Florida and federally listed as threatened. The project is within the USFWS Florida Scrub-jay Consultation Area. Scrub-jays are

limited to patches of sand pine scrub, xeric oak scrub, and scrubby flatwoods occurring along well-drained, sandy ridges. There is no suitable habitat that is located within the project action area, and there are no recorded historic observations of the Florida scrub-jay in the project action area as indicated in the FGDL database (sourced from FWC and eBird data). It is noted the FGDL data available was from 2018 or earlier. The FNAI range maps included no Florida scrub-jay presence in the project action area. No scrub-jays or suitable habitat for the species was observed in field reviews conducted in the project action area in April, May, and June 2023, nor have scrub-jays been observed or recorded in or immediately adjacent to the project action area. Because there is no suitable habitat or observations of the species in the project action area, the probability of occurrence of the species is considered "none". Therefore, the project will have "***no effect***" on the Florida scrub-jay.

3.3.3 Red-Cockaded Woodpecker

The RCW (*Picoides borealis*) is federally listed as endangered. The project is within the USFWS RCW Consultation Area. RCWs typically are found in mature old growth, open-understory pine forests, excavating nesting cavities in living, mature pine trees (generally older than 80 years old and minimum of 10 inches in diameter at breast height [dbh]). Longleaf pines (*Pinus palustris*) are commonly preferred, but the RCW also utilizes other pine species.

There are areas identified by the SWFWMD FLUCFCS map (**Appendix B, Figure 3**) as mixed hardwood-coniferous forest in the project action area. These areas provide the only potential foraging or nesting habitat for the red-cockaded woodpecker. The FLUCFCS Map shows the locations where the areas identified as mixed hardwood-coniferous forest (FLUCFCS 4340) are located. These areas were reviewed in the April 2023 field survey to determine their suitability for the RCW as well as to provide a presence/absence survey. Individual longleaf pines were inspected for potential cavities. The dominant tree canopy is comprised of live oak (*Quercus virginiana*) and laurel oak (*Quercus laurifolia)*, with less than 20 percent canopy comprised of longleaf pines. The subcanopy and understory were very dense. Subcanopy and understory vegetation included young live oaks and laurel oaks, American beautyberry (*Callicarpa americana*), grape vine (*Vitus rotundifolia*), and greenbrier (*Smilax* spp.).

Although RCW have been observed within Citrus County, the nearest observation is approximately 2.2 miles from the project action area (refer to the Historic Protected Species Occurrence Map, **Appendix F, Figure 7**).

The field survey, conducted in accordance with Appendix A of the Red-Cockaded Woodpecker Recovery Plan, verified that there is no suitable habitat that is located within or adjacent to the proposed project action area based on:

1) A low coverage and availability of mature pines (less than 20% pine species);
2) A dense understory that is typically not preferred by RCWs;
3) A lack of observations of RCWs or evidence of RCWs during the field survey;
4) A lack of historic documentation or observations of RCWs in the project action area; and
5) No fire maintenance has been conducted in the area to maintain a habitat suitable for RCW.

Because there is no suitable habitat or observations of the species in the project action area, the probability of occurrence of the species is considered "none". Therefore, the project will have "***no effect***" on the RCW.

3.3.4 Whooping Crane

The whooping crane (*Grus americana*) in Florida is a Federally-designated non-essential experimental population which is defined as a population that has been established within its historical range under Section 10(j) of the ESA to aid in its recovery. The USFWS has determined a non-essential population is not necessary for the continued existence of the species. Whooping cranes utilize a variety of habitats including coast marshes and estuaries, inland marshes, lakes, open ponds, shallow bays, salt marsh, pastures and agricultural fields, and sand or tidal flats.

Whooping cranes occurred naturally in the eastern United States until the mid-twentieth century with records of whooping cranes in Florida until the 1930s. However, the only natural whooping crane nesting population currently is located in Wood Buffalo National Park (Canada) that winters in Arkansas National Wildlife Refuge (Texas). The 2011 Five-Year Review of the Whooping Crane (USFWS) identified four populations of whooping cranes, two of which are in Florida. There is a non-migratory population in Central Florida that the FWC introduced between 1993 and 2005. This effort was stopped in 2008 due to survival and reproduction problems. The FWC Fish and Wildlife Research Institute (FWRI) is also involved in a multi-agency project to restore migratory whooping cranes to the eastern United States. Between 2001 and 2017, cranes were taught a migration route using ultra-light aircraft from Wisconsin to Florida.

The USFWS IPaC listed the whooping crane as potentially occurring within the project action area. However, there are no historical observations of the whooping crane in the project action area; the closest sightings include one individual crane in 2017, approximately 1.2 miles away in Inverness, Florida, and a cluster of sightings in 2017, approximately 4.4 miles southeast of the project action area. The probability of whooping cranes being within the project action area is considered low based on these past sightings and nearest known populations (primarily being in Kissimmee, Florida to the southeast and Chassahowitzka Wildlife Management Area to the west).

As per USFWS IPaC, for the purpose of consultation, non-essential experimental populations are treated as threatened species on National Wildlife Refuge and National Park land, requiring consultation under Section 7(a)(2) of the ESA. However, for non-federal lands, they are treated as proposed species that do not require consultation. Therefore, consultation of the whooping crane is not required at this time based on their status, low probability of occurrence, and lack of historical observations in the project action area.

3.3.5 Eastern Indigo Snake

Eastern indigo snakes (*Drymarchon couperi*) are federally listed as threatened. The eastern indigo snake occurs in a wide variety of habitats, including forested uplands, dry prairies, and wetlands. They are known to use gopher tortoise (*Gopherus polyphemus*) burrows or other holes and cavities as refugia. No critical habitat for the eastern indigo snake has been designated by the USFWS.

No eastern indigo snakes were observed during field surveys and the nearest observation of an eastern indigo snake is approximately two miles away. Suitable habitat for this species occurs within and adjacent to the project action area. However, the project action area does not have habitat that would be considered xeric and supports less than 25 potentially occupied tortoise burrows. Should more than 25 gopher tortoise burrows (active and inactive) be identified within the proposed improvement by the 100% gopher tortoise survey to occur prior to construction, the FDOT will initiate ESA Section 7 Consultation with the USFWS. The potential for occurrence is considered "high". To assure the protection of this species during construction, the FDOT will implement the most recent USFWS *Standard Protection Measures for the Eastern Indigo Snake* (**Appendix G**). If an eastern indigo snake is encountered, the snake will be allowed to vacate the area prior to additional manipulation in the area. Holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned manipulation of the site, and no work will commence until the snake has vacated the vicinity of the proposed work. The *Eastern Indigo Snake Programmatic Effect Determination Key* (revised August 2013) (**Appendix H**) was utilized to make the effect determination for this species. Based on the key, the proposed improvements "***may affect, but are not likely to adversely affect***" the eastern indigo snake (**A->B->C->D->E->MANLAA**).

3.3.6 Monarch Butterfly

The monarch butterfly (*Danaus plexippus*) was identified as a candidate species for protection under the ESA by the USFWS on May 3, 2022. It is not yet proposed for listing and does not have designated Critical Habitat. Within North America, the monarch butterfly is a highly migratory species which typically winters in Mexico. This species requires a diversity of blooming nectar resources but of particular importance is milkweed (*Asclepias spp.*). Swamp milkweed (*Asclepias incarnata*) is a microhabitat requirement for this species to both deposit eggs and as a larval nutrition source. Swamp milkweed is typically found in wetland habitats, including wet ditches (USFWS ECOS, 2023). However, swamp milkweed was not observed during field reviews of wetland areas in the project action area. Although there are some shallow roadside swales, there are no wet roadside ditches in the project action area, and the roadside is largely mowed and maintained. The project action area where the outfalls will connect to adjacent wetland areas was inspected for swamp milkweed; swamp milkweed was not observed in those areas. It is possible that milkweed may be present but was not observed during the field surveys. However, the potential for occurrence of the monarch butterfly is considered low based on the limited suitable habitat and the lack of observations of the host plant.

As this species is currently a candidate species and not currently proposed for listing, consultation for this species is not required at this time. Further impact assessment for the species and a formal federal effect determination for the monarch butterfly may be required in the future should it be listed.

3.4 State-Listed Faunal Species

All federally designated species are considered protected by the State. Faunal species which are not federally listed but are state-listed with the potential to occur in the project action area are described below.

3.4.1 Little Blue Heron

The little blue heron (*Egretta caerulea*) is a state-listed threatened species. Nesting occurs in a variety of habitats from freshwater forested wetlands to mangrove islands, with the majority of the listed species utilizing larger trees.

Wetlands and surface waters that provide foraging potential for these species include freshwater marshes, wet prairie, herbaceous ditches/swales, ponds, and riverine systems. The FNAI report generated for the project action area does not include the little blue heron as a as a documented, likely, or potential species, and none were observed during the April, May, and June 2023 field reviews. Limited historical sightings are recorded on the eBird database in the vicinity of the project, although not within the project action area, and the FWC distribution map for the little blue heron includes Citrus County. There will be no permanent impacts to nesting areas or rookeries as they are not located within the project area or project action area. Historically observed wading bird rookery locations are shown on the Historic Protected Species Occurrence Map (**Appendix F, Figure 7**). Potential foraging areas are located on the shorelines of Connell Lake. However, wetland impact is limited to the installation of outfalls, estimated at 0.04 ac. This foraging habitat loss is anticipated to be replaced with the construction of the adjacent SMF. Therefore, there is **no adverse effect anticipated** to the little blue heron as a result of the proposed improvements.

3.4.2 Florida Sandhill Crane

The Florida sandhill crane (*Grus canadensis pratensis*) is listed as a state-listed threatened species. This species is commonly found in wet prairies, marshy lake regions, low-lying pastures (including improved pastures), and shallow water open areas. Foraging areas for the sandhill crane include hydric pine flatwoods, pastures and prairies, as well as upland grassed areas.

Limited suitable foraging habitat for the sandhill crane exists within the proposed project action area. The FNAI report generated for the project action area does not include the Florida sandhill crane as a documented, likely, or potential species, and none were observed during the April, May, and June 2023 field reviews. No sandhill cranes nesting locations or suitable habitat for nesting were observed during the 2023 field reviews. The FWC distribution map for the Florida sandhill crane includes Citrus County, and the eBird database indicated a 2022 sighting of the Florida sandhill crane in Cooter Pond Park, approximately 2.5 miles southeast of the project limits. The probability of occurrence for the Florida sandhill crane within the project action area is considered to be “low”. Impacts to foraging habitat is anticipated to be minimal. Therefore, there is **no adverse effect anticipated** to the Florida sandhill crane as a result of the proposed improvements.

3.4.3 Florida Burrowing Owl

The Florida burrowing owl (*Athene cunicularia floridana*) is a state-listed threatened species. Burrowing owls live in open treeless areas such as native prairies, golf courses, agricultural fields, and vacant lots. Although they typically dig their own burrows, they may also use armadillo or gopher tortoise burrows. The FNAI report indicated that this species has a potential to occur within the project action area. No burrowing owls are documented in the vicinity of the project action area, and none were observed during the April, May, and June 2023 field reviews. There have been no sightings of burrowing owls recorded in

the eBird database in the vicinity of the project action area. Limited, suboptimal habitat for this species may exist within the open land identified in the proposed improvement for this species. The probability of occurrence for the Florida burrowing owl is considered to be "low". If burrowing owls are observed prior to construction, proper coordination will be conducted with the FWC. Based on a lack of presence documented during the field review, and the provision to coordinate should they be observed prior to construction, there is **no effect anticipated** to the Florida burrowing owl as a result of the proposed improvements.

3.4.4 Southeastern American Kestrel

The southeastern American kestrel (*Falco sparverius paulus*) is a state-threatened species. Optimal habitat consists of open fields and pastures with snags for perching and nesting. Suitable habitat for foraging and nesting for the southeastern American kestrel is very limited within the project action area. The FNAI report generated for the project action area does not include the southeastern American kestrel as a documented, likely, or potential species, and no kestrels or kestrel nests were observed during the April, May, and June 2023 field reviews. Based on the eBird database, the closest kestrel sightings to the project action area include a 2021 sighting at the Withlacoochee State Forest – Citrus Wildlife Management Area (approximately 5.5 miles southwest of the project limits), and a 2023 sighting near the Inverness Airport (approximately 4.5 miles southeast of the project limits). The probability of occurrence is considered to be "low". There is **no effect anticipated** to the southeastern American kestrel.

