

# Final Environmental Assessment for Phase II Air Cargo Facility Development

## Volume 2: Appendix D

Lakeland Linder International Airport  
Polk County, Florida

October 2021

*This page intentionally left blank.*

# **APPENDIX D**

## **Biological Assessment**

*This page intentionally left blank.*

# **Environmental Assessment for Phase II Air Cargo Facility Development at Lakeland Linder International Airport (LAL)**

## **Biological Assessment**

**Prepared for:**

**City of Lakeland  
Federal Aviation Administration**

**Prepared by:**

**AECOM**

**May 2020**

*This page intentionally left blank.*

## TABLE OF CONTENTS

<b><u>Section</u></b>	<b><u>Page</u></b>
<b>1.0 Introduction .....</b>	<b>1</b>
1.1. Airport Description .....	1
1.2. Description of the Proposed Project.....	3
<b>2.0 Methodology .....</b>	<b>7</b>
2.1. Agency Coordination .....	7
2.2. Data Collection and Field Review .....	7
<b>3.0 Existing Land Uses and Vegetative Cover.....</b>	<b>9</b>
3.1. Upland Land Use/Vegetative Cover.....	9
3.2. Wetland and Other Surface Water Land Use/Vegetative Cover.....	12
<b>4.0 Wildlife .....</b>	<b>13</b>
<b>5.0 Listed Species .....</b>	<b>14</b>
5.1. Flora .....	17
5.1.1. Federally Listed Species .....	17
5.1.2. State Listed Species .....	17
5.2. Fauna .....	18
5.2.1. Federally Listed Species .....	18
5.2.2. State Listed Species .....	21
5.2.3. Other Species of Concern.....	22
<b>6.0 Effects of Proposed Project.....</b>	<b>22</b>
6.1. Effects On Listed Species.....	24
6.1.1. FLORA .....	24
6.1.1.1. Federally Listed Species.....	24
6.1.1.2. State Listed Species.....	24
6.1.2. Fauna .....	26
6.1.2.1. Federally Listed Species.....	26
6.1.2.2. State Listed Species.....	27
6.1.2.3. Other Species of Concern .....	28
6.2. Critical Habitat .....	28
<b>7.0 Conservation Measures .....</b>	<b>29</b>
7.1. Federally Listed Species.....	29
7.2. State Listed Species.....	29

<b>8.0</b>	<b>Summary.....</b>	<b>30</b>
<b>9.0</b>	<b>References.....</b>	<b>31</b>

### **LIST OF TABLES**

Table 3-1: Existing Land Use and Vegetative Communities within the Action Area .....	12
Table 5-1: Listed Species <sup>1</sup> Potentially Occurring within Action Area.....	15
Table 6-1: Vegetative Community/Land Use Conversions Resulting from the Proposed Project .....	23
Table 6-2: Existing and Proposed Land Use and Vegetative Communities Within the Action Area .....	24
Table 8-1: Project Impact Determination on Listed Species .....	30

### **LIST OF FIGURES**

Figure 1-1 Airport Location.....	2
Figure 1-2a EA Proposed Project.....	5
Figure 1-2b EA Proposed Project (Fuel Farm) .....	6
Figure 2-1 Action Area .....	8
Figure 3-1 Existing Land Use/Vegetative Cover Map .....	10
Figure 5-1 Wood Stork Rookery Location Map.....	20

### **LIST OF APPENDICES**

Appendix A	Agency Coordination
Appendix B	USFWS Standard Protection Measures for the Eastern Indigo Snake



## 1.0 INTRODUCTION

The City of Lakeland (City), through their Airports Department, is undertaking an Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969 (NEPA). The EA is being completed to support Phase II of ongoing air cargo facility development at Lakeland Linder International Airport (LAL or Airport), hereinafter referred to as the Proposed Project. The Proposed Project is an extension of development already underway to support air cargo service operations of Amazon Air at LAL. The purpose of the EA is to identify and consider the potential environmental impacts associated with the Proposed Project and any reasonable alternatives.

The Federal Aviation Administration (FAA) is the lead federal agency and is seeking to initiation informal consultation with the U.S. Fish and Wildlife Service (USFWS) per 50 Code of Federal Regulations (CFR) 402.13, as amended. To support the completion of consultation between the FAA and the USFWS under Section 7 of the Endangered Species Act of 1973, as amended (ESA), this Biological Assessment (BA) has been prepared to identify potential impacts to listed species within the study area of the Proposed Project. This BA is intended to: (1) describe the Proposed Project at LAL; (2) discuss the biology and distribution of plant and animal species that have the potential to be present in the project vicinity and have protection under the ESA; and (3) determine the potential effect of the Proposed Project on such ESA protected species. Preparation of this BA included field inspections by qualified biologists of habitats within and adjacent to the Action Area, as well as literature and database reviews. Details on the study methodologies and results are provided below.

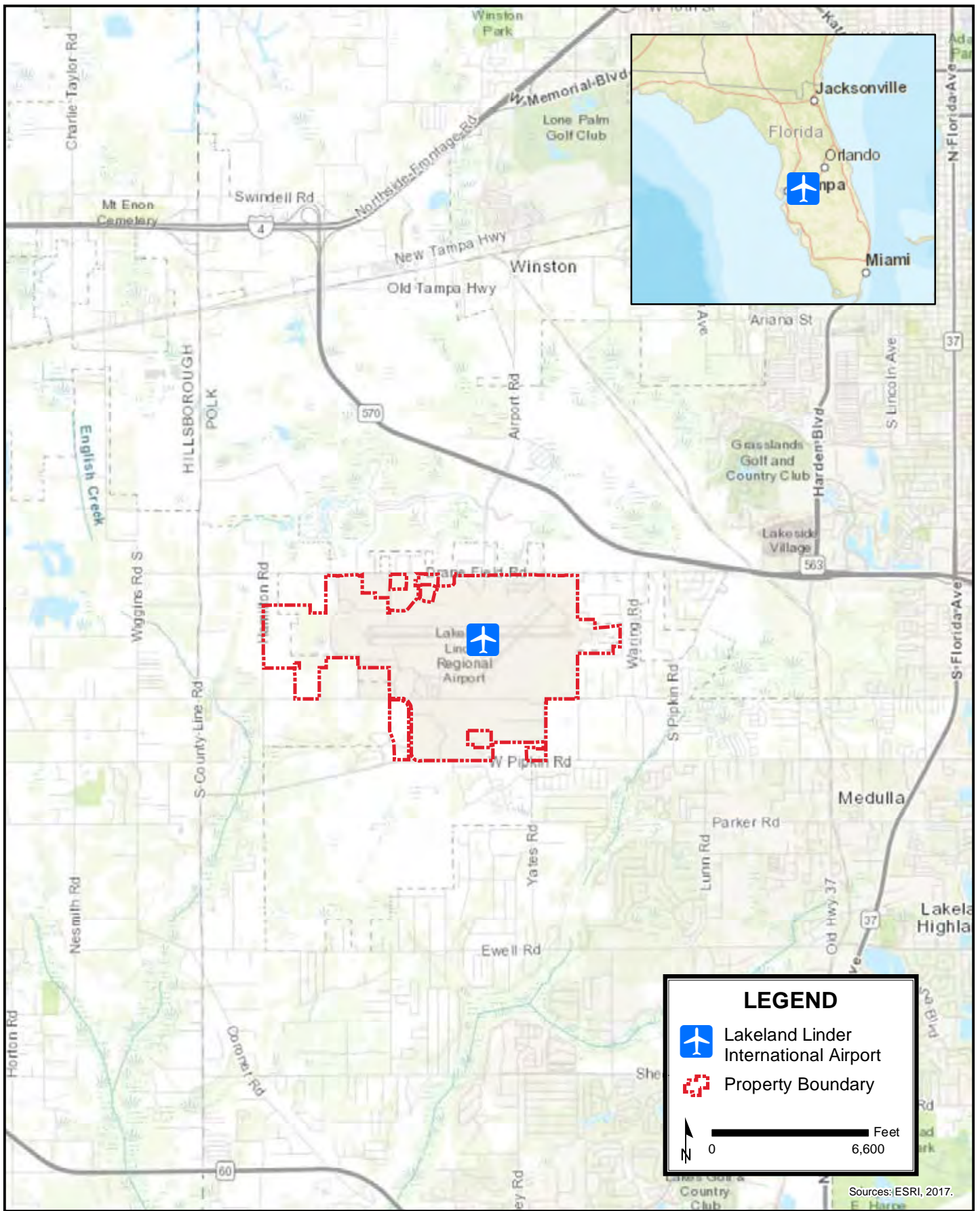
### 1.1. AIRPORT DESCRIPTION

LAL is publicly owned and operated by the City of Lakeland. The Airport is located on approximately 1,710 acres in central Florida's Polk County, less than one mile east of the Hillsborough County Line, and approximately 3.5 miles south of Interstate Highway 4, five miles southwest of the City of Lakeland, and 27 miles east of Tampa International Airport (TPA). **Figure 1-1** depicts the location of the Airport as it relates to the City of Lakeland and surrounding areas.

The City holds an operating certificate issued under Title 14 CFR Part 139, *Certification and Operations: Land Airports Serving Certain Air Carriers*<sup>1</sup>, which allows the airport to allow scheduled air carrier service. At this time there is no scheduled air carrier service at LAL. The airport serves public, private, and corporate users that operate a mixed fleet of helicopters, single and twin-engine propeller aircraft, corporate jets, commercial aircraft (maintenance, repair), and military aircraft.

---

<sup>1</sup> CFR Part 139 requires FAA to issue Airport Operating Certificates to airports that serve scheduled and unscheduled air carrier aircraft with more than 30 seats. LAL meets this requirement. To maintain this certificate, LAL must meet certain operational and safety standards.



**LAKELAND LINDER  
INTERNATIONAL AIRPORT  
PHASE II AIR CARGO DEVELOPMENT  
ENVIRONMENTAL ASSESSMENT**

**PROJECT LOCATION**

**FIGURE  
1-1**

The FAA's National Plan of Integrated Airport Systems (NPIAS) report identifies five-year funding needs for airports eligible to receive Airport Improvement Program grants. Each airport is classified based on annual enplanements (departing passengers). The 2019-2023 NPIAS (published on October 3, 2018)<sup>2</sup> classifies LAL as a national reliever airport. A reliever airport defined in the FAA's authorizing statute at 49 United States Code (U.S.C.), section 47102, as "an airport the Secretary designates to relieve congestion at a commercial service airport and to provide more general aviation access to the overall community." U.S. enplanements in 2017 were approximately 840 million, of which LAL recorded 223 (0.000027 percent).

## **1.2. DESCRIPTION OF THE PROPOSED PROJECT**

The Proposed Project is an expansion of an air cargo facility already under construction (Phase I) that will be operated by Amazon Air. Construction of Phase I is nearing completion. The Phase II expansion is being contemplated to accommodate expanded operations. A notional layout for the Proposed Project is shown on **Figure 1-2a** based on facility sizing needs. The Proposed Project would be developed on an approximate 60-acre site in the northwest quadrant of LAL, immediately west and adjacent to the Phase I development already in progress. All project components would be constructed on airport. Specific construction and operational activities included in the Proposed Project are listed below:

- Construct a 464,600 square foot (SF) expansion of the Phase I sort and office building;
- Construct approximately 69,000 square yards (SY) of paved truck court to accommodate 370 additional truck bays;
- Construct approximately 42,500 SY of paved vehicle parking lot to accommodate 1,120 additional parking spaces;
- Construct approximately 29,200 SY of concrete aircraft parking apron to accommodate three additional Boeing 767-300 aircraft parking positions.
- Construct approximately 19,350 SY of pavement for aircraft ground support equipment (GSE) staging and periodic aircraft parking;
- Construct new airport access road to provide access to the Phase II facilities via Drane Field Road;
- Site clearing, grading, and landscaping;
- Modifications to the airport's stormwater management system, including construction of swales and retention ponds.
- Installation of security fencing, gates and security checkpoints;
- Installation of airfield lighting and signage

The facility will be designed to approve Boeing 767 and 737 cargo aircraft. If approved, the Phase II Cargo Development project is expected to generate 16 additional aircraft operations per day at LAL during the facility's first year of operation (2022) and 24 additional daily operations in 2027. Similarly, the project is expected to generate approximately 664 additional car and truck trips per day in 2022 (peak daily) and 1,242 additional car and truck trips per day in 2027.

