

Project Development and Environment Study

**ENDANGERED SPECIES
BIOLOGICAL ASSESSMENT**

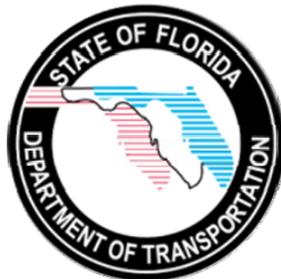
SR 826/Palmetto Expressway Express Lanes

**From South of SR 836/Dolphin Expressway
to SR 932/NW 103rd Street**

FM No. 418423-3-22-01

ETDM No. 11560

Miami-Dade County, Florida



FLORIDA DEPARTMENT OF TRANSPORTATION

District Six

1000 NW 111th Avenue

Miami, Florida 33172

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ACRONYMS

C	Candidate
CFA	Core Foraging Area
DRER EMRD	Department of Regulatory and Economic Resources Environmental Monitoring & Restoration Division
E	Endangered
EFH	Essential Fish Habitat
ETDM	Efficient Transportation Decision Making
FDACS	Florida Department of Agriculture and Consumer Services
FDOT	Florida Department of Transportation
FE	Federally Endangered
FGDL	Florida Geographic Data Library
FHWA	Federal Highway Administration
FLUCFCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Areas Inventory
FT	Federally Threatened
FT (S/A)	Federally Threatened due to Similarity of Appearance
FWC	Florida Fish and Wildlife Conservation Commission
GIS	Geographic Information System
km	kilometer
MPH	miles per hour
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
N	Not Listed
NMFS	National Marine Fisheries Service
PD&E	Project Development and Environment
SR	State Road
SSC	Species of Special Concern
ST	State Threatened
T	Threatened
T (S/A)	Threatened due to Similarity of Appearance
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service





1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study for roadway improvements along State Road (SR) 826/Palmetto Expressway (SR 826) from south of SR 836/Dolphin Expressway (SR 836) to SR 932/NW 103rd Street in Miami-Dade County, Florida (see *Figure 1.1*).

The objective of this PD&E study is to provide documented environmental and engineering analyses that will assist the FDOT and the Federal Highway Administration (FHWA) in reaching a decision on the conceptual design for the roadway improvements to SR 826. This PD&E study complies with the requirements of the National Environmental Policy Act, which requires the evaluation of the potential impacts (both positive and negative) that a project has on its physical, natural, social, and cultural environment.

The purpose of this *Endangered Species Biological Assessment* report is to define and evaluate the potential impacts of the SR 826 Express Lanes project on threatened and endangered species and their habitats located within the project area. This *Endangered Species Biological Assessment* presents the findings of a biological assessment conducted in accordance with the FDOT *PD&E Manual*, Part 2, Chapter 27 (dated October 1, 1991). Additionally, in accordance with Section 7 of the Endangered Species Act of 1973, as amended, this *Endangered Species Biological Assessment* has been conducted to guarantee that the proposed roadway project is not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of the critical habitat of these species.



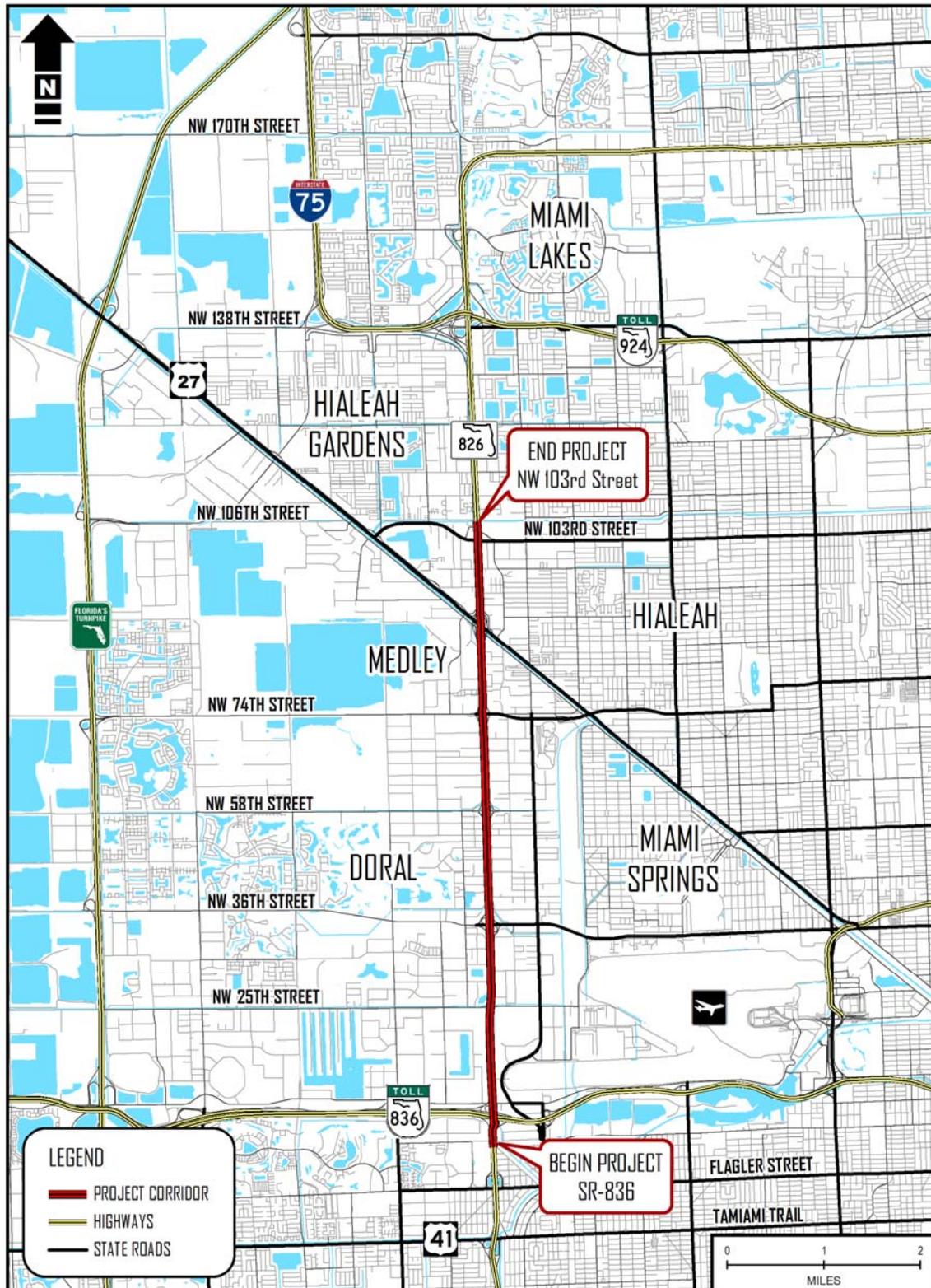


Figure 1.1 – Project Location Map



2.0 PROJECT DESCRIPTION

2.1 Background

SR 826 is one of the most traveled transportation corridors in Miami-Dade County. This multi-lane expressway extends north-south from US-1 to the Golden Glades Interchange for a distance of approximately 25 miles. SR 826 connects southern Miami-Dade County to northern Miami-Dade County and serves as a feeder route to the county's busiest east-west corridor, SR 836. SR 826 also provides system-level connections to Interstate 75 (I-75), Florida's Turnpike, SR 924/Gratigny Parkway, SR 874/Don Shula Expressway and SR 9/I-95. SR 826 is part of the Strategic Intermodal System, Florida Intrastate Highway System, and National Highway System. SR 826 is listed as a local evacuation route in Miami-Dade County.

The project study area, as shown in *Figure 1.1*, is located in northwestern Miami-Dade County and is approximately 5.9 miles in length. The project limits extend along SR 826 from south of SR 836/Dolphin Expressway to SR 932/NW 103rd Street in Miami-Dade County. Within the study limits, SR 826 is an eight-lane divided limited access facility from south of SR 836 to NW 25th Street and a ten-lane divided limited access facility from NW 25th Street to NW 103rd Street. The existing speed limit along SR 826 is posted at 55 miles per hour (MPH). The SR 826 access management classification is Class 1.2, Freeway in an existing urbanized area with limited access. The project area traverses three municipalities: City of Hialeah, City of Doral, and the Town of Medley. In addition, the project runs along unincorporated Miami-Dade County.

The improvements will consist of the addition of two express lanes (also known as managed lanes) in each direction along the SR 826 corridor within the project limits. These improvements are needed to address future vehicular growth projected in the area, improve highway safety, enhance hurricane and other emergency evacuations and improve system connectivity between SR 836, SR 924, and I-75 within the project limits.

This SR 826 PD&E study will evaluate traffic capacity throughput to mitigate existing traffic congestion and to accommodate both future traffic demand and emergency evacuation needs. Operational and safety improvements, which could include Active Traffic Management and Intelligent Transportation System strategies, as well as lane, ramp, and interchange modifications, will also be evaluated. Additional considerations along the facility, including aesthetic treatments and bus rapid transit operational improvements, may also be included throughout the study process. The study will determine the number and type of travel lanes and interchange modifications required to accommodate anticipated traffic volumes and improve safety conditions throughout the project limits. It is through this study process that various alternatives for minimizing impacts to the environment and surrounding communities will be addressed.





2.2 Purpose and Need

The purpose of this PD&E study is to identify improvements to address the implementation of an express lanes system that will link SR 826 to the managed lanes network currently under development by FDOT Districts Four and Six, Miami-Dade Expressway Authority, and the Florida's Turnpike Enterprise. Please reference the *Preliminary Engineering Report* developed as a part of this PD&E study for additional information relating to the proposed managed lanes network currently under development.

Projections of future population and employment in the project area indicate that travel demand will continue to increase for years to come. The purpose of this project is to add two express lanes in each direction along the SR 826 corridor from south of SR 836 to NW 103rd Street, with the objective of improving mobility, relieving congestion, and providing additional travel options. Constrained right-of-way, coupled with the development intensity along the corridor, present a challenge for accommodating future traffic growth by widening the SR 826 mainline. However, two express lanes could be incorporated along the corridor with moderate widening of the mainline or by restriping existing general purpose lanes. The project is anticipated to take place within the existing public right-of-way. As part of the I-75 PD&E Study, completed in early 2012, managed lanes are being evaluated with a direct connection to/from SR 826. In addition, the entire SR 826 corridor is designated as a viable managed lanes facility in the 2009 FDOT District Six report, "*A Managed Lanes Vision for Southeast Florida.*"

Improvements to this section of SR 826 are needed in order to relieve congestion and increase capacity between SR 836 and I-75. This project will provide continuity with the proposed managed lanes on I-75 as envisioned in the emerging South Florida Managed Lanes network, as well as provide bus rapid transit service and connectivity to the existing Palmetto Metrorail Station at NW 74th Street.

The documentation for this PD&E Study will be limited to the SR 826 Express Lanes PD&E corridor. A separate PD&E Study is being conducted for the SR 826 East-West corridor from I-75 to the Golden Glades Interchange.





2.3 Land Use

The SR 826 project corridor encounters a myriad of land use categories on record with the Miami-Dade County Department of Planning and Zoning, the City of Doral Planning Department, the City of Hialeah Gardens Planning and Zoning Department, and the City of Hialeah Planning and Zoning Department. **Figure 2.1** illustrates the existing land use within the study limits in Miami-Dade County. The land use classifications identified within the study include the following: Airports, Communications/Utilities, Expressway Right-of-Way, Industrial, Institutional, Low Density – Multi Family, Mobile Home Park, Multi Family – Migrant Camp, Office, Parks, Shopping Centers, Roadways, Townhouses, Transient Residential, Vacant Unprotected, Vacant Government-Owned, and Water.

The land use along the SR 826 corridor between the SR 826/NW 36th Street interchange and the SR 826/SR 836 interchange is classified as water along the west side in multiple places and as office use along the east side. However, the most common land use is industrial on both sides of the corridor. These lands are mostly associated with the nearby Miami International Airport. The corridor also crosses over the CSX rail line that runs parallel to SR 836.

The land use along the SR 826 corridor between Okeechobee Road and NW 36th Street is classified as mostly industrial/office and communications. This area also consists of a few commercial shopping centers and institutional uses. The land near the SR 826/NW 58th Street interchange is currently vacant/unprotected and undeveloped.

The land use north of the SR 826/Okeechobee Road interchange is mainly comprised of commercial shopping complexes and industrial use properties. There are also a few institutional uses and one small residential area.

Along SR 826, between SR 836 and NW 103rd Street, the adjacent land use is a mix of residential types, primarily low density residential. Both sides of SR 826 also have commercial business/office areas with a mixture of various industrial/office land uses, predominantly light industry. Industrial use is the most dominant land use throughout the corridor.



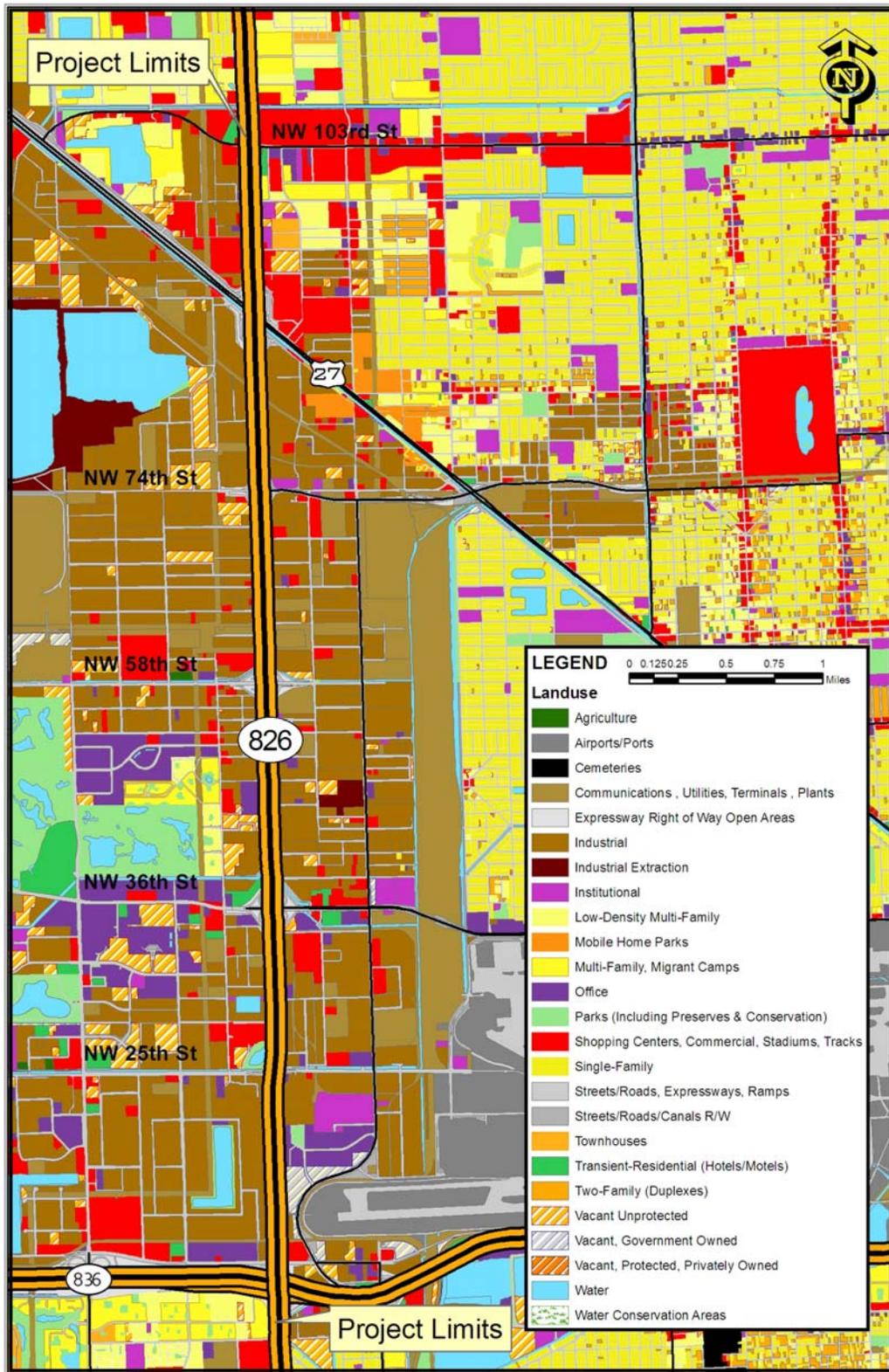


Figure 2.1 – Existing Land Use Map



2.4 Existing Roadway Characteristics

SR 826, within the study limits, is classified as an urban principal arterial-other freeways and expressways. The SR 826 speed limit is posted at 55 MPH (design speed of 60 MPH) and the access management classification is Class 1.2, Freeway. SR 826 is an integral part of the Strategic Intermodal System, Florida Intrastate Highway System, and National Highway System networks. This facility provides connectivity with several major thoroughfares in South Florida – South Dixie Highway (US 1/SR 5), SR 874/Don Shula Expressway, SR 90/US 41/Tamiami Trail, SR 836/Dolphin Expressway, SR 25/US 27/Okeechobee Road, I-75, SR 924, the Homestead Extension of Florida’s Turnpike, and I-95.

The existing roadway typical section along SR 826, within the study limits, varies slightly and consists primarily of:

- Ten to twelve 12-foot to 14-foot (12’-14’) wide travel lanes
- 10.5-foot (10.5’) wide paved inside shoulders
- Ten-foot (10’) wide paved outside shoulders
- Center barrier wall

One auxiliary lane, varying from ten feet (10’) to twelve feet (12’), is provided in each direction between the interchanges. The North Line Canal is located adjacent to the northbound lanes between SR 836 and NW 25th Street. Frontage roads are located along both sides of the corridor between NW 25th Street to NW 103rd Street. The existing SR 826 typical sections are depicted in **Figure 2.2**.

The existing limited access right-of-way varies slightly within the study limits. The right-of-way is typical throughout the corridor except at the interchanges, where it varies to accommodate entrance and exit ramps. **Table 2.1** summarizes the available right-of-way along the corridor.

Table 2.1 – Summary of Existing Limited Access Right-of-Way

	Roadway Section	R/W Width (ft) ¹
SR 826	South of SR 836 Interchange – NW 25 th Street	298
	NW 25 th Street – NW 103 rd Street	220

Source: FDOT ROW Survey

¹ Maximum Limited Access Right-of-Way Width

Border width on limited access facilities is measured from the edge of the outside traffic lane to the right-of-way line. The criteria shown in the FDOT *Plans Preparation Manual* (Table 2.5.3, Volume I, Chapter 2, Section 2.5.1) for freeways including interchange ramps indicates a required border width of 94 feet. Along SR 826, within the study limits, the recoverable terrain and border width requirements are not met for the mainline or the ramps due to the constrained right-of-way along the corridor. The corridor is protected by a concrete barrier wall placed along the edge of the shoulders, which mitigates for this horizontal clearance deficiency.





Also, the existing shoulders along SR 826 consist of 10.5 feet (10.5') wide paved inside shoulders, ten feet (10') wide paved outside shoulders and a median barrier wall. As per the criteria shown in the FDOT *Plans Preparation Manual* (Table 2.3.1, Volume I, Chapter 2, Section 2.3), the shoulder width criteria for this type of facility is twelve feet (12'). Therefore, the shoulder width requirement is not met for most of SR 826 within the study limits. However, the facility still meets the minimum shoulder width requirement of ten feet (10') under the American Association of State Highway and Transportation Officials criteria.

Please reference the *Preliminary Engineering Report* developed as a part of this PD&E study for additional information relating to existing roadway characteristics.