3.4.5 Short-tailed Snake

The short-tailed snake (*Lampropeltis extenuatum*) is a state-listed threatened species. The short-tailed snake primarily inhabits areas of sandy soils in longleaf pine stands and xeric oak sandhills, scrub, and xeric hammocks. The FNAI report indicated that this species has a potential to occur within the project action area. However, there is no suitable habitat for the short-tailed snake present in the project action area, and none were observed during the April, May, and June 2023 field reviews. The probability of occurrence is considered to be "none". Therefore, there is **no effect anticipated** to the short-tailed snake as a result of the proposed improvements.

3.4.6 Gopher Tortoise

The gopher tortoise is a state-listed threatened species. The gopher tortoise occurs in sandhill (pine-turkey oak associations), sand pine scrub, xeric hammock, pine flatwoods, dry prairie, coastal grasslands and dunes and mixed hardwood pine communities. Roadsides and open urban areas may support gopher tortoises.

The FNAI report indicated that this species has a potential to occur within the project action area. Mixed hardwood pine communities, clearings, roadsides with suitable soils, and urban areas are located along the corridor, and gopher tortoise burrows were observed during field reviews. Three potentially occupied (PO) gopher tortoise burrows were observed within the project action area, but outside of the project area (southeastern section) during general wildlife field reviews. The three PO gopher tortoise burrow locations observed during the field reviews are shown on the Protected

Species Observations Map in **Appendix F, Figure 8**. The probability of occurrence is considered to be "high". Any construction activities, including installation of silt fencing and staging of materials and equipment, which occur within 25 ft of a potentially occupied gopher tortoise burrow will require coordination with FWC and relocation of these tortoises to a FWC approved recipient site in accordance with the FWC Gopher Tortoise Permitting Guidelines. Prior to construction, the FDOT will conduct the appropriate 100% gopher tortoise survey, coordinate with the FWC to permit and relocate any gopher tortoises located within 25 ft of the project's limits of construction, and provide compensation as required through that permitting process. With the commitment to survey, coordinate and/or permit as needed, and to relocate gopher tortoises as required, there is **no adverse effect anticipated** to the gopher tortoise as a result of the proposed improvements.

3.5 Other Protected Faunal Species

3.5.1 Bald Eagle

Although the bald eagle (*Haliaeetus leucocephalus*) is no longer federally listed and afforded protection by the ESA of 1973, protection for the species is provided through the Migratory Birds Program per the MBTA and Bald and Golden Eagle Protection Act (BGEPA). Bald eagles are also no longer state-listed. Bald eagles most commonly inhabit areas near the coast, bays, rivers, lakes or other open bodies of water. They nest in tall trees, typically live pines, which usually have open views to their surroundings. Eagles are also known to utilize artificial structures and other types of tall trees for nesting. There are no documented nests within 660 ft of the project action area according to the Audubon Florida EagleWatch database and the eBird database. No nests were identified within the proposed improvement during field reviews. However, surveys should be conducted for the bald eagle to assure that none have moved into the project action area prior to construction.

The USFWS determined that bald eagle nesting activities are not adversely affected by construction activities greater than 660 ft away from the nest. As outlined in the USFWS's Bald Eagle Monitoring Guidelines (2007), monitoring of construction and nesting activities is therefore not warranted for projects involving construction beyond 660 ft of an active bald eagle nest during nesting season. Nesting season in Florida is from October 1 through May 15, although nesting may occur earlier or later than this period, especially in areas of south Florida. The USFWS Monitoring Guidelines will be followed if any nests are observed within the project's limits of construction; however, currently, no nesting trees or other potential nesting sites are located within 660 ft of the project study limits. Refer to the Historic Protected Species Occurrence Map in **Appendix F, Figure 7** for bald eagle nest locations recorded previously in surrounding areas (2021).

3.5.2 Florida Black Bear

The Florida black bear (*Ursus americanus floridanus*) was delisted as a state threatened species in June 2012. However, it is still afforded protection by the FWC Florida Black Bear Management Plan. Although not indicated as occurring in the area in the FNAI database and not observed during recent 2023 field reviews in the area, the FWC Florida Black Bear Range Map indicates that the project action area is within the "common bear range", defined as an area in which "…bears are spreading from their core areas and spending a fair amount of their time" (FWC n.d.). The FWC Black Bear Related Calls layer in

the FDOT Environmental Screening Tool (EST) shows an observation of a Florida black bear adjacent to E Flying Eagle Court, approximately 0.25 miles from the project limit. Because it is within the "common bear range", the FDOT will require contractors to remove garbage daily from the construction site or use bear proof containers for securing of food and other debris from the project work area to prevent these items from becoming an attractant for the Florida black bear. Any interactions will be reported to the FWC Wildlife Alert hotline 888-404-FWCC (3922). Refer to the Historic Protected Species Occurrence Map in **Appendix F, Figure 7** for the FWC black bear range designations in the project action area and surrounding vicinity.

3.6 Protected Plant Species

No federally listed plant species are anticipated to occur based on the FNAI biodiversity matrix, USFWS IPaC database, and USFWS distribution and range data. The proposed improvements will have "***no effect***" on federally listed plant species.

Twelve plant species listed by the Florida Department of Agricultural and Consumer Services (FDACS) were identified on the FNAI biodiversity matrix with the potential to occur within Citrus County. The plant species potentially occurring in the vicinity of the proposed improvement with their associated habitat requirements are provided in **Table 3-1** above.

Of the 12 plant species included on the FNAI list as potentially occurring in the project action area, 11 species were eliminated from consideration due to a lack of appropriate habitat in the project action area and lack of documented occurrence. The following six species require flatwoods, sandhill or scrub, rocklands, xeric pine woods, and/or fire maintenance habitats not found within the project action area: incised groove-bur (*Agrimonia incisa*), modest spleenwort (*Asplenium verecundum*), many-flowered grass-pink (*Calopogon multiflorus*), sand butterfly pea (*Centrosema arenicola*), pygmy pipes (*Montropsis reynoldsiae*), and the giant orchid (*Pteroglossaspis ecristata*). The remaining five species require wet or mesic habitats not present in the project action area: celestial lily (*Nemastylis floridana*), Florida beargrass (*Nolina atopocarpa*), Florida mountain-mint (*Pycnanthemum floridanum*), pinkroot (*Spigelia* loganioides), and Craighead's nodding-caps (*Triphora craigheadii*). Additionally, no listed plant species were observed in the field reviews conducted for the project in April, May, and June of 2023.

The project action area is comprised of approximately 36.10 percent mixed hardwood-coniferous forest which provides potentially appropriate habitat for the Florida spiny pod (*Matelea floridana*). Therefore, this species was considered to have the potential to occur in the project action area.

Florida Spiny Pod

The Florida spiny pod is found in hardwood or mixed forested areas from fairly moist woods to dry environments. This species flowers in late spring to summer, and fruits are present in the fall (FNAI 2022). Potential suitable habitat for this species within the project action area is limited to the upland hardwood-coniferous mix land use and adjacent edges. This species was not observed during field reconnaissance surveys conducted in April, May, and June of 2023, but species-specific surveys were not conducted. The FDOT will conduct surveys for the Florida spiny pod prior to construction. If this

species or any other protected plant species are observed, the FDOT will coordinate with the FDACS and Florida Native Plant Society or similar organization to facilitate the relocation of protected plants within the project footprint.

Therefore, there is **no effect anticipated** to state-listed plant species as a result of the proposed improvements.

3.7 Critical Habitat

The project action area was assessed for Critical Habitat designated by Congress in 17 CFR 35.1532. Review of the USFWS's available GIS data indicates there is no designated Critical Habitat within the project limits or surrounding areas; therefore, the proposed project will have **no involvement** with Critical Habitat.

3.8 Avoidance and Minimization

The proposed improvements include widening the two-lane facility to a four-lane facility with an associated SMF. For state-listed wading birds and the Florida sandhill crane, impacts to foraging habitat is limited to approximately 0.13 ac; the proposed SMF is anticipated to replace impacted foraging habitat. Protective construction measures will be utilized for the eastern indigo snake, and surveys with associated permitting and relocation as needed will avoid adverse effect to the gopher tortoise and its commensals.

4 WETLAND AND OSW EVALUATION

4.1 Methodology

Pursuant to Presidential Executive Order 11990 entitled *Protection of Wetlands*, (May 1977), the USDOT has developed a policy, *Preservation of the Nation's Wetlands* (USDOT Order 5660.1A), dated August 24, 1978, which requires all federally funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, as well as *Part 2, Chapter 9 – Wetlands and Other Surface Waters* of the FDOT PD&E Manual, the project area was evaluated for potential impacts to wetlands and surface waters.

Background research conducted to identify the wetland communities occurring within the project area included review of the USFWS NWI (USFWS 2023), FLUCFCS data from the SWFWMD (SWFWMD 2022), the NRCS Soil Survey for Florida (NRCS 2023), and aerial photography interpretation (2023). Data verification was conducted during field reconnaissance surveys performed on April, May, and June of 2023.

Wetland and OSW boundaries were approximated in both a desktop and field evaluation in conformance with the federal and state criteria promulgated in the *Corps of Engineers Wetlands Delineation Manual* [US Army Corps of Engineers (USACE) 1987], the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2* (USACE

2010), and the *Florida Wetlands Delineation Manual* (Gilbert et. al 1995).

A map depicting wetland and surface water features occurring within the proposed project area is provided in **Appendix C, Figure 6**. In addition, a USFWS NWI map is provided as **Appendix B, Figure 5.** Photographs of wetlands and surface waters are provided in the Photo Exhibit in **Appendix D**.

4.2 Impact Evaluation

Based on the proposed ROW and limits of construction, impacts to wetlands are limited to excavation required to install the outfall connection that will connect SMF 6c to Connell Lake. These impacts are limited to 0.04 ac to an emergent wetland found on the shoreline of Lake Connell and 0.09 ac of OSW impacts at Lake Connell (**Table 4-2**). Wetlands and OSWs are anticipated to be jurisdictional to the State, but not jurisdictional under Section 404 of the Clean Water Act due to a lack of connection to WOUS.

Table 4-2 Wetland and OSW Impact in the Project Area

Wetland or Surface Water ID	Wetland or Surface Water Habitat	FLUCFCS	Anticipated Permanent Impact (ACRE)
WL 3	Emergent Wetland	6430	0.04
SW 3	Open Lake/Pond Habitat	5200	0.09
TOTAL IMPACTS (ac)			0.13

There are no other impacts to wetlands or OSWs anticipated. Secondary impacts are not anticipated as the installation of the outfall should not affect wildlife access to the remaining shoreline or wetland, water environment should be improved with the SMFs proposed, and the de minimis impact to the shoreline is not anticipated to result in vegetative community change to the adjacent wetlands or lake.

4.3 Avoidance and Minimization

Pursuant to Executive Order 11990, *Protection of Wetlands*, federal actions should avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and avoid direct or indirect impacts in wetlands wherever there is a practicable alternative. There is limited impact (0.04 ac) to wetlands and OSWs (0.09 ac) that will result from the proposed improvement. The outfall connections are required for the proper function of the ponds and for preventing flooding of the road and adjacent properties. BMPs will be utilized to protect the adjacent lake and wetlands during the construction of the outfall for SMF 6c.

4.4 Wetland Functional Analysis and Mitigation

In February 2004, the Florida Department of Environmental Protection (FDEP) adopted 373.414 (18) FS into rule via 62-345 (FAC) to develop and adopt a statewide Uniform Mitigation Assessment Methodology (UMAM) to determine the amount of mitigation required to offset impacts to wetlands and OSWs. UMAM is a standardized procedure for assessing the functions (expressed as a percentage

compared to a natural, undisturbed wetland) provided by wetlands and OSWs, and the amount those functions are reduced or lost by a proposed impact. This amount the functions are reduced or lost is referred to as Functional Loss (FL). The UMAM methodology is also used to quantify the amount of mitigation necessary to offset the FL of the impact. This can be expressed in acres or as credits from a mitigation bank or regional mitigation provider.