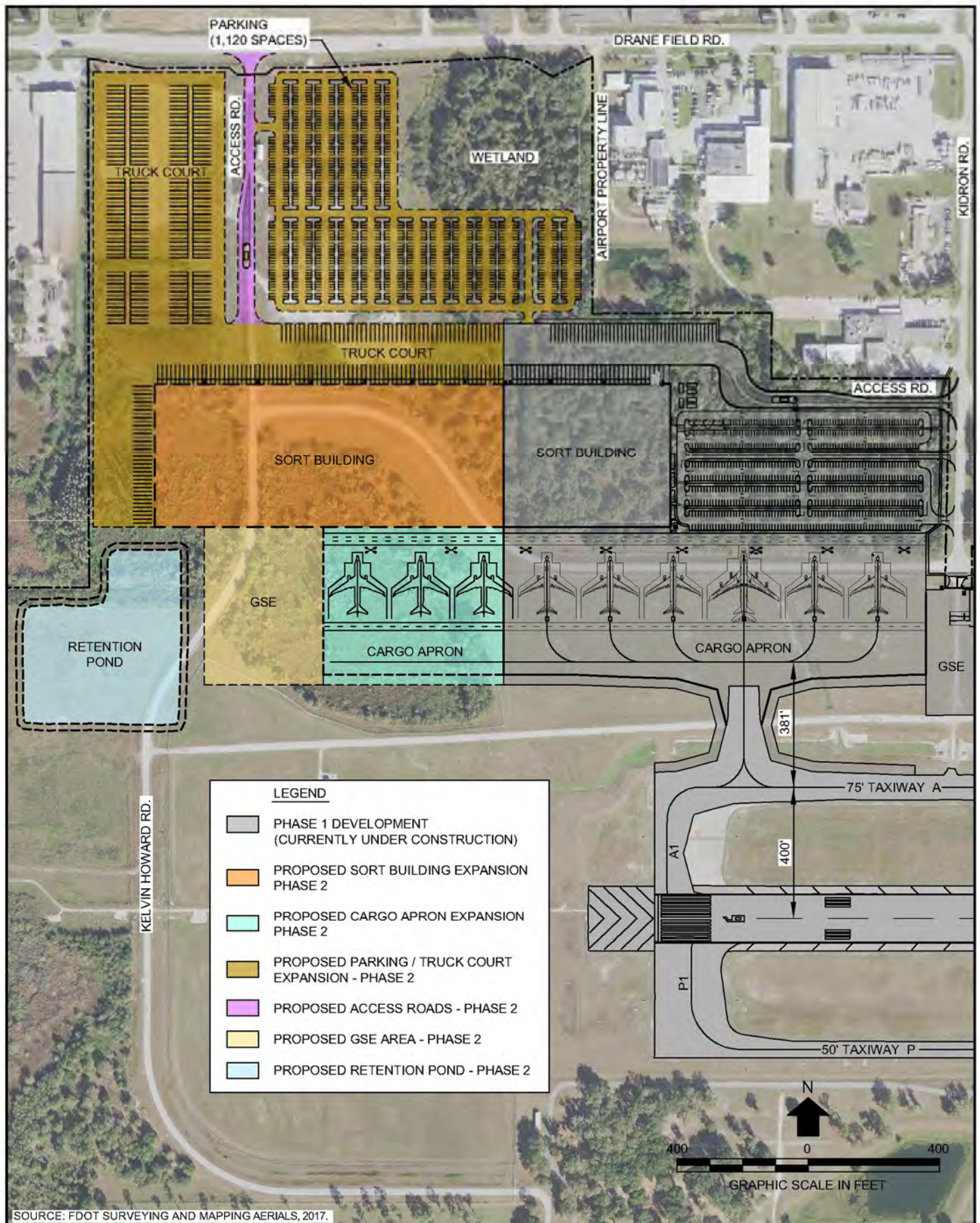
---

<sup>2</sup> DOT, FAA. Report to Congress: National Plan of Integrated Airport Systems 2019-2023, 2018.

Additionally, to accommodate the potential need for additional aviation fueling capacity at LAL, a fuel farm is being proposed in an area separate from the Proposed Project footprint, at the intersection of Air Park Drive and Taxiway H (**Figure 1-2b**). Current projections indicate need for between six to eight aboveground tanks providing a total of 850,000 gallons of Jet A fuel capacity. There is potential for a small portion of this capacity to be dedicated to off-road equipment fuel (e.g., gasoline, diesel or hydrogen) if usage needs dictate once the facility is operational.

Due to the location and design of the Proposed Project shown in **Figures 1-2a** and **1-2b**, the Proposed Project will result in modification to potential habitat and permanent fill of wetlands. Impacts to potential upland and wetland habitats are discussed in detail in **Section 6.0**.



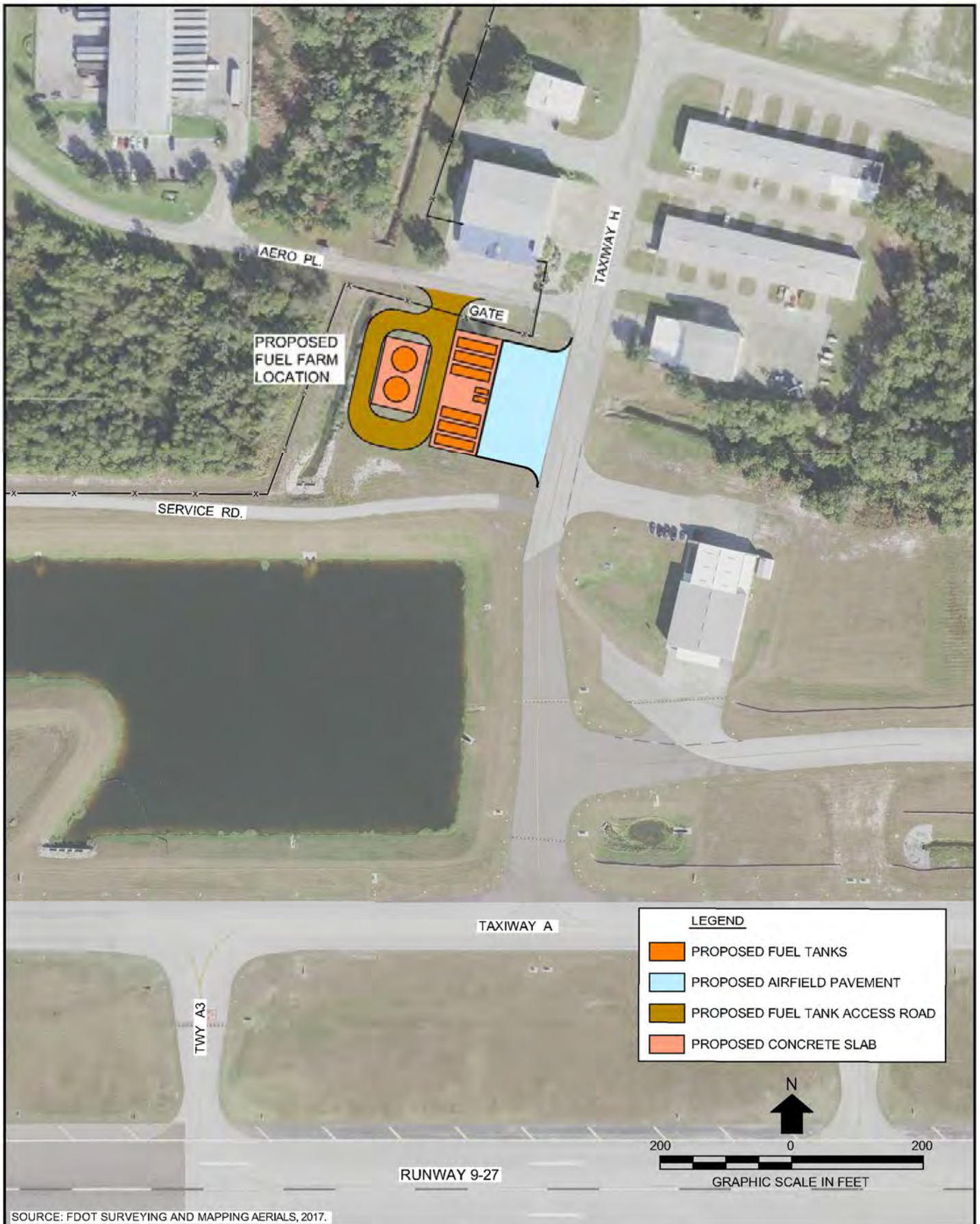


**LAKELAND LINDER  
INTERNATIONAL AIRPORT**  
**PHASE II AIR CARGO DEVELOPMENT  
ENVIRONMENTAL ASSESSMENT**

**EA PROPOSED PROJECT**

FIGURE  
1-2a





**LAKELAND LINDER  
INTERNATIONAL AIRPORT**  
PHASE II AIR CARGO DEVELOPMENT  
ENVIRONMENTAL ASSESSMENT

**EA PROPOSED PROJECT  
FUEL FARM**

FIGURE  
1-2b

## 2.0 METHODOLOGY

The purpose of this BA is to describe the existing environmental conditions of the study area and the potential impacts to wetlands, other surface waters, and federal and state listed species that could occur as a result of the Proposed Project. The Action Area for the BA encompasses the construction footprint of the Proposed Project and comprises a total of 70.3 acres (**Figure 2-1**).

The potential presence of state and federally listed species within the Action Area was assessed by review of the following:

- Listed species accounts;
- 2013 Wildlife Hazard Assessment (WHA) completed at LAL (Environmental Science Associates, 2013);
- 2020 Wildlife Hazard Management Plan (WHMP) for LAL (LAL, 2020);
- U.S. Fish and Wildlife Service (USFWS) and Florida Fish and Wildlife Conservation Commission (FWC) listings of species known to occur or potentially occurring in Charlotte County;
- Online database sources from the USFWS, FWC, and Florida Natural Areas Inventory (FNAI); and
- Field observations of habitats and wildlife species.

### 2.1. AGENCY COORDINATION

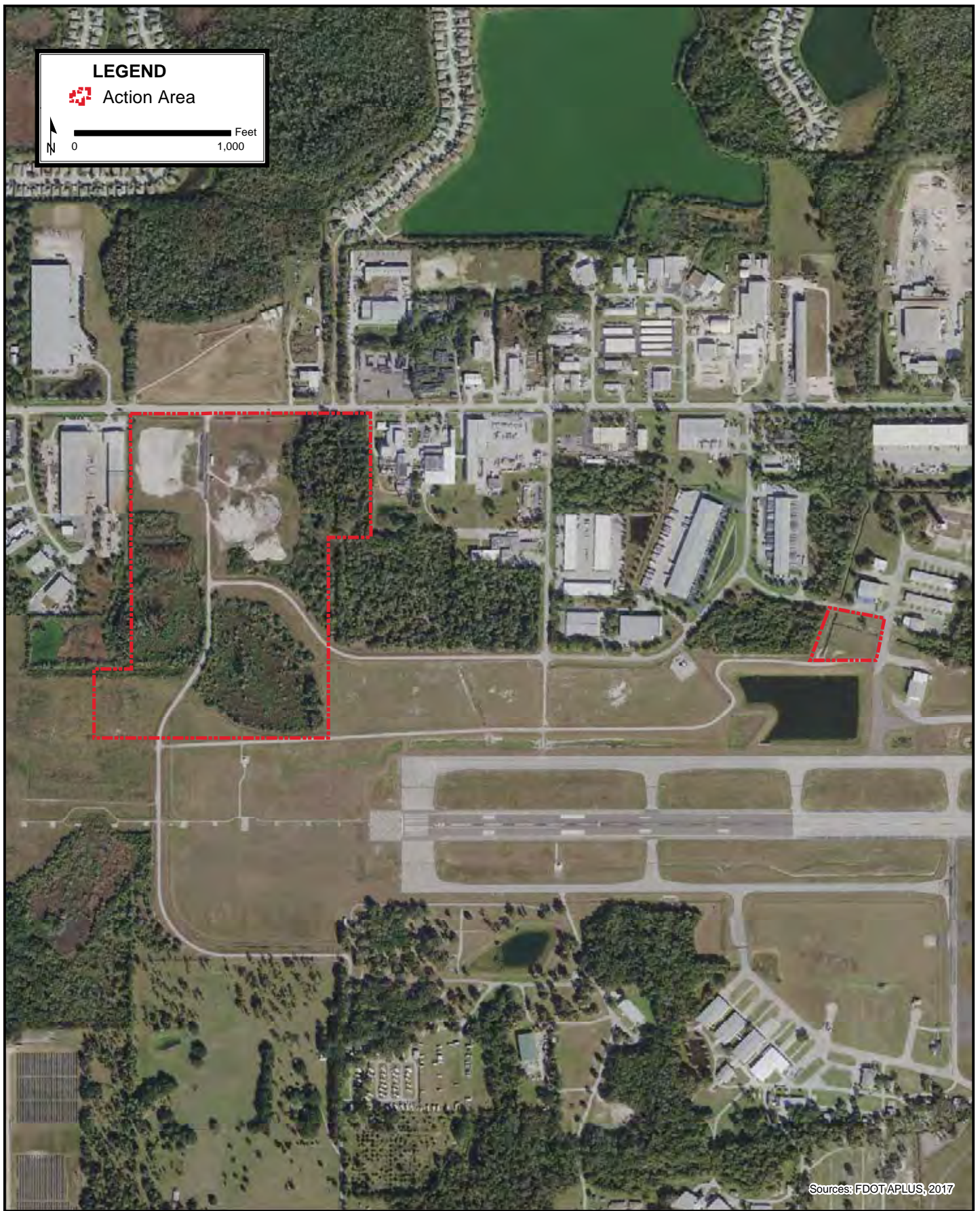
As part of the NEPA process, an Advance Notification of the Proposed Project was sent to the Florida Department of Environmental Protection (FDEP) State Clearinghouse requesting comments on the Proposed Project. Through this process, the Clearinghouse will request comments from the FWC on potential effects of the Proposed Project on listed species and potential permit requirements (see **Appendix A**). In addition, an official species list was requested from the USFWS Information for Planning and Consultation (IPaC) database (consultation code 04EF2000-2020-SLI-0368) and is provided in **Appendix A**.

