Technical Memorandum

RE: US-17 Road Improvements FIN: 209411-8 & 209411-9 Natural Resources Evaluation Technical Memorandum - FINAL	ERS Job No.: 24001, 24002
To: Imran Ghani, P.E., AICP, Osiris 9	
From: Ken Ceglady, SES Environmental Resource Solutions LLC	Date: May 22, 2024

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

INTRODUCTION

Project Overview

FDOT is conducting a Project Development and Environment (PD&E) study for road improvements to US 17 (**Exhibit 1**, **Appendix A**) in Duval County. This Natural Resources Evaluation (NRE) Technical Memorandum includes two adjoining US 17 improvement projects that constitute a north section and a south section. US 17 from I-295 to Airport Center Drive (FPN 209411-8) comprises the southern segment of the project study area and consists of entirely of existing right-of-way (ROW) of US 17 and adjacent roads. US 17 from Airport Center Drive to Max Leggett Parkway (FPN 209411-9) comprises the northern segment of the project study area and includes the existing ROW of US 17 and two proposed stormwater pond site alternates (Pond Site Alternates 1A and 1B). Pond Site 1A is located adjacent to the northern segment of the project study area, while Pond Site 1B is located approximately 1,500 feet north of the northern segment at the intersection of US 17 and Castleberry Road. The project study area for this NRE Technical Memorandum is defined as the combined project boundaries of both projects as received from Osiris 9 (the project engineer). With the exception of two proposed stormwater pond sites included in the northern segment, the entire project study area consists of existing ROW.

An earlier version of this project was the subject of a PD&E study that was finalized in 2007. That study included the preparation of a Wetland Evaluation Report (WER) and an Endangered Species Biological Assessment (ESBA). The current NRE Technical Memorandum serves to evaluate the project as it is now proposed and pursuant to the current regulatory environment.

This NRE Technical Memorandum discusses the potential effects of the proposed project to Essential Fish Habitat (EFH), federally-listed and candidate species, state-listed species, and wetlands.

BACKGROUND

In 2007, the US 17 project was known as US 17 (Main Street) and was assigned FPN 209411-3-22-01. The 2007 project study area extended from north of the I-295 interchange to north of Pecan Park Road. The project study area was approximately 1,100 feet wide and included extensive areas outside of the existing ROW. This configuration included several potential stormwater pond sites. The WER indicated that approximately 15.36 acres of wetlands and other surface waters were estimated to be impacted by the project. Pursuant to 2007 requirements, the ESBA only discussed species that were federally-listed.

The current project study area is significantly different from the 2007 design with a different typical section and ROW needs. It consists of two segments that combined extend from the I-295 interchange to Max Leggett Parkway and include a potential pond site located immediately south of Castleberry Road. This design is largely restricted to the

existing ROW and includes two potential pond sites not included in the 2007 report. In addition, the landscape in the vicinity of the project study area has changed as a result of significant development and land use changes that have taken place since 2007. Finally, the federal regulatory environment has experienced significant change since 2020. For these reasons, FDOT requested that a new NRE be prepared to update the 2007 WER and ESBA. This Technical Memorandum serves as the requested update utilizing the currently proposed project design, project study area boundary, and proposed stormwater pond sites. This Technical Memorandum includes a discussion of all federally- and state-listed species that may utilize the project study area, reflects all the current individual species' listing statuses, incorporates a recent wetland delineation and evaluation, and summarizes the expected permitting pursuant to current federal wetland jurisdiction and authority.

EXISTING CONDITIONS

Prior to the initial site assessment, conditions were evaluated utilizing various resources, including recent aerial photographs from ArcGIS Online and soil survey mapping published by the U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS).

The project study area was assessed by SES Environmental Resource Solutions LLC (ERS) biologists on June 7 and 14, 2023. See **Exhibit 2** (**Appendix A**) for a depiction of the project study area.

Special Designations

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), established procedures designed to identify, conserve, and enhance EFH for those species regulated under a federal fisheries management plan.

EFH is defined in the MSFCMA as "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." 1997 National Marine Fisheries Service (NMFS) rules under the MSFCMA, further clarify EFH with the following definitions:

> **Waters** – aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate;
> **Substrate** – sediment, hard bottom, structures underlying the waters, and associated biological communities;
> **Necessary** – the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and
> **Spawning, breeding, feeding, or growth to maturity** – stages representing a species' full life cycle.

The project study area was evaluated for the presence of EFH in accordance with FDOT PD&E Manual Part 2, Chapter 17, Essential Fish Habitat (2023). No waterways that are subject to the ebb and flow of the tide are present in the project study area; therefore, no EFH is present and none will be affected by the project.

Habitat Areas of Particular Concern

Information regarding Habitat Areas of Particular Concern (HAPCs) is obtained using the NMFS online Southeast Region EFH Mapper Tool. No HAPCs are present in the project study area and none will be affected.

Florida Aquatic Preserves, National Wildlife Refuges, Outstanding Florida Waters, Wild and Scenic Rivers, and Rivers Listed on the National Rivers Inventory

No Aquatic Preserves, Wildlife Management Areas, or Outstanding Florida Waters are located near the project study area. In addition, there are no National Wildlife Refuges, Wild and Scenic Rivers or rivers listed on the National Rivers Inventory within the project study area. Therefore, the project will not affect any of these resources.

Critical Habitats

Critical Habitat has been designated for three species in Duval County; the North Atlantic right whale (*Eubalaena glacialis*), piping plover (*Charadrius melodus*), and West Indian manatee (*Trichechus manatus*). The project will not affect any of these Critical Habitats.

Conservation Easements

Recorded Conservation Easements (CEs) may restrict utilization of an encumbered area. If a CE is in place, it may be necessary to release or amend the easement in order to utilize encumbered property. For this reason, a CE is a special designation that is important to consider in the planning phases of a project. CEs may be placed over wetlands and/or uplands and are more likely to occur on portions of proposed roadway projects where additional ROW is required for roadway widening or excavation of new stormwater ponds. Generally, existing roadway and pond ROWs are free from regulatory encumbrances.

St. Johns River Water Management District (SJRWMD) developed an online database to inventory all conservation lands and easements within the State of Florida. **Exhibit 3**(**Appendix A**) depicts the approximate locations of these lands in the vicinity of the project study area. As this exhibit depicts, no CEs appear to be affected by the project.

Further research should be conducted to verify the absence of CEs. The boundaries of any CEs that are found to be within or near the project study area must be located by a licensed surveyor in order to fully determine if and where they fall within the project study area. If CEs are verified to occur over parts of the project study area, further research will be necessary to determine their status and what implications (if any) they will have on the project. If CEs are to be released as a part of the proposed action, mitigation will be required to offset the loss of wetland mitigation value associated with the CE to be unencumbered.

Land cover/Use

All habitats and land uses within the project study area were inspected and classified utilizing FDOT's *Florida Land Use, Cover and Forms Classification System* (FLUCFCS, 1999). Wetlands and waters were classified using both FLUCFCS and the *Wetlands and Deepwater Habitats Classification System* (the "Cowardin System"; Cowardin et al, 1979). Land use classifications mapped within the project study area are described below, and their approximate extents are depicted on **Exhibit 2**(**Appendix A**).

Uplands

<u>Open Land (FLUCFCS 190)</u>
This land use makes up most of Pond Site Alternate 1A. This pond site appears to have been mostly cleared in approximately 2020 and was used as a staging area through 2022. During the June 2023 site visits, it was found to be mostly cleared but not used for staging at that time. Vegetation includes remnant trees and shrubs such as slash pine (*Pinus elliottii*), laurel oak (*Quercus laurifolia*), wax myrtle (*Morella cerifera*), red maple (*Acer rubrum*), and opportunistic herbs and forbs such as broomgrass (*Andropogon virginicus*), Spanish needles (*Bidens alba*), centipede grass (*Axonopus fissifolius*), and Bahiagrass (*Paspalum notatum*).

Pine Flatwoods (FLUCFCS 411)
Most of Pond Site Alternate 1B consists of this habitat type. It is dominated by slash pine, saw palmetto (*Serenoa repens*), and gallberry (*Ilex glabra*).

Roads and Highways (FLUCFCS 814)
The majority of the project study area consists of this land use type. It contains the paved highway, intersections with other roads, driveway entrances to businesses, grassy road shoulders, and swales. Some segments of upland-cut ditch were identified within this land use, but these other surface waters are not identified separately in this report. Upland-cut ditch segments will be identified during the permitting phase of the project.

Wetlands and Other Surface Waters

Cypress (FLUCFCS 621; Cowardin PFO2)
A small wetland area classified as this habitat type (Wetland 2) was identified in Pond Site Alternate 1B. It is dominated by bald cypress (*Taxodium distichum*), slash pine, Virginia chain fern (*Woodwardia virginica*), and red maple.

Freshwater Marshes (FLUCFCS 641; Cowardin PEM1)
A small, isolated wetland (Wetland 1) is located within Pond Site Alternate 1A. It is dominated by herbaceous species such as beaksedges (*Rhynchospora* spp.), caric sedges (*Carex* spp.), St. Johns worts (*Hypericum* spp.), blue maidencane (*Amphicarpum muhlenbergianum*), and maidencane (*Panicum hemitomon*).

Stormwater Ponds (FLUCFCS 534; Cowardin L1UB3rx)
The project study area includes two existing stormwater ponds located in the infield of the US 17/I-295 interchange. At the time that this report was being prepared, this interchange and these ponds were still under construction as part of a separate project. The boundaries of these stormwater ponds were estimated based on information available at the time of report preparation.

Soils

Soils mapped within the project study area according to the *Soil Survey of City of Jacksonville, Duval County, Florida* (USDA-NRCS) are depicted on (**Exhibit 4**, **Appendix A**) and are listed below.

- Boulogne fine sand (Map Unit 14)
- Evergreen-Wesconnett complex, depressional (Map Unit 22)
- Leon fine sand (Map Unit 32)
- Lynn Haven fine sand (Map Unit 35)
- Surrency loamy fine sand, depressional (Map Unit 66)
- Urban land (Map Unit 69)

Hydrological Features

The project study area does not include any natural waterways. The project study area is located in the N. St. Johns River & N. Coastal (4) SJRWMD drainage basin.

The following water quality regulatory requirements will be adhered to during the planning and construction of the project:

- U.S. Environmental Protection Administration (USEPA):
    - Clean Water Act 303(d), United States Code
- FDEP:
    - Water Resource Implementation Rule (Chapter 62-40, F.A.C.)
    - Regulations of Stormwater Discharge (Chapter 62-25, F.A.C.)
- SJRWMD:
    - Environmental Resource Permits (Chapter 40C-4, F.A.C.)

PROTECTED SPECIES AND HABITAT

The project study area was evaluated for impacts to wildlife and habitat resources, including federally and state protected species, in accordance with Section 7 of the Endangered Species Act (ESA, 1973), as amended; FDOT PD&E Manual Part 2, Chapter 16 (2023); and Chapter 68A-27 F.A.C. This report contains information pertaining to all federally-listed species, candidate and proposed species for federal listing, and state-listed species that may occur within the project study area. Unless otherwise noted, all are collectively referred to as "listed species" in this Technical Memorandum.

Only federally-listed species are afforded protection under the ESA at this time. The ESA is administered by U.S. Fish and Wildlife Service (USFWS) and NMFS to provide protection of imperiled species and their habitat. Section 7 of the ESA requires federal agencies to consult with USFWS or NMFS when a project under their review has the potential to impact a federally-listed species. Other species may be protected by state or local regulations.

Methods

Literature reviews, agency database searches, agency coordination, and field surveys of potential habitat areas were conducted to identify listed species potentially occurring within the project study area. *The Soil Survey of City of Jacksonville, Duval County*, recent aerial photographs, Geographic Information System (GIS) Land Cover and Land Use data, and field reconnaissance were utilized to determine habitat types within and adjacent to the project study area.

The assessment of potential impacts to listed species began with the identification of suitable habitat. Field investigations of the project study area were conducted on June 7 and 14, 2023. This survey was conducted by trained biologists using visual and aural methods. Listed wildlife species were identified by burrows, scat, shed skins, tracks, sightings, and/or their distinctive calls. The probability of occurrence of each species is discussed below. Effect determinations were made for each listed species based on the current understanding of the proposed project and its effects. These determinations were made using effect determination keys, where appropriate, and reasonable scientific judgement. Effect determinations were not made for candidate species or species proposed for listing; effect determinations will be made for these species if they are listed when the project is scheduled for construction.

Survey Results

Literature Search

This report addresses federally-listed and candidate species as regulated by the USFWS, the National Oceanic and Atmospheric Administration (NOAA) and NMFS, and state-listed species as regulated by the Florida Fish and Wildlife Conservation Commission (FWC) and the Florida Department of Agriculture and Consumer Services (FDACS; for state-listed plants). Only federally-listed species are afforded protection under the ESA at this time. Other species may be protected by state or local regulations.

Information regarding federally-listed species was derived from the following online sources:

- http://www.fws.gov/endangered/?ref=topbar
- http://www.florida.plantatlas.usf.edu/
- https://www.flrules.org/gateway/ChapterHome.asp?Chapter=5B-40
- https://www.fws.gov/office/florida-ecological-services/species
- https://ecos.fws.gov/ipac/location/index
- https://www.fnai.org/species-communities/tracking-main

Information regarding state-listed species was derived from the following online sources:

- https://www.fnai.org/species-communities/tracking-main
- https://myfwc.com/media/1945/threatend-endangered-species.pdf
- http://www.florida.plantatlas.usf.edu/
- https://www.flrules.org/gateway/ChapterHome.asp?Chapter=5B-40

Information from the above sources was compiled to generate an inventory of all listed species that may occur in Duval County. The complete list of all 87 federally- and state-listed plant and wildlife species that are documented as occurring in the county is included in **Appendix B**.

A total of 14 listed species were determined to have some probability of occurrence within the project study area based on the presence of suitable habitat. All of the listed species that may occur were assigned a probability of occurrence defined as follows:

- **Low** – Species that are known to occur in the county, but for which preferred habitat is limited in the project study area.
- **Moderate** – Species that are known to occur in the county, and whose suitable habitat is well-represented within or adjacent to the project study area, but no observations or positive indicators exist to verify their presence.
- **High** – Species that are known to occur in the county and are suspected to occur based on known ranges and existence of sufficient preferred habitat within or immediately adjacent to the project study area, or species which have been previously observed or documented within the project study area.
- **Observed** – Any observed listed species were noted.

