

SR 54 Project Development and Environment (PD&E) Study

From CR 577 (Curley Road)
to CR 579/CR 54 (Morris Bridge Road)

Final Wetland Evaluation and Biological Assessment Report

WPI Segment No: 416561-1
Pasco County

Prepared for the

**Florida Department of Transportation
District Seven**



March 2009

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Prepared by
American Consulting Engineers of Florida, LLC



March 2009

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SECTION 1 – EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate alternative improvements along State Road 54 (SR 54), from CR 577 (Curley Road) to CR 579/CR 54 (Morris Bridge Road) in Pasco County. The total project length is approximately 4.5 miles. Proposed improvements include the widening of SR 54 from a 2-lane rural facility to a 4-lane divided with auxiliary facility. SR 54 is a major east-west arterial which connects east Pasco County to west Pasco County and connects several major north-south routes including I-75 to the west with US 301 in Zephyrhills to the east.

In accordance with the FDOT's Project Development and Environment (PD&E) Manual, a Wetland Evaluation and Biological Assessment Report (WEBAR) has been prepared for this PD&E Study. Wetlands and surface waters were identified using the U.S. Army Corps of Engineer's *Manual for Identifying and Delineating Jurisdictional Wetlands*, 1987, and the Florida Department of Environmental Protection's *The Florida Wetland Delineation Manual*, 1995 (Chapter 62-340, F.A.C.).

Methodologies for identifying wetlands and surface waters included aerial interpretation, National Wetlands Inventory (NWI) maps, Natural Resource Conservation Service (NRCS) soil surveys, and field observation (ground truthing). Wetlands were evaluated for size, quality, contiguity with other wetlands and surface waters, community structure, adjacent land uses, hydrologic function, and ability to support wildlife.

A total of 25 wetlands and 7 surface waters were identified along the project corridor. Of the 25 wetlands, 12 wetlands have the potential to be impacted by the proposed project. None of the other surface waters (OSW's) should be impacted by the proposed roadway improvements. There were two alternative alignments studied for this project, Alternative A ("Red alignment") and Alternative B ("Yellow alignment"). Alternative A has been selected as the recommended preferred alternative. Implementation of the proposed project could impact approximately 1.97 acres of wetlands. Many of the wetland impacts will occur to wetlands that have been previously impacted by the

original construction of the roadway or by ongoing development in the surrounding areas. Wetland impacts due to the construction of this proposed project are anticipated to be mitigated pursuant to § 373.4137, F.S., or by the creation, enhancement, or preservation of wetlands within the project's watershed.

The Uniform Mitigation Assessment Method (UMAM) was conducted to assess wetland functions and values for the representative wetlands within the study corridor. The final rating is expressed numerically with a number between 0 and 1, with 1 representing the highest quality wetland, and 0 reflecting the lowest quality wetland. Eighteen UMAM assessments were conducted for the representative wetland types. The delta values ranged from 0.34 to 0.80. The functional loss values ranged from 0.002 to 0.963.

Field observations, literature reviews, and agency database searches were conducted to identify federal- and state-listed species and to identify potential critical habitat for these species in accordance with 50 CFR Part 402 of the Endangered Species Act of 1973, as amended, and Part 2, Chapter 27 of the FDOT's *PD&E Manual: Wildlife and Habitat Impacts*. This project has also been subject to the FDOT's Efficient Transportation Decision Making (ETDM) process. The proposed roadway improvements are not anticipated to adversely impact any federal- or state-listed species or their critical habitat. Impacts to federally-listed species are as follows: the proposed roadway improvements will not affect the bald eagle, but may affect the wood stork, eastern indigo snake and the American alligator. Impacts to state-listed species are as follows: the proposed roadway improvements will not affect the snowy egret, white ibis, little blue heron, tricolored heron, peregrine falcon, gopher tortoise or the Florida long-tailed weasel, but may affect the Florida sandhill crane and the Florida burrowing owl. Impacts to critical habitat for any federal-listed or state-listed species will be addressed during the design phase of this project.

SECTION 2 – INTRODUCTION

2.1 PROJECT LOCATION AND LIMITS

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate alternative improvements along State Road (SR) 54, from CR 577 (Curley Road) to CR 579/CR 54 (Morris Bridge Road), in southeast Pasco County (**Figure 2-1**). A Study Area map is shown in **Figure 2-2**.

The west end of the study area is located in Wesley Chapel, an unincorporated census-designated place. The project is located within Sections 9, 10, 13, 14, & 15, Township 26 S, and Range 20 E and Section 18, Township 26 S, Range 21 E. The total length of the proposed project limits is approximately 4.5 miles. The segment of SR 54 to the west, from I-75 to east of Curley Road (CR 577), is currently under design by Pasco County for widening to six lanes. That project also includes a connection to the planned Zephyrhills West Bypass Extension.

The purpose of the proposed project is to provide a higher capacity and safer facility to better meet future transportation demand in this rapidly developing area of Pasco County. SR 54 is one of the primary east-west facilities within Pasco County, effectively connecting the eastern and western sides of the county. This corridor is also designated as an emergency evacuation route. The PD&E Study will also include the consideration of a No-Build Alternative.

A *Programming Screen Summary Report* was published on August 17, 2006 as part of the Department's Efficient Transportation Decision Making (ETDM) process. The project is designated as #6651 in ETDM. The Federal Highway Administration has determined that the project qualifies as a Type 2 Categorical Exclusion.

2.2 REPORT PURPOSE

The purpose of this Wetland Evaluation and Endangered Species Biological Assessment Report is to document existing wetland resources and to evaluate potential impacts to wetlands and other surface waters (OSW) as a result of construction of the proposed project. This report also includes an evaluation of options for avoidance and minimization of wetland impacts, and discusses options for mitigation of wetlands due to unavoidable impacts. This evaluation is meant to meet the intent of Executive Order 11990, "Protection of Wetlands."

This report also addresses potential impacts to threatened and endangered species and any critical habitat that may support these species. It discusses alternatives to avoid and minimize impacts to these species and provides a brief narrative of the listed species and their critical habitats.

2.3 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

The existing SR 54 facility is functionally classified by FDOT as:

- “Urban Principal Arterial Other” from west of the project limits to Smith Rd
- “Rural Principal Arterial Other” from Smith Rd to west of New River
- “Urban Principal Arterial Other” from west of New River to east of the project limits

The existing roadway is a two-lane rural facility with 12-ft travel lanes and 5-ft paved shoulders. Several areas have been widened to provide left-turn and right-turn lanes. From west to east, the posted speed limit varies from 55 miles per hour (mph) to 45 mph. Traffic signals currently exist (or will be in operation) at Curley Road, Meadow Pointe Boulevard, River Glen Boulevard/Wyndfields Boulevard, and Morris Bridge Road. The existing right-of-way typically varies between 80 ft and 100 ft. In addition, the County has obtained (or will obtain) “reserved” right-of-way which is being donated by developers as a stipulation of development orders and rezoning conditions. The existing highway is presently classified as Access Management Class 3 according to FDOT’s straight line diagram inventory. Class 3 standards require a minimum traffic signal spacing of 0.5 miles, which the existing facility meets, and minimum spacing for median openings as follows:

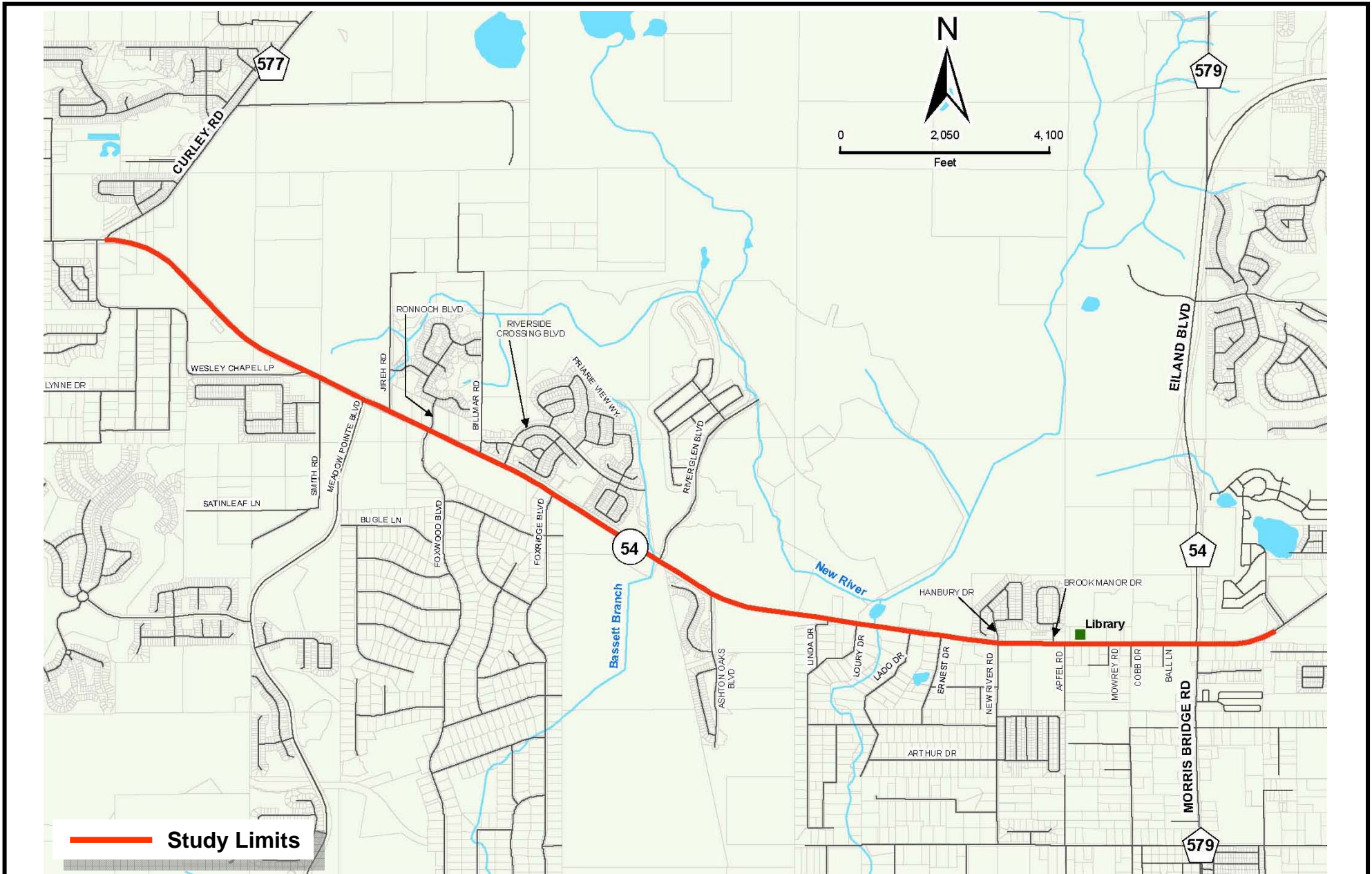
- 0.5 mile for full median openings
- 0.25 mile for directional median openings

The existing facility is mostly two-lane undivided and two-lane divided without raised medians, so the median opening spacing standards don’t apply yet.