UMAM functional assessment was prepared for WL 3 that estimated FL from the outfall construction at this location. The total potential FL was estimated at 0.019 units (**Table 4-4**).

Table 4-4 Wetland and OSW UMAM Score and Functional Loss Estimate

Wetland or Surface Water ID	Wetland or Surface Water Habitat	FLUCFCS	Anticipated Permanent Impact (ac)	UMAM Delta Score	Functional Loss Estimate (UMAM)
WL 3	Emergent Wetland	6430	0.04	0.47	0.019

The de minimis loss is anticipated to be replaced by the functional gain in water quality that will occur with the construction of the SMF, and mitigation is not anticipated to be required. The UMAM data forms for the wetlands are provided as **Appendix I**.

4.5 Indirect and Cumulative Effects

Indirect impacts are impacts caused by the action but occur later in time or farther removed in distance but are still reasonably foreseeable. The roadway network is well established. Therefore, the project is not anticipated to stimulate growth or other development in the area but will provide more efficient and safe transportation. BMPs will be utilized to reduce or avoid indirect impacts from construction activities to offsite wetlands, OSWs, or properties.

Cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. The project is an improvement to an existing road. Wetland impacts are limited to 0.04 ac from the installation of an outfall. Any function lost from the installation of the outfall is anticipated to be replaced by the proposed SMFs. Cumulative impacts are therefore not anticipated.

5 ANTICIPATED PERMITS

The FDEP and SWFWMD regulate wetlands and surface waters within the project area. An application for a SWFWMD Environmental Resource Permit (ERP) will be submitted in August 2024. However, because Lake Connell is an isolated system, the Lake and its associated shoreline/wetlands are not considered jurisdictional under the State Section 404 permit administered by the FDEP. FDEP, through a delegation from US Environmental Protection Agency (USEPA), also regulates stormwater discharges from the construction sites through the National Pollutant Discharge Elimination (NPDES) program. Potentially occupied gopher tortoise burrows were observed adjacent to the project action area.

Therefore, a FWC Gopher Tortoise Relocation Permit may be required. A 100% gopher tortoise survey will be conducted 90 days prior to construction. If gopher tortoises or their burrows are observed within 25 ft of proposed construction activities, a FWC Gopher Tortoise Relocation Permit will be acquired, and the gopher tortoises relocated as per FWC guidelines. It is currently anticipated that the following permits will be required for this project.

PERMITS	ISSUING AGENCY
ERP	SWFWMD
NPDES Permit -applied for by the Contractor	FDEP
Gopher Tortoise Relocation Permit (To Be Determined)	FWC

6 CONCLUSIONS AND COMMITMENTS

6.1 Protected Species and Habitat

The project action area was assessed for the presence of federally and state-listed species as well as other protected species and USFWS Critical Habitat. The species considered to potentially occur in the project action area are listed in Table 6-1 with their probability of involvement and the effect determination for each. The loggerhead sea turtle was included on the USFWS IPaC report generated for the project. However, as there is no marine or estuarine habitat within or in the vicinity of the project action area, it was not included in detailed evaluations. The project will have "***no effect***" on the loggerhead sea turtle.

There are no federally protected plant species anticipated to occur in the project action area. Of the 12 state protected plant species that were included on the FNAI list as potentially occurring in the County, 11 species were eliminated from consideration for the project action area due to a lack of appropriate habitat in the project action area or SMFs. Additionally, no listed plant species were observed in the field reviews conducted for the project in April, May, and June 2023. There is potentially appropriate habitat for the Florida spiny pod, although this species was not observed during field reviews and has not been historically recorded in the project action area. Therefore, there is "***no effect***" to federally protected plant species, and **no effect anticipated** to state protected plant species as a result of the proposed improvements.

Although no longer listed, the bald eagle is protected under the BGEPA and the MBTA, and the project was evaluated for the presence of bald eagle nests. The project action area is not within the 660-ft protection zone of any bald eagle nest. The Florida black bear was delisted by FWC in June 2012 but is protected and managed under the Florida Black Bear Management Plan. The FWC distribution map indicates that the project action area is within the "common" range of the Florida black bear. The FWC Black Bear Related Calls layer in the FDOT EST shows an observation of a Florida black bear adjacent to E Flying Eagle Court, approximately 0.25 miles from the project limit. Appropriate conservation measures will be implemented for protection of the Florida black bear.

There is no USFWS designated Critical Habitat within or adjacent to the project action area.

Table 6-1 Potential Protected Faunal Species Status, Involvement, and Effect Determination US 41 (SR 45) Segment 4 Project Action Area

Scientific Name	Common Name	Federal Status	State Status	Probability of Involvement	Effect Determination Proposed Improvement
Athene cunicularia floridana	Florida Burrowing Owl	-	ST	Low	No Effect Anticipated
Laterallus jamaicensis jamaicensis	Eastern Black Rail	FT	FT	None	No Effect
Grus americana	Whooping Crane	EXPN	F-EXPN	Low	-
Picoides borealis	Red-Cockaded Woodpecker	FE	FE	None	No Effect
Aphelocoma coerulescens	Florida Scrub-Jay	FT	FT	None	No Effect
Egretta caerulea	Little Blue Heron	-	ST	Low	No Adverse Effect Anticipated
Grus canadensis pratensis	Florida Sandhill Crane	-	ST	Low	No Adverse Effect Anticipated
Falco sparverius paulus	Southeastern American Kestrel	-	ST	Low	No Effect Anticipated
Haliaeetus leucocephalus	Bald Eagle	MBTA+	-	Low	-
Drymarchon couperi	Eastern Indigo Snake	FT	FT	High	MANLAA
Lampropeltis extenuatum	Short-Tailed Snake	-	ST	None	No Effect Anticipated
Gopherus polyphemus	Gopher Tortoise	-	ST	High	No Adverse Effect Anticipated
Ursus americanus floridanus	Florida Black Bear	-	FBBMP	Low	-
Danaus plexippus	Monarch Butterfly	C	-	Low	-

FE-Federally-Designated Endangered; FT-Federally-Designated Threatened; EXPN -Experimental, Non-Essential Population; ST -State-Designated Threatened; C-Candidate Species; MANLAA-May Affect, Not Likely to Adversely Affect; Migratory Bird Treaty Act (MBTA); +Bald and Golden Eagle Protection Act (BGEPA); FBBMP- Florida Black Bear Management Plan

6.2 Wetland and OSWs

Based on the proposed ROW and limits of construction, impacts to wetlands and surface waters are limited to the outfall connection of SMF 6c to Lake Connell. Impacts are limited to 0.04 ac to the emergent wetland found on the shoreline of Lake Connell and 0.09 ac to the surface waters of Lake Connell. There are no other impacts to wetlands or OSWs anticipated. Secondary impacts are not anticipated as the installation of the outfalls should not affect wildlife access to the remaining shoreline or wetland, water environment should be improved with the SMFs proposed, and the de minimis impact to the shoreline is not anticipated to result in vegetative community change to the adjacent wetlands or lake. FL was estimated using UMAM at 0.019 units. Mitigation is not anticipated to be required due to the de minimis impact and because the construction of SMFs associated with the project should replace the minimal loss of function.

Table 6-2 below provides a summary of the anticipated wetland and OSW impacts and FL estimates.

Table 6-2 Wetland and OSW Impact Summary Table

Wetland or Surface Water ID	Wetland or Surface Water Habitat	FLUCFCS	Anticipated Permanent Impact (ac)	Functional Loss Estimate (UMAM)
WL 3	Freshwater Marsh	6430	0.04	0.019
SW 3	Open Lake/Pond Habitat	5200	0.09	N/A
TOTAL IMPACTS (ac)			0.13	0.019

6.3 Implementation Measures

- The FDOT will conduct a survey for gopher tortoises and coordinate with the FWC as appropriate based on the survey. Should gopher tortoise burrows be located within the proposed improvement, the FDOT will coordinate with the FWC to obtain necessary permits and to relocate tortoises as required.
- The FDOT will review the project prior to construction for the presence of burrowing owls and bald eagle nests within areas of suitable habitat. If present, the FDOT will conduct coordination with FWC or USFWS as needed.
- Erosion and sediment controls and other BMPs will be implemented prior to construction, and maintained during and after construction, to prevent adverse impacts to adjacent water resources and properties.

6.4 Commitments

In order to assure that adverse impacts to listed species and suitable habitat within the project's construction limits will not occur, the FDOT will abide by standard protection measures in addition to the following commitments:

- The FDOT will survey for the Florida spiny pod in areas with potential suitable habitat during flowering season (late spring through summer) and prior to construction. If this species or any other protected plant species are observed, the FDOT will coordinate with the FDACS and the Florida Native Plant Society or similar organization to facilitate the relocation of protected plants within the project footprint.
- The FDOT will conduct a survey for potentially occupied (active or inactive) gopher tortoise burrows prior to construction. If more than 25 gopher tortoise burrows are identified to be impacted by the project, the FDOT will initiate ESA Section 7 Consultation with the USFWS. The most recent version of the USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be utilized during site preparation and construction. All gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. If excavating potentially occupied burrows, the excavation method

should minimize the potential for injury of an indigo snake. 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 indigo snake, no work shall commence until the snake has vacated the vicinity of the proposed work.

- The FDOT will require contractors to remove garbage daily from the construction site or use bear proof containers for securing of food and other debris from the project work area to prevent these items from becoming an attractant for the Florida black bear. Any interactions will be reported to the FWC Wildlife Alert hotline 888-404-FWCC (3922).

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Appendix A

Project Location Maps

Figure 1 - Project Quadrangle Map

Figure 2 - Project Location Map

FDOT

US 41 (SR 45) from North of North Sportsman Point to North of East Arlington Street
WPIS 257165-5
Citrus County, Florida

Figure 1
Project Quadrangle Map

0 650 1,300
Feet

Basemap: USGS (United States Geological Society) 2022

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: USA Topo Maps 2022

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USGS, National Geographic, i-cubed. USA Topo Maps. March 2022. 1:15,600; generated by Atkins; using ArcMap. <http://services.arcgisonline.com/ArcGIS/rest/services/USA_Topo_Maps/MapServer> (23 August 2023)

US 41 (SR45) from North of North Sportsman Point to North of East Arlington Street

