# DRAFT

# Wetland Evaluation and ERP Narrative

## SR 60 Grade Separation Over CSX Railroad

## FPID 436559-1-52-01

## Polk County

**Prepared For:**

## Florida Department of Transportation

## District 1


## October 2016

# Table of Contents

## LIST OF FIGURES



## LIST OF TABLES



## APPENDICES

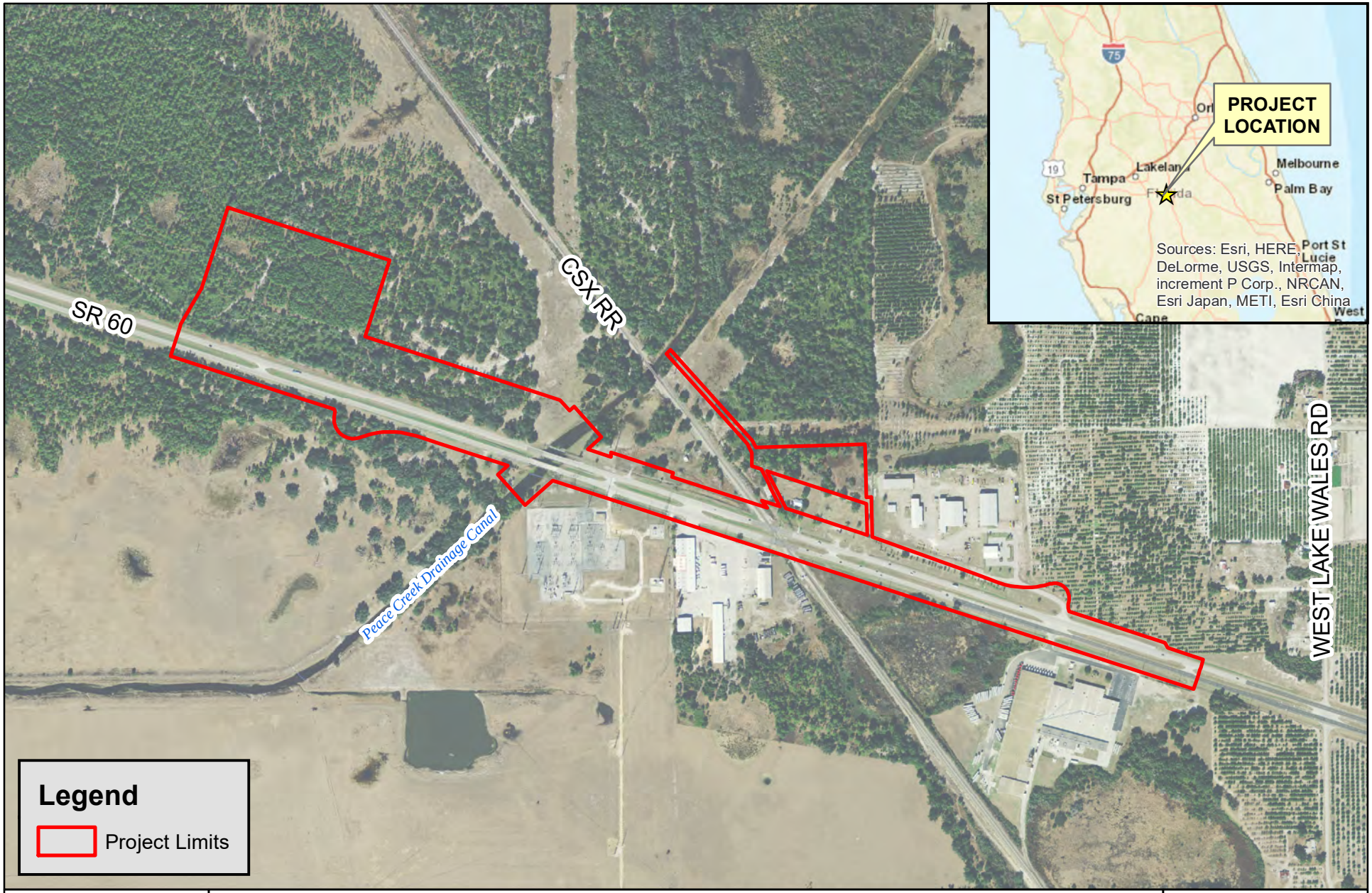
# 1 DOCUMENT PURPOSE

The purpose of this document is to provide a comprehensive report addressing environmental conditions as they relate to impacts and protection of wetlands/surface waters, and proposed mitigation for unavoidable impacts as required by state and federal agencies exercising jurisdiction over the resources affected or potentially affected by the proposed project. The goal is to provide the information necessary for efficient regulatory agency review under the applicable rules and statutes pertaining to the proposed project. This document will specifically address issues under the regulatory scope of the Florida Department of Environmental Protection (FDEP) Statewide Environmental Resource Permit rule (62-330 FAC, 2013) and federal review in accordance with Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403, 1899 as amended); Section 404 of the "Clean Water Act" (33 USC 1251-1376, 1972 as amended), and associated federal commenting agency review associated with the Endangered Species Act (16 USC 1801-1891(d), 1992 as amended), and the Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1531-1544, 1973 as amended).

# 2 INTRODUCTION

District One of the Florida Department of Transportation (FDOT) proposes to make improvements to an approximately one-mile-long segment of SR 60. See Figures 1 and 2. The major component of the project consists of elevating the SR 60 roadway over the existing CSX railroad at-grade crossing. The roadway will be elevated using permanent retaining walls (i.e. mechanically stabilized earth, or MSE, walls). Three new pairs of SR 60 bridge structures are proposed over the existing CSX railroad, over an existing underground petroleum pipeline and frontage road, and over the Peace Creek Drainage Canal (PCDC). The existing eastbound SR 60 bridge over the PCDC will be rehabilitated and re-used for frontage road access and the westbound bridge will be removed. Dry shelves to accommodate wildlife crossing are included in the new bridge plans. A retrofit of the existing bridge for a narrow wildlife shelf is also proposed.

Sidewalks, bicycle lanes, and three new frontage roads will be included in the improvements. Two off-site stormwater management facilities (SMFs or ponds) are proposed ponds. Right-of-way acquisition will occur to accommodate the elevation of SR 60, drainage and access easements, and the frontage roads.




# SR 60 Grade Separation over CSX Railroad
# FPID 436559-1-52-01
# Project Location Map

1 inch = 800 feet

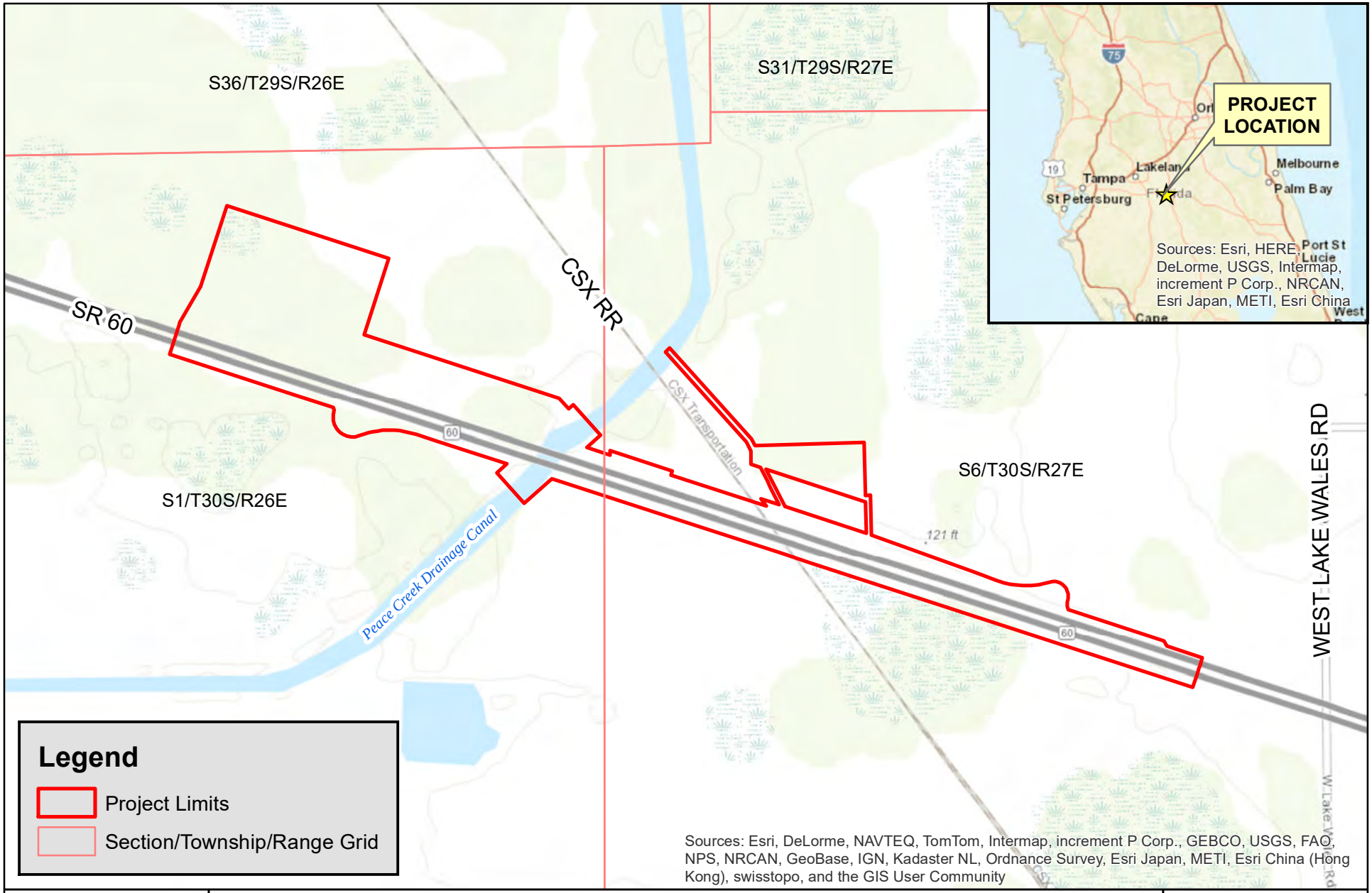
N

0 400 800 Feet

Figure 1

Aerial Source: FDOT Survey and Mapping. (2011). Polk County Aerials

Path: H:\47100\43655913201\permits\Reports\ESBA\Fig 1 Project Location Map.mxd




FDOT

# SR 60 Grade Separation over CSX Railroad
## FPID 436559-1-52-01
## Project Location on USGS Map

1 inch = 800 feet

N

0 400 800 Feet

Figure 2

Aerial Source: FDOT Survey and Mapping. (2011). Polk County Aerials

Path: H:\47100\43655913201\permits\Reports\ESBA\Fig 2 Project Location Map usgs2.mxd

The project is located in Section 1 of Township 30 South, Range 26 East and Section 6 of Township 30 South, Range 26 East in Polk County. This location is approximately 11 miles to the east of Bartow and four miles to the west of Lake Wales. The coordinates for the begin project point are 27.906248°N, -81.670032°W; and the end project coordinates are 27.900863°N, - 81.651450°W.

A pre-application meeting was held with Southwest Florida Water Management District (SWFWMD) on June 1, 2016 and with the U.S. Army Corps of Engineers (USACE) on June 30, 2016. Meeting minutes are provided in Appendix 1.

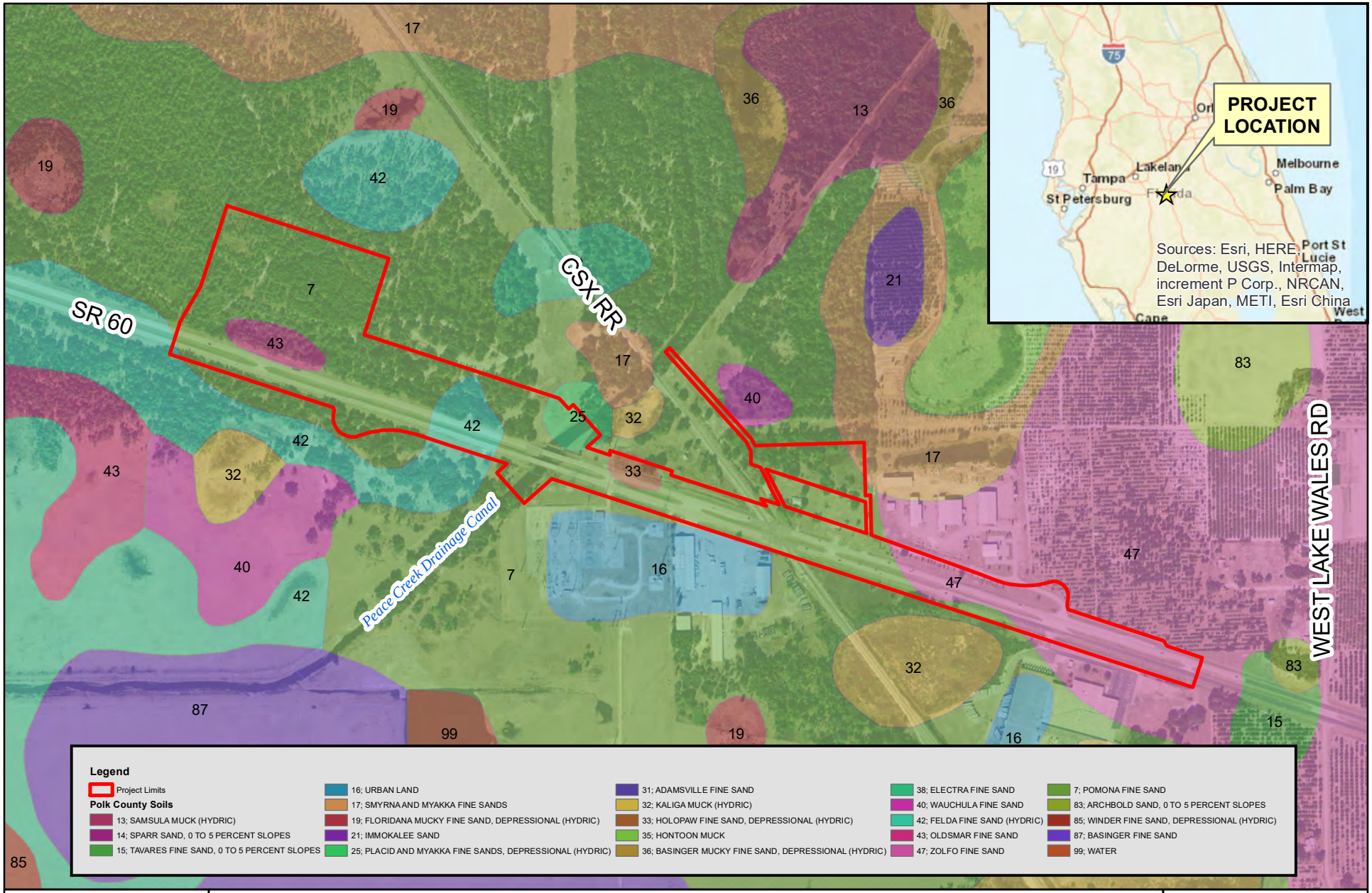
This narrative documents the results of environmental investigations, surveys, analysis, and research conducted to determine impacts to wetlands and surface waters that may occur within the project area, and determine mitigation requirements associated with the impacts. A separate Endangered Species Biological Assessment (ESBA) was prepared to document the project's effects to listed species.

# 3 EXISTING ENVIRONMENTAL CHARACTERISTICS

## 3.1 Soils

The Natural Resources Conservation Service (NRCS) mapping for Polk County (NRCS, SSURGO, Detailed Soils, Florida [GIS Data], 2012) identified nine soil units within the project area (Figure 3). These are Pomona fine sand (7); Urban Land (16); Smyrna and Myakka fine sands (17); Placid and Myakka fine sands, depressional (25); Holopaw fine sand, depressional (33); Wauchula fine sand (40); Felda Fine Sand (42); Oldsmar fine sand (43); and Zolfo fine sand (47). General soil descriptions are provided below as provided in the Polk County Soil Survey (NRCS, Soil Survey of Polk County, Florida, 1990).

**(7) Pomona fine sand –** Pomona fine sand is a poorly drained soil found in broad areas on flatwoods. This soil has a seasonal high water table at a depth within 12 inches of the surface for 2 to 4 months. This soil type is not listed hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007), but may contain up to 20% hydric soil inclusions. This soil type makes up 72% of the soils within the project area.




# SR 60 Grade Separation over CSX Railroad
# FPID 436559-1-52-01
# Soils Map

1 inch = 800 feet

0 400 800 Feet

N

Figure 3

Aerial Source: FDOT. 2011. Aerial Photography of Polk County
Data Source: NRCS. (2012). SSURGO, Detailed Soils, Florida [GIS Data]

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 3 Soils Map.mxd

**(16) Urban Land –** Urban land is a map unit consisting of areas that are more than 85% covered by buildings, streets, houses, schools, shopping centers, and industrial complexes. Because soils in urban areas have been reworked, they can no longer be recognized as a natural soil. Fill material has been added in wet areas to alleviate water problems or soil material has been excavated to blend with the surrounding landscape. This soil type is not listed as hydric by the *Hydric Soils of Florida Handbook*. This soil type makes up less than 1% of the soils within the project area.

**(17) Smyrna and Myakka fine sands –** Smyrna and Myakka fine sands consist of poorly drained soils in broad areas on flatwoods. It is about 55% Smyrna and 40% Myakka soils, but the proportion varies in each mapped area. Smyrna and Myakka soils have a seasonal high water table at a depth within 12 inches of the surface for 1 to 4 months. This soil type is not listed as hydric by the *Hydric Soils of Florida Handbook*, but may have up to 17% inclusions of hydric soil types. These soils make up less than 1% of the soils within the project area.

**(25) Placid and Myakka fine sands, depressional –** Placid and Myakka fine sands consist of very poorly drained soils in depressions mostly on flatwoods. Typically, about 60% of the map unit is Placid soil and 30% is Myakka soil, but the proportion varies in each mapped area. Placid soil is ponded for at least six months during most years. Myakka soil has a seasonal high water table that is above the surface for about six months during most years. This soil type is listed as hydric by the *Hydric Soils of Florida Handbook*. This soil type makes up about 2% of the soils within the project area.

**(33) Holopaw fine sand, depressional –** Holopaw fine sand, depressional is a very poorly drained soil in wet depression on flatwoods. This soil is ponded for more than 6 months during most years. This soil type is listed as hydric by the *Hydric Soils of Florida Handbook*. Holopaw fine sand, depressional soils make up about 2% of the soils within the project area.