### 2.2. DATA COLLECTION AND FIELD REVIEW

Documented occurrences of rare species likely to occur within Polk County were obtained from FNAI's Searchable Tracking List website (FNAI, 2020).

The following information was reviewed prior to the field review to characterize habitat features and land use patterns within the Action Area:





**LAKELAND LINDER  
INTERNATIONAL AIRPORT  
PHASE II AIR CARGO DEVELOPMENT  
ENVIRONMENTAL ASSESSMENT**

**ACTION AREA**

**FIGURE  
2-1**



- U.S. Geological Survey 7.5 minute Topographical Quadrangle Map, Nichols, FL, 2018;
- Aerial photographs (Florida Department of Transportation [FDOT] Aerial Photo Look-up System [APLUS], 2017);
- U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS), *Web Soil Survey of Polk County, Florida*. (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>) (NRCS, 2019);
- Florida Association of Professional Soil Scientists, *Hydric Soils of Florida Handbook*, Fourth Edition (Hurt, 2007);
- FDOT, *Florida Land Use, Cover and Forms Classification System Handbook* (FLUCFCS), Third edition (FDOT, 1999);
- Southwest Florida Water Management District (SWFWMD), FLUCFCS GIS Database (SWFWMD, 2017);
- USFWS, *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, *et al.*, 1979); and
- FDEP, Map Direct Gateway (<http://ca.dep.state.fl.us/mapdirect/gateway.jsp>), (FDEP, 2020).

AECOM environmental scientists familiar with Florida's natural communities conducted a field review within the Action Area on April 29, 2020. During the field review, each vegetative community and land use type within the Action Area was visually inspected to assess approximate boundaries and document dominant vegetation. Exotic plant infestations and other disturbances such as erosion and existing structures (i.e. riprap) were noted. Field activities also included identifying wildlife and signs of wildlife usage within the Action Area and within adjacent habitats.

### 3.0 EXISTING LAND USES AND VEGETATIVE COVER

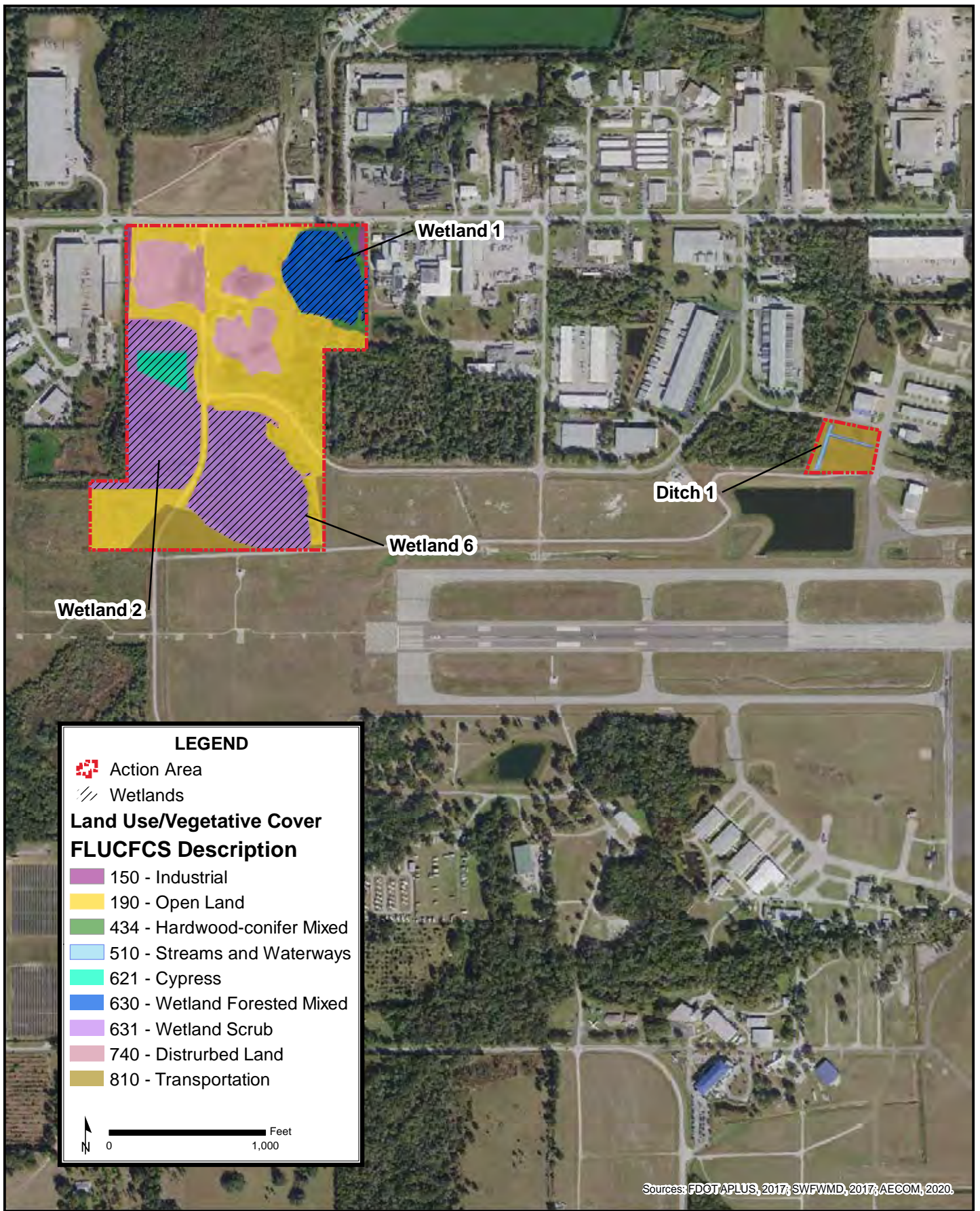
Based on in-house and field reviews, five upland community types, three wetland community types, and one surface water community type are present within the Action Area (**Figure 3-1**). All vegetative habitats and land uses within the Action Area were classified using FLUCFCS (FDOT 1999). Wetland habitats were also classified using the *USFWS Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, *et. al.*, 1979). A summary description of each land use/vegetative cover type is provided below. **Table 3-1** summarizes the acreage of each land use/vegetative cover type within the Action Area.

#### 3.1. UPLAND LAND USE/VEGETATIVE COVER

##### Industrial

##### **FLUCFCS: 150**

The Industrial category encompasses those land uses where manufacturing, assembly or processing of materials and products are accomplished. Within the Action Area, industrial land use is located at the northwest and northeast margins of the Action Area adjacent to off-airport developed land, and comprises approximately 0.6 acre of the Action Area.



**LAKELAND LINDER  
INTERNATIONAL AIRPORT  
PHASE II AIR CARGO DEVELOPMENT  
ENVIRONMENTAL ASSESSMENT**

**EXISTING LAND USE/  
VEGETATIVE COVER**

**FIGURE  
3-1**

**Open Land****FLUCFCS: 190**

Open land includes undeveloped land within urban areas that does not typically exhibit any structures or any indication of intended use. Open land comprises approximately 26.3 acres of the Action Area and includes mostly mowed/maintained Bahia grass (*Paspalum notatum*). It is a dominant cover type throughout the Action Area.

**Hardwood-Conifer Mixed****FLUCFCS: 434**

This vegetative cover type is reserved for those forested areas in which neither upland conifers nor hardwoods achieve a 66 percent crown canopy dominance. Within the Action Area, these areas predominantly consist of live oak (*Quercus virginiana*), slash pine (*Pinus elliottii*), wax myrtle (*Morella cerifera*), cogon grass (*Imperata cylindrica*), and muscadine grape (*Vitis rotundifolia*). Hardwood-conifer mixed is located in the northeast portion of the Action Area south of Drane Field Road adjacent to Wetland 1, and comprises approximately 0.9 acre of the Action Area.

**Disturbed****FLUCFCS: 740**

Disturbed lands are those areas which have been changed due primarily to human activities other than mining. Disturbed lands are located in the northwest portion of the Action Area west of Kelvin Howard Road and in the north-central portion east of Kelvin Howard Road and north of Air Park Drive. These areas are currently used as staging areas for the construction of Phase I Air Cargo Facility east of the Proposed Project area. This land use type comprises approximately 8.3 acres of the Action Area.

**Transportation****FLUCFCS: 810**

Transportation facilities are used for the movement of people and goods. Within the Action Area, this land use type includes unpaved areas adjacent to the airfield that are dominated by ruderal grasses that are regularly mowed as part of airport maintenance and operations. This land use type also includes portions of roadway on Airport property. The transportation land use comprises approximately 5.8 acres of the Action Area.

Table 3-1: Existing Land Use and Vegetative Communities within the Action Area

Vegetative Community/ Land Use	FLUCFCS <sup>1</sup> Code	USFWS Classification <sup>2</sup>	Acres in Action Area
<b>Uplands</b>			
Industrial	150	N/A	0.6
Open Land	190	N/A	26.3
Hardwood-Conifer Mixed	434	N/A	0.9
Disturbed	740	N/A	8.3
Transportation	810	N/A	5.8
<b>Subtotal Uplands</b>			<b>41.9</b>
<b>Wetlands</b>			
Cypress	621	PFO2C	1.4
Wetland Forested Mixed	630	PFO1/3C	5.6
Wetland Scrub	631	PFO1/2C	21.1
<b>Subtotal Wetlands</b>			<b>28.1</b>
<b>Other Surface Waters</b>			
Streams and Waterways	510	PUBx	0.3
<b>Subtotal Other Surface Waters</b>			<b>0.3</b>
<b>TOTAL</b>			<b>70.3</b>

<sup>1</sup> FDOT, 1999.<sup>2</sup> Cowardin, Lewis M., *et.al.* 1979.

Notes: NA = Not applicable; PFO2C = palustrine, forested, needle-leaved deciduous, seasonally flooded; PFO1/3C = palustrine, forested, broad-leaved deciduous/needle-leaved evergreen, seasonally flooded; PFO1/2C = palustrine, forested, needle-leaved/broad-leaved deciduous, seasonally flooded; PUBx = palustrine, unconsolidated bottom, excavated

### 3.2. WETLAND AND OTHER SURFACE WATER LAND USE/VEGETATIVE COVER

#### Streams and Waterways

**FLUCFCS: 510**

**USFWS: PUBx – Palustrine, Unconsolidated Bottom, Excavated**

Streams and waterways include linear water bodies such as rivers, creeks, canals, and ditches. Within the Action Area, this classification type includes an upland-cut drainage ditch (Ditch 1) that is seasonally inundated by surface water during the wet season and intermittently flooded after rainfall events in the dry season. This ditch is located in the proposed fuel area and consists of steep slopes and a sandy bottom. Vegetation within the ditch consists of primrose willow (*Ludwigia peruviana*), camphorweed (*Pluchea rosea*), elderberry (*Sambucus canadensis*), pennywort (*Hydrocotyle* spp.), and dogfennel (*Eupatorium capillifolium*). Ditch 1 is part of a stormwater management system that directs water into the stormwater pond directly south of the ditch. It is under the jurisdiction of the SWFWMD through Environmental Resource Permit Number 49002237.068 issued in October 2010. This ditch comprises approximately 0.3 acre of the Action Area. During the April 29, 2020 field review, the ditch was inundated with approximately 12 inches of water and various fish species were observed.

**Cypress****FLUCFCS: 621****USFWS: PFO2C – Palustrine, Forested, Needle-leaved Deciduous, Seasonally Flooded**

Within the Action Area, this community type is composed of bald cypress (*Taxodium distichum*) which is either pure or predominant. Within the Action Area, approximately 1.4 acres of cypress wetland occur west of Kelvin Howard Road and comprise the central portion of Wetland 2.

