

FINAL DRAFT WETLAND EVALUATION REPORT

for

**Project Development and Environment (PD&E) Study
Midway Road (CR 712)
from Glades Cut Off Road (CR 709) to Selvitz Road (CR 615)
St. Lucie County, Florida**

Financial Project ID: 231440-3-22-01

Federal Aid Number:

ETDM Number: 14177

Prepared for:



**Florida Department of Transportation
District IV
3400 West Commercial Boulevard
Fort Lauderdale, Florida 33309**

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**Prepared by:
Kimley-Horn and Associates, Inc.**

**In Cooperation with:
Inwood Consulting Engineers, Inc.**

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EXECUTIVE SUMMARY

In accordance with Presidential Executive Order 11990, Federal Highway Administration (FHWA) Technical Advisory T6640.8A and the Florida Department of Transportation (FDOT) *Project Development and Environment (PD&E) Manual*, Part 2, Chapter 18 (revised April 24, 2013), a wetland evaluation was conducted for the proposed widening of Midway Road (CR 712) between Glades Cut Off Road and Selvitz Road in St. Lucie County, Florida. The project was screened through the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) and the programming screen was published on May 27, 2015 (ETDM #14177 -<https://etdmpub.fla-etat.org/est/>).

The purpose of this report is to identify wetlands and other surface waters within the project area, evaluate potential wetland and surface water impacts, identify measures to avoid and minimize impacts, and identify conceptual mitigation options.

The proposed “action” under consideration is the widening of Midway Road (CR 712) from two to four lanes and the construction of stormwater management ponds. Two build alternatives were considered and compared to the No Build Alternative. Alternative 1 (Canal Avoidance) generally widens the road north of the existing while Alternative 2 (Box Culvert) generally widens the road to the south of the existing. Alternative 2 would result in culverting Canal 103 similar to the design currently under construction to the east between Selvitz Road and 25th Street.

Direct and secondary impacts to wetlands range from 0.36 (Alternative 1) to 0.07 (Alternative 2) and impacts to surface waters range from 1.54 acres (Alternative 1) to 3.95 acres (Alternative 2). Mitigation for surface waters will not be required, though South Florida Water Management District (SFWMD) will require a mechanism for air exchange for Alternative 2 which culverts Canal 103. Mitigation would be provided for direct and secondary wetland impacts through purchase of mitigation credits in Bluefield Mitigation Bank.

FDOT commits to the following measures to minimize and mitigate potential impacts to wetlands and water quality:

- If Alternative 2 is preferred, mechanisms will be included in the culvert design to allow for air exchange.
- Best Management Practices (BMP's) will also be implemented in order to reduce sediment transport and minimize erosion.

1.0 INTRODUCTION

In accordance with Presidential Executive Order 11990, Federal Highway Administration (FHWA) Technical Advisory T6640.8A and the Florida Department of Transportation (FDOT) *Project Development and Environment (PD&E) Manual*, Part 2, Chapter 18 (revised April 24, 2013), a wetland evaluation was conducted for the proposed widening of Midway Road (CR 712) between Glades Cut Off Road and Selvitz Road in St. Lucie County, Florida. See *Location Map - Figure 1*. The project was screened through the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) and the programming screen was published on May 27, 2015 (ETDM #14177 -<https://etdmpub.fl-a-etat.org/est/>).

The purpose of this report is to identify wetlands and other surface waters within the project area, evaluate potential wetland and surface water impacts, identify measures to avoid and minimize impacts, and identify conceptual mitigation options.

The proposed “action” under consideration is the widening of Midway Road (CR 712) from two to four lanes and the construction of stormwater management ponds.

2.0 PROJECT DESCRIPTION

The Midway Road (CR 712) project corridor is centrally located in the eastern part of St. Lucie County, Florida, and is owned and maintained by St. Lucie County. The project corridor extends approximately 1.6 miles along Midway Road (CR 712) (Roadway ID 94530000), from Glades Cut Off Road (Mile Post 5.813) (CR 709) to Selvitz Road (Mile Post 7.405) (CR 615). The project ties into the existing 4-lane section to the west of Glades Cut Off Road and to future 4-lane segments from Selvitz Road to just east of US Highway 1. The project corridor is located in unincorporated St. Lucie County but is the northern border to the City of Port St. Lucie (See *Figure 1*).

Midway Road (CR 712) is a major east-west roadway that provides a vital connection to residents and commuters to and from Interstate 95 (I-95) to the commercial areas along US 1. Within the project limits, Midway Road (CR 712) is a two-lane undivided roadway with a varying posted speed from 35 to 45 miles per hour (mph). It is functionally classified as an Urban Principal Arterial and is designated as a hurricane evacuation route by the Florida Division of Emergency Management. The existing roadway typical section consists of two 12-foot lanes, one in each direction, and the existing right-of-way (R/W) varies with a minimum width of 70 feet. The land uses consist of residential, commercial, government, and industrial facilities, such as Tropicana Products, Inc., CEMEX, Packers of Indian River Ltd., US Post Office, St. Lucie County Sheriff’s Office, and New Horizons of the Treasure Coast, Inc.

The study corridor includes a bridge (ID 940050) over Florida’s Turnpike (SR 91). The Florida East Coast (FEC) railroad traverses the corridor by running adjacent and parallel to the Glades Cut Off Road. Canal 103, which was previously owned and maintained by the North St. Lucie Water Control District (NSLWCD) but is now owned and maintained by St. Lucie County, is the principal receiving water body for the project area and conveys stormwater from the west side of Florida’s Turnpike through an existing concrete box culvert. The canal runs parallel along the south side of Midway Road (CR 712) and, after Selvitz Road, it diverges and continues southeasterly to discharge into the North Fork of the St. Lucie River (NFSLR or North Fork). Canal 103 is currently being culverted from Selvitz to 25th Street as part of St. Lucie County’s widening of Midway Road in this segment. The North Fork is designated as an Outstanding Florida Water (OFW) and an Aquatic Preserve. It is the main collector water body in St. Lucie County and

discharges into the Indian River Lagoon. The canal, along with the adjacent vegetative buffer, provides a physical separation to the residential homes on the south side.

The Midway Road/CR 712 PD&E Study from Glades Cut Off Road to Selvitz Road will evaluate alternatives to widen the existing road from two to four lanes within the project limits in order to satisfy future traffic demand and capacity needs. The proposed study will also consider pedestrian, bicycle, and transit facilities and improvements to freight mobility, and it will evaluate operational improvements and access management into some commercial businesses along the project corridor. Additional right-of-way requirements will be evaluated during the PD&E study for offsite ponds in order to meet stormwater management requirements.

2.1 PURPOSE AND NEED

Based on recent traffic data from St. Lucie County, the facility does not adequately handle the existing traffic demand. Without capacity improvements, the traffic operations along the corridor will continue to deteriorate. The primary purpose for this project is to provide additional capacity to meet existing and future traffic needs, improve safety by alleviating existing roadway and capacity deficiencies, and allow opportunities for pedestrian, bicycle, and transit facilities. The additional capacity will also improve freight mobility and enhance emergency evacuation along the project corridor. The purpose and need of this project are further described below and include Transportation Demand, Capacity, Plan Consistency, Social Demands and Economic Development, Modal Interrelationships, and Roadway Deficiencies.

Transportation Demand

The US Census-designated Port St. Lucie-Fort Pierce Metropolitan Statistical Area has been identified as one of the fastest growing metropolitan areas in Florida, which includes all of Martin and St. Lucie counties. From 2000 to 2010, this metropolitan area has experienced population growth from 319,426 persons in 2000 to 424,107 persons in 2010, representing an annual increase of 2.9%. Evaluating the population growth for the City of Port St. Lucie by itself revealed an even greater percentage increase. According to the Bureau of Economic and Business Research, the City has grown from a population of 88,769 in 2000 to 164,603 in 2010, representing an annual increase of 6.4%.

This rapid population growth has resulted in a significant increase in surface transportation demand along major arterials such as the Midway Road (CR 712) corridor. The population of the Port St. Lucie-Fort Pierce metropolitan area is projected to increase from 424,107 persons in year 2010 to 648,600 persons in year 2035, representing a growth of approximately 53% (Bureau of Economic Business Research).

As the population in the metropolitan area continues to increase, the developments in St. Lucie County will continue to push westward. In addition, the county is anticipated to experience traffic growth from the Developments of Regional Impact (DRI). A review of the recent DRI applications in the Treasure Coast Regional Planning Council shows the following statuses for the DRIs in the vicinity of the project corridor:

Completed - Orange Blossom Mall and St. Lucie West

Approved - The Reserve

Pending Notice of Proposed Change - LTC Ranch

Withdrawn - Provinces and Orchard Park

The DRI located along Midway Road (CR 712), which is LTC Ranch, would have the greatest impact on the project corridor if constructed. As currently approved, the development includes 4,000 dwelling units of residential, over 1,505,000 square feet (sq. ft.) of office space, 725,000 sq. ft. of retail, and 1,960,200 sq. ft. of industrial space. However, the status of this development is pending Notice of Proposed Change that may result in a change in the size of the approved development.

The approval of the LTC Ranch DRI will further increase the transportation demand resulting in congested conditions along the project corridor. Since Midway Road (CR 712) is one of the vital east-west corridors in St. Lucie County, it is critical to increase capacity to meet the anticipated future transportation demand.

Capacity

Traffic data obtained from the St. Lucie County Transportation Planning Organization (TPO) Traffic Counts and Level of Service Report shows that the 2012 Annual Average Daily Traffic (AADT) along Midway Road (CR 712) west of Selvitz Road is 16,820 vehicles. Evaluating this traffic data using the 2012 FDOT Quality/Level of Service Handbook, the LOS is F which is beyond the St. Lucie County's adopted LOS criteria of E. This traffic data shows that the existing volume is already exceeding the capacity of the corridor which indicates that the roadway is operating in oversaturated and undesirable conditions. Furthermore, due to the industrial properties along the corridor, it has a high truck percentage at over 7% (Florida Traffic Online).

The traffic is anticipated to increase to 29,200 AADT by 2040 and the corridor will continue to operate at LOS F with degraded traffic operation unless the capacity is increased. The future traffic projections are based on the FDOT District Four Design Traffic Technical Memorandum for the I-95 PD&E Study from north of Becker Road to south of SR 70. This project utilized the Greater Treasure Coast Regional Planning Model as the basis for the future traffic projections. Without improvements, the congestion on the Midway Road (CR 712) project corridor will continue to operate at unacceptable driving conditions for residents and commuters due to the increased traffic volumes.

Plan Consistency

Martin and St. Lucie counties have independent Metropolitan Planning Organization/Transportation Planning Organization (MPO/TPO) but share a common Regional Long Range Transportation Plan (RLRTP). The RLRTP establishes a unified strategy for transportation priorities and funding and creates a joint decision-making process regarding regional transportation issues.

The Midway Road (CR 712) project corridor extends from Glades Cut Off Road to Selvitz Road and is identified in the Martin and St. Lucie 2035 RLRTP. The project is identified in the St. Lucie County TPO 2035 Cost Feasible Plan (2016-2035) with a 2021-2025 implementation horizon. In addition, the project will be included in the next update to the State Transportation Improvement Program and the St. Lucie TPO Transportation Improvement Program. It should be noted that on the south side of the project corridor a multipurpose trail has been identified in the 2035 RLRTP in Table 4-9 of the Needs Plan Development.

Social Demands & Economic Development

Evacuation: Serving as part of the evacuation route network established by the Florida Division of Emergency Management, Midway Road (CR 712) plays an important role in facilitating traffic during emergency evacuation periods as it connects other major highways and arterials designated on the state evacuation route network within the project limits. These facilities include Okeechobee Road (SR 70), I-95, Glades Cut Off Road (CR 709), Selvitz Road, South 25th Street (CR 615), Oleander Avenue (CR 605),

and US 1. During a twelve-month period in 2004-2005, St. Lucie County was hit directly by three major hurricanes. Midway Road (CR 712) is one of the county's most critical east-west routes and serves as a vital evacuation route for hurricanes or any other disasters. Additionally, widening Midway Road (CR 712) will ease traffic flow between South 25th Street and I-95, which will minimize a bottleneck effect during an emergency. It would also improve the ability of the local emergency management organization to evacuate large portions of the Treasure Coast in an acceptable timeframe which will enhance the safety of residents.

Economic Development: The Treasure Coast Planning Council Alternative Infill Development Plan developed for Martin and St. Lucie counties has identified several regional workplace districts located along the Midway Road (CR 712) corridor. These regional workplace districts are locations where business and economic development would be focused in order to provide jobs for residents within this metropolitan area. The Midway Road (CR 712) project area is a high-growth area. Important state and federal offices and nonprofit centers are located along Midway Road (CR 712) or nearby streets. This includes the main St. Lucie County Branch of the US Post Office, St. Lucie County Sheriff's Office, St. Lucie County Health Department, St. Lucie County Fire District Office, Hospice of the Treasure Coast, and New Horizons of the Treasure Coast, Inc. (a mental health center which is currently expanding). Significant truck traffic from the nearby St. Lucie County Landfill, CEMEX, Packers of Indian River Ltd., and Tropicana Products, Inc. place additional demands on the roadway. Meanwhile, new residential units are planned nearby. The St. Lucie County Fairgrounds, the County's Emergency Operations Center, is just six miles west of the project site.

According to the Martin and St. Lucie 2035 RL RTP, "The Regional Workplace Districts in St. Lucie County are located along the I-95 and Florida's Turnpike corridors and include the Treasure Coast Education Research Development Authority (TCERDA) area; the Crossroads Park of Commerce; the existing Rinker and Tropicana facilities along Glades Cut Off Road; the LTC Ranch Commerce Park; St. Lucie West Commerce Park; and Torrey Pines Institute south of Tradition and Gatlin Boulevard. These districts are well-situated for regional access, have ample room to grow, and can provide jobs for local residents." The Midway Road (CR 712) project corridor is anticipated to serve as the main transportation corridor linking residents of both Martin and St. Lucie counties to this business area. Increasing the capacity along the project corridor will improve mobility and support the economic development of these districts as well as stimulate major construction activities that will contribute to economic growth within this area.

Modal Interrelationships

The accessibility to bicyclists and pedestrians along the corridor is minimal with only two sections of sidewalk within the corridor. They are located on the north side of Midway Road (CR 712) from East Torino Boulevard to Glades Cut Off Road and along the frontage of the recently constructed New Horizons medical facility. There are no bicycle lanes. During a recent field review (February 7, 2014), pedestrians were noted walking on the grassed shoulder while pushing a child's stroller. Additionally, the existing bridge over the Florida's Turnpike does not have sufficient shoulder width to accommodate pedestrian or bicycle traffic. A review of the Martin and St. Lucie 2035 RL RTP identified a multipurpose trail in Table 4-9 of the Needs Development Plan that would run along the entirety of Midway Road (CR 712) to connect with the other proposed multipurpose trails located on Okeechobee Road, Shin Road, Glades Cut Off Road, Selvitz Road, and Midway Road to the east.

The 2035 Future Bus and Train Network identified a proposed bus route along the entirety of Midway Road (CR 712) to connect to existing bus routes. Moreover, the County's Transit Development Plan from

February 2014 identified Midway Road (CR 712) as a priority corridor to implement transit. The project will create opportunities to include pedestrian, bicycle, and transit facilities along the project corridor.

Roadway Deficiencies

The Midway Road (CR 712) bridge structure (ID 940050) over the Florida's Turnpike is located at Mile Post 6.346 and was constructed in 1957. The last inspection of the bridge was performed on December 19, 2013. Although the report notes no structural deficiencies, the bridge is classified as functionally obsolete.

3.0 ALTERNATIVES CONSIDERED

Three build alternatives, including the Transportation System Management and Operations (TSMO) alternative, were developed and considered during the preliminary engineering phase of this study. The No-Build Alternative, TSMO Alternatives, and Build Alternative 1 (Canal Avoidance) and Build Alternative 2 (Box Culvert) are described below. See *Appendix A – Typical Sections and Plans*.

No-Build Alternative

No improvements are made to Midway Road (CR 712) within the limits of the study.

Build Alternatives

Transportation System Management and Operations (TSMO) Alternatives

TSMO alternatives involve improvements designed to maximize the utilization and efficiency of the existing facility through improved system and demand management. The various TSMO options generally include traffic signal and intersection improvements, access management, and transit improvements. The additional capacity required to meet the projected traffic volumes along Midway Road (CR 712) in the design year cannot be provided solely through the implementation of TSMO improvements.

Build Alternative 1 (Canal Avoidance)

The typical section includes two, 11-foot travel lanes in each direction separated by a 22-foot median. Seven-foot buffered bike lanes would be provided in each direction located adjacent to the outside travel lanes. Type F curb and gutter is used along the inside and outside lanes and collects stormwater runoff which is then directed to stormwater retention ponds. A six-foot wide sidewalk would be provided on the north side of the roadway, and a 12-foot-wide shared-use path would be provided along the south side of the roadway. The alignment for this alternative would shift to the north to avoid impacts to Canal 103. This typical section requires a minimum of 153 feet of R/W. Since the existing County R/W width varies between 107 feet and 153 feet, from zero feet up to 46 feet of R/W would need to be acquired along the north side of the roadway. The design speed for this typical section would be 45 mph (See *Appendix A*).

Build Alternative 2 (Box Culvert)

The roadway and pedestrian features of the typical section for this alternative are similar to Alternative 1 except that Canal 103 would be enclosed with a box culvert. The canal is located within R/W owned by both St. Lucie County and the City of Port St. Lucie. This typical section requires a minimum of 160 feet of R/W. Approximately 25 feet to 32.5 feet of R/W would need to be acquired from the City of Port St. Lucie along the south side of the roadway. Additionally, up to 28 feet of R/W would need to be acquired along the north side of the roadway. The design speed for this typical section would be 45 mph (See *Appendix A*).

4.0 EXISTING ENVIRONMENTAL CHARACTERISTICS

4.1 EXISTING AND FUTURE LAND USE

4.1.1 Existing Land Use

The project study area includes the existing R/W of Midway Road between Glades Cut Off Road and Selvitz Road (project corridor), as well as an approximately 500-foot buffer area surrounding the project corridor (*Figure 1*). Existing land use within the project study area was determined through the interpretation of 1" = 100' scale aerial photography, review of land cover Geographic Information System (GIS) data obtained from the South Florida Water Management District (SFWMD), and field reconnaissance of the project corridor on July 2 and 15, 2015. Existing land use was mapped based on the *Florida Land Use, Cover and Forms Classification System* (FLUCFCS) (FDOT, 1999) for the project area and is depicted in *Figure 2*.

The project study area that extends south from Midway Road is located within the city limits of the City of Port St. Lucie and the area that extends north of Midway Road is located within unincorporated St. Lucie County. The project study area can be generally characterized by existing roadways, medium and low density residential developments, food processing and industrial facilities (e.g. Tropicana Packers of Indian River, Cemex, etc.), governmental facilities (e.g. U.S. Post Office, St. Lucie County Sherriff's Office, Health Department, and Fire District), medical and health care (e.g. New Horizons of the Treasure Coast and Okeechobee), and wholesale and retail sales and services. Undeveloped land uses include freshwater marshes, improved pastures, and pine flatwoods. Existing roads and highways; however, make up the largest single land use within the project study area. The majority of the natural land uses observed within the project study area are located south of Midway Road within the residential developments or surrounding Jenkins Road, north of Midway Road.

4.1.2 Future Land Use

Future land use was determined based on a review of the St. Lucie County and City of Port St. Lucie Future Land Use (FLU) Maps (*Figure 3*). According to the St. Lucie County FLU map the project study area to the north of Midway Road is primarily Industrial (IND), Residential Suburban (RS), Public Facilities (P/F), Mixed Use (MXD), and Commercial (COM). According to the City of Port St. Lucie FLU map the project study area south of Midway Road is primarily Residential (RL), Open Space Conservation (OSC), Institutional (I), Service Commercial (CS), General Commercial (CG), Open Space-Recreational (OSR).

Within the study area, the Industrial FLU is located along the northwestern portion of the project adjacent to Florida's Turnpike and Glades Cut Off Road, Residential and Open Space Conservation FLU runs along the entire southern portion of the project as well as the northeastern project terminus. Public Facilities and Mixed Use FLU are centrally located approximately 1200 feet northwest of the Selvitz Road/Midway Road intersection. Commercial FLU is primarily found southwest of the Glades Cut Off Road/Midway Road intersection and north of the Selvitz Road/Midway Road intersection.

4.2 NATURAL AND BIOLOGICAL FEATURES

The assessment of natural and biological features, wetlands, and threatened and endangered species within the corridor included the review of the following data and documents:

- US Department of Agriculture Soil Conservation Service (USDA/SCS) *Soil Survey of St. Lucie County Area, Florida* (1980)

- Aerial photography (2012) obtained from FDOT
- Historical aerial photography from the FDOT Aerial Photo Look-up System (APLUS) and Publication of Archival Library and Museum Materials (PALMM)
- Habitat and species-specific information obtained from the US Fish and Wildlife Service (USFWS), the Florida Fish and Wildlife Conservation Commission (FWC), Florida Fish and Wildlife Research Institute (FWRI), Florida Geographic Data Library (FGDL), the Florida Natural Areas Inventory (FNAI), and St Lucie County.
- The Hydric Soils of Florida Handbook (2007)
- The US Geological Survey (USGS) 7.5-Minute Quadrangle Maps (2703 – Ankona; 2704 – Fort Pierce SW; 2803 – Fort Pierce; 2804 – Fort Pierce NW)
- The USFWS National Wetland Inventory (NWI) maps
- The USGS Groundwater Atlas of the United States
- The Federal Emergency Management Agency’s (FEMA) Flood Insurance Rate Maps (FIRM)
- Review of the ETDM Programming Summary Report (Published May 27, 2015) – included in **Appendix B**.

In addition to the review of databases, reports and other resources, field reconnaissance of the project study area was performed on July 2 and 15, 2015.

4.2.1 Land Cover

Upland (undeveloped) and wetland communities were observed within the project study area and habitat classifications have been assigned according to the FLUCFCS. The upland and wetland communities observed are depicted in **Figure 2**. A description of the observed communities, by FLUCFCS type, and calculated total acreages are provided in **Table 1**.

The upland land cover was approximately 21.9% of the land cover in the study area and includes five (5) undeveloped, natural upland communities: undeveloped land within urban areas (FLUCFCS 191), improved pastures (FLUCFCS 211), pine flatwoods (FLUCFCS 411), Brazilian pepper (FLUCFCS 422), and hardwood-conifer mixed (FLUCFCS 434). The wetland land cover classes included exotic wetland hardwoods (FLUCFCS 619) and freshwater marshes (FLUCFCS 641).

Pine flatwoods occupied the largest area, approximately 28.8 acres of the vegetated uplands within the study area and the dominant vegetation observed within these areas included slash pine (*Pinus elliottii*), cabbage palm (*Sabal palmetto*), saw palmetto (*Serenoa repens*), wax myrtle (*Myrica cerifera*) and numerous vines (e.g. *Smilax* spp. and *Vitis rotundifolia*). Exotic and nuisance vegetation including Australian pine (*Casuarina equisetifolia*), Brazilian pepper (*Schinus terebinthifolius*), and earleaf acacia (*Acacia auriculiformis*) were also observed within these areas.

The hardwood-conifer mixed land cover occupied approximately 9.9 acres of the study area along the southern banks of Canal 103 between Jenkins Road and Selvitz Road, and southwest of the Florida’s Turnpike. Vegetation in these areas was dominated by laurel oak (*Quercus laurifolia*) and slash pine, with water oak (*Q. nigra*), live oak (*Q. virginiana*), cabbage palm, saw palmetto, red maple (*Acer rubrum*), Australian pine, Brazilian pepper, and earleaf acacia as associate species.

The undeveloped land within urban areas land cover occupied approximately 6.0 acres of the project study area and consisted of mowed and maintained bahia grass areas that were primarily located south of Midway Road within the residential developments.

The Brazilian pepper communities consisted of dense monocultures of the invasive tree species with sparse live oak and cabbage palm in the understory. These upland communities were generally located along the Florida East Coast (FEC) railroad corridor within the northwestern portion of the project study area.

The improved pastures land cover occupied approximately 0.25 acres of the project study area and consisted of actively grazed cattle pastures located at the southwest corner of the Midway Road and Glades Cut Off Road intersection (western terminus). Vegetation consisted primarily of bahia grass with isolated patches of slash pine, cabbage palm and Brazilian pepper.

There were two wetland community types within the study area: exotic wetland hardwoods (FLUCFCS 619), and freshwater marshes (FLUCFCS 641). The most abundant wetland communities within the study area were freshwater marshes. Vegetation found within the freshwater marshes included corkwood (*Stillingia aquatica*), rosy camphorweed (*Pluchea rosea*), spadeleaf (*Centella asiatica*), duck potato (*Sagittaria lancifolia*), beakrush (*Rhynchospora spp.*), white top sedge (*Rhynchospora colorata*), St. John's wort (*Hypericum fasciculatum*), common reed (*Phragmites australis*), spike rush (*Eleocharis spp.*) broomsedge (*Andropogon spp.*), groundseltree (*Baccharis halimifolia*), and wax myrtle. These communities were located along the east shoulder of Florida's Turnpike, north of Midway Road to the east and west of Jenkins Road, and south of Midway Road approximately 0.25 mile west of Selvitz Road.

The exotic wetland hardwoods (FLUCFCS 619) wetland community type within the project study area occupied approximately 2.0 acres of the study area. Vegetation primarily consisted of Brazilian pepper, Carolina willow (*Salix caroliniana*), primrose willow (*Ludwigia peruviana*), earleaf acacia, pickerel weed (*Pontederia cordata*), duck potato, groundseltree, shield fern (*Dryopteris ludoviciana*), and white top sedge. The exotic wetland hardwoods were located in three areas within the project study area, including a depressional area between the FEC railroad and Glades Cut Off Road, within the drainage swale that runs along the west side of Florida's Turnpike, and south of Midway Road to the east of Omega Road.

Table 1 - Summary of Upland Land Cover Within the Project Study Area			
FLUCFCS Code	FLUCFCS Type	Description	Acres
111	Residential, Low Density - Fixed Single Family Units	This category includes residential fixed single family unit housing, with less than two dwelling units per acre. Includes residences to the north of Midway Road, approximately 800 feet west and immediately east of Selvitz Road.	4.70
121	Residential, Medium Density - Fixed Single Family Units	This category includes residential fixed single family unit housing. Two to five dwelling units per acre. These residences are primarily located south of Midway Road between the FEC railroad and Florida's Turnpike and between Milner Drive and Selvitz Road within the project study area.	36.6
141	Retail Sales and Services	This category is primarily devoted to the sale of products and services. This land cover includes the Mobil gas station at the northeast corner of Midway Road and Selvitz Road.	2.13
142	Wholesale Sales and Services	This category is associated with the storage and wholesale distribution of products and materials. This land cover includes All Scape Supply, LLC located approximately 800 feet west of Jenkins Road, north of Midway Road.	3.55
151	Food Processing	This land cover category includes citrus processing plants such as Tropicana and Packers of Indian River located north of Midway Road.	8.72
156	Other Heavy Industrial	This category is associated with ship building and repair, pre-stressed concrete plants, metal fabrication plants, and cement plants such as the CEMEX facility located between Glades Cut Off Road and Florida's Turnpike, north of Midway Road.	18.3
174	Medical and Health Care	This category includes all buildings and grounds that compose medical facilities such as the New Horizons of Treasure Coast and Okeechobee facility.	6.61
175	Governmental	This category includes all buildings and facilities which are identifiable as non-military governmental, such as the St. Lucie County Sheriff's Office and the U.S. Post Office.	13.2
191	Undeveloped Land within urban areas	This category includes undeveloped land within urban areas. Normally does not exhibit any structures or indication of intended use. Includes vacant grass areas immediately surrounding the residential developments south of Midway Road.	6.05
211	Improved Pastures	This category is composed of land which has been cleared, tilled, and reseeded with specific grass types. Land is periodically improved with brush control and fertilizer application. Within project study area, this land	0.25

Table 1 - Summary of Upland Land Cover Within the Project Study Area			
FLUCFCS Code	FLUCFCS Type	Description	Acres
		cover is located southwest of the intersection of Glades Cut Off Road and Midway Road.	
411	Pine Flatwoods	This category is dominated by either slash pine, longleaf pine, or both. The common understory species include saw palmetto, wax myrtle, gallberry and a wide variety of herbs and brush. This land cover primarily includes areas north and south of Midway Road adjacent to Jenkins Road, and the northwest corner of the Midway Road and Selvitz Road intersection.	28.8
422	Brazilian Pepper	This category includes Brazilian pepper dominated areas located adjacent to the FEC Railroad.	1.45
434	Hardwood - Conifer Mixed	This category is composed of forested areas in which neither upland conifers nor hardwoods have achieved a 66 percent crown canopy dominance. This land cover includes areas located south of Midway Road along Canal 103.	9.93
812	Railroads	This category includes the FEC Railroad.	1.84
814	Roads and Highways	This category includes portions of roads and highways such as Midway Road (CR 712), Glades Cut Off Road (CR 709), Florida's Turnpike (SR 91), Selvitz Road, Milner Drive, and Jenkins Road.	54.6
Grand Total			196.73

Compiled by Kimley-Horn and Associates, Inc. 2015

4.2.2 Soils

Based on a review of the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) *Soil Survey for St. Lucie County*, there are seven (7) major soil types within the project study area (See soils map **Figure 4**). In general, the soils found within the project study area are derived from sandy marine sediments, are gently sloping, and are poorly drained. According to the *Hydric Soils of Florida Handbook, Fourth Edition* (Florida Association of Environmental Soil Scientists, 2007), Riviera fine sand, 0 to 2 percent slopes is considered a hydric soil and Wabasso sand, 0 to 2 percent slopes has hydric soil inclusions greater than ten (10) percent. Hydric soils and hydric soil inclusions are one indicator of the presence of wetlands, and the areas where these soils (i.e. Wabasso sand) are mapped correspond to the locations of freshwater marsh wetlands that were observed within the project study area during field reconnaissance. **Table 2** includes a summary of the soil types found in the project study area.

Table 2 - Soil Types Mapped Within the Project Study Area

Soil ID Number	Soil Name	Parent Material	Drainage Class	Water Storage Capacity	Hydraulic Conductivity	Depth to Restrictive Feature	Water Table Depth	Acres
25	Nettles and Oldsmar sands	Sandy and loamy marine deposits	Poorly drained	Very low	Moderately low to moderately high	31 to 50 inches	6 to 18 inches	80.5
26	Oldsmar sand, depressional	Sandy and loamy marine deposits	Very poorly drained	Low	Moderately low to moderately high	> 80 inches	0 inches	0.10
31	Pepper and EauGallie sands	Sandy and loamy marine deposits	Poorly drained	Moderate	Moderately low to high	> 80 inches	6 to 18 inches	28.3
38	Riviera fine sand, 0 to 2 percent slopes	Sandy and loamy marine deposits	Poorly drained	Low	Moderately high to high	> 80 inches	0 to 12 inches	2.96
44	Tantile and Pomona sands	Sandy and loamy marine deposits	Poorly drained	Very low	Moderately low to moderately high	18 to 31 inches	6 to 18 inches	1.39
48	Wabasso sand, 0 to 2 percent slopes	Sandy and loamy marine deposits	Poorly drained	Very low	Moderately low to moderately high	9 to 50 inches	6 to 18 inches	77.1
50	Waveland and Immokalee fine sands	Sandy marine deposits	Poorly drained	Very low	Moderately low to moderately high	31 to 50 inches	6 to 18 inches	20.8

Bold text denotes hydric soils or soils with hydric inclusions greater than 10% of the soil mapping unit.

Compiled by Kimley-Horn and Associates, Inc. 2015

4.2.3 Floodplains/Drainage/Groundwater

The project study area is located entirely within FEMA flood zone X, areas determined to be outside the 0.2% annual chance floodplain (i.e. 500-year floodplain). See attached FEMA Flood Zone Map (*Figure 5*). A review of available hydrogeological maps and the USGS Ground Water Atlas of the United States indicated that the underlying hydrogeological units in this geomorphic zone of St. Lucie County include the surficial aquifer system and the Floridan aquifer system.

The Surficial Aquifer System (SAS) is typically less than 50 feet in thickness and is comprised of beds of unconsolidated sand, shelly sand, and shell material. In St. Lucie County, the SAS has limestone, sandstone, shell and clay lenses within the unconsolidated quartz sand layers (Lukasiewicz, 1995). Ground water in the Surficial Aquifer system is unconfined and is generally used for domestic, commercial, or small municipal water supplies rather than public consumption. Groundwater within the Surficial Aquifer System in St. Lucie County generally moves in a lateral direction eastward towards areas of lower elevation and the Atlantic Ocean. Additionally, because the surficial aquifer system extends under the Atlantic Ocean, saltwater intrusion can occur in these coastal areas.

The Floridan Aquifer system is a large, productive, artesian aquifer covering approximately 100,000 square miles in southeastern Georgia, southern South Carolina, and all of Florida. It is contained within the underlying limestone formation and is characterized by very high permeability limestone and dolomite formations. The Floridan Aquifer system is divided into upper and lower units. The Upper Floridan is the target aquifer for domestic water wells and is considered the most important aquifer in this region, while much of the Lower Floridan contains saline water and is not a suitable water supply. Regionally, the Upper Floridan Aquifer is approximately 500 feet thick and is separated from the SAS by a thick confining layer called the Hawthorn Group that is comprised of fine sands, silts and clays (Lukasiewicz, 1995). Generally, groundwater flows east-southeast in this portion of St. Lucie. Groundwater is expected to move east towards the NFSLR, which flows from the convergence of Five Mile Creek and Ten Mile Creek, approximately two miles northeast of the project study area, to the south where it drains into the St. Lucie Estuary and eventually into the Atlantic Ocean via the St. Lucie Inlet. Groundwater and surface water movement may also be influenced by localized depressional features such as freshwater marshes and canals such as Canal 103.

5.0 WETLANDS EVALUATION

5.1 DATA COLLECTION

In accordance with Executive Order 11990, Protection of Wetlands, and FHWA Technical Advisory T6640 8A, the extent and types of wetlands in the study area were documented through the following methods:

- Review of the USDA *Soil Survey of St. Lucie County Area, Florida* (1980) and the *Hydric Soils of Florida Handbook, Fourth Edition* (Florida Association of Environmental Soil Scientists, 2007) to identify hydric soils, USGS 7.5-Minute Quadrangle Maps and USFWS National Wetland Inventory maps to identify potential wetlands and surface waters within the project corridor.
- Interpretation of 1"=100' scale aerial photography to identify other wetland and surface water resources within the project study area.
- Field reconnaissance of the project corridor was conducted on July 2, 2015 and July 15, 2015 to field verify and/or confirm the presence of wetlands and surface waters within and immediately adjacent to the R/W of the project corridor.

Wetlands and other surface waters occurring within and immediately adjacent the Midway Road R/W were identified and incorporated into the study. Surface waters include both natural and manmade bodies of water, such as streams, lakes, ponds, canals, and ditches.

Each wetland site was identified in the field using the delineation methods described in the U. S. Army Corps of Engineers (USACE) *Federal Manual for Identification and Delineation of Wetlands* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf*

Coastal Plain Region (Version 2.0) in accordance with Chapter 62-340, of Florida Administrative Code (FAC), *Delineation of the Landward Extent of Wetlands and Surface Waters*. Wetland classifications occurring within the project area were determined based on FLUCFCS as well as the USFWS publication *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). These methods take into account prevalence of wetland vegetation, hydric soil indicators, and wetland hydrology.

All wetlands and surface waters identified in the field were compiled onto digital aerial imagery of the project study area. Acreage calculations of the existing area and area of impact were then calculated using GIS Software. It was not practical to obtain total acreage calculations for some of the wetlands and surface waters that extended outside the project area. Formal wetland delineations including field flagging and approval by SFWMD or USACE have not been conducted, but will occur during the design and permitting phase of the project.

ETDM Comment Summary

ETDM comments received from SFWMD, US Environmental Protection Agency (USEPA), USACE, USFWS, Florida Department of Environmental Protection (FDEP) and National Marine Fisheries Service (NMFS) focused on avoidance and minimization of impacts to wetland resources located within the proposed project study area. NMFS indicated that potential direct impacts and impacts associated with construction activities could affect low to moderate quality emergent wetlands and ditches within the project corridor as well as recreationally, commercially, and ecologically important species that are located within downstream estuaries. The USACE added that “filling wetlands reduces the ability of the natural environment to provide: sustainable habitat for wildlife, aquifer recharge, natural filters for pollutants, essential carbon export/import functions, flood water attenuation and storage, and contributions to the ecosystem through food-web productivity, among many other functions.” SFWMD added that the wetlands may provide habitat for a variety of wetland dependent wildlife including listed species such as the wood stork.

The USEPA indicated that the proposed project alignment and footprint should be designed and developed in a manner that will avoid impact on the wetland resources to the greatest extent practicable and that unavoidable impacts should be fully mitigated. The USFWS and FDEP reiterated these comments, and FDEP added that avoidance -oriented corridor alignments, pile bridging and steep/vertically retained side slopes, and reduction of median widths should be minimization measures that are emphasized. FDEP also stated that wetlands should not be displaced by the installation of stormwater conveyance and treatment swales.

SFWMD, USEPA and FDEP further noted that the increased stormwater runoff generated as a result of increased quantity of impervious surfaces are of concern. They indicated that the project must be designed to meet SFWMD water quality and quantity criteria and should maximize stormwater treatment prior to discharge in order to prevent groundwater and surface water contamination. FDEP added that retro-fitting of the existing stormwater conveyance systems would help reduce water quality impacts.

5.2 WETLAND CHARACTERIZATION

Baseline information characterizing the wetlands involved within the study area including contiguity, vegetative structural diversity, edge relationships, wildlife habitat value, hydrologic functions, public use, and integrity is found in **Table 3**. The wetland polygons were individually characterized based on their

FLUCFCS type and are depicted in *Figure 6*. Representative photographs of wetlands and surface waters are included in *Appendix C*.