**(40) Wauchula fine sand –** Wauchula fine sand is a poorly drained soil on low, broad areas on flatwoods. This soil has a seasonal high water table within a depth of 12 inches for 1 to 4 months during most years. Wauchula fine sand is not listed as hydric by the *Hydric Soils of Florida Handbook* but may have up to 22% inclusions of hydric soils. This soil type makes up less than 1% of the soils within the project area.

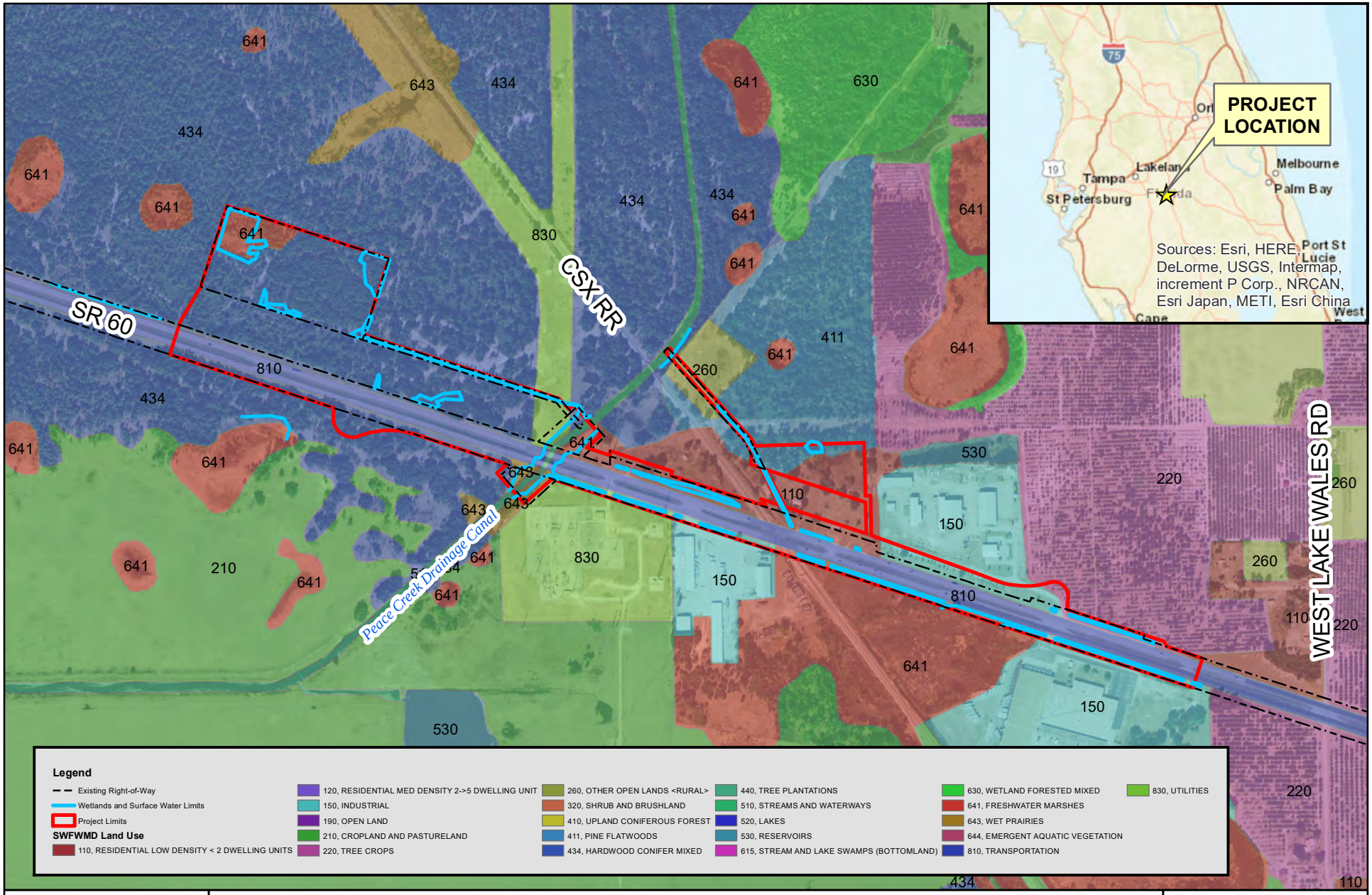
**(42) Felda fine sand –** Felda fine sand is poorly drained soil found on sloughs or low hammocks on flatwoods. This soil has a seasonal high water table within a depth of 12 inches of the surface for 2 to 4 months during most years. In slough areas the surface is covered by shallow, slowly moving water for 1 to 7 or more days during periods of heavy rainfall. Felda fine sand is listed as hydric by the *Hydric Soils of Florida Handbook*, but may have 5% inclusions of non-hydric soil types. This soil type makes up about 4% of the soil types within the project area.

**(43) Oldsmar fine sand –** Oldsmar fine sand is a poorly drained soil in broad areas on flatwoods. This soil has a seasonal high water table within 12 inches of the surface for 1 to 4 months during most years and at a depth of 12 to 40 inches for more than 6 months. The high water table recedes to a depth of more than 40 inches during extended dry periods. Oldsmar fine sand is not listed as hydric by the *Hydric Soils of Florida Handbook*, but may have up to 20% inclusions of hydric soil types. This soil type makes up about 1% of the soil types within the project area.

**(47) Zolfo fine sand –** Zolfo fine sand is somewhat poorly drained soil found on low, broad ridges and knolls on flatwoods. This soil has a seasonal high water table at a depth of 24 to 40 inches for 2 to 6 months during most years and at a depth of 10 to 24 inches for up to 2 weeks in some years. Zolfo fine sand is not hydric and not listed in the *Hydric Soils of Florida Handbook*. This soil type makes up about 17% of the soil types within the project area.

## 3.2 Existing Land Use

The project is within the boundaries of unincorporated Polk County about 11 miles east of Bartow and four miles west of Lake Wales. The area evaluated for impacts is 64.39 acres. About 47.55 acres are currently owned by FDOT. Acquisition to accommodate the improvements will be required. Figure 4 is a map depicting the land uses as mapped by SWFWMD (SWFWMD, 2011). Mapped land uses are listed in Table 1 below. Note that the project acreage given and limits shown on the figures represent the area that was evaluated for environmental impacts, and limited areas of acquisition are proposed with the boundary shown.




FDOT

# SR 60 Grade Separation over CSX Railroad
# FPID 436559-1-52-01
# FLUCFCS / Land Use Map

1 inch = 800 feet

N

0 400 800 Feet

Figure 4

Data Source: SWFWMD. (2011). Land Use Land Cover 2011 [GIS Data]

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 4 Land Use Map.mxd

The major land use within the project area is Transportation (810) at about 26%. The next highest land use is Hardwood Conifer Mixed (434) at 45% due to the proposed SMF parcels. Although Residential (110) land use is mapped in both the proposed and existing right-of-way, this land use is historic and the land area is currently vacant with no buildings on-site. There are no residential relocations.

Post-construction condition, the land uses will be Transportation (810) and Streams and Waterways (510) within the proposed right-of-way limits.

**Table 1 Land Uses in Project Area Evaluated for Impacts**

| Land Use Description | FLUCFCS* Code | Acres in Existing R/W | % in Existing R/W |
|---|---|---|---|
| Residential Low Density < 2 Dwelling Units | 110 | 5.44 | 8 |
| Industrial | 150 | 2.18 | 3 |
| Tree Crops | 220 | 0.79 | 1 |
| Other Open Lands <Rural> | 260 | 0.31 | 1 |
| Pine Flatwoods | 411 | 1.74 | 3 |
| Hardwood Conifer Mixed | 434 | 29.60 | 45 |
| Streams And Waterways | 510 | 2.80 | 4 |
| Mixed Wetland Hardwoods | 617 | 0.68 | 1 |
| Freshwater Marshes | 641 | 1.73 | 4 |
| Wet Prairies | 643 | 0.76 | 1 |
| Transportation | 810 | 16.96 | 26 |
| Utilities | 830 | 1.40 | 3 |
| | | 64.39 ac | 100% |

*FLUCFCS=Florida Land Use, Cover and Forms Classification System (FDOT, 1999)

## 4 JURISDICTIONAL SITE DESCRIPTIONS

Resources used to evaluate jurisdictional areas for this project included background research of literature, geographic information system (GIS) data, U.S. Geological Survey (USGS) topographic maps, and current and historic aerials. Land use was mapped using FLUCFCS; GIS data layers from SWFWMD; and soils were mapped using GIS data layers from the NRCS for Polk County. Additionally, the National Wetland Inventory (NWI) GIS data layers were used as a reference. The background research was compiled and then field verified by qualified biologists.

Wetlands were field verified and delineated per Chapter 62-340, FAC, Delineation of the Landward Extent of Wetlands and Surface Waters (USACE, 2010) and the criteria established by the USACE wetland delineation manual as amended to include Rapanos v. United States and Carabell v. United States Supreme Court Decisions.

Delineations were conducted during June 2015. Wetlands and surface waters (including PCDC) are associated with this project. Figures 5a-5f provide an aerial view of the wetland and surface water limits.

The wetlands and surface waters associated with this project are jurisdictional to the SWFWMD and the USACE. The project is located in the SWFWMD environmental resource permit (ERP) Peace River Basin.

Descriptions of the wetlands and surface waters are provided below. Each has been classified according to the FDOT's FLUCFCS and the United States Fish and Wildlife Service (USFWS) Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, 1979). Photographs of the wetlands and surface waters are provided in Appendix 2. Appendices 3 and 4 provide the USACE Preliminary Jurisdictional Determination Form and USACE Dredge and Fill Summary. Appendix 5 contains the USACE Wetland Data Sheets for wetlands that will be impacted.

## 4.1 Wetlands

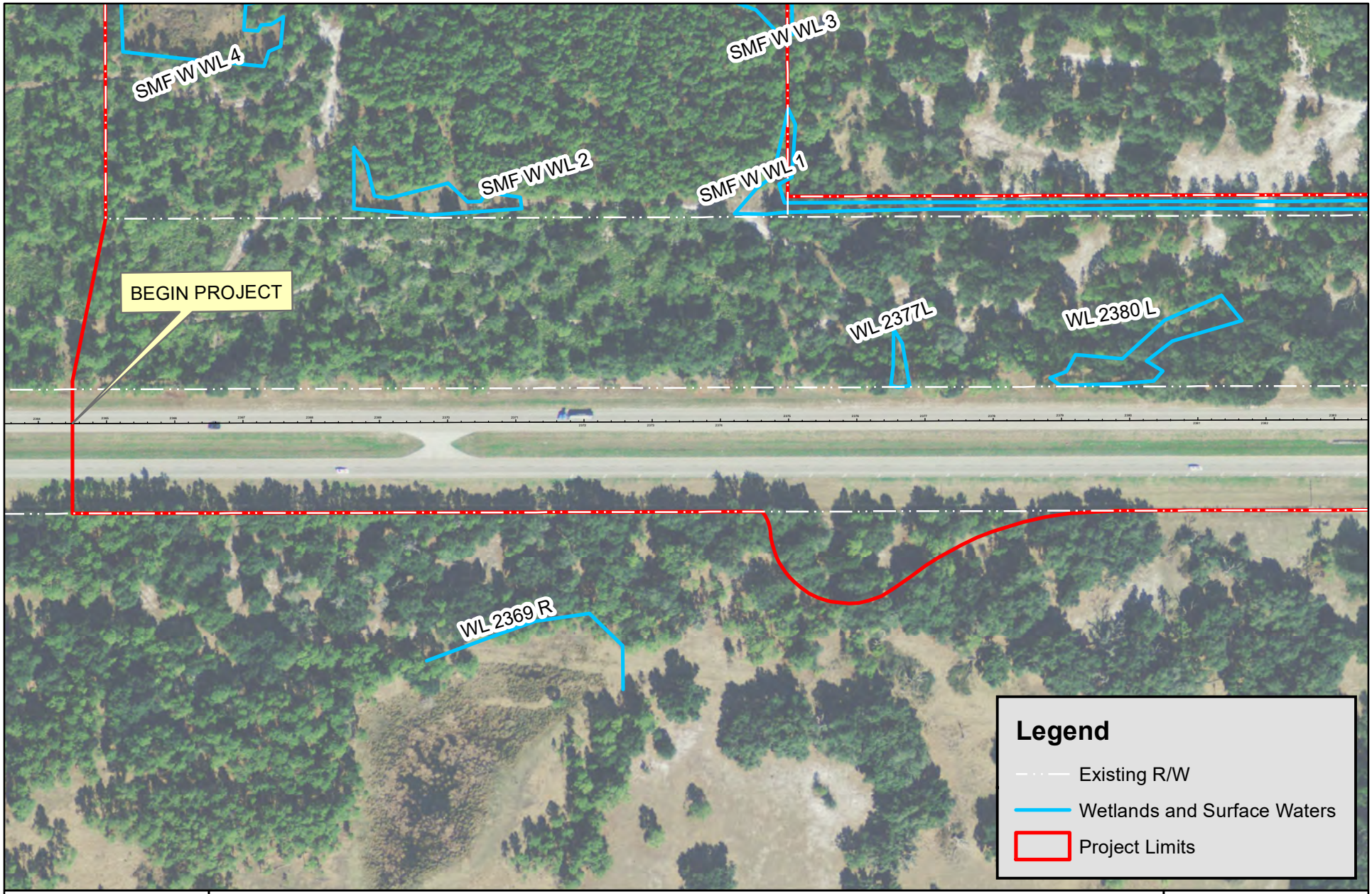
### *4.1.1 WL 2377 L*

**FLUCFCS Code: 641 (freshwater marsh)**
**USFWS Classification: PEM1C (palustrine, emergent, persistent, seasonally flooded)**

This wetland is a small depressional, herbaceous wetland north of SR 60 at Station 2377 Left (L) and west of the PCDC. Dominant vegetation is soft rush (*Juncus effusus*). Minimal invasive species are present. The wetland is seasonally flooded. No evidence of wildlife utilization was noted during field reviews; however, this wetland meets the criteria for Wood Stork suitable foraging habitat (SFH).

Soils in this area are mapped as Pamona fine sand (non-hydric); however, on-site soil conditions indicate hydric soils. Seasonal high water and normal pool elevations were set in this area.

Impacts will occur as a result fill for the new sidewalk on the north and the reconfigured roadway design to allow for the frontage road to the south. Federal mitigation will be provided for impacts to wetland value and function. State mitigation is not required as the wetland is exempt per 10.2.2.1 of the Environmental Resource Permit Applicant's Handbook Volume I (FDEP, 2013).




SR 60 Grade Separation over CSX Railroad
FPID 436559-1-52-01
Wetland and Surface Water Locations

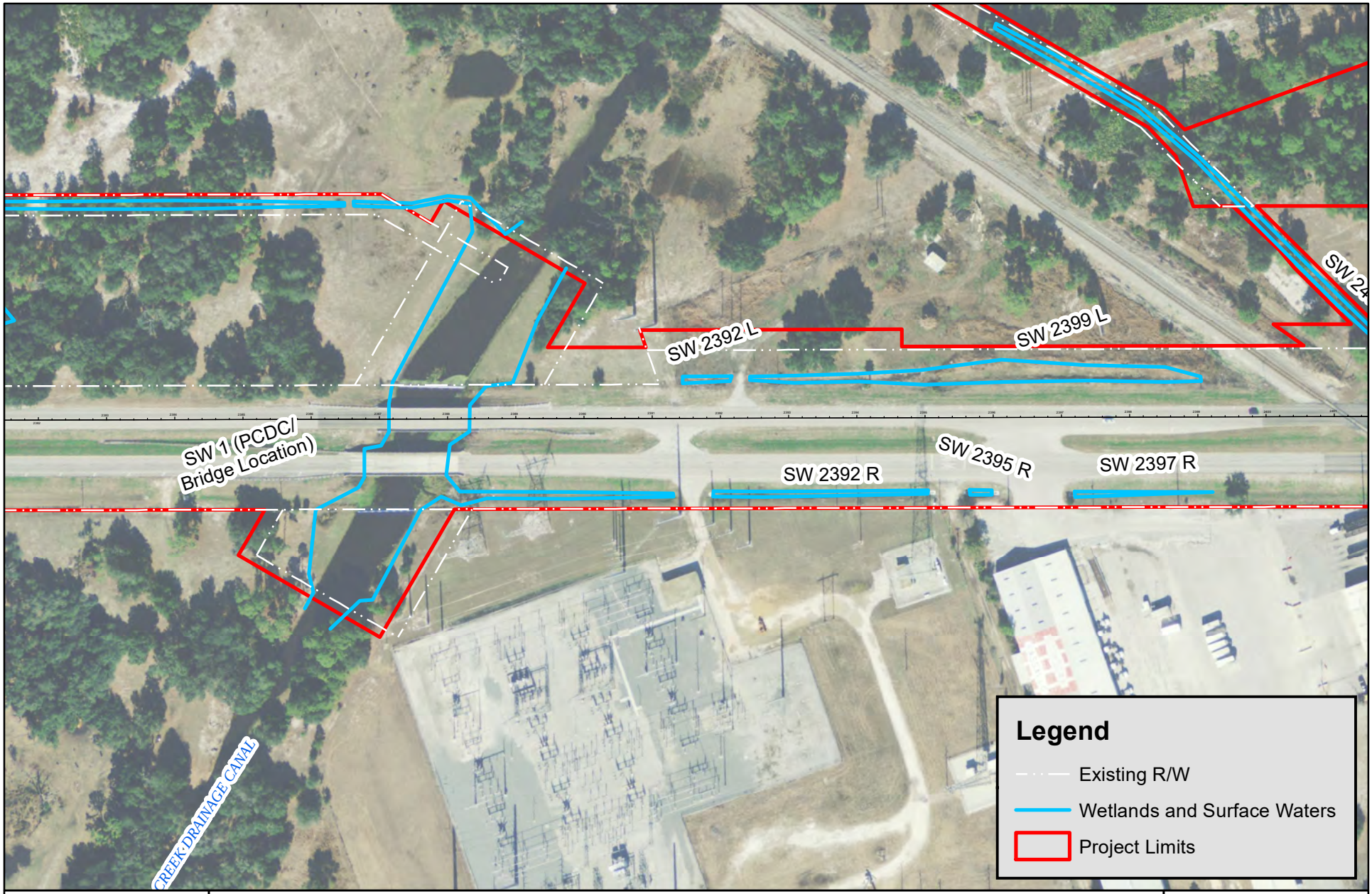
1 inch = 200 feet

0 100 200
Feet

Figure 5-a

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 5 Wetlands and Surface Waters.mxd




