ENDANGERED SPECIES BIOLOGICAL ASSESSMENT

SR 33 PD&E STUDY

From Old Combee Road to North of Tomkow Road

Polk County, Florida

Florida Department of Transportation, District One
Financial Project ID No. 430185-1-22-01

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate the proposed widening of State Road (SR) 33 from Old Combee Road to 1,500 feet north of Tomkow Road from two lanes to four lanes, a distance of approximately 4.3 miles, in Polk County, Florida. The PD&E study evaluates engineering and environmental data and documents information that will aid FDOT and the Federal Highway Administration (FHWA) in determining the type, preliminary design and location of the proposed improvements. The study was conducted in order to meet the requirements of the National Environmental Policy Act (NEPA) and other related federal and state laws, rules and regulations.

The purpose of the US 33 PD&E Study is to develop a proposed “best-fit” improvement strategy that is technically sound, environmentally practicable, and publicly acceptable with minimal community impacts. Project needs include linking Lakeland and Interstate 4 (I-4), increasing capacity along SR 33 to meet projected future demand, and improving existing roadway deficiencies. The project landscape is predominately developed, consisting of residential and commercial parcels. Undeveloped upland parcels and pastures are also adjacent to the project corridor. Although the project area includes stormwater management facilities located outside of the SR 33 right-of-way (ROW), the preferred stormwater treatment option is the construction of linear swales within the existing ROW, eliminating the need for offsite stormwater management sites. Therefore, the proposed roadway widening will occur within the existing FDOT ROW which is composed entirely of existing transportation and roadside swales.

The Endangered Species Biological Assessment (ESBA) is prepared as part of the interagency coordination required under Section 7 of the Endangered Species Act (ESA) of 1973 as amended, state threatened and endangered species regulations (Ch. 379.2291, Florida Statutes (FS) and Ch. 68A-27, Florida Administrative Code (FAC)) and per the requirements of Part 2, Chapter 27 of the FDOT PD&E Manual.

The ESBA encompasses habitats adjacent to and within the project corridor. It is prepared to aid in determining the type, design, and location of improvements to the existing facility and to evaluate impacts, if any, associated with alternatives for the proposed improvements.

This protected species assessment included an initial data collection to develop a project overview, review of agency Environmental Technical Advisory Team (ETAT)

comments on the FDOT Efficient Transportation Decision Making (ETDM) website, and determining if any species-specific surveys would be required. Subsequent to the data collection appropriate methodology was developed and field surveys were conducted. These efforts are explained in the attached report with the effect determinations summarized for each species.

Protected Species with Federal Designation

"May Affect, But is Not Likely to Adversely Affect" Determinations

Audubon's crested caracara (*Polyborus plancus audubonii*) is listed as threatened by the United States Fish and Wildlife Service (USFWS). The project corridor falls within the USFWS Consultation Area (CA) for the species; however, there is no appropriate nesting habitat and only minor foraging habitat within the project footprint. No cabbage palms (*Sabal palmetto*) exist within the project limits, but are found in minor quantities outside of the project area. The nearest crested caracara observation occurred 27 miles northeast of the project area in 2002. No evidence of the crested caracara was detected during field surveys, no historic caracara sightings occurred near the project area, minor foraging habitat exists within the project footprint, and nesting habitat is limited outside the project area; therefore, it is anticipated that the project "may affect, but is not likely to adversely affect" the Audubon's crested caracara.

The **Everglades snail kite** (*Rostrhamus sociabilis plumbeus*) is listed as endangered by the USFWS. The project corridor falls within the USFWS CA for the species. The nearest Everglades snail kite observation occurred 23 miles south of the project area in 1988. Very small areas of suboptimal habitat (ditches) exist within the project limits. No evidence of the Everglades snail kite was detected during field surveys, no historic sightings of this species were documented near the project area, and suitable habitat is limited, therefore it is anticipated that the project "may affect, but is not likely to adversely affect" the Everglades snail kite.

The **Florida scrub-jay** (*Aphelocoma coerulescens*) is listed as threatened by the USFWS. The project corridor falls within the USFWS CA for the species. Potential habitat for this species was identified in one area adjacent to the project corridor; however species-specific field surveys did not detect any individuals. The nearest historic Florida scrub-jay observation was 11 miles to the northwest of the project site, the date of this observation is not known. Because no evidence of the Florida scrub-jay was detected, no historic sightings of this species were documented in the project area, and limited suitable habitat for this species exists adjacent to the proposed project area,

it is anticipated that the project "may affect, but is not likely to adversely affect" the Florida scrub-jay.

The **wood stork** (*Mycteria americana*) is listed as endangered by the USFWS. The project corridor is located within the core foraging area (CFA) of six wood stork colonies: Colony No. 611024 (Little Gator Creek), Lone Palm (no colony number), Colony No. 612316 (Lake John), Colony No. 616117 (no assigned name), Colony No. 616114 (no assigned name), and Northeast Mulberry (no colony number). Wood storks were observed during general wildlife surveys. A foraging habitat analysis was completed for the project alternatives; anticipated wetland impacts for the project (Segment 1 and Segment 2 combined) range from 14.93 acres to 17.00 acres, anticipated surface water impacts range from 10.55 acres to 12.19 acres, and biomass loss range from 40.80 kg to 45.08 kg, depending on the overall, selected design alternative. Given the current criteria of the USFWS South Florida Ecological Services Office, and that loss of habitat will be mitigated for as per Part IV, Chapter 373, F.S. and 33 U.S.C.s, 1344, it is anticipated that this project "may affect, but is not likely to adversely affect" the wood stork.

The **eastern indigo snake** (*Drymarchon corais couperi*) is listed as threatened by the USFWS. The project contains potential habitat for the species, as the species is known to utilize a variety of habitats. The nearest recorded eastern indigo snake observation was 8 miles to the southeast of the project in 1989. No individuals were observed near the project during field surveys. However, because areas of potential suitable habitat for this species occur adjacent to and within portions of the project limits, eastern indigo snake presence is possible. The FDOT will commit to implementing the standard FDOT Construction Precautions for the Eastern Indigo Snake and it is therefore anticipated that this project "may affect, but is not likely to adversely affect" the species.

The **sand skink** (*Neoseps reynoldsi*) and **bluetail mole skink** (*Eumeces egregius lividus*) are listed as threatened by the USFWS. The project falls within the USFWS CA for these species. The nearest recorded sand skink observation occurred 9.3 miles to the southeast of the project in 1983. Potential habitat was identified in several areas of the project; however, no individuals were observed during pedestrian surveys. Species-specific cover board surveys confirmed these results as no sand skinks or sand skink tracks were observed. Because there was no evidence of sand skinks or bluetail mole skinks inhabiting the project corridor, it is anticipated that the project "may affect, but is not likely to adversely affect" the sand skink and bluetail mole skink.

Marginal habitat for **federally-listed plant species** is present within and adjacent to the project. Although the project is not located within the USFWS Lake Wales Ridge Plants CA, the following xeric plants listed by the USFWS as endangered have been documented in Polk County: Avon Park harebells (*Crotalaria avonensis*), Britton's beargrass (*Nolina brittoniana*), Carter's mustard (*Warea carteri*), Florida ziziphus (*Ziziphus celata*), highlands scrub hypericum (*Hypericum cumulicola*), Lewton's polygala (*Polygala lewtonii*), pygmy fringe-tree (*Chionanthus pygmaeus*), sandlace (*Polygonella myriophylla*), scrub blazingstar (*Liatris ohlingerae*), scrub lupine (*Lupinus aridorum*), scrub mint (*Dicerandra frutescens*), scrub plum (*Prunus geniculata*), short-leaved rosemary (*Conradina brevifolia*), wide-leaf warea (*Warea amplexifolia*), and wireweed (*Polygonella basiramia*). The following scrub plants listed by the USFWS as threatened have been documented in Polk County: Florida bonamia (*Bonamia grandiflora*), papery whitlow-wort (*Paronychia chartacea*), pigeon wings (*Clitoria fragrans*), and scrub buckwheat (*Eriogonum longifolium*).

No federally-listed plant species were observed within or adjacent to the project footprint and no historic sightings have been documented in the project area. If protected plant species are observed within the proposed impact areas during the design and permitting phase, coordination will be initiated with the USFWS, Florida Department of Agriculture and Consumer Services (FDACS) and other appropriate organizations such as Bok Tower Gardens' Rare Plant Conservation Program to allow for relocation to adjacent habitat or other suitable protected lands, prior to construction. As a result, it is anticipated that the project "may affect, but is not likely to adversely affect" the above federally listed plant species.

The **perforate reindeer lichen** (*Cladonia perforata*) is also a federally endangered species that is endemic to Florida's scrub habitat and grows in only a few known locations within the state. While very rare, there is a reasonable possibility that the lichen could exist at widely scattered localities elsewhere in Florida. This species was not observed during field surveys and has not been historically documented in the project area. Similar to federally protected plants, if any perforate reindeer lichen is documented within the proposed impact areas during the pre-permitting phase and pre-construction surveys, coordination will be initiated with the USFWS, FDACS and other appropriate organizations such as Bok Tower Gardens' Rare Plant Conservation Program to allow for relocation to adjacent habitat or other suitable protected lands, prior to construction. As a result, it is anticipated that the project "may affect, but is not likely to adversely affect" the perforate reindeer lichen.

"No Effect" Determinations

The **Florida grasshopper sparrow** (*Ammodramus savannarum floridanus*) is listed as endangered by the USFWS. The project corridor falls within the USFWS CA for the species. The nearest recorded Florida grasshopper sparrow observation was 50 miles to the southeast of the project in 1994. No suitable habitat was identified within the project area, field surveys did not detect any individuals, and no individuals have been historically documented in the project area. Therefore, it is anticipated that the project will have "no effect" on the Florida grasshopper sparrow.

The **Florida bonneted bat** (*Eumops floridanus*) became a federally listed species effective November 1, 2013. Critical habitat has yet to be designated for this species. The Florida bonneted bat has been previously documented in Polk County, specifically the Avon Park Air Force Range and the KICCO Wildlife Management Area. Very little information has been collected regarding the ecology of the Florida bonneted bat. This species has historically been documented roosting in bat houses, large mature longleaf pines containing cavities, and residential homes. There are no known active natural roost sites currently being utilized by Florida bonneted bats. Because there is limited information on the Florida bonneted bat, the species has not been historically documented in the project area, and the project will be undertaken within the ROW which contains limited natural habitat, it is anticipated that the project will have "no effect" on the Florida bonneted bat.

Protected Species with State Designation Only

The **Florida burrowing owl** (*Athene cunicularia floridana*) is listed as a species of special concern (SSC) by the Florida Fish and Wildlife Conservation Commission (FWC). The nearest burrowing owl sighting occurred three miles east of the project area in 2000. While some areas of suitable habitat exist along the project corridor for the burrowing owl, field surveys did not detect any burrowing owls or owl burrows and no burrowing owls were historically documented in the project area. Based on field survey results, it is it is anticipated that the project will have "no effect" on the Florida burrowing owl.

The **Florida sandhill crane** (*Grus canadensis pratensis*) is listed as threatened by the FWC. There is limited suitable nesting habitat and minimal foraging habitat present within the project limits. One individual was observed during field surveys; however no nests or young were identified within the project area. The FDOT will re-survey appropriate habitats for the Florida sandhill crane prior to permitting and construction of

the project. Based on this commitment, and because no nests or young sandhill cranes were observed during field surveys, it is it is anticipated that the project will have "no effect" on the Florida sandhill crane.

The **southeastern American kestrel** (*Falco sparverius paulus*) is listed as threatened by the FWC. The nearest southeastern American kestrel observation occurred 23.2 mile southeast of the project in 1988. Small areas of suitable foraging habitat are present in the project area, but field surveys did not detect any individuals or nest snags, and the southeastern American kestrel has not been previously documented in the project area. Given the above information, it is it is anticipated that the project will have "no effect" on the southeastern American kestrel.

Wading birds such as the limpkin (*Aramus guarana*), white ibis (*Eudocimus albus*), little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), and roseate spoonbill (*Platalea ajaja*) are not federally listed (although they are protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712)), but are listed by the FWC as SSC's. One state listed wading bird, the white ibis, has been observed adjacent to the project area. Since wetland impacts to habitats potentially utilized by these state-listed species will be mitigated for pursuant to Part IV, Chapter 373, F.S. and U.S.C. 1344, it is anticipated that the project will have "no effect" on state listed wading birds.

The **gopher tortoise** (*Gopherus polyphemus*) is listed by the FWC as threatened and is currently being considered for federal listing. Two potentially occupied gopher tortoise burrows were observed outside of the project ROW, approximately 15 feet from the ROW. No gopher tortoise individuals or burrows were identified within the project footprint during field surveys. Any gopher tortoises located within 25 feet of an impact area must be relocated according to FWC requirements. Exclusionary fencing can be utilized to deter tortoises located outside of and adjacent to the project area from entering the project area. The FDOT will adhere to state permitting/relocation regulations, conduct a resurvey prior to construction, and relocate gopher tortoises as needed to appropriate habitats; therefore it is anticipated that the project will have "no effect" on the gopher tortoise.

The **Florida mouse** (*Podomys floridanus*), **gopher frog** (*Lithobates capito*), and **Florida pine snake** (*Pituophis melanoleucus mugitus*) are listed as SSC's by the FWC. These species prefer unaltered, dry upland habitats but will also use improved pastures. None of these three species has been previously documented in the project area. The

Florida mouse and gopher frog are known to be commensal species with the gopher tortoise as they are often found in the burrows; the Florida pine snake will also utilize gopher tortoise and southeastern pocket gopher (*Geomys pinetis*) burrows. The gopher frog, Florida mouse, and Florida pine snake have not been documented within 14 miles of the project area. Because no gopher tortoise burrows were encountered in the project area during field surveys, it is anticipated that the project will have "no effect" on the Florida mouse, gopher frog, and Florida pine snake.

The **Sherman's fox squirrel** (*Sciurus niger shermani*) is listed as an SSC by the FWC. The habitat for this species includes pine forests which are limited within the project area. No Sherman's fox squirrels were observed during field surveys and no nests were identified. The nearest Sherman's fox squirrel observation, documented in 1988, occurred 2.1 miles east of the northern terminus of the project. It is anticipated that the project will have "no effect" on the Sherman's fox squirrel.

Several **state-listed plants** are known to occur in Polk County and potentially suitable habitat for several of these species occurs along the proposed corridor. **Garberia** (*Garberia heterophylla*), which is listed by the state as a threatened plant in the Preservation of Native Flora of Florida Act (*5B-40.0055*), was observed in habitat located approximately 40 feet outside of the ROW. If protected plant species are observed within the proposed impact areas during the pre- permitting phase and pre-construction surveys, coordination will be initiated with the FDACS and other appropriate organizations such as Bok Tower Gardens' Rare Plant Conservation Program to allow for relocation to adjacent habitat or other suitable protected lands, prior to construction. As a result, it is anticipated that the project will have "no effect" on state-listed plants.

Other Species

The **bald eagle** (*Haliaeetus leucocephalus*) is no longer listed by the USFWS or FWC but remains protected under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), as amended, the MBTA (16 U.S.C. 703-712), and Chapter 68A-16.002, F.S. One bald eagle was observed flying over the project area during field surveys. No bald eagle nests were observed within or adjacent to the project limits. The nearest bald eagle nest, nest ID PO204, is located 0.9 miles east of the project area and was last documented active in 2011. Because the FDOT will resurvey for bald eagle nests prior to construction, this project will be consistent with the BGEPA, MBTA,

and Chapter 68A-16.002 F.S.; it is anticipated that the project will have "no effect" on the bald eagle.

The **Florida black bear** (*Ursus americanus floridanus*) is no longer listed as a threatened species by the FWC. While it was removed from the state list in August 2012, it is protected under Florida Administrative Code 68A-4.009. The nearest nuisance bear reports from the FWC indicate black bear presence 9 miles from the project area in 2011. Field surveys conducted during this study did not detect signs of the Florida black bear and there is limited habitat for this species within and adjacent to the project corridor. No black bears have been historically documented in the project area. It is anticipated that the project will have "no effect" on the Florida black bear.

The FDOT will make the following commitments:

1. Eastern indigo snake: The standard FDOT Construction Precautions for the Eastern Indigo Snake will be adhered to during construction of the project (Appendix A).

2. Sand Skink: If Pond 1 becomes a preferred alternative, the FDOT will commit to a coverboard survey of this pond site before construction begins.

3. Florida sandhill crane: The FDOT will re-survey appropriate habitats for the Florida sandhill crane prior to permitting and construction of the project. Additionally, coordination with FWC will be initiated as appropriate.

4. Bald eagle: Given the possibility of new nests being identified by the FWC during yearly surveys, the FDOT will commit to resurveying the project area prior to construction. If any active nests within the 660-foot protection zone are identified, the FDOT will act in accordance with the BGEPA (16 U.S.C. 668-668d), as amended, the MBTA (16 U.S.C. 703-712) and Chapter 68A-16.002, FS.

5. Gopher tortoise: Due to the presence of gopher tortoise habitat within the project footprint and observed burrows adjacent to the existing roadway, a gopher tortoise survey in appropriate habitat within construction limits (including roadway footprint and stormwater management sites) will be performed prior to construction. The FDOT will secure any relocation permits needed for this species during the project design and construction phase of the project.

6. Protected plants: If protected plant species are observed within the proposed impact areas during the design and permitting phase, coordination will be

initiated with the FDACS or other appropriate agency to allow for relocation to adjacent habitat or other suitable protected lands, prior to construction.

In summary, the proposed project "may affect, but is not likely to adversely affect" the following federally-listed species:

- Audubon's crested caracara;
- Everglades snail kite;
- Florida scrub-jay;
- Wood stork;
- Eastern indigo snake;
- Sand skink and bluetail mole skink;
- Federally listed plants; and
- Perforate reindeer lichen.

The proposed project will have "no effect" on the following federally-listed species:

- Florida grasshopper sparrow; and
- Florida bonneted bat.

Based upon the assessment detailed in this report, ongoing agency coordination, and commitments made by the FDOT, the proposed project is not likely to adversely affect the existence of any threatened or endangered species though some are known or expected to occur in the project limits.

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1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate the proposed widening of State Road (SR) 33 from Old Combee Road to 1,500 feet north of Tomkow Road in Polk County, Florida, a distance of approximately 4.3 miles. The project is located within the following sections: Sections 10, 15, 21, 22, 28, 29, and 30, Township 27 South, Range 24 East. The project study area and project limits are illustrated in Figure 1. Project components include the development, evaluation, and documentation of detailed engineering and environmental studies with services including data collection, corridor analyses, conceptual design analyses, environmental analyses, and project documentation.

The goal of the US 33 PD&E Study is to develop a proposed “best-fit” improvement strategy that is technically sound, environmentally practicable, and publicly acceptable with minimal community impacts. The recommended improvements will be developed to provide adequate travel capacity and mobility to serve the growing demands in the corridor.

This Endangered Species Biological Assessment (ESBA) has been prepared to aid in determining the type, design, and location of improvements to the existing facility. This report:

- Documents the current environmental conditions of the project corridor;
- Evaluates the project area’s current potential to support species listed as endangered, threatened, or of special concern as determined by the United States Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), and the Florida Department of Agriculture and Consumer Services (FDACS);
- Documents potential impacts to wildlife, habitat, or listed species that may be associated with project development;
- Identifies current permitting and regulatory agency coordination requirements for the project;
- Requests comments from regulatory agencies with jurisdiction over the study;

- Serves as an additional tool to enable the FDOT to make decisions for the future development of the study corridor.

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2.0 PROJECT PURPOSE AND NEED

The purpose of the US 33 PD&E Study is to develop a proposed “best-fit” improvement strategy that is technically sound, environmentally practicable, and publicly acceptable with minimal community impacts. The need to widen SR 33 from two to four lanes within the project limits is based on several factors. First, SR 33 serves as a primary north-south connection between Lakeland and Interstate 4 (I-4). The project will improve the functional viability of SR 33 as a local and regional travel alternative to I-4. SR 33 provides connectivity to University Boulevard which serves the planned Williams DRI, Polk Commerce Center DRI and the future Florida Polytechnic University campus. University Boulevard and SR 33 will serve as the most direct link between these new residential and commercial centers and north and central Lakeland. This project provides increased capacity along SR 33 to meet the projected future travel demand.

Improvements to the SR 33 interchange with I-4 are also required. Currently, I-4 crosses over SR 33 with two parallel, three lane bridges. There are deficiencies with the existing interchange. First, the existing vertical clearance over SR 33 does not meet the minimum required 16.50 feet of clearance and is as low as 14.75 feet. Maintaining this substandard vertical clearance would require the approval of a design exception which will not be approved by the Federal Highway Administration. Second, the pier footings have less than the minimum required depth of cover of three feet with cover depths as shallow as 1.892 feet. The horizontal clearance between the center pier and the intermediate piers will not accommodate the future four lane roadway. Finally, the existing k-values for the crest and sag vertical curves on I-4 approaching SR 33 are appropriate for 55 mph and 60 mph design speeds, not for the 70 mph design speed required for the interstate.

3.0 PROJECT ALTERNATIVES

The objective of the alternative analysis process is to identify technically and environmentally sound alternatives which provide a safe transportation facility that meet the purpose and needs of the project, are acceptable to the community, minimize impacts on the environment, and are cost effective. The process results in the selection of a Preferred Alternative, which can be advanced to the design phase. This section summarizes the alternatives considered in this PD&E Study.

In conducting the alternatives analysis, a broad range of typical section and alignment alternatives were first identified to meet the identified capacity needs. These alternatives were developed with consideration of future traffic needs and through input from the public, input from local governments and from standard engineering practice, including compliance with requirements of the Americans with Disabilities Act (ADA).

3.1 CORRIDOR ANALYSIS

The objective of the corridor analysis process is to identify viable corridors in which technically and environmentally sound alignment alternatives can be developed. Constructing a new roadway in a corridor outside of the existing SR 33 corridor would result in significant environmental impacts, relocations, and an overall cost that would be prohibitive. Based on the analysis of the study area, the existing SR 33 corridor is the only viable corridor for the proposed improvements.

3.2 NO-BUILD ALTERNATIVE

The No-Build Alternative assumes that the two main existing lanes would remain on SR 33 from Old Combee Road to north of Tomkow Road through the design year 2036.

Certain advantages would be associated with the implementation of the No-Build Alternative, including:

- No design or construction costs;
- No inconvenience to the traveling public and property owners during construction;
- No impacts to utilities; and
- Reduced impacts to the adjacent natural, physical and human environment.

The potential disadvantages of the No-Build Alternative include:

- Increase in traffic congestion and user costs due to increased travel times;
- Increase in crash potential due to congestion;
- Incompatibility with the future goals of Polk County;

- Increase in emergency vehicle response time; and
- Increase in vehicle emission pollutants due to increased traffic congestion.

The No-Build Alternative will remain under consideration throughout the alternatives analysis and evaluation process.

3.3 TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE

Transportation Systems Management and Operations (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 SR 33 in the design year cannot be provided solely through the implementation of TSMO improvements. However, the TSMO strategy of access management is included as part of the build alternatives for the corridor.

3.4 MULTIMODAL ALTERNATIVES

Based on the projected traffic demand, there are no stand-alone multimodal alternatives that would meet the purpose and need for the project. However, multi-modal accommodations have been coordinated with this project. Lakeland Area Mass Transit District's Citrus Connection Route 3 includes a portion of SR 33 up to Old Combee Road. The segment of SR 33 from Old Combee Road to University Boulevard is identified as a Long Term Potential Transit Oriented Corridor in the City of Lakeland's Comprehensive Plan.

As part of the proposed roadway improvements, pedestrians and bicyclists will be accommodated through the area. Currently, no bicycle lanes or sidewalks exist on SR 33 within the project limits. All build alternatives will provide a continuous five-foot sidewalk on the west side of the road through the project limits and on the east side of the road from University Boulevard to north of Tomkow Road. A ten-foot multi-use path would be provided along the east side of SR 33 from the beginning of the project to University Boulevard where it would connect to the multi-use path along University Boulevard. Pedestrian features will be designed and constructed in accordance with applicable accessibility standards. All build alternatives considered for this project will provide bicycle accommodations.

3.5 MAINLINE BUILD ALTERNATIVES

Two mainline alignment alternatives, both with the same roadway typical section, were developed to meet the needs of this project and were evaluated. The mainline is composed of Segment 1 (SR 33 from Old Combee Road to the eastbound ramps of the I-4 interchange) and Segment 2 (SR 33 from the westbound I-4 ramps to north of Tomkow Road).

3.5.1 Alternative 1-Pavement Savings

Alternative 1 is a concept to save the existing roadway to serve as half of the future four lane roadway. The roadway typical section is a suburban typical section that would include two 12-foot travel lanes in each direction separated by a 30-foot median. The proposed improvements also include a four-foot inside paved shoulder and a five-foot outside paved shoulder in each direction. An open drainage system will collect stormwater runoff and convey it to off-site stormwater management sites and/or linear ditches. A 10-foot-wide multi-use path is proposed along the south side of the road between Old Combee Road and University Boulevard. A five-foot sidewalk is planned along the north side of the road throughout the project limits and along the south side of the road from University Boulevard to north of Tomkow Road. This typical section can be constructed within the existing 200 feet of right-of-way (ROW). The design speed for this typical section is 55 miles per hour (mph). This typical section is illustrated in Appendix A.

3.5.2 Alternative 2-Full Reconstruction

Alternative 2 includes full reconstruction of the roadway. The roadway typical section is a suburban typical section that would include two 12-foot travel lanes in each direction separated by a 30-foot median. The proposed improvements also include a four-foot inside paved shoulder and a five-foot outside paved shoulder in each direction. An open drainage system will collect stormwater runoff and convey it to off-site stormwater management sites and/or linear ditches. A 10-foot-wide multi-use path is proposed along the south side of the road between Old Combee Road and University Boulevard. A five-foot sidewalk is planned along the north side of the road throughout the project limits and along the south side of the road from University Boulevard to north of Tomkow Road. This typical section can be constructed within the existing 200 feet of ROW. The design speed for this typical section is 55 mph. This typical section is illustrated in Appendix A.

3.5.3 Interchange Build Alternatives

Segment 2 is composed of the mainline build alternative and also includes two interchange build alternatives for the SR 33 project: a diamond and diverging diamond at the SR 33 / I-4 interchange. Two variations of these interchange configurations were also considered. These include the use of retaining walls or grading to the natural ground elevation. These variations result in four interchange build alternatives proposed for the SR 33 project: Diverging Diamond with Retaining Walls, Diamond with Retaining Walls, Diverging Diamond without Retaining Walls, and Diamond without Retaining Walls. The use of retaining walls will allow both the diamond and diverging diamond configurations to remain within the existing limited access ROW. If no retaining walls are utilized, along the proposed on-ramps, additional ROW will be required.

4.0 EXISTING ENVIRONMENTAL CHARACTERISTICS

4.1 LAND USE

Land use was reviewed within approximately 500 feet of the project limits. Within and immediately adjacent to the project footprint, habitats were field verified and classified according to the Southwest Florida Water Management District's (SWFWMD) Florida Land Use, Cover and Forms Classification System (FLUCFCS). Figure 2 depicts the field verified land use and land cover classifications within 500 feet of the proposed project and Table 1 provides a summary of the land cover/land use types.

In order of occurrence, the most prevalent land use / land covers within 500 feet of the existing roadway are: Urban and Built-Up (Series 1000 ~ 40%), Wetlands (Series 6000 ~ 18%), and Transportation, Communication, and Utilities (Series 8000 ~ 15%). These FLUCFCS series account for approximately 73% of the land use within 500 feet of the existing roadway.

A more detailed breakdown of the land use / land cover types was then conducted. The major land use / land cover classifications within 500 feet of the ROW, in order of frequency, include: Residential, Medium Density (FLUCFCS 1200 ~ 14%), Transportation (FLUCFCS 8100 ~ 13%), Stream and Lake Swamps (Bottomland) (FLUCFCS 6150 ~ 9%), Open Land (FLUCFCS 1900 ~ 7%), Cropland and Pastureland (FLUCFCS 2100 ~ 7%), Reservoirs (FLUCFCS 5300 ~ 6%), Industrial (FLUCFCS 1500 ~ 6%), Commercial and Services (FLUCFCS 1400 ~ 4%), Extractive (FLUCFCS 1600 ~ 4%), Shrub and Brushland (FLUCFCS 3200 ~ 4%), Disturbed Land (FLUCFCS 7400 ~ 4%), and Freshwater Marshes (FLUCFCS 6410 ~ 3%). These categories account for approximately 81% of the land use / land cover within 500 feet of the ROW.

The southern and western portion of the ROW (approximately from Sunset Way to Huron Way) has been heavily damaged by off-road vehicles. These areas are largely open sand with little to no vegetation due to the disturbance and provide little value to wildlife. Otherwise, these areas may be deemed to provide suitable habitat for wildlife such as the sand skink (*Neoseps reynoldsi*), bluetail mole skink (*Eumeces egregius lividus*), and gopher tortoise (*Gopherus polyphemus*).

4.2 NATURAL AND BIOLOGICAL FEATURES

Following completion of FLUCFCS ground-truthing efforts, natural upland and wetland communities identified within the project study corridor were evaluated. This evaluation

consisted of detailed field verifications to characterize the predominant floral communities typical of each habitat type.

4.2.1 Floral Communities and Listed Species Components

This section includes a brief description of the major floral communities within each land use type in the project corridor. A description of protected wildlife known to inhabit each floral community/land use type is also included where applicable.

Rural Land in Transition (FLUCFCS 7410)

Rural Land in Transition has no clear indicator of intended activity. Lands are disturbed by human activity other than mining. There are high proportions of non-native and/or invasive species making these areas not preferred habitat for many native wildlife species.

Shrub and Brushland (FLUCFCS 3200)

This category includes saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), wax myrtle (*Myrica cerifera*), coastal scrub and other shrubs and brush. Generally, saw palmetto is the most prevalent plant cover intermixed with a wide variety of other woody scrub plant species as well as various types of short herbs and grasses.

State and/or federally listed species that are known to use shrub and brushlands in this part of Florida include: the gopher tortoise and associated commensal species, the eastern indigo snake (*Drymarchon corais couperi*), and the Florida scrub-jay (*Aphelocoma coerulescens*).

Improved Pastures (FLUCFCS 2110)

Improved Pastures are uplands predominantly composed of low growing grasses and forbs. Pastures are typically cleared, tilled, and seeded with specific grass types, such as bahia grass (*Paspalum notatum*), resulting in large areas composed of non-native plant species. Maintenance of pasture includes application of fertilizer and also brush control such as prescribed burning and roller chopping.

State or federally listed species that are known to use improved pastures in this part of Florida include Florida sandhill crane (*Grus canadensis pratensis*), southeastern American kestrel (*Falco sparverius paulus*), and Audubon's crested caracara (*Polyborus plancus audubonii*). Other species which could possibly utilize grazed pasture include

the gopher tortoise and associated commensal species, Florida burrowing owl (*Athene cunicularia floridana*), eastern indigo snake, sand skink and bluetail mole skink.

Streams and Waterways (FLUCFCS 5100)

Streams and Waterways are inundated year-round. Highly water tolerant plants such as red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), willows (*Salix* spp.), tupelos (*Nyssa sp.*), and buttonbush (*Cephalanthus occidentalis*) can be found along the fringes of these water systems. Listed species that are known to use stream and lake swamps are wood storks (*Mycteria americana*) and other wetland dependent wading bird species of special concern.

Freshwater Marshes (FLUCFCS 6410)

Freshwater Marshes are dominated by hydrophilic herbaceous species such as arrowhead (*Sagittaria sp.*), cattail (*Typha sp.*), maidencane (*Panicum hemitomon*), buttonbush, cordgrass (*Spartina sp.*), soft rush (*Juncus effuses*) and other plant species in this area of Florida. Water levels vary throughout the year and marshes may be entirely dry outside of the rainy season. Marshes may contain aquatic fauna including insects, insect larvae, and small invertebrates depending on the season. State and/or federally listed species which depend on freshwater marshes include wood storks and wading birds.

Reservoirs, Larger Than 10 Acres (FLUCFCS 5330)

Reservoirs are artificial impoundments of water which may host emergent and submerged aquatic vegetation within the reservoir and other highly water-tolerant species along the fringes. The wood stork and wading birds may forage along the shallow edge of a reservoir. Additionally, bald eagles (*Haliaeetus leucocephalus*), and ospreys (*Pandion haliaetus*) may also be found foraging in large reservoirs containing fish.

Upland Scrub, Pine and Hardwoods (FLUCFCS 4360)

These areas are well-drained and host a wide variety of upland plant species making them suitable habitat to a wide variety of upland wildlife. Federally and/or state listed species which may occur in Upland Scrub, Pine and Hardwoods include: the Florida scrub-jay, Sherman's fox squirrel (*Sciurus niger shermani*), gopher tortoise and its associated commensal species, eastern indigo snake, sand skink and bluetail mole skink.

4.2.2 Wetland Communities

The identification of jurisdictional wetlands within the project study corridor, including wetland size, type, ecological condition, and potential for impact is further detailed in the Wetland Evaluation Report (WER), prepared as part of this PD&E study. The approximate extent and classification of potential wetland areas noted in this ESBA document are estimates based on field verified FLUCFCS mapping only.

4.2.3 Public Lands and Conservation Areas

The Florida Ecological Greenways Network (FEGN) model delineates the ecological component of a Statewide Greenways System plan. The model is used as a main data source for identifying the most significant and intact landscapes for conservation. The project is a collaboration of many groups including the Florida Greenways Commission, the Florida Greenways Coordinating Council (FGCC), the Department of Environmental Protection's (DEP) Office of Greenways and Trails (OGT), the Florida Greenways and Trails Council (FGTC) and several departments within the University of Florida. The plan identifies opportunities to functionally connect major existing public and private conservation lands across the state to maintain a contiguous network of wildlife habitat between existing public lands. Additionally, the plan guides land acquisition and conservation efforts, and promotes public awareness of the need for and benefits of a statewide ecological network.

The FEGN is prioritized by assigning individual corridors to two critical linkage classes (Critical Linkages 1 and Critical Linkages 2) or one of six priority classes, based on contribution to the statewide ecological network. The highest priorities identified are areas most suitable for facilitating functional ecological connectivity collectively from the Everglades in south Florida, north and west to the tip of the Florida panhandle. The top two priorities are called Critical Linkages, which are considered most important for implementing the FEGN while also being the most threatened by future urban or suburban development. The six priority classes fall in line behind the Critical Linkage classes and include: 1 (highest value; remaining areas of Priority 1 that are not included in Critical Linkages 1); 2 (remaining areas of Priority 2 not included in Critical Linkages 2); 3 (provide significant alternate routes to higher priority linkages); 4 (provide important riparian corridors within Florida and to other states); 5 (represent other regionally significant opportunities to protect large intact landscapes); and 6 (lowest value; all other areas of large intact landscapes that support protection of a statewide ecological network).

It is important to note that the FEGN data is suitable for state and regional planning purposes. The metadata for the model includes the following statement: The data is "… not appropriate for use in high accuracy mapping applications such as property parcel boundaries, local government comprehensive plans, zoning, DRI, site plans, environmental resource or other agency permitting, wetland delineations, or other uses requiring more specific and ground survey quality data".

The majority of the SR 33 project area is within the FEGN and is designated as Priority 3. The date this area was assigned as Priority 3 is unknown, but the GIS data layer used to determine the priority status was created in 2008 from a variety of sources collected over a number of years. The Priority 3 designation occurred before the nearby and ongoing 4-lane University Boulevard construction. Most of the land included is not intact and does not contain native habitat. The nearby areas that are considered high quality native habitat are currently conservation lands. Scheda inquired with the Florida Department of Environmental Protection and the University of Florida, but were unable to determine if the proposed construction will result in a change in the FEGN priority status for the project area.

The Tenoroc Fish Management Area is located directly south and southeast of the project site. This conservation area was previously phosphate mining lands which have been converted to a series of lakes managed for recreation. Activities at the Tenoroc Fish Management Area include fishing, hiking, equestrian, primitive camping, and shooting. High levels of toxins were identified in this area in 2002, and further investigation has been recommended by the Environmental Protection Agency (EPA).

The Hilochee Wildlife Management Area is located to the northeast of the northern project terminus. Natural communities at this site are highly disturbed upland (primarily pastures, former pine plantations and former citrus groves) and wetland parcels interspersed with some high quality natural communities. Activities at the Hilochee Wildlife Management Area include hunting, bird viewing, and hiking. Conservation lands and critical linkages are depicted in Figure 3.

5.0 METHODOLOGY

This project was evaluated for impacts to wildlife and habitat resources, including protected species in accordance with 50 CFR Part 402 the Endangered Species Act of 1973, as amended, 50 CFR 17 federal animal list, 50 CFR 23 federal plant list, 379.2291 FS, Endangered and Threatened Species Act, Chapter 68A-27.003 FAC (Endangered species list), 68A-27.004 FAC (Threatened species list), 68A-27.005 FAC (Species of Special Concern list), and Part 2 Chapter 27 of the FDOT Project Development and Environment (PD&E) Manual: Wildlife and Habitat Impacts.

5.1 PRELIMINARY DATA COLLECTION

Literature reviews, agency database searches and coordination, and preliminary field reviews of potential habitat areas were conducted to identify state and federally protected species and/or critical habitat occurring or potentially occurring within the project area. Information sources and databases examined during the preparation of this document include the following:

- USFWS Geographic Information System (GIS) data including Consultation Areas (CAs), Critical Habitat, and other protection zones, the Breeding Atlas of Herons and Their Allies;
- FDOT Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST);
- Florida Natural Areas Inventory (FNAI);
- FWC GIS data including the Eagle Nest Locator, Florida black bear mortality and nuisance report data;
- Florida Geographic Data Library (FGDL);
- SWFWMD 2009 Florida Land Use, Cover and Forms Classification System (FLUCFCS) data;
- USFWS National Wetlands Inventory (NWI);
- National Resource Conservation Service (NRCS) Polk County Soil Survey; and
- Aerial photographs from the Florida Department of Revenue (FDOR) 2011.

Current aerial photographs (FDOR 2011) in conjunction with land use (SWFWMD) and wetland data (NWI) were reviewed to determine habitat types occurring within and adjacent to the project corridor.

Following the literature/database search and preliminary field verification, lists of potentially occurring protected faunal (Table 2) and floral species (Table 3) were developed for the project area. The potential for occurrence of listed species within the proposed project was determined by reviewing federal and state lists, vegetative communities present, and surrounding land uses. The probability of each faunal species occurring within the proposed project was ranked based on the following: 1) no habitat available, 2) low, 3) moderate, and 4) high (Table 2). The ranking of “no habitat available” indicates that not even marginal or suboptimal habitat exists within the proposed project and that the species was not identified during field reviews. The ranking of “low” indicates that marginally suitable habitat may exist within the proposed project but the species was not observed. The ranking of “moderate” indicates that suitable habitat may exist within the proposed project; however, the species was not observed. The ranking of “high” indicates that suitable habitat may exist within the proposed project and the species was observed during field reviews. Previously-documented species presence in the project corridor was considered in the ranking if suitable habitat currently exists in the locations of the species records.

5.2 DETERMINATION OF SURVEY METHODOLOGY

Project scientists conducted general wildlife field reviews during the months of October 2012 and March, April, and May 2013. These survey times were selected to coincide with species-specific survey seasons for the Florida scrub-jay (March through October, with the best months identified as March, July, September, and October by the USFWS) and the sand skink/bluetail mole skink (March 1 through May 15 for coverboard surveys, and October and November for pedestrian surveys). Additional surveys for listed and protected species will be conducted as needed and prior to finalization of the environmental permits. Using meandering pedestrian and vehicular transects, appropriate habitat in and immediately adjacent to the project area was visually scanned for evidence of listed species as well as general wildlife. Most natural areas (rangeland, upland forests, scrub, and wetlands) and some disturbed areas (improved pastures, transitional lands, and roadsides damaged by off-road vehicles) were considered to be appropriate wildlife habitat. In addition, based on the results of database searches and preliminary field reviews, field survey methods for specific habitat types and a list of target species were developed.

Species-specific surveys were conducted for the Florida scrub-jay and the sand skink/bluetail mole skink. These surveys were deemed necessary based on historical records documenting these species (although historical sightings for all three species occurred greater than eight miles from the project area), suitable habitat within the project area, and the anticipation that there could be a "may affect" determination for these species from USFWS.

No optimal Florida scrub-jay habitat is present within the project footprint, as optimal habitat consists of low growing, scattered scrub canopy species with patches of bare sandy soil. However, one parcel immediately adjacent to the project footprint with greater than 15 percent cover of scrub oak species, Type I scrub, was identified. All other potential scrub-jay habitat areas identified within the project corridor consist of overgrown pine and hardwood forest parcels that lack scrub soils. However, because the Florida scrub-jay is known to utilize suboptimal habitats, a species-specific survey was conducted on seven mornings between March 1 and October 31 (October 9 and 15, 2012; March 7, 22, 26, and 27, 2013; and April 15, 2013) pursuant to USFWS protocol (minimum of five days). Survey stations were established at appropriate locations along the corridor (Figure 5). Field data sheets are included in Appendix C.

There are two options to complete formal Section 7 Consultation for the sand skink and the bluetail mole skink where the project is located within the CA for the sand skink and there are adequate elevations and soil types present (as per the 2012 USFWS skink survey protocol). The first is to assume presence of the species within the project area, in which case the FDOT will commit to appropriate mitigation measures, which will be further defined through survey in accordance with the guidelines and refined establishment of impacts during the project design phase. The second option is to follow a series of field surveys to be able to presume absence. A first step with this second option is to conduct pedestrian surveys prior to a labor-intensive cover board survey; these surveys alone may detect the presence of skinks. If the species are detected during the pedestrian transect survey and the applicant deems it reasonable to expect that the species occur throughout the proposed project footprint, the applicant may choose to assume presence and not conduct a cover board survey. Based on the USFWS protocol, reasonable expectation of presence is based on a project's location within the sand skink and bluetail mole skink CA, appropriate soils (20 types identified), and appropriate elevation (82 feet above sea level or higher). Unless within developed areas with impenetrable soils (e.g. paved areas, fill material, stabilized slopes), this guidance does not consider land use type, anthropogenic activity impact, adjacent habitats or lack thereof, or size of habitat parcels.

Pedestrian surveys were conducted on October 9 and 15, 2012 as well as March 5 and 7, 2013. Sand skink tracks were not observed during pedestrian surveys; therefore, a cover board survey was conducted. Cover boards were installed on April 9 and 10, 2013. They were subsequently checked for sand skink tracks on April 18 and 25, and May 2 and 9, 2013 (Figure 6A, Figure 6B, Appendix F). No evidence of sand skinks was found during the cover board survey, and boards were removed from the project site on May 9, 2013.

5.3 AGENCY COORDINATION

This project was logged into the FDOT ETDM programming screening website for Environmental Technical Advisory Team (ETAT) comments on August 10, 2011. The Advanced Notification (AN) package was published on April 14, 2011. Agency coordination continued throughout the PD&E study through an FDOT representative, and specific issues were addressed, as needed. A copy of the agency comments is provided in Appendix B.

ETDM comments logged by the USFWS indicated that the federal species with the greatest likelihood of presence in the project corridor, based on known records, include the wood stork, Florida scrub-jay, and eastern indigo snake. The FWC noted the following state-listed wildlife species may occur along the project area based on range and preferred habitat type: gopher frog (*Lithobates capito*), gopher tortoise, eastern indigo snake, Florida pine snake (*Pituophis melanoleucus mugitus)*, American alligator (*Alligator mississippiensis*) (no longer state listed in Polk County), limpkin (*Aramus guarana*), snowy egret (*Egretta thula*), little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*), Florida sandhill crane, wood stork, burrowing owl, Audubon's crested caracara, southeastern American kestrel, Sherman's fox squirrel, and Florida mouse (*Podomys floridanus*).

6.0 RESULTS

6.1 GENERAL CORRIDOR SURVEYS

Based on the findings obtained during the corridor survey efforts, one federally listed faunal species, two state-listed faunal species, and one state-listed floral species were observed within or adjacent to the project corridor. A total of 24 listed faunal species, 33 listed floral species, and one lichen species were either reported to occur within close proximity of the project corridor based on database and literature research, have USFWS CAs that overlap the project boundary, or have the potential to occur based upon existing habitat (Tables 2 and 3). All wildlife or signs of wildlife for listed or non-listed species are shown in Table 4. Figure 4 shows the approximate location of protected species observations or previously documented occurrences within the project area.

The following is a brief discussion of protected species that are either known to occur in the project area or for which there is a special concern identified in the project area. Species discussed include the wood stork, Florida scrub-jay, Audubon's crested caracara, Everglades snail kite (*Rostrhamus sociabilis*), Florida grasshopper sparrow (*Ammodramus savannarum floridanus*), sand skink, bluetail mole skink, eastern indigo snake, state listed wetland dependent wading birds, Florida sandhill crane, gopher tortoise, gopher frog, Florida mouse, Florida pine snake, Sherman's fox squirrel, Florida black bear (*Ursus americanus floridanus*), Florida burrowing owl, bald eagle, federally listed plants, and one lichen species.

6.2 FEDERALLY LISTED SPECIES

6.2.1 Audubon's Crested Caracara

The Audubon's crested caracara is listed as threatened by the USFWS. In Florida, the caracara historically occupied native dry prairies with some wet areas and scattered cabbage palms (*Sabal palmetto*), but fire suppression has caused widespread conversion of prairies to open brushland. Currently, the majority of Florida's caracara population inhabits large cattle ranches with improved pastures and scattered cabbage palms. Caracaras also occur in some improved pasturelands and even in lightly wooded areas with limited stretches of open grassland. Within these habitats, caracaras exhibit a propensity for nesting

in cabbage palms, followed by live oaks (*Quercus virginiana*).

The entire project is located within the CA for the Audubon's crested caracara. The nearest crested caracara observation occurred 27 miles northeast of the project area in 2002. The majority of surrounding land use is residential and commercial; no cabbage palms exist within the project limits, but are found in minor quantities outside of the project footprint. During the numerous field visits in March and April, prime species survey months, no individuals were observed flying overhead, foraging or perching in the project area. Because there is limited suboptimal habitat, no individuals were observed during general wildlife surveys and no historic sightings occurred in the project area, and the USFWS caracara survey protocol was not undertaken, it is anticipated that the project "may affect, but is not likely to adversely affect" the Audubon's crested caracara.

6.2.2 Everglades Snail Kite

The Everglades snail kite is listed as endangered by the USFWS. The entire project is located within the CA for the Everglades snail kite. The nearest Everglades snail kite observation occurred 23 miles south of the project area in 1988.

Optimal snail kite habitat consists of freshwater marshes and the shallow vegetated edges of lakes. Snail kites forage in clear and open areas where apple snails can be found. The primary threat to the snail kite is the degradation of wetlands in central and south Florida. Because loss of wetlands will be mitigated for pursuant to Part IV, Chapter 373, F.S. and U.S.C. 1344, plus no individuals were observed during general wildlife surveys and historic sightings of this species have not been documented in the project area, it is anticipated that the project "may affect, but is not likely to adversely affect" the Everglades snail kite.

6.2.3 Florida Grasshopper Sparrow

The Florida grasshopper sparrow is listed as endangered by the USFWS. The nearest recorded Florida grasshopper sparrow observation was 50 miles to the southeast of the project in 1994. Optimal habitat for the species consists of large treeless, poorly-drained grasslands that have a history of fire. The

greatest threat to the species is habitat loss and degradation associated with the conversion of prairies to improved pastures and agriculture. The entire project is located within the CA for the species. No suitable habitat was identified within the project area, field surveys did not detect any individuals, and no individuals have been historically documented in the project area. Because no evidence of the Florida grasshopper sparrow was detected and no suitable habitat for this species exists within and adjacent to the proposed project area, it is anticipated that the project will have "no effect" on the Florida grasshopper sparrow.