Table 1 summarizes the potential habitat availability and probability of occurrence within the project study area for 14 listed species that may be found within the project study area. The effect determinations reached for each species is given in the table, and includes **no adverse effect anticipated** (NAEA) and **may affect, not likely to adversely affect** (MANLAA). Documented occurrences of wood storks, nesting locations, Core Foraging Areas (CFAs), and wading bird rookeries are depicted on **Exhibit 5** (**Appendix A**). Documented occurrences of other listed species within five miles of the project study area are depicted on **Exhibit 6** (**Appendix A**).

Table 1. Federally-listed and candidate species and state-listed species – Duval County.

Scientific Name	Common Name	Federal Status	State Status	Preferred Habitat	Probability of Occurrence	Effect Determination
Plants						
Pinguicula caerulea	Blueflower Butterwort	N	ST	Marshes, swamp edges, and wet flatwoods.	Low	NAEA

Table 1. Federally-listed and candidate species and state-listed species – Duval County.

Scientific Name	Common Name	Federal Status	State Status	Preferred Habitat	Probability of Occurrence	Effect Determination
Pinguicula lutea	Yellow Butterwort	N	ST	Sandy bogs and open wet flatwoods.	Low	NAEA
Pycnanthemum floridanum	Florida Mountainmint	N	ST	Sandhills, mesic forest and disturbed areas.	Low	NAEA
Sarracenia minor	Hooded Pitcherplant	N	ST	Wet flatwoods, swamps, marshes, and bogs.	Low	NAEA
Zephyranthes atamasca var. *atamasca*	Rainlily	N	ST	Swamps, floodplains, wet prairies, and wet roadsides.	Low	NAEA
Zephyranthes atamasca var. *treatiae*	Treat's Rainlily	N	ST	Swamps, floodplains, wet prairies and wet roadsides.	Low	NAEA
Insects						
Danaus plexippus	Monarch Butterfly	C	N	Breeding females lay eggs on *Asclepias* spp. (milkweeds) where the larvae develop; Non-breeding and breeding adults feed on many species of wildflowers, and so may occur in areas with high densities of wildflowers	Low	Pending listing decision
Reptiles						
*Drymarchon corais couperi**	Eastern Indigo Snake	T	FT	Linked to xeric habitats and gopher tortoise burrows, but also uses other natural habitats such as swamps and freshwater marshes as foraging habitat.	Low	MANLAA

Table 1. Federally-listed and candidate species and state-listed species – Duval County.						
Scientific Name	**Common Name**	**Federal Status**	**State Status**	**Preferred Habitat**	**Probability of Occurrence**	**Effect Determination**
*Gopherus polyphemus**	Gopher Tortoise	N	ST	Sandhills, scrub, dry flatwoods, dry ruderal areas.	Low	NAEA
Birds						
*Egretta caerulea***	Little Blue Heron	N	ST	Forages in a wide variety of freshwater, brackish, and saline wetlands and waterways, including ponds and ditches. Prefers freshwater habitats. Nests in mixed colonies in flooded trees or shrubs or on islands.	Low	NAEA
*Egretta tricolor***	Tricolored Heron	N	ST	Forages in a wide variety of freshwater, brackish, and saline wetlands and waterways, including ponds and ditches. Prefers coastal habitats. Nests in mixed colonies in flooded trees or shrubs or on islands.	Low	NAEA
Mycteria americana	Wood Stork	T	FT	Forages in a wide variety of freshwater and brackish wetlands and waterways, including ponds and ditches. Prefers waterbodies that have shallow or variable water levels to concentrate fish prey. Nests in colonies in flooded trees or on islands.	Low	MANLAA
*Platalea ajaja***	Roseate Spoonbill	N	ST	Forages in a wide variety of freshwater, brackish, and saline	Low	NAEA

Table 1. Federally-listed and candidate species and state-listed species – Duval County.

Scientific Name	Common Name	Federal Status	State Status	Preferred Habitat	Probability of Occurrence	Effect Determination
				wetlands and waterways, including ponds and ditches. Prefers coastal habitats. Nests in mixed colonies in mangroves, willow heads, or spoil islands.		
Mammals						
Perimyotis subflavus	Tricolored Bat	PE	PE	Commonly roost in culverts, caves, old mines, and other human structures during colder months. Roosts in leaves, recently deceased trees, Spanish moss, pine trees, and human structures during warmer months.	Low	Pending listing decision

Legal Status and Notes
Federally-listed Species (USFWS)
C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.
CH = Critical Habitat has been designated in the county in which the project is located.
E = Endangered: species in danger of extinction throughout all or a significant portion of its range.
T = Threatened: species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
PT = Proposed threatened
PE = Proposed endangered
N = Not federally-listed.
* = This species is included in a USFWS Recovery Plan.
Recovery plans can be found at: https://www.fws.gov/endangered/species/recovery-plans.html
State-listed Species
SAT = Listed as threatened for similarity of appearance.
SSC = Species of Special Concern.
SE = State endangered.
ST = State threatened.
FE = Federally endangered.
FT = Federally threatened.
** = FWC has developed a draft or final Permitting Guidelines document for this species. Permitting guidelines can be found at: https://myfwc.com/wildlifehabitats/wildlife/species-guidelines/
Effect Determinations
No adverse effect anticipated (NAEA)
May affect, not likely to adversely affect (MANLAA)

Listed Species That May Occur in the Project Study Area

The following listed species have some probability of occurrence in the project study area or were observed during the field inspection.

Listed Plants

The listed plant species that may occur in the project study area are limited to six state-listed plants that may establish on the roadsides, disturbed areas, or low quality uplands and wetlands. These include the blueflower butterwort, yellow butterwort, Florida mountainmint, hooded pitcherplant, rainlily, and Treat's rainlily. All are given a low probability of occurrence because of limited suitable habitat within the project study area. A designation of **no adverse effect is anticipated** has been established for any state-listed plant species that may occur within the project study area.

Listed Wildlife Species

REPTILES

Eastern Indigo Snake (*Drymarchon corais couperi*) – The eastern indigo snake is a federally-threatened species that is linked to xeric habitats and gopher tortoise burrows, and forages in both uplands and wetlands (Moler,1992). Indigo snakes prefer large tracts of undisturbed land. Most of the project study area consists of existing ROW. There has been no documented occurrence of this species within a 5-mile radius of the project study area (**Exhibit 6**; **Appendix A**). Habitat mapping and preliminary gopher tortoise surveys conducted during the site visits on June 7 and 14, 2023 found no xeric habitats in the project study area and no active or inactive gopher tortoise burrows. The eastern indigo snake has therefore been given a low probability of occurrence. The project study area is located in a region of Florida that is subject to the version of the USFWS' *Eastern Indigo Snake Programmatic Effect Determination Key* that was updated in August 2013.

This key was applied as follows:

A. Project is not located in open water or salt marsh……..……go to B
B. Permit will be conditioned for use of the Service's *Standard Protection Measures For The Eastern Indigo Snake* during site preparation and project construction…….……go to C
C. There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities……..……...……..go to D
D. The project will impact less than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or less than 25 active and inactive gopher tortoise burrows……..……..go to E
E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the snake has vacated the vicinity of the proposed work……"*NLAA*"

The project will not affect more than 25 acres of xeric habitat or more than 25 active and inactive gopher tortoise burrows. In addition, FDOT will implement the USFWS' *Standard Protection Measures for the Eastern Indigo Snake* during project construction and will excavate any affected active or inactive gopher tortoise burrows in accordance with FWC and USFWS requirements. Therefore, it is expected that the construction of the project **may affect, but is not likely to adversely affect,** the eastern indigo snake, and further consultation is not required.

Gopher Tortoise (*Gopherus polyphemus*) – The gopher tortoise is a state-threatened species that inhabits xeric and mesic forests, fields, and disturbed areas. Habitat assessment and preliminary gopher tortoise surveys conducted during the site visits on June 7 and 14, 2023 did not identify any xeric habitats, highly suitable gopher tortoise habitat, or potentially occupied gopher tortoise burrows. The gopher tortoise has been given a low probability of occurrence in the project study area. If potentially occupied gopher tortoise burrows are discovered as the project moves into the permitting and construction phases of the project, any affected tortoises will be relocated in accordance with FWC regulations. Therefore, **no adverse effect is anticipated** for this state-listed species.

BIRDS

Little Blue Heron (*Egretta caerulea*), **Tricolored Heron** (Egretta tricolor), and **Roseate Spoonbill** (*Platalea ajaja*) – These state-threatened species forage in various freshwater and brackish wetland habitats. All of these species nest in mixed-species colonies (rookeries). Rookery locations are documented by FWC and their activity status is tracked. See **Exhibit 5** (**Appendix A**) for documented rookery locations. The nearest documented wading bird rookery is located approximately 6.6 miles northeast of the project study area and was last documented as active in the 1980s by the FWC rookery survey. All three species have been given a low probability of occurrence due to the infrequency of standing water in the wetlands. They are typically habituated to the close proximity of humans and human activities. These herons are highly mobile; if any individuals are present during construction, they can easily leave the area if disturbed. Therefore, **no adverse effect is anticipated** for these state-listed wading birds.

Wood stork (*Mycteria americana*) – The wood stork is a wetland-dependent wading bird with documented sightings in Duval County. The wood stork is federally threatened. The wood stork nests and roosts in areas containing woody vegetation over standing water, preferably in cypress trees or mangroves (Rodgers et al., 1988; USFWS, 1996). The wood stork range extends across the state, except for the western half of the panhandle (USFWS, 1996). It routinely travels 6-25 miles to feeding sites and is known to fly between 60-80 miles to find food (Ogden et al., 1978; Browder, 1984; Ogden, 1996). It feeds in areas of calm and clear water that is between 2-16 inches deep (Kahl, 1964; Ogden, 1996). The wood stork requires areas that have long hydroperiods that allow for its prey to reproduce, and droughts that concentrate its prey into small pools making it easier to catch. USFWS designates core foraging areas (CFA) for each documented wood stork colony by region. Duval County is within the North Florida region, which defines each CFA as a 13-mile radius surrounding the colony location. All suitable wetlands and waterways within the 13-mile radius may be considered Suitable Foraging Habitat (SFH) for wood storks. The project study area falls within the CFA for the Jacksonville Zoo wood stork colony (**Exhibit 5, Appendix A**) located approximately 3.7 miles south of the project study area. The wood stork has been given a low probability of occurrence in the project study area. The potential effect on wood storks was evaluated using the USACE/USFWS *Effect Determination Key for the Wood Stork in Central and North Peninsular Florida (2008)*.

A. Project more than 2,500 feet from a colony site ……..……go to B
B. Project impacts SFH ……..……go to C
C. Project impacts to SFH are less than or equal to 0.5 ac. ……..……*"NLAA"*

The revised project will affect approximately 0.06 acre of wetlands. The two existing stormwater ponds in the project study area (a total of 1.87 acres) are not considered jurisdictional surface waters and due to excessive depth (greater than 16 inches) most of the ponds are not SFH. Therefore, SFH impacts are expected to be less than 0.5 acre. The project **may affect but is unlikely to adversely affect** the wood stork. No further consultation regarding this species is required.

Non-listed Protected Species and Additional Species That May be of Regulatory Significance

Bald eagle (*Haliaeetus leucocephalus*) – While no longer considered a listed species under the ESA, the bald eagle is afforded protection under the Bald and Golden Eagle Protection Act (BGEPA) of 1940 and the Migratory Bird Treaty

Act of 1918 (MBTA), as amended. In Florida, there are over 1,000 documented nesting pairs of bald eagles. The closest documented or observed bald eagle nest (DU016) is approximately 1.2 miles southwest of the project study area and was last documented as being active in 2022. Therefore, the project will not be subject to work restrictions around active nests (**Exhibit 6, Appendix A**).

Bats - The tricolored bat (*Perimyotis subflavus*) was recently proposed for listing as federally endangered (September 2022). In the Southeast, this is an uncommon species that is most likely to utilize culverts during the colder months and trees with Spanish moss (*Tillandsia usneoides*) in the warmer months. This species is rare in Florida and has been given a low probability of occurrence in the project study area. No other federally- or state-listed species of bats are known to occur in Duval County.

FWC regulates work that affects colonies of non-listed bats that may exist under bridges and inside culverts. The primary signs of bats include accumulation of guano, staining on vertical faces of the structure, and direct bat observations or hearing their vocalizations. In Northeast Florida, the most common bat species to utilize bridges are the Brazilian free-tailed bat (*Tadarida brasiliensis*) and the big brown bat (*Eptesicus fuscus*). The most common species to utilize culverts is the Southern myotis (*Myotis austroriparius*). All three of these are non-listed species. The project study area appears to contain few structures or cavities that could be occupied by bats. Due to the scarcity of potentially occupiable spaces, it is unlikely that bats roost in the project study area.

Bats can occupy, reoccupy, or abandon a site at any time. The observations regarding bat colony status given in this report are preliminary in nature. All potentially occupiable spaces should be fully inspected for the presence of bats immediately prior to construction. The removal of any bats is subject to rules in 68A-9.010, F.A.C. If bats are present in bridges or culverts, FDOT will follow current agency protection measures and will employ exclusion measures as necessary. Therefore, the project is unlikely to affect bats.

Conceptual Mitigation (Listed Species)

No additional mitigation to offset impacts to specific listed species is expected to be necessary.

Agency Coordination (Listed Species)

FDOT will coordinate with USFWS, FWC, and the FDACS, if required regarding potential effects on state-listed and federally-listed species throughout the design and permitting phases of the project.

WETLAND EVALUATION

Identification, Delineation, and Classification of Wetlands and Waters

In accordance with Executive Order 11990, Protection of Wetlands, dated May 24, 1977, a wetland evaluation was conducted for the proposed project. The project was evaluated for impacts to wetlands and other surface waters in accordance with FDOT PD&E Manual Part 2, Chapter 9 (2023). The objectives were to identify, map, and evaluate potential wetland impacts associated with the construction of the project, and to assess the function and value of wetlands potentially affected.