FDOT

SR 60 Grade Separation over CSX Railroad
FPID 436559-1-52-01
Wetland and Surface Water Locations

1 inch = 200 feet

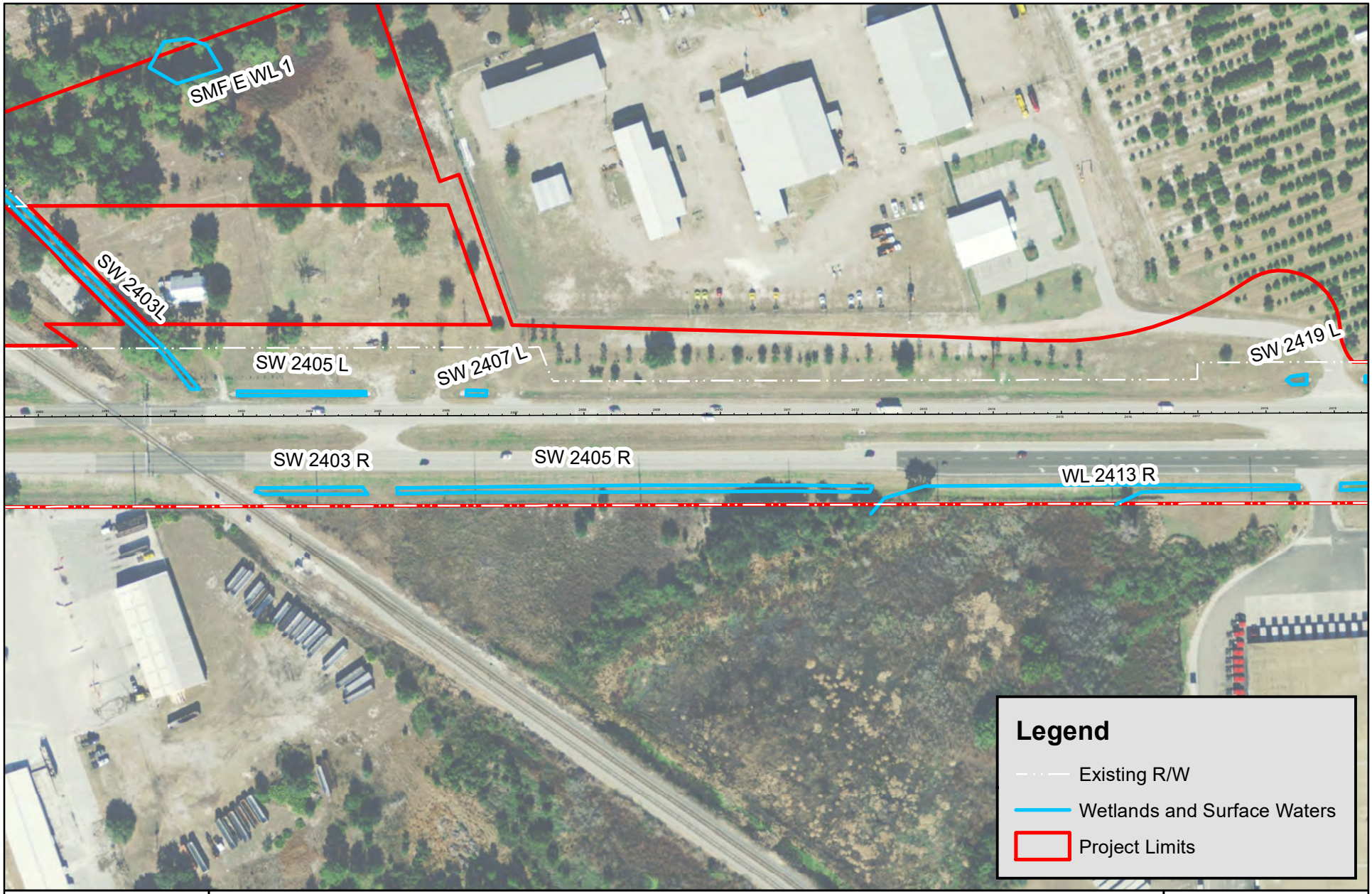
N

0 100 200
Feet

Figure 5-b

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 5 Wetlands and Surface Waters.mxd




SR 60 Grade Separation over CSX Railroad
FPID 436559-1-52-01
Wetland and Surface Water Locations

1 inch = 200 feet

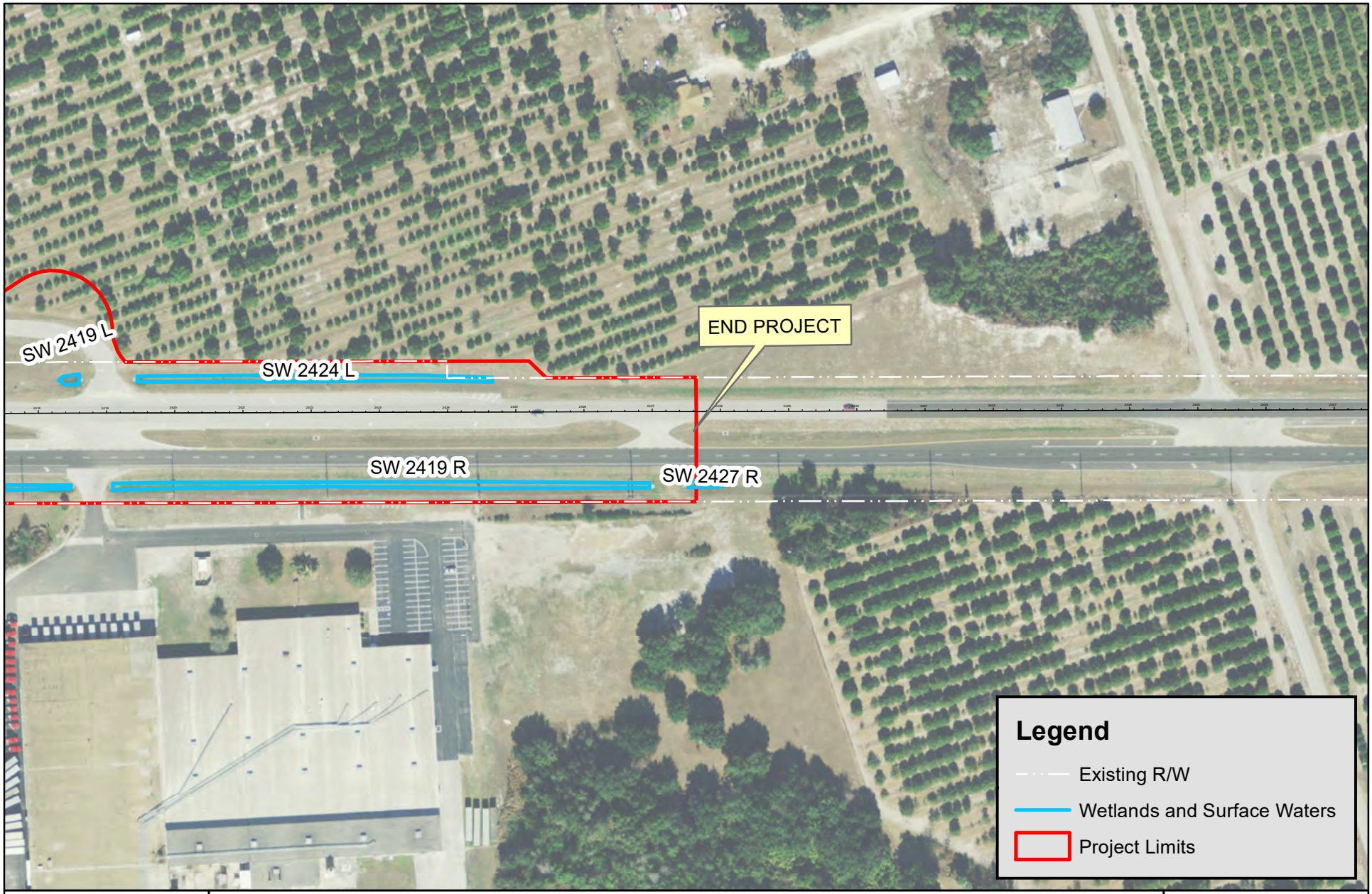
N

0 100 200
Feet

Figure 5-c

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 5 Wetlands and Surface Waters.mxd




FDOT

SR 60 Grade Separation over CSX Railroad
FPID 436559-1-52-01
Wetland and Surface Water Locations

1 inch = 200 feet

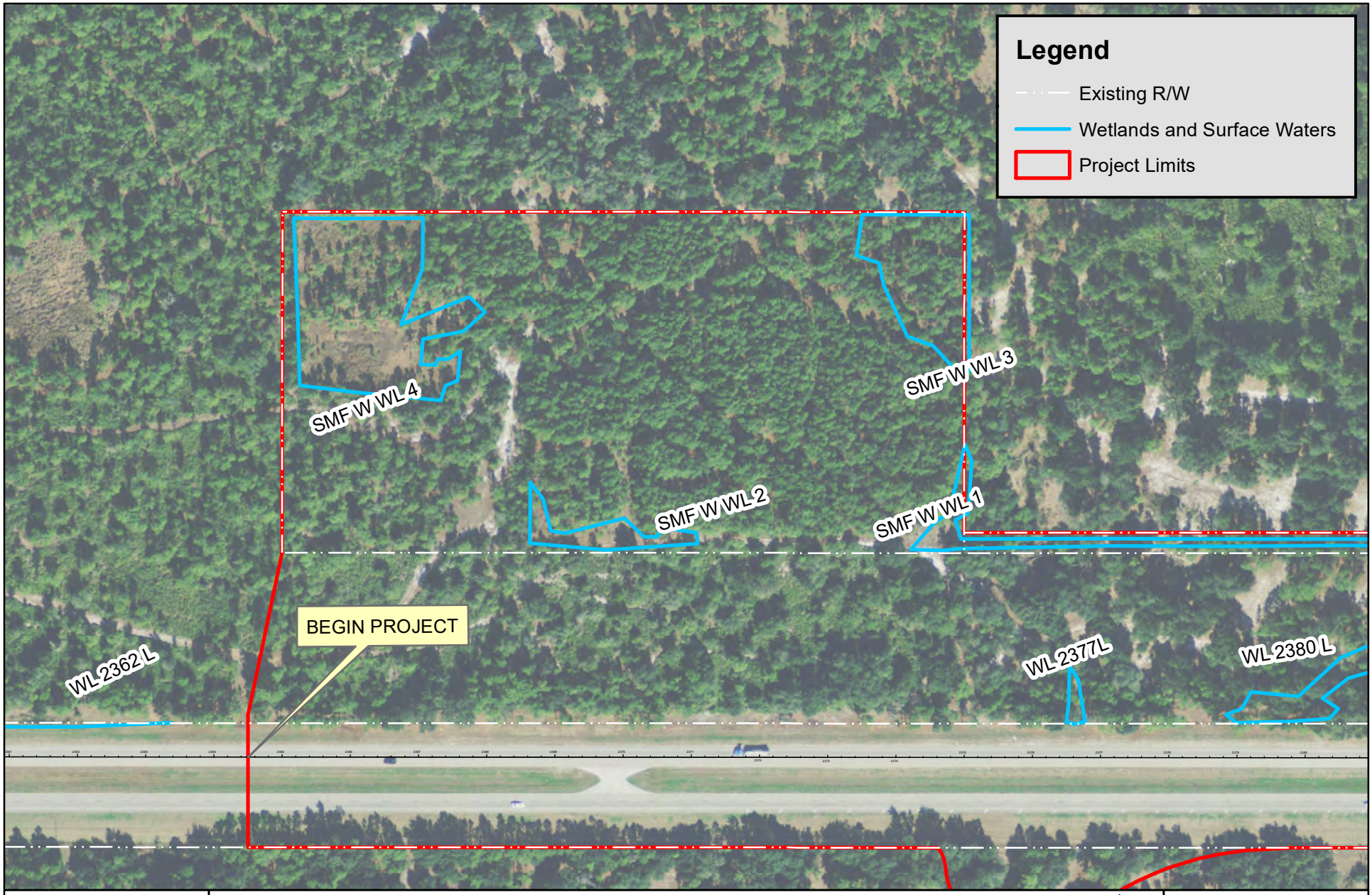
N

0 100 200
Feet

Figure 5-d

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 5 Wetlands and Surface Waters.mxd




SR 60 Grade Separation over CSX Railroad
FPID 436559-1-52-01
Wetland and Surface Water Locations

1 inch = 200 feet

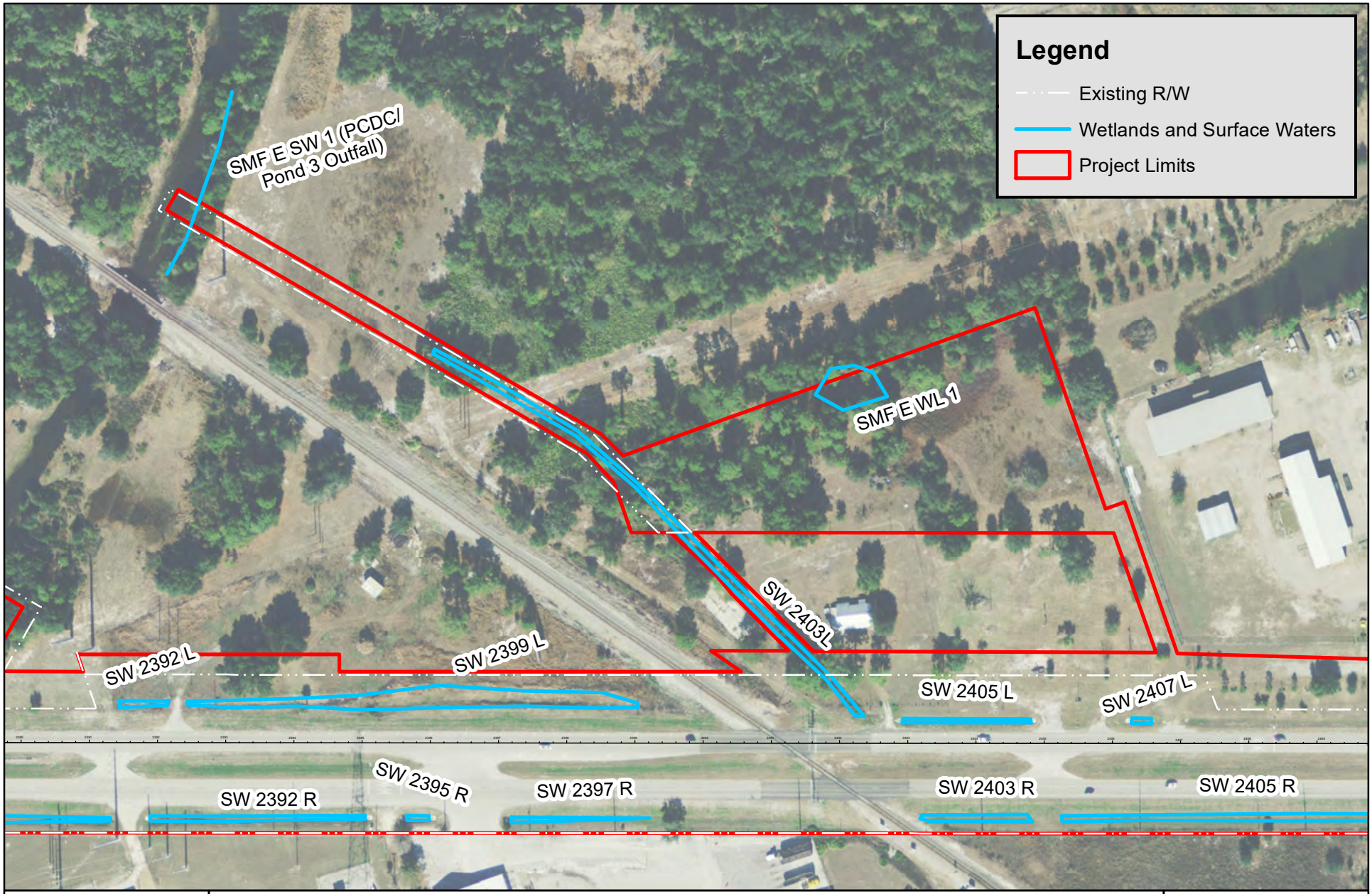
0 100 200
Feet

N

Figure 5-e

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 5 Wetlands and Surface Waters.mxd




FDOT

# SR 60 Grade Separation over CSX Railroad
# FPID 436559-1-52-01
# Wetland and Surface Water Locations

1 inch = 200 feet

N

0 100 200 Feet

Figure 5-f

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 5 Wetlands and Surface Waters.mxd

### *4.1.2 WL 2380 L*

**FLUFCCS Code: 641 (freshwater marsh)**
**USFWS Classification: PEM1C (palustrine, emergent, persistent, seasonally flooded)**

Wetland 2380 L is a small depressional, herbaceous wetland north of SR 60 at Station 2380 L and west of the PCDC. Dominant groundcover vegetation is saw grass (*Cladium jamaicense*) and dollarweed (*Hydrocotyle umbellata*). Laurel oak (*Quercus laurifolia*) provides scattered overstory. Minimal invasive species are present. The wetland is seasonally flooded. Evidence of hog rooting was noted which left open areas of disturbed soil throughout the wetland. This wetland provides SFH for the Wood Stork.

Soils in this area are mapped as Felda fine sand and Pamona fine sand (non-hydric); however, on-site soil conditions indicate hydric soils. Seasonal high water and normal pool elevations were set in this area.

Impacts will occur as a result of fill from the mainline and dredging for Pond 1. Federal mitigation will be provided for impacts to wetland value and function. State mitigation is not required as the wetland is exempt per 10.2.2.1 of the Environmental Resource Permit Applicant's Handbook Volume I (FDEP, 2013).

### *4.1.3 WL 2413 R*

**FLUFCCS Code: 641 (freshwater marsh)**
**USFWS Classification: PEM1C (palustrine, emergent, persistent, seasonally flooded)**

Wetland 2413 R is the herbaceous edge of a larger wetland that is located south of SR 60 and east of CSX railroad tracks at Station 2413 Right (R). Within the right-of-way, the wetland is routinely mowed and has been disturbed by the incorporation of a swale for roadside drainage.