The Build Alternatives include the widening or reconstruction of the existing highway to a four lane divided arterial including additional auxiliary lanes extending from east of Curley Road to Foxwood Boulevard.. Two different *types* of typical sections are being considered: an urban typical section and a suburban typical section (**Figure 2-3**). The proposed typical sections include 12-ft travel lanes, sidewalks and “trails”, and either 5-ft paved shoulders or 4-ft bicycle lanes, with a closed drainage system, extension or

replacement of cross drains, and associated storm water management facilities for water quality treatment and discharge attenuation.

The proposed project is included in the Pasco County Metropolitan Planning Organization's (MPO) Year 2025 Cost Affordable Long-Range Transportation Plan for the period from 2016 to 2025, as a four-lane divided facility.



SR 54 PD&E Study

From Curley Road to Morris Bridge Road
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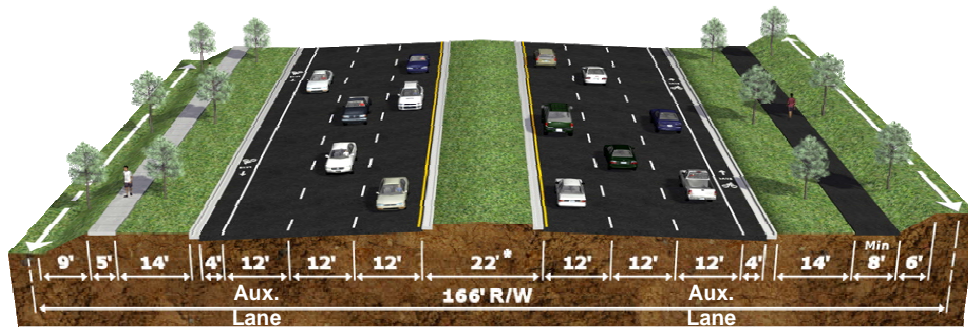
SR 54 PD&E STUDY AREA MAP

FIGURE 2-2

Rev. 10/8/07



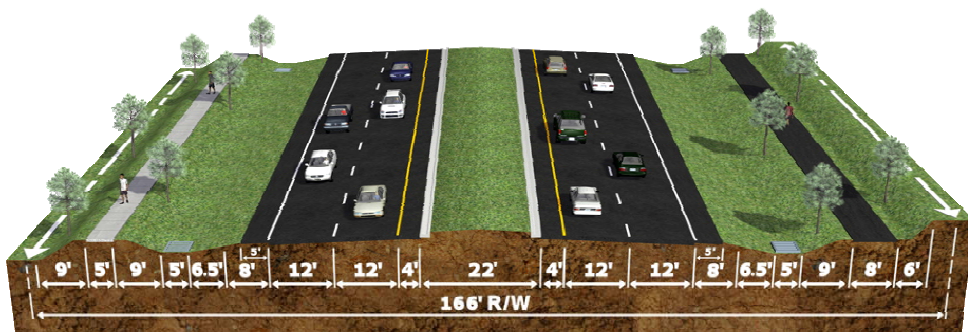
(Looking east for all sections)



Four-Lane Divided with Auxiliary Lanes Urban Typical Section

From Curley Road to Foxwood Blvd

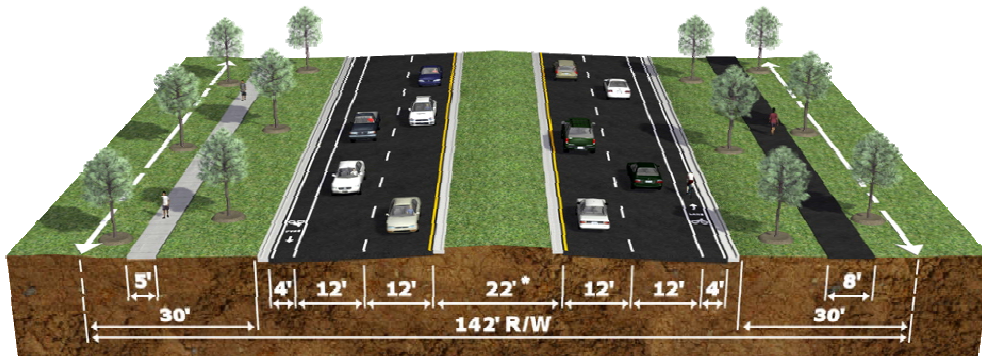
Design Speed = 45 mph



Four-Lane Divided Suburban Typical Section

From Foxwood Blvd to Linda Drive

Design Speed = 55 mph



Four-Lane Divided Urban Typical Section

From Linda Drive to Morris Bridge Road

Design Speed = 45 mph

*For the few areas where a 30' median would be required for dual left turn lanes at signalized intersections, the outside border areas would be reduced by 4' on each side to provide the extra median width required.

Rev. 5/13/08

SR 54 PD&E Study

From Curley Road to Morris Bridge Road
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**SR 54 Proposed Typical Sections
(Looking East)**

