DP-2025-020806
Attachment C - Protected species survey

SANIBEL SLOUGH STORMWATER CAPACITY AND WATER QUALITY IMPROVEMENT PROJECT

PROTECTED SPECIES SURVEY

OCTOBER 2024

Prepared for

City of Sanibel
800 Dunlop Road
Sanibel, FL 33957

Prepared by

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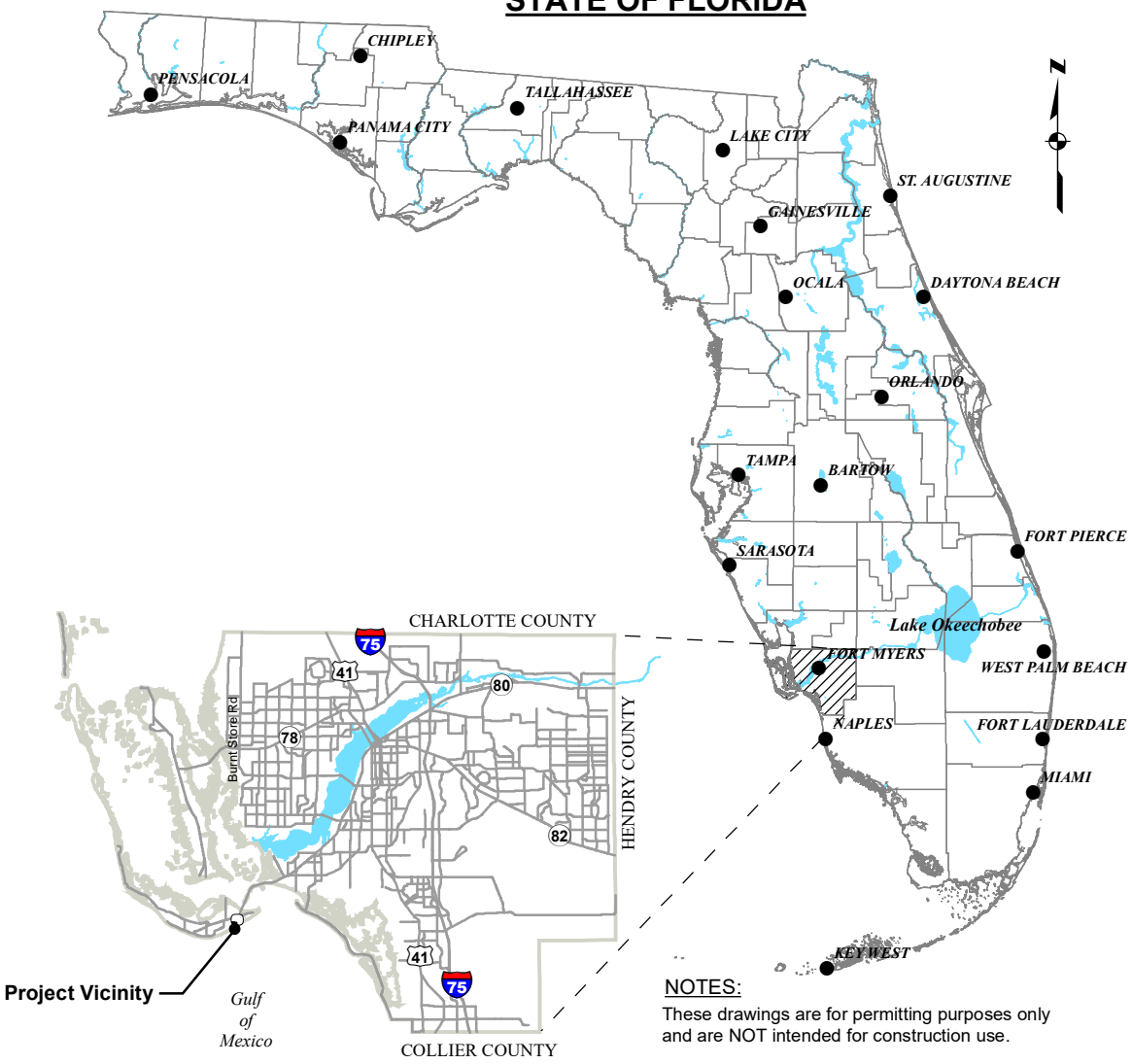
1.0 INTRODUCTION

The City of Sanibel proposes to dredge the Sanibel Slough in order to increase stormwater capacity and improve water quality. Removal and alteration to the shoreline vegetation will be necessary for successful completion of the proposed project. The project encompasses 2.86 acres within an impounded section of the Sanibel Slough waterway. A water control structure exists at the eastern terminus of the project boundary, and the western terminus is at a low bridge connecting Main Street [of the Periwinkle Park Campground] to Junonia Street. The project is specifically located within the City of Sanibel in Section 2, Township 46 South, Range 21 East, Lee County, Florida. A project location map is provided in **Figure 1-1**.