Table 3 - Wetland and Surface Water Characteristics within the Project Study Area										
Wetland ID	FLUCFCS Code	USFWS Code	Contiguity	Vegetative Structural Diversity	Edge Relationships	Wildlife Habitat Value	Hydrologic Function	Public Use	Integrity	Size (Acres)
SW1 (aka Canal 103)	510	Palustrine Unconsolidated Bottom, Sand (PUB2)	Contiguous within study area and connected via a control structure to NFSLR. Extends the length of the project along the south side of Midway Road. Surface water appears to be connected to adjacent roadway stormwater drainage system.	Low structural diversity, canal slopes periodically mowed. Species include ragweed, dollarweed, beggar ticks, Brazilian pepper, earleaf acacia, Australian pine and patches of smartweed and cattail along banks. Invasive or non-native species presence due to disturbance and location.	Surrounding land uses include roads and highways, railroads, and residential.	Provides minimal foraging/refuge habitat for wading birds, fish, raptors, and herpetofauna. Public input noted river otters have been observed. However, the canal is being filled and culverted to the east (County design project) so wildlife access will be affected.	Primarily a stormwater conveyance system that provides storage and sedimentation abatement functions.	Not Applicable	Excavated surface water was designed as water conveyance for stormwater runoff. Impacted by surrounding development and regular mowing affects the habitat composition and structure.	3.86
SW2	534	Palustrine Emergent Nonpersistent (PEM2)	Limited contiguity within study area. Surface water appears to be contiguous to adjacent roadway stormwater drainage system.	Low structural diversity, periodically mowed. Species include bahia grass, wax myrtle, dog fennel, dollarweed, pickerelweed, and primrose willow. Potential for invasive or non-native species presence due to disturbance and location.	Extends along western side of and within Glades Cut Off Road R/W. Extends off-site and is surrounded by natural and developed land uses including the improved pastures and roads and highways.	Limited foraging habitat support for wading birds and herpetofauna when inundated.	Provides stormwater storage, treatment, and sedimentation abatement functions.	Not Applicable	Graded roadside surface water that undergoes periodic mowing and maintenance. Composition and structure of vegetation affected by surrounding land uses.	0.23
SW3	510	Palustrine Emergent Nonpersistent (PEM2)	Limited contiguity within study area. Surface water appears to be contiguous to adjacent roadway stormwater drainage system.	Low structural diversity, periodically mowed. Species include bahia grass, dollarweed, pickerelweed, and primrose willow. Potential for invasive or non-native species presence due to disturbance and location.	Extends along the east side of and within Glades Cut Off Road R/W. Extends off-site and is surrounded by pine flatwoods, FEC railroad and Glades Cutoff Road	Provides minimal habitat value due to isolation, intermittent hydrology, and adjacent land uses.	Primarily provides stormwater detention, treatment, and sedimentation abatement functions	Not Applicable	Graded roadside surface water that undergoes periodic mowing and maintenance. Composition and structure of vegetation affected by surrounding land uses.	0.12
SW4	510	Palustrine Emergent Intermittently Flooded Excavated (PEMJx)	Surface water conveyance system for adjacent residential neighborhood and roadways.	Low structural diversity, periodically mowed and maintained. Species include bahia grass, dollarweed, and sparse patches of pickerelweed. Potential for invasive or non-native species presence due to disturbance and location.	Within residential development surrounded by undeveloped land, Canal 103, single family homes and roads. Part of the interconnected drainage system for Winterlakes Subdivision	May provide limited wildlife habitat support for small mammals, wading birds, small fish and herpetofauna due to intermittent hydrology and periodic disturbance.	Primarily a stormwater conveyance system that provides storage and sedimentation abatement functions.	Not Applicable.	Surface water was designed as water conveyance for stormwater runoff. Impacted by surrounding development and regular mowing affects the habitat composition and structure.	0.87
SW5	534	Palustrine Unconsolidated Bottom Permanently Flooded Excavated (PUBHx)	Contiguous with adjacent surface water conveyance system for residential neighborhood and roadways.	Low structural diversity, open water retention pond. Species include torpedo grass and sparse patches of pickerelweed along perimeter. Potential for invasive or non-native species presence due to disturbance and location.	Within residential development surrounded by undeveloped land, SW 4, single family homes and roads.	May provide limited habitat and life cycle support for small mammals, wading birds, small fish and herpetofauna.	Water storage, stormwater pretreatment, flood abatement and groundwater recharge functions.	Not Applicable.	Stormwater pond excavated for water storage/treatment. Lacks diversity in habitat composition and structure.	0.53
SW6	534	Palustrine Unconsolidated Bottom Permanently Flooded Excavated (PUBHx)	Limited contiguity with retention pond to the north. Surrounded by impervious surfaces.	Not applicable – open water pond within Cemex facility.	Located completely within industrial development for drainage purposes.	Minimal value due to isolation, size, lack of vegetation and surrounding land uses.	Water storage, stormwater pretreatment, flood abatement and groundwater recharge functions.	Not Applicable.	Stormwater pond excavated for water storage Isolated due to surrounding development. Lacks diversity in habitat composition and structure.	0.30
SW7	534	Palustrine Emergent Intermittently Flooded Excavated (PEMJx)	Series of interconnected stormwater management ponds. Isolated from nearby wetlands and surface waters.	Low structural diversity, isolated patches of Carolina willow and Brazilian pepper within retention pond. Periodically mowed.	Surrounded by urban development, Florida's Turnpike and Midway Road. Vegetated buffers surrounding surface water.	May provide limited habitat and life cycle support for small mammals, wading birds, small fish and herpetofauna.	Water storage, stormwater pretreatment, flood abatement and groundwater recharge functions.	Not Applicable.	Excavated surface water for storage of stormwater runoff. Isolated due to surrounding development. Some diversity in habitat composition and structure.	1.89

Table 3 - Wetland and Surface Water Characteristics within the Project Study Area										
Wetland ID	FLUCFCS Code	USFWS Code	Contiguity	Vegetative Structural Diversity	Edge Relationships	Wildlife Habitat Value	Hydrologic Function	Public Use	Integrity	Size (Acres)
SW8	510	Palustrine Unconsolidated Bottom Semipermanently Flooded Excavated (PUBFx)	Surface water conveyance system for adjacent residential neighborhood and roadways. Limited contiguity with freshwater marsh to south.	Low structural diversity, periodically mowed and maintained. Species include bahia grass, dollarweed, and sparse patches of pickerelweed. Potential for invasive or non-native species presence due to disturbance and location.	Within residential development surrounded by undeveloped land, single family homes and roads.	Minimal value due to intermittent hydrology, lack of vegetation, and periodic disturbance.	Primarily a stormwater conveyance system that provides storage and sedimentation abatement functions.	Not Applicable.	Excavated surface water was designed as water conveyance for stormwater runoff. Impacted by surrounding development and regular mowing affects the habitat composition and structure.	0.06
SW9	534	Palustrine Emergent Seasonally Flooded Excavated (PEMCx)	Interconnected stormwater management ponds (dry detention). Surface water appears contiguous with adjacent roadway stormwater drainage system.	Low structural diversity, periodically mowed and maintained dry detention areas. Species include bahia grass sod.	Surrounded by developed land, Post Office Road and Midway Road. Grassed buffer surrounding surface water.	Minimal value due to intermittent hydrology, lack of vegetation, and frequent disturbance (i.e. mowing).	Water storage, stormwater pretreatment, flood abatement and groundwater recharge functions.	Not Applicable.	Designed as grassed stormwater detention area with intermittent hydroperiod.	1.35
SW10	534	Palustrine Unconsolidated Bottom Permanently Flooded Excavated (PUBHx)	Limited contiguity within study area. Isolated from adjacent roadway stormwater drainage system.	Low to moderate diversity – open water pond with perimeter of wax myrtle, cattail, spikerush, water-lily and pickerelweed.	Surrounded by urban development and Midway Road. Narrow vegetated buffer surrounding surface water.	Provides habitat and life cycle support for small mammals, wading birds, small fish and herpetofauna. Access somewhat limited due to fence surrounding surface water.	Water storage, stormwater pretreatment, flood abatement and groundwater recharge functions	Not Applicable.	Stormwater pond excavated for water storage/treatment. Isolated due to surrounding development. Some diversity in habitat composition and structure.	0.73
SW11	510	Palustrine Unconsolidated Bottom Semipermanently Flooded Excavated (PUBFx)	Surface water conveyance system for adjacent residential neighborhood and roadways. Contiguous with freshwater marsh to south.	Low structural diversity, periodically mowed and maintained ditch. Species include dollarweed, primrose willow and smartweed. Potential for invasive or non-native species presence due to disturbance and location.	Within residential development surrounded by undeveloped land, single family homes, freshwater marshes, and roads.	Minimal value due to intermittent hydrology, lack of vegetation, and periodic disturbance.	Primarily a stormwater conveyance system that provides storage and sedimentation abatement functions.	Not Applicable.	Impacted by surrounding development and regular disturbance. Minimal habitat composition and structure.	0.09
SW12	534	Palustrine Unconsolidated Bottom Permanently Flooded Excavated (PUBHx)	Limited contiguity within study area. Appears isolated from adjacent roadway stormwater drainage system.	Low to moderate diversity – open water ponds with perimeter of wax myrtle, cattail, spikerush, water-lily and pickerelweed.	Within medical complex surrounded by undeveloped land, parking lots, and roads and highways.	Provides habitat and life cycle support for small mammals, wading birds, small fish and herpetofauna. Access somewhat limited due to fence surrounding surface water.	Water storage, stormwater pretreatment, flood abatement and groundwater recharge functions.	Not Applicable.	Stormwater pond excavated for water storage/treatment. Isolated due to surrounding development. Some diversity in habitat composition and structure.	1.04
SW13	510	Palustrine Unconsolidated Bottom Semipermanently Flooded Excavated (PUBFx)	Surface water conveyance system for adjacent residential neighborhood and roadways. Limited contiguity with wetland to southwest.	Low structural diversity, periodically mowed and maintained ditch. Species include water hyssop, dollarweed, primrose willow and smartweed. Potential for invasive or non-native species presence due to disturbance and location.	Surrounded by residential development, Canal 103, and Selvitz Road.	Minimal value due to intermittent hydrology, lack of vegetation, periodic disturbance, and proximity to Selvitz Road.	Primarily a stormwater conveyance system that provides storage and sedimentation abatement functions.	Not Applicable.	Impacted by surrounding development and regular disturbance from maintenance activities. Minimal habitat composition and structure.	0.09
WL1	619	Palustrine Scrub-Shrub Broad-Leaved Evergreen Semi-permanently flooded Partly Drained/Ditched	Connected to adjacent roadway stormwater management system	Low structural diversity – species include Brazilian pepper, Carolina willow, smartweed, duck potato, beakrush, wax myrtle and cabbage palm.	Linear feature between Glades Cut Off Road and the FEC Railroad.	Provides limited foraging habitat and refuge opportunities for small mammals, birds, raptors, and herpetofauna due to size and disturbed vegetative community	Provides water detention, groundwater recharge, and water quality enhancement functions.	Not applicable.	The structure and function of the wetland has been disturbed by adjacent roadway and railroad development and by infiltration of exotic species.	0.88

Table 3 - Wetland and Surface Water Characteristics within the Project Study Area										
Wetland ID	FLUCFCS Code	USFWS Code	Contiguity	Vegetative Structural Diversity	Edge Relationships	Wildlife Habitat Value	Hydrologic Function	Public Use	Integrity	Size (Acres)
WL2	619	Palustrine Scrub-Shrub Broad-Leaved Evergreen Semi-permanently flooded Partly Drained/Ditched (PSS3Fd)	Linear feature adjacent to Florida's Turnpike (SR 91). Connected to adjacent roadway stormwater management system	Low structural diversity – species include Brazilian pepper, Carolina willow, primrose willow, smartweed, duck potato, beakrush, wax myrtle and cabbage palm.	Located within Florida's Turnpike R/W (west side) with surrounding land uses including industrial development, Midway Road, and Florida's Turnpike.	Limited foraging and habitat support function for invertebrates, birds, and herpetofauna due to location and disturbed vegetative community.	Provides water detention, groundwater recharge, and water quality enhancement functions. May provide food and refuge for wildlife.	Not applicable.	The integrity of this wetland has been affected by invasive and exotic species, adjacent roadway (i.e. Florida's Turnpike) and industrial (i.e. Cemex) developments, and isolation.	0.41
WL3	619	Palustrine Scrub-Shrub Broad-Leaved Evergreen Semi-permanently flooded Partly Drained/Ditched (PSS3Fd)	Connected to adjacent roadway stormwater management system and Canal 103,	Low structural diversity – species include Brazilian pepper, Carolina willow, primrose willow, smartweed, duck potato, beakrush, wax myrtle and cabbage palm.	Located within Florida's Turnpike R/W (west side) with surrounding land uses including a narrow buffer of mixed coniferous hardwoods habitat, Midway Road, and Florida's Turnpike.	Limited foraging and habitat support function for invertebrates, birds, and herpetofauna due to location and disturbed vegetative community.	Provides water detention, groundwater recharge, and water quality enhancement functions. May provide food and refuge for wildlife.	Not applicable.	The integrity of this wetland has been affected by invasive and exotic species, adjacent roadway (i.e. Florida's Turnpike) and residential development.	0.40
WL4	641	Palustrine Emergent Non-persistent Semi-permanently flooded Partly Drained/Ditched (PEM2Fd)	Connected to adjacent roadway stormwater management system, Canal 103, and downstream to NFSLR	Moderate structural diversity – species include pickerelweed, duck potato, soft rush, dollarweed, white top sedge, and spike rush.	Located within Florida's Turnpike R/W (east side) with surrounding land uses including pine flatwoods habitat, Canal 103, Midway Road, and Florida's Turnpike.	Provides limited foraging habitat and refuge opportunities for invertebrates, small mammals, wading birds, raptors, and herpetofauna due to proximity to roads, size and intermittent hydrology.	Provides limited stormwater water retention, groundwater recharge, and water quality enhancement functions. May provide food and refuge for wildlife.	Not applicable.	The integrity of this wetland has been affected by adjacent roadway (i.e. Florida's Turnpike) development and routine mowing and maintenance of Florida's Turnpike shoulders.	0.20
WL5	641	Palustrine Emergent Persistent Semi-permanently flooded Partly Drained/Ditched (PEM1Fd)	Isolated wetland surrounded by pine flatwoods	Moderate to High structural diversity – species include corkwood, rosy camphorweed, spadeleaf, beakrush, St. John's wort, common reed, groundsel tree and wax myrtle.	Immediately surrounded by pine flatwoods habitat. In proximity to roads and highways (e.g. Jenkins Road and Midway Road), and commercial development.	Provides valuable foraging habitat, life cycle support, and refuge for fish, invertebrates, herpetofauna, wading birds, and mammals.	Provides water quality enhancement, water storage and groundwater recharge in addition to providing food and cover for wildlife species.	Not applicable.	Habitat composition and structure have been minimally affected by surrounding land use activities and roads.	1.25
WL6	641	Palustrine Emergent Persistent Semi-permanently flooded Partly Drained/Ditched (PEM1Fd)	Wetland extends to Midway Road R/W and may receive runoff from the road	Moderate to High structural diversity – species include corkwood, rosy camphorweed, spadeleaf, beakrush, St. John's wort, common reed, groundseltree and wax myrtle. This wetland is in a conservation easement per SFWMD Permit #56-01444-P.	Immediately surrounded by pine flatwoods habitat. In proximity to roads and highways (e.g. Jenkins Road and Midway Road), and commercial development.	Provides valuable foraging habitat, life cycle support, and refuge for fish, invertebrates, herpetofauna, wading birds, and mammals.	Provides water quality enhancement, water storage and groundwater recharge in addition to providing food and cover for wildlife species.	Not applicable.	Wetland receives some runoff from adjacent Midway Road. Habitat composition and structure have been minimally affected by surrounding land use activities and roads.	1.47
WL7	619	Palustrine Scrub-Shrub Broad-Leaved Evergreen Semi-permanently flooded (PSS3F)	Isolated wetland with surrounding upland buffer (hardwood-conifer mixed)	Low structural diversity – Species include Brazilian pepper, Carolina willow and primrose willow.	Surrounding land uses include roads, residential development, and narrow vegetated buffer.	Provides limited foraging habitat, nursery and refuge opportunities for fish, invertebrates, small mammals, wading birds, raptors, and herpetofauna due to size and disturbed vegetative community	Provides limited water quality enhancement, water storage and groundwater recharge function due to its size and disturbed condition.	Not applicable.	The structure and function of the wetland has been affected by invasive species infiltration, isolation from nearby wetlands and surrounding residential development.	0.30

Table 3 - Wetland and Surface Water Characteristics within the Project Study Area

Wetland ID	FLUCFCS Code	USFWS Code	Contiguity	Vegetative Structural Diversity	Edge Relationships	Wildlife Habitat Value	Hydrologic Function	Public Use	Integrity	Size (Acres)
WL8	641	Palustrine Emergent Persistent Semi-permanently flooded Partly Drained/Ditched (PEM1Fd)	Connected to adjacent roadway stormwater management system via drainage ditches (SW11)	Moderate structural diversity - dominated by spikerush, pickerelweed, duck potato, bulrush, and soft rush.	Surrounding land uses include residential development and roads and highways.	Provides valuable foraging habitat and life cycle support for fish, invertebrates, small mammals, wading birds, raptors, and herpetofauna.	Provides water quality enhancement, water storage and groundwater recharge in addition to providing food and cover for wildlife species.	Not applicable.	The wetland habitat composition and structure has been affected by the adjacent residential and roadway developments.	0.19

Data Compiled by Kimley-Horn and Associates, Inc. October 2015

5.3 Wetland and Surface Water Effects Analysis

Within the project study area, impacts to wetlands and surface waters are anticipated to occur based on the proposed build alternatives and are discussed in the following sections.

Direct Effects

Wetland and surface water direct effects were calculated based on the proposed footprint of the build alternatives and are summarized in *Table 4*.

WL/SW Number	FLUCFCS Code	FLUCFCS Description	Alternative 1		Alternative 2	
SW01	510	Streams and Waterways	1.14		3.53	
SW12	534	Reservoirs less than 10 acres	0.01		-	
WL01	619	Exotic Wetland Hardwoods	0.01		0.01	
WL06	641	Freshwater Marshes	0.12		-	
Direct Impact Totals:			<i>SW</i>	<i>1.15</i>	<i>SW</i>	<i>3.53</i>
			<i>WL</i>	<i>0.13</i>	<i>WL</i>	<i>0.01</i>
Note: Wetlands and surface waters listed for only those areas where impacts would occur. All impacts are fill impacts.						

Compiled by Kimley-Horn and Associates, Inc., 2016

Secondary Effects

Secondary effects to wetlands and surface waters were also calculated for the proposed build alternatives based on a 25-foot buffer that was established around each alignment footprint. *Table 5* provides a summary of potential secondary impacts to wetlands and surface waters within the project study area.

WL/SW Number	FLUCFCS Code	FLUCFCS Description	Alternative 1		Alternative 2	
SW01	510	Streams and Waterways	0.22		0.19	
SW04	510	Streams and Waterways	-		0.22	
SW10	534	Reservoirs less than 10 acres	0.07		-	
SW12	534	Reservoirs less than 10 acres	0.09		-	
SW13	510	Streams and Waterways	0.01		0.01	
WL01	619	Exotic Wetland Hardwoods	0.06		0.05	
WL05	641	Freshwater Marshes	0.07		-	
WL06	641	Freshwater Marshes	0.10		0.01	
Secondary Impact Totals:			<i>SW</i>	<i>0.39</i>	<i>SW</i>	<i>0.42</i>
			<i>WL</i>	<i>0.23</i>	<i>WL</i>	<i>0.06</i>

Compiled by Kimley-Horn and Associates, Inc. 2016

6.0 INDIRECT AND CUMULATIVE EFFECTS

Indirect Effects

Indirect effects “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” (Council on Environmental Quality (CEQ) 1986, 40 Code of Federal Regulations (CFR) 1508.8). There are two types of indirect effects evaluated under National Environmental Protection Act (NEPA): induced growth effects and encroachment/alteration effects. Induced growth effects are related to changes in patterns of land use, population density or growth rate and their effects on natural systems. Encroachment/alteration effects can be characterized as either ecological or socioeconomic effects. Types of ecological encroachment/alteration effects include habitat fragmentation, degradation of habitat from pollution, water quality degradation from stormwater runoff or roadway spills, changes in hydrology, exotic/invasive species range expansion and disruption of natural processes. Types of socioeconomic encroachment/alteration effects include alteration of: neighborhood cohesion and stability, travel patterns of commuters and shoppers, personal safety, and aesthetic impacts.

The proposed project includes widening of an existing roadway within a primarily developed corridor. So many of the edge effects and fragmentation of habitat have already occurred as a result of the existing development. However, widening the road will further impact wildlife movement that would potentially attempt to cross the road(s). For the wetlands, where a partial impact occurs, there can be a secondary impact to the remaining wetlands as described above. Alternative 2 minimizes this secondary effect as the wetland impacts to the freshwater marshes north of Midway Road are impacted less. There is a greater impact to the surface waters though with Alternative 2 because the canal would be filled. But the Canal is currently being filled and replaced with a culvert further east as part of the County’s widening of Midway Road from 25th Street to Selvitz. Thus, it is anticipated that there would already be some indirect effect associated with these impacts to the east.

From a water quality perspective, there is limited stormwater facilities for Midway Road. The project includes a curb and gutter section where stormwater will be conveyed, piped and discharged to stormwater management ponds. Several ponds have been evaluated in each basin and the ponds have been located and designed to avoid direct and secondary impacts to wetlands. As part of previous improvements by St. Lucie County east of the project, ponds have been constructed and sized to accommodate portions of this project. These ponds have been designed to meet Outstanding Florida Water (OFW) criteria (50% additional water quality treatment) because the project ultimately discharges to the NFSLR (OFW and aquatic preserve south of Midway Road). For this project, new impervious areas must also meet OFW criteria. The County ponds for the project to the east also provided dry detention to address nutrient impairment. Based on a meeting with SFWMD on August 20, 2015 nutrient analysis may be needed on this project. This will be evaluated more during design and permitting. Thus, an indirect benefit for the project is enhanced water quality treatment for the existing and future impervious road areas. Finally, mitigation will be provided for the secondary effects pursuant to SFWMD and USACE requirements.

Cumulative Effects

Cumulative effects on the environment result from the incremental impact of the action (direct and indirect effects) when added to other past, present, and reasonably foreseeable future actions by others. In general, road construction has the potential to impact wetlands during construction and by changing future land use patterns. Direct impacts remove wetlands from the landscape, thus removing all wetland function associated with it. Indirect wetland impacts vary greatly and depend generally on adjacent land condition. Cumulative

effects are the degree of potential impact that are largely dependent upon the size of the road corridor (wide roads having more influence than relatively narrow roads), the relative position of the road corridor within the landscape, and the relative condition of the wetlands being traversed (new roads in an undeveloped landscape vs. widening an existing road in a developed landscape).

Given the built out nature of the project corridor, minimal native habitats, including wetlands, the proposed improvements will not result in adverse cumulative effects.

7.0 WETLAND MITIGATION ASSESSMENT

Methodology

For this project it is anticipated that mitigation will be provided through purchase of credits at Bluefield Mitigation Bank. Bluefield Mitigation Bank is located within the Service area of this project. As such, the wetland assessments for determining required mitigation are done using the Wetland Rapid Assessment Procedure (WRAP) (SFWMD, April 1999). WRAP is a rating index that assists in evaluating the functions and values of a wetland system and is an accepted assessment methodology of the SFWMD and USACE. It establishes a numerical ranking for a wetland based on various ecological or anthropogenic variables known to influence the functional value of a wetland. WRAP scores are based on a total of six variables, scored from zero (0) (severely impacted with negligible attributes) to three (3) (best a system can function), divided by the sum of the maximum possible score for the rated variables. Scores can also be expressed in half increments. The WRAP value is expressed as a percentage. The variables assessed include:

- Wildlife Utilization
- Wetland Overstory/Shrub Canopy
- Wetland Vegetative Ground Cover
- Adjacent Upland/Wetland Buffer
- Field Indicators of Wetland Hydrology
- Water Quality Input and Treatment System

Data was collected during field reconnaissance and WRAP data sheets were prepared for the wetlands impacted. WRAP data sheets are found in *Appendix D*.

WRAP Results

As described in Section 5.3, impacts to wetlands are minimal and consist of impacts to exotic hardwood wetlands and freshwater marsh. Because the wetlands are similar in vegetation and landscape location along the corridor, WRAP scores were determined based on FLUCFCS. The WRAP score for FLUCFCS 619 – Exotic Wetland Hardwoods is 20.42% and the WRAP score for FLUCFCS 641 – Freshwater Marsh is 74.03%. It is anticipated that mitigation will not be required for surface water impacts.¹

8.0 AVOIDANCE AND MINIMIZATION

Avoidance and minimization of impacts have been considered for the project. However, complete avoidance of surface waters and wetlands is not possible with a build alternative because there are a number of linear drainage features that parallel or cross the project area and wetlands that extend into the R/W.

¹ Based on a review of Permit No. 56-00833-S for the widening of Midway Road from Selvitz to 25th Street, mitigation was not required for impacts to surface waters including the C-103 canal.

Alternative 2 minimizes impacts to wetlands, but has a greater impact on surface waters as the alignment is shifted south and includes culverting the Canal 103. As discussed below in Section 10.0 Permitting Requirements and Coordination, SFWMD commented during a pre-application meeting that for the canal alternative the design will need to allow of air exchange (e.g. saddle risers). Alternative 1 impacts the most wetland and includes impacts to WL 06 which has an existing conservation easement. If impacted, the easement would have to be released and additional compensation may be required. Stormwater management ponds have been cited to avoid impacts to wetlands and where applicable provide buffers between the pond limits and adjacent wetlands.

9.0 CONCEPTUAL MITIGATION

Wetland delineations will occur during the design and permitting phase to determine exact impacts to wetlands and surface waters. Potential wetland mitigation required was calculated for each proposed build alternative and is presented in *Table 7*.

FLUCFCS	Alternative Impacts (acres)		WRAP Score	Mitigation Credit	
	Alternative 1	Alternative 2		Alternative 1	Alternative 2
619	0.07	0.06	20.42%	0.01	0.01
641	0.29	0.01	74.03%	0.21	0.01

Compiled by Kimley-Horn and Associates, Inc., 2016

Mitigation will include purchase of mitigation bank credits at Bluefield Mitigation Bank.

10.0 PERMITTING REQUIREMENTS AND COORDINATION

It is anticipated that the following permits will be required:

- Environmental Resource Permit Modification from the SFWMD for dredge and fill activities within wetlands/surface waters of State and stormwater management districts. Historic permits issued for this corridor include SFWMD Permit Nos.:
 - 56-01316-P Midway Road Widening from U.S. Highway 1 to 25th Street – issued to FDOT with St. Lucie County as co-applicant
 - 56-00833-S Midway Road Widening from 25th Street to Selvitz – issued to St. Lucie County
 - 56-01734-P Midway and Glades Cut Off Road Intersection Improvements – issued to St. Lucie County
- Section 404 Dredge and Fill Permit from USACE for dredge and fill activities within wetlands/waters of the United States. Based on the impacts, it is anticipated that the project would qualify for a Nationwide Permit. However, the Nationwide permits are due to expire in March 2017; thus, if not reauthorized the permit type may change.
- National Pollutant Discharge Elimination System Permit from the FDEP, which is required for all projects which have potential discharge to Waters of the United States, from construction sites that are one acre or greater in size.

ETAT Reviews

Coordination with environmental review agencies has occurred through the Efficient Transportation Decision Making (ETDM) Programming Screening Tool (ETDM #14177) and the Advance Notification process. Agency coordination will continue throughout the PD&E Study, final design and permitting phase. The comments are summarized in Section 5.1.

Agency Meetings

A meeting was held with SFWMD on August 20, 2015 to discuss the proposed project and the pond siting criteria. A copy of the meeting minutes are included in **Appendix E**. Below is a summary of the comments from SFWMD at this meeting:

- The portion of runoff from the proposed project that will not be treated by the existing ponds should be subject to new “Pre-Post” analysis per SFWMD criteria (i.e. 25-year/72- day storm event). Need to treat for new net impervious area only.
- New treatment will need to meet 150% treatment criteria to address OFW (for new impervious areas only).
- Due to impaired water body analysis, nutrient loading analysis may be needed.
- NSLRWCD – If no control structure downstream from project, then NSLRWCD criteria does not apply (use SFWMD criteria).
- Existing permit called for a box culvert – need to make sure this culvert can handle additional capacity associated with proposed project.
- Potential wetland impacts (associated with pond expansion) will need to be addressed during permit process.
- With box culverts proposed, design will need to allow for air exchange mechanism (e.g. saddle risers).
- Contact Jose Vega for any pre-application field meetings.

11.0 CONCLUSIONS AND RECOMMENDATIONS

Direct and secondary impacts to wetlands range from 0.36 (Alternative 1) to 0.07 (Alternative 2) and impacts to surface waters range from 1.54 acres (Alternative 1) to 3.95 acres (Alternative 2). Mitigation for surface waters will not be required, though SFWMD will require a mechanism for air exchange for Alternative 2 which culverts Canal 103. Mitigation would be provided for wetland impacts through purchase of mitigation credits in Bluefield Mitigation Bank.

FDOT commits to the following measures to minimize and mitigate potential impacts to wetlands and water quality:

- If Alternative 2 is preferred, mechanisms will be included in the culvert design to allow for air exchange.
- Best Management Practices (BMP’s) will also be implemented in order to reduce sediment transport and minimize erosion.

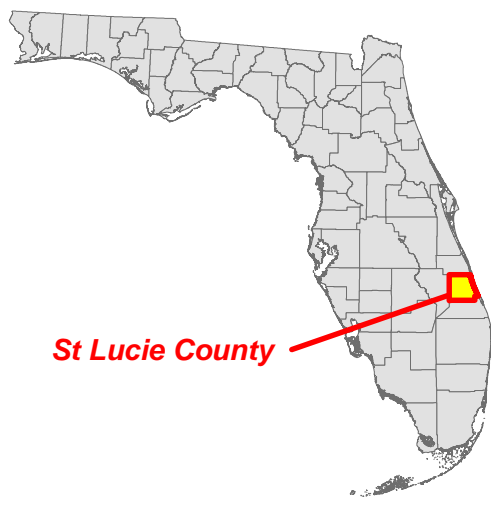
12.0 REFERENCES

Cowardin *et. al.* U.S. Department of Interior - Fish and Wildlife Service. Classification of Wetlands and Deepwater Habitats of the United States. USFWS/OBS-79/31, December 1979.

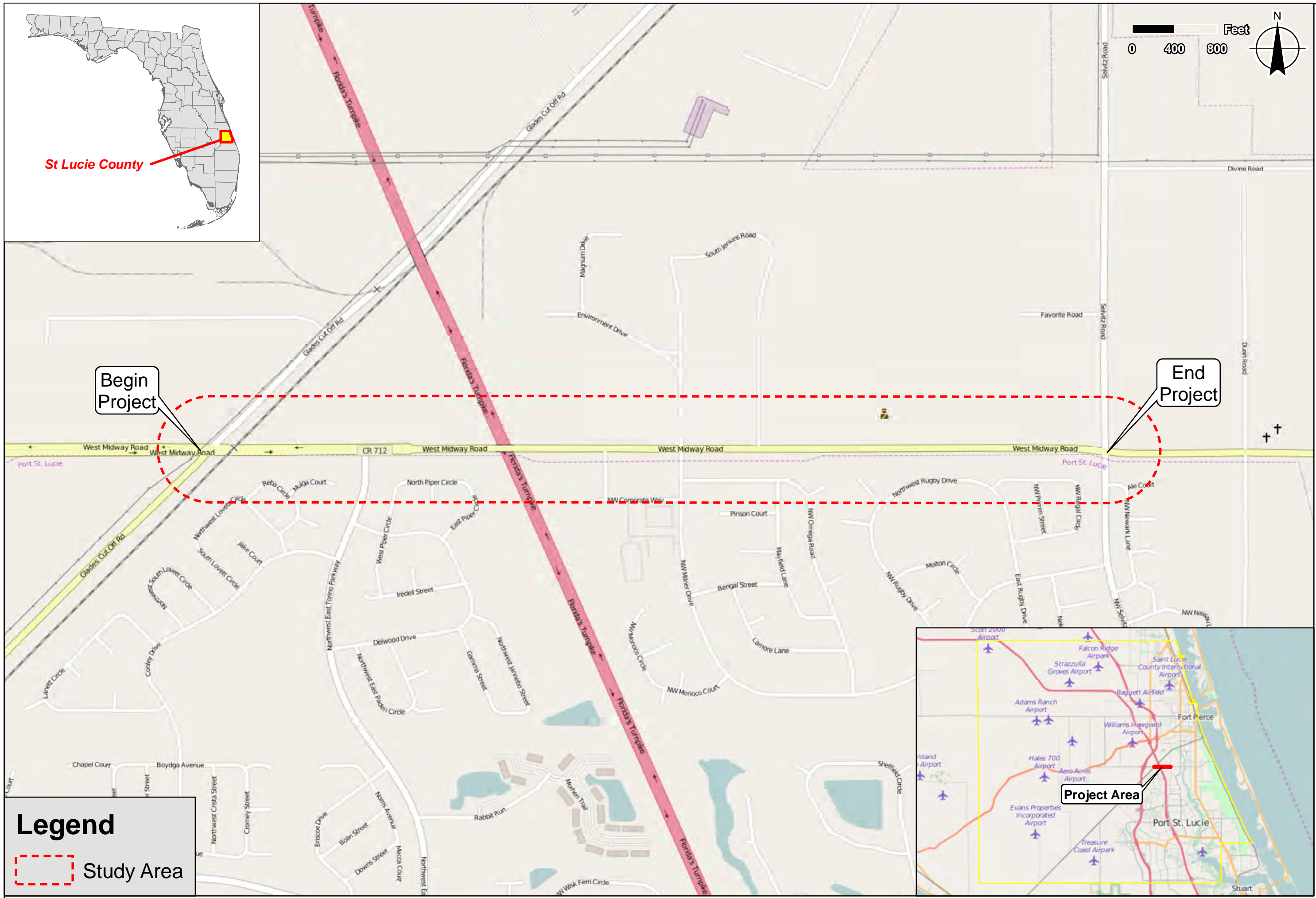
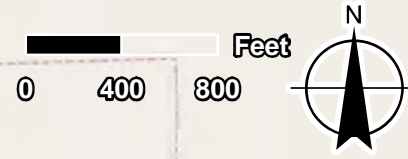
Lukasiewicz, John, Switanek, Milton Paul. 1995 Ground water quality in the surficial and Floridan aquifer systems underlying the Upper East Coast Planning Area. South Florida Water Management District, Department of Water Resources Evaluation, Hydrogeology Division. WRE – 329 Technical Publication 95-04. September, 1995.

Miller, Raymond E., Jr. and Boyd Gunsalus, South Florida Water Management District, Technical Publication REG-001, Wetland Rapid Assessment Procedure, Second Edition, August 1999.

FIGURE 1
PROJECT LOCATION MAP



St Lucie County



Begin Project

End Project

Legend

Study Area



Project Area



Project Location Map
 Project Development and Environment (PD&E) Study - Midway Road (CR712)
 From Glades Cut Off Road (CR 709) to Selvitz Road (CR 615)
 St. Lucie County, Florida
 Financial Project ID: 231440-3-22-01; ETD Number: 14177

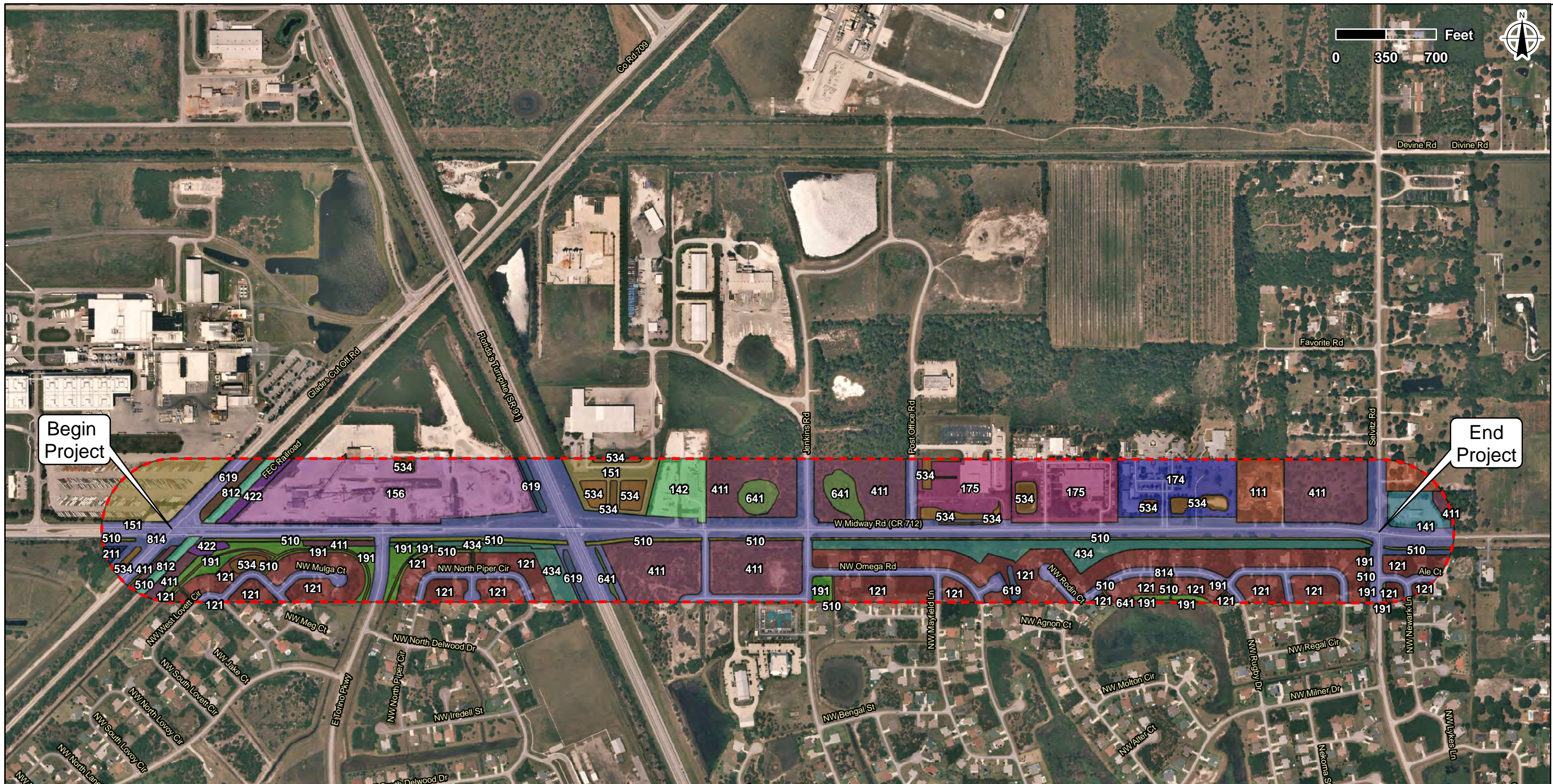
1 inch = 800 feet

MAY 2016

FIGURE 1

Source: Data courtesy of ESRI.