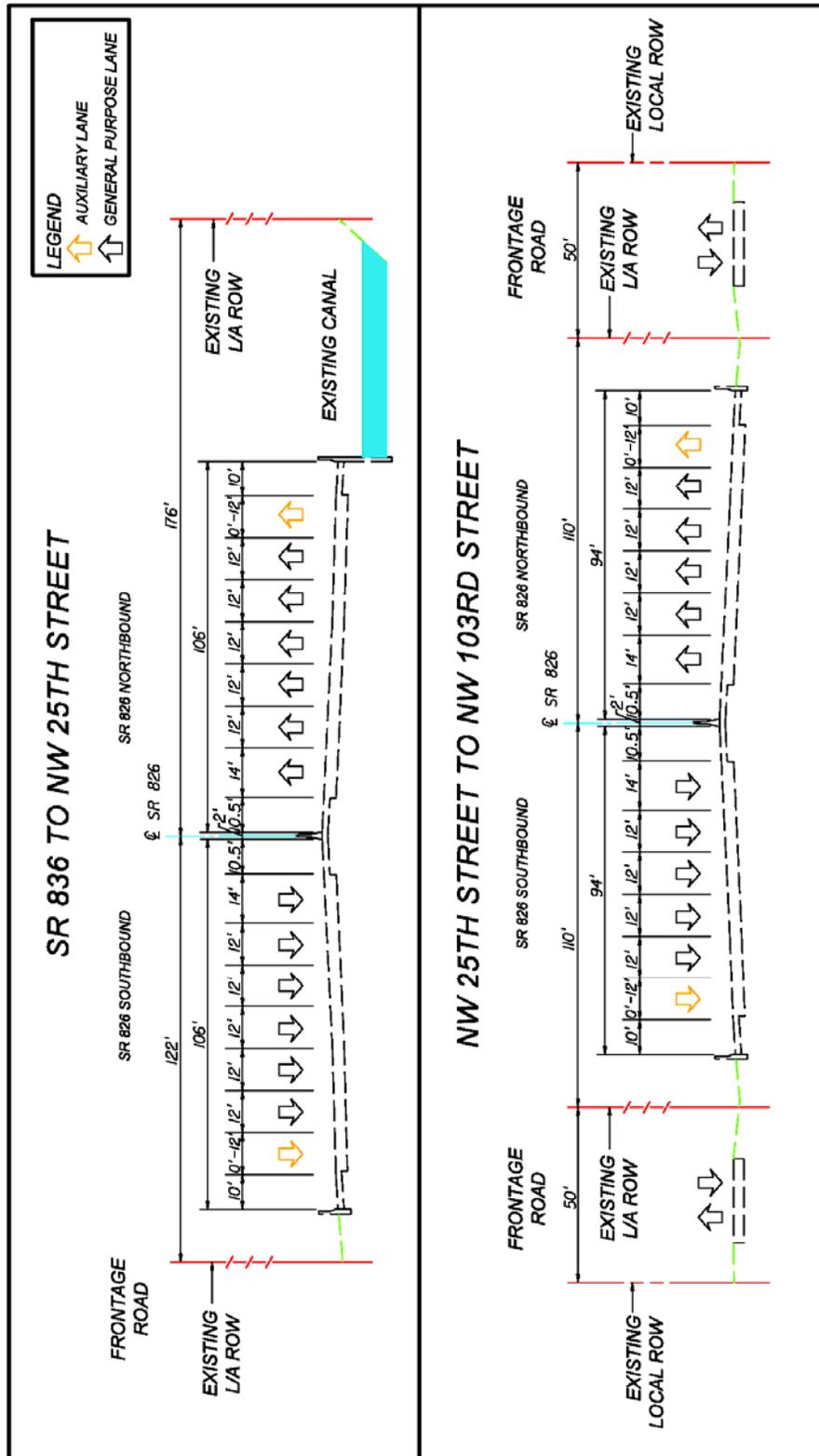


Figure 2.2 – SR 826 Existing Ten and Twelve-Lane Divided Typical Sections



3.0 PROPOSED ALTERNATIVES

This PD&E study was initiated by the FDOT to add two express lanes in each direction along the SR 826 corridor from south of SR 836 to NW 103rd Street, with the objective of improving mobility, relieving congestion, and providing additional travel options, including bus rapid transit. Constrained right-of-way, coupled with the development intensity along the corridor, present a challenge for accommodating future traffic growth by widening the SR 826 mainline. However, two express lanes could be incorporated along the corridor with moderate widening of the mainline or by restriping existing general purpose lanes. As part of the I-75 PD&E Study completed in early 2012, managed lanes were evaluated and recommended with a direct connection to/from SR 826. In addition, the entire SR 826 corridor is designated as a viable managed lanes facility in the 2009 FDOT District Six report, *"A Managed Lanes Vision for Southeast Florida."* All concepts were evaluated and analyzed in order to select a recommended alternative. Concepts were developed and refined with the objective of elimination and reduction of impacts to natural, physical, social, and cultural resources. The engineering decisions to achieve this objective are thoroughly documented in the *Preliminary Engineering Report*, a companion document to this PD&E study. The alternatives considered to be viable for further assessment are defined below.

3.1 No-Build Alternative

The No-Build Alternative proposes to keep the existing roadways and interchange configurations into the future without improvements. No traffic capacity, operation, or safety improvements would be implemented throughout the corridor. The effect associated with this alternative includes the acceptance of existing highly congested traffic conditions. Also, travel demand will increase substantially over the next 20 years, given the continued growth expected in Miami-Dade County. This alternative is considered to be a viable alternative during the public hearing and final selection phase to serve as a comparison to the study proposed alternatives.

The No-Build Alternative has a number of positive aspects, since it would not require expenditure of public funds for design, right-of-way acquisition, construction, or utility relocation. Traffic would not be disrupted due to construction, thereby avoiding inconveniences to local residents and businesses. Also, there would be no direct or secondary impacts to the environment, the socio-economic characteristics, community cohesion, or system linkage of the area.

However, the No-Build Alternative fails to fulfill the needs of this project. If no long-term improvements are made, SR 826 and the surrounding crossroads will experience heavy congestion during the peak hours and will operate at undesirable levels of service. The congestion within the area will cause additional impacts to these roadways. Such impacts may include excessive delays in travel time, a large reduction of average travel speeds, excess fuel consumption from idling vehicles, increased air pollutants (particularly hydrocarbons and carbon monoxide), and a potential increase in rear-end and sideswipe collisions.





3.2 Build Alternatives

The development and evaluation of the Build Alternatives were based on established design controls for the various elements of the project such as roadway width, median width, shoulder width, design speed, horizontal alignment, vertical alignment, drainage considerations, environmental impacts, and intersecting roads. Selection of the appropriate criteria and standards was influenced by safety features, traffic volumes and composition, levels of service, functional classification, environmental considerations, and community issues.

The two Build Alternatives described below propose corridor improvements to accommodate two express lanes in each direction from south of SR 836 to NW 103rd Street. The proposed alternatives will improve the current traffic congestion along SR 826 within the project limits. The two alternatives are similar in design. The main difference is that from NW 25th Street to NW 103rd Street, Alternative 1A proposes two at-grade express lanes plus four general purpose lanes in each direction, while Alternative 2A proposes two at-grade managed lanes plus five general purpose lanes in each direction.



Alternative 1A – At-Grade Express Lanes with Four General Purpose Lanes

From south of SR 836 to NW 25th Street, this alternative will consist of the following elements:

- Northbound Mainline
 - One eleven-foot (11') wide express lane
 - Six eleven-foot (11') wide general purpose lanes
 - A two-foot (2') wide buffer area with tubular markers (also known as tubular delineators) separating the general purpose lanes from the express lanes
 - A variable, four-foot (4') to five-and-a-half-foot (5.5') wide inside shoulder
 - A ten-foot (10') wide outside shoulder
 - One twelve-foot (12') wide auxiliary lane between the interchanges
- Southbound Mainline
 - One eleven-foot (11') wide express lane
 - Six eleven-foot (11') wide general purpose lanes
 - A two-foot (2') wide buffer area with tubular markers separating the general purpose lanes from the express lanes
 - A variable, four-foot (4') to five-and-a-half-foot (5.5') wide inside shoulder
 - A ten-foot (10') wide outside shoulder
 - One twelve-foot (12') wide auxiliary lane between the interchanges

From NW 25th Street to NW 103rd Street, this alternative will consist of the following elements:

- Northbound Mainline
 - Two eleven-foot (11') wide express lanes
 - Four eleven-foot (11') wide general purpose lanes
 - A two-foot (2') wide buffer area with tubular markers separating the general purpose lanes from the express lanes
 - A variable, four-foot (4') to twelve-foot (12') wide inside shoulder
 - A variable, six-foot (6') to twelve-foot (12') wide outside shoulder
 - One eleven-foot (11') wide auxiliary lane between the interchanges
- Southbound Mainline
 - Two eleven-foot (11') wide express lanes
 - Four eleven-foot (11') wide general purpose lanes
 - A two-foot (2') wide buffer area with tubular markers separating the general purpose lanes from the express lanes
 - A variable, three-and-a-half-foot (3.5') to twelve-foot (12') wide inside shoulder
 - A variable, ten-foot (10') to twelve-foot (12') wide outside shoulder
 - One eleven-foot (11') wide auxiliary lane between the interchanges

Figure 3.1 depicts the typical sections for Alternative 1A. Please reference the *Preliminary Engineering Report* developed as a part of this PD&E study for additional information relating to Alternative 1A.

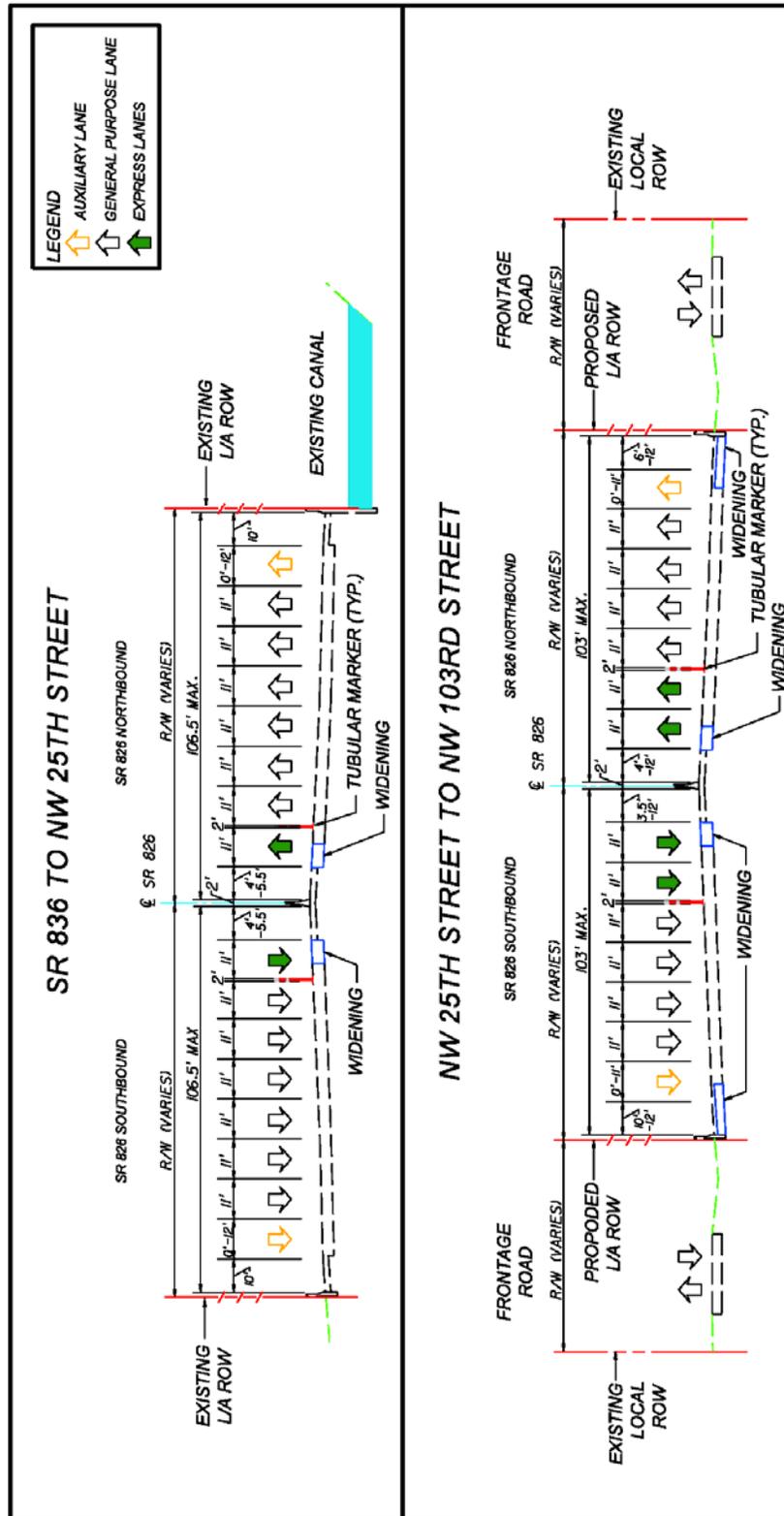


Figure 3.1 – Alternative 1A Typical Sections

Alternative 2A – At-Grade Express Lanes with Five General Purpose Lanes

From south of SR 836 to NW 25th Street, this alternative will consist of the following elements:

- Northbound Mainline
 - One eleven-foot (11') wide express lane
 - Six eleven-foot (11') wide general purpose lanes
 - A two-foot (2') wide buffer area with tubular markers separating the general purpose lanes from the express lanes
 - A variable, four-foot (4') to five-and-a-half-foot (5.5') wide inside shoulder
 - A ten-foot (10') wide outside shoulder
 - One twelve-foot (12') wide auxiliary lane between the interchanges
- Southbound Mainline
 - One eleven-foot (11') wide express lane
 - Six eleven-foot (11') wide general purpose lanes
 - A two-foot (2') wide buffer area with tubular markers separating the general purpose lanes from the express lanes
 - A variable, four-foot (4') to five-and-a-half foot (5.5') wide inside shoulder
 - A ten-foot (10') wide outside shoulder
 - One twelve-foot (12') wide auxiliary lane between the interchanges

From NW 25th Street to NW 103rd Street, this alternative will consist of the following elements:

- Northbound Mainline
 - Two eleven-foot (11') wide express lanes
 - Five eleven-foot (11') wide general purpose lanes
 - A two-foot (2') wide buffer area with tubular markers separating the general purpose lanes from the express lanes
 - A variable, four-foot (4') to twelve-foot (12') wide inside shoulder
 - A variable, ten-foot (10') to twelve-foot (12') wide outside shoulder
 - One eleven-foot (11') wide auxiliary lane between the interchanges
- Southbound Mainline
 - Two eleven-foot (11') wide express lanes
 - Five eleven-foot (11') wide general purpose lanes
 - A two-foot (2') wide buffer area with tubular markers separating the general purpose lanes from the express lanes
 - A variable, three-and-a-half-foot (3.5') to twelve-foot (12') wide inside shoulder
 - A variable, ten-foot (10') to twelve-foot (12') wide outside shoulder
 - One eleven-foot (11') wide auxiliary lane between the interchanges

Figure 3.2 depicts the typical sections for Alternative 2A. Please reference the *Preliminary Engineering Report* developed as a part of this PD&E study for additional information relating to Alternative 2A.

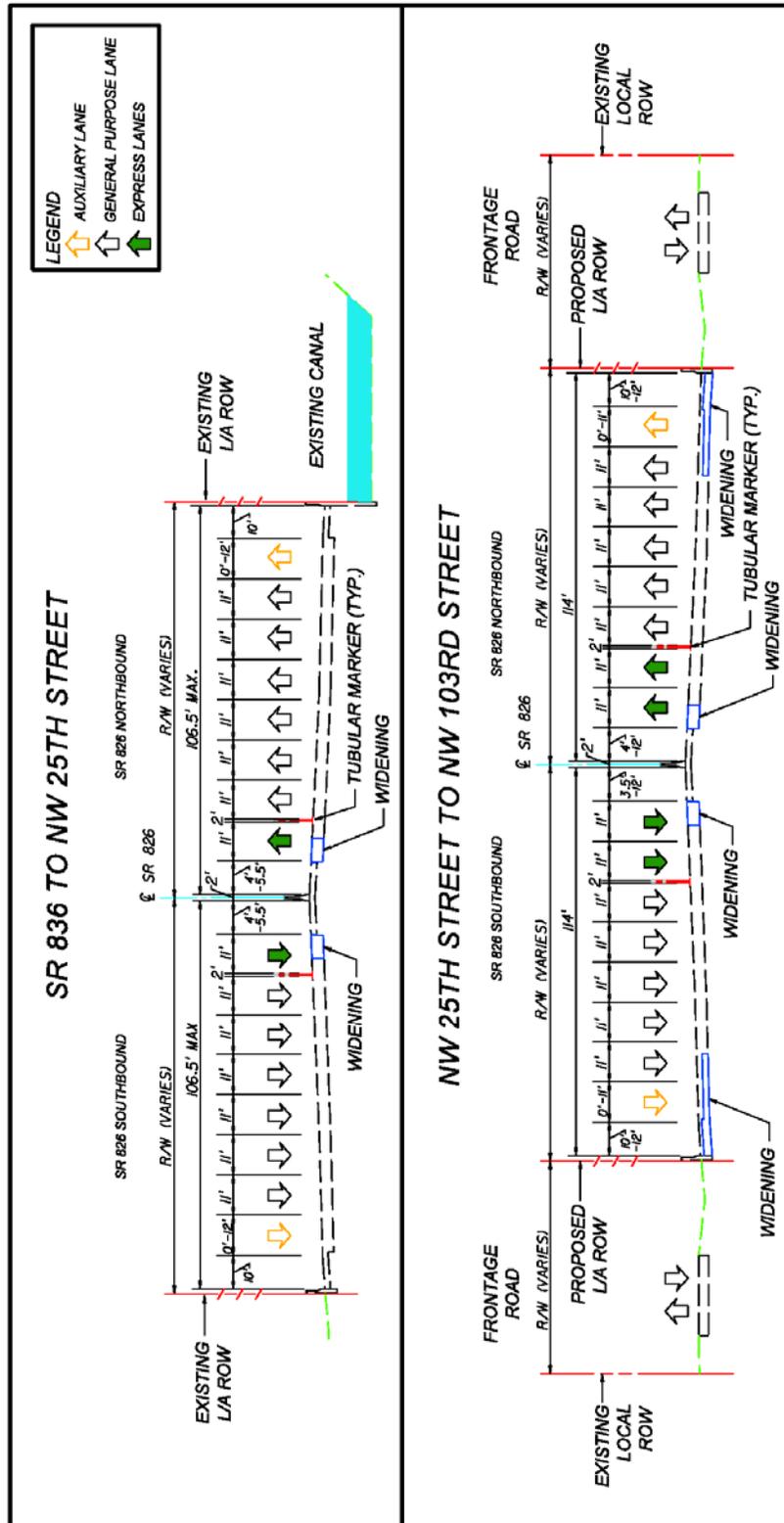


Figure 3.2 – Alternative 2A Typical Sections

4.0 EXISTING CONDITIONS

4.1 Natural Communities (Uplands/Wetlands)

Upland and wetland community types within the project study area were evaluated in order to assess the SR 826 Express Lanes PD&E Study area for the potential occurrence of federal and state-listed protected species (flora and fauna). The composition of each natural community type was determined using published data and field reviews. Published information reviewed included the following:

- U.S. Department of Agriculture, Natural Resources Conservation Service, Interactive Web Soil Survey of the project area (2012)
- U.S. Geological Survey, Hialeah (1988) 7.5-Minute Series Topographic Quadrangle Map
- Aerial photographs of the project area at 1 inch = 100 feet, 1 inch = 300 feet, and 1 inch = 1000 feet scales (2006/2007/2008/2010/2011)
- Miami-Dade County Geographic Information System (GIS) data (2010/2011/2012)

Using the above-referenced information, the approximate boundaries of upland and wetland/surface water communities were mapped in GIS on aerial photography. Each community type was then classified using the FDOT's Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT, 1999) and the U.S. Fish and Wildlife Service's (USFWS) Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al., 1979), where applicable. The locations of the community types observed within the limits of the SR 826 Express Lanes PD&E Study area are depicted with FLUCFCS coding in *Appendix A*.

Project biologists familiar with South Florida community types conducted field investigations of the project corridor. Wildlife surveys were conducted on February 7, 2012. Additional species were documented during the pedestrian wetland assessments conducted during several site investigations conducted from February through May 2012. During these investigations, the preliminarily-defined community type boundaries and FLUCFCS/USFWS classification codes established through literature reviews and aerial photograph interpretation were verified and/or refined. During the field investigations, transects were employed within each biotic community observed along the project corridor. Each community type was evaluated by direct observation for its potential to provide habitat for wildlife species based on the availability of existing resources (e.g., food sources, nesting areas). Wildlife species that would potentially utilize these habitats are discussed in subsequent sections of this report.