Dominant herbaceous vegetation includes Bahia grass (*Paspalum notatum*), vasey grass (*Paspalum urvillei*), carpet grass (*Axonopus* sp.), and dollarweed (*Hydrocotyle umbellata*). Just offsite, the wetland becomes shrubby and is vegetated with Carolina willow (*Salix caroliniana*) and primrose willow (*Ludwigia peruviana*). The wetland is seasonally flooded. No evidence of wildlife utilization was noted during field reviews. This wetland may occasionally provide SFH for the Wood Stork.

Soils in this area are mapped as Kaliga muck (hydric) and Pamona fine sand (non-hydric). Seasonal high water and normal pool elevations were set in this area.

Impacts to this wetland include fill as a result of the roadway mainline slope. Both federal and state mitigation will be provided for impacts to wetland value and function.

### *4.1.4 SFM W WL 1*

**FLUFCCS Code: 641 (freshwater marsh)**
**USFWS Classification: PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated)**

This area is located within existing right-of-way north of SR 60 and west of PCDC. The wetland is within the area evaluated for SMF Pond 1. However, the SMF was located elsewhere and this wetland will not be impacted by the proposed project.

Historically fill has been removed from this area which resulted in a lower ground elevation than the surrounding area and wetland conditions have developed. Soils in this area are mapped as Pamona fine sand (non-hydric); however, on-site soil conditions indicate hydric soils. A long man-made ditch provides a connection to PCDC to the east.

Dominant ground cover vegetation includes carpet grass (*Axonopus* spp.), blue maidencane (*Amphicarpum muhlenbergianum*), soft rush (*Juncus effusus*), and beakrushes (*Rhynchospora* spp.). Minimal invasive species were present. The wetland is seasonally flooded. No evidence of wildlife utilization was noted during field reviews. This wetland meets the definition of Wood Stork SFH.

No impacts are proposed for this location. No mitigation is proposed.

### *4.1.5 SMF W WL 2*

**FLUFCCS Code: 641 (freshwater marsh)**
**USFWS Classification: PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated)**

This herbaceous wetland area is located within existing right-of-way north of SR 60 and west of PCDC. The wetland is within the area evaluated for SMF Pond 1. However, the SMF was located elsewhere and this wetland will not be impacted by the proposed project.

Historically fill has been removed from this area which resulted in a lower ground elevation than the surrounding area and wetland conditions have developed. Soils in this area are mapped as Pamona fine sand (non-hydric); however, on-site soil conditions indicate hydric soils and dried algae mats were noted during one field inspection (June 2015).

Dominant ground cover vegetation includes an overstory of scattered slash pine (*Pinus elliottii*), beakrushes (*Rhynchospora* spp.), blue maidencane (*Amphicarpum muhlenbergianum*), red top grass (*Panicum*

*rigidulum*), viviparous spike rush (*Eleocharis vivipara*), and milkwort (*Polygala nana*). The wetland is seasonally flooded. Evidence of feral hogs was noted. This wetland meets the definition of Wood Stork SFH.

No impacts are proposed for this location. No mitigation is proposed.

### *4.1.6 SMF W WL 3*

**FLUFCCS Code: 627 (slash pine swamp forest)**
**USFWS Classification: PFO4Cx (palustrine, forested, needle-leaved evergreen, seasonally flooded, excavated)**

This herbaceous wetland area is located within existing right-of-way north of SR 60 and west of PCDC. The wetland is within the area evaluated for SMF Pond 1. However, the SMF was located elsewhere and this wetland will not be impacted by the proposed project.

Historically fill has been removed from this area which resulted in a lower ground elevation than the surrounding area and wetland conditions have developed. Soils in this area are mapped as Pamona fine sand (non-hydric); however, on-site soil conditions indicate hydric soils and dried algae mats were noted during one field inspection (June 2015).

Dominant ground cover vegetation includes an overstory of slash pine (*Pinus elliottii*), carpet grass (*Axonopus* spp.), camphor-weed (*Pluchea rosea*), beakrushes (*Rhynchospora* spp.). The wetland is seasonally flooded. Nuisance species included some blackberry (*Rubus* spp.) and tropical soda apple (*Solanum viarum*). Evidence of feral hogs was noted. This wetland meets the definition for Wood Stork SFH.

No impacts are proposed for this location. No mitigation is proposed.

### *4.1.7 SMF W WL 4*

**FLUFCCS Code: 641 (freshwater marsh)**
**USFWS Classification: PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated)**

This herbaceous wetland area is located within existing right-of-way north of SR 60 and west of PCDC. The wetland is within the area evaluated for SMF Pond 1. However, the SMF was located elsewhere and this wetland will not be impacted by the proposed project.

Historically fill has been removed from this area which resulted in a lower ground elevation than the surrounding area and wetland conditions have developed. Soils in this area are mapped as Pamona fine sand (non-hydric); however, on-site soil conditions indicate hydric soils.

Dominant ground cover vegetation includes soft rush (*Juncus effusus*), duck potato (*Sagittaria lancifolia*), pickerel weed (*Pontederia cordata*), viviparous spikerush (*Eleocharis viviparous*), and peat moss (*Sphagnum* spp). Clusters of slash pine (*Pinus elliottii*) and occasional black gum (*Nyssa sylvatica biflora*) are also present. The wetland is seasonally flooded. Evidence of feral hogs was noted; frogs were present and a white-eyed vireo (*Vireo griseus*) was audible. No nuisance species were observed. This wetland provides SFH for the Wood Stork.

No impacts are proposed for this location. No mitigation is proposed.

### *4.1.8 SMF E WL 1*

**FLUFCCS Code: 618 (willow and elderberry)**
**USFWS Classification: PSS1C (palustrine, scrub-shrub, broadleaved deciduous, seasonally flooded)**

This area is located within the limits for SMF Pond 3, east of the CSX RR tracks and north of SR 60. Soils in this area are mapped as Pamona fine sand (non-hydric).

The area is a deep depression with Carolina willow (*Salix caroliniana*) being the dominant vegetation. Duckweed (*Lemna minor*) provided a layer over the ground although at the time no water was present. Substantial dumping has occurred here including tires and plastic debris.

Wildlife observation consisted of frog species. This wetland provides occasional SFH for the Wood Stork.

Impacts occurring at this location include fill to accommodate the berm around SMF Pond 3. Mitigation is proposed for impacts (state and federal).

## 4.2 Surface Waters

Surface waters in the project consist of roadside ditches, swales, and the PCDC. These areas were evaluated for jurisdiction based on federal and state criteria.

Federal jurisdiction (i.e. Waters of the U.S., or WOUS; jurisdictional to USACE) is not generally asserted over swales or erosional features, or ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water (RPW) (EPA, 2008). All ditches and swales were further evaluated for the presence of SFH for the Wood Stork, listed as Threatened by the USFWS. See Section 4.2.1 for a determination of surface waters that are jurisdictional to the USACE.

State jurisdiction is defined in 62-340.600(d) and (e) FAC which indicates SWFWMD will claim as jurisdictional ditches with side slopes of 1 foot vertical to 4 feet horizontal or steeper, and swales displaying a seasonal high water line. The ditches on the project are 1 foot vertical to 4 foot horizontal and are jurisdictional to SWFWMD. See Section 4.2.2 for a determination of surface waters that are jurisdictional to the SWFWMD.

### *4.2.1 USACE Jurisdiction*

All eight wetlands described in Section 4.1 are jurisdictional to the USACE. The surface waters described below in this section are also jurisdictional to the USACE. The remaining roadside ditches and swales are not jurisdictional to the USACE because they meet the criteria of being excavated wholly in and draining only uplands, do not carry relatively permanent waters, and do not provide SFH. Descriptions of USACE-jurisdictional areas are provided below and photographs are provided in Appendix 2.

#### 4.2.1.1 SW 2392 L

**FLUFCCS Code: 510 (streams and waterways)**
**USFWS Classification: PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated)**

This ditch is located on the north side of SR 60 and west of the CSX RR track at Station 2392 L. It was excavated from hydric soil (Holopaw fine sand, depressional) and is entirely vegetated by Cogon grass (*Imperata cylindrica*). No water was evident at the time of the field review.

This area does not provide SFH for the Wood Stork given the 100% coverage by nuisance species.

This ditch will be filled as a result of the reconfigured roadway alignment. Federal mitigation will be provided; however, no state mitigation is required per 10.2.2.2 of the Applicants Handbook (FDEP, 2013).

#### 4.2.1.2 SW 2399 L

**FLUFCCS Code: 510 (streams and waterways)**
**USFWS Classification: PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated)**

This ditch is located on the north side of SR 60 and west of the CSX RR track at Station 2399 L. It was excavated from hydric soil (Holopaw fine sand, depressional) and is vegetated by Carolina willow (*Salix caroliniana*), Cogon grass (*Imperata cylindrica*) along the banks, primrose willow (*Ludwigia peruviana*), and cattails (*Typha* sp.). Standing water was present at the time of the field review.

This area does not provide SFH for the Wood Stork given the excessively steep sided banks and deep water depth.

This ditch will be filled as a result of the reconfigured roadway alignment. Federal mitigation will be provided; however, no state mitigation is required per 10.2.2.2 of the Applicants Handbook (FDEP, 2013).

#### 4.2.1.3 SW 2419 L

**FLUFCCS Code: 510 (streams and waterways)**
**USFWS Classification: PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated)**

This is a small depression at a mitered end section on the north side of SR 60, east of the CSX RR tracks, near a driveway at Station 2419 L. It is excavated from Zolfo fine sand (non-hydric). Vegetation includes the nuisance species cattails (*Typha* sp.) and may provide SFH for the Wood Stork due to ponding. No water was present at the time of the field review, although hydric indicators were present.

This sump area will be filled as a result of the reconfigured roadway alignment. Federal mitigation will be provided; however, no state mitigation is required per 10.2.2.2 of the Applicants Handbook (FDEP, 2013).

#### 4.2.1.4 SW 2397 R

**FLUFCCS Code: 510 (streams and waterways)**
**USFWS Classification: PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated)**

This is a linear ditch on the south side of SR 60, west of the CSX RR tracks, at Station 2397 R. It is excavated from Pomona fine sand (non-hydric). Vegetation includes sedges (*Cyperus* spp.) and dollar weed (*Hydrocotyle umbellata*). At times it may provide SFH for the Wood Stork. No water was present at the time of the field review, although hydric indicators were present.

Impacts to the ditch will result from re-contouring and impacts will be temporary. In the post-condition, the ditch will be wider but not deeper. No federal mitigation is proposed given the temporary impacts and no state mitigation is required per 10.2.2.2 of the Applicants Handbook (FDEP, 2013).

#### 4.2.1.5 SW 1 (PCDC bridge) and SMF E SW 1 (PCDC/Pond 3 outfall)

**FLUFCCS Code: 510 (streams and waterways)**
**USFWS Classification: R2UB3Hx (riverine, lower perennial, mud, permanently flooded, excavated)**

Both areas are locations in the PCDC. For the USACE, this is considered a "relatively permanent water." The canal is a man-made feature with spoil along the banks, mature pines and oaks, and flows to the south.

At the crossing at SR 60 where the proposed bridges will be constructed, the vegetation includes smartweed (*Polygonum hydropiperoides*), paragrass (*Brachiaria mutica*), and Peruvian primrose willow (*Ludwigia peruviana*).

Impacts at this location will include permanent fill resulting from the new bridge structures including piles and rubble rip rap. Temporary impacts will also occur as a result of construction vehicles needed to construct the bridge. Cranes will be used during construction and potential crane paths will cause temporary impacts along the banks of the canal. Following construction, the banks will be returned to existing grade.

The bridge area of the canal provides SFH for the Wood Stork. Wood Storks, Great Blue Herons, and other wading birds have been observed foraging in the shallow areas of PCDC near the bridge location.

At the Pond 3 outfall location, which is about 880 feet north of the existing SR 60 bridge, the banks are very steep and no permanent vegetation is present. Given the steep sided banks and deep water depths, this area is not considered SFH.

Impacts related to the outfall for Pond 3 are the result of a lateral ditch extending from Pond 3. The open ditch from the pond will terminate and outflow into the canal. Permanent fill impacts will occur from the placement of rubble rip rap within the limits of the canal at the end of the ditch.

Federal and state mitigation for impacts to aquatic habitat and SFH will be provided for permanent impacts at the bridge location. No federal or state mitigation is proposed for the temporary impacts.

No federal or state mitigation is proposed for impacts occurring at the Pond 3 outfall location within the PCDC.

### *4.2.2 SWFWMD Jurisdiction*

All wetlands described in Section 4.1 above are jurisdictional to the SWFWMD. In addition, the following upland-cut surface water areas are also jurisdictional to the SWFWMD because they have slopes at 1:4 or greater. However, most of these are exempt from mitigation requirements under Section 10.2.2.2 of ERP Applicant's Handbook, Volume I (FDEP, 2013):

- SW 2392 L
- SW 2399 L
- SW 2403 L
- SW 2405 L
- SW 2407 L
- SW 2419 L
- SW 2424 L
- SW 2427 R
- SW 2419 R
- SW 2405 R
- SW 2403 R
- SW 2397 R
- SW 2395 R
- SW 2392 R
- SW 1 (PCDC)/bridge location)
- SMF E SW 1 (PCDC/Pond 3 outfall)

Ditches with similar characteristics are grouped together in the descriptions below. Photographs of these areas are provided in Appendix 2.

#### 4.2.2.1 **Roadside Ditches**

Roadside ditches include the following: SW 2405 L, SW 2407 L, SW 2419 L, SW 2424 L, SW 2427 R, SW 2419 R, SW 2405 R, SW 2403 R, SW 2395 R, and SW 2392 R.

Specific descriptions of SW 2392 L, SW 2399 L, SW 2419 L, SW 2397 R, SW 1, and SMF E SW 1 are provided in Section 4.2.1 above. While that group of waters are also roadside ditches, they have different characteristics as described above.

The remaining roadside ditches share very similar characteristics and can generally be described as functioning as conveyance for stormwater and part of the existing SR 60 drainage system. These are all dry ditches and swales. Common vegetation includes Bahia grass (*Paspalum notatum*), vasey grass (*Paspalum urvillei*), carpet grass (*Axonopus* spp.), and beggar's tick (*Bidens alba*).

Impacts to the roadside ditches will include permanent fill as a result of the re-aligned roadway, or temporary impacts resulting from regrading and re-contouring. The ditches on the north side of SR 60 (indicated with an L in the surface water nomenclature) will be permanently filled with the exception of SW 2424 L, which will be temporarily impacted by regrading and re-contouring.

Roadside ditches on the south side of SR 60 (indicated with a R in the surface water nomenclature) will be temporarily impacted by regrading and re-contouring. In the post-condition, the temporarily-impacted ditches will still be ditches, but may be slightly relocated from the current position or wider than existing conditions. The bottom grade will not change significantly. These areas will still function as roadside ditches.

These diches are not jurisdictional to the USACE, therefore no federal mitigation is proposed. These ditches are jurisdictional to SWFWMD, but are exempt from state mitigation under Section 10.2.2.2 of ERP Applicant's Handbook, Volume I (FDEP, 2013). No mitigation is proposed for the filling or regrading impacts to this group of dry, grassy ditches.

#### 4.2.2.2 SW 2403 L (Lateral Ditch)

**FLUFCCS Code: 510 (streams and waterways)**
**USFWS Classification: PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated)**

This lateral ditch is identified as SW 2403 L. This is long, linear, dry ditch that extends from a headwall on the north side of SR 60 just east of the CSX RR track at Station 2403 L. This man-made, upland cut ditch extends about 825 feet to the northwest where it dead-ends. This existing ditch is proposed to be used in the Pond 3 outfall design. The ditch will be extended about 400 feet further to outfall into the Peace Creek Drainage Canal. The extension will be dug in uplands.

Impacts to the existing ditch include permanent fill related to an extended headwall and temporary impacts related to regrading and re-contouring for the lateral outfall ditch. The dich is not jurisdictional to the USACE, therefore no federal mitigation is proposed. The ditch is exempt from state mitigation under Section 10.2.2.2 of ERP Applicant's Handbook, Volume I (FDEP, 2013).

#### 4.2.2.3 SW 1 (P/CDC bridge) and SMF E SW 1 (PCDC/Pond 3 outfall)

**FLUFCCS Code: 510 (streams and waterways)**
**USFWS Classification: R2UB3Hx (riverine, lower perennial, mud, permanently flooded, excavated)**

Please refer to the description provided in Section 4.2.1.5 above for the Peace Creek Drainage Canal.

# 5 SPECIAL CLASSIFICATIONS

None of the wetlands or surface waters associated with this project have been designated as Outstanding Florida Waters or Aquatic Preserves. There are no specially-designated waters adjacent to the project.

FDEP was consulted regarding PCDC and sovereign submerged lands. Information was received from SWFWMD in February 2015 indicating PCDC is not sovereign. The e-mail correspondence is included in Appendix 6.

# 6 PUBLIC INTEREST

Conditions for issuing permits contained in 62-330.302, FAC, 33 CFR 320.4 and Regulatory Guidance Letter (RGL) 84-09 require demonstration that the project will not be contrary to the public interest. The major component of the project consists of elevating the SR 60 roadway over the existing CSX railroad at-grade crossing to improve safety. The CSX railroad crossing requires traffic on SR 60 to stop throughout the day which presents a safety issue. The elevated roadway will positively affect public health, safety, and welfare of the property of others.

Long-term effects to fish and wildlife, endangered species, habitats will be unchanged. Also, no long-term effects to fishing or recreation values or marine productivity will occur. The current condition and relative value of functions being performed by areas affected by the proposed activity will remain unchanged in the long-term. Temporary impacts as a result of construction activities will be minimized by best management practices (BMPs).

The project team finds that the proposed wetland and surface water impacts are not contrary to public interest. In reference to 62-330.302:

- The project will not adversely affect the public health, safety, welfare, or the property of others, and will, in fact, enhance public safety by providing a safer driving facility.
- The project will not adversely affect the conservation of fish and wildlife, including endangered or threatened species, or their habitats, since the project impacts to wildlife will be offset. In upland areas, surveys for the gopher tortoise will be conducted and relocations of gopher tortoises will be accomplished prior to construction. Wetland impacts will be appropriately mitigated, thus resulting in no net loss of wetland habitat that may be used for species foraging, breeding, nesting, or other biological processes.

- The project will not adversely affect navigation or the flow of water or cause harmful erosion or shoaling, since all flow-ways will be maintained with improved bridge structures, cross-drains and culverts.

- The project will not adversely affect the fishing or recreational values or marine productivity in the vicinity of the activity, since there are no designated fishing or recreational sites, or marine habitats, adjacent to the project.