6.2.4 Florida Scrub-Jay

The Florida scrub-jay is listed as threatened by the USFWS. The entire project is located within the USFWS Florida scrub-jay CA. Optimal Florida scrub-jay habitat consists of low growing, scattered scrub canopy species with patches of bare sandy soil such as those found in sand pine scrub, xeric oak scrub, scrubby flatwoods, and scrubby coastal strand habitats. In areas where these types of habitats are unavailable, Florida scrub-jays may be found in less optimal habitats such as pine flatwoods with scattered oaks or citrus orchards.

Potential Florida scrub-jay habitat was identified within the project area (Figure 5). The nearest recorded Florida scrub-jay observation was 11 miles to the northwest of the project site (date unknown; dataset infers it was prior to 2003). Field surveys were conducted on October 9 and 15, 2012, March 7, 22, 26, 27, and April 15, 2013 using a Florida scrub-jay call-back tape at 16 stations within 7 identified areas of potential scrub-jay habitat (Figure 5). With the exception of one, high-quality, Type I scrub, habitat area located north of SR 33 and east of Lake Luther Road, the other areas were considered suboptimal. No individuals were observed or heard during call-back surveys (Table 5). Datasheets are located in Appendix C. Because no evidence of the Florida scrub-jay was detected within the project limits and no historic sightings of this species were documented near the project area, but limited suitable habitat exists and the project is in the USFWS CA for the species, it is anticipated that the project "may affect, but is not likely to adversely affect" the Florida scrub-jay.

6.2.5 Wood Stork

The wood stork is listed as endangered by the USFWS. This wading bird is opportunistic, utilizing various marsh habitats, open hydric pine-cypress habitats and man-made wetlands (i.e., ditches, canals, storm water ponds, and seasonally flooded roadside areas). The closest documented wood stork nesting colony, Lone Palm (no assigned colony number) is located approximately 5.7 miles southwest of the project study area. The USFWS identifies an 18.6-mile radius core foraging area (CFA) surrounding each wood stork nesting colony in south Florida and a 15-mile radius CFA surrounding each wood stork nesting colony in central Florida. This project is located within the USFWS South Florida Ecological Service Area. The project overlaps with the CFAs of six total wood stork nesting colonies: Colony No. 611024 (Little Gator Creek), Lone Palm (no associated colony number), Colony No. 612316 (Lake John), Colony No. 616117 (no assigned name), Colony No. 616114 (no assigned name), and Northeast Mulberry (no assigned colony number).

A few individuals were observed flying over the project area during field surveys in October, March, and April. The wetlands and surface waters within the project ROW may provide a prey base for the wood stork; however, any wetland impacts will be offset by wetland mitigation within the CFA's which overlap the project area. Also, if off-site stormwater management facilities (SMF) are utilized, the littoral areas within these SMF's could provide potential wood stork foraging habitat and help offset wood stork foraging biomass lost due to proposed construction. In addition, the wood stork is highly mobile and the adjacent colonies whose CFAs include the project area would not be solely dependent on any of the potential foraging areas affected by the project. Finally, no breeding colony habitat for the wood stork will be impacted.

Polk County is located within the jurisdictional region of the USFWS South Florida Ecological Services Office. Within this south Florida region, the USFWS requires the calculation of a wood stork biomass foraging assessment when wetland and surface water impacts exceed five acres. This ensures type-for-type wetland compensation for loss of wood stork foraging habitat for these projects. For some projects, this compensation requirement for the wood stork may exceed what is required for typical wetland mitigation as per Part IV, Chapter 373, F.S. and 33 U.S.C.s, 1344. Specifically, suitable foraging habitat must be compensated for 1) in accordance with the Clean Water Act Section 404(b)(1) guidelines; 2) within the appropriate wood stork CFA or

service area of an approved mitigation bank; and 3) habitat compensation must replace foraging value, consisting of wetland enhancement or restoration matching the hydroperiod of the wetlands affected, and provide foraging value similar to or higher than that of impacted wetlands (USFWS; May 18, 2010 programmatic concurrence letter).

Table 6 summarizes wetland impacts for each alternative and the resulting wood stork foraging biomass loss. The wood stork foraging habitat datasheets are included in Appendix D. In summary, anticipated wetland impacts for the project (Segment 1 and Segment 2 combined) range from 14.93 acres to 17.00 acres, anticipated surface water impact ranges from 10.55 acres to 12.19 acres, and biomass loss ranges from 40.80 kg to 45.08 kg, depending on the overall, selected design alternative. Some wood stork foraging habitat will be created in the project area. The final design, if offsite ponds will be utilized, will result in the construction of six new offsite stormwater management sites totaling 19.45 acres. Of this area, 0.90 acres consists of pond littoral zone which is usable foraging habitat for the wood stork. The littoral areas would be considered having a short-term hydroperiod and are anticipated to create 1.56 kilograms of wood stork foraging biomass. Additionally, mitigation for the loss of wetlands and wood stork foraging habitat will be provided via a private mitigation bank permitted by both the SWFWMD and USACE to satisfy all mitigation requirements of Part IV, Chapter 373 FS, and United States Code (U.S.C.) 1344. The project area is located within the Withlacoochee River Basin and there are two wetland mitigation banks within this basin: the Green Swamp Mitigation Bank and the Withlacoochee Wetland Mitigation Bank. The specific mitigation bank will be selected post-design following a competitive bid process and pending federal approval. The wetland mitigation which will be provided for this project is expected to comply with the three conditions listed above. Therefore, it is anticipated that this project "<u>may affect, but is not likely to adversely affect</u>" the wood stork.

6.2.6 <u>Eastern Indigo Snake</u>

The eastern indigo snake is listed by the USFWS as threatened. The species inhabits a wide variety of habitats present within the project corridor, including pine flatwoods, hardwood forests, forested wetlands, as well as wet and dry prairies. The nearest recorded eastern indigo snake observation was 8 miles to the southeast of the project in 1989. No individuals were observed during general wildlife surveys. The FDOT will commit to

implementing the standard FDOT Construction Precautions for the eastern indigo snake (Appendix E). Because the land adjacent to the project is dominated by improved pastures which are not ideal habitat for the eastern indigo snake and no individuals were observed or have been historically recorded near the project, and FDOT construction precautions will be implemented, it is anticipated that this project "may affect, but is not likely to adversely affect" the eastern indigo snake.

6.2.7 Sand Skink and Bluetail Mole Skink

The sand skink and bluetail mole skink are listed by the USFWS as threatened. The project is located within the sand skink and bluetail mole skink CA, which includes a seven-county region in central Florida. The nearest recorded sand skink observation was 9.3 miles to the southeast of the project in 1983. Reptile research and incidental observations to date indicate bluetail mole skinks typically occur in similar geographic areas with sand skinks, but partition resources thereby avoiding competition. Only sand skinks leave visible signs, or tracks, on sandy soil surfaces. Therefore, sand skink occurrence is used as an indicator of bluetail mole skink occurrence where the two species overlap in distribution. Bluetail mole skink genetic studies indicate that conservation actions for sand skinks will also likely benefit bluetail mole skinks.

Optimal skink habitat consists of loose sand with large patches of sparse to no groundcover and can be found in rosemary scrub, sand pine and oak scrub, scrubby flatwoods, turkey oak ridges within scrub, and along the edges of citrus groves occupying former scrub. Pursuant to the USFWS 2012 survey protocol, potential skink habitat consists of areas located within the CA, within appropriate xeric soils (20 soil types documented in USFWS 2012 protocol), and within elevations of 82 feet and higher above sea level. Potential habitat was identified within the project area. USFWS designated sand skink soils found in the project area include Tavares, St. Lucie, Pomello, and Candler.

Per USFWS standards, visual pedestrian surveys were conducted in all areas with appropriate soil types and elevations on October 9 and 15, 2012 and March 5 and 7, 2013. No sand skink tracks or sand skinks were observed during pedestrian surveys; therefore, a cover board survey was implemented. The cover board survey sites were initially selected using GIS and were based on appropriate soil types, USFWS CA, and elevations within the SR 33 project limits. Some locations were then identified in the field to be active construction sites, areas recently leveled and planted with sod, and dry

swale conveyance features that flood during the rainy season. These areas were subsequently excluded from the cover board survey. Figure 6a depicts the locations of the suitable sand skink survey areas, following this field investigation. One potential skink habitat area, specifically within Pond 1 (Figure 6B), was not surveyed with cover boards as site design occurred after the cover board survey window. However, the entire area in which the stormwater management site is located was examined via pedestrian transects in October 2012 and March and April of 2013. No evidence of skinks was noted. If Pond 1 becomes a preferred pond, the FDOT will commit to a coverboard survey before construction begins.

Cover boards were installed on April 9 and 10, 2013 and subsequently checked on a weekly basis for one month; boards were checked for tracks on April 18, and 25, and May 2 and 9, 2013. The locations of the cover boards are shown in Figure 6b. No sand skink tracks were observed during the survey period. Datasheets are provided in Appendix F. Because no individuals were observed and no historic sightings of sand skinks occurred in the project corridor, and only marginal, suboptimal habitat for the species occurs within the project corridor, it is anticipated that the project "may affect, but is not likely to adversely affect" the sand skink and bluetail mole skink.

6.2.8 Florida Bonneted Bat

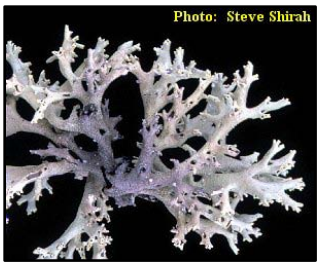
The **Florida bonneted bat** (*Eumops floridanus*) became a federally listed species effective November 1, 2013. Critical habitat has yet to be designated for this species. The Florida bonneted bat has been previously documented in Polk County, specifically the Avon Park Air Force Range and the KICCO Wildlife Management Area. Very little information has been collected regarding the ecology of the Florida bonneted bat. This species has historically been documented roosting in bat houses, large mature longleaf pines containing cavities, and residential homes. There are no known current natural roost sites being utilized by Florida bonneted bats. Because there is limited information on the Florida bonneted bat, the species has not been historically documented in the project area, and the project will be undertaken within the ROW which contains limited natural habitat, it is anticipated that the project will have "no effect" on the Florida bonneted bat.

6.2.9 Federally Listed Plant Species

Although the project is not located within the Lake Wales Ridge plants CA, the following xeric plants listed by the USFWS as endangered have been documented in Polk County: Avon Park harebells (*Crotalaria avonensis*), Britton's beargrass (*Nolina brittoniana*), Carter's mustard (*Warea carteri*), Florida ziziphus (*Ziziphus celata*), Highlands scrub hypericum (*Hypericum cumulicola*), Lewton's polygala (*Polygala lewtonii*), pygmy fringe-tree (*Chionanthus pygmaeus*), sandlace (*Polygonella myriophylla*), scrub blazingstar (*Liatris ohlingerae*), scrub lupine (*Lupinus aridorum*), scrub mint (*Dicerandra frutescens*), scrub plum (*Prunus geniculata*), short-leaved rosemary (*Conradina brevifolia*), wide-leaf warea (*Warea amplexifolia*), and wireweed (*Polygonella basiramia*). The following scrub plants listed by the USFWS as threatened have been documented in Polk County: Florida bonamia (*Bonamia grandiflora*), papery whitlow-wort (*Paronychia chartacea*), pigeon wings (*Clitoria fragrans*), scrub buckwheat (*Eriogonum longifolium*). No federally-listed plant species were observed within or adjacent to the project footprint and no historic sightings have been documented in the project area.

There are a few marginal scrub areas adjacent to the project that are potentially capable of supporting xeric plants. If protected plant species are observed within the proposed impact areas during the design and permitting phase, coordination will be initiated with the USFWS, Florida Department of Agriculture and Consumer Services (FDACS) and other appropriate organizations such as Bok Tower Gardens' Rare Plant Conservation Program to allow for relocation to adjacent habitat or other suitable protected lands, prior to construction. However, because none of the above listed plant species were encountered during field surveys, it is anticipated that the project "may affect, but is not likely to adversely affect" any federally listed plants.

6.2.10 Perforate Reindeer Lichen



The perforate reindeer lichen (*Cladonia perforata*) is a federally listed endangered species that is endemic to Florida's scrub habitat. It is conspicuous lichen that forms large dense clusters. This lichen occurs on a barrier island in the Florida panhandle, in scrub vegetation in central Florida south of Lake Placid, and at few sites along the east coast of Florida. While very rare, there is a reasonable possibility that the lichen could exist at widely scattered localities

elsewhere in Florida. The nearest recorded occurrence of perforate reindeer lichen was in 2009 and occurred approximately 39 miles to the southwest of the project. This species was not observed during field surveys and has not been historically documented in the project area. Similar to federally protected plants, if any perforate reindeer lichen is documented within the proposed impact areas during the design and permitting phase, coordination will be initiated with the FDACS or other appropriate agency to allow for relocation to adjacent habitat or other suitable protected 5-8 lands, prior to construction. As a result, it is anticipated that the project "may affect but is not likely to adversely affect" the perforate reindeer lichen.

6.3 STATE LISTED SPECIES

6.3.1 Florida Burrowing Owl

The Florida burrowing owl is a small owl listed as a species of special concern (SSC) by the FWC. The nearest burrowing owl sighting occurred three miles east of the project area in 2000. Burrowing owls live and nest in open treeless areas on the ground, where their sandy brown plumage provides camouflage from potential predators. While not considered preferred habitat, the burrowing owl is known to create burrows in pastures. A few pasture areas are adjacent to the project; however, field surveys did not detect any burrowing owls or burrows. Because no burrowing owls or their burrows were observed during field surveys and none have been historically documented in the project area, it is anticipated that the project will have "no effect" on the Florida burrowing owl.

6.3.2 Florida Sandhill Crane

The Florida sandhill crane is listed as threatened by the FWC. The range of the Florida subspecies extends from southeastern Georgia through peninsular Florida. The Florida sandhill crane is non-migratory and becomes a permanent resident wherever it nests. This bird inhabits freshwater marshes, prairies, low-lying improved pastures, and shallow flooded open areas. It typically nests from January to June in the shallow waters of lakes, ponds, and open marshes where maidencane, arrowhead, and pickerelweed (*Pontederia cordata*) are present.

During field surveys, one adult sandhill crane was observed foraging; however, no nests were identified and no juveniles were seen. Some suboptimal foraging habitat is present

within the project area. Because no Florida sandhill crane nests or young were observed, it is anticipated that the project will have "no effect" on the Florida sandhill crane.

6.3.3 Southeastern American Kestrel

The southeastern American kestrel is a small raptor currently listed as threatened by the FWC. The resident southeastern subspecies and the migratory northern subspecies inhabit open areas that contain pasture, open pine-oak, sandhill communities, grasslands, and some agricultural areas where they feed primarily upon insects, small birds, and rodents. Kestrel habitat consists of open areas of short vegetation with scattered perch sites, a sufficient prey population, and suitable nesting sites. The nearest southeastern American kestrel observation occurred 23.2 mile southeast of the project in 1988. No individuals or nest snags were observed during field surveys and neither have been historically documented in the project area. Small areas of foraging habitat exist but adequate nesting habitat is limited and potential nest snags are absent. Therefore, it is anticipated that the project will have "no effect" on the southeastern American kestrel.

6.3.4 Wading Birds

This category includes all wetland dependent birds that are not listed as protected by the USFWS, but are listed by the FWC as SSCs. These include the white ibis, roseate spoonbill (*Platalea ajaja*), little blue heron, snowy egret, tricolored heron, and limpkin. These species utilize a wide variety of wetland habitats including canals, ditches, forested wetlands, and marshes.

The nearest active wading bird rookery, #612137, is located approximately 1.2 miles south of the project area. One state listed wading bird, the white ibis, was observed within the project corridor during general wildlife surveys. Because the project wetlands which are potentially utilized by these state-listed species impacts will be appropriately mitigated for, it is anticipated that the project will have "no effect" on state listed wading birds.

6.3.5 Florida Pine Snake

The Florida pine snake is listed as a SSC by the FWC. The Florida pine snake utilizes habitats with dry sandy soil such as sand pine scrub, sandhills, pine flatwoods on well drained soils, scrubby flatwoods, pastures, and abandoned fields. This species is commonly found underground and has been documented foraging in the burrows of other species such as gopher tortoise and southeastern pocket gophers (*Geomys pinetis*). The nearest Florida pine snake sighting occurred 14.5 miles southeast of the project in 1971. Because no Florida pine snakes were observed during field surveys and none have been historically documented in the project area, and there are no gopher tortoise burrows within the project footprint, it is anticipated that the project will have "no effect" on the Florida pine snake.

6.3.6 Gopher Tortoise, Gopher Frog, and Florida Mouse

Currently, the gopher tortoise is listed by the FWC as threatened. This species is known to utilize a variety of habitats including pine flatwoods and some rangeland communities, but prefers well-drained soils that enable burrowing and support a high diversity of low-growing herbs. Two potentially occupied gopher tortoise burrows were observed outside of the project ROW, approximately 15 feet from the ROW; however, no gopher tortoise individuals or burrows were identified within the project footprint during field surveys. Any gopher tortoise burrow located within 25 feet of an impact area must be relocated according to FWC requirements. Exclusionary fencing can be utilized to deter tortoises located outside of and adjacent to the project area from entering the project area. The FDOT will adhere to state permitting/relocation regulations, conduct a 100 percent survey of all suitable gopher tortoise habitat, excavate any burrows within the 25 feet of the limits of construction and relocate any occupying tortoises as needed to appropriate habitats prior to construction, or utilize silt fencing to exclude tortoises from entering the project area; therefore, it is anticipated that the project will have "no effect" on the gopher tortoise.

The gopher frog is commensal with the gopher tortoise and is listed by the FWC as an SSC. This frog is most often found in upland sandhill, scrub, pine flatwoods, and other xeric habitats occupied by the tortoise with nearby wetlands. The nearest gopher frog sighting occurred 14.8 miles southwest of the

project, the date of this sighting is unknown. None were observed during field surveys. Because there are no gopher tortoise burrows within the project footprint, it is anticipated that the project will have "no effect" on the gopher frog.

The Florida mouse is listed as an SSC by the FWC. Habitat for the Florida mouse consists of xeric, upland vegetation found in well drained sandy soils. This species has been located in sand pine scrub, coastal scrub, long leaf pine and turkey oak mixed forests, upland hammocks, and dry pine flatwoods. The nearest Florida mouse sighting occurred 19.5 miles northeast of the project in 1990. None were observed during field surveys. The Florida mouse commonly utilizes gopher tortoise burrows, constructing its own burrows and nest chambers off of the main gopher tortoise burrow. Because there are no gopher tortoise burrows within the project footprint, it is anticipated that the project will have "no effect" on the Florida mouse

6.3.7 Sherman's Fox Squirrel

The Sherman's fox squirrel is listed as an SSC by the FWC. Optimal habitat for the species is mature, fire-maintained longleaf pine-turkey oak sandhills and flatwoods, as the fox squirrel feeds primarily on longleaf pine (*Pinus palustris*) seeds and turkey oak (*Quercus laevis*) acorns. The project's surrounding habitat has little habitat for the fox squirrel. No Sherman's fox squirrels were observed during field surveys and no nests were identified. The nearest Sherman's fox squirrel observation, documented in 1988, occurred 2.1 miles east of the northern terminus of the project. Because there is limited foraging and nesting habitat adjacent to the project area and because no fox squirrels were seen during field surveys, it is anticipated that the project will have "no effect" on the Sherman's fox squirrel.

6.3.8 State Listed Plants

Garberia (*Garberia heterophylla*) was observed in habitat approximately 40 feet outside of the ROW. Garberia is listed by the state as a threatened plant in the Preservation of Native Flora of Florida Act (*5B-40.0055*). No state protected plant species (Table 3) were observed within the project footprint during general field surveys. If any state protected plant species

are observed within the proposed impact limits during the design phase, coordination with the FDACS will be initiated, and efforts will be made prior to construction to allow for seed collection and/or relocation to adjacent habitat or other suitable protected lands. As a result, it is anticipated that the project will have "no effect" on state listed plant species.

6.4 NON-LISTED, FEDERALLY AND STATE PROTECTED SPECIES

6.4.1 Bald Eagle

The bald eagle is no longer listed by the USFWS or FWC but remains federally protected under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), as amended, and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712). In addition, the bald eagle is protected at the state level under Chapter 68A-16.002, F.S. This species is found primarily in riparian habitats and other communities, which occur in association with coastal, lake, or river shores. Bald eagle nests are afforded two protection zones, a 330-foot zone and a 660-foot zone. Various construction activities are restricted during the nesting (October 1 through May 15) and non-nesting seasons, and some construction projects require nest monitoring during the nesting season. The FWC Bald Eagle Management Plan (2008) describes activity restrictions and other bald eagle protection issues.

According to the most recently released FWC nest survey data (2011-2012) the closest bald eagle nest to the project area is Nest PO-050, last recorded as active in 2007 (given greater than a 5-year lapse in activity, this nest is deemed inactive at this time). This nest is located approximately 0.3 miles (1,584 feet) to the north of the project, well beyond the primary (330 feet) and secondary (660 feet) protection zones. One bald eagle was observed flying over the project corridor during field reviews; however, was not observed to land or perch within the project limits. Because the FDOT will resurvey the project corridor prior to construction, and will act in accordance with the BGEPA, MBTA, and Chapter 68A-16.002, F.S., it is anticipated that the project will have "no effect" on the bald eagle.

6.4.2 Florida Black Bear

The Florida black bear is no longer listed as threatened by the FWC. However, while it was removed from the state list in August 2012, it is unlawful to harm or kill the species as designated in the Florida

Administrative Code (68A-1.004, F.A.C.).The Florida black bear primarily lives in forested habitats and is common in sand-pine scrub, oak scrub, upland hardwood forests and forested wetlands. These habitats are limited within the project area, particularly because of the residential and commercial presence. The nearest nuisance bear reports from the FWC indicate black bear presence 9 miles from the project area in 2011. No signs of the Florida black bear were observed during field surveys and only marginal black bear habitat is present which is adjacent to the project corridor. Therefore, it is anticipated that the project will have "no effect" on the Florida black bear.

7.0 EVALUATION OF ALTERNATIVES

7.1 ANALYSIS OF POTENTIAL PROTECTED SPECIES IMPACTS

7.1.1 Direct Impacts

7.1.1.1 No-Build Alternative

No direct impacts to protected species or their habitats are associated with the No-Build Alternative.

7.1.1.2 Build Alternatives

Segment 1 - Mainline Build Alternatives

Table 7 details the current land uses within segment 1 that may be affected by the build alternatives. Table 8 details the present land uses that are appropriate sand skink and bluetail mole skink habitat (based on soils, USFWS CA, and elevations above 82 feet) that may be affected by the mainline build alternatives.

The estimated potential habitat impacts are shown below:

- Alternative 1 – 78.26 acres total; 58.21 acres pervious surface

  18.69 acres is potential sand skink habitat as per desk-top data; 5.63 acres is potential habitat based on field conditions

  3.12 acres is potential wood stork foraging habitat

- Alternative 2 – 78.26 acres total; 58.21 acres pervious surface

  18.69 acres is potential sand skink habitat as per desk-top data; 5.63 acres is potential habitat based on field conditions

  3.12 acres is potential wood stork foraging habitat

Potential presence of the sand skink and bluetail mole skink is presumed to be equal within both alternatives because they have equal acres of potential habitat based on soils and elevation. Although 18.69 acres of potential sand skink habitat was calculated via FLUCFCS analysis, the actual acreage of potential sand skink habitat is 5.63 acres due to the existing conditions; roadway slopes composed of fill material, active construction sites encroaching into the project area, staging of equipment in the ROW, areas recently leveled and planted with sod, and dry swale conveyance features in the ROW that flood during the rainy season (Table 8).

Both alternatives are located within the CFA of five wood stork colonies. In addition, all alternatives are located within the following USFWS CAs: Florida scrub-jay, Florida grasshopper sparrow, Audubon's crested caracara, Everglades snail kite, bluetail mole skink and sand skink. One federally protected species, the wood stork, was observed flying over a location that would be affected by all build alternatives. Database records up to 10 miles beyond the roadway alternatives document historical sightings of federally protected species including the eastern indigo snake and sand skink. Potential habitat is present within both build alternatives for the Florida scrub-jay, wood stork, sand skink, and bluetail mole skink.

State protected species observed within the two alternatives include wading birds of special concern and the Florida sandhill crane. Database documentation does not indicate nuisance reports of the Florida black bear within ten miles of the project.

Segment 2 - Interchange Build Alternatives

Table 9 details the existing land uses that may be affected by the construction alternatives for the project SR 33 / I-4 interchange. Table 10 details the existing land uses that are appropriate sand skink and bluetail mole skink habitat (based on soils and elevations above 82 feet) that may be affected by the interchange build alternatives.

The estimated potential habitat impacts are shown below:

- Diverging Diamond with Retaining Walls – 106.92 acres total; 35.72 pervious surface

  0.01 acres is potential sand skink habitat as per desk-top data; 0.0 acres is potential habitat based on field conditions

  11.82 acres of wetlands and 10.55 acres of surface waters are potential wood stork foraging habitat (includes wetland impacts with the mainline build alternative)

- Diamond with Retaining Walls – 106.92 acres total; 35.72 pervious surface

  0.01 acres is potential sand skink habitat as per desk-top data; 0.0 acres is potential habitat based on field conditions

  11.82 acres of wetlands and 10.55 acres of surface waters are potential wood stork foraging habitat (includes wetland impacts with the mainline build alternative)

- Diverging Diamond without Retaining Walls – 117.58 acres total; 45.47 acres pervious surface

  0.11 acres is potential sand skink habitat as per desk-top data; 0.0 acres is potential habitat based on field conditions

  13.23 acres of wetlands and 12.19 acres of surface waters are potential wood stork foraging habitat (includes wetland impacts with the mainline build alternative)

- Diamond without Retaining Walls – 118.81 acres total; 46.70 acres pervious surface

  0.11 acres is potential sand skink habitat as per desk-top data; 0.0 acres is potential habitat based on field conditions

  13.90 acres of wetlands and 12.19 acres of surface waters are potential wood stork foraging habitat (includes wetland impacts with the mainline build alternative)

The acreage of potential sand skink habitat was initially calculated via FLUCFCS analysis, and is presented in Table 10. However, following field reviews, the actual involvement of potential sand skink habitat for all Segment 2 interchange build alternatives is 0.0 acres due to the roadway slopes composed of fill material.

Segment 2 – Mainline Build Alternatives

Table 11 details the present natural land uses within Segment 2 that may be affected by the build alternatives. Segment 2 contains no natural land uses that are appropriate sand skink and bluetail mole skink habitat (based on soils and elevations above 82 feet) that may be affected by the mainline build alternatives.

The estimated land use impacts are shown below:

- Alternative 1 – 17.53 acres total; 3.86 acres pervious surface

  0.0 acres is potential skink habitat

- Alternative 2 – 17.53 acres total; 3.86 acres pervious surface

  0.0 acres is potential skink habitat

The Segment 2 alternatives are located within the CFA of six wood stork colonies. In addition, all alternatives are located within the following USFWS CAs: Florida scrub-jay, Florida grasshopper sparrow, Audubon's crested caracara, Everglades snail kite, bluetail mole skink and sand skink. Database records up to 10 miles beyond the

roadway alternatives document historical sightings of federally protected species including the eastern indigo snake and sand skink. Potential habitat is present within both build alternatives for the Florida scrub-jay and wood stork.

Stormwater Management Sites

Table 12 details the existing natural land uses within potential stormwater management sites that may be affected by the construction alternatives for the project. Table 13 details the present land uses within the potential stormwater management sites that are appropriate sand skink and bluetail mole skink habitat (based on soils and elevations above 82 feet) that may be affected by the build alternatives. The preferred stormwater treatment option is the construction of linear swales within the existing ROW, eliminating the need for offsite stormwater management sites.

The estimated potential habitat impacts are shown below:

- Stormwater Management Sites – 19.45 acres total; 12.22 acres pervious surface

  1.74 acres is potential skink habitat as per desk-top data; 1.74 acres is potential habitat based on field conditions

  0.00 acres is potential wood stork habitat

7.1.2 Indirect, Secondary and Cumulative Impacts

Indirect and secondary effects are those caused by or resulting from the proposed project later in time and that are reasonably certain to occur. They may occur outside of the area directly affected by the proposed project. Potential secondary effects include increased noise, traffic, and development, which could potentially impact wildlife. Cumulative effects include the effects of future state, local, or private actions that are reasonably certain to occur in the project area. Future federal actions that are unrelated to the proposed project are not considered in the determination of cumulative effects because they require a separate consultation in accordance with Section 7 of the Endangered Species Act.

7.1.2.1 No-Build Alternative

Because no direct impacts to protected species or their habitats are anticipated to occur with the No-Build Alternative, indirect, secondary, or cumulative impacts are not expected as the roadway facility would be maintained in its current configuration.

7.1.2.2 Build Alternatives

For most species, indirect, secondary, and cumulative impacts associated with the widening improvements are likely to be negligible because the SR 33 transportation corridor already exists and the improvements are likely to have minimal adverse effects overall. Alternatives selected to be carried forward for further analysis were those with the least overall impacts, following consideration of all PD&E project components. The Preliminary Engineering Report (PER) provides additional details on the alternative selection process.

8.0 CONCLUSIONS, COMMITMENTS, AND RECOMMENDATIONS

Based upon findings of the preliminary data collection, general corridor surveys, and ongoing coordination with the USFWS and FWC, the FDOT will make the following commitment:

1. Eastern indigo snake: The standard FDOT Construction Precautions for the Eastern Indigo Snake will be adhered to during construction of the project (Appendix E).

2. Sand Skink: If Pond 1 becomes a preferred alternative, the FDOT will commit to a coverboard survey of this pond site before construction begins.

3. Florida sandhill crane: The FDOT will re-survey appropriate habitats for the Florida sandhill crane prior to permitting and construction of the project. Additionally, coordination with FWC will be initiated as appropriate.

4. Bald eagle: Given the possibility of new nests being identified by the FWC during yearly surveys, the FDOT will commit to resurveying the project area prior to construction. If any active nests within the 660-foot protection zone are identified, the FDOT will act in accordance with the BGEPA (16 U.S.C. 668-668d), as amended, the MBTA (16 U.S.C. 703-712) and Chapter 68A-16.002, FS.

5. Gopher tortoise: Due to the presence of gopher tortoise habitat within the project footprint and observed burrows adjacent to the existing roadway, a gopher tortoise survey in appropriate habitat within construction limits (including roadway footprint and stormwater management sites) will be performed prior to construction. The FDOT will secure any relocation permits needed for this species during the project design and construction phase of the project.

6. Protected plants: If protected plant species are observed within the proposed impact areas during the design and permitting phase, coordination will be initiated with the FDACS or other appropriate agency to allow for relocation to adjacent habitat or other suitable protected lands, prior to construction.

Given the above commitment and previously mentioned data collection efforts, it is anticipated that proposed project activities associated with widening SR 33 from Old Combee Road to north of Tomkow Road "may affect, but are not likely to adversely affect" the following federally-listed species:

- Audubon's crested caracara;
- Everglades snail kite;
- Florida scrub-jay;
- Wood stork;
- Eastern indigo snake;
- Sand skink and bluetail mole skink;
- Federally listed plants; and
- Perforate reindeer lichen.

The proposed project will have "no effect" on the following federally-listed species:

- Florida grasshopper sparrow; and
- Florida bonneted bat.

9.0 REFERENCES

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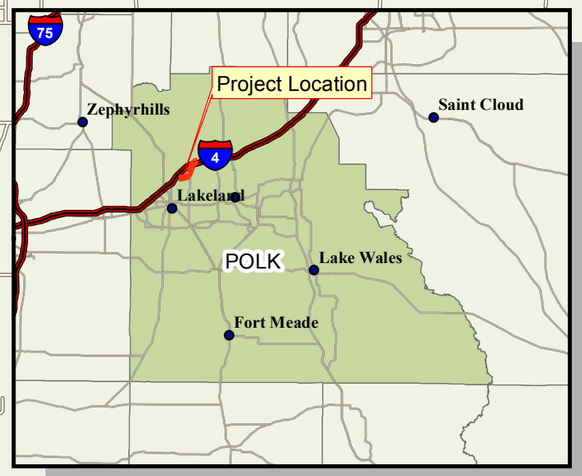
FIGURES



Tomkow Rd

End Project

University Blvd

4

33

N. Socrum Loop Rd

Walt Williams Rd

582

Lake Luther Rd

Begin Project

659

Old Combee Rd

Florida Department of Transportation

DISTRICT 1

SR 33 PD&E Study from Old Combee Road to North of Tomkow Road

FPID 430185-1-22-01

Polk County, Florida

Location Map

1 inch = 2,000 feet

0 1,000 2,000 Feet

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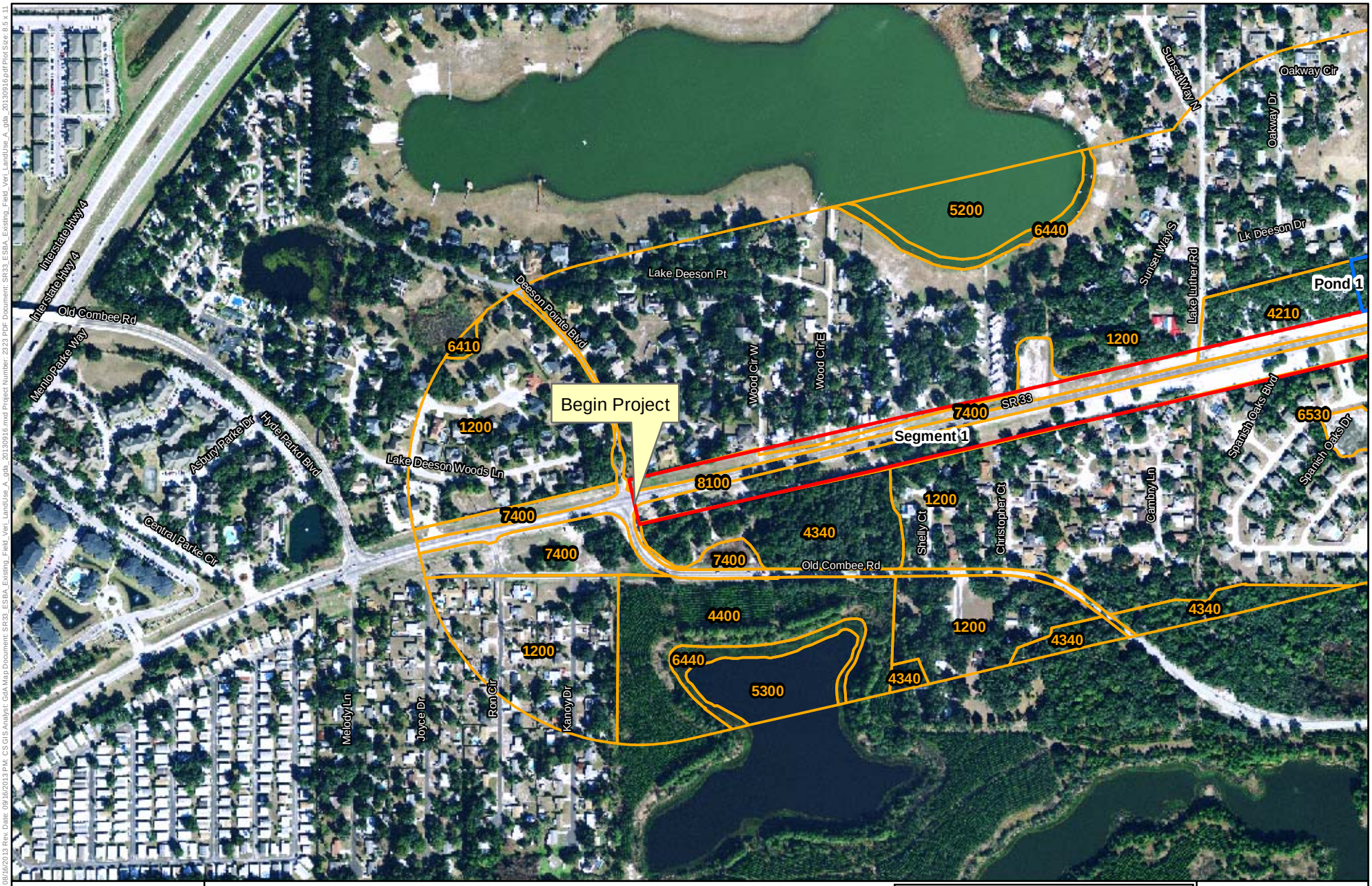
Figure 1



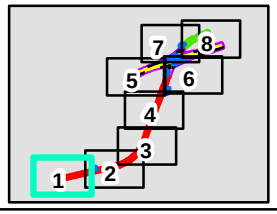


Figure 2 - Existing Field Verified Land Use / Land Cover Map

Page 1 of 9

FPID #: 430185-1-22-01

SR 33 from Old Combee Road to North of Tomkow Road

Polk County, Florida

0 600 1,200 1,800 Feet

- Potential Stormwater Management Site
- Segment 1 - Mainline Build Alternative
- Segment 2 - Diverging Diamond No Wall
- Segment 2 - Diamond No Wall
- Segment 2 - Diverging Diamond/Diamond Retaining Walls
- Segment 2 - Mainline Build Alternative
- Field Verified Land Use

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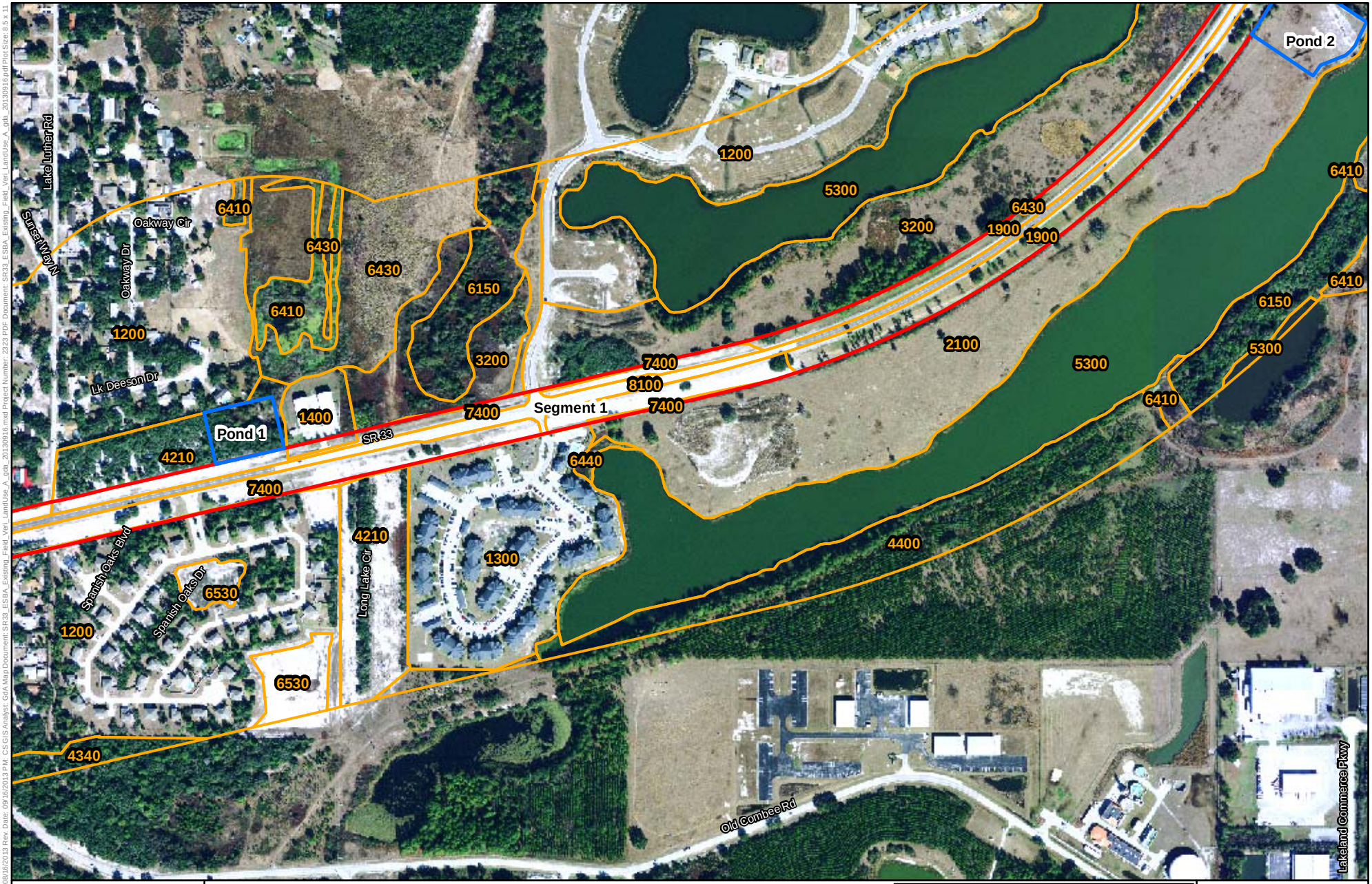
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West



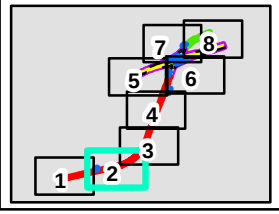


Figure 2 - Existing Field Verified Land Use / Land Cover Map

Page 2 of 9

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SR 33 from Old Combee Road to North of Tomkow Road

Polk County, Florida

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Data Source:
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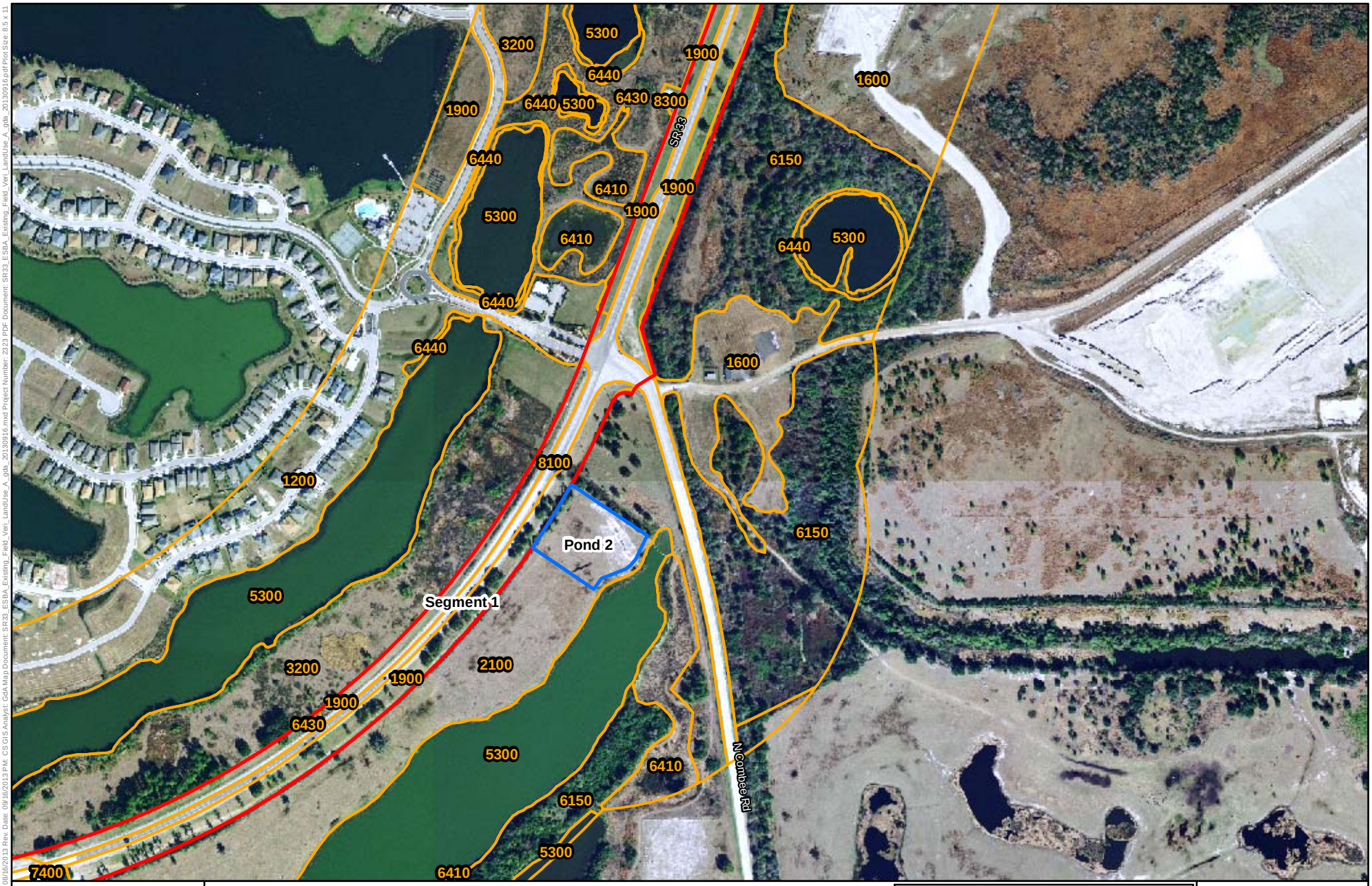

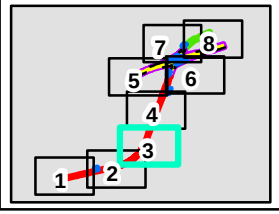

Figure 2 - Existing Field Verified Land Use / Land Cover Map

Page 3 of 9

FPID #: 430185-1-22-01

SR 33 from Old Combee Road to North of Tomkow Road

Polk County, Florida

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- Segment 2 - Diverging Diamond No Wall
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-Scheda Scientists
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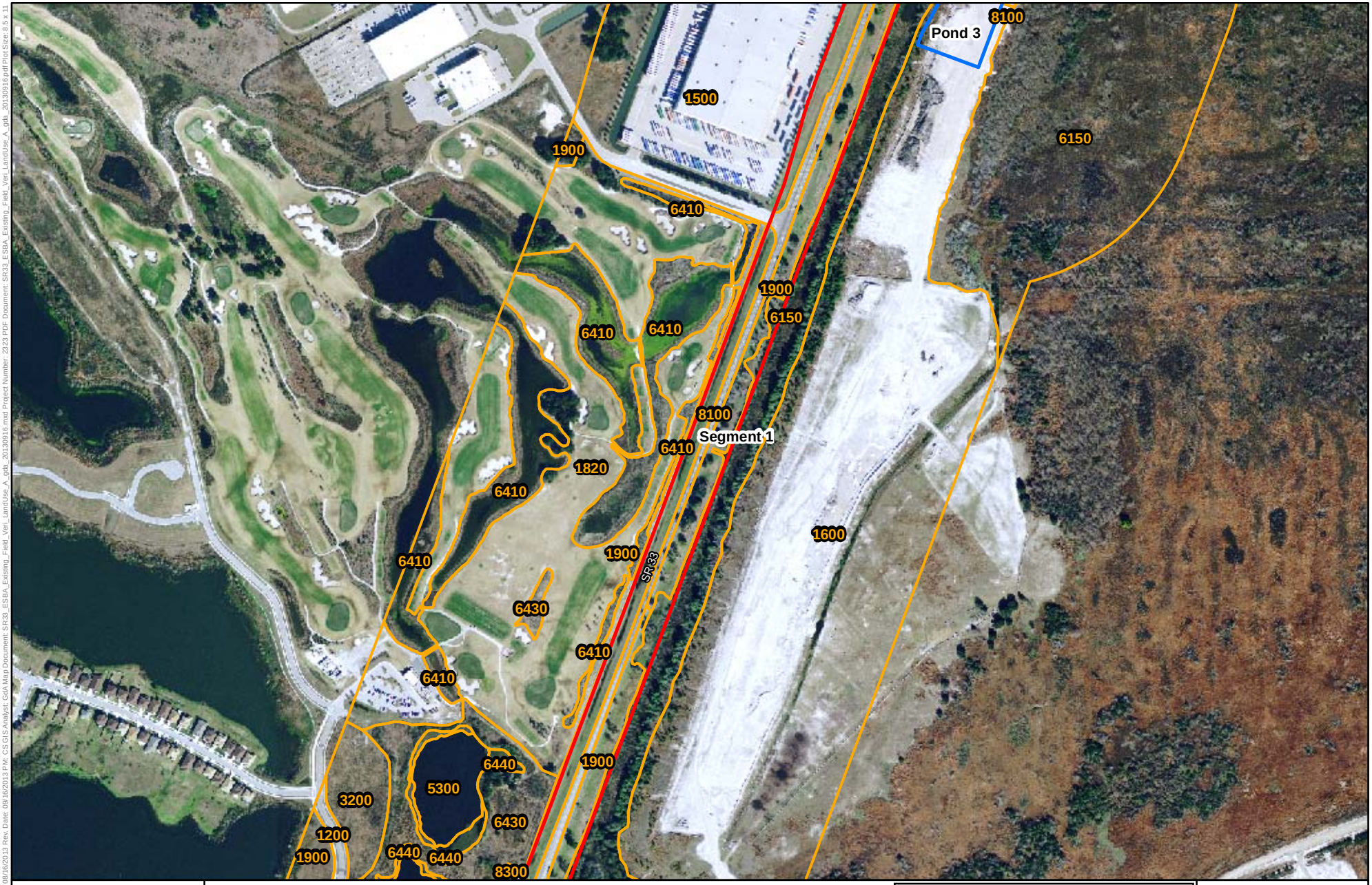
State Plane West