WPIS 257165-5

Citrus County, Florida

Figure 2
Project Location Map

0 650 1,300
Feet

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

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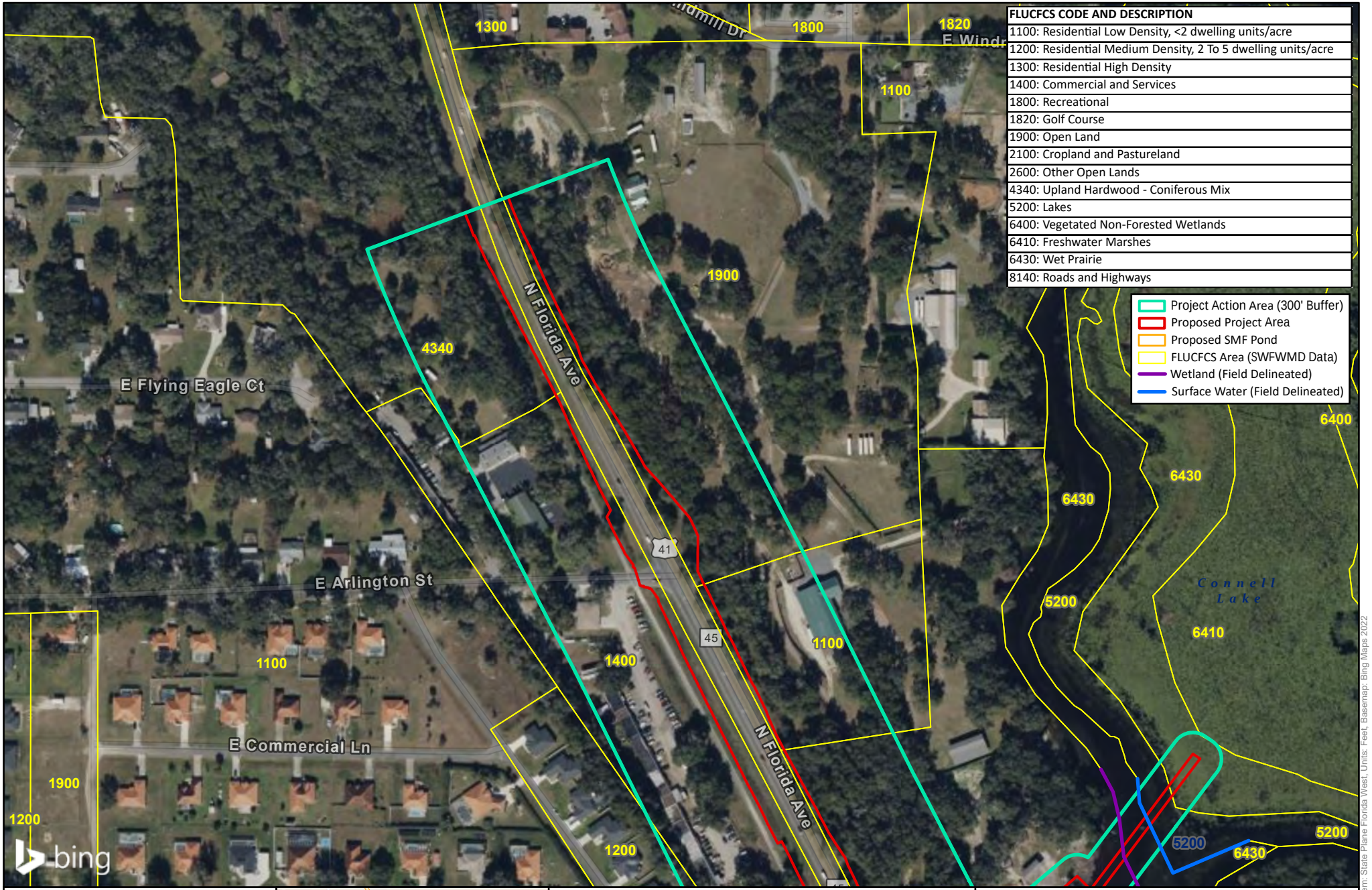
Appendix B

Resources Maps

Figure 3 - Land Use (FLUCFCS) Map

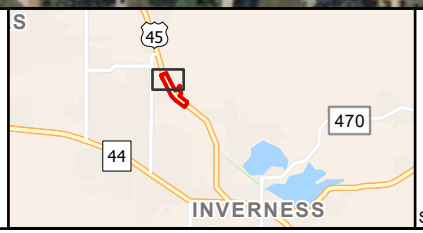
Figure 4 - Hydric Soils Map

Figure 5 - USFWS National Wetlands Inventory (NWI) Map



FLUCFCS CODE AND DESCRIPTION
1100: Residential Low Density, <2 dwelling units/acre
1200: Residential Medium Density, 2 To 5 dwelling units/acre
1300: Residential High Density
1400: Commercial and Services
1800: Recreational
1820: Golf Course
1900: Open Land
2100: Cropland and Pastureland
2600: Other Open Lands
4340: Upland Hardwood - Coniferous Mix
5200: Lakes
6400: Vegetated Non-Forested Wetlands
6410: Freshwater Marshes
6430: Wet Prairie
8140: Roads and Highways

- Project Action Area (300' Buffer)
- Proposed Project Area
- Proposed SMF Pond
- FLUCFCS Area (SWFWMD Data)
- Wetland (Field Delineated)
- Surface Water (Field Delineated)



US 41 (SR 45) from North of North Sportsman Point to North of East Arlington Street
WPIS 257165-5
Citrus County, Florida

SWFWMD FLUCFCS: 2022; modified 2023 for project purposes

Figure 3
Florida Land Use, Cover, and Forms Classification System (FLUCFCS)
Page 1

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Feet

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

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Microsoft Corporation, Earthstar Geographics LLC, GeoEye, Harris Corporation, NASA, and DigitalGlobe.
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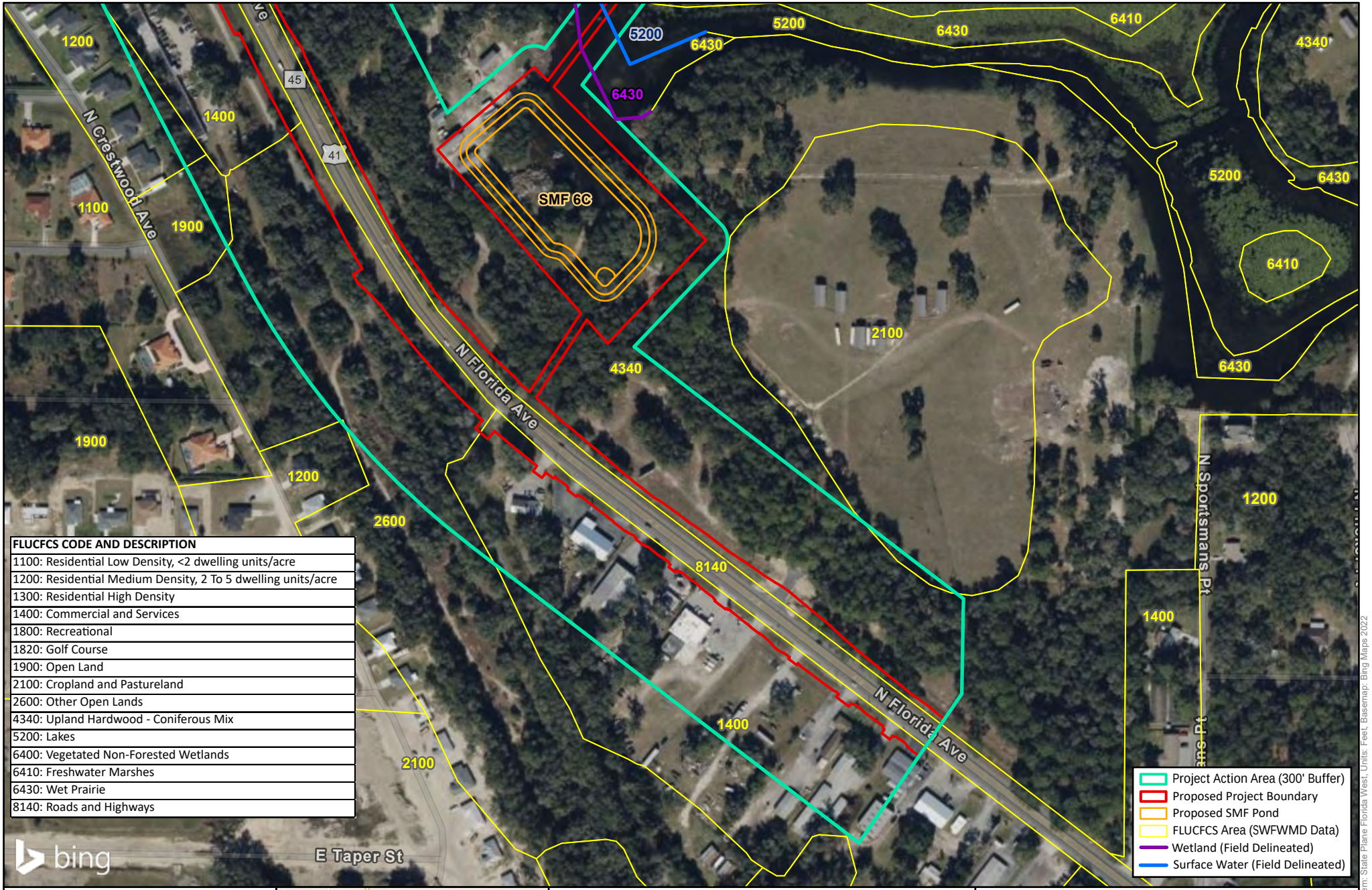

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6400: Vegetated Non-Forested Wetlands
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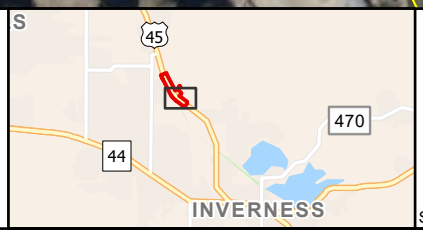
6430: Wet Prairie
8140: Roads and Highways

- Project Action Area (300' Buffer)
- Proposed Project Boundary
- Proposed SMF Pond
- FLUCFCS Area (SWFWMD Data)
- Wetland (Field Delineated)
- Surface Water (Field Delineated)



US 41 (SR 45) from North of North Sportsman Point to North of East Arlington Street
WPIS 257165-5
Citrus County, Florida

SWFWMD FLUCFCS: 2022; modified 2023 for project purposes

Figure 3
Florida Land Use, Cover, and Forms Classification System (FLUCFCS)
Page 2

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Feet

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

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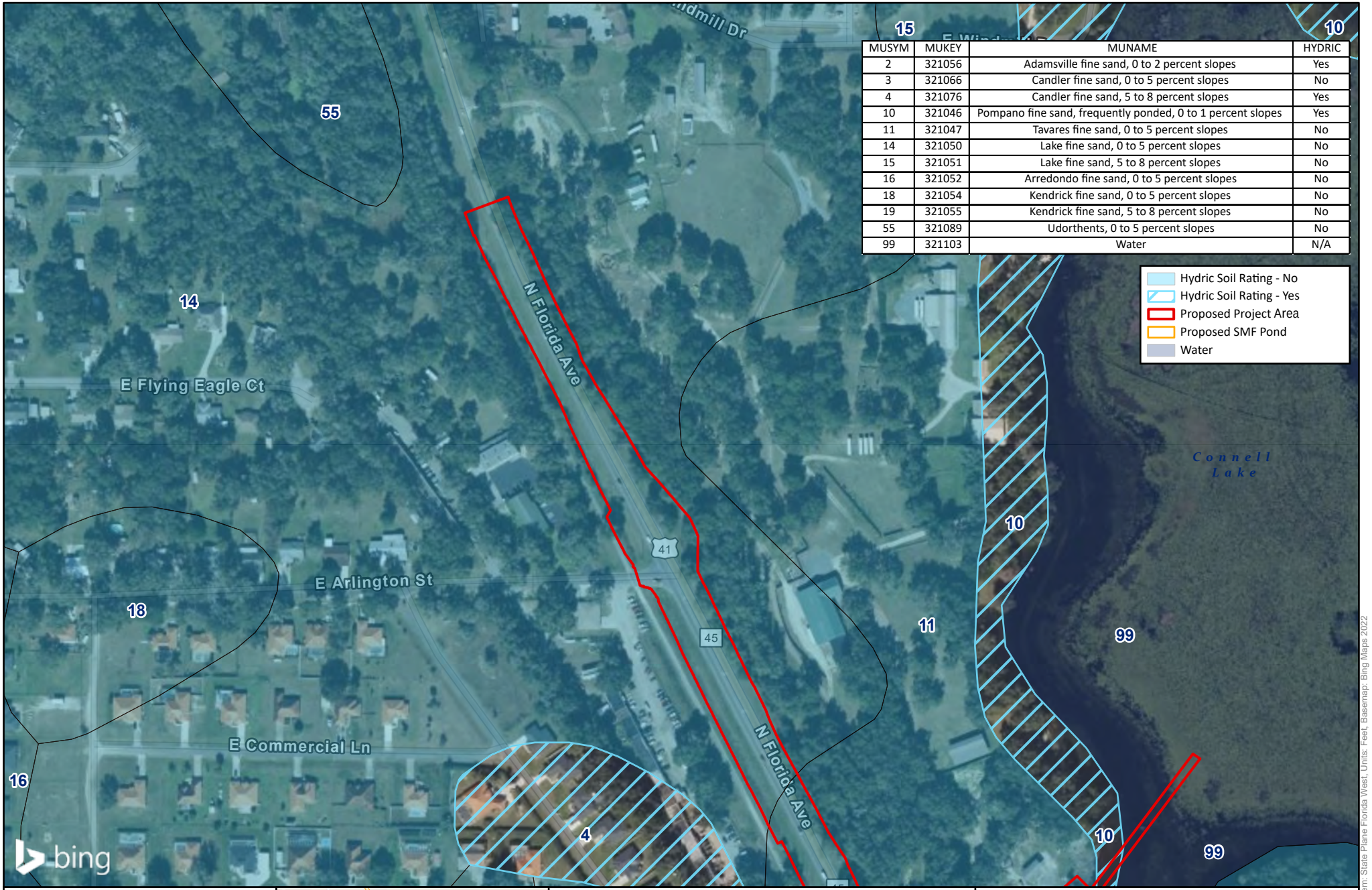
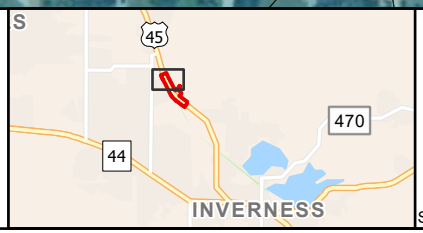