- The project will be of a permanent nature.

- The project will not adversely affect significant historical or archaeological resources. A Cultural Resource Assessment Survey (CRAS) was conducted. The CRAS included the mainline as well as the SMF sites. No historic resources or archaeological sites eligible for listing in the National Register of Historic Places were discovered within the project limits. The State Historic Preservation Officer (SHPO) concurred with the findings of no effect via correspondence dated January 26, 2016. The SHPO concurrence letter is included in Appendix 7.

- The current condition and relative value of functions being performed by areas affected by the proposed project will be replaced via credit purchase from a wetland mitigation bank. No species or other resource is solely dependent on the uplands affected by the project and the surrounding landscape contains ample upland areas to support such needs.

Pursuant to 33 CFR 320.4 and RGL 84-09 all public interest factors have been reviewed and are summarized below:

- There are no other ecologically sensitive areas, such as federally-designated wild lands or marine sanctuaries that would be expected to result in measurable adverse changes as a result of the project. No conservation lands will be adversely affected.

- It is anticipated that any new and/or improved access and mobility provided by the proposed project will have a positive economic effect. Complementary development such as highway oriented uses is not expected to be associated with the proposed project. It is anticipated that any future development in the areas surrounding the project would follow current nearby uses and zoning. The proposed project is not expected to directly contribute to National Economic Development, which is an increase in the net value of the national output of goods and services.

- The project complies with the Endangered Species Act of 1973 (as amended in 1982). The project area is located within the core foraging area (CFA) of Wood Stork nesting colonies. SFH impacts will be offset with appropriate compensation. To minimize adverse effects to the eastern indigo snake during construction of the project, the FDOT will follow the Standard Protection Measures for the Eastern Indigo Snake.

- Wetland impacts have been evaluated in accordance with 33 CFR 320.4(b). Although wetland impacts for the project include direct impacts to waters of the United States, no anadromous fish spawning areas, shellfish growing areas, or primary nursery areas will be affected. There is no Essential Fish Habitat or Coastal Area Management Act Areas of Environmental Concern in the project area. The project was designed to avoid and minimize wetland impacts to the extent practicable and there will be unavoidable direct wetland impacts. The proposed compensatory mitigation will fully offset the function lost resulting from unavoidable wetland impacts.

- In accordance with 33 CFR 320.4(e), impacts to historic and cultural resources have been evaluated as a part of the project. A CRAS, including background research and a field survey coordinated with the SHPO, was performed for the Project Development and Environment (PD&E) Study. Federal Highway Administration (FHWA), in compliance with Section 106 of the National Historical Preservation Act and in consultation with the SHPO, has determined the proposed action does not constitute an adverse effect upon historical or archaeological resources and will have no effect upon any properties protected under Section 106. The CRAS included the mainline as well as the SMF sites. No historic resources or archaeological sites eligible for listing in the National Register of Historic Places were discovered within the project limits. The SHPO concurred with the findings of no effect via correspondence dated January 26, 2016. The SHPO concurrence letter is included in Appendix 7.

- No flood hazards have been identified.

- As stated in 33 CFR 320.4(l)(1)(i), floodplains are valuable in providing a natural moderation of floods, water quality maintenance, and groundwater recharge. Portions of the project are within the 100-year floodplain. It was determined that there is no practical alternative to construction within the floodplain. There will be no longitudinal encroachments of involvement with any designated floodways. There will be point impacts to the Peace Creek Drainage Canal designated floodway where bridge piers will be constructed. There will be fewer bridge pier locations with the reconstructed bridge and there will be zero rise in the floodway. Impacts to the 100-year floodplain will be modeled by updating the Peace Creek Watershed ICPR model. The project was designed to minimize any adverse effects associated with filling floodplains.

- There are no navigable waterways within the project area. No adverse effect on navigation is anticipated.

- No shore erosion and/or accretion is expected.

- The project is not anticipated to adversely affect any recreation area as no recreational areas exist within the project limits.

- The proposed action does not involve any significant use of water and is not anticipated to significantly affect the availability of water.

- The project will require increased energy consumption in the area during construction due to construction requirements. Once constructed, the proposed project may reduce energy consumption by improving traffic flow and by providing pedestrian and bicycle facilities to promote non-motorized transportation within the corridor.

- The proposed project increases safety for the motoring public.

- No farmland will be lost as a result of the project.

- Activities will increase demand for aggregate, sand, and stone, which are used to construct roadway.

- Activities will also increase the demand for other building materials, such as steel, aluminum, and copper, which are made from mineral ores.

- Considerations of property ownership have been made during evaluation of the proposed project. The project will be constructed within the existing right-of-way to the extent practicable. Some additional right-of-way is needed to accommodate the roadway and the off-site SMFs. All appropriate easements, authorizations needed to legally enter offsite properties, and acquisition of additional right-of-way will be the responsibility of FDOT. There will be no impacts to public rights to navigation.

# 7 LISTED AND PROTECTED SPECIES

A separate ESBA was prepared for this project. Tables 2 and 3 below summarize the anticipated impact determinations provided for each listed species. The project is anticipated to have **no effect on nine listed species** (four federal-listed and five state-listed). It is expected that the **project may affect, but is not likely to adversely affect 15 species** (four federal-listed and eleven state-listed). Table 4 summarizes anticipated impacts determinations for two other species: the Osprey and the Bald Eagle.

**Table 2 Anticipated Effects Determination Summary of Federal-Listed Species**

| Federal Listed Species | No Effect | May Affect, Not Likely To Adversely Affect |
|---|---|---|
| American Alligator, FT-S/A (*Alligator mississippiensis*) | | X |
| Eastern Indigo Snake, FT (*Drymarchon couperi*) | | X |
| Sand Skink, FT (*Neoseps reynoldsi*) | X | |
| Blue-tailed Mole Skink, FT (*Eumeces egregious lividus*) | X | |
| Florida Scrub Jay, FT (*Aphelocoma coerulescens*) | X | |
| Audubon's Crested Caracara, FT (*Polyborus plancus audubonii)* | | X |
| Wood Stork, FT (*Mycteria americana*) | | X |
| Everglade Snail Kite , FE (*Rostrhamus sociabilis plumeus)* | X | |

**Table 3 Anticipated Effects Determination Summary of State-Listed Species**

| State Listed Species | No Effect | May Affect, Not Likely To Adversely Affect |
|---|---|---|
| Gopher Frog, SSC (*Rana capito*) | | X |
| Gopher Tortoise, ST (*Gopherus polyphemus*) | | X |
| Florida Pine Snake, SSC (*Pituophis melanoleucus mugitus*) | | X |
| Limpkin, SSC (*Aramus guarauna*) | | X |
| Florida Burrowing Owl (*Athene cunicularia floridana*) | X | |
| Little Blue Heron, SSC (*Egretta caerulea*) | | X |
| Tricolored Heron, SSC (*Egretta tricolor*) | | X |
| White Ibis, SSC (*Eudocimus albus*) | | X |
| Southeastern American Kestrel, ST (*Falco sparverius paulus*) | | X |
| Florida Sandhill Crane, ST (*Grus canadensis pratensis)* | | X |
| Florida Mouse, SSC (*Podomus floridanus*) | | X |
| Sherman's Fox Squirrel, SSC (*Sciurus niger shermani*) | | X |
| Sand Butterfly Pea, SE (*Centrosema arenicola*) | X | |
| Spoon-leaved sundew, ST (*Drosera intermedia*) | X | |
| Florida Spiny-pod, ST (*Matelea floridana*) | X | |
| Yellow Fringeless Orchid, SE (*Platanthera intergra*) | X | |

**Table 4 Anticipated Effects Determination Summary of Other Species**

| Other Species | No Effect | May Affect, Not Likely To Adversely Affect |
|---|---|---|
| Bald Eagle (*Haliaeetus leucocephalus*) | | X |
| Osprey (*Pandion haliaetus*) | | X |

## 7.1 Critical Habitat Impacts

There are no critical habitats as defined by the USFWS within the project limits. The project will have no effect on critical habitats.

## 7.2 Wood Stork Habitat Assessment

Surface waters and wetlands were assessed for SFH for the Wood Stork. Table 5 below provides a determination of the SFH. Surface waters and wetlands not included were either 1) not impacted by the proposed project; or 2) dry, grassy ditches cut in uplands.

**Table 5 Wood Stork Habitat Assessment**

| | SFH Present | Impact | Mitigation Proposal |
|---|---|---|---|
| **Wetland** | | | |
| WL 2377 L | Yes | Permanent Fill | Mitigation Bank (see UMAM) |
| WL 2380 L | Yes | Permanent Fill | Mitigation Bank (see UMAM) |
| WL 2413 R | Yes | Permanent Fill | Mitigation Bank (see UMAM) |
| SMF E WL 1 | Yes | Permanent Fill | Mitigation Bank (see UMAM) |
| **Surface Water** | | | |
| SW 2392 L | No SFH given 100% cogon grass cover; cut in hydric soil | Permanent Fill | No SFH mitigation proposed. |
| SW 2399 L | No SFH--excessively steep-sided banks and deep water; cut in hydric soil | Permanent Fill | No SFH mitigation proposed. |
| SW 2419 L | Yes | Permanent Fill | Mitigation Bank (see UMAM) |
| SW 2397 R | Yes | Temporary regrading impact | No SFH mitigation proposed. |
| SW 1 (PCDC/bridge) | Yes | Permanent Fill, temporary construction impacts | Mitigation Bank (see UMAM) |
| SMF E SW 1 (PCDC/Pond 3 outfall) | No SFH--given excessively steep-sided banks and deep water. | Permanent Fill, temporary construction impacts | No SFH mitigation proposed. |

### 7.3 Special Design Considerations-Dry Shelves Under New Bridges

Ten-foot-wide wildlife shelves will be constructed under the two new PCDC bridges, and a two-foot-wide shelf will be retrofitted underneath both sides of the one remaining bridge by reworking the riprap. The abutments and wildlife shelves of the proposed SR 60 bridges and the frontage road bridge will be protected with the standard amount of rubble riprap. A smooth surface for the wildlife shelves will be created by placing sand cement riprap and a layer of soil on top of the riprap. The shelf design will be continued on the sides of the bridges to provide direct access to adjacent upland areas. The shelves will be a minimum of 6" above the normal high water line (NHWL) and shall have a minimum vertical clearance of 5'-0". Figure 6 below provides a depiction of the dry shelves.

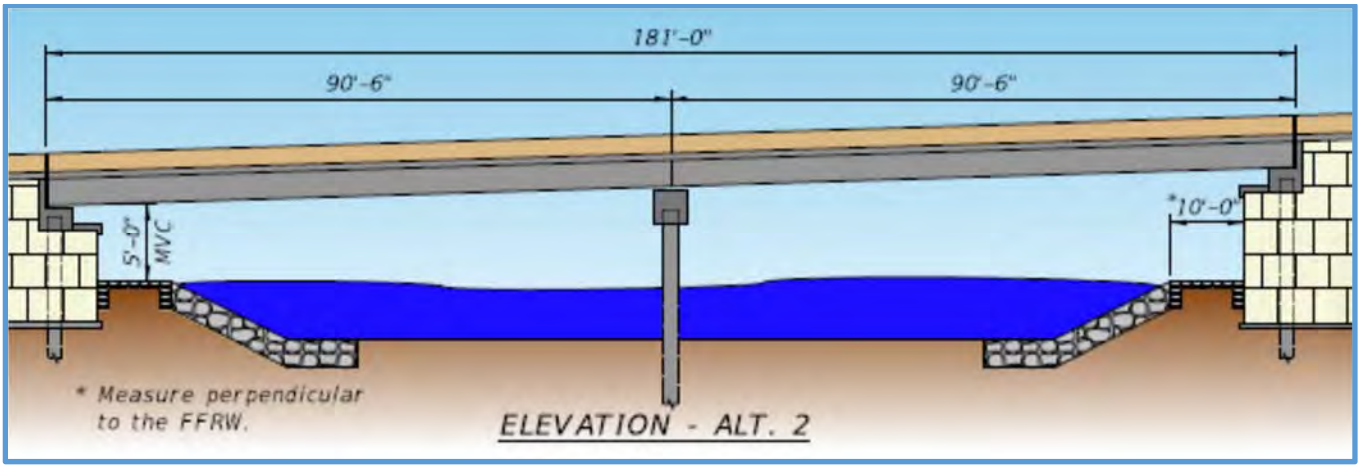
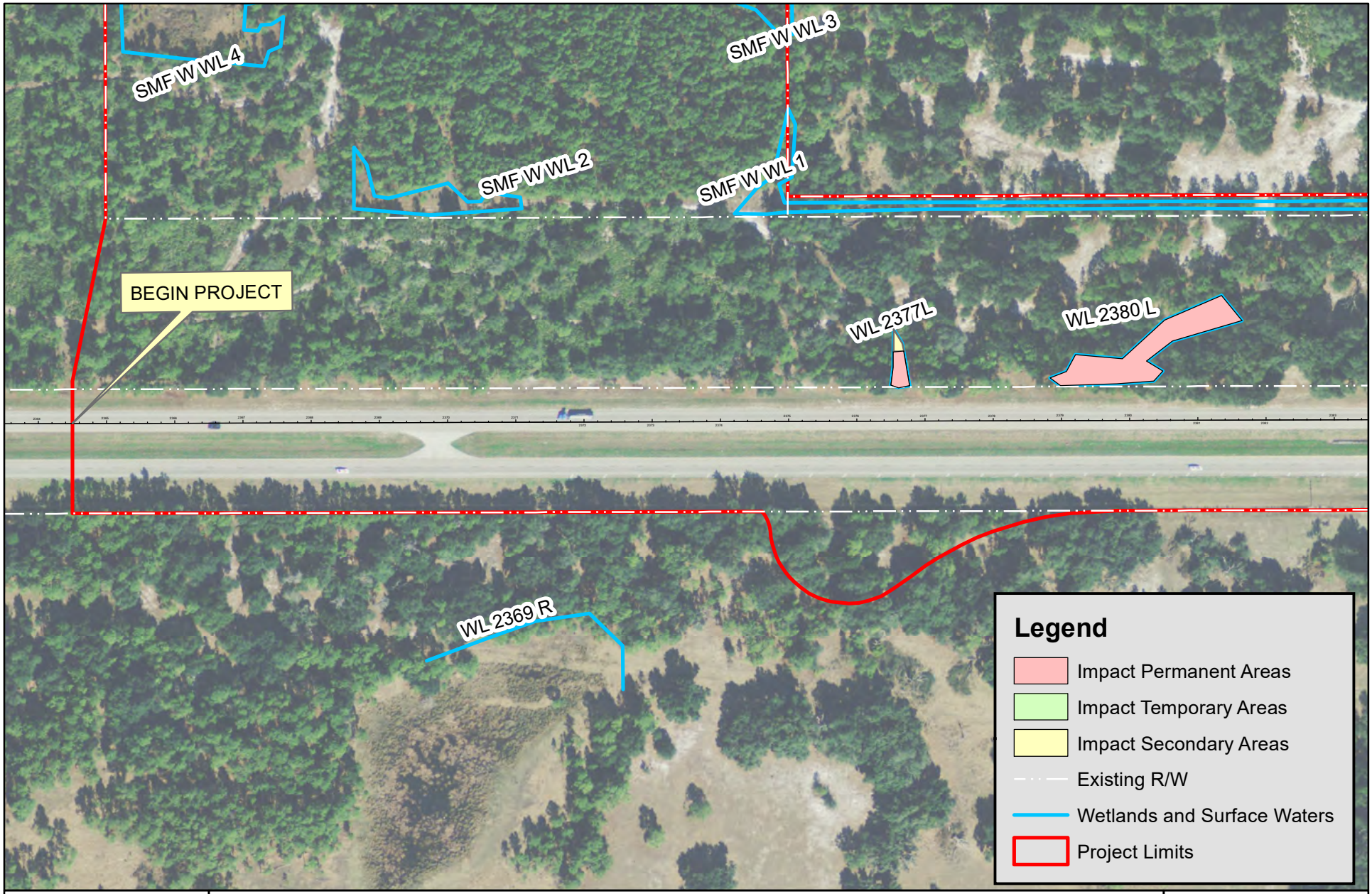



**Figure 6 Depiction of Proposed Dry Shelves for Wildlife Crossing**

## 8 IMPACTS AND MITIGATION

### 8.1 Impacts to Wetlands and Surface Waters

The impacts to wetlands and surface waters were assessed separately for federal and state permitting. The state permitting agency is SWFWMD and the federal permitting agency is USACE. Because each agency assesses jurisdiction and mitigation requirements somewhat differently over wetlands and surface waters, the impacts for the project are presented below in respect to the two separate agencies. Figures 7a-f provide an aerial view of the impacts.