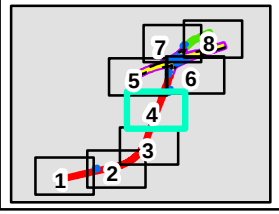


Figure 2 - Existing Field Verified Land Use / Land Cover Map

Page 4 of 9

FPID #: 430185-1-22-01

SR 33 from Old Combee Road to North of Tomkow Road

Polk County, Florida

0 600 1,200 1,800 Feet

- Potential Stormwater Management Site
- Segment 1 - Mainline Build Alternative
- Segment 2 - Diverging Diamond No Wall
- Segment 2 - Diamond No Wall
- Segment 2 - Diverging Diamond/Diamond Retaining Walls
- Segment 2 - Mainline Build Alternative
- Field Verified Land Use

N

Data Source:
-Inwood Scientists
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West

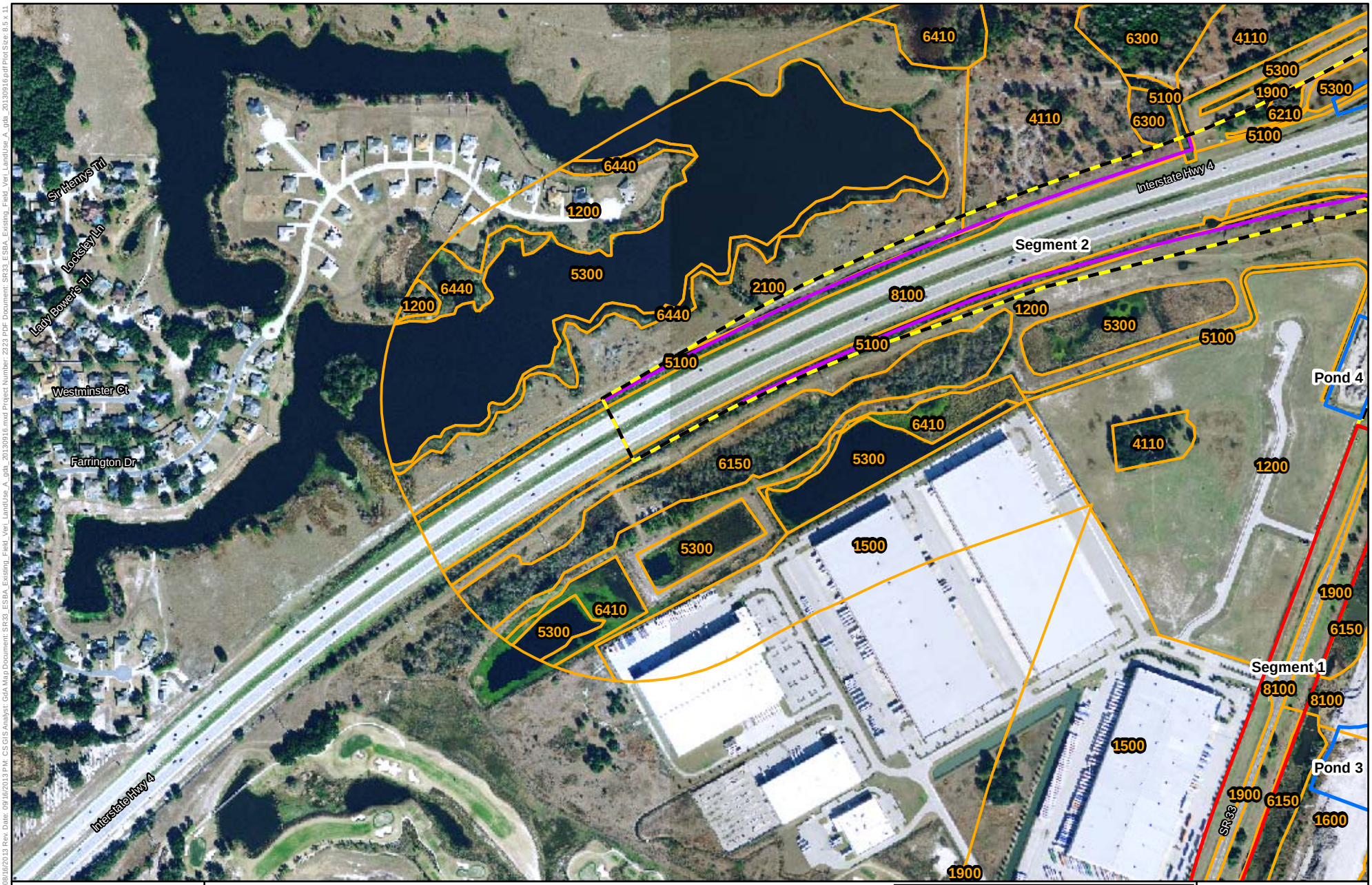


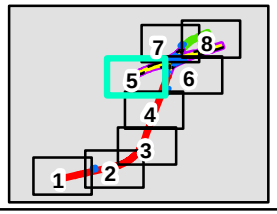
Figure 2 - Existing Field Verified Land Use / Land Cover Map

Page 5 of 9

FPID #: 430185-1-22-01

SR 33 from Old Combee Road to North of Tomkow Road

Polk County, Florida



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Data Source:
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Coordinate System:
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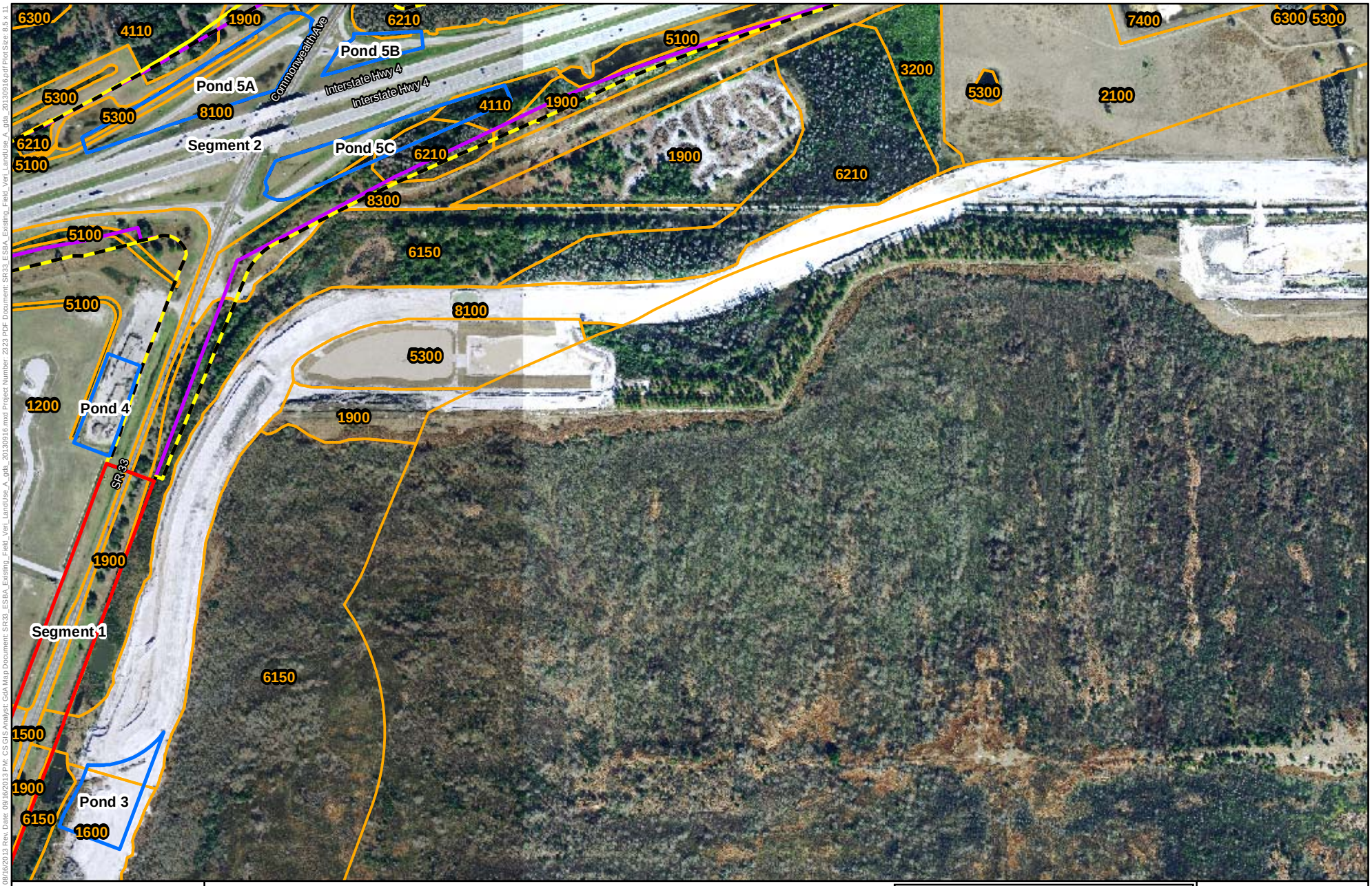
State Plane West



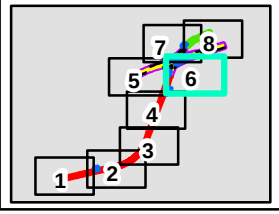


Figure 2 - Existing Field Verified Land Use / Land Cover Map

Page 6 of 9

FPID #: 430185-1-22-01

SR 33 from Old Combee Road to North of Tomkow Road

Polk County, Florida

Feet

0 600 1,200 1,800

- Potential Stormwater Management Site
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- Segment 2 - Diverging Diamond No Wall
- Segment 2 - Diamond No Wall
- Segment 2 - Diverging Diamond/Diamond Retaining Walls
- Segment 2 - Mainline Build Alternative
- Field Verified Land Use

N

Data Source:
-Inwood Scientists
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West

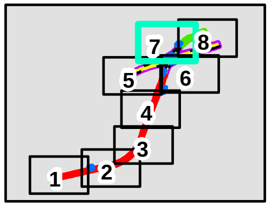

Figure 2 - Existing Field Verified Land Use / Land Cover Map

Page 7 of 9

FPID #: 430185-1-22-01

SR 33 from Old Combee Road to North of Tomkow Road

Polk County, Florida

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- Segment 2 - Mainline Build Alternative
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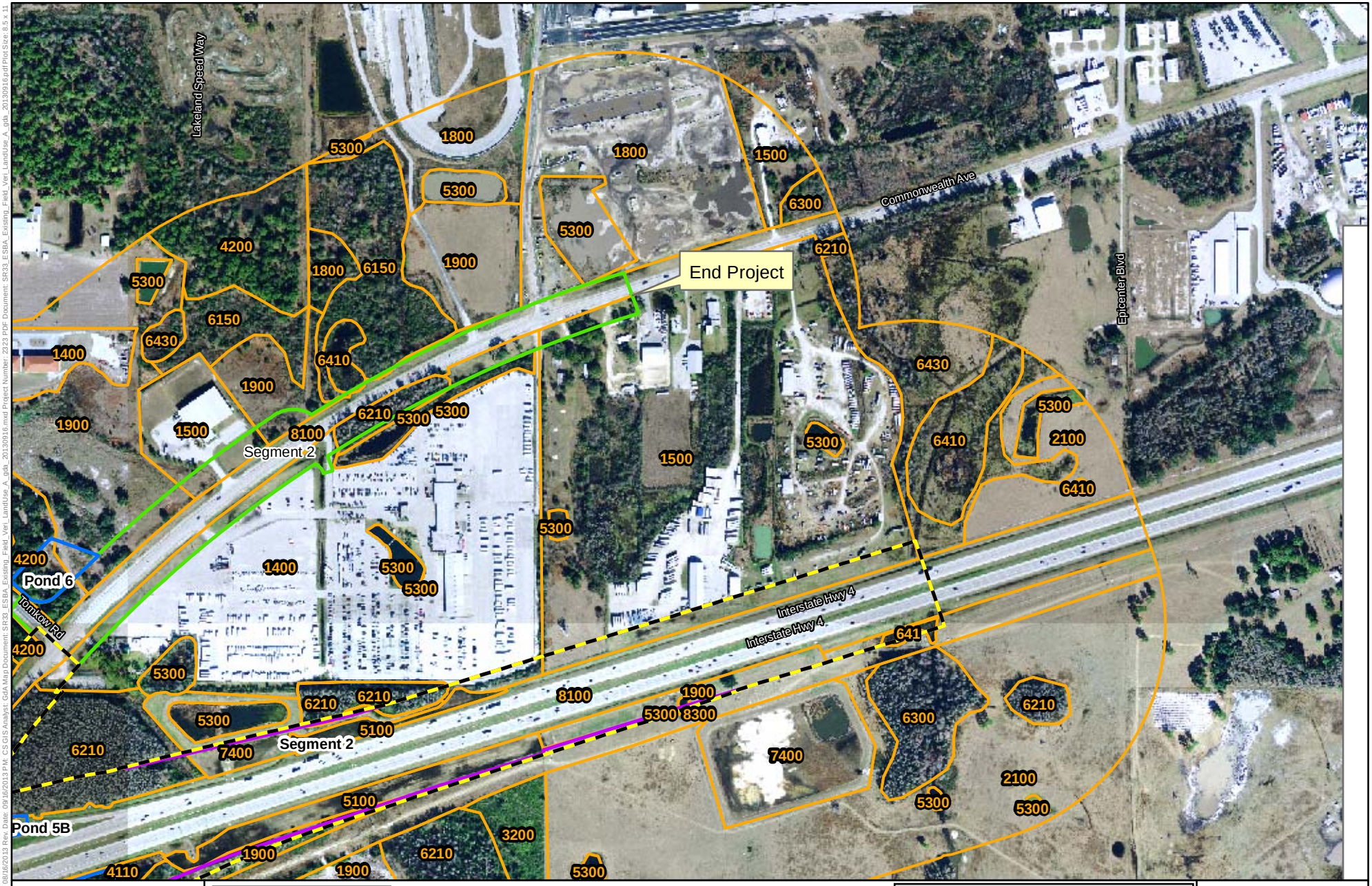
Data Source:
-Inwood Scientists
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West

Date: 08/16/2013 Rev. Date: 09/16/2013 PM: CS GIS Analyst: GdA Map Document: SR33_ESBA_Existing_Field_Veri_LandUse_A_gda_20130916.mxd Project Number: 2323 PDF Document: SR33_ESBA_Existing_Field_Veri_LandUse_A_gda_20130916.pdf Plot Size: 8.5 x 11



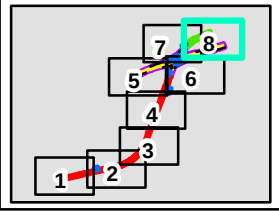


Figure 2 - Existing Field Verified Land Use / Land Cover Map

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- Segment 2 - Mainline Build Alternative
- Field Verified Land Use

N

Data Source:
-Inwood Scientists
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West

Field Verified Land Use	
1200 - RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT	4400 - TREE PLANTATIONS
1300 - RESIDENTIAL HIGH DENSITY	5100 - LINEAR SURFACE WATER
1400 - COMMERCIAL AND SERVICES	5200 - LAKES
1500 - INDUSTRIAL	5300 - RESERVOIRS
1600 - EXTRACTIVE	6150 - STREAM AND LAKE SWAMPS (BOTTOMLAND)
1800 - RECREATIONAL	6210 - CYPRESS
1820 - GOLF COURSES	6300 - WETLAND FORESTED MIXED
1900 - OPEN LAND	6410 - FRESHWATER MARSHES
2100 - CROPLAND AND PASTURELAND	6430 - WET PRAIRIES
3200 - SHRUB AND BRUSHLAND	6440 - EMERGENT AQUATIC VEGETATION
4110 - PINE FLATWOODS	6530 - INTERMITTENT PONDS
4200 - UPLAND HARDWOOD FORESTS	7400 - DISTURBED LAND
4210 - XERIC OAK	8100 - TRANSPORTATION
4340 - HARDWOOD CONIFER MIXED	8300 - UTILITIES

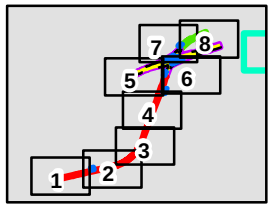

Figure 2 - Existing Field Verified Land Use / Land Cover Map

Page 9 of 9

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SR 33 from Old Combee Road to North of Tomkow Road

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- Segment 2 - Mainline Build Alternative
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N

Data Source:
-Inwood Scientists
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West

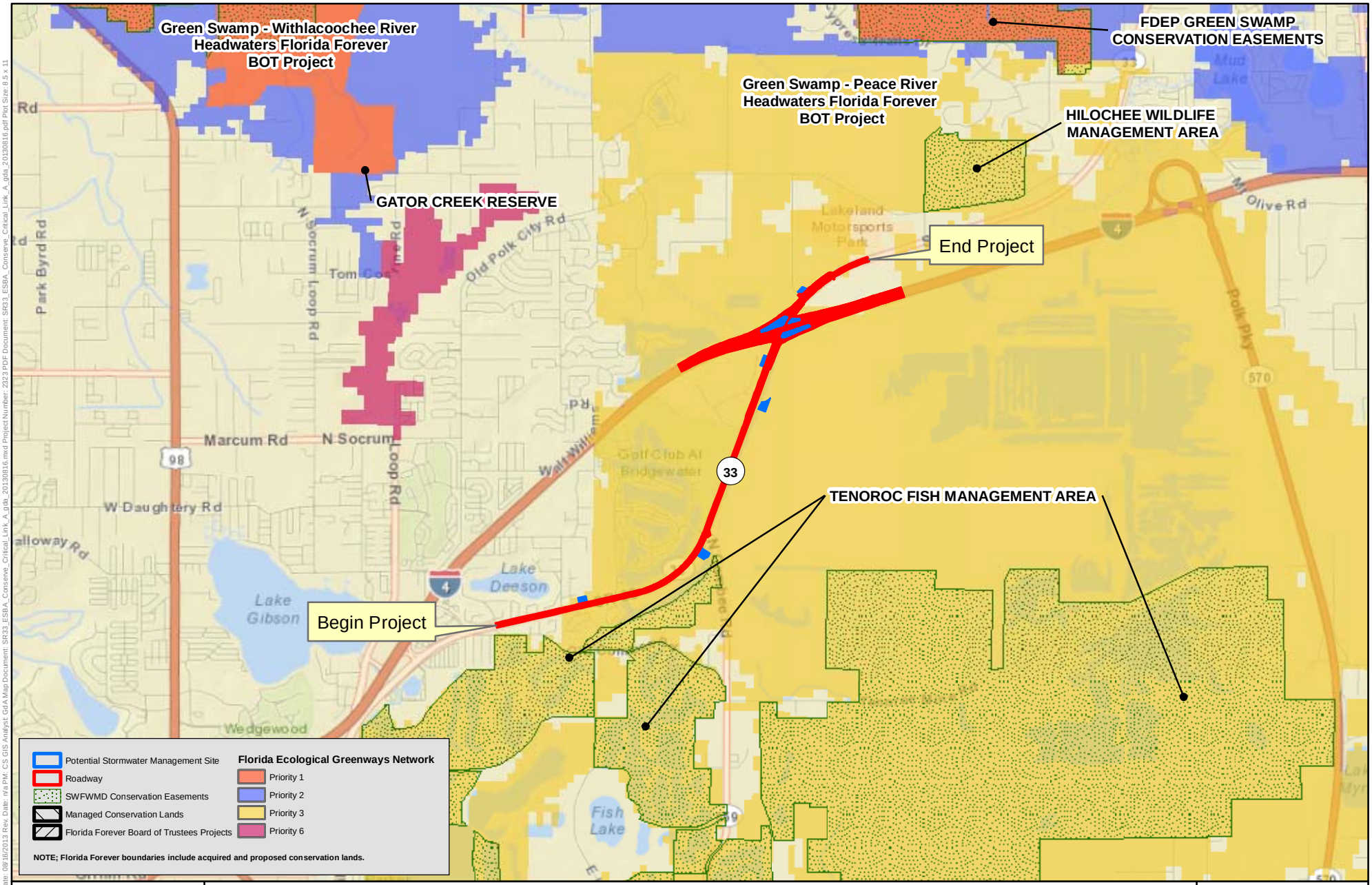


Figure 3 - Conservation Lands and Critical Linkages Location Map

FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

0 5,280 10,560 15,840 Feet

N

Data Source:
-Inwood Engineers
-Scheda Scientists
-FDEP
-FNAI
Imagery Source:
-Basemap ESRI

Coordinate System:
NAD 1983 Florida State Plane West

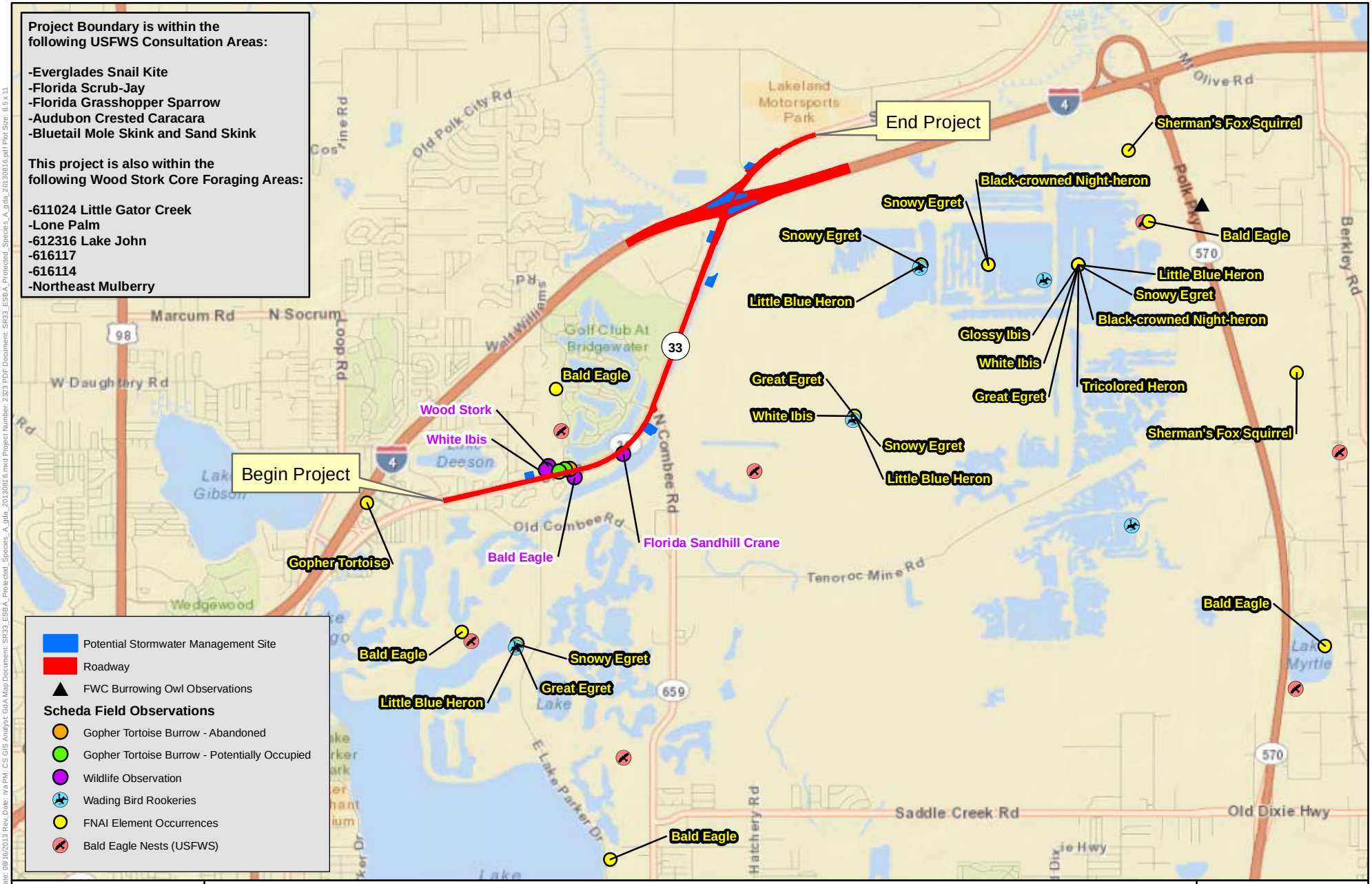


Figure 4 - Protected Species Occurrences Map

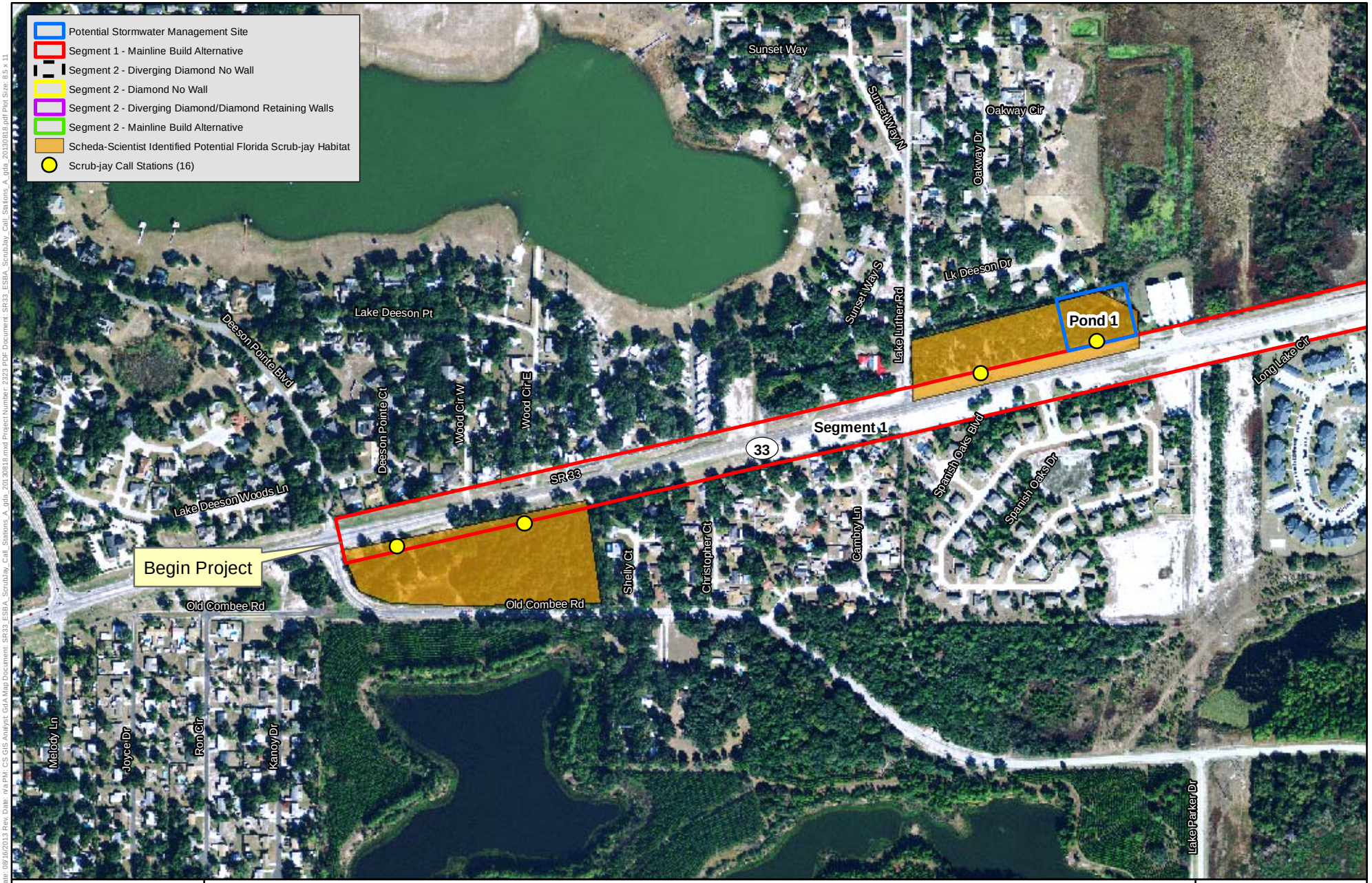
FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

0 5,280 10,560 15,840 Feet

N

Data Source:
-Inwood Engineers
-Scheda Scientists
-FWC
-FNAI
-USFWS
Imagery Source:
-Basemap ESRI

Coordinate System:
NAD 1983 Florida State Plane West



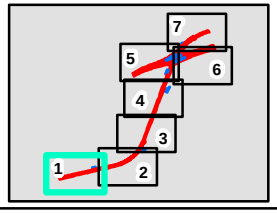


Figure 5 - Florida Scrub-jay Call Stations Map

Page 1 of 7

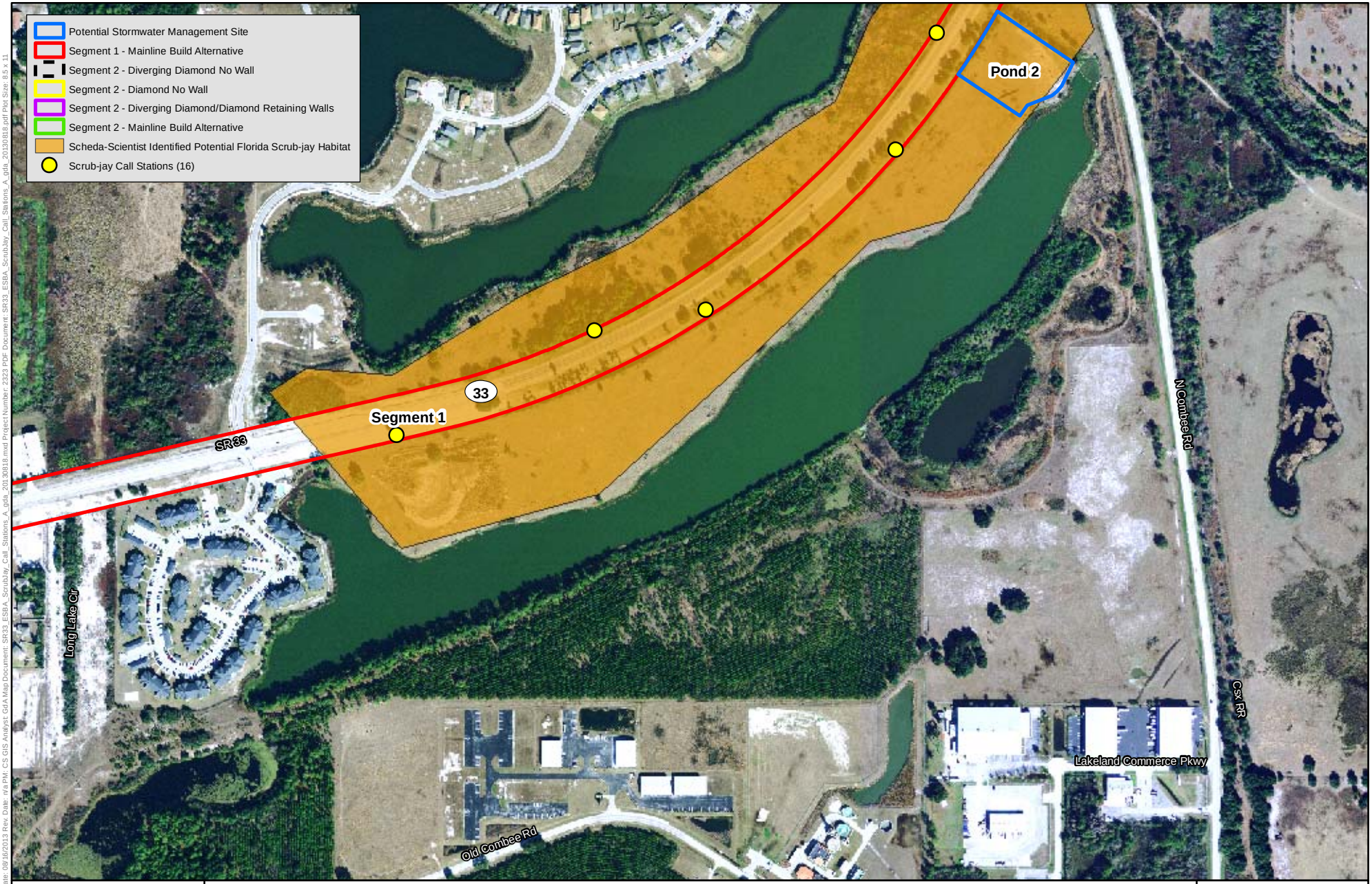
FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

Feet
0 550 1,100 1,650

N

Data Source:
-Inwood Engineers
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West



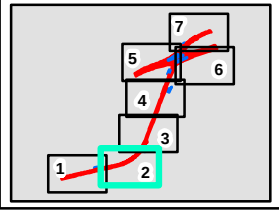


Figure 5 - Florida Scrub-jay Call Stations Map

Page 2 of 7

FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

0 550 1,100 1,650 Feet

N

Data Source:
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Imagery Source:
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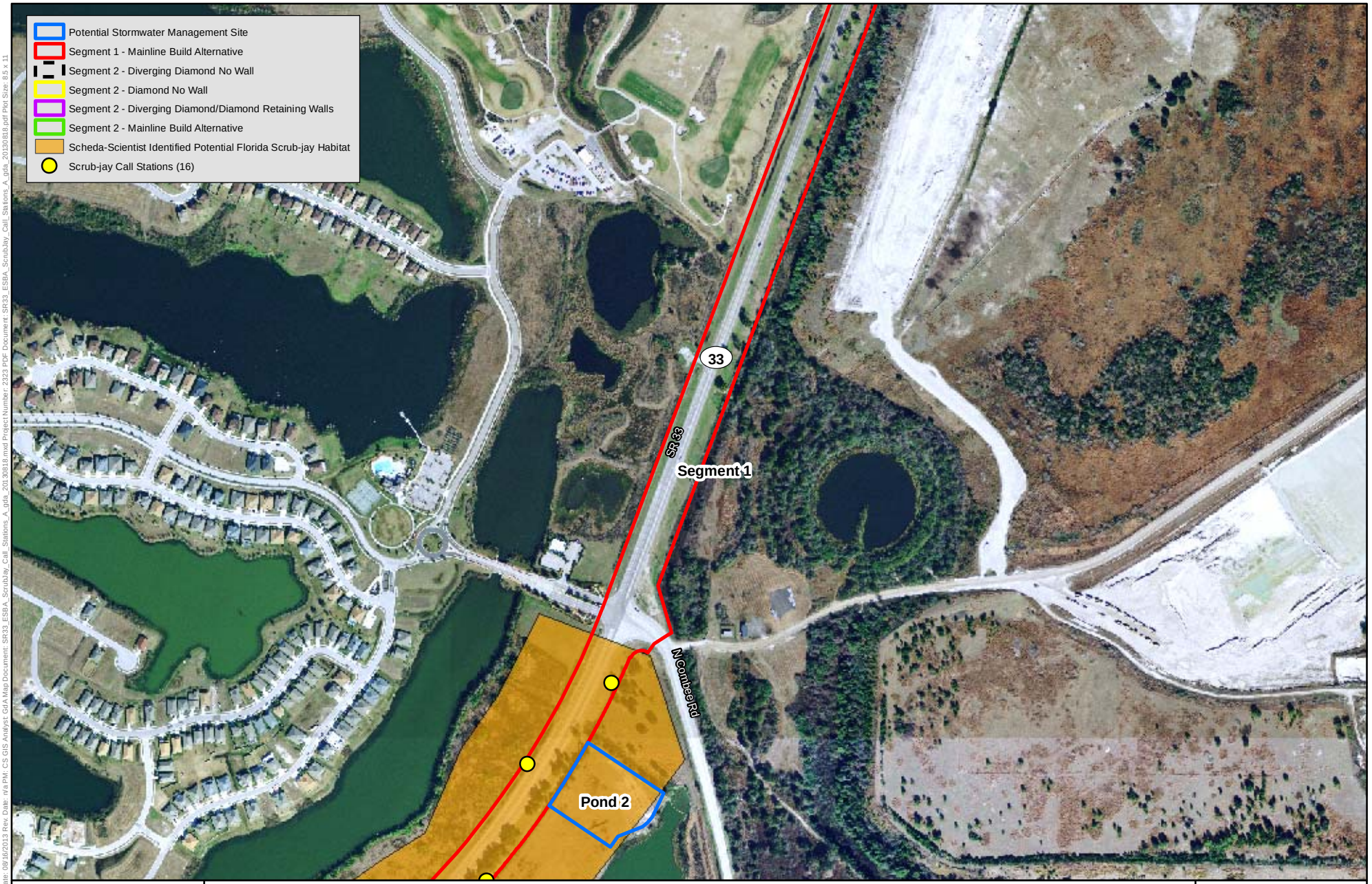
Coordinate System:
NAD 1983 Florida
State Plane West



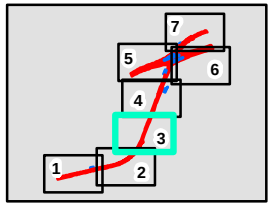


Figure 5 - Florida Scrub-jay Call Stations Map

Page 3 of 7

FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

0 550 1,100 1,650 Feet

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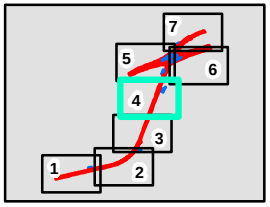


Figure 5 - Florida Scrub-jay Call Stations Map

Page 4 of 7

FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

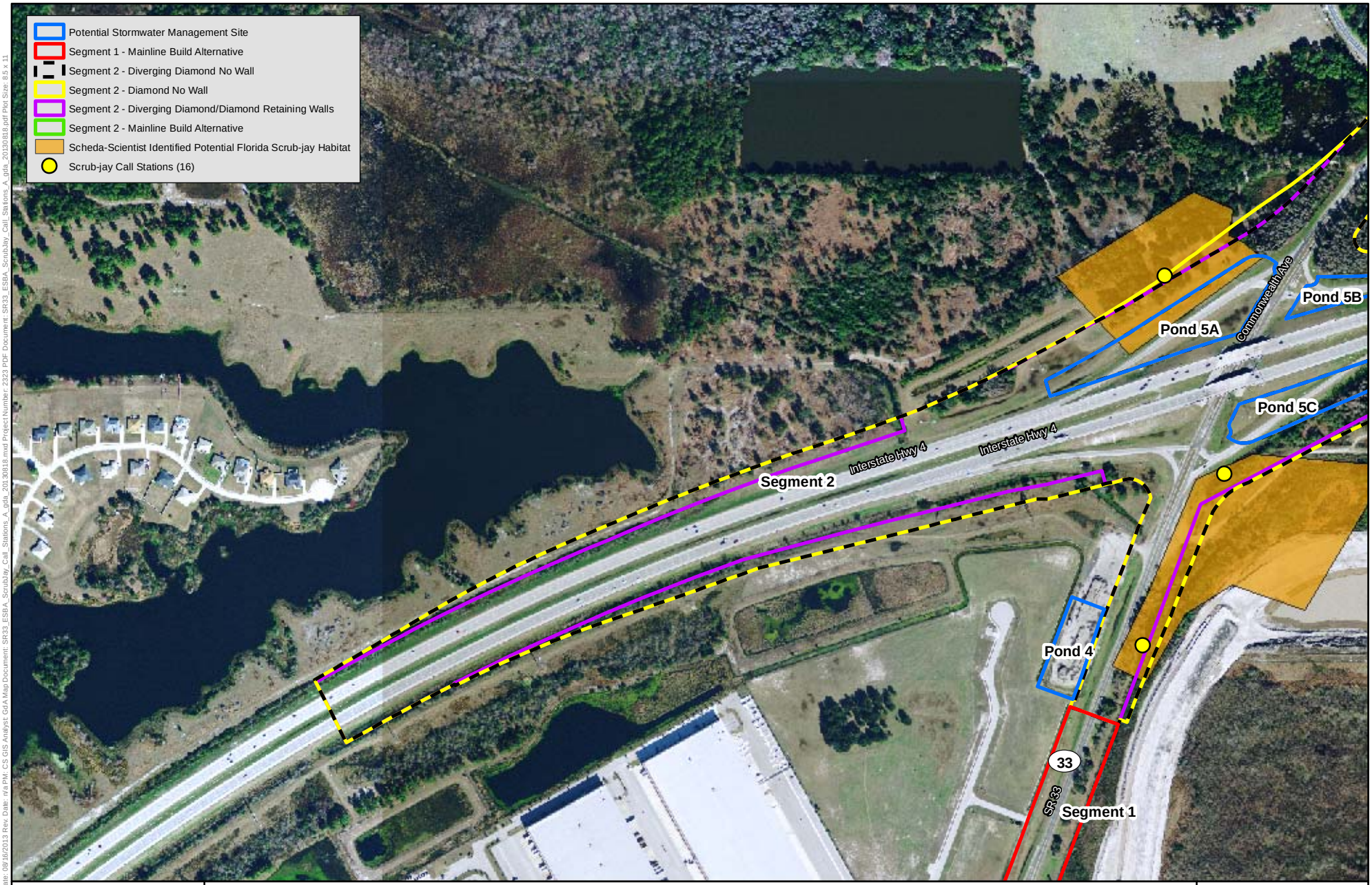
0 550 1,100 1,650 Feet

N

Data Source:
-Inwood Engineers
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West

Date: 09/16/2013 Rev. Date: n/a PM: CS GIS Analyst GdA Map Document: SR33_ESBA_ScrubJay_Call_Stations_A_gda_20130818.mxd Project Number: 2323 PDF Document: SR33_ESBA_ScrubJay_Call_Stations_A_gda_20130818.pdf Plot Size: 8.5 x 11



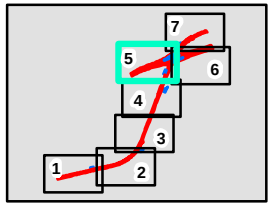


Figure 5 - Florida Scrub-jay Call Stations Map

Page 5 of 7

FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

0 550 1,100 1,650 Feet

N

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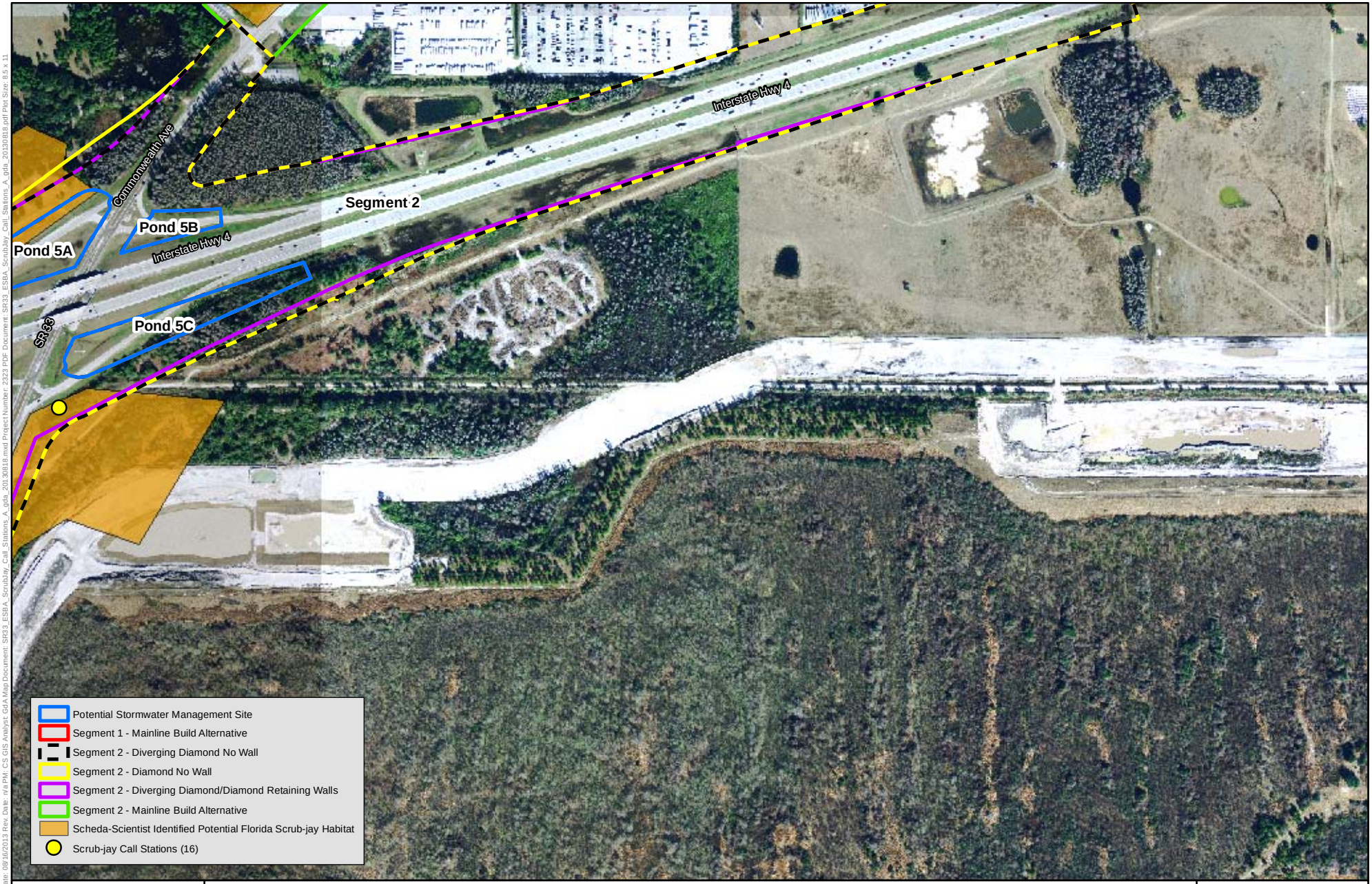
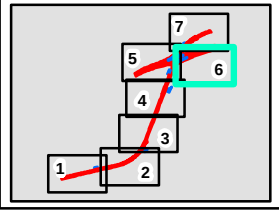
State Plane West





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FPID #: 430185-1-22-01
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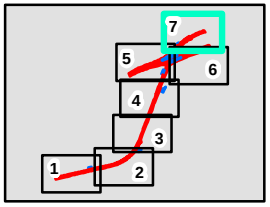

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Page 7 of 7

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SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