FIGURE 2
FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION
SYSTEM (FLUCFCS) MAP



Begin Project

End Project

Legend		
	Study Area	
	111: Low Density Residential - Fixed Single Family Units	
	121: Medium Density Residential - Fixed Single Family Units	
	141: Retail Sales and Services	
	142: Wholesale Sales and Services	
	151: Food Processing	
	156: Other Heavy Industrial	
	174: Medical and Health Care	
	175: Governmental	
	191: Undeveloped Land within urban areas	
	211: Improved Pastures	
	411: Pine Flatwoods	
	422: Brazilian Pepper	
	434: Hardwood - Conifer Mixed	
	510: Streams and Waterways	
	534: Reservoirs less than 10 acres	
	619: Exotic Wetland Hardwoods	
	619: Exotic wetland hardwoods	
	641: Freshwater Marshes	
	812: Railroads	
	814: Roads and Highways	



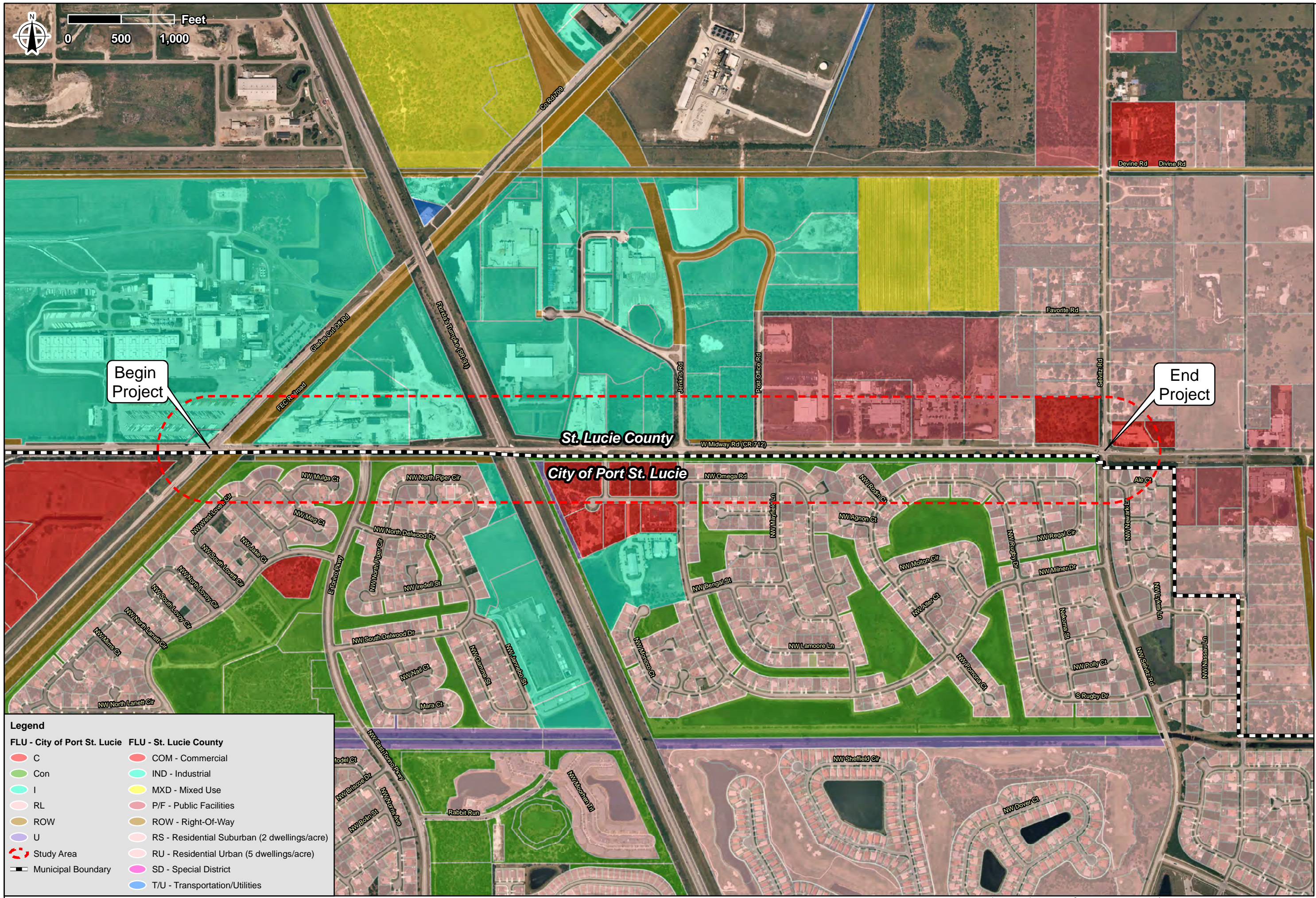
Florida Land Use, Cover and Forms Classification System (FLUCFCS) Map
 Project Development and Environment (PD&E) Study - Midway Road (CR712)
 From Glades Cut Off Road (CR 709) to Selvitz Road (CR 615)
 St. Lucie County, Florida
 Financial Project ID: 231440-3-22-01; EITDM Number: 14177

1 inch = 700 feet
 MAY 2016

FIGURE 2

Document Path: K:\V\B_Environment\14177\1003 Midway Road PD&E\EN\GIS\MXD\Figure 2 - FLUCFCS Map_V2.mxd
 Source: Aerials courtesy of FDOT, FLUCFCS data courtesy of Kirtley-Horn (2015)

FIGURE 3
FUTURE LAND USE MAP (FLUM)



Legend

FLU - City of Port St. Lucie	FLU - St. Lucie County
C - Commercial	COM - Commercial
Con - Con	IND - Industrial
I - Industrial	MXD - Mixed Use
RL - Residential Low Density	P/F - Public Facilities
ROW - Right-Of-Way	ROW - Right-Of-Way
U - Urban	RS - Residential Suburban (2 dwellings/acre)
Study Area	RU - Residential Urban (5 dwellings/acre)
Municipal Boundary	SD - Special District
	T/U - Transportation/Utilities



Future Land Use Map - St. Lucie County & City of Port St. Lucie
 Project Development and Environment (PD&E) Study - Midway Road (CR712)
 From Glades Cut Off Road (CR 709) to Selvitz Road (CR 615)
 St. Lucie County, Florida
 Financial Project ID: 231440-3-22-01; ETD Number: 14177

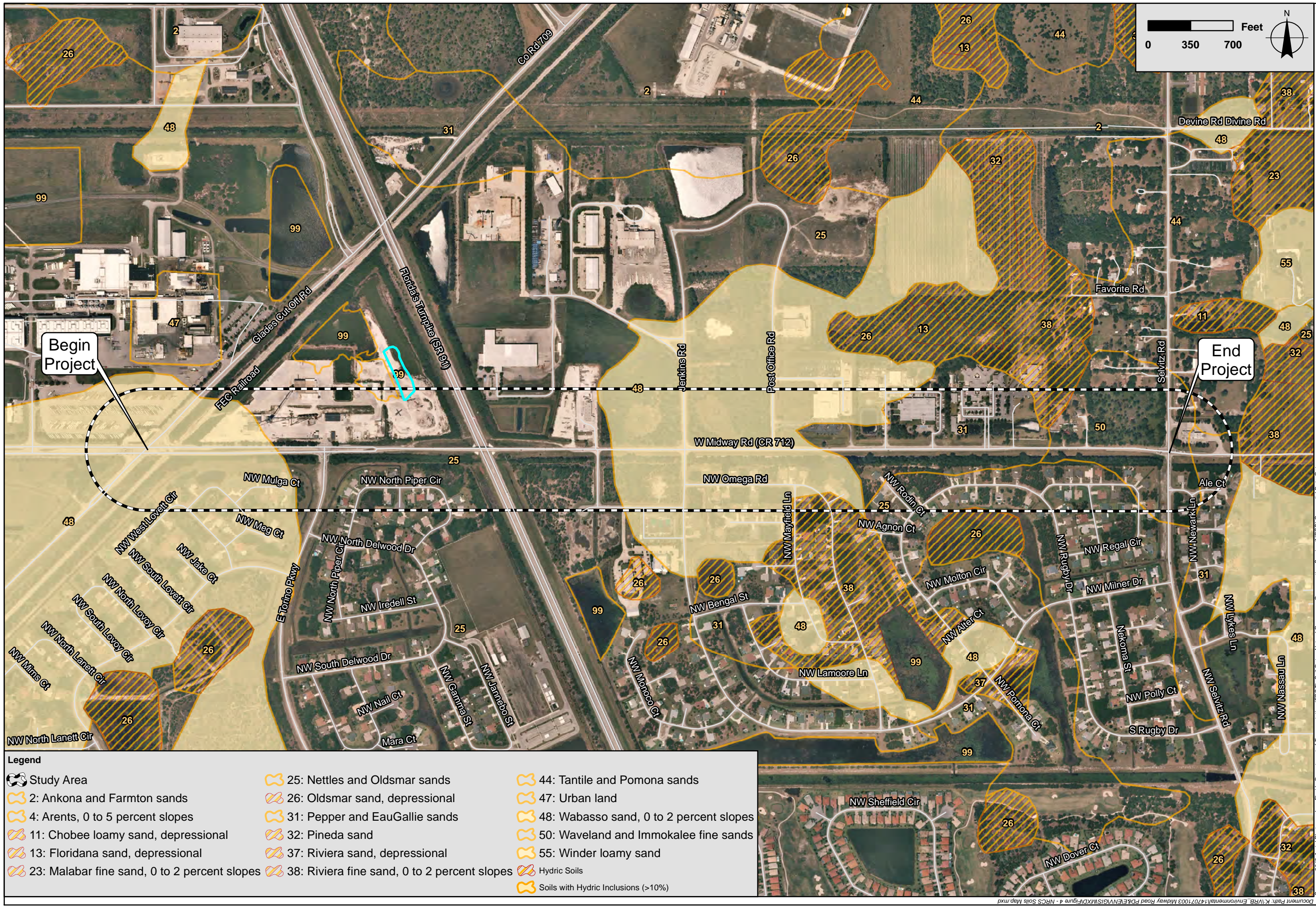
1 inch = 1,000 feet

MAY 2016

Figure 3


Source: Aerials courtesy of FDOT (2012); FLU data courtesy of St. Lucie County, City of Port St. Lucie, & City of Fort Pierce (2015);
 Document Path: K:\V\B_Environment\14177\1003 Midway Road PD&E\GIS\MXD\Figure 3 - FLU Map_12232015 updated.mxd

FIGURE 4
NATURAL RESOURCES CONSERVATION SERVICE (NRCS)
SOILS MAP



Legend

Study Area	25: Nettles and Oldsmar sands	44: Tantile and Pomona sands
2: Ankona and Farnton sands	26: Oldsmar sand, depressional	47: Urban land
4: Arents, 0 to 5 percent slopes	31: Pepper and EauGallie sands	48: Wabasso sand, 0 to 2 percent slopes
11: Chobee loamy sand, depressional	32: Pineda sand	50: Waveland and Immokalee fine sands
13: Floridana sand, depressional	37: Riviera sand, depressional	55: Winder loamy sand
23: Malabar fine sand, 0 to 2 percent slopes	38: Riviera fine sand, 0 to 2 percent slopes	Hydric Soils
	Soils with Hydric Inclusions (>10%)	



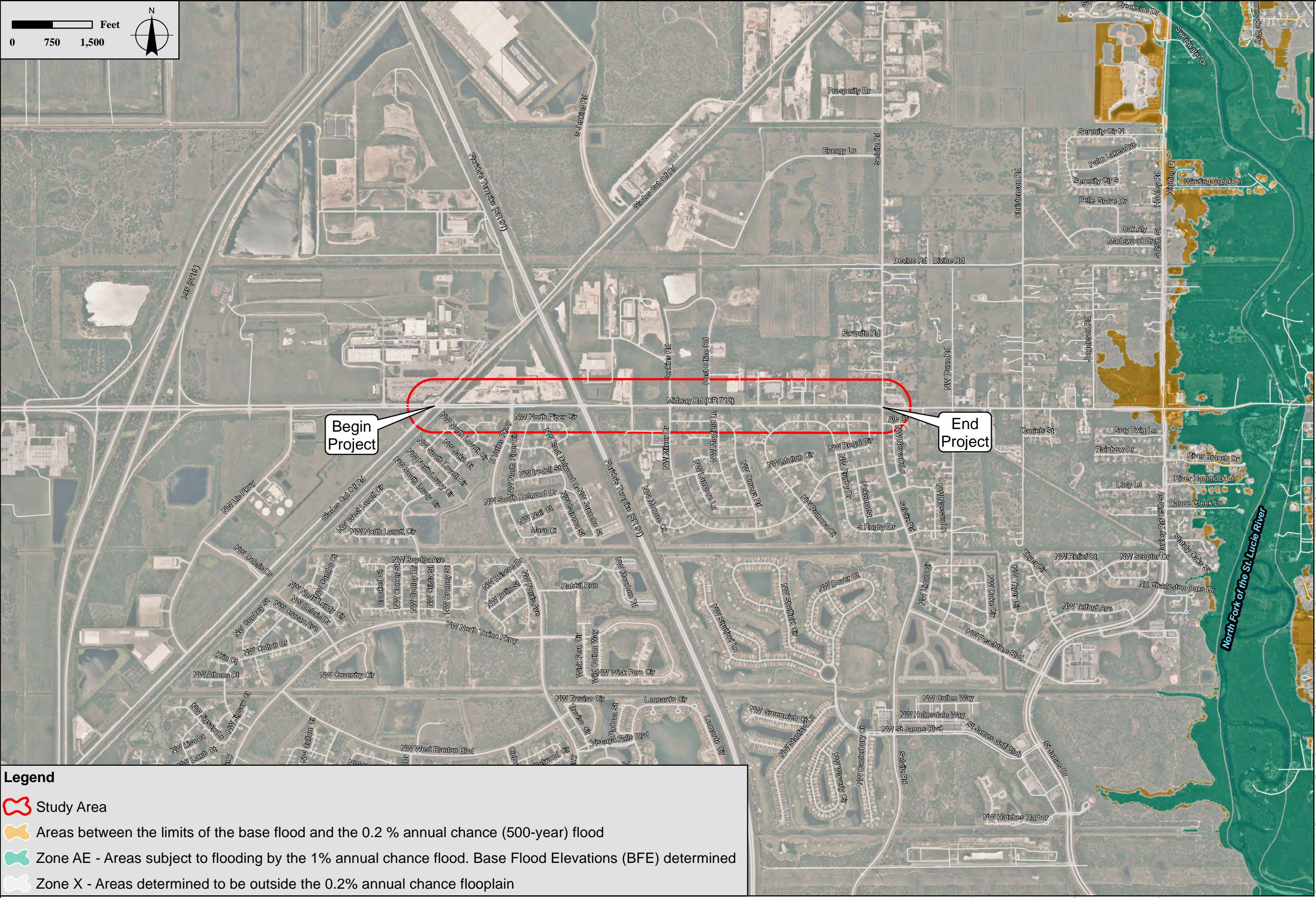
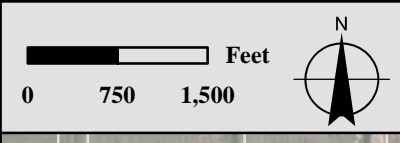
Natural Resources Conservation Service (NRCS) Soils Map
 Project Development and Environment (PD&E) Study - Midway Road (CR 712)
 From Glades Cut Off Road (CR 709) to Selvitz Road (CR 615)
 St. Lucie County, Florida
 Financial Project ID: 231440-3-22-01; ETD Number: 14177

MAY 2016
 1 inch = 700 feet

FIGURE 4

Document Path: K:\V\B_Environment\147017103 Midway Road PD&E\EN\GIS\MXD\Figure 4 - NRCS Soils Map.mxd
 Sources: 2012 Aerial Photography - Florida Department of Transportation (FDOT); Soil Data - Natural Resources Conservation Service (NRCS) Geospatial Data Gateway

FIGURE 5
FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
FLOOD HAZARD ZONES MAP



Legend

- Study Area
- Areas between the limits of the base flood and the 0.2 % annual chance (500-year) flood
- Zone AE - Areas subject to flooding by the 1% annual chance flood. Base Flood Elevations (BFE) determined
- Zone X - Areas determined to be outside the 0.2% annual chance floodplain

FDOT

Federal Emergency Management Agency (FEMA) Flood Hazard Zones Map

Project Development and Environment (PD&E) Study - Midway Road (CR712)
From Glades Cut Off Road (CR 709) to Selvitz Road (CR 615)

St. Lucie County, Florida
 Financial Project ID: 231440-3-22-01; ETD Number: 14177

MAY 2016

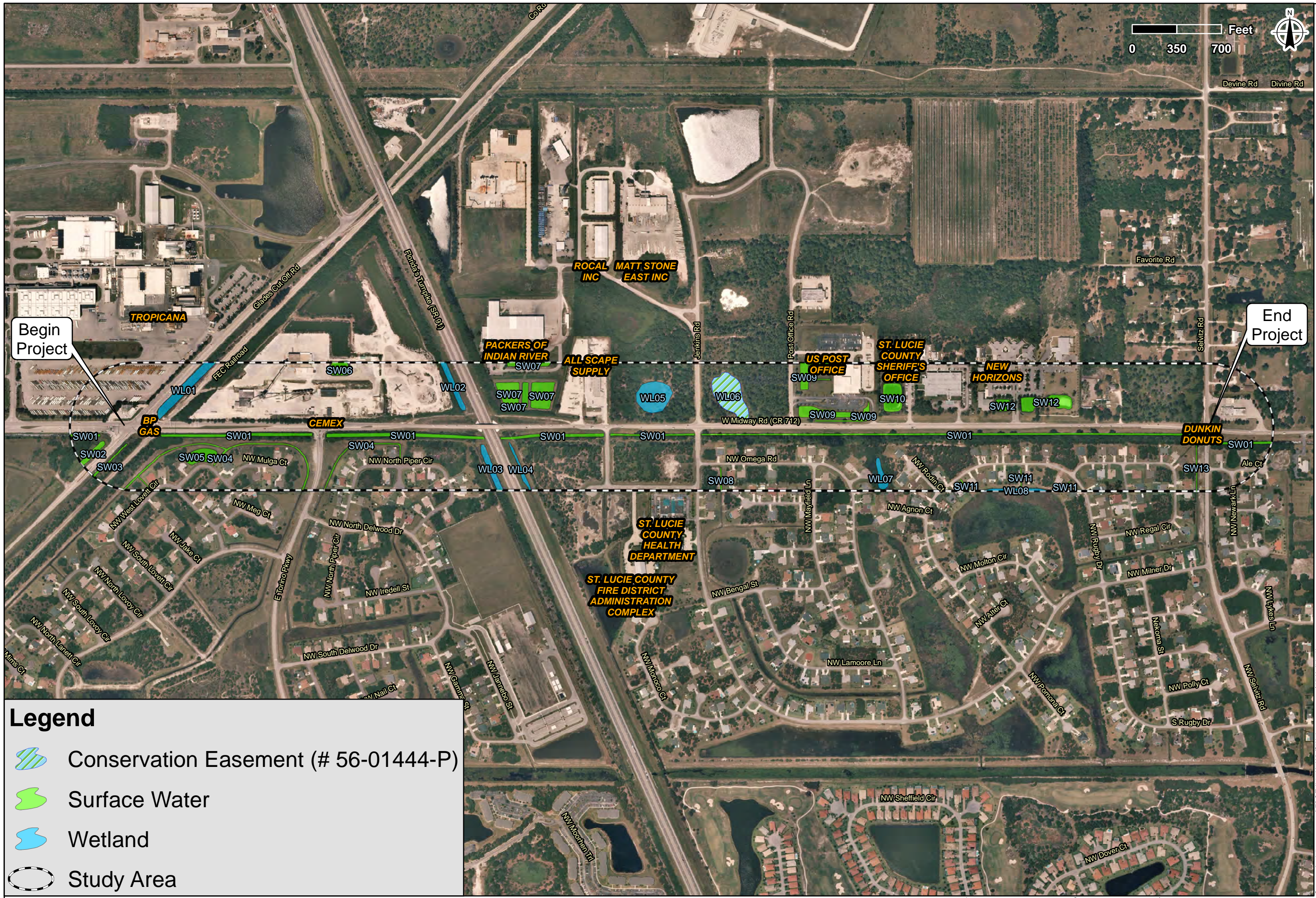
1 inch = 1600 feet

FIGURE 5





Document Path: K:\V\RB_Environment\1417071003 Midway Road PD&E\EN\GIS\MXD\Figure 5 - FEMA Flood Hazard Zones Map.mxd

Sources: 2012 Aerial Photography - Florida Department of Transportation (FDOT); National Flood Hazard Layer - FEMA; Map Service Center

FIGURE 6
WETLANDS AND SURFACE WATERS MAP



Legend

-  Conservation Easement (# 56-01444-P)
-  Surface Water
-  Wetland
-  Study Area



Wetlands and Surface Waters Map

Project Development and Environment (PD&E) Study - Midway Road (CR712)
 From Glades Cut Off Road (CR 709) to Selvitz Road (CR 615)
 St. Lucie County, Florida

Financial Project ID: 231440-3-22-01; EITDM Number: 14177

MAY 2016

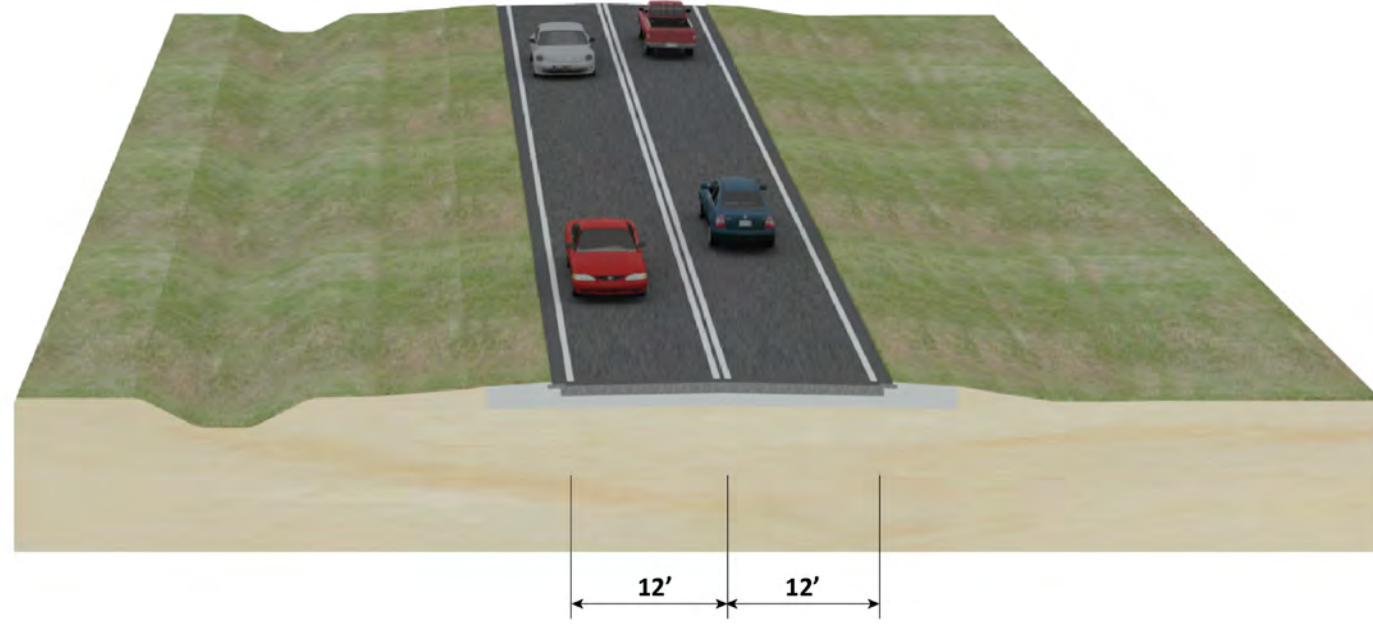
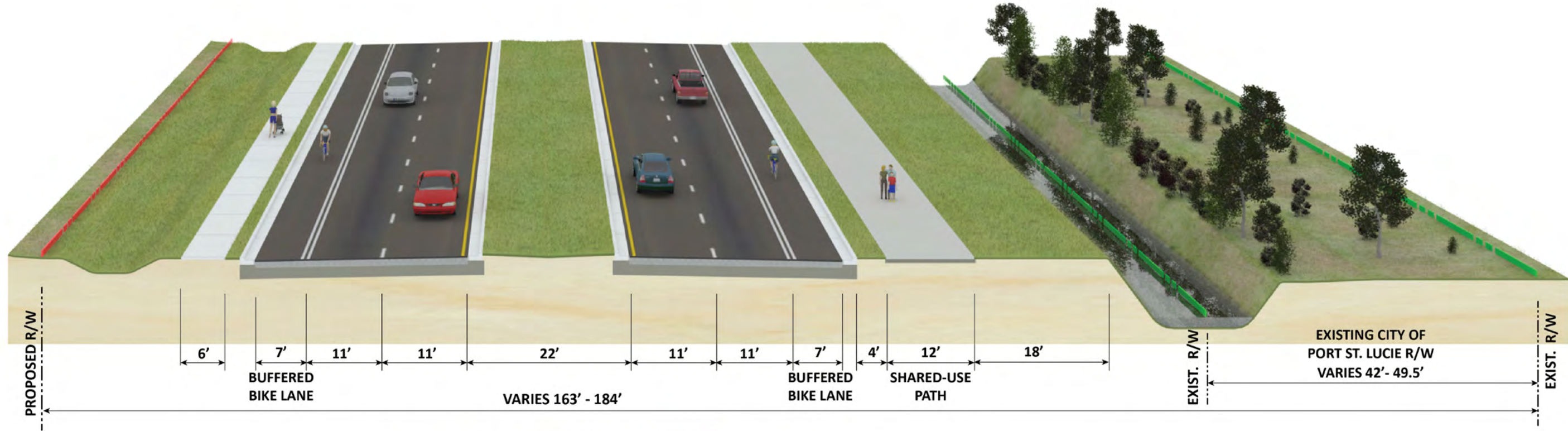
1 inch = 700 feet

FIGURE 6

Source: Aerials courtesy of FDOT (2012); WL/SW data courtesy of KHA (2015).

Document Path: K:\V\B_Environment\14177\1003 Midway Road PD&E\EN\GIS\SW\XDFigure 6 - Wetlands and Surface Waters Map.mxd

APPENDIX A
TYPICAL SECTIONS AND ALTERNATIVES

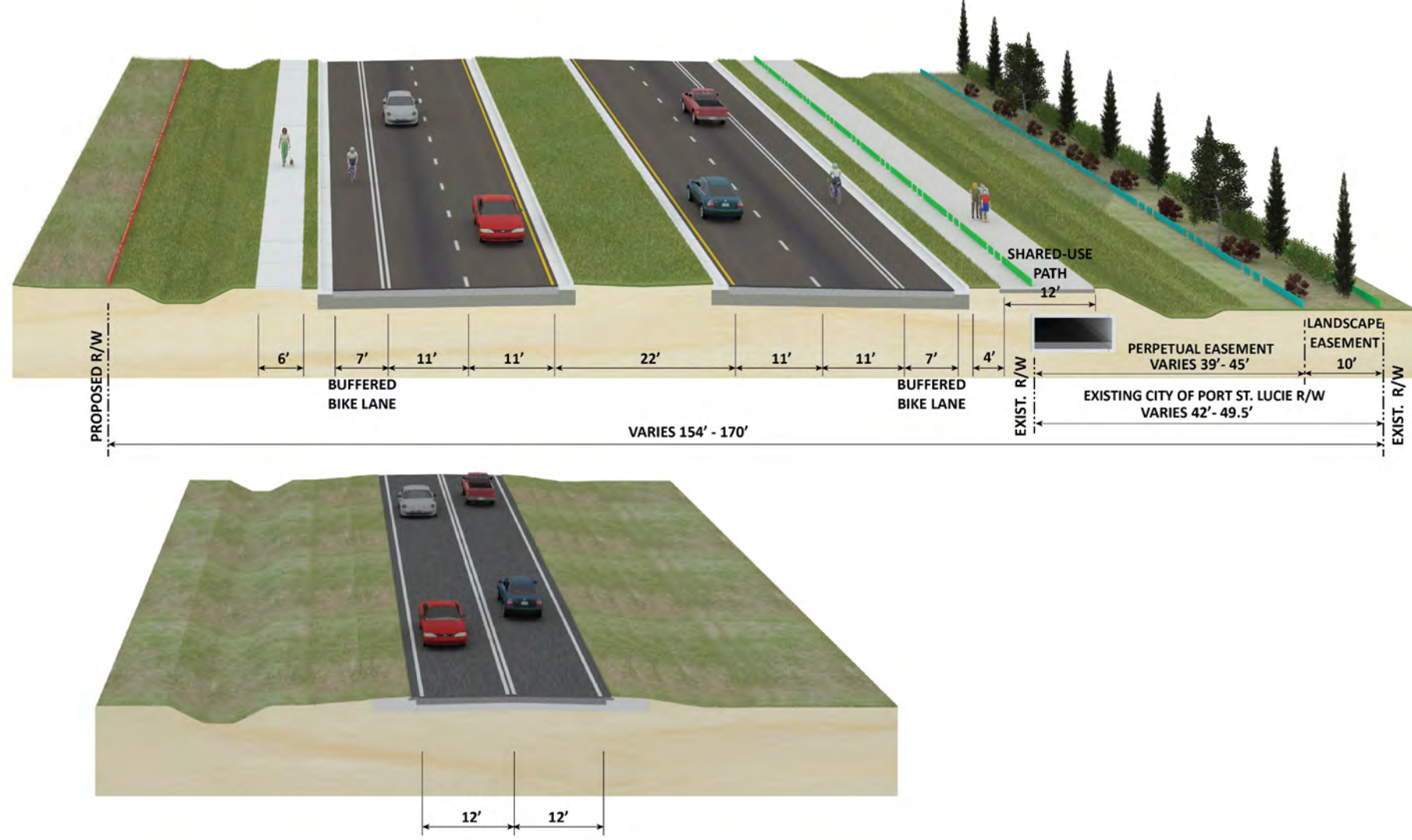


Alternative 1 - Canal Avoidance
 Project Development and Environment (PD&E) Study - Midway Road (CR712)
 From Glades Cut Off Road (CR 709) to Selvitz Road (CR 615)
 St. Lucie County, Florida
 Financial Project ID: 231440-3-22-01; ETD Number: 14177

Not drawn to scale

MAY 2016

Appendix A1



Alternative 2 - Box Culvert
 Project Development and Environment (PD&E) Study - Midway Road (CR712)
 From Glades Cut Off Road (CR 709) to Selvitz Road (CR 615)
 St. Lucie County, Florida
 Financial Project ID: 231440-3-22-01; ETD Number: 14177

Not drawn to scale

MAY 2016

Appendix A2

APPENDIX B
ETDM PROGRAMMING SUMMARY REPORT



Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JIM BOXOLD
SECRETARY

ETDM Summary Report

Project #14177 - Midway Road Widening

Programming Screen - Published on 05/27/2015

Printed on: 9/23/2015

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Introduction to Programming Screen Summary Report

The Programming Screen Summary Report shown below is a read-only version of information contained in the Programming Screen Summary Report generated by the ETDM Coordinator for the selected project after completion of the ETAT Programming Screen review. The purpose of the Programming Screen Summary Report is to summarize the results of the ETAT Programming Screen review of the project; provide details concerning agency comments about potential effects to natural, cultural, and community resources; and provide additional documentation of activities related to the Programming Phase for the project. Available information for a Programming Screen Summary Report includes:

- Screening Summary Report chart
- Project Description information (including a summary description of the project, a summary of public comments on the project, and community-desired features identified during public involvement activities)
- Purpose and Need information (including the Purpose and Need Statement and the results of agency reviews of the project Purpose and Need)
- Alternative-specific information, consisting of descriptions of each alternative and associated road segments; an overview of ETAT Programming Screen reviews for each alternative; and agency comments concerning potential effects and degree of effect, by issue, to natural, cultural, and community resources.
- Project Scope information, consisting of general project commitments resulting from the ETAT Programming Screen review, permits, and technical studies required (if any)
- Class of Action determined for the project
- Dispute Resolution Activity Log (if any)

The legend for the Degree of Effect chart is provided in an appendix to the report.

For complete documentation of the project record, also see the GIS Analysis Results Report published on the same date as the Programming Screen Summary Report.

#14177 Midway Road Widening

District: District 4

County: St. Lucie

Planning Organization: FDOT District 4

Plan ID: Not Available

Federal Involvement: Federal Funding

Phase: Programming Screen

From: Glades Cut-Off Rd

To: Selvitz Road

Financial Management No.: 23144032201

Contact Information: Vanita Saini (954) 777-4468 vanita.saini@dot.state.fl.us

Snapshot Data From: Summary Report Re-Published 5/27/2015

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

	Social and Economic						Cultural			Natural				Physical							
	Land Use Changes	Social	Relocation Potential	Farmlands	Aesthetic Effects	Economic	Mobility	Section 4(f) Potential	Historic and Archaeological Sites	Recreation Areas	Wetlands	Water Quality and Quantity	Floodplains	Wildlife and Habitat	Coastal and Marine	Noise	Air Quality	Contamination	Infrastructure	Navigation	Special Designations
Alternative #1 - Alternative 1 From: Glades Cut-Off Rd To: Selvitz Road Re-Published: 05/27/2015 Reviewed from 05/23/2014 to 07/07/2014)	2	2	2	0	2	1	1	3	3	0	3	2	0	2	0	0	2	3	N/A	N/A	0

Purpose and Need

Purpose and Need

Based on recent traffic data from St. Lucie County, the facility does not adequately handle the existing traffic demand. Without capacity improvements, the traffic operations along the corridor will continue to deteriorate. The primary purpose for this project is to provide additional capacity to meet existing and future traffic needs, improve safety by alleviating existing roadway and capacity deficiencies, and allow opportunities for pedestrian, bicycle, and transit facilities. The additional capacity will also improve freight mobility and enhance emergency evacuation along the project corridor. The purpose and need of this project are further described in the following sections that include Transportation Demand, Capacity, Plan Consistency, Social Demands and Economic Development, and Modal Interrelationships.

Transportation Demand

The US Census designated Port St. Lucie-Fort Pierce Metropolitan Statistical Area (MSA) has been identified as one of the fastest growing metropolitan areas in Florida, which includes all of Martin and St. Lucie Counties. From 2000 to 2010, this metropolitan area has experienced population growth from 319,426 persons in 2000 to 424,107 persons in 2010, representing an annual increase of 2.9%. Evaluating the population growth for the City of Port St. Lucie by itself revealed an even greater percentage increase. According to the Bureau of Economic and Business Research, the City has grown from a population of 88,769 in 2000 to 164,603 in 2010 representing an annual increase of 6.4%.

This rapid population growth has resulted in a significant increase in surface transportation demand along major arterials such as the Midway Road (CR 712) corridor. The population of the Port St. Lucie-Fort Pierce metropolitan area is projected to increase from 424,107 in year 2010 to 648,600 in year 2035 representing a growth of approximately 53% (Source: Bureau of Economic Business Research).

As the population in the metropolitan area continues to increase, the developments in St. Lucie County will continue to push westward. In addition, the County is anticipated to experience traffic growth from the Developments of Regional Impact (DRI). A review of the recent DRI's applications in the Treasure Coast Regional Planning Council (TCRPC) shows the following statuses for the DRI's in the vicinity of the project corridor:

Completed - Orange Blossom Mall and St. Lucie West
Approved - The Reserved
Pending Notice of Proposed Change (NOPC) - LTC Ranch
Withdrawn - Provences and Orchard Park

These DRI's are geographically shown in Figure 2. The DRI located along Midway Road (CR 712), which is LTC Ranch, would have the greatest impact on the project corridor if constructed. As currently approved, the development includes 4,000 dwelling units of residential, over 1,505,000 square feet (SQFT) of office space, 725,000 SQFT of retail, and 1,960,200 SQFT of industrial space. However, the status of this development is pending Notice of Proposed Change (NOPC) that may result in a change in the size of the approved development.

The approval of the LTC Ranch DRI will further increase the transportation demand resulting in congested conditions along the project corridor. Since Midway Road (CR 712) is one of the vital east-west corridors in St. Lucie County, it is critical to increase capacity to meet the anticipated future transportation demand.

Capacity

Traffic data obtained from the St. Lucie County TPO Traffic Counts and Level of Service Report shows that the 2012 Annual Average Daily Traffic (AADT) along Midway Road (CR 712) west of Selvitz Road is 16,820 vehicles. Evaluating

this traffic data using the 2012 FDOT Quality/Level of Service Handbook, the Level of Service (LOS) is LOS F which is beyond the St. Lucie County's adopted LOS criteria of LOS E. This traffic data shows that the existing volume is already exceeding the capacity of the corridor which indicates that the roadway is operating in oversaturated and undesirable conditions. Furthermore, due to the industrial properties along the corridor, it has a high truck percentage at over 7% (Florida Traffic Online.)

The traffic is anticipated to increase to 29,200 AADT by 2040 and the corridor will continue to operate at LOS F with degraded traffic operation unless if the capacity is increased. The future traffic projections are based on the FDOT District Four Design Traffic Technical Memorandum for the I-95 PD&E Study from north of Becker Road to south of SR 70. This project utilized the Greater Treasure Coast Regional Planning Model (GTCRPM) as the basis for the future traffic projections. Without improvements, the congestion on the Midway Road (CR 712) project corridor will continue to operate at unacceptable driving conditions for residents and commuters due to the increased traffic volumes.

Plan Consistency

Martin and St. Lucie Counties have independent Metropolitan Planning Organizations (MPO) but share a common Regional Long Range Transportation Plan (RLRTP). The RLRTP establishes a unified strategy for transportation priorities and funding and creates a joint decision-making process regarding regional transportation issues.