SR 60 Grade Separation over CSX Railroad
FPID 436559-1-52-01
Wetland and Surface Water Impacts

1 inch = 200 feet

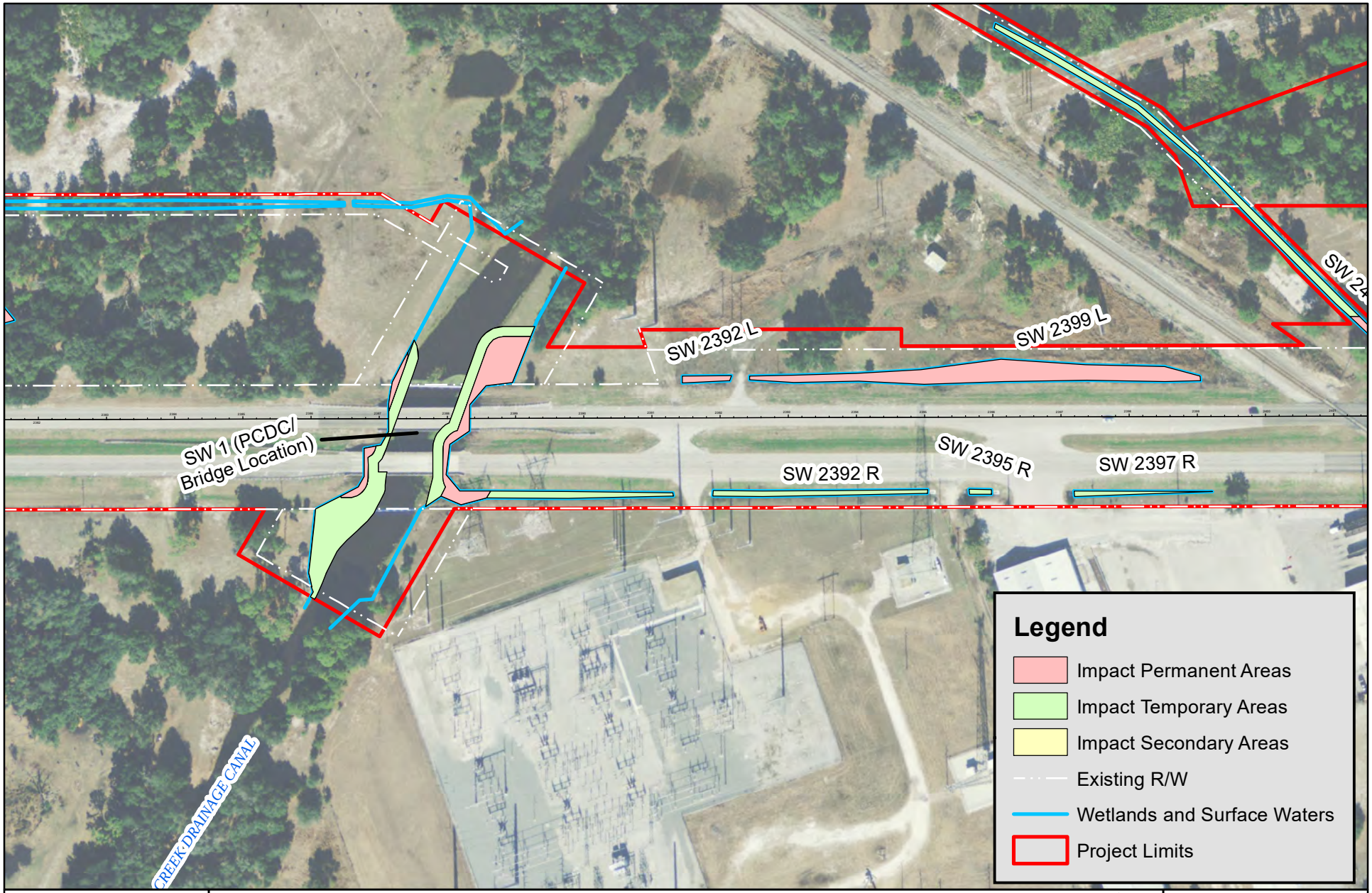
N

0 100 200
Feet

Figure 7-a

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 7 Wetland and Surface Water IMPACTS.mxd




FDOT

# SR 60 Grade Separation over CSX Railroad
## FPID 436559-1-52-01
## Wetland and Surface Water Impacts

1 inch = 200 feet

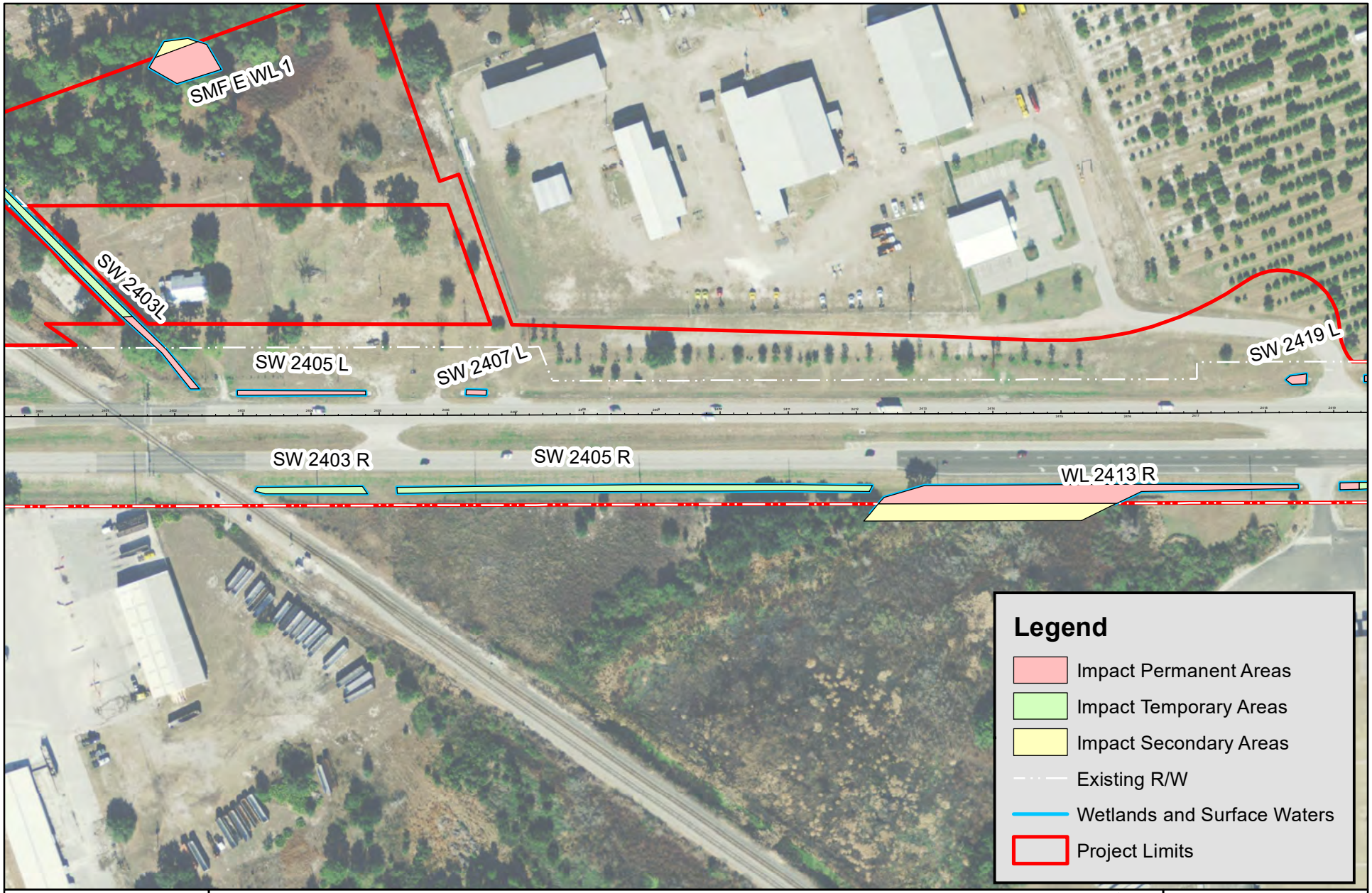
N

0 100 200 Feet

Figure 7-b

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 7 Wetland and Surface Water IMPACTS.mxd




SR 60 Grade Separation over CSX Railroad
FPID 436559-1-52-01
Wetland and Surface Water Impacts

1 inch = 200 feet

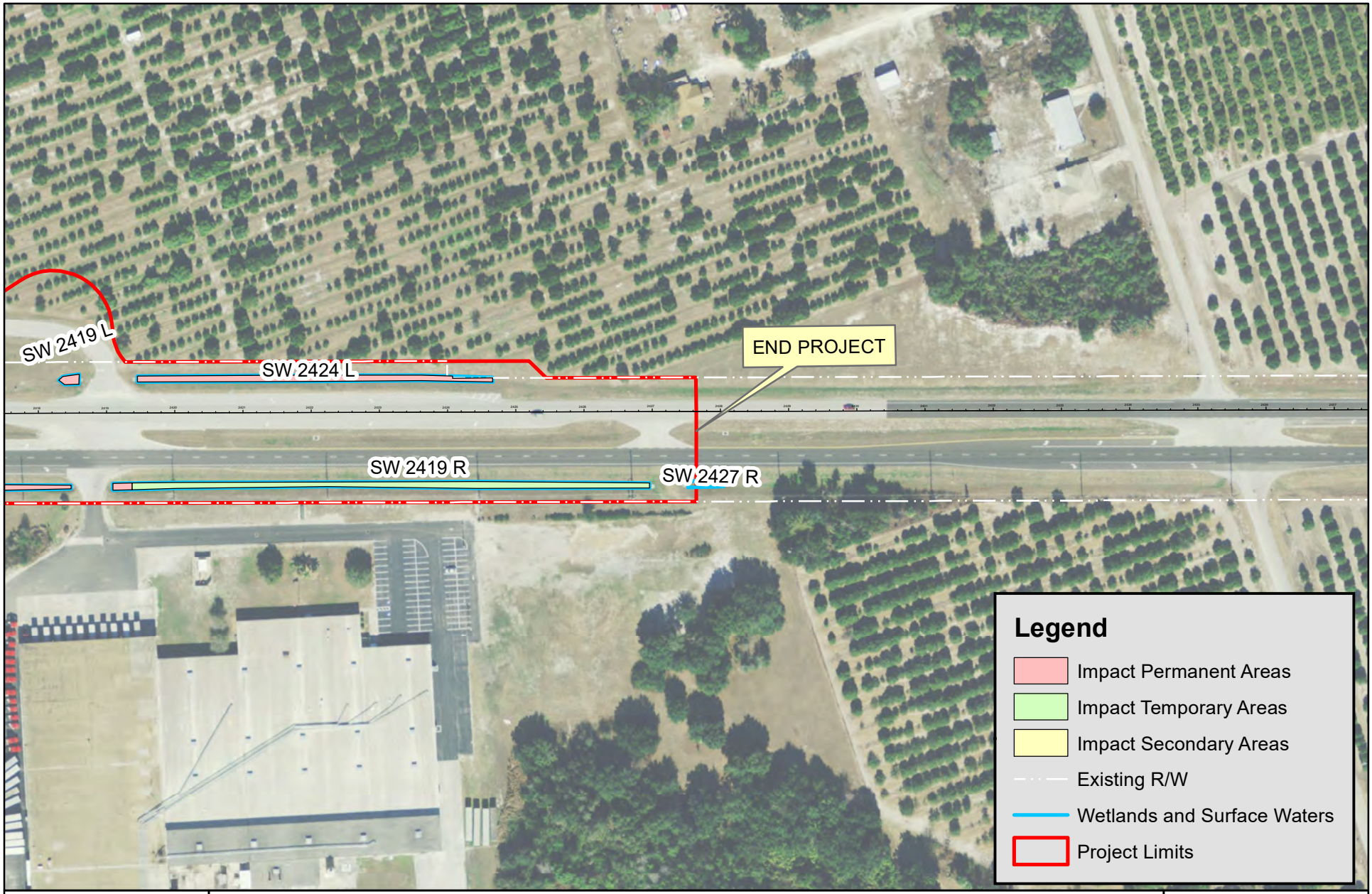
N

0 100 200
Feet

Figure 7-c

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 7 Wetland and Surface Water IMPACTS.mxd




FDOT

# SR 60 Grade Separation over CSX Railroad
## FPID 436559-1-52-01
## Wetland and Surface Water Impacts

1 inch = 200 feet

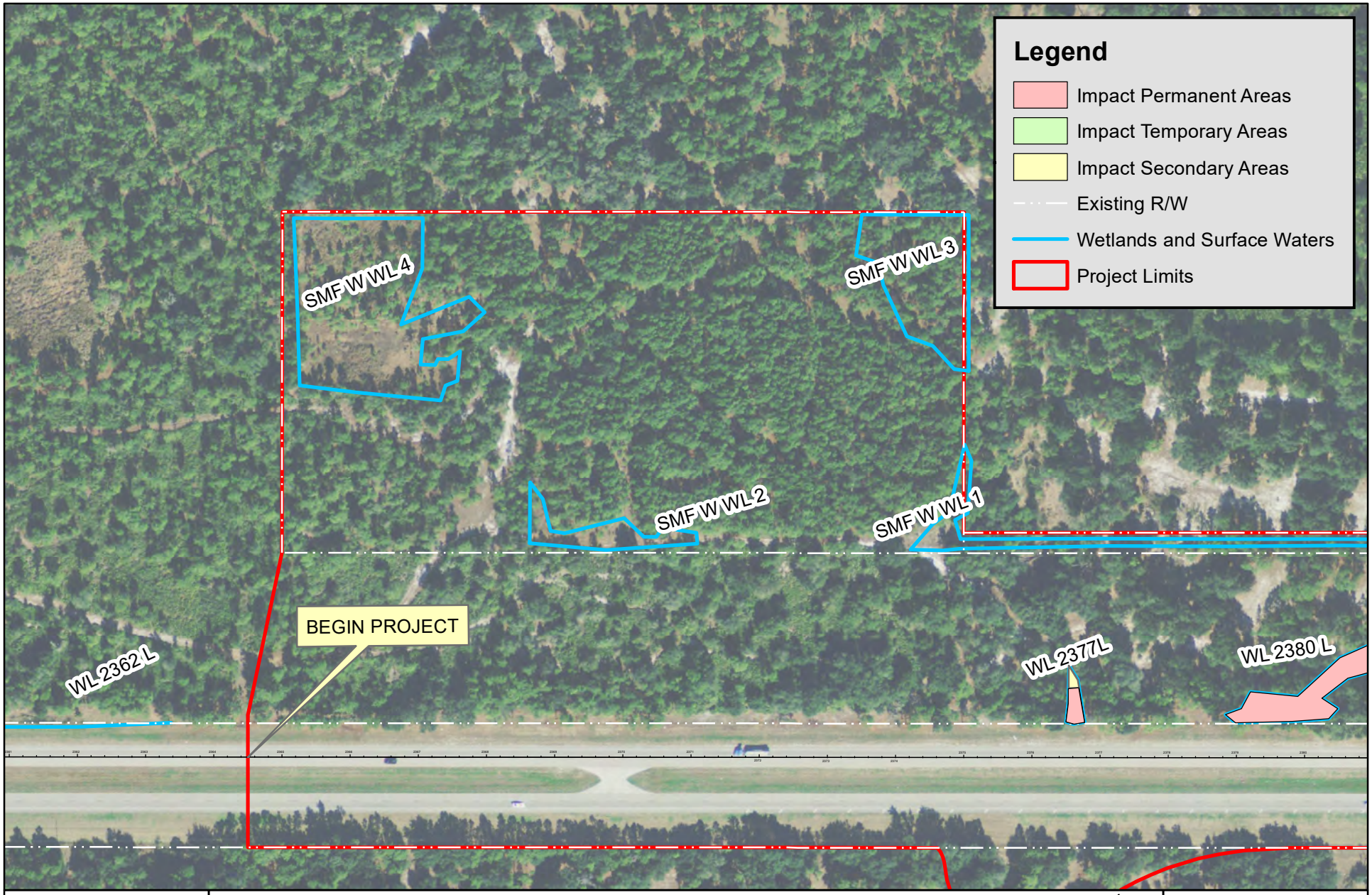
N

0 100 200 Feet

Figure 7-d

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 7 Wetland and Surface Water IMPACTS.mxd




FDOT

# SR 60 Grade Separation over CSX Railroad
## FPID 436559-1-52-01
## Wetland and Surface Water Impacts

1 inch = 200 feet

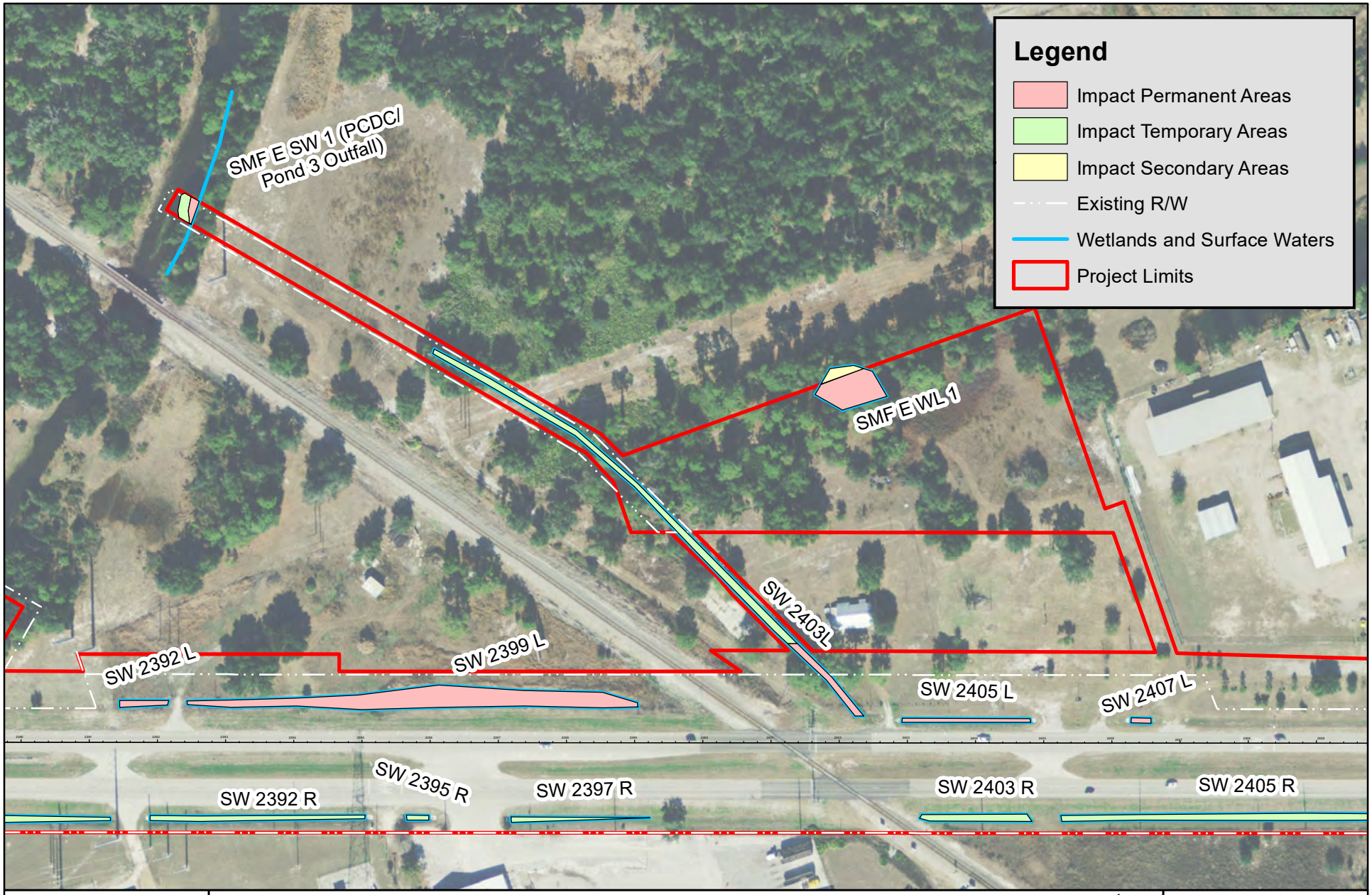
N

0 100 200 Feet

Figure 7-e

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 7 Wetland and Surface Water IMPACTS.mxd




FDOT

# SR 60 Grade Separation over CSX Railroad
## FPID 436559-1-52-01
## Wetland and Surface Water Impacts

1 inch = 200 feet

N

0 100 200 Feet

Figure 7-f

Aerial Source: FDOT. 2011. Aerial Photography of Polk County

Path: H:\47100\43655913201\permits\Reports\ERP Environmental Report\Fig 7 Wetland and Surface Water IMPACTS.mxd

### *8.1.1 Federal Impacts to Waters of the U.S.*

The project is expected to permanently impact 1.14 acres of the Waters of the U.S. (WOUS) and temporarily impact 0.42 acres of WOUS. Permanent impacts are the result of fill, and temporary impacts are the result of construction activities within the jurisdictional limits of WOUS.