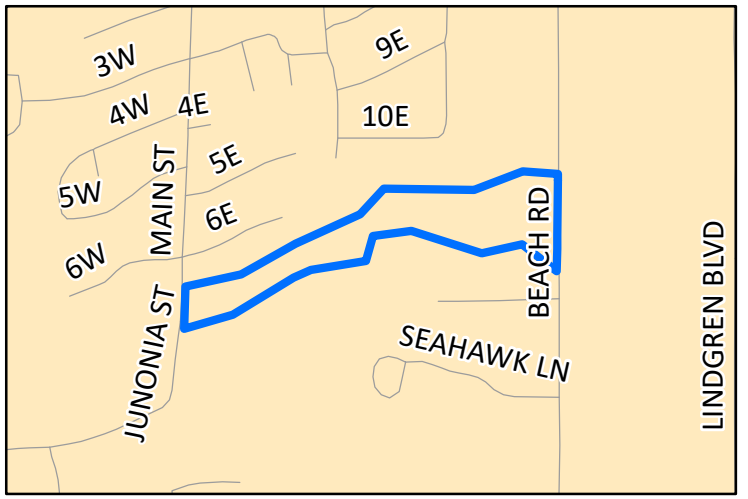
The following represents the results of a Protected Species Survey (PSS) for the project conducted in accordance with the methodology outlined by the Florida Fish and Wildlife Conservation Commission (FWC).

STATE OF FLORIDA



LEE COUNTY
N.T.S.

NOTES:
These drawings are for permitting purposes only and are NOT intended for construction use.



STREET MAP
N.T.S.

VICINITY AERIAL
N.T.S.

Notes: Aerial Photo 2024

Section 2, Township 46 South, Range 21 East
Latitude: 26°26'34.6"N Longitude: 82°02'28.6"W

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Sanibel Slough
Stormwater Capacity & Water Quality Improvement Project
Lee County, Florida