Wetlands and jurisdictional waters within the project study area were identified and classified using definitions and guidelines contained in the FDOT's *FLUCFCS Handbook* (1999) and the Cowardin System (1979). The *USACE Wetland Delineation Manual* (1987) and its' regional supplements, the *Florida Wetlands Delineation Manual* (Gilbert, et al., 1995), and several field guides aided in the identification of project wetlands and waters. The attributes of the three parameters of vegetative composition, hydrologic regime, and soil classification were used to determine the presence and type of wetland or surface water. The boundaries of all wetlands were recorded with a Trimble Global

Positioning System device capable of sub-meter accuracy. All wetland and surface water boundaries, acreages, and assessments presented in this report are subject to change pending survey and agency verification during the permitting process. The boundaries of all on-site wetlands and surface waters are depicted on **Exhibit 2** (**Appendix A**).

A baseline characterization of the wetlands within the overall project study area was performed. Each wetland's size, contiguity, vegetative structural diversity, edge relationships, wildlife habitat value, hydrologic functions, public use, and integrity were generally determined based on the wetland assessment procedures.

Existing Wetlands and Other Surface Waters

Two wetlands have been identified within the project study area. Wetland 1 (approximately 0.05 acre) is a low-quality freshwater marsh that occurs within Pond Site Alternate 1A. This wetland is less than one half acre in size and is not connected to offsite wetlands or surface waters. Therefore, it should not require state wetland mitigation to impact, and it should not be federally jurisdictional. Wetland 2 (approximately 0.01 acre) is a small moderate quality cypress dominated wetland within Pond Site Alternate 1B. It is less than one half acre in size but should be considered by the state to be connected to downstream wetland systems. This wetland will likely require state wetland mitigation to impact. Wetland 2 it is not connected to downstream federally-jurisdictional wetlands or waters via a relatively permanent surface water, and so it should not be considered federally jurisdictional and should not require federal wetland mitigation.

The existing stormwater ponds located in the I-295 interchange and any upland-cut ditch segments that are later identified within the project study area are parts of an existing stormwater management system and will not be considered wetlands or surface waters that require mitigation to alter or impact.

All wetlands within the project study area were identified and assessed for this report and are depicted on **Exhibit 2** (**Appendix A**).

Wetland Assessment

At this preliminary stage, final plans showing exact wetland impact areas and impact types are not available, but it is assumed that all wetlands in the project study area (Wetlands 1 and 2) will be permanently impacted for the construction of stormwater ponds.

Final wetland impacts may vary and will be determined during the permitting phase when the jurisdictional boundaries have been verified and surveyed and the final project design is complete. All practicable measures will be taken during the design phase to avoid and minimize impacts to waters. All wetlands within the project study area are depicted on **Exhibit 2** (**Appendix A**) and as explained above all are assumed to be permanently impacted by the project. During the permitting process, final mitigation requirements will be determined.

The Uniform Mitigation Assessment Method (UMAM) was used to estimate the amount of functional loss that may result from expected impacts to jurisdictional surface waters. Since only Wetland 2 is expected to require mitigation, only this wetland is included in the UMAM assessment.

A UMAM assessment was completed for impacts to wetlands within the project study area. The UMAM Summary Sheet for the project is included in **Appendix C**. The estimated UMAM scores and functional losses are summarized in **Table 2**. These representative UMAM scores will be re-evaluated at the time of permitting based on the final design plans. Functional loss resulting from each impact is calculated by multiplying the UMAM score by the acreage of jurisdictional surface water impact. Functional loss is offset by purchasing or generating an equal amount of functional gain.

Table 2. Summary of Estimated Permanent Jurisdictional Surface Water Impacts and Functional Losses.

Wetland	Impact Type	Impact Acreage	UMAM Score	Functional Loss[1]	Type of Functional Gain Required
621	Permanent fill	0.01	0.5	0.01	Standard freshwater forested

[1]Source: UMAM Summary Sheet **Appendix C**.

Avoidance and Minimization

Avoidance and minimization of wetlands will be considered to the maximum extent practicable throughout all phases of project development. Impacts will be evaluated in detail in the design phase of the project. The project is expected to impact a total of 0.06 acre of wetlands.

Applicable Best Management Practices (BMPs) for erosion control and water quality considerations will be adhered to during the construction phase of the project. The use of BMPs will protect the water quality of downstream systems.

Secondary and Cumulative Impacts

Secondary impacts may include increased noise, light penetration, and wildlife mortality beyond the limits of construction of the project. Additional mitigation may be required to offset secondary impacts. Whether secondary impacts are incurred, and if so, the size, extent, and loss of function to adjacent jurisdictional waters, will be determined during permitting and will vary based on surrounding land use, proposed work, and other factors. Due to the small size and isolated nature of the affected wetlands, it is unlikely that the project will incur secondary impacts to any additional wetlands.

Cumulative impacts are assumed not to occur if mitigation is performed in the same basin in which the impacts are incurred. FDOT is expected to be required to provide mitigation for unavoidable direct impacts within the basin in which the impacts are incurred. Therefore, cumulative impacts are not expected.

Conceptual Wetland Mitigation

Impacts to wetlands within the project study area may require up to 0.01 UMAM state credit of compensatory mitigation. The exact quantity and types of mitigation required will be identified and negotiated with all applicable regulatory agencies when the project enters the design/permitting phase. Wetland impacts resulting from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344.

Wetland Jurisdiction and Permits Required

Regulatory authorization will be required for any unavoidable wetland impacts that may occur as a result of the project. The project size, nature of the proposed work, and wetland/surface water impacts will dictate the type of state and federal environmental resource permits required for the proposed work.

The project will require a state Individual Environmental Resource Permit (ERP) from SJRWMD or a major modification to an existing ERP that encompasses the project study area. This permit will be necessary for the project's stormwater management system and to address any proposed impacts to wetlands or surface waters. State mitigation is expected to be required for any proposed impacts to Wetland 2.

Since 2007, significant changes have occurred regarding federal wetland permitting authority and wetland jurisdiction. In December 2020, FDEP assumed regulatory responsibility for certain Waters of the United States (WOTUS) under Section 404 of the Clean Water Act. USACE retained oversight for all WOTUS deemed jurisdictional under Section 10 of the Rivers and Harbors Act of 1899 and immediately adjacent wetlands. The assumption of jurisdiction is outlined in Chapter 62-331, F.A.C., and in the operating agreement between FDEP and the USEPA. In May 2023, the *Sackett vs. EPA* US Supreme Court decision resulted in significantly reducing the wetlands and waters that are considered WOTUS. In February 2024, it was announced that a federal court ruling divested FDEP's authority to issue State 404 Program permits. With that ruling, all activity under the State 404 Program was paused. While this issue is being resolved, USACE has resumed reviewing all FDOT permit applications that affect federally-jurisdictional wetlands or surface waters.

No USACE-retained wetlands or surface waters are present within the project study area. Federal wetland jurisdiction can only be finalized during the permitting process. However, neither of the project's wetlands are expected to be federally-jurisdictional; no federal wetland impact permit is expected to be necessary. If either wetland within the project study area is determined to be federally-jurisdictional, Section 404 authorization will be required from USACE or FDEP, depending on which agency is responsible for Section 404 oversight at the time of permitting. If FDEP is allowed to process the application, the project is likely to qualify for a State 404 General Permit (GP) 217 or State 404 GP 248. If USACE is required to process the application, the project is likely to qualify for Nationwide Permit 14 (NWP 14) for Linear Transportation Projects or Regional General Permit 92 (RGP SAJ-92). The potential use of GP 248 or RGP SAJ-92 is dependent on FDOT approval of the PD&E document and that its status remains current. In addition, qualification for the use of GP 248 or RGP SAJ-92 would depend on multiple factors, such as total project dredge and fill impacts, maximum impact acreage per mile, whether the project is determined to include "new alignment", and whether the responsible agency agrees to allow it to be processed under that permit. If the project does not qualify for a State 404 GP, NWP, or RGP SAJ-92, then an Individual Permit from the responsible regulatory agency will be required. Federal wetland mitigation will be required if impacts are more than 0.10 acre for USACE or more than "minimal" for FDEP.

The conclusions detailed above regarding the types of permits that the project is expected to require and qualify for are based on the current expected design and wetland impacts. Upon completion of final project design and final surveyed and verified wetland lines permit determinations will be made.

Pursuant to 40 Code of Federal Regulations (CFR) parts 122 and 124, any project that results in the clearing of one or more acres of land will require a National Pollutant Discharge Elimination System (NPDES) permit from the USEPA. In association with this permit, a Stormwater Runoff Control Concept (SRCC), implemented during the construction of the project, will also be required. The primary function of the NPDES is to ensure that sediment and erosion are controlled during construction of the project. These permits require adherence to BMPs to ensure compliance.

Agency Coordination (Wetlands)

Agency coordination would be conducted, if necessary, throughout the design and permitting phases of the project.

Wetlands Finding

A Wetlands Finding was made in accordance with Executive Order 11990. It is as follows:

Wetland impacts will be finalized during the permitting process. Based on the current study alternative, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action will include all practicable measures to minimize harm to wetlands. Wetland impacts which will result from the construction of this project will be mitigated as necessary pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part

IV of Chapter 373, F.S., and 33 U.S.C. 1344. Therefore, the proposed project is expected to have no significant impacts to wetlands and other surface waters.

CONCLUSION

Preliminary research suggests that no recorded CEs will be affected by the project. Additionally, there are no documented Aquatic Preserves, Wildlife Management Areas, and Outstanding Florida Waters in the region, as well as no National Wildlife Refuges, Wild and Scenic Rivers or Habitat Areas of Particular Concern within the project study area.

A total of 14 species, either federally-listed, candidate for listing, proposed for federal listing, and/or state-listed, were determined to have some probability of occurrence in the project study area based on the presence of suitable habitat. All were determined to have a low probability of occurrence. The project **may affect, but is not likely to adversely affect** the federally-listed eastern indigo snake and wood stork. No **adverse effect is anticipated** for the state-listed species (the blueflower butterwort, yellow butterwort, Florida mountainmint, hooded pitcherplant, rainlily, Treat's rainlily, gopher tortoise, little blue heron, tricolored heron, and roseate spoonbill). No further consultation regarding listed species is required. The monarch butterfly and tricolored bat are unlikely to occur in the project study area. A federal effect determination will be made for these species should they become federally listed prior to construction. No active bald eagle nests are located in close enough proximity to necessitate work restrictions on the project. FDOT will adhere to several implementation measures and project commitments regarding plant and wildlife species.

The project study area contains two wetlands. Wetland 1 is approximately 0.05 acre in size and is jurisdictional to SJRWMD; impacts to this wetland will not require state compensatory mitigation. Wetland 1 is not federally-jurisdictional and will not require federal mitigation to impact. Wetland 2 is approximately 0.01 acre in size and is jurisdictional to SJRWMD. If impacts are proposed, approximately 0.01 UMAM state credit of compensatory mitigation will be required to offset the proposed impact. Wetland 2 is not federally-jurisdictional and will not require federal mitigation to impact. The project is expected to require an Individual ERP from SJRWMD, or to be a major modification to and existing ERP to authorize wetland impacts and authorize the construction of a stormwater management system. The project is not expected to require a federal wetland impact permit.

It is expected that FDOT will be required to adhere to the following implementation measures and project commitments.

Implementation Measures:

- FDOT will conduct surveys for protected plants and animals within the project area as part of the permitting process.
- If state- or federally-listed plants or wildlife are identified within the project area, FDOT will coordinate with the appropriate agency to address potential impacts.

Project Commitments:

- The most recent version of the USFWS Standard Protection Measures for the Eastern Indigo Snake will be utilized during construction.
- The project area will be fully inspected for the presence of bats, including the tricolored bat, during design and permitting and again immediately prior to construction. If bats are present in bridges or culverts, FDOT will follow current agency protection measures and will employ exclusion measures as necessary to prevent negative impacts to roosting bats.

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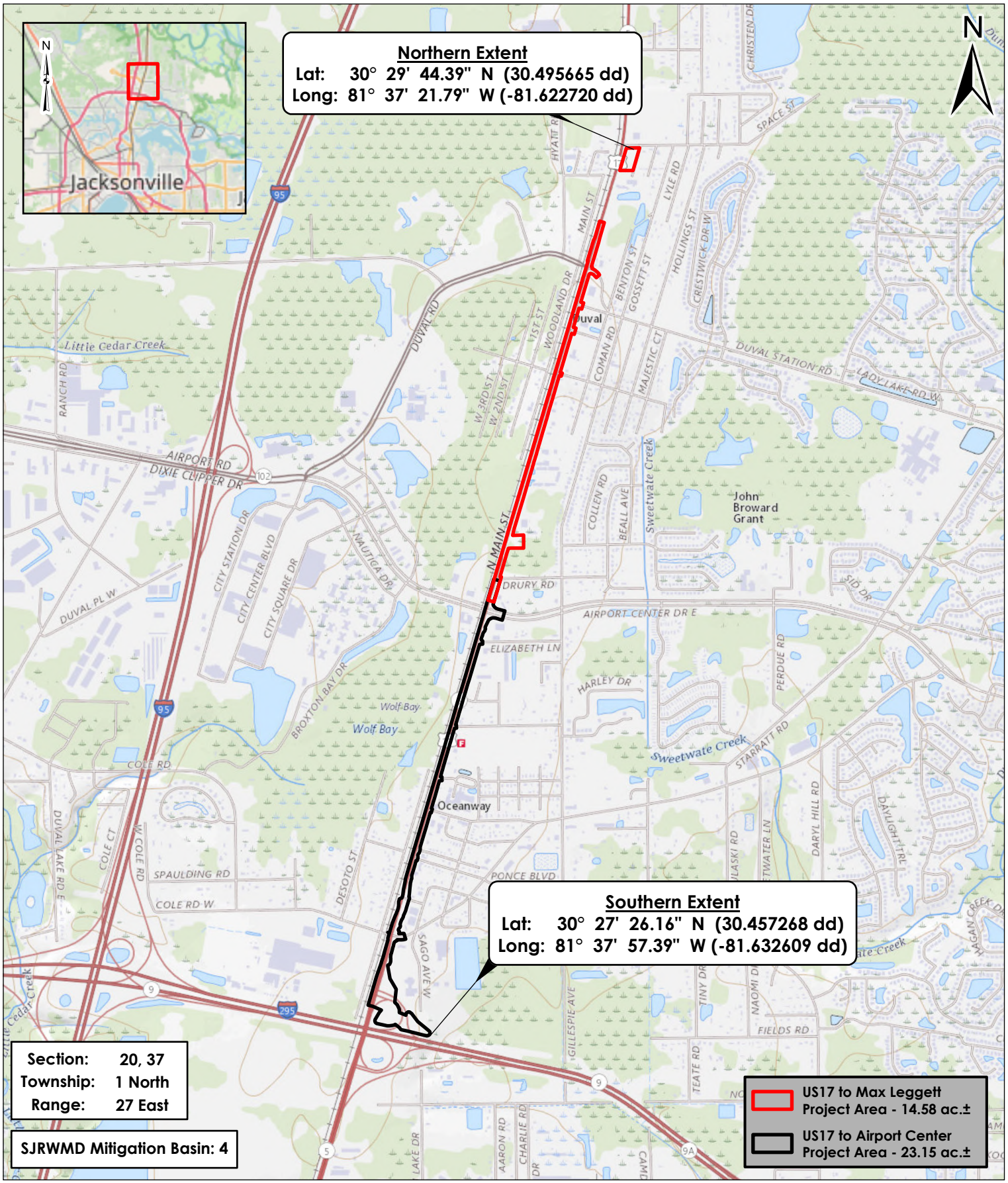
Appendix A