The Midway Road (CR 712) project corridor extends from Glades Cut-Off Road to Selvitz Road and is identified in the Martin and St. Lucie 2035 Regional Long Range Transportation Plan (RLRTP). The project is identified in the St. Lucie County TPO 2035 Cost Feasible Plan (2016-2035) with a 2021-2025 implementation horizon. In addition, the project will be included in the next update to the State Transportation Improvement Program (STIP) and the St. Lucie TPO TIP. It should be noted that on the south side of the project corridor a multipurpose trail has been identified in the 2035 RLRTP in Table 4-9 of the Needs Plan Development.

Social Demands & Economic Development

Evacuation: Serving as part of the evacuation route network established by the Florida Division of Emergency Management, Midway Road (CR 712) plays an important role in facilitating traffic during emergency evacuation periods as it connects other major highways and arterials designated on the state evacuation route network within the project limits. These facilities include the Okeechobee Road (SR 70), I-95, Glades Cut-off Road (CR 709), Selvitz Road, S 25th Street (CR 615), Oleander Avenue (CR 605), and US 1. During a twelve month period in 2004-2005, St. Lucie County was hit directly by three major hurricanes. Midway Road (CR 712) is one of the county's most critical east-west routes and serves as a vital evacuation route for hurricanes or any other disasters. Additionally, widening Midway Road (CR 712) will ease traffic flow between S 25th Street and I-95, which will minimize a bottleneck effect during an emergency. It would also improve the ability of the local emergency management organization to evacuate large portions of the Treasure Coast in an acceptable time frame which will enhance the safety of residents.

Economic Development: The Treasure Coast Planning Council Alternative Infill Development Plan developed for Martin and St. Lucie Counties has identified several regional workplace districts located along the Midway Road (CR 712) corridor (see Figure 3). These regional workplace districts are locations where business and economic development would be focused to provide jobs for residents within this metropolitan area. The Midway Road (CR 712) project area is a high-growth area. Important state and federal offices and nonprofit centers are located along Midway Road (CR 712) or nearby streets. This includes the main St. Lucie County Branch of the U.S. Post Office, the St. Lucie County Sheriff's Office, St. Lucie County Health Department, St. Lucie County Fire District Office, Hospice of the Treasure Coast, and the New Horizons of the Treasure Coast, Inc. (Mental Health Center which is currently expanding). Significant truck traffic from the nearby St. Lucie County Landfill, CEMEX, Packers of Indian River Ltd., and Tropicana place additional demands on the roadway. Meanwhile, new residential units are planned nearby. The St. Lucie County Fairgrounds, the County's

Emergency Operations Center, is just six miles west of the project site.

According to the Martin and St. Lucie County 2035 Regional Long Range Transportation Plan, "The Regional Workplace Districts in St. Lucie County are located along the I-95 and Turnpike corridors and include the Treasure Coast Education Research Development Authority (TCERDA) area; the Crossroads Park of Commerce; the existing Rinker and Tropicana facilities along Glades Cut-off Road; the LTC Ranch Commerce Park; St. Lucie West Commerce Park; and Torrey Pines Institute south of Tradition and Gatlin Boulevard. These districts are well-situated for regional access, have ample room to grow, and can provide jobs for local residents." The Midway Road (CR 712) project corridor is anticipated to serve as the main transportation corridor linking residents of both Martin and St. Lucie Counties to this business area. Increasing the capacity along the project corridor will improve mobility and support the economic development of these districts as well as stimulate major construction activities that will contribute to economic growth within this area.

Modal Interrelationships

The accessibility to bicyclists and pedestrians along the corridor is minimal with only two sections of sidewalk within the corridor. They are located on the north side of Midway Road (CR 712) from East Torino Boulevard to Glades Cut-Off Road and along the frontage of the recently construction New Horizons medical facility. There are no bicycle lanes. During a recent field review (February 7, 2014), pedestrians were noted walking on the grassed shoulder pushing a child's stroller. Additionally, the existing bridge over the Florida's Turnpike does not have sufficient shoulder width to accommodate pedestrian or bicycle traffic. A review on the Martin and St. Lucie County 2035 RL RTP identified a multipurpose trail in Table 4-9 of the Needs Development Plan that would run along the entirety of Midway Road (CR 712) to connect with the other proposed multipurpose trails located on Okeechobee Rd, Shin Road, Glades Cut-Off Road, Selvitz Road, and roads further east.

The 2035 Future Bus and Train Network identified a proposed bus route along the entirety of Midway Road (CR 712) to connect to existing bus routes. Moreover, the County's Transit Development Plan (TDP) from February 2014 identified Midway Road (CR 712) as a priority corridor to implement transit. The project will create opportunities to include pedestrian, bicycle and transit facilities along the project corridor.

Roadway Deficiencies

The Midway Road bridge structure (ID 940050) over the Florida's Turnpike is located at M.P. 6.346 and was constructed in 1957. The last inspection of the bridge was performed on December 19, 2013. Although the report notes no structural deficiencies the bridge is classified as Functionally Obsolete.

Purpose and Need Reviews

FDOT District 4

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	10/09/2014	Zhuan Loo (zhuan.loo@stantec.com)	Safety issues will be further evaluated during PD&E Phase. The St. Lucie County MPO TIP lists the project for \$3.8M for the Preliminary Engineering phase, while the FDOT STIP lists the project total for \$71.2M for the Preliminary Engineering and PD&E phases.

FL Department of Agriculture and Consumer Services

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	06/27/2014	Steve Bohl (Steve.Bohl@freshfromflorida.com)	No Purpose and Need comments found.

FL Department of Economic Opportunity

Acknowledgement	Date Reviewed	Reviewer	Comments
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Understood	07/03/2014	Matt Preston (matt.preston@deo.myflorida.com)	No Purpose and Need comments found.
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FL Department of Environmental Protection

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	07/01/2014	Lauren Milligan (lauren.milligan@dep.state.fl.us)	No Purpose and Need comments found.

FL Department of State

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	06/12/2014	Ginny Jones (ginny.jones@dos.myflorida.com)	none

FL Fish and Wildlife Conservation Commission

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	07/01/2014	Scott Sanders (scott.sanders@myfwc.com)	No Purpose and Need comments found.

Federal Highway Administration

Acknowledgement	Date Reviewed	Reviewer	Comments
Accepted	08/08/2014	Luis Lopez, P.E. (luis.d.lopez@dot.gov)	<p>Purpose and Need: Safety was mentioned during the overall introduction of the Purpose and Need but there is no data or discussion available to support it. Discussion is recommended.</p> <p>Planning Consistency: Is the project included in the current STIP? Planning Consistency: This project is in the ETDM Programming Screen and therefore the project phase costs and related funding for those phases that are identified should be consistent with the TIP and LRTP. The project description identifies the project cost, excluding ROW, to be approximately \$19m, but the upcoming TIP (to be effective October 1m, 2014) identifies the project costs programmed over the next 5 years as \$36m (\$45 if ROW is included) and total project costs estimated to be \$57m. Please update this information in the screening tool to more accurately reflect what is being presented to the public.</p> <p>Public comments on this project were not included in the screening tool. Is FDOT aware of any controversy or support for the proposed project? The status of the planning Consistency for this projects was identified as - "no information available" yet, within the project purpose and need there was narrative that described the programming of this project with the MPO documents. This should be updated to reflect this information.</p>

National Marine Fisheries Service

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	05/28/2014	Brandon Howard (Brandon.Howard@noaa.gov)	None

National Park Service

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	06/17/2014	Anita Barnett (anita_barnett@nps.gov)	No Purpose and Need comments found.

Natural Resources Conservation Service

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	05/29/2014	Rick Robbins (rick.a.robbins@fl.usda.gov)	No Purpose and Need comments found.

South Florida Water Management District

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	06/27/2014	Mindy Parrott (mparrott@sfwmd.gov)	No Purpose and Need comments found.

US Army Corps of Engineers

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	06/24/2014	Garett Lips (Garett.G.Lips@usace.army.mil)	No Purpose and Need comments found.

US Coast Guard

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	05/27/2014	Evelyn Smart (evelyn.smart@uscg.mil)	No Coast Guard involvement.

US Environmental Protection Agency

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	07/02/2014	Maher Budeir (budeir.maher@epa.gov)	No Purpose and Need comments found.

US Fish and Wildlife Service

Acknowledgement	Date Reviewed	Reviewer	Comments
Understood	05/28/2014	John Wrublik (john_wrublik@fws.gov)	No Purpose and Need comments found.

Project Description Data

Project Description

Project Description

The Midway Road (CR 712) project corridor is centrally located in the eastern part of St. Lucie County, Florida and is owned and maintained by St. Lucie County. The project corridor extends approximately 1.6 miles along Midway Road (Roadway ID: 94530000), also known as County Road (CR) 712, from Glades Cut-Off Road (Mile Post: 5.813) to Selvitz Road (Mile Post: 7.405). The project corridor is located in Unincorporated St. Lucie County but is the northern border to the City of Port St. Lucie (See Figure 1).

Midway Road (CR 712) is a major east-west roadway that provides a vital connection to residents and commuters to and from the Interstate 95 (I-95) to the commercial areas along US 1. Within the project limits, Midway Road (CR 712) is a two lane undivided roadway with a varying posted speed from 35 to 45 miles per hour. Midway Road (CR 712) is functionally classified as an Urban Principal Arterial and is designated as a hurricane evacuation route by the Florida Division of Emergency Management. The existing roadway typical section consists of two 12-ft lanes, one in each direction and the existing right of way also varies with a minimum width of 70-ft. The land uses consist of residential, commercial, government, and industrial facilities such as Tropicana Products Inc., CEMEX, Packers of Indian River Ltd., US Post Office, St. Lucie County Sheriff, and New Horizons.

The study corridor includes a bridge (#940050) that goes over the Florida's Turnpike. The Florida East Coast (FEC) railroad traverses the corridor by running adjacent and parallel to the Glades Cut-Off Road. Canal 103, part of the St. Lucie Water Control District, is the principal receiving water body for the project area and conveys stormwater from the west side of the Florida's Turnpike through an existing concrete box culvert. The canal runs parallel along the south side

of Midway Road (CR 712) and after Selvitz Road, the canal diverges and continues southeasterly to discharge into the North Fork of the St. Lucie River. The North Fork is designated as an Outstanding Florida Water (OFW) and an Aquatic Preserve. It is the main collector water body in the St. Lucie County and discharges into the Indian River Lagoon. The canal along with the adjacent vegetative buffer, provide a physical separation to the residential homes on the south side.

The Midway Road (CR 712) Project Development & Environment (PD&E) study from Glades Cut-Off Road to Selvitz Road will evaluate alternatives to widen the existing road from two to four lanes within the project limits to satisfy future traffic demand and capacity needs. The proposed study will also consider pedestrian, bicycle, and transit facilities, improvements to freight mobility, and evaluate operational improvements and access management into some commercial businesses along the project corridor. Additional right of way requirements will be evaluated during the PD&E Study for offsite ponds in order to meet stormwater management requirements. At this time, it is not anticipated that any right of way requirements will impact the adjacent environmentally sensitive areas.

The current project construction cost is estimated at \$19 million based on the St. Lucie County and Martin County 2035 Regional Long Range Transportation Plan (RLRTP). The project construction cost is anticipated to be funded with federal funds. It should be noted that this estimated cost does not include right of way acquisitions.

Logical Termini

The Midway Road (CR 712) project limits are from Glades Cut-off Road as the western terminus to Selvitz Road as the eastern terminus in St. Lucie County. The proposed eastern and western limits for this project represent logical end points that tie into other future projects along Midway Road (CR 712) with the ultimate vision of having a continuous four-lane roadway from I-95 to US-1. The only existing four-lane section of Midway Road (CR 712) is from the interchange with I-95 to Glades Cut-off Road. East of Glades Cut-off Road up to the commercial area of US-1, Midway Road (CR 712) is generally a two-lane, undivided roadway.

Midway Road (CR 712) from Glades Cut-off Road to Selvitz Road has been identified for widening from two to four lanes in the 2035 Cost Feasible Plan of the St. Lucie County Transportation Planning Organization (TPO) (see Plan Consistency section for more information). The western limits of the project corridor will logically connect with the existing four-lane section of Midway Road (CR 712). The eastern limits of the project corridor at Selvitz Road will connect with a future four-lane section of Midway Road (CR 712) from Selvitz to S 25th Street that has also been identified in the 2035 St. Lucie TPO Cost Feasible Plan and will be completed with the County's Transportation Management Area (TMA) funding. From S 25th Street to US-1, this segment is slated for construction to widen from two to four lanes in 2013 to 2016 based on the St. Lucie TPO Transportation Improvement Program (TIP) of Fiscal Year (FY) 2013/14 - 2017/18.

Summary of Public Comments

Summary of Public Comments is not available at this time.

Justification

An extensive Public Involvement Plan (PIP) will be prepared and conducted during the PD&E phase of this project. The PIP will (1) outline how project team members will engage the community and other stakeholders in consensus-building/context sensitive solutions for any alternative under consideration, including the No-Build Alternative, and (2) incorporate environmental and community values into the development of the preferred alternative.

Planning Consistency Status

No information available.

Federal Consistency Determination

Date: 07/01/2014

Determination: CONSISTENT with Coastal Zone Management Program.

Lead Agency

Federal Highway Administration

Participating and Cooperating Agencies

No Cooperating Agencies have been identified.

No Participating Agencies have been identified.

Exempted Agencies

Agency Name	Justification	Date
Federal Transit Administration	FTA has requested to be exempt from reviewing any non-transit projects.	05/21/2014

Community Desired Features

No desired features have been entered into the database. This does not necessarily imply that none have been identified.

User Defined Communities Within 500 Feet

No user defined communities were found within a 500 ft. buffer distance for this project.

Census Places Within 500 Feet

- Port St. Lucie
- White City

Alternative #1 - Alternative 1

Alternative Description

Name	From	To	Type	Status	Total Length	Cost	Modes	SIS
Alternative 1	Glades Cut-Off Rd	Selvitz Road	Widening	ETAT Review Complete	1.6 mi.	\$19,000,000.00	Roadway Bicycle Pedestrian	N

Segment Description(s)

Location and Length

Segment No.	Name	Beginning Location	Ending Location	Length (mi.)	Roadway Id	BMP	EMP
Segment 1	Segment 1	Glades Cut-Off Road	Selvitz Road	1.6	94530000		

Jurisdiction and Class

Segment No.	Jurisdiction	Urban Service Area	Functional Class
Segment 1	County	In/Out	URBAN: Principal Arterial - Other

Base Conditions

Segment No.	Year	AADT	Lanes	Config
Segment 1	2012	16820	2	Lanes Undivided

Interim Plan

Segment No.	Year	AADT	Lanes	Config
Segment 1				

Needs Plan

Segment No.	Year	AADT	Lanes	Config
Segment 1	2040	29200	4	

Cost Feasible Plan

Segment No.	Year	AADT	Lanes	Config
Segment 1	2040			

Funding Sources

Segment No.	FEDERAL	Unknown
\$19,000,000.00		

Project Effects Overview for Alternative #1 - Alternative 1

Issue	Degree of Effect	Organization	Date Reviewed
Social and Economic			
Land Use Changes	2 Minimal	FDOT District 4	07/03/2014
Land Use Changes	1 Enhanced	FL Department of Economic Opportunity	07/03/2014
Social	0 None	US Environmental Protection Agency	07/07/2014
Social	2 Minimal	FDOT District 4	07/03/2014
Relocation Potential	2 Minimal	FDOT District 4	07/03/2014
Farmlands	0 None	Natural Resources Conservation Service	05/29/2014
Aesthetic Effects	2 Minimal	FDOT District 4	07/03/2014
Economic	1 Enhanced	FDOT District 4	07/03/2014
Economic	1 Enhanced	FL Department of Economic Opportunity	07/03/2014
Mobility	1 Enhanced	FDOT District 4	07/03/2014

Cultural

Historic and Archaeological Sites	3	Moderate	FL Department of State	06/12/2014
Recreation Areas	0	None	US Environmental Protection Agency	07/07/2014
Recreation Areas	N/A	N/A / No Involvement	National Park Service	06/17/2014
Recreation Areas	0	None	FL Department of Environmental Protection	07/01/2014
Recreation Areas	0	None	South Florida Water Management District	07/01/2014

Natural

Wetlands	3	Moderate	National Marine Fisheries Service	05/28/2014
Wetlands	2	Minimal	US Environmental Protection Agency	07/07/2014
Wetlands	3	Moderate	US Army Corps of Engineers	06/24/2014
Wetlands	2	Minimal	FL Department of Environmental Protection	07/01/2014
Wetlands	2	Minimal	US Fish and Wildlife Service	05/29/2014
Wetlands	3	Moderate	South Florida Water Management District	07/01/2014
Water Quality and Quantity	2	Minimal	South Florida Water Management District	07/01/2014
Water Quality and Quantity	2	Minimal	US Environmental Protection Agency	07/07/2014
Water Quality and Quantity	2	Minimal	FL Department of Environmental Protection	07/01/2014
Floodplains	0	None	US Environmental Protection Agency	07/07/2014
Floodplains	0	None	South Florida Water Management District	07/01/2014
Wildlife and Habitat	2	Minimal	FL Fish and Wildlife Conservation Commission	07/01/2014
Wildlife and Habitat	2	Minimal	US Fish and Wildlife Service	05/29/2014
Coastal and Marine	0	None	National Marine Fisheries Service	05/28/2014
Coastal and Marine	0	None	South Florida Water Management District	07/01/2014

Physical

Air Quality	2	Minimal	US Environmental Protection Agency	07/07/2014
Contamination	3	Moderate	US Environmental Protection Agency	07/07/2014
Contamination	2	Minimal	South Florida Water Management District	07/01/2014
Contamination	3	Moderate	FL Department of Environmental Protection	07/01/2014
Infrastructure	N/A	N/A / No Involvement	FL Department of Agriculture and Consumer Services	06/27/2014
Navigation	N/A	N/A / No Involvement	US Army Corps of Engineers	06/24/2014
Navigation	N/A	N/A / No Involvement	US Coast Guard	05/27/2014

Special Designations

Special Designations	0	None	US Environmental Protection Agency	07/07/2014
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ETAT Reviews and Coordinator Summary: Social and Economic

Land Use Changes

Project Effects

Coordinator Summary Degree of Effect: 2 Minimal assigned 09/03/2014 by FDOT District 4

Comments:

This project is identified in the Martin and St. Lucie 2035 Regional Long Range Transportation Plan (RLRTP) and is identified in the St. Lucie County TPO 2035 Cost Feasible Plan (2016-2035) with a 2021-2025 implementation horizon. In addition, the project will be included in the next update to the State Transportation Improvement Program (STIP) and the St. Lucie TPO TIP. It should be noted that on the south side of the project corridor a multipurpose trail has been identified in the 2035 RLRTP in Table 4-9 of the Needs Plan Development. The project is not located within a quarter mile of any existing local parks. The project is also not located in an Area of Critical State Concern, does not encroach on a military base, and is not located within the Coastal High Hazard Area.

The Future Land Use Map (FLUM) of the Comprehensive Plan shows several FLUM categories surrounding the project: a mix of land uses that consist of residential land uses to the south and industrial, public facilities, and commercial land uses to the north. The City of Port St. Lucie future land use map shows that the currently vacant land in the southeast quadrant of Midway Road (CR 712) and the Florida's Turnpike has a commercial land use. The widening of the project corridor will primarily utilize the existing right of way; however, additional right of way may be identified for acquisition during the PD&E Study to provide offsite ponds for stormwater management requirements. Based on ETAT review comments, FDOT assigns a summary degree of effects of Minimal to Land Use Changes.

Degree of Effect: 2 Minimal assigned 07/03/2014 by Gaspar Jorge Padron, FDOT District 4

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

Direct Effects

Identified Resources and Level of Importance:

Residential communities located to the south and east of the project corridor. Industrial and government facilities located to the north of the project corridor.

Comments on Effects to Resources:

The future land use maps of St. Lucie County (2013) and the City of Port St. Lucie (2014) revealed that the project corridor is composed of a mix of land uses that consist of residential land uses to the south and industrial, public facilities, and commercial land uses to the north. The City of Port St. Lucie future land use map shows that the currently vacant land in the southeast quadrant of Midway Road (CR 712) and the Florida's Turnpike has a commercial land use. During a field visit conducted on February 7, 2014, it was verified that the land uses along the project corridor consists of residential, commercial, government, and industrial facilities. Canal 103, which is part of the St. Lucie Water Control District, is located along the south side of the Midway Road (CR 712) project corridor and provides a physical divide between the southern residential area and the northern industrial and commercial area.

The widening of the project corridor will primarily utilize the existing right of way; however, additional right of way may be identified for acquisition during the PD&E Study to provide offsite ponds for stormwater management requirements.

It is anticipated that the effect to Land Use will be Minimal.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 1 Enhanced assigned 07/03/2014 by Matt Preston, FL Department of Economic Opportunity

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

St. Lucie County Comprehensive Plan 2010.

Comments on Effects to Resources:

The proposed improvements are consistent and compatible with the *St. Lucie County Comprehensive Plan 2010* and the development goals of the City and County. Midway road is a critical east-west evacuation route. The Comprehensive Plan projects a 2030 LOS of F if no improvements are made. It is currently operating at a LOS E. Policy 5.2.3.1 calls for the improvement of Midway Road so as to operate at a minimum LOS D during an emergency evacuation.

This section of Midway Road is identified on the Right of Way Protection Map as a proposed 4 lane roadway.

The Future Land Use Map (FLUM) of the Comprehensive Plan shows several FLUM categories surrounding the project, including: **City of Port St. Lucie** - Commercial Limited, Institutional, Open Space - Conservation, Commercial General, and Commercial Service. **St. Lucie County** - Industrial, Public Facilities, and Residential.

The project is not located within a quarter mile of any existing local parks.

The project is not located in an Area of Critical State Concern, does not encroach on a military base, and is not located within the Coastal High Hazard Area.

Additional Comments (optional):

CLC Commitments and Recommendations:

Social

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 09/03/2014 by FDOT District 4

Comments:

The project serves to enhance mobility and accessibility and public safety along the project corridor. While the widening of the project corridor will primarily utilize the existing right of way; additional right of way may be identified for acquisition during the PD&E Study to provide offsite ponds for stormwater management requirements. Potential noise and vibration effects may be of concern to the residential areas located to the south as a result of increased traffic on an expanded facility, the overall impacts on the social environment and cohesion are anticipated to be minor. Potential social impacts will be assessed further during Project Development as more detailed information becomes available.

Public outreach to solicit input from the transportation disadvantaged, elderly, low income, and minority populations will be conducted to ensure that a thorough Environmental Justice/Title VI analysis that considers potentially disproportionate impacts to protected groups is conducted and that identified transportation needs are addressed through the project. Limited English Proficiency (LEP) accommodations will be necessary during public outreach as the demographic data indicates that 16% of the Spanish-speakers speak English "Less than very well". Public commentary collected as a result of such efforts will be documented in the EST. Additionally, a Socio-cultural Effects Evaluation and Noise Study Report will be conducted as part of the PD&E Study. Based on ETAT review comments, FDOT assigns a summary degree of effect of Minimal to Social.

Degree of Effect: 0 *None* assigned 07/07/2014 by Maher Budeir, US Environmental Protection Agency

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

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 07/03/2014 by Gaspar Jorge Padron, FDOT District 4

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

Direct Effects

Identified Resources and Level of Importance:

Within the 500-ft buffer, the following resources were identified:

- LTC Ranch
- Cemex
- Packers of Indian River
- Contech Engineered Solutions
- St. Lucie County Department of Health
- US Post Office
- St. Lucie County Sheriff's Office
- New Horizons (Emotional and Mental Health Facility)

Mobil Gas Station
Dunkin' Donuts
Subway Sandwich
FEC Railroad
Canal 103
Bridge #940050

Residential communities located to the south and east of the project corridor. Industrial and government facilities located to the north of the project corridor.

City of Port St. Lucie to the south and the White City community to the east of the project

Comments on Effects to Resources:

The project corridor is located along the northern border of the City of Port St. Lucie. The roadway is owned and maintained by St. Lucie County. The corridor is within the US Census designated Port St. Lucie-Fort Pierce Metropolitan Statistical Area (MSA) and has been identified as one of the fastest growing metropolitan areas in Florida, which includes all of Martin and St. Lucie Counties. From 2000 to 2010, this metropolitan area has experienced population growth from 319,426 persons in 2000 to 424,107 persons in 2010, representing an annual increase of 2.9%. Evaluating the population growth for the City of Port St. Lucie by itself revealed an even greater percentage increase. According to the Bureau of Economic and Business Research, the City has grown from a population of 88,769 in 2000 to 164,603 in 2010 representing an annual increase of 6.4%.

The population of the Port St. Lucie-Fort Pierce metropolitan area is projected to increase from 424,107 in year 2010 to 648,600 in year 2035 representing a growth of approximately 53% (Source: Bureau of Economic Business Research). As the population in the metropolitan area continues to increase, developments in St. Lucie County will continue to grow thereby increasing the amount of traffic on the roads. According to the 2010 US Census, the population of St. Lucie County is 277,789 and includes the following breakdown:

- African-Americans: 53,036 (19%)
- American Indian, Eskimo or Aleut: 1,123 (0.4%)
- Asian Americans: 4,334 (1.6%)
- Caucasian American: 199,336 (72%)
- Native Hawaiian and Other Pacific Islander: 161 (0.06%)
- Other: 19,799 (7%)
- Hispanics: 45,995 (17%)*

*(the Hispanic Ethnicity includes Blacks and Whites)

Serving as part of the evacuation route network established by the Florida Division of Emergency Management, Midway Road (CR 712) plays an important role in facilitating traffic movement during emergency evacuation periods. The project corridor provides connections to other major highways and arterials designated on the state evacuation route network such as Okeechobee Road (SR 70), I-95, Glades Cut-off Road (CR 709), Selvitz Road, S 25th Street (CR 615), Oleander Avenue (CR 605), and US-1. In addition, there is one overpass bridge (#940060) over the Florida's Turnpike that may need to be modified or replaced depending on the alternative.

It should be noted that any transportation project that requires federal funding must satisfy the Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency (LEP)." Demographic information of four Census Tracts that surround the project area was analyzed. Of the Spanish-speaking residents, over 16% speak "English less than very well". Based on LEP specifications as defined by Chapter 11 of the Project Development and Environment (PD&E) Manual, future public involvement efforts in Spanish should be considered.

It is anticipated that the effect to Social will be Minimal.

Additional Comments (optional):

CLC Commitments and Recommendations:

Relocation Potential

Project Effects

Coordinator Summary Degree of Effect: 2 Minimal assigned 09/30/2014 by FDOT District 4

Comments:

While the widening of the project corridor will primarily utilize the existing right of way; additional right of way may be identified for acquisition during the PD&E Study to provide offsite ponds for stormwater management requirements. Should right of way acquisition be identified during Project Development, FDOT shall carry out a Right of Way and Relocation Program in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Florida Statute 339.09.

FDOT assigns a degree of effect of Minimal to Relocation Potential.

Degree of Effect: 2 Minimal assigned 07/03/2014 by Gaspar Jorge Padron, FDOT District 4

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

Direct Effects

Identified Resources and Level of Importance:

Residential communities located to the south and east of the project corridor. Industrial and government facilities located to the north of the project corridor.

Comments on Effects to Resources:

The widening of the project corridor will primarily utilize the existing right of way. It is not anticipated to displace any residences or businesses within the community. However, additional right of way may be identified for acquisition during the PD&E Study to provide offsite ponds for stormwater management requirements. It is not anticipated that any right of way requirements will impact the adjacent environmentally sensitive areas.

A Conceptual Stage Relocation Plan will be prepared if relocations are determined to be necessary. If right of way or relocations are required then FDOT will carry out a right of way and relocation program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended by the Public Law 100-17).

It is anticipated that the effect to Relocation Potential will be Minimal.

Additional Comments (optional):

CLC Commitments and Recommendations:

Farmlands

Project Effects

Coordinator Summary Degree of Effect: 0 None assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis and ETAT agency comment identified Farmland Soils of Unique Importance at all buffer widths for this project; however, the USDA-NRCS considers land to be used in production of commodity crops, such as, cotton, citrus, row crops, specialty crops, nuts, etc. as Farmlands of Unique Importance or Farmlands of Local Importance. The project corridor traverses through a mix of residential land uses to the south and industrial, public facilities, and commercial land uses to the north. FDOT assigns a degree of effect of None to Farmlands.

Degree of Effect: 0 None assigned 05/29/2014 by Rick Allen Robbins, Natural Resources Conservation Service

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

The USDA-NRCS considers soil map units with important soil properties for agricultural uses to be Prime Farmland. In addition, the USDA-NRCS considers any soils with important soil properties and have significant acreages that are used in the production of commodity crops (such as, cotton, citrus, row crops, specialty crops, nuts, etc.) to be considered as Farmlands of Unique Importance or Farmlands of Local Importance. Nationally, there has been a reduction in the overall amount of Prime and Unique Farmlands through conversion to non-farm uses. This trend has the possibility of impacting the nation's food supply and exporting capabilities.

Comments on Effects to Resources:

Conducting GIS analysis of Prime Farmland (using USDA-NRCS data) and Important Farmland Analysis (using Associated Level III Water Management District data and 2010 SSURGO data) has resulted in the determination that there are Farmland Soils of Unique Importance at all buffer widths for this project. The amounts range from 34.36 acres at the 100' buffer width and 188.21 acres at the 500' buffer width. However, most of the project area is mixed urban and residential land use. With existing Land use and project design (widening), we are assigning a No Degree of Effect to Important Farmlands.

Additional Comments (optional):

CLC Commitments and Recommendations:

Aesthetic Effects

Project Effects

Coordinator Summary Degree of Effect: 2 Minimal assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis and ETAT agency comments identified a park Milner Drive Tot, in the vicinity of the project corridor and an existing bridge

(Bridge #940050) along Midway Road over the Florida's Turnpike. The park is located approximately 500-ft to the east of the Florida's Turnpike and it is not anticipated that the project will directly affect the park. However, changes to the Florida Turnpike crossing, such as raising the profile grade for a new bridge, may affect aesthetics for adjacent facilities. Additionally, there is a native plant buffer between Canal 103 and the residential community to the south. The City of Port St. Lucie and County have entered into an agreement to ensure that the existing native plant buffer is preserved to the greatest extent possible. FDOT shall coordinate with the City of Port St. Lucie and the County.

FDOT assigns a degree of effect of Minimal to Aesthetics Effects.

Degree of Effect: 2 *Minimal* assigned 07/03/2014 by Gaspar Jorge Padron, FDOT District 4

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

Direct Effects

Identified Resources and Level of Importance:

Residential communities located to the south and east of the project corridor. Industrial and government facilities located to the north of the project corridor.

City of Port St. Lucie to the south and the White City community to the east of the project.

Comments on Effects to Resources:

Approximately 500-ft from the project corridor on the east side of the Florida's Turnpike is Milner Drive Tot lot which is a park that is maintained by the City of Port St. Lucie. At this time it is not anticipated that this park will be directly affected by the project. If the existing two-lane bridge along Midway Road (CR 712) over the Florida's Turnpike is elevated as a result of replacement to accommodate four lanes, then some visual impacts may be a concern to the surrounding communities due to the higher bridge profile. In addition, on the south side of the corridor there exists a native plant community that acts as a buffer between Canal 103 and the residential communities. The City and County have entered into an agreement to ensure that the existing native plant communities are preserved to the greatest extent possible.

It is anticipated that the effect to Aesthetics Effects will be Minimal.

Additional Comments (optional):

CLC Commitments and Recommendations:

Economic

Project Effects

Coordinator Summary Degree of Effect: 1 *Enhanced* assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis and ETAT agency comments identified several commercial, industrial, county and federal facilities along the project corridor. The project is not located in a Rural Area of Critical Economic Concern (RACEC). The project traverses one of the St. Lucie's Regional Workplace Districts to which the project may serve as one of the main transportation corridor to link residents of Martin and St. Lucie Counties to the districts. The project would also be beneficial for future industrial development within St. Lucie County. However, an unconstrained roadway would be beneficial for future industrial development within St. Lucie County. The area is built-out within the city of Port St. Lucie, but an unconstrained roadway would be beneficial for any future redevelopment and industrial related employment.

Based on ETAT review comments, FDOT assigns a summary degree of effect of Enhanced to Economic.

Degree of Effect: 1 *Enhanced* assigned 07/03/2014 by Gaspar Jorge Padron, FDOT District 4

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

Direct Effects

Identified Resources and Level of Importance:

Within the 500-ft buffer, the following resources were identified:

LTC Ranch

Cemex

Packers of Indian River

Contech Engineered Solutions

St. Lucie County Department of Health

US Post Office

St. Lucie County Sheriff's Office

New Horizons (Emotional and Mental Health Facility)

Mobil Gas Station
Dunkin' Donuts
Subway Sandwich

Comments on Effects to Resources:

The project corridor includes commercial and industrial land uses such as the Tropicana Products Inc., CEMEX, Packers of Indian River Ltd., Hospice of the Treasure Coast, and the New Horizons of the Treasure Coast, Inc. (Mental Health Center which is currently expanding). The truck percentage is high at over 7%; which indicates that the project corridor has significant freight activity. Meanwhile, new residential units are planned nearby. The St. Lucie County Fairgrounds and the County's Emergency Operations Center are just six miles west of the project site. The corridor also includes Federal and County offices such as the U.S. Post Office, St. Lucie County's Sheriff's Office, Fire District, and Health Department.

According to the Martin and St. Lucie County 2035 Regional Long Range Transportation Plan (RLRTP), "The Regional Workplace Districts in St. Lucie County are located along the I-95 and Turnpike corridors and include the Treasure Coast Education Research Development Authority (TCERDA) area; the Crossroads Park of Commerce; the existing Rinker and Tropicana facilities by the intersection of Glades Cut-off Road and Midway Road (CR 712); the LTC Ranch Commerce Park; St. Lucie West Commerce Park; and Torrey Pines Institute south of Tradition and Gatlin Boulevard." The project corridor traverses one of the Regional Workplace Districts and as state in the RLRTP, these districts are well-situated for regional access, have ample room to grow, and can provide jobs for local residents. The Midway Road (CR 712) project corridor is anticipated to serve as one of the main transportation corridor linking residents of both Martin and St. Lucie Counties to these business areas.

The Treasure Coast Planning Council Alternative Infill Development Plan developed for Martin and St. Lucie Counties has also identified several regional workplace districts located along the Midway Road (CR 712) project corridor. These regional workplace districts are focused to provide jobs for residents within this metropolitan area.

It is anticipated that the effect to Economic will be Enhanced.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 1 Enhanced assigned 07/03/2014 by Matt Preston, FL Department of Economic Opportunity

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

St. Lucie County Comprehensive Plan 2010.

Comments on Effects to Resources:

The project is not located in a Rural Area of Critical Economic Concern (RACEC). However, an unconstrained roadway would be beneficial for future industrial development within St. Lucie County. The area is built-out within the city of Port St. Lucie, but an unconstrained roadway would be beneficial for any future redevelopment and industrial related employment.

Additional Comments (optional):

CLC Commitments and Recommendations:

Mobility

Project Effects

Coordinator Summary Degree of Effect: 1 Enhanced assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis and ETAT agency comments identified several commercial, industrial, county and federal facilities along the project corridor. The project will tie into the existing four lane section along Midway Road (CR 712) on the west side from Glades Cut-off Road to I-95 and to the widening project east of Selvitz Road that is being developed by the St. Lucie County. This project is anticipated to improve vehicular connectivity, mobility, emergency response, and evacuation access to I-95. FDOT shall coordinate with St. Lucie County to create opportunities to include pedestrian, bicycle, and transit facilities.

Based on ETAT review comments, FDOT assigns a degree of effect of Enhanced to Mobility.

Degree of Effect: 1 Enhanced assigned 07/03/2014 by Gaspar Jorge Padron, FDOT District 4

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

Direct Effects

Identified Resources and Level of Importance:

Within the 500-ft buffer, the following resources were identified:

New Horizons (Emotional and Mental Health Facility)

Midway Road Connector Corridor Multi-Use Trail Opportunities

FEC Railroad

Canal 103

Bridge #940050

Comments on Effects to Resources:

The widening of the project corridor will tie into the existing four lane section along Midway Road (CR 712) on the west side from Glades Cut-off Road to I-95. The project will also provide a connection to the Midway Road (CR 712) widening project east of Selvitz Road that is being developed by the St. Lucie County. This will improve vehicular connectivity, mobility, emergency response, and evacuation access to I-95. In addition the proposed project will create opportunities to include pedestrian, bicycle, and transit facilities. Currently, the existing corridor does not have sidewalks and that forces pedestrians to utilize the existing swale area.

It is anticipated that the effect to Mobility will be Enhanced.

Additional Comments (optional):

CLC Commitments and Recommendations:

ETAT Reviews and Coordinator Summary: Cultural

Section 4(f) Potential

Project Effects

Coordinator Summary Degree of Effect: 3 *Moderate* assigned 09/03/2014 by FDOT District 4

Comments:

A review of the EST GIS Analysis did not identify any public parks, recreation lands, or wildlife and waterfowl refuges along the project corridor. However, a review of the GIS Analysis and ETAT agency comments for historic and archaeological resources identified a historic-aged bridge (#940050), constructed in 1957, and 5 linear sources such the FEC Railroad, Midway Road, Florida's Turnpike, Canal 103 and CR 706. There are no recorded archaeological sites in the project corridor but there is a potential for unrecorded sites. At this time, it is unknown if specific sections of these resources near the project have been examined. Additionally, it is unknown whether bridge # 940050 will need to be replaced as part of the project, which may have an adverse effect if the bridge is determined to be significant.

A Cultural Resource Assessment Survey (CRAS) will be performed for the entire corridor during the PD&E phase. FDOT will coordinate with ETAT agencies throughout Project Development, including for review and comment of the CRAS. FDOT will avoid and minimize impacts to any resources which may be identified by the CRAS to the greatest extent practicable. However, if the project results in any adverse effects to significant or historic or archaeological resources, Section 4(f) coordination will be required. A Section 4(f) Programmatic or Individual Statement will be completed during PD&E, if warranted.

Based on ETAT comments and a review of the EST, FDOT assigns a degree of effect of Moderate to Section 4(f) Potential.

None found

Historic and Archaeological Sites

Project Effects

Coordinator Summary Degree of Effect: 3 *Moderate* assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis and ETAT agency comments identified a historic-aged bridge (#940050), constructed in 1957, and 5 linear sources such the FEC Railroad, Midway Road, Florida's Turnpike, Canal 103 and CR 706. There are no recorded archaeological sites in the project corridor but there is a potential for unrecorded sites. At this time, it is unknown if specific sections of these resources near the project have been examined. Additionally, it is also unknown whether bridge # 940050 will need to be replaced as part of the project, which may have an adverse effect.