**Wetland Forested Mixed****FLUCFCS: 630****USFWS: PFO1/3C – Palustrine, Forested, Broad-leaved Deciduous/Needle-leaved Evergreen, Seasonally Flooded**

This category includes mixed wetlands forest communities in which neither hardwoods or conifers achieve a 66 percent dominance of the crown canopy composition. This area consists of Wetland 1 and predominantly consists of water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), slash pine, red maple (*Acer rubrum*), Carolina willow (*Salix caroliniana*), Virginia chain fern (*Woodwardia virginica*), and primrose willow. Wetland forested mixed comprises approximately 5.6 acres and is located east of Kelvin Howard Road south of Drane Field Road in the northeast section of the Action Area.

**Wetland Scrub****FLUCFCS: 631****USFWS: PFO1/2C – Palustrine, Forested, Broad-leaved/Needle-leaved Deciduous, Seasonally Flooded**

Wetland scrub is associated with topographic depressions and poorly drained soils consisting of low scrub species. Within the Action Area, this consists of Wetland 6 and the north and south portions of Wetland 2. During the April 29, 2020 field review, these areas appeared to be transitioning into forested wetland community types. Dominant vegetative species include cypress, Carolina willow, red maple, sweet bay (*Magnolia virginiana*), saltbush (*Baccharis halimifolia*), elderberry, Virginia chain fern, primrose willow, and poison ivy (*Toxicodendron radicans*). The outer fringe of these areas consist of Brazilian pepper (*Schinus terebinthifolia*), peppervine (*Nekemias arborea*), cogon grass, and wax myrtle. Wetland scrub comprises approximately 21.1 acres of the Action Area.

## **4.0 WILDLIFE**

The open areas within the Action Area provide potential habitat for various lizards, snakes, field birds, gallinaceous birds, shrews, rats, rabbits, skunks, coyotes, and bobcats. However, these areas are regularly mowed which limits the amount of sufficient cover provided to these species. The forested and scrub wetlands in the Action Area provide potential habitat for various songbirds, snakes, wading birds, and small mammals. The drainage ditch (Ditch 1) provides potential habitat for freshwater turtles, wading birds, fish, and frogs. The utilization of these



habitats on the Airport property by large-bodied mammals (i.e., deer, feral pigs, coyotes, etc.) is limited due to existing security fencing around the Airport property, the ongoing activities of the Phase 1 construction, and roadways. During the April 29, 2020 field review, red-winged blackbirds (*Agelaius phoeniceus*) were observed within the forested wetlands and various fish were observed within Ditch 1.

An FAA-approved WHMP is implemented at LAL and was last revised on January 26, 2020. As part of the WHMP, the City, as the Airport Sponsor, is responsible for implementing measures that will minimize and/or eliminate hazardous wildlife on Airport property. Based on a WHA conducted in June 2013, wildlife groups were identified as having the most significant threat to air operations at LAL. These groups were identified as:

- Large wading birds such as Florida sandhill cranes, wood storks, and great egrets.
- Medium-sized wading birds that forage or fly in groups such as cattle egrets and white ibis;
- Large raptors such as bald eagles, hawks, osprey, and vultures;
- Small birds that fly in flocks or groups such as red-winged blackbirds and swallows;
- Large/medium-sized mammals such as coyotes, feral hogs, bobcats, and raccoons.

In July 2013, a Depredation permit and a Migratory Depredation Wildlife Permit was obtained from the USFWS that is renewed annually and authorizes the City to legally take, using methods specified by USFWS, listed species and migratory bird species that pose a threat to human safety.

## **5.0 LISTED SPECIES**

The Action Area was evaluated for potential occurrences of federally and state listed plant and animal species. For a listed species to be considered potentially occurring within the Action Area, appropriate habitat for reproduction, nesting, foraging, feeding, or resting must be present in the Action Area and the Action Area must be located within the species' geographical range. Federally listed species are those plant and animal species protected by the federal government pursuant to the ESA. Federally listed species are classified as endangered or threatened. State listed species are those plant and animal species managed by the state of Florida pursuant to Chapter 5B-40 Florida Administrative Code (F.A.C.) and Chapter 68A-27 F.A.C, respectively. State listed species are classified as endangered, threatened, species of special concern (animals), or commercially exploited (plants). During the April 29, 2020 field review, the Action Area was assessed for the presence of, or potential use by, federally and state listed plant and animal species. The following literature and online data sources were used to collect information concerning the potential presence of federally and/or state listed species within the Action Area:

- USFWS, Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12, updated April 8, 2019 (USFWS, 2019);
- USFWS, IPaC (<https://ecos.fws.gov/ipac>) (USFWS, 2020);

- FWC, *Florida's Endangered Species, Threatened Species, and Species of Special Concern*, Chapter 68A-27 F.A.C, updated December 2018 (FWC, 2018);
- FWC, Eagle Nest Locator website (<http://myfwc.com/eagle/eaglenests/nestlocator.aspx>) (FWC, 2020);
- FNAI, Polk County Tracking List, (<http://fnai.org/bioticssearch.cfm>), updated April 2019 (FNAI, 2019);
- Florida Department of Agriculture & Consumer Services, Division of Plant Industry (FDACS), 2010 *Notes on Florida's Endangered and Threatened Plants: Botany Contribution No. 38, 5th edition*; and
- NatureServe Explorer maps and database (<http://www.natureserve.org/explorer/>), (NatureServe, 2020).

The listed species with potential to occur within the Action Area are described below. **Table 5-1** provides a summary of the listed and protected species with potential to occur within the Action Area.

**Table 5-1: Listed Species<sup>1</sup> Potentially Occurring within Action Area**

Scientific Name	Common Name	Federal Status <sup>2</sup>	State Status <sup>3</sup>	Habitat Preference
<b>Plants</b>				
<i>Agrimonia incisa</i>	Incised groove-bur	NL	T	Longleaf pine-deciduous scrub oak, sandy or sandy loam; open pine woods or mixed pine-oak woods, bluffs, small clearings and old roads.
<i>Ophioglossum palmatum</i>	Hand fern	NL	E	Forested wetlands typically at the base of cabbage palms.
<i>Pecluma ptilota</i> var. <i>bourgeauana</i>	Comb (swamp) polypody	NL	E	Rockland hammocks, strand swamps, and wet woods; often on tree bases and fallen logs.
<i>Platanthera integra</i>	Yellow fringeless orchid	NL	E	Marshes, swamps, acid bogs, low pine barrens.
<i>Salix floridana</i>	Florida willow	NL	E	Wet, mucky soils in bottomland forests, floodplains, hydric hammocks, swamps, edges of spring-runs, and streams
<i>Thelypteris serrata</i>	Toothed maiden fern	NL	E	Cypress swamps, sloughs, floodplains.
<b>Reptiles</b>				
<i>Drymarchon corais couperi</i>	Eastern indigo snake	T	T	Various habitats with the exception of open water.
<i>Gopherus polyphemus</i>	Gopher tortoise	C	T	Dry upland habitats, including disturbed habitats such as pastures, old fields, and road shoulders.
<b>Birds</b>				
<i>Antigone canadensis pratensis</i>	Florida sandhill crane	NL	T	Prairies, freshwater marshes, and pastures.
<i>Aphelocoma</i>	Florida scrub jay	T	T	Fire-dominated xeric oak

Scientific Name	Common Name	Federal Status <sup>2</sup>	State Status <sup>3</sup>	Habitat Preference
<i>coerulescens</i>				communities on well drained sandy soils. <b>*LAL is located within USFWS Consultation Area for the Florida scrub jay.</b>
<i>Athene cunicularia floridana</i>	Florida burrowing owl	NL	T	High, sparsely vegetated, sandy ground. Natural habitats include dry prairie and sandhill. Makes extensive use of ruderal areas such as pastures, airports, road right-of-ways, and vacant spaces in residential areas.
<i>Egretta caerulea</i>	Little blue heron	NL	T	Permanently and seasonally flooded wetlands, streams, lakes, and swamps, and in manmade impoundments and ditches.
<i>Egretta tricolor</i>	Tricolored heron	NL	T	Permanently and seasonally flooded wetlands, streams, lakes, and swamps, and in manmade impoundments and ditches.
<i>Falco sparverius Paulus</i>	Southeastern American kestrel	NL	T	Open pine habitats, woodland edges, prairies and pastures.
<i>Mycteria americana</i>	Wood stork	T	T	Nests in inundated forested wetlands. Forages in freshwater marshes, swamps, flooded pastures.
<i>Polyborus plancus audubonii</i>	Audubon's crested caracara	T	T	Open country with scattered cabbage palms, cabbage palm/live oak hammocks, and shallow ponds/sloughs. <b>*LAL is located within USFWS Consultation Area for the crested caracara.</b>
<i>Rostrhamus sociabilis plumbeus</i>	Everglade snail kite	E	E	Large, open freshwater marshes and lakes; open water areas without emergent vegetation required for foraging; nests 1-5 m above water in low shrub/tree, sawgrass, maidencane habitat. <b>*LAL is located within USFWS Consultation Area for the snail kite.</b>
<b>Other Species of Concern</b>				
<i>Haliaeetus leucocephalus</i>	Bald eagle	NL <sup>4</sup>	NL <sup>4</sup>	Nests in tall trees. Forages near bodies of water.
<i>Ursus americanus floridanus</i>	Florida black bear	NL <sup>5</sup>	NL <sup>5</sup>	A wide variety of forested communities including forested wetlands.

Note:



T = Threatened; E = Endangered; NL = Not Listed; C = Candidate

<sup>1</sup> As reported by the "FNAI Tracking List, Polk County" <http://www.fnai.org>. (FNAI, 2020) and the USFWS IPaC "Official Species List" (USFWS, 2020).

<sup>2</sup> As listed by the USFWS in 50 CFR 17 (<http://www.fws.gov/endangered/>), updated April 2019 (USFWS, 2019).

<sup>3</sup> Plant species listed by the FDACS pursuant to Chapter 5B-40, F.A.C, updated 2010 (FDACS, 2010). Animal species listed by the FWC pursuant to Rules 68A-27.003 through 68A-27.005, F.A.C. (<http://myfwc.com/wildlifehabitats/imperiled/>), updated December 2018 (FWC, 2018).

<sup>4</sup> The bald eagle is neither state nor federally listed; however, this species is federally protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The bald eagle is also managed in Florida by the FWC's bald eagle rule (Chapter 68A-16.002, F.A.C.).

<sup>5</sup> The Florida black bear is no longer state-listed; however, this species is managed in Florida by the FWC's Florida Black Bear Conservation rule (68A-4.009, F.A.C.).

## 5.1. FLORA

A review of state and federally listed plants that occur within Polk County and their preferred habitats was performed prior to field reviews. No listed plant species have been documented within the Action Area based on information from FNAI and USFWS. The field review did not detect the occurrence of any protected plant species within the Action Area.

### 5.1.1. FEDERALLY LISTED SPECIES

Based on the existing habitat types occurring within the Action Area, no federally listed plant species documented within Polk County have the potential to occur within the Action Area.

### 5.1.2. STATE LISTED SPECIES

#### **Incised groove-bur (*Agrimonia incisa*)**

The incised groove-bur is listed as threatened by the FDACS and is a member of the Rosaceae (rose) family. This species is most commonly found in the fire-maintained longleaf pine-oak communities. However, it occasionally has been found on old roads and disturbed mixed pine-oak woods. Marginally suitable habitat for this species occurs within the Action Area within the small areas of hardwood-conifer mixed habitat.

#### **Hand fern (*Ophioglossum palmatum*)**

Hand fern is listed as endangered by the FDACS and is a member of the Ophioglossaceae (adder's-tongue) family. This species is found within hydric hammocks typically at the base of cabbage palms. Marginally suitable habitat for hand fern occurs within the Action Area within the forested wetlands; however, cabbage palms have not been observed to be a dominant vegetative species within the wetlands.

#### **Comb (swamp) polypody (*Pecluma ptilota* var. *bourgeauana*)**

Comb (swamp) polypody is listed as endangered by the FDACS and is a member of the Polypodiaceae (fern) family. This species is found in rockland hammocks, strand swamps, and wet woods, often at the base of trees and fallen logs. Suitable habitat for this species is available within the Action Area within the forested wetlands.

#### **Yellow fringeless orchid (*Platanthera integra*)**

The yellow fringeless orchid is listed as endangered by the FDACS and is a member of the Orchidaceae (orchid) family. This species is typically found in both forested and herbaceous wetlands including wet pine flatwoods, wet prairies, marshes, bogs, and swamps. It is thought to be fire dependent throughout its range where it doesn't get overwhelmed by other plant species or shaded out by pines and hardwoods. Marginally suitable habitat for this species occurs within the Action Area within the forested wetlands.