Exhibits



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DATA SOURCE(S):
ESRI WMS - World Topography Basemap; Eastport and Trout River, FL Quadrangles

USGS Topographic Map

US 17-9 to Max Leggett Pkwy: FIN 209411-9-32-01
US 17-9 to Airport Center: FIN 209411-8-32-01

Jacksonville, Duval County, Florida

SES Project No:	1G001.8217.0002/3.50
ERS Project No:	24001/2
Date:	Mar 2024
Drawn By:	DF
Reviewed By:	MS
Approved By:	KAC
EXHIBIT NUMBER	1

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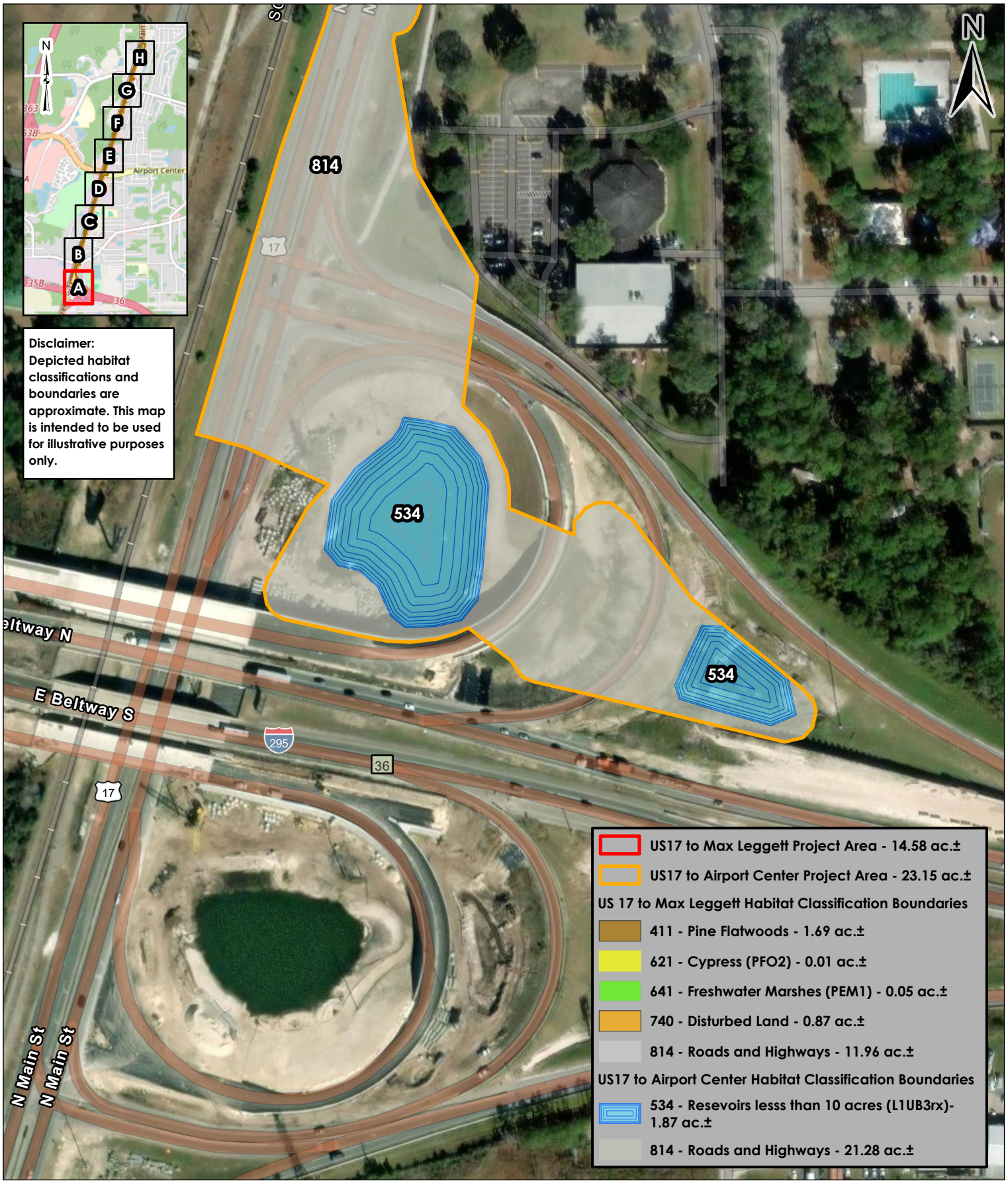

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Habitats

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ERS Project No:	24001/2
Date:	Mar 2024
Drawn By:	DF
Reviewed By:	MS
Approved By:	KAC

EXHIBIT NUMBER **2A**

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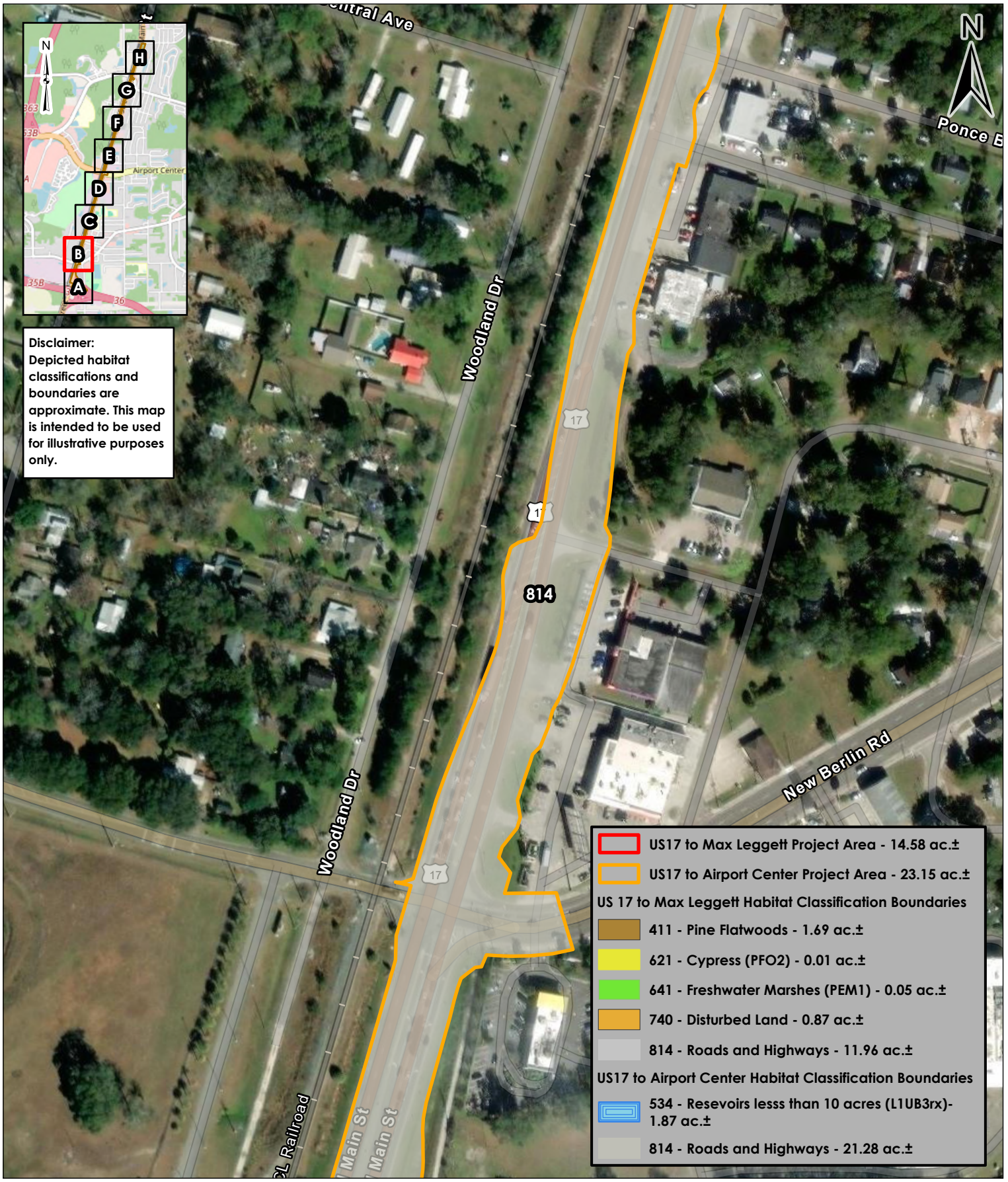

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Jacksonville, Duval County, Florida

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ERS Project No:	24001/2
Date:	Mar 2024
Drawn By:	DF
Reviewed By:	MS
Approved By:	KAC
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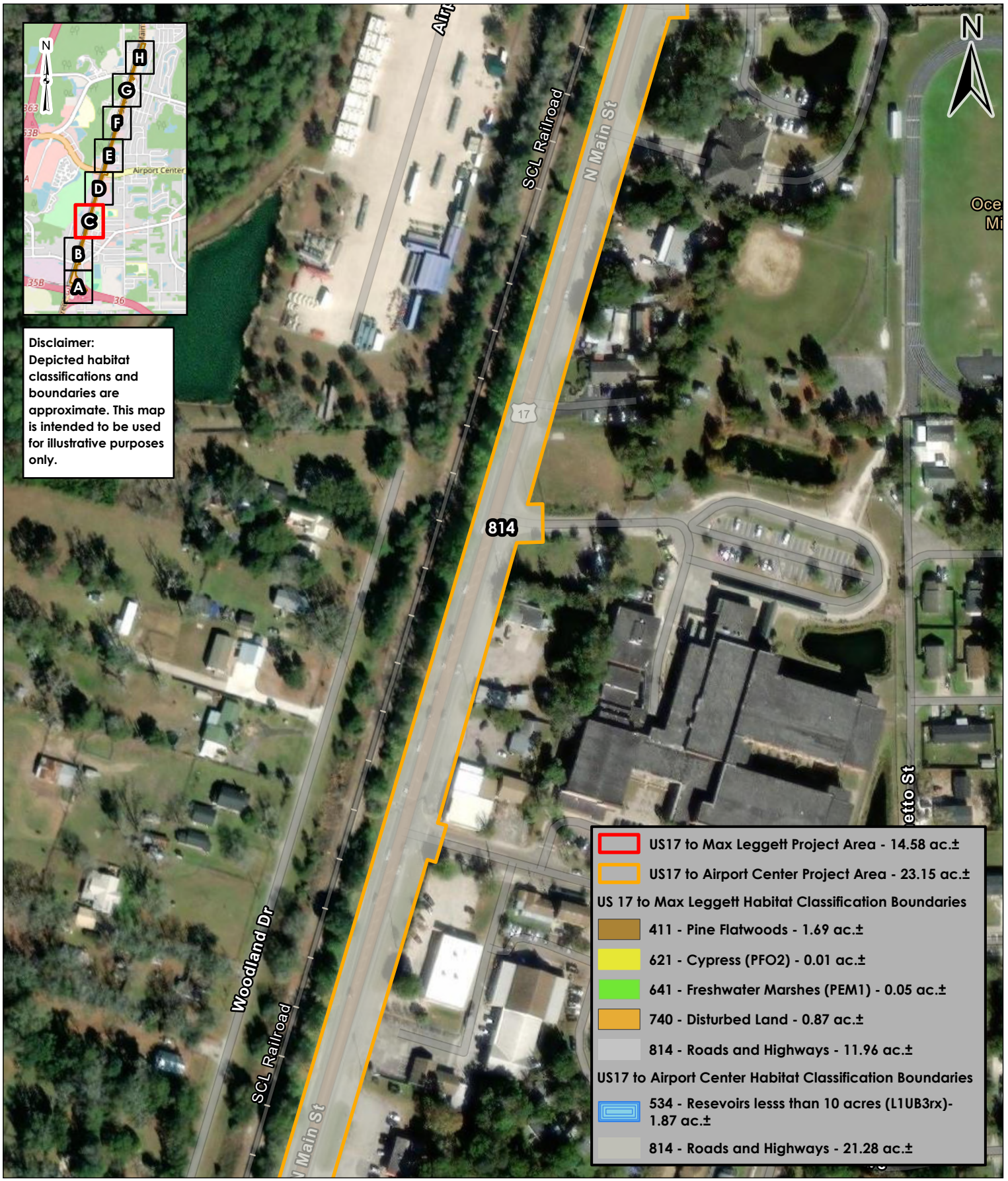

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US 17-9 to Airport Center: FIN 209411-8-32-01