Figure 2-3



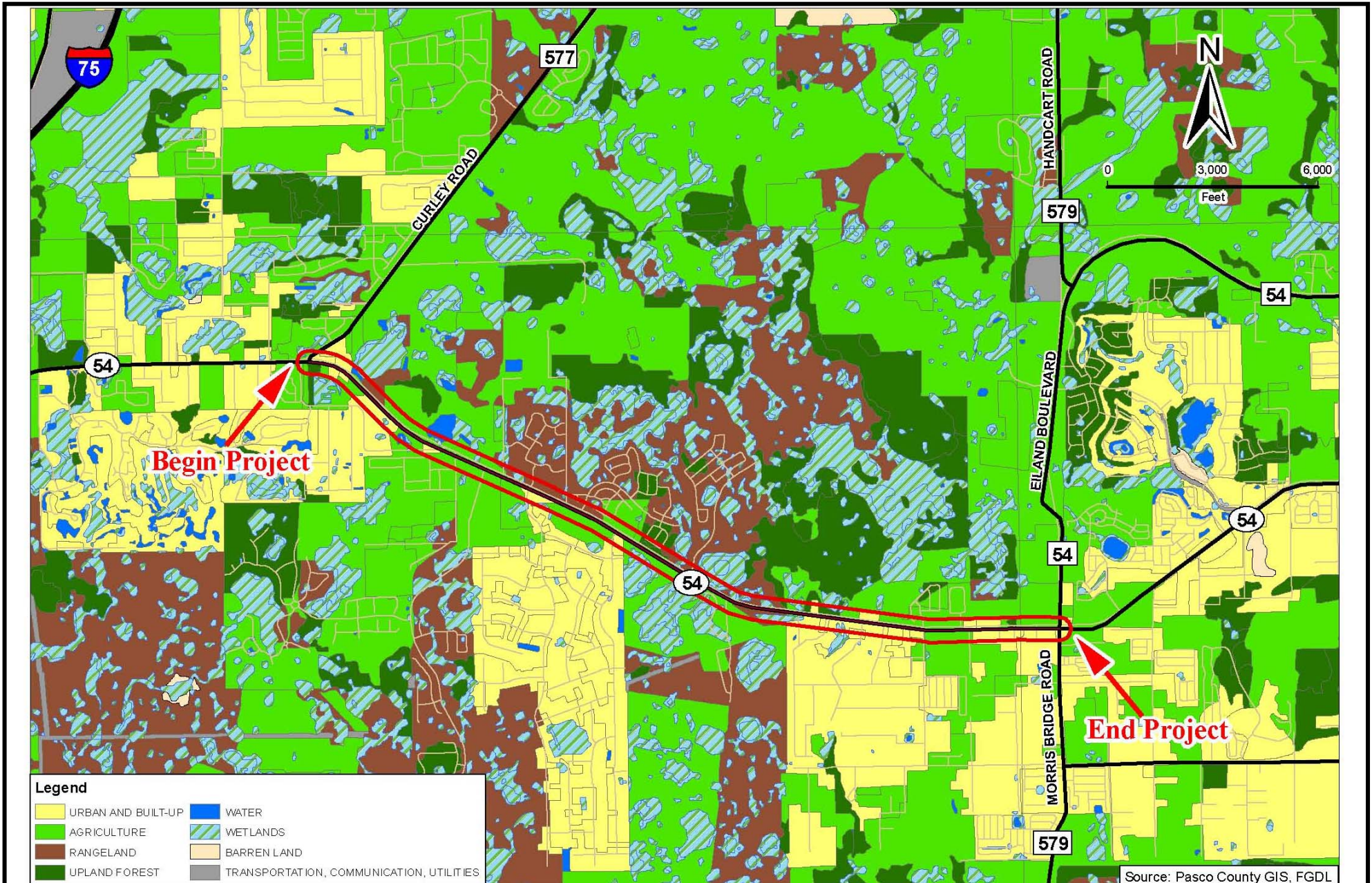
SECTION 3 – LAND USE

3.1 EXISTING LAND USE

The study corridor, located in portions of Wesley Chapel and west of Zephyrhills, is mostly rural in nature but is being developed at a rapid pace. The Florida Land Use, Cover and Forms Classification System (FLUCCS) from the Southwest Florida Water Management District (SWFWMD), together with aerial photographs and wetland data from the National Wetland Inventory (NWI), were utilized to determine current land use and habitat types within the corridor. These land uses and habitat types were subsequently ground-truthed for verification during field visits. **Figure 3-1** shows the existing land use within the corridor. The majority of the landscape has been converted from native habitat to other land uses such as pastureland (210), planted pine (246), shrub and brushland (320) and residential areas (120, 130) with the exception of a few parcels that have been unaltered or are comprised almost entirely of jurisdictional wetlands. From Curley Road to New River Road, the land use predominantly consists of residential and agricultural lands. There are several residential subdivisions as well as a retail nursery located along this segment. From New River Road to Morris Bridge Road, the land use predominately consists of commercial and office/retail (140, 141).

3.1.1 Soils

The Soil Survey for Pasco County provides general descriptions of subsurface conditions of the county. Pasco County is located in the central or mid-peninsular physiographic region of the Florida Peninsula and is characterized by discontinuous highlands in the form of ridges separated by broad valleys. The NRCS Soil Survey for Pasco County indicates that there are multiple soil types that exist within the corridor. These soil types and their identification numbers are as follows: Newman fine sand (59), Pomona fine sand (2), Sparr fine sand (7), Ona fine sand (9), Palmetto-Zephyrs-Sellers complex (60), Sellers mucky loamy fine sand (8), Zephyr muck (16), Basinger fine sand, depressional (23), Arrendondo fine sand (43), Delray mucky fine sand (63), Tavares-Urban land complex (15) and Tavares sand (6). These soils are shown in **Figure 3-2**.



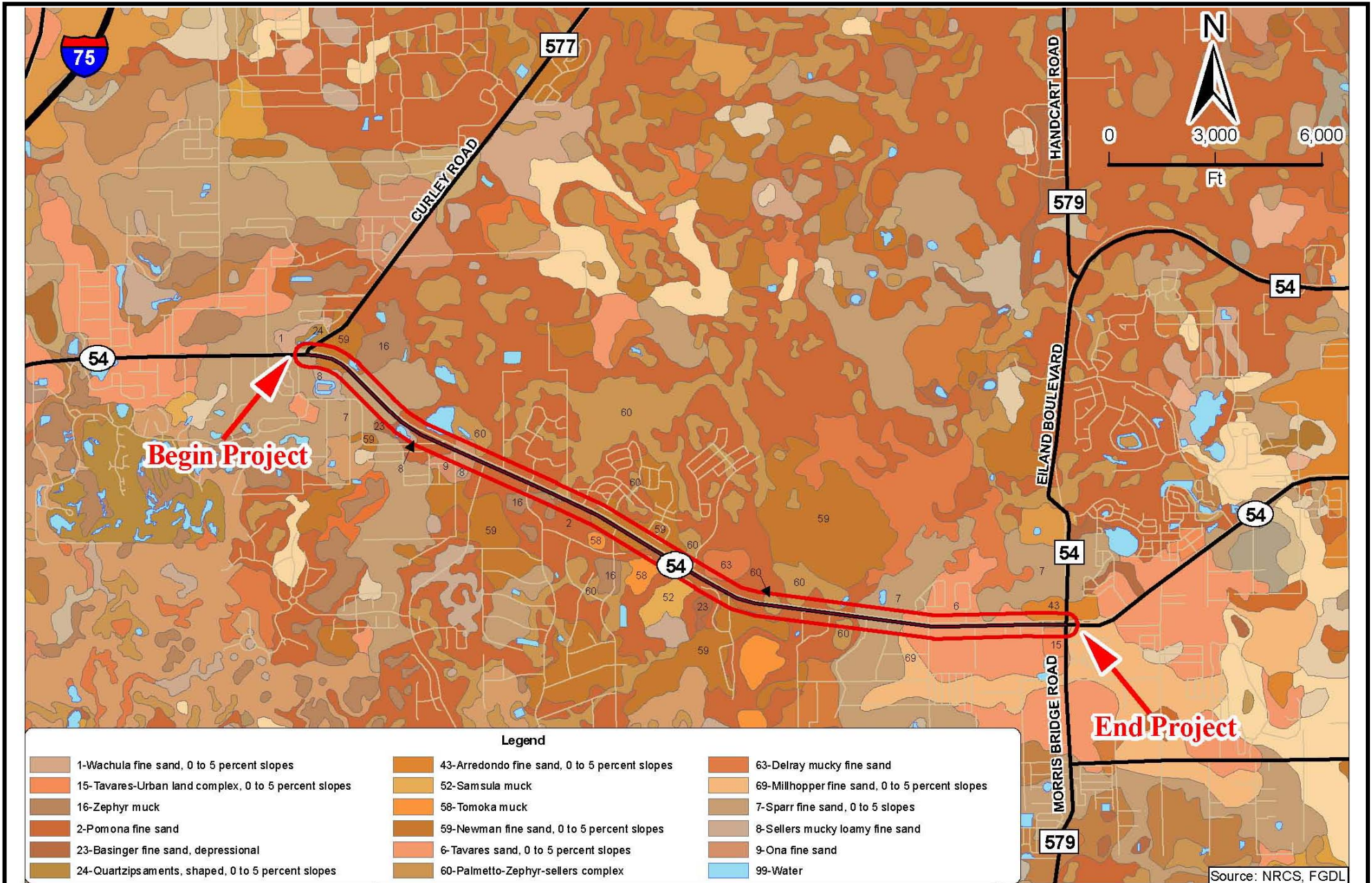
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From Curley Road to Morris Bridge Road
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EXISTING LAND USE MAP

FIGURE 3-1





SR 54 PD&E Study

From Curley Road to Morris Bridge Road
Pasco County, Florida
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NRCS SOILS MAP

FIGURE 3-2

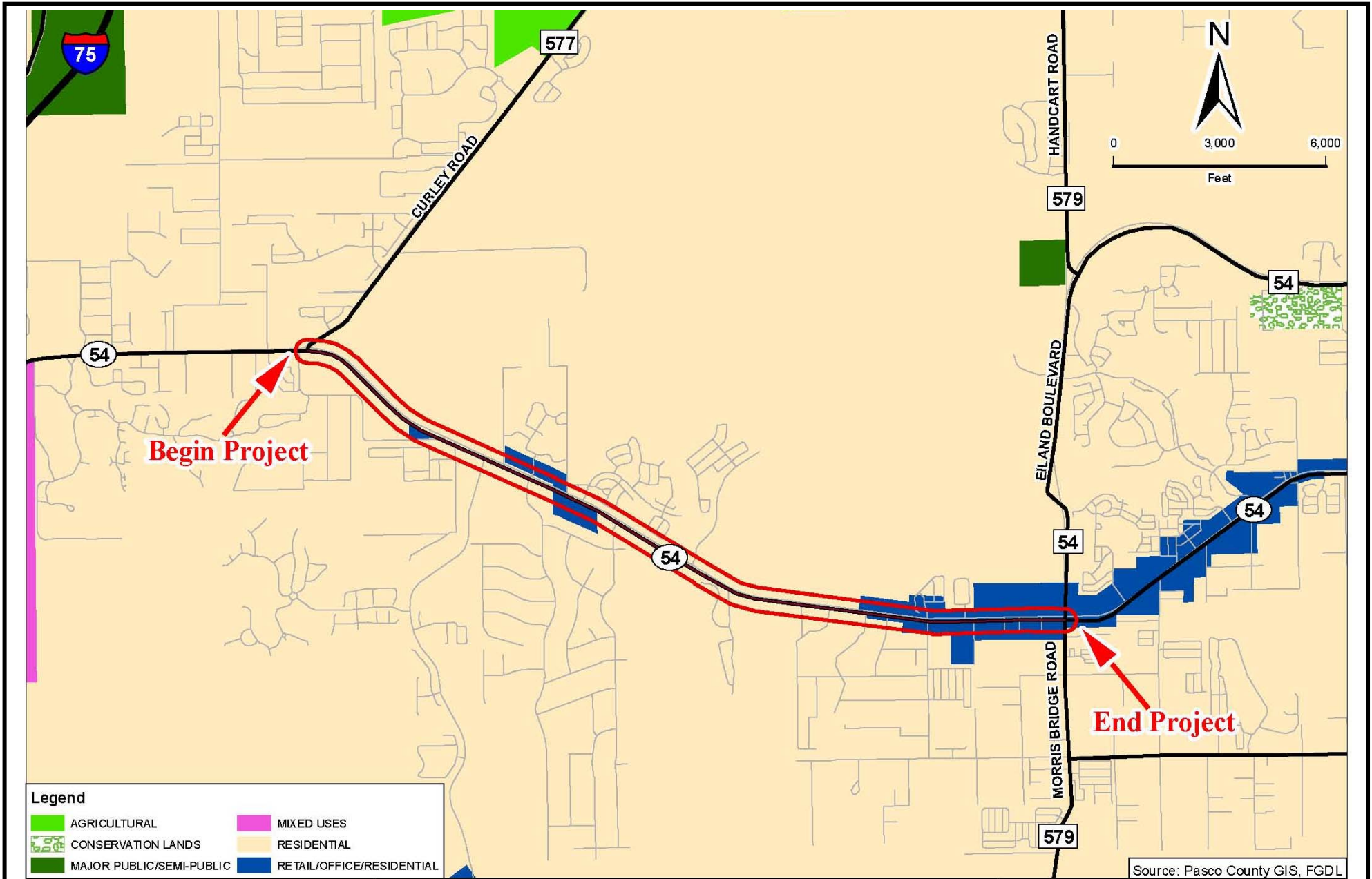


Approximately 30-40 percent of the soils along the project corridor are classified as hydric. The dominant hydric soil is Ponoma fine sand. Other prominent soils found within the project corridor include Sparr fine sand and Tavares sand, neither of which is listed as hydric soil. A more detailed description of the prominent soils is shown below.