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Location Map

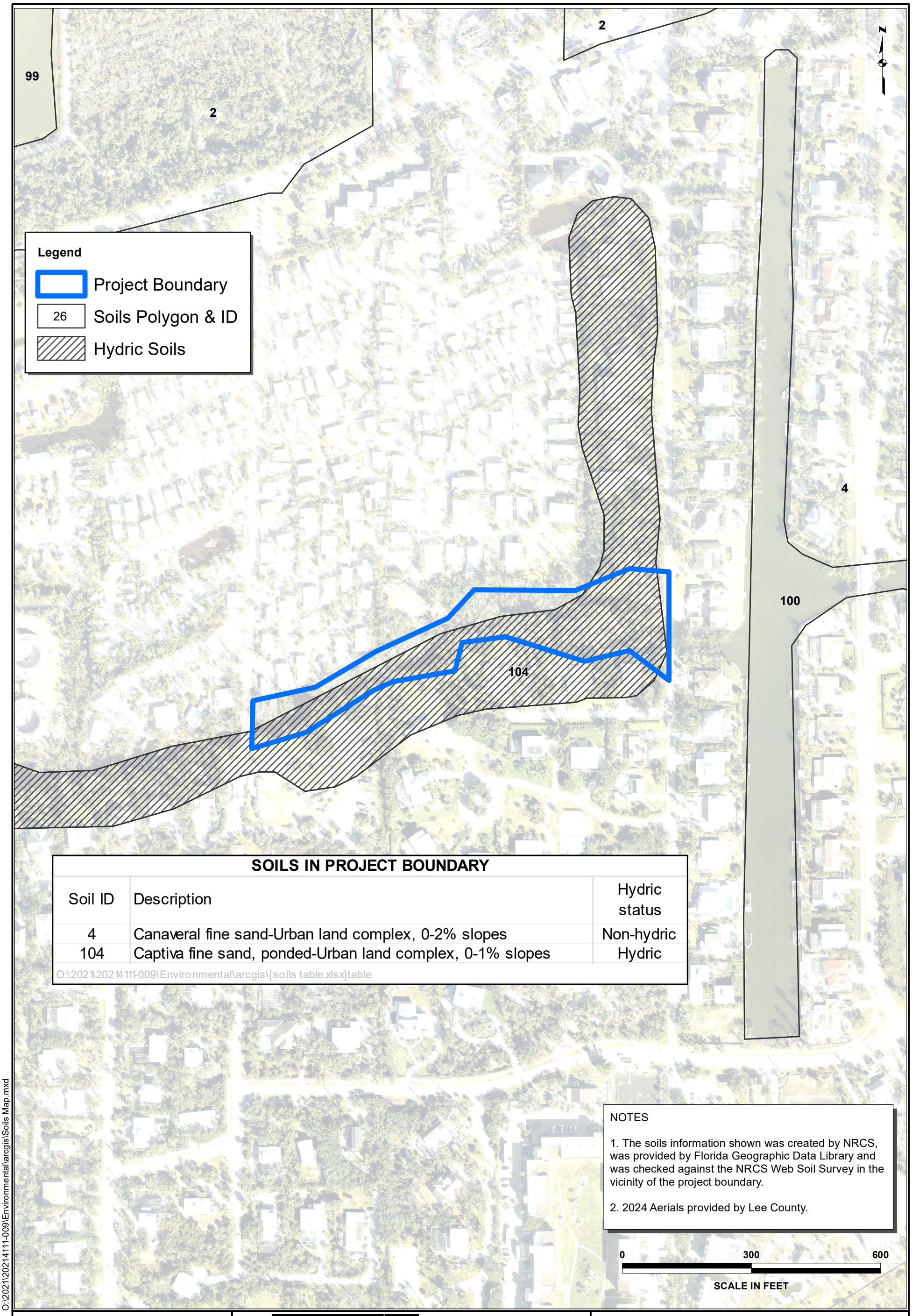
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
August 2024	20214111-009		Not to Scale	Figure 1-1

2.0 EXISTING CONDITIONS

The habitat types and land use within the project limits were delineated utilizing a Lee County digital aerial image (1" = 200'), Natural Resources Conservation Service (NRCS) soil survey maps for Lee County (**Figure 2-1**), and onsite field observations. The habitat types were classified based on the nomenclature of the Florida Land Use, Cover and Forms Classification System, Level III (FLUCFCS) (Florida Department of Transportation [FDOT], 1999). This system, originally developed by FDOT, allows for a uniform but flexible means of classifying land uses important for determining the presence of wetlands and suitable habitat for protected species. The resulting FLUCFCS and Protected Species Survey Map is provided in **Appendix A**. The approximate acreages and descriptions for the FLUCFCS Codes can be found in **Table 2-1**. A brief description of each surveyed FLUCFCS Code is given below.

Table 2-1. FLUCFCS Code Descriptions and Acreages.

FLUCFCS CODE	DESCRIPTION	APPROXIMATE ACRES
437	Australian Pine	0.11
510	Sanibel Slough w/ Mangrove	2.30
612	Mangrove Swamps	0.30
814/830	Roadway/Utilities	0.15
	Total :	**2.86**



SOILS IN PROJECT BOUNDARY

Soil ID	Description	Hydric status
4	Canaveral fine sand-Urban land complex, 0-2% slopes	Non-hydric
104	Captiva fine sand, ponded-Urban land complex, 0-1% slopes	Hydric

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NOTES

1. The soils information shown was created by NRCS, was provided by Florida Geographic Data Library and was checked against the NRCS Web Soil Survey in the vicinity of the project boundary.

2. 2024 Aerials provided by Lee County.

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SOILS MAP

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
August 2024	20214111-009	FILE NO.	AS SHOWN	Figure 2-1

FLUCFCS Code 437: Australian Pine (0.11 ac)

This habitat exists in the eastern portion of the project limits and is bordered by the slough on all sides. The upper canopy of this habitat consists of Australian pine (*Casuarina equisetifolia*), with scattered sea grape (*Coccoloba uvifera*) and green buttonwood (*Conocarpus erectus*) in the sub-canopy. Representative photographs of this habitat can be seen in **Appendix B**.