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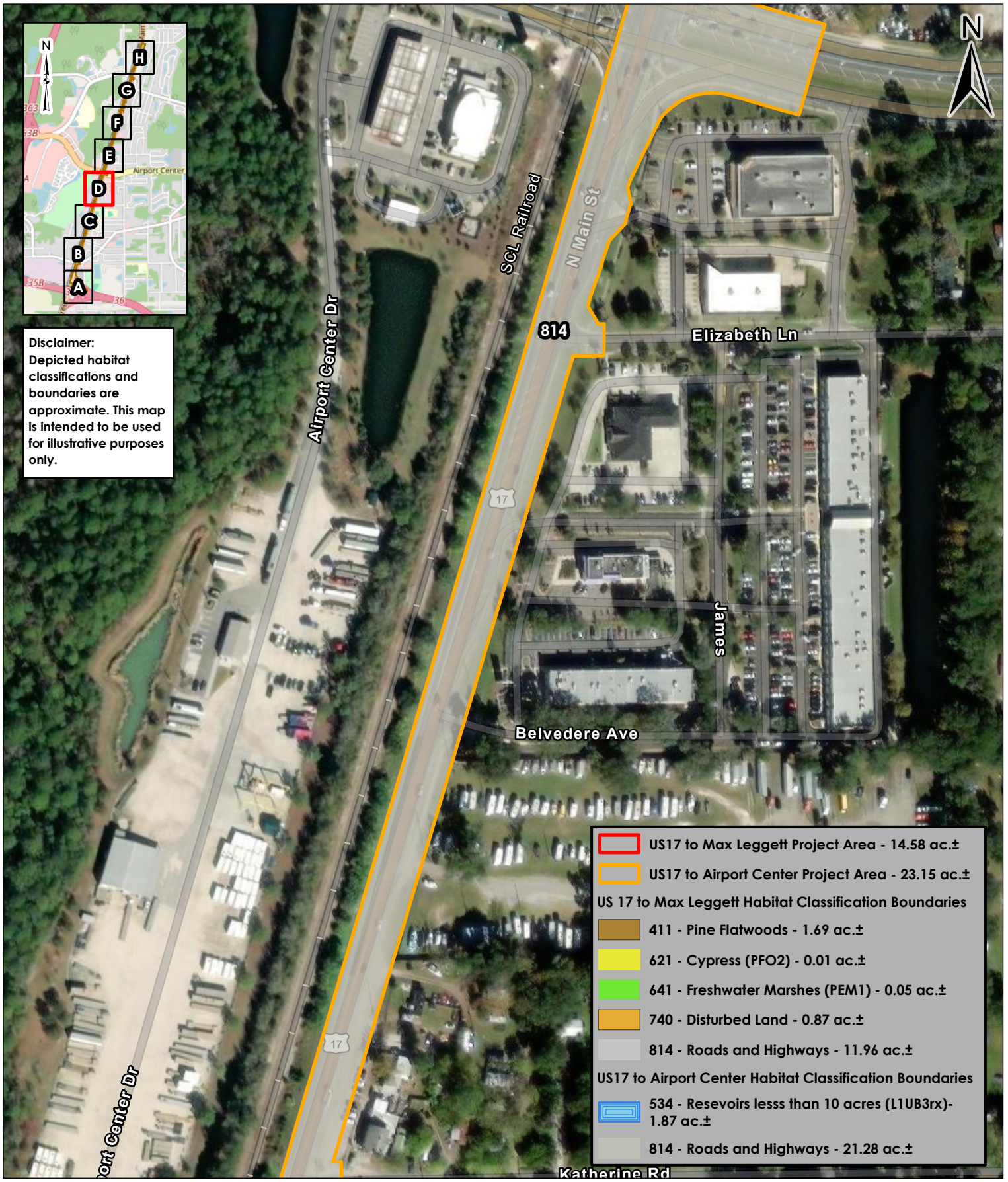

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US 17-9 to Max Leggett Pkwy: FIN 209411-9-32-01
US 17-9 to Airport Center: FIN 209411-8-32-01

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ERS Project No:	24001/2	Date:	Mar 2024
Drawn By:	DF	EXHIBIT NUMBER	2D
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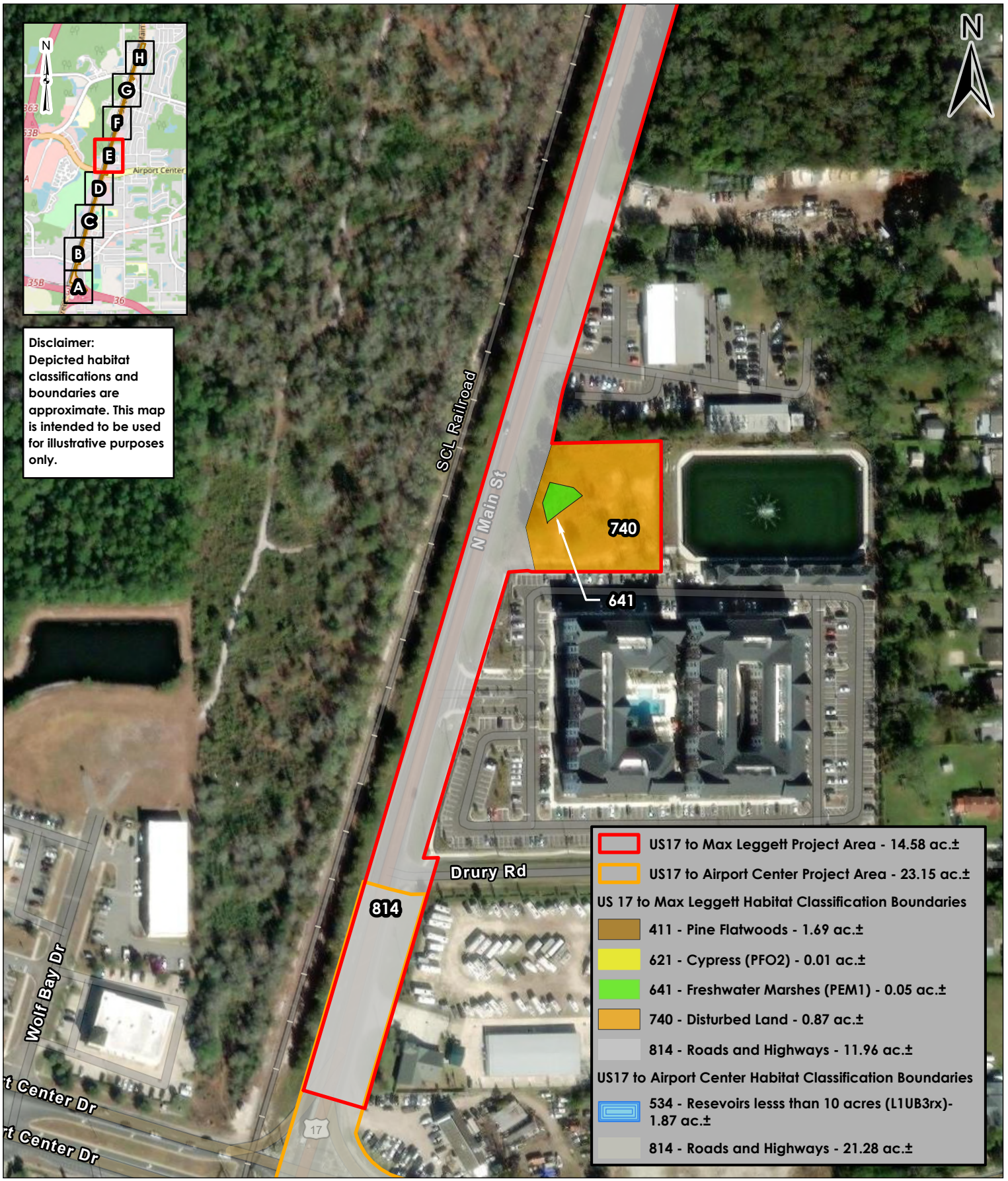

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SES Project No:	1G001.8217.0002/3.50
ERS Project No:	24001/2
Date:	Mar 2024
Drawn By:	DF
Reviewed By:	MS
Approved By:	KAC

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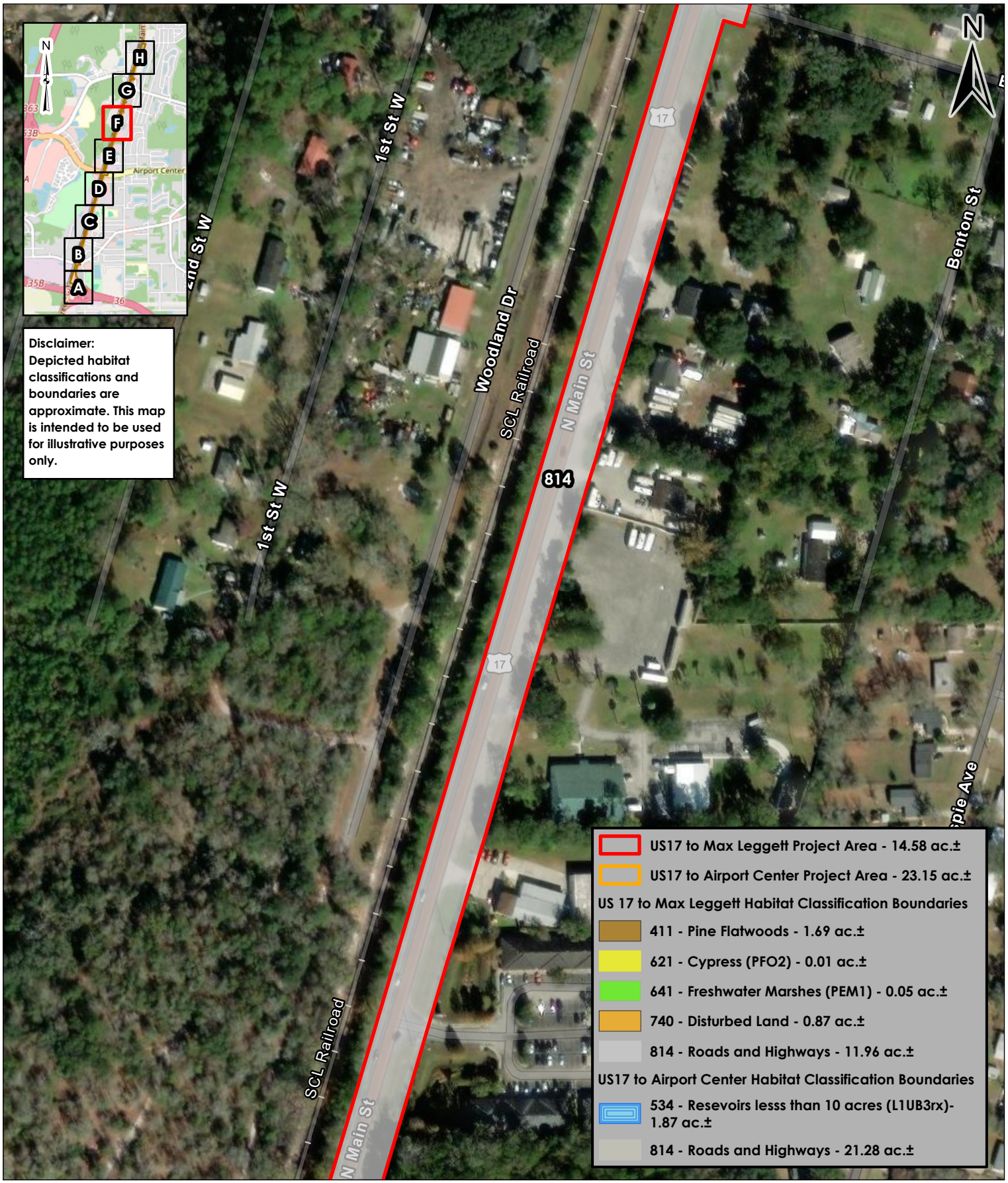

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Habitats

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ERS Project No:	24001/2
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Reviewed By:	MS
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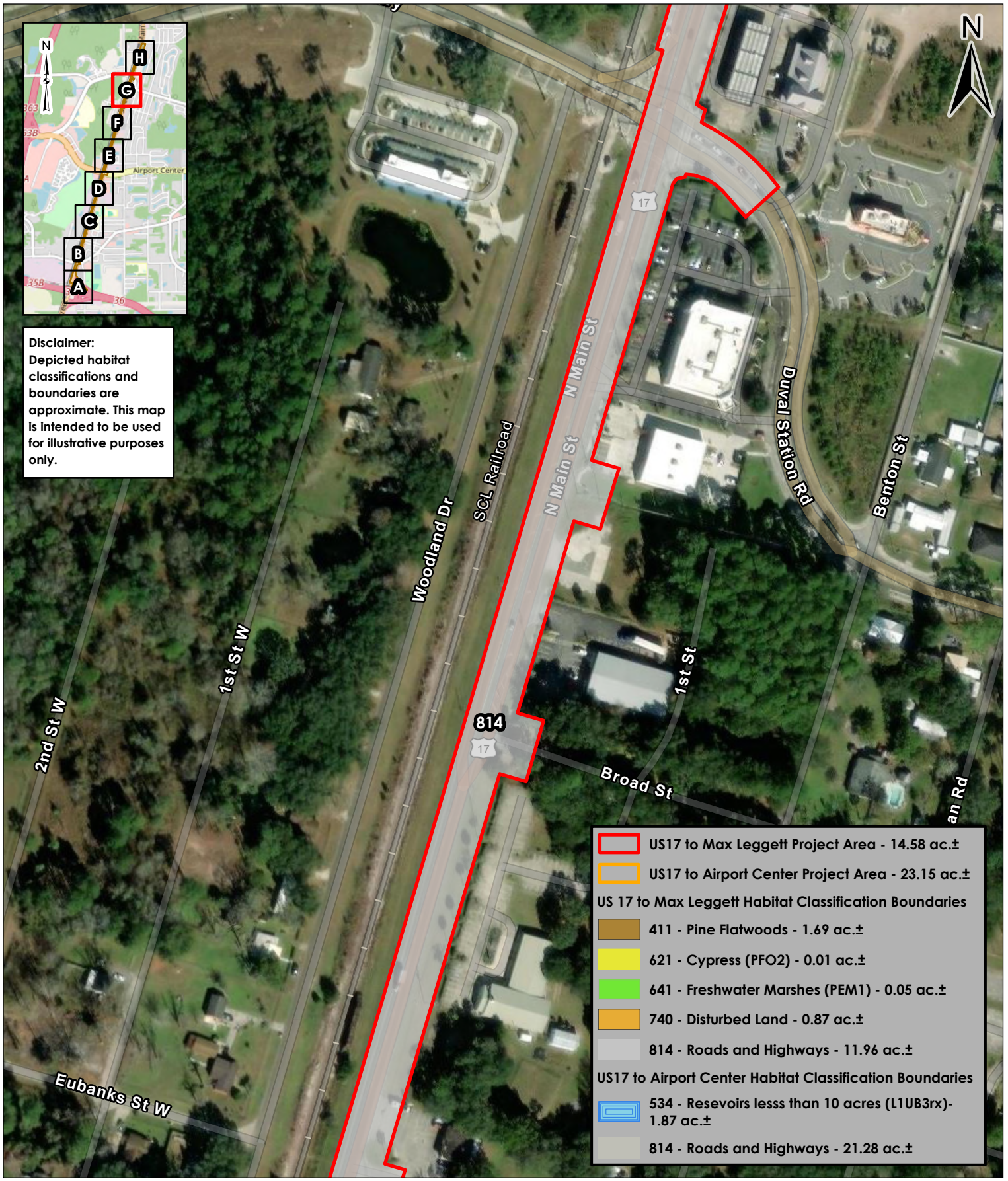