- **Pomona fine sand** – Nearly level, poorly drained soil in large areas on low ridges in the flatwoods. Slopes are smooth and concave and range from 0 to 2 percent. In most years, under natural conditions, the water table is within a depth of 10 inches for 1-3 months and is at a depth of 10 to 40 inches for 6 months or more.
- **Sparr fine sand** – Nearly level to gently sloping, somewhat poorly drained soil located on seasonally wet uplands. Slopes are smooth to concave and areas are irregular in shape. This Sparr soil has a water table, commonly perched above the subsoil, at a depth of 20 to 40 inches for 1 to 4 months during most years.
- **Tavares sand** – Nearly level to gently sloping, moderately well drained soil on low level ridges and knolls throughout the county with irregularly shaped areas. In most years, under natural conditions, the water table is at a depth of 40 to 60 inches for 6 to 12 months and below 60 inches during very dry periods.

3.2 FUTURE LAND USE

According to the Pasco County Future Land Use Map (2015), the entire project corridor is transitioning from a rural area to a residential area with small, scattered office/retail developments located immediately adjacent to SR 54 (**Figure 3-3**). This transformation is currently taking place as many of the existing agricultural areas along this stretch of SR 54 are being converted to residential subdivisions and retail/office development.



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From Curley Road to Morris Bridge Road
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FUTURE LAND USE MAP

FIGURE 3-3



SECTION 4 – WETLANDS

4.1 METHODOLOGY

In accordance with Executive Order 11990, “Protection of Wetlands” (May 1977), the proposed project has been evaluated for potential impacts to wetlands. Preliminary wetland evaluations were based on information from the U.S. Geological Survey (USGS) topographic maps, NRCS *Soil Survey of Pasco County*, National Wetlands Inventory (NWI) maps, aerial photography, and GIS data from Florida Natural Areas Inventory (FNAI), SWFWMD, Pasco County, and the Florida Geographic Database Library (FGDL). **Figure 4-1** illustrates the location of wetlands and surface waters within the project corridor.

Project scientists identified 23 palustrine and 2 riverine wetlands within the project corridor through field verification on September 18, 2006, and March 15 and 21, 2007. Wetlands were delineated using the U.S. Army Corps of Engineer’s (USACE) *Manual for Identifying and Delineating Jurisdictional Wetlands*, 1987, and the Florida Department of Environmental Protection’s (FDEP) *The Florida Wetland Delineation Manual*, 1995 (Chapter 62-340, F.A.C.).

Wetlands were classified using the United State Fish and Wildlife Service’s (USFWS) *Classification of Wetlands and Deepwater Habitats Classification* (Cowardin et. al. 1979) methodology and the FLUCCS codes (FDOT, 1999). A breakdown of the wetland classifications are shown in **Table 4-1**. Wetlands and potential wetland impacts were assessed using the *Uniform Mitigation Assessment Method* (UMAM), Chapter 62-345, Florida Administrative Code (F.A.C.).

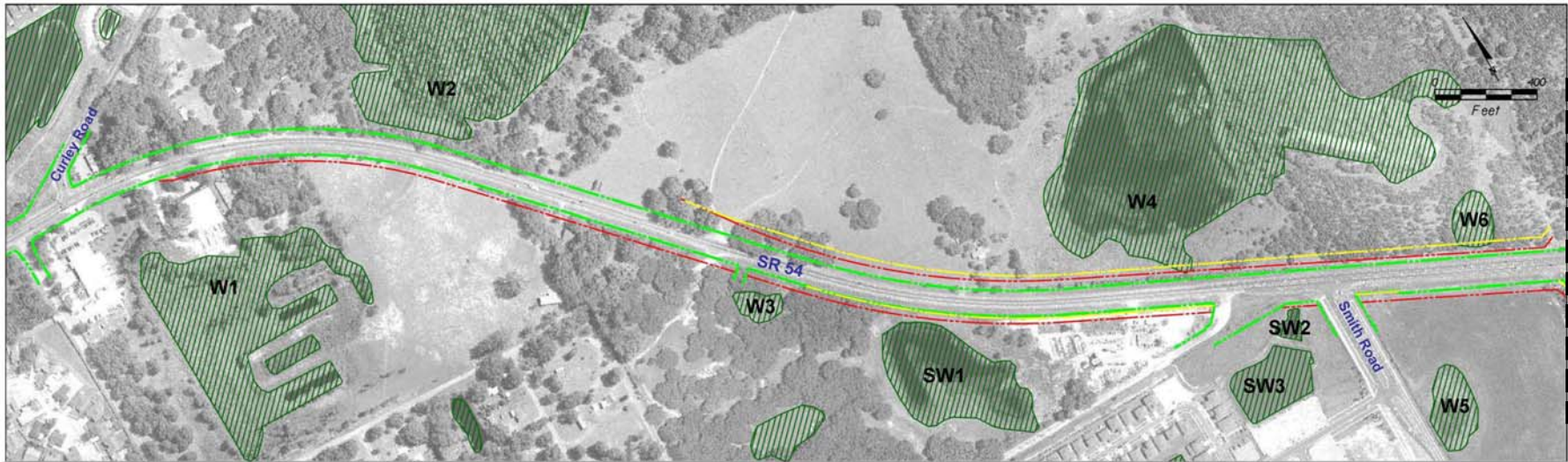
4.2 WETLAND CLASSIFICATION

There were 25 wetlands identified adjacent to or within the project corridor, along with 7 surface waters. The wetlands and surface waters were numbered from west to east. The most common types of wetlands within the project corridor are palustrine wetlands. The dominant vegetation in many of these wetlands consists of, but is not limited to, pickerelweed (*Pontedaria cordata*), Carolina willow (*Salix caroliniana*), and rushes

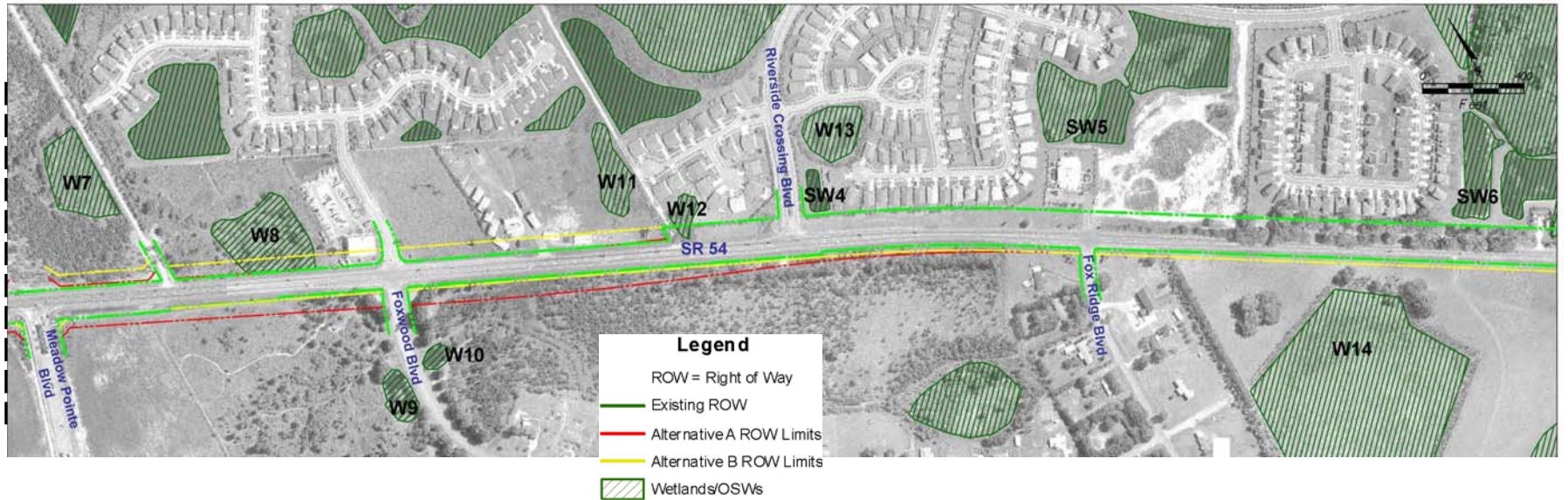
(*Juncus spp.*). Many of the wetlands have been altered or bisected by the existing roadway. In this instance, a wetland number has been assigned for each portion of the wetland that has been bisected or fragmented by the existing roadway. Many of the surface waters observed along the project corridor consisted of stormwater ponds and would be classified as other surface waters (OSW).

Other types of wetlands and surface waters that exist within the project corridor include ephemeral creeks, forested systems, open surface waters (man-made and natural), stormwater management systems, and ditches. **Table 4-1** provides the FLUCCS code and USFWS methodology for classifying wetlands identified along the study corridor.

Wetlands that have the potential to be impacted by the proposed roadway improvements have been grouped by the USFWS *Wetlands and Deepwater Habitats Classification of the United States*. General descriptions for each of these classifications are provided below.