FLUCFCS Code 510: Sanibel Slough w/ Mangrove (2.30 ac)

The Sanibel Slough makes up the majority of the project limits. Representative shoreline vegetation consists of red mangrove (*Rhizophora mangle*) and green buttonwood. Portions of the waterway have been encroached by the red mangroves as their drop-roots and prop-roots have expanded outward from the bank(s) over the years. Please see **Appendix B** for representative photographs of this open-water-with-mangrove-encroachment habitat.

FLUCFCS Code 612: Mangrove Swamps (0.30 ac)

A small area of mangrove swamp habitat exists in the northeast corner of the project limits, along Beach Road. Red mangroves are the dominant species in this habitat type.

FLUCFCS Code 814/830: Roadway/Utilities (0.15 ac)

A water control structure and a small portion of Beach Road fall within the project limits on the eastern project boundary. This control structure separates the slough from residential canals to the east of Beach Road.

3.0 SURVEY METHODOLOGY

Prior to the on-site survey, a literature review was conducted, which included Florida's official list of endangered species, threatened species and species of special concern (FWC, 2022) and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Environmental Conservation Online System (ECOS) to identify species which may occur within this geographic region.

A field survey was conducted by a Johnson Engineering ecologist on August 16, 2024. A summary of the survey times and weather conditions during the PSS is shown in **Table 3-1**. The

PSS was conducted in accordance with FWC survey guidelines. Linear transects were utilized to survey the site, both on foot and on the water using a canoe. The distance between transects was established to cover a minimum of 80% of each habitat, which exceeds the 15% minimum coverage required by FWC. Locations of all observed protected species, if applicable, were GPS survey located. A summary of visibility, number, and total length of transects performed and percent of each habitat covered is provided in **Table 3-2**. **Table 3-3** summarizes the non-listed wildlife species observed.

Table 3-1. Survey Dates, Times, Weather Conditions and Ecologists

Date	Time	Temperature	Conditions	Ecologist
August 16, 2024	**9:00am-3:45pm**	**80s °F**	**Mostly cloudy, winds east @ 13 mph**	**RDI**

RDI = David Isley

Table 3-2 Summary of Habitat Survey Coverage

FLUCFCS CODE	TOTAL AREA (Acres)	NUMBER OF TRANSECTS	TRANSECTS APPROX. LENGTH (Feet)	AVERAGE VISIBILITY (Feet)	APPROX. PERCENT COVERED
437	0.11	4	200	20	84
510	2.30	8	3,200	25	80
612	0.30	6	700	15	80
814/830	0.15	3	300	20	92

Table 3-3 Observed Non-listed Wildlife Species.

Common Name	*Scientific Name*
Anhinga	*Anhinga anhinga*
Green iguana	*Iguana iguana*

4.0 RESULTS

No direct observations of listed animal species were recorded during the survey. As described above in Section 2.0, red mangroves are present along the Sanibel Slough shoreline. Below are descriptions of the potential listed species for this project, based on professional knowledge and review of the USFWS IPaC list for the project location.

American Alligator

Alligators are listed as federally threatened by USFWS due to similarity of appearance to the American crocodile. No alligators were encountered during the survey, and no critical habitat has been designated for this species. No adverse impacts are anticipated to the American alligator. Turbidity curtains and other erosion control measures may be used that will help preclude alligators from entering the project area. Should an alligator be observed within the project area during construction, the project supervisor will temporarily cease construction activities until it exits the work area of its own volition.

American Crocodile

No crocodiles were encountered during the survey and the project is well outside the designated critical habitat for this species. No adverse impacts are anticipated to the American crocodile. Similar to the Best Management Practices (BMPs) outlined for the American alligator, erosion and turbidity control measures will be employed to minimize the likelihood of crocodiles entering the project area. If a crocodile is identified within the work area, the construction supervisor shall ensure that all work ceases until the crocodile safely exits the work area of its own volition.

Bald Eagle

Although they are no longer protected under the Endangered Species Act (ESA), bald eagles (*Haliaeetus leucocephalus*) are still afforded protection under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. No evidence of this species was observed during the survey. The nearest documented bald eagle nest (LE-059) is approximately 1,300+ feet north of the parcel and was last documented as active during the 2024 nesting season. Based

on the absence of bald eagle nesting sites within 660 feet of the project site, no adverse effects to this species are expected.