**Florida willow (*Salix floridana*)**

Florida willow is listed as endangered by the FDACS and is a member of the Salicaceae (willow) family. This species occurs in very wet, calcareous soils, typically in forested floodplains, hydric hammocks, edges of spring runs, and roadside ditches. Suitable habitat for this species occurs within the Action Area within the forested wetlands and Ditch 1.

**Toothed maiden fern (*Thelypteris serrata*)**

The toothed maiden fern is listed as endangered by the FDACS and is a member of the Thelypteridaceae (marsh fern) family. This species generally is found in freshwater swamps, cypress domes, and bogs. Suitable habitat for the toothed maiden fern occurs within the Action Area within the forested wetlands.

**5.2. FAUNA****5.2.1. FEDERALLY LISTED SPECIES****Eastern indigo snake (*Drymarchon corais couperi*)**

The eastern indigo snake is listed as threatened by the USFWS. The snake can be found in a variety of habitats including mesic flatwoods, swamps, wet prairies, xeric pinelands, and scrub areas. It may use gopher tortoise burrows for shelter to escape hot or cold ambient temperatures within its range. While suitable habitat is present for this species in the Action Area, no eastern indigo snakes or gopher tortoise burrows were observed during the April 2020 field review.

**Florida scrub jay (*Aphelocoma coerulescens*)**

The Florida scrub jay is listed as threatened by the USFWS and is typically found in early successional stages of fire-dominated xeric oak communities located on well-drained, sandy soils. Preferred habitat consists of scrub oaks between three and ten feet tall with open sand and scattered clumps of herbaceous vegetation. The Action Area is located within the USFWS Consultation Area for the scrub jay. However, no xeric oak scrub communities are located inside the Action Area and no scrub jays were observed within the Action Area during the April 2020 field review.

**Wood stork (*Mycteria americana*)**

The wood stork is listed as threatened by the USFWS. This wading bird species is opportunistic and uses various habitat types, including forested wetlands, freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures, and ditches for feeding. A specialized feeding

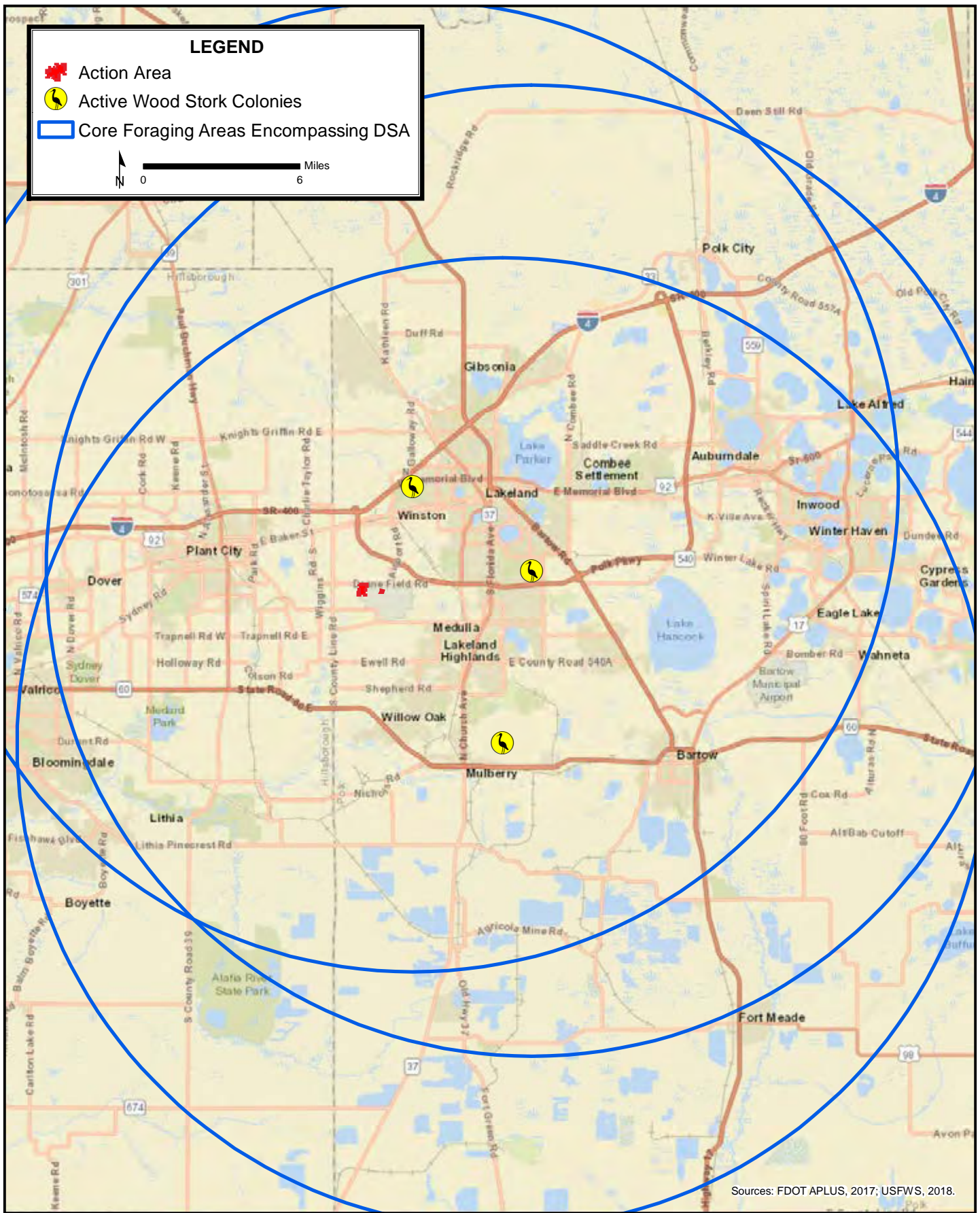
technique commonly referred to as “groping” limits the wood stork to feeding in shallow water. This species can be expected to use the ditches and marshes within the Action Area for seasonal foraging; however, existing wildlife hazard management activities actively discourage foraging on Airport property. The USFWS has defined the core foraging area (CFA) for the wood stork in Polk County as an 18.6-mile radius from breeding colonies. Based on information provided by the USFWS, the Action Area is located within the 18.6-mile radius CFA of three active wood stork nesting colonies. As shown on **Figure 5-1**, the closest colony is approximately four miles northeast of the Action Area. Based on the 2013 WHA, wood storks have been observed foraging within wetlands and other surface waters on Airport property. Suitable foraging and nesting habitat is available within the Action Area. During the April 2020 field review, no wood storks were observed within or adjacent to the Action Area.

**Audubon’s crested caracara (*Polyborus plancus auduboni*)**

The Audubon’s crested caracara is listed as threatened by the USFWS and inhabits open country, such as dry prairie and pasturelands with scattered cabbage palms, cabbage palm/live oak hammocks, and shallow ponds and sloughs. This species requires cabbage palms or live oaks with low-growing surrounding vegetation for nesting. Although the Action Area is located within the USFWS Consultation Area for this species, no suitable foraging or nesting habitat is available within the Action Area and no individuals or nests were observed within the Action Area during the April 2020 field review.

**Everglade snail kite (*Rostrhamus sociabilis plumbeus*)**

The Everglade snail kite is federally listed as endangered by the USFWS due to habitat degradation and loss. This species prefers large open freshwater marshes and lakes with shallow water and feeds exclusively on apple snails (*Pomacea paludosa*). The Action Area is located within the USFWS Consultation Area for the snail kite. However, suitable foraging habitat does not exist for this species in the Action Area and no snail kites or apple snails were observed during the April 2020 field review.



**LAKELAND LINDER  
INTERNATIONAL AIRPORT  
PHASE II AIR CARGO DEVELOPMENT  
ENVIRONMENTAL ASSESSMENT**

**ACTIVE WOOD STORK  
ROOKERIES**

**FIGURE  
5-1**

### 5.2.2. STATE LISTED SPECIES

#### **Gopher tortoise (*Gopherus polyphemus*)**

The gopher tortoise is listed as threatened by the FWC and is considered a candidate species by USFWS due to habitat loss, degradation, and a declining number of individuals. The gopher tortoise requires well-drained, loose, sandy soils for burrowing, and low-growing herbs and grasses for food. Marginally suitable habitat for this species is present within the Action Area and based on the 2013 WHA, gopher tortoise burrows have been observed at LAL; however, no gopher tortoise burrows were observed within the Action Area during the April 2020 field review.

#### **Florida burrowing owl (*Athene cunicularia floridana*)**

The Florida burrowing owl is listed as threatened by the FWC. This species inhabits high, sparsely vegetated, sandy ground including dry prairie, pastures, airports, and road rights-of-way for nesting. Within the Action Area, marginally suitable habitat for this species is available. However, during the April 2020 field review, no burrowing owls or burrows were observed within the Action Area.

#### **Little blue heron (*Egretta caerulea*) and tricolored heron (*Egretta tricolor*)**

The little blue heron and tricolored heron are both listed as threatened by the FWC. These wading birds nest and forage among both fresh and saltwater habitats such as freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps. Suitable nesting habitat for these wading birds is available within the Action Area within the forested wetlands and suitable foraging habitat is available within the drainage ditch. Based on the WHA, these wading birds have been observed foraging throughout the wetlands on Airport property. During the 2020 field review, no wading birds were observed within or adjacent to the Action Area.

#### **Southeastern American kestrel (*Falco sparverius paulus*)**

The southeastern American kestrel is listed as threatened by FWC and is non-migratory. The species utilizes open habitats for foraging and nests in tree cavities. Habitats such as pine scrub, dry prairies, mixed pine and hardwood forests, and pine flatwoods are preferable for the southeastern American kestrel. Based on the 2013 WHA, kestrels have been observed within the AOA at LAL. However, suitable habitat for the southeastern American kestrel is not available within the Action Area and none were observed during the April 2020 field review.

#### **Florida sandhill crane (*Antigone canadensis pratensis*)**

The Florida sandhill crane is listed as threatened by the FWC. The sandhill crane is associated with shallow freshwater areas, pasture, and open woods habitats. Habitats such as wet and dry prairies, marshes, and marshy lake margins are preferred. Marginally suitable habitat for this species is available in the Action Area. Based on the 2013 WHA, sandhill cranes have been observed foraging at LAL. During the April 2020 field review, no sandhill cranes or nests were observed within the Action Area.

### 5.2.3. OTHER SPECIES OF CONCERN

#### **Bald eagle (*Haliaeetus leucocephalus*)**

Though the bald eagle has been removed from federal and state listings, it is still protected by the Bald and Golden Eagle Protection Act in accordance with 16 U.S.C. Section 668 and the Migratory Bird Treaty Act in accordance with 16 USC Sections 703-712. The bald eagle typically uses riparian habitat associated with coastal areas, lake shorelines, and river banks. The nests are generally located near water bodies that provide a dependable food source. The FWC online bald eagle nest locator website indicates that the nearest document nest is located approximately one mile northwest of the Action Area. Based on the 2013 WHA, bald eagles have been observed at LAL, though sightings are rare. During the April 2020 field review, no bald eagles or nests were observed within the Action Area.

#### **Florida Black Bear (*Ursus americanus floridanus*)**

Although the Florida black bear has been removed from the state listing, it is still protected and managed by the FWC pursuant to the Florida Black Bear Conservation Rule 68A-4.009, F.A.C. The Florida black bear can be found statewide in a number of habitats including mixed hardwood pine communities, cabbage palm hammock and forested wetland systems. This species tends to den alone within tree cavities, river banks, logs or caves. They will also seek shelter on the ground in palmetto thickets, gallberry, fetterbush, and sweet pepperbush. Marginally suitable habitat for the black bear is available within the proposed project areas in the forested upland and wetland areas. Established by the FWC, a Bear Management Unit (BMU) is a geographic location bounded by county and/or state borders with one of the seven Florida black bear subpopulations within it. The goal of a BMU is to provide a defined area within which FWC can have a community-focused effort to effectively manage and conserve Florida black bears (FWC, 2019). According to FWC, LAL is located within the South Central BMU where their occurrence is classified as “occasional”. No black bears have been observed at LAL and only marginally suitable habitat for the black bear is present within the Action Area.

## 6.0 EFFECTS OF PROPOSED PROJECT

Implementation of the Proposed Project will result in the conversion of approximately 54.6 acres of land use/vegetative cover to Transportation use (FLUCFCS 810). It is anticipated that 5.8 acres of land use/vegetative cover will convert into Reservoir (FLUCFCS 534) as a result of the proposed retention pond (see **Figures 1-2a** and **1-2b** for Proposed Project layout). **Table 6-1** lists the vegetative communities and land uses that will be converted to Transportation use or Reservoir use by the Proposed Project.