Match Line



SR 54 PD&E Study

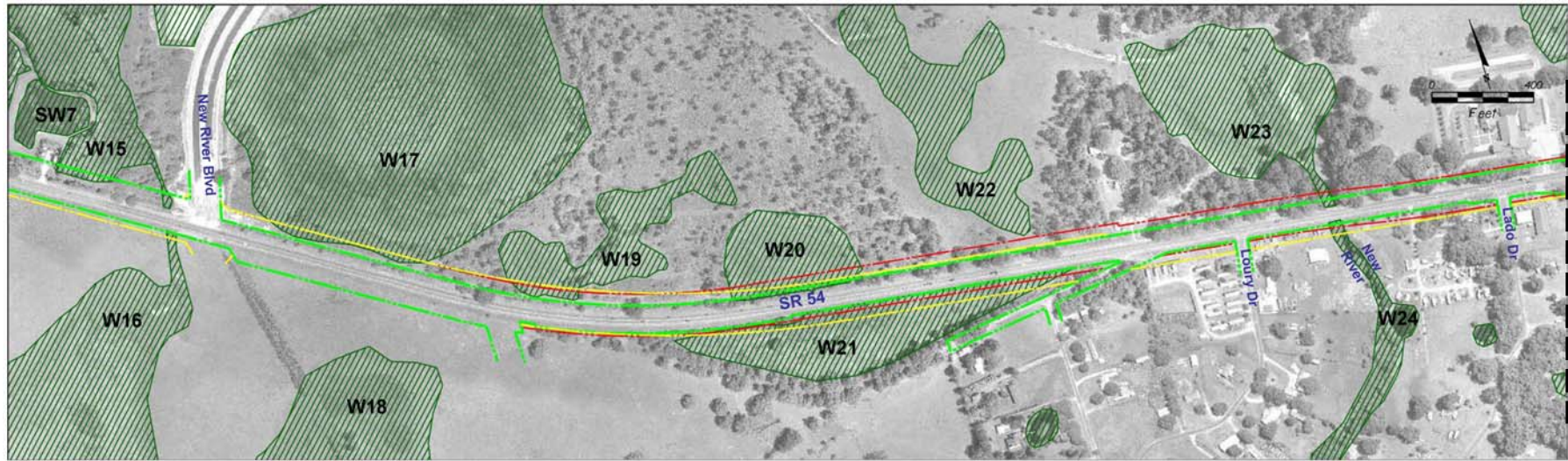
From Curley Road to Morris Bridge Road
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WETLANDS ADJACENT TO SR 54

FIGURE 4-1

Sheet 1 of 2





Match Line



Match Line

SR 54 PD&E Study

From Curley Road to Morris Bridge Road
Pasco County, Florida
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WETLANDS ADJACENT TO SR 54

FIGURE 4-1

Sheet 2 of 2



4.2.1 Palustrine Emergent with Persistent Vegetation (PEM1)

There are five (5) wetlands (W4, W16, W17, W19 and W20) classified as Palustrine emergent wetlands with persistent vegetation that have the potential to be impacted by the proposed project. Typical vegetation found within these wetlands includes *Juncus* spp., pickerelweed, wild water pepper, Carolina willow, and sedges. The water levels within these wetlands vary from permanently inundated to semi-permanently saturated. Some of the wetlands listed in this category have large areas of open water. Wading birds, amphibians and many other wildlife species are expected to utilize these wetlands.

4.2.2 Palustrine Scrub-Shrub (PSS1 and PSS6)

There are five (5) wetlands (W6, W8, W12, W15 and W21) classified as Palustrine scrub-shrub wetlands that have the potential to be impacted by the proposed project. Typical vegetation found within these wetlands consists of Carolina willow, *Ludwigia* spp., *Juncus* spp., cattails, beggars tick, wax myrtle and red maple. There is existing and ongoing development surrounding many of these wetlands. These sites have been altered by the surrounding development, allowing less-desirable plant species to invade. Hydrologic indicators, such as stain lines and adventitious rooting were observed within some of these wetlands, indicating healthy water volumes to support the systems.

4.2.3 Riverine Lower Perennial Open Water (R2OW)

There are two (2) wetlands (W23 and W24) classified as Riverine lower perennial open water wetlands that have the potential to be impacted by the proposed project. W23 and W24 are a part of New River. During the field inspections in March 2007, W23 had no standing water, while W24 had some standing water. During previous visits, flowing water was observed within both wetlands. Typical vegetation found within W24 consists of pickerelweed, Carolina willow, and other aquatic/wetland species, along with nuisance/exotic species such as water hyacinth and beggar's tick. Minimal hydrologic and/or aquatic vegetation was observed within W23, such as some *Hydrocotyle* spp. and some low-lying grasses. These wetland areas are usually inundated throughout the year and typically have moving water.

Table 4-1 – Wetland Classifications and Impact Acreage

Wetland	FLUCCS & USFWS Classification	Potential Impact Acreage	
		Alt. A*	Alt. B
W1	Freshwater Marsh and Forested (641, 617) - PEM1/PFO6	0	0
W2	Cypress and Freshwater Marsh (621, 641) - PFO6C/PEM1H	0	0
W3	Vegetated Non-forested Wetlands (640) - PSS1C	0	0
W4	Freshwater Marsh (641) - POW/PEM1H	0.002	0.035
W5	Freshwater Marsh (641) - PEM1	0	0
W6	Vegetated Non-forested wetlands (640) – PSS1C	0	0.042
W7	Freshwater Marsh (641) - POW/PEM1H	0	0
W8	Vegetated Non-forested wetlands (640) – PSS1C	0	0.351
W9	Open Water (500) - POWC	0	0
W10	Open Water (500) - POWC	0	0
W11	Vegetated Non-forested Wetlands (640) - PSS1C	0	0
W12	Wetland Scrub (631) - PSS6A	0.045	0.045
W13	Freshwater Marsh (641) - PEM1F	0	0
W14	Freshwater Marsh (641) - PEM1A	0	0
W15	Vegetated Non-forested Wetlands (640) - PSS1A	0.172	0.172
W16	Freshwater Marsh (641) - PEM1F	0.021	0.021
W17	Freshwater Marsh (641) - PEM1F	0.279	0.279
W18	Freshwater Marsh (641) - PEM1C	0	0
W19	Freshwater Marsh (641) - PEM1F	0.179	0.243
W20	Freshwater Marsh (641) - PEM1F	0.648	0.317
W21	Vegetated Non-forested Wetlands (640) - PSS1C	0.533	1.437
W22	Freshwater Marsh (641) - PEM1C	0	0
W23	Stream and Waterway (510) - R2OW	0.058	0.03
W24	Stream and Waterway (510) - R2OW	0.028	0.062
W25	Freshwater Marsh (641) - PEM1	0	0
SW1	Water (500) - PUB2Hx	0	0
SW2	Stormwater Facility - PUBHx	0	0
SW3	Stormwater Facility - PUBHx	0	0
SW4	Stormwater Facility - PUBHx	0	0
SW5	Stormwater Facility - PUBHx	0	0
SW6	Stormwater Facility - PUBHx	0	0
SW7	Stormwater Facility - PUBHx	0	0
Total Acreage		1.965	3.034

* Recommended Alignment

4.3 WETLAND IMPACTS

There were two alternative alignments studied along this project corridor, Alternative A (“Red alignment”) and Alternative B (“Yellow alignment”). Alternative A would result in approximately 1.97 acres of impact, and Alternative B would result in approximately 3.03 acres of impact (**Table 4-1**). The wetlands that may be impacted range from freshwater marshes to streams and waterways, including New River, along with some systems that contain forested pockets and open water. Many of the wetlands that have the potential to be impacted by the roadway improvements have been previously altered by the original construction of SR 54, or have been impacted or are being impacted by ongoing development activities within the project corridor. Alternative A has been selected as the recommended alignment for this project.

4.4 FUNCTIONAL ANALYSIS

The Uniform Mitigation Assessment Method (UMAM) was used to assess functions and values for the wetlands within the project corridor. The ratings (delta values) are expressed numerically with numbers ranging between 0 and 1, with 1 representing an extremely high quality wetland and 0 reflecting an extremely low quality wetland, or an area that is no longer functioning as a wetland. UMAM assessments were performed for each wetland that could potentially be impacted by the proposed roadway improvements. Separate UMAM assessments were prepared for each alternative alignment as needed. The delta values ranged from 0.34 to 0.80. The functional loss for each wetland was broken down for both Alternative A and Alternative B. The functional loss of a wetland system is the estimated loss of function by the proposed impacts and is calculated by multiplying the delta value by the impact acreage. Functional loss values for individual wetlands along the project corridor range from 0.002 to 0.963. Functional loss values are used to determine the amount of mitigation that would be required to offset the loss. Different formulas are used based on the type of proposed mitigation. The total functional loss value for Alternative A is 1.345 and the total functional loss value for Alternative B is 1.965. **Table 4-2** shows delta values and functional loss for each wetland and alignment. The UMAM assessments are included in **Appendix B**.

Table 4-2 – Functional Loss Analysis

Wetland	Impact Acreage		Delta Value	Functional Loss	
	Alt. A*	Alt. B		Alt. A*	Alt. B
W4	0.002	0.035	0.77	0.002	0.027
W6	N/A	0.042	0.77	N/A	0.032
W8	N/A	0.351	0.5	N/A	0.176
W12	0.045	0.045	0.47	0.021	0.021
W15	0.172	0.172	0.57	0.098	0.098
W16	0.021	0.021	0.67	0.014	0.014
W17	0.279	0.279	0.7	0.195	0.195
W19	0.179	0.243	0.6	0.107	0.146
W20	0.648	0.317	0.8	0.518	0.254
W21	0.533	1.437	0.67	0.357	0.963
W23	0.058	0.03	0.34	0.02	0.01
W24	0.028	0.062	0.47	0.013	0.029
Total	1.965	3.034		1.345	1.965

* Recommended Alignment

4.5 WETLAND IMPACT MITIGATION

There are no practical avoidance alternatives to the construction of the proposed project within wetland areas. Minimization and avoidance measures for wetland impacts were taken into consideration during this study. All practicable measures to reduce impacts to wetlands will be implemented during design and construction of this project. Temporary construction-related impacts will be minimized by adherence to FDOT’s “Standard Specifications for Road and Bridge Construction” during the construction phase of this project.