Eastern Indigo Snake

The eastern indigo snake is listed as federally threatened by the USFWS and inhabits a wide variety of native and disturbed habitats throughout Florida. No eastern indigo snakes were encountered during the protected species survey. No critical habitat has been designated for this species. No adverse impacts to the eastern indigo snake are anticipated as a result of the project.

Florida Bonneted Bat

In 2013, the USFWS listed the Florida bonneted bat (*Eumops floridanus*; FBB) as endangered under the ESA. On April 8, 2024, the USFWS designated 1,160,625 acres of critical habitat for the FBB in 13 Florida counties. In August 2024, the USFWS released revised FBB Consultation Guidelines (2024 Guidelines) that include a revised Consultation Key and Consultation Area, and updated survey methods and BMPs. These 2024 Guidelines replace the previous 2019 USFWS Guidelines. The site is located within the updated 2024 USFWS Consultation Area for the FBB, but outside of both the 2024 FBB critical habitat units and the "Assumed Presence Polygons." Based on the presence of cavity trees within the project limits, a roost survey will be conducted to assess potential effects of the project on this species, if any.

The 2024 Guidelines define FBB roosting habitat as: 1) Trees of any species 34 feet or taller and snags 28 feet or taller with diameter at breast height (dbh) 7.4 inches or greater; 2) Artificial structures 15 feet in height and greater that may mimic natural roosting conditions (e.g., bat houses, utility poles, buildings over one story high), situated in natural or semi-natural habitats; 3) Such buildings with chimneys, gaps in soffits, gaps along gutters, or other structural gaps or crevices with outward entrance approximately 1 inch in size or greater; and 4) Bridges and culverts 15 feet and higher.

Based on the project area occurring within the FBB consultation area, containing foraging habitat, and consisting of land management activities without a Biological Opinion (BO) from USFWS, use of the Consultation Key results in an effect determination of (3b), which is "May affect, not

likely to adversely affect (MANLAA)" with required BMPs. Projects that key out to 3b must follow the BMPs for Land Management Activities numbers LM1 through LM6, which are copied below from the USFWS 2024 Guidelines.

LM1. *Conduct tree removal in areas with known or suspected roosting activity from November 15 to April 15. From April 16 to November 14, visual, peeping, and emergence surveys must be done prior to removal of trees 7.4 in (19 cm) dbh or greater with cavities (or snag height) at 15 ft or higher.*

LM2. *When feasible, roost surveys are recommended year round prior to removal of trees 7.4 inch (19 cm) dbh or greater with cavities (or snag height) at 15 ft or higher, especially for slash and longleaf pine, royal palm, and cypress.*

LM3. *Conduct prescribed burns in areas of known or suspected roosting activity from November 15 to April 15.*

LM4. *Protect known and suspected roost trees by raking and/or manually clearing vegetation around the base (150-ft [46 m] buffer) of identified trees prior to prescribed burning.*

LM5. *In areas of suitable FBB roosting habitat, plan to conduct only low intensity prescribed burns.*

LM6. *Avoid conducting frequent or sustained loud land management activities (generally above 80 decibels, such as chainsaw or heavy equipment) within 100 ft (15 m) of known or suspected roosts during the FBB breeding season (April 15 to November 15).*

<u>Green Sea Turtle and Kemp's Ridley Sea Turtle</u>

Under normal circumstances, the presence of water control structures in the project area likely precludes sea turtles from entering the project area. However, during extreme weather events, such as major hurricanes, storm surge may result in abnormally high water levels that could potentially allow these species to occur in waterways not otherwise accessible. Therefore, in the unlikely event that a sea turtle was to be encountered in the project area during construction, the National Marine Fisheries Service (NMFS) sea turtle and smalltooth sawfish construction

guidelines will be followed. Based on the BMPs outlined above, no adverse effects to this species are expected from the proposed project.

Gulf Sturgeon

The gulf sturgeon is listed as federally threatened and has a range primarily from the Florida panhandle to Louisiana. No individuals of this species were observed during the survey. The enclosed nature of the slough due to water control structure(s) reduces the suitability of this habitat for this species if it were to be found this far south of its normal range. No adverse effects to this species are expected from the proposed project. Turbidity curtains will help exclude any stray individuals from the project area. If an individual is encountered prior to or during construction, the City of Sanibel and the appropriate wildlife agency will be immediately notified.