**Table 6-1: Vegetative Community/Land Use Conversions Resulting from the Proposed Project**

Vegetative Community/Land Use	FLUCFCS Code <sup>1</sup>	USFWS Classification <sup>2</sup>	Acres Converted to Transportation (FLUCFCS 810)	Acres Converted to Reservoir (FLUCFCS 534)	Total
<b>Uplands</b>					
Industrial	150	N/A	0.4	--	0.4
Open Land	190	N/A	22.8	3.5	26.3
Hardwood-Conifer Mixed	434	N/A	0.3	--	0.3
Disturbed	740	N/A	8.3	--	8.3
Transportation	810	N/A	--	1.1	1.1
<b>Subtotal Uplands</b>			<b>31.8</b>	<b>4.6</b>	<b>36.4</b>
<b>Wetlands</b>					
Cypress	621	PFO2C	1.4	--	1.4
Wetland Forested Mixed	630	PFO1/3C	1.2	--	1.2
Wetland Scrub	631	PFO1/2C	19.9	1.2	21.1
<b>Subtotal Wetlands</b>			<b>22.5</b>	<b>1.2</b>	<b>23.7</b>
<b>Other Surface Waters</b>					
Streams and Waterways	510	PUBx	0.3	--	0.3
<b>Subtotal Other Surface Waters</b>			<b>0.3</b>	<b>0.0</b>	<b>0.3</b>
<b>Total</b>			<b>54.6</b>	<b>5.8</b>	<b>60.4</b>

Notes:

<sup>1</sup> FDOT, 1999

<sup>2</sup> Cowardin, Lewis M., *et.al.* 1979.

To offset the loss of wetland functions and values, all wetland impacts will be mitigated to satisfy all mitigation requirements of 33 USC 1344 and Part IV, Chapter 373, Florida Statutes. The City proposes to purchase wetland credits from the Alafia River Mitigation Bank to offset the loss of wetland functions and values. Measures will be implemented to minimize impacts to listed species as summarized in **Section 7.0**.

**Table 6-2** summarizes the proposed land use and vegetative cover types resulting from the implementation of the Proposed Project.

**Table 6-2: Existing and Proposed Land Use and Vegetative Communities Within the Action Area**

<b>Vegetative Community/Land Use</b>	<b>FLUCFCS<sup>1</sup> Code</b>	<b>USFWS Classification<sup>2</sup></b>	<b>Existing Acres in Action Area</b>	<b>Proposed Acres in Action Area</b>
<b><i>Uplands</i></b>				
Industrial	150	N/A	0.6	0.2
Open Land	190	N/A	26.3	0.0
Hardwood-Conifer Mixed	434	N/A	0.9	0.6
Disturbed	740	N/A	8.3	0.0
Transportation	810	N/A	5.8	59.3
<b><i>Subtotal Uplands</i></b>			<b><i>41.8</i></b>	<b><i>60.1</i></b>
<b><i>Wetlands</i></b>				
Cypress	621	PFO2C	1.4	0.0
Wetland Forested Mixed	630	PFO1/3C	5.6	4.4
Wetland Scrub	631	PFO1/2C	21.1	0.0
<b><i>Subtotal Wetlands</i></b>			<b><i>28.1</i></b>	<b><i>4.4</i></b>
<b><i>Other Surface Waters</i></b>				
Streams and Waterways	510	PUBx	0.3	0.0
Reservoir	534	POWx	0.0	5.8
<b><i>Subtotal Other Surface Waters</i></b>			<b><i>0.3</i></b>	<b><i>5.8</i></b>
<b>Total</b>			<b>70.3</b>	<b>70.3</b>

<sup>1</sup> FDOT, 1999.

<sup>2</sup> Cowardin, Lewis M., *et.al.* 1979.

POWx = Palustrine, open water, excavated

## 6.1. EFFECTS ON LISTED SPECIES

The Proposed Project would result in permanent modification of habitats potentially utilized by listed and protected species. The potential effect of the habitat impacts on state and federally listed species with potential to occur within the Action Area are discussed below.

### 6.1.1. FLORA

#### 6.1.1.1. FEDERALLY LISTED SPECIES

Based on the existing habitat types occurring within the Action Area, no federally listed plant species documented within Polk County have the potential to occur within the Action Area.

#### 6.1.1.2. STATE LISTED SPECIES

##### **Incised groove-bur**

The incised groove-bur is most commonly found in the fire-maintained longleaf pine-oak communities, occasionally is found on old roads and disturbed mixed pine-oak woods. Though marginally suitable habitat for this species occurs within the Action Area within the small areas of hardwood-conifer mixed habitat, none of these species were detected within or adjacent to the Action Area during the April 2020 field review and none have been documented at LAL.



Based on this information, the Proposed Project is not anticipated to affect the incised groove-bur.

**Hand fern**

Hand fern is found within hydric hammocks typically at the base of cabbage palms. Only marginally suitable habitat for hand fern occurs within the Action Area within the forested wetlands; however, cabbage palms have not been observed to be a dominant vegetative species within these wetlands, no hand ferns were detected within or adjacent to the Action Area, and none have been documented at LAL. Based on this information, the Proposed Project is not anticipated to affect the hand fern.

**Comb (swamp) polypody**

Comb (swamp) polypody is found in rockland hammocks, strand swamps, and wet woods, often at the base of trees and fallen logs. Suitable habitat for this species is available within the Action Area within the forested wetlands. No polypody was detected within or adjacent to the Action Area and none have been documented at LAL. Based on this information, the Proposed Project is not anticipated to affect the comb (swamp) polypody.

**Yellow fringeless orchid**

The yellow fringeless orchid is typically found in both forested and herbaceous wetlands including wet pine flatwoods, wet prairies, marshes, bogs, and swamps. It is thought to be fire dependent throughout its range where it doesn't get overwhelmed by other plant species or shaded out by pines and hardwoods. Marginally suitable habitat for this species occurs within the Action Area within the forested wetlands. However, these areas are not fire-dominated, no yellow fringeless orchid was detected within or adjacent to the Action Area, and none have been documented at LAL. Based on this information, the Proposed Project is not anticipated to affect the yellow fringeless orchid.

**Florida willow**

Florida willow is found in very wet, calcareous soils, typically in forested floodplains, hydric hammocks, edges of spring runs, and roadside ditches. Suitable habitat for this species occurs within the Action Area within the forested wetlands and Ditch 1. No Florida willow was detected within or adjacent to the Action Area and none have been documented at LAL. Based on this information, the Proposed Project is not anticipated to affect the Florida willow.

**Toothed maiden fern**

The toothed maiden fern generally is found in freshwater swamps, cypress domes, and bogs. Suitable habitat for the toothed maiden fern occurs within the Action Area within the forested wetlands. No Florida willow was detected within or adjacent to the Action Area and none have been documented at LAL. Based on this information, the Proposed Project is not anticipated to affect the Florida willow.

### 6.1.2. FAUNA

#### 6.1.2.1. FEDERALLY LISTED SPECIES

##### **Eastern indigo snake**

While no eastern indigo snakes were observed during the field reviews, suitable habitat for this species is present within the Action Area. To minimize potential impacts to the eastern indigo snake, LAL will commit to use the USFWS-approved *Standard Protection Measures for the Eastern Indigo Snake* (updated August 2013) (see **Appendix B**) as part of the Proposed Project. In addition, the Proposed Project will impact less than 25 acres of marginally suitable indigo snake habitat and there are no known gopher tortoise burrows within the Action Area. The most recent (August 1, 2017) USFWS Eastern Indigo Snake Programmatic Effect Determination Key was used to evaluate potential effects on this species. The result of this evaluation indicates that the Proposed Project “may affect, but is not likely to adversely affect” the eastern indigo snake.

##### **Florida scrub jay**

Though the Action Area is located within the USFWS Consultation Area for the Florida scrub jay, no xeric oak scrub communities are located inside the Action Area and no scrub jays were observed within the Action Area during field reviews. Based on this information, a determination that the Proposed Project will have “no effect” on the Florida scrub jay is recommended.

##### **Wood stork**

Suitable foraging habitat for the wood stork is available within the Action Area within the wetlands. Based on USFWS data, the Action Area is located within the CFA of three active wood stork nesting colonies (**Figure 5-1**) and individuals have been observed foraging within the Action Area. Compensation for suitable foraging habitat will be provided within the service area of an USFWS-approved wetland mitigation bank or wood stork conservation bank (preferably located within the CFA of wood stork foraging habitat lost). Based on these commitments and the 2010 FWS Programmatic Concurrence Letter for the Wood Stork, a determination that the Proposed Project “may affect, but is not likely to adversely affect” the wood stork is recommended.

##### **Audubon’s crested caracara**

The Action Area is located within the USFWS Consultation Area for the Audubon’s crested caracara; however, suitable foraging or nesting habitat is not available within the Action Area and no individuals or nests were observed within the Action Area during the field review. Based on this information, a determination that the Proposed Project will have “no effect” on the crested caracara is recommended.

##### **Everglade snail kite**

Though the Action Area is located within the USFWS Consultation Area for the Everglade snail kite, no suitable foraging or nesting habitat is available within the Action Area and no snail kites or apple snails were observed during the field review. Wetland values and functions lost as a result of project construction will be mitigated. Based on this information, a determination that the Proposed Project will have “no effect” on the snail kite is recommended.

**6.1.2.2. STATE LISTED SPECIES****Gopher tortoise**

Marginally suitable habitat for the gopher tortoise is available within the Action Area and burrows have been observed at LAL based on the 2013 WHA. However, no gopher tortoise burrows were observed within the Action Area during the April 2020 field review. Prior to construction of the Proposed Project, surveys of the appropriate habitats will be conducted for the presence of gopher tortoise burrows. If gopher tortoises or their burrows are found in or within 25 feet of the construction limits of the Proposed Project, coordination with the FWC will be implemented to secure permits needed to relocate the gopher tortoises prior to construction. Based on these commitments, the Proposed Project is not anticipated to affect the gopher tortoise.

**Florida burrowing owls**

Marginally suitable habitat for the Florida burrowing owls is available within the Action Area; however, none were observed within the Action Area during the field review and none had been documented in the 2013 WHA. To avoid any potential impacts to this species, LAL will resurvey appropriate upland habitats within the Proposed Project area for burrowing owls or their burrows prior to construction. If any burrows are located in the project area, LAL will coordinate with FWC to develop and implement the appropriate protection criteria prior to construction. With this commitment, the Proposed Project is not anticipated to affect the Florida burrowing owl.

**Little blue heron and tricolored heron**

Suitable foraging and roosting habitat for the little blue heron and tricolored heron is available within the Action Area and individuals have been observed at LAL. As part of the Proposed Project, adverse wetland impacts will be mitigated as necessary to prevent a net loss of wetland habitat functions and values. Based on this information, the Proposed Project is not anticipated to affect the little blue heron and tricolored heron.

**Southeastern American kestrel**

Based on the 2013 WHA, several southeastern American kestrels were observed foraging in the AOA and perched on existing signs and fences within the Airport property. However, no nests have been observed or documented within the Action Area. Prior to construction of the Proposed Project, informal surveys will be conducted for the presence of the southeastern American kestrel. If any individuals or nests are observed, coordination with FWC will be implemented. With this commitment, the Proposed Project is not anticipated to affect the southeastern American kestrel.

**Florida sandhill crane**

Marginally suitable foraging habitat is available within the Action Area for the Florida sandhill crane and several individuals have been observed foraging on Airport property. As part of the construction of the Proposed Project, all wetland impacts will be mitigated to prevent a net loss of wetland functions and values. In addition, LAL will resurvey the project area for sandhill crane nests prior to construction. If Florida sandhill crane nests are found within the Proposed Project area, LAL will coordinate with the FWC prior to construction to minimize adverse

impacts to this species to the greatest extent possible. With this commitment, the Proposed Project is not anticipated to affect the Florida sandhill crane.

### **6.1.2.3. OTHER SPECIES OF CONCERN**

#### **Federal**

Based on the FWC online database, one **bald eagle** nest is documented within one mile of the Action Area. No bald eagle nests were observed within the Action Area during the field review. For these reasons, it has been determined that the Proposed Project will not affect the bald eagle. Pursuant to the USFWS bald eagle guidelines, any disturbance within 1,000 feet of a bald eagle nest requires additional coordination and potential permitting with the USFWS. To avoid any potential impacts to this species, LAL will resurvey appropriate upland habitats within 1,000 feet of the Proposed Project area for bald eagle nests prior to construction. If a bald eagle nest is found within 1,000 feet of the Proposed Project area, LAL will coordinate with USFWS to secure any and all approvals regarding this species.

#### **State**

The project area is located within the South Central BMU where the occurrence of the **Florida black bear** is "occasional". No Florida black bears were observed within the Action Area during the field review and only marginally suitable habitat occurs within the Action Area. LAL is bounded by a perimeter fence which typically keeps large mammals, such as the black bear, away from airport activities. Additional measures to be taken to minimize conflict with bears during construction activities include:

- Following best management practices during construction;
- Requiring clean construction sites with wildlife-resistant containers for workers to use for food-related and other wildlife-attractant refuse; and
- Requiring frequent trash removal and the use of proper food storage and removal on work sites.