Mitigation for wetland impacts will be required as a result of the proposed roadway improvements. The use of off-site regional mitigation banks, or the transfer of the proper amount of funds for use by the Water Management District, as provided in Florida Statute 373.4137, are viable options for mitigation of wetland impacts for this project. Also, on-site mitigation, either by creation, enhancement, or conservation of wetlands, is another alternative, although the costs for acquisition of additional right-of-way may make this option less feasible for the FDOT.

4.6 COORDINATION WITH PERMITTING AGENCIES

Coordination with the proper federal and state agencies will be conducted during the design phase of this project. All necessary permits will be acquired. Environmental permits will be required from the following agencies:

- * U.S. Army Corp of Engineers (ACOE)
- * Southwest Florida Water Management District (SWFWMD) – ERP Permit
- * Florida Department of Environmental Protection (FDEP) – NPDES Permit

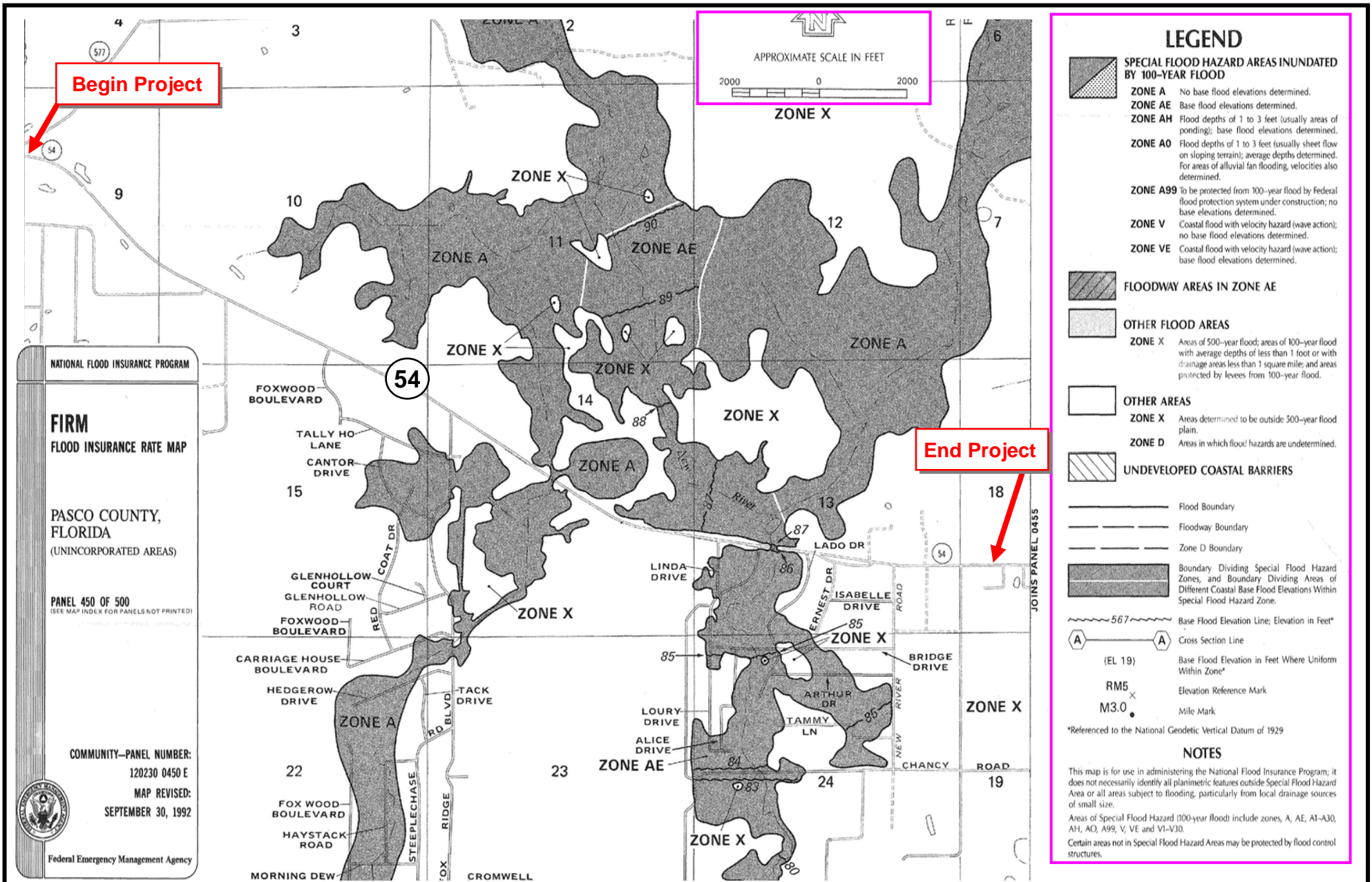
SECTION 5 – FLOOD ZONES

In accordance with the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for Pasco County, the flood zone boundaries have been evaluated for impacts to floodplains. The floodplains are illustrated on **Figure 5-1**.

5.1 ZONE EXPLANATION

According to FEMA, there are many floodplain zones within Pasco County. These zones are listed on the FIRM for the county. A clarification of the floodplain zone designations is included below:

- A Areas of 100-year flood; no base flood elevations determined.
- AE Areas of 100-year flood; base flood elevations determined.
- AH Areas of 100-year flood; flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined
- A0 Areas of 100-year flood; flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding velocities also determined.
- A99 To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
- V Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- VE Coastal flood with velocity hazard (wave action); base flood elevations determined.
- X Areas determined to be outside the 500-year floodplain.
- D Areas in which flood hazards are undetermined.



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FEMA FLOOD ZONES

FIGURE 5-1



5.2 FLOODPLAIN ENCROACHMENTS

Portions of the study corridor are located within the Zone A and Zone AE floodplain limits as shown on the FIRM (Panel Number 1202300450E) and as shown in **Figure 5-1**. The proposed roadway improvements would impact the floodplains located along the SR 54 study corridor. Approximately 2.6 acres of floodplain could potentially be impacted by the proposed roadway improvements.

This project will not support base floodplain development that is incompatible with existing floodplain management programs. It is anticipated that compensatory floodplain storage ponds will be required to offset the floodplain encroachment impacts.

Based on the FDOT's floodplain categories, this project falls under "Category 3: projects involving modification to existing drainage structures." Floodplain encroachments do not vary significantly with any of the alternatives. The modifications to drainage structures included in this project will result in an insignificant change in their capacity to carry floodwater. This change will cause minimal increases in flood heights and flood limits. These minimal increases will not result in any significant adverse impacts on the natural and beneficial floodplain values or any significant change in flood risks or damage. There will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.

SECTION 6 – WILDLIFE AND HABITAT

6.1 INTRODUCTION AND METHODOLOGY

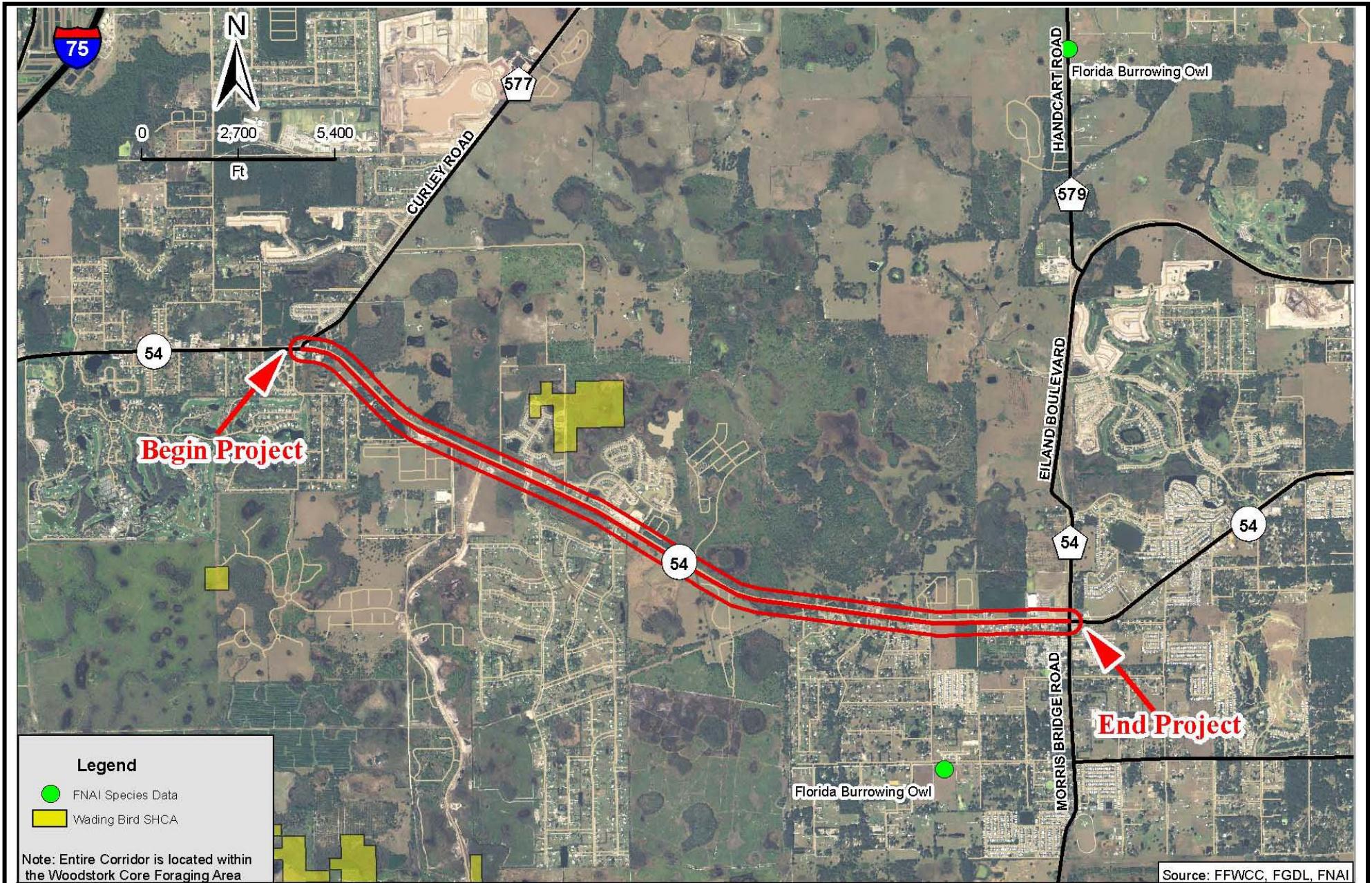
Suitable habitat for federal- and state-listed species was investigated for presence or absence during field reviews in accordance with 50 CFR Part 402 of the Endangered Species Act of 1973, as amended, and Part 2, Chapter 27 of the FDOT *Project Development and Environment (PD&E) Manual: Wildlife and Habitat Impacts*. A literature review and agency database search was conducted to determine the presence and/or absence of federal- and state-listed species and their critical habitat. Agency coordination and field surveys were then conducted in each habitat type in September and October of 2006, as well as March and June of 2007 to identify any protected species and/or critical or potential habitat within the project corridor. In addition, random surveys were performed along the corridor throughout the duration of the study to obtain data on resident and transient species. Species surveys were conducted during evaluation of wetlands and other critical habitats along the project corridor.