Piping Plover and Rufa Red Knot

Although mentioned in the USFWS IPaC list, no suitable habitat for this species exists within the project boundary. Piping plovers prefer "sandy beaches, sand flats, and mudflats along coastal areas" (FWC 2024). Rufa red knot prefer "coastal marine and estuarine habitats with large areas of exposed intertidal sediments" (USFWS 2024).

Red Mangrove

The red mangrove tree (*Rhizophora mangle*) is protected under the 1996 Mangrove Trimming & Preservation Act in Section 403.9321 of the Florida Statutes (F.S.). Mangrove protection has been delegated to some local governments, including the City of Sanibel. Consultation with the City for alterations to the red mangrove trees that have encroached into the slough will occur during the environmental permitting process and is the responsibility of the contractor.

Smalltooth Sawfish

The project area is located within the National Oceanic and Atmospheric Administration (NOAA) Fisheries designated smalltooth sawfish critical habitat. Consultation with NOAA's NMFS for this federally endangered species will be part of the environmental permitting process.

According to the NMFS, essential features for the conservation of smalltooth sawfish in critical habitat are shallow, euryhaline waters with red mangroves and muddy/sandy substrate between mean high water (MHW) and three feet measure at mean low low water (MLLW). Although the project site contains some of these essential features, access for smalltooth sawfish is typically limited by the weir structure near Beach Road. As a BMP for this species, the project will adhere to the Sea Turtle and Smalltooth Sawfish Construction Guidelines which will further reduce the chance of an interaction with this species during construction.

Wading Birds/Rookeries

Listed wading bird species such as the little blue heron, tri-colored heron, reddish egret, roseate spoonbill, and wood stork have been known to nest in and around mangroves. Nesting season for many wading bird species in south Florida occurs between March through April, although this can vary for some species based on hydrologic conditions and other factors. No rookeries were observed during the survey. Pre-construction wading bird surveys will be conducted to ensure that the project does not adversely these species within the project area. No wading birds were observed during the survey, though most of the state-listed species can be found foraging in a wide variety of upland and wetland habitats and they may utilize the shorelines and/or mangroves within the project boundary either seasonally or year-round. Based on the temporary nature of the proposed project (no filling of surface waters) and continued availability of suitable foraging habitat during and after construction, no adverse effects are anticipated to listed wading birds.

West Indian Manatee

No individuals of this species were observed during the survey. Under normal circumstances, the presence of water control structures in the project area likely precludes manatees from entering the project area. However, during extreme weather events, such as major hurricanes, storm surge may result in abnormally high water levels that could potentially allow this species to occur in waterways not otherwise accessible. No adverse effects to this species are expected from the proposed project. The project will adhere to the USFWS Standard Manatee Conditions for In-water Work to ensure protection of this species during construction.

5.0 REFERENCES

Audubon EagleWatch. 2024. *Eagle Watch Public View Nest Location Map v2*. Accessed August 26, 2024. https://eaglewatch-audubon.hub.arcgis.com/