4.1.1 Upland Communities

A majority of the areas within and directly adjacent to the project corridor have been developed or otherwise altered due to commercial, institutional, and residential development as well as other modifications of the natural features. One upland community type (with multiple FLUCFCS codes) was identified within the SR 826 Express Lanes PD&E study area. A description of this upland community type is provided below (with the associated FLUCFCS

codes). Wildlife species that could potentially utilize these upland areas are discussed in subsequent sections of this report.

Urban and Built-Up/Residential/Transportation/Communication/Utilities

FLUCFCS – 100 (Urban and Built-Up), 800 (Transportation, Communication, and Utilities), and 814 (Roads and Highways)

USFWS – N/A

These human-altered transportation facility related community types comprise all of the upland communities observed within the project study area. Transportation facilities are used for the movement of people and goods; therefore, they are major influences on land and many land use boundaries are outlined by them. Highways are easily identifiable on medium altitude photography. Highways include areas used for interchanges, limited access rights-of-way and service facilities. Vegetation in these areas are primarily herbaceous, characterized by weedy and invasive species such as smutgrass (*Sporobolus indicus*), beggarticks (*Bidens alba* var. *radiata*), shrubby false buttonweed (*Spermacoce verticillata*), crowfootgrass (*Dactyloctenium aegyptium*), crabgrass (*Digitaria* spp.), goosegrass (*Eleusine indica*), ragweed (*Ambrosia artemisiifolia*), Bahia grass (*Paspalum notatum*), Madagascar periwinkle (*Catharanthus roseus*), hairy indigo (*Indigofera hirsuta*), wild bushbean (*Macroptilium lathyroides*), and castorbean (*Ricinus communis*). Soils within these areas typically consist of roadfill with various-sized limerock fragments. These habitat types include much of the maintained landscaped areas within the interchange infield areas included within the limits of the project. These areas are highly disturbed with minimal habitat value to resident and migratory wildlife species. In addition, protected plant species are typically not associated with this habitat type. Therefore, impacts to this community type are not regulated by the federal, state, and local environmental agencies and are considered insignificant for the purposes of this report.

4.1.2 Wetlands, Surface Waters, and Stormwater Retention/Conveyance Features

The existing wetlands, surface waters, and stormwater retention/conveyance features within the study area vary in terms of habitat value, quality, level of intrusion by exotic/invasive (undesirable) vegetative species, and degree of geographical isolation. A preliminary wetland/surface water jurisdictional delineation, performed from February through May 2012, identified 34 individual wet retention areas, which exhibit marginal wetland characteristics (see **Table 4.1**). These wetlands/retention features were comprised of two distinct FLUCFCS community types: FLUCFCS Code 640 – Vegetated Non-forested wetland and FLUCFCS Code 6411 – Freshwater Cattail Marsh. One surface water community type was also present: FLUCFCS Code 510 – Streams and Waterways. Descriptions of these wetland/surface water communities are provided below. The locations of these features have been depicted on aerial photographs enclosed as **Appendix B**.

Table 4.1 – Existing Wetland/Surface Water Communities

ID #	Type	FLUCFCS Code	FLUCFCS Description	USFWS Code	USFWS Description
Wetlands					
W-1	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-2	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A-C	Palustrine, Emergent, Persistent, Temporarily Flooded and Seasonally Flooded
W-3	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-4	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-5	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-6	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-7	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-8	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-9	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-10	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-11	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-12	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A-C	Palustrine, Emergent, Persistent, Temporarily Flooded and Seasonally Flooded
W-13	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-14	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-15	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-16	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-17	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-18	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-19	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-20	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-21	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-22	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded

ID #	Type	FLUCFCS Code	FLUCFCS Description	USFWS Code	USFWS Description
W-23	Surface Water Retention Feature	6411	Vegetated Non-Forested Freshwater Cattail Marsh	PEM	Palustrine, Emergent
W-24	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-25	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-26	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-27	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-28	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-29	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-30	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-31	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-32	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-33	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
W-34	Wet Retention Area	640	Vegetated Non-Forested Wetlands	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded
Surface Waters					
SW-1 SW-2 SW-3	Canals/Linear Waterways	510	Streams and Waterways	R2UBH	Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded

4.1.3 Wetlands / Stormwater Retention Areas

Wet Retention Areas (W-1 through W-22 and W-24 through W-34)

FLUCFCS – 640 (Vegetated Non-Forested Wetlands)

USFWS – PEM1A (Palustrine, Emergent, Persistent, Temporarily Flooded) and PEM1A-C (Palustrine, Emergent, Persistent, Temporarily Flooded and Seasonally Flooded)

These assessment areas consist of stormwater retention features, linear low-lying stormwater drainage conveyance features, and shallow depressional areas along the project corridor. These assessment areas consisted primary of regularly- and irregularly-mowed opportunistic and ruderal hydrophytic herbaceous species. Commonly observed vegetation throughout these areas included torpedo grass (*Panicum repens*), creeping primrose willow (*Ludwigia repens*), smallfruit primrose willow (*Ludwigia microcarpa*), Baldwin's spikerush (*Eleocharis baldwinii*), Canada spikerush (*Eleocharis geniculata*), bull-tongue arrowhead (*Sagittaria lancifolia*), marsh pennywort (*Hydrocotyle* sp.), Mexican primrose willow (*Ludwigia octovalvis*), pink redstem (*Ammannia latifolia*), herb-of-grace (*Bacopa monnieri*), spadeleaf (*Centella asiatica*), elephant grass (*Pennisetum purpureum*), many-flower marsh pennywort (*Hydrocotyle umbellata*),

Starrush whitetop (*Rhynchospora colorata*), sweetscent (*Pluchea odorata*), mock bishopweed (*Ptilimnium capillaceum*), southern cattail (*Typha domingensis*), and flatsedge (*Cyperus* sp.). A portion of many of these drainage areas were landscaped by FDOT and planted with native species such as bald-cypress (*Taxodium distichum*), Everglades palm (*Acoelorrhaphe wrightii*), royal palm (*Roystonea* sp.), wild coffee (*Psychotria nervosa*), Fakahatchee grass (*Tripsacum dactyloides*), and giant leather fern (*Acrostichum danaeifolium*). Additionally, sections of many of the basin side slopes were landscaped and planted with various native tree and shrub species. Hydrology in these assessment areas is typically driven by stormwater runoff from adjacent roadway and other developed impervious surfaces. The substrate in these assessment areas consisted of roadfill comprised of a matrix of low chroma fine sand and numerous various-sized limerock fragments with a shallow mucky sand surface layer varying in depth. The main functions provided by these drainage features are stormwater retention and water quality treatment. Overall wildlife habitat quality of these stormwater retention features is poor due to their location adjacent to a major roadway in a developed urban location.

W-23 – Surface Water Retention Feature

FLUCFCS – 6411 (Vegetated Non-Forested Freshwater Cattail Marsh)

USFWS – PEM (Palustrine, Emergent)

The onsite stormwater retention pond, locally known as Blue Heron Lake, is an isolated wetland/surface water comprised of native and non-native wetland vegetation, primarily dense stands of cattail (*Typha* spp.). This dense stand of cattail is located between the bulkhead on the east and the narrow vegetated fringe dominated by Carolina willow and castorbean (*Ricinus communis*), with wax myrtle (*Myrica cerifera*) present just before the shoreline on the north, west, and south sides of the lake area. The littoral fringe also includes Peruvian primrose willow, elephant grass, and pond apple (*Annona glabra*) in the understory with a lesser component of maiden fern (*Thelypteris* spp.) and giant leather fern. Brazilian-pepper (*Schinus terebinthifolius*) and dogfennel (*Eupatorium capillifolium*) are also present along the southern fringe. The width of the shoreline fringe varies in width from approximately five feet to 40 feet. Within the dense stand of cattail, small areas of deeper water habitat exist in the center of the assessment area. Inundation varies from zero to more than four feet in depth. In general, the assessment area is very flat with negligible slopes observed throughout the site. According to the U.S. Department of Agriculture, Natural Resources Conservation Service *Web Soil Survey* (2012), the soil type within the onsite wetland area is characterized as Udorthents - Water Complex which is comprised of typically well-drained gravelly loam material not considered a hydric soil by the Florida Association of Environmental Soil Scientists, although organic soils were observed during the field assessment which are typically described as hydric.

4.1.4 Surface Waters

SW-1, SW-2, and SW-3 – Canals/Linear Waterways

FLUCFCS – 510 (Streams and Waterways)

USFWS – R2UBH (Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded)

This category includes rivers, creeks, canals and other linear water bodies. The water bodies that fall into this category for this study include the Miami River/SFWMD C-6 Canal (SW-1), Little River Canal/SFWMD C-7 Canal, Miami-Dade County NW 58th Street Canal (SW-2), Miami-Dade County Dressel's Dairy Canal (SW-3), Miami-Dade County North Line Canal, Miami-Dade County Peter's Pike Canal, and several smaller unnamed Miami-Dade County-owned canals, which are maintained linear water bodies adjacent to or near the project. All of these surface waters consist of typically muddy unconsolidated or exposed bedrock substrate. According to the Miami-Dade County Department of Regulatory and Economic Resources (DRER) Environmental Monitoring and Restoration Division (EMRD), these canals are accessible by the federal and state-listed West Indian manatee (*Trichechus manatus*). There is the potential for marginal wading bird foraging habitat, but this is unlikely due to the steepness of the side slopes and/or armament of these canals.

4.2 Protected Species

In accordance with Section 7 of the Endangered Species Act of 1973, as amended, and Chapter 68 of the Florida Administrative Code, the project study area was evaluated for the potential occurrence of federal and state-listed protected plant and animal species. Literature reviews, agency database searches and coordination, and a habitat field review were conducted to identify protected species and critical habitat that might occur within the study area. Literature reviews and database searches included the following:

- Florida Geographic Database Library (FGDL), Aerial Photographs (2012)
- USFWS Listed Species in Miami-Dade County, Florida (2012)
- USFWS *Multi-Species Recovery Plan for South Florida* (1999)
- Florida Fish and Wildlife Conservation Commission (FWC) *Florida's Endangered and Threatened Species* (October 2011)
- FWC Fish and Wildlife Research Institute Terrestrial Resources GIS Data (2012)
- FWC *Eagle Nest Locator Database* (2012)
- FWC *Wading Bird Colony Locator Database* (2012)
- Florida Natural Areas Inventory (FNAI) Tracking List, Miami-Dade County (2010)
- FNAI *Field Guide to the Rare Plants and Animals of Florida Online* (2012)

Aerial photographs from the FGDL were interpreted to determine habitat types occurring within the project study area and the potential presence of any listed plant or animal species. The USFWS list is specific to Miami-Dade County, but it is not site specific to the project study areas. This list includes categorizations of species as endangered (E), threatened (T), and

candidate (C). The FWC list covers the entire state of Florida and includes categorizations of species as federally-endangered (FE), federally-threatened (FT), endangered (E), threatened (T), and species of special concern (SSC). The FWC list also includes the state list of plants maintained by the Florida Department of Agriculture and Consumer Services (FDACS) and categorized as endangered (E), threatened (T), and commercially exploited (CE). The FNAI tracking list includes both plants and animals with special state or federal status that are known to occur, are reported to occur, or may occur within Miami-Dade County.

Agency coordination to obtain species and habitat related information has occurred through the Efficient Transportation Decision Making (ETDM) Planning and Program Screening (ETDM #11560), the Advance Notification process, and individual conversations with staff at USFWS, FWC, and Miami-Dade County DRER EMRD to discuss species-specific information. The Advance Notification for this project was published on December 21, 2012. The ETDM Review occurred between December 21, 2011, and February 4, 2012, and the latest ETDM Programming Screening Summary Report was published on June 22, 2012. A summary of the wildlife-related comments received from the resource agencies charged with commenting on project specific effects to the natural resources and wildlife is provided in **Table 4.2**. The relevant sections of the ETDM Programming Screening Summary Report pertaining to wildlife and habitat can be found in **Appendix C**.

Table 4.2 – Summary of Wildlife Related Comments

Agency	Issue	Degree of Effect	Comments
USACE	Wetlands	Minimal	The project is within the Core Foraging Area of the wood stork. Jurisdictional wetlands throughout the corridor include many of the wet ditches - mitigation will be required.
DEP	Wetlands	Moderate	There are wetlands present throughout the corridor, which will require an Environmental Resource Permit.
FWC	Wildlife and Habitat	Minimal	The endangered Florida manatee, the primary species that could be impacted by this project, is known to inhabit the Miami Canal (C-6), the Tamiami Canal (C-4), the Little River Canal (C-7), the Biscayne Canal (C-8 and C-8 Extension), and the various tributaries to these canals. Standard protection measures should be adhered to during any and all in-water activities.
USFWS	Wildlife and Habitat/Wetlands	Minimal	<ul style="list-style-type: none"> The project corridor is located in the Core Foraging Areas (CFA) of an active nesting colony of the endangered wood stork. The Service believes that the loss of wetlands within a CFA due to an action could result in the loss of foraging habitat for the wood stork, we recommend that any lost foraging habitat resulting from the project be replaced within the CFA of the affected nesting colony. The federally-listed Eastern indigo snake has the potential to occur in or near the project site. Wetlands provide important habitat for fish and wildlife and the project should be designed to eliminate and reduce impacts to wetland resources to the greatest extent practicable
NOAA NMFS	Coastal and Marine	None	The proposed work would not directly impact that support Essential Fish Habitat (EFH) or NOAA trust fishery resources.

4.2.1 Survey Methodology

The SR 826 Express Lanes project corridor was surveyed for wildlife on February 7, 2012, by project scientists familiar with protected species in the area. Two types of wildlife survey methodology were employed for this study: cursory pedestrian transects and stationary observation points. After completion of the cursory pedestrian transects, a total of three stationary observation stations were established to maximize the amount of wildlife to be observed during the study periods. Two project scientists spent thirty minutes at each site during both the morning and evening (dawn/dusk) sessions. These surveys were only conducted in one seasonal event due to time constraints associated with the project schedule, but data from adjacent projects was utilized to extrapolate the autumn avian migration patterns throughout the area. During the field assessments, wildlife observations were recorded in the morning hours (07:00 – 09:00) and again in the late afternoon/early evening hours (17:00 – 19:00). These times coincided with the most active foraging times for many species surveyed. In addition to the stationary wildlife surveys, biologists documented all observed species identified during routine field assessments associated with the project. Project scientists sought to identify notable macro vertebrates/invertebrates including, but not limited to birds, mammals, reptiles, amphibians, and fish. Any observations of listed plant and wildlife species or indicators of their presence (i.e., vocalizations, tracks, scat, burrows, etc.) within and immediately adjacent to the project limits were documented and included in this report. Observed species data has been included in *Appendix D* and discussed in detail below.

4.2.2 Protected Species Survey Results

Table 4.3 lists the federal and state-listed wildlife and plant species with the potential to occur within the project study area, based on potential availability of suitable habitat and known ranges. Each species is given a rating of low, moderate, or high likelihood of occurring within the project corridor as defined below:

- **High** – Preferred habitat exists within the project limits and species have been observed or reported within the project area
- **Moderate** – Some preferred habitat exists within the project limits, but species have not been observed in the project area
- **Low** – Preferred habitat is limited or lacking within the project limits and species have not been observed in the project area

Table 4.3 – Federal and State-Listed Species with the Potential to Occur in the Project Area

Common Name	Scientific Name:	Federal Status	State Status	Occurrence Potential
Mammals				
West Indian manatee (Florida manatee)	<i>Trichechus manatus</i> (<i>Trichechus manatus latirostris</i>)	E	FE	High
Florida bonneted bat	<i>Eumops floridanus</i>	C	ST	Low
Birds				
wood stork	<i>Mycteria americana</i>	E	FE	High

Table 4.3 – Federal and State-Listed Species with the Potential to Occur in the Project Area

Common Name	Scientific Name:	Federal Status	State Status	Occurrence Potential
southeastern American kestrel	<i>Falco sparverius paulus</i>	N	ST	High
snowy egret	<i>Egretta thula</i>	N	SSC	High
little blue heron	<i>Egretta caerulea</i>	N	SSC	High
tricolored heron	<i>Egretta tricolor</i>	N	SSC	High
white ibis	<i>Eudocimus albus</i>	N	SSC	High
black skimmer	<i>Rynchops niger</i>	N	SSC	High
least tern	<i>Sterna antillarum</i>	N	ST	High
reddish egret	<i>Egretta rufescens</i>	N	SSC	Low
roseate spoonbill	<i>Ajaia ajaja</i>	N	SSC	Low
brown pelican	<i>Pelecanus occidentalis</i>	N	SSC	Low
bald eagle*	<i>Haliaeetus leucocephalus</i>	N	N	High
Reptiles				
eastern indigo snake	<i>Drymarchon corais couperi</i>	T	FT	Low
American alligator	<i>Alligator mississippiensis</i>	T (S/A)	FT (S/A)	Moderate

* The bald eagle is not listed by the USFWS or FWC as a protected species, but this species is protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

E = Endangered; T = Threatened; C = Candidate; T (S/A) = Threatened due to Similarity of Appearance; FE = Federally Endangered; FT = Federally Threatened; FT (S/A) = Federally Threatened due to Similarity of Appearance; ST = State Threatened; SSC = Species of Special Concern; N = Not Listed

Sources: USFWS, FWC

4.2.2.1 Mammals

West Indian Manatee (Florida Manatee)

[*Trichechus manatus* (*Trichechus manatus latirostris*)]

The West Indian manatee, listed as endangered by both the USFWS and the FWC, is a fully aquatic herbivorous mammal. The manatee is a slow swimming, lumbering animal with no natural predators. The West Indian manatee is typically found in coastal or estuarine waters, bays, rivers, and lakes, but it seasonally migrates to the brackish waters of the South Florida Intracoastal Waterway and connected canals and waterways. West Indian manatees reside in South Florida between November and March before returning north again for the summer months. Some of the primary reasons for the manatees’ decline are collisions between the animal and boat propellers, poaching, vandalism, and loss of safe and quiet habitat (FNAI, 2011). Per correspondence with the FWC and DRER EMRD, manatees can typically be observed within the Miami Canal (C-6), Dressel’s Dairy Canal, North Line Canal, Little River Canal (C-7), and several of the various tributaries to these canals that are crossed by or which are adjacent to the SR 826 project corridor.

Florida Bonneted Bat (*Eumops floridanus*)

The Florida bonneted bat is a federal candidate species and state-listed as a threatened species. The Florida bonneted bat is Florida’s largest and rarest bat and may be one of the most critically

endangered mammals in North America (Bat Conservation International, 2012). This species roosts in palms and hollow trees and in buildings (particularly barrel tile roofs) and may be more abundant in urban areas because of availability of roosts. The Florida bonneted bat forages in-air over natural as well as human-altered landscapes. The documented range of this species includes coastal portions of Broward and Miami-Dade counties, as well as portions of Charlotte, Collier, and Monroe counties. However, this species is currently only known in a few locations, including Fakahatchee Strand State Park, the vicinity of Babcock-Webb Wildlife Management Area, and potentially Everglades National Park (FNAI, 2011).

4.2.2.2 Birds

A total of 27 species of birds were identified during the field surveys. A list of observed species is provided in **Appendix D**. Only two of the species observed are listed as protected species by the FWC. None of the observed bird species are federally-listed by the USFWS; however, a number of these species are offered protection under the *Migratory Bird Treaty Act of 1918*.

Wood Stork (*Mycteria americana*)

The wood stork is listed as endangered by both the USFWS and the FWC. Wood storks inhabit freshwater, brackish, and estuarine wetlands, primarily nesting in cypress and mangrove swamps. The wood stork is a highly colonial species usually nesting in large rookeries and feeding in flocks. They can be found foraging in shallow water such as freshwater marshes, narrow tidal creeks, and flooded tidal pools, as well as roadside ditches and pasturelands. The decline of the wood stork in South Florida is believed to be due primarily to the loss of suitable feeding habitat (FNAI, 2005; Ogden, 1990).