Coordination with the Florida Fish and Wildlife Conservation Commission (FFWCC), the USFWS and the FNAI was initiated early in the PD&E Study process to obtain comments and elemental occurrence records on listed species within the project corridor.

In August 2006, the project Advance Notification (AN) package was sent to numerous agencies to initiate early agency coordination. This was done in addition to coordination conducted as part of the Efficient Transportation Decision Making (ETDM) process in which agencies were given an opportunity to comment on the project early in the process. A letter from the USFWS dated June 16, 2008 concurring with FDOT's determination of "No effect" and documentation of all coordination to date can be found in **Appendix C**.

According to a GIS database review, a strategic habitat for wading birds, as determined by the FFWCC, exists just north of the project corridor near Billmar Road. Aerial reviews indicate that there are herbaceous wetlands within this area, but there also appears to be development within the wading bird habitat. The strategic habitat, along with species

data, is illustrated in **Figure 6-1**. All potential impacts to species and critical habitat discussed below are for Alternative A (recommended alignment) and Alternative B.



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STRATEGIC HABITAT & CONSERVATION AREAS

FIGURE 6-1



6.2 FEDERAL LISTED SPECIES

No federal threatened or endangered floral species were observed within the project corridor. Literature and data reviews, along with field observations were conducted to support the absence of these species. Regarding faunal species, a wood stork was observed within the project corridor at Other Surface Water 1 (OSW1). Critical habitat is present within the project corridor to support the bald eagle, wood stork, American alligator and Eastern indigo snake.

6.2.1 Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is a threatened species both federally and with the state of Florida that prefers habitats near coastal areas, including bays, rivers, lakes, and other open water bodies. These habitats provide food sources such as fish, waterfowl, and wading birds. Eagles usually nest in tall trees, but have been known to nest in lower-lying trees and even on the ground. The bald eagle is located throughout the state, especially near coastal areas. There were no bald eagles or eagle nests observed within or near the project corridor. According to the FFWCC eagle nest locator, the closest active eagle nest (HL-022) is located approximately 5 miles southeast of the study corridor which is considerably greater than the 660 foot no activity buffer zone requiring USFWS review.

The project is not expected to impact any existing foraging areas or any potential nesting trees in or adjacent to the corridor. The open water bodies that surround the project corridor should not be impacted by the construction of this project. The FDOT will commit to resurvey for bald eagles during the design phase. Further, if bald eagles are discovered during the design or construction phases, the standard construction precautions from the FFWCC will be followed. Therefore, it is anticipated that the project will not affect the bald eagle.

6.2.2 Wood Stork

The wood stork (*Mycteria americana*) is listed as endangered both federally and in the state of Florida. Wood storks usually nest in inundated forested wetlands, such as cypress

domes, hardwood swamps, and even mangrove fringes and forage in the shallow waters of marshes, swamps, ponds, tidal creeks, wet pastures and ditches, mainly searching for fish. The distribution of the wood stork is throughout Florida, but they are much less frequent in the panhandle and the Florida Keys. This species has a Core Foraging Area (CFA) of 15 miles in central Florida. The project corridor has suitable habitat for the wood stork, and one was observed within OSW1 during the field investigations. The nearest wood stork rookery (611310) is located approximately 8 miles to the southwest of the project corridor. The entire project area is located within the CFA of this rookery.

An additional foraging ground was identified at Wetland 20 (W20) along SR 54 that is not included on the Florida Waterbird Colony Locator. The foraging area contained little blue herons, great white herons, cattle egrets, snowy egrets, and white ibis. In addition, two sandhill cranes were observed at this site. Though no wood storks were observed here, it is likely that wood storks use this area as well for foraging and nesting. Wetland 20 could potentially be impacted by the proposed roadway project.

Since the project is located within the CFA of a wood stork rookery (611310), all impacts to non-forested wetlands are anticipated to be mitigated for to offset impacts to wood stork foraging area. A telephone conversation record with a representative of USFWS on March 6, 2009 (included in **Appendix C**) documents the USFWS's acceptance of mitigation for wetland impacts under Section 373.4137, F.S. (Senate Bill) to offset impacts to the core foraging area for the wood stork. On-site wetland mitigation is the preferred alternative; however the use of the Senate Bill is an acceptable method of mitigation. Because wood storks forage over such an extensive area, no colony would be solely dependent on any of the foraging areas within the project corridor. No nesting areas will be impacted by this proposed project. It is anticipated that the project may affect, but is not likely to adversely affect the wood stork.

6.2.3 Eastern Indigo snake

The eastern indigo snake (*Drymarchon couperi*) is federally and state listed as threatened. This snake lives in a variety of habitats within the project corridor including pine

flatwoods and hardwood forests. Eastern indigo snakes typically require large tracts of suitable habitat which do not occur along the project corridor. Though no eastern indigo snakes were observed in the field, the FNAI indicates that they likely exist towards the southeastern end of the project corridor. Given the limited number of large tracts of suitable habitat, it is anticipated that the project may affect, but is not likely to adversely affect the eastern indigo snake.

6.2.4 American Alligator

The American alligator (*Alligator mississippiensis*) is federally listed as threatened due to its similarity to the American crocodile (*Crocodylus acutus*) and is state listed as a species of special concern. They are found in most permanent bodies of fresh water, such as lakes, rivers, marshes and swamps. Adult alligators range from 6-15 feet in length. Alligators can be differentiated by crocodiles by their broad, rounded snout, and by the fact that alligators usually do not have visible lower teeth when the jaws are closed. Alligators are usually active in the warmer months during spring, summer and early fall. These reptiles nest in the spring and hatch their eggs in the summer. Alligators can be found throughout the state, but are rare in the Keys since there is not as much freshwater habitat.

Since wetland impacts will be mitigated for pursuant to Part IV, Chapter 373, F.S. and U.S.C. 1344, it is anticipated that the project may affect, but it not likely to adversely affect the American alligator.

6.2.5 Florida Scrub-Jay

The Florida Scrub-Jay (*Aphelocoma coerulescens*) is federally and state-listed as threatened. The Florida Scrub-Jay is similar to the blue jay, except that it lacks the crest and white spotting on the wings and tail. The scrub-jay is found throughout most of Florida, excluding the southern and northern-most counties and the panhandle. It is documented by FNAI that the largest populations are found in Brevard, Highlands, Polk and Marion counties. This species inhabits fire-dominated, low-growing oak scrub

habitat with very sandy soils. The scrub-jay may be found in overgrown scrub areas, but at a much lower density and reduced survivorship.

After review of the project corridor, minimal to no Florida Scrub-Jay habitat was observed and no species were observed along the project corridor or adjacent areas. Much of the project corridor and adjacent areas are open pastures/prairies, residential and commercial development, and wetlands. Since minimal to no suitable habitat for the Florida Scrub-Jay exists and no species were observed along the project corridor, it is anticipated that the proposed roadway improvements will have no affect on the Florida Scrub-Jay.

6.3 STATE LISTED SPECIES

No state threatened or endangered floral species were observed within the project corridor. Literature and data reviews, along with field observations were conducted to support the absence of these species. Several state threatened, endangered, or faunal species of special concern were observed during the field visits within the project corridor. These species include: snowy egret, sandhill crane, white ibis, and little blue heron. Critical habitat is also available within the study corridor to support the tricolored heron, peregrine falcon, and Florida burrowing owl.