MUSYM	MUKEY	MUNAME	HYDRIC
2	321056	Adamsville fine sand, 0 to 2 percent slopes	Yes
3	321066	Candler fine sand, 0 to 5 percent slopes	No
4	321076	Candler fine sand, 5 to 8 percent slopes	Yes
10	321046	Pompano fine sand, frequently ponded, 0 to 1 percent slopes	Yes
11	321047	Tavares fine sand, 0 to 5 percent slopes	No
14	321050	Lake fine sand, 0 to 5 percent slopes	No
15	321051	Lake fine sand, 5 to 8 percent slopes	No
16	321052	Arredondo fine sand, 0 to 5 percent slopes	No
18	321054	Kendrick fine sand, 0 to 5 percent slopes	No
19	321055	Kendrick fine sand, 5 to 8 percent slopes	No
55	321089	Udorthents, 0 to 5 percent slopes	No
99	321103	Water	N/A

- Hydric Soil Rating - No
- Hydric Soil Rating - Yes
- Proposed Project Area
- Proposed SMF Pond
- Water



US 41 (SR 45) from North of North Sportsman Point to North of East Arlington Street
WPIS 257165-5
Citrus County, Florida

Soils: NRCS 2023

Figure 4
Hydric Soils Map
Page 1

0 150 300
Feet

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

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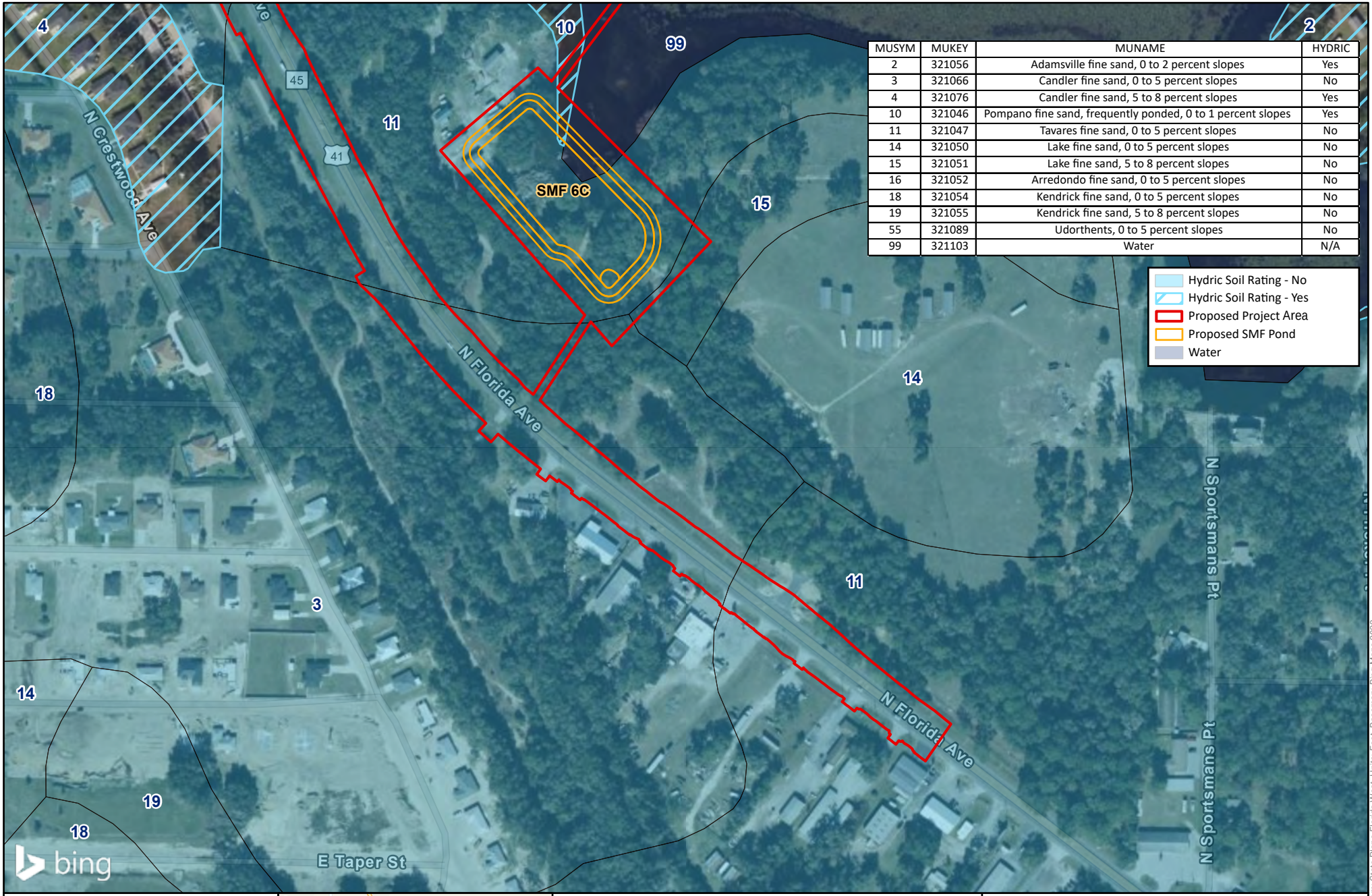

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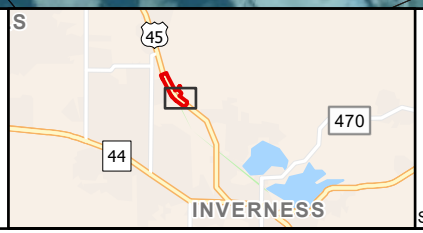
15	321051	Lake fine sand, 5 to 8 percent slopes	No
16	321052	Arredondo fine sand, 0 to 5 percent slopes	No
18	321054	Kendrick fine sand, 0 to 5 percent slopes	No
19	321055	Kendrick fine sand, 5 to 8 percent slopes	No
55	321089	Udorthents, 0 to 5 percent slopes	No
99	321103	Water	N/A

Hydric Soil Rating - No
Hydric Soil Rating - Yes
Proposed Project Area
Proposed SMF Pond
Water



US 41 (SR 45) from North of North Sportsman Point to North of East Arlington Street
WPIS 257165-5
Citrus County, Florida

Soils: NRCS 2023

Figure 4
Hydric Soils Map
Page 2

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Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

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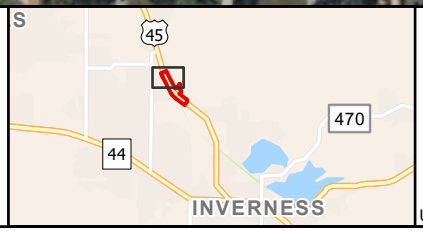
NWI Code	NWI Description
PEM1F	Palustrine, Emergent, Persistent, Semipermanently Flooded
L2AB3H	Lacustrine, Littoral, Aquatic Bed, Rooted Vascular, Permanently Flooded
L1UBH	Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded



US 41 (SR 45) from North of North Sportsman Point to North of East Arlington Street
WPIS 257165-5
Citrus County, Florida

USFWS NWI Wetlands: 2023

Figure 5
USFWS National Wetland Inventory (NWI) Map
Page 1

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Feet

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

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Microsoft Corporation, Earthstar Geographics LLC, GeoEye, Harris Corporation, NASA, and DigitalGlobe.
Bing Maps Aerial. 2022. 1:3,600; generated by Atkins; using ArcMap. < http://www.bing.com/maps> (23 August 2023)

NWI Code	NWI Description
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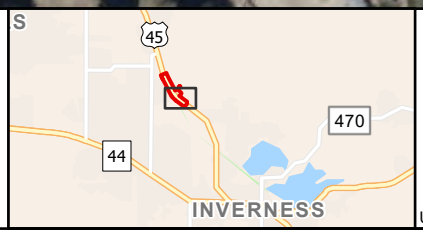

US 41 (SR 45) from North of North Sportsman Point to North of East Arlington Street
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Citrus County, Florida

USFWS NWI Wetlands: 2023

Figure 5
USFWS National Wetland Inventory (NWI) Map
Page 2

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Feet

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

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Microsoft Corporation, Earthstar Geographics LLC, GeoEye, Harris Corporation, NASA, and DigitalGlobe.
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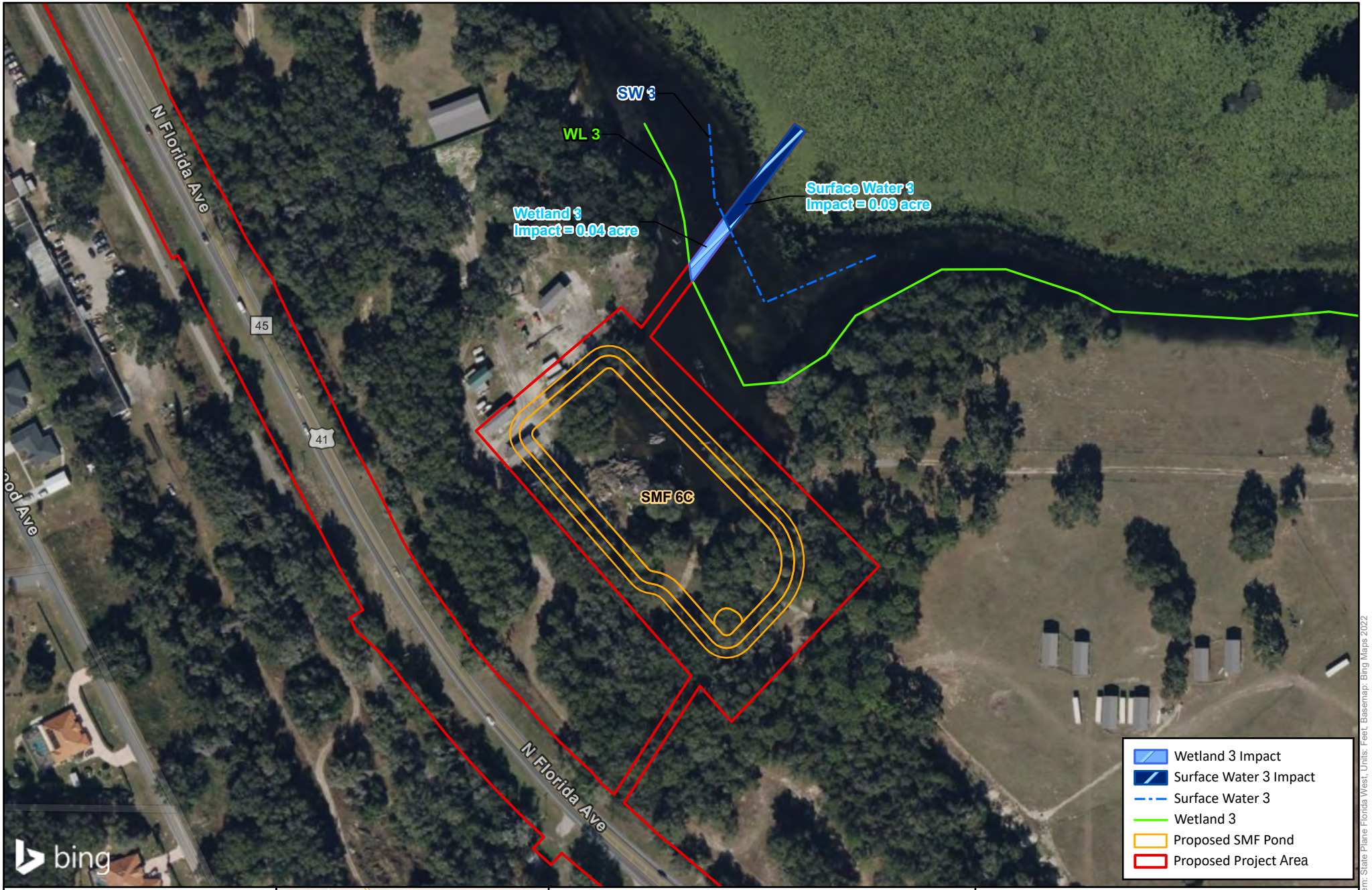
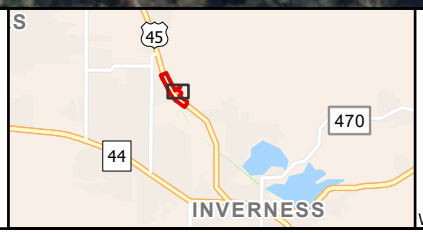
Appendix C