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Habitats

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ERS Project No:	24001/2
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Drawn By:	DF
Reviewed By:	MS
Approved By:	KAC
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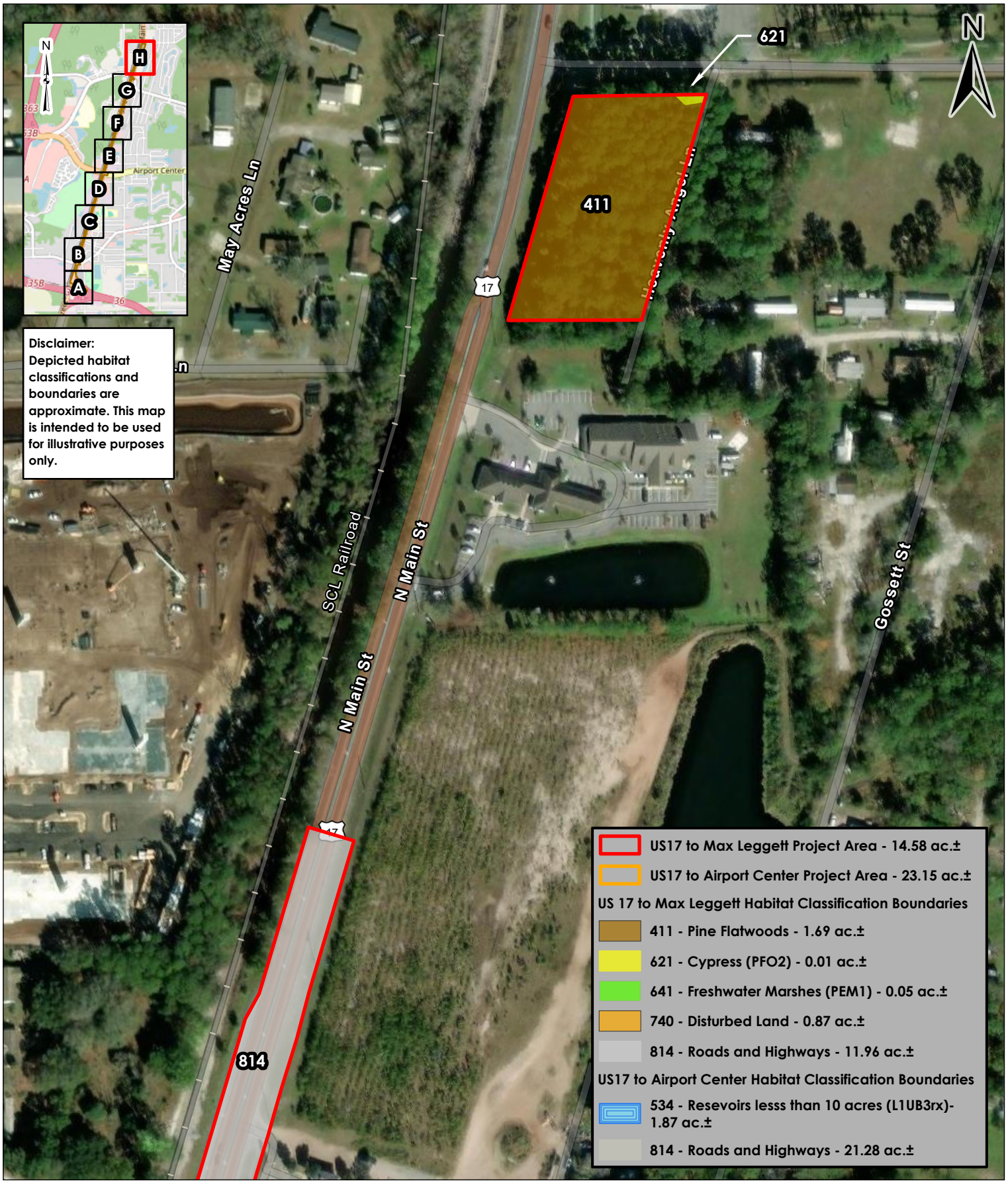

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Habitats

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US 17-9 to Airport Center: FIN 209411-8-32-01

Jacksonville, Duval County, Florida

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ERS Project No:	24001/2
Date:	Mar 2024
Drawn By:	DF
Reviewed By:	MS
Approved By:	KAC
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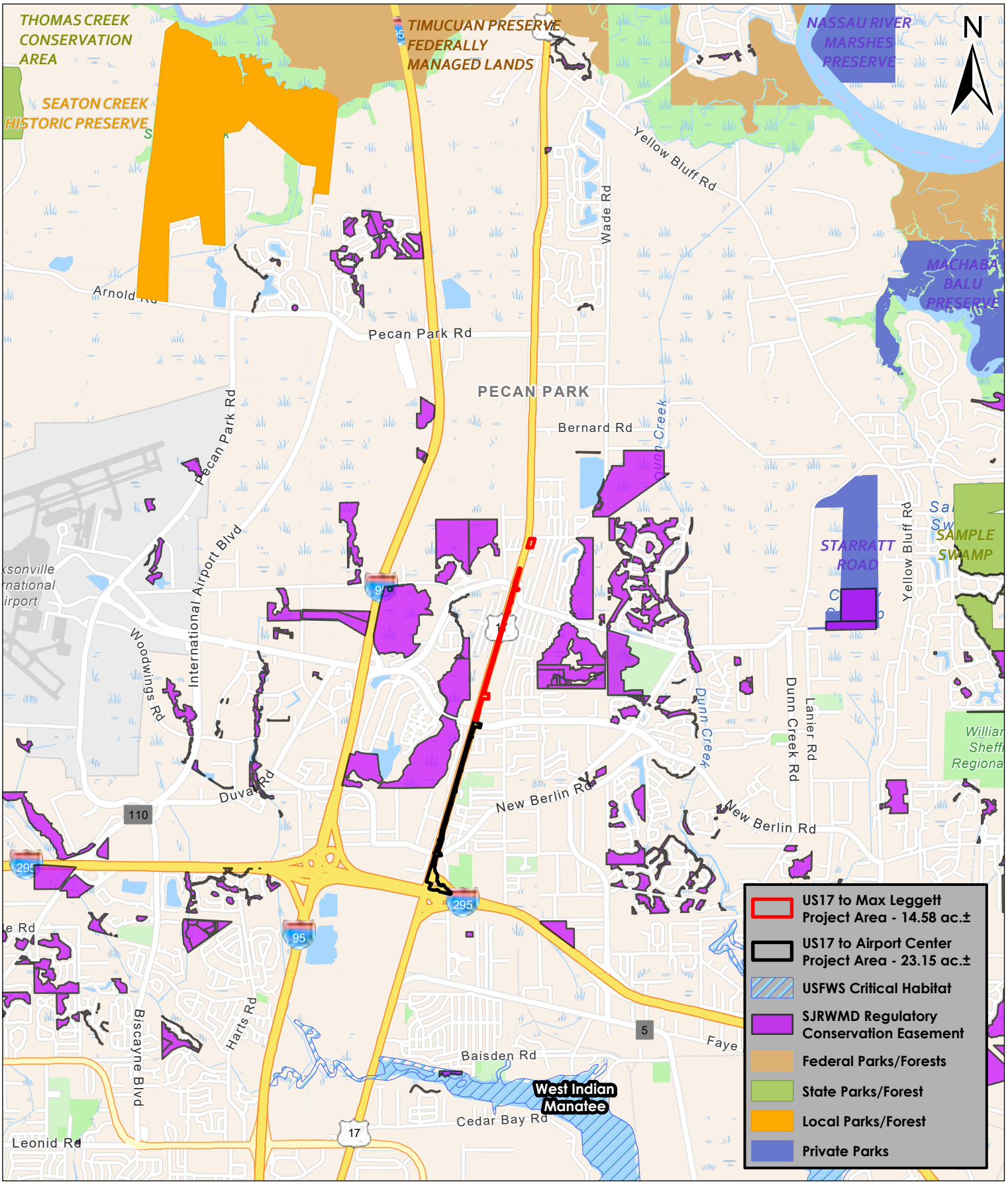

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Public Lands and Critical Habitats

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Reviewed By:	MS
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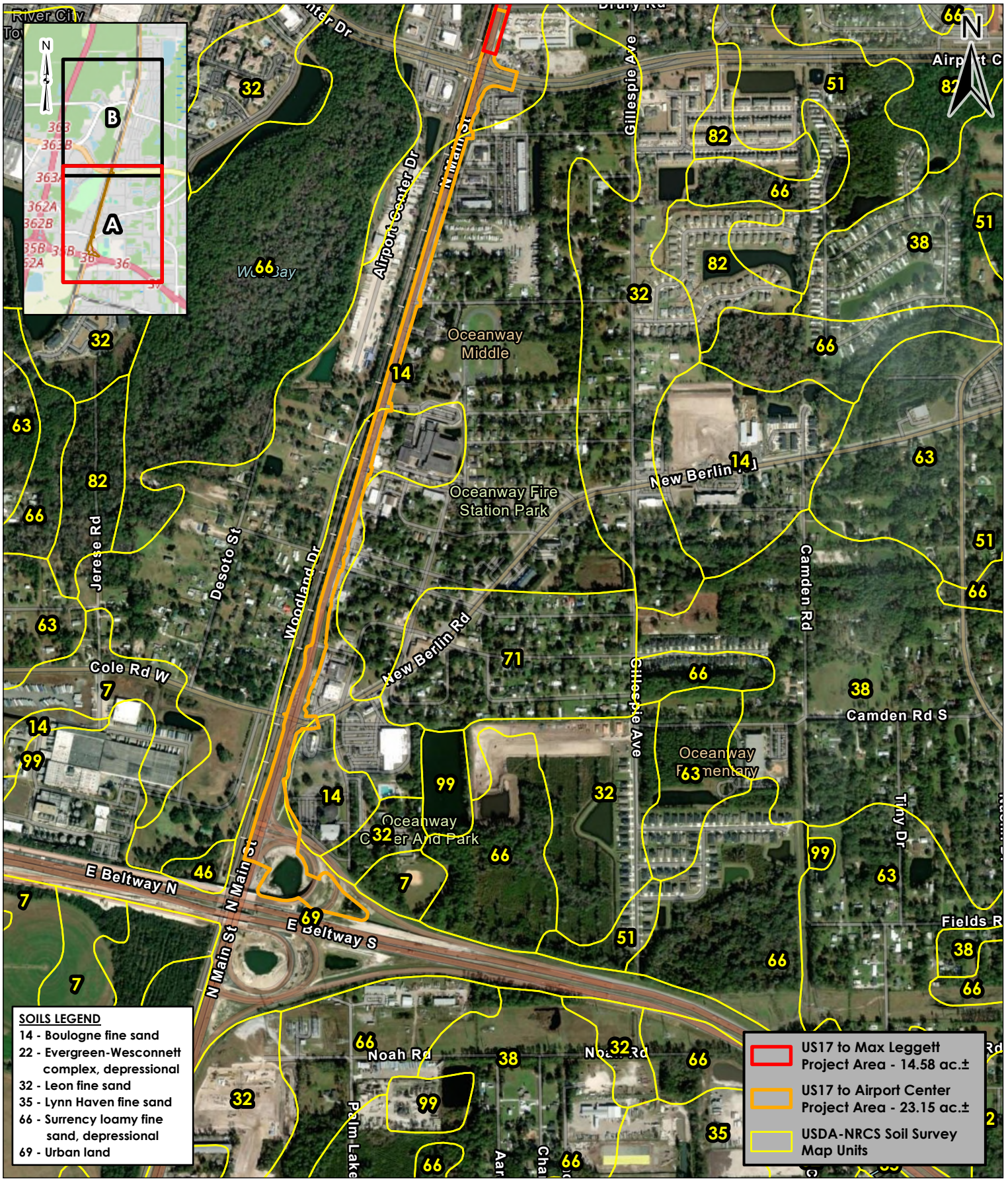

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DATA SOURCE(S):
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Soils

US 17-9 to Max Leggett Pkwy: FIN 209411-9-32-01
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Jacksonville, Duval County, Florida