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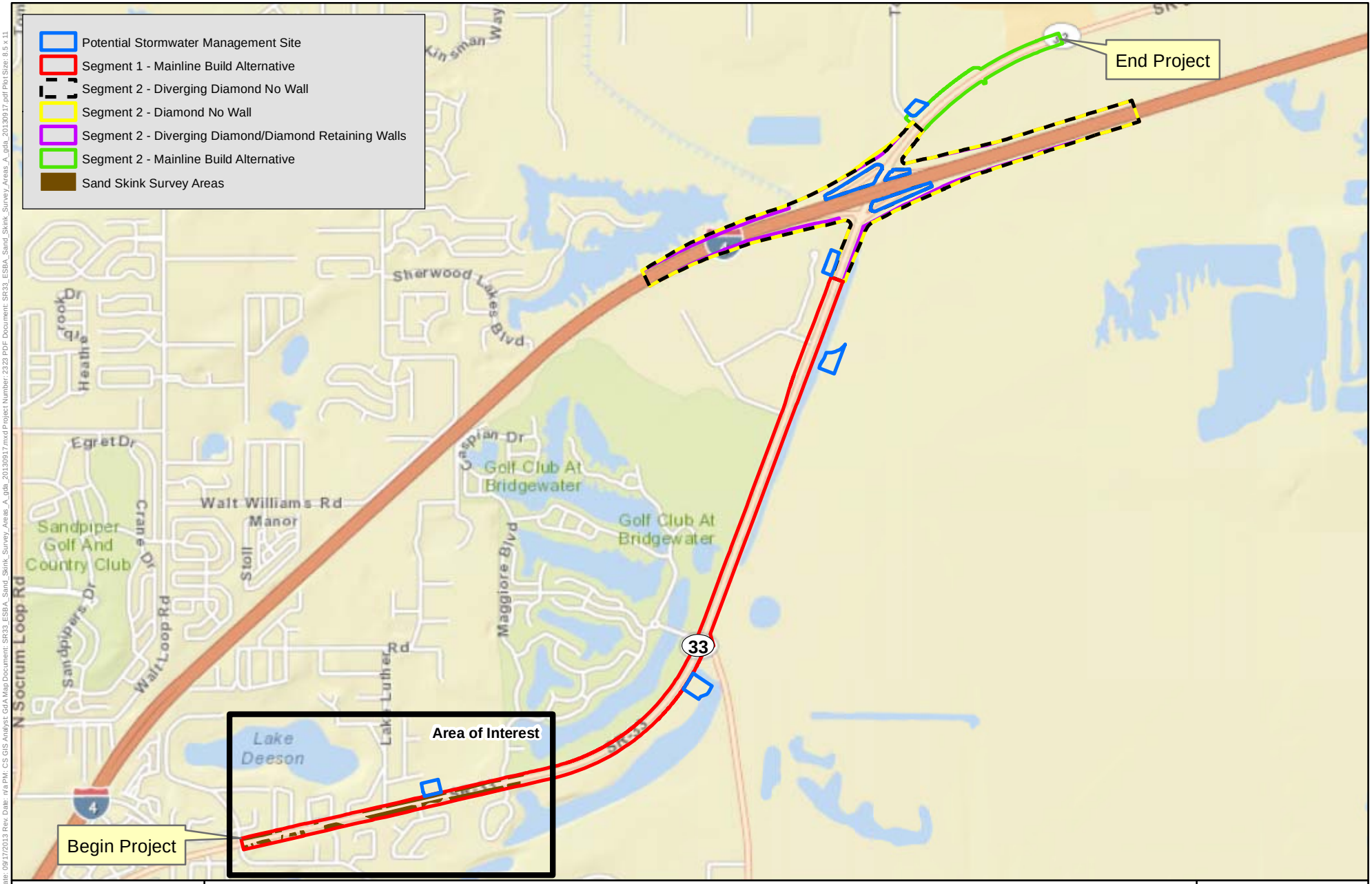


Figure 6a - Suitable Sand Skink Survey Areas Map

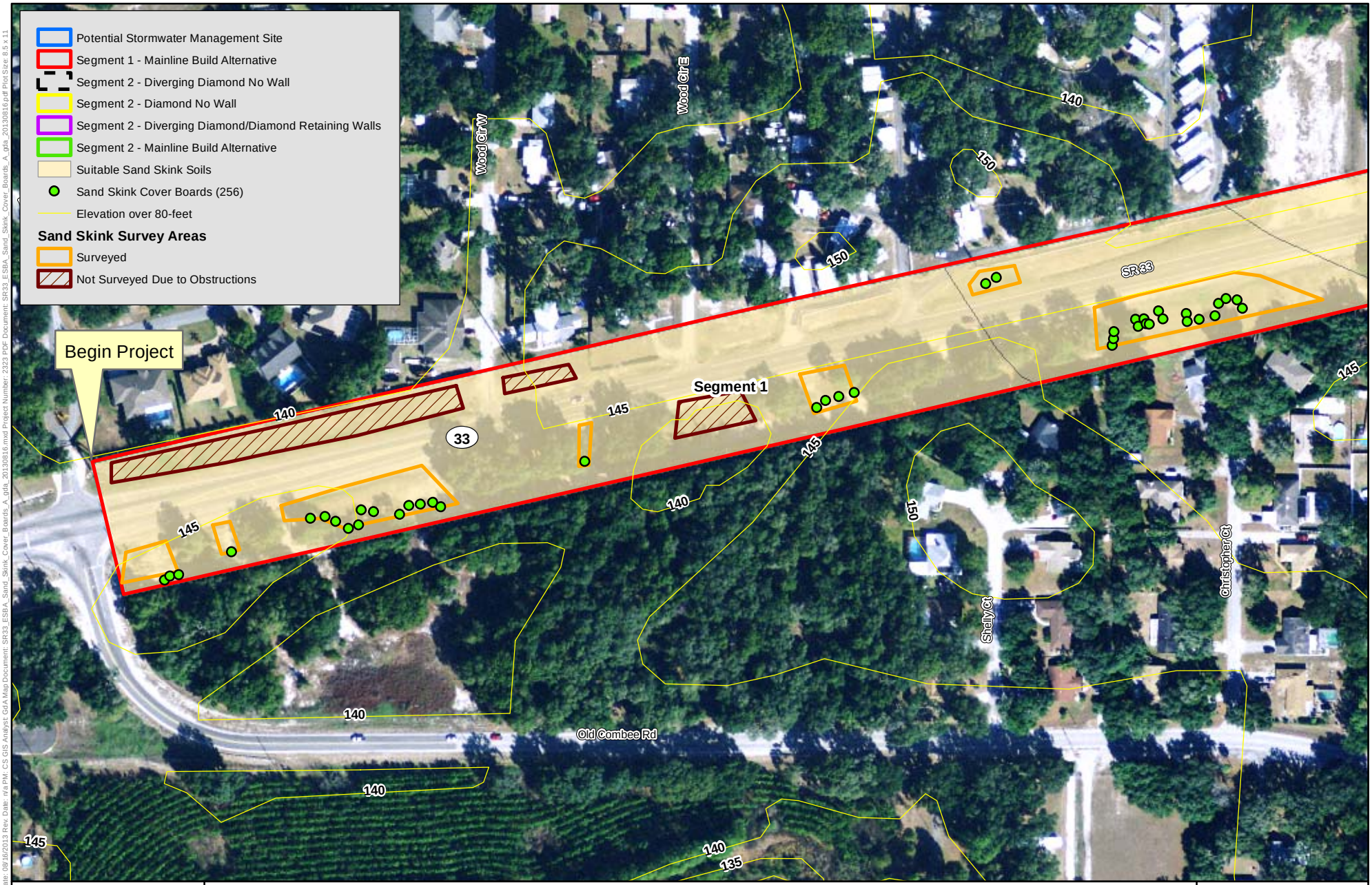
FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

0 2,400 4,800 7,200 Feet

N

Data Source:
-Inwood Engineers
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West



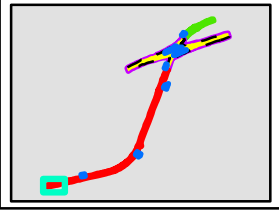


Figure 6b - Sand Skink Cover Board Locations Map

Page 1 of 3

FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

0 200 400 600 Feet

N

Data Source:
-Inwood Engineers
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West

Date: 09/16/2013 Rev. Date: n/a PM: CS GIS Analyst GdA Map Document: SR33_ESBA_Sand_Skink_Cover_Boards_A_gdb_20130816.mxd Project Number: 2323 PDF Document: SR33_ESBA_Sand_Skink_Cover_Boards_A_gdb_20130816.pdf Plot Size: 8.5 x 11

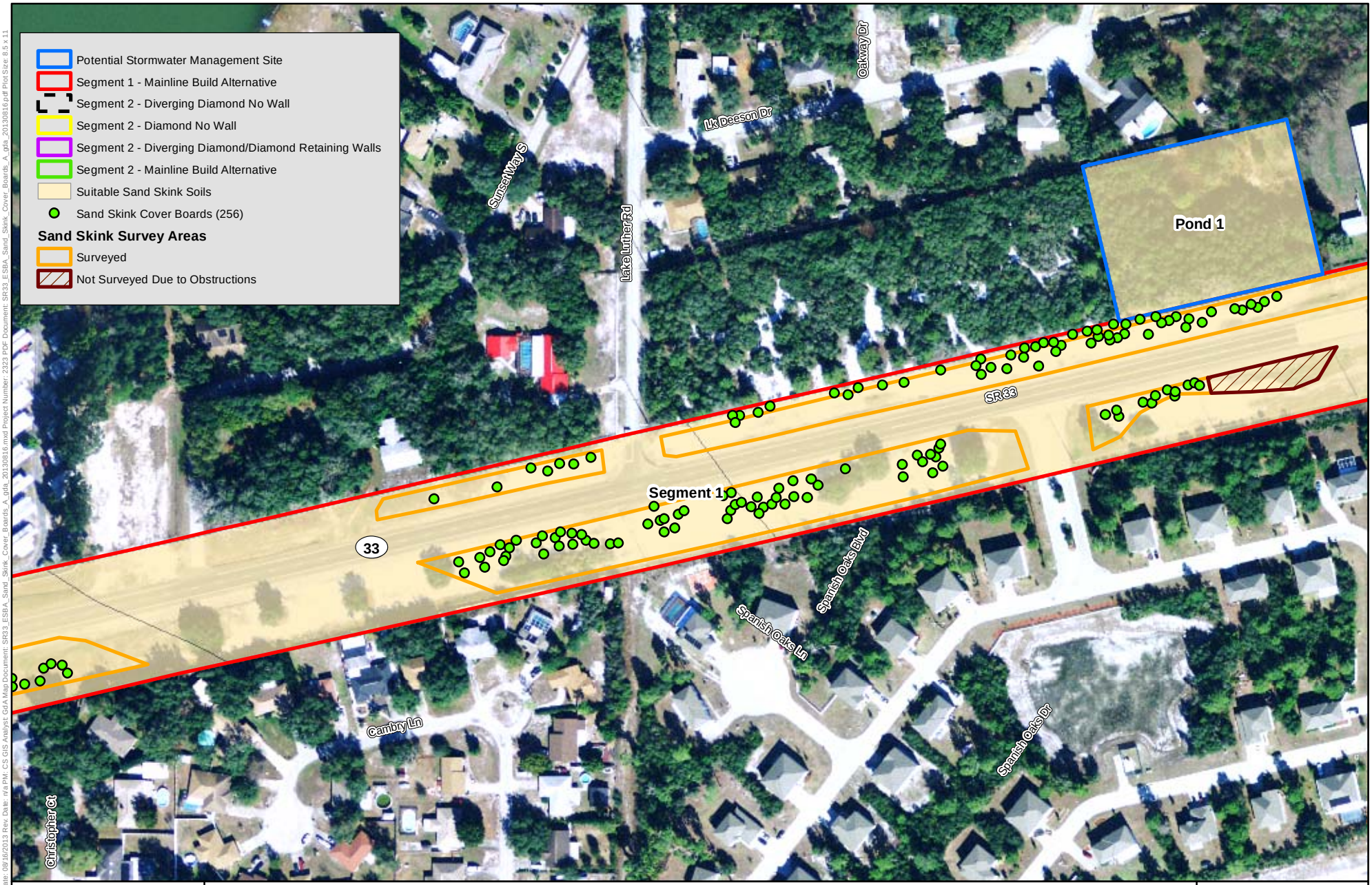


Figure 6b - Sand Skink Cover Board Locations Map

Page 2 of 3

FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

0 200 400 600 Feet

N

Data Source:
-Inwood Engineers
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West

Figure 6b - Sand Skink Cover Board Locations Map

Page 3 of 3

FPID #: 430185-1-22-01
SR 33 from Old Combee Road to North of Tomkow Road
Polk County, Florida

0 200 400 600 Feet

N

Data Source:
-Inwood Engineers
-Scheda Scientists
Imagery Source:
-2011 FDOR

Coordinate System:
NAD 1983 Florida
State Plane West

TABLES

Table 1. Existing Land Use / Land Cover Within 500 Feet of the Project

FLUCFCS CODE	Land Use	Acres	Percent of Total
1000: URBAN AND BUILT UP	1200 - Residential, Medium Density	133.3	13.6%
	1300 - Residential, High Density	10.1	1.0%
	1400 - Commercial and Services	43.3	4.4%
	1500 - Industrial	59.8	6.1%
	1600 - Extractive	41.8	4.3%
	1800 - Recreational	6.8	0.7%
	1820 - Golf Courses	20.5	2.1%
	1900 - Open Land	73.3	7.5%
	Total Urban and Built Up	388.9	39.6%
2000: AGRICULTURE	2100 - Cropland and Pastureland	72.8	7.4%
	Total Agriculture	72.8	7.4%
3000: RANGELAND	3200 - Shrub and Brushland	40.2	4.1%
	Total Rangeland	40.2	4.1%
4000: UPLAND FOREST	4110 - Pine Flatwoods	24.5	2.5%
	4200 - Upland Hardwood Forest	5.4	0.5%
	4210 - Xeric Oak	11.1	1.1%
	4340 - Hardwood Conifer Mixed	8.0	0.8%
	4400 - Tree Plantations	4.3	0.4%
	Total Upland Forest	53.2	5.4%
5000: WATER	5100 - Linear Surface Water	13.8	1.4%
	5300 - Reservoirs	61.4	6.2%
	Total Water	75.2	7.6%
6000: WETLANDS	6150 - Stream and Lake Swamps (Bottomland)	87.0	8.9%
	6210 - Cypress	25.1	2.6%
	6300 - Wetland Forested Mixed	12.6	1.3%
	6410 - Freshwater Marshes	28.7	2.9%
	6430 - Wet Prairies	13.8	1.4%
	6440 - Emergent Aquatic Vegetation	4.7	0.5%
	6530 - Intermittent Ponds	1.2	0.1%
	Total Wetlands	173.0	17.6%
7000: BARREN LAND	7400 - Disturbed Land	35.1	3.6%
	Total Barren Land	35.1	3.6%
8000: TRANSPORTATION, COMMUNICATION, & UTILITIES	8100 - Transportation	126.3	12.9%
	8300 - Utilities	18.2	1.8%
	Total Transportation, Communication, & Utilities	144.5	14.7%
	TOTAL	**982.8**	**100%**

Table 2. Protected Fauna that May Occur Within or Adjacent to the Project Corridor

Common Name	Scientific Name	USFWS	FWC	Potential for Occurrence	Observed
Birds					
Audubon's crested caracara	*Polyborus plancus audubonii*	T		Moderate	
Bald eagle	*Haliaeetus leucocephalus*	*	*	High	Yes
Everglade snail kite	*Rostrhamus sociabilis plumbeus*	E		Low	
Florida burrowing owl	*Athene cunicularia floridana*		SSC	Moderate	
Florida grasshopper sparrow	*Ammodramus savannarum floridanus*	E		Low	
Florida sandhill crane	*Grus canadensis pratensis*		SSC	High	Yes
Florida scrub-jay	*Aphelocoma coerulescens*	T		Moderate	
Limpkin	*Aramus guarana*		SSC	Moderate	
Little blue heron	*Egretta ceulea*		SSC	Moderate	
Roseate spoonbill	*Ajaja ajaja*		SSC	Low	
Snowy egret	*Egretta thula*		SSC	Moderate	
Southeastern American kestrel	*Falco sparverius paulus*		SSC	Moderate	
Tri-colored heron	*Egretta tricolor*		SSC	Moderate	
White ibis	*Eudocimus albus*		SSC	High	Yes
Wood stork	*Mycteria americana*	E		High	Yes
Amphibians					
Florida gopher frog	*Lithobates capito*		SSC	Moderate	
Reptiles					
Bluetail mole skink	*Eumeces egregius lividus*	T		Moderate	
Eastern indigo snake	*Drymarchon corais couperi*	T		Moderate	
Florida pine snake	*Pituophis melanoleucus mugitus*		SSC	Moderate	
Gopher tortoise	*Gopherus polyphemus*		T	Moderate	
Sand skink	*Neoseps reynoldsi*	T		Moderate	
Mammals					
Florida black bear	*Ursus americanus floridanus*	**	**	Low	
Florida mouse	*Podomys floridanus*		SSC	Moderate	
Sherman's fox squirrel	*Sciurus niger shermanii*		SSC	Low	
Florida bonneted bat	*Eumops floridanus*	E		Low	

Legend:
USFWS = United States Fish and Wildlife Service
FWC = Florida Fish and Wildlife Conservation Commission
E = Endangered T = Threatened SSC = Species of Special Concern
Sources:
Florida's Endangered and Threatened Species. Updated January 2013. Florida Fish and Wildlife Conservation Commission.
* Protected under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), as amended, the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712), and Chapter 68A-16.002, F.S.

Table 3. Protected Flora that May Occur Within or Adjacent to the Project Corridor

Common Name	Scientific Name	USFWS	FWC	Observed
Plants				
Ashe's savory	*Calamintha ashei*		T	
Avon Park harebells	*Crotalaria avonensis*	E		
Britton's beargrass	*Nolina brittoniana*	E		
Carter's mustard	*Warea carteri*	E		
Catesby's lily	*Lilium catesbaei*		T	
Curtiss' milkweed	*Asclepias curtissii*		E	
Cutthroat grass	*Panicum abscissum*		E	
Florida bonamia	*Bonamia grandiflora*	T		
Florida milkvine	*Matelea floridana*		E	
Florida ziziphus	*Ziziphus celata*	E		
Garberia	*Garberia heterophylla*		T	Yes
Giant coco	*Pteroglossaspis ecristata*		T	
Highlands scrub hypericum	*Hypericum cumulicola*	E		
Lewton's polygala	*Polygala lewtonii*	E		
Nodding pinweed	*Lechea cernua*		T	
Papery whitlow-wort	*Paronychia chartacea*	T		
Pigeon wings	*Clitoria fragrans*	T		
Pinescrub bluestem	*Schizachyrium niveum*		E	
Pygmy fringe-tree	*Chionanthus pygmaeus*	E		
Sand butterfly pea	*Centrosema arenicola*		E	
Sandlace	*Polygonella myriophylla*	E		
Scrub blazingstar	*Liatris ohlingerae*	E		
Scrub buckwheat	*Eriogonum longifolium var. gnaphalifolium*	T		
Scrub lupine	*Lupinus aridorum*	E		
Scrub mint	*Dicerandra frutescens*	E		
Scrub plum	*Prunus geniculata*	E		
Short-leaved rosemary	*Conradina brevifolia*	E		
Showy dawnflower	*Stylisma abdita*		E	
Simpson's zephyr lily	*Zephyranthes simpsonii*		T	
Wedge-leaved button snakeroot	*Eryngium cuneifolium*	E		
Wide-leaf warea	*Warea amplexifolia*	E		
Wireweed	*Polygonella basiramia*	E		
Yellow fringeless orchid	*Platanthera integra*		E	
Lichens				
Perforate reindeer lichen	*Cladonia perforata*	E		

Legend:
USFWS = United States Fish and Wildlife Service
FWC = Florida Fish and Wildlife Conservation Commission
E = Endangered T = Threatened
Sources:
Chapter 5B-40.0055, Florida Administrative Code, Notes on Florida's Endangered and Threatened Plants 4th Edition, 2003, Guide to the Vascular Plants of Florida 2nd Edition, 2003
USFWS. IPaC-Information, Planning, and Conservation System. 2013

Table 4. Listed and Non-Listed Wildlife Documented Within or Near the Project Corridor

Common Name	Scientific Name	Date First Observed	Observation Type	FWC	USFWS
Mammals					
Coyote	*Canis latrans*	10/9/2012	Tracks		
Raccoon	*Procyon lotor*	10/9/2012	Tracks		
Gray squirrel	*Sciurus carolinensis*	10/9/2013	Observed		
Mouse (species unknown)		10/15/2012	Tracks		
Reptiles					
Six-lined racerunner	*Aspidoscelis sexlineata*	10/9/2012	Observed		
Turtle (species unknown)		10/9/2012	Roadkill		
Birds					
American Crow	*Corvus brachyrhynchos*	10/9/2012	Observed		
Anhinga	*Anhinga anhinga*	10/9/2012	Observed		
Bald Eagle	*Haliaeetus leucocephalus*	10/9/2012	Observed		
Belted Kingfisher	*Megaceryle alcyon*	10/9/2012	Observed		
Black Vulture	*Coragyps atratus*	10/15/2012	Observed		
Blue Jay	*Cyanocitta cristata*	10/9/2013	Observed		
Boat-Tailed Grackle	*Quiscalus major*	10/9/2012	Observed		
Carolina Chickadee	*Poecile carolinensis*	4/15/2013	Observed		
Cattle Egret	*Bubulcus ibis*	10/15/2012	Observed		
Common Grackle	*Quiscalus quiscula*	3/27/2013	Observed		
Double-Crested Cormorant	*Phalacrocorax auritus*	4/15/2013	Observed		
Eastern Bluebird	*Sialia sialis*	3/27/2013	Observed		
Eurasian Collared Dove	*Streptopelia decaocto*	3/27/2013	Observed		
European Starling	*Sturnus vulgaris*	10/9/2012	Observed		
Fish Crow	*Corvus ossifragus*	10/9/2012	Observed		
Florida Sandhill Crane	*Grus canadensis pratensis*	10/9/2012	Observed	T	
Glossy Ibis	*Plegadis flacinellus*	10/15/2012	Observed		
Gray Catbird	*Dumetella carolinensis*	10/15/2012	Observed		
Great Blue Heron	*Ardea herodias*	10/9/2012	Observed		
Great Egret	*Ardea alba*	10/9/2012	Observed		
Mourning Dove	*Zenaida macroura*	10/9/2012	Observed		
Northern Cardinal	*Cardinalis cardinalis*	10/9/2012	Observed		
Northern Mockingbird	*Mimus polyglottos*	10/9/2012	Observed		
Northern Parula	*Setophaga americana*	4/15/2013	Observed		
Osprey	*Pandion haliaetus*	10/15/2012	Observed		
Pine Warbler	*Dendroica pinus*	3/27/2013	Observed		
Red-Shouldered Hawk	*Buteo lineatus*	4/15/2013	Observed		
Red-Tailed Hawk	*Buteo jamaicensis*	10/9/2012	Observed		
Red-Winged Blackbird	*Agelaius phoeniceus*	4/15/2013	Observed		
Swallow-Tailed Kite	*Elanoides forficatus*	3/27/2013	Observed		
Tufted Titmouse	*Baeolophus bicolor*	3/27/2013	Observed		
Turkey Vulture	*Cathartes aura*	10/15/2012	Observed		
White Ibis	*Eudocimus albus*	3/27/2013	Observed	SSC	
White-Eyed Vireo	*Vireo griseus*	4/15/2013	Observed		
Wood Stork	*Mycteria americana*	10/15/2012	Observed		E

Note: Data source Florida Fish and Wildlife Conservation Commission and USFWS.
E = Endangered
T = Threatened
SSC = Species of Special Concern

Table 5. Florida Scrub-Jay Survey Results

Date	Weather	Start Time	End Time	Scrub Jay Observations	Additional Observations
10/9/2012	75°F; wind from NW @ 2mph	8:48 AM	10:00 AM	None	European starling, northern mockingbird, bluejay, anhinga, Florida sandhill crane, northern cardinal, unidentified turtle, mourning dove, red-tailed hawk*, great blue heron, belted kingfisher, boat-tailed grackle, American crow, racoon, gray squirrel, coyote, six-lined racerunner, great egret
10/15/2012	76°F; no wind	9:00 AM	10:00	None	blue jay, cattle egret, glossy ibis, six-lined racerunner, boat-tailed grackle, fish crow, osprey*, northern cardinal, anhinga, racoon, unidentified mouse, mourning dove, great blue heron, catbird, northern mockingbird, wood stork, black vulture*, turkey vulture*
3/7/2013	53°F; wind 8mph	9:00 AM	10:30 AM	None	northern mocking bird, black vulture*, turkey vulture*, cattle egret, northern cardinal, mourning dove
3/22/2013	59°F; wind 3mph	9:00 AM	10:30 AM	None	great blue heron, white ibis, northern mockingbird, palm warbler
3/26/2013	51°F; wind from N @ 3mph	7:00 AM	8:15 AM	None	common grackle, osprey*, mounring dove, northern mockingbird, black vulture*
3/27/2013	39°F; wind from N @ 6mph	9:04 AM	10:30 AM	None	wood stork, black vulture*, great blue heron, Eurasian collared dove, swallow-tailed kite*, tufted titmouse, northern mockingbird, white ibis, warbler, common grackle, osprey*, bluebird
4/15/2013	73°F; wind from SSE @ 7mph	9:32 AM	11:28 AM	None	black vulture*, northern cardinal, mourning dove, redwinged blackbird, northern mockingbird, white ibis, common grackle, wood stork, white-eyed vireo, Carolina chickadee, double-crested cormorant, great blue heron, red shouldered hawk**, pine warbler, northern parula

*Observed flying high overhead; did not perch or forage in the project area. Therefore, presence not believed to have affected survey.

** Observed adjacent to the project area, but not within areas being surveyed for the Florida scrub-jay

Refer to appendices for datasheets.

Table 6. Summary of Wood Stork Foraging Biomass Loss Assessment

Sement/Alternative	Proposed Wetland Impacts (Acres)	Proposed Surface Water Impacts (Acres)	Total Wood Stork Foraging Biomass Loss (kg)	Wood Stork Foraging Biomass Loss (kg) Per Hydroperiod	
				Short Hydroperiod	Long Hydroperiod
Segment 1- Mainline Build Alternative*	3.12	0.00	0.08	3.12	0.00
Segment 2- Diverging Diamond with Retaining Walls and Mainline Build Alternative*	11.82**	10.55	40.72	10.55	11.82
Segment 2- Diamond with Retaining Walls and Mainline Build Alternative*	11.82**	10.55	40.72	10.55	11.82
Segment 2- Diverging Diamond Without Walls And Mainline Build Alternative*	13.22**	12.19	42.42	12.19	13.23
Segment 2- Diamond without Walls and Mainline Build Alternative*	13.89**	12.19	45.00	12.19	13.90

* Mainline build alterantives 1 and 2 have similar wetland impact acreages per project segment.

** Includes only impacts, does not include acreage of wetland remaining offsite that will be isolated and less and 0.5 acres in size.

Table 7. Potential Impacts to Existing Land Use / Land Cover Within the Project Mainline Build Alternative (Segment 1)

FLUCFCS CODE		DESCRIPTION	NO-BUILD (Ac)	ALTERNATIVE 1 (Ac)	ALTERNATIVE 2 (Ac)
1000: URBAN AND BUILT UP	1200	Residential, Medium Density	0.00	3.28	3.28
	1400	Commercial and Services	0.00	0.35	0.35
	1500	Industrial	0.00	2.28	2.28
	1900	Open Land	0.00	31.30	31.30
		Total Urban and Built Up	**0.00**	**37.22**	**37.22**
2000: AGRICULTURE	2100	Cropland and Pastureland	0.00	0.22	0.22
		Total Agriculture	**0.00**	**0.22**	**0.22**
3000: RANGELAND	3200	Shrub and Brushland	0.00	0.16	0.16
		Total Rangeland	**0.00**	**0.16**	**0.16**
4000: UPLAND FOREST	4210	Xeric Oak	0.00	1.53	1.53
	4340	Hardwood - Conifer Mixed	0.00	0.03	0.03
		Total Upland Forest	**0.00**	**1.55**	**1.55**
6000: WETLANDS	6150	Stream and Lake Swamps (Bottomland)	0.00	3.12	3.12
		Total Wetlands	**0.00**	**3.12**	**3.12**
7000: BARREN LAND	7400	Disturbed Land	0.00	18.57	18.57
		Total Barren Land	**0.00**	**18.57**	**18.57**
8000: TRANSPORTATION, COMMUNICATION, & UTILITIES	8100	Transportation	0.00	17.39	17.39
	8300	Utilities	0.00	0.03	0.03
		Total Transportation, Communication & Utilities	**0.00**	**17.42**	**17.42**
		Totals	**0.00**	**78.26**	**78.26**

Notes: Land use acreage data is based on existing mainline ROW and on SWFWMD FLUCFCS data with field verification of natural habitats.

Table 8. Potential Impacts to Sand Skink Habitat Based Upon Appropriate Soils and Elevation Within the Project Mainline Build Alternative (Segment 1)

FLUCFCS CODE		DESCRIPTION	NO-BUILD (Ac)	ALTERNATIVE 1 (Ac)	ALTERNATIVE 2 (Ac)
1000: URBAN AND BUILT UP	1200	Residential, Medium Density	0.00	0.79	0.79
		Total Urban and Built Up	**0.00**	**0.79**	**0.79**
2000: AGRICULTURE	2100	Cropland and Pastureland	0.00	0.05	0.05
		Total Agriculture	**0.00**	**0.05**	**0.05**
3000: RANGELAND	3200	Shrub and Brushland	0.00	0.14	0.14
		Total Rangeland	**0.00**	**0.14**	**0.14**
4000: UPLAND FOREST	4210	Xeric Oak	0.00	1.53	1.53
	4340	Hardwood - Conifer Mixed	0.00	0.03	0.03
		Total Upland Forest	**0.00**	**1.55**	**1.55**
7000: BARREN LAND	7400	Disturbed Land	0.00	16.16	16.16
		Total Barren Land	**0.00**	**16.16**	**16.16**
		Totals	**0.00**	**18.69**	**18.69**

Notes: Series 5000, 6000, 8000 and some series 1000 FLUCFCS sub-codes are not included since, while sand skinks may utilize a broad range of habitats, wet and impervious environments do not provide the necessary soils. Additional factors precluded some areas represented in this table from the cover board survey. Land use acreage data is based on design alternatives, and on SWFWMD FLUCFCS data with field verification of natural habitat areas.

Table 9. Potential Impacts to Existing Land Use / Land Cover Within the Interchange Build Alternatives (Segment 2)

FLUCFCS CODE		DESCRIPTION	NO-BUILD (Ac)	DIVERGING DIAMOND WITH RETAINING WALLS (Ac)	DIAMOND WITH RETAINING WALLS (Ac)	DIVERGING DIAMOND WITHOUT WALLS (Ac)	DIAMOND WITHOUT WALLS (Ac)
1000: URBAN AND BUILT UP	1200	Residential, Medium Density	0.00	4.43	4.43	6.83	6.84
	1400	Commercial and Services	0.00	1.07	1.07	1.07	1.07
	1500	Industrial	0.00	3.26	3.26	3.26	3.26
	1900	Open Land	0.00	6.65	6.65	7.66	7.88
		Total Urban and Built Up	**0.00**	**15.41**	**15.41**	**18.82**	**19.05**
2000: AGRICULTURE	2100	Cropland and Pastureland	0.00	0.02	0.02	1.56	1.56
		Total Agriculture	**0.00**	**0.02**	**0.02**	**1.56**	**1.56**
4000: UPLAND FOREST	4110	Pine Flatwoods	0.00	2.05	2.05	3.55	3.87
	4200	Upland Hardwood Forests	0.00	0.16	0.16	0.16	0.16
		Total Upland Forest	**0.00**	**2.21**	**2.21**	**3.71**	**4.03**
5000: WATER	5100	Streams and Waterways	0.00	9.16	9.16	10.79	10.79
	5300	Reservoirs	0.00	0.98	0.98	0.99	0.99
		Total Water	**0.00**	**10.13**	**10.13**	**11.78**	**11.78**
6000: WETLANDS	6150	Stream and Lake Swamps (Bottomland)	0.00	1.19	1.19	2.11	2.11
	6210	Cypress	0.00	8.68	8.68	9.21	9.42
	6300	Wetland Forested Mixed	0.00	0.02	0.02	0.02	0.15
	6410	Freshwater Marshes	0.00	0.74	0.74	0.74	1.09
	643	Wet Prairies	0.00	0.01	0.01	0.01	0.01
		Total Wetlands	**0.00**	**10.63**	**10.63**	**12.09**	**12.77**

Table 9. Potential Impacts to Existing Land Use / Land Cover Within the Interchange Build Alternatives (Segment 2)

FLUCFCS CODE		DESCRIPTION	NO-BUILD (Ac)	DIVERGING DIAMOND WITH RETAINING WALLS (Ac)	DIAMOND WITH RETAINING WALLS (Ac)	DIVERGING DIAMOND WITHOUT WALLS (Ac)	DIAMOND WITHOUT WALLS (Ac)
7000: BARREN LAND	7400	Disturbed Land	0.00	1.65	1.65	1.83	1.83
		Total Barren Land	**0.00**	**1.65**	**1.65**	**1.83**	**1.83**
8000: TRANSPORTATION, COMMUNICATION, & UTILITIES	8100	Transportation	0.00	64.02	64.02	64.02	64.02
	8300	Utilities	0.00	2.85	2.85	3.76	3.76
		Total Transportation, Communication & Utilities	**0.00**	**66.87**	**66.87**	**67.79**	**67.79**
		Totals	**0.00**	**106.92**	**106.92**	**117.58**	**118.81**

Notes: Land use acreage data is based on existing mainline ROW, excluding interchanges, and on SWFWMD FLUCFCS data with field verification of most natural habitats.

Table 10. Potential Impacts to Sand Skink Habitat Within the Interchange Build Alternatives Based Upon Appropriate Soils and Elevation (Segment 2)

FLUCFCS CODE		DESCRIPTION	NO-BUILD (Ac)	DIVERGING DIAMOND WITH RETAINING WALLS (Ac)	DIAMOND WITH RETAINING WALLS (Ac)	DIVERGING DIAMOND WITHOUT WALLS (Ac)	DIAMOND WITHOUT WALLS (Ac)
2000: AGRICULTURE	2100	Cropland and Pastureland	0.00	0.01	0.01	0.11	0.11
		Total Agriculture	**0.00**	**0.01**	**0.01**	**0.11**	**0.11**
		Totals	**0.00**	**0.01**	**0.01**	**0.11**	**0.11**

Notes: Series 5000, 6000, 8000, and some series 1000 sub-codes are not included since, while sand skinks may utilize a broad range of habitats, wet and impervious environments do not provide the necessary soils. Land use acreage data is based on interchange design alternatives, and on SWFWMD FLUCFCS data with field verification of natural habitat areas.

Table 11. Potential Impacts to Existing Land Use / Land Cover Within the Project Mainline Build Alternative (Segment 2)

FLUCFCS CODE		DESCRIPTION	NO-BUILD (Ac)	ALTERNATIVE 1 (Ac)	ALTERNATIVE 2 (Ac)
1000: URBAN AND BUILT UP	1400	Commercial and Services	0.00	3.03	3.03
	1500	Industrial	0.00	1.83	1.83
	1800	Recreational	0.00	0.03	0.03
	1900	Open Land	0.00	2.01	2.01
		Total Urban and Built Up	**0.00**	**6.91**	**6.91**
4000: UPLAND FOREST	4200	Upland Hardwood Forests	0.00	0.52	0.52
		Total Upland Forest	**0.00**	**0.52**	**0.52**
6000: WETLANDS	6150	Stream and Lake Swamps (Bottomland)	0.00	0.04	0.04
	6210	Cypress	0.00	1.22	1.22
	6410	Freshwater Marshes	0.00	0.02	0.02
		Total Wetlands	**0.00**	**1.29**	**1.29**
8000: TRANSPORTATION, COMMUNICATION, & UTILITIES	8100	Transportation	0.00	8.81	8.81
		Total Transportation, Communication & Utilities	**0.00**	**8.81**	**8.81**
		Totals	**0.00**	**17.53**	**17.53**

Notes: Land use acreage data is based on existing mainline ROW, excluding interchanges, and on SWFWMD FLUCFCS data with field verification of natural habitats.

Table 12. Potential Impacts to Existing Land Use / Land Cover Within the Potential Stormwater Management Sites

FLUCFCS CODE		DESCRIPTION	NO-BUILD (Ac)	ALTERNATIVE 1 (Ac)	ALTERNATIVE 2 (Ac)
1000: URBAN AND BUILT UP	1200	Residential, Medium Density	0.00	1.63	1.63
	1600	Extractive	0.00	1.93	1.93
	1900	Open Land	0.00	1.23	1.23
		Total Urban and Built Up	**0.00**	**4.79**	**4.79**
2000: AGRICULTURE	2100	Cropland and Pastureland	0.00	3.02	3.02
		Total Agriculture	**0.00**	**3.02**	**3.02**
4000: UPLAND FOREST	4110	Pine Flatwoods	0.00	0.68	0.68
	4200	Upland Hardwood Forests	0.00	0.98	0.98
	4210	Xeric Oak	0.00	1.73	1.73
		Total Upland Forest	**0.00**	**3.39**	**3.39**
5000: WATER	5300	Reservoirs	0.00	0.41	0.41
		Total Water	**0.00**	**0.41**	**0.41**
6000: WETLANDS	6210	Cypress	0.00	0.61	0.61
		Total Wetlands	**0.00**	**0.61**	**0.61**
8000: TRANSPORTATION, COMMUNICATION, & UTILITIES	8100	Transportation	0.00	7.12	7.12
	8300	Utilities	0.00	0.11	0.11
		Total Transportation, Communication, & Utilities	**0.00**	**7.23**	**7.23**
			0.00	**19.45**	**19.45**

Notes: Land use acreage data is based on SWFWMD FLUCFCS data with field verification of natural habitats.

Table 13. Potential Impacts to Sand Skink Habitat Within the Potential Stormwater Management Sites Based Upon Appropriate Soils and Elevation

FLUCFCS CODE		DESCRIPTION	NO-BUILD (Ac)	ALTERNATIVE 1 (Ac)	ALTERNATIVE 2 (Ac)
4000: UPLAND FOREST	4210	Xeric Oak	0.00	1.74	1.74
		Total Upland Forest	**0.00**	**1.74**	**1.74**
		Totals	**0.00**	**1.74**	**1.74**

Notes: Series 5000, 6000, 8000 and some series 1000 FLUCFCS sub-codes are not included since, while sand skinks may utilize a broad range of habitats, wet and impervious environments do not provide the necessary soils. Land use acreage data is based on SWFWMD FLUCFCS data with field verification of natural habitat areas.

APPENDIX A

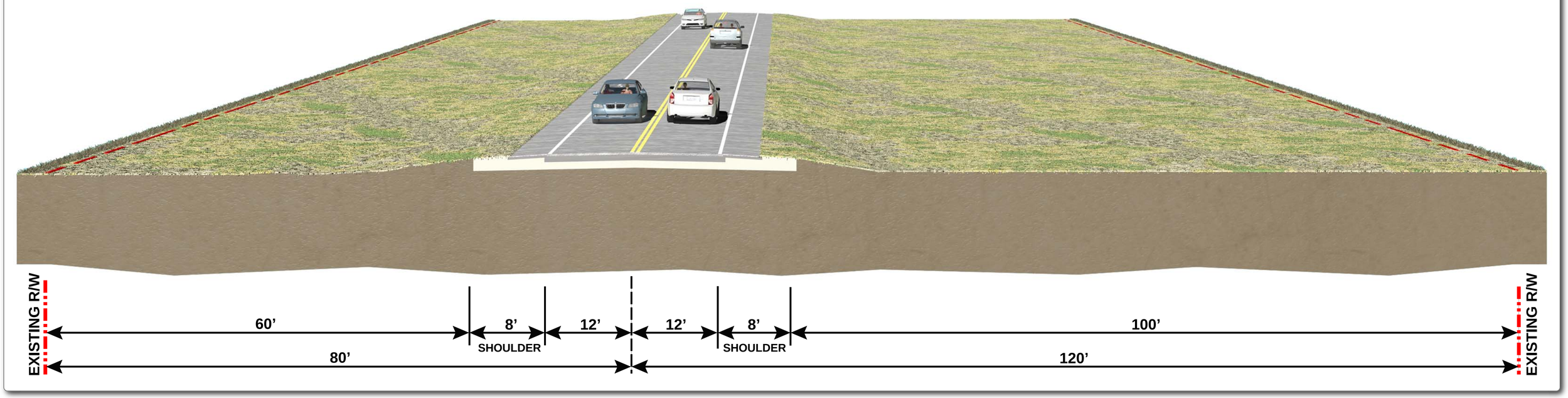
TYPICAL SECTION

DISTRICT 1
POLK COUNTY
FPID# 430185-1-22-01

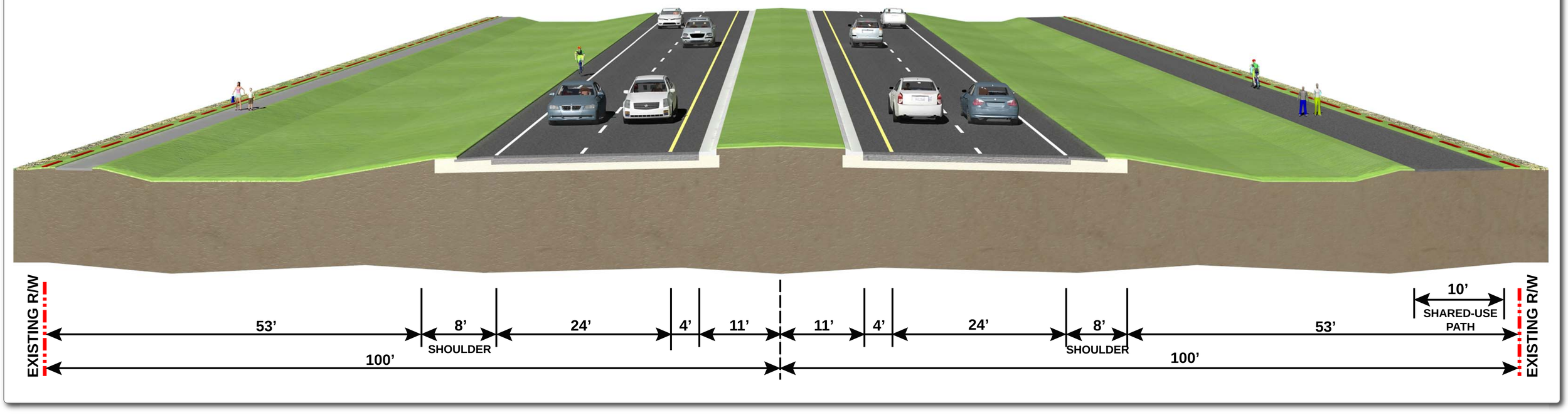
STATE ROAD 33 PD&E STUDY

FROM OLD COMBEE ROAD TO NORTH OF TOMKOW ROAD

EXISTING ROADWAY CONDITION
RURAL 2-LANE



SUBURBAN FULL RECONSTRUCTION ALTERNATIVE



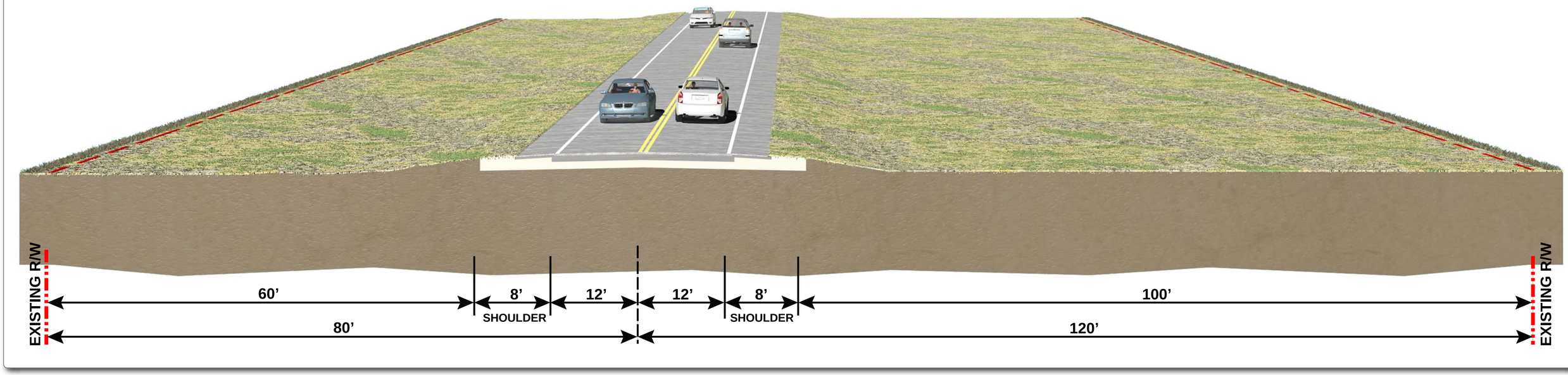
SUBURBAN FULL RECONSTRUCTION TYPICAL SECTION

DISTRICT 1
POLK COUNTY
FPID# 430185-1-22-01

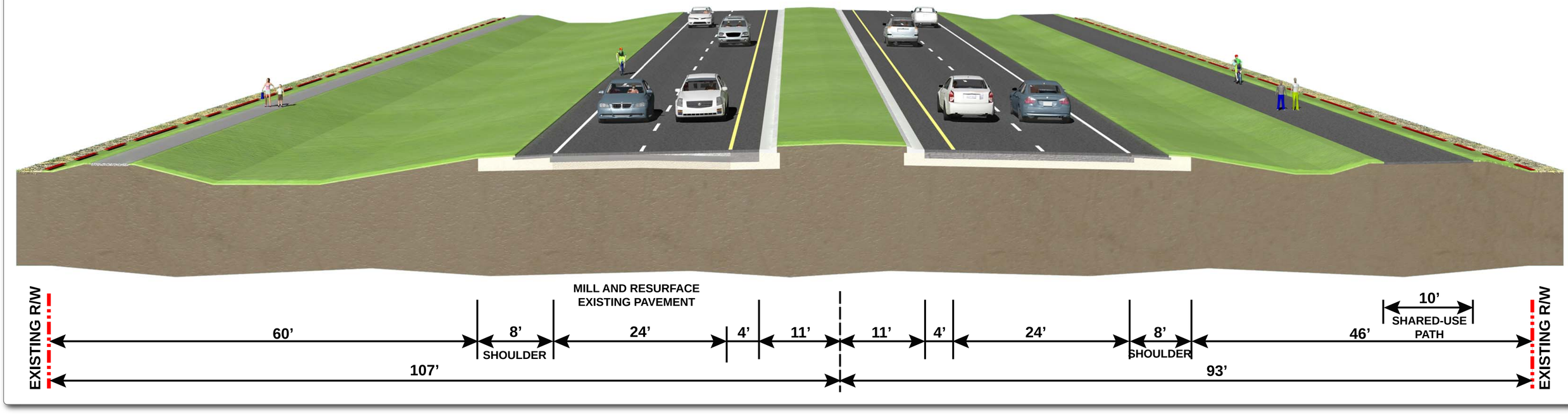
STATE ROAD 33 PD&E STUDY

FROM OLD COMBEE ROAD TO NORTH OF TOMKOW ROAD

EXISTING ROADWAY CONDITION
RURAL 2-LANE



SUBURBAN SAVE PAVEMENT ALTERNATIVE



SUBURBAN SAVE PAVEMENT TYPICAL SECTION

APPENDIX B

ETDM AGENCY COMMENTS- PROJECT EFFECTS

Agency Environmental Comments

#13188 State Road 33: from Old Combee Road to north of Tomkow Road ** More Recent Data is Available

District: District 1
County: Polk County
Planning Organization: FDOT District 1
Plan ID: Not Available
Federal Involvement: Maintain Federal Eligibility

Phase: Programming Screen
From: north of Tomkow Road
To: Old Combee Road
Financial Management No.: 43018512201

Contact Information: Gwen G. Pipkin (863) 519-2375 x2375 gwen.pipkin@dot.state.fl.us
Snapshot Data From: Project Published 8/10/2011

Alternative #1

Project Effects Overview for Alternative #1

Issue	Degree of Effect	Organization	Date Reviewed
Natural			
Air Quality	0 None	US Environmental Protection Agency	06/07/2011
Coastal and Marine	0 None	Southwest Florida Water Management District	05/26/2011
Coastal and Marine	N/A N/A / No Involvement	National Marine Fisheries Service	04/25/2011
Contaminated Sites	2 Minimal	Southwest Florida Water Management District	05/26/2011
Contaminated Sites	0 None	US Environmental Protection Agency	06/07/2011
Contaminated Sites	0 None	FL Department of Environmental Protection	05/26/2011
Farmlands	2 Minimal	Natural Resources Conservation Service	04/18/2011
Floodplains	2 Minimal	Southwest Florida Water Management District	05/26/2011
Floodplains	2 Minimal	US Environmental Protection Agency	06/07/2011
Infrastructure	2 Minimal	Southwest Florida Water Management District	05/26/2011
Navigation	0 None	US Army Corps of Engineers	08/02/2011
Special Designations	0 None	US Environmental Protection Agency	06/07/2011
Special Designations	2 Minimal	Southwest Florida Water Management District	05/26/2011
Water Quality and Quantity	3 Moderate	Southwest Florida Water Management District	05/26/2011
Water Quality and Quantity	2 Minimal	FL Department of Environmental Protection	05/26/2011
Water Quality and Quantity	3 Moderate	US Environmental Protection Agency	06/07/2011
Wetlands	2 Minimal	FL Department of Environmental Protection	05/26/2011
Wetlands	3 Moderate	US Environmental Protection Agency	06/07/2011
Wetlands	3 Moderate	US Fish and Wildlife Service	04/25/2011
Wetlands	3 Moderate	Southwest Florida Water Management District	05/26/2011
Wetlands	N/A N/A / No Involvement	National Marine Fisheries Service	04/25/2011
Wetlands	3 Moderate	Federal Highway Administration	06/02/2011
Wetlands	3 Moderate	US Army Corps of Engineers	05/27/2011
Wildlife and Habitat	3 Moderate	US Fish and Wildlife Service	04/25/2011
Wildlife and Habitat	3 Moderate	Southwest Florida Water Management District	05/26/2011
Wildlife and Habitat	3 Moderate	FL Fish and Wildlife Conservation Commission	05/18/2011
Cultural			
Historic and Archaeological Sites	3 Moderate	FL Department of State	05/27/2011

Historic and Archaeological Sites	0 None	Southwest Florida Water Management District	05/26/2011
Historic and Archaeological Sites	3 Moderate	Seminole Tribe of Florida	04/25/2011
Recreation Areas	1 Enhanced	FL Department of Environmental Protection	05/26/2011
Recreation Areas	0 None	US Environmental Protection Agency	06/07/2011
Recreation Areas	0 None	Southwest Florida Water Management District	05/26/2011
Section 4(f) Potential	2 Minimal	Federal Highway Administration	06/02/2011
Community			
Aesthetics	2 Minimal	Federal Highway Administration	06/02/2011
Aesthetics	3 Moderate	FDOT District 1	06/02/2011
Economic	1 Enhanced	FDOT District 1	06/02/2011
Land Use	2 Minimal	Federal Highway Administration	06/02/2011
Land Use	2 Minimal	FDOT District 1	06/02/2011
Mobility	1 Enhanced	FDOT District 1	06/02/2011
Mobility	1 Enhanced	FL Department of Environmental Protection	05/26/2011
Relocation	0 None	FDOT District 1	06/02/2011
Relocation	3 Moderate	Federal Highway Administration	06/02/2011
Social	3 Moderate	Federal Highway Administration	06/02/2011
Social	2 Minimal	FDOT District 1	06/02/2011
Social	0 None	US Environmental Protection Agency	06/07/2011
Secondary and Cumulative			
Secondary and Cumulative Effects	3 Moderate	Southwest Florida Water Management District	05/26/2011

ETAT Reviews: Natural

Air Quality

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
The USEPA did not identify any air quality issues associated with this project.