The U.S. Army Corps of Engineers (USACE) and the USFWS recognize a 29.9-kilometer (km) (18.6-mile) CFA around all known wood stork colonies in South Florida. According to the FWC *Wading Bird Colony Locator Database*, the USFWS *Wood Stork 5-year Review: Summary and Evaluation* (2007) and the most up-to-date USFWS Wood Stork CFA Map (2010), the project lies within the CFA of four active wood stork colonies. These wood stork colonies are located approximately 15 miles south-southwest of the project corridor along US 41/SR 90/SW 8th Street/Tamiami Trail (USFWS File Names/Numbers: Tamiami Trail East/620312, Tamiami Trail East 1/620313, Tamiami Trail West/No File Number, and 3B Mud East/No File Number).

Southeastern American Kestrel (*Falco sparverius paulus*)

Southeastern American kestrels are listed as threatened by the FWC. Kestrels can be found in open pine habitats, woodland edges, prairies, and pastures. Availability of suitable nesting sites is essential during the breeding season. Nest sites are tall dead trees or utility poles generally with an unobstructed view of surroundings. Open patches of grass or bare ground are needed for detection of prey. These birds are found throughout Florida year-round, but seasonal occurrence is complicated by the arrival of northern migrants in winter. The subspecies that breeds in Florida is a listed species, but northern migrants are not; therefore, all birds observed during the breeding season (April through early September) should be treated as the listed subspecies.

Snowy Egret (*Egretta thula*), Little Blue Heron (*Egretta caerulea*), Tricolored Heron (*Egretta tricolor*), White Ibis (*Eudocimus albus*), Reddish Egret (*Egretta rufescens*), and Roseate Spoonbill (*Ajaia ajaja*)

None of these wading birds are federally-listed; however, each is protected by the FWC as a species of special concern (SSC). These birds are found in a variety of habitats but prefer salt marshes, mangroves, wet prairies and freshwater marshes. They can be found in single or mixed-species colonies.

Black Skimmer (*Rynchops niger*)

The black skimmer, listed by the FWC as a species of special concern, is a coastal water bird. This species is typically relegated to coastal waters, including beaches, bays, estuaries, sandbars, tidal creeks (foraging), and also inland waters such as large lakes, phosphate pits, and flooded agricultural fields. They nest primarily on sandy beaches, small coastal islands, and dredge spoil islands, but also on gravel rooftops. This species skims food (mostly small fishes) from surface of water while flying with lower mandible in water (FNAI, 2011).

Least Tern (*Sterna antillarum*)

The least tern is a migratory bird, found throughout almost all coastal Florida, including the Keys from March through October. It is the smallest North American tern, and can be identified by its superior agility in the air and plunging headlong into the water while hunting small fish. Breeding adults can be identified by the light gray above, black cap and nape, white forehead, and black line running from crown through eye to base of bill. This species has become accustomed to adoption of artificial nesting sites, particularly gravel rooftops, which has led to increased use of inland locations and increase in populations (FNAI, 2011). The species is listed as threatened by the FWC, but it is not federally-listed in Florida. However, the breeding populations are federally-listed as endangered in the interior of the United States.

Brown Pelican (*Pelecanus occidentalis*)

The brown pelican, listed as a species of special concern by the FWC, is a large, heavy waterbird. Pelican habitat is limited to mainly coastal ecosystems, feeding in shallow estuarine waters, and (less often) far offshore; however, this species does occasionally move inland to forage in freshwater lakes and canals. Brown pelicans nest principally on small islands in bays and estuaries, in small bushes or trees, or on ground. Mangrove islands are also used frequently for roosting and nesting in central and southern Florida (FNAI, 2011).

Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle was delisted by the USFWS in August 2007 and the FWC in April 2008. Although the bald eagle is no longer federally or state-listed, this species is still protected under federal regulation by the *Bald and Golden Eagle Protection Act* and the *Migratory Bird Treaty Act*. The bald eagle is found throughout Florida and most commonly inhabits coastal areas, bays,

rivers, lakes, or other bodies of water that provide concentrations of food sources, including primarily fish, waterfowl, wading birds and carrion. Bald eagles usually nest in tall trees (mostly live pines) that provide clear views of surrounding areas. Their numbers have been steadily increasing; however, major threats still exist including habitat loss due to development and commercial timber harvest. Environmental pollutants and decreasing food supply are also of concern.

4.2.2.3 Reptiles

Eastern Indigo Snake (*Drymarchon corais couperi*)

The eastern indigo snake is listed as threatened by both the USFWS and the FWC. Throughout Florida, this snake is widespread, but uncommon. The preferred Florida habitat includes dry glade areas, tropical hammocks, muckland fields, and some flatwoods areas. It will readily utilize disturbed areas and mangrove swamps as well as upland and even urban habitats. Roadside berms and swales may be considered potential habitat as well (FNAI, 2011; Ashton, Jr. and Ashton, 1988). These snakes need relatively large areas of undeveloped land; as habitats become fragmented by roads, indigo snakes will be increasingly vulnerable to highway mortality as they travel through their large territories. Population decline can also be attributed to loss of habitat and to specimen collection.

American Alligator (*Alligator mississippiensis*)

The American alligator is federally-listed by the USFWS and the FWC as threatened due to similarity of appearance with the American crocodile (*Crocodylus acutus*). The alligator is only listed in areas where its habitat overlaps with that of the crocodile, including Miami-Dade and Broward counties. The alligator typically inhabits freshwater marshes and lakes, while the crocodile prefers saltwater habitats. In the decades since these reptiles were federally-listed, the American alligator population in Florida has increased to the point that hunting permits are issued as a means to control the population (FNAI, 2011; Ashton, Jr. and Ashton, 1985).

4.2.2.4 Plants

There is very limited habitat for protected plant species within the project corridor due to the regularly mowed and maintained nature of the sites. Since the FDOT is required to maintain most of these areas for safety and surface water conveyance, it is unlikely that occurrences of protected plant species will be observed within the project corridor. No protected plant species were observed during the wetland surveys conducted for the project.

4.2.3 Designated Habitats

4.2.3.1 Critical Habitats

Critical Habitat is a specific, federally-designated, geographic area that is essential for the conservation of a threatened or endangered species that may require special management and

protection, but they are not considered a refuge or sanctuary for the species. Critical Habitat may include an area that is not currently occupied by the species, but that will be needed for its recovery. An area is designated as Critical Habitat after the USFWS or National Marine Fisheries Service (NMFS) publishes a proposed federal regulation in the Federal Register and then receives public comments on the proposal. The final boundaries of the critical habitat areas are also published in the Federal Register. According to the USFWS's Federally Listed & Candidate Species in Miami-Dade County, Florida (2011), Critical Habitat for the West Indian manatee is present in the project area. Within the project limits, Critical Habitat for the manatee includes the Miami Canal (C-6), Dressel's Dairy Canal, Little River Canal (C-7), North Line Canal and various smaller unnamed canals and tributaries to these canals that are within close proximity to the SR 826 Express Lanes project corridor.

4.2.3.2 Strategic Habitat Conservation Areas

Strategic Habitat Conservation Areas are defined as regions not in public ownership, which are recommended for protection in order to maintain biological diversity. These Strategic Habitat Conservation Area designations are intended to indicate that the existing land use should be maintained in order to conserve state-wide biodiversity. The Strategic Habitat Conservation Areas were originally mapped state-wide in association with the FWC's *Closing the Gaps in Florida's Wildlife Habitat Conservation System* (Cox, *et al.*, 1994) report. Since 1994, landscape-level habitat changes, transfer of land from private to public ownership, and changes in land use have all altered the applicability of the originally mapped Strategic Habitat Conservation Areas. Advances in technological capabilities, revised habitat data, and more extensive species occurrence data facilitated a reassessment of Florida's biodiversity protection status. Additionally, advances in population viability modeling techniques allow for more in-depth examination of wildlife habitat needs that were not available in the previous report. The results of the reanalysis have identified Strategic Habitat Conservation Areas for a new selection of focal species, including many species that were in the original report. According to the updated report, *Wildlife Habitat Conservation Needs in Florida: Updated Recommendations for Strategic Habitat Conservation Areas* (Endries, *et al.*, 2009), there are no Strategic Habitat Conservation Areas within close proximity to the project study area.

4.2.3.3 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance EFH for those species regulated under a federal fisheries management plan. Section 305(b)(2) of the MSFCMA requires federal action agencies to consult with NMFS on all actions or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH. EFH is defined in the MSFCMA as "...those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." There is no EFH within the limits of the SR 826 Express Lanes PD&E Study project corridor.



5.0 ENVIRONMENTAL CONSEQUENCES

5.1 Habitat Impacts

5.1.1 Upland Communities

The upland communities identified within the project study consist of developed or otherwise altered land. The areas of commercial, institutional, and residential development as well as regularly disturbed ruderal lands within the project corridor provide a low habitat value for resident and migratory wildlife species. Therefore, impacts to these community types are not regulated by the federal, state, or local plant and wildlife agencies and are considered insignificant for the purposes of this report. No protected upland communities were determined to exist within the project study area. Special designated habitats are discussed in subsequent sections of this report.

5.1.2 Wetland/Surface Water Impacts Analysis (Direct and Secondary)

The proposed viable alternatives for the SR 826 Express Lanes project were evaluated for potential impacts to wetlands and surface waters. Direct impacts were calculated based on the aerial extent of wet retention areas/wetlands/surface waters within the proposed construction limits of each alternative. Alternative 1A would result in 0.569 acres of direct impacts to wet retention areas/wetlands and 0.085 acres of direct impacts to surface waters. Alternative 2A would result in 2.142 acres of direct impacts to wet retention areas/wetlands and 0.193 acres of direct impacts to surface waters. Note that these acreages are approximate and will be refined/finalized during the final design phase.

For those wet retention areas/wetlands with direct impacts, secondary impacts are anticipated because a suitable upland buffer with an average width of 25 feet does not exist between the remaining portion of the wet retention area/wetland and the proposed roadway improvements. Therefore, secondary impacts were calculated to an average distance of 25 feet beyond the direct impact. This 25-foot distance was determined using the assessors' best scientific judgment in analyzing what type of secondary impacts will be expected during and following construction and how far into a wet retention area/wetland those affects will be experienced per agency criteria. Items considered include construction activities, sedimentation resulting from increased turbidity associated with soil disturbance (water quality impacts), interruption to surface water flow, alterations to vegetative communities outside the final roadway footprint, and effects to wildlife in the vicinity of the corridor.

Not all wet retention areas/wetlands were determined to have secondary impacts outside of the directly impacted areas. Of the 34 total wet retention areas/wetlands assessed, secondary impacts were determined to potentially occur within 13 wet retention areas/wetlands totaling 1.761 acres for Alternative 1A and 21 wet retention areas/wetlands totaling 3.445 acres for Alternative 2A.



Table 5.1 provides a summary of the wet retention area/wetland direct and secondary impacts and surface water direct impacts within the proposed construction limits of each alternative. Please reference the *Wetland Evaluation Report* prepared as part of the SR 826 Express Lanes Study for additional information on wetlands and surface waters within the project corridor.

Table 5.1 – Wetland and Surface Water Impacts (Direct and Secondary)

Identification #	Direct Impacts ¹		Secondary Impacts	
	Alternative 1A (acres)	Alternative 2A (acres)	Alternative 1A (acres)	Alternative 2A (acres)
Wet Retention Areas/Wetlands				
W-1	0.077	0.188	0.255	0.271
W-2	0.135	0.289	0.264	0.232
W-3	N/A	N/A	0.230	0.083
W-4	N/A	0.133	N/A	0.229
W-5	0.068	0.120	0.095	0.075
W-6	0.102	0.225	0.226	0.187
W-8	N/A	0.343	N/A	0.449
W-9	N/A	0.040	N/A	N/A
W-10	N/A	0.140	N/A	N/A
W-11	0.014	0.033	0.039	0.033
W-12	0.075	0.114	0.131	0.106
W-13	N/A	0.027	N/A	0.065
W-14	N/A	0.006	N/A	0.045
W-19	N/A	0.004	N/A	0.039
W-23	N/A	0.119	N/A	0.368
W-24	N/A	0.005	N/A	0.253
W-25	0.013	0.047	0.073	0.075
W-27	0.036	N/A	0.127	0.127
W-29	0.019	0.057	0.082	0.076
W-30	N/A	0.122	N/A	0.504
W-31	0.001	0.025	0.054	0.054
W-32	0.023	0.079	0.119	0.129
W-34	0.006	0.026	0.066	0.045
Wet Retention Areas/ Wetlands Total	0.569	2.142	1.761	3.445
Surface Waters				
SW-1 (Miami River/C-6 Canal)	N/A	N/A	N/A	N/A
SW-2 (NW 58th Street Canal)	0.085	0.185	N/A	N/A
SW-3 (Dressel’s Dairy Canal)	N/A	0.008	N/A	N/A
Surface Waters Total	0.085	0.193	0.000	0.000

5.2 Listed Species Impacts

Provided below is a discussion of the listed species observed or with the potential to occur within the project area and the potential impacts to each species resulting from project implementation.

¹ Please note that all impact acreages are approximations based on the best available information at the time of this PD&E study. Final impact acreages are dependent upon final engineering design.



5.2.1 Mammals

West Indian Manatee (Florida Manatee)

[*Trichechus manatus* (*Trichechus manatus latirostris*)]

According to correspondence with FWC and DRER EMRD, manatees can typically be observed within the Miami Canal (C-6), Dressel's Dairy Canal, Little River Canal (C-7), North Line Canal and various smaller unnamed canals and tributaries to these canals that are within close proximity to the SR 826 Express Lanes project corridor. Although manatees were not observed during the field surveys, due to documented occurrences within and near to the SR 826 Express Lanes project corridor, the probability of occurrence is high. As such, implementation of FWC's *Standard Manatee Conditions for In-Water Work* (2011) is recommended during all in-water construction activities (**Appendix E**). Furthermore, in order to minimize danger of entrapment to manatees, it was also recommended through correspondence with the wildlife agencies that any culverts which are greater than seven and less than 60 inches in diameter be covered with grates or screens with spaces less than seven inches wide and that these be maintained to prevent upland flooding. In the event that sheet piling will be used in order to restrict flow through culverts adjacent to the project area during construction, it is recommended that the contractor conduct an in-water survey prior to the installation of the sheet piling in order to prevent manatee entrapment.

Therefore, no adverse impacts to this species are anticipated as a result of this proposed project and the FDOT and FHWA have made a determination of "may affect, but not likely to adversely affect" for this species; the USFWS concurred with this determination (see **Appendix G** for the USFWS concurrence letter dated August 14, 2012).

Florida Bonneted Bat (*Eumops floridanus*)

The Florida bonneted bat was not observed during the field surveys and the probability of occurrence is low since only limited marginal habitat is present for this species in the project corridor. Therefore, no adverse impacts to the Florida bonneted bat are anticipated as a result of the proposed project.

5.2.2 Birds

Wood Stork (*Mycteria americana*)

Wood storks have been observed within and adjacent to the project corridor; therefore, the probability of occurrence of this species is high. The USFWS has documented the loss of suitable wetland habitat (including ditches and swales) within CFAs as having reduced foraging opportunities for the wood stork. Wood storks are commonly observed using these marginal habitats (ditches and swales) for foraging in South Florida and have been observed within the project limits. Therefore, to minimize adverse impacts to the wood stork, the USFWS recommends compensation be provided for impacts to such suitable foraging habitat. The USFWS would accept the replacement of ditches or swales in association with the project as





adequate compensation for the loss of CFA in these areas. In the event that the construction of ditches or swales is not included in the project design, as is the case with this study (due to limitations of space), the USFWS requests other suitable wetland mitigation to offset the loss of wood stork foraging habitat. Coordination with the USACE and USFWS has determined that the loss of wood stork foraging habitat shall be assessed by utilizing the protocols set forth in the USACE South Florida Programmatic Concurrence for this species (dated May 18, 2010).

Per the USACE South Florida Programmatic Concurrence for this species, the USFWS requires an analysis of foraging prey base losses and enhancements from the proposed action for projects with impacts to greater than five acres of wood stork foraging habitat (stormwater retention areas, wetlands, etc. that are determined suitable for wood stork foraging). For projects with less than five acres of wood stork foraging habitat, an individual foraging prey base analysis is not necessary, although type for type foraging habitat compensation is still a requirement. Wetlands offered as compensation for wood stork habitat impacts should be of the same hydroperiod and located within the CFAs of the affected wood stork colonies, but the USFWS will accept wetland compensation outside the CFAs of the affected wood stork nesting colonies under special circumstances. On occasion, wetland credits purchased from a USFWS-approved mitigation bank located outside the CFAs could be acceptable, depending on the location of impacted wetlands relative to the permitted service area of the bank, and whether or not the bank has wetlands demonstrating at least the same hydroperiod as the impacted wetland.

As such, all wetland/stormwater retention area impacts will be mitigated for through a USFWS-approved off-site mitigation bank (Florida Power and Light Everglades Mitigation Bank – refer to the *Wetland Evaluation Report* for additional details) during final design. Since all unavoidable impacts to wetlands/stormwater retention areas will be mitigated for at a USFWS-approved wetland mitigation bank, no adverse impacts to this species are anticipated to occur as a result of the proposed project, and the FDOT and FHWA have made a determination of “*may affect, not likely to adversely affect*” for the wood stork; the USFWS concurred with this determination (see **Appendix G** for the USFWS concurrence letter dated August 14, 2012).

Southeastern American Kestrel (*Falco sparverius paulus*)

Kestrels were observed within and adjacent to the project corridor during the wildlife surveys; they are also often observed in the vicinity of the project area during the April to September breeding season. Therefore, the probability of occurrence for this species is high. The various SR 826 interchange areas do offer marginal foraging habitat for the Southeastern American kestrel, but suitable breeding habitat is not present within or directly adjacent to the project right-of-way. While temporary disruption of foraging habitat may occur during construction, no long-term adverse impacts to the southeastern American kestrel are anticipated as a result of the proposed project.



Snowy Egret (*Egretta thula*), Little Blue Heron (*Egretta caerulea*), Tricolored Heron (*Egretta tricolor*), White Ibis (*Eudocimus albus*), Reddish Egret (*Egretta rufescens*), and Roseate Spoonbill (*Ajaia ajaja*)

Project scientists have observed four of these species – the snowy egret, little blue heron, tricolored heron, and white ibis – foraging within the project corridor; therefore, the probability of occurrence of these species is high. The reddish egret and roseate spoonbill have not been observed within the project corridor, but the potential for these species to utilize the project area as foraging habitat remains as a low probability of incidental occurrences for the reddish egret and roseate spoonbill. The stormwater retention areas, canals, and drainage ditches in or adjacent to the project corridor may provide potential foraging habitat for all of these species. However, no birds were observed nesting within close proximity to the project corridor. Construction will not significantly reduce available foraging or roosting habitat for these species; therefore, these species will not be adversely affected by the proposed project.

Black Skimmer (*Rynchops niger*)

Four individual black skimmers were observed by project biologists perched above commercial/industrial buildings in the vicinity of Hialeah Gardens, just north of the project corridor; therefore the potential for occurrence is considered high. However, construction will not significantly reduce available foraging, roosting, or nesting habitat for this species. Therefore, no adverse impacts to the black skimmer are anticipated as a result of the proposed project.

Least Tern (*Sterna antillarum*)

Least terns have been observed foraging in several of the canals and surface waters in and around the study area. Although least terns have been known to nest on gravel rooftops, much like the available habitat found on commercial/industrial buildings in Hialeah Gardens and Doral, no observations of this species nesting have been made to date; however, the probability of occurrence remains high. Construction will not significantly reduce available foraging, roosting, or nesting habitat for this species. Therefore, no adverse impacts to the least tern are anticipated as a result of the proposed project.

Brown Pelican (*Pelecanus occidentalis*)

No brown pelicans were observed within the project limits or within close proximity to the study area. The probability of occurrence for this species is low. Construction will not significantly reduce available foraging, roosting, or nesting habitat for this species. Therefore, no adverse impacts to the brown pelican are anticipated as a result of the proposed project.

Bald Eagle (*Haliaeetus leucocephalus*)

There have been visual occurrences of bald eagles within close proximity to the project area (fly-overs). Since bald eagles have been observed flying near to the project area, the probability of

occurrence is high. However, the project is located in an area surrounded by urban development, and suitable nesting and foraging habitat for this species is extremely limited.