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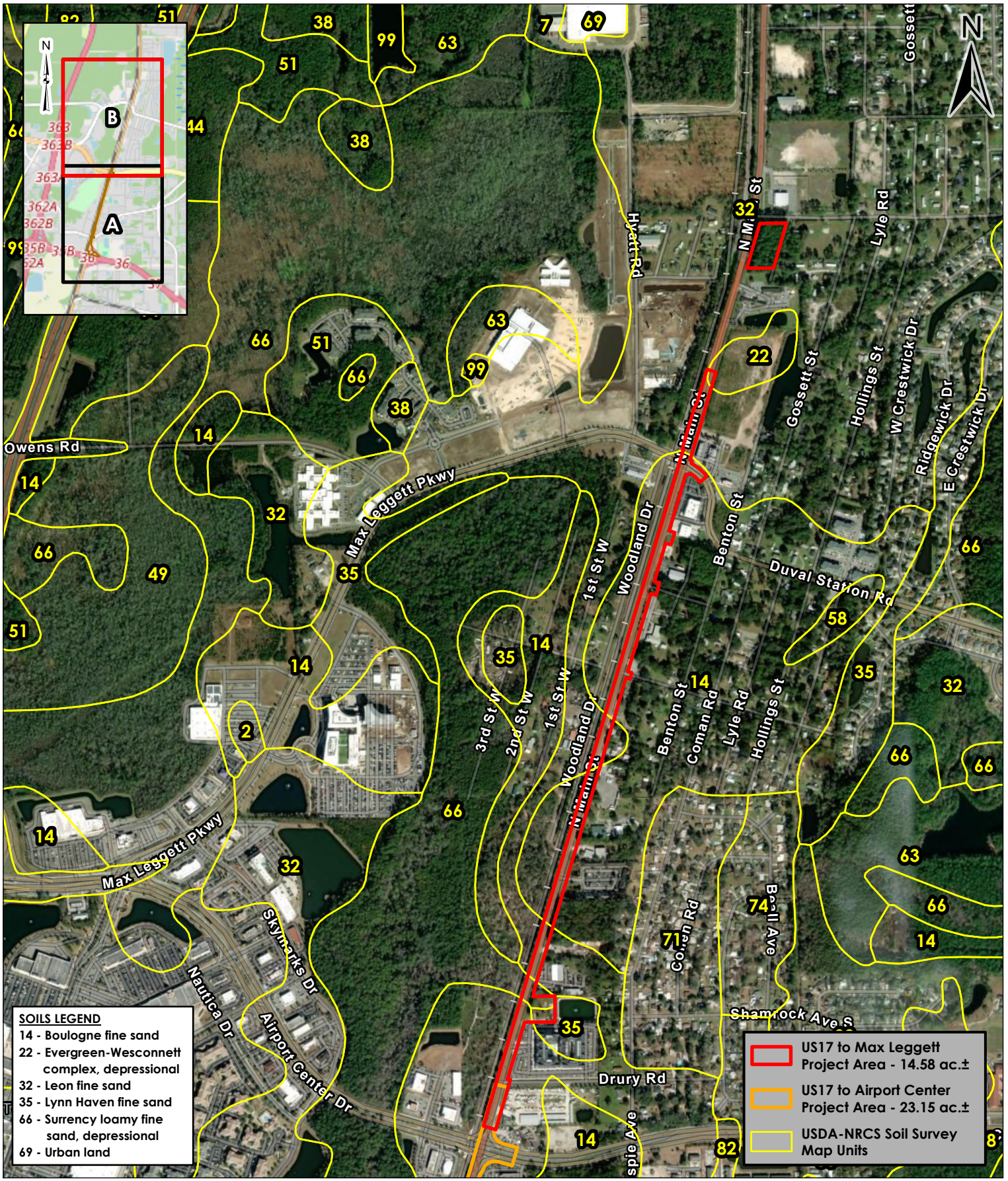
EXHIBIT NUMBER	4A

J:\ERS - Company\Projects\2024\24001 US 17-9 to Max Leggett (1G001.8217.0002.19)\combined NRE tech memo for 24001 and 24002\6_Graphics\US17_295 to Max Leggett.aprx



0 500 1,000
Feet

DATA SOURCE(S):
ESRI WMS - World Aerial Imagery; USDA-NRCS Web Soil Survey

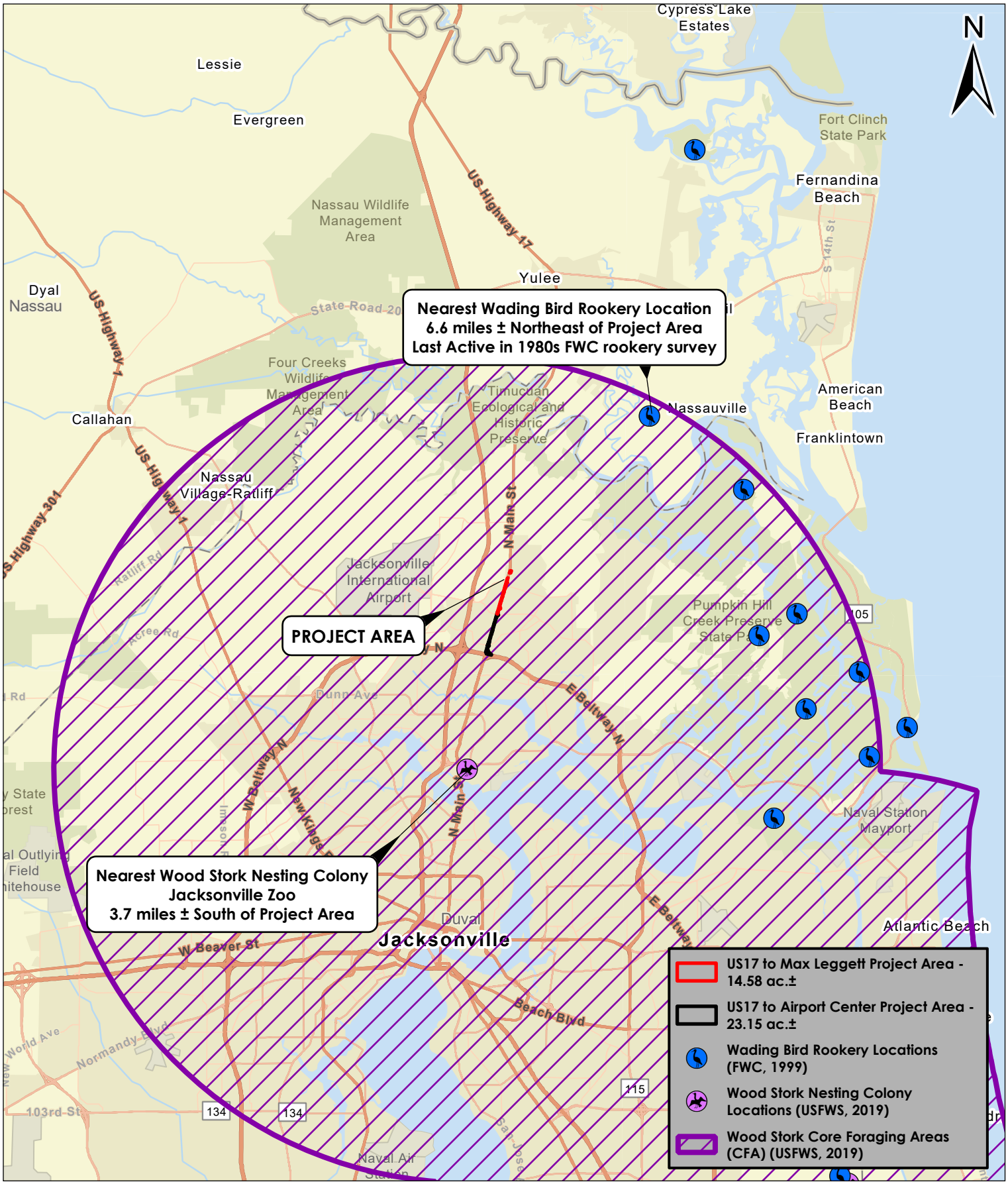
Soils

US 17-9 to Max Leggett Pkwy: FIN 209411-9-32-01
US 17-9 to Airport Center: FIN 209411-8-32-01

Jacksonville, Duval County, Florida

SES Project No:	1G001.8217.0002/3.50
ERS Project No:	24001/2
Date:	Mar 2024
Drawn By:	DF
Reviewed By:	MS
Approved By:	KAC
EXHIBIT NUMBER	4B

J:\ERS - Company\Projects\2024\24001 US 17-9 to Max Leggett (1G001.8217.0002.19)\combined NRE tech memo for 24001 and 24002\6_Graphics\US17_295 to Max Leggett.aprx



0 2 4
Miles

DATA SOURCE(S):
ESRI WMS - World Street Map; USFWS; FWC

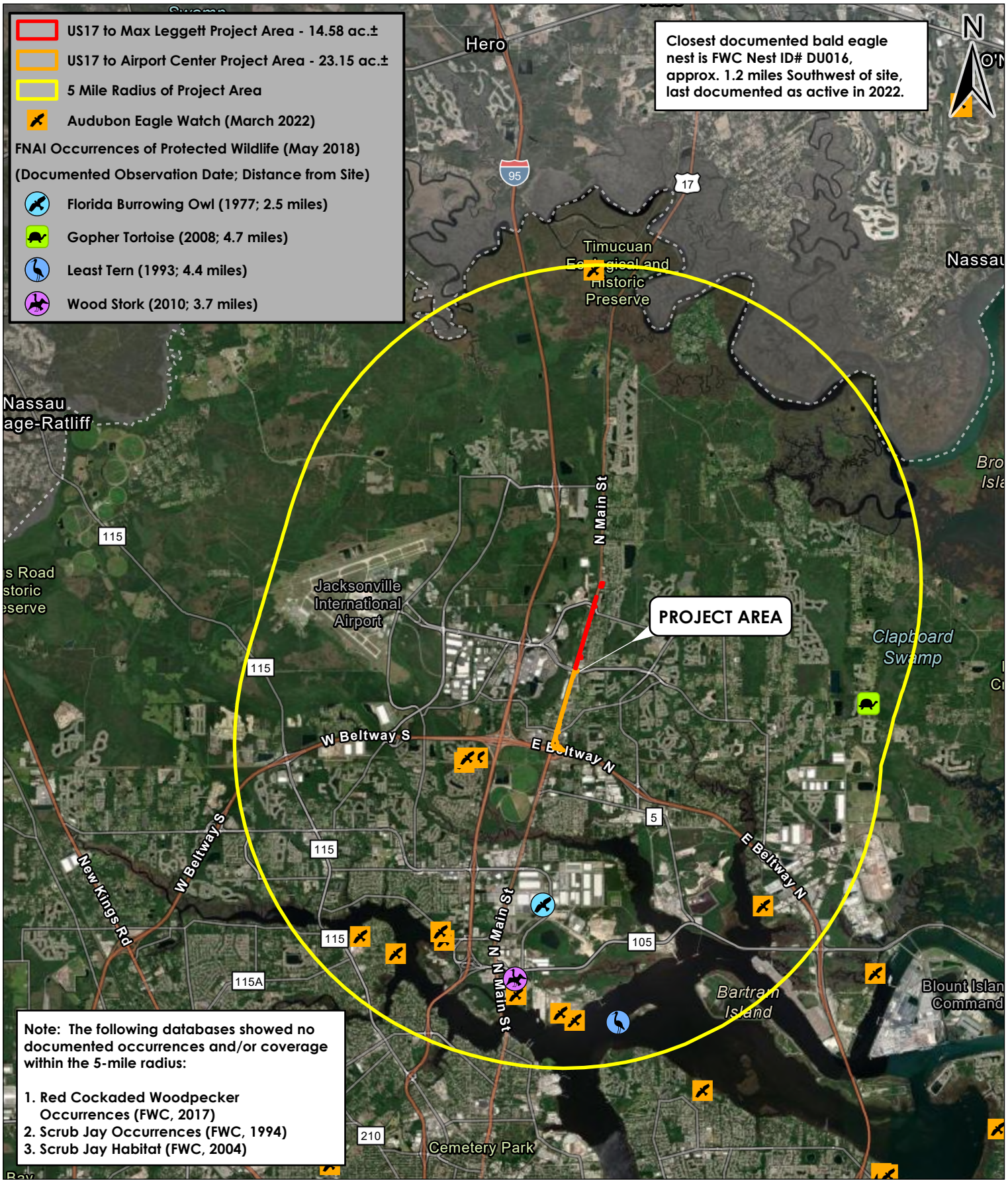
Documented Occurrences of Wading Bird Rookeries and Wood Stork Nesting Colonies/CFA's

US 17-9 to Max Leggett Pkwy: FIN 209411-9-32-01
US 17-9 to Airport Center: FIN 209411-8-32-01

Jacksonville, Duval County, Florida

SES Project No:	1G001.8217.0002/3.50		
ERS Project No:	24001/2	Date:	Mar 2024
Drawn By:	DF	EXHIBIT NUMBER	5
Reviewed By:	MS		
Approved By:	KAC		

J:\ERS - Company\Projects\2024\24001 US 17-9 to Max Leggett (1G001.8217.0002.19)\combined NRE tech memo for 24001 and 24002\6_Graphics\US17_295 to Max Leggett.aprx



0 1 2
Miles

DATA SOURCE(S):
ESRI WMS - World Aerial Imagery; USFWS, FWC, FNAI USGS

Documented Occurrences of Protected Wildlife Within 5 Miles

US 17-9 to Max Leggett Pkwy: FIN 209411-9-32-01
US 17-9 to Airport Center: FIN 209411-8-32-01

Jacksonville, Duval County, Florida

SES Project No:	1G001.8217.0002/3.50
ERS Project No:	24001/2
Date:	Mar 2024
Drawn By:	DF
Reviewed By:	MS
Approved By:	KAC
EXHIBIT NUMBER	6

J:\ERS - Company\Projects\2024\24001 US 17-9 to Max Leggett (1G001.8217.0002.19)\combined NRE tech memo for 24001 and 24002\6_Graphics\US17_295 to Max Leggett.aprx

Appendix B

Federally-listed, Proposed, and Candidate Species and State-listed Species – Duval County

Federally-listed and candidate species and state-listed species – Duval County.				
Scientific Name	**Common Name**	**Federal Status**	**State Status**	**Preferred Habitat**
Plants				
Agrimonia incisa	Incised Groove-bur	N	ST	Sandhills.
Asarum arifolium (= Hexastylis arifolia)	Little Brown Jug	N	ST	Shady hammocks, slopes, and wetland edges.
Asclepias viridula	Southern Milkweed	N	ST	Wet flatwoods and prairies, seepage slopes, pitcherplant bogs.
Balduina atropurpurea	Purple Honeycomb-head	N	SE	Wet pine flatwoods and savannahs, seepage slopes, bogs, and wet ditches.
Calopogon multiflorus	Many-flowered Grass-pink	N	ST	Longleaf pine savannahs and flatwoods.
Calycanthus floridus	Eastern Sweetshrub	N	SE	Mesic hammocks and stream banks.
Calydorea caelestina	Bartram's Ixia	N	SE	Wet to mesic flatwoods.
Carex chapmannii	Chapman's Sedge	N	ST	Swamps, hydric hammocks, seepage slopes, and mesic hammocks.
Centrosema arenicola	Pineland Butterfly Pea	N	SE	Sandhills, scrub, and scrubby flatwoods.
Cleistesiopsis divaricata	Rosebud Orchid	N	SE	Wet flatwoods and bogs.
Cleistesiopsis oricamporum (= *Cleistes bifaria*)	Fragrant Pogonia	N	SE	Wet flatwoods.
Coelorachis tuberculosa	Piedmont Jointgrass	N	ST	Margins or shallows of lakes and ponds.
Coreopsis integrifolia	Ciliate-leaf tickseed	UR	SE	Floodplains and swamps.
Ctenium floridanum	Florida Toothache Grass	N	SE	Sandhills and other dry pinelands.
Drosera intermedia	Water Sundew	N	ST	Pond margins, bogs, and marshes.
Forestiera godfreyi	Godfrey's Swampprivet	N	SE	Upland hardwood forests with limestone near surface, often on slopes above lakes and rivers.
Gonolobus suberosus (= Matelea gonocarpus)	Anglepod Milkvine	N	ST	Hammocks.
Hartwrightia floridana	Hartwrightia	N	ST	Seepage slopes and burned wet pine flatwoods.
Helianthus carnosus	Lakeside Sunflower	N	SE	Wet flatwoods and prairies.
Hexalectris spicata	Spiked Crested Coralroot	N	SE	Calcareous hammocks and shell middens.
Isoetes appalachiana	Appalachian Quillwort	N	SE	Ephemeral woodland pools and swampy streams.
Lantana depressa var. *floridana*	Atlantic Coast Florida Lantana	N	SE	Stabilized dunes of Atlantic coast barrier islands
Lilium catesbaei	Pine Lily	N	ST	Pine savannahs, marshes, flatwoods, and bogs.
Litsea aestivalis	Pondspice	N	SE	Pond margins, cypress dome and swamp edges.
Lobelia cardinalis	Cardinalflower	N	ST	Swamps, riverbanks, and cypress domes.