Polk County is not within a designated Air Quality Non-Attainment Area or Maintenance Area for any of the four pollutants - nitrogen oxides, ozone, carbon monoxide, and small particulate matter - specified by the USEPA in National Ambient Air Quality Standards. According to the EST GIS analysis results, however, the project is located within an area identified as noncompliant with 2006-2008 and 2007-2009 ozone standards established by the USEPA and, therefore, considered a 'presumptive nonattainment area' for ozone.

Overall, the project is not expected to result in adverse effects to air quality. Because temporary impacts to air quality may occur during road construction as a result of fugitive dust and exhaust emissions, a Summary DOE of Minimal has been assigned to the Air Quality issue.

Commitments and Responses: An Air Quality Report will not be required for this project.

Technical Study: None.

Degree of Effect: 0 *None* assigned 06/07/2011 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Coastal and Marine

Project Effects

Coordinator Summary Degree of Effect: 0 *None* assigned 08/10/2011 by FDOT District 1

Comments:
The NMFS conducted a site inspection of the project study area on 22 April 2011 to assess potential concerns to living estuarine and marine resources. The NMFS reported that it does not appear that the project will result in any direct or indirect impacts to NMFS trust resources. Coordination Document: No Involvement.

The SWFWMD did not identify any coastal or marine issues associated with this project. Coordination Document: No Involvement.

The project is not located within a coastal area; therefore, it is not anticipated to affect marine resources. For this reason, a Summary DOE of None has been assigned to the Coastal and Marine issue.

Commitments and Responses: An Essential Fish Habitat (EFH) Assessment will not be included in the scoping recommendations for this project.

Technical Study: None.

Degree of Effect: 0 *None* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

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: N/A *N/A / No Involvement* assigned 04/25/2011 by David A. Rydene, National Marine Fisheries Service

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:
None.
Comments on Effects to Resources:
NOAA's National Marine Fisheries Service (NMFS) has reviewed the information contained in the Environmental Screening Tool for ETDM Project # 13188. The Florida Department of Transportation District 1 proposes widening US 33 from Old Combee Road to north of Tomkow Road in Polk County, Florida. The road would be widened from two lanes to four lanes

NMFS staff conducted a site inspection of the project area on April 22, 2011, to assess potential concerns regarding living aquatic resources. It does not appear that there will be any direct or indirect impacts to NMFS trust resources. Since the resources affected are not ones for which NMFS is responsible, we have no comment to provide regarding the project's impacts.
Additional Comments (optional):

CLC Commitments and Recommendations:

Contaminated Sites

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
The FDEP did not identify any contamination issues associated with this project.

The SWFWMD reported that while no potentially contaminated sites were observed within the immediate project vicinity during the field assessment conducted on 18 April 2011, the 500-foot project buffer contains multiple onsite sewage treatment facilities (including septic tanks and drain fields). The project is also located within a phosphate mining reclamation area. The SWFWMD stated that there may be unreported contamination sources within

the 100-foot to 500-foot project buffers due to the former mining activities within the area. Coordination Document: Permit Required.

The USEPA did not identify any contamination issues associated with this project.

According to the EST GIS analysis results, there are no Brownfield locations, hazardous waste sites, National Priority List sites, nuclear sites, RCRA-regulated facilities, Superfund hazardous waste sites, or Toxic Release Inventory sites located within the 200-foot buffer of this project. In addition, the Onsite Sewage Treatment and Disposal Systems reported through the EST GIS analysis results within the project's 500-foot buffer consist of permitted residential and commercial septic tanks. Based on the fact that the project study area is located within a former phosphate mining region, however, a Contamination Screening Evaluation is recommended for this project. As a result, a Summary DOE of Minimal has been assigned to the Contaminated Sites issue.

Commitments and Responses: Preparation of a Contamination Screening Evaluation Report will be included in the scoping recommendations for this project.

Technical Study: Contamination Screening Evaluation Report.

Degree of Effect: 2 *Minimal* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

Coordination Document: Permit Required

Direct Effects

Identified Resources and Level of Importance:
No potentially contaminated sites were observed on the day of the onsite visit (18APR2011). However, there are multiple onsite sewage treatment facilities (including septic tanks and drain fields) located within 500 feet of the project, and the project area is reclaimed from former phosphate mining activities. There may be additional, unrecorded contaminated sites within the 100-foot to 500-foot buffers for the project.

The project is located in former mining areas and it is possible that there are very local patches of increased vulnerability due to the past disturbance and removal of overburden materials composing the intermediate and surficial aquifers. The project area may be in a Karst area, according to the District publication: "Development of Proposed Environmental Resource Permit Criteria for Sensitive Karst Areas," SWRF, LLC, September 2007.

Regionally, the pollution potential of the Floridan Aquifer is moderate as indicated by DRASTIC scores between 138 and 140 within the 100-foot to 500-foot buffer area. The pollution potential of the intact intermediate aquifer is lower, with DRASTIC scores ranging between 93 and 95; however, the material composing the intermediate aquifer may be absent in some local areas within 500 feet of the project. The DRASTIC score for the intact surficial aquifer is the highest of the three aquifers at approximately 186. Where present, this aquifer system would be the most vulnerable to pollution; however, it may be locally absent within the 500-foot buffer area. The regional DRASTIC scores are consistent with the regional FAVA vulnerability response.

Within 100 - 500 feet of the project, the recharge rate to the Floridan is estimated at 1- 10 inches/year.
Comments on Effects to Resources:
If encountered and disturbed during construction, contaminated soils or other materials could result in surface and/or groundwater pollution. Because of the proximity of Lake Deeson the pollution vulnerability of the Floridan Aquifer, the pollution potential of project construction activities may be high as a result of contamination entering surface or ground water from untreated or under-treated stormwater runoff or the interception of contaminated soils.
Additional Comments (optional):
The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory interests and obligations.

To minimize groundwater and surface water pollution potential, it may be helpful to:

1. Confirm the presence or absence of existing potable supply wells, both public and domestic, and identify precisely all potential sources of contamination within the path of construction or in proximity of the proposed surface water management systems;
2. Avoid known contaminated sites where possible in the selection of the project alignment and stormwater runoff facilities;
3. Thoroughly evaluate potential stormwater treatment facility sites for the presence of contamination and eliminate contaminated sites as possible pond sites; and
4. Design and construct stormwater treatment facilities to prevent physical disturbance and water quality impacts to the Floridan Aquifer.

CLC Commitments and Recommendations:

Degree of Effect: 0 *None* assigned 06/07/2011 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

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 05/26/2011 by Lauren P. Milligan, FL Department of Environmental Protection

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Farmlands

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
The NRCS commented that no Prime Farmland soils occur within any of the project buffer widths based on the EST GIS analysis results. The NRCS reported, however, that Unique Farmland soils exist within the project area; the amounts range from 12.6 acres within the 100-foot project buffer to 55.4 acres within the 500-foot buffer. The NRCS indicated that while impacts to Farmlands of Unique Importance are restricted to the extreme southwestern part of the project, this area has been converted to residential uses since the soil survey was originally published. As such, the impact to important farmlands is negligible.

According to the EST GIS analysis results, 24.8 acres (12.72%) of Farmland of Unique Importance are located within the 200-foot project buffer. Consistent with the City of Lakeland's Comprehensive Plan and the Polk Transportation Planning Organization's (TPO) 2035 Long Range Transportation Plan (LRTP), the project occurs within an area characterized by open spaces and agricultural land, low to medium density residences, and light industry, with a growing residential and mixed use character. Future land use plans call for increased residential, industrial, and mixed use developments in the area. For these reasons, a Summary DOE of Minimal has been assigned to the Farmlands issue.

Commitments and Responses: A Farmlands Assessment will not be required for this project.

Technical Study: None.

Degree of Effect: 2 *Minimal* assigned 04/18/2011 by Rick Allen Robbins, Natural Resources Conservation Service

Coordination Document: No Selection

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. 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 (Unique) Farmland Analysis (using 2010 SSURGO data) has resulted in the determination that there are no Prime Farmland Soils at any buffer width. However, there are Unique Farmland soils at all buffer widths within the Project Area. The amounts range from 12.6 acres at the 100' buffer width and 55.4 acres at the 500' buffer width. The impact to Farmlands of Unique Importance is restricted to the extreme southwestern part of the project. This area has been converted to residential uses since the soil survey was originally published. In this circumstance, the impact to important farmlands is negligible. Therefore, we are assigning a Minimal Degree of Impact for this project.

Additional Comments (optional):

CLC Commitments and Recommendations:

Floodplains

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
The SWFWMD commented that approximately 0.019 acre of DFIRM Flood Zone A occurs within the project's 100-foot buffer; this small area extends along the eastern right-of-way of SR 33 and is occupied by a forested wetland of good quality. The SWFWMD also noted that 1.7 acres of Flood Zone A occur within the 200-foot project buffer; the remainder of the project area occurs within Flood Zone X. The SWFWMD additionally mentioned that the project crosses a ditch (approximately 500 feet south of Village Lakes Boulevard) that connects two artificial ponds located east and west of SR 33. The SWFWMD further noted that the addition of fill to this ditch may require floodplain compensation if floodplain stage is altered. Coordination Document: Permit Required.

The USEPA reported that while approximately 1.7 acres of Hazardous Flood Zone is located within the 200-foot project buffer, impact on the floodplain is likely to be minimal. The USEPA indicated that impacts can be minimized by increasing drainage efficiency and coordinating with other agencies to avoid and mitigate.

According to the EST GIS analysis results, only 1.7 acres (0.84%) of the project's 200-foot buffer is located within FEMA Flood Zone A (an area within

the 100-year floodplain for which base flood elevations have not been determined). The remaining 193.7 acres (99.16%) of the project's 200-foot buffer occurs within FEMA Flood Zone X (an area determined to be outside of the 100- and 500-year floodplains). Based on the foregoing, a Summary DOE of Minimal has been assigned to the Floodplains issue.

Commitments and Responses: A Floodplains Assessment will be included in the scoping recommendations for this project.

Technical Study: Floodplains Assessment.

Degree of Effect: 2 *Minimal* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

Coordination Document: Permit Required

Direct Effects

Identified Resources and Level of Importance:
Approximately 0.019 acre of DFIRM Zone A occurs within the 100-foot project buffer. This small area extends along the eastern ROW of SR 33 for an approximate length of 400 feet commencing at a point located 191 feet south of the SR 33/Tomkow Rd intersection. This area is occupied by a forested wetland that is of good quality. The remainder of the project appears to be located in Zone X. Within the 200-foot buffer, the area expands to 1.7 acres.

It should be noted that there is potential for the project to affect several other areas of historic basin storage that may require compensation but have not been identified on the FEMA flood plain maps or the map updates. One such area may be the ditch passing under SR-33 at a point 507 feet southwest of the SR-33/Village Lakes Blvd intersection. This ditch connects two artificial ponds that are located on the east and west sides of SR 33.
Comments on Effects to Resources:
If the project were to result in fill placed within a floodplain or historic basin storage area, there would be the potential to raise the floodplain stage or to prolong the duration of flooding.
Additional Comments (optional):
The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory interests and obligations.

If recent, reliable data indicate that floodplain impacts will occur, such impacts can be reduced or eliminated by providing compensation for lost floodplain storage.

For those improvements that may affect the existing cross drainage facilities, a bridge hydraulics report should be prepared and submitted with the Environmental Resource Permit application.

In the future, Polk County and the SWFWMD may update the FEMA Flood Insurance Rate Maps (FIRMs) using limited hydraulic and hydrologic modeling and approximate methods using recent land cover data. These data may be useful in the design of the project.
CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 06/07/2011 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
Less than two acres in the 200-foot buffer zone.
Comments on Effects to Resources:
About 1.7 acres of Hazardous Flood Zone is identified to be within the 200 foot buffer. Impact on the floodplain is likely, but is minimal. This impact can be minimized by increasing drainage efficiency and coordinating with other agencies to avoid and mitigate the impact. Areas that will be filled in should be carefully designed to minimze impacts on adjacent properties.
Additional Comments (optional):

CLC Commitments and Recommendations:

Infrastructure

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
The SWFWMD reported that two groundwater sampling wells are located within the 200-foot project buffer; three National Geodetic Survey Benchmarks are also located near the proposed project. The SWFWMD recommends that FDOT contact the SWFWMD Hydrologic Data Section in the Brooksville Office to discuss potential impacts to the data collection sites as the disruption of data collection can adversely affect the quality of long term analysis. Coordination Document: To Be Determined: Further Coordination Required.

According to the EST GIS analysis results, the following infrastructure-related features are present within the 500-foot project buffer: one FDEM fire station, one limited use drinking water well, and 466.4 linear feet of railway (railroad siding). USEPA Water Quality Data Monitoring Stations were only identified within the 5,280-foot project buffer. While a limited number of infrastructure-related features are located within the immediate project vicinity, due to agency concerns regarding potential impacts to data collection sites, a Summary DOE of Minimal has been assigned to the Infrastructure issue.

Commitments and Responses: None.

Technical Study: None.

Degree of Effect: 2 *Minimal* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects

Identified Resources and Level of Importance:
Two groundwater sampling wells (Site IDs: 17568 and 17567) are located within 200-feet of the proposed alternative. Additional infrastructure information is provided below:

SITE_ID SITE_NAME SITE_TYPE1 SITE_PRI_1 SITE_STATUS

17622 SADDLE CREEK WT Atmospheric Rainfall Inactive
17569 WILLIAMS POND CLAY MONITOR SURF Groundwater Well Inactive
17623 I-4 DEEP WELL NR POLK CITY Groundwater Well Inactive
17567 COMBEE ROAD DEEP Groundwater Well Active
17674 LAKELAND HILLS DEEP NR LAKELAND Groundwater Well Inactive
17568 STATE ROAD 33-COMBEE ROAD SHALLOW Groundwater Well Active

The following NGS Benchmarks are located near this proposed SR-33 widening project:
http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=AK1542
http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=AK1540
http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=AK1541
Comments on Effects to Resources:
Disruption of data collection can adversely affect the quality of long term analysis.
Additional Comments (optional):
The FDOT is encouraged to contact the District's Hydrologic Data Section in the Brooksville headquarters to discuss potential impacts to the District's data collection sites.
CLC Commitments and Recommendations:

Navigation

Project Effects

Coordinator Summary Degree of Effect: N/A *N/A / No Involvement* assigned 08/10/2011 by FDOT District 1

Comments:
The USACE did not identify any navigable waterways within the project study area. The USACE stated that the study should ensure navigation will remain unaffected in case an important factor was overlooked. Coordination Document: PD&E Support Document as per PD&E Manual.

The project does not cross any navigable waterways. For this reason, a Summary DOE of N/A / No Involvement has been assigned to the Navigation issue.

Commitments and Responses: A Navigation Study, Bridge Questionnaire, and USCG Bridge Permit will not be required for this project.

Technical Study: None.
Permit: None.

Degree of Effect: 0 *None* assigned 08/02/2011 by Garett Lips, US Army Corps of Engineers

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

Direct Effects

Identified Resources and Level of Importance:
The EST identified no navigable waterways or marine facilities so the degree of effect should be none for navigation; however, the study should ensure navigation will remain unaffected if the EST overlooked an important factor.

The EST also identified approximately less than 10 acres of NWI wetlands within 200 feet of the roadway corridor, and approximately 28 acres of wetlands within 500 feet of the roadway. The Corps expects the study and design to implement alternatives and design configurations that avoid wetlands to the extent practical. The Corps recommends the FDOT to study not only alternatives that achieve the project purpose and are feasible but also recommend FDOT to consider a design with the smallest environmental footprint from the onset of the study and not to propose overly aggressive sprawling roadway configurations in anticipation of future changes to water quality requirements, for instance. We recommend modest roadway designs with only the minimum, yet safe, travel lane widths and recommend the maximum use of barriers in lieu of wide shoulders or medians, and retaining walls in areas of wetlands to reduce the overall roadway footprint. The Corps agrees with the FHWA project concept of "every day counts" and supports the process to accelerate project delivery and to maximize protection of the environment.

CERP projects: The EST did not identify any CERP project within the area of the proposed project.
Comments on Effects to Resources:
The Corps recommends avoidance of all wetlands and waters where practicable alternatives exist. The impacts must implement measures to minimize impacts to the extent practical. However, if unavoidable impacts are anticipated, the Corps recommends the FDOT to follow the most current regulations regarding compensatory mitigation. Currently, the hierarchy preference is for mitigation bank credit purchase.
Additional Comments (optional):

CLC Commitments and Recommendations:

Special Designations

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
The SWFWMD reported that the 7,000-acre FWC Tenoroc Fish Management Area occurs approximately 300 feet south of the project, and the northernmost portion of the project (0.02 mile) is located within the Green Swamp Area of Critical State Concern; the area to potentially be affected, however, is located on the extreme edge of the Area of Critical State Concern. The SWFWMD stated that project effects to these resources are expected to be minimal as SR 33 is an existing roadway and the proposed impact areas have previously been disturbed by development. Coordination Document: Permit Required.

The USEPA did not identify any issues associated with resources of special designation for this project.

According to the EST GIS analysis results, the Green Swamp Area of Critical State Concern is the only resource of special designation reported within the 200-foot project buffer. Avoidance and minimization will be addressed during the project's design and permitting phase, and best management practices will be implemented during project construction activities. In addition, the project study area is located within a previously disturbed region of the Green Swamp along its southern boundary. Therefore, a Summary DOE of Minimal has been assigned to the Special Designations issue.

Commitments and Responses: None.

Technical Study: None.

Degree of Effect: 0 *None* assigned 06/07/2011 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

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 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

Coordination Document: Permit Required

Direct Effects

Identified Resources and Level of Importance:
The 7,000-acre FFWCC Tenoroc Fish Management Area is located 307 feet south of the project in the vicinity of the Old Combee Rd/Deeson Pointe Blvd intersection. The main entrance to the facility is located off CR-33A/CR-659 and is accessed from I-4 Exit 38 (SR33).

Approximately 0.02 mile of the project at the north terminus is located in the Green Swamp Area of Critical Concern. Within this 0.02-mile length, land use/cover includes the northern tip of a 9-acre forested wetland, a driveway into a parking lot, mowed SR 33 ROW and a 0.9-acre disturbed upland forested area.

Most of the project is located within the Withlacoochee Environmental Management Area. Less than 1% of the project (at the west terminus) is located within the Charlotte Harbor Environmental Management Area.

The proposed site is located within an area previously identified as a Sensitive Karst Area (see "Development of Propsed Environmental Resource Permit Criteria for Sensitive Karst Areas" by SWRF, L.L.C. (fka Storm Water Resources of Florida, L.C.) by the Southwest Florida Water Management District, 9/2007)
Comments on Effects to Resources:
Effects are expected to be minimal. SR-33 is an existing facility; the very small area of impact is already disturbed, and the affected area is located on the extreme edge of the Area of Critical Concern.
Additional Comments (optional):
The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory and proprietary interests and obligations.
CLC Commitments and Recommendations:

Water Quality and Quantity

Project Effects

Coordinator Summary Degree of Effect: 3 *Moderate* assigned 08/10/2011 by FDOT District 1

Comments:
The FDEP commented that the project is located within the hydrologic boundaries of the Green Swamp Area of Critical State Concern and that the watershed conditions in the project area are generally good. The FDEP reported that stormwater runoff from the road surface may alter adjacent

wetlands and surface waters through increased pollutant loading; therefore, every effort should be made to maximize the treatment of stormwater runoff to prevent ground and surface water contamination. The FDEP recommends that the PD&E study include an evaluation of existing stormwater treatment adequacy and details on future stormwater treatment facilities. Coordination Document: Permit Required.

The SWFWMD reported that the project is located within three impaired basins: Lake Deeson (WBID 1449A), Saddle Creek (WBID 1497), and Lake Tenoroc (WBID 1497C). The SWFWMD noted that the existing swale system associated with SR 33 appears to provide both attenuation and water quality treatment for stormwater runoff; however, the existing culverts need maintenance. Within the project's 200-foot buffer, the SWFWMD identified a stormwater management system that may belong to Arbor Glenn Apartments and a stormwater ditch that drains to Lakeland Harbor Mobile Home Park. The SWFWMD commented that any impacts to the existing stormwater management system will require storage compensation. The SWFWMD also stated that localized patches of increased vulnerability to the three aquifers (Floridan, intermediate, and surficial) may exist due to the former mining activities in the area. The SWFWMD recommends that:

- FDOT refer to the Peace River watershed study to confirm watershed boundaries and obtain the latest topographic information;
- Stormwater ponds be designed as shallow as practical and that geotechnical evaluations be conducted within potential pond sites in order to determine the potential for sinkhole development;
- A pre-application meeting be conducted prior to submittal of the ERP application (Note: an existing pre-application file (#398253) is being maintained at the SWFWMD Brooksville Service Office); and
- FDOT refer to 1) the list of Environmental Resource Permits located within the project's 200-foot buffer and 2) specific studies containing useful water quality and hydrologic information that can be accessed through the SWFWMD's online library during future phases of project development.

Coordination Document: Permit Required.

The USEPA indicated that the project has the potential to increase impervious surface in the area, which will impact the water flow and water quality in the Saddle Creek basin (which includes Lake Gibson, Lake Parker, and Lake Crago); the Green Swamp (Withlacoochee River basin); and several unnamed ponds and ditches. The USEPA stated that stormwater treatment should be optimized to minimize the impact of runoff.

There are no Outstanding Florida Waters or Aquatic Preserves located within the project's 200-foot buffer. While the project will be designed to meet state water quality and quantity standards, a Summary DOE of Moderate has been assigned to the Water Quality and Quantity issue due to the presence of impaired waters within the project study area.

Commitments and Responses: A Water Quality Impact Evaluation (WQIE), per FDOT guidance, will be included in the scoping recommendations for this project.

Technical Study: Water Quality Impact Evaluation (WQIE).
Permit: Environmental Resource Permit.

Degree of Effect: 3 *Moderate* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

Coordination Document: Permit Required

Direct Effects

Identified Resources and Level of Importance:
The south terminus of the project occupies a drainage divide between the Withlacoochee River Watershed and the Peace River Watershed. The extreme end of the south terminus is located in the Peace River Basin, specifically the Saddle Creek basin (WBID 1497) which also includes Lake Gibson (WBID 1497D), Lake Parker (WBID 1497B) and Lake Crago (WBID 1497D1). The remainder of the project occupies the Orange Hammock Drain basin (WBID 1449) which contributes flows to the Green Swamp, thence the Withlacoochee River. Also included in the Withlacoochee Basin is the Lake Deeson drainage basin (WBID 1449A), a closed system located within 600 feet of the project.
Other waterbodies within the 500-foot buffer area include several unnamed ponds and ditches.

Surface waterbodies within the project area include: Lake Deeson; Lake Tenoroc and the other ponds on the Tenoroc Fish Management Area which is located 307 feet south of the project; numerous artificial ponds remaining after mining ceased; golf course ponds, and stormwater ponds. Two of the larger artificial ponds are connected under SR 33 by means of a ditch located at a point 507 feet southwest of the SR 33/Village Lakes Blvd intersection. The ditch is approximately 992 feet in length and there is a small weir structure across the ditch at approximately 300 feet northwest of SR 33.

The November 02, 2010 Verified List of Impaired Waters includes the following TMDL information relevant to the District's permitting interests for this project: Lake Deeson basin (WBID 1449A) is impaired for nutrients.

The January 15, 2010 Verified List of Impaired Waters includes the following TMDL information relevant to the District's permitting interests for this project:
Saddle Creek basin (WBID 1497) is impaired for nutrients, coliform bacteria and dissolved oxygen;
Lake Tenoroc basin (WBID 1497C) is impaired for nutrients.

During site visits on 08/11/2010 and 04/18/11, culverts were observed across and near the proposed project. Based on the field reconnaissance, the existing swale system seems to be providing both attenuation and water quality treatment of the runoff from the SR-33. However, the culverts that were observed need maintenance. Erosion and sediment were observed in and at the culverts. The culverts seem to have been modified in the past and may need more modification due to the proposed expansion to four lanes.

At the Melody Lane and Old Combee Road Intersection, an RCP culvert is located across SR-33. Also, a Stormwater Management System that possibly belongs to the Arbor Glenn Apartments is located within the 200 foot proposed segment buffer corridor north of SR-33. To the South, within the 200 foot buffer, a stormwater ditch is located that drains into Lakeland Harbor Mobile Home Park. Provisions must be made in terms of storage compensation should the proposed project affect the stormwater pond.

The proposed alternative is located within 200-feet of several existing Environmental Resource Permits, as follows:
7112.005 - COL East West Road Permit Modification (City of Lakeland)
2832.001 - FDOT SR 33 Widening I-4 to Old Combee Road (Florida Department of Transportation)

19706.000 - THE ATRIUM APARTMENT HOMES (Parke 33-Ph Ii Llc & Courtyd Etc)
7065.000 - DOT-PARK & RIDE LOT, SR 33 & I-4 (Florida Dept Of Transportation)
2832.000 - DOT-S.R. 33 (Florida Dept Of Transportation)
10752.000 - LAKE DEESON WOODS (North Oaks Partnership)
25559.000 - LAKELAND-FIRE STATION 6 (City Of Lakeland Facilities & Const Mgmt)
21375.002 - FIRST PARK AT BRIDGEWATER PHASE 1 (Fr Development Services Inc)
21375.008 - GATEWAY LAKELAND COMMERCIAL PARK (I-433 Venture LLC)
21375.003 - THE VILLAGES @ BRIDGEWATER-REVISED SWM (View Properties Inc & Board Of Trusties-Internal Imp Trust Fund)
20706.000 - WARNOCK CR 33 WAREHOUSES (Capstone Holdings)
21375.014 - VILLAGES AT BRIDGEWATER PH 2 (Bridgewater Lakeland Developers)
21375.022 - VILLAGES AT BRIDGEWATER (Villages At Bridgewater Community Association Inc.)
21375.001 - BRIDGEWATER PH I (Bridgewater Lakeland Developers)
11896.038 - DOT I-4 WIDENING SECTIONS 3-4 AND 5 (FDOT District One)
21607.000 - LAKELAND CITY OF-NE WATER TRANSMISSION (City Of Lakeland Water Utilities Water Administration)
21375.013 - VILLAGES AT BRIDGEWATER PH I-409 UNITS (Bridgewater Lakeland Developers)
21375.004 - THE VILLAGES @ BRIDGEWATER-PHS I (Bridgewater Lakeland Developers)
21607.001 - LAKELAND CITY OF-NE WATER TRANSMISSION (City Of Lakeland Water Utilities Water Administration)
21375.020 - VILLAGES AT BRIDGEWATER - PH I (Bridgewater Lakeland Dev Llc &)
33549.000 - STATE ROAD 33 SELF STORAGE (33 Self Storage LLC)
25789.001 - SPANISH OAKS (Spanish Oaks Of Central Fl LLC)
34389.001 USF Polytechnic Campus
7112.004 East West Road Borrow Areas
7112.006 Williams/USFP Stockpile Area
2832.001 FDOT SR 33 Widening I-4 to Old Combee Road
16851.000 Polk Co. - Lake Deeson Water Management Plan

Hydrogeologically, the project area is characterized by a three-aquifer system that includes the Floridan Aquifer, an intermediate aquifer and the surficial aquifer. The project is located in former mining areas and it is possible that there are localized patches of increased vulnerability due to the past removal of overburden materials composing the intermediate and surficial aquifers. The project area may be in a Karst area, according to the District publication: "Development of Proposed Environmental Resource Permit Criteria for Sensitive Karst Areas," SWRF, LLC, September 2007.

Comments on Effects to Resources:

Impacts associated with the project may include: increased runoff volumes and decreased runoff quality in discharges to Lake Deeson which receives untreated runoff from its immediate medium density residential watershed and from SR 33. Filling within the floodplain or historic basin storage areas may cause or contribute to increased flood stages or durations on Lake Deeson. The project has the potential to result in groundwater contamination from stormwater runoff due to the karstic nature of the project area and the hydrologic disturbances resulting from past mining activity.

Additional Comments (optional):

The SWFWMD has assigned a Degree of Effect based on their opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory and proprietary interests and obligations.

According to the "EPA drainage basins" and information from the District and FDEP, Lake Deeson is located in the Withlacoochee River Basin; however, the Polk Water Atlas locates Lake Deeson in the Peace River Basin. Refer to the Peace River watershed study to confirm the watershed boundaries, and latest topographic (LiDAR) information.

Due to the potential for contamination of surface waters and the Floridan Aquifer, it is recommended that the stormwater facilities be designed as shallow as practical and that geotechnical evaluations of specific pond sites be conducted to determine the potential for sinkhole development and direct entry of runoff to the Floridan Aquifer. Discharge from the project's facilities shall not cause or contribute to reduced water quality in Lake Deeson.

Water quality data are available for Lake Deeson from EPA, Polk County Department of Natural Resources and the District. Stage data for Lake Deeson area available from the District's Lake Deeson stage data collection site located at 2806'45.10"N 08155'53.50".

The District will require that stormwater management systems that discharge directly or indirectly into waters not meeting standards, including impaired waters, provide a net improvement condition in the water body in terms of the pollutants that contribute to the water body's impairment. A higher level of treatment may be necessary to assure that permitted facilities meet that requirement (refer to Section 3.3.1.4 of the District's Basis of Review).

Hydrologic and meteorological data are available from four District data collection sites in the general project vicinity which are listed below:
SWFWMD ID #116 LAKE DEESON STAGE;
SWFWMD ID #398 LAKE GIBSON RAINFALL;
SWFWMD ID #910 COMBEE ROAD DEEP WELL; and
SWFWMD ID #1570 SR 33/COMBEE ROAD SHALLOW WELL.

In addition, specific studies that contain useful water quality and hydrologic information have been done by FDEP, the SWFWMD and the USGS. These reports can be accessed through the District's Library at http://www15.swfwmd.state.fl.us/dbtw-wpd/mywebqbe/librarybasic.htm. Type in the water body of interest, click on "Submit query" then click on the pull-down menu in the upper left and select "Record Display - Web." Publications of particular relevance include:
Gates, M.T. 2009. Hydrogeologic investigation of the upper Peace River in Polk County, FL. SWFWMD. Brooksville, FL.
Metz, P.A. 2009. Hydrologic conditions that influence streamflow losses in a karst region of the upper Peace River Polk County, FL. USGS. Reston, VA.
Keith & Schnars, Inc. 2003. Saddle Creek watershed management program: Task II Watershed management plan, vols. 1 & 2. SWFWMD. Brooksville, FL.
Spechler, R.M., and Kroening, S.E., 2007. Hydrology of Polk County, Florida: U.S. Geological Survey Scientific Investigations Report 2006-5320. USGS. Reston, VA.114 p.

Projects of the SWFWMD that may be helpful in the PD&E and design phase of the project include:
1. Project K075 - Polk County Watershed Management Plan-Saddle Creek
2. Project K081 - Auburndale-Tenoroc Wetland Improvement Phase Two, and

3. Project N122 - Stormwater Improvements-Flood Protection for Polk County.

The FDOT is encouraged to contact the District's Resource Projects Engineering Section in the Brooksville headquarters to discuss the above referenced projects.

If this project's proprietary authorizations qualify as a project of Heightened Public Concern, additional steps will be required during the review process and prior to ERP approvals.

If this project will require the acquisition of new right-of-way areas, the current rule for eminent domain noticing is 40D-1.603(9), FAC and requires the applicant to provide the noticing to the affected property owners. Additionally, any issued permit may include special conditions prohibiting construction until the FDOT provides evidence of ownership and control.

The District has assigned a pre-application file (PA #398253) for the purpose of tracking its participation in the ETDM review of this project. Previous pre-application files for this SR-33 project include PA #8259, PA #9161 and PA #397628. Pre-application files are maintained at the District's Bartow Service Office. Please refer to the pre-application file when contacting District regulatory staff regarding this project.
CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 05/26/2011 by Lauren P. Milligan, FL Department of Environmental Protection

Coordination Document: Permit Required

Direct Effects
Identified Resources and Level of Importance:
The proposed project is within the hydrologic boundaries of the Green Swamp. The watershed conditions in the project area are generally good. Stormwater runoff from the road surface may alter adjacent wetlands and surface waters through increased pollutant loading. Increased runoff carrying oils, greases, metals, sediment, and other pollutants from the increased impervious surface will 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:

Degree of Effect: 3 *Moderate* assigned 06/07/2011 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

Direct Effects
Identified Resources and Level of Importance:
The Project area impacts the Saddle Creek basin, which also includes Lake Gibson, Lake Parker, Lake Crago, the Green Swamp (Withlacoochee River basin), and several unnamed ponds and ditches.
Comments on Effects to Resources:
The proposed widening will significantly increase the imprevious area, therefore will impact the water flow and water quality. Stormwater treatment should be optimized to minimize the impact of runoff on the water bodies listed above. The moderate degree of effect is assigned based on the scale of the project and the potential level of impact.
Additional Comments (optional):

CLC Commitments and Recommendations:

Wetlands

Project Effects

Coordinator Summary Degree of Effect: 3 *Moderate* assigned 08/10/2011 by FDOT District 1

Comments:
The FDEP reported that there are 38.8 acres of lacustrine wetlands and 28.8 acres of palustrine wetlands within the 500-foot project buffer according to National Wetlands Inventory data. The FDEP stated that the project will likely require an Environmental Resource Permit from the SWFWMD. Coordination Document: Permit Required.

The FHWA reported that the project may result in approximately 8.8 acres of wetland impacts as indicated through SWFWMD data of the EST GIS analysis results. The FHWA stated that avoidance of these potential impacts should be maximized and mitigation of impacts will be necessary. Coordination Document: To Be Determined: Further Coordination Required.

The FWS noted that wetlands are present within the project study area. The FWS stated that unavoidable impacts should be offset through mitigation that fully compensates for the loss of wetland resources. Coordination Document: To Be Determined: Further Coordination Required.

The NMFS restated comments provided for the Coastal and Marine issue.

The SWFWMD commented that 3.3 acres of wetlands could potentially be impacted within the 100-foot project buffer; these wetlands are concentrated primarily near the northern project terminus within a cypress wetland system located along both sides of SR 33. The SWFWMD stated that while the wetland system located on the east side is of good quality, the portion located along the west side of SR 33 has been disturbed by logging and dredging activities. The SWFWMD noted that encroachment into the 200-foot project buffer will increase potential wetland impacts to 9.0 acres (of which 8.0 acres are associated with the cypress wetland system). The SWFWMD additionally reported 0.1 acre of other wetlands within the 100-foot project buffer; these wetlands consist of a herbaceous system located near the intersection of SR 33 and Village Lakes Boulevard and a mixed shrub/forested system located at the intersection of SR 33 and Huron Way. The SWFWMD noted that if construction activities are expanded into the 200-foot project buffer, impacts to these wetland systems will increase to 1.0 acre. The SWFWMD further noted that the project study area is located within the Withlacoochee River and Peace River basins if mitigation within the same basins is necessary. Coordination Document: Permit Required.

The USACE reported that there are less than 10.0 acres of wetlands within the 200-foot project buffer and approximately 28.0 acres of wetlands within the 500-foot project buffer according to National Wetlands Inventory data. The USACE did not identify any CERP projects within the area. The USACE noted that purchase of credits from a mitigation bank is currently the preferred method of achieving compensatory wetland mitigation for unavoidable impacts; avoidance and/or minimization measures must be implemented to the extent practical. Coordination Document: PD&E Support Document as per PD&E Manual.

The USEPA identified over 15.0 acres of wetlands within the 200-foot project buffer and over 60.0 acres within the 500-foot project buffer. The USEPA noted that while impacts to wetlands near the southern terminus of the proposed project may be completely avoided, impacts near the northern terminus may be more difficult to avoid. The USEPA stated that unavoidable impacts should be fully mitigated.

According to the National Wetlands Inventory database, 3.7 acres (1%) of lacustrine wetlands and 4.5 acres (2.29%) of palustrine wetlands are present within the 200-foot project buffer. The FDOT will 1) incorporate avoidance and minimization measures to the greatest extent practicable into the project design, 2) fully mitigate unavoidable adverse wetland impacts as part of the permitting process, and 3) utilize best management practices during project construction. Due to agency concerns of potential adverse wetland impacts resulting from the proposed roadway expansion and the issues associated with providing compensatory wetland mitigation (especially for forested wetlands), however, a Summary DOE of Moderate has been assigned to the Wetlands issue.

Commitments and Responses: Preparation of a Wetlands Evaluation Report will be included in the scoping recommendations for this project.

Technical Study: Wetlands Evaluation Report.
Permit(s): Environmental Resource Permit. / USACE Dredge and Fill Permit.

Degree of Effect: 2 *Minimal* assigned 05/26/2011 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 38.8 acres of lacustrine and 28.8 acres of palustrine wetlands within the 500-ft. project buffer zone.
Comments on Effects to Resources:
The proposed project will likely require an environmental resource permit (ERP) from the Southwest Florida Water Management District. The ERP applicant will be required to eliminate or reduce the proposed wetland resource impacts of highway 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 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: 3 *Moderate* assigned 06/07/2011 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
Base on EST data, over 15 acres of wetlands within the 200 acre buffer, and over 60 acres within the 500 foot buffer.
Comments on Effects to Resources:
Impact on wetlands varies geographically in the different areas of the project. Impact near the south side of the proposed project may be completely avoided, but impact on wetlands near the northern side may be more difficult to avoid. Unavoidable impact should be fully mitigated.
Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 04/25/2011 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. Information provided in the Environmental Screening Tool indicates that wetlands are found within the project area. The Service recommends that these valuable resources be avoided to the greatest extent practicable. If impacts to wetlands are unavoidable, the Service recommends the FDOT provide mitigation that fully compensates for the loss of wetland resources.
Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

Coordination Document: Permit Required

Direct Effects
Identified Resources and Level of Importance:
Project impacts extending into the 100-foot buffer area have the potential of adversely affecting approximately 3.3 acres of wetland. The most significant areas of wetland that may be affected are located near the north terminus. Here, 3.2 acres of potentially affected wetlands consist of a portion of a 9-acre cypress community on the project's east side that is connected by means of two culverts (one is 24" diameter pipe and the other is 3' x 5' box) to a former cypress community on the west side of the road. The east cypress community is of good quality with reliable physical evidence of appropriate hydroperiods. The west cypress system has been disturbed by dredging and is now a wet prairie/marsh/shrub wetland with most of the cypress trees having been logged out, fallen or standing dead. Expanding project impacts into the 200-foot buffer area increases the acres of wetland potentially affected to a total of 9.0 acres of which 8.0 acres are the wetlands at the north terminus. Of the 9 acres, 4.9 acres of impact potentially would occur to the 9-acre east wetland, representing approximately 40% of this good quality system.

Within the 100-foot buffer area, the other wetlands that would be potentially affected by the project total approximately 0.1 acre and include portions of two small shrub/herbaceous systems on the west side of SR 33 just north of the SR 33/Village Lakes Blvd intersection and a mixed shrub/forested system located on the west side of Huron Way at SR 33. Expanding project impacts into the 200-foot buffer area increases the acres of potential impact to these smaller wetlands to a total of 1.0 acre.

Listed Species (FWC. November 2010. Florida's Endangered and Threatened Species) that are known or expected to utilize the wetlands within 200 feet of the project include: American alligator (SSC), Florida sandhill crane (ST), limpkin (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), white ibis (SSC) and wood stork (FE).
Comments on Effects to Resources:
The most significant impacts would occur to the good quality cypress community located at the north terminus where between 17% and 40% of the wetland could be adversely affected. Impacts to this, and the other, wetlands may include: the further reduction of wetland functions and values relating to wildlife habitat, including known habitat for Listed Species; and the elimination and/or reduction of the water storage function provided by the affected wetlands.
Additional Comments (optional):
The SWFWMD has assigned a Degree of Effect based on an opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory interests and obligations.

Wetland impacts can be eliminated or reduced by:
1. Adjusting the alignment and cross section to minimize disturbance to wetlands;
2. Implementing strict controls over sediment transport off site during construction;
3. Restricting the staging area and the movement of vehicles and equipment to non-wetland areas;
4. Giving preference to already-disturbed upland locations versus wetland locations for project facilities;
5. Leaving as much native vegetation, as feasible, intact along the right-of-way; and
6. Selecting treatment pond sites outside of wetlands.

Except as provided in Section 3.2.2.1 of the ERP Basis of Review, adequate and appropriate wetland mitigation activities will be required for unavoidable wetland and surface water impacts associated with the project. The project mitigation needs may be addressed in the FDOT Mitigation Program (Chapter 373.4137, F.S.) which requires the submittal of anticipated wetland and surface water impact information to the SWFWMD. This information is utilized to evaluate mitigation options, followed by nomination and multi-agency approval of the preferred options. These mitigation options typically include enhancement of wetland and upland habitats within existing public lands, public land acquisition followed by habitat improvements, and the purchase of private mitigation bank credits. The SWFWMD may choose to exclude a project in whole or in part if the SWFWMD is unable to identify mitigation that would offset wetland and surface water impacts of the project. Under this scenario, the SWFWMD will coordinate with the FDOT on which impacts can be appropriately mitigated through the program as opposed to separate mitigation conducted independently. Depending on the quantity and quality of the proposed wetland impacts, the SWFWMD may propose purchasing credits from a mitigation bank and/or pursue and propose alternative locations for mitigation. For ERP purposes of mitigating any adverse wetland impacts within the same drainage basin, the project polygon is located within the Withlacoochee River Basin and the Peace River Basin. The SWFWMD requests that the FDOT continue to collaborate on the potential wetland impacts as this project proceeds into future phases, and include the associated impacts on FDOT's annual inventory.

If this project will require the acquisition of new right-of-way areas, the current rule for eminent domain noticing is 40D-1.603(9), FAC and requires the applicant to provide the noticing to the affected property owners. Additionally, any issued permit may include special conditions prohibiting construction until the FDOT provides evidence of ownership and control.

The District has assigned a pre-application file (PA #398253) for the purpose of tracking its participation in the ETDM review of this project. Previous pre-application files for this SR-33 project include PA #8259, PA #9161 and PA #397628. Pre-application files are maintained at the District's Bartow Service Office. Please refer to the pre-application files when contacting District regulatory staff regarding this project.
CLC Commitments and Recommendations:

Degree of Effect: N/A *N/A / No Involvement* assigned 04/25/2011 by David A. Rydene, National Marine Fisheries Service

Coordination Document: No Involvement

Direct Effects

Identified Resources and Level of Importance:
None.

Comments on Effects to Resources:
NOAA's National Marine Fisheries Service (NMFS) has reviewed the information contained in the Environmental Screening Tool for ETDM Project # 13188. The Florida Department of Transportation District 1 proposes widening US 33 from Old Combee Road to north of Tomkow Road in Polk County, Florida. The road would be widened from two lanes to four lanes

NMFS staff conducted a site inspection of the project area on April 22, 2011, to assess potential concerns regarding living aquatic resources. It does not appear that there will be any direct or indirect impacts to NMFS trust resources. Since the resources affected are not ones for which NMFS is responsible, we have no comment to provide regarding the project's impacts.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 06/02/2011 by Joseph Sullivan, Federal Highway Administration

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects

Identified Resources and Level of Importance:
Wetlands provide water treatment, flood attenuation, and wildlife habitat and should and can be avoided during construction if appropriate planning measures are provided.

Comments on Effects to Resources:
Approximately 8.8 acres of wetland impacts are shown in GIS analysis of SWFWMD polygons. Avoidance of these potential impacts should be maximized and mitigation of impacts will be necessary.

Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 05/27/2011 by Garett Lips, US Army Corps of Engineers

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

Direct Effects

Identified Resources and Level of Importance:
The EST identified no navigable waterways or marine facilities so the degree of effect should be none for navigation; however, the study should ensure navigation will remain unaffected if the EST overlooked an important factor.