### **6.2. CRITICAL HABITAT**

The Action Area was also evaluated for the occurrence of listed species critical habitat designated by Congress in 50 CFR 424. No designated critical habitat for any federally listed species occurs within the Action Area. Based on this information, it has been determined that the Proposed Project will have "no effect" on any critical habitat.

## **7.0 CONSERVATION MEASURES**

If environmentally approved, the FAA will require the City to implement the following conservation measures to minimize potential impacts to listed species discussed in this BA as part of this Proposed Project:

### **7.1. FEDERALLY LISTED SPECIES**

1. Prior to and during construction, the City will be required to implement the USFWS-approved Standard Protection Measures for the Eastern Indigo Snake (updated August 2013) (see **Appendix B**);
2. During the permitting phase of the Proposed Projects, the City will purchase wetland mitigation credits from the Alafia River Mitigation Bank to offset wetland functions and values potentially used by the wood stork and Everglade snail kite;
3. Prior to construction, the City will be required to resurvey appropriate habitats within the project area to confirm the presence or absence of crested caracara nests. If any of these species or their nests are present, the City will coordinate with the USFWS to minimize the Proposed Project impacts and obtain the necessary permits; and
4. Prior to construction, the City will be required to resurvey appropriate habitats within 1,000 feet of the Proposed Project area for bald eagle nests. If a bald eagle nest is found within 1,000 feet of the Proposed Project, the City will coordinate with the USFWS to secure any and all approvals regarding this species.

### **7.2. STATE LISTED SPECIES**

1. During the permitting phase of the Proposed Projects, the City will purchase wetland mitigation credits from the Alafia River Mitigation Bank to offset wetland functions and values potentially used by the little blue heron, tricolored heron, and Florida sandhill crane;
2. Prior to construction, the City will be required to resurvey appropriate habitats within the project area to confirm the presence or absence of gopher tortoises, Florida burrowing owls, southeastern American kestrel nests, and Florida sandhill crane nests. If any of these species or their nests are present, the City will coordinate with the FWC to minimize the Proposed Project impacts and obtain the necessary permits; and
3. To prevent black bear encounters during construction activities, contractors will follow best management practices; keep construction sites clean with wildlife-resistant containers for workers to use for food-related and other wildlife-attractant refuse; and frequently remove trash and use proper food storage on work sites.

## 8.0 SUMMARY

The Proposed Project would result in permanent impacts to approximately 50.6 acres of existing terrestrial and wetland habitats. The Proposed Action Area has been previously affected by anthropogenic activities at the Airport, including regular mowing and maintenance of the open grassy areas. No federally listed species or designated critical habitat are expected to be adversely affected by the Proposed Project. **Table 8-1** provides the project impact determination for federally and state listed species. Based on the findings and commitments of this BA, a determination has been made that the Proposed Project is not likely to adversely affect any state or federally listed plant or animal species.

**Table 8-1: Project Impact Determination on Listed Species**

Project Impact Determination	Federally Listed Species
"May affect, not likely to adversely affect"	Eastern indigo snake ( <i>Drymarchon corais couperi</i> ) Wood stork ( <i>Mycteria americana</i> )
"No effect"	Florida scrub jay ( <i>Aphelocoma coerulescens</i> ) Audubon's crested caracara ( <i>Polyborus plancus audubonii</i> ) Everglade snail kite ( <i>Rostrhamus sociabilis plumbeus</i> )
Project Impact Determination	State Listed Species
Will not affect	Gopher tortoise ( <i>Gopherus polyphemus</i> ) Little blue heron ( <i>Egretta caerulea</i> ) Tricolored heron ( <i>Egretta tricolor</i> ) Southeastern American kestrel ( <i>Falco sparverius paulus</i> ) Florida sandhill crane ( <i>Antigone canadensis pratensis</i> ) State listed plant species Florida burrowing owl ( <i>Athene cunicularia floridana</i> )

## 9.0 REFERENCES

- Cowardin, et al., 1979. Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 131pp.
- Environmental Science Associates, 2013. Lakeland Linder Regional Airport Wildlife Hazard Assessment. Prepared by Environmental Science Associates, October 1, 2013.
- FDACS, 2010. *Notes on Florida's Endangered and Threatened Plants*. Botany Section Contribution No. 38, 5th edition. Florida Department of Agriculture and Consumer Services, Division of Plant Industry, 2010.
- FDEP, 2020. FDEP Map Direct Gateway. Accessed January 2020 from <http://ca.dep.state.fl.us/mapdirect/gateway.jsp>.
- FDOT, 1999. *Florida Land Use, Cover and Forms Classification System Handbook*, 3rd Edition, Florida Department of Transportation, 1999.
- FDOT APLUS, 2017. 2017 Aerial Images of Polk and Hillsborough Counties received from Florida Department of Transportation's Aerial Photo Look-up System through <https://fdotewp1.dot.state.fl.us/AerialPhotoLookUpSystem/>.
- FNAI, 2020. Database, Florida Natural Areas Inventory, updated April 2019. Accessed January 2020 from <http://www.fnai.org>.
- FWC, 2008. *Bald Eagle Management Plan, Haliaeetus leucocephalus*. Florida Fish and Wildlife Conservation Commission. Adopted April 9, 2008.
- FWC, 2020. Eagle Nest Locator website, Florida Fish and Wildlife Conservation Commission Database, Access January 2020 from <https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx>.
- FWC, 2018. Florida Fish and Wildlife Conservation Commission pursuant to Rules 68A-27.003 through 68A-27.005, FAC (<http://myfwc.com/wildlifehabitats/imperiled/>), updated December 2018.
- FWC, 2019. Florida Black Bear Management Plan. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, 209 p. Revised 11 December 2019.
- Hurt, 2007. *Hydric Soils of Florida Handbook*, 4<sup>th</sup> Edition, Florida Association of Soil Scientists, March 2007.

LAL, 2020. Lakeland Linder International Airport Wildlife Hazard Management Plan, Class I Airport. Revised January 26, 2020.

NatureServe, 2020. NatureServe Explorer maps and database. Accessed January 2020 from <http://www.natureserve.org/explorer/>.

NRCS, 2019. *Web Soil Survey of the Polk County, Florida*. United States Department of Agriculture and Soil Conservation Service, Washington, D.C.  
<http://websoilsurvey.nrcs.usda.gov/>

SWFWMD, 2017. Land Use/Land Cover GIS Database. Southwest Florida Water Management District.

USACE, 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

USFWS, 2020. Information, Planning, and Consultation (IPaC) System. Accessed January 31, 2020 from <https://ecos.fws.gov/ipac/>.

USFWS, 2019a. 50 Code of Federal Regulations (CFR) 17, U.S. Fish and Wildlife Service, from <http://www.fws.gov/endangered/>, updated 8 April 2019.

USFWS, 2019b. GIS wood stork data for active colonies. U.S. Department of Interior, Fish and Wildlife Service, updated 15 May 2019. Accessed from <https://www.fws.gov/northflorida/WoodStorks/wood-storks.htm> January 2020.

U.S. Geological Survey, 2018. U.S. Geological Survey 7.5 minute Topographical Quadrangle Map, Nichols, Florida.



**APPENDIX A: AGENCY COORDINATION**

*This page intentionally left blank.*

May 4, 2020

Mr. Chris Stahl  
Clearinghouse Coordinator  
Florida State Clearinghouse  
Department of Environmental Protection  
3900 Commonwealth Boulevard, M.S. 47  
Tallahassee, FL 32399-3000

Re: State Clearinghouse Review for Phase II Air Cargo Development at Lakeland Linder International Airport (LAL), Polk County, Florida

Dear Mr. Stahl:

The City of Lakeland, Florida (City), through its Airports department, is proposing to implement Phase II of development of an air cargo facility at the Lakeland Linder International Airport (LAL), hereinafter referred to as the Proposed Project. The City, in coordination with the Federal Aviation Administration (FAA), is requesting review of the Proposed Project's early consistency with the Florida Coastal Management Program.

Additionally, the City and FAA are requesting early agency input on any environmental concerns and issues that should be considered in the environmental planning and permitting process for the Proposed Project. To accomplish this we would like to receive your comments relative to the proposed improvements as they relate to your specific area of expertise or regulatory jurisdiction, including permitting or mitigation requirements.

The enclosed **Figure 1** shows the extent of the Proposed Project, which is comprised of the following actions:

- Construct a 464,600 square foot (SF) expansion of the Phase I sort and office building;
- Construct approximately 69,000 square yards (SY) of paved truck court to accommodate 370 additional truck bays;
- Construct approximately 42,500 SY of paved vehicle parking lot to accommodate 1,120 additional parking spaces;
- Construct approximately 29,200 SY of concrete aircraft parking apron to accommodate three additional Boeing 767-300 aircraft parking positions.

- Construct approximately 19,350 SY of pavement for aircraft ground support equipment staging and periodic aircraft parking;
- Construct new airport access road to provide access to the Phase II facilities via Drane Field Road;
- Site clearing, grading, and landscaping;
- Modifications to the airport's stormwater management system, including construction of swales and retention ponds.
- Installation of security fencing, gates and security checkpoints;
- Installation of airfield lighting and signage

In order to sufficiently address any preliminary key project issues and maintain the project schedule, the City and FAA are requesting an expedited 30-day review of the Proposed Project. Please respond to me at the address provided below and feel free to contact me if you have any questions or concerns.

Sincerely,

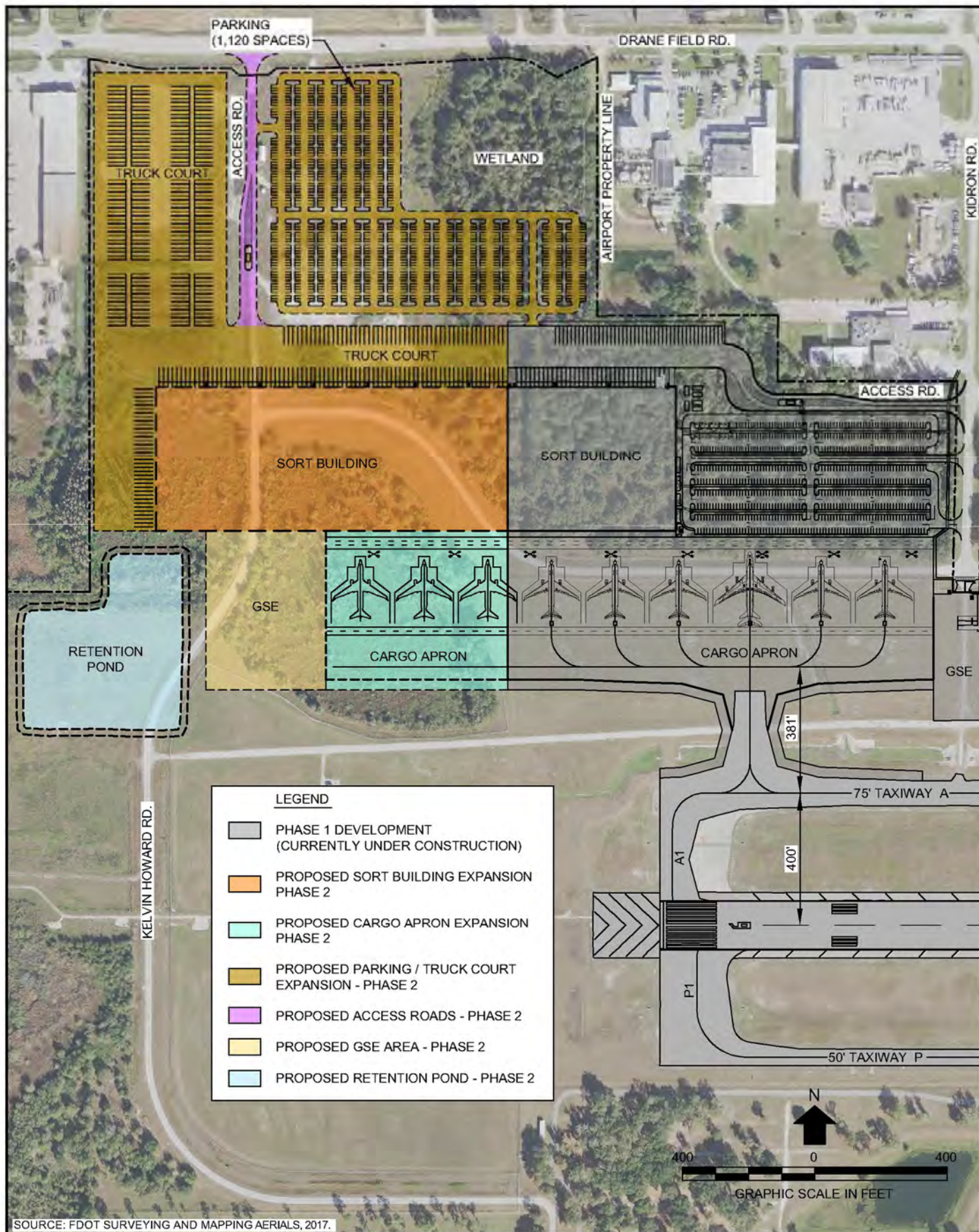


Paul K. Sanford  
AECOM Project Manager  
7650 West Courtney Campbell Causeway  
Tampa, FL 33607  
813.675.6843  
paul.sanford@aecom.com