A review of bald eagle occurrences and nesting locations within and around the project area was conducted with the FWC as well as a thorough literature review. Based on the latest available data from FWC on bald eagle nests, two nests were identified approximately 2.7 miles (nest DA003) and 3.5 miles (nest DA002) west of the project corridor in the City of Doral. One of the nests (nest DA002) has been abandoned and subsequently demolished. It is believed that the nesting pair of eagles from this nest (nest DA002) has relocated to the second nest (DA003) located in a nearby proposed residential development, approximately 0.9-mile to the east-northeast from the original nest site.

Due to the historic potential for bald eagle populations to be threatened by human development and encroachment, the FWC has implemented a bald eagle permitting process in correlation with the USFWS. Although no suitable nesting habitat exists within close proximity to the project corridor, coordination with FWC and the permitting agencies will have to be executed if any construction is proposed within 660 feet of a nest. Due to the lack of suitable nesting or foraging habitat within the project corridor and the distances of the closest nests (approximately 2.7 miles and 3.5 miles) from the project corridor, no adverse impacts to the bald eagle are anticipated as a result of the proposed project.

5.2.3 Reptiles

Eastern Indigo Snake (*Drymarchon corais couperi*)

No eastern indigo snakes were observed during the field surveys. Additionally, due to the dense human population, highly established roadway system, lack of associated species, and lack of suitable habitat throughout much of the project corridor, the probability of occurrence for this species is low and it is not anticipated to be encountered. However, to protect the eastern indigo snake during construction, the FDOT will incorporate the *Standard Protection Measures for the Eastern Indigo Snake (Appendix F)* into the final project design and will require that the construction contractor abide strictly to the guidelines during construction. Therefore, the FDOT and FHWA have determined that no adverse impacts to this species are anticipated as a result of the proposed project and have made a determination of “no effect” for the eastern indigo snake. Per telephone coordination with Mr. John Wrublik (USFWS), the USFWS does not comment on a “no effect” finding for a species unless they disagree with the finding; no comments were provided by the USFWS for the eastern indigo snake (see *Appendix G* for the USFWS concurrence letter dated August 14, 2012).

American Alligator (*Alligator mississippiensis*)

No American alligators were observed during the field surveys. However, the potential for occurrence for this species to migrate into the project area via the canal system is moderate. The proposed project study area contains freshwater habitat throughout much of the corridor, but little to no American alligator nesting habitat is present within the limits of the project corridor.

Additionally, the contractor will be advised of state and local laws regarding the harassment of alligators prior to any construction activities. Therefore, no adverse impacts to this species are anticipated as a result of the proposed project and the FDOT and FHWA have made a determination of “no effect” for the American alligator. Per telephone coordination with Mr. John Wrublik (USFWS), the USFWS does not comment on a “no effect” finding for a species unless they disagree with the finding; no comments were provided by the USFWS for the American alligator (see *Appendix G* for the USFWS concurrence letter dated August 14, 2012).

5.2.4 Plants

No protected plant species were identified during field assessments. Since there is very limited habitat for these protected plant species and most of the areas within the project corridor are regularly mowed and maintained by the FDOT for safety, it is unlikely that other occurrences of these protected plant species will be observed within the project corridor. If these species are observed within construction areas, best management practices will be adhered to in order to avoid direct impacts to all protected plant species to the maximum extent practicable. According to FDACS, statutory protection of state-listed plants is not applicable if the clearing of land is performed by a public agency when acting in the performance of its obligation to provide service to the public (Section 581.185(8) Florida Statutes). Therefore, no adverse impacts to protected plant species are anticipated as a result of the proposed project.

5.3 Designated Habitats

5.3.1 Critical Habitats

Critical Habitat for the West Indian manatee exists within the Miami Canal (C-6), Dressel’s Dairy Canal, Little River Canal (C-7), North Line Canal, and several smaller unnamed interconnecting canals and tributaries that are within close proximity to the SR 826 Express Lanes project corridor. These habitats are anticipated to be impacted by the proposed build alternatives in association with bridge structure alterations along the project corridor. These impacts are anticipated to be nominal in nature – 0.085-acres of surface waters will be impacted by Alternative 1A and 0.193-acre of surface waters will be impacted by Alternative 2A. However, in-water habitat for the West Indian manatee will remain virtually the same following construction; therefore, no adverse impacts to critical habitat are anticipated.

5.3.2 Strategic Habitat Conservation Areas

There are no Strategic Habitat Conservation Areas within close proximity to the project corridor. As such, no impacts are anticipated as a result of the proposed project.

5.3.3 Essential Fish Habitat

According to coordination with NMFS through the ETDM process, there will be no effect to EFH as a result of the proposed project. As such, no impacts are anticipated as a result of the proposed project. NMFS will have an additional opportunity to comment during the Environmental Resource Permitting process as the project moves into the Final Design Phase.



6.0 SUMMARY

The proposed right-of-way has been evaluated, and listed species/habitat concerns have been identified for the proposed viable project alternatives. For both of the viable alternatives (Alternatives 1A and 2A), the potential habitat impacts are nearly equivalent due to the configuration and impacts associated with the alternatives within the proposed project corridor, with the exception of wetland and surface water impacts. Alternative 1A would result in 0.569 acres of direct impacts to wet retention areas/wetlands and 0.085 acres of direct impacts to surface waters. Alternative 2A would result in 2.142 acres of direct impacts to wet retention areas/wetlands and 0.193 acres of direct impacts to surface waters. Of the 34 total wet retention areas/wetlands assessed, secondary impacts were determined to potentially occur within 13 wet retention areas/wetlands totaling 1.761 acres for Alternative 1A and 21 wet retention areas/wetlands totaling 3.445 acres for Alternative 2A. Please note that all impact acreages are approximations based on the best available information at the time of this PD&E study. Final impact acreages are dependent upon final engineering design.

Table 6.1 lists the federal and state-listed wildlife and plant species with the potential to occur within the project study area, based on the analysis conducted for this *Endangered Species Biological Assessment*: two federal/state-listed endangered species, one federal/state-listed threatened species, one federal/state-listed species threatened due to similarity of appearance, three state-listed threatened species, eight state-listed species of special concern, and non-listed but otherwise protected species. The results of this *Endangered Species Biological Assessment* indicate that no adverse impacts to any of these protected species are anticipated as a result of the proposed project, as shown in **Table 6.1**.



Table 6.1 – Federal and State-Listed Species with the Potential to Occur in the Project Area

Common Name	Scientific Name	Federal Status	State Status	Occurrence Potential	Adverse Impacts	Effect Determination	Notes
Mammals							
West Indian manatee (Florida manatee)	<i>Trichechus manatus (Trichechus manatus latirostris)</i>	E	FE	High	No	May affect, but not likely to adversely affect	FWC’s <i>Standard Manatee Conditions for In-Water Work</i> (2011) will be implemented during construction; culverts which are greater than seven and less than 60 inches in diameter will be covered with grates or screens with spaces less than seven inches wide and will be maintained to prevent upland flooding; and an in-water survey will be conducted prior to the installation of the sheet piling in order to prevent manatee entrapment.
Florida bonneted bat	<i>Eumops floridanus</i>	C	ST	Low	No	N/A	Only limited marginal habitat present.
Birds							
wood stork	<i>Mycteria americana</i>	E	FE	High	Yes, will be mitigated	May affect, but not likely to adversely affect	All wetland/stormwater retention area impacts will be mitigated for through a USFWS-approved off-site mitigation bank (Florida Power and Light Everglades Mitigation Bank – refer to the <i>Wetland Evaluation Report</i> for additional details) during final design.
southeastern American kestrel	<i>Falco sparverius paulus</i>	N	ST	High	No	N/A	Limited marginal foraging habitat present; no suitable breeding habitat present; temporary disruption of foraging habitat during construction.
snowy egret	<i>Egretta thula</i>	N	SSC	High	No	N/A	Potential low quality foraging habitat present; temporary disruption of foraging habitat during construction; construction will not significantly reduce foraging or roosting habitat.
little blue heron	<i>Egretta caerulea</i>	N	SSC	High	No	N/A	Potential low quality foraging habitat present; temporary disruption of foraging habitat during construction; construction will not significantly reduce foraging or roosting habitat.
tricolored heron	<i>Egretta tricolor</i>	N	SSC	High	No	N/A	Potential low quality foraging habitat present; temporary disruption of foraging habitat during construction; construction will not significantly reduce foraging or roosting habitat.
white ibis	<i>Eudocimus albus</i>	N	SSC	High	No	N/A	Potential low quality foraging habitat present; temporary disruption of foraging habitat during construction; construction will not significantly reduce foraging or roosting habitat.
black skimmer	<i>Rynchops niger</i>	N	SSC	High	No	N/A	Temporary disruption of foraging habitat during construction; construction will not significantly reduce available foraging, roosting, or nesting habitat.



Common Name	Scientific Name	Federal Status	State Status	Occurrence Potential	Adverse Impacts	Effect Determination	Notes
least tern	<i>Sterna antillarum</i>	N	ST	High	No	N/A	Temporary disruption of foraging habitat during construction; construction will not significantly reduce available foraging, roosting, or nesting habitat.
reddish egret	<i>Egretta rufescens</i>	N	SSC	Low	No	N/A	Potential low quality foraging habitat present; temporary disruption of foraging habitat during construction; construction will not significantly reduce foraging or roosting habitat.
roseate spoonbill	<i>Ajaia ajaja</i>	N	SSC	Low	No	N/A	Potential low quality foraging habitat present; temporary disruption of foraging habitat during construction; construction will not significantly reduce foraging or roosting habitat.
brown pelican	<i>Pelecanus occidentalis</i>	N	SSC	Low	No	N/A	Temporary disruption of foraging habitat during construction; construction will not significantly reduce available foraging, roosting, or nesting habitat.
bald eagle*	<i>Haliaeetus leucocephalus</i>	N	N	High	No	N/A	Distances of the closest nests are approximately 2.7 miles and 3.5 miles from the project corridor.
Reptiles							
eastern indigo snake	<i>Drymarchon corais couperi</i>	T	FT	Low	No	No effect	Standard Protection Measures for the Eastern Indigo Snake
American alligator	<i>Alligator mississippiensis</i>	T (S/A)	FT (S/A)	Moderate	No	No effect	The contractor will be advised of state and local laws regarding the harassment of alligators prior to any construction activities.

* The bald eagle is not listed by the USFWS or FWC as a protected species, but this species is protected by the *Bald and Golden Eagle Protection Act* and the *Migratory Bird Treaty Act*.

E = Endangered; T = Threatened; C = Candidate; T (S/A) = Threatened due to Similarity of Appearance; FE = Federally Endangered; FT = Federally Threatened; FT (S/A) = Federally Threatened due to Similarity of Appearance; ST = State Threatened; SSC = Species of Special Concern; N = Not Listed

Sources: USFWS, FWC





Listed Plant Species

No protected plant species were identified during field assessments. Since there is very limited habitat for these protected plant species and most of the areas within the project corridor are regularly mowed and maintained by the FDOT for safety, it is unlikely that other occurrences of these protected plant species will be observed within the project corridor. If these species are observed within construction areas, best management practices will be adhered to in order to avoid direct impacts to all protected plant species to the maximum extent practicable. According to FDACS, statutory protection of state-listed plants is not applicable if the clearing of land is performed by a public agency when acting in the performance of its obligation to provide service to the public (Section 581.185(8) Florida Statutes). Therefore, no adverse impacts to protected plant species are anticipated as a result of the proposed project.

Designated Habitats

Critical Habitat for the West Indian manatee exists within the Miami Canal (C-6), Little River Canal (C-7), North Line Canal, and several smaller unnamed interconnecting canals and tributaries that are within close proximity to the SR 826 Express Lanes project corridor. These habitats are anticipated to be impacted by the proposed build alternatives in association with bridge structure alterations along the project corridor. These impacts are anticipated to be nominal in nature – 0.085-acres of surface waters will be impacted by Alternative 1A and 0.193-acre of surface waters will be impacted by Alternative 2A. Coordination with the regulatory agencies will continue as these impacts are further refined during Final Design and the Environmental Resource Permitting Process.

There are no Strategic Habitat Conservation Areas within close proximity to the project corridor. As such, no impacts are anticipated as a result of the proposed project.

According to coordination with NMFS through the ETDM process, there will be no effect to EFH as a result of the proposed project. As such, no impacts are anticipated as a result of the proposed project. NMFS will have an additional opportunity to comment during the Environmental Resource Permitting process as the project moves into the Final Design Phase.

Conclusion/Recommendation

Based on the review of the protected species contained within the various informational sources listed in this report, wildlife agency correspondence, and the field investigations, no adverse impacts are anticipated to protected wildlife and plant species or their critical habitat within the project areas. The FDOT and FHWA have made a determination of “*may affect, but not likely to adversely affect*” for the wood stork and West Indian manatee and a determination of “*no effect*” for the eastern indigo snake and the American alligator. The USFWS concurred with the determinations for the wood stork and West Indian manatee (see **Appendix G** for the USFWS concurrence letter dated August 14, 2012). Per telephone coordination with Mr. John Wrublik (USFWS), the USFWS does not comment on a “*no effect*” finding for a species unless they disagree with the finding; no comments were provided by the USFWS for the eastern indigo snake or the American alligator (see **Appendix G** for the USFWS concurrence letter dated August 14, 2012).



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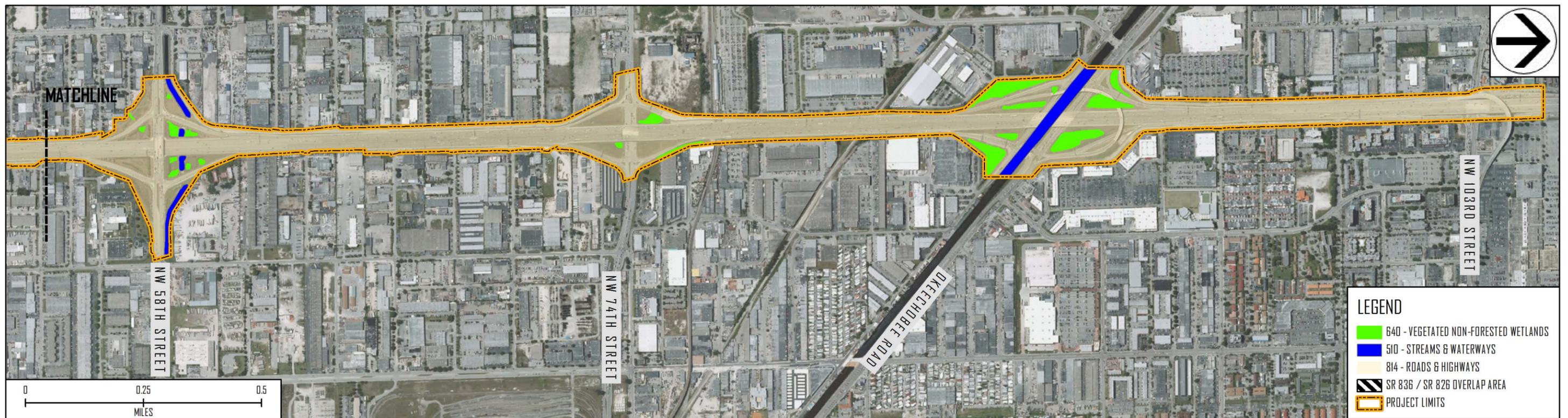
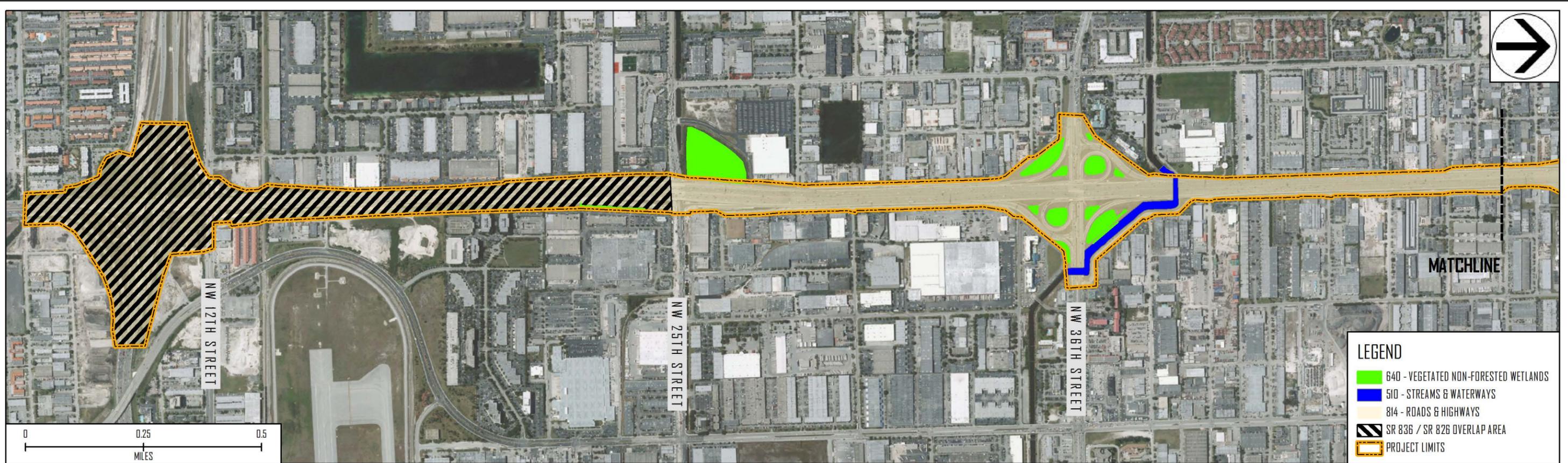




APPENDIX A

Florida Land Use, Cover, and Forms Classification System Map





FLORIDA DEPARTMENT OF TRANSPORTATION
 1000 NW 111th Avenue
 Miami, Florida 33172

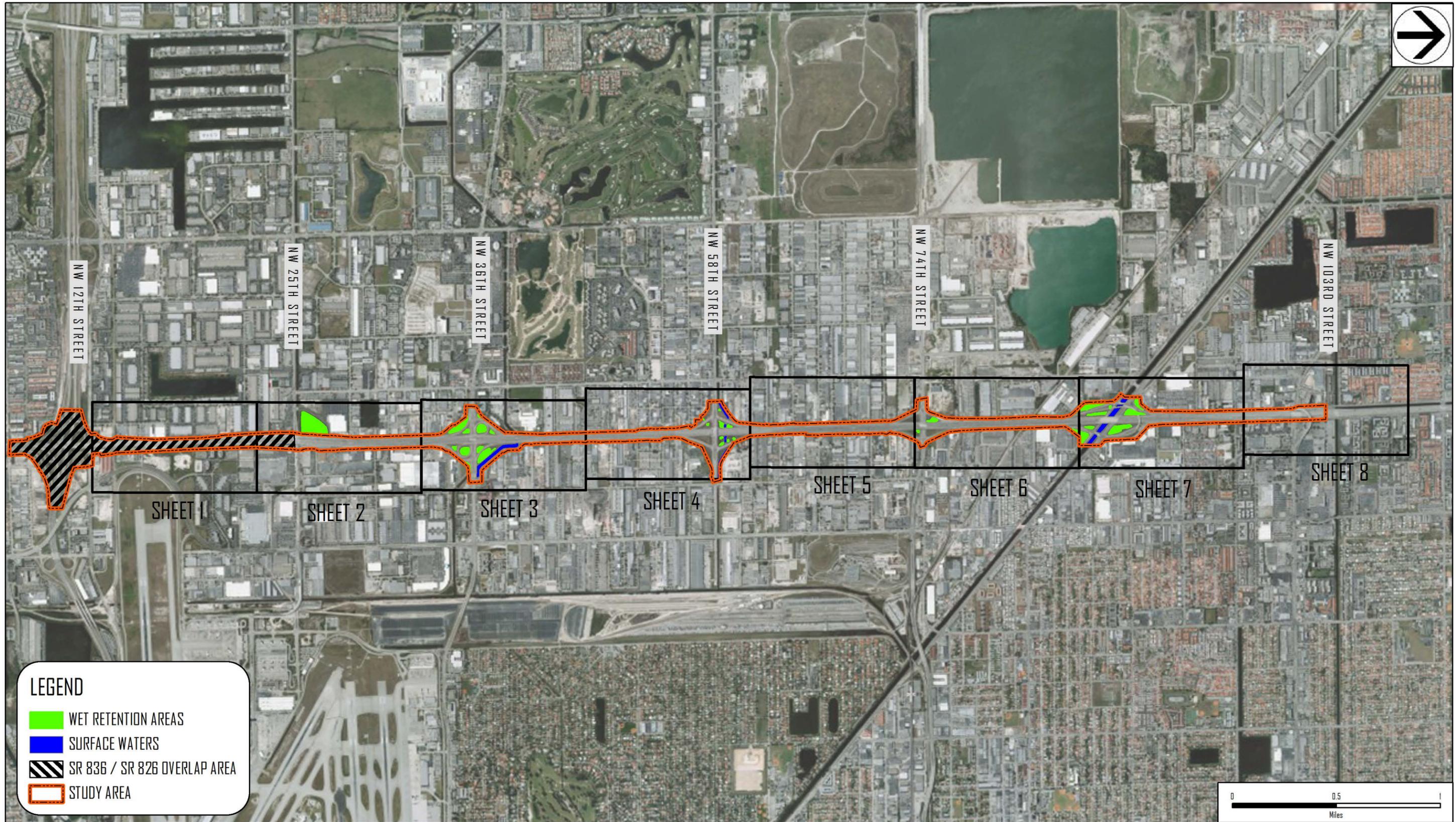
SR-826 / PALMETTO EXPRESSWAY
 MANAGED LANES PD&E STUDY