Figure 6 - Wetlands and OSWs Location Map





US 41 (SR 45) from North of
North Sportsman Point to
North of East Arlington Street
WPIS 257165-5
Citrus County, Florida

Wetland Boundary Delineated 5/3/2023 (Atkins)

Figure 6
Wetland & Other Surface Waters Map

0 100 200
Feet

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

Houston GIS Drive: N:\Clients\E_F\FDOT\100062708\geo\figs\SR45_Seg5_Wet_aerial.aprx
WHIT6392 8/23/2023

Appendix D

Photo Exhibit

PHOTO EXHIBIT
US 41 (SR 45) from North of N Sportsman Point to North of E Arlington Street
WPIS 257165-5

Wetland 3 (WL 3) with Connell Lake (SW 3) in the background

Soil sample taken at Wetland 3 (WL 3)

PHOTO EXHIBIT
US 41 (SR 45) from North of N Sportsman Point to North of E Arlington Street
WPIS 257165-5

Stormwater Management Facility 6c

Appendix E

Species Review

Florida Natural Areas Inventory (FNAI) Biodiversity Matrix

USFWS Information for Planning and Consultation (IPaC)

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

Florida Natural Areas Inventory

Biodiversity Matrix Query Results

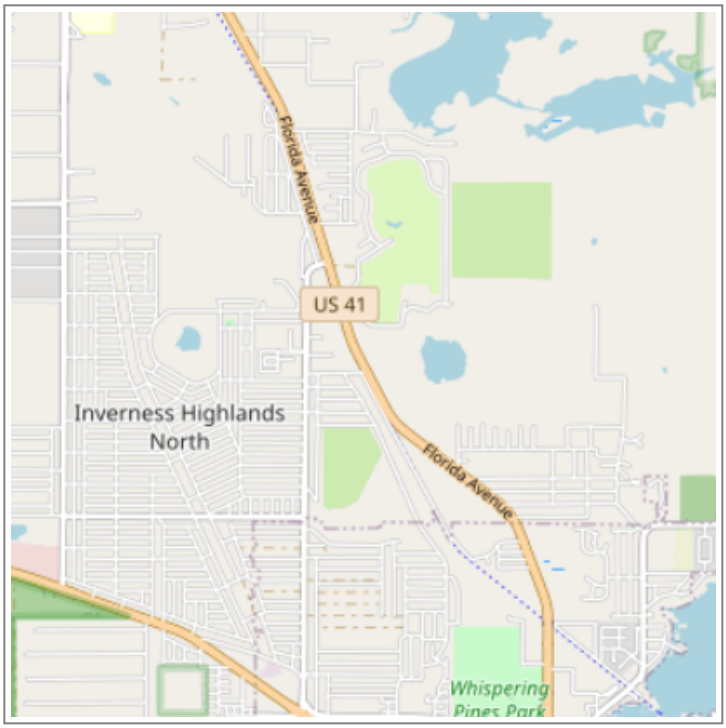
UNOFFICIAL REPORT

Created 5/23/2023

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

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

Report for 2 Matrix Units: 26927 , 27203



Descriptions

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

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

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

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

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

Matrix Unit ID: 26927

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

1 **Likely** Element Found

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

Matrix Unit ID: 27203

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

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

Matrix Unit IDs: 26927 , 27203

31 **Potential** Elements Common to Any of the 2 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Agrimonia incisa incised groove-bur	G3	S2	N	T
Asplenium verecundum modest spleenwort	G1	S1	N	E
Asplenium x curtissii Curtiss' spleenwort	GNA	S1	N	N
Asplenium x heteroresiliens Morzenti's spleenwort	G2	S1	N	N
Asplenium x plenum ruffled spleenwort	G1Q	S1	N	N
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST
Bird Rookery	G5	SNRB	N	N
Calopogon multiflorus many-flowered grass-pink	G2G3	S2S3	N	T
Centrosema arenicola sand butterfly pea	G2Q	S2	N	E
Digitaria floridana Florida fingergrass	G1	S1	N	N
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Dryobates borealis Red-cockaded Woodpecker	G3	S2	E, PT	FE
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Heterodon simus Southern Hognose Snake	G2	S2S3	N	N
Lampropeltis extenuata Short-tailed Snake	G3	S3	N	ST
Lithobates capito Gopher Frog	G2G3	S3	N	N
Matelea floridana Florida spiny-pod	G2	S2	N	E
Monotropsis reynoldsiae pygmy pipes	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N
Myotis austroriparius Southeastern Myotis	G4	S3	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N
Nolina atopocarpa Florida beargrass	G3	S3	N	T
Notophthalmus perstriatus Striped Newt	G2G3	S2	N	C
Peucaea aestivalis Bachman's Sparrow	G3	S3	N	N

Podomys floridanus Florida Mouse	G3	S3	N	N
Pteroglossaspis ecristata giant orchid	G2G3	S2	N	T
Pycnanthemum floridanum Florida mountain-mint	G3	S3	N	T
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Spigelia loganioides pinkroot	G2Q	S2	N	E
Triphora craigheadii Craighead's nodding-caps	G1	S1	N	E

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

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

Location

Citrus County, Florida

Local office

Florida Ecological Services Field Office

(772) 562-3909
(772) 562-4288
fw4flesregs@fws.gov

1339 20th Street
Vero Beach, FL 32960-3559

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

Endangered species

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

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

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

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

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

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

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

---

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

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

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

Birds

NAME	STATUS
Eastern Black Rail Laterallus jamaicensis ssp. jamaicensis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10477	Threatened
Red-cockaded Woodpecker Picoides borealis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7614	Endangered
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Reptiles

NAME	STATUS
Eastern Indigo Snake Drymarchon couperi Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/646	Threatened
Loggerhead Sea Turtle Caretta caretta There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1110	Threatened

Insects

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

Critical habitats

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

There are no critical habitats at this location.

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

Migratory birds

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

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

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

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

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

list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

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

NAME	BREEDING SEASON
American Kestrel Falco sparverius paulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bachman's Sparrow Aimophila aestivalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6177	Breeds May 1 to Sep 30
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Great Blue Heron Ardea herodias occidentalis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Jan 1 to Dec 31
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31

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

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

Breeding Season (■)

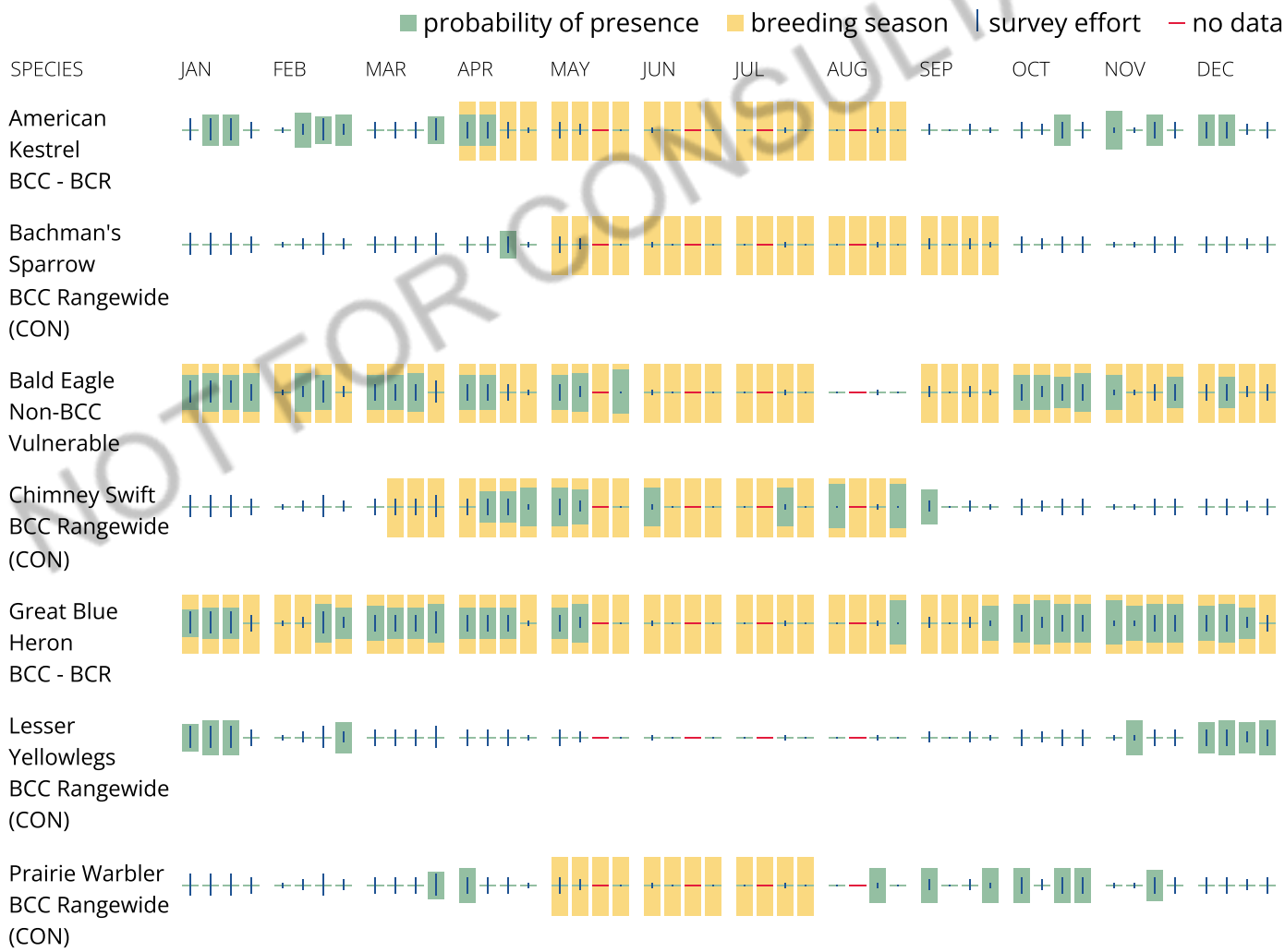
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

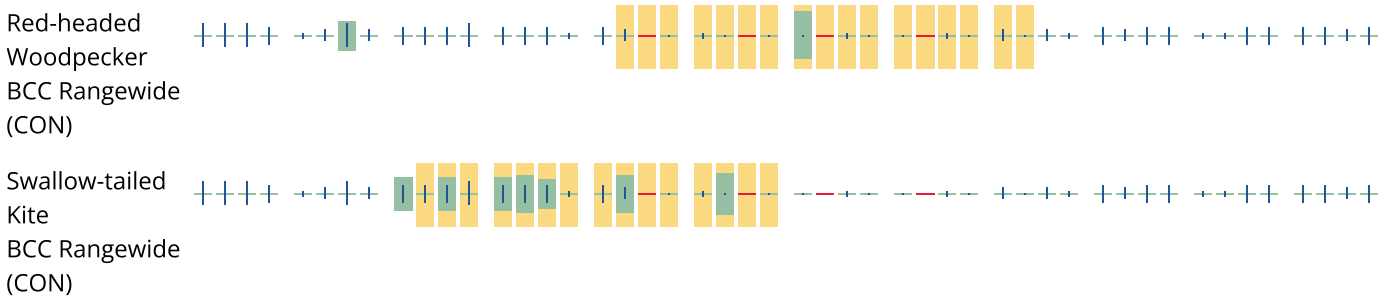
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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

No Data (–)
A week is marked as having no data if there were no survey events for that week.