A Cultural Resource Assessment Survey (CRAS) will be performed for the entire corridor during the PD&E phase. FDOT will coordinate with ETAT agencies throughout Project Development, including for review and comment of the CRAS. FDOT will avoid and minimize impacts to any resources which may be identified by the CRAS to the greatest extent practicable.

FDOT agrees with the Florida Department of State and assigns a degree of effect of Moderate to Historic and Archaeological Sites.

Degree of Effect: 3 Moderate assigned 06/12/2014 by Ginny Leigh Jones, FL Department of State

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

Coordination Document Comments:

A survey conducted in 2006 covered the project corridor from the Turnpike to beyond Selvitz Road. However, the survey was not reviewed by FDOT or any federal agency. Finally, due to the passage of time since the survey more resources may have reached 50 years old. As discussed in the PED, a Cultural Resources Assessment Survey (CRAS) should be conducted. All historic-age resources, including potential historic districts, within the area of potential effect should be documented and assessed for NRHP eligibility. The resultant survey report shall conform to the specifications set forth in Chapter 1A-46 Florida Administrative Code, FDOT PD&E Manual Part 2, Chapter 12 and will need to be forwarded to this agency (or the appropriate Federal Agency) for review and comment.

Direct Effects

Identified Resources and Level of Importance:

GIS analysis of the project corridor reveals that the proposed project intersects with one historic-aged bridge, and 5 linear resources. The bridge - FDOT bridge no. 940050 - was constructed in 1957. However, it is unknown if this bridge is significant. One of the linear resources - FEC Railroad (8SL3014) has been determined by this office to be significant. The other four linear resources (Midway Road - SL1657; Florida Turnpike - SL1789, Canal 103 - SL1809, CR 706 - SL3149) have had sections determined not significant. It is unknown if the specific sections of these resources close the proposed project have been examined. This will need to be determined in the Cultural Resources Assessment Survey (CRAS) that will be completed for this project.

There are no recorded archaeological sites in the project corridor but there is a potential for unrecorded sites.

The 1944 aerial shows very little development in project area. There is some agricultural fields and there may be some associated home sites with these farms. By the 1958 aerial the Turnpike, Glades Cut-Off Road, and Midway Road are extant. There is some additional - though minor - agricultural use around the project corridor. Most of the additional development is on the eastern end of the project corridor. The 1970 aerial shows still minor development around the intersection of the Turnpike, Glades Cut-off Road and Midway Road but there is more development west of that intersection, reflecting more development in the interior of the state. Also predictably, there is increased development in the eastern portion of the project corridor by the 1970 aerial. These aerials show that there may be unrecorded cultural resources in the project corridor.

Comments on Effects to Resources:

It is unclear if the project will include the replacement of FDOT bridge no. 940050 but if the bridge is found to be significant, its replacement would be an adverse effect. Regarding the linear resources, typically adverse effects to these resources would be the severing or re-routing of the resource. It is difficult at this time to determine if the proposed project would result in this occurring. The widening of the roadway has the potential to impact significant archaeological resources.

Additional Comments (optional):

A survey conducted in 2006 covered the project corridor from the Turnpike to beyond Selvitz Road. However, the survey was not reviewed by FDOT or any federal agency. Finally, due to the passage of time since the survey more resources may have reached 50 years old. As discussed in the PED, a Cultural Resources Assessment Survey (CRAS) should be conducted. All historic-age resources, including potential historic districts, within the area of potential effect should be documented and assessed for NRHP eligibility. The resultant survey report shall conform to the specifications set forth in Chapter 1A-46 Florida Administrative Code, FDOT PD&E Manual Part 2, Chapter 12 and will need to be forwarded to this agency (or the appropriate Federal Agency) for review and comment.

CLC Commitments and Recommendations:

Recreation Areas

Project Effects

Coordinator Summary Degree of Effect: 0 None assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis and ETAT agency comments identified a South Florida Water Management District owned easement within 100-ft of the project corridor. An ERP will be required for this project.

Based on ETAT comments and a review of the EST, FDOT agrees with the US Environmental Protection Agency, Florida Department of Environmental Protection, and South Florida Water Management District and assigns a summary degree of effect of None to Recreation Areas.

Degree of Effect: 0 None assigned 07/07/2014 by Maher Budeir, US Environmental Protection Agency

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

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: **N/A** *N/A / No Involvement* assigned 06/17/2014 by Anita Barnett, National Park Service

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: **0** *None* assigned 07/01/2014 by Lauren P. Milligan, FL Department of Environmental Protection

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: **0** *None* assigned 07/01/2014 by Mindy Parrott, South Florida Water Management District

Coordination Document: Permit Required

Coordination Document Comments:

An ERP is required.

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Effects to Recreation, Coastal Resources and Floodplains are not anticipated based on SFWMD's review.

Additional Comments (optional):

An ERP is required.

CLC Commitments and Recommendations:

ETAT Reviews and Coordinator Summary: Natural

Wetlands

Project Effects

Coordinator Summary Degree of Effect: **3** *Moderate* assigned 09/03/2014 by FDOT District 4

Comments:

Based on the agency comments and the GIS analysis results, there are a total of 6.7 acres of palustrine wetlands with both forested and scrub-shrub wetlands, and Canal 103 within the 500-ft buffer of the project corridor. The wetlands, surface waters, and natural areas along the corridor provide suitable habitat for wildlife, aquifer recharge, natural filters for pollutants, essential carbon export/import functions, flood water attenuation and storage, and contributions to the ecosystem through food-web productivity, among many other functions.

The project will primarily utilize the existing right of way. However, additional right of way may be identified for acquisition during the PD&E Study to provide offsite ponds for stormwater management. Where practicable, any necessary stormwater management facilities will be located within previously disturbed, upland sites and outside of environmentally sensitive areas. A Wetlands Evaluation and Report (WER) will be completed during the PD&E phase. The WER will provide habitat characterizations of the existing wetlands within the corridor and the vicinity; document the existing conditions of the resources; evaluate direct, indirect, cumulative, and secondary impacts; and, make recommendations for sequentially avoiding, minimizing and/or mitigating resource impacts.

FDOT will continue coordination with regulatory agencies throughout the development of the project to address potential environmental issues and to ensure wetland impacts are sequentially avoided and minimized to the greatest extent practicable. Agency coordination discussions will also include the design of the proposed stormwater system and the requirements for stormwater treatment. FDOT will obtain an environmental resource permit (ERP) during final design and provide compensatory mitigation for any unavoidable impacts.

Stormwater Pollution Prevention Plans (SWPPP) will be prepared during the design phase and incorporated into the construction contract to ensure that Contractor implements BMPs to control stormwater runoff and other potential water quality impacts. The SWPPP will be prepared in compliance with state and federal standards. Furthermore, the Contractor will be required to obtain an FDEP NPDES permit. A preconstruction meeting will be held with the project Contractor to review construction requirements in environmentally sensitive areas; to delineate the wetlands limits; and, to reiterate the requirement for the use of Best Management Practices to minimize temporary construction impacts.

Based on ETAT comments and a review of the EST, FDOT agrees with South Florida Water Management District, US Army Corps of Engineers and the National Marine Fisheries Service, and assigns a summary degree of effect of Moderate to Wetlands.

Degree of Effect: 3 *Moderate* assigned 05/28/2014 by Brandon Howard, National Marine Fisheries Service

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

Based on our review of the information provided on the EST website, GIS-based effects analysis on wetlands and interpretation of aerial photographs, NOAA's National Marine Fisheries Service (NMFS) has determined that emergent wetlands and ditches are located within the project corridor. These wetlands range from low to moderate in quality.

Comments on Effects to Resources:

The wetlands along the proposed roadway expansion provide water quality functions, such as removal of sediments, excess nutrients, and contaminants, which benefit and support these aquatic ecosystems. Through hydrological connections, these wetlands also contribute plant material and other useable nutrients (both dissolved and particulate organic matter) into aquatic food webs that include recreationally, commercially, and ecologically important species within downstream estuaries. If wetland impacts are unavoidable, sequential minimization and mitigation should take place.

In addition to the direct impacts from filling wetlands, construction activities may impact adjacent wetlands through sedimentation and runoff.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 07/07/2014 by Maher Budeir, US Environmental Protection Agency

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

Direct Effects

Identified Resources and Level of Importance:

1.7 Acres of wetland within 200 foot buffer

Comments on Effects to Resources:

The design of the project including the alignment and the foot print of the proposed project should be developed in a manner that will avoid impact on the wetland resource. Unavoidable impact should be fully mitigated.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 06/24/2014 by Garrett Lips, US Army Corps of Engineers

Coordination Document: Permit Required

Direct Effects

Identified Resources and Level of Importance:

The areas adjacent to the corridor have residential, commercial, and undeveloped lands with both uplands and wetlands. There are approximately 1.7 acres of freshwater palustrine wetlands with both forested and scrub-shrub wetlands. The project area includes Canal 103 which is located along the south side of Midway Road throughout the project limits. The wetlands and natural environment provide sustainable habitat for wildlife, aquifer recharge, natural filters for pollutants, essential carbon export/import functions, flood water attenuation and storage, and contributions to the ecosystem through food-web productivity, among many other functions.

Comments on Effects to Resources:

Filling wetlands reduces the ability of the natural environment to provide: sustainable habitat for wildlife, aquifer recharge, natural filters for pollutants, essential carbon export/import functions, flood water attenuation and storage, and contributions to the ecosystem through food-web productivity, among many other functions.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 07/01/2014 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 a total of 6.7 acres of palustrine wetlands within the 500-ft. project buffer zone.

Comments on Effects to Resources:

The proposed project will require an environmental resource permit (ERP) from the South Florida Water Management District for stormwater management and any wetland impacts. The ERP applicant will be required to eliminate or reduce the proposed wetland resource impacts of roadway construction 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 any forested wetland systems, which are difficult to mitigate.
- The cumulative impacts of concurrent and future transportation improvement projects in the vicinity of the subject project should also be addressed.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 05/29/2014 by John Wrublik, US Fish and Wildlife Service

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects

Identified Resources and Level of Importance:

Wetlands

Comments on Effects to Resources:

Wetlands provide important habitat for fish and wildlife. According to data in the Environmental Screening tool, wetlands occur within the project area. We recommend that the project be designed to avoid these valuable 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):

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 07/01/2014 by Mindy Parrott, South Florida Water Management District

Coordination Document: Permit Required

Direct Effects

Identified Resources and Level of Importance:

Wetlands and surface water exist within and adjacent to the project. These features may provide habitat for a variety of wetland dependent wildlife, including listed species such as the woodstork.

Comments on Effects to Resources:

The project may require dredging, filling, or crossing of wetlands and surface waters to accommodate road widening and the required stormwater management facilities.

Additional Comments (optional):

CLC Commitments and Recommendations:

Water Quality and Quantity

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis and ETAT agency comments identified Canal 103, 2 limited drinking water wells, 6 active onsite sewage facilities, 2 verified impaired Florida Waters, and 4 US EPA National Pollutant Discharge Elimination System permits. The project is also within the Surficial Aquifer System. The project currently discharges to C-103, which connects to the North Fork of the St. Lucie River. The North Fork of the St. Lucie River is an Outstanding Florida Water and portions of it are an Aquatic Preserve.

FDOT acknowledges the ETAT agency's comments regarding the project's potential permit requirements and will obtain all required permits during final design. FDOT also acknowledges the ETAT's agency's concerns regarding the project's potential impacts to wetlands/surface waters and water quality. These concerns are addressed in more detail within each of the corresponding sections within this document. A Wetlands Evaluation and a Water Quality Impact Evaluation (WQIE) will be conducted during Project Development. FDOT will continue coordination with regulatory agencies, such as the North St. Lucie River Water Control District, throughout the development of the project to ensure all potential environmental issues are fully resolved. Additionally, water quality impact evaluations should be conducted to ensure no impact on water quality in Canal 103.

Storm water runoff will increase in quantity as a result of the additional impervious area associated with the proposed widening. FDOT will evaluate the existing stormwater system and the stormwater compensation needed for the project during the PD&E phase. Coordination will be maintained with each agency for the design of any needed stormwater system improvements and the requirements for stormwater treatment. To minimize potential construction-related impacts, Stormwater Pollution Prevention Plans (SWPPP) will be prepared in compliance with state and federal standards and incorporated into the construction contract. The Contractor will be required adhere to the SWPPP and implement Best Management Practices (BMPs) to control stormwater runoff and other potential water quality impacts during construction. The SWPPP will be prepared in compliance with state and federal standards. Furthermore, the Florida Department of Transportation will be required to obtain an Environmental Resource Permit (ERP) or permit modification. During Construction, a water use permit from the SFWMD may be required. The project shall be designed to meet the SFWMD water quantity and quality criteria in ERP Applicant's Handbook Volume I and II.

Based on ETAT comments, FDOT agrees with the US Environmental Protection Agency, FL Department of Environmental Protection and South Florida Water Management District and assigns a summary degree of effect of Minimal to Water Quality and Quantity.

Degree of Effect: 2 *Minimal* assigned 07/01/2014 by Mindy Parrott, South Florida Water Management District

Coordination Document: Permit Required

Coordination Document Comments:

An Environmental Resource Permit (56-00833-S) exists for Midway Road from Selvitz to 25th Street. This permit could be modified to include the project.

Direct Effects

Identified Resources and Level of Importance:

The project currently discharges to C-103, which connects to the North Fork of the St. Lucie River. The North Fork of the St. Lucie River is an Outstanding Florida Water and portions of it are an Aquatic Preserve.

Comments on Effects to Resources:

The project must be designed to meet the SFWMD water quantity and quality criteria in ERP Applicant's Handbook Volume I and II.

Additional Comments (optional):

An Environmental Resource Permit (56-00833-S) exists for Midway Road from Selvitz to 25th Street. This permit could be modified to include the project.

CLC Commitments and Recommendations:

Degree of Effect: 2 Minimal assigned 07/07/2014 by Maher Budeir, US Environmental Protection Agency

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

Direct Effects

Identified Resources and Level of Importance:

Canal 103

Comments on Effects to Resources:

Storm water runoff will increase in quantity due the increased impervious surface. Impact on water quantity and pond siting should be fully assessed. Additionally water quality impact evaluations should be conducted to ensure no impact on water quality in Canal 103

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 2 Minimal assigned 07/01/2014 by Lauren P. Milligan, FL Department of Environmental Protection

Coordination Document: Permit Required

Direct Effects

Identified Resources and Level of Importance:

Increased stormwater runoff carrying oils, greases, metals, sediment, and other pollutants from the increased impervious surface would be of concern. Natural resource impacts within and adjacent to the proposed road right-of-way will likely include alteration of the existing surface water hydrology and natural drainage patterns, and reduction in flood attenuation capacity of area creeks, ditches, and sloughs as a result of increased impervious surface within the watershed.

Comments on Effects to Resources:

Every effort should be made to maximize the treatment of stormwater runoff from the proposed road project to prevent ground and surface water contamination. Stormwater treatment should be designed to maintain the natural predevelopment hydroperiod and water quality, as well as to protect the natural functions of adjacent wetlands. We recommend that the PD&E study include an evaluation of existing stormwater treatment adequacy and details on the future stormwater treatment facilities. Retro-fitting of stormwater conveyance systems would help reduce impacts to water quality.

Additional Comments (optional):

CLC Commitments and Recommendations:

Floodplains

Project Effects

Coordinator Summary Degree of Effect: 0 None assigned 09/03/2014 by FDOT District 4

Comments:

A GIS review of the FEMA Floodplain identified that the project is within Zone X. FDOT acknowledges South Florida Water Management's concern on acquiring appropriate permits and will coordinate with the appropriate agencies during project development and design. FDOT will continue coordination with regulatory agencies throughout the development of the project to ensure all potential environmental issues, if any, are fully resolved. Stormwater Pollution Prevention Plans (SWPPP) will be prepared during the design phase and incorporated into the construction contract to ensure that Contractor implements Best Management Practices (BMPs) to control stormwater runoff and other potential water quality impacts. The SWPPP will be prepared in compliance with state and federal standards. Furthermore, the Contractor will be required to obtain an FDEP NPDES permit. Based on a review of the EST and the ETAT agency's comments, FDOT agrees with the US Environmental Protection Agency and the South Florida Water Management District and assigns a summary degree of effect of None to Floodplain.

Degree of Effect: 0 None assigned 07/07/2014 by Maher Budeir, US Environmental Protection Agency

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

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 0 None assigned 07/01/2014 by Mindy Parrott, South Florida Water Management District

Coordination Document: Permit Required

Coordination Document Comments:

An ERP is required.

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Effects to Recreation, Coastal Resources and Floodplains are not anticipated based on SFWMD's review.

Additional Comments (optional):

An ERP is required.

CLC Commitments and Recommendations:

Wildlife and Habitat

Project Effects

Coordinator Summary Degree of Effect: 2 Minimal assigned 09/03/2014 by FDOT District 4

Comments:

According to the GIS Analysis results and ETAT agency comments,, the project area is dominated by a mix of commercial, industrial, and residential development, with 68.77% classified as High or Low Intensity Urban, and another 6.86% as Transportation (roads and rail). Other land cover types in the assessment area include Mesic Flatwoods (15.90%, 33.5 acres), Improved Pasture (4.32%, 9.1 acres), Freshwater Marshes (3.03%, 6.4 acres), Rural Lands (0.95%, 2.0 acres), and Exotic Plants (0.16%, 0.3 acres).

The project area is within U.S. Fish and Wildlife Service Consultation Areas for caracara, Florida grasshopper sparrow, red-cockaded woodpecker, scrub jay, and snail kite. The corridor is also within four wood stork Core Foraging Areas (CFAs). There is no Critical Habitat for listed species or bald eagle nest within the one-mile buffer. Based on range and preferred habitat type, the following species listed by the Federal Endangered Species Act and the State of Florida as Federally Endangered (FE), Federally Threatened (FT), State-Threatened (ST), or State Species of Special Concern (SSC) may occur along the project area: gopher frog (SSC), gopher tortoise (ST), American alligator (FT based on similarity of appearance to American crocodile), Eastern indigo snake (FT), Florida pine snake (SSC), Audubon's crested caracara (FT), Florida burrowing owl (SSC), Southeastern American kestrel (ST), Florida sandhill crane (ST), least tern (ST), wood stork (FE), limpkin (SSC), little blue heron (SSC), tricolored heron (SSC), roseate spoonbill (SSC), snowy egret (SSC), white ibis (SSC), and Sherman's fox squirrel (SSC). FWC's Potential Habitat Richness classifications within the 500 ft buffer include 2.32% moderately high and 27.67% medium. In the Florida Natural Areas Inventory Critical Lands and Waters Identification Project (CLIP), 14.15% of the assessment area is Priority 2 (high) for Biodiversity Resources. Also in CLIP, 0.63% ranks Moderately High for Rare Species Habitat Conservation Priorities.

FDOT acknowledges the agencies' concerns regarding the project's potential impacts to wildlife and habitat. An Endangered Species Biological Assessment (ESBA) and wetland evaluation (as described in the previous Wetlands issue) will be conducted during the PD&E Study. The ESBA will include wildlife surveys, plant community mapping, habitat characterizations, existing resources condition descriptions, and recommendations for sequentially avoiding, minimizing and mitigating direct, secondary, and cumulative effects on wildlife and habitat resources. The ESBA report 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.

Primary wildlife issues associated with this project include: potential adverse effects to a moderate number of species listed by the Federal Endangered Species Act as Endangered or Threatened, or by the State of Florida as Threatened or Species of Special Concern; potential water quality degradation as a result of additional stormwater runoff from the expanded roadway surface draining into adjacent waterways and wetlands; and potential for increased wildlife roadkill. FDOT will coordinate with the ETAT agencies throughout project development so that the final design of the project, including any offsite drainage ponds, will avoid and minimize wildlife and habitat impacts to the greatest extent practicable. Drainage retention areas and

equipment staging areas will be evaluated and sited to avoid habitat destruction or degradation to the greatest extent practicable. If impacts are determined to be unavoidable, a detailed compensatory mitigation plan will be prepared. In addition, if required, an appropriate wetland mitigation plan will be prepared (as described in the previous Wetlands issue), including type for type restoration, enhancement or creation within the same wood stork CFA as any wetland impacts, where practicable, to minimize wood stork foraging habitat loss.

Based on the ETAT comments, FDOT agrees with Florida Fish and Wildlife Conservation Commission and US Fish and Wildlife Services and assigns a summary degree of effect of Minimal to Wildlife and Habitat.

Degree of Effect: 2 *Minimal* assigned 07/01/2014 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 Office of Conservation Planning Services of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated an agency review of ETDM #14177, St. Lucie 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 evaluation of alternatives to widen Midway Road (CR 712) from two to four lanes between Glades Cut-Off Road and Selvitz Road, a distance of approximately 1.6 miles. The Project Description did not address the potential need for new Drainage Retention Areas (DRAs) to handle the additional stormwater runoff from the expanded roadway.

The project area was evaluated for potential fish, wildlife, and habitat resources within 500 feet of the proposed alignment. Our assessment reveals that the project area is dominated by a mix of commercial, industrial, and residential development, with 68.77% classified as High or Low Intensity Urban, and another 6.86% as Transportation (roads and rail). Other land cover types in the assessment area include Mesic Flatwoods (15.90%, 33.5 acres), Improved Pasture (4.32%, 9.1 acres), Freshwater Marshes (3.03%, 6.4 acres), Rural Lands (0.95%, 2.0 acres), and Exotic Plants (0.16%, 0.3 acres).

Based on range and preferred habitat type, the following species listed by the Federal Endangered Species Act and the State of Florida as Federally Endangered (FE), Federally Threatened (FT), State-Threatened (ST), or State Species of Special Concern (SSC) may occur along the project area: gopher frog (SSC), gopher tortoise (ST), American alligator (FT based on similarity of appearance to American crocodile), Eastern indigo snake (FT), Florida pine snake (SSC), Audubon's crested caracara (FT), Florida burrowing owl (SSC), Southeastern American kestrel (ST), Florida sandhill crane (ST), least tern (ST), wood stork (FE), limpkin (SSC), little blue heron (SSC), tricolored heron (SSC), roseate spoonbill (SSC), snowy egret (SSC), white ibis (SSC), and Sherman's fox squirrel (SSC).

The GIS analysis revealed several specific characteristics associated with lands along the project alignment that provide an indication of potential habitat quality or sensitivity that will require field studies to verify the presence or absence of listed wildlife species and the quality of wildlife habitat resources. In the FWC's Potential Habitat Richness classification, 2.32% of the assessment area is ranked moderately high, while 27.67% is ranked medium. In the Florida Natural Areas Inventory Critical Lands and Waters Identification Project (CLIP), 14.15% of the assessment area is Priority 2 (high) for Biodiversity Resources. Also in CLIP, 0.63% ranks Moderately High for Rare Species Habitat Conservation Priorities. The project area is within U.S. Fish and Wildlife Service Consultation Areas for Caracara, Florida Grasshopper Sparrow, Red-cockaded Woodpecker, Scrub Jay, and Snail Kite, and is within the core foraging area of four wood stork colonies.

Primary wildlife issues associated with this project include: potential adverse effects to a moderate number of species listed by the Federal Endangered Species Act as Endangered or Threatened, or by the State of Florida as Threatened or Species of Special Concern; potential water quality degradation as a result of additional stormwater runoff from the expanded roadway surface draining into adjacent waterways and wetlands; and potential for increased wildlife roadkill. New DRAs outside the ROW should be sited to avoid undisturbed natural habitats.

Comments on Effects to Resources:

Based on the project information provided, we believe that direct and indirect effects of this project could be minimal, provided that all roadway construction is confined to the existing ROW, any new DRAs are not constructed within areas of natural habitat, and degradation of adjacent or downstream water quality is avoided via inclusion of Best Management Practices in the project design.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 05/29/2014 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. Based on review of our GIS database, the Service notes that the following Federally listed species may occur in or near the project area.

Wood Stork

The project corridor is located in the Core Foraging Areas (CFA)(within 18.6 miles) of three active nesting colonies 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 be found at: <http://www.fws.gov/verobeach/ListedSpeciesBirds.html> .

Florida Scrub-Jay

The project occurs within the geographic range of the threatened Florida Scrub-Jay (*Aphelocoma coerulescens*). If suitable habitat occurs in the project corridor, we recommend that surveys based on Service protocol be conducted to determine the status of the Florida scrub-jay in the project area. The Service's Florida scrub-jay survey protocol can be found at: <http://www.fws.gov/verobeach/ListedSpeciesBirds.html> .

Audubon's crested caracara

The project occurs within the geographic range of the threatened Audubon's crested caracara (*Polyborus cheriway = Polyborus plancus audubonii*). If suitable habitat occurs in or near the project corridor, we recommend that nest surveys based on Service protocol be conducted to determine the status of caracara nesting in the project area. The Service's caracara nest survey guidance can be found at: <http://www.fws.gov/verobeach/ListedSpeciesBirds.html>

The Service believes that the following federally listed species have the potential to occur in or near the project site: wood stork, Audubon's crested caracara, Florida scrub-jay, Eastern indigo snake (*Drymarchon couperi = Drymarchon corais couperi*), and Federally listed plants in St. Lucie County at <http://ecos.fws.gov/ipac/>. 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. According to data in the Environmental Screening tool, wetlands occur within the project area. We recommend that the project be designed to avoid these valuable 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):

CLC Commitments and Recommendations:

**Coastal and Marine
Project Effects**

Coordinator Summary Degree of Effect:

0 None assigned 09/03/2014 by FDOT District 4

Comments:

Based on a review of relevant GIS layers, there are no coastal and marine facilities within the project vicinity. FDOT acknowledges the ETAT agency's comments on wetlands. These concerns are addressed in detail within the corresponding sections below. A Wetlands Evaluation Report (WER) will be prepared during the PD&E phase. The report will provide habitat characterization of the existing wetlands within the corridor and the vicinity, document the existing conditions of the resources, and make recommendations for sequentially avoiding, minimizing and mitigating resource impacts.

Stormwater Pollution Prevention Plans (SWPPP) will be prepared during the design phase and incorporated into the construction contract to ensure that Contractor implements Best Management Practices (BMPs) to control stormwater runoff and other potential water quality impacts. The SWPPP will be prepared in compliance with state and federal standards. Furthermore, the Contractor will be required to obtain an FDEP NPDES permit.

If during the PD&E and/or Design Phase, wetland impacts are determined to be unavoidable, a detailed mitigation plan will be prepared. FDOT will continue coordination with regulatory agencies throughout the development of the project to ensure all potential environmental issues are fully addressed and resolved.

Based on the ETAT comments and a review of the EST GIS, FDOT assigns a summary degree of effect of None to Coastal and Marine.

Degree of Effect: 0 None assigned 05/28/2014 by Brandon Howard, National Marine Fisheries Service

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

Based on our review of the information provided on the EST website, GIS-based effects analysis on wetlands and interpretation of aerial photographs, NOAA's National Marine Fisheries Service (NMFS) has determined that emergent wetlands and ditches are located within the project corridor. These wetlands range from low to moderate in quality.

Comments on Effects to Resources:

The wetlands along the proposed roadway expansion provide water quality functions, such as removal of sediments, excess nutrients, and contaminants, which benefit and support these aquatic ecosystems. Through hydrological connections, these wetlands also contribute plant material and other useable nutrients (both dissolved and particulate organic matter) into aquatic food webs that include recreationally, commercially, and ecologically important species within downstream estuaries. If wetland impacts are unavoidable, sequential minimization and mitigation should take place.

In addition to the direct impacts from filling wetlands, construction activities may impact adjacent wetlands through sedimentation and runoff.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 0 None assigned 07/01/2014 by Mindy Parrott, South Florida Water Management District

Coordination Document: Permit Required

Coordination Document Comments:

An ERP is required.

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Effects to Recreation, Coastal Resources and Floodplains are not anticipated based on SFWMD's review.

Additional Comments (optional):

An ERP is required.

CLC Commitments and Recommendations:

ETAT Reviews and Coordinator Summary: Physical

Noise

Project Effects

Coordinator Summary Degree of Effect: 0 *None* assigned 09/03/2014 by FDOT District 4

Comments:

A review of the EST GIS Analysis indicates that there is a Healthcare facility (New Horizons) and two residential areas within the 100-ft buffer. During PD&E phase, a Noise Study Analysis shall be conducted to identify impacts to these resources, if any.

Based on a review of the EST GIS layers and ETAT comment, FDOT assigns a degree of effect of None to Noise.

None found

Air Quality

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 09/03/2014 by FDOT District 4

Comments:

This project is located within a USEPA designated Air Quality Maintenance Attainment Area for all of the four pollutants (nitrogen oxides, ozone, carbon monoxide, and small particulate matter) specified in the National Ambient Air Quality Standards (NAAQS). Activities during construction will use BMPs to minimize the impact of fugitive emission and dust resulting from construction activities.

The project area is in attainment for all air quality standards related to transportation. The proposed scope of work, widening from two to four lanes will improve the corridor's level of service, and, therefore, is not anticipated to adversely affect air quality. An Air Quality screening evaluation will be performed during the PD&E Study to confirm and quantify impacts, if any.

Based on the ETAT agency comments and review of the EST GIS, FDOT assigns a summary degree of effect of Minimal to Air Quality.

Degree of Effect: 2 *Minimal* assigned 07/07/2014 by Maher Budeir, US Environmental Protection Agency

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

Direct Effects

Identified Resources and Level of Importance:

Air

Comments on Effects to Resources:

This project is located within a USEPA designated Air Quality Maintenance Attainment Area for all of the four pollutants (nitrogen oxides, ozone, carbon monoxide, and small particulate matter) specified in the National Ambient Air Quality Standards (NAAQS). Activities during constructions should use BMPs to minimize the impact of fugitive emission and dust resulting from construction activities.

Additional Comments (optional):

CLC Commitments and Recommendations:

Contamination

Project Effects

Coordinator Summary Degree of Effect: 3 *Moderate* assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis indicated that there are two hazardous waste facilities, three petroleum contamination monitoring sites, one solid waste facility and five storage tank contamination monitoring sites within the 500-ft. buffer of this project. These sites represent potential subsurface contamination. Construction activities have the potential to mobilize subsurface contamination.

A Contamination Screening Evaluation Report (CSER) will be prepared during the PD&E phase to further document these sites and any other potentially contaminated sites, and assess their involvement with the project. During final design, the CSER will be reevaluated, additional assessment (Level I) and remediation (Level II) activities will occur as needed, and various recommendations for construction will be implemented. Dewatering, if allowed, may need to be limited (i.e., low flow, short term) in order to avoid exacerbation of contamination. Special Provisions addressing Areas of Known Contamination, and/or "Section 120 Excavation and Embankment - Unidentified Areas of Contamination" (FDOT Standard Specifications for

Road and Bridge Construction), will be included in the project's construction contract documents.

FDOT will notify FDEP and St. Lucie County in the event contamination is detected during construction. Also, as advised by FDEP, the Contamination Screening Evaluation shall outline specific procedures that should be followed by the applicant in the event drums, wastes, tanks or potentially contaminated soils are encountered during construction. Special attention should be made in the screening evaluation to historical land uses (such as solid waste disposal) that may have an effect on the proposed project, including stormwater retention and treatment areas.

Based on the ETAT comments and a review of GIS layers, FDOT agrees with the US Environmental Protection Agency and the Florida Department of Environmental Protection and assigns a summary degree of effect of Moderate to Contaminated Sites.

Degree of Effect: 3 *Moderate* assigned 07/07/2014 by Maher Budeir, US Environmental Protection Agency

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

Direct Effects

Identified Resources and Level of Importance:

Groundwater Aquifer

Comments on Effects to Resources:

Based in EST data, a solid waste facility, a biomedical waste facility, a hazardous waste facility and several petroleum contamination monitoring sites and storage tank contamination monitoring sites are within the 200 foot buffer of the proposed project.

All these sites represent potential subsurface contamination. A site specific survey for known subsurface contamination will help design construction activities in a manner that avoids or properly manages encountered contamination. Construction activities has the potential to mobilize subsurface contamination. Contingencies should be in place to manage encountered contamination in a manner consistent with local, state and federal regulations.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 07/01/2014 by Mindy Parrott, South Florida Water Management District

Coordination Document: To Be Determined: Further Coordination Required

Coordination Document Comments:

A water use permit for dewatering may be required. Coordination prior to submittal of the ERP is recommended to determine permit requirements.

Direct Effects

Identified Resources and Level of Importance:

Groundwater from the surficial aquifer in south Florida is used for drinking water supplies and irrigation.

Comments on Effects to Resources:

Project construction activities, such as dewatering, must be designed and performed in a manner that will not result in the movement of contaminant plumes.

Additional Comments (optional):

A water use permit for dewatering may be required. Coordination prior to submittal of the ERP is recommended to determine permit requirements.

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 07/01/2014 by Lauren P. Milligan, FL Department of Environmental Protection

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects

Identified Resources and Level of Importance:

GIS data indicates that there are two hazardous waste facilities, three petroleum contamination monitoring sites, one solid waste facility and five storage tank contamination monitoring sites within the 500-ft. buffer of this project.

Comments on Effects to Resources:

A Contamination Screening Evaluation (similar to Phase I and Phase II Audits) may need to be conducted along the project right-of-way in considering the proximity to potential hazardous waste and petroleum contamination sites. The Contamination Screening Evaluation should outline specific procedures that would be followed by the applicant in the event drums, wastes, tanks or potentially contaminated soils are encountered during

construction. Special attention should be made in the screening evaluation to historical land uses (such as solid waste disposal) that may have an affect on the proposed project, including stormwater retention and treatment areas.

Additional Comments (optional):

CLC Commitments and Recommendations:

Infrastructure

Project Effects

Coordinator Summary Degree of Effect: N/A N/A / No Involvement assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis identified the FEC Railroad; however, impacts to the facility are not anticipated. Based on the ETAT agency comments and review of the EST GIS, FDOT assigns a summary degree of effect of NA/No Involvement to Infrastructure.

Degree of Effect: N/A N/A / No Involvement assigned 06/27/2014 by Steve Bohl, FL Department of Agriculture and Consumer Services

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Navigation

Project Effects

Coordinator Summary Degree of Effect: N/A N/A / No Involvement assigned 10/07/2014 by FDOT District 4

Comments:

Degree of Effect: N/A N/A / No Involvement assigned 06/24/2014 by Garrett Lips, US Army Corps of Engineers

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

There are no navigable waterways in the project area.

Comments on Effects to Resources:

There are no anticipated effects on Navigation

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: N/A N/A / No Involvement assigned 05/27/2014 by Evelyn Smart, US Coast Guard

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:

There are no navigable waters in the project vicinity. No Coast Guard involvement.

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

ETAT Reviews and Coordinator Summary: Special Designations

Special Designations

Project Effects

Coordinator Summary Degree of Effect: 0 None assigned 09/03/2014 by FDOT District 4

Comments:

A review of the GIS Analysis identified that the project corridor is not adjacent to any area designated as Coastal Barrier Resource System (CBRS), Wild and Scenic River, Aquatic Preserve, Outstanding Florida Waters (OFW), or Sole Source Aquifer. The project area is underlain by the Floridan Aquifer, which is not designated as a Sole Source Aquifer (vs. the sole source Biscayne Aquifer, which underlies south Florida, well south of St. Lucie County).

Based on a review of the EST GIS layers and ETAT comments, FDOT agrees with the US Environmental Agency and the South Florida Water Management District and assigns a summary degree of effect of None to Special Designations.

Degree of Effect: 0 None assigned 07/07/2014 by Maher Budeir, US Environmental Protection Agency

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

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 0 None assigned 07/01/2014 by Mindy Parrott, South Florida Water Management District

Coordination Document: Permit Required

Coordination Document Comments:

An ERP is required.

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Effects to Recreation, Coastal Resources and Floodplains are not anticipated based on SFWMD's review.

Additional Comments (optional):

An ERP is required.

CLC Commitments and Recommendations:

Eliminated Alternatives

There are no eliminated alternatives for this project.

Project Scope

General Project Recommendations

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

Anticipated Permits

Permit	Type	Conditions	Review Org	Review Date
USACOE General Use Permit	USACE		FDOT District 4	09/30/14
SFWMD Environmental Resource Permit	Water		FDOT District 4	09/30/14

Anticipated Technical Studies

Technical Study Name	Type	Conditions	Review Org	Review Date
Noise Study Report	ENVIRONMENTAL		FDOT District 4	09/30/2014
Air Quality Report	ENVIRONMENTAL		FDOT District 4	09/30/2014
Contamination Screening Evaluation Report	ENVIRONMENTAL		FDOT District 4	09/30/2014
Endangered Species Biological Assessment	ENVIRONMENTAL		FDOT District 4	09/30/2014
Wetlands Evaluation Report	ENVIRONMENTAL		FDOT District 4	09/30/2014
Section 4f Evaluation	ENVIRONMENTAL		FDOT District 4	09/30/2014
Section 106 Case Study	ENVIRONMENTAL		FDOT District 4	09/30/2014
Cultural Resource Assessment Survey	ENVIRONMENTAL		FDOT District 4	09/30/2014

Class of Action

Class of Action Determination

Class of Action	Other Actions	Lead Agency	Cooperating Agencies	Participating Agencies
Type 2 Categorical Exclusion	Section 4(f) Evaluation Endangered Species Assessment	Federal Highway Administration	No Cooperating Agencies have been identified.	No Participating Agencies have been identified.