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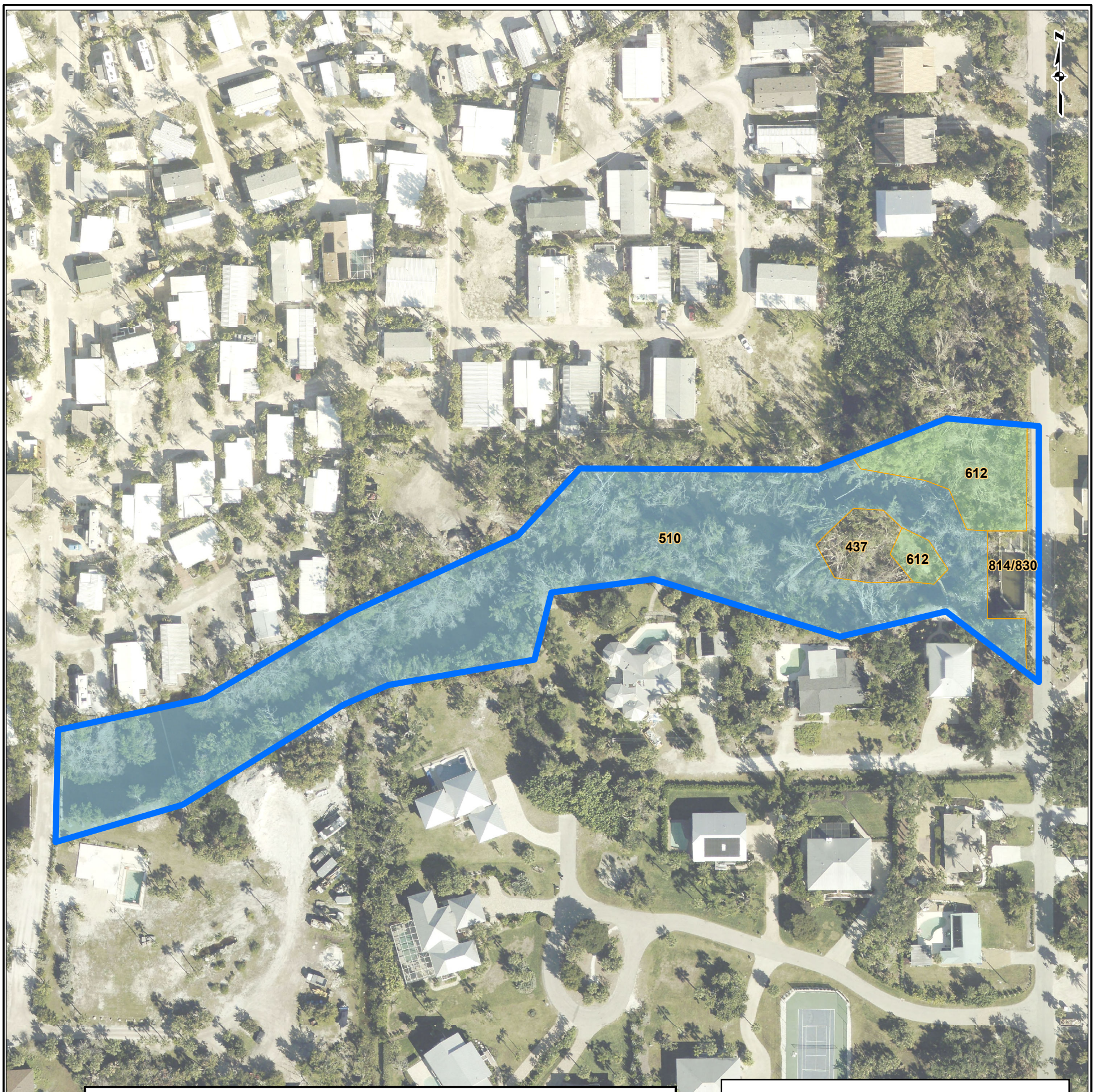
U.S. Fish and Wildlife Service. 2024. *Information for Planning and Conservation Environmental Conservation Online System*. Accessed July 19, 2024. https://ecos.fws.gov/ipac/

U.S. Fish and Wildlife Service. 2024. *Species Overview*. Accessed August 26, 2024. https://www.fws.gov/species/rufa-red-knot-calidris-canutus-rufa

APPENDIX A

FLUCFCS and Protected Species Survey Map



FLUCFCS CODES IN PROJECT BOUNDARY

FLUCFCS code	Description	Status	Area (acres)
437	Australian Pine	N	0.11
510	Sanibel Slough w/ Mangrove	SW	2.30
612	Mangrove Swamps	W	0.30
814/830	Roadway/Utilities	N	0.15
	Total Surface Waters		**2.30**
	Total Wetlands		**0.30**
	Total Project Area		**2.86**

N=Non-jurisdictional; W=Wetlands; SW=Surface Waters

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Legend

- Project Boundary
- 411 — FLUCFCS Polygon and Code
- Wetlands (0.30 Ac)
- Surface Waters (2.30 Ac)

NOTES

1. Nomenclature and delineations as per the Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT, 1999) and have not been agency verified.

2. 2024 Aerials provided by Lee County.