### *8.1.2 State Impacts to Wetlands and Surface Waters*

The project is expected to permanently impact 1.54 acres of wetlands and surface waters and temporarily impact 0.97 acres of surface waters jurisdictional to SWFWMD.

## 8.2 Avoidance and Minimization Measures

Impacts to surface waters and wetlands were avoided or minimized to the extent practicable. Given the nature of the project, i.e. the addition of new bridge structures, frontage roads and off-site SMFs, complete avoidance of impacts is not possible.

Minimization measures for the existing design were explored and implemented where technically capable and economically practicable. For example, impacts to wetlands and surface waters were minimized during the pond siting phase of the design by conducting thorough environmental evaluations of all alternative pond sites. Recommendations to the designers were provided and were used in the selection of final pond sites. Pond siting avoided several wetlands in the landscape, specifically wetlands identified as SMF W WL's 1, 2, 3, and 4. Pond designs were developed to minimize wetland impacts to the extent practicable at other locations.

Minimization of impacts to surface waters was achieved by incorporating many of the existing open ditches in the final plans with only temporary impacts resulting from re-contouring or regrading. These areas are expected to maintain their current characteristics and functions.

Maintained stabilized earth (MSE) walls were incorporated into the design as well which minimizes impacts by reducing the overall footprint of the roadway. These walls avoid large, sloped areas that would cause additional wetland impacts.

The new bridge structures were designed with a dry shelf on either side of the PCDC to facilitate large wildlife movement north and south under SR 60. Although the addition of the dry shelf slightly increased the impact in PCDC, there is overall ecologic benefit to accommodating wildlife movement in an area that could

otherwise be a significant barrier to wildlife crossings. One existing bridge will be rehabilitated and remain in place, which will avoid further impacts at this specific location.

## 8.3 Secondary Impacts

Secondary wetland impacts were assessed for state-required mitigation at locations where remnant wetlands will occur following the proposed impacts. Secondary impacts and related mitigation were not assessed for federal permitting.

### *8.3.1 WL 2377 L*

**FLUCFCS Code: 641 (freshwater marsh)**
**USFWS Classification: PEM1C (palustrine, emergent, persistent, seasonally flooded)**

Wetland 2377 L is a small, isolated wetland that will have a small remainder. The remainder will likely have changes in water levels due to the changes in drainage characteristics and flow patterns. Mitigation for the wetland 2377 L is not required by SWFWMD under Section 10.2.2.1 of ERP Applicant's Handbook, Volume I (FDEP, 2013). No additional mitigation is proposed for the remnant wetland.

### *8.3.2 WL 2413 R*

**FLUFCCS Code: 641 (freshwater marsh)**
**USFWS Classification: PEM1C (palustrine, emergent, persistent, seasonally flooded)**

A linear area, 25-foot wide, adjacent to the direct impact was assessed for WL 2413 R. It is anticipated that the direct impact will result in changes to the type of vegetation within the wetland edge. The secondary impact area was included in the state mitigation proposal.

### *8.3.3 SMF E WL 1*

**FLUFCCS Code: 618 (willow and elderberry)**
**USFWS Classification: PSS1C (palustrine, scrub-shrub, broadleaved deciduous, seasonally flooded)**

This wetland within the boundaries for SMF Pond 3 is a small, isolated, deep depressional wetland that will have a small remainder. The remainder will likely have changes in water levels due to the changes in drainage characteristics and flow patterns. Mitigation for the wetland 2377 L is not required by SWFWMD under Section 10.2.2.1 ERP Applicant's Handbook, Volume I (FDEP, 2013). No additional mitigation is proposed for the remnant wetland.

## 8.4 Wetland Mitigation Proposal

Mitigation proposals were assessed separately for federal and state permitting. The state permitting agency is SWFWMD and the federal permitting agency is USACE. Because each agency assesses jurisdiction and mitigation requirements somewhat differently over wetlands and surface waters, the mitigation to offset impacts for the project are presented below in respect to the two separate agencies.

### *8.4.1 Federal Mitigation Proposal*

Mitigation to compensate for impacts to WOUS will be in accordance with 373.4137, FS to satisfy requirements of 33 United States Code 1344. In-basin wetland mitigation banks are expected to be used for the purchase of mitigation credits to offset the impacts to WOUS and compensate for losses to SFH for the Wood Stork.

The WOUS impacts were assessed using the Uniform Mitigation Assessment Methodology (UMAM). UMAM forms are provided in Appendix 8. No mitigation for 0.42 acres of temporary impact in WOUS is proposed. Permanent impacts to 1.14 acres to WOUS is anticipated to be mitigated by purchasing 0.45 credits from a federally and state-approved, private, in-basin wetland mitigation bank. This amount includes impacts to SFH. Impacts will include fill in WOUS in herbaceous and shrubby areas.

### *8.4.2 State Mitigation Proposal*

Mitigation to compensate for impacts to wetlands and surface waters will be in accordance with 373.4137, FS to satisfy requirements of Part IV, Chapter 373, FS. In-basin wetland mitigation banks are expected to be used for the purchase of mitigation credits to offset the impacts to wetlands and surface waters.

The impacts to wetland and surface waters were assessed using UMAM. UMAM forms are provided in Appendix 9. No mitigation for 0.97 acres of temporary impacts to surface waters is proposed. Permanent impacts to 0.63 acres of wetlands and surface waters is anticipated to be mitigated by purchasing 0.21 credits from a federally and state-approved, private, in-basin wetland mitigation bank. Note that this credit purchase is not in addition to the federal mitigation. State mitigation requirements are expected to be satisfied via the credit purchase to offset federal mitigation requirements.

## 8.5 Impacts to Listed and Protected Species

Twenty-four listed species and two managed species were identified as having the potential to occur in the project limits. The project is within the USFWS's Consultation Area for the sand skink, blue-tailed mole skink,

Florida Scrub Jay, Audubon's Crested Caracara, and the Everglade Snail Kite. The project is also within the CFA for four Wood Stork nesting colonies.

The project is anticipated to have **no effect on nine listed species** (four federal-listed and five state-listed). These are the sand skink, blue-tailed mole skink, Florida Scrub Jay, Everglade Snail Kite, Burrowing Owl, sand butterfly pea, spoon-leaved sundew, Florida spiny-pod, and yellow fringeless orchid. (A complete ESBA is provided under separate cover.)

It is anticipated that the project **may affect, but is not likely to adversely affect 15 species** (four federal-listed and eleven state-listed). These are the American alligator, Eastern indigo snake, Audubon's Crested Caracara, Wood Stork, gopher frog, gopher tortoise, Florida pine snake, Limpkin, Little Blue Heron, Tricolored Heron, White Ibis, Southeastern American Kestrel, Florida Sandhill Crane, Florida mouse, and Sherman's fox squirrel.

Is it anticipated the project **may affect, but is not likely to adversely affect** two managed species, the **Osprey and Bald Eagle**. No critical habitat is present in the project area. There will be **no effect** to **critical habitat** as a result of this project.

# 9 CONCLUSION

The FDOT proposes to make improvements to an approximately one-mile-long segment of SR 60. The major component of the project consists of elevating the SR 60 roadway over the existing CSX railroad at-grade crossing. The roadway will be elevated using permanent retaining walls (i.e. MSE walls). Three new pairs of SR 60 bridge structures are proposed over the existing CSX railroad, over an existing underground petroleum pipeline and frontage road, and over the PCDC. The existing eastbound SR 60 bridge over the PCDC will be rehabilitated and re-used for frontage road access and the westbound bridge will be removed.

Sidewalks, bicycle lanes, and three new frontage roads will be included in the improvements. Two off-site SMFs are proposed. Right-of-way acquisition will occur to accommodate the elevation of SR 60, drainage and access easements, and the frontage roads.

The project will permanently impact wetland and surface waters that are jurisdictional to the USACE and SWFWMD within the Peace Creek ERP drainage basin. Federal impacts include 1.14 acres of permanent fill impacts in WOUS and 0.42 acres of temporary impacts due to construction activities in WOUS. Mitigation for

permanent impacts include the anticipated purchase of wetland credits from a federally-approved, in-basin wetland mitigation bank to offset a total of 0.45 units of functional loss in WOUS. The mitigation proposal includes impacts to SFH for the Wood Stork. No mitigation is proposed for the temporary impacts.

State impacts include 1.54 acres of permanent fill in wetlands and surface waters, and 0.97 acres of temporary impacts in surface waters resulting from construction activities and regrading/re-contouring activities in upland-cut, roadside ditches. Areas affected by permanent impacts include a combined total of 0.91 acres of that do not require mitigation under Sections 10.2.2.1 and 10.2.2.2 of the ERP Applicant's Handbook, Volume I (FDEP, 2013). Mitigation for 0.63 acres of permanent impacts in non-exempt wetlands and surface waters will occur via the anticipated purchase of wetland credits from a state-approved, in-basin wetland mitigation bank to offset a total of 0.21 units of functional loss in non-exempt wetlands and surface waters. No mitigation is proposed for temporary impacts.

To accommodate wildlife crossing, the two new bridges over the Peace Creek Drainage Canal will be designed with 10-foot-wide wildlife shelves under both new bridges on both sides of the canal. A two-foot-wide shelf will be retrofitted underneath both sides of the one remaining bridge by reworking the riprap. A smooth surface for the wildlife shelves will be created by placing sand cement riprap and a layer of soil on top of the riprap. The shelf design will be continued on the north and south sides of the bridges to provide direct access to adjacent upland areas. The shelves will be a minimum of 6" above the normal high water line (NHWL) and shall have a minimum vertical clearance of 5'-0".

A complete ESBA is provided under separate cover describing project affects to listed species that may be in the project area. In summary, 24 listed species and two managed species were identified as having the potential to occur in the project limits. The project is within the USFWS's Consultation Area for the sand skink, blue-tailed mole skink, Florida Scrub Jay, Audubon's Crested Caracara, and the Everglade Snail Kite. The project is also within the Core Foraging Area for four Wood Stork nesting colonies.

The project is anticipated to have **no effect on nine listed species** (four federal-listed and five state-listed). These are the sand skink, blue-tailed mole skink, Florida Scrub Jay, Everglade Snail Kite, Burrowing Owl, sand butterfly pea, spoon-leaved sundew, Florida spiny-pod, and yellow fringeless orchid.

It is anticipated that the project **may affect, but is not likely to adversely affect 15 species** (four federal-listed and eleven state-listed). These are the American alligator, Eastern indigo snake, Audubon's Crested Caracara,

Wood Stork, gopher frog, gopher tortoise, Florida pine snake, Limpkin, Little Blue Heron, Tricolored Heron, White Ibis, Southeastern American Kestrel, Florida Sandhill Crane, Florida mouse, and Sherman's fox squirrel.

Is it anticipated the project **may affect, but is not likely to adversely affect** two managed species, the **Osprey and Bald Eagle**. No critical habitat is present in the project area. There will be **no effect** to **critical habitat** as a result of this project.

The above effects were determined given the following project commitments:

- Eastern indigo snake: The USFWS Standard Protection Measures for the Eastern Indigo Snake will be adhered to during construction of the project.

- Wood Stork: Based on the proximity of four Wood Stork rookeries to the project site, the FDOT commits to provide mitigation for impacts to SFH habitats potentially utilized by the Wood Stork. Coordination with USFWS as necessary will occur.

- State-Listed Wading Birds (Limpkin, Little Blue Heron, Tricolored Heron, White Ibis): The FDOT will mitigate for impacts to wetland habitats potentially utilized by these state-listed species pursuant to Part IV, Chapter 373, F.S. and U.S.C. 1344,

- Gopher tortoise: Due to the presence of active gopher tortoise burrows within and adjacent to existing right-of-way, a gopher tortoise survey within construction limits (including roadway footprint, construction staging areas, and stormwater management ponds) will be performed prior to construction per FWC's Gopher Tortoise Permitting Guidelines (FWC, 2008 Rev. 2015). The FDOT will secure an FWC relocation permit and relocate gopher tortoises to an approved long-term, recipient site prior to construction.

- Species commensal with the gopher tortoise (gopher mouse, gopher frog, Florida pine snake): The FDOT will secure an FWC relocation permit to excavate and relocate gopher tortoises prior to construction. Commensal species will be handled in accordance with the FWC's Gopher Tortoise Permitting Guidelines (FWC, 2008 Rev. 2015).

# 10 REFERENCES

Cowardin, L. M. (1979). *Classification of Wetlands and Deepwater Habitats of the United States.* (L. M. Cowardin, Ed.) Washington, D.C.: U.S. Department of the Interior.

EPA. (2008). *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States.* Washington, D.C.: U.S. Environmental Protection Agency. Retrieved from https://www.epa.gov/sites/production/files/2016-02/documents/cwa_jurisdiction_following_rapanos120208.pdf

FDEP. (2013). *Environmental Resource Permit Applicant's Handbook Volume I.* Tallahassee: FDEP.

FDOT. (1999). *Florida Land Use, Cover and Forms Classification System.* Florida Department of Transportation, Tallahassee.

FWC. (2008 Rev. 2015). *Gopher Tortoise Permitting Guidelines.* Tallahassee: FWC.

Hurt, G. W. (Ed.). (2007). *Hydric Soils of Florida Handbook* (4th ed.). Gainesville, FL, United States: Florida Association of Environmental Soil Scientists.

NRCS. (1990). *Soil Survey of Polk County, Florida.* U.S. Department of Agriculture.

NRCS. (2012). SSURGO, Detailed Soils, Florida [GIS Data].

SWFWMD. (2011). Land Use Land Cover 2011 [GIS Data]. Brooksville, FL.

# Appendix 1

# Pre-Application Meeting Minutes

FALLER, DAVIS & ASSOCIATES, Inc.
HIGHWAY ENGINEERING SPECIALISTS
DESIGN | ENVIRONMENTAL | OPERATIONS

# MEETING MINUTES

**PROJECT:** SR 60 Grade Separation over CSX Railroad
FPID 436559-1-52-01

**DATE:** June 30, 2016 at 9:30 am

**SUBJECT:** USACE Pre-Application Meeting

**ATTENDEES:** Tarrie Ostrofsky (USACE)
Amy Setchell, PE, Brent Setchell, PE, Nicole Monies, Vivianne Cross (FDOT),
Ken Muzyk, PE, Niki Cribbs, Shannon Ladd (FDA)

**TOPICS OF DISCUSSION:**

The meeting began with an overview of the project which is to grade separate SR 60 over the CSX railroad. The purpose and need for the project is to elevate the traffic over the railroad. School buses as well as many types of trucks are required to come to a full stop at the railroad tracks which can stop the flow of traffic. In addition, the tracks serve as many as 14 trains per day through this location.

Three new bridge pairs on SR 60 are proposed over the Peace Creek Drainage Canal (PCDC), fuel line and frontage road access, and the CSX railroad. The existing eastbound SR 60 bridge over the PCDC will be re-purposed for the southwest frontage road. It is proposed that the westbound bridge be removed and the eastbound bridge be rehabilitated/widened for use as a frontage road bridge. Three frontage roads will be provided in the northwest, southwest, and northeast quadrants. Two new frontage road terminals will be provided at each end of the grade separation. Sidewalks in both directions will be provided.

The existing westbound bridge has 9 bents that are in the channel and consist of square concrete piles with an effective width of 18” due to concrete pile jackets. The frontage road bridge will be widened to the south with the widened portion of the bridge being supported by 18” square concrete piles. Two new parallel bridge structures will be built

north of the frontage road bridge which will accommodate the SR 60 eastbound and westbound lanes. The proposed bridge structures are two spans with one intermediate bent that consists of 24” square concrete piles.

The alignment is shifted to the north to allow re-use of the existing eastbound PCDC bridge for the southwest frontage road and to allow traffic control phasing to keep four lanes open on SR 60 during construction and is consistent with the PD&E alignment. Right of way will be acquired on the north side and for the west frontage road terminal, which is on the south side.

**Environmental Discussion**

There are no special designations (i.e. Aquatic Preserve, Outstanding Florida Water, etc.) No conservation easements are known to occur within or adjacent to the project limits.

USACE-jurisdictional areas include small isolated and non-isolated wetlands, Peace Creek Drainage Canal, and some wet ditches with suitable foraging habitat (SFH). Three small wetlands were determined to be isolated by SWFWMD, however, an USACE-approved jurisdictional review to determine isolation *will not* be obtained for this project. The project impacts are anticipated to be over 0.5 acres. This project was not reviewed in ETDM which eliminates the use of an RGP SAJ-92 permit; and therefore, an individual USACE permit is expected.

The project is within the service areas for both Boran Ranch Mitigation Bank (herbaceous) and Peace River Mitigation Bank (forested). FDOT currently has federal credits in-hand from Boran Ranch Mitigation Bank and it is anticipated that these credits will be used for the project impacts.

The PD&E study for the project is being conducted concurrently with the design as a State-Wide Acceleration and Transformation (SWAT) project. The environmental report will be a State Environmental Impact Report (SEIR).

Wildlife involvement with the project includes both federal and state species. There is no critical habitat. Federal species involvement includes Wood Stork SFH and Indigo snake habitat. Surveys for Audubon’s Crested Caracara were conducted in the spring of 2016 with negative results. There are no suitable skink soils in the project limits. Because the project is state-funded, the federal nexus will occur when the USACE permit application is submitted. John Wrublik (US Fish and Wildlife Service/USFWS) was contacted for technical guidance for the Caracara survey, but no formal or informal consultation has occurred, and USFWS has not reviewed the Endangered Species Biological Assessment (ESBA) for the project.