The EST also identified approximately less than 10 acres of NWI wetlands within 200 feet of the roadway corridor, and approximately 28 acres of wetlands within 500 feet of the roadway. The Corps expects the study and design to implement alternatives and design configurations that avoid wetlands to the extent practical. The Corps recommends the FDOT to study not only alternatives that achieve the project purpose and are feasible but also recommend FDOT to consider a design with the smallest environmental footprint from the onset of the study and not to propose overly aggressive sprawling roadway configurations in anticipation of future changes to water quality requirements, for instance. We recommend modest roadway designs with only the minimum, yet safe, travel lane widths and recommend the maximum use of barriers in lieu of wide shoulders or medians, and retaining walls in areas of wetlands to reduce the overall roadway footprint. The Corps agrees with the FHWA project concept of "every day counts" and supports the process to accelerate project delivery and to maximize protection of the environment.

CERP projects: The EST did not identify any CERP project within the area of the proposed project.

Comments on Effects to Resources:
The Corps recommends avoidance of all wetlands and waters where practicable alternatives exist. The impacts must implement measures to minimize impacts to the extent practical. However, if unavoidable impacts are anticipated, the Corps recommends the FDOT to follow the most current regulations regarding compensatory mitigation. Currently, the hierarchy preference is for mitigation bank credit purchase.

Additional Comments (optional):

CLC Commitments and Recommendations:

Wildlife and Habitat

Project Effects

Coordinator Summary Degree of Effect: 3 *Moderate* assigned 08/10/2011 by FDOT District 1

Comments:
The FWC evaluated the 500-foot project buffer for the presence of wildlife and habitat resources and noted that the project is located within a rural area that has undergone recent suburban development. The FWC identified the following habitat types within the 500-foot buffer: Freshwater Marsh, Wet Prairie, Shrub Swamp, Cypress Swamp, Hardwood Swamp, Mixed Wetland Forest, Grassland, Extractive, Dry Prairie, Pinelands, Hardwood Hammock, Sand Pine Scrub, Xeric Oak Scrub, Mixed Hardwood-Pine Forest, and Shrub and Brushland. The FWC also commented that the project study area is located approximately 300 feet north of the Tenoroc Fish Management Area; within FWS Consultation Areas for the Florida scrub-jay, crested caracara,

and snail kite; and within the Core Foraging Area (CFA) of six wood stork rookeries. The FWC further noted that the primary wildlife issues associated with this project consist of potential adverse effects to a moderate number of listed species, potential loss of valuable wetland habitat, potential loss of one of the last remnants of the Lakeland Ridge, and potential water quality degradation resulting from additional stormwater runoff. Coordination Document: To Be Determined: Further Coordination Required.

The FWS reviewed its GIS database for recorded locations of federally listed threatened and endangered species on or adjacent to the project study area and stated that the project corridor is located within the CFA of three active wood stork nesting colonies. To minimize adverse effects to the wood stork, the FWS recommends that any lost foraging habitat resulting from the project be replaced within the CFA of the affected colony. The FWS also stated that for projects that impact five or more acres of wood stork foraging habitat, a functional assessment must be conducted using the FWS' Wood Stork Foraging Analysis Methodology on the foraging habitat to be impacted and the foraging habitat provided as mitigation. The FWS recommends that the FDOT prepare a Biological Assessment during the project's PD&E phase. Coordination Document: To Be Determined: Further Coordination Required.

The SWFWMD reported that native upland habitats comprise 48.0 acres of the 100-foot project buffer and 96.0 acres of the 200-foot project buffer; however, the overall quality of this habitat is medium to poor due to excessive fragmentation. The SWFWMD noted that there is a 5-acre parcel of high-quality xeric oak/sand pine habitat located adjacent to SR 33 at Lake Luther Drive and a moderate-quality xeric community located within a power easement that crosses SR 33 near the same intersection; these communities have a high potential to serve as habitat for the gopher tortoise. The SWFWMD recommends that impacts to these xeric habitats be avoided to the greatest extent practicable. The SWFWMD additionally reported that the project is located within FWS Consultation Areas for the Florida scrub-jay, crested caracara, and snail kite; however, habitat for all but the scrub-jay is extremely limited within the 200-foot project buffer. Coordination Document: Permit Required.

According to the EST GIS analysis results, the project's 200-foot buffer (corridor) is located within FWS Consultation Areas for the Florida scrub-jay, crested caracara, and snail kite although suitable habitat for these species within the project corridor is fragmented and considered low quality. The project study area is also located within the Greater Charlotte Harbor and Withlacoochee River Ecosystem Management Areas, within the CFA of six active nesting wood stork colonies, and within the Green Swamp Florida Forever Board of Trustees (BOT) Project. Due to agency concerns of potential adverse impacts to suitable listed species' habitat and the need for Section 7 Consultation with the FWS, a Summary DOE of Moderate has been assigned to the Wildlife and Habitat issue.

Commitments and Responses: Preparation of an Endangered Species Biological Assessment will be included in the scoping recommendations for this project.

Technical Study: Endangered Species Biological Assessment (ESBA).

Degree of Effect: 3 *Moderate* assigned 04/25/2011 by John Wrublik, US Fish and Wildlife Service

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects

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

Wood Stork

The project corridor is located in the Core Foraging Areas (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 found in the Service's letter and effect determination key to the U.S. Army Corps of Engineers dated May 18, 2010 (Service Federal Activity Code Number 41420-2007-FA-1494, available upon request).

The Service believes that the following federally listed species have the potential to occur in or near the project site: wood stork, Florida scrub-jay (Aphelocoma coerulescens), and eastern indigo snake (Drymarchon corais couperi), as well as the federally protected plants listed at the following link: http://www.fws.gov/verobeach/images/pdflibrary/Polk County3.pdf. 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. Information provided in the Environmental Screening Tool indicates that wetlands are found within the project area. The Service recommends that these valuable resources be avoided to the greatest extent practicable. If impacts to wetlands are unavoidable, the Service recommends the FDOT provide mitigation that fully compensates for the loss of wetland resources.
Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

Coordination Document: Permit Required

Direct Effects

Identified Resources and Level of Importance:
According to the District's 2009 land use data, native upland land cover types not occupied by industrial, residential or utility land uses total 48 acres and 96 acres of the areas within the 100-foot and 200-foot buffer areas, respectively. Overall, the quality of the habitat within the 200-foot buffer is medium to poor in terms of upland wildlife species as a result of the fragmentation of available habitat into very small parcels. One high quality parcel of xeric scrub oak/sand pine community is the five-acre parcel located in the northeast quadrant of the SR 33/Lake Luther Dr intersection. There is also moderate quality xeric habitat on the electrical line ROW that crosses SR 33 0.25 mile east of Lake Luther Dr.

The entire 200-foot buffer area is included within the Consultation Areas for three Listed Species, the Florida scrub jay, crested caracara and snail kite. Habitat for all but the Florida scrub jay is extremely limited within the 200-foot buffer. Scrub jay habitat is available on the five-acre parcel located in the northeast quadrant of the SR 33/Lake Luther Dr intersection.

In view of the geographical range of the project area and the type and quality of the upland habitats available in the project's 100-foot to 200-foot buffer areas, the following Listed Species have been observed or can be expected to be present: blue-tailed mole skink (FT), Florida pine snake (SSC), Florida sand skink (FT), gopher tortoise (ST), eastern indigo snake (FT), burrowing owl (SSC), southeast American kestrel (ST), Florida sandhill crane (ST), Florida scrub jay (FT), Florida mouse (SSC) and Sherman's fox squirrel (SSC).

Comments on Effects to Resources:
This project has the potential to result in adverse impacts to remaining parcels of scrub oak/sand pine habitat that have a high potential to be utilized by Listed Species, particularly gopher tortoise. The five-acre parcel located in the northeast quadrant of the SR 33/Lake Luther Dr intersection is of good quality and it represents a remnant of habitat that formerly was extensive in the area. The loss or disturbance of this parcel should be avoided. That parcel and the other small areas of xeric habitat, such as on the power line ROW provide important habitat for gopher tortoise, a Listed Species known to be present in the vicinity of the project.

Additional Comments (optional):
The SWFWMD has assigned a Degree of Effect based on an opinion of the potential of this project to result in increased coordination or effort associated with the SWFWMD's regulatory interests and obligations.

Upland wildlife habitat impacts can be eliminated or reduced by:
1. Restricting the staging area and the movement of vehicles and equipment to areas that are already highly disturbed;
2. Consider leaving intact the quality native habitats, particularly the scrub oak/sand pine areas, along the right-of-way;
3. Consider upland enhancement as a mitigation option; and
4. Selecting treatment pond sites out of the scrub oak/sand pine habitat areas.

It is recommended that the FDOT prepare an Endangered Species Biological Assessment (ESBA) and that FDOT consult with the US Fish and Wildlife Service and Florida Fish and Wildlife Conservation Commission to try to eliminate/reduce impacts to Listed Species.

It should be noted that the Florida Fish and Wildlife Conservation Commission revised rules for listing imperiled species. The biological status reviews on these species are now completed. The final reports and recommendations will be presented to the Commission at the June 8/9 meeting in St. Augustine. Until a final review of each species is completed, the existing legal status of species is as listed in the November 2010 publication entitled "Florida's Endangered and Threatened Species." FDOT is encouraged to coordinate with the FFWCC on the status of the species blue-tailed mole skink (FT), Florida pine snake (SSC), Florida sand skink (FT), gopher tortoise (ST), eastern indigo snake (FT), burrowing owl (SSC), southeast American kestrel (ST), Florida sandhill crane (ST), Florida scrub jay (FT), Florida mouse (SSC) and Sherman's fox squirrel (SSC).

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 05/18/2011 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 Habitat Conservation Scientific Services Section of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated an agency review of ETDM #13188, Polk 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 widening SR 33 from 2 to 4 lanes between Old Combee Road/Deeson Pointe Boulevard and a point north of Tomkow Road, a distance of approximately 3.7 miles. This project extends the proposed four-lane section of SR 33, reviewed as ETDM #13025 in September 2010, further northward through the project limits.

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 a rural landscape on the outskirts of Lakeland that is rapidly undergoing suburban development. The 2003 FWC Habitat and Landcover Grid describes 27.63% of the assessment area as High Impact Urban or Low Impact Urban, but much of the remaining area has been developed in the years subsequent to that classification. Wetland or aquatic land cover types in the assessment area include Freshwater Marsh and Wet Prairie, Shrub Swamp, Cypress Swamp, Hardwood Swamp, Mixed Wetland Forest and Open Water. The mostly remnant upland land cover types include Grassland, Extractive (phosphate mined land), Dry Prairie, Pinelands, Hardwood Hammocks and Forests, Sand Pine Scrub, Xeric Oak Scrub, Mixed Hardwood-Pine Forest, and Shrub and Brushland.

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), Eastern indigo snake (FT), Florida pine snake (SSC), American alligator (FT), limpkin (SSC), snowy egret (SSC), little blue heron (SSC), tricolored heron (SSC), white ibis (SSC), Florida sandhill crane (ST), wood stork (FE), burrowing owl (SSC), Audubon's crested caracara (FT), Southeastern American kestrel (ST), Sherman's fox squirrel (SSC), and Florida mouse (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. The Bridgewater Tract of the FWC's Tenoroc Fish Management Area is southeast of this project, and the northeast corner of Tenoroc is approximately 300 feet from the intersection of SR 33 and Old Combee Road. On the FWC's ranking of Potential Habitat Richness, 30.82% of the assessment area is ranked at medium or moderately high, and 2.22% of the area has a high or medium classification for FWC's Strategic Habitat Conservation Areas priority ranking. The project site is within the U.S. Fish and Wildlife Service Consultation Areas for Scrub Jay, Crested Caracara, and Snail Kite, and is within the core foraging area of six wood stork rookeries.

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 loss of valuable wetland habitat, particularly the cypress and hardwood swamp adjacent to the road between the Interstate-4 ramps and Tomkow Road; potential loss of one of the last remnants of the Lakeland Ridge, a xeric oak scrub on the north side of SR 33 that extends 0.2 miles east from Lake Luther Road; and potential water quality degradation as a result of additional stormwater runoff from the expanded roadway surface draining into area water bodies, including wetlands and lakes in the Tenoroc Fish Management Area. We recommend further coordination with our agency to develop site-specific stormwater management measures for this project. For technical assistance and coordination on the Tenoroc Fish Management Area, please contact Mr. Danon Moxley of our Division of Freshwater Fisheries Management at (863) 648-3200, very early in the planning process for the Project Development and Environment (PD&E) Study.

Comments on Effects to Resources:

Based on the project information provided, we believe the direct and indirect effects of this project could be moderate, provided wetland and scrub habitat losses are minimized, and stormwater management measures are implemented to protect both the hydrology and quality of receiving wetlands and lakes.

Additional Comments (optional):

We recommend that the PD&E Study address natural resources by including the following measures for conserving fish and wildlife and habitat resources that may occur within and adjacent to the project area. Plant community mapping and wildlife surveys for the occurrence of wildlife 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 should be performed, both along the Right-of-way and within sites proposed for Drainage Retention Areas. Based on the survey results, a plan should be developed to address direct, indirect, and cumulative effects of the project on wildlife and habitat resources, including listed species. Avoidance, minimization, and mitigation measures should also be formulated and implemented. If gopher tortoises are present within any permanent or temporary construction area, a permit should be obtained from the FWC. Drainage Retention Areas and equipment staging areas should be located in previously disturbed sites to avoid habitat destruction or degradation. A compensatory mitigation plan should include the replacement of any wetland, upland, or aquatic habitat lost as a result of the project. This could be achieved by purchasing land, or securing conservation easements over lands adjacent to existing public lands, and by habitat restoration. Replacement habitat for mitigation should be type for type, as productive, and equal to or of higher functional value. We recpmmend land acquisition and restoration of appropriate tracts adjacent to existing public lands near the project area, or tracts placed under conservation easement or located adjacent to large areas of jurisdictional wetlands that currently serve as regional core habitat areas. Please notify us immediately if the design, extent, or footprint of the current project is modified, as we may choose to provide additional comments and/or recommendations.

We appreciate the opportunity to provide input on highway design and the conservation of fish and wildlife resources. Please contact Brian Barnett at (850) 528-6316 or email brian_barnett@urscorp.com to initiate the process for further overall coordination on this project.

CLC Commitments and Recommendations:

ETAT Reviews: Cultural

Historic and Archaeological Sites

Project Effects

Coordinator Summary Degree of Effect: 3 *Moderate* assigned 08/10/2011 by FDOT District 1

Comments:

No review was submitted by the FHWA or the Miccosukee Tribe of Indians. The FDOS noted that many cultural resource surveys have been conducted within a 100 foot buffer of the project corridor but none were specifically conducted for the current project. They also note that no significant historic sites and no archaeological sites were identified within a 500 foot buffer of the project corridor. However, there are five bridges located within the project corridor. No National Register of Historic Places (National Register) -eligible or listed sites were identified within a half mile of the project corridor. According to FDOS, there is a potential for archaeological sites within the project corridor. They recommended that a Cultural Resource Assessment Survey (CRAS) be conducted to locate and assess any cultural resources that may be present.

The Seminole Tribe of Florida noted the absence of a systematic cultural resource assessment survey of the project corridor and requested a survey be conducted in order to determine effects to archaeological sites. The STOF-THPO asked to review the results of the CRAS before commenting on possible effects to archaeological sites within the project corridor

A review of the Florida Master Site File (FMSF) GIS data revealed that 10 previous surveys intersect the project corridor. A cultural resource reconnaissance survey conducted in January 2011 overlaps with the western end of the project corridor between Old Combee Road and the eastern boundary of Lake Deeson Village. No comprehensive archeological or historic resource survey of the project corridor has been completed.

The FMSF listed no archaeological sites, six previously recorded historic resources, and one historic resource group within 500 feet of the project corridor. The resource group is the post-WW II era Lake Deeson Village trailer park (8PO7495) located at 5210 SR 33 in Lakeland. The six previously recorded historic resources and the resource group were evaluated by the SHPO as ineligible for inclusion in the National Register of Historic Places (National Register) on February 24, 2011.

A review of the Polk property appraiser data revealed a total of 83 parcels adjacent to the project corridor, 4 of which had historic build dates.

A review of the City of Lakeland Archaeological Site Potential map indicates that the project corridor is located within an area that was not identified as having a high archaeological potential.

An analysis of the 1849 General Land Office plat map and surveyors' notes illustrates this area as predominantly 3rd rate pine interspersed with ponds. The plat maps also illustrate an unnamed road within or adjacent to the project corridor which the surveyors' notes refer to as "old road". No other features suggestive of any type of settlement of encampment are illustrated. The historic aerials depict the area around the project corridor as covered with lakes, ponds, and wetlands interspersed with higher ground, consistent with the ponds and pineland illustrated in the historic plats and referred to in the surveyors' notes. According to the soil map, most of the project corridor is located in excessively to moderately well drained soils, with a few areas of poorly drained soils.

Based on this analysis, a Summary DOE of Moderate has been assigned to the Historic and Archaeological Sites issue.

Commitments and Responses: A comprehensive archaeological and historic resource survey has not been completed for the project corridor. Therefore, preparation of a Cultural Resource Assessment Survey (CRAS), as per the PD&E Manual, is recommended. This survey will serve to verify the location, integrity, and eligibility of previously unrecorded historical resources that have recently reached the 50 year historic threshold, as well as confirm the low archaeological potential of the unsurveyed area of the corridor suggested by this analysis. Because the City of Lakeland is included in the current DOS list of Certified Local Governments, coordination Office is recommended to identify any local resources or areas of concern.

Section 4(f) Potential Impacts to Cultural Resources: Based on the results of this analysis, there are no known Section 4(f) impacts to cultural resources.

Degree of Effect: 3 *Moderate* assigned 05/27/2011 by Alyssa McManus, FL Department of State

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
There are no identified historic sites of significance identified within the project corridor. No National Register eligible or listed sites are identified within a 1/2 mile of the project corridor.

There are five bridges located within the project corridor.

Comments on Effects to Resources:
While there have been many cultural resource surveys withing the 100 ft. buffer of this project, none was specifically conducted for his particular project. The 'drive it' feature of the EST shows some structures which appear to be over 50 years of age. These buildings will need to be identified and evaluated to determine eligibility for the National Register, and to determine effects to significant resources, should they be identified.

The bridges that will be replaced as part of this project should be documented for evaluation if they are over 50 years of age. A Florida Master Site File bridge form is available online and will be a good preliminary document to determine these bridges' historical significance.

While there are no identified archaeological sites identified within a 500' buffer of this projet corridor, they possibility exist within the areas of this project where the ground will be disturbed. Judgemental subsurface testing should be done to determine the absence or presence of cultural material.

Since potentially significant archaeological sites may be present, it is the request of this office that the project site be subjected to a professional cultural resource survey. The purpose of this survey will be to locate and assess any cultural resources that may be present. The resultant survey shall conform to the specification set forth in Chapter 1A-46, Florida Administrative Code, and will need to be forwarded to the Division of Historical Resources in order to complete the reviewing process for this proposed project and its impacts. The results of the analysis will determine if significant cultural resources would be disturbed by this development. In addition, if significant remains are located, the data described in the report and the consultant's conclusions will assist this office in determining measures that must be taken to avoid, minimize, or mitigate adverse impacts to archaeological sites and historical properties listed, or eligible for listing in the NRHP, or otherwise significant. The Division of Historical Resources does not maintain a list of professional consultants who are qualified to work in the State of Florida and/or who meet The Secretary of the Interior's Historic Preservation Professional Standards [Volume 62, Number 119, page 33707 (June 20, 1997)], ("Professional Qualifications"), or as amended in the future. However, the American Cultural Resources Association (ACRA) maintains a listing of professional consultants (http://acra-crm.org/index.cfm). In addition, the Register of Professional Archaeologists (RPA) maintains a membership directory for locating professional archaeologists as well as other professional preservation consultants (http://www.rpanet.org/). Many qualified historic preservation/cultural resource management professionals are not members of these organizations, and omission from the directories does not imply that someone does not meet the Secretary's Standards or that the resultant work would not be acceptable.

Additional Comments (optional):
after the survey is complete, this office will be able to determine the impact the project will have on cultural resources.

CLC Commitments and Recommendations:

Degree of Effect: 0 *None* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

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: 3 *Moderate* assigned 04/25/2011 by Elliott York, Seminole Tribe of Florida

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
Due to the presence of several archaeological sites and absence of a systematic Cultural Resources Assessment Survey (CRAS) for the project corridor, the STOF-THPO would like to request a CRAS be conducted in order to determine effects, if any, to archaeological sites within the project area.
Comments on Effects to Resources:
The STOF-THPO would like to review a CRAS before commenting on possible effects to archaeological sites in the project area.
Additional Comments (optional):

CLC Commitments and Recommendations:

Recreation Areas

Project Effects

Coordinator Summary Degree of Effect: 1 *Enhanced* assigned 08/10/2011 by FDOT District 1

Comments:
The FDEP commented that the project is within 500 feet of the Tenoroc Fish Management Area and located within the Green Swamp Florida Forever Board of Trustees (BOT) Project area. The FDEP also reported that the project will 1) provide an opportunity for a much needed trail connection between Lakeland's urban core and the 29-mile General James A. Van Fleet State Trail (which is a key component of the Florida Greenways and Trails System) and 2) complement a number of other pathway projects currently being constructed in the area. The FDEP additionally stated that the Office of Greenways and Trails should be contacted for further information/assistance and noted support for the project by the City of Lakeland's Planning and Zoning Board. Coordination Document: To Be Determined: Further Coordination Required.

The SWFWMD did not identify any issues or potential project effects related to recreation areas/features. Coordination Document: No Involvement.

The USEPA did not identify any issues or potential project effects related to recreation areas/features.

Based on the EST GIS Analysis results, the project is approximately 300 feet north of the Tenoroc Fish Management Area and located within the Green Swamp Florida Forever BOT Project area. Other recreational features that exist in the area are as follows: Golf Club/Course at Bridgewater, Lakeland RV Resort, and recreational trails. According to the City of Lakeland's Comprehensive Plan, the future land use vision of the project area calls for increased residential, industrial, and mixed use developments. The sidewalks and dedicated bicycle lanes (or off-road multi-use trail) to be included in the SR 33 widening will not only support the growth expected along the corridor and provide a connection between Lakeland's urban core and the 29-mile General James A. Van Fleet State Trail, but complement the notable number of recreational features within the vicinity of the project. For these reasons, a Summary DOE of Enhanced has been assigned to the Recreation Areas issue.

Commitments and Responses: A Section 4(f) Determination of Applicability will be included in the scoping recommendations for this project to confirm that potential impacts to features providing recreational opportunities will be minimized to the greatest extent practicable.

Technical Study: Section 4(f) Determination of Applicability.

Degree of Effect: 1 *Enhanced* assigned 05/26/2011 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:
The project is within 500 ft. of the Tenoroc Fish Management Area - co-managed by the Florida Fish and Wildlife Conservation Commission and the DEP's Bureau of Mining and Minerals Regulation. The project is also located within the Green Swamp Florida Forever BOT Project area.
Comments on Effects to Resources:
The DEP's Office of Greenways and Trails reports that the project provides an opportunity for a much needed trail connection between Lakeland's urban core and the 29-mile General James A. Van Fleet State Trail, which is a key component of the Florida Greenways and Trails System.
-- 12-foot pathways are currently being constructed as part of the East-West Road (University Boulevard) project between SR 33 and SR 570 (Polk Parkway) that is scheduled for completion in early 2012.
-- A multi-use trail is envisioned to be incorporated into the SR 33 design north of SR 659 (Combee Road), thereby providing a connection between Tenoroc Fish Management Area and E-W Road corridors that directly connect with the Van Fleet State Trail.
-- The SR 33 project corridor also parallels a trail corridor that is located on the south side of Long Lake. Given the 200-ft. right-of-way width on SR 33 and existing/planned residential units in the area, a trail could be constructed within the SR 33 design south of SR 659. In fact, the City of Lakeland's Planning and Zoning Board has explicitly requested that a trail be accommodated in a site plan for a utility facility proposed at Maggiore Boulevard/Huron Way.
-- It should also be noted that the City's four-lane improvement on SR 33 adjacent to the PD&E project limits (West of Old Combee/Deeson Point to Interstate 4 at Exit 33) includes sidewalks and dedicated bicycle lanes. Since SR 33 within the project area currently has a 60-mph posted speed limit, a transition from an on-road to off-road facility would certainly be appreciated.

For further information and assistance, please contact Ms. Marsha Connell in the Office of Greenways and Trails at (850) 245-2052.
Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 0 *None* assigned 06/07/2011 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

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 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

Coordination Document: No Involvement

Direct Effects
Identified Resources and Level of Importance:

Comments on Effects to Resources:

Additional Comments (optional):

CLC Commitments and Recommendations:

Section 4(f) Potential

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
The FHWA reported that while at least 8 previous cultural resource surveys have been conducted on or near the project area, per the EST GIS analysis results, portions of the project area were not covered. The FHWA stated that a Cultural Resource Assessment Survey (CRAS) or documentation of a recently conducted CRAS within the project area will be needed. Coordination Document: To Be Determined: Further Coordination Required.

Based on the EST GIS Analysis results, the project is approximately 300 feet north of the Tenoroc Fish Management Area and located within the Green Swamp Florida Forever BOT Project area. Other features that exist which may potentially be protected under the auspices of Section 4(f) include: Golf Club/Course at Bridgewater, Lakeland RV Resort, recreational trails, FDOT RCI bridges, and cultural field survey areas. According to the City of Lakeland's Comprehensive Plan, the future land use vision of the project area calls for increased residential, industrial, and mixed use developments. The sidewalks and dedicated bicycle lanes (or off-road multi-use trail) to be included in the SR 33 widening will not only support the growth expected along the corridor and provide a connection between Lakeland's urban core and the 29-mile General James A. Van Fleet State Trail, but complement the notable number of recreational features within the vicinity of the project. A Section 4(f) DOA, specifically for resources related to recreational and wildlife management uses, will be developed during the Project Development phase and formal Section 4(f) designation will be provided (as necessary), by FHWA, for those Section 4(f) properties bordering the project area of potential effect. A separate Section 4(f) DOA (as part of the Section 106 process) will be developed for those historic, archaeological, and/or tribal resources that have been found to have an "adverse effect" from the proposed project through findings of the CRAS. Due to the fact that the proposed improvements are expected to fit within the existing roadway right-of-way, a Summary DOE of Minimal has been assigned to the Section 4(f) issue.

Commitments and Responses: A Section 4(f) Determination of Applicability will be included in the scoping recommendations for this project to confirm that potential impacts to recreational features and identified historic and archaeological resources will be minimized to the greatest extent practicable.

Technical Study: Section 4(f) Determination of Applicability.

Degree of Effect: 2 *Minimal* assigned 06/02/2011 by Joseph Sullivan, Federal Highway Administration

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects
Identified Resources and Level of Importance:
At least 8 previous cultural resource surveys have been conducted on or near the project area. Per GIS analysis, portions of the project area were not covered by documented surveys. A CRAS will be needed for the project area or please provide documentation of recent CRAS conducted within the project area.
Comments on Effects to Resources:
At least 8 previous cultural resource surveys have been conducted on or near the project area. Per GIS analysis, portions of the project area were not covered by documented surveys. A CRAS will be needed for the project area or please provide documentation of recent CRAS conducted within the project area.
Additional Comments (optional):

CLC Commitments and Recommendations:

ETAT Reviews: Community

Aesthetics

Project Effects

Coordinator Summary Degree of Effect: 3 *Moderate* assigned 08/10/2011 by FDOT District 1

Comments:
FDOT noted that the current aesthetic character along the majority of the roadway is a combination of rural and suburban with a mix of natural environment, recreation and residential neighborhoods; however, this character intensifies near the Interstate 4 interchange with business park, light industrial and warehouse-type land uses. For these reasons along with the potential for noise and vibration related impacts anticipated during construction, the presence of community natural resources in the area, and the location of growing residential areas within close proximity, the FDOT recommended an overall project impact degree of effect of moderate. Coordination Document: None.

FHWA stated that there do not appear to be significant changes to current aesthetic conditions. Coordination Document: None.

In the vicinity of the project, SR 33, in part, serves traffic entering and exiting Interstate 4 and in route from the Polk Parkway. The aesthetic character of the area continues to change from rural to suburban residential and mixed-use. There are however growing residential areas and community natural resources within close proximity. Because of this situation coupled with the potential for noise and vibration related impacts anticipated during construction, a Summary DOE of Moderate has been assigned to the Aesthetic issue.

Commitments and Responses: Public outreach regarding project effects and general design concepts related to corridor aesthetics will be conducted during project development.

Technical Study: None.

Degree of Effect: 2 *Minimal* assigned 06/02/2011 by Joseph Sullivan, Federal Highway Administration

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
No significant changes to current aesthetic conditions.
Comments on Effects to Resources:
No significant changes to current aesthetic conditions.
Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 3 *Moderate* assigned 06/02/2011 by Scott Swearengen, FDOT District 1

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
100-Foot Buffer:
Residential Areas - 16.8 acres
Office of Greenways and Trails (OGT) Multi-Use Trails Priorities (High)

500-Foot Buffer:
Residential Areas - 110.0 acres
Mobile Home and RV Parks - Oakridge MHP
FNAI Managed Lands - Tenoroc Fish Management Area

Quarter-Mile (1,320-Foot) Buffer:
Residential Areas - 354.7 acres
Mobile Home and RV Parks - Lakeland RV Resort
Comments on Effects to Resources:
The project area is characterized by open spaces and agricultural land, low to medium density residences, and light industry, with a growing residential and mixed use character. Almost 320 acres within the quarter-mile buffer are designated as conservation land and the Tenoroc Fish Management Area is located within the 500-foot buffer. Within the 100-foot buffer exists an area identified by the Florida Office of Greenways and Trails as a "high" priority multi-use trail as well as the Golf Club at Bridgewater.

The current aesthetic character along the majority of the roadway is a combination of rural and suburban with a mix of natural environment, recreation and residential neighborhoods. This character intensifies near the Interstate 4 interchange with business park, light industrial and warehouse-type land uses. Potential project impacts on community aesthetics, including noise and vibration related impacts (during construction), are anticipated to be moderate due to the nearby presence of community natural resources, the existing land use scale and character along the roadway, and the location of growing residential areas within close proximity to the project.
Additional Comments (optional):

CLC Commitments and Recommendations:
Potential project impacts on community aesthetics appear to be moderate. Continued public outreach during project development should solicit opinions and preferences from residents regarding project effects and general design concepts related to corridor aesthetics.

Economic

Project Effects

Coordinator Summary Degree of Effect: 1 *Enhanced* assigned 08/10/2011 by FDOT District 1

Comments:
FDOT stated that area residents and businesses are expected to benefit from this project with improved capacity and accessibility. The project enhances the local network and regional connectivity along this section of State Road 33. As future growth occurs within this area of Lakeland, State Road 33 will be able to better accommodate local and shorter-distance regional trips as an alternative to Interstate 4. Coordination Document: None.

The project has the potential to benefit both residents and businesses with improved capacity and accessibility. It enhances both the local network and regional connectivity of State Road 33. Therefore, a Summary DOE of Enhanced has been assigned to the Economic issue.

Commitments and Responses: Public outreach will be conducted to solicit input from residents and businesses which rely on State Road 33 for access.

Technical Study: None.

Degree of Effect: 1 *Enhanced* assigned 06/02/2011 by Scott Swearengen, FDOT District 1

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
100-Foot Buffer:
Residential Areas - 16.8 acres
Commercial Areas - 2.2 acres
Industrial Areas - 7.8 acres
Florida Forever BOT Project - Green Swamp, 36.4 acres

500-Foot Buffer:
Residential Areas - 110.0 acres
Commercial Areas - 8.7 acres
Industrial Areas - 42.2 acres
Bridgewater DRI - 163.5 acres
Future land use:
Residential Area: 220.0 acres
Mixed Use/Urban Village Area: 109.0 acres
Conservation Area: 72.2 acres
Polk County Transit - Bus Route 52

Quarter-Mile (1,320-Foot) Buffer:
Residential Areas - 354.7 acres
Commercial Areas - 25.0 acres
Industrial Areas - 113.7 acres
Bridgewater DRI - 489.2 acres
Future land use:
Residential Area: 509.4 acres
Mixed Use/Urban Village Area: 334.9 acres
Conservation Area: 319.6 acres
Florida Forever BOT Project - Green Swamp, 641.32 acres

One-Mile (5,280-Foot) Buffer:
Residential Areas - 1316.0 acres
Bridgewater DRI - 1140.9 acres
Lake Gibson E Daughtery Road PUD - 15.6 acres
Airport - Lake Gibson

Comments on Effects to Resources:
State Road 33 in the vicinity of the project area provides access to downtown Lakeland, Interstate 4, and the Polk Parkway (via Interstate 4). The project area consists primarily of currently undeveloped lands, including around 640 acres of the Green Swamp Florida Forever BOT Project within the quarter-mile buffer. Future land use plans call for increased residential, industrial, and mixed use developments in the area at low to medium densities. There are few commercial properties in the project area but a substantial amount of industrial/warehousing space - including the Haverty's distribution center - within the Business Park adjacent to the west side of State Road 33, south of I-4. The project provides greater mobility and accessibility to the existing distribution and planned industrial uses in the corridor.

This project also enhances the local network and regional connectivity along this section of State Road 33. As future growth occurs within this area of Lakeland, State Road 33 will be able to better accommodate local and shorter-distance regional trips as an alternative to Interstate 4.

Additional Comments (optional):

CLC Commitments and Recommendations:
Area residents and businesses are expected to benefit from this project with improved capacity and accessibility; therefore, the recommended degree of effect is Enhanced. It is also recommended that additional public outreach be conducted to solicit input from residents and businesses which rely on State Road 33 for access.

Land Use

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
FDOT noted that the project area is characterized by open spaces and agricultural land, low to medium density residences, and light industry, with a growing residential and mixed use character. The project is consistent with the Lakeland Comprehensive Plan and is shown as a cost-feasible project in the Polk TPO 2035 LRTP. The project is also considered a committed improvement in the Lakeland Comprehensive Plan's Transportation and Capital Improvement Elements. FDOT stated that impacts to adjacent land uses are anticipated to be minimal, although the increased presence of commuter and non-motorized traffic resulting from growth in residential and mixed use areas may create conflicts between truckers and commuters sharing the corridor. Coordination Document: None.

FHWA stated that if land use changes are proposed they should be identified in appropriate planning documents. Coordination Document: None.

The project area is growing as a suburban residential and mixed-use community. The proposed project improvements appear to be in sync with such growth patterns and trends; however, as motorized and non-motorized traffic increases as a result, so does the potential for conflicts among the various modes sharing the corridor. Also, the project is consistent with and included in all of the appropriate public planning documents. Land use impacts appear to be minimal; therefore, a Summary DOE of Minimal has been assigned to the Land Use issue.

Commitments and Responses: None.

Technical Study: None.

Degree of Effect: 2 *Minimal* assigned 06/02/2011 by Joseph Sullivan, Federal Highway Administration

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
If land use changes are proposed they should be identified in appropriate planning documents.
Comments on Effects to Resources:
If land use changes are proposed they should be identified in appropriate planning documents.
Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 06/02/2011 by Scott Swearengen, FDOT District 1

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
City of Lakeland Comprehensive Plan
Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:
Residential Areas - 16.8 acres
Commercial Areas - 2.2 acres
Industrial Areas - 7.8 acres

500-Foot Buffer:
Residential Areas - 110.0 acres
Commercial Areas - 8.7 acres
Industrial Areas - 42.2 acres
Transportation Areas (right-of-way) - 34.9 acres
Mobile Home and RV Parks - Oakridge MHP
FNAI Managed Lands - Tenoroc Fish Management Area
Bridgewater DRI - 163.5 acres
Future land use:
Residential Area - 220.0 acres
Mixed Use/Urban Village Area - 109.0 acres
Conservation Area - 72.2 acres

Quarter-Mile (1,320-Foot) Buffer:
Residential Areas - 354.7 acres
Commercial Areas - 25.0 acres
Industrial Areas - 113.7 acres
Bridgewater DRI - 489.2 acres
Future land use:
Residential Area - 509.4 acres
Mixed Use/Urban Village Area - 334.9 acres
Conservation Area - 319.6 acres
Mobile Home and RV Parks - Lakeland RV Resort

Comments on Effects to Resources:
The project area is characterized by open spaces and agricultural land, low to medium density residences, and light industry, with a growing residential and mixed use character. However, almost 320 acres within the quarter-mile buffer are designated as conservation land. Table 2 outlines the existing generalized land uses within the 500-foot project buffer. Agriculture is the dominant land use in the corridor, followed by residential uses and other open spaces.

Table 2. Generalized Land Use (500-Foot Buffer)

500-Foot Buffer
Description Acres Percent*
ACREAGE NOT ZONED FOR AGRICULTURE 56.7 11.35%
AGRICULTURAL 98.7 19.78%
INDUSTRIAL 13.6 2.72%
PARCELS WITH NO VALUES 11.8 2.37%
PUBLIC/SEMI-PUBLIC 2.0 0.39%
RECREATION 38.5 7.72%
RESIDENTIAL 60.7 12.16%
RETAIL/OFFICE 9.4 1.89%
ROW 1.5 0.3%
VACANT NONRESIDENTIAL 43.0 8.62%
VACANT RESIDENTIAL 2.8 0.56%
*Percentages do not add to 100% due to the omission of the transportation right-of-way from the D1 generalized land use inventory
EST - District 1 Generalized Land Use - analysis performed on 5/3/2011

The predominant future land use designations within the 500-foot buffer are Residential Medium, Mixed Use/Activity Center, and Residential Low. Within the quarter-mile buffer, however, the dominant designations are Mixed Use/Activity Center and Conservation.

The proposed project is consistent with the City of Lakeland's Comprehensive Plan and the Polk Transportation Planning Organization's (TPO) 2035 Long Range Transportation Plan (LRTP). The project is contained within a section of SR 33 identified as a four-lane improvement need and identified as cost feasible in the currently adopted 2035 LRTP. The project is also considered a committed improvement in the City of Lakeland Comprehensive Plan's Transportation and Capital Improvement Elements.
Additional Comments (optional):

CLC Commitments and Recommendations:
Impacts to adjacent land uses are anticipated to be minimal, although the increased presence of commuter and non-motorized traffic resulting from growth in residential and mixed use areas may create conflicts between truckers and commuters sharing the corridor. It is recommended that community outreach solicit input on potential effects to land uses in the corridor.

Mobility

Project Effects

Coordinator Summary Degree of Effect: 1 *Enhanced* assigned 08/10/2011 by FDOT District 1

Comments:
FDEP reported that the project provides an opportunity for a much needed trail connection between Lakeland's urban core and the 29-mile General James A. Van Fleet State Trail, which is a key component of the Florida Greenways and Trails System. They noted that a trail could be constructed within the SR 33 design south of SR 659, and that the City of Lakeland's Planning and Zoning Board has explicitly requested that a trail be accommodated in a site plan for a utility facility proposed at Maggiore Boulevard/Huron Way. Coordination Document: To Be Determined: Further Coordination Required.

FDOT stated that the resulting multimodal improvements from this project along SR 33 will help to improve multimodal connections between neighborhoods immediately adjacent to the project and destinations nearby. The project includes provisions for multimodal interface with transit through the addition of bus pullouts and shelter pads along both sides. Also, the proposed improvements are anticipated to include bicycle lanes and sidewalks along both sides of the roadway. Coordination Document: None.

The project is anticipated to provide mobility improvements for multiple transportation mode types, including vehicular, pedestrian, bicycle and transit, and will strengthen connections to other trails and recreational amenities. Therefore, a summary DOE of Enhanced has been assigned to the Mobility issue.

Commitments and Responses: Public outreach during project development in coordination with the Polk TPO should continue to solicit community opinions and preferences, targeting input from the transportation disadvantaged population, regarding the proposed capacity improvements and mobility options along this segment of State Road 33.

Technical Study: None.

Degree of Effect: 1 *Enhanced* assigned 06/02/2011 by Scott Swearengen, FDOT District 1

Coordination Document: No Selection

Direct Effects
Identified Resources and Level of Importance:
Identified Resources:
City of Lakeland Comprehensive Plan

Polk Transportation Planning Organization's 2035 Long Range Transportation Plan (LRTP)

100-Foot Buffer:
Residential Areas - 16.8 acres
Lakeland Fire Department Station 6
Office of Greenways and Trails (OGT) Multi-Use Trails Priorities (High)
Crashes (2005-2007) - 90 (3 fatal)

500-Foot Buffer:
Residential Areas - 110.0 acres
Polk County Transit - Bus Route 52
Railroad Siding - 466 feet
Mobile Home and RV Parks - Oakridge MHP
Crashes (2005-2007) - 126 (4 fatal)

Quarter-Mile (1,320-Foot) Buffer:
Residential Areas - 354.7 acres
Mobile Home and RV Parks - Lakeland RV Resort
Railroad Siding - 3,599 feet

One-Mile (5,280-Foot) Buffer:
Railroad Siding - 12,972 feet
FDOH Group Care Facilities (7)
Airport - Lake Gibson
Comments on Effects to Resources:
This project widens State Road 33 from an existing two-lane to a planned four-lane facility utilizing a suburban typical section. It is located in northern Lakeland, with the majority of the project south of Interstate 4 and having an existing interchange with I-4 near the project's northeastern limit. It will extend the existing four-lane section of SR 33 further northward for an additional 3.7 miles approximately.

The proposed improvements to State Road 33 are intended to improve operational capacity to meet mobility needs and to improve the functional viability of this roadway as a local and regional travel alternative to Interstate 4. State Road 33 provides access to nearby areas facilities including the Polk Parkway and downtown Lakeland.

This project includes provisions for multimodal interface with transit through the addition of bus pullouts and shelter pads along both sides of SR 33 within the project limits. (These are included as specific payment items in the Bridgewater DRI Development Agreement.) The Polk LRTP shows an unfunded transit need along the SR 33 corridor within the project limits. The proposed improvements are anticipated to include bicycle lanes and sidewalks along both sides of the roadway. The resulting multimodal improvements will help to improve multimodal connections between neighborhoods immediately adjacent to the project and destinations nearby.

The project is consistent with the City of Lakeland's Comprehensive Plan and the Polk Transportation Planning Organization's (TPO) 2035 Long Range Transportation Plan (LRTP). The project is contained within a section of SR 33 identified as a four-lane improvement need and identified as cost feasible in the currently adopted 2035 LRTP. The project is also considered a committed improvement in the City of Lakeland Comprehensive Plan's Transportation and Capital Improvement Elements.
Additional Comments (optional):

CLC Commitments and Recommendations:
The project is anticipated to enhance mobility and accessibility for both motorized and non-motorized traffic; however, public outreach in coordination with the Polk TPO should continue to solicit community opinions and preferences, targeting input from the transportation disadvantaged population, regarding the proposed capacity improvements and mobility options along this segment of State Road 33.

Degree of Effect: 1 *Enhanced* assigned 05/26/2011 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:
The project is within 500 ft. of the Tenoroc Fish Management Area - co-managed by the Florida Fish and Wildlife Conservation Commission and the DEP's Bureau of Mining and Minerals Regulation. The project is also located within the Green Swamp Florida Forever BOT Project area.
Comments on Effects to Resources:
The DEP's Office of Greenways and Trails reports that the project provides an opportunity for a much needed trail connection between Lakeland's urban core and the 29-mile General James A. Van Fleet State Trail, which is a key component of the Florida Greenways and Trails System.
-- 12-foot pathways are currently being constructed as part of the East-West Road (University Boulevard) project between SR 33 and SR 570 (Polk Parkway) that is scheduled for completion in early 2012.
-- A multi-use trail is envisioned to be incorporated into the SR 33 design north of SR 659 (Combee Road), thereby providing a connection between Tenoroc Fish Management Area and E-W Road corridors that directly connect with the Van Fleet State Trail.
-- The SR 33 project corridor also parallels a trail corridor that is located on the south side of Long Lake. Given the 200-ft. right-of-way width on SR 33 and existing/planned residential units in the area, a trail could be constructed within the SR 33 design south of SR 659. In fact, the City of Lakeland's Planning and Zoning Board has explicitly requested that a trail be accommodated in a site plan for a utility facility proposed at Maggiore Boulevard/Huron Way.
-- It should also be noted that the City's four-lane improvement on SR 33 adjacent to the PD&E project limits (West of Old Combee/Deeson Point to Interstate 4 at Exit 33) includes sidewalks and dedicated bicycle lanes. Since SR 33 within the project area currently has a 60-mph posted speed limit, a transition from an on-road to off-road facility would certainly be appreciated.

For further information and assistance, please contact Ms. Marsha Connell in the Office of Greenways and Trails at (850) 245-2052.

Additional Comments (optional):

CLC Commitments and Recommendations:

Relocation

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
FDOT stated that the proposed improvements are expected to fit within the existing public rights-of-way, including the required stormwater treatment facilities and that there is no anticipated need to relocate households or businesses as a result of the project. Coordination Document: None.

FHWA expressed concerns with the existing right-of-way width being adequate to accommodate the project's planned improvements and, therefore, relocations of nearby residences may be necessary. FHWA requested that potential relocations be identified as early in the planning process as possible. Coordination Document: To Be Determined: Further Coordination Required.

The proposed improvements are expected to fit within the existing public rights-of-way, including the required stormwater treatment facilities. There do not appear to be any project-related relocation effects per this project; therefore, a summary DOE of Minimal has been assigned to the Relocation issue. If relocation impacts do arise, they should be noted as early in the project development process as possible.

Commitments and Responses: Any potential relocations of existing residents due to the project will be identified during project development.

Technical Study: None.

Degree of Effect: 0 *None* assigned 06/02/2011 by Scott Swearengen, FDOT District 1

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
100-Foot Buffer:
Residential Areas - 16.8 acres
Lakeland Fire Department Station 6
Florida Forever BOT Project - Green Swamp, 36.4 acres
Comments on Effects to Resources:
The project area is characterized by open spaces and agricultural land, low to medium density residences, and light industry, with a growing residential and mixed use character. The proposed improvements are expected to fit within the existing public rights-of-way, including the required stormwater treatment facilities. There is no anticipated need to relocate households or businesses as a result of the project.
Additional Comments (optional):

CLC Commitments and Recommendations:
There are no project-related relocation effects expected. The recommended degree of effect is None.

Degree of Effect: 3 *Moderate* assigned 06/02/2011 by Joseph Sullivan, Federal Highway Administration

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects

Identified Resources and Level of Importance:
Please ID potential relocations as early in the planning process as possible.
Comments on Effects to Resources:
In some areas apparently less than 200 feet is available for project construction and associated needs. Due to the proximity of private residences to the project area relocations might be necessary and should be identified as early in the planning stages as possible.
Additional Comments (optional):

CLC Commitments and Recommendations:

Social

Project Effects

Coordinator Summary Degree of Effect: 3 *Moderate* assigned 08/10/2011 by FDOT District 1

Comments:
The FDOT noted numerous community facilities within the project study area. With regard to area demographics, the 500-foot and one-mile buffer areas contain a relatively low percentage of African-Americans (32.8%) and Hispanic persons. Also, the percentage of households without a car is relatively low as is the percentage of elderly persons (age 65+). The median family income is higher than the County average. These statistics indicate a high probability of an overall area population with limited transportation mobility capacity and/or options. Per the FDOT PD&E Manual, Part 1, Chapter 11, Section 11.2.4, public outreach activities targeting minority persons will not be required. This is due to the low percentage of minority persons in the study area. Regardless, FDOT recommended that measures be taken during public involvement to identify potential transportation disadvantaged

groups, including the elderly, and ensure they are not disproportionately affected by the project. Coordination Document: None.

FHWA expressed concerns with the existing right-of-way width being adequate to accommodate the project's planned improvements and, therefore, relocations of nearby residences may be necessary. FHWA requested that potential relocations be identified as early in the planning process as possible. Coordination Document: To Be Determined: Further Coordination Required.

The USEPA noted both positive and negative impacts of the project. Positive impacts include better connectivity and accessibility for nearby communities. Negative impacts include general widening and potential increase in traffic volumes. Coordination Document: None.