0 100 200

SCALE IN FEET

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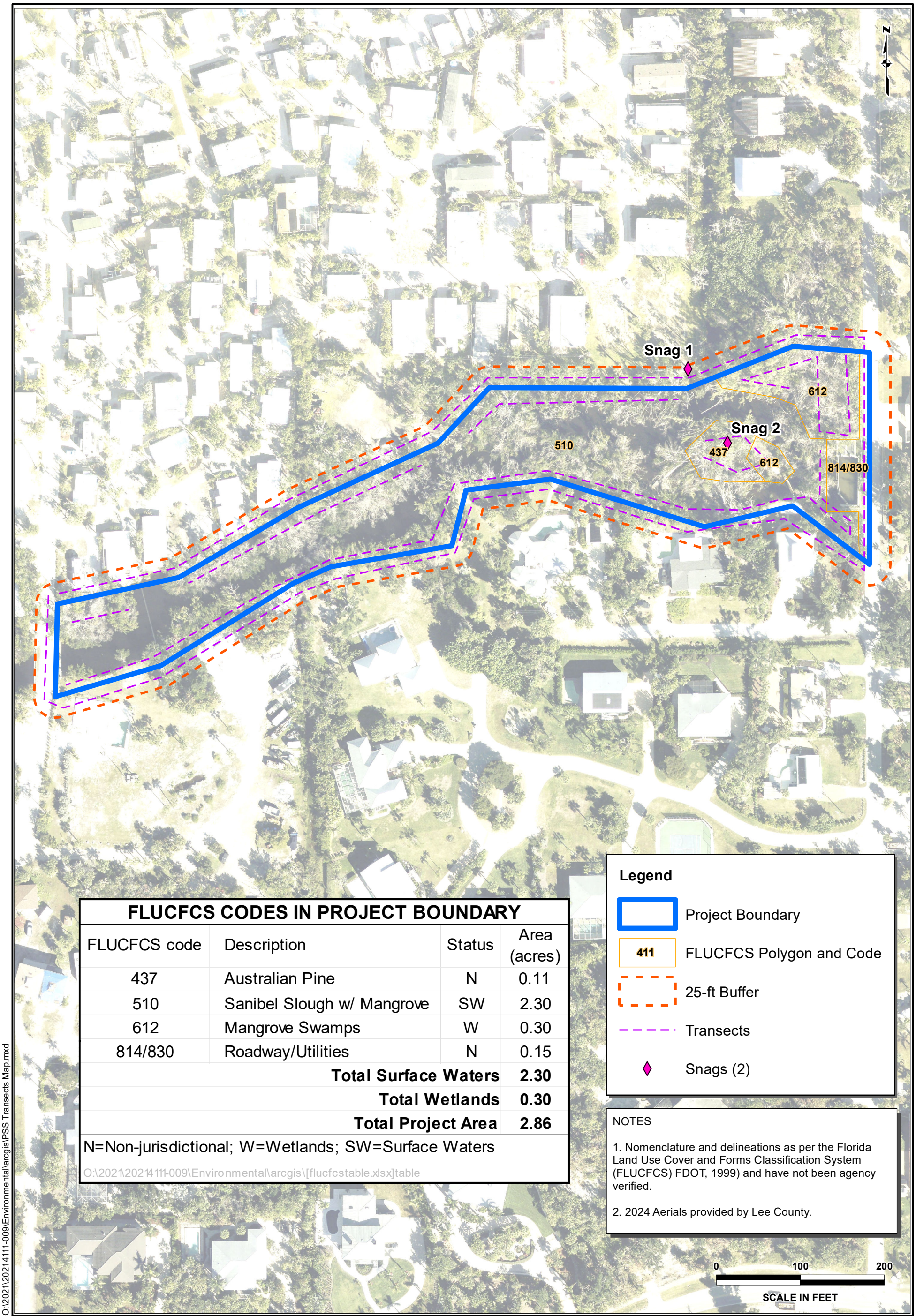
FLUCFCS Map

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
August 2024	20214111-009	FILE NO.	AS SHOWN	2



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	Total Surface Waters		**2.30**
	Total Wetlands		**0.30**
	Total Project Area		**2.86**

N=Non-jurisdictional; W=Wetlands; SW=Surface Waters

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Legend

- Project Boundary
- 411 — FLUCFCS Polygon and Code
- 25-ft Buffer
- Transects
- Snags (2)

NOTES

1. Nomenclature and delineations as per the Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT, 1999) and have not been agency verified.

2. 2024 Aerials provided by Lee County.

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SCALE IN FEET

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Protected Species Survey & Transects Map

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
August 2024	20214111-009	FILE NO.	AS SHOWN	4

APPENDIX B

Representative Photographs

Appendix B
Representative Photographs

Portions of the Sanibel Slough with red mangrove encroachment from the banks.

(FLUCFCS Code 510)

Appendix B
Representative Photographs

Portions of the Sanibel Slough with red mangrove encroachment from the banks.

(FLUCFCS Code 510)

Appendix B
Representative Photographs

Australian pine upland habitat (FLUCFCS Code 437) within the project limits.