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





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

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

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

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

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

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

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

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

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability

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

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

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

This location overlaps the following wetlands:

LAKE

L2AB3H

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

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

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

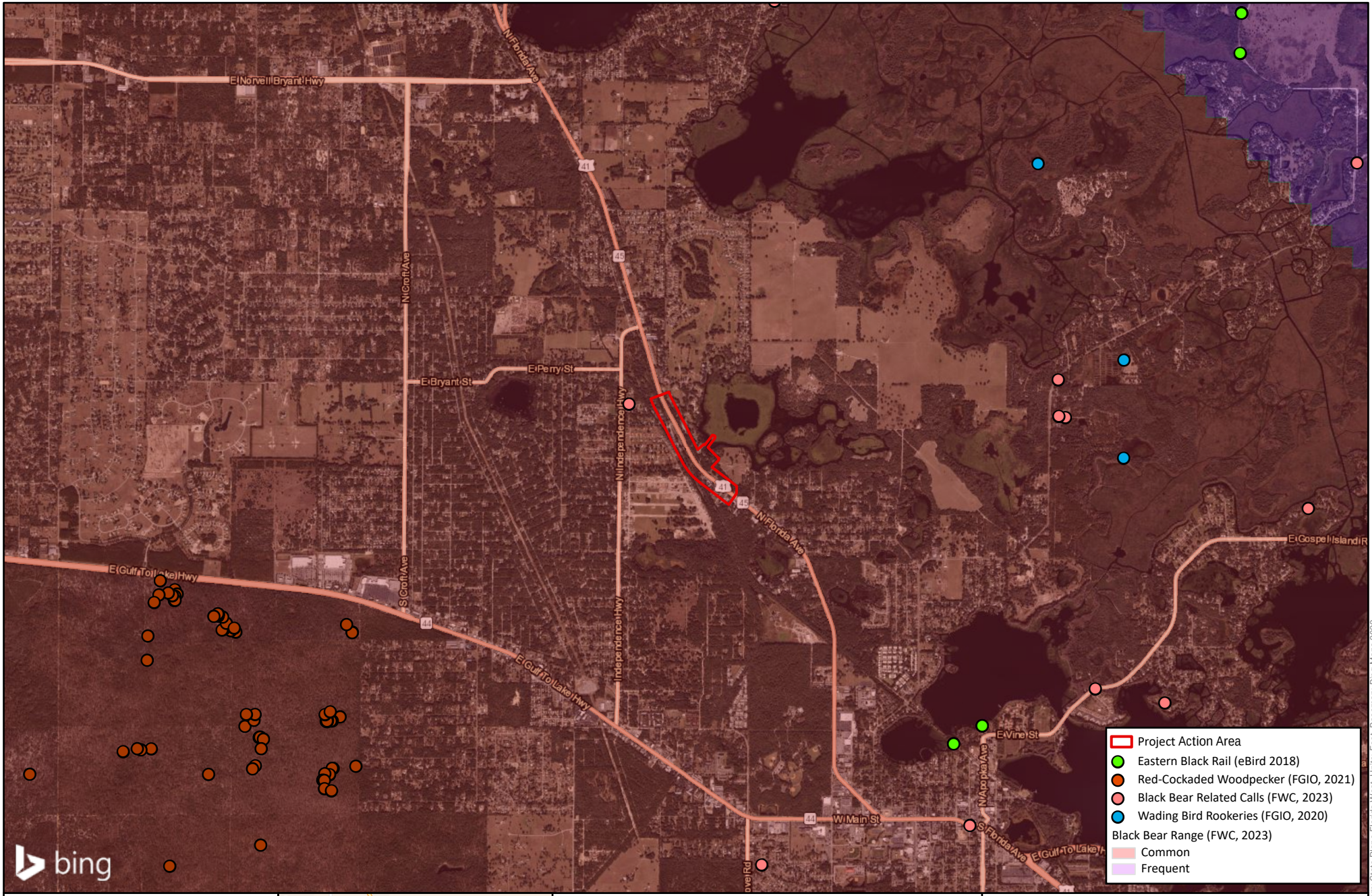
seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

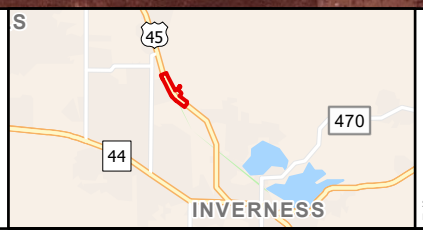
Appendix F

Species Maps

Figure 7 - Historic Protected Species Occurrence Map

Figure 8 - Protected Species Observations Map





US 41 (SR 45) from North of North Sportsman Point to North of East Arlington Street
WPIS 257165-5
Citrus County, Florida

Sources: FGIO (Florida Geographic Information Office), updated 2020, 2021; eBird, updated 2018; FWC (Florida Fish and Wildlife Conservation Commission), updated 2023.

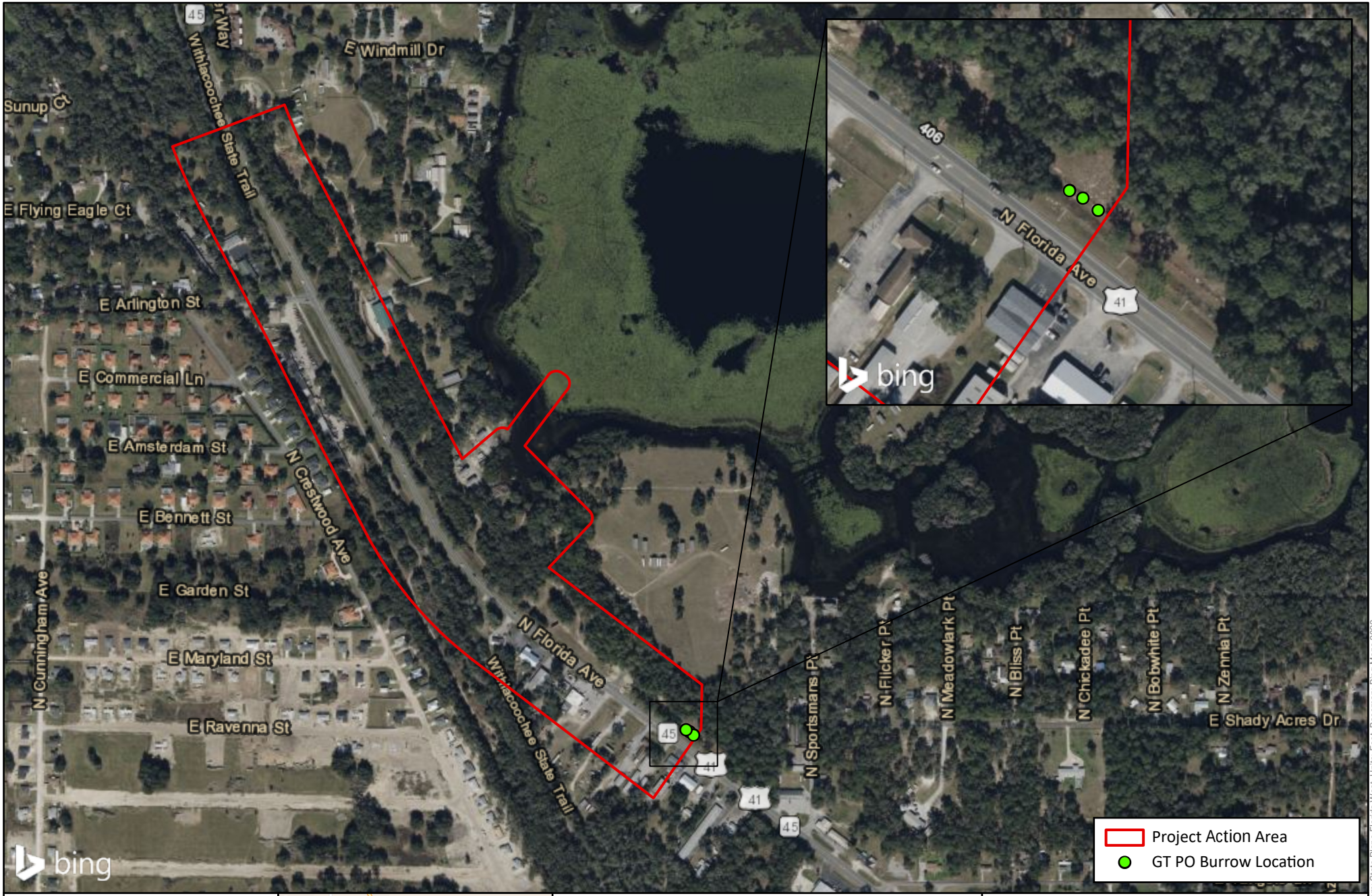
Figure 7
Historic Protected Species Occurrence Map

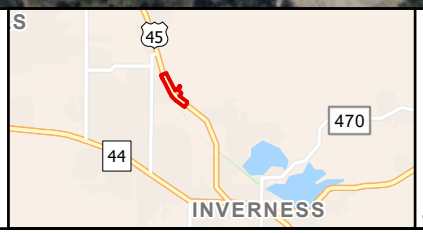
0 2,000 4,000
Feet

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

Houston GIS Drive: N:\Clients\E_F\FDOT\100062708\geo\figs\SR45_Seg5_Species_aerial_v3.aprx
WHIT6392 9/14/2023

Microsoft Corporation, Earthstar Geographics LLC, GeoEye, Harris Corporation, NASA, and DigitalGlobe. Bing Maps Aerial. 2022. 1:48,000; generated by Atkins; using ArcMap. < http://www.bing.com/maps> (14 September 2023)





US 41 (SR 45) from North of North Sportsman Point to North of East Arlington Street
WPIS 257165-5
Citrus County, Florida

Gopher Tortoise PO Burrows observed 4/13/2023 (Atkins)

Figure 8
Protected Species Observations Map

0 325 650
Feet

Datum: NAD 1983, Coordinate System: State Plane Florida West, Units: Feet, Basemap: Bing Maps 2022

Houston GIS Drive: N:\Clients\E_F\FDOT\100062708\geo\figs\SR45_Seg5_Protected_aerial.aprx
WHIT6392 9/13/2023

Microsoft Corporation, Earthstar Geographics LLC, GeoEye, Harris Corporation, NASA, and DigitalGlobe.
Bing Maps Aerial. 2022. 1:7,800; generated by Atkins; using ArcMap. < http://www.bing.com/maps> (13 September 2023)

Appendix G

USFWS Standard Protection Measures for the Eastern Indigo Snake

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

March 23, 2021

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

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

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

POSTER INFORMATION

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

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

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

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

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

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

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

IF YOU SEE A <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. Â
- Immediately notify supervisor or the applicants designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- If the snake is located in a vicinity where continuation of the clearing or construction activities will cause harm to the snake, the activities must halt until such time that a representative of the USFWS returns the call (within one day) with further guidance as to when activities may resume.