FLUCFCS



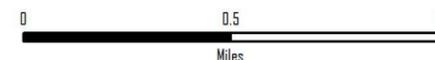
APPENDIX B
Wetland/Surface Water Maps





LEGEND

- WET RETENTION AREAS
- SURFACE WATERS
- SR 836 / SR 826 OVERLAP AREA
- STUDY AREA

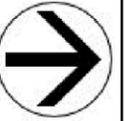


FLORIDA DEPARTMENT OF TRANSPORTATION
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 Miami, Florida 33172

SR-826 / PALMETTO EXPRESSWAY
 MANAGED LANES PD&E STUDY

WETLANDS AND SURFACE WATERS
 LOCATION MAP

SHEET NO.
 KEY SHEET



LEGEND

-  WET RETENTION AREAS
-  SR 836 / SR 826 OVERLAP AREA
-  STUDY AREA

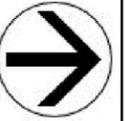


FLORIDA DEPARTMENT OF TRANSPORTATION
 1000 NW 111th Avenue
 Miami, Florida 33172

SR-826 / PALMETTO EXPRESSWAY
 MANAGED LANES PD&E STUDY

WETLAND AND SURFACE WATERS
 LOCATION MAP

SHEET NO.
 1



LEGEND

-  WET RETENTION AREAS
-  SR 836 / SR 826 OVERLAP AREA
-  STUDY AREA

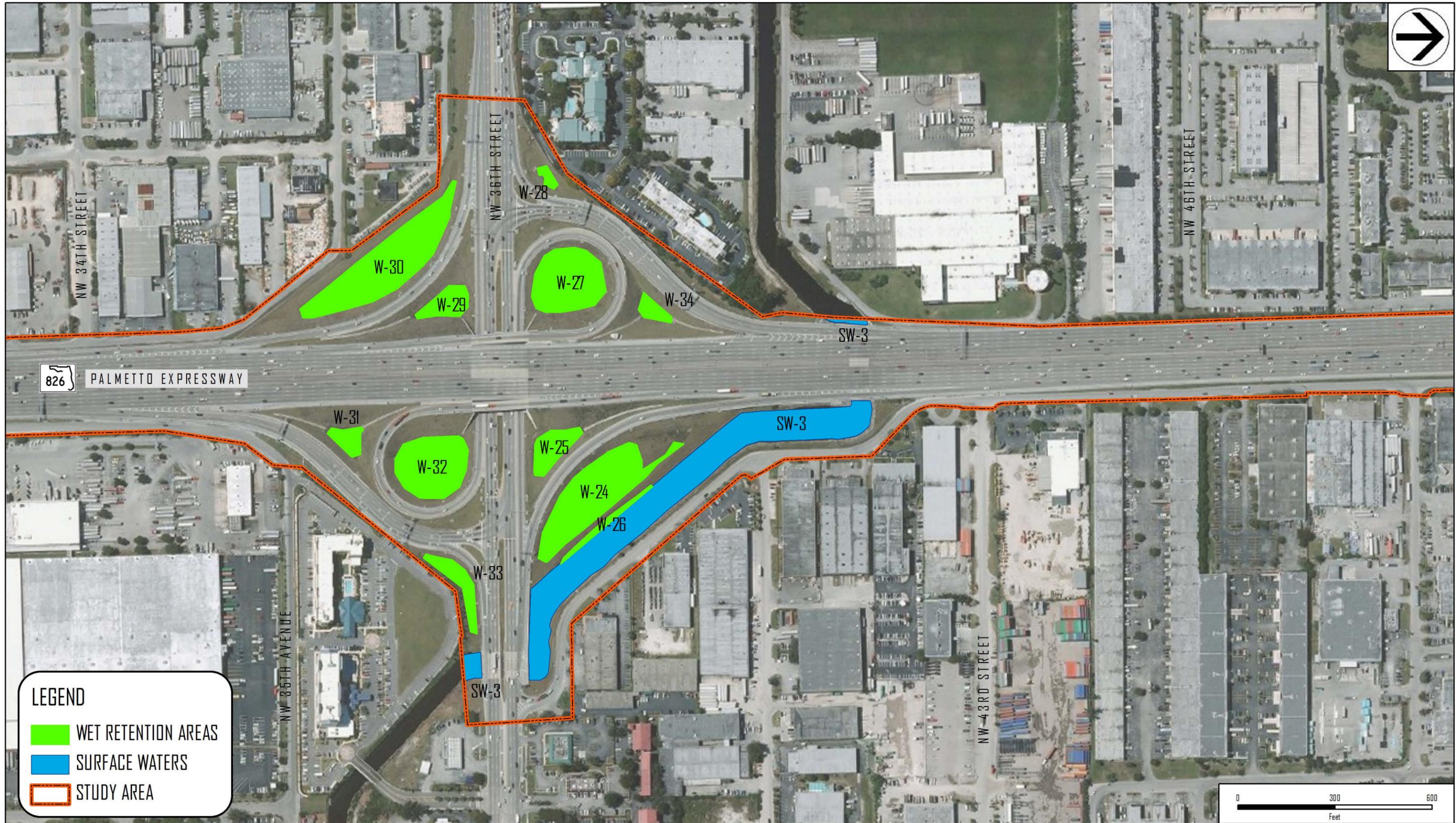
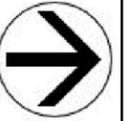


FLORIDA DEPARTMENT OF TRANSPORTATION
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 Miami, Florida 33172

SR-826 / PALMETTO EXPRESSWAY
 MANAGED LANES PD&E STUDY

WETLANDS AND SURFACE WATERS
 LOCATION MAP

SHEET NO.
 2



826 PALMETTO EXPRESSWAY

LEGEND

- WET RETENTION AREAS
- SURFACE WATERS
- STUDY AREA

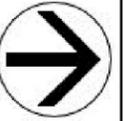


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SR-826 / PALMETTO EXPRESSWAY
 MANAGED LANES PD&E STUDY

WETLANDS AND SURFACE WATERS
 LOCATION MAP

SHEET NO.
 3



826 PALMETTO EXPRESSWAY

LEGEND

- WET RETENTION AREAS
- SURFACE WATERS
- STUDY AREA

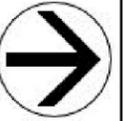


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SR-826 / PALMETTO EXPRESSWAY
MANAGED LANES PD&E STUDY

WETLANDS AND SURFACE WATERS
LOCATION MAP

SHEET NO.
4



826 PALMETTO EXPRESSWAY

LEGEND

-  WET RETENTION AREAS
-  STUDY AREA

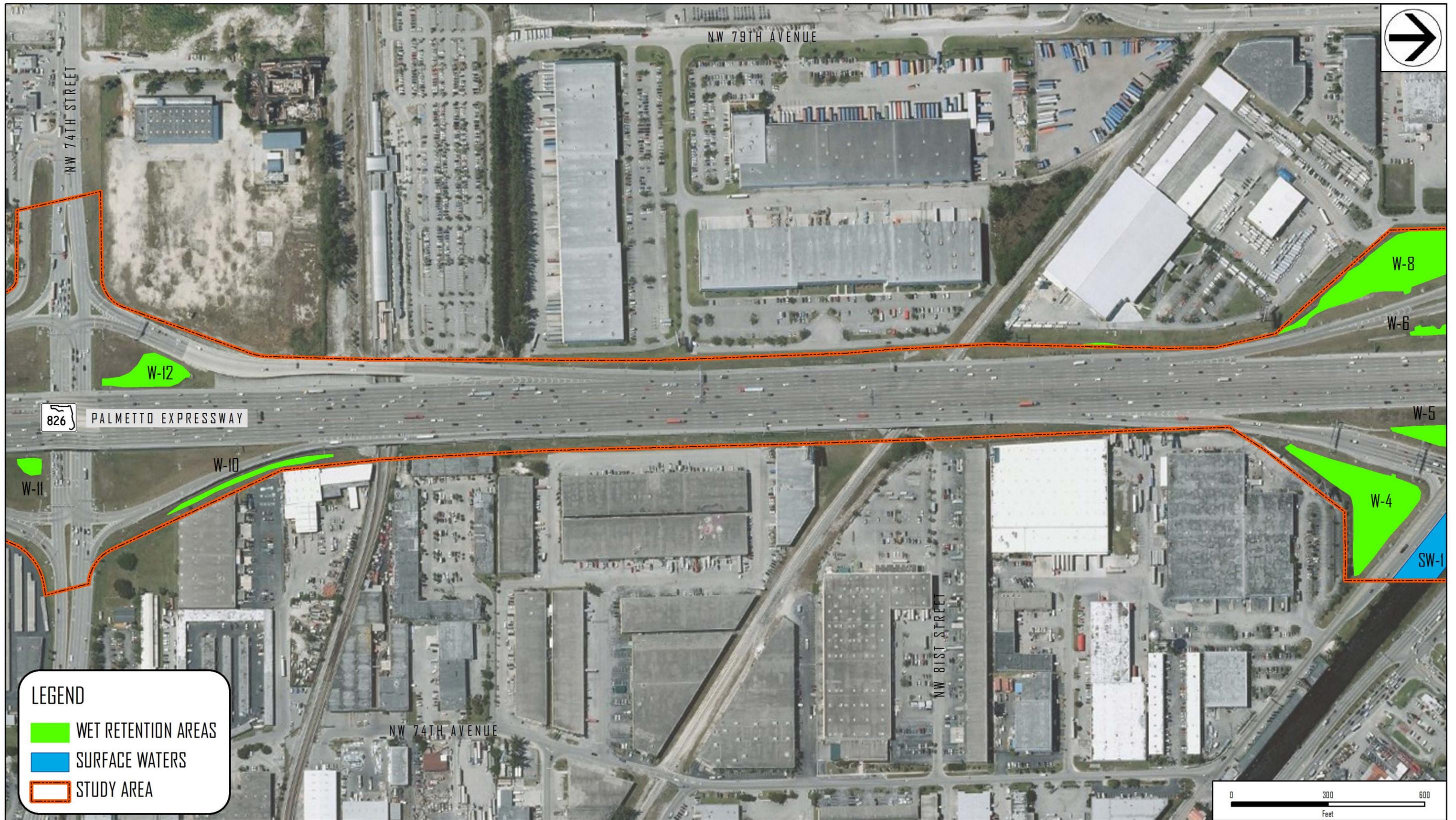


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SR-826 / PALMETTO EXPRESSWAY
MANAGED LANES PD&E STUDY

WETLANDS AND SURFACE WATERS
LOCATION MAP

SHEET NO.
5



LEGEND

- WET RETENTION AREAS
- SURFACE WATERS
- STUDY AREA

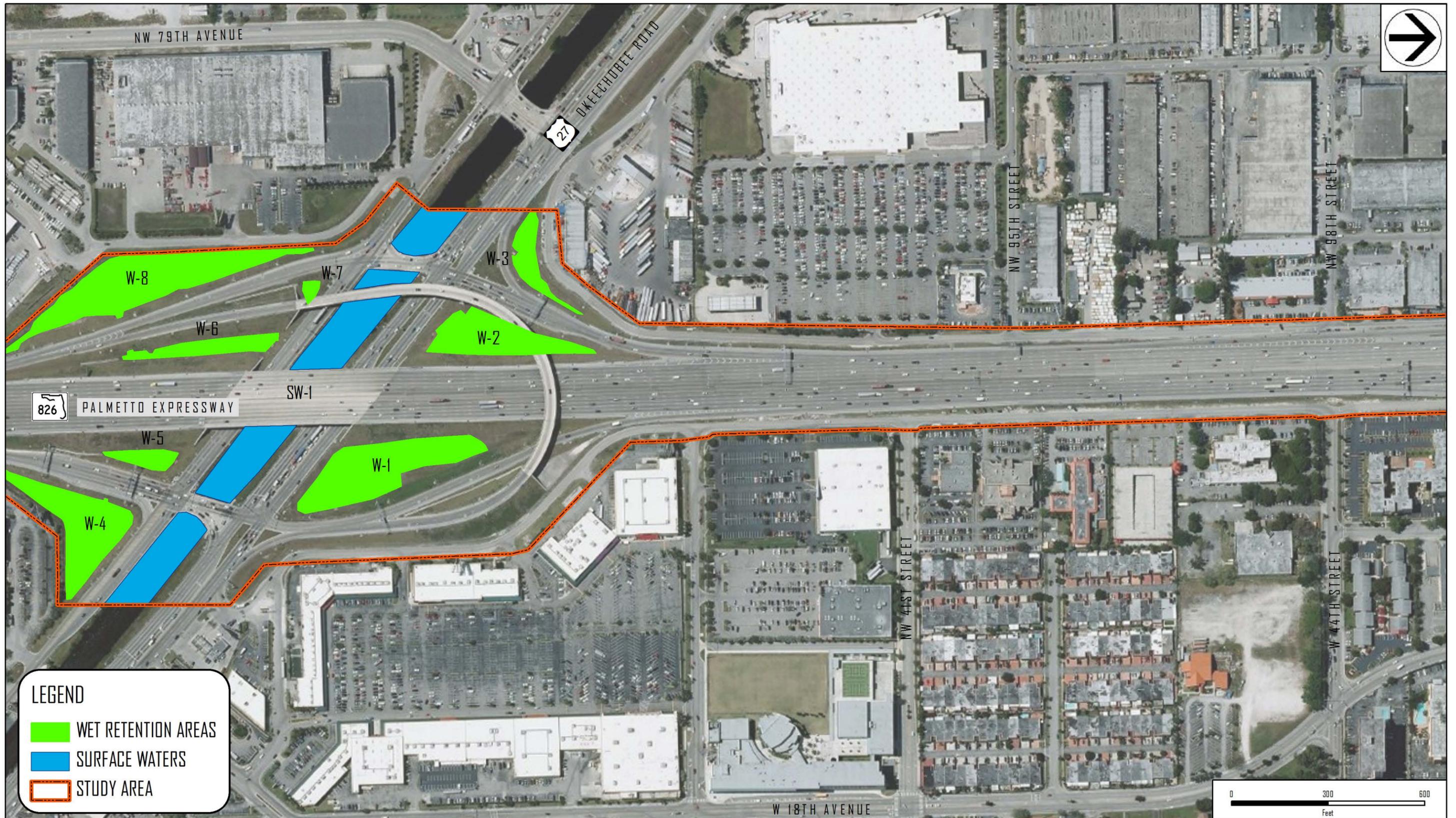


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SR-826 / PALMETTO EXPRESSWAY
 MANAGED LANES PD&E STUDY

WETLANDS AND SURFACE WATERS
 LOCATION MAP

SHEET NO.
 6



LEGEND

- WET RETENTION AREAS
- SURFACE WATERS
- STUDY AREA



FLORIDA DEPARTMENT OF TRANSPORTATION
 1000 NW 111th Avenue
 Miami, Florida 33172

SR-826 / PALMETTO EXPRESSWAY
 MANAGED LANES PD&E STUDY

WETLANDS AND SURFACE WATERS
 LOCATION MAP

SHEET NO.
 7



APPENDIX C
ETDM Programming Screening Summary Report
(Relevant Sections)



ETDM Summary Report

Project #11560 - SR 826/Palmetto Expressway Managed Lanes

Final Programming Screen - Published on 10/29/2012

Generated by Megan McKinney (on behalf of FDOT District 6)

Printed on: 10/29/2012

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#11560 SR 826/Palmetto Expressway Managed Lanes

District: District 6

County: Miami-Dade

Planning Organization: FDOT District 6

Plan ID: Not Available

Federal Involvement: Maintain Federal Eligibility Federal Action

Contact Information: Name: Dat Huynh, P.E. E-mail: Dat.Huynh@dot.state.fl.us

Snapshot Data From: Programming Screen Summary Report Re-published on 10/29/2012 by Megan McKinney

Issues and Categories are reflective of what was in place at the time of the screening event.

Phase: Programming Screen

From: SR 836/Dolphin Expressway

To: I-75

Financial Management No.: Not Available

	Natural										Cultural			Community				Secondary and Cumulative Effects			
	Air Quality	Coastal and Marine	Contaminated Sites	Farmlands	Floodplains	Infrastructure	Navigation	Special Designations	Water Quality and Quantity	Wetlands	Wildlife and Habitat	Historic and Archaeological Sites	Recreation Areas	Section 4(f) Potential	Aesthetics	Economic	Land Use		Mobility	Relocation	Social
Alternative #1 From: SR 836/Dolphin Expressway To: I-75 Re-Published: 10/29/2012 Reviewed from 12/21/2011 to 02/04/2012	0	0	3	0	2	2	0	2	2	2	2	2	2	2	2	1	2	1	2	2	2

Alternative #1

Alternative Description

Name	From	To	Type	Status	Total Length	Cost	Modes	SIS
Alternative was not named.	SR 836/Dolphin Expressway	I-75	Widening	ETAT Review Complete	7.952 mi.	\$170,000,000.00	Roadway Transit	Y

Segment Description(s)

Segment No.	Name	Beginning Location	Ending Location	Length (mi.)	Roadway Id	BMP	EMP
Unnamed segment	Unnamed segment	SR 836/Dolphin Expressway	I-75	7.952	Digitized		

Jurisdiction and Class

Segment No.	Jurisdiction	Urban Service Area	Functional Class
Unnamed segment		In/Out	

Base Conditions

Segment No.	Year	AADT	Lanes	Config
Unnamed segment				

Interim Plan

Segment No.	Year	AADT	Lanes	Config
Unnamed segment				

Needs Plan

Segment No.	Year	AADT	Lanes	Config
Unnamed segment				

Cost Feasible Plan

Segment No.	Year	AADT	Lanes	Config
Unnamed segment				

Funding Sources

No funding sources found.