Class of Action Signatures

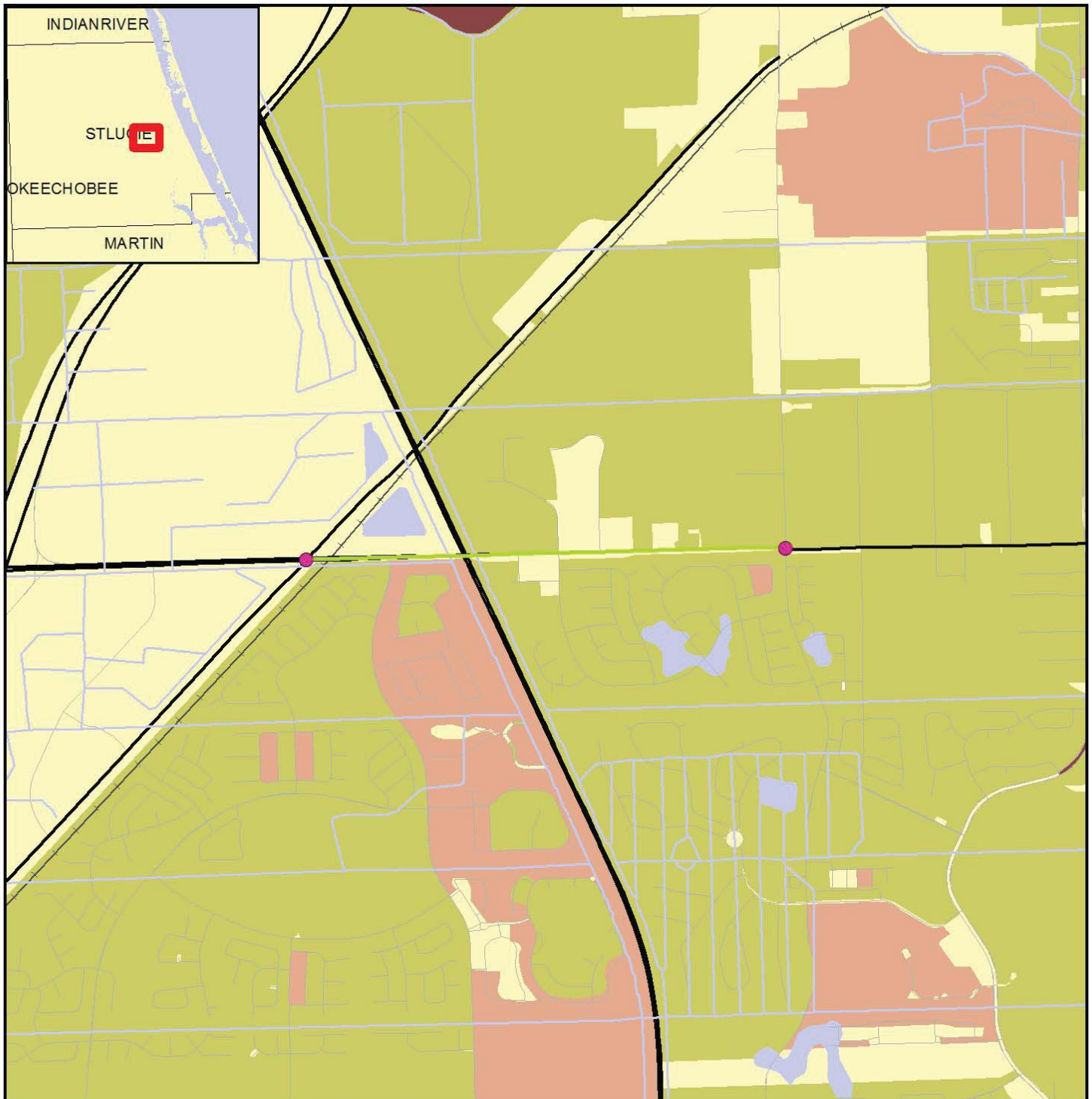
Name	Agency	Review Status	Date	ETDM Role
Richard Young	FDOT District 4	ACCEPTED	04/02/2015	FDOT ETDM Coordinator
Luis D Lopez, P.E.	Federal Highway Administration	ACCEPTED	05/20/2015	Lead Agency ETAT Member

Dispute Resolution Activity Log

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

Hardcopy Maps: Alternative #1

14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



0 1 Miles

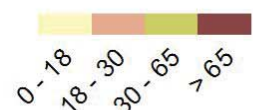
Population Age Distribution Map



Data Sources:
 US Geological Survey
 FL Department of Transportation
 NAVTEQ
 US Census Bureau (2010)

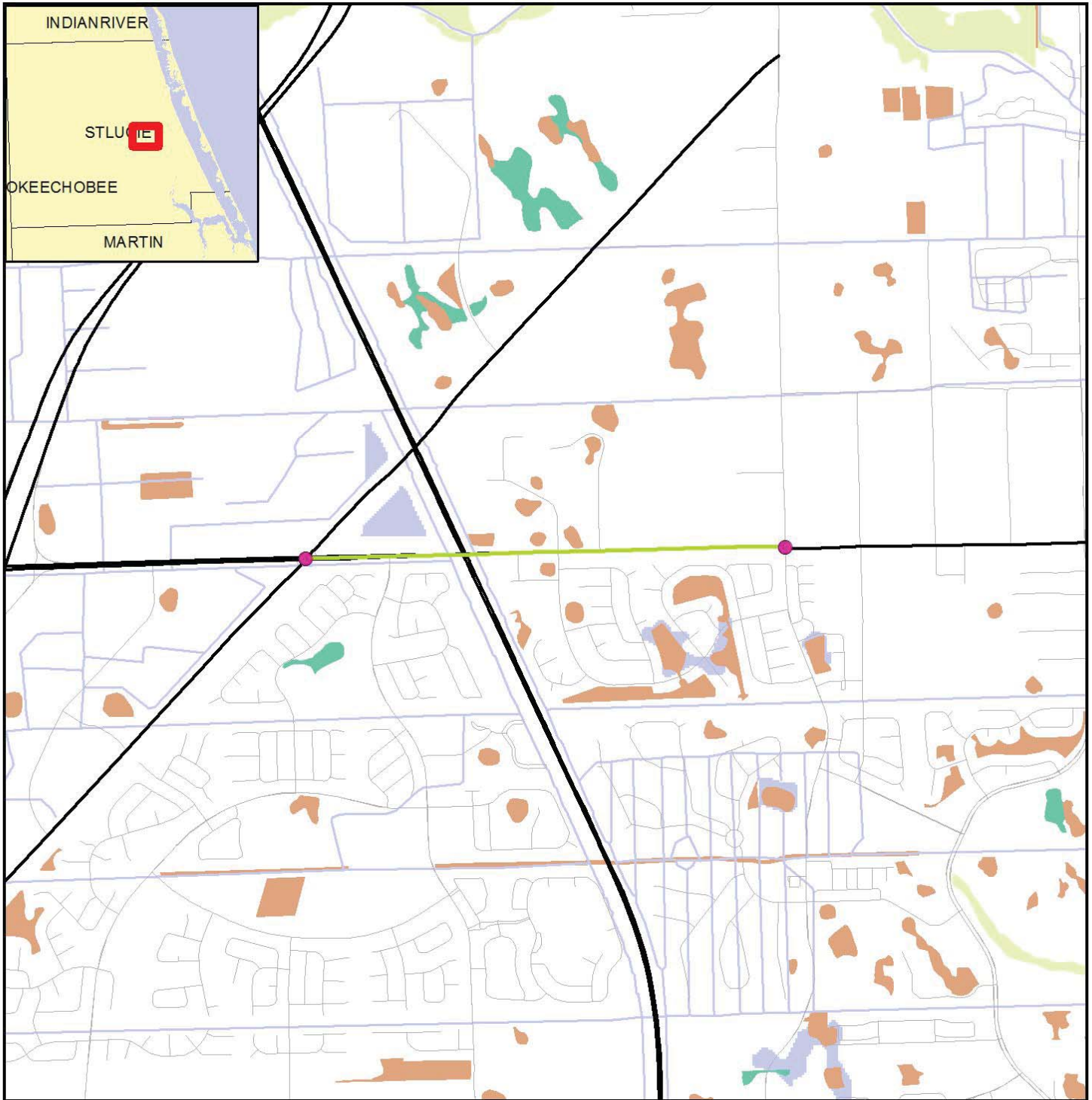
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body

Median Age



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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



0 0.6 Miles



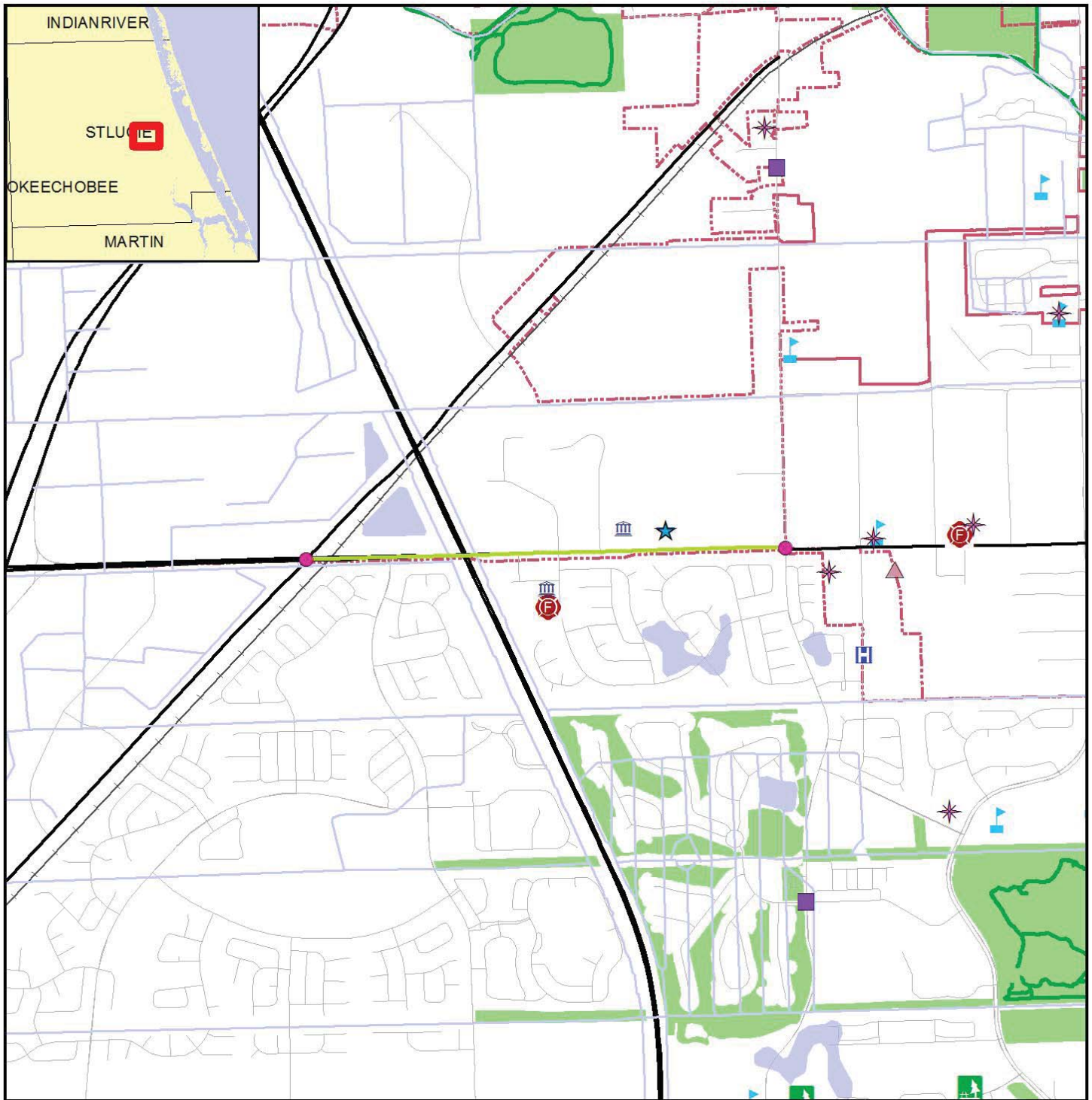
- | | | | |
|---------------------------|------------------------|-------------------------------|--------------------------------------|
| ETDM Alternative Point | Major Road | Continuous Seagrass | Gravel Beach/Riprap |
| ETDM Alternative Terminus | Local Road or Trail | Discontinuous Seagrass | Exposed Tidal Flat |
| ETDM Alternative Segment | River, Stream or Canal | Coastal Barrier Resource Area | Sheltered Tidal Flat |
| ETDM Alternative Polygon | Water Body | Swamp or Marsh | Mixed Sand And Gravel Beach |
| | Aquatic Preserve | Exposed Rocky Platform | Sheltered Rock/Seawall/Vegetated |
| | Navigable Water Way | Sand Beach | Exposed Vertical Rocky Shore/Seawall |

Coastal and Marine Resource Map

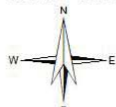
Data Sources: NAVTEQ; US Geological Survey; Florida Marine Research Institute; Florida Department of Transportation; Florida Department of Environmental Protection; National Oceanic and Atmospheric Association; Florida Water Management Districts

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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



0.075 Miles



- | | | | |
|---------------------------|------------------|------------------|---------------------------------|
| ETDM Alternative Point | Government | Cultural Center | River, Stream or Canal |
| ETDM Alternative Terminus | Civic Center | Fire Station | Recreational Trail |
| ETDM Alternative Segment | Cemetery | Health Care | Railroad |
| ETDM Alternative Polygon | Social Service | School | Community Boundary |
| Major Road | Community Center | Park | Water Body |
| Local Road or Trail | Law Enforcement | Place of Worship | Conservation or Recreation Area |

Community Facilities and Services Map

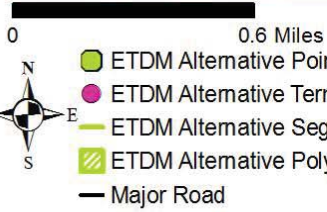
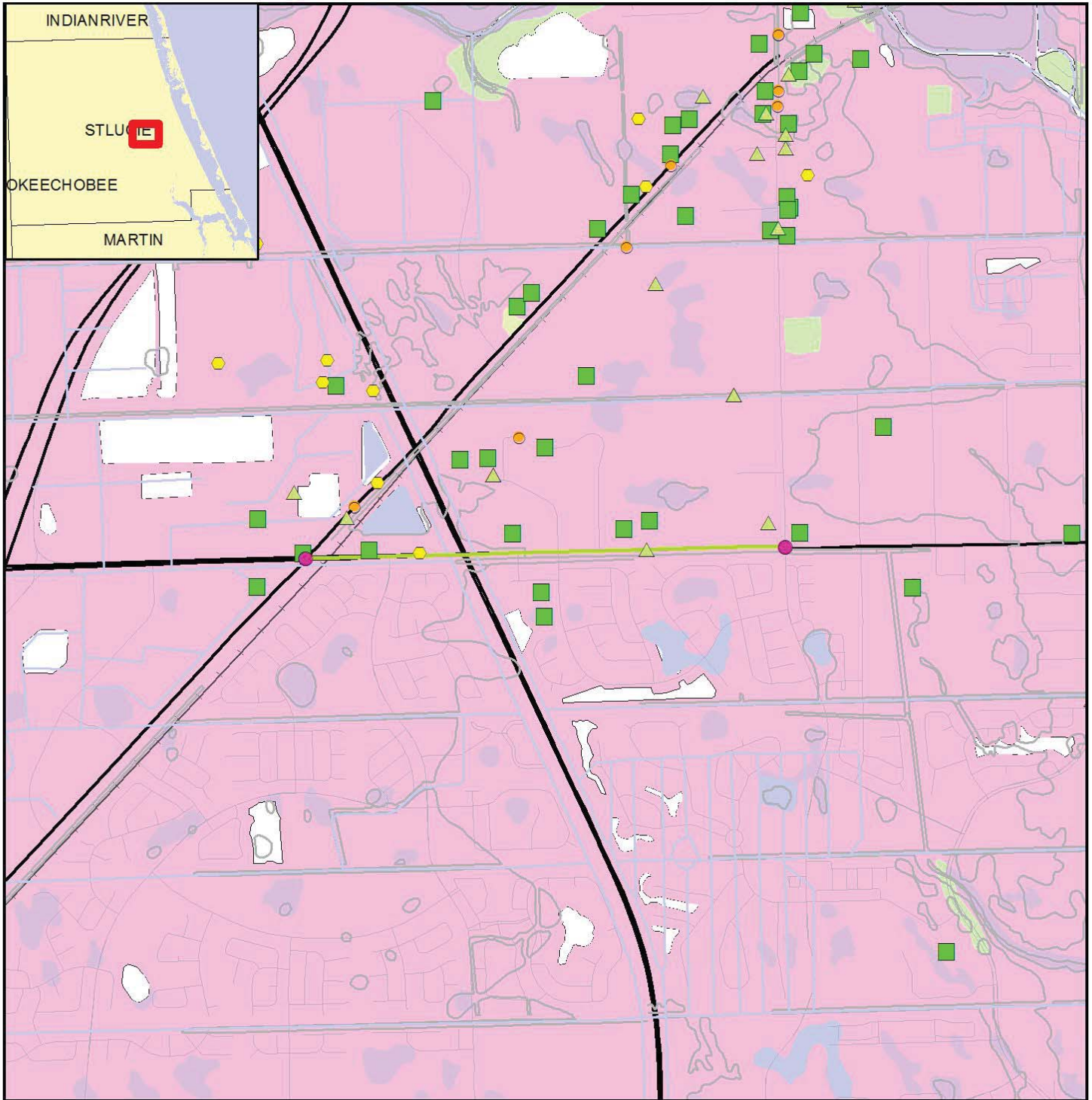
Data Sources:
US Geological Survey; FL Department of Transportation; NAVTEQ; FL Property Appraisers; FL Natural Areas Inventory



Map Generated on: 5/23/2014



14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Potential Contamination Assessment Map

- | | | | | |
|-----------------------------|---------------------------|---------------------------|-------------------|--------------------------------|
| ● ETDM Alternative Point | — Local Road or Trail | ▲ NPL Remediation Site | ■ FDEP Tanks | Soil Drainage |
| ● ETDM Alternative Terminus | — Railroad | ▲ Hazardous Material Site | ■ Brownfield Area | ■ Excessively Drained |
| — ETDM Alternative Segment | — River, Stream or Canal | ■ Power Plant | — 5 FT Contour | ■ Somewhat Excessively Drained |
| ■ ETDM Alternative Polygon | ● Toxic Release Inventory | ● Superfund Site | ■ Water Body | ■ Moderately Well Drained |
| — Major Road | ★ Dry Cleaning Facility | ■ Nuclear Site | ■ Swamp/Marsh | ■ Well Drained |
| | ● Solid Waste Facility | | | ■ Somewhat Poorly Drained |
| | | | | ■ Poorly Drained |
| | | | | ■ Very Poorly Drained |
| | | | | □ Unclassified |

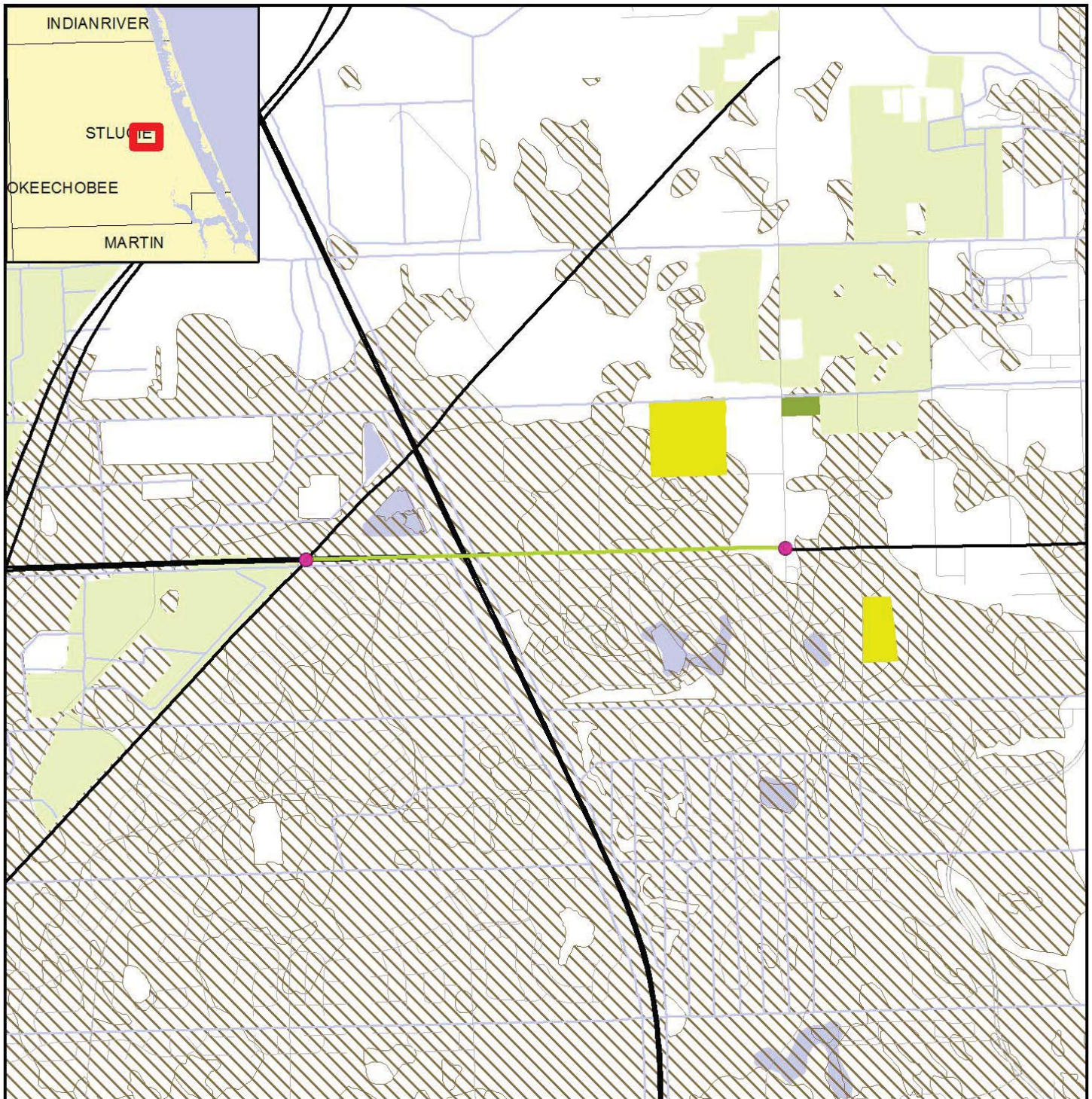
Data Sources:
 NAVTEQ; US Geological Survey; FL Department of Transportation; FL Department of Environmental Protection;
 FL Water Management Districts; US Environmental Protection Agency; Natural Resource Conservation Service
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 without warranties of any kind, express or implied.



Map Generated on: 5/23/2014



14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Farmlands Resource Map

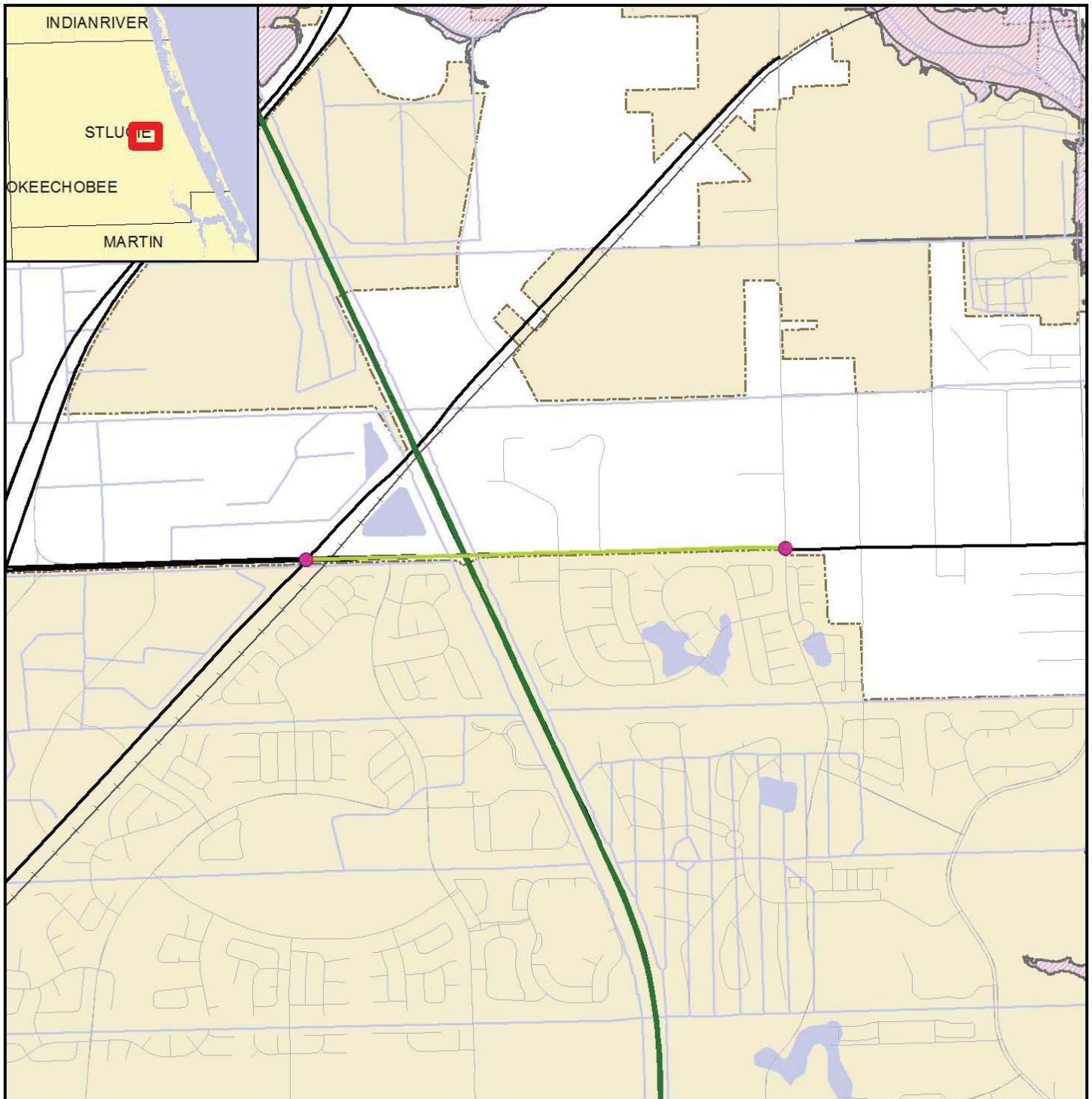
- 0 0.7 Miles
- ETDM Alternative Point
 River, Stream or Canal
 Nurseries/Vineyards
- ETDM Alternative Terminus
 Water Body
 Specialty Farms
- ETDM Alternative Segment
 Prime Farmland Soils
 Tree Crops
- ETDM Alternative Polygon
 Cropland/Pastureland
 Rural Open Lands
- Major Road
- Local Road or Trail



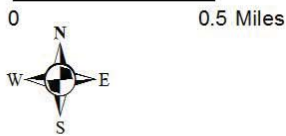
Data Sources: NAVTEQ, Florida Water Management Districts, US Geological Survey, Natural Resources Conservation Services

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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Floodplain Resource Map

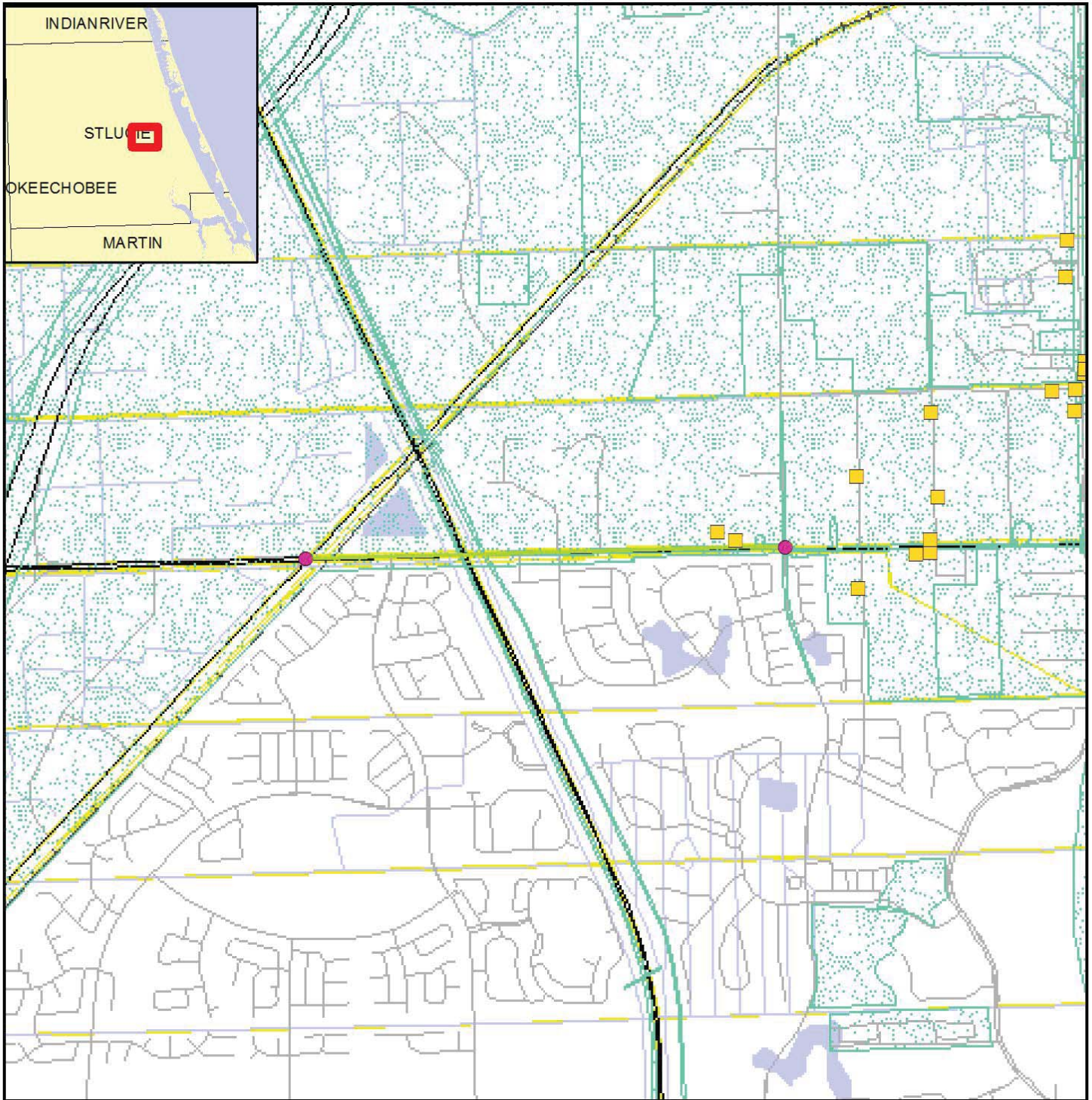


Data Sources:
NAVTEQ
US Geological Survey
Federal Emergency Management Agency

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ▭ ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body
- ▭ City Limits
- ▭ County Boundaries
- ▭ Special Flood Hazard Area

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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Historic Resources Map



Data Sources:
 NAVTEQ
 US Geological Survey
 Florida Department of Transportation
 Florida Department of State,
 Bureau of Archaeological Research

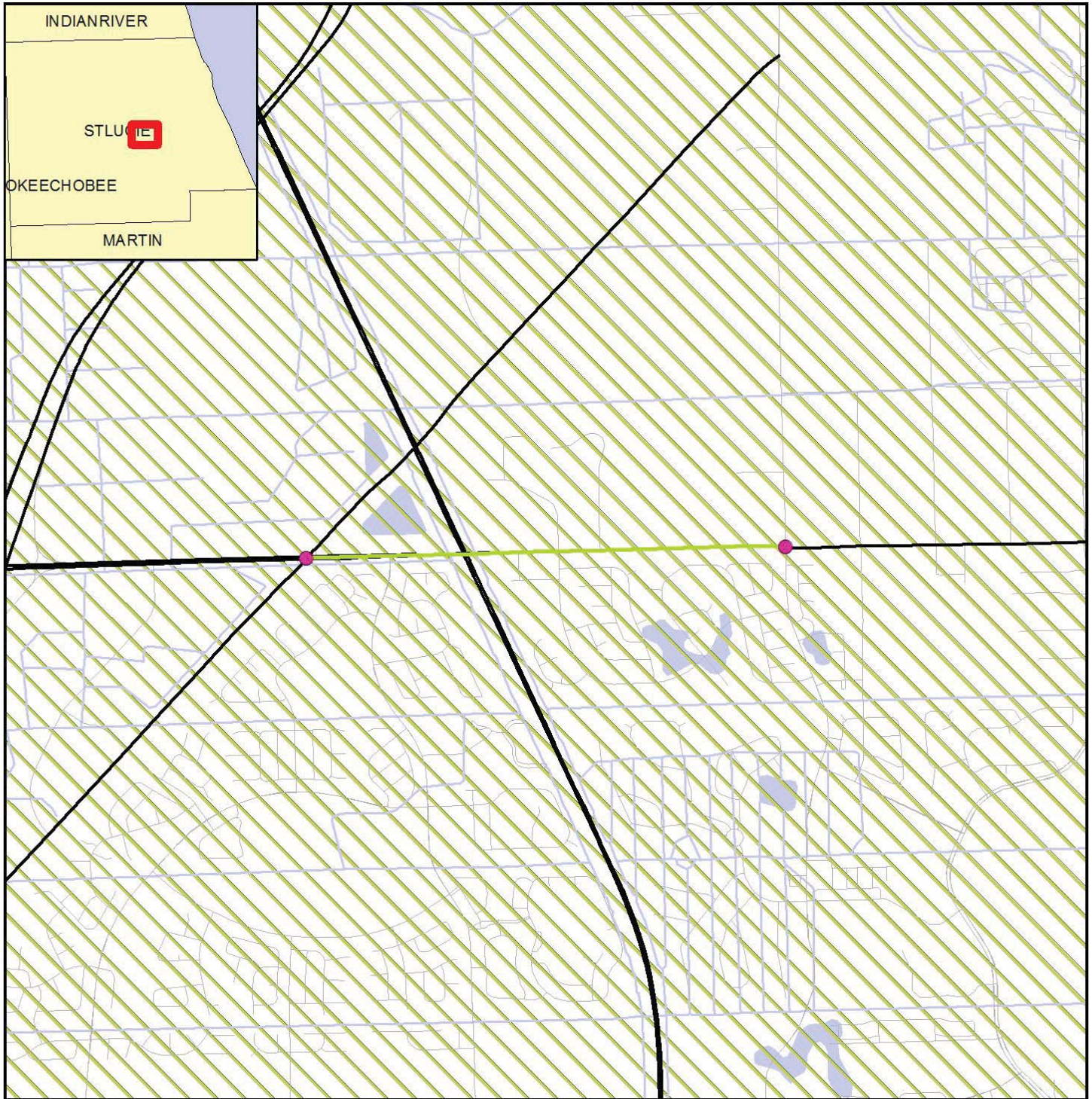
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- River, Stream or Canal
- Water Body
- Swamp/Marsh
- Railroad
- Historic Structure
- Historic Cemetery
- Historic Bridge
- Historic Resource Group
- Cultural Resource Field Survey Area
- State Historic Highway

Note: Historic properties depicted on this map represent resources listed in the Florida Master Site File excluding archeological site locations, which, pursuant to Chapter 267.135, Florida Statutes, may be exempt from public record (Chapter 119.07, Florida Statutes). Absence of features on the map does not necessarily indicate an absence of resources in the project vicinity.