The project is anticipated to improve capacity, circulation and mobility; however, this could lead to higher traffic volumes and an overall disruption to the social environment. The proposed improvements are expected to fit within the existing public rights-of-way, including the required stormwater treatment facilities. The demographic character of the project study area depicts a relatively less racially and ethnically diverse population that is younger, wealthier and with greater automobile access than Polk County as a whole. Per the FDOT PD&E Manual, Part 1, Chapter 11, Section 11.2.4, if the demographic data indicates that 5% or 1,000 persons or more in a project area speak a language other than English then Limited English Proficiency (LEP) accommodations should be required. Based on available U.S. Census data for the area, such accommodations will not be required for the project. Due to the high level of existing community facilities and residential populations in the area as well as the potential for increased traffic volumes, a summary DOE of Moderate has been assigned to the Social issue.

Commitments and Responses: Community outreach and input regarding the potential effects of this project should continue and measures should be taken during public involvement to identify potential transportation disadvantaged groups, including the elderly, and ensure they are not disproportionately affected by the project. Such outreach and involvement will be conducted during project development.

Technical Study: None.

Degree of Effect: 3 *Moderate* assigned 06/02/2011 by Joseph Sullivan, Federal Highway Administration

Coordination Document: To Be Determined: Further Coordination Required

Direct Effects

Identified Resources and Level of Importance:
Please identify the proposed type and width of road way and number and location of potential or identified relocations that would be necessary.
Comments on Effects to Resources:
In some areas apparently less than 200 feet is available for project construction and associated needs. Due to the proximity of private residences to the project area relocations might be necessary and should be identified as early in the planning stages as possible.
Additional Comments (optional):

CLC Commitments and Recommendations:

Degree of Effect: 2 *Minimal* assigned 06/02/2011 by Scott Swearengen, FDOT District 1

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
100-Foot Buffer:
Residential Areas - 16.8 acres
Lakeland Fire Department Station 6
Office of Greenways and Trails (OGT) Multi-Use Trails Priorities (High)
Parcel Derived Park (1 golf course)

200-Foot Buffer:
Lakeland Motorsports Park

500-Foot Buffer:
Residential Areas - 110.0 acres
Mobile Home and RV Parks - Oakridge MHP
FNAI Managed Lands - Tenoroc Fish Management Area
Bridgewater DRI - 163.5 acres
Future land use:
Residential Area: 220.0 acres
Mixed Use/Urban Village Area: 109.0 acres
Conservation Area: 72.2 acres

Quarter-Mile (1,320-Foot) Buffer:
Residential Areas - 318.7 acres
Bridgewater DRI - 489.2 acres
Mobile Home and RV Parks - Lakeland RV Resort
TLC Family Church (Parcel Derived Religious Center)

One-Mile (5,280-Foot) Buffer:
Residential Areas - 1316.0 acres
Bridgewater DRI - 1140.9 acres
Parcel Derived Schools - School Board of Polk County
Lake Gibson E Daughtery Road PUD - 15.6 acres

Religious Centers, Parcel Derived or Geocoded (5)
Lake Deeson Boat Ramp
Other Parcel Derived Parks (2 golf courses)
Health Care Facilities, Parcel Derived or Geocoded (3)
FDOH Group Care Facilities (7)
Social Service Facilities, Parcel Derived or Geocoded (10)
Assisted Housing - Sterling Place
SHPO Historic Standing Structures - 6230 Lake Luther Road
Homeowners or Condominium Associations (2)
Florida Archaeological or Historic Sites (2) - 0.28 acres
USA International Speedway
Lakeland Drag Strip
Airport - Lake Gibson

Comments on Effects to Resources:
Several community facilities exist within close proximity to the project. Facilities within the quarter-mile buffer include a city fire station, an area designated by the OGT as a "high priority" multi-use trail, the Tenoroc Fish Management Area, one religious center, two mobile home/RV parks, and the Lakeland Motorsports Park. There are about 319 acres of medium to high density residential uses within the quarter-mile buffer, or a little less than 23 percent of the total land area within the buffer. Additionally, almost 490 acres of land are planned for development as part of the Bridgewater DRI.

Numerous community facilities exist within the one-mile buffer as listed above.

Table 1 displays the demographic characteristics of the corridor within the 500-foot and one-mile buffers and compares these areas with parallel statistics for the City of Lakeland and Polk County. According to the US Census Bureau data, the one-mile buffer area contains a lower percentage of minority persons, including those claiming Hispanic ethnicity, which is relatively low at 4.7% (compared to 6.4% in Lakeland and 9.7% in all of Polk County). The percentages of persons over the age of 65 and under the age of 18 are similar in the one-mile buffer area to those measures for Polk County as a whole, but the project area appears to contain a generally younger than average population for the City of Lakeland. The percentage of households with no vehicular access is substantially lower than in Polk County or the City of Lakeland, while the project area's median income is notably higher.

Per the FDOT PD&E Manual, Part 1, Chapter 11, Section 11.2.4, if the demographic data indicates that 5% or 1,000 persons or more in a project area speak a language other than English then Limited English Proficiency (LEP) accommodations should be required. Based on the demographic information from the US Census Bureau data, LEP accommodations are not required for this project.

Table 1. Demographic Information

Demographic 500' Buffer 1 Mile Buffer Lakeland Polk County
White (Race) 91.9% 90.9% 73.5% 81.0%
African-American (Race) 4.4% 4.9% 21.3% 13.8%
"Other" * (Race) 3.7% 4.2% 5.2% 5.2%
Hispanic (Ethnic Group) 2.8% 4.7% 6.4% 9.7%
Age 65+ 14.2% 17.5% 23.0% 18.3%
Under age 18 25.8% 24.4% 21.4% 24.4%
HH w/o car 3.6% 4.7% 10.8% 7.2%
Med. Family Income $45,378 $44,002 $40,468 $41,442
Source: US Census Bureau (2000 Data - Polk County)
* "Other" includes Asian, Native American, Native Hawaiian & Other Pacific Islander Alone, & Other Race.

Additional Comments (optional):

CLC Commitments and Recommendations:
The potential impacts to the social environment are expected to be minimal. However, it is recommended that community outreach and input regarding the potential effects of this project continues. Measures should be taken during public involvement to identify potential transportation disadvantaged groups, including the elderly, and ensure they are not disproportionately affected by the project.

Degree of Effect: 0 *None* assigned 06/07/2011 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

Direct Effects

Identified Resources and Level of Importance:
Over 18% of land within the 200 foot buffer is midium density residential.

Comments on Effects to Resources:
Communities along the corridor will be impacted. The project is likely to positively impact some communities by providing better connectivity and accessability. The general widening and potenial increase in volume of traffic will present a negative impact. Therefore the degree of effect of "none" is assigned. Further project details during the development and design can determine if the net social impact is positive.

Additional Comments (optional):

CLC Commitments and Recommendations:

ETAT Reviews: Secondary and Cumulative

Secondary and Cumulative Effects

Project Effects

Coordinator Summary Degree of Effect: 2 *Minimal* assigned 08/10/2011 by FDOT District 1

Comments:
The SWFWMD stated that the project may result in further loss and/or disturbance of breeding and foraging habitat for listed species and further fragmentation of remaining uplands. The SWFWMD noted that excessive habitat damage can be avoided by restricting construction equipment to previously disturbed areas. The SWFWMD also commented that the use of Low Impact Development techniques may assist in water quality treatment and water quantity management. The SWFWMD recommends that wetland impacts be eliminated or reduced by implementing strict controls over sediment transport offsite during construction and by restricting staging areas to uplands. Coordination Document: Permit Required.

According to the City of Lakeland's Comprehensive Plan, the future land use vision of the project area calls for increased residential, industrial, and mixed use developments. The purpose of this project is to improve the functional viability of SR 33 as a local and regional travel alternative to Interstate 4 to provide needed capacity to meet growing travel demand in northeast Lakeland and support increases in both population and employment in the area. This project is additionally anticipated to augment an existing emergency evacuation route. For these reasons, a Summary DOE of Minimal has been assigned to the Secondary and Cumulative Effects issue.

Commitments and Responses: None.

Technical Study: None.

Degree of Effect: 3 *Moderate* assigned 05/26/2011 by Hank Higginbotham, Southwest Florida Water Management District

Coordination Document: Permit Required
At-Risk Resource: Wildlife and Habitat
Comments on Effects: The project's potential impacts on wildlife and habitat include the further elimination and/or disturbance of breeding and foraging areas for listed species and the further dissection and fragmentation of remaining uplands. Increased traffic and increased traffic lane width will increase the potential for wildlife fatalities on SR 33, particularly for gopher tortoises who utilize the remaining patches of suitable habitat adjacent to the project.
Recommended Avoidance, Minimization, and Mitigation Measures: Excessive habitat damage to remaining quality upland habitats can be eliminated by restricting construction equipment to other, disturbed areas.
Recommended Actions to Improve At-Risk Resources: The results from the recommended analysis of road kill potential, particularly of gopher tortoises, should be utilized to eliminate serious impacts to wildlife and habitats.

At-Risk Resource: Water Quality and Quantity
Comments on Effects: The surface water features in the project area have been adversely affected by past land uses, untreated runoff from roadways and agricultural lands, physical disturbances including excavation, ditching, and other activities. The project has the potential to continue to promote both physical and water quality impacts to these aquatic systems.
Recommended Avoidance, Minimization, and Mitigation Measures: Compliance with existing permit requirements, the successful use of erosion and sediment control BMPs, and compliance with applicable TMDL and MFL requirements will help assure that minimum water quality standards are met. Water quantity concerns will also be addressed during the ERP process. In general, limiting or otherwise offsetting encroachment on the ditches, channels, and floodplains in the area can reduce quantity concerns. For groundwater resources, ensure that spillages of petroleum products and other chemicals do not occur during construction, and that stormwater treatment ponds do not intrude into the limerock or penetrate confining material of the aquifer system, either directly or by sinkhole formation. Low impact development strategies may help with water quality treatment as well as water quantity management.
Recommended Actions to Improve At-Risk Resources: For surface water resources, reduce pollutant loads to the drainage features in the project area by treating stormwater runoff from currently untreated areas, by controlling erosion from the project site, by limiting activities in surface water, by protecting surface water from the ingress of grease and oils from equipment, and by considering restoration strategies at construction sites. Low impact development strategies may help to limit secondary and cumulative impacts.

At-Risk Resource: Wetlands
Comments on Effects: Possible secondary and cumulative impacts to wetlands within the project include the further loss or reduction of the remaining wetlands.
Recommended Avoidance, Minimization, and Mitigation Measures: Wetland impacts can be eliminated or reduced by implementing strict controls over sediment transport off site during construction and by restricting the staging area and the movement of vehicles and equipment to non-wetland areas.
Recommended Actions to Improve At-Risk Resources: 1. Avoid impacts to wetlands wherever feasible;
2. Increase the buffer area around existing wetlands as practicable;
3. Reduce impacts by restoring or enhancing wetland acreage impacted previously by roadway construction.

APPENDIX C

FLORIDA SCRUB-JAY CALL STATION SURVEY DATASHEETS

Florida Scrub Jay Survey Field Data Sheet

Date: 10/9/2012 **Start Time**: 8:48 AM **Stop Time:** 10:00 AM **Monitor:** _A. Wynn___

Project Name: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, FL

Temperature: __75°F_ **Wind Speed/Direction:** _from NW @ 2mph_

Cloud Cover/Precipitation _10%/0_____

Survey Stations	Total Number Scrub Jay Groups Found	Total Number Scrub Jays in Each Group	Total Number of Juvenile-Plumaged Scrub Jays in Each Group
Station 1	0	N/A	N/A
Station 2	0	N/A	N/A
Station 3	0	N/A	N/A
Station 4	0	N/A	N/A
Station 5	0	N/A	N/A
Station 6	0	N/A	N/A
Station 7	0	N/A	N/A
Station 8	0	N/A	N/A
Station 9	0	N/A	N/A
Station 10	0	N/A	N/A
Station 11	0	N/A	N/A
Station 12	0	N/A	N/A
Station 13	0	N/A	N/A
Station 14	0	N/A	N/A
Station 15	0	N/A	N/A
Station 16	0	N/A	N/A

Notes_____
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Florida Scrub Jay Survey Field Data Sheet

Date: 10/15/2012 **Start Time**: 9:00 AM **Stop Time:** 10:00 AM **Monitor:** __A. Wynn__

Project Name: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, FL

Temperature: __76°F_ **Wind Speed/Direction:** _None_

Cloud Cover/Precipitation _5%/0_____

Survey Stations	Total Number Scrub Jay Groups Found	Total Number Scrub Jays in Each Group	Total Number of Juvenile-Plumaged Scrub Jays in Each Group
Station 1	0	N/A	N/A
Station 2	0	N/A	N/A
Station 3	0	N/A	N/A
Station 4	0	N/A	N/A
Station 5	0	N/A	N/A
Station 6	0	N/A	N/A
Station 7	0	N/A	N/A
Station 8	0	N/A	N/A
Station 9	0	N/A	N/A
Station 10	0	N/A	N/A
Station 11	0	N/A	N/A
Station 12	0	N/A	N/A
Station 13	0	N/A	N/A
Station 14	0	N/A	N/A
Station 15	0	N/A	N/A
Station 16	0	N/A	N/A

Notes_____
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Florida Scrub Jay Survey Field Data Sheet

Date: 3/7/2013 **Start Time**: 9:00 AM **Stop Time:** 10:30 AM **Monitor:** _A. Wynn__

Project Name: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, FL

Temperature: __53°F_ **Wind Speed/Direction:** _8 mph_

Cloud Cover/Precipitation _0%/0_____

Survey Stations	Total Number Scrub Jay Groups Found	Total Number Scrub Jays in Each Group	Total Number of Juvenile-Plumaged Scrub Jays in Each Group
Station 1	0	N/A	N/A
Station 2	0	N/A	N/A
Station 3	0	N/A	N/A
Station 4	0	N/A	N/A
Station 5	0	N/A	N/A
Station 6	0	N/A	N/A
Station 7	0	N/A	N/A
Station 8	0	N/A	N/A
Station 9	0	N/A	N/A
Station 10	0	N/A	N/A
Station 11	0	N/A	N/A
Station 12	0	N/A	N/A
Station 13	0	N/A	N/A
Station 14	0	N/A	N/A
Station 15	0	N/A	N/A
Station 16	0	N/A	N/A

Notes_____
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Florida Scrub Jay Survey Field Data Sheet

Date: 3/22/2013 **Start Time**: 9:00 AM **Stop Time:** 10:30 AM **Monitor:** _K. Caruso__

Project Name: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, FL

Temperature: __59°F_ **Wind Speed/Direction:** _3 mph_

Cloud Cover/Precipitation _5%/0_____

Survey Stations	Total Number Scrub Jay Groups Found	Total Number Scrub Jays in Each Group	Total Number of Juvenile-Plumaged Scrub Jays in Each Group
Station 1	0	N/A	N/A
Station 2	0	N/A	N/A
Station 3	0	N/A	N/A
Station 4	0	N/A	N/A
Station 5	0	N/A	N/A
Station 6	0	N/A	N/A
Station 7	0	N/A	N/A
Station 8	0	N/A	N/A
Station 9	0	N/A	N/A
Station 10	0	N/A	N/A
Station 11	0	N/A	N/A
Station 12	0	N/A	N/A
Station 13	0	N/A	N/A
Station 14	0	N/A	N/A
Station 15	0	N/A	N/A
Station 16	0	N/A	N/A

Notes_____
_____
_____
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_____

Florida Scrub Jay Survey Field Data Sheet

Date: 3/26/2013 **Start Time**: 7:00 AM **Stop Time:** 8:15 AM **Monitor:** _K. Caruso__

Project Name: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, FL

Temperature: __51°F_ **Wind Speed/Direction:** _From north @ 3 mph_

Cloud Cover/Precipitation _0%/0_____

Survey Stations	Total Number Scrub Jay Groups Found	Total Number Scrub Jays in Each Group	Total Number of Juvenile-Plumaged Scrub Jays in Each Group
Station 1	0	N/A	N/A
Station 2	0	N/A	N/A
Station 3	0	N/A	N/A
Station 4	0	N/A	N/A
Station 5	0	N/A	N/A
Station 6	0	N/A	N/A
Station 7	0	N/A	N/A
Station 8	0	N/A	N/A
Station 9	0	N/A	N/A
Station 10	0	N/A	N/A
Station 11	0	N/A	N/A
Station 12	0	N/A	N/A
Station 13	0	N/A	N/A
Station 14	0	N/A	N/A
Station 15	0	N/A	N/A
Station 16	0	N/A	N/A

Notes_____
_____
_____
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_____

Florida Scrub Jay Survey Field Data Sheet

Date: 3/27/2013 **Start Time**: 9:04 AM **Stop Time:** 10:30 AM **Monitor:** _K. Caruso__

Project Name: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, FL

Temperature: __39°F_ **Wind Speed/Direction:** _From north @ 6 mph_

Cloud Cover/Precipitation _0%/0_____

Survey Stations	Total Number Scrub Jay Groups Found	Total Number Scrub Jays in Each Group	Total Number of Juvenile-Plumaged Scrub Jays in Each Group
Station 1	0	N/A	N/A
Station 2	0	N/A	N/A
Station 3	0	N/A	N/A
Station 4	0	N/A	N/A
Station 5	0	N/A	N/A
Station 6	0	N/A	N/A
Station 7	0	N/A	N/A
Station 8	0	N/A	N/A
Station 9	0	N/A	N/A
Station 10	0	N/A	N/A
Station 11	0	N/A	N/A
Station 12	0	N/A	N/A
Station 13	0	N/A	N/A
Station 14	0	N/A	N/A
Station 15	0	N/A	N/A
Station 16	0	N/A	N/A

Notes_____
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Florida Scrub Jay Survey Field Data Sheet

Date: 4/15/2013 **Start Time**: 9:32 AM **Stop Time:** 11:28 AM **Monitor:** _C. Sciarrino

Project Name: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, FL

Temperature: __73°F_ **Wind Speed/Direction:** _From SSE @ 7 mph_

Cloud Cover/Precipitation _0%/0_____

Survey Stations	Total Number Scrub Jay Groups Found	Total Number Scrub Jays in Each Group	Total Number of Juvenile-Plumaged Scrub Jays in Each Group
Station 1	0	N/A	N/A
Station 2	0	N/A	N/A
Station 3	0	N/A	N/A
Station 4	0	N/A	N/A
Station 5	0	N/A	N/A
Station 6	0	N/A	N/A
Station 7	0	N/A	N/A
Station 8	0	N/A	N/A
Station 9	0	N/A	N/A
Station 10	0	N/A	N/A
Station 11	0	N/A	N/A
Station 12	0	N/A	N/A
Station 13	0	N/A	N/A
Station 14	0	N/A	N/A
Station 15	0	N/A	N/A
Station 16	0	N/A	N/A

Notes_____
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APPENDIX D

WOOD STORK FORAGING HABITAT DATASHEETS

Segment 1: Mainline Build Alternatives 1 and 2

Hydroperiod	Existing Footprint		Preserve Areas				Net Change Per Hydroperiod Class	
			Pre Enhancement		Post Enhancement			
	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams
Class 1: 0 to 60 Days							0	0
Class 2: 60 to 120 Days							0	0
Class 3: 120 to 180 Days							0	0
Class 4: 180 to 240 Days							0	0
Class 5: 240 to 300 Days							0	0
Class 6: 300 to 330 Days							0	0
Class 7: 330 to 365 Days							0	0
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

% Exotics	F.S.V
0-25	1
25-50	0.64
50-75	0.37
75-90	0.03
>90	0.03

Hydroperiods	Crayfish & Fish g/m^2
Class 1 (0-60 days)	0.31
Class 2 (60-120 days)	0.62
Class 3 (120-180 days)	1.32
Class 4 (180-240 days)	2.34
Class 5 (240-300 days)	2.93
Class 6 (300-330 days)	3.36
Class 7 (330-365 days)	3.63

IMPACT AREA

Hydroperiods	Acres	% exotics	F.S.V	m^2	m^2 suitable	crayfish & fish g/m^2	available biomass	32.5% consum.	Biomass (kg)
Class 2 (60-120 days)	3.12	75-90	0.03	12,626.24	378.79	0.62	234.85	76.33	0.08
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
TOTAL	**3.12**								**0.08**

Segment 2: Interchange Build Alternative Diverging Diamond With Retaining Walls and Diamond With Retaining Walls and Mainline Build Alternative

Hydroperiod	Existing Footprint		Preserve Areas				Net Change Per Hydroperiod Class	
			Pre Enhancement		Post Enhancement			
	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams
Class 1: 0 to 60 Days							0	0
Class 2: 60 to 120 Days							0	0
Class 3: 120 to 180 Days							0	0
Class 4: 180 to 240 Days							0	0
Class 5: 240 to 300 Days							0	0
Class 6: 300 to 330 Days							0	0
Class 7: 330 to 365 Days							0	0
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

% Exotics	F.S.V
0-25	1
25-50	0.64
50-75	0.37
75-90	0.03
>90	0.03

Hydroperiods	Crayfish & Fish g/m^2
Class 1 (0-60 days)	0.31
Class 2 (60-120 days)	0.62
Class 3 (120-180 days)	1.32
Class 4 (180-240 days)	2.34
Class 5 (240-300 days)	2.93
Class 6 (300-330 days)	3.36
Class 7 (330-365 days)	3.63

IMPACT AREA

Hydroperiods	Acres	% exotics	F.S.V	m^2	m^2 suitable	crayfish & fish g/m^2	available biomass	32.5% consum.	Biomass (kg)
Class 2 (60-120 days)	10.55	25-50	0.64	42,694.51	27,324.49	0.62	16,941.18	5,505.88	5.51
Class 5 (240-300 days)	1.70	75-90	0.03	6,879.68	206.39	2.93	604.72	196.54	0.20
Class 5 (240-300 days)	1.64	50-75	0.37	6,636.87	2,455.64	2.93	7,195.03	2,338.39	2.34
Class 5 (240-300 days)	8.48	0-25	1	34,317.48	34,317.48	2.93	100,550.23	32,678.82	32.68
Class 1 (0-60 days)			FALSE	0.00	0.00	0.31	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
TOTAL	**22.37**								**40.72**

Segment 2: Interchange Build Alternative Diverging Diamond Without Retaining Walls and Mainline Build Alternative

Hydroperiod	Existing Footprint		Preserve Areas				Net Change Per Hydroperiod Class	
			Pre Enhancement		Post Enhancement			
	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams
Class 1: 0 to 60 Days							0	0
Class 2: 60 to 120 Days							0	0
Class 3: 120 to 180 Days							0	0
Class 4: 180 to 240 Days							0	0
Class 5: 240 to 300 Days							0	0
Class 6: 300 to 330 Days							0	0
Class 7: 330 to 365 Days							0	0
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

% Exotics	F.S.V	Hydroperiods	Crayfish & Fish g/m^2
0-25	1	Class 1 (0-60 days)	0.31
25-50	0.64	Class 2 (60-120 days)	0.62
50-75	0.37	Class 3 (120-180 days)	1.32
75-90	0.03	Class 4 (180-240 days)	2.34
>90	0.03	Class 5 (240-300 days)	2.93
		Class 6 (300-330 days)	3.36
		Class 7 (330-365 days)	3.63

IMPACT AREA

Hydroperiods	Acres	% exotics	F.S.V	m^2	m^2 suitable	crayfish & fish g/m^2	available biomass	32.5% consum.	Biomass (kg)
Class 2 (60-120 days)	12.19	25-50	0.64	49,331.38	31,572.08	0.62	19,574.69	6,361.78	6.36
Class 5 (240-300 days)	2.67	75-90	0.03	10,805.15	324.15	2.93	949.77	308.68	0.31
Class 5 (240-300 days)	2.02	50-75	0.37	8,174.68	3,024.63	2.93	8,862.17	2,880.21	2.88
Class 5 (240-300 days)	8.53	0-25	1	34,519.83	34,519.83	2.93	101,143.09	32,871.50	32.87
Class 2 (60-120 days)		0-25	1	0.00	0.00	0.62	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
TOTAL	**25.41**								**42.42**

Segment 2: Interchange Build Alternative Diamond Without Retaining Walls and Mainline Build Alternative

Hydroperiod	Existing Footprint		Preserve Areas				Net Change Per Hydroperiod Class	
			Pre Enhancement		Post Enhancement			
	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams
Class 1: 0 to 60 Days							0	0
Class 2: 60 to 120 Days							0	0
Class 3: 120 to 180 Days							0	0
Class 4: 180 to 240 Days							0	0
Class 5: 240 to 300 Days							0	0
Class 6: 300 to 330 Days							0	0
Class 7: 330 to 365 Days							0	0
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

% Exotics	F.S.V	Hydroperiods	Crayfish & Fish g/m^2
0-25	1	Class 1 (0-60 days)	0.31
25-50	0.64	Class 2 (60-120 days)	0.62
50-75	0.37	Class 3 (120-180 days)	1.32
75-90	0.03	Class 4 (180-240 days)	2.34
>90	0.03	Class 5 (240-300 days)	2.93
		Class 6 (300-330 days)	3.36
		Class 7 (330-365 days)	3.63

IMPACT AREA

Hydroperiods	Acres	% exotics	F.S.V	m^2	m^2 suitable	crayfish & fish g/m^2	available biomass	32.5% consum.	Biomass (kg)
Class 2 (60-120 days)	12.19	25-50	0.64	49,331.38	31,572.08	0.62	19,574.69	6,361.78	6.36
Class 5 (240-300 days)	2.67	75-90	0.03	10,805.15	324.15	2.93	949.77	308.68	0.31
Class 5 (240-300 days)	2.02	50-75	0.37	8,174.68	3,024.63	2.93	8,862.17	2,880.21	2.88
Class 5 (240-300 days)	9.20	0-25	1	37,231.23	37,231.23	2.93	109,087.51	35,453.44	35.45
Class 2 (60-120 days)		0-25	1	0.00	0.00	0.62	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
TOTAL	**26.08**								**45.00**

Anticipated Wood Stork Habitat Creation Within Proposed Stormwater Management Site Littoral Zones

Hydroperiod	Existing Footprint		Preserve Areas				Net Change Per Hydroperiod Class	
			Pre Enhancement		Post Enhancement			
	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams	Acres	Kgrams
Class 1: 0 to 60 Days							0	0
Class 2: 60 to 120 Days							0	0
Class 3: 120 to 180 Days							0	0
Class 4: 180 to 240 Days							0	0
Class 5: 240 to 300 Days							0	0
Class 6: 300 to 330 Days							0	0
Class 7: 330 to 365 Days							0	0
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

% Exotics	F.S.V
0-25	1
25-50	0.64
50-75	0.37
75-90	0.03
>90	0.03

Hydroperiods	Crayfish & Fish g/m^2
Class 1 (0-60 days)	0.31
Class 2 (60-120 days)	0.62
Class 3 (120-180 days)	1.32
Class 4 (180-240 days)	2.34
Class 5 (240-300 days)	2.93
Class 6 (300-330 days)	3.36
Class 7 (330-365 days)	3.63

IMPACT AREA

Hydroperiods	Acres	% exotics	F.S.V	m^2	m^2 suitable	crayfish & fish g/m^2	available biomass	32.5% consum.	Biomass (kg)
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
TOTAL	**0.00**								**0.00**

PRESERVE AREA (PRE)

Hydroperiods	Acres	% exotics	F.S.V	m^2	m^2 suitable	crayfish & fish g/m^2	available biomass	32.5% consum.	Biomass (kg)
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00

			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
TOTAL	**0.00**								**0.00**

PRESERVE AREA (POST)

Hydroperiods	Acres	% exotics	F.S.V	m^2	m^2 suitable	crayfish & fish g/m^2	available biomass	32.5% consum.	Biomass (kg)
Class 3 (120-180 days)	0.9	0-25	1	3,642.19	3,642.19	1.32	4,807.69	1,562.50	1.56
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
			FALSE	0.00	0.00	FALSE	0.00	0.00	0.00
TOTAL	**0.90**								**1.56**

APPENDIX E

FDOT CONSTRUCTION PRECAUTIONS FOR THE EASTERN INDIGO SNAKE

CONSTRUCTION PRECAUTIONS FOR THE EASTERN INDIGO SNAKE

The Eastern Indigo Snake (*Drymarchon corais couperi*) could be present in the project area. In order to minimize harm to this species, the FDOT has committed to implement the following protection measures:

A. The CONTRACTOR shall provide Eastern Indigo Snake educational information to employees prior to the initiation of any clearing or construction activities. An educational exhibit that has been approved by USFWS shall be posted conspicuously at a site accessible to all employees and a handout will be distributed to employees.

B The CONTRACTOR shall post and distribute educational information to all its workers. The exhibit and brochures shall include photographs of the Eastern Indigo Snake, information on life history, and legal protection of the species in Florida, and how to avoid impacts to the species. This material shall be supplied to the CONTRACTOR by the Construction Environmental Liaison at the Pre-Construction Conference.

APPENDIX F

SAND SKINK COVER BOARD SURVEY DATASHEETS

Sand Skink/Blue-Tailed Mole Skink Monitoring
Cover Board Survey
Field Data Form

Date: 4/18/2013 Start Time 8:30 AM End Time 12:15 PM Monitor C. Hansen

Site Name and Location: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, Florida

	Sand Skink Data		Weather Data				General Wildlife Observations
Coverboard #	Number of Tracks	Number of Individuals	Average Temp (ºF)	Wind Speed & Direction	% Cloud Cover	Rain	Species (Name, Track/Individual, Number)
1	0	0	70	2 mph/SE	10%	0	N/A
2	0	0	70	2 mph/SE	10%	0	N/A
3	0	0	70	2 mph/SE	10%	0	N/A
4	0	0	70	2 mph/SE	10%	0	N/A
5	0	0	70	4 mph/SE	10%	0	N/A
6	0	0	70	4 mph/SE	10%	0	N/A
7	0	0	70	4 mph/SE	10%	0	N/A
8	0	0	70	4 mph/SE	10%	0	N/A
9	0	0	70	4 mph/SE	10%	0	N/A
10	0	0	70	4 mph/SE	10%	0	N/A
11	0	0	70	4 mph/SE	10%	0	N/A
12	0	0	75	4 mph/SE	10%	0	N/A
13	0	0	75	4 mph/SE	10%	0	N/A
14	0	0	75	4 mph/SE	10%	0	N/A
15	0	0	75	4 mph/SE	10%	0	N/A
16	0	0	75	4 mph/SE	10%	0	N/A
17	0	0	75	4 mph/SE	10%	0	N/A

18	0	0	75	4 mph/SE	10%	0	N/A
19	0	0	75	4 mph/SE	10%	0	N/A
20	0	0	75	4 mph/SE	10%	0	N/A
21	0	0	75	4 mph/SE	10%	0	N/A
22	0	0	75	4 mph/SE	10%	0	N/A
23	0	0	75	4 mph/SE	10%	0	N/A
24	0	0	75	4 mph/SE	10%	0	N/A
25	0	0	75	4 mph/SE	10%	0	N/A
26	0	0	75	4 mph/SE	10%	0	N/A
27	0	0	75	4 mph/SE	10%	0	N/A
28	0	0	75	4 mph/SE	10%	0	N/A
29	0	0	75	4 mph/SE	10%	0	N/A
30	0	0	75	4 mph/SE	10%	0	N/A
31	0	0	75	4 mph/SE	10%	0	N/A
32	0	0	75	4 mph/SE	10%	0	N/A
33	0	0	75	4 mph/SE	10%	0	N/A
34	0	0	75	4 mph/SE	10%	0	N/A
35	0	0	75	4 mph/SE	10%	0	N/A
36	0	0	75	4 mph/SE	10%	0	N/A
37	0	0	75	4 mph/SE	10%	0	N/A
38	0	0	77	4 mph/SE	10%	0	N/A
39	0	0	77	4 mph/SE	10%	0	N/A
40	0	0	77	4 mph/SE	10%	0	N/A
41	0	0	77	4 mph/SE	10%	0	N/A
42	0	0	77	4 mph/SE	10%	0	N/A
43	0	0	77	4 mph/SE	10%	0	N/A

44	0	0	77	4 mph/SE	10%	0	N/A
45	0	0	77	4 mph/SE	10%	0	N/A
46	0	0	77	4 mph/SE	10%	0	N/A
47	0	0	77	4 mph/SE	10%	0	N/A
48	0	0	77	4 mph/SE	10%	0	N/A
49	0	0	77	4 mph/SE	10%	0	N/A
50	0	0	77	4 mph/SE	10%	0	N/A
51	0	0	77	4 mph/SE	10%	0	N/A
52	0	0	77	4 mph/SE	10%	0	N/A
53	0	0	77	4 mph/SE	10%	0	N/A
54	0	0	77	4 mph/SE	10%	0	N/A
55	0	0	77	4 mph/SE	10%	0	N/A
56	0	0	77	4 mph/SE	10%	0	N/A
57	0	0	77	4 mph/SE	10%	0	N/A
58	0	0	77	4 mph/SE	10%	0	N/A
59	0	0	77	4 mph/SE	10%	0	N/A
60	0	0	77	4 mph/SE	10%	0	N/A
61	0	0	77	5 mph/SE	10%	0	N/A
62	0	0	77	5 mph/SE	10%	0	N/A
63	0	0	77	5 mph/SE	10%	0	N/A
64	0	0	77	5 mph/SE	10%	0	N/A
65	0	0	77	5 mph/SE	10%	0	N/A
66	0	0	77	5 mph/SE	10%	0	N/A
67	0	0	77	5 mph/SE	10%	0	N/A
68	0	0	77	5 mph/SE	10%	0	N/A
69	0	0	77	5 mph/SE	10%	0	N/A

70	0	0	77	5 mph/SE	10%	0	N/A
71	0	0	77	5 mph/SE	10%	0	N/A
72	0	0	77	5 mph/SE	10%	0	N/A
73	0	0	77	5 mph/SE	10%	0	N/A
74	0	0	77	5 mph/SE	10%	0	N/A
75	0	0	77	5 mph/SE	10%	0	N/A
76	0	0	77	5 mph/SE	10%	0	N/A
77	0	0	77	5 mph/SE	10%	0	N/A
78	0	0	77	5 mph/SE	10%	0	N/A
79	0	0	77	5 mph/SE	10%	0	N/A
80	0	0	77	5 mph/SE	10%	0	N/A
81	0	0	77	5 mph/SE	10%	0	N/A
82	0	0	77	5 mph/SE	10%	0	N/A
83	0	0	77	5 mph/SE	10%	0	N/A
84	0	0	77	5 mph/SE	10%	0	N/A
85	0	0	77	5 mph/SE	10%	0	N/A
86	0	0	77	5 mph/SE	10%	0	N/A
87	0	0	77	5 mph/SE	10%	0	N/A
88	0	0	77	5 mph/SE	10%	0	N/A
89	0	0	77	5 mph/SE	10%	0	N/A
90	0	0	77	5 mph/SE	10%	0	N/A
91	0	0	77	5 mph/SE	10%	0	N/A
92	0	0	77	5 mph/SE	10%	0	N/A
93	0	0	77	5 mph/SE	10%	0	N/A
94	0	0	77	5 mph/SE	10%	0	N/A
95	0	0	77	5 mph/SE	10%	0	N/A

96	0	0	77	5 mph/SE	10%	0	N/A
97	0	0	77	5 mph/SE	10%	0	N/A
98	0	0	77	5 mph/SE	10%	0	N/A
99	0	0	77	5 mph/SE	10%	0	N/A
100	0	0	77	5 mph/SE	10%	0	N/A
101	0	0	77	5 mph/SE	10%	0	N/A
102	0	0	77	5 mph/SE	10%	0	N/A
103	0	0	80	5 mph/SE	10%	0	N/A
104	0	0	80	5 mph/SE	10%	0	N/A
105	0	0	80	5 mph/SE	10%	0	N/A
106	0	0	80	5 mph/SE	10%	0	N/A
107	0	0	80	5 mph/SE	10%	0	N/A
108	0	0	80	5 mph/SE	10%	0	N/A
109	0	0	80	5 mph/SE	10%	0	N/A
110	0	0	80	5 mph/SE	10%	0	N/A
111	0	0	80	5 mph/SE	10%	0	N/A
112	0	0	80	5 mph/SE	10%	0	N/A
113	0	0	80	5 mph/SE	10%	0	N/A
114	0	0	80	5 mph/SE	10%	0	N/A
115	0	0	80	5 mph/SE	10%	0	N/A
116	0	0	80	5 mph/SE	10%	0	N/A
117	0	0	80	5 mph/SE	10%	0	N/A
118	0	0	80	5 mph/SE	10%	0	N/A
119	0	0	80	5 mph/SE	10%	0	N/A
120	0	0	80	5 mph/SE	10%	0	N/A
121	0	0	80	5 mph/SE	10%	0	N/A

122	0	0	80	5 mph/SE	10%	0	N/A
123	0	0	80	5 mph/SE	10%	0	N/A
124	0	0	80	5 mph/SE	10%	0	N/A
125	0	0	80	5 mph/SE	10%	0	N/A
126	0	0	80	5 mph/SE	10%	0	N/A
127	0	0	80	5 mph/SE	10%	0	N/A
128	0	0	80	5 mph/SE	10%	0	N/A
129	0	0	80	5 mph/SE	10%	0	N/A
130	0	0	80	5 mph/SE	10%	0	N/A
131	0	0	80	5 mph/SE	10%	0	N/A
132	0	0	80	5 mph/SE	10%	0	N/A
133	0	0	80	5 mph/SE	10%	0	N/A
134	0	0	80	5 mph/SE	10%	0	N/A
135	0	0	80	5 mph/SE	10%	0	N/A
136	0	0	80	5 mph/SE	10%	0	N/A
137	0	0	80	5 mph/SE	10%	0	N/A
138	0	0	80	5 mph/SE	10%	0	N/A
139	0	0	80	5 mph/SE	10%	0	N/A
140	0	0	80	5 mph/SE	10%	0	N/A
141	0	0	80	5 mph/SE	10%	0	N/A
142	0	0	80	5 mph/SE	10%	0	N/A
143	0	0	80	5 mph/SE	10%	0	N/A
144	0	0	80	5 mph/SE	10%	0	N/A
145	0	0	80	5 mph/SE	10%	0	N/A
146	0	0	80	5 mph/SE	10%	0	N/A
147	0	0	80	5 mph/SE	10%	0	N/A

148	0	0	80	5 mph/SE	10%	0	N/A
149	0	0	80	5 mph/SE	10%	0	N/A
150	0	0	80	5 mph/SE	10%	0	N/A
151	0	0	80	5 mph/SE	10%	0	N/A
152	0	0	80	5 mph/SE	10%	0	N/A
153	0	0	80	5 mph/SE	10%	0	N/A
154	0	0	80	5 mph/SE	10%	0	N/A
155	0	0	80	5 mph/SE	10%	0	N/A
156	0	0	80	5 mph/SE	10%	0	N/A
157	0	0	80	5 mph/SE	10%	0	N/A
158	0	0	80	5 mph/SE	10%	0	N/A
159	0	0	80	5 mph/SE	10%	0	N/A
160	0	0	80	5 mph/SE	10%	0	N/A
161	0	0	80	5 mph/SE	10%	0	N/A
162	0	0	80	5 mph/SE	10%	0	N/A
163	0	0	80	5 mph/SE	10%	0	N/A
164	0	0	80	5 mph/SE	10%	0	N/A
165	0	0	80	5 mph/SE	10%	0	N/A
166	0	0	80	5 mph/SE	10%	0	N/A
167	0	0	80	5 mph/SE	10%	0	N/A
168	0	0	80	6 mph/SE	10%	0	N/A
169	0	0	80	6 mph/SE	10%	0	N/A
170	0	0	80	6 mph/SE	10%	0	N/A
171	0	0	80	6 mph/SE	10%	0	N/A
172	0	0	80	6 mph/SE	10%	0	N/A
173	0	0	80	6 mph/SE	10%	0	N/A

174	0	0	80	6 mph/SE	10%	0	N/A
175	0	0	80	6 mph/SE	10%	0	N/A
176	0	0	85	6 mph/SE	10%	0	N/A
177	0	0	85	6 mph/SE	10%	0	N/A
178	0	0	85	6 mph/SE	10%	0	N/A
179	0	0	85	6 mph/SE	10%	0	N/A
180	0	0	85	6 mph/SE	10%	0	N/A
181	0	0	85	6 mph/SE	10%	0	N/A
182	0	0	85	6 mph/SE	10%	0	N/A
183	0	0	85	6 mph/SE	10%	0	N/A
184	0	0	85	6 mph/SE	10%	0	N/A
185	0	0	85	6 mph/SE	10%	0	N/A
186	0	0	85	6 mph/SE	10%	0	N/A
187	0	0	85	6 mph/SE	10%	0	N/A
188	0	0	85	6 mph/SE	10%	0	N/A
189	0	0	85	6 mph/SE	10%	0	N/A
190	0	0	85	6 mph/SE	10%	0	N/A
191	0	0	85	6 mph/SE	10%	0	N/A
192	0	0	85	6 mph/SE	10%	0	N/A
193	0	0	85	6 mph/SE	10%	0	N/A
194	0	0	85	6 mph/SE	10%	0	N/A
195	0	0	85	6 mph/SE	10%	0	N/A
196	0	0	85	6 mph/SE	10%	0	N/A
197	0	0	85	6 mph/SE	10%	0	N/A
198	0	0	85	6 mph/SE	10%	0	N/A
199	0	0	85	6 mph/SE	10%	0	N/A

200	0	0	85	6 mph/SE	10%	0	N/A
201	0	0	85	6 mph/SE	10%	0	N/A
202	0	0	85	6 mph/SE	10%	0	N/A
203	0	0	85	6 mph/SE	10%	0	N/A
204	0	0	85	6 mph/SE	10%	0	N/A
205	0	0	85	6 mph/SE	10%	0	N/A
206	0	0	85	6 mph/SE	10%	0	N/A
207	0	0	85	6 mph/SE	10%	0	N/A
208	0	0	85	6 mph/SE	10%	0	N/A
209	0	0	85	6 mph/SE	10%	0	N/A
210	0	0	85	6 mph/SE	10%	0	N/A
211	0	0	85	6 mph/SE	10%	0	N/A
212	0	0	85	6 mph/SE	10%	0	N/A
213	0	0	85	6 mph/SE	10%	0	N/A
214	0	0	85	6 mph/SE	10%	0	N/A
215	0	0	85	6 mph/SE	10%	0	N/A
216	0	0	85	6 mph/SE	10%	0	N/A
217	0	0	85	6 mph/SE	10%	0	N/A
218	0	0	85	6 mph/SE	10%	0	N/A
219	0	0	85	7 mph/SE	10%	0	N/A
220	0	0	85	7 mph/SE	10%	0	N/A
221	0	0	85	7 mph/SE	10%	0	N/A
222	0	0	85	7 mph/SE	10%	0	N/A
223	0	0	85	7 mph/SE	10%	0	N/A
224	0	0	85	7 mph/SE	10%	0	N/A
225	0	0	85	7 mph/SE	10%	0	N/A

226	0	0	85	7 mph/SE	10%	0	N/A
227	0	0	85	7 mph/SE	10%	0	N/A
228	0	0	85	7 mph/SE	10%	0	N/A
229	0	0	85	7 mph/SE	10%	0	N/A
230	0	0	85	7 mph/SE	10%	0	N/A
231	0	0	85	7 mph/SE	10%	0	N/A
232	0	0	85	7 mph/SE	10%	0	N/A
233	0	0	85	7 mph/SE	10%	0	N/A
234	0	0	85	7 mph/SE	10%	0	N/A
235	0	0	85	7 mph/SE	10%	0	N/A
236	0	0	85	7 mph/SE	10%	0	N/A
237	0	0	85	7 mph/SE	10%	0	N/A
238	0	0	85	7 mph/SE	10%	0	N/A
239	0	0	85	7 mph/SE	10%	0	N/A
240	0	0	85	7 mph/SE	10%	0	N/A
241	0	0	85	7 mph/SE	10%	0	N/A
242	0	0	85	7 mph/SE	10%	0	N/A
243	0	0	85	7 mph/SE	10%	0	N/A
244	0	0	85	7 mph/SE	10%	0	N/A
245	0	0	85	7 mph/SE	10%	0	N/A
246	0	0	85	7 mph/SE	10%	0	N/A
247	0	0	85	7 mph/SE	10%	0	N/A
248	0	0	85	7 mph/SE	10%	0	N/A
249	0	0	85	7 mph/SE	10%	0	N/A
250	0	0	85	7 mph/SE	10%	0	N/A
251	0	0	85	7 mph/SE	10%	0	N/A

252	0	0	85	7 mph/SE	10%	0	N/A
253	0	0	85	7 mph/SE	10%	0	N/A
254	0	0	85	7 mph/SE	10%	0	N/A

Sand Skink/Blue-Tailed Mole Skink Monitoring
Cover Board Survey
Field Data Form

Date: 4/25/2013 Start Time 8:35 End Time 12:30 Monitor T. Fera/A. Wynn

Site Name and Location: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, Florida

	Sand Skink Data		Weather Data				General Wildlife Observations
Coverboard #	Number of Tracks	Number of Individuals	Average Temp (ºF)	Wind Speed & Direction	% Cloud Cover	Rain	Species (Name, Track/Individual, Number)
1	0	0	67	1 mph/NW	5%	0	N/A
2	0	0	67	1 mph/NW	5%	0	N/A
3	0	0	67	1 mph/NW	5%	0	N/A
4	0	0	67	1 mph/NW	5%	0	N/A
5	0	0	67	1 mph/NW	5%	0	N/A
6	0	0	67	1 mph/NW	5%	0	N/A
7	0	0	67	1 mph/NW	5%	0	N/A
8	0	0	67	1 mph/NW	5%	0	N/A
9	0	0	67	1 mph/NW	5%	0	N/A
10	0	0	67	1 mph/NW	5%	0	N/A
11	0	0	70	1 mph/NW	5%	0	N/A
12	0	0	70	1 mph/NW	5%	0	N/A
13	0	0	70	1 mph/NW	5%	0	N/A
14	0	0	70	1 mph/NW	5%	0	N/A
15	0	0	70	1 mph/NW	5%	0	N/A
16	0	0	70	1 mph/NW	5%	0	N/A
17	0	0	70	1 mph/NW	5%	0	N/A

18	0	0	70	1 mph/NW	5%	0	N/A
19	0	0	70	1 mph/NW	5%	0	N/A
20	0	0	70	1 mph/NW	5%	0	N/A
21	0	0	70	1 mph/NW	5%	0	N/A
22	0	0	70	1 mph/NW	5%	0	N/A
23	0	0	70	1 mph/NW	5%	0	N/A
24	0	0	70	1 mph/NW	5%	0	N/A
25	0	0	70	3 mph/NW	5%	0	N/A
26	0	0	70	3 mph/NW	5%	0	N/A
27	0	0	70	3 mph/NW	5%	0	N/A
28	0	0	70	3 mph/NW	5%	0	N/A
29	0	0	70	3 mph/NW	5%	0	N/A
30	0	0	70	3 mph/NW	5%	0	N/A
31	0	0	70	3 mph/NW	5%	0	N/A
32	0	0	70	3 mph/NW	5%	0	N/A
33	0	0	70	3 mph/NW	5%	0	N/A
34	0	0	70	5 mph/NW	5%	0	N/A
35	0	0	70	5 mph/NW	5%	0	N/A
36	0	0	70	5 mph/NW	5%	0	N/A
37	0	0	70	5 mph/NW	5%	0	N/A
38	0	0	70	5 mph/NW	5%	0	N/A
39	0	0	70	5 mph/NW	5%	0	N/A
40	0	0	75	5 mph/NW	5%	0	N/A
41	0	0	75	5 mph/NW	5%	0	N/A
42	0	0	75	5 mph/NW	5%	0	N/A
43	0	0	75	5 mph/NW	5%	0	N/A