Project Effects Overview for Alternative #1

Issue	Degree of Effect	Organization	Date Reviewed
Natural			
Air Quality	0 None	US Environmental Protection Agency	01/31/2012
Coastal and Marine	0 None	National Marine Fisheries Service	01/12/2012
Contaminated Sites	3 Moderate	Federal Highway Administration	03/19/2012
Contaminated Sites	3 Moderate	FL Department of Environmental Protection	02/03/2012
Contaminated Sites	3 Moderate	US Environmental Protection Agency	01/31/2012
Farmlands	0 None	Natural Resources Conservation Service	01/03/2012
Floodplains	0 None	US Environmental Protection Agency	01/31/2012
Navigation	0 None	US Army Corps of Engineers	01/27/2012
Navigation	N/A N/A / No Involvement	US Coast Guard	12/21/2011
Special Designations	0 None	US Environmental Protection Agency	01/31/2012

Water Quality and Quantity	2	Minimal	FL Department of Environmental Protection	02/03/2012
Water Quality and Quantity	2	Minimal	South Florida Water Management District	02/03/2012
Water Quality and Quantity	2	Minimal	US Environmental Protection Agency	01/31/2012
Wetlands	2	Minimal	FL Department of Environmental Protection	02/03/2012
Wetlands	2	Minimal	US Environmental Protection Agency	01/31/2012
Wetlands	2	Minimal	US Army Corps of Engineers	01/27/2012
Wetlands	0	None	National Marine Fisheries Service	01/12/2012
Wetlands	2	Minimal	US Fish and Wildlife Service	01/11/2012
Wildlife and Habitat	2	Minimal	Federal Highway Administration	03/19/2012
Wildlife and Habitat	2	Minimal	FL Fish and Wildlife Conservation Commission	01/17/2012
Wildlife and Habitat	2	Minimal	US Fish and Wildlife Service	01/11/2012
Cultural				
Historic and Archaeological Sites	2	Minimal	Federal Highway Administration	03/19/2012
Historic and Archaeological Sites	2	Minimal	Seminole Tribe of Florida	01/26/2012
Historic and Archaeological Sites	2	Minimal	FL Department of State	01/24/2012
Recreation Areas	2	Minimal	Federal Highway Administration	03/19/2012
Recreation Areas	0	None	FL Department of Environmental Protection	02/03/2012
Recreation Areas	0	None	US Environmental Protection Agency	01/31/2012
Recreation Areas	N/A	N/A / No Involvement	National Park Service	01/23/2012
Community				
Aesthetics	2	Minimal	FDOT District 6	02/03/2012
Economic	1	Enhanced	FDOT District 6	02/03/2012
Land Use	2	Minimal	FDOT District 6	02/03/2012
Land Use	0	None	FL Department of Economic Opportunity	02/02/2012
Mobility	1	Enhanced	FDOT District 6	02/03/2012
Relocation	2	Minimal	FDOT District 6	02/03/2012
Social	2	Minimal	Federal Highway Administration	03/19/2012
Social	2	Minimal	FDOT District 6	02/03/2012
Social	0	None	FL Department of Economic Opportunity	02/02/2012
Social	0	None	US Environmental Protection Agency	01/31/2012
Secondary and Cumulative				

ETAT Reviews and Coordinator Summary: Natural

Air Quality

Project Effects

Coordinator Summary Degree of Effect: 0 None assigned 05/17/2012 by FDOT District 6

Comments:

Miami-Dade County is currently an area designated as attainment for all of the National Ambient Air Quality Standards (NAAQS) under the criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to this project. Note, however, that potential air quality impacts will be assessed during Project Development. Based on the foregoing, a Summary DOE of None has been assigned to the Air Quality issue.

Degree of Effect: 0 None assigned 01/31/2012 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:

None found.

Comments on Effects to Resources:

None found.

Additional Comments (optional):

None found.

Coastal and Marine

Project Effects

Coordinator Summary Degree of Effect: 0 None assigned 05/17/2012 by FDOT District 6

Comments:

NMFS noted that canals within the project area are located upstream of South Florida Water Management District water control structures and are, therefore, inaccessible to federally managed fishery species. As such, the NMFS concluded that the proposed work would not directly impact areas (including wetland areas) that support essential fish habitat (EFH) or NOAA trust fishery resources. This project will not require an EFH assessment, nor is further consultation with NMFS necessary unless any future proposed modifications to the project are anticipated to result in adverse impacts to EFH. Based on the foregoing, a Summary DOE of None has been assigned to the Coastal and Marine issue.

Degree of Effect: 0 None assigned 01/12/2012 by Brandon Howard, National Marine Fisheries Service

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

None.

Comments on Effects to Resources:

None.

Additional Comments (optional):

Magnuson-Stevens Act: Comments were provided for the Planning Screen on June 30, 2009. Since the project has not changed, our comments remain the same. This project would likely only require additional stripping but minimal expansion within the right-of way could occur. Canals within the project area are upstream of SFWMD water control structures and are therefore inaccessible to federally managed fishery species. Based on the project location, information provided in the ETDM website, and GIS-based analysis of impacts, NOAA's National Marine Fisheries Service (NMFS) concludes that essential fish habitat (EFH) would not be impacted by the proposed road modifications; accordingly, we offer no comments pursuant to the EFH provisions of the Magnuson-Stevens Act (P.L. 104-297); and this project will not require an EFH Assessment. Further consultation on this matter is not necessary unless future modifications are proposed and you believe that the proposed action may result in adverse impacts to EFH.

Endangered Species Act: We are not aware of any threatened or endangered species or critical habitat under the purview of NMFS that occur within the project area. However, it should be noted that a "no effect" determination must be made by the action agency and the reasoning underlying the determination should be documented in a project file. Please coordinate closely with the U.S. Fish and Wildlife Service for other species listed under the Endangered Species Act that may require consultation.

Fish and Wildlife Coordination Act: Based on the project location, information provided in the ETDM website, and GIS-based analysis of impacts, NOAA's National Marine Fisheries Service (NMFS) concludes the proposed work would not directly impact wetlands areas that support NOAA trust fishery resources. NMFS has no comments or recommendations to provide pursuant to the Fish and Wildlife Coordination Act (FWCA). However, should expansion into wetland areas occur, NMFS may provide recommendations requiring avoidance, minimization and compensatory mitigation pursuant to the FWCA.

Contaminated Sites

Project Effects

Coordinator Summary Degree of Effect: 3 Moderate assigned 05/17/2012 by FDOT District 6

standards, and will not be contrary to the public interest. Please refer to Rule 40E-4.301 and 40E-4.302, Florida Administrative Code (F.A.C.) and the Basis of Review for ERP applications.

- Based on a review of the project corridor, it does not appear that the project will impact wetlands. The degree of effect would be minimal. If work is proposed in District canals C-6 or C-7 Extension (surface waters), a manatee protection plan will be required as part of the ERP. Review of the plan by the U.S. Fish and Wildlife Service and Florida Fish and Wildlife Conservation Commission will be necessary, as these canals are accessible to manatees.

- The ERP application should include storm water pollution prevention and erosion control plans with appropriate BMPs to prevent water quality violations during construction.

- The FDOT is advised to review existing ERPs issued along the corridor (including permits located at the SR 826/836 interchange, NW 36th Street, NW 58th Street, NW 74th Street, FEC Railroad to W 41 Street, NW 103 Street, and at the I-75 ramp to SR 826) to determine whether the proposed project will affect any of these previously issued permits.

- Construction of the project may require dewatering, which requires a water use permit from the SFWMD.

- The FDOT is advised to contact the SFWMD Right-of-Way Division regarding permitting requirements for altering/crossing District Canals (the C-6 and C-7 Extension intersect the project area).

For further information on District permit requirements, please contact Mindy Parrott, Regulation Division, at (561) 682-6324 or mparrott@sfwmd.gov. If you have any comments or questions, please contact John Morgan, Office of Intergovernmental Programs, at (561) 682-2288 or jmorganj@sfwmd.gov.

Additional Comments (optional):

None found.

Degree of Effect: 2 *Minimal* assigned 01/31/2012 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:

groundwater Aquifer

Comments on Effects to Resources:

Degree of Effect on Water quality and wetland is given at minimal. The effect will differ based on the actual scope of the project. The EST defined about 5 acres of wetlands within 200 feet of the project. Impact on water quality and flow should also be minimized if the final scope includes additional impervious surfaces.

Additional Comments (optional):

None found.

Wetlands

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 05/17/2012 by FDOT District 6

Comments:

The National Wetlands Inventory database identifies 2.7 acres (0.71%) of riverine wetlands and 2.7 acres (0.70%) of palustrine wetlands within the 200-foot project buffer. The agencies noted that potential impacts to wetlands and waters of the United States may occur as a result of the project and indicated that compensatory mitigation will be required for unavoidable impacts. The USACE indicated that a Section 408 engineering review will be required if any work is proposed in, under, or over, as well as affects the C-6 and C-7 EXT (canals which are part of the Central and Southern Flood Control Facility - a federal project). The USACE recommended that coordination take place between the FDOT and SFWMD Right-of-Way Division and that the acreage of all waters of the United States be quantified within the corridor; the results should be provided in the Wetlands Evaluation Report. Based on agency concerns, a Summary DOE of Minimal has been assigned to the Wetlands issue.

During Project Development, potential wetland impacts will be evaluated in accordance with Part 2, Chapter 18 of the FDOT PD&E Manual. All necessary measures will be taken to avoid and/or minimize impacts to wetlands to the greatest extent practicable during project design. Should avoidance and/or minimization not be practicable, a Mitigation Plan will be prepared. In addition, the purchasing of credits at a federally authorized mitigation bank (whose service area overlaps potential project impacts) will be considered. Further, all applicable permits (including an Environmental Resource Permit, if required) will be obtained in accordance with federal, state, and local laws and regulations.

Degree of Effect: 2 *Minimal* assigned 02/03/2012 by Lauren P. Milligan, FL Department of Environmental Protection

Coordination Document: Permit Required

Direct Effects

Identified Resources and Level of Importance:

The National Wetlands Inventory GIS report indicates that there are 21 acres of palustrine and 5.9 acres of riverine wetlands within the 500 ft. project buffer zone.

Comments on Effects to Resources:

If expressway widening is proposed, the project may require an environmental resource permit (ERP) from the South Florida Water

Management District. The ERP applicant would be required to eliminate or reduce the proposed wetland resource impacts of highway widening to the greatest extent practicable:

- Minimization should emphasize avoidance-oriented corridor alignments, wetland fill reductions via pile bridging and steep/vertically retained side slopes, and median width reductions within safety limits.
- Wetlands should not be displaced by the installation of stormwater conveyance and treatment swales; compensatory treatment in adjacent uplands is the preferred alternative.
- After avoidance and minimization have been exhausted, mitigation must be proposed to offset the adverse impacts of the project to existing wetland functions and values. Significant attention is given to forested wetland systems, which are difficult to mitigate.
- The cumulative impacts of concurrent and future road improvement projects in the vicinity of the subject project should also be addressed.

Additional Comments (optional):

None found.

Degree of Effect: 2 *Minimal* assigned 01/31/2012 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:

groundwater Aquifer

Comments on Effects to Resources:

Degree of Effect on Water quality and wetland is given at minimal. The effect will differ based on the actual scope of the project. The EST defined about 5 acres of wetlands within 200 feet of the project. Impact on water quality and flow should also be minimized if the final scope includes additional impervious surfaces.

Additional Comments (optional):

None found.

Degree of Effect: 2 *Minimal* assigned 01/27/2012 by Garrett Lips, US Army Corps of Engineers

Coordination Document: PD&E Support Document As Per PD&E Manual

Direct Effects

Identified Resources and Level of Importance:

The EST identified approximately 5 acres of palustrine wetlands within 200 feet of the corridor. There are also adjacent canals, ditches, and swales that may be waters of the United States.

The C-6 and C-7 EXt are part of the Central and Southern Flood Control Facility and are located within the project corridor. The Corps will require a Section 408 engineering review of any work proposed in, under, over, or affecting a federal project. Coordination between the FDOT and SFWMD right of way section is recommended.

The FDOT should quantify the acreage of all waters of the United States within the corridor, and determine which areas, if any, have all three wetland characteristics. The results should be provided in the WER.

Comments on Effects to Resources:

The project should be designed to avoid filling wetlands and waters to the extent practical. The unavoidable loss of waters may require compensatory mitigation. The Corps recommends purchasing credits at a federally authorized mitigation bank whose service area overlaps the impacts.

No CERP projects appear within the EST results; however, FDOT should verify to ensure there will be no conflicts with a federally funded CERP project.

Coordinate as needed for any required Section 408 reviews.

Additional Comments (optional):

None found.

Degree of Effect: 0 *None* assigned 01/12/2012 by Brandon Howard, National Marine Fisheries Service

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

None.

Comments on Effects to Resources:

None.

Additional Comments (optional):

Magnuson-Stevens Act: Comments were provided for the Planning Screen on June 30, 2009. Since the project has not changed, our comments remain the same. This project would likely only require additional stripping but minimal expansion within the right-of way could occur. Canals within the project area are upstream of SFWMD water control structures and are therefore inaccessible to federally managed fishery species. Based on the project location, information provided in the ETDM website, and GIS-based analysis of impacts, NOAA's National Marine Fisheries Service (NMFS) concludes that essential fish habitat (EFH) would not be impacted by the proposed road modifications; accordingly, we offer no comments pursuant to the EFH provisions of the Magnuson-Stevens Act (P.L. 104-297); and this project will not require an EFH Assessment. Further consultation on this matter is not necessary unless future modifications are proposed and you believe that the proposed action may result in adverse impacts to EFH.

Endangered Species Act: We are not aware of any threatened or endangered species or critical habitat under the purview of NMFS

that occur within the project area. However, it should be noted that a "no effect" determination must be made by the action agency and the reasoning underlying the determination should be documented in a project file. Please coordinate closely with the U.S. Fish and Wildlife Service for other species listed under the Endangered Species Act that may require consultation.

Fish and Wildlife Coordination Act: Based on the project location, information provided in the ETDM website, and GIS-based analysis of impacts, NOAA's National Marine Fisheries Service (NMFS) concludes the proposed work would not directly impact wetlands areas that support NOAA trust fishery resources. NMFS has no comments or recommendations to provide pursuant to the Fish and Wildlife Coordination Act (FWCA). However, should expansion into wetland areas occur, NMFS may provide recommendations requiring avoidance, minimization and compensatory mitigation pursuant to the FWCA.

Degree of Effect: 2 *Minimal* assigned 01/11/2012 by John Wrublik, US Fish and Wildlife Service

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:

Wetlands

Comments on Effects to Resources:

Wetlands provide important habitat for fish and wildlife. Data in the environmental screening tool indicate that wetlands may occur within the project area. We recommend that the project be designed to avoid and minimize impacts to wetland resources to the greatest extent practicable. If impacts to wetlands are unavoidable, we recommend that the FDOT provides mitigation that fully compensates for the loss of wetland resources.

Additional Comments (optional):

None found.

Wildlife and Habitat

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 05/17/2012 by FDOT District 6

Comments:

According to the EST GIS analysis results, the 200-foot project buffer is located within the South Florida Ecosystem Management Area; USFWS Consultation Areas for American Crocodile and Snail Kite; Critical Habitat for the West Indian Manatee; and Core Foraging Areas of active nesting wood stork colonies. The FWC noted that manatee protection measures (including Standard Manatee Conditions for In-Water Work) may be required during construction since manatees are known to inhabit the various canals and tributaries to these canals that are crossed by or run adjacent to SR 826/Palmetto Expressway. The USFWS additionally indicated that a functional assessment using the Service's Wood Stork Foraging Analysis Methodology is required on foraging habitat to be impacted and foraging habitat to be provided as mitigation for projects that impact 5 or more acres of wood stork foraging habitat. Due to the fact that the corridor is predominantly characterized by industrial and commercial/office uses with low to medium density residential prevalent along the corridor, a Summary DOE of Minimal has been assigned to the Wildlife and Habitat issue.

During Project Development, an Endangered Species Biological Assessment (ESBA) will be prepared in compliance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 USC 1531 et seq) and in accordance with Part 2, Chapter 27 of the FDOT PD&E Manual. The final design of the project will avoid and/or minimize impacts to wetlands/wildlife & habitat to the greatest extent possible and appropriate mitigation will be provided for unavoidable impacts.

Degree of Effect: 2 *Minimal* assigned 03/19/2012 by Cathy Kendall, Federal Highway Administration

Coordination Document: PD&E Support Document As Per PD&E Manual

Direct Effects

Identified Resources and Level of Importance:

The GIS analysis identifies the following species for this area:

Indian Manatee;
American Crocodile;
Snail kite;
Woodstork

Comments on Effects to Resources:

Please conduct the appropriate surveys to determine species location in the area (if any) and coordinate with the appropriate resource agency to ensure that potential impacts to wildlife, habitat, and in particular, listed species, are addressed.

Additional Comments (optional):

None found.

Degree of Effect: 2 *Minimal* assigned 01/17/2012 by Scott Sanders, FL Fish and Wildlife Conservation Commission

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects

Identified Resources and Level of Importance:

The Conservation Planning Services Section of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated an agency review of ETDM #11560, Miami-Dade County, and provides the following comments related to potential effects to fish and

wildlife resources on this Programming Phase project.

The Project Description Summary states that this project involves the construction of two managed lanes in each direction on SR 826/Palmetto Expressway from SR 836 to I-75, a distance of 7.952 miles. The lanes would be added by a moderate widening of the mainline or by restriping the existing general purpose lanes. It is anticipated that all work will occur within the existing Right-of-way (ROW).

The project area was evaluated for potential fish, wildlife, and habitat resources within 500 feet of the proposed alignment. Our assessment reveals that over 98% the project area is High or Low Impact Urban land, with nearly all of the remainder consisting of Open Water in the nearby canals and borrows lakes. Other than these waterways, there is little potential fish and wildlife habitat in the project vicinity. The primary species listed by the Federal Endangered Species Act and the State of Florida that could potentially be impacted by this project is the endangered Florida manatee, which is known to inhabit the Miami Canal (C-6), the Tamiami Canal (C-4), the Little River Canal (C-7), the Biscayne Canal (C-8 and C-8 Extension), and the various tributaries to these canals that are crossed by or run adjacent to SR 826.

Wildlife issues associated with this project are the potential for injury to Florida manatees resulting from any in-water work involving pipes or culverts associated with stormwater management system improvements, and potential water quality degradation as a result of additional stormwater runoff from the expanded impervious surface draining into the adjacent canals and lakes, and ultimately into Biscayne Bay.

Comments on Effects to Resources:

Based on the project information provided, we believe the direct and indirect effects of this project could be minimal, provided adequate precautions are taken during construction to avoid any adverse effects on manatees, and stormwater from the project area is treated to avoid degradation of the adjacent waterways.

Additional Comments (optional):

Since no information was provided on any required in-water work, including seasonality, the length or duration of project work, and whether dredging will be utilized, it would be premature for us to recommend specific avoidance and minimization measures for the manatee at this time. However, possible manatee protection measures that may be required by our agency could include Standard Manatee Conditions for In-Water Work, monitoring of turbidity barriers, exclusionary grating on culverts, presence of manatee observers during in-water work, a defined or limited construction window, and no nighttime work. Further coordination with our agency will be necessary in order to determine site-specific measures for this project. For technical assistance and coordination on manatees, please contact Ms. Mary Duncan of our Imperiled Species Management Section in Tallahassee at (850) 922-4330 very early in the planning process.

We appreciate the opportunity to provide input on highway design and the conservation of fish and wildlife resources. Please contact Brian Barnett at (insert new FWC phone no.) or email brian.barnett@MyFWC.com to initiate the process for further overall coordination on this project.

Degree of Effect: 2 Minimal assigned 01/11/2012 by John Wrublik, US Fish and Wildlife Service

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects

Identified Resources and Level of Importance:

Federally listed species and fish and wildlife resources

Comments on Effects to Resources:

Federally listed species - The Service has reviewed our Geographic Information Systems (GIS) database for recorded locations of federally listed threatened and endangered species on or adjacent to the project study area. The GIS database is a compilation of data received from several sources.

Wood Stork

The project corridor is located in the Core Foraging Areas (CFA)(within 18.6 miles) of an active nesting colony of the endangered wood stork (*Mycteria americana*). The Service believes that the loss of wetlands within a CFA due to an action could result in the loss of foraging habitat for the wood stork. To minimize adverse effects to the wood stork, we recommend that any lost foraging habitat resulting from the project be replaced within the CFA of the affected nesting colony. Moreover, wetlands provided as mitigation should adequately replace the wetland functions lost as a result of the action. The Service does not consider the preservation of wetlands, by itself, as adequate compensation for impacts to wood stork foraging habitat, because the habitat lost is not replaced. Accordingly, any wetland mitigation plan proposed should include a restoration, enhancement, or creation component. In some cases, the Service accepts wetlands compensation located outside the CFA of the affected wood stork nesting colony. Specifically, wetland credits purchased from a "Service Approved" mitigation bank located outside of the CFA would be acceptable to the Service, provided that the impacted wetlands occur within the permitted service area of the bank.

For projects that impact 5 or more acres of wood stork foraging habitat, the Service requires a functional assessment be conducted using our "Wood Stork Foraging Analysis Methodology"(Methodology) on the foraging habitat to be impacted and the foraging habitat provided as mitigation. The Methodology can found in the Service's May 18, 2010, Wood Stork Key (Service Federal Activity Code Number 41420-2007-FA-1494) provided to the Corps to guide their effect determinations for this species.

The Service believes that the following federally listed species have the potential to occur in or near the project site: wood stork, and the eastern indigo snake (*Drymarchon corais couperi*). Accordingly, the Service recommends that the Florida Department of Transportation (FDOT) prepare a Biological Assessment for the project (as required by 50 CFR 402.12) during the FDOT's Project Development and Environment process.