6.3.1 Snowy Egret

The snowy egret (*Egretta thula*) is a wading bird, listed as a species of special concern, which nests in shallow waters of both inland and coastal wetlands, usually in shrubs such as willows or mangroves. This species feeds in flooded wetlands, lakes, streams, manmade ditches and impoundments, and swamps. Snowy egrets were observed in several locations within the study corridor, and suitable habitat is located within this area. An additional foraging area appeared to be located at Wetland 20 (W20) where several snowy egrets were observed, along with other wading birds.

Mitigation for impacts to wetlands will be assessed during the design phase of this project. Mitigation will offset all impacts to wetlands; therefore, it is anticipated that the project will not affect the snowy egret.

6.3.2 Florida Sandhill Crane

The Florida sandhill crane (*Grus Canadensis pratensis*) is a large, long-necked bird that is likely to be found in or near prairies, pasture lands, and freshwater marshes. This species prefers wetlands that consist mainly of pickerelweed (*Pontederia cordata*) and maidencane (*Panicum hemitomon*). They can also be found on golf courses, crop fields, and other open areas. Sandhill cranes are listed as a threatened species in Florida. Nesting season for the Florida sandhill crane ranges from January to June. Numerous sandhill cranes were observed foraging in the field within or adjacent to the project corridor. No sandhill crane nests were observed. Extensive foraging habitat exists within the project corridor. It is anticipated that the project may affect, but will not adversely affect the Florida sandhill crane.

6.3.3 White Ibis

The white ibis (*Eudocimus albus*) is a species of special concern that inhabits many types of wetland habitats, such as forested wetlands, wet prairies, freshwater and saltwater marshes, swales, ditches, salt flats and inundated fields. Foraging for this species usually occurs in freshwater habitats, since a high-salt diet can affect the growth rate of offspring. White ibis can be found throughout the state, especially in summer months. A foraging area was located at Wetland 20 (W20) where numerous white ibis were observed along with other wading birds.

Mitigation for impacts to wetlands will be assessed during the design phase of this project. Mitigation will offset all impacts to wetlands; therefore, it is anticipated that the project will not affect the white ibis.

6.3.4 Little Blue Heron

The little blue heron (*Egretta caerulea*) is a medium-sized wading bird that has its largest nesting colonies within coastal wetland habitats, but prefers to forage in freshwater wetlands, such as lakes, marshes and streams. In freshwater habitats, this species nests in cypress, red maple, willow and cabbage palms. The little blue heron can be found

throughout Florida and is listed as a species of special concern. A little blue heron was observed during one of the site visits near Other Surface Water 1 (OSW1).

Mitigation for impacts to wetlands will be assessed during the design phase of this project. Mitigation will offset all impacts to wetlands; therefore, it is anticipated that the project will not affect the little blue heron.

6.3.5 Tricolored Heron

The tricolored heron (*Egretta tricolor*) is a medium-sized heron that prefers nesting on mangrove islands or in willow-dominated freshwater habitats. Nesting for the tricolored heron usually occurs within areas over standing water or on islands. The tricolored heron forages in flooded wetlands, mangrove and tidal wetlands, and along the edges of lakes and ponds. This species is found throughout Florida and is listed as a species of special concern.

Mitigation for impacts to wetlands will be assessed during the design phase of this project. Mitigation will offset all impacts to wetlands; therefore, it is anticipated that the project will not affect the tricolored heron.

6.3.6 Peregrine Falcon

The peregrine falcon (*Falco peregrinus*) is a medium-sized falcon, ranging from about 15 to 21 inches in length. This species is an avid hunter of other birds, and has the ability to catch birds in flight during its stooping flight, reaching speeds in excess of 150 mph. The peregrine falcon is listed as endangered in Florida. Peregrine falcons do not breed or nest in Florida, but many spend the winter here and are regularly seen during spring and fall migrations as they move between breeding grounds and wintering areas further south. No peregrine falcons were observed in the field and no occurrence records of the falcon exist within or near the project corridor. It is anticipated that the project will not affect the peregrine falcon.

6.3.7 Florida Burrowing Owl

The Florida burrowing owl (*Athene cunicularia floridana*) is listed as a species of special concern in Florida. It is a small ground-dwelling owl that inhabits minimally vegetated, sandy ground, including dry prairies, sandhills, pastures, airports, ball fields, road right-of-ways, and open areas in residential communities. The majority of the Florida burrowing owls can be found in the southwest and southeast portion of the state, but they can be found as far north as the Tallahassee area, and one area near Eglin Air Force Base in Okaloosa County.

No burrowing owls were observed in the field; however, a burrowing owl is known to exist less than a mile south of the project corridor. Another burrowing owl was documented approximately 2 miles north of the project. Much of the project construction will occur within the existing right-of-way of SR 54 which, in this case, does not provide optimal burrowing owl habitat. However, due to the amount of habitat adjacent to the project and nearby populations, it is anticipated that the project may affect, but not adversely affect the Florida burrowing owl.

6.3.8 Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*) is listed as a species of special concern in Florida. Gopher tortoises occur in well-drained to excessively drained sandy soils with an open canopy that provides ample herbaceous vegetation for foraging. The project corridor contains some pockets of suitable conditions for this species. No gopher tortoises or signs of gopher tortoises were observed in the field nor have any occurrences been documented within the corridor.

Due to the limited amount of habitat, lack of burrows identified in the field, it is anticipated that the project will not affect the gopher tortoise.

6.3.9 Florida Long-tailed Weasel

The Florida long-tailed weasel (*Mustela frenata peninsulae*) currently does not have protective status either federally or with the state. However, it is considered either very

rare or found only locally in a restricted range. The Florida long-tailed weasel is a commensal species to the gopher tortoise that inhabits a variety of upland habitats and dens in hollow trees or gopher tortoise burrows. No Florida long-tailed weasels were observed in the field. There is one documented occurrence approximately two miles west of the project corridor. Due to the lack of significant habitat and absence of gopher tortoise burrows, it is anticipated that the project will not affect the Florida long-tailed weasel.

6.3.10 Southeastern American Kestrel

The Southeastern American Kestrel (*Falco sparverius paulus*) is the smallest falcon found in the United States. In Florida, this species is listed as threatened. The Southeastern American Kestrel is ordinarily found in open pine habitats, pastures, woodland edges, and prairies throughout many portions of the state. This species prefers tall dead trees and utility poles with unobstructed views of its surroundings for nesting. Sandhill habitats are preferred over flatwoods, and the flatwood habitats must contain open areas of grass or bare ground for the kestrel to be able to detect its prey.

No sitings or nests were observed along the project corridor. There are open pastures and prairies found along the project corridor, but minimal to no sandhill or flatwood habitats were observed. There are utility poles along the project corridor, but no large dead trees were observed within the project corridor and none are expected to be impacted by the proposed project. Since there is minimal nesting habitat found along the project corridor, it is anticipated that the project will not affect the Southeastern American Kestrel.

6.4 WILDLIFE HABITAT CONNECTIVITY

A review for habitat connectivity and wildlife crossing was conducted during field visits along the project corridor. Potential listed species that may be found along the project corridor that would cross the roadway include the Eastern Indigo Snake, gopher tortoise, American alligator, and the Florida long-tailed weasel (not listed, but rare). There was minimal to no habitat for the gopher tortoise, which also reduces the likelihood of the Eastern Indigo Snake and Florida long-tailed weasel in the project area. The American

alligator would likely utilize the existing crossing located at New River. The possible widening and/or replacement of the box culvert would not hinder the American alligator or other wetland-dependent species to continue crossing at this location. The other listed species found within the project area are birds and would not be evaluated for potential wildlife crossings.

The creation of a wildlife crossing or wildlife corridor would not be cost effective in this area since there are no large listed species, such as the Florida black bear or Florida panther. White-tailed deer may be present in this area, so a potential deer-crossing sign may be a viable option to alert drivers using the road. The addition of traffic to SR 54 with the proposed improvements may increase potential wildlife mortality. Since minimal to no listed species or their critical habitat were observed within the project area and development has increased along the corridor, a wildlife crossing or wildlife corridor would not seem appropriate in this area. Smaller species and wetland-dependent species should continue to utilize the crossing at New River. The lack of larger terrestrial species would not warrant trying to funnel species to a crossing/corridor.

Comments were posted in the ETDM screen in October 2005 by FFWCC, and comments were also made by FHWA in January 2009, regarding the evaluation of habitat connectivity within the study corridor. Coordination was conducted with a representative of the FFWCC to obtain their concurrence that wildlife corridor crossings are not needed along the project limits. In an e-mail dated March 26, 2009, they stated that based on the lack of conservation lands along the corridor and past and recent development, especially to the south of the SR 54 project area, a habitat connectivity structure is no longer an issue. A copy of the e-mail (dated March 26, 2009) is included in **Appendix C**.

6.5 SUMMARY

The project has been evaluated for impacts to federal- and state-protected threatened and endangered species. A literature review was conducted to identify any threatened or endangered species which may inhabit the project area. Since habitat within the right-of-

way is not appropriate for most of these species and only suboptimal habitat is present adjacent to the right-of-way, most species are not expected to be impacted. Any impacts to critical habitat that may be inhabited by federal- and state-listed threatened or endangered species will be evaluated again in the design phase of this project. Review of FNAI data and coordination with FFWCC has been conducted to provide support that federal and state protected threatened and endangered species will not be adversely affected by the proposed roadway project.

The proposed roadway improvements are not anticipated to adversely impact any federal- or state-listed species or their critical habitat. Impacts to federal-listed species are as follows: the proposed roadway improvements will not affect the bald eagle, but may affect the wood stork, eastern indigo snake and the American alligator. Impacts to state-listed species are as follows: the proposed roadway improvements will not affect the snowy egret, white ibis, little blue heron, tricolored heron, peregrine falcon, gopher tortoise or the Florida long-tailed weasel, but may affect the Florida sandhill crane and the Florida burrowing owl. Any impacts to critical habitat for any federal- or state-listed species will be addressed during the design phase of this project.

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