Map Generated on: 5/23/2014

14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Hydrogeology Resource Map

0 0.5 Miles



- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- River, Stream or Canal
- Water Body
- Swamp/Marsh

- ### Recharge Areas of the Floridan Aquifer
- Discharge 1 TO 5
 - Discharge > 5
 - Discharge < 1
 - Recharge 1 TO 10
 - Recharge > 10
 - Recharge < 1

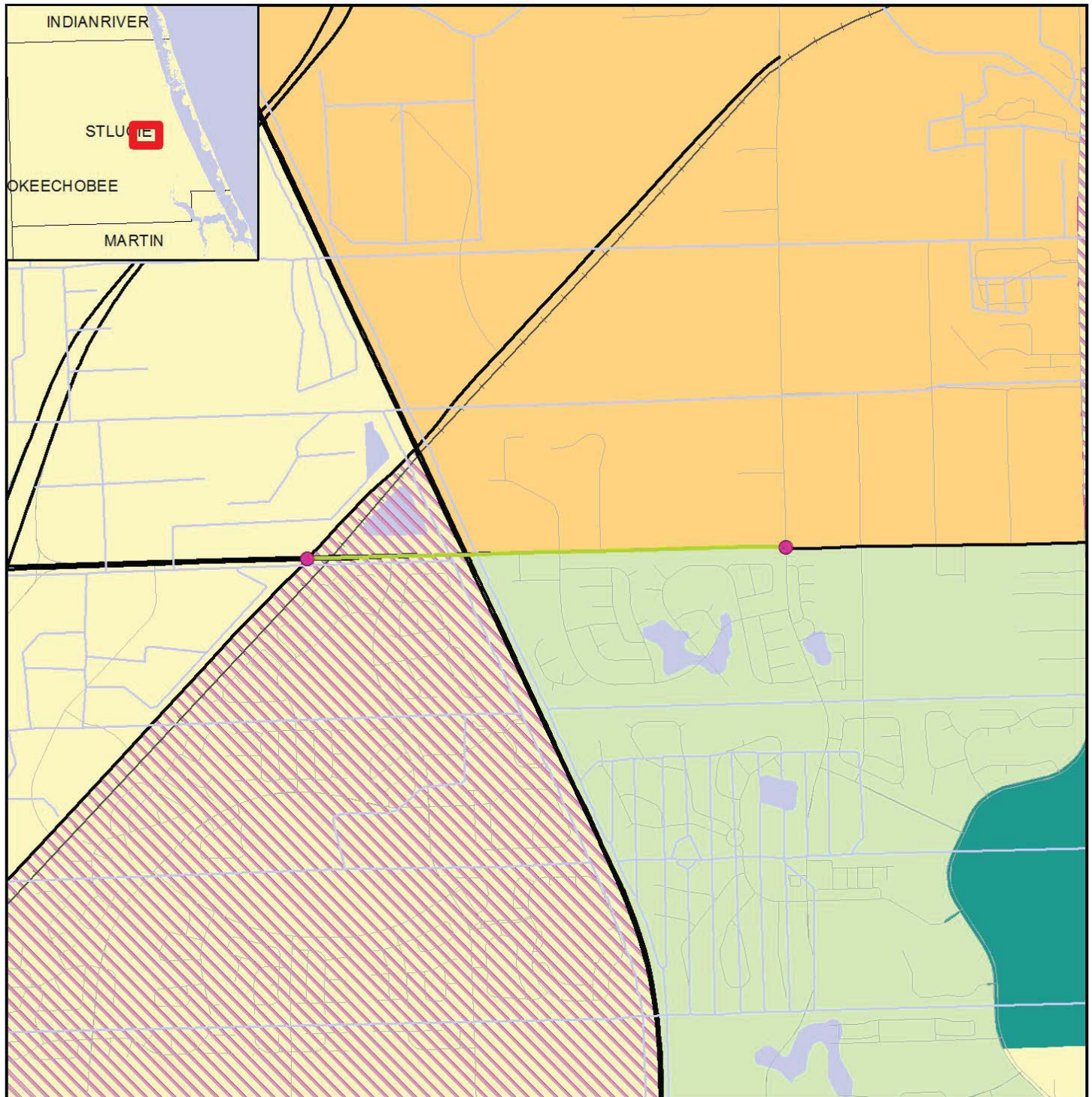
- ### Geological Epoch
- Eocene
 - Holocene
 - Miocene
 - Miocene/Pliocene
 - Oligocene
 - Oligocene/Miocene
 - Pleistocene
 - Pleistocene & Holocene
 - Pliocene
 - Pliocene/Pleistocene

Data Sources: NAVTEQ; US Geological Survey; Florida Department of Transportation; South West Florida Water Management District; Florida Geological Survey

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14177 Midway Road Widening, Alternative 1

Glades Cut-Off Rd to Selvitz Road



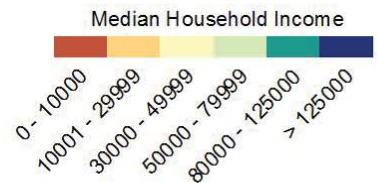
0 0.75 Miles

Income Distribution Map



Data Sources:
 US Geological Survey
 FL Department of Transportation
 NAVTEQ
 US Census Bureau (2010)

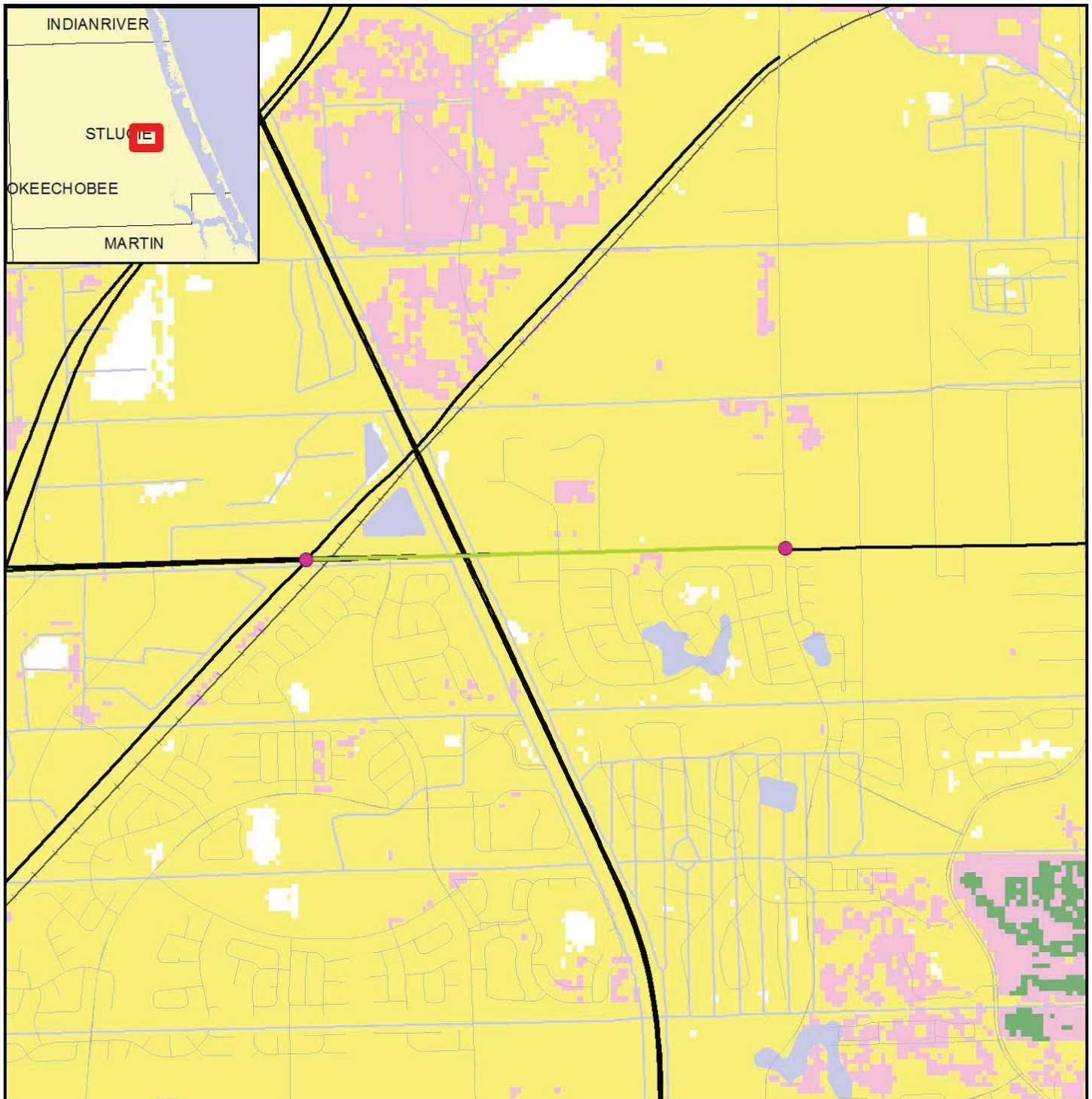
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body
- > 20% Below Poverty



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14177 Midway Road Widening, Alternative 1

Glades Cut-Off Rd to Selvitz Road



Integrated Wildlife Habitat Ranking System Map

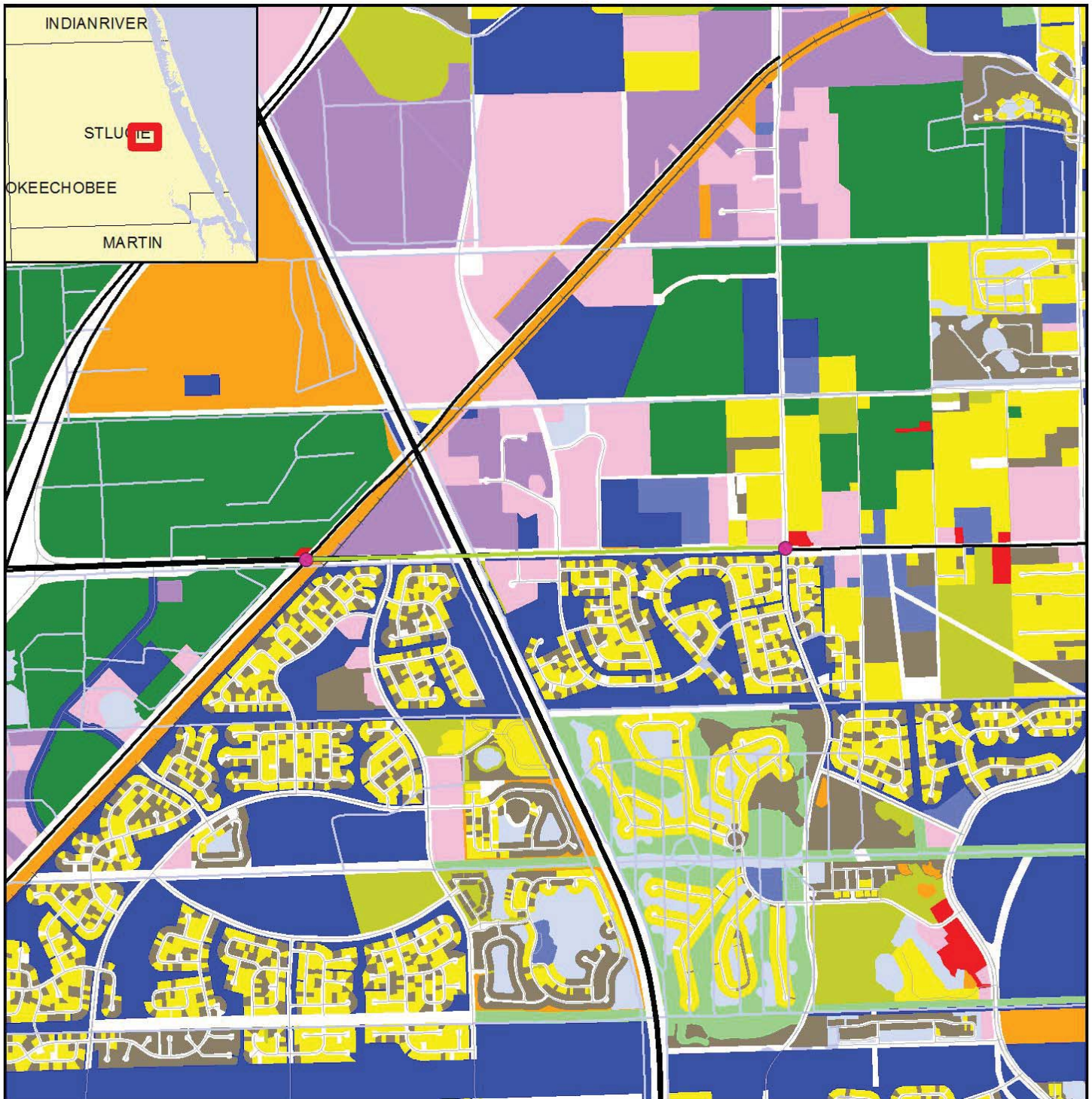
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- Low Habitat Quality
- Medium Habitat Quality
- High Habitat Quality
- Water Body
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- ETDM Alternative Polygon

Data Sources:
 NAVTEQ
 US Geological Survey
 Florida Department of Transportation
 Florida Fish & Wildlife Conservation Commission

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14177 Midway Road Widening, Alternative 1

Glades Cut-Off Rd to Selvitz Road



0 0.25 Miles



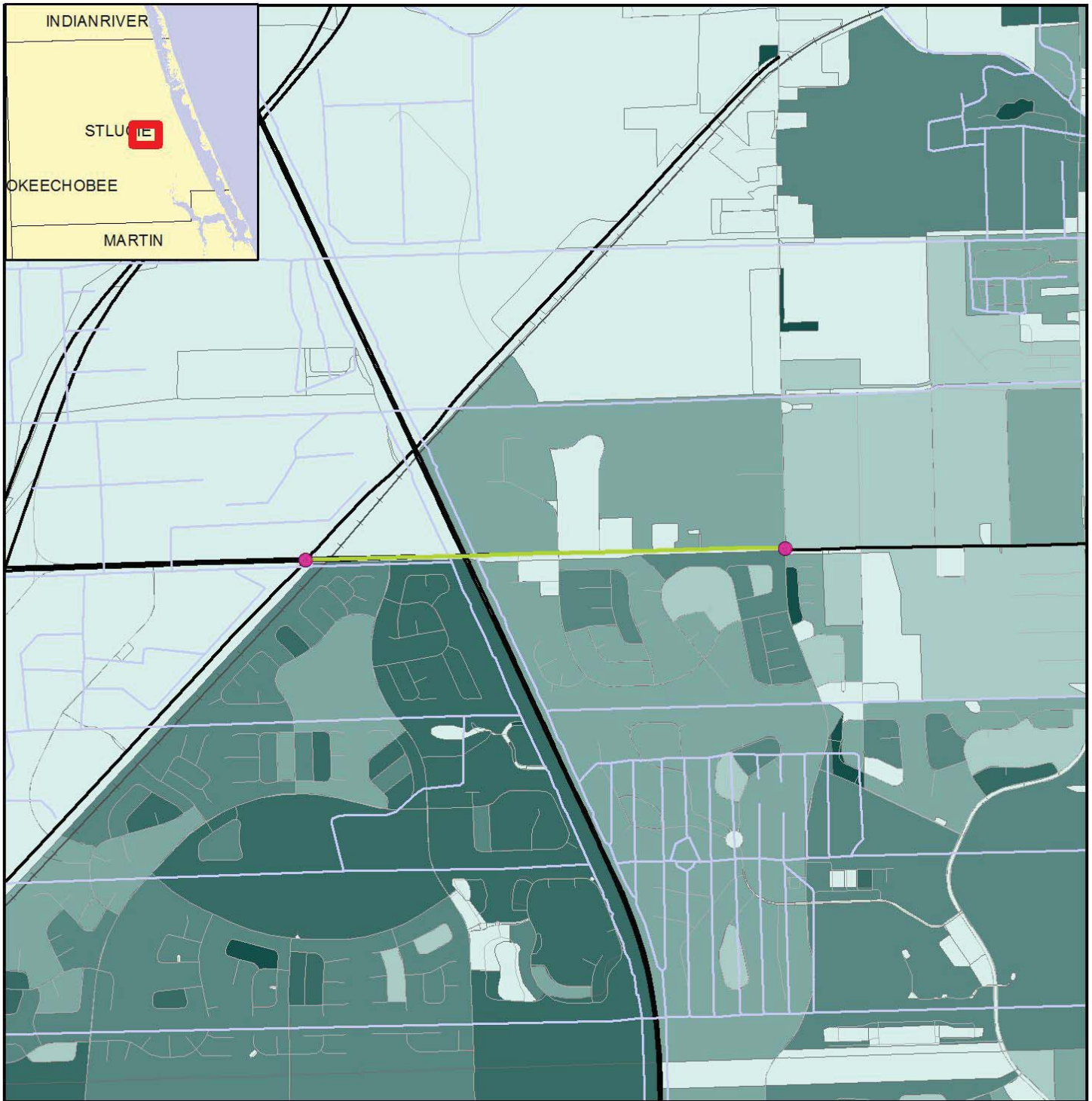
Data Sources:
 NAVTEQ
 US Geological Survey
 Florida Department of Revenue
 Florida Department of Transportation
 Florida County Property Appraiser Offices

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- | | | | |
|---------------------------|------------------------|-------------------------|-------------------------|
| ETDM Alternative Point | Railroad | Open (Not Agricultural) | Retail/Office |
| ETDM Alternative Terminus | River, Stream or Canal | Other | Vacant (Residential) |
| ETDM Alternative Segment | Agricultural | Public | Vacant (Nonresidential) |
| ETDM Alternative Polygon | Industrial | Right-of-Way | Water |
| Major Road | Institutional | Recreational | No Data |
| Local Road or Trail | Mining | Residential | |

Land Use Map

14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



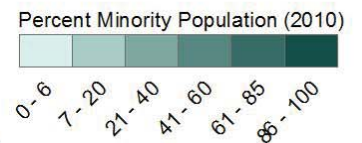
Minority Population Distribution Map

0 0.1 Miles



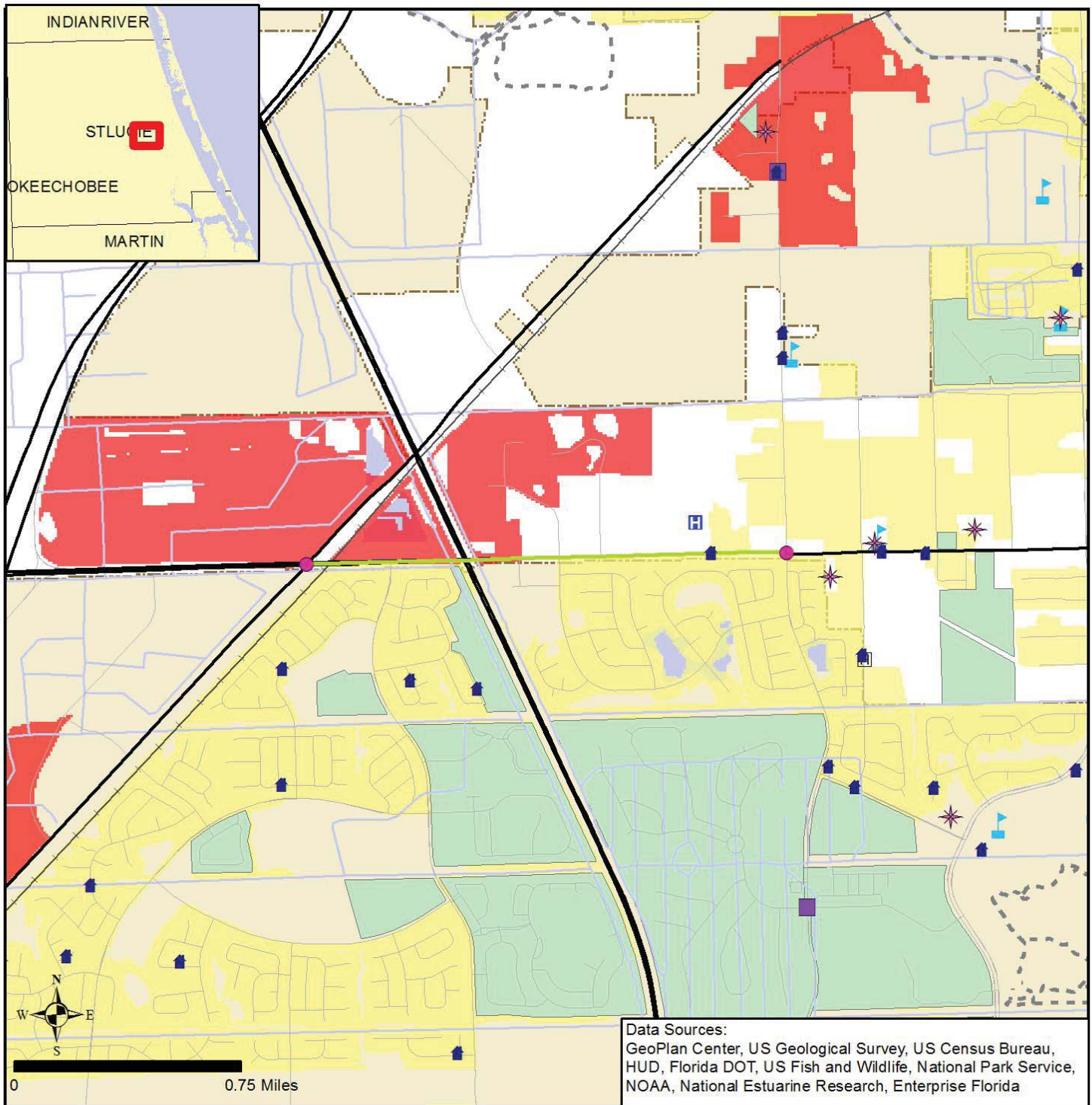
Data Sources:
 US Geological Survey
 FL Department of Transportation
 NAVTEQ
 US Census Bureau (2010)

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body



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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



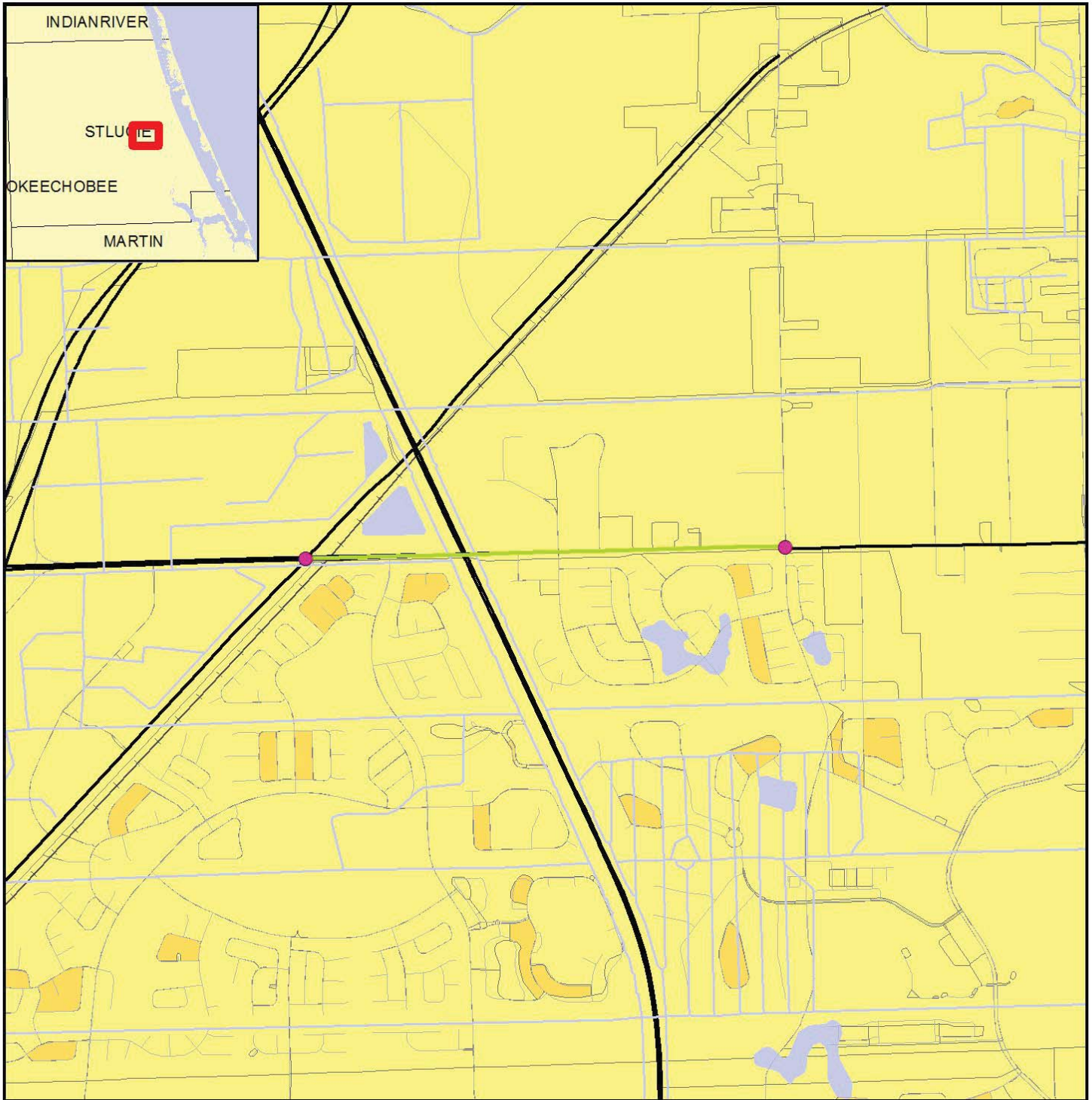
Data Sources:
GeoPlan Center, US Geological Survey, US Census Bureau, HUD, Florida DOT, US Fish and Wildlife, National Park Service, NOAA, National Estuarine Research, Enterprise Florida

Noise Map

- | | | | | |
|---------------------------|---------------------------|-----------------------|---------------------------|--------------------------|
| ETDM Alternative Point | Existing Trails | Laser On-site | Place of Worship | Military Installations |
| ETDM Alternative Segment | Railroad | Group Care Facilities | School | Industrial |
| ETDM Alternative Polygon | River, Stream or Canal | Cemetery | Historic Cemetery | Residential |
| ETDM Alternative Terminus | Water Body | Community Center | Planned Unit Developments | HUD Renewal |
| County Boundaries | Swamp/Marsh | Cultural Center | Wildlife Refuges | Nat'l Estuarine Reserves |
| City Limits | Airport | Health Care | National Parks | Enterprise Zones |
| Major Road | Condo Owners Associations | Park | National Park Projects | DRI |
| Local Road or Trail | Hospitals | | Marine Sanctuaries | |
| Noise Barriers | | | | |

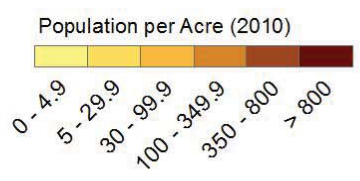
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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Data Sources:
 US Geological Survey
 FL Department of Transportation
 NAVTEQ
 US Census Bureau (2010)

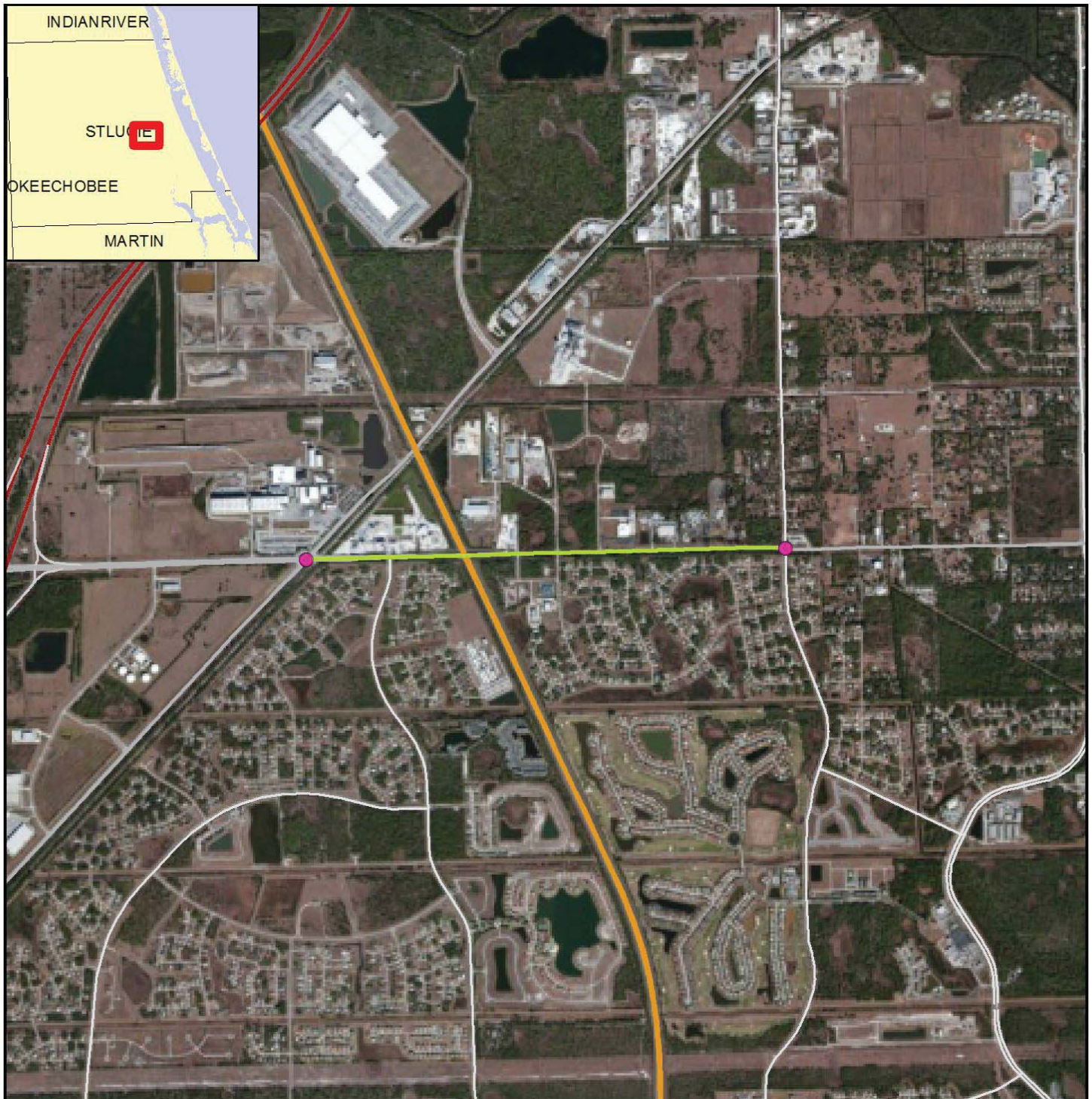
- Population Density Map**
- ETDM Alternative Point
 - ETDM Alternative Terminus
 - ETDM Alternative Segment
 - ETDM Alternative Polygon
 - Major Road
 - Local Road or Trail
 - Railroad
 - River, Stream or Canal
 - Water Body



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14177 Midway Road Widening, Alternative 1

Glades Cut-Off Rd to Selvitz Road



0 0.8 Miles

Project Aerial Map

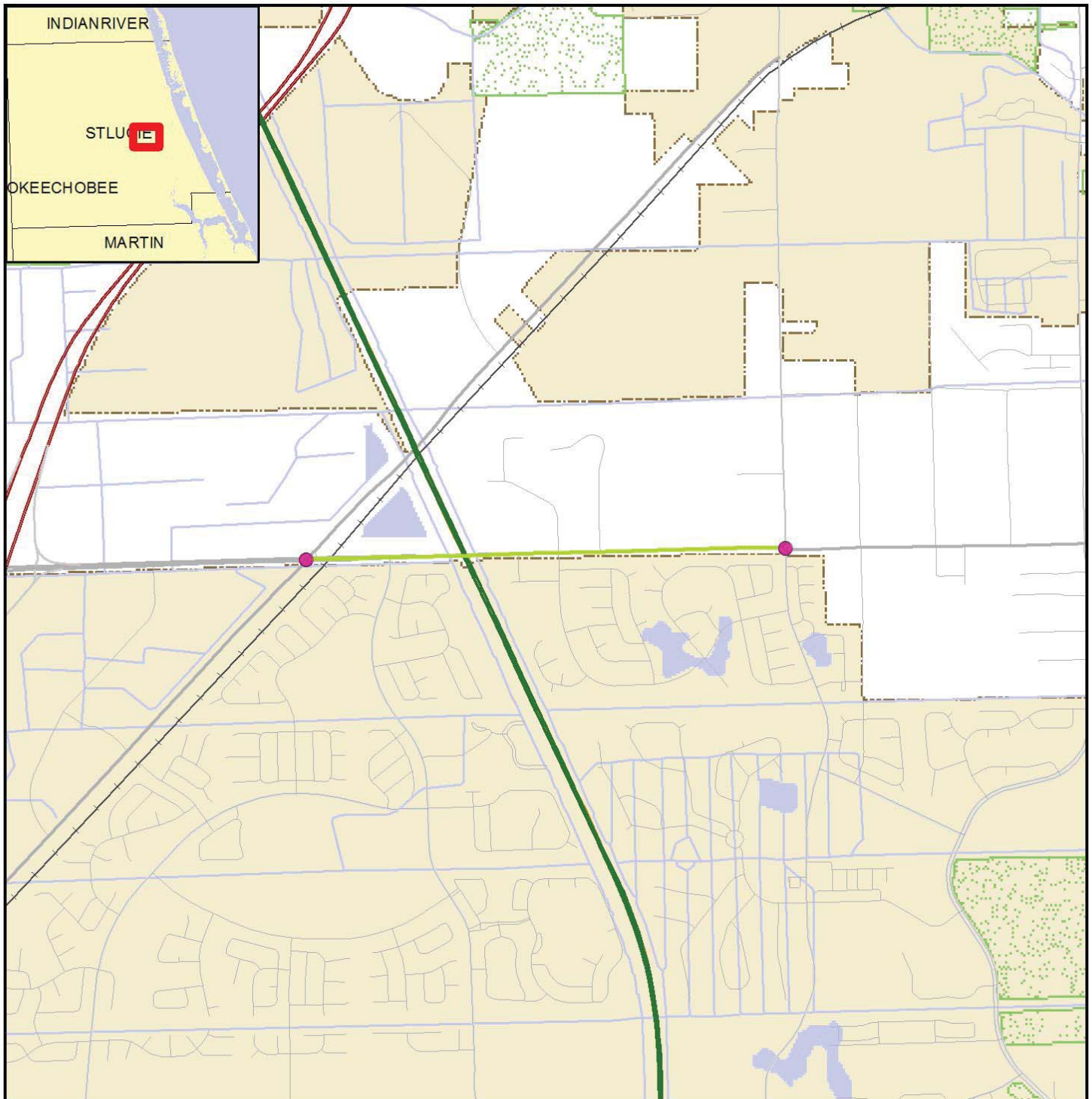


Data Sources:
 Highways - NAVTEQ
 Digital Orthophotograph - US Geological Survey

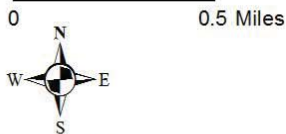
- ETDM Alternative Point
- Primary and Limited Access Highway
- ETDM Alternative Terminus
- Secondary, Unlimited Access Highway
- ETDM Alternative Segment
- Other Highway Feature
- ETDM Alternative Polygon
- Local Road

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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Project Location Map

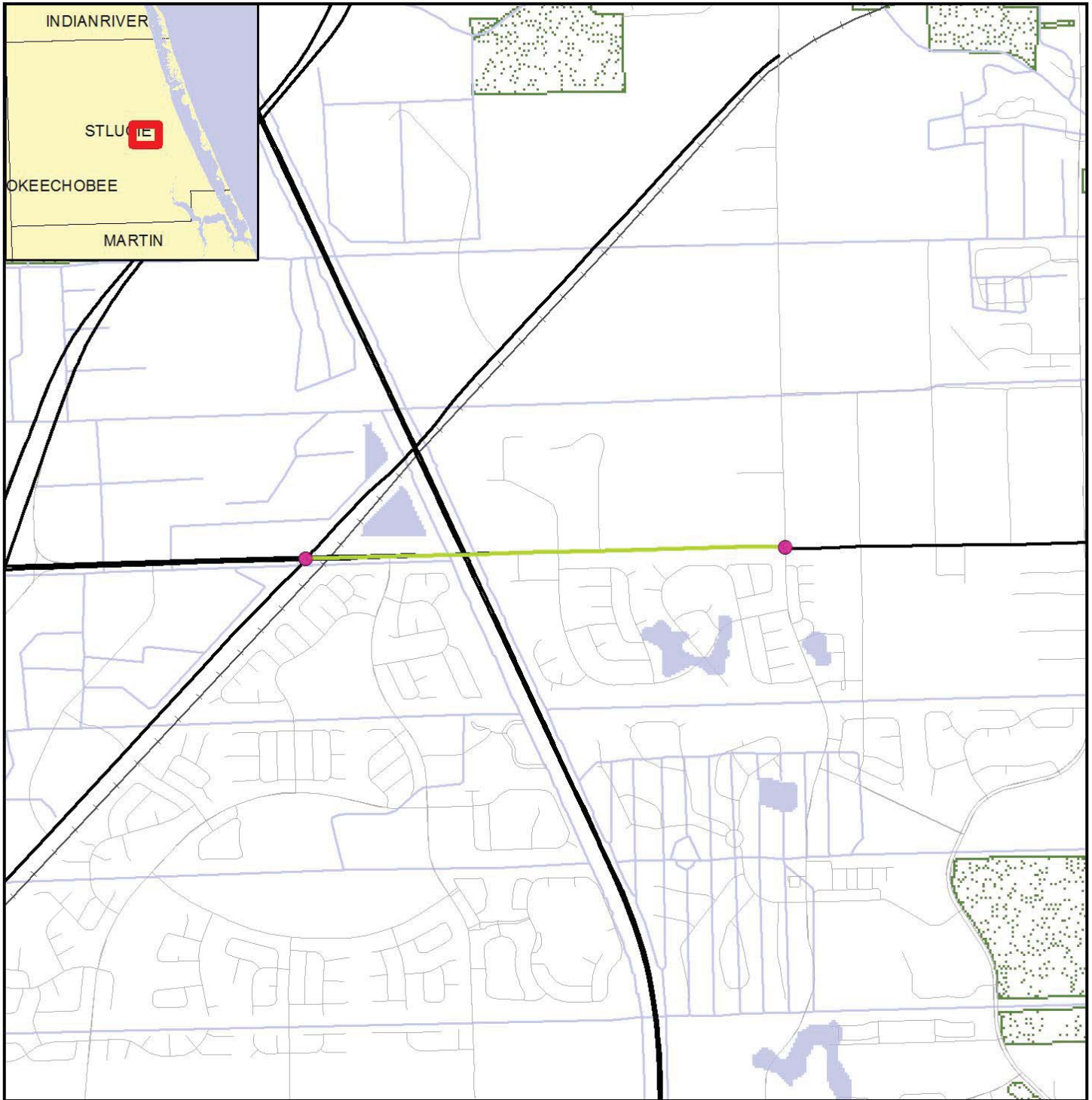


- | | | |
|---------------------------|----------------------------|-------------|
| ETDM Alternative Point | River, Stream or Canal | Toll Road |
| ETDM Alternative Terminus | Water Body | Railroad |
| ETDM Alternative Segment | Swamp/Marsh | Airport |
| ETDM Alternative Polygon | Managed Conservation Lands | City Limits |
| | County Boundaries | |

Data Sources:
 NAVTEQ
 US Geological Survey
 US Census Bureau
 County Property Appraisers
 Florida Natural Areas Inventory

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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Conservation and Recreation Area Map

0 0.75 Miles

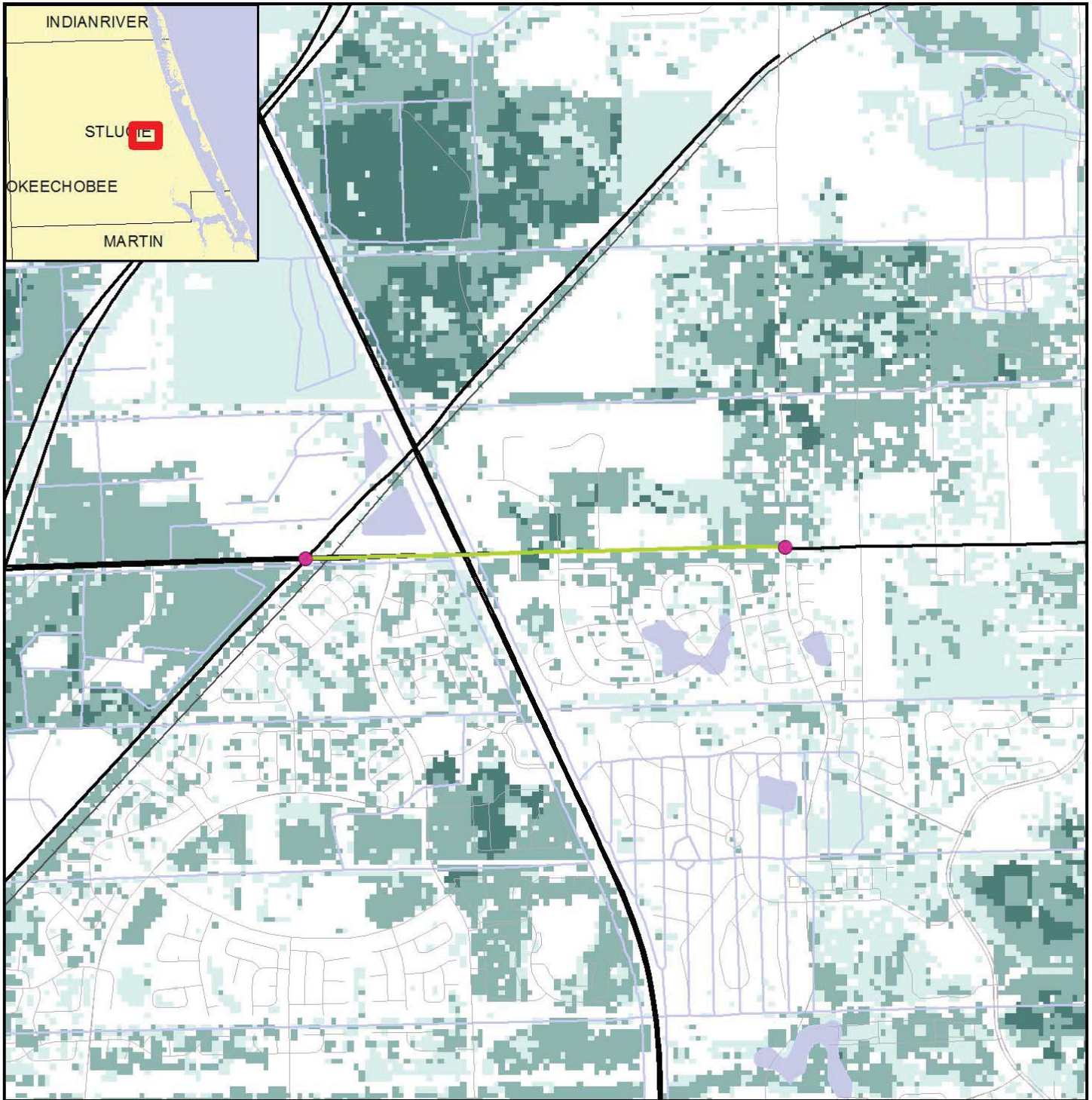


Data Sources:
NAVTEQ
US Geological Survey
Florida Natural Areas Inventory

- ETDM Alternative Point
- ETDM Alternative Segment
- ETDM Alternative Polygon
- ETDM Alternative Terminus
- Major Road
- Local Road or Trail
- River, Stream or Canal
- Water Body
- Swamp/Marsh
- Conservation or Recreation Area
- Railroad
- County Boundary