Fish and Wildlife Resources - Wetlands provide important habitat for fish and wildlife. Data in the environmental screening tool indicate that wetlands may occur within the project area. We recommend that the project be designed to avoid and minimize

impacts to wetland resources to the greatest extent practicable. If impacts to wetlands are unavoidable, we recommend that the FDOT provides mitigation that fully compensates for the loss of wetland resources.

Additional Comments (optional):

None found.

ETAT Reviews and Coordinator Summary: Cultural

Historic and Archaeological Sites

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 05/17/2012 by FDOT District 6

Comments:

The FDOS commented that the project has the potential to impact the remains of archaeological sites in the area as well as the Miami Canal (DA6525), which intersects the project corridor. The FDOS stated that because three cultural resource assessment surveys have been conducted along portions of the project corridor, the area was developed in a relatively late period and the project will remain within the current right-of-way, a comprehensive survey of the project area is not necessary. Based on the foregoing, a Summary DOE of Minimal has been assigned to the Historic and Archaeological Sites issue.

During Project Development, a Cultural Resource Assessment Survey (CRAS) will be conducted to determine the presence of historic, cultural and archeological resources in the project area. Any potential impacts to identified resources will be avoided and/or minimized to the greatest extent practicable. Coordination with the SHPO, the STOF-THPO, and the Miami-Dade County Historic Preservation Office will also take place to help identify and evaluate the cultural resources in the project area.

Degree of Effect: 2 *Minimal* assigned 03/19/2012 by Cathy Kendall, Federal Highway Administration

Coordination Document: PD&E Support Document As Per PD&E Manual

Direct Effects

Identified Resources and Level of Importance:

The GIS analysis identified 1 historic bridge, 3 potential archaeological sites and 6 resource groups (one that is potentially eligible) all within 200 feet of the project.

Comments on Effects to Resources:

CRAS is needed to identify NRHP eligible sites so that avoidance, minimization and/or mitigation can be addressed.

Additional Comments (optional):

None found.

Degree of Effect: 2 *Minimal* assigned 01/26/2012 by Elliott York, Seminole Tribe of Florida

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:

Due to the presence of multiple significant sites near the project area, the STOF-THPO would like to request a Culture Resource Assessment Survey be conducted in order to determine effects, if any, to archaeological sites not yet identified within the project corridor.

Comments on Effects to Resources:

The STOF-THPO would like to review a CRAS before commenting on possible effects to archaeological sites in the project area.

Additional Comments (optional):

None found.

Degree of Effect: 2 *Minimal* assigned 01/24/2012 by Ginny Leigh Jones, FL Department of State

Coordination Document: Tech Memo Required

Direct Effects

Identified Resources and Level of Importance:

FDOT bridges (FDOT bridge data and FMSF Bridge data):

GIS analysis reveals 5 historic-age bridges on the FDOT database of bridges located within 5,280 ft of the proposed project area. Four of the bridges are the roadway in question, SR 826. Bridges No. 870269, 870270, 870257, 870258 were all constructed in 1960 and carry SR 826 over NW 12th Street, the SCL Railroad, and the FEC Railroad, respectively. One bridge, 870569, is located between 100 and 200 ft from the project corridor. This bridge was constructed in 1959 and carries the West Frontage Road for SR 826 over the Little River Canal C-7. Only the West Frontage Road bridge, 870569, has been evaluated for its eligibility for the National Register of Historic Places (NRHP) by the Florida State Historic Preservation Officer (SHPO). The bridge was evaluated as not significant in 2011.

Historic Standing Structures (FMSF data):

GIS analysis reveals the closest historic structure recorded to the project corridor is located between 200 and 500 ft from the corridor. This structure, DA11680, has been determined not significant by the SHPO.

Resource Groups (FMSF data):

GIS analysis reveals five resource groups that either run parallel to the project corridor or intersect with the project corridor. The SR

Project Scope

General Project Commitments

There are no general project commitments identified for this project in the EST.

Required Permits

Permit	Type	Conditions	Review Org	Review Date
FDEP NPDES General Permit	Other		FDOT District 6	09/20/12
Environmental Resource Permit	State		FDOT District 6	09/20/12
SFWMR Right-of-Way Occupancy Permit	State		FDOT District 6	09/20/12
Section 10/Section 404 Department of the Army Permit	USACE		FDOT District 6	09/20/12
Section 408 Engineering Review	USACE		FDOT District 6	09/20/12
Miami-Dade County Class III Permit	County/Municipality - Local		FDOT District 6	09/20/12

Required Technical Studies

Technical Study Name	Type	Conditions	Review Org	Review Date
Design Traffic Technical Memorandum	ENGINEERING		FDOT District 6	09/20/2012
Conceptual Design Roadway Plan Set	ENGINEERING		FDOT District 6	09/20/2012
Geotechnical Report	ENGINEERING		FDOT District 6	09/20/2012
Typical Section Package	ENGINEERING		FDOT District 6	09/20/2012
Value Engineering Information Report	ENGINEERING		FDOT District 6	09/20/2012
Noise Study Report	ENVIRONMENTAL		FDOT District 6	09/20/2012
Contamination Screening Evaluation Report	ENVIRONMENTAL		FDOT District 6	09/20/2012
Endangered Species Biological Assessment	ENVIRONMENTAL		FDOT District 6	09/20/2012
Wetlands Evaluation Report	ENVIRONMENTAL		FDOT District 6	09/20/2012
Sociocultural Effects Evaluation	Other		FDOT District 6	09/20/2012
Preliminary Engineering Report	ENGINEERING	Draft & Final	FDOT District 6	09/20/2012
Air Quality Technical Memorandum	ENVIRONMENTAL		FDOT District 6	09/20/2012
Water Quality Impact Evaluation (WQIE)	ENVIRONMENTAL		FDOT District 6	09/20/2012
Cultural Resource Assessment Survey	ENVIRONMENTAL		FDOT District 6	09/20/2012
Public Involvement Plan	Other		FDOT District 6	09/20/2012
Public Hearing Transcript	Other		FDOT District 6	09/20/2012
Drainage Report	ENGINEERING		FDOT District 6	09/20/2012
Type II Categorical Exclusion	ENVIRONMENTAL		FDOT District 6	09/20/2012
Utility Assessment Package	ENGINEERING		FDOT District 6	09/20/2012
Cost Risk Assessment Report	ENGINEERING		FDOT District 6	09/20/2012

Stormwater Management Report	ENGINEERING		FDOT District 6	09/20/2012
I-75 & Palmetto Expressway Origin-Destination Study	ENGINEERING		FDOT District 6	09/20/2012
Traffic Operations Analysis Report	ENGINEERING		FDOT District 6	09/20/2012
QA/QC Plan	ENGINEERING		FDOT District 6	09/20/2012
Pavement Type Selection Technical Memorandum	ENGINEERING		FDOT District 6	09/20/2012

Class of Action

Class of Action Determination

Class of Action	Other Actions	Lead Agency	Cooperating Agencies	Participating Agencies
Categorical Exclusion	Endangered Species Assessment	Federal Highway Administration	No Cooperating Agencies have been identified.	No Participating Agencies have been identified.

Class of Action Signatures

Name	Agency	Review Status	Date	ETDM Role
Steven Craig James	FDOT District 6	ACCEPTED	09/20/2012	FDOT ETDM Coordinator

Comments:

Of the 21 issues examined for the project, the following Summary Degrees of Effect (DOE) were assigned: Enhanced - 2 issues, None - 4 issues, Minimal - 14 issues, and Moderate - 1 issue. No issue received a Summary DOE greater than Moderate.

Each of these issues will be evaluated in further detail during the Project Development and Environment (PD&E) phase. The one issue assigned a Summary DOE of Moderate is briefly described below. A statement describing how the recommended project Class of Action is supported is also included.

- Contaminated Sites: This issue was assigned a Summary DOE of Moderate based on 1) the identification (based on EST GIS Data) of two brownfields, two Department of Environmental Resources Management (DERM)* contaminated sites, nine hazardous waste facilities, eight onsite sewage facilities, six petroleum contamination monitoring sites, seven storage tank contamination monitoring sites, five Super Act Risk Sources, one Toxic Release Inventory Site, and thirteen Resource Conservation and Recovery Act (RCRA) regulated facilities within 200 feet of the study corridor, 2) proximity of the project corridor to potential groundwater monitoring wells (and possibly water production wells) and 3) the need to conduct a Contamination Screening Evaluation Report (CSER) (similar to a Phase I Audit) to investigate subsurface contamination and determine the potential to encounter contamination during project implementation.

The Florida Department of Transportation (FDOT) District Six will conduct a detailed contamination assessment through preparation of the CSER, which will allow for the optimization of alternatives to minimize and/or avoid potential impacts to identified resources. Preliminary measures will be established to offset any estimated adverse impacts to contaminated sites and documented as commitments to be upheld throughout the project's PD&E, design, permit, and construction phases. Staging areas will be identified and maintained in accordance with FDOT Standard Specifications for Road and Bridge Construction. In addition, "Special Provisions for Unidentified Areas of Contamination" will be included in the project's construction contract documents. These provisions require that in the event any hazardous material or suspected contamination is encountered during construction, or if any spills caused by construction-related materials should occur, the contractor shall be instructed to stop work immediately and notify the appropriate regulatory agencies for assistance.

For these reasons, and due to the fact that the project is anticipated to occur within the existing public right-of-way, the FDOT District Six recommends a Type 2 Categorical Exclusion (Type 2 CE) as the appropriate Class of Action for this project.

*Note that DERM has been replaced by the Department of Regulatory and Economic Resources, which merges the Department of Permitting, Environment and Regulatory Affairs with the Department of Sustainability, Planning and Economic Enhancement.

Cathy Kendall	Federal Highway Administration	ACCEPTED	10/29/2012	Lead Agency ETAT Member
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Comments:

No significant impacts are anticipated as a result of this project, as indicated in the recommendation provided by FDOT, and the comments from the ETAT agencies as part of their ETDM review.

Dispute Resolution Activity Log

There are no dispute actions identified for this project in the EST.



APPENDIX D
Observed Species List



SR 826 Managed Lanes Bird Species List

Sightings 7 FEB 12

Taxon	Vernacular Name	State Listing	Federal Listing	Sightings
<i>Anhinga anhinga</i>	anhinga		federal protected (Migratory)	
<i>Ardea alba</i>	great egret		federal protected (Migratory)	
<i>Bubulcus ibis</i>	cattle egret		federal protected (Migratory)	FO(1)
<i>Cathartes aura</i>	turkey vulture		federal protected (Migratory)	
<i>Columba livia</i>	rock pigeon			FT(2)
Columbidae (sp. unidentified)	dove			FT(1)
<i>Coragyps atratus</i>	black vulture		federal protected (Migratory)	
<i>Corvus sp.</i>	crow		federal protected (Migratory)	FO(3)
<i>Eudocimus albus</i>	white ibis	Species of Special Concern	federal protected (Migratory)	FT(30) FO(5)
<i>Falco sparverius</i>	American kestrel	State Threatened	federal protected (Migratory)	1
<i>Lanius ludovicianus</i>	loggerhead shrike		federal protected (Migratory)	FT(1) FO(1)
Laridae (sp. unidentified)	gull		federal protected (Migratory)	FT(5) FO(4)
<i>Larus argentatus</i>	herring gull			FT(3) FO(4)
<i>Larus delawarensis</i>	ring-billed gull		federal protected (Migratory)	FT(7)
<i>Leucophaeus atricilla</i>	laughing gull		federal protected (Migratory)	
<i>Mimus polyglottos</i>	northern mocking bird		federal protected (Migratory)	
<i>Nycticorax nycticorax</i>	black-crowned night-heron		federal protected (Migratory)	1
Parulidae (sp. unidentified)	warbler		federal protected (Migratory)	
<i>Passer domesticus</i>	house sparrow			FO(1)
<i>Phalacrocorax auritus</i>	double-crested cormorant		federal protected (Migratory)	FT(1)
Picidae (sp. unidentified)	woodpecker		federal protected (Migratory)	FT(1)
<i>Quiscalus major</i>	boat-tailed grackle		federal protected (Migratory)	1, FT(107) FO(16)
<i>Quiscalus quiscula</i>	common grackle		federal protected (Migratory)	FT(35) FO(11)
<i>Streptopelia decaocto</i>	Eurasian collared-dove			1, FT(5) FO(6)
<i>Sturnus vulgaris</i>	European starling			FT(42) FO(20)
<i>Zenaida asiatica</i>	white-winged dove		federal protected (Migratory)	FT(2)
<i>Zenaida macroura</i>	mourning dove		federal protected (Migratory)	FT(2) FO(2)

*Note this only applies to the non-migratory subspecies that breeds in Florida: southeastern American kestrel (*Falco sparverius paulus*)

Additional fauna or evidence of occurrence observed:

<i>Anolis sagrei</i>	brown anole
<i>Aspidoscelis sexlineata</i>	six-lined racerunner
<i>Coluber constrictor</i>	eastern racer
<i>Didelphis virginiana</i>	Virginia opossum
<i>Monopterus albus</i>	Asian swamp eel
<i>Procyon lotor</i>	raccoon
<i>Pseudemys peninsularis</i>	peninsula cooter
	unidentified small fish



APPENDIX E

FWC's Standard Manatee Conditions for In-Water Work (2011)



STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used (see MyFWC.com/manatee). One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 1/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. Questions concerning these signs can be sent to the email address listed above.

CAUTION: MANATEE HABITAT

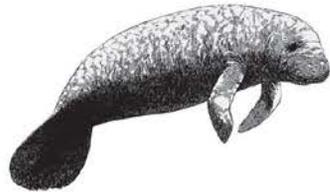
All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision with or injury to a manatee:



Wildlife Alert:

1-888-404-FWCC(3922)

cell *FWC or #FWC



APPENDIX F

Standard Protection Measures for the Eastern Indigo Snake



STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

1. An eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel to follow. The plan shall be provided to the Service for review and approval at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (*e.g.*, an observer trained to identify eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs should be posted throughout the construction site and along any proposed access road to contain the following information:
 - a. a description of the eastern indigo snake, its habits, and protection under Federal Law;
 - b. instructions not to injure, harm, harass or kill this species;
 - c. directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and,
 - d. telephone numbers of pertinent agencies to be contacted if a dead eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water and then frozen.
2. If not currently authorized through an Incidental Take Statement in association with a Biological Opinion, only individuals who have been either authorized by a section 10(a)(1)(A) permit issued by the Service, or by the State of Florida through the Florida Fish Wildlife Conservation Commission (FWC) for such activities, are permitted to come in contact with an eastern indigo snake.
3. An eastern indigo snake monitoring report must be submitted to the appropriate Florida Field Office within 60 days of the conclusion of clearing phases. The report should be submitted whether or not eastern indigo snakes are observed. The report should contain the following information:
 - a. any sightings of eastern indigo snakes and
 - b. other obligations required by the Florida Fish and Wildlife Conservation Commission, as stipulated in the permit.

Revised February 12, 2004



APPENDIX G

USFWS Concurrence Letter (August 14, 2012)





United States Department of the Interior



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

August 14, 2012

Aileen Boucle
Florida Department of Transportation
801 North Broadway Avenue
Bartow, Florida 33830-3809

Service Federal Activity Code: 2009-CPA-0448
Service Consultation Code: 2012-I-0323
Date Received: July 25, 2012
Project: State Road 826 from State Road 836
Interchange to State Road 932
County: Miami-Dade

Dear Ms. Boucle:

The U.S. Fish and Wildlife Service (Service) has reviewed your letter dated July 24, 2012, and other information submitted by the Florida Department of Transportation (FDOT), on behalf of the Federal Highway Administration, for the project referenced above. This letter is submitted in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*)

PROJECT DESCRIPTION

The FDOT is proposing improvements to a 5.9-mile segment of State Road (SR) 826 / Palmetto Expressway, from SR 836 to SR 932/Northwest 103rd Street. The existing roadway consists of 8 lanes from SR 836 to Northwest 25th Street and 10 lanes from Northwest 25th Street to SR 932. The improvements include construction of two new northbound lanes and two new southbound lanes (Alternative A) or three new northbound lanes and three new southbound lanes (Alternative B). Alternative A would impact 0.569 acre of wetland retention areas/wetlands and 0.085 acre of surface waters and Alternative B would impact 2.142 acres of wetland retention areas/wetlands and 0.193 acre of surface waters. A permit from the U.S Army Corps of Engineers (Corps) is required to discharge material into wetlands per section 404 of the Clean Water Act, and, as a condition of the permit, the FDOT must compensate for impacts to wetlands resulting from the project. The FDOT has indicated compensation will be provided through the acquisition of credits from a wetland mitigation bank approved by the Corps and the Service. The purpose of the project is to provide additional motor-vehicle capacity. The project site is located in Miami-Dade County, Florida.



THREATENED AND ENDANGERED SPECIES

Wood stork

The project site is located within the core foraging area (CFA; 18.6 miles) of four active breeding colonies of the endangered wood stork (*Mycteria americana*). The Service believes the loss of wetlands within a CFA may reduce foraging opportunities for wood storks. To minimize potential adverse effects to the wood stork, the Service's *Draft Supplemental Habitat Management Guidelines for the Wood Stork in the South Florida Ecological Services Consultation Area* (Service 2004) (Guidelines) recommends the applicant replace wetlands lost due to the action.

The compensation plan should include a temporal lag factor, if necessary, to ensure wetlands provided as compensation adequately replace the wetland functions lost due to the project. Moreover, wetlands offered as compensation should be of the same hydroperiod, and located within the CFA of the affected wood stork colony. The Service does not consider the preservation of wetlands, by itself, as adequate compensation for impacts to wood stork foraging habitat, because the habitat lost is not replaced. Accordingly, any wetland mitigation plan that includes the preservation of wetlands should include a restoration, enhancement, or creation component.

In some cases, the Service accepts wetlands compensation located outside the CFA of the affected wood stork nesting colony. Specifically, wetland credits purchased from a "Service Approved" mitigation bank located outside the CFA would be acceptable to the Service, provided the impacted wetlands occur within the permitted service area of the bank.

The FDOT has determined the project "may affect, but is not likely to adversely affect" the wood stork. The project, based on the alternatives proposed, will impact up to 2.335 acres of wetlands and surface waters that may provide foraging habitat for the wood stork. To compensate for impacts to wetlands, the FDOT proposes to acquire credits from a Service-approved mitigation bank. Based on the above, the Service concurs with the FDOT's determination for the wood stork.

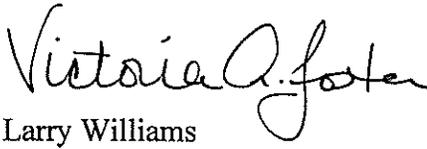
West Indian manatee

The project occurs within the geographic range and designated critical habitat of the endangered West Indian manatee (*Trichechus manatus*). The project will not affect sea grasses. To provide protection for manatees during construction of the project, the FDOT has agreed to follow the *Standard Manatee Protection Construction Conditions for In-Water Work* (FWC 2011). The FDOT has determined the project "may affect, but is not likely to adversely affect" the manatee, and will not result in an adverse modification to critical habitat. Based on the information provided, the Service concurs with the FDOT's determination for the manatee.

This letter fulfills the requirements of section 7 of the Act and further action is not required. If modifications are made to the project, if additional information involving potential effects to listed species becomes available, or if a new species is listed, reinitiation of consultation may be necessary.

Thank you for your cooperation in the effort to protect federally listed species. If you have any questions, please contact John Wrublik at 772-469-4282.

Sincerely yours,


for

Larry Williams
Field Supervisor
South Florida Ecological Services Office

cc: electronic only

FWC, Tallahassee, Florida (FWC-CPS)

NOAA Fisheries, West Palm Beach, Florida (Brandon Howard)

Corps, Palm Beach Gardens, Florida (Garett Lips)

LITERATURE CITED

Florida Fish and Wildlife Conservation Commission (FWC). 2011. Standard Manatee Conditions for In-water Work. Tallahassee, Florida. http://myfwc.co/docs/WildlifeHabitats/Manatee_StdCondIn_waterWork.pdf

U.S. Fish and Wildlife Service. 2004. Draft Supplemental Habitat Management Guidelines for the Wood Stork in the South Florida Ecological Services Consultation Area. Fish and Wildlife Service, South Florida Ecological Services Office; Vero Beach, Florida.