Enclosure (1)

Copy: Gene Conrad, City of Lakeland  
Peter Green, FAA  
File





**LAKELAND LINDER  
INTERNATIONAL AIRPORT**  
PHASE II AIR CARGO DEVELOPMENT  
ENVIRONMENTAL ASSESSMENT

**EA PROPOSED PROJECT**

FIGURE  
1



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
South Florida Ecological Services Field Office  
1339 20th Street  
Vero Beach, FL 32960-3559  
Phone: (772) 562-3909 Fax: (772) 562-4288  
<http://fws.gov/verobeach>

In Reply Refer To:

May 08, 2020

Consultation Code: 04EF2000-2020-SLI-0368

Event Code: 04EF2000-2020-E-02220

Project Name: Phase II Air Cargo Facility Development EA at LAL

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

## To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.



A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**South Florida Ecological Services Field Office**

1339 20th Street

Vero Beach, FL 32960-3559

(772) 562-3909

---



## Project Summary

Consultation Code: 04EF2000-2020-SLI-0368

Event Code: 04EF2000-2020-E-02220

Project Name: Phase II Air Cargo Facility Development EA at LAL

Project Type: TRANSPORTATION

Project Description: Phase II Air Cargo Facility Development EA at LAL

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/27.993463489938144N82.03855443416727W>



Counties: Polk, FL

---

## Endangered Species Act Species

There is a total of 33 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [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.

## Mammals

NAME	STATUS
Florida Panther <i>Puma (=Felis) concolor coryi</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1763">https://ecos.fws.gov/ecp/species/1763</a> Habitat assessment guidelines: <a href="https://ecos.fws.gov/ipac/guideline/assessment/population/8/office/41420.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/8/office/41420.pdf</a>	Endangered
Puma (=mountain Lion) <i>Puma (=Felis) concolor (all subsp. except coryi)</i> Population: FL No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6049">https://ecos.fws.gov/ecp/species/6049</a>	Similarity of Appearance (Threatened)

---

## Birds

NAME	STATUS
<p>Audubon's Crested Caracara <i>Polyborus plancus audubonii</i></p> <p>Population: FL pop.</p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/8250">https://ecos.fws.gov/ecp/species/8250</a></p>	Threatened
<p>Everglade Snail Kite <i>Rostrhamus sociabilis plumbeus</i></p> <p>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/7713">https://ecos.fws.gov/ecp/species/7713</a></p> <p>Species survey guidelines:</p> <p><a href="https://ecos.fws.gov/ipac/guideline/survey/population/1221/office/41420.pdf">https://ecos.fws.gov/ipac/guideline/survey/population/1221/office/41420.pdf</a></p>	Endangered
<p>Florida Grasshopper Sparrow <i>Ammodramus savannarum floridanus</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/32">https://ecos.fws.gov/ecp/species/32</a></p>	Endangered
<p>Florida Scrub-jay <i>Aphelocoma coerulescens</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/6174">https://ecos.fws.gov/ecp/species/6174</a></p>	Threatened
<p>Ivory-billed Woodpecker <i>Campephilus principalis</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/8230">https://ecos.fws.gov/ecp/species/8230</a></p>	Endangered
<p>Whooping Crane <i>Grus americana</i></p> <p>Population: U.S.A. (CO, ID, FL, NM, UT, and the western half of Wyoming)</p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a></p>	Experimental Population, Non- Essential
<p>Wood Stork <i>Mycteria americana</i></p> <p>Population: AL, FL, GA, MS, NC, SC</p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/8477">https://ecos.fws.gov/ecp/species/8477</a></p> <p>Habitat assessment guidelines:</p> <p><a href="https://ecos.fws.gov/ipac/guideline/assessment/population/124/office/41420.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/124/office/41420.pdf</a></p>	Threatened

## Reptiles

NAME	STATUS
<b>American Alligator</b> <i>Alligator mississippiensis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/776">https://ecos.fws.gov/ecp/species/776</a>	Similarity of Appearance (Threatened)
<b>Bluetail Mole Skink</b> <i>Eumeces egregius lividus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2203">https://ecos.fws.gov/ecp/species/2203</a> Species survey guidelines: <a href="https://ecos.fws.gov/ipac/guideline/survey/population/178/office/41420.pdf">https://ecos.fws.gov/ipac/guideline/survey/population/178/office/41420.pdf</a>	Threatened
<b>Eastern Indigo Snake</b> <i>Drymarchon corais couperi</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/646">https://ecos.fws.gov/ecp/species/646</a>	Threatened
<b>Sand Skink</b> <i>Neoseps reynoldsi</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4094">https://ecos.fws.gov/ecp/species/4094</a> Species survey guidelines: <a href="https://ecos.fws.gov/ipac/guideline/survey/population/179/office/41420.pdf">https://ecos.fws.gov/ipac/guideline/survey/population/179/office/41420.pdf</a>	Threatened

## Flowering Plants

NAME	STATUS
<p>Avon Park Harebells <i>Crotalaria avonensis</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7093">https://ecos.fws.gov/ecp/species/7093</a></p>	Endangered
<p>Britton's Beargrass <i>Nolina brittoniana</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4460">https://ecos.fws.gov/ecp/species/4460</a></p>	Endangered
<p>Carter's Mustard <i>Warea carteri</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5583">https://ecos.fws.gov/ecp/species/5583</a></p>	Endangered
<p>Florida Bonamia <i>Bonamia grandiflora</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2230">https://ecos.fws.gov/ecp/species/2230</a></p>	Threatened
<p>Florida Ziziphus <i>Ziziphus celata</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2950">https://ecos.fws.gov/ecp/species/2950</a></p>	Endangered
<p>Highlands Scrub Hypericum <i>Hypericum cumulicola</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2940">https://ecos.fws.gov/ecp/species/2940</a></p>	Endangered
<p>Lewton's Polygala <i>Polygala lewtonii</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6688">https://ecos.fws.gov/ecp/species/6688</a></p>	Endangered
<p>Papery Whitlow-wort <i>Paronychia chartacea</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1465">https://ecos.fws.gov/ecp/species/1465</a></p>	Threatened
<p>Pigeon Wings <i>Clitoria fragrans</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/991">https://ecos.fws.gov/ecp/species/991</a></p>	Threatened
<p>Pygmy Fringe-tree <i>Chionanthus pygmaeus</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1084">https://ecos.fws.gov/ecp/species/1084</a></p>	Endangered
<p>Sandlace <i>Polygonella myriophylla</i></p> <p>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5745">https://ecos.fws.gov/ecp/species/5745</a></p>	Endangered
<p>Scrub Blazingstar <i>Liatris ohlingerae</i></p> <p>No critical habitat has been designated for this species.</p>	Endangered

NAME	STATUS
Species profile: <a href="https://ecos.fws.gov/ecp/species/864">https://ecos.fws.gov/ecp/species/864</a>	
Scrub Buckwheat <i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5940">https://ecos.fws.gov/ecp/species/5940</a>	Threatened
Scrub Lupine <i>Lupinus aridorum</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/736">https://ecos.fws.gov/ecp/species/736</a>	Endangered
Scrub Mint <i>Dicerandra frutescens</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/799">https://ecos.fws.gov/ecp/species/799</a>	Endangered
Scrub Plum <i>Prunus geniculata</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2238">https://ecos.fws.gov/ecp/species/2238</a>	Endangered
Short-leaved Rosemary <i>Conradina brevifolia</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2929">https://ecos.fws.gov/ecp/species/2929</a>	Endangered
Wide-leaf Warea <i>Warea amplexifolia</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/412">https://ecos.fws.gov/ecp/species/412</a>	Endangered
Wireweed <i>Polygonella basiramia</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1718">https://ecos.fws.gov/ecp/species/1718</a>	Endangered

## Lichens

NAME	STATUS
Florida Perforate Cladonia <i>Cladonia perforata</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7516">https://ecos.fws.gov/ecp/species/7516</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

**APPENDIX B: USFWS STANDARD PROTECTION MEASURES FOR THE EASTERN  
INDIGO SNAKE**

*This page intentionally left blank.*



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

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

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

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

### **POSTER INFORMATION**

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

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

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

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

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

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

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

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

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

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

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

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

**North Florida Field Office – (904) 731-3336**

**Panama City Field Office – (850) 769-0552**

**South Florida Field Office – (772) 562-3909**

## **PRE-CONSTRUCTION ACTIVITIES**

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

## **DURING CONSTRUCTION ACTIVITIES**

1. During initial site clearing activities, an onsite observer may be utilized to determine whether habitat conditions suggest a reasonable probability of an eastern indigo snake sighting (example: discovery of snake sheds, tracks, lots of refugia and cavities present in the area of clearing activities, and presence of gopher tortoises and burrows).
2. If an eastern indigo snake is discovered during gopher tortoise relocation activities (i.e. burrow excavation), the USFWS shall be contacted within one business day to obtain further guidance which may result in further project consultation.
3. Periodically during construction activities, the applicant's designated agent should visit the project area to observe the condition of the posters and Plan materials, and replace them as needed. Construction personnel should be reminded of the instructions (above) as to what is expected if any eastern indigo snakes are seen.

## **POST CONSTRUCTION ACTIVITIES**

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

*This page intentionally left blank.*



# **ATTENTION:**

## **THREATENED EASTERN INDIGO SNAKES MAY BE PRESENT ON THIS SITE!!!**

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

- Cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site without interference.
- Personnel must NOT attempt to touch or handle snake due to protected status.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Immediately notify supervisor or the applicant's designated agent, **and** the appropriate U.S. Fish and Wildlife Service (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 applicant's designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

#### **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**

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

DESCRIPTION:	The eastern indigo snake is one of the largest non-venomous snakes in North America, with individuals often reaching up to 8 feet in length. They derive their name from the glossy, blue-black color of their scales above and uniformly slate blue below. Frequently, they have orange to coral reddish coloration in the throat area, yet some specimens have been reported to only have cream coloration on the throat. These snakes are not typically aggressive and will attempt to crawl away when disturbed. Though indigo snakes rarely bite, they should NOT be handled.
SIMILAR SNAKES:	The black racer is the only other solid black snake resembling the eastern indigo snake. However, black racers have a white or cream chin, thinner bodies, and WILL BITE if handled.
LIFE HISTORY:	The eastern indigo snake occurs in a wide variety of terrestrial habitat types throughout Florida. Although they have a preference for uplands, they also utilize some wetlands and agricultural areas. Eastern indigo snakes will often seek shelter inside gopher tortoise burrows and other below- and above-ground refugia, such as other animal burrows, stumps, roots, and debris piles. Females may lay from 4 - 12 white eggs as early as April through June, with young hatching in late July through October.
PROTECTION:	The eastern indigo snake is classified as a Threatened species by both the USFWS and the Florida Fish and Wildlife Conservation Commission. "Taking" of eastern indigo snakes is prohibited by the Endangered Species Act without a permit. "Take" is defined by the USFWS as an attempt to kill, harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or engage in any such conduct. Penalties include a maximum fine of \$25,000 for civil violations and up to \$50,000 and/or imprisonment for criminal offenses, if convicted.

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

*This Page Intentionally Left Blank*

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

- Cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site without interference.
- Personnel must NOT attempt to touch or handle snake due to protected status.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Immediately notify supervisor or the applicant's designated agent, **and** the appropriate U.S. Fish and Wildlife Service (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 applicant's designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

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

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

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

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

**LIFE HISTORY:** The eastern indigo snake occurs in a wide variety of terrestrial habitat types throughout Florida. Although they have a preference for uplands, they also utilize some wetlands and agricultural areas. Eastern indigo snakes will often seek shelter inside gopher tortoise burrows and other below- and above-ground refugia, such as other animal burrows, stumps, roots, and debris piles. Females may lay from 4 - 12 white eggs as early as April through June, with young hatching in late July through October.

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

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.

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



August 12, 2013

**ATTENTION:**  
THREATENED EASTERN INDIGO  
SNAKES MAY BE PRESENT ON  
THIS SITE!!!



Photo: Dirk Stevenson

Please read the following information provided by the U.S. Fish and Wildlife Service to become familiar with standard protection measures for the eastern indigo snake.