44	0	0	75	5 mph/NW	5%	0	N/A
45	0	0	75	5 mph/NW	5%	0	N/A
46	0	0	75	5 mph/NW	5%	0	N/A
47	0	0	75	5 mph/NW	5%	0	N/A
48	0	0	75	5 mph/NW	5%	0	N/A
49	0	0	75	5 mph/NW	5%	0	N/A
50	0	0	75	5 mph/NW	5%	0	N/A
51	0	0	77	5 mph/NW	5%	0	N/A
52	0	0	77	5 mph/NW	5%	0	N/A
53	0	0	77	5 mph/NW	5%	0	N/A
54	0	0	77	5 mph/NW	5%	0	N/A
55	0	0	77	5 mph/NW	5%	0	N/A
56	0	0	77	5 mph/NW	5%	0	N/A
57	0	0	77	5 mph/NW	5%	0	N/A
58	0	0	77	5 mph/NW	5%	0	N/A
59	0	0	77	5 mph/NW	5%	0	N/A
60	0	0	77	5 mph/NW	5%	0	N/A
61	0	0	77	5 mph/NW	5%	0	N/A
62	0	0	77	2 mph/NW	5%	0	N/A
63	0	0	77	2 mph/NW	5%	0	N/A
64	0	0	77	2 mph/NW	5%	0	N/A
65	0	0	77	2 mph/NW	5%	0	N/A
66	0	0	77	2 mph/NW	5%	0	N/A
67	0	0	77	2 mph/NW	5%	0	N/A
68	0	0	77	2 mph/NW	5%	0	N/A
69	0	0	77	2 mph/NW	5%	0	N/A

70	0	0	77	2 mph/NW	5%	0	N/A
71	0	0	77	1 mph/NW	5%	0	N/A
72	0	0	77	1 mph/NW	5%	0	N/A
73	0	0	77	1 mph/NW	5%	0	N/A
74	0	0	77	1 mph/NW	5%	0	N/A
75	0	0	77	1 mph/NW	5%	0	N/A
76	0	0	77	1 mph/NW	5%	0	N/A
77	0	0	77	1 mph/NW	5%	0	N/A
78	0	0	77	1 mph/NW	5%	0	N/A
79	0	0	80	1 mph/NW	5%	0	N/A
80	0	0	80	1 mph/NW	5%	0	N/A
81	0	0	80	1 mph/NW	5%	0	N/A
82	0	0	80	1 mph/NW	5%	0	N/A
83	0	0	80	1 mph/NW	5%	0	N/A
84	0	0	80	1 mph/NW	5%	0	N/A
85	0	0	80	1 mph/NW	5%	0	N/A
86	0	0	80	1 mph/NW	5%	0	N/A
87	0	0	80	1 mph/NW	5%	0	N/A
88	0	0	80	1 mph/NW	5%	0	N/A
89	0	0	80	1 mph/NW	5%	0	N/A
90	0	0	80	1 mph/NW	5%	0	N/A
91	0	0	80	1 mph/NW	5%	0	N/A
92	0	0	80	1 mph/NW	5%	0	N/A
93	0	0	80	1 mph/NW	5%	0	N/A
94	0	0	80	1 mph/NW	5%	0	N/A
95	0	0	80	1 mph/NW	5%	0	N/A

96	0	0	80	1 mph/NW	5%	0	N/A
97	0	0	80	1 mph/NW	5%	0	N/A
98	0	0	80	1 mph/NW	5%	0	N/A
99	0	0	80	1 mph/NW	5%	0	N/A
100	0	0	80	1 mph/NW	5%	0	N/A
101	0	0	80	1 mph/NW	5%	0	N/A
102	0	0	80	1 mph/NW	5%	0	N/A
103	0	0	80	1 mph/NW	5%	0	N/A
104	0	0	80	1 mph/NW	5%	0	N/A
105	0	0	80	1 mph/NW	5%	0	N/A
106	0	0	80	1 mph/NW	5%	0	N/A
107	0	0	80	1 mph/NW	5%	0	N/A
108	0	0	80	1 mph/NW	5%	0	N/A
109	0	0	80	1 mph/NW	5%	0	N/A
110	0	0	80	1 mph/NW	5%	0	N/A
111	0	0	80	1 mph/NW	5%	0	N/A
112	0	0	80	1 mph/NW	5%	0	N/A
113	0	0	80	1 mph/NW	5%	0	N/A
114	0	0	80	1 mph/NW	5%	0	N/A
115	0	0	80	1 mph/NW	5%	0	N/A
116	0	0	80	1 mph/NW	5%	0	N/A
117	0	0	80	1 mph/NW	5%	0	N/A
118	0	0	80	1 mph/NW	5%	0	N/A
119	0	0	80	1 mph/NW	5%	0	N/A
120	0	0	80	1 mph/NW	5%	0	N/A
121	0	0	80	1 mph/NW	5%	0	N/A

122	0	0	80	1 mph/NW	5%	0	N/A
123	0	0	80	1 mph/NW	5%	0	N/A
124	0	0	80	1 mph/NW	5%	0	N/A
125	0	0	80	1 mph/NW	5%	0	N/A
126	0	0	80	1 mph/NW	5%	0	N/A
127	0	0	80	1 mph/NW	5%	0	N/A
128	0	0	80	1 mph/NW	5%	0	N/A
129	0	0	80	1 mph/NW	5%	0	N/A
130	0	0	80	1 mph/NW	5%	0	N/A
131	0	0	80	1 mph/NW	5%	0	N/A
132	0	0	80	2 mph/NW	5%	0	N/A
133	0	0	80	2 mph/NW	5%	0	N/A
134	0	0	80	2 mph/NW	5%	0	N/A
135	0	0	80	2 mph/NW	5%	0	N/A
136	0	0	80	2 mph/NW	5%	0	N/A
137	0	0	80	2 mph/NW	5%	0	N/A
138	0	0	80	2 mph/NW	5%	0	N/A
139	0	0	80	2 mph/NW	5%	0	N/A
140	0	0	80	2 mph/NW	5%	0	N/A
141	0	0	80	2 mph/NW	5%	0	N/A
142	0	0	80	2 mph/NW	5%	0	N/A
143	0	0	80	2 mph/NW	5%	0	N/A
144	0	0	80	2 mph/NW	5%	0	N/A
145	0	0	80	2 mph/NW	5%	0	N/A
146	0	0	80	2 mph/NW	5%	0	N/A
147	0	0	80	2 mph/NW	5%	0	N/A

148	0	0	80	2 mph/NW	5%	0	N/A
149	0	0	80	2 mph/NW	5%	0	N/A
150	0	0	80	2 mph/NW	5%	0	N/A
151	0	0	80	2 mph/NW	5%	0	N/A
152	0	0	83	2 mph/NW	5%	0	N/A
153	0	0	83	2 mph/NW	5%	0	N/A
154	0	0	83	2 mph/NW	5%	0	N/A
155	0	0	83	2 mph/NW	5%	0	N/A
156	0	0	83	2 mph/NW	5%	0	N/A
157	0	0	83	2 mph/NW	5%	0	N/A
158	0	0	83	2 mph/NW	5%	0	N/A
159	0	0	83	2 mph/NW	5%	0	N/A
160	0	0	83	2 mph/NW	5%	0	N/A
161	0	0	83	2 mph/NW	5%	0	N/A
162	0	0	83	2 mph/NW	5%	0	N/A
163	0	0	83	2 mph/NW	5%	0	N/A
164	0	0	83	2 mph/NW	5%	0	N/A
165	0	0	83	2 mph/NW	5%	0	N/A
166	0	0	83	2 mph/NW	5%	0	N/A
167	0	0	83	2 mph/NW	5%	0	N/A
168	0	0	83	2 mph/NW	5%	0	N/A
169	0	0	83	2 mph/NW	5%	0	N/A
170	0	0	83	2 mph/NW	5%	0	N/A
171	0	0	83	2 mph/NW	5%	0	N/A
172	0	0	83	2 mph/NW	5%	0	N/A
173	0	0	83	2 mph/NW	5%	0	N/A

174	0	0	83	2 mph/NW	5%	0	N/A
175	0	0	83	2 mph/NW	5%	0	N/A
176	0	0	83	2 mph/NW	5%	0	N/A
177	0	0	83	2 mph/NW	5%	0	N/A
178	0	0	83	2 mph/NW	5%	0	N/A
179	0	0	83	2 mph/NW	5%	0	N/A
180	0	0	83	2 mph/NW	5%	0	N/A
181	0	0	83	2 mph/NW	5%	0	N/A
182	0	0	83	2 mph/NW	5%	0	N/A
183	0	0	83	2 mph/NW	5%	0	N/A
184	0	0	83	2 mph/NW	5%	0	N/A
185	0	0	83	2 mph/NW	5%	0	N/A
186	0	0	83	2 mph/NW	5%	0	N/A
187	0	0	83	2 mph/NW	5%	0	N/A
188	0	0	83	2 mph/NW	5%	0	N/A
189	0	0	83	2 mph/NW	5%	0	N/A
190	0	0	83	2 mph/NW	5%	0	N/A
191	0	0	83	2 mph/NW	5%	0	N/A
192	0	0	83	2 mph/NW	5%	0	N/A
193	0	0	83	2 mph/NW	5%	0	N/A
194	0	0	83	2 mph/NW	5%	0	N/A
195	0	0	83	2 mph/NW	5%	0	N/A
196	0	0	83	2 mph/NW	5%	0	N/A
197	0	0	83	2 mph/NW	5%	0	N/A
198	0	0	83	2 mph/NW	5%	0	N/A
199	0	0	83	5 mph/NW	5%	0	N/A

200	0	0	85	5 mph/NW	5%	0	N/A
201	0	0	85	5 mph/NW	5%	0	N/A
202	0	0	85	5 mph/NW	5%	0	N/A
203	0	0	85	5 mph/NW	5%	0	N/A
204	0	0	85	5 mph/NW	5%	0	N/A
205	0	0	85	5 mph/NW	5%	0	N/A
206	0	0	85	5 mph/NW	5%	0	N/A
207	0	0	85	5 mph/NW	5%	0	N/A
208	0	0	85	5 mph/NW	5%	0	N/A
209	0	0	85	5 mph/NW	5%	0	N/A
210	0	0	85	5 mph/NW	5%	0	N/A
211	0	0	85	5 mph/NW	5%	0	N/A
212	0	0	85	5 mph/NW	5%	0	N/A
213	0	0	85	5 mph/NW	5%	0	N/A
214	0	0	85	5 mph/NW	5%	0	N/A
215	0	0	85	5 mph/NW	5%	0	N/A
216	0	0	85	5 mph/NW	5%	0	N/A
217	0	0	85	5 mph/NW	5%	0	N/A
218	0	0	85	5 mph/NW	5%	0	N/A
219	0	0	85	5 mph/NW	5%	0	N/A
220	0	0	85	5 mph/NW	5%	0	N/A
221	0	0	85	5 mph/NW	5%	0	N/A
222	0	0	85	5 mph/NW	5%	0	N/A
223	0	0	85	5 mph/NW	5%	0	N/A
224	0	0	85	5 mph/NW	5%	0	N/A
225	0	0	85	5 mph/NW	5%	0	N/A

226	0	0	85	5 mph/NW	5%	0	N/A
227	0	0	85	5 mph/NW	5%	0	N/A
228	0	0	85	5 mph/NW	5%	0	N/A
229	0	0	85	5 mph/NW	5%	0	N/A
230	0	0	85	5 mph/NW	5%	0	N/A
231	0	0	85	5 mph/NW	5%	0	N/A
232	0	0	85	5 mph/NW	5%	0	N/A
233	0	0	85	5 mph/NW	5%	0	N/A
234	0	0	85	5 mph/NW	5%	0	N/A
235	0	0	85	5 mph/NW	5%	0	N/A
236	0	0	85	5 mph/NW	5%	0	N/A
237	0	0	85	5 mph/NW	5%	0	N/A
238	0	0	85	5 mph/NW	5%	0	N/A
239	0	0	85	5 mph/NW	5%	0	N/A
240	0	0	85	5 mph/NW	5%	0	N/A
241	0	0	85	5 mph/NW	5%	0	N/A
242	0	0	85	5 mph/NW	5%	0	N/A
243	0	0	85	5 mph/NW	5%	0	N/A
244	0	0	85	5 mph/NW	5%	0	N/A
245	0	0	85	5 mph/NW	5%	0	N/A
246	0	0	85	5 mph/NW	5%	0	N/A
247	0	0	85	5 mph/NW	5%	0	N/A
248	0	0	85	5 mph/NW	5%	0	N/A
249	0	0	85	5 mph/NW	5%	0	N/A
250	0	0	85	5 mph/NW	5%	0	N/A
251	0	0	85	5 mph/NW	5%	0	N/A

252	0	0	85	5 mph/NW	5%	0	N/A
253	0	0	85	5 mph/NW	5%	0	N/A
254	0	0	85	5 mph/NW	5%	0	N/A

Sand Skink/Blue-Tailed Mole Skink Monitoring
Cover Board Survey
Field Data Form

Date: 5/2/2013 Start Time 8:45 End Time 12:45 Monitor T. Fera/C. Sciarrino

Site Name and Location: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, Florida

	Sand Skink Data		Weather Data				General Wildlife Observations
Coverboard #	Number of Tracks	Number of Individuals	Average Temp (ºF)	Wind Speed & Direction	% Cloud Cover	Rain	Species (Name, Track/Individual, Number)
1	0	0	67	5 mph/ENE	15%	0	N/A
2	0	0	67	5 mph/ENE	15%	0	N/A
3	0	0	67	5 mph/ENE	15%	0	N/A
4	0	0	67	5 mph/ENE	15%	0	N/A
5	0	0	67	5 mph/ENE	15%	0	N/A
6	0	0	67	5 mph/ENE	15%	0	N/A
7	0	0	67	5 mph/ENE	15%	0	N/A
8	0	0	67	5 mph/ENE	15%	0	N/A
9	0	0	67	5 mph/ENE	15%	0	N/A
10	0	0	67	5 mph/ENE	15%	0	N/A
11	0	0	67	5 mph/ENE	15%	0	N/A
12	0	0	67	5 mph/ENE	15%	0	N/A
13	0	0	67	5 mph/ENE	15%	0	N/A
14	0	0	67	5 mph/ENE	15%	0	N/A
15	0	0	67	5 mph/ENE	15%	0	N/A
16	0	0	67	5 mph/ENE	15%	0	N/A
17	0	0	67	5 mph/ENE	15%	0	N/A

18	0	0	67	5 mph/ENE	15%	0	N/A
19	0	0	67	5 mph/ENE	15%	0	N/A
20	0	0	67	5 mph/ENE	15%	0	N/A
21	0	0	67	5 mph/ENE	15%	0	N/A
22	0	0	67	5 mph/ENE	15%	0	N/A
23	0	0	67	5 mph/ENE	15%	0	N/A
24	0	0	67	5 mph/ENE	15%	0	N/A
25	0	0	67	5 mph/ENE	15%	0	N/A
26	0	0	67	5 mph/ENE	15%	0	N/A
27	0	0	70	5 mph/ENE	15%	0	N/A
28	0	0	70	5 mph/ENE	15%	0	N/A
29	0	0	70	5 mph/ENE	15%	0	N/A
30	0	0	70	5 mph/ENE	15%	0	N/A
31	0	0	70	5 mph/ENE	15%	0	N/A
32	0	0	70	5 mph/ENE	15%	0	N/A
33	0	0	70	5 mph/ENE	15%	0	N/A
34	0	0	70	5 mph/ENE	15%	0	N/A
35	0	0	70	5 mph/ENE	15%	0	N/A
36	0	0	70	5 mph/ENE	15%	0	N/A
37	0	0	70	5 mph/ENE	15%	0	N/A
38	0	0	70	5 mph/ENE	15%	0	N/A
39	0	0	70	5 mph/ENE	15%	0	N/A
40	0	0	70	5 mph/ENE	15%	0	N/A
41	0	0	70	5 mph/ENE	15%	0	N/A
42	0	0	70	5 mph/ENE	15%	0	N/A
43	0	0	70	5 mph/ENE	15%	0	N/A

44	0	0	70	5 mph/ENE	15%	0	N/A
45	0	0	70	5 mph/ENE	15%	0	N/A
46	0	0	70	5 mph/ENE	15%	0	N/A
47	0	0	70	5 mph/ENE	15%	0	N/A
48	0	0	73	5 mph/ENE	15%	0	N/A
49	0	0	73	5 mph/ENE	15%	0	N/A
50	0	0	73	5 mph/ENE	15%	0	N/A
51	0	0	73	5 mph/ENE	15%	0	N/A
52	0	0	73	5 mph/ENE	15%	0	N/A
53	0	0	73	5 mph/ENE	15%	0	N/A
54	0	0	73	5 mph/ENE	15%	0	N/A
55	0	0	73	5 mph/ENE	15%	0	N/A
56	0	0	73	5 mph/ENE	15%	0	N/A
57	0	0	73	5 mph/ENE	15%	0	N/A
58	0	0	73	5 mph/ENE	15%	0	N/A
59	0	0	73	5 mph/ENE	15%	0	N/A
60	0	0	73	5 mph/ENE	15%	0	N/A
61	0	0	73	5 mph/ENE	15%	0	N/A
62	0	0	73	5 mph/ENE	15%	0	N/A
63	0	0	73	5 mph/ENE	15%	0	N/A
64	0	0	73	5 mph/ENE	15%	0	N/A
65	0	0	73	5 mph/ENE	15%	0	N/A
66	0	0	73	5 mph/ENE	15%	0	N/A
67	0	0	73	5 mph/ENE	15%	0	N/A
68	0	0	73	5 mph/ENE	15%	0	N/A
69	0	0	73	5 mph/ENE	15%	0	N/A

70	0	0	73	5 mph/ENE	15%	0	N/A
71	0	0	73	5 mph/ENE	15%	0	N/A
72	0	0	73	5 mph/ENE	15%	0	N/A
73	0	0	73	5 mph/ENE	15%	0	N/A
74	0	0	73	5 mph/ENE	15%	0	N/A
75	0	0	73	5 mph/ENE	15%	0	N/A
76	0	0	73	5 mph/ENE	15%	0	N/A
77	0	0	73	5 mph/ENE	15%	0	N/A
78	0	0	73	5 mph/ENE	15%	0	N/A
79	0	0	73	5 mph/ENE	15%	0	N/A
80	0	0	73	5 mph/ENE	15%	0	N/A
81	0	0	73	5 mph/ENE	15%	0	N/A
82	0	0	73	5 mph/ENE	15%	0	N/A
83	0	0	73	5 mph/ENE	15%	0	N/A
84	0	0	73	5 mph/ENE	15%	0	N/A
85	0	0	73	5 mph/ENE	15%	0	N/A
86	0	0	73	5 mph/ENE	15%	0	N/A
87	0	0	73	5 mph/ENE	15%	0	N/A
88	0	0	73	5 mph/ENE	15%	0	N/A
89	0	0	73	5 mph/ENE	15%	0	N/A
90	0	0	73	5 mph/ENE	15%	0	N/A
91	0	0	73	5 mph/ENE	15%	0	N/A
92	0	0	73	5 mph/ENE	15%	0	N/A
93	0	0	73	5 mph/ENE	15%	0	N/A
94	0	0	73	5 mph/ENE	15%	0	N/A
95	0	0	73	5 mph/ENE	15%	0	N/A

96	0	0	73	5 mph/ENE	15%	0	N/A
97	0	0	73	5 mph/ENE	15%	0	N/A
98	0	0	73	5 mph/ENE	15%	0	N/A
99	0	0	73	5 mph/ENE	15%	0	N/A
100	0	0	73	5 mph/ENE	15%	0	N/A
101	0	0	73	5 mph/ENE	15%	0	N/A
102	0	0	73	5 mph/ENE	15%	0	N/A
103	0	0	73	5 mph/ENE	15%	0	N/A
104	0	0	73	5 mph/ENE	15%	0	N/A
105	0	0	73	5 mph/ENE	15%	0	N/A
106	0	0	73	5 mph/ENE	15%	0	N/A
107	0	0	73	5 mph/ENE	15%	0	N/A
108	0	0	73	5 mph/ENE	15%	0	N/A
109	0	0	73	5 mph/ENE	15%	0	N/A
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117	0	0	75	10 mph/ENE	15%	0	N/A
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119	0	0	75	10 mph/ENE	15%	0	N/A
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121	0	0	75	10 mph/ENE	15%	0	N/A

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123	0	0	75	10 mph/ENE	15%	0	N/A
124	0	0	75	10 mph/ENE	15%	0	N/A
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176	0	0	75	10 mph/ENE	15%	0	N/A
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178	0	0	75	10 mph/ENE	15%	0	N/A
179	0	0	75	10 mph/ENE	15%	0	N/A
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181	0	0	75	10 mph/ENE	15%	0	N/A
182	0	0	75	10 mph/ENE	15%	0	N/A
183	0	0	75	7 mph/ENE	15%	0	N/A
184	0	0	75	7 mph/ENE	15%	0	N/A
185	0	0	75	7 mph/ENE	15%	0	N/A
186	0	0	75	7 mph/ENE	15%	0	N/A
187	0	0	75	7 mph/ENE	15%	0	N/A
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189	0	0	75	7 mph/ENE	15%	0	N/A
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195	0	0	75	7 mph/ENE	15%	0	N/A
196	0	0	75	7 mph/ENE	15%	0	N/A
197	0	0	77	7 mph/ENE	15%	0	N/A
198	0	0	77	7 mph/ENE	15%	0	N/A
199	0	0	77	7 mph/ENE	15%	0	N/A

200	0	0	77	7 mph/ENE	15%	0	N/A
201	0	0	77	7 mph/ENE	15%	0	N/A
202	0	0	77	7 mph/ENE	15%	0	N/A
203	0	0	77	7 mph/ENE	15%	0	N/A
204	0	0	77	7 mph/ENE	15%	0	N/A
205	0	0	77	7 mph/ENE	15%	0	N/A
206	0	0	77	7 mph/ENE	15%	0	N/A
207	0	0	77	7 mph/ENE	15%	0	N/A
208	0	0	77	7 mph/ENE	15%	0	N/A
209	0	0	77	7 mph/ENE	15%	0	N/A
210	0	0	77	7 mph/ENE	15%	0	N/A
211	0	0	77	7 mph/ENE	15%	0	N/A
212	0	0	77	7 mph/ENE	15%	0	N/A
213	0	0	77	7 mph/ENE	15%	0	N/A
214	0	0	77	7 mph/ENE	15%	0	N/A
215	0	0	77	7 mph/ENE	15%	0	N/A
216	0	0	77	7 mph/ENE	15%	0	N/A
217	0	0	77	7 mph/ENE	15%	0	N/A
218	0	0	77	7 mph/ENE	15%	0	N/A
219	0	0	77	7 mph/ENE	15%	0	N/A
220	0	0	77	7 mph/ENE	15%	0	N/A
221	0	0	77	7 mph/ENE	15%	0	N/A
222	0	0	77	7 mph/ENE	15%	0	N/A
223	0	0	77	7 mph/ENE	15%	0	N/A
224	0	0	77	7 mph/ENE	15%	0	N/A
225	0	0	77	7 mph/ENE	15%	0	N/A

226	0	0	77	7 mph/ENE	15%	0	N/A
227	0	0	77	7 mph/ENE	15%	0	N/A
228	0	0	77	7 mph/ENE	15%	0	N/A
229	0	0	77	7 mph/ENE	15%	0	N/A
230	0	0	77	7 mph/ENE	15%	0	N/A
231	0	0	77	7 mph/ENE	15%	0	N/A
232	0	0	77	7 mph/ENE	15%	0	N/A
233	0	0	77	7 mph/ENE	15%	0	N/A
234	0	0	77	7 mph/ENE	15%	0	N/A
235	0	0	77	7 mph/ENE	15%	0	N/A
236	0	0	77	7 mph/ENE	15%	0	N/A
237	0	0	77	7 mph/ENE	15%	0	N/A
238	0	0	77	7 mph/ENE	15%	0	N/A
239	0	0	77	7 mph/ENE	15%	0	N/A
240	0	0	77	7 mph/ENE	15%	0	N/A
241	0	0	77	7 mph/ENE	15%	0	N/A
242	0	0	77	7 mph/ENE	15%	0	N/A
243	0	0	77	7 mph/ENE	15%	0	N/A
244	0	0	77	7 mph/ENE	15%	0	N/A
245	0	0	77	7 mph/ENE	15%	0	N/A
246	0	0	77	7 mph/ENE	15%	0	N/A
247	0	0	77	7 mph/ENE	15%	0	N/A
248	0	0	77	7 mph/ENE	15%	0	N/A
249	0	0	77	7 mph/ENE	15%	0	N/A
250	0	0	77	7 mph/ENE	15%	0	N/A
251	0	0	77	7 mph/ENE	15%	0	N/A

252	0	0	77	7 mph/ENE	15%	0	N/A
253	0	0	77	7 mph/ENE	15%	0	N/A
254	0	0	77	7 mph/ENE	15%	0	N/A

Sand Skink/Blue-Tailed Mole Skink Monitoring
Cover Board Survey
Field Data Form

Date: 5/9/2013 Start Time 8:45 End Time 1:25 PM Monitor T. Fera/C. Sciarrino/ A. Wynn/R. Mrykalo

Site Name and Location: SR 33 from Old Combee Road to North of Tomkow Road, Polk County, Florida

	Sand Skink Data		Weather Data				General Wildlife Observations
Coverboard #	Number of Tracks	Number of Individuals	Average Temp (ºF)	Wind Speed & Direction	% Cloud Cover	Rain	Species (Name, Track/Individual, Number)
1	0	0	67	1 mph/NNW	5%	0	N/A
2	0	0	67	1 mph/NNW	5%	0	N/A
3	0	0	67	1 mph/NNW	5%	0	N/A
4	0	0	67	1 mph/NNW	5%	0	N/A
5	0	0	67	1 mph/NNW	5%	0	N/A
6	0	0	67	1 mph/NNW	5%	0	N/A
7	0	0	67	1 mph/NNW	5%	0	N/A
8	0	0	67	1 mph/NNW	5%	0	N/A
9	0	0	67	1 mph/NNW	5%	0	N/A
10	0	0	67	1 mph/NNW	5%	0	N/A
11	0	0	67	1 mph/NNW	5%	0	N/A
12	0	0	67	1 mph/NNW	5%	0	N/A
13	0	0	70	1 mph/NNW	5%	0	N/A
14	0	0	70	1 mph/NNW	5%	0	N/A
15	0	0	70	1 mph/NNW	5%	0	N/A
16	0	0	70	1 mph/NNW	5%	0	N/A
17	0	0	70	1 mph/NNW	5%	0	N/A

18	0	0	70	1 mph/NNW	5%	0	N/A
19	0	0	70	1 mph/NNW	5%	0	N/A
20	0	0	70	1 mph/NNW	5%	0	N/A
21	0	0	70	1 mph/NNW	5%	0	N/A
22	0	0	70	1 mph/NNW	5%	0	N/A
23	0	0	70	1 mph/NNW	5%	0	N/A
24	0	0	70	1 mph/NNW	5%	0	N/A
25	0	0	70	1 mph/NNW	5%	0	N/A
26	0	0	70	1 mph/NNW	5%	0	N/A
27	0	0	70	1 mph/NNW	5%	0	N/A
28	0	0	70	1 mph/NNW	5%	0	N/A
29	0	0	70	1 mph/NNW	5%	0	N/A
30	0	0	70	1 mph/NNW	5%	0	N/A
31	0	0	70	1 mph/NNW	5%	0	N/A
32	0	0	70	1 mph/NNW	5%	0	N/A
33	0	0	70	1 mph/NNW	5%	0	N/A
34	0	0	70	1 mph/NNW	5%	0	N/A
35	0	0	70	1 mph/NNW	5%	0	N/A
36	0	0	70	1 mph/NNW	5%	0	N/A
37	0	0	70	1 mph/NNW	5%	0	N/A
38	0	0	70	1 mph/NNW	5%	0	N/A
39	0	0	70	1 mph/NNW	5%	0	N/A
40	0	0	70	1 mph/NNW	5%	0	N/A
41	0	0	70	1 mph/NNW	5%	0	N/A
42	0	0	70	1 mph/NNW	5%	0	N/A
43	0	0	70	1 mph/NNW	5%	0	N/A

44	0	0	70	1 mph/NNW	5%	0	N/A
45	0	0	70	1 mph/NNW	5%	0	N/A
46	0	0	70	1 mph/NNW	5%	0	N/A
47	0	0	70	1 mph/NNW	5%	0	N/A
48	0	0	70	1 mph/NNW	5%	0	N/A
49	0	0	70	1 mph/NNW	5%	0	N/A
50	0	0	70	1 mph/NNW	5%	0	N/A
51	0	0	70	1 mph/NNW	5%	0	N/A
52	0	0	70	1 mph/NNW	5%	0	N/A
53	0	0	70	1 mph/NNW	5%	0	N/A
54	0	0	75	1 mph/NNW	5%	0	N/A
55	0	0	75	1 mph/NNW	5%	0	N/A
56	0	0	75	1 mph/NNW	5%	0	N/A
57	0	0	75	1 mph/NNW	5%	0	N/A
58	0	0	75	1 mph/NNW	5%	0	N/A
59	0	0	75	1 mph/NNW	5%	0	N/A
60	0	0	75	1 mph/NNW	5%	0	N/A
61	0	0	75	1 mph/NNW	5%	0	N/A
62	0	0	75	1 mph/NNW	5%	0	N/A
63	0	0	75	1 mph/NNW	5%	0	N/A
64	0	0	75	1 mph/NNW	5%	0	N/A
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66	0	0	75	1 mph/NNW	5%	0	N/A
67	0	0	75	1 mph/NNW	5%	0	N/A
68	0	0	75	1 mph/NNW	5%	0	N/A
69	0	0	75	1 mph/NNW	5%	0	N/A

70	0	0	75	1 mph/NNW	5%	0	N/A
71	0	0	75	1 mph/NNW	5%	0	N/A
72	0	0	75	1 mph/NNW	5%	0	N/A
73	0	0	75	1 mph/NNW	5%	0	N/A
74	0	0	75	1 mph/NNW	5%	0	N/A
75	0	0	75	1 mph/NNW	5%	0	N/A
76	0	0	75	1 mph/NNW	5%	0	N/A
77	0	0	75	1 mph/NNW	5%	0	N/A
78	0	0	75	1 mph/NNW	5%	0	N/A
79	0	0	75	1 mph/NNW	5%	0	N/A
80	0	0	75	1 mph/NNW	5%	0	N/A
81	0	0	75	1 mph/NNW	5%	0	N/A
82	0	0	75	1 mph/NNW	5%	0	N/A
83	0	0	75	1 mph/NNW	5%	0	N/A
84	0	0	75	1 mph/NNW	5%	0	N/A
85	0	0	75	1 mph/NNW	5%	0	N/A
86	0	0	75	1 mph/NNW	5%	0	N/A
87	0	0	77	1 mph/NNW	5%	0	N/A
88	0	0	77	1 mph/NNW	5%	0	N/A
89	0	0	77	1 mph/NNW	5%	0	N/A
90	0	0	77	1 mph/NNW	5%	0	N/A
91	0	0	77	1 mph/NNW	5%	0	N/A
92	0	0	77	1 mph/NNW	5%	0	N/A
93	0	0	77	1 mph/NNW	5%	0	N/A
94	0	0	77	1 mph/NNW	5%	0	N/A
95	0	0	77	1 mph/NNW	5%	0	N/A

96	0	0	77	1 mph/NNW	5%	0	N/A
97	0	0	77	1 mph/NNW	5%	0	N/A
98	0	0	77	1 mph/NNW	5%	0	N/A
99	0	0	77	1 mph/NNW	5%	0	N/A
100	0	0	77	1 mph/NNW	5%	0	N/A
101	0	0	77	1 mph/NNW	5%	0	N/A
102	0	0	77	1 mph/NNW	5%	0	N/A
103	0	0	77	1 mph/NNW	5%	0	N/A
104	0	0	77	1 mph/NNW	5%	0	N/A
105	0	0	77	1 mph/NNW	5%	0	N/A
106	0	0	77	1 mph/NNW	5%	0	N/A
107	0	0	77	5 mph/NNW	5%	0	N/A
108	0	0	77	5 mph/NNW	5%	0	N/A
109	0	0	77	5 mph/NNW	5%	0	N/A
110	0	0	77	5 mph/NNW	5%	0	N/A
111	0	0	77	5 mph/NNW	5%	0	N/A
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113	0	0	77	5 mph/NNW	5%	0	N/A
114	0	0	77	5 mph/NNW	5%	0	N/A
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116	0	0	77	5 mph/NNW	5%	0	N/A
117	0	0	77	5 mph/NNW	5%	0	N/A
118	0	0	77	5 mph/NNW	5%	0	N/A
119	0	0	77	5 mph/NNW	5%	0	N/A
120	0	0	77	5 mph/NNW	5%	0	N/A
121	0	0	77	5 mph/NNW	5%	0	N/A

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123	0	0	77	5 mph/NNW	5%	0	N/A
124	0	0	77	5 mph/NNW	5%	0	N/A
125	0	0	77	5 mph/NNW	5%	0	N/A
126	0	0	77	5 mph/NNW	5%	0	N/A
127	0	0	77	5 mph/NNW	5%	0	N/A
128	0	0	77	5 mph/NNW	5%	0	N/A
129	0	0	77	5 mph/NNW	5%	0	N/A
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131	0	0	77	5 mph/NNW	5%	0	N/A
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134	0	0	77	5 mph/NNW	5%	0	N/A
135	0	0	77	5 mph/NNW	5%	0	N/A
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140	0	0	77	5 mph/NNW	5%	0	N/A
141	0	0	77	5 mph/NNW	5%	0	N/A
142	0	0	77	5 mph/NNW	5%	0	N/A
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144	0	0	77	5 mph/NNW	5%	0	N/A
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146	0	0	77	5 mph/NNW	5%	0	N/A
147	0	0	77	5 mph/NNW	5%	0	N/A

148	0	0	77	5 mph/NNW	5%	0	N/A
149	0	0	77	5 mph/NNW	5%	0	N/A
150	0	0	77	5 mph/NNW	5%	0	N/A
151	0	0	77	5 mph/NNW	5%	0	N/A
152	0	0	77	5 mph/NNW	5%	0	N/A
153	0	0	77	5 mph/NNW	5%	0	N/A
154	0	0	77	5 mph/NNW	5%	0	N/A
155	0	0	77	5 mph/NNW	5%	0	N/A
156	0	0	77	5 mph/NNW	5%	0	N/A
157	0	0	77	5 mph/NNW	5%	0	N/A
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165	0	0	77	5 mph/NNW	5%	0	N/A
166	0	0	77	5 mph/NNW	5%	0	N/A
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168	0	0	77	5 mph/NNW	5%	0	N/A
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170	0	0	77	5 mph/NNW	5%	0	N/A
171	0	0	77	5 mph/NNW	5%	0	N/A
172	0	0	77	5 mph/NNW	5%	0	N/A
173	0	0	77	5 mph/NNW	5%	0	N/A

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178	0	0	77	5 mph/NNW	5%	0	N/A
179	0	0	77	5 mph/NNW	5%	0	N/A
180	0	0	77	5 mph/NNW	5%	0	N/A
181	0	0	80	5 mph/NNW	5%	0	N/A
182	0	0	80	5 mph/NNW	5%	0	N/A
183	0	0	80	1 mph/NNW	5%	0	N/A
184	0	0	80	1 mph/NNW	5%	0	N/A
185	0	0	80	1 mph/NNW	5%	0	N/A
186	0	0	80	1 mph/NNW	5%	0	N/A
187	0	0	80	1 mph/NNW	5%	0	N/A
188	0	0	80	1 mph/NNW	5%	0	N/A
189	0	0	80	1 mph/NNW	5%	0	N/A
190	0	0	80	1 mph/NNW	5%	0	N/A
191	0	0	80	1 mph/NNW	5%	0	N/A
192	0	0	80	1 mph/NNW	5%	0	N/A
193	0	0	80	1 mph/NNW	5%	0	N/A
194	0	0	80	1 mph/NNW	5%	0	N/A
195	0	0	80	1 mph/NNW	5%	0	N/A
196	0	0	80	1 mph/NNW	5%	0	N/A
197	0	0	80	1 mph/NNW	5%	0	N/A
198	0	0	80	1 mph/NNW	5%	0	N/A
199	0	0	80	1 mph/NNW	5%	0	N/A

200	0	0	80	1 mph/NNW	5%	0	N/A
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202	0	0	80	1 mph/NNW	5%	0	N/A
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208	0	0	80	1 mph/NNW	5%	0	N/A
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218	0	0	80	1 mph/NNW	5%	0	N/A
219	0	0	80	1 mph/NNW	5%	0	N/A
220	0	0	80	1 mph/NNW	5%	0	N/A
221	0	0	80	1 mph/NNW	5%	0	N/A
222	0	0	80	1 mph/NNW	5%	0	N/A
223	0	0	80	1 mph/NNW	5%	0	N/A
224	0	0	80	1 mph/NNW	5%	0	N/A
225	0	0	80	1 mph/NNW	5%	0	N/A

226	0	0	80	1 mph/NNW	5%	0	N/A
227	0	0	80	1 mph/NNW	5%	0	N/A
228	0	0	80	1 mph/NNW	5%	0	N/A
229	0	0	80	1 mph/NNW	5%	0	N/A
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232	0	0	80	1 mph/NNW	5%	0	N/A
233	0	0	80	1 mph/NNW	5%	0	N/A
234	0	0	80	1 mph/NNW	5%	0	N/A
235	0	0	80	1 mph/NNW	5%	0	N/A
236	0	0	80	1 mph/NNW	5%	0	N/A
237	0	0	80	1 mph/NNW	5%	0	N/A
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239	0	0	80	1 mph/NNW	5%	0	N/A
240	0	0	80	1 mph/NNW	5%	0	N/A
241	0	0	80	1 mph/NNW	5%	0	N/A
242	0	0	80	1 mph/NNW	5%	0	N/A
243	0	0	80	1 mph/NNW	5%	0	N/A
244	0	0	80	1 mph/NNW	5%	0	N/A
245	0	0	80	1 mph/NNW	5%	0	N/A
246	0	0	80	1 mph/NNW	5%	0	N/A
247	0	0	80	1 mph/NNW	5%	0	N/A
248	0	0	80	1 mph/NNW	5%	0	N/A
249	0	0	80	1 mph/NNW	5%	0	N/A
250	0	0	80	1 mph/NNW	5%	0	N/A
251	0	0	80	1 mph/NNW	5%	0	N/A

252	0	0	80	1 mph/NNW	5%	0	N/A
253	0	0	80	1 mph/NNW	5%	0	N/A
254	0	0	80	1 mph/NNW	5%	0	N/A

APPENDIX G

AGENCY COORDINATION

2011-CPA-0155
2011-I-0149

Florida Department of Transportation

RICK SCOTT
GOVERNOR

801 North Broadway Avenue
Bartow, FL 33830

ANANTH PRASAD, P.E.
SECRETARY

November 14, 2013

Mr. John Wrublik
United States Fish and Wildlife Service
South Florida Ecological Services Office
1339 20th Street
Vero Beach, FL 32960

RE: Transmittal of Endangered Species Biological Assessment
SR 33 PD&E Study
From Old Combee Road to North of Tomkow Road
FPID No. 430185-1-22-01
Polk County, Florida

Dear Mr. Wrublik:

Please find enclosed the Endangered Species Biological Assessment (ESBA) prepared for the above referenced project. The Florida Department of Transportation (FDOT), on behalf of the Federal Highway Administration (FHWA), is currently conducting a Project Development and Environment (PD&E) Study to evaluate options for the proposed improvements to SR 33 from Old Combee Road to North of Tomkow Road. The PD&E Study will evaluate engineering and environmental data, which will aid in determining impacts, if any, associated with the proposed improvements. The proposed improvements are required to meet existing and projected traffic demands and safety needs. The total project length is approximately 4.3 miles and is located in the following sections:

Township 27 S, Range 24 E, Sections 10, 15, 21, 22, 28, 29, and 30

This ESBA was conducted in accordance with Section 7 of the Endangered Species Act of 1973 to assess potential effects on protected species and their habitats within the project study limits associated with the alternatives for the proposed improvemer
performed a field review of wildlife resources within
species-specific surveys. A total of nine federall
protected floral species were identified as potenti
methodologies, along with the detailed results of field

As a result of the data collection effort, field review
concluded the following for federally protected specie

U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960
772-562-3909 Fax 772-562-4288

FWS Log No. 2011-CPA-0155

The proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et. seq.).

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

Victoria A. Foster
Larry Williams, Field Supervisor

11/29/13
Date

USFWS SFESO Concurrence Justification Form

Worksheet must be completed with Supervisor Approval Prior to sending concurrence.

Project Name: SR 33 from Old Combee Rd. to North of Tomkow Rd.	**FWS Fed Activity #:** 2011-CPA-0155
Project Location: Lakeland, Polk County, Florida	**Lead Agency #:** FHWA/FDOT
File Location: L: Project Planning/Activities/2011/Polk/CPA 0155	**Biologist:**

Was GIS Check performed: ☑ Yes **Date:** ☐ No **If No, Why?** (please give a brief explanation of why GIS was not needed below).

Species Present in Project Area and Determination made by Action Agency

Species	Determination	Species	Determination
Audubon's Crested Caracara	MANLAA	Wood stork	MANLAA
Everglade snail kite	MANLAA	Florida bonneted bat	NA
Florida scrub-jay	MANLAA	Florida grasshopper sparrow	NA
eastern indigo snake	MANLAA	perforate reindeer lichen	NA
sand skink	MANLAA		
Blue-tailed mole skink	MANLAA		

Justification for Concurrence (sticker recommended)

- Suitable caracara nesting habitat not found in or within 1000 feet of project footprint.

- Suitable snail kite habitat not found in or near project footprint.

- Call surveys for the scrub-jay based on the Service's protocol were conducted in March/April 2013, no scrub-jays observed in or near project footprint.

-to minimize impacts to the indigo snake the FDOT has agreed to follow the Standard Protection Measures for the Eastern Indigo Snake. U.S. Fish and Wildlife Service. 2004. Fish and Wildlife Service, South Florida Ecological Services Office; Vero Beach, Florida.

- Cover board surveys conducted for the sand skink based on the Service's protocol were conducted from April 9, 2013 to May 9, 2013, no sand skink tracts were observed.

_project located in CFAs of 3 active wood stork nesting colonies. Project will result in loss of up to 12.19 providing 45.08 kilograms of forage biomass for the wood stork. The FDOT has agreed to offset the amount of wood stork forage biomass lost due to the project through the acquisition of adequate credits at either the Green Swamp Wetland Mitigation Bank or the Withlacoochee Wetland Mitigation Bank.

-suitable habitat for the Florida grasshopper sparrow does not occur in or near the project footprint, project not within geographic range of the Florida bonneted bat (according to FWC range map), reindeer lichen not found on project footprint during pedestrian surveys of site.

Supervisor Questions/Notes

John Wrublick	11/19/2013	Victoria A. Foote	11/29/13
Biologist Signature	**Date**	**Supervisor Signature**	**Date**

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December 12, 2013

Mr. Martin Horwitz
Environmental Project Manager
Florida Department of Transportation (FDOT) District One
801 North Broadway Avenue
Bartow, FL 33830
Martin.Horwitz@DOT.state.fl.us

Re: SR 33 multi-laning from Old Combee Road to north of Tomkow Road, Polk County, Endangered Species Biological Assessment

Dear Mr. Horwitz:

The Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the Endangered Species Biological Assessment (ESBA) for the above-referenced project, prepared as part of the Project Development and Environment Study. The FWC reviewed this project in May 2011 as ETDM 13188. We provide the following comments and recommendations for your consideration in accordance with Chapter 379, Florida Statutes and Rule 68A-27, Florida Administrative Code (F.A.C.).

The project involves an evaluation of widening SR 33 from two lanes to four lanes from Old Combee Road to 1,500 feet north of Tomkow Road, a distance of approximately 4.3 miles. The project vicinity is a rural landscape on the outskirts of Lakeland that is rapidly undergoing suburban development.

The ESBA evaluated potential project impacts to 23 wildlife species classified under the Endangered Species Act as Federally Endangered (FE) or Threatened (FT), or by the State of Florida as Threatened (ST) or Species of Special Concern (SSC). Listed species were evaluated based on range and potential appropriate habitat or because the project is within a U.S. Fish and Wildlife Service (USFWS) Consultation Area. The ESBA included: Florida grasshopper sparrow (FE), wood stork (FE), Everglades snail kite (FE), Florida bonneted bat (FE),sand skink (FT), bluetail mole skink (FT), eastern indigo snake (FT), Florida scrub jay (FT), crested caracara (FT), gopher tortoise (ST), southeastern American kestrel (ST), Florida sandhill crane (ST), Florida burrowing owl (SSC), limpkin (SSC), snowy egret (SSC), little blue heron (SSC), tricolored heron (SSC), white ibis (SSC), roseate spoonbill (SSC), gopher frog (SSC), Florida pine snake (SSC),Sherman's fox squirrel (SSC), and Florida mouse (SSC).

Other species evaluated included the bald eagle, which was delisted by state and federal agencies, but this species remains protected under state rule in Section 68A-16.002, F A.C. and by the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) and the Florida black bear, which was delisted by the FWC in June 2012. A conservation plan has been developed and approved by the FWC as guidance for further improvement of the conservation status of the bear.

Project materials state that project biologists made a finding of "may affect, but is not likely to adversely affect" for all of the federally listed species except the grasshopper sparrow and bonneted bat, which were classified as "no effect" due to lack of suitable

habitat. For the state-listed species and the black bear and bald eagle, the biologists made a determination of "no effect". There is the potential for habitat for these species to be impacted, such as for the sandhill crane, the wading birds, and gopher tortoises and their commensals. For these animals, we recommend the determination be modified to reflect these potential impacts.

We support the project commitments for protected species, which include the following:

1. Should a bald eagle nest be built prior to or during construction within 660 feet of the construction limits, precautions will be followed based on the USFWS Bald Eagle Management Guidelines.

2. The standard Florida Department of Transportation (FDOT) Construction Precautions for the eastern Indigo Snake will be followed during construction.

3. Due to the presence of gopher tortoise habitat within and adjacent to the existing right-of-way, a gopher tortoise survey in appropriate habitat will be performed within construction limits prior to construction, and the FDOT will secure any necessary relocation permit from the FWC.

Please reference the FWC's Gopher Tortoise Permitting Guidelines (Revised April 2013 http://www.myfwc.com/media/1410274/GTPermittingGuidelines.pdf) for survey methodology and permitting guidance prior to any construction activity. Specific guidance in the permitting guidelines includes methods for avoiding impacts as well as options and state requirements for minimizing, mitigating, and permitting potential impacts of the proposed activities. Any commensal species observed during the burrow excavations should be relocated in accordance with Appendix 9 of the Gopher Tortoise Permitting Guidelines. To the maximum extent possible, the FWC also recommends that all staging and storage areas be sited to avoid impacts to gopher tortoise burrows and their habitat.

4. If Pond 1, which contains potential sand skink habitat, becomes the preferred alternative, the FDOT will commit to a coverboard survey of the pond site before construction begins.

5. The FDOT will re-survey appropriate habitats for Florida sandhill crane nests prior to permitting and construction of the project. The FWC recommends that breeding season (January – June) surveys be conducted in potential nesting habitat throughout the project area. If nests are identified, the FDOT should contact the FWC for consultation and review concerning conservation measures and, if needed, permitting and mitigation requirements pursuant to Rule 68A-27 F.A.C.

Thank you for the opportunity to review the ESBA for the SR 33 project in Polk County. If you need further assistance, please do not hesitate to contact Jane Chabre either by phone at (850) 410-5367 or at FWCConservationPlanningServices@MyFWC.com. If

you have specific technical questions regarding the content of this letter, contact Brian Barnett at (772) 579-9746 or email brian.bamett@MyFWC.com.

Sincerely,

Jennifer D. Goff
Land Use Planning Program Administrator
Office of Conservation Planning Services

jdg/bb
ENV 1-13-2
SR 33 from Old Combee Rd to N of Tomkow Rd_18339_121213