Federally-listed and candidate species and state-listed species – Duval County.				
Scientific Name	**Common Name**	**Federal Status**	**State Status**	**Preferred Habitat**
Matelea flavidula	Yellow Carolina Milkvine	N	SE	Wooded slopes and bluff forests.
Matelea floridana	Florida Milkvine	N	SE	Hammocks.
Mesadenus lucayanus (=Sprianthes polyantha)	Florida Keys Ladies'-tresses	N	SE	Rock outcrops in mesic hammock, rockland hammock, maritime hammock.
Myriopteris microphylla	Southern Lip Fern	N	SE	Rock outcrops and shell mounds.
Neottia bifolia	Southern twayblade	N	ST	Seasonally flooded deciduous woodlands, often associated with *Sphagnum*.
Opuntia stricta	Erect Pricklypear	N	ST	Dunes, coastal scrub, maritime hammock edges, and coastal ruderal areas.
Orbexilum virgatum	Pineland Leatherroot	N	SE	Pine flatwoods and savannahs, usually in moist soils.
Pecluma plumula	Plume Polypody	N	SE	Epiphytic on tree branches or on limestone in hammocks and swamps.
Pecluma ptilota var. *bourgeauana*	Comb Polypody	N	SE	Rockland hammocks and wet woods, often on tree bases and fallen logs.
Peperomia humilis	Terrestrial Peperomia	N	SE	Shell mounds and outcrops in mesic hammocks, coastal berms, and cypress swamps
Pinguicula caerulea	Blueflower Butterwort	N	ST	Marshes, swamp edges, and wet flatwoods.
Pinguicula lutea	Yellow Butterwort	N	ST	Sandy bogs and open wet flatwoods.
Platanthera blephariglottis var. *conspicua*	White Fringed Orchid	N	ST	Bogs, swamps, and marshes.
Platanhera chapmanii	Chapman's Fringed Orchid	N	SE	Bogs, swamps, and marshes.
Platanthera ciliaris	Yellow Fringed Orchid	N	ST	Bogs, swamps, and marshes.
Platanthera cristata	Crested Yellow Orchid	N	ST	Wet flatwoods and bogs.
Platanthera flava	Gypsy-spikes	N	ST	Prairies, marshes, and wet flatwoods.
Platanthera integra	Orange Reinorchid	N	SE	Wet flatwoods and bogs.
Platanthera nivea	Snowy Orchid	N	ST	Bogs, swamps, and marshes.
Pogonia ophioglossoides	Rose Pogonia	N	ST	Wet pine savannahs and flatwoods.
Pycnanthemum floridanum	Florida Mountainmint	N	ST	Sandhills, mesic forest and disturbed areas.
Ruellia noctiflora	Nightflowering Wild Petunia	N	SE	Wet flatwoods, seepage slopes, hydric hammock.
Sarracenia minor	Hooded Pitcherplant	N	ST	Wet flatwoods, swamps, marshes, and bogs.
Schoenolirion croceum	Yellow Sunnybell	N	SE	Wet pine flatwoods and bogs.
Schwalbea americana	Chaff-seed	E	FE	Fire-maintained longleaf pine savannas, sandhills, flatwoods, and ecotones between sandhills and ponds. Semi-parasitic on roots of *Ilex glabra*, *Gaylussacia*, *Hypericum*, etc.

Federally-listed and candidate species and state-listed species – Duval County.				
Scientific Name	**Common Name**	**Federal Status**	**State Status**	**Preferred Habitat**
Spiranthes brevilabris	Texas Ladies-Tresses	N	SE	Wet prairies and flatwoods.
Spiranthes longilabris	Longlip Ladies-tresses	N	ST	Wet prairies and flatwoods.
Verbesina heterophylla	Variable-leaf Crownbeard	N	SE	Mesic flatwoods and dry woods.
Zephyranthes atamasca var. *atamasca*	Rainlily	N	ST	Swamps, floodplains, wet prairies, and wet roadsides.
Zephyranthes atamasca var. *treatiae*	Treat's Rainlily	N	ST	Swamps, floodplains, wet prairies and wet roadsides.
Insects				
Danaus plexippus	Monarch Butterfly	C	N	Breeding females lay eggs on *Asclepias* spp. (milkweeds) where the larvae develop; Non-breeding and breeding adults feed on many species of wildflowers, and so may occur in areas with high densities of wildflowers
Crustaceans				
*Procambarus pictus***	Black Creek Crayfish	N	ST	Small high quality tannic streams.
Fish				
*Acipenser brevirostrum***	Shortnose Sturgeon	E	FE	Large rivers and coastal waterways. Formerly bred in the Ocklawaha River before the Rodman Dam was constructed.
*Acipenser oxyrinchus oxyrinchus**	Atlantic Sturgeon	E	FE	Atlantic Ocean and portions of large river systems.
Pristis pectinata	Smalltooth Sawfish	E	FE	Open sea, estuaries, bays, and river mouths.
Amphibians				
Ambystoma cingulatum	Frosted Flatwoods Salamander	T	FT	Flatwoods with wiregrass and interspersed wetlands; breeds in small ponds and seasonally flooded wetlands.
Notophthalmus perstriatus	Striped Newt	N	ST	Xeric upland communities, principally sandhill but also scrub; occasionally in pine flatwoods. Breeds in isolated, mostly ephemeral wetlands that lack predatory fishes resulting from periodic drying cycles. Occasional fire and relatively undisturbed soil and vegetative groundcover are important terrestrial habitat components.
Reptiles				
Caretta caretta	Loggerhead Sea Turtle	T/CH	FT	Open sea, bays, lagoons, creeks; beaches for nesting.
Chelonia mydas	Green Sea Turtle	T	FT	Open sea, inshore bays, tidal creeks; beaches for nesting.
*Dermochelys coriacea**	Leatherback Sea Turtle	E	FE	Open sea; beaches for nesting.
*Drymarchon corais couperi**	Eastern Indigo Snake	T	FT	Linked to xeric habitats and gopher tortoise burrows, but also uses other natural habitats such as swamps and freshwater marshes as foraging habitat.

Federally-listed and candidate species and state-listed species – Duval County.				
Scientific Name	**Common Name**	**Federal Status**	**State Status**	**Preferred Habitat**
*Eretmochelys imbricata**	Hawksbill Sea Turtle	E	FE	Open sea, coastal lagoons and waterways, mangroves; beaches for nesting.
*Gopherus polyphemus**	Gopher Tortoise	N	ST	Sandhills, scrub, dry flatwoods, dry ruderal areas.
*Lepidochelys kempii**	Kemp's Ridley Sea Turtle	E	FE	Open sea, bays, lagoons, inlets; beaches for nesting. KR must show up on IPAC or ECOS. There is no reason it should not be indicated for Duval. We are keeping it.
*Pituophis melanoleucus***	Pine Snake	N	ST	Sandhill, sand pine scrub and scrubby flatwoods.
Birds				
*Aphelocoma coerulescens**	Florida scrub-jay	T	FT	Fire-maintained scrub with scrub oaks and open areas.
*Athene cunicularia floridana***	Florida Burrowing Owl	N	ST	Open prairies with little vegetation.
Calidris canutus rufa	Red Knot	T	FT	Migratory in large flocks; requires beaches and shallow coastal waters for stopover feeding.
*Charadrius melodus**	Piping Plover	T/CH	FT	Beaches, sandflats, and mudflats.
*Cistothorus palustris griseus***	Worthington's Marsh Wren	N	ST	Tidal marshes dominated by cordgrass.
*Egretta caerulea***	Little Blue Heron	N	ST	Forages in a wide variety of freshwater, brackish, and saline wetlands and waterways, including ponds and ditches. Prefers freshwater habitats. Nests in mixed colonies in flooded trees or shrubs or on islands.
*Egretta tricolor***	Tricolored Heron	N	ST	Forages in a wide variety of freshwater, brackish, and saline wetlands and waterways, including ponds and ditches. Prefers coastal habitats. Nests in mixed colonies in flooded trees or shrubs or on islands.
Haematopus palliatus	American Oystercatcher	N	ST	Occurs in beaches, sandbars, spoil islands, shall rakes, salt march, and oyster reefs.
Laterallus jamaicensis jamaicensis	Eastern Black Rail	T	FT	Primarily occurs in tidal saltmarsh, but can also occur in freshwater wetlands, coastal prairies, and grassy fields.
Leuconotopicus borealis (= Dryobates borealis and *Picoides borealis)***	Red-cockaded Woodpecker	E	FE	High quality fire-maintained upland pine forest with mature pines with heart rot for nesting.
Mycteria americana	Wood Stork	T	FT	Forages in a wide variety of freshwater and brackish wetlands and waterways, including ponds and ditches. Prefers waterbodies that have shallow or variable water levels to concentrate fish prey. Nests in colonies in flooded trees or on islands.
*Platalea ajaja***	Roseate Spoonbill	N	ST	Forages in a wide variety of freshwater, brackish, and saline wetlands and waterways, including ponds and ditches. Prefers coastal habitats. Nests in mixed colonies in mangroves, willow heads, or spoil islands.
*Rynchops niger***	Black Skimmer	N	ST	Estuaries, beaches, and sandbars.
*Sternula antillarum***	Least Tern	N	ST	Coastal areas, including estuaries and bays.
Mammals				
Eubalaena glacialis	North Atlantic Right Whale	E	FE	Open ocean. Gives birth near the Atlantic shoreline between December and March.
Perimyotis subflavus	Tricolored bat	PE	PE	Commonly roost in culverts, caves, old mines, and other human structures during colder months. Roosts in leaves,

Federally-listed and candidate species and state-listed species – Duval County.				
Scientific Name	**Common Name**	**Federal Status**	**State Status**	**Preferred Habitat**
				recently deceased trees, Spanish moss, pine trees, and human structures during warmer months.
*Trichechus manatus***	West Indian Manatee	T/CH	FT	Estuaries, tidal rivers, springs, and spring runs.

Legal Status and Notes

Federally-listed Species (FWS)

C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.
CH = Critical Habitat has been designated in the county in which the project is located.
E = Endangered: species in danger of extinction throughout all or a significant portion of its range.
T = Threatened: species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
PT = Proposed threatened
PE = Proposed endangered
N = Not federally-listed.
***** = This species is included in a FWS Recovery Plan.
Recovery plans can be found at: https://www.fws.gov/endangered/species/recovery-plans.html

State-listed Species

SAT = Listed as threatened for similarity of appearance.
SSC = Species of Special Concern.
SE = State endangered.
ST = State threatened.
FE = Federally endangered.
FT = Federally threatened.
****** = FWC has developed a draft or final Permitting Guidelines document for this species. Permitting guidelines can be found at: https://myfwc.com/wildlifehabitats/wildlife/species-guidelines/

Appendix C

UMAM Summary Sheet

site: **US 17 Road Project**

Date: **3.30.2023**

Impacts	Habitat Type	Location and Landscape Support before	Location and Landscape Support after	Water Environment before	Water Environment after	Community Structure before	Community Structure after	Acres	Functional Loss	Rounded Functional Loss
		0	0	0	0	0	0		0.0000	0.00
W2	621	5	0	5	0	5	0	0.01	0.0050	0.01
									0.0000	
									0.0000	
									0.0000	

Total Impact Acres **0.01**

Each line is rounded up to the next hundreth.

Total Functional Loss **0.005**

Total Rounded Functional Loss **0.01**

Total Functional Gain Units **0.000**

Mitigation Preservation	Habitat Type	Location and Landscape Support before	Location and Landscape Support after	Water Environment before	Water Environment after	Community Structure before	Community Structure after	Time Lag	Risk Factor	Preservation Adjustment Factor	Relative Functional Gain	Acres Provided	Functional Gain Units
1								1	1.00		0.0000		0.0000
2								1	1.00		0.0000		0.0000
3								1	1.00		0.0000		0.0000
4								1	1.00		0.0000		0.0000
5								1	1.00		0.0000		0.0000
6								1	1.00		0.0000		0.0000
7								1	1.00		0.0000		0.0000
creation													
1								1	1.00		0.0000		0.0000
2								1	1.00		0.0000		0.0000
uplands													
11				x	x x			1	1.00		0.0000		0.0000
12				x	x x			1	1.00		0.0000		0.0000
13				x	x x			1	1.00		0.0000		0.0000
14				x	x x			1	1.00		0.0000		0.0000
15				x	x x			1	1.00		0.0000		0.0000