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

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

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

North Florida Field Office: (904) 731-3336
Panama City Field Office: (850) 769-0552
South Florida Field Office: (772) 562-3909
Georgia Field Office: (706) 613-9493

PRE-CONSTRUCTION ACTIVITIES

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

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

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

DURING CONSTRUCTION ACTIVITIES

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

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

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

POST CONSTRUCTION ACTIVITIES

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

Appendix H

USFWS Effect Determination Keys

*Eastern Indigo Snake Effect Programmatic Effect Determination Key

United States Department of the Interior
U. S. FISH AND WILDLIFE SERVICE
7915 BAYMEADOWS WAY, SUITE 200
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:
August 13, 2013

Colonel Alan M. Dodd, District Engineer
Department of the Army
Jacksonville District Corps of Engineers
P.O Box 4970
Jacksonville, Florida 32232-0019
(Attn: Mr. David S. Hobbie)

RE: Update Addendum to USFWS Concurrence Letter to U.S. Army Corps of Engineers Regarding Use of the Attached Eastern Indigo Snake Programmatic Effect Determination Key

Dear Colonel Dodd:

This letter is to amend the January 25, 2010, letter to the U.S. Army Corps of Engineers regarding the use of the attached eastern indigo snake programmatic effect determination key (key). It supersedes the update addendum issued January 5, 2012.

We have evaluated the original programmatic concurrence and find it suitable and appropriate to extend its use to the remainder of Florida covered by the Panama City Ecological Services Office.

On Page 2

The following replaces the last paragraph above the signatures:

"Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to Annie Dziergowski (North Florida ESO) at 904-731-3089, Harold Mitchell (Panama City ESO) at 850-769-0552, or Victoria Foster (South Florida ESO) at 772-469-4269."

On Page 3

The following replaces both paragraphs under "Scope of the key":

"This key should be used only in the review of permit applications for effects determinations for the eastern indigo snake within the State of Florida, and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH)."

On Page 4

The following replaces the first paragraph under Conservation Measures:

"The Service routinely concurs with the Corps' "not likely to adversely affect" (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that

our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013) located at: http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes.htm will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake."

On Page 4 and Page 5 (Couplet D)

The following replaces D. under Conservation Measures:

D. The project will impact less than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or less than 25 active and inactive gopher tortoise burrows.....*go to* E

The project will impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested[2].....*"may affect"*

On Page 5

The following replaces footnote #3:

"[3]If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a FWC 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 ."

Thank you for making these amendments concerning the Eastern Indigo Snake Key. If you have any questions, please contact Jodie Smithem of my staff at the address on the letterhead, by email at jodie_smithem@fws.gov, or by calling (904)731-3134.

Sincerely,

Dawn Jennings
Acting Field Supervisor

cc:
Panama City Ecological Services Field Office, Panama City, FL
South Florida Ecological Services Field Office, Vero Beach, FL

United States Department of the Interior

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

January 25, 2010

David S. Hobbie
Chief, Regulatory Division
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Service Federal Activity Code: 41420-2009-FA-0642
Service Consultation Code: 41420-2009-I-0467
41910-2010-I-0045
Subject: North and South Florida Ecological Services Field Offices Programmatic Concurrence for Use of Original Eastern Indigo Snake Key(s) Until Further Notice

Dear Mr. Hobbie:

The U.S. Fish and Wildlife Service's (Service) South and North Florida Ecological Services Field Offices (FO), through consultation with the U.S. Army Corps of Engineers Jacksonville District (Corps), propose revision to both Programmatic concurrence letters/keys for the federally threatened Eastern Indigo Snake (*Drymarchon corais couperi*), (indigo snake), and now provide one key for both FO's. The original programmatic key was issued by the South Florida FO on November 9, 2007. The North Florida FO issued a revised version of the original key on September 18, 2008. Both keys were similar in content, but reflected differences in geographic work areas between the two Field Offices. The enclosed key satisfies each office's responsibilities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*).

Footnote number 3 in the original keys indicated "A member of the excavation team should be authorized for Incidental Take during excavation through either a section 10(a)(1)(A) permit issued by the Service or an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission (FWC)." We have removed this reference to a Service issued Section 10(a)(1)(A) permit, as one is not necessary for this activity. We also referenced the FWC's revised April 2009 Gopher Tortoise Permitting Guidelines with a link to their website for updated excavation guidance, and have provided a website link to our Standard Protection Measures. All other conditions and criteria apply.

We believe the implementation of the attached key achieves our mutual goal for all users to make consistent effect determinations regarding this species. The use of this key for review of projects

located in all referenced counties in our respective geographic work areas leads the Service to concur with the Corps' determination of "may affect, not likely to adversely affect" (MANLAA) for the Eastern indigo snake. The biological rationale for the determinations is contained within the referenced documents and is submitted in accordance with section 7 of the Act.

Should circumstances change or new information become available regarding the eastern indigo snake or implementation of the key, the determinations may be reconsidered as deemed necessary.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to either Allen Webb (Vero Beach) at 772-562-3909, extension 246, or Jay Herrington (Jacksonville) at 904-731-3326.

Sincerely,

Paul Souza
Field Supervisor
South Florida Ecological Services Office

David L. Hankla
Field Supervisor
North Florida Ecological Services Office

Enclosure

cc: electronic only
FWC, Tallahassee, Florida (Dr. Elsa Haubold)
Service, Jacksonville, Florida (Jay Herrington)
Service, Vero Beach, Florida (Sandra Sneckenberger)

Eastern Indigo Snake Programmatic Effect Determination Key

Scope of the key

This key should be used only in the review of permit applications for effects determinations within the North and South Florida Ecological Services Field Offices Geographic Areas of Responsibility (GAR), and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH). Counties within the **North** Florida GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

Counties in the **South** Florida GAR include Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, St. Lucie.

Habitat

Over most of its range, the eastern indigo snake frequents several habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats (Service 1999). Eastern indigo snakes appear to need a mosaic of habitats to complete their life cycle. Wherever the eastern indigo snake occurs in xeric habitats, it is closely associated with the gopher tortoise *(Gopherus polyphemus),* the burrows of which provide shelter from winter cold and summer desiccation (Speake et al. 1978; Layne and Steiner 1996). Interspersion of tortoise-inhabited uplands and wetlands improves habitat quality for this species (Landers and Speake 1980; Auffenberg and Franz 1982).

In south Florida, agricultural sites, such as sugar cane fields, created in former wetland areas are occupied by eastern indigo snakes (Enge pers. comm. 2007). Formerly, indigo snakes would have only occupied higher elevation sites within the wetlands. The introduction of agriculture and its associated canal systems has resulted in an increase in rodents and other species of snakes that are prey for eastern indigo snakes. The result is that indigos occur at higher densities in these areas than they did historically.

Even though thermal stress may not be a limiting factor throughout the year in south Florida, indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigos use gopher tortoise burrows more (62 percent) than other underground refugia (Layne and Steiner 1996). Other underground refugia used include armadillo (*Dasypus novemcinctus*) burrows near citrus groves, cotton rat (*Sigmodon hispidus*) burrows, and land crab (*Cardisoma guanhumi*) burrows in coastal areas (Service 2006). Natural ground holes, hollows at the base of trees or shrubs, ground litter, trash piles, and crevices of rock-lined ditch walls are also used (Layne and Steiner 1996). These refugia are used most frequently where tortoise burrows are not available, principally in low-lying areas off the central and coastal ridges. In extreme south Florida (the Everglades and Florida Keys), indigo snakes are found in tropical

hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats (Steiner et al. 1983). It is suspected that they prefer hammocks and pine forests, because most observations occur in these habitats disproportionately to their presence in the landscape (Steiner et al. 1983). Hammocks may be important breeding areas as juveniles are typically found there. The eastern indigo snake is a snake-eater so the presence of other snake species may be a good indicator of habitat quality.

Conservation Measures

The Service routinely concurs with the Corps' "not likely to adversely affect" (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2004) located at: http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing an Eastern Indigo Snake Effect Determination Key, similar in utility to the West Indian Manatee Effect Determination Key and the Wood Stork Effect Determination Keys presently being utilized by the Corps. 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 and no additional correspondence will be necessary[1]. This key is subject to revisitation as the Corps and Service deem necessary.

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 *Standard Protection Measures For The Eastern Indigo Snake* 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[2] .....*"may affect"*

C. There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities .....*go to* D

There are no gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities .....*"NLAA"*

D. The project will impact less than 25 acres of xeric habitat supporting less than 25 active and inactive gopher tortoise burrows.....*go to* E

The project will impact more than 25 acres of xeric habitat or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested[2]..... *"may affect"*

E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow[3]. If an 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 indigo snake, no work will commence until the snake has vacated the vicinity of proposed work..... *"NLAA"*

Permit will not be conditioned as outlined above and consultation with the Service is requested[2] ..... *"may affect"*

---

[1]With an outcome of "no effect" or "NLAA" as outlined in this key, the requirements of section 7 of the Act are fulfilled for the eastern indigo snake and no further action is required.

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

[3] If burrow excavation is utilized, it should be performed by experienced personnel. The method used should minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the Florida Fish and Wildlife Conservation Commission's revised April 2009 Gopher Tortoise Permitting Guidelines located at **http://myfwc.com/License/Permits_ProtectedWildlife.htm#gophertortoise**. A member of the excavation team should be authorized for Incidental Take during excavation through an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission.

Appendix I

UMAM Data Forms

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

Site/Project Name	Application Number	Assessment Area Name or Number
FDOT D7 FPID 257165-5 US 41 (SR 45) Roadway Project		Wetland 3 (WL 3)

FLUCCS code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
6430 - Wet Prairie		Impact	0.04

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

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

Wetland 3 is located adjacent to existing agricultural and rural residential parcels (north, east, south and west). A drainage outfall from the proposed FDOT pond site is to connect with Connell Lake.

Assessment area description

A minimal portion of the Connell Lake shoreline will have proposed impacts from the outfall of the proposed pond site.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Nearby features include US 41 (SR45) located west of Connell Lake, and agricultural and rural residential properties including a cattle farm.	This wetland type is not unique to the regional landscape.

Functions	Mitigation for previous permit/other historic use
Functions include direct drainage and water storage from adjacent properties, water quality improvement, bank stabilization, and wildlife habitat (see below).	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
This category of wetland in its natural condition would support wading birds, waterfowl, songbird foraging and nesting, and amphibian foraging, breeding, and nesting.	Little blue heron (*Egretta caerulea*), ST

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

Species observed utilizing Wetland 3 include mottled duck (*Anas fulvigula*).

Additional relevant factors:

The vegetation composition includes: American white waterlily *(Nymphaea odorata*), Peruvian primrose willow (*Ludwigia peruviana*), Mexican primrose willow (*Ludwigia octovalvis*), blue waterhyssop (*Bacopa caroliniana*), buttonbush (*Cephalanthus occidentalis*), and lance-leaved arrowhead (*Sagittaria lancifolia*). Note that the area is not within Core Foraging Area (CFA) range of any wood stork colony.

Assessment conducted by:	Assessment date(s):
Patrick Bates/Melanie Dalla Valle	4/13/2023

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
FDOT D7 FPID 257165-5 US 41 (SR 45) Roadway Project		Wetland 3 (WL 3)
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
DIRECT IMPACT	PB/MDV	4/13/2023

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

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

.500(6)(a) Location and Landscape Support w/o pres or current: 5 with: 0	Wetland 3 is located adjacent to exisitng agricultural and rural residential parcels. US 41 (SR 45) is also located west of Connell Lake. The proposed outfall impact is located along the shoreline of the southwest side of Connell Lake and is proposed to have connection to FDOT SMF 6c. The adjacent pasture has cattle grazing. The shoreline has habitat support from the adjacent wetlands, pasture, and Lake Connell.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 5 with: 0	Wetland 3 as part of Lake Connell provides water storage. Water quality is likely impacted from direct run-off/sheet flow from the surrounding agricultural and rural residential watershed, which has active cattle grazing. It is likely the shoreline/wetland recedes and expands with rainfall and the level of Lake Connell. However, it maintains sufficient water to provide for rooted vascular aquatic plants.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 4 with: 0	Wetland 3 is primarily comprised of herbaceous and aquatic vegetation consisting of native vegetation and moderate amount of nuisance/exotic vegetation.	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.467	with: 0.0	

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

For impact assessment areas	
FL = delta x acres =	0.019

Delta = [with-current]
-0.47

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

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