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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



0 0.6 Miles



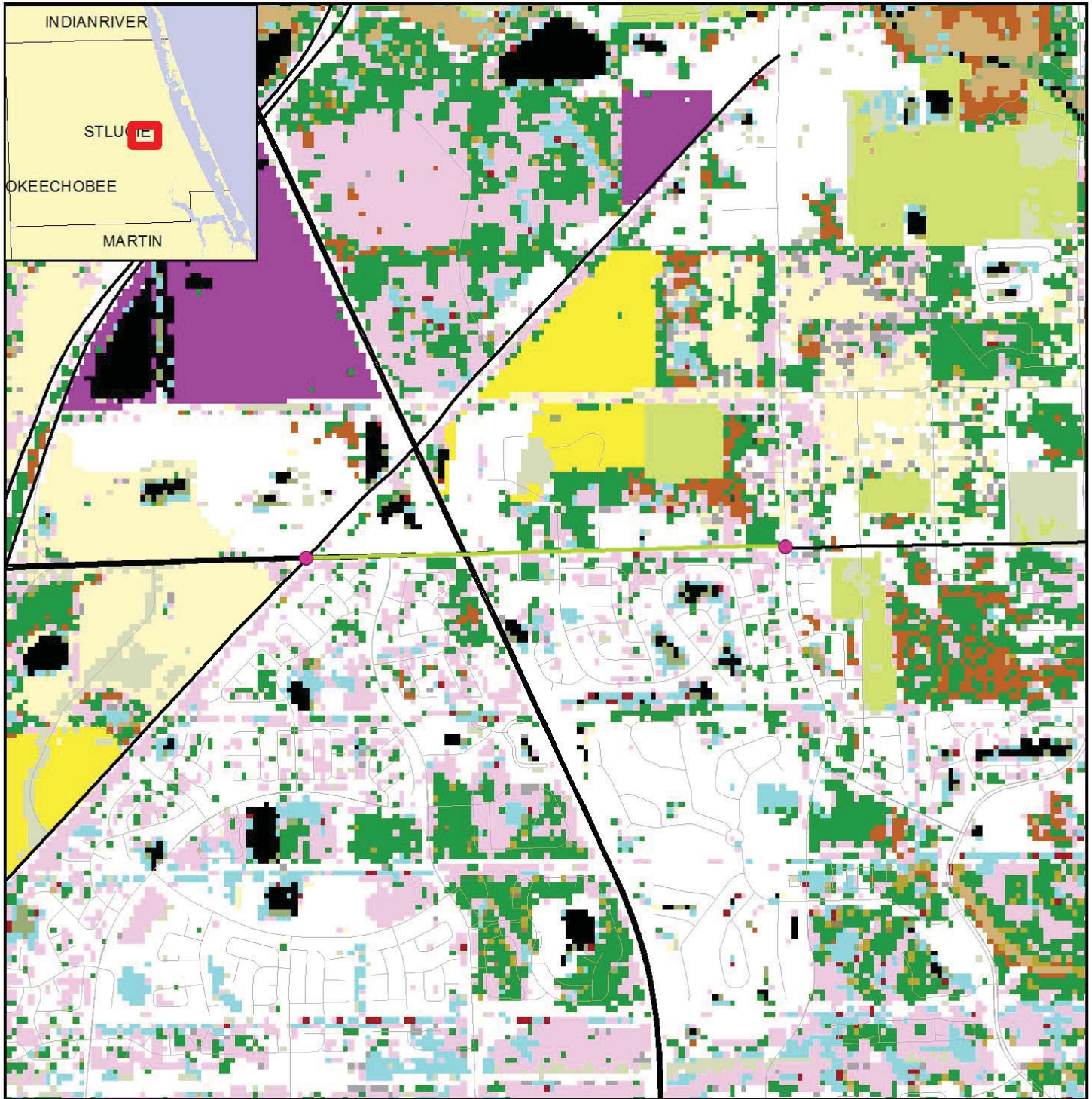
Species Potential Habitat Model Map

- | | | |
|---------------------------|------------------------|-----------------------------------|
| ETDM Alternative Point | Railroad | Potential Habitat Richness |
| ETDM Alternative Terminus | River, Stream or Canal | |
| ETDM Alternative Segment | Water Body | |
| ETDM Alternative Polygon | Major Road | |
| Local Road or Trail | | |
| | | 1 - 2 Species |
| | | 3 - 5 Species |
| | | 6 - 8 Species |
| | | 9 - 10 Species |
| | | 11 - 13 Species |

Data Sources:
 NAVTEQ
 US Geological Survey
 Florida Department of Transportation
 Florida Fish & Wildlife Conservation Commission

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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Vegetation and Land Cover Map

0 0.8 Miles

- | | | | | | | |
|---------------------------|----------------------------|----------------------------------|----------------------------|---------------------|---------------------|-------------------|
| ETDM Alternative Polygon | Not Classified | Hardwood Hammocks and Forests | Bay Swamp | Mangrove Swamp | Unimproved Pasture | Brazilian Pepper |
| ETDM Alternative Segment | Coastal Strand | Pinelands | Cypress Swamp | Scrub Mangrove | Sugarcane | High Impact Urban |
| ETDM Alternative Terminus | Sand/Beach | Cabbage Palm-live Oak Hammock | Cypress/Pine/Cabbage Palm | Tidal Flats | Citrus | Low Impact Urban |
| ETDM Alternative Point | Xeric Oak Scrub | Tropical Hardwood Hammock | Mixed Wetland Forest | Open Water | Row and Field Crops | Extractive |
| Major Road | Sand Pine Scrub | Freshwater Marsh and Wet Prairie | Hardwood Swamp | Shrub and Brushland | Other Agriculture | |
| Local Road or Trail | Sandhill | Sawgrass Marsh | Hydric Hammock | Grassland | Exotic Plants | |
| | Dry Prairie | Cattail Marsh | Bottomland Hardwood Forest | Bare Soil/Clearcut | Australian Pine | |
| | Mixed Hardwood-pine Forest | Shrub Swamp | Salt Marsh | Improved Pasture | Melaleuca | |

Data Sources:

NAVTEQ; Florida Department of Transportation; Florida Fish and Wildlife Conservation Commission

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etdm
Efficient Transportation Decision Making

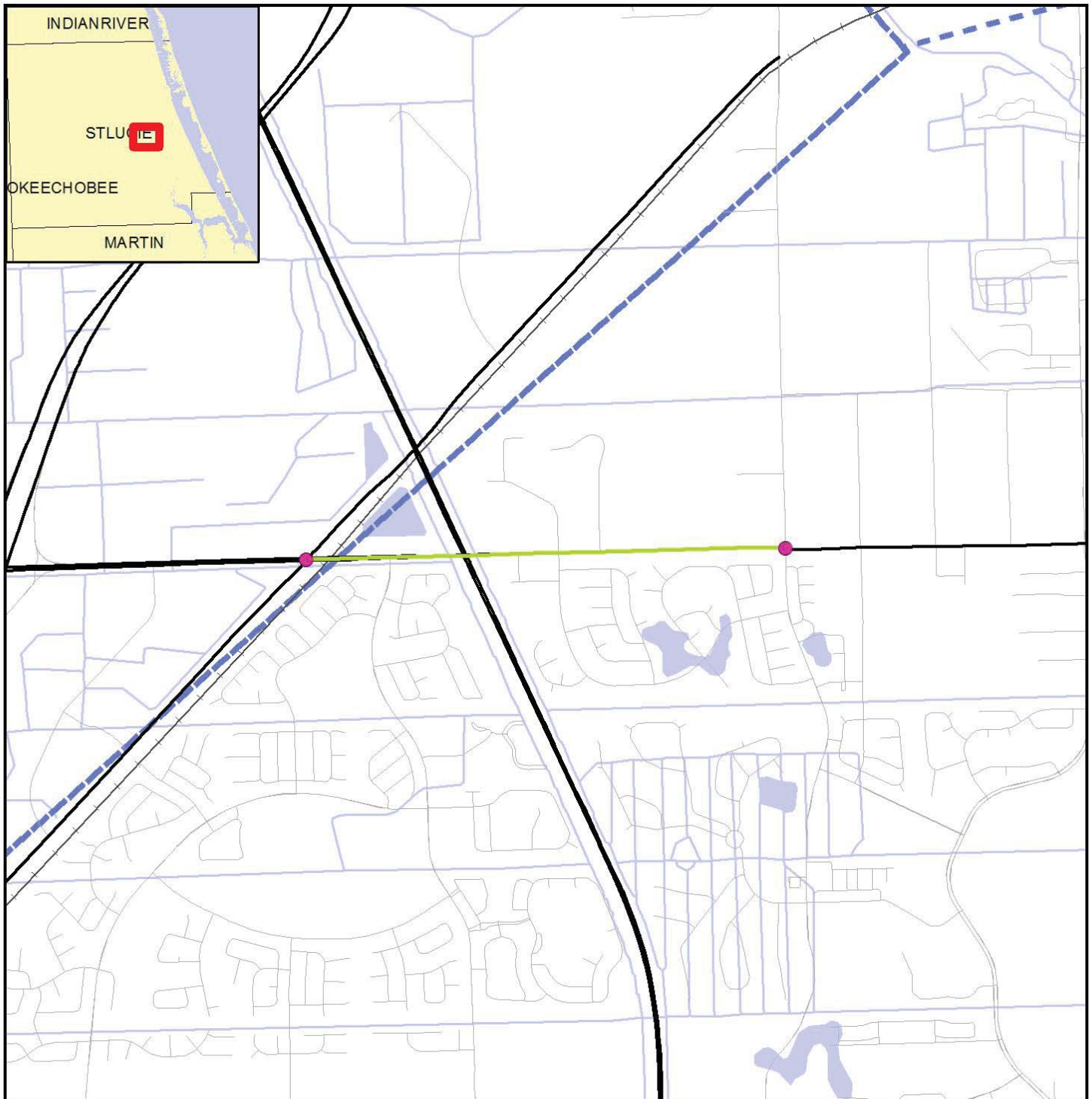
est
Environmental Screening Tool

Map Generated on: 5/23/2014

FDOT

14177 Midway Road Widening, Alternative 1

Glades Cut-Off Rd to Selvitz Road



0 0.8 Miles

Water Resources Map

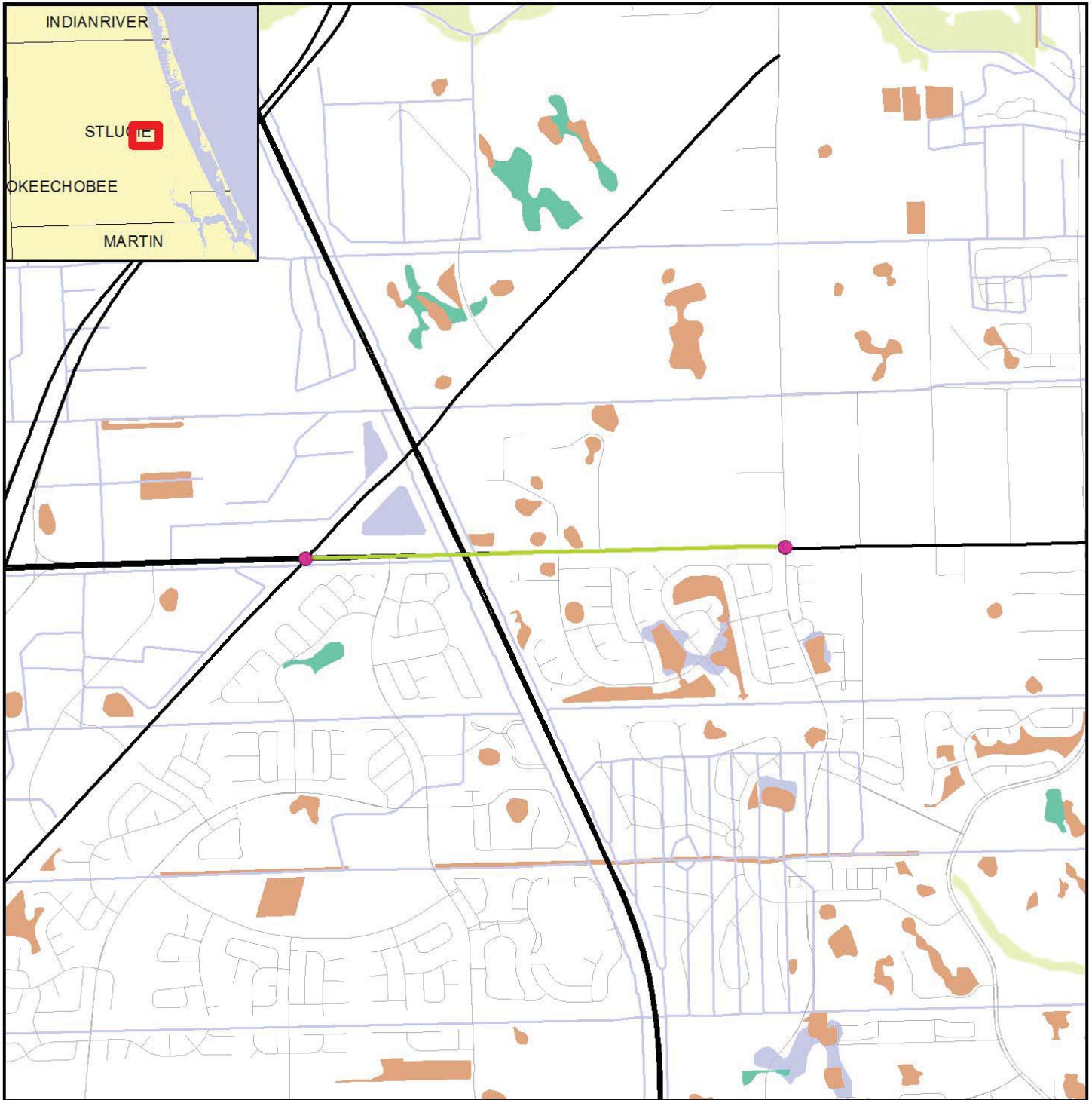
ETDM Alternative Point	Railroad	SFWMD Canals	Surface Water Class I
ETDM Alternative Terminus	1st Magnitude Spring	Drainage Basin	Surface Water Class II
ETDM Alternative Segment	River, Stream or Canal	Outstanding Florida Water	Water Body
ETDM Alternative Polygon	Navigable Water Way	Swamp/Marsh	

Data Sources:

Major Road	Florida Department of Transportation	Florida Geological Survey
Local Road or Trail	Florida Department of Environmental Protection	US Bureau of Transportation Statistics
NAVTEQ		
US Geological Survey		

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14177 Midway Road Widening, Alternative 1 Glades Cut-Off Rd to Selvitz Road



Wetland Resource Map

0 0.4 Miles



- | | | |
|---------------------------|------------------------|--------------------------------|
| ETDM Alternative Polygon | Major Road | Non-vegetated Wetland |
| ETDM Alternative Segment | Local Road or Trail | Vegetated Non-forested Wetland |
| ETDM Alternative Terminus | River, Stream or Canal | Wetland Forested Mixed |
| ETDM Alternative Point | Water Body | Wetland Coniferous Forest |
| | | Wetland Hardwood Forest |

Data Sources: NAVTEQ; Florida Water Management Districts; US Geological Survey

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Appendices

PED Comments

Advance Notification Comments

Federal Highway Administration Comment --

Purpose and Need:

- Safety was mentioned during the overall introduction of the Purpose and Need but there is no data or discussion available to support it. Discussion is recommended.
- Planning Consistency: Is the project included in the current STIP?
- Planning Consistency: This project is in the ETDM Programming Screen and therefore the project phase costs and related funding for those phases that are identified should be consistent with the TIP and LRTP. The project description identifies the project cost, excluding ROW, to be approximately \$19m, but the upcoming TIP (to be effective October 1m, 2014) identifies the project costs programmed over the next 5 years as \$36m (\$45 if ROW is included) and total project costs estimated to be \$57m. Please update this information in the screening tool to more accurately reflect what is being presented to the public.
- Public comments on this project were not included in the screening tool. Is FDOT aware of any controversy or support for the proposed project?
- The status of the planning Consistency for this projects was identified as - "no information available" yet, within the project purpose and need there was narrative that described the programming of this project with the MPO documents. This should be updated to reflect this information.

Socio Cultural Impacts:

- There are medium density (fixed single family) dwelling units within 1320 feet of the project. How will access to these home sites be maintained?
- What outreach efforts are planned or have been made to the minority and low income populations along this project? There appears to be at least one residential area that has been identified in the ETDM tool as having a 100% minority population. Additionally, the ETDM tool identifies a small percentage of the population that does not speak English well and will require special outreach efforts.

Mobility/Freight

- Business and commercial - what mitigation coordination has taken place with the commercial businesses within the project area of impact for either continued access to their businesses or any taking/relocation of property for the project? There are a number of businesses within the project impact area that are major traffic generators (US Postal Service, Health Department, and Mental Health Center among others).
- What operational improvements are being considered as part of or independent of this project to assist with access to/from the existing businesses?
- Bicycle/Pedestrian facilities - it is stated that currently accessibility for both modes is minimal along the facility. It is not clear if bicycle and pedestrian facilities will be included in the project. A mention is made of a proposed multiuse trail in the Long Range Plan Needs Plan, but not if there are any actions to move the trail forward as a funded project.
- Truck traffic - This appears to be a well-used freight corridor with currently a 7% truck volume. What is the anticipated growth of the freight volume over the next 20 years especially considering the developments and economic centers planned along this corridor? Have any outreach efforts been made to the freight providers for their input for operational improvements?

Transit -

It did not appear from the project description that transit services are currently available. Are these services part of the planned improvement to this facility in this location?

--Luis D Lopez, P.E., 8/8/2014

Response --

--, \$tools.date.format("M/d/yyyy"),\$comment.responseTimestamp)

South Florida Water Management District Comment --

No additional comments.

--Mindy Parrott, 7/1/2014

Response --

--, \$tools.date.format("M/d/yyyy"),\$comment.responseTimestamp)

GIS Analyses

Since there are so many GIS Analyses available for Project #14177 - Midway Road Widening, they have not been included in this ETDM Summary Report. GIS Analyses, however, are always available for this project on the Public ETDM Website. Please click on the link below (or copy this link into your Web Browser) in order to view detailed GIS tabular information for this project:

<http://etdmpub.fl.a-etat.org/est/index.jsp?tpID=14177&startPageName=GIS%20Analysis%20Results>

Special Note: Please be sure that when the GIS Analysis Results page loads, the **Summary Report Re-Published 5/27/2015 Milestone** is selected. GIS Analyses snapshots have been taken for Project #14177 at various points throughout the project's life-cycle, so it is important that you view the correct snapshot.

Project Attachments

Note: Attachments are not included in this Summary Report, but can be accessed by clicking on the links below:

Date	Type	Size	Link / Description
05/22/2014	Hardcopy Map (from Attach Document Tool)	2.35 MB	http://etdmpub.fl.a-etat.org/est/servlet/blobViewer?blobID=17215 Figure 1- Project Location Map.jpg
05/22/2014	Form SF-424: Application for Federal Assistance	989 KB	http://etdmpub.fl.a-etat.org/est/servlet/blobViewer?blobID=17214 Federal Aid Application
05/21/2014	Ancillary Project Documentation	142 KB	http://etdmpub.fl.a-etat.org/est/servlet/blobViewer?blobID=17210 Regional Workplace District
05/21/2014	Ancillary Project Documentation	2.23 MB	http://etdmpub.fl.a-etat.org/est/servlet/blobViewer?blobID=17209 DRI Locations
05/21/2014	Ancillary Project Documentation	2.35 MB	http://etdmpub.fl.a-etat.org/est/servlet/blobViewer?blobID=17208 Project Location Map

Degree of Effect Legend

Color Code	Meaning	ETAT	Public Involvement
N/A	Not Applicable / No Involvement	There is no presence of the issue in relationship to the project, or the issue is irrelevant in relationship to the proposed transportation action.	
0	None (after 12/5/2005)	The issue is present, but the project will have no impact on the issue; project has no adverse effect on ETAT resources; permit issuance or consultation involves routine interaction with the agency. The <i>None</i> degree of effect is new as of 12/5/2005.	No community opposition to the planned project. No adverse effect on the community.
1	Enhanced	Project has positive effect on the ETAT resource or can reverse a previous adverse effect leading to environmental improvement.	Affected community supports the proposed project. Project has positive effect.
2	Minimal	Project has little adverse effect on ETAT resources. Permit issuance or consultation involves routine interaction with the agency. Low cost options are available to address concerns.	Minimum community opposition to the planned project. Minimum adverse effect on the community.
2	Minimal to None (assigned prior to 12/5/2005)	Project has little adverse effect on ETAT resources. Permit issuance or consultation involves routine interaction with the agency. Low cost options are available to address concerns.	Minimum community opposition to the planned project. Minimum adverse effect on the community.
3	Moderate	Agency resources are affected by the proposed project, but avoidance and minimization options are available and can be addressed during development with a moderated amount of agency involvement and moderate cost impact.	Project has adverse effect on elements of the affected community. Public Involvement is needed to seek alternatives more acceptable to the community. Moderate community interaction will be required during project development.
4	Substantial	The project has substantial adverse effects but ETAT understands the project need and will be able to seek avoidance and minimization or mitigation options during project development. Substantial interaction will be required during project development and permitting.	Project has substantial adverse effects on the community and faces substantial community opposition. Intensive community interaction with focused Public Involvement will be required during project development to address community concerns.
5	Potential Dispute (Planning Screen)	Project may not conform to agency statutory requirements and may not be permitted. Project modification or evaluation of alternatives is required before advancing to the LRTP Programming Screen.	Community strongly opposes the project. Project is not in conformity with local comprehensive plan and has severe negative impact on the affected community.
5	Dispute Resolution (Programming Screen)	Project does not conform to agency statutory requirements and will not be permitted. Dispute resolution is required before the project proceeds to programming.	Community strongly opposes the project. Project is not in conformity with local comprehensive plan and has severe negative impact on the affected community.

	No ETAT Consensus	ETAT members from different agencies assigned a different degree of effect to this project, and the ETDM coordinator has not assigned a summary degree of effect.
	No ETAT Reviews	No ETAT members have reviewed the corresponding issue for this project, and the ETDM coordinator has not assigned a summary degree of effect.

APPENDIX C
WETLAND AND SURFACE WATER PHOTOGRAPHS



FLUCFCS 510



FLUCFCS 510



Representative Wetland and Surface Water Photos

**Project Development and Environment (PD&E) Study
Midway Road (CR712) From Glades Cut Off Road (CR 709)
to Selvitz Road (CR 615) St. Lucie County, Florida
Financial Project ID: 231440-3-22-01; ETDM Number: 14177**



FLUCFCS 534



FLUCFCS 534



Representative Wetland and Surface Water Photos

**Project Development and Environment (PD&E) Study
Midway Road (CR712) From Glades Cut Off Road (CR 709)
to Selvitz Road (CR 615) St. Lucie County, Florida
Financial Project ID: 231440-3-22-01; ETDM Number: 14177**



FLUCFCS 619



FLUCFCS 619



Representative Wetland and Surface Water Photos

**Project Development and Environment (PD&E) Study
Midway Road (CR712) From Glades Cut Off Road (CR 709)
to Selvitz Road (CR 615) St. Lucie County, Florida
Financial Project ID: 231440-3-22-01; ETDM Number: 14177**



FLUCFCS 641



FLUCFCS 641



Representative Wetland and Surface Water Photos

Project Development and Environment (PD&E) Study
Midway Road (CR712) From Glades Cut Off Road (CR 709)
to Selvitz Road (CR 615) St. Lucie County, Florida
Financial Project ID: 231440-3-22-01; ETDM Number: 14177

APPENDIX D
WRAP DATA SHEETS

- PROPOSED
- EXISTING CONDITIONS

WETLAND RAPID ASSESSMENT PROCEDURE

COUNTY: St. Lucie PROJECT _____ DATE 7/2/2015 REVIEWER Steven Hitt & Oliver Basse FLUCCS CODE 619
 APP. #: _____ Midway PDE WETLAND TYPE: FORESTED Non-Forested

LAND USE CATEGORY <u>619</u>	WETLAND AREA <u>0.88</u> ACRES	SECONDARY IMPACTS <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES %= <u> </u>	MELALEUCA INVASION >50% <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
	ACRES OF IMPACT <u> </u>	ACRES <u> </u>	

WILD LIFE UTILIZATION 0.5

WETLAND CANOPY 0.5

WETLAND GROUND COVER 0.5

HABITAT SUPPORT / BUFFER 0.275

BUFFER TYPE	SCORE	% AREA	SUB TOTAL
HV HWY	0.5	5	0.025
HV HWY	0.5	45	0.225
INDUSTRIAL	0	45	0
NUA (exotics)	0.5	5	0.025
			0

FIELD HYDROLOGY 1.5

WATER QUALITY INPUT & TREATMENT 0.4

LAND USE CATEGORY	SCORE	% AREA	SUB TOTAL
HV HWY	0.5	5	0.025
HV HWY	0.5	45	0.225
INDUSTRIAL	0	45	0
NUA (exotics)	0.5	5	0.025
			0
LU TOTAL			<u>0.275</u>

WRAP SCORE

20.42%

PRETREATMENT CATEGORY	SCORE	% AREA	SUB TOTAL
Grass Swale	1	5	0.05
Grass Swale	1	45	0.45
No Treatment	0	45	0
NUA (exotics)	0.5	5	0.025
			0
PT TOTAL			<u>0.525</u>

WILDLIFE UTILIZATION

There was no observed wildlife within the wetland. Wildlife utilization is anticipated to be low due to disturbance and density of exotic vegetation.

WETLAND CANOPY

Vegetation within the wetland is comprised of Brazilian pepper, wax myrtle, cabbage palms, and Carolina willow.

WETLAND GROUND COVER

Vegetation within the wetland is comprised of Brazilian pepper, wax myrtle, cabbage palms, primrose willow, duck potatoe, smartweed and Carolina willow. However, dominated by exotic and nuisance vegetation

HABITAT SUPPORT/BUFFER

The wetland is surrounded by high volume highway (31%), moderately intensive commercial (27%), and natural undeveloped areas (42%).

FIELD HYDROLOGY

Hydrology is intermittent and influence by discharge of stormwater from Midway Road, Glades Cut Off Road, and the FEC Railroad.

WQ INPUT & TREATMENT

Minimal treatment occurs on approximately 50% of the wetland.

- PROPOSED
 EXISTING CONDITIONS

WETLAND RAPID ASSESSMENT PROCEDURE

COUNTY: St. Lucie PROJECT DATE 7/2/2015 REVIEWER Steven Hitt & Oliver Basse FLUCCS CODE 641
 APP. #: Midway PDE WETLAND TYPE: FORESTED Non-Forested

LAND USE CATEGORY	WETLAND AREA	SECONDARY IMPACTS	MELALEUCA INVASION >50%
Freshwater Marsh	1.47 ACRES	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES % = <u> </u>	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
	0.12 ACRES OF IMPACT	<u> </u> ACRES	

WILD LIFE UTILIZATION

2

WETLAND CANOPY

2 ▼

WETLAND GROUND COVER

2

HABITAT SUPPORT / BUFFER

2.9

WRAP SCORE

74.03%

BUFFER TYPE	SCORE	% AREA	SUB TOTAL
HV HWY	1	5	0.05
NUA	3	95	2.85
			0
			0
			0

FIELD HYDROLOGY

1.5

WATER QUALITY INPUT & TREATMENT

2.925

LAND USE CATEGORY	SCORE	% AREA	SUB TOTAL
HV HWY	1	5	0.05
NUA	3	95	2.85
			0
			0
			0
LU TOTAL			2.9

PRETREATMENT CATEGORY	SCORE	% AREA	SUB TOTAL
Swale w/dry detention	2	5	0.1
NUA	3	95	2.85
			0
			0
			0
PT TOTAL			2.95

WILDLIFE UTILIZATION

There was no observed wildlife within the wetland; however, the wetland does provide habitat for a variety of species including potential for wading bird foraging.

WETLAND CANOPY

Vegetative community structure appears robust, with minimal influence from adjacent land uses. Vegetation within the wetland comprised of corkwood, rosy camphorweed, spadeleaf, beakrush, St. John's wort, common reed, groundseltree, and wax myrtle.

WETLAND GROUND COVER

Vegetative community structure appears robust, with minimal influence from adjacent land uses. Vegetation within the wetland comprised of corkwood, rosy camphorweed, spadeleaf, beakrush, St. John's wort, common reed, groundseltree, and waxy myrtle.

HABITAT SUPPORT/BUFFER

The wetland is located north of Midway Road and is located within a pine flatwoods upland habitat. Also, within proximity to other freshwater marsh systems to the north and hydrologic connectivity to stormwater drainage system of Midway Road. Some limitations to wildlife utilization due to adjacent land uses such as Jenkins Road to the east, commercial development to the west, and Midway Road to the south.

FIELD HYDROLOGY

Hydrology of the wetland appears consistent with freshwater marsh systems and wetland function appeared normal.

WQ INPUT & TREATMENT

Runoff from Midway Road occurs after treatment; however, the majority of the wetland is surrounded by undeveloped natural areas (natural treatment).

APPENDIX E
SFWMD MEETING MINUTES

**FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT IV INTERAGENCY MEETING MINUTES**

TO: Binod Basnet, Florida Department of Transportation
FROM: Justin Freedman, E Sciences, Incorporated
MEETING DATE: August 20, 2015
LOCATION: South Florida Water Management District (SFWMD)
3301 Gun Club Road, West Palm Beach, Florida
SUBJECT: Florida Department of Transportation (FDOT) Interagency Meeting Minutes

First meeting started at 9:07 am.

Attendees:

Name	Organization	Email Address
Barbara Conmy	SFWMD	bconmy@sfwmd.gov
Hugo Carter	SFWMD	hcarter@sfwmd.gov
Wilord Metellus	FDOT	wilord.metellus@dot.state.fl.us
Binod Basnet	FDOT	binod.basnet@dot.state.fl.us
James Ford	FDOT	james.ford@dot.state.fl.us
Justin Freedman	E Sciences	jfreedman@esciencesinc.com

District: Four

FPID/FM Number: 434360-1

FDOT Project Manager: James Ford, P.E.

Consultant/Company Name: FDOT/In House

SR/local Name: County Road CR-712A/McCarty Road

Project limits: 250-foot approaches on either end of bridge (Project length approximately 0.12 miles)

General Scope: McCarty Road bridge replacement over Ten Mile Creek Bridge # 940031 located in North St. Lucie River Water Control, District (NSLRWCD). At the project limit, the road will be reconstructed from a single lane county road to two (2) lanes for about 250 feet at each approach of the bridge. The proposed drainage is designed to use 100 feet of French Drain to provide water treatment and attenuation while maintaining the proper discharge into the Creek.

Specific Agenda Items Discussed: See below.

Requested Attendees: Hugo Carter, SFWMD, Barb Conmy, SFWMD

Binod Basnet, Wilord Metellus and James Ford discussed project:

- FDOT recently met with Patrick Holmes of NSLRWCD to confirm FDOT will need permit from the NSLRWCD.
- Total project length is 630 feet (127 feet actual bridge; 250 feet each approach).
- Existing drainage – scuppers on bridge deck, sheet flow into canal.
- Project has two outfalls (one in southwest quadrant, one ±300 feet northeast of project).

- Proposed system will provide better treatment than existing system (in terms of water quality and water discharge quantity).
- Road will shift to east - to compensate for swale capacity reduction, proposing exfiltration trench to the southeast and northeast of the project.
- FDOT conducted “Pre-Post” drainage analysis to confirm stormwater discharges before and after project. Stormwater discharges will be decreased in the “Post” condition.
- Anticipated wetland impacts of 0.038 acres due to rip rap installation along bridge slope.

Hugo Carter and Barb Conmy commented on project:

- Project should be covered under SFWMD General Permit (GP) for FDOT and Municipalities (i.e. for minor bridge alterations, replacement, etc.):
 - Less than 0.5 acres of wetland or surface water impacts
 - Channel clearing and shaping allowed
 - 30 day turn around, \$250 fee
- Based on project acreage, project should qualify for the GP.
- Will not need to mitigate for wetland impacts.

Additional comments from Binod Basnet and James Ford:

- When team applies for GP, they will be sure to meet special conditions of GP.
- Team spoke to Randy Turner at USACE, should not need to mitigate for USACE due to less than 0.5 acres of impact.
- Schedule – letting in January 2017; applications submitted within one month of current date.

Meeting ended at 9:18 am.

Second meeting started at 9:20 am

Attendees:

Name	Organization	Email Address
Barbara Conmy	SFWMD	bconmy@sfwmd.gov
Hugo Carter	SFWMD	hcarter@sfwmd.gov
Binod Basnet	FDOT	binod.basnet@dot.state.fl.us
Brady Walker	Kimely Horn	brady.walker@kimley-horn.com
Zack Evans	Inwood Consulting Engineers	zevans@inwoodinc.com
Renato Chuw	Inwood Consulting Engineers	rchuw@inwoodinc.com
Justin Freedman	E Sciences	jfreedman@esciencesinc.com

District: Four

FPID/FM Number: 231440-3-22-01

FDOT Project Manager: Vanita Saini, PE

Consultant/Company Name: Inwood Consulting Engineers, Inc.

SR/Local Name: Midway Road/ CR 712

Project limits: Glades Cut Off Road to Selvitz Road

General Scope: Project Development and Environment (PD&E) Study to evaluate the widening of Midway Road/CR 712 from a two-lane rural roadway to a four-lane divided urban roadway between the limits of Glades Cutoff Road to Selvitz Road.

Specific Agenda Items Discussed: See below.

Requested Attendees: Hugo Carter, SFWMD, Barb Conmy, SFWMD

Renato Chuw and Zack Evans discussed project:

- Project is PD&E Study.
- Discussed scope of project noted above.
- Different options:
 - Widen road to south - Canal C-103 would be impacted.
 - Widen road to north - Development to north and wetlands could be impacted.
- Two existing SFWMD permits:
 - First permit (issued 2003) for intersection of Midway Road and Glades Cutoff Road. The County built Pond #2 to handle water from intersection as well as improvements along Midway Road up to 700 feet west of Turnpike.
 - Second permit (issued 2012) for Midway Road widening from Selvitz Road to 25th Street. Original design included additional pond (Pond #1) – handling basin from Turnpike to west of Post Office Road but not included in the issued permit or part of the final construction plans.
- Majority of treatment needed for proposed project will be handled by existing, previously permitted ponds (some portion of proposed project needs additional treatment).
- Existing Ponds #1 and #2/3 are designed to accommodate the widening of Midway Road to six lanes.
 - This study only proposing widening from two to four lanes.
- All discharge collected by C-103 Canal leading to St. Lucie Aquatic Preserve, which is an Outstanding Florida Water (OFW)
 - Existing Pond #1 and #2/3 designed to provide additional 50% water quality.

- Pond #2 from first permit does not provide additional 50% water quality.
- Attenuation
 - Existing Pond #1 and #2/3 designed to handle 25 year/72-hour year storm event per SFWMD.
 - Pond #2 from first permit designed based on NSLRWCD criteria (10-year/3-day storm, 2 inches per day).
- Question to SFWMD – if design proposed to use extra capacity within Pond #2 to provide the additional necessary treatment for the project, which criteria should be used?
 - Use criteria from 2012 permit?
 - Use new criteria for pre/post analysis?
 - Does project need to meet OFW criteria?
- Second question to SFWMD: Receiving water bodies (Ten Mile Creek and North Fork of St. Lucie River) are impaired for nutrients; should dry pre-treatment areas be provided to address issue of impaired water bodies?
- C-103 Canal used to be maintained by NSLRWCD – now it is managed by St. Lucie County.
- May be some potential impacts to wetlands to north (pond expansion).
- The south widening alternative will look into enclosing portions of the C-103 Canal with a box culvert, similar to the adjacent segment under construction.

Hugo Carter and Barb Conmy commented on project:

- The portion of runoff from the proposed project that will not be treated by the existing ponds should be subject to new “Pre-Post” analysis per SFWMD criteria (i.e. 25-year/72-day storm event). Need to treat for new net impervious area only.
- New treatment will need to meet 150% treatment criteria to address OFW (for new impervious areas only).
- Due to impaired water body analysis, nutrient loading analysis may be needed.
- NSLRWCD – If no control structure downstream from project, then NSLRWCD criteria does not apply (use SFWMD criteria).
- Existing permit called for a box culvert – need to make sure this culvert can handle additional capacity associated with proposed project.
- Potential wetland impacts (associated with pond expansion) will need to be addressed during permit process.
- With box culverts proposed, design will need to allow for air exchange mechanism (i.e. saddle risers).
- Contact Jose Vega for any pre-application field meetings.

Meeting ended at 9:50 am.