State species involvement includes active gopher tortoise burrows, the fox squirrel habitat on the southwest side of Peace Creek Drainage Canal, and Southeastern American

Kestrels in the project vicinity. Coordination with Florida Fish and Wildlife Conservation Commission (FWC) has occurred and no comments were received.

Ten-foot-wide wildlife shelves will be constructed under the two new bridges, and a two-foot-wide shelf will be retrofitted underneath both sides of the one remaining bridge by re-working the riprap. The abutments and wildlife shelves of the proposed SR 60 bridges and the frontage road bridge will be protected with the standard amount of rubble riprap. A smooth surface for the wildlife shelves will be created by placing sand cement riprap and a layer of soil on top of the riprap. Impacts to Peace Creek Drainage Canal resulting from the new bridges and wildlife shelves will be included in the ERP permit.

The permit application is anticipated to be submitted to the agencies in November 2016. A note will be included with the application to USACE about submitting the ESBA to USFWS before the Caracara survey expires.

FALLER, DAVIS & ASSOCIATES, Inc.
HIGHWAY ENGINEERING SPECIALISTS
DESIGN | ENVIRONMENTAL | OPERATIONS

# MEETING MINUTES

**PROJECT:** SR 60 Grade Separation over CSX Railroad
FPID 436559-1-52-01

**DATE:** June 1, 2016 at 2:00 pm

**SUBJECT:** SWFWMD Pre-Application Meeting

**ATTENDEES:** Dave Kramer, PE, Al Gagne (SWFWMD)
Brent Setchell, PE, Nicole Monies (FDOT),
Ken Muzyk, PE, Tammy Kreisle, PE, Niki Cribbs (FDA)
Brett French, PE (KCA)

**TOPICS OF DISCUSSION:**

The meeting began with an overview of the project which is to grade separate SR 60 over the CSX railroad. Three frontage roads will be provided in the northwest, southwest, and northeast quadrants. Two new frontage road terminals will be provided at each end of the grade separation. Three new bridge pairs on SR 60 are proposed over the Peace Creek Drainage Canal (PCDC), fuel line and frontage road access, and the CSX railroad. The existing eastbound SR 60 bridge over the PCDC will be re-used for the southwest frontage road. It is proposed that the westbound bridge be removed and the eastbound bridge be rehabilitated/widened for use as a frontage road bridge. Sidewalks in both directions are provided.

The alignment is shifted to the north to allow re-use of the existing eastbound PCDC bridge for the southwest frontage road and to allow traffic control phasing to keep four lanes open on SR 60 during construction and is consistent with the PD&E alignment. Right of way will be acquired on the north side except for the west frontage road terminal, which is on the south side.

## I. Design

For the water quantity calculations, the 25-year 24-hour storm will be used for the pond design. At the time of the meeting, there was no known credible historical evidence of past flooding, or information provided that the physical capacity of the downstream conveyance or receiving waters indicates that the conditions for issuance will not be met without consideration of storm events of different frequency or duration. Therefore, there is not a known reason to require additional analyses using storm events of different duration or frequency other than the 25-year 24-hour storm event, or to adjust the volume, rate or timing of discharges. [Section 3.0 Applicant's Handbook Volume II]. The floodplain analysis may need to consider lesser storm events including the mean annual, 10-Yr, 25-Yr, and 50-Yr in addition to the 100-Yr storm. These storms only need to be considered if not providing cup for cup compensation or if isolated wetlands were used for treatment. A control elevation set 0.5' below the SHGW elevation is acceptable to SWFWMD for this project since there appears to be a positive outfall without any tailwater concerns. Potential wetland dewatering will need to be considered and addressed in the permit application if the control elevation of the pond(s) is set lower than the normal pool or SHW elevation of adjacent wetlands or surface waters. The Peace Creek watershed model that has been obtained was approved by the governing board on March 29, 2013. FDA is to confirm that there have been no updates to the model by contacting Scott Letasi in the Brooksville office. The 100-year elevation from the latest model should be used for floodplain analysis. Continued coordination with the county should occur to discuss flooding, floodplain mapping and elevations. Any out of bank storage or historic basin storage that is displaced with the proposed bridges will need to be addressed. It was suggested that Randy Smith in the SWIMM section be contacted regarding any opportunities for regional improvements within the contributing basin.

We also discussed the need for net improvement since the receiving system has a nutrient related impairment and that compensatory treatment of currently untreated portions of the existing roadway could be used to offset new lanes/pavement that could not physically be treated.

## II. Environmental

Information was received from SWFWMD in February 2015 indicating Peace Creek Drainage Canal is not sovereign. There are no other special designations (i.e. Aquatic Preserve, Outstanding Florida Water, etc.) No conservation easements are known to occur within or adjacent to the project limits.

The preliminary estimate indicates about 0.5 acres of permanent wetland impacts and 2.0 acres of impacts (temporary and permanent) in surface waters. Boran Ranch MB and Peace River MB are available for wetland credits. Wetlands are shrubby and herbaceous; the surface waters consist of Peace Creek Drainage Canal and roadside ditches along SR 60. SWFWMD stated that the isolated wetlands less than 0.5 acres in

size, not connected to ditches, and not providing habitat for listed species will not require mitigation. Three wetland areas on the project fall within this category. No mitigation will be required for impacts to the upland-cut ditches. It is likely that no mitigation will be required for impacts to wetland-cut ditches on this project in anticipation of a de minimus impact. Ten-foot-wide wildlife shelves will be constructed under the two new bridges, and a two-foot-wide shelf will be retrofitted underneath both sides of the one remaining bridge by re-working the riprap. Impacts to Peace Creek Drainage Canal resulting from the wildlife shelves will be included in the ERP permit.

## III. Bridge Hydraulics

The existing westbound bridge has 9 bents that are in the channel and consist of square concrete piles with an effective width of 18” due to concrete pile jackets. The frontage road bridge will be widened to the south with the widened portion of the bridge being supported by 18” square concrete piles. Two new parallel bridge structures will be built north of the frontage road bridge which will accommodate the SR 60 eastbound and westbound lanes. The proposed bridge structures are two spans with one intermediate bent that consists of 24” square concrete piles. The abutments and wildlife shelves of the proposed SR 60 bridges and the frontage road bridge will be protected with the standard amount rubble riprap. A smooth surface for the wildlife shelves will be created by placing sand cement riprap and a layer of soil on top of the riprap. The Peace Creek Watershed ICPR model was used to update the FEMA FIRM maps that are within the project area. These updated FEMA maps will be effective in September. We were directed by Randall Vogel, the floodplain manager of Polk County and Pradeep Chettri, the lead MT-2 reviewer for FEMA Region IV, to use this ICPR model for the hydrology and tailwater information for the bridge hydraulic analysis. This hydraulic analysis was performed in HEC-RAS. This hydraulic analysis shows that there will be no-rise in upstream water surface elevations as a result of the proposed project.

Action List:

1. FDA is to confirm that there have been no updates to the model by contacting Scott Letasi in the Brooksville office.

2. FDA to follow up with Randy Smith in the SWIMM section regarding any opportunities for regional improvements within the contributing basin.

# Appendix 2

# Photographs of Wetlands and Surface Waters

# Wetland Photographs:

## Mainline

WL 2377 L

WL 2380 L

WL 2413 R

## Pond Sites

SMF W WL 1 (outside project limits)

SMF W WL 2 (outside project limits)

SMF W WL 3 (outside project limits)

SMF W WL 4 (outside project limits)

SMF E WL 1

WL 2377 L

FLUCFCS: 641
USFWS: PEM1C

WL 2380 L

FLUCFCS: 641
USFWS: PEM1C

WL 2413 R

FLUCFCS: 614
USFWS: PEM1C

SMF W WL 1

FLUCFCS: 641
USFWS: PEM1Cx

SMF W WL

FLUCFCS: 641
USFWS: PEM1Cx

SMF W WL 3

FLUCFCS: 627
USFWS: PFO4Cx

SMF W WL 4

FLUCFCS: 641
USFWS: PEM1Cx

SMF E WL 1

FLUCFCS: 618
USFWS: PSS1C

**Waters of the U.S. Photographs:**

<u>USACE Jurisdictional</u>

SW 2392 L (cut in hydric soil)

SW 2399 L (cut in hydric soil)

SW 2419 L (SFH)

SW 2397 R (SHF)

SW 1 (Peace Creek Drainage Canal/bridge) (RPW)

SMF E SW 1 (Peace Creek Drainage Canal/Pond 3 outfall) (RPW)

SW 2392 L
Cut in hydric soil/ 100% nuisance, no SFH

FLUCFCS:510
USFWS: PEM1Cx

SW 2399 L
Cut in hydric soil, no SFH

FLUCFCS: 510
USFWS: PEM1Cx

SW 2419 L
Provides SFH

FLUCFCS: 510
USFWS: PEM1Cx

SW 2397 R
Provides SFH

FLUCFCS: 510
USFWS: PEM1Cx

SW 1 (Peace Creek Drainage Canal)
Relatively Permanent Water, provides SFH

FLUCFCS: 510
USFWS: R2UB3Hx

SW 1 (Peace Creek Drainage Canal)
Relatively Permanent Water, provides SFH

FLUCFCS: 510
USFWS: R2UB3Hx

SMF E SW 1 (Peace Creek Drainage Canal/Pond 3 outfall)
Relatively Permanent Water

FLUCFCS: 510
USFWS: R2UB3Hx

**Surface Water Photographs:**

SWFWMD Jurisdictional

SW 2392 L
SW 2399 L
SW 2403 L
SW 2405 L
SW 2407 L
SW 2419 L
SW 2424 L
SW 2427 R
SW 2419 R
SW 2405 R
SW 2403 R
SW 2397 R
SW 2395 R
SW 2392 R
SW 1 (Peace Creek Drainage Canal/bridge)
SMF E SW 1 (Peace Creek Drainage Canal/Pond 3 outfall)

SW 2392 L

FLUCFCS:510
USFWS: PEM1Cx

SW 2399 L

FLUCFCS: 510
USFWS: PEM1Cx

SW 2403 L (Lateral Ditch)
At Mainline

FLUCFCS: 510
USFWS: PEM1Cx

SW 2403 L (Lateral Ditch)
Pond 3 Drainage Easement

FLUCFCS: 510
USFWS: PEM1Cx

SW 2405 L

FLUCFCS: 510
USFWS: PEM1Cx

SW 2407 L

FLUCFCS: 510
USFWS: PEM1Cx

SW 2419 L

FLUCFCS: 510
USFWS: PEM1Cx

SW 2424 L

FLUCFCS: 510
USFWS: PEM1Cx

SW 2427 R

FLUCFCS: 510
USFWS: PEM1Cx

SW 2419 R

FLUCFCS: 510
USFWS: PEM1Cx

SW 2403 R

FLUCFCS: 510
USFWS: PEM1Cx

SW 2405 L

FLUCFCS: 510
USFWS: PEM1Cx

SW 2397 R

FLUCFCS: 510
USFWS: PEM1Cx

SW 2395 R

FLUCFCS: 510
USFWS: PEM1Cx


SW 2392 R

FLUCFCS: 510
USFWS: PEM1Cx

SW 1 (Peace Creek Drainage Canal/Pond 3 Outfall)

FLUCFCS: 510
USFWS: R2UB3Hx

SW 1 (Peace Creek Drainage Canal/bridge)

FLUCFCS: 510
USFWS: R2UB3Hx

SW 1 (Peace Creek Drainage Canal/bridge)

FLUCFCS: 641/630
USFWS: R2UB3Hx

# Appendix 3

# USACE Preliminary Jurisdictional Determination

**ATTACHMENT**

**PRELIMINARY JURISDICTIONAL DETERMINATION FORM**

**BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): October 9, 2016**

**B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**
FDOT District One
801 N. Broadway Avenue
Bartow, FL 33831-1249

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER: PALM Beach Gardens,**

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:** See Attached Sheet
**(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State:FL County/parish/borough: Polk City: Lake Wales
Center coordinates of site (lat/long in degree decimal format): Lat. 27.903789 ° N, Long. 81.661154 ° **W**.

Universal Transverse Mercator:

Name of nearest waterbody: Peace Creek Drainage Canal

Identify (estimate) amount of waters in the review area:
Non-wetland waters: linear feet: width (ft) and/or 0.66 acres.
Cowardin Class:
Stream Flow:
Wetlands: 1.07 acres.
Cowardin Class:

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal: none
Non-Tidal: none

**E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

☒ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party

who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

**SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply** - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .

☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

- ☐ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: .

☐ Corps navigable waters' study: .

☐ U.S. Geological Survey Hydrologic Atlas: .

- ☐ USGS NHD data.
- ☐ USGS 8 and 12 digit HUC maps.

☐ U.S. Geological Survey map(s). Cite scale & quad name: .

☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .

☐ National wetlands inventory map(s). Cite name: .

☐ State/Local wetland inventory map(s): .

☐ FEMA/FIRM maps: .

☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date):Google Earth.
or ☐ Other (Name & Date): .

☐ Previous determination(s). File no. and date of response letter: .

☐ Other information (please specify): .

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

| | |
|---|---|
| _____ | _____ |
| Signature and date of Regulatory Project Manager (REQUIRED) | Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable) |

**Preliminary Jurisdictional Determination**
**Section D- Background Information for Multiple Waterbodies**
**SR 60 Grade Separation Over CSX RR (FPID 436559-1-52-01)**

| Site Number | Latitude | Longitude | Cowardin Class | Estimated amount of aquatic resource in review areas | Class of Aquatic Resource |
|---|---|---|---|---|---|
| | | | | | |
| WL 2377 L | 27.905546 | -81.666342 | PEM1C | 0.04 | non-section 10/wetland |
| WL 2380 L | 27.905214 | -81.665385 | PEM1C | 0.25 | non-section 10/wetland |
| WL 2413 R | 27.901747 | -81.566335 | PEM1C | 0.26 | non-section 10/wetland |
| SMF E WL 1 | 27.904502 | -81.658390 | PSS1C | 0.11 | non-section 10/wetland |
| SW 2392 L | 27.903583 | -81.661522 | PEM1Cx | 0.01 | non-section 10/ditch cut in hydric soil |
| SW 2399 L | 27.904189 | -81.661909 | PEM1Cx | 0.30 | non-section 10/ditch cut in hydric soil |
| SW 2419 L | 27.901853 | -81.654060 | PEM1Cx | 0.01 | non-section 10/non-wetland/SFH |
| SW 1 PCDC/Bridge | 27.904333 | -81.663243 | R2UB3Hx | 0.72 | non-section 10/non-wetland/RPW |
| SMF E SW 1 (PCDC/ | 27.906026 | -81.661032 | PEM1C | 0.03 | non-section 10/non-wetland/RPW |
| PROJECT TOTALS: | | | | 1.73 | |

| | |
|---|---|
| Wetlands: | 0.66 |
| Non-Wetlands: | 1.07 |
| | 1.73 |

# Appendix 4

# USACE Dredge and Fill Summary

# Environmental Impact Summary

| | | | |
|---|---|---|---|
| FM# | 436559-1-52-01 | Date: | October 9, 2016 |
| S.R. | 60 | Local Name: | SR 60 |
| Submitted by: | FDOT D1 | Federal Funds Used? | Y |

**Brief** Description of Construction:
Improve a 1-mile segment of SR 60 to elevate the existing road over the CSX RR tracks. One existing bridge will be be removed over the Peace Creek Drainage Canal; two new bridges will be constructed.

**Brief** Description of impacts:

- Permanent Filling 1.14 acres total of WOUS
- Includes 0.63 acres of fill in herbaceous and shrubby wetlands
- Includes 0.19 acres of fill in Peace Creek Drainage Canal, a RPW
- Includes 0.32 acres of fill in roadside ditches cut in hydric soil and SFH
- Temporary disturbance to 0.42 acres of WOUS

**Dredge and Fill Summary**

Note: fill and dredge quantities are for only the fill going at, or below, Mean High Water (tidal) / Ordinary High Water Mark (non-tidal)

| Temporary Fill ☐ Tidal water | | Temporary Dredge ☐ Tidal water | |
|---|---|---|---|
| Area (ac) | Volume (cy) | Area (ac) | Volume (cy) |
| | | | |

| Permanent Fill rip rap ☐ Tidal water | | Permanent Fill Clean Backfill ☐ Tidal water | | Permanent Fill Other (i.e. piles)[1] ☐ Tidal water | | Permanent Dredge ☐ Tidal water | |
|---|---|---|---|---|---|---|---|
| Area (ac) | Vol (cy) | Area (ac) | Vol (cy) | Area (ac) | Vol (cy) | Area (ac) | Vol (cy) |
| | | 1.14 | | | | | |

**Summary of Stabilizing Structures**

| Structure Type | Length (ft)[2] | Width (ft)[2] | New or Replacement | Tidal Water (y\n) |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

1. Please edit the text to name the source of the fill, such as pile jackets, piles, etc.
2. This is the diameter of the outfall pipe.
3. You may add additional outfalls or other types of structures by editing the structure type.

Please limit information to one page in length. Remember that this information is in addition to the application.

# Appendix 5

# USACE Wetland Data Sheets (Impacted Wetlands Only)

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: SR 60 Grade Separation Over CSX RR City/County: Polk Sampling Date: 6/11/2015

Applicant/Owner: FDOT District One State: FL Sampling Point: WL 2377 L

Investigator(s): N. Cribbs, S. Ladd Section, Township, Range: S1 / T30S/ R26E

Landform (hillslope, terrace, etc.): level Local relief (concave, convex, none): none Slope (%): n/a

Subregion (LRR or MLRA): Florida Peninsula (LRR U) Lat: 27.905546 Long: -81.666342 Datum: _____

Soil Map Unit Name: Pamona fine sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes [ ] No [✓]

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [✓] No [ ] |
| Hydric Soil Present? | Yes [✓] | No [ ] | |
| Wetland Hydrology Present? | Yes [✓] | No [ ] | |

Remarks:

Soils are mapped as non-hydric, however on-site conditions indicate hydric soils.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [✓] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [ ] | No [✓] | Depth (inches): _____ |
| Water Table Present? | Yes [ ] | No [ ] | Depth (inches): _____ |
| Saturation Present? (includes capillary fringe) | Yes [ ] | No [ ] | Depth (inches): _____ |

**Wetland Hydrology Present?** Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seasonal high water and normal pool elevations were evident in this area.

**VEGETATION –** Use scientific names of plants.

Sampling Point: WL 2377 L

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Quercus virginiana | 75 | y | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 75 = Total Cover | | |
| **Sapling Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | = Total Cover | | |
| **Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. Juncus effusus | 45 | y | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 45 | x 1 = | 45 |
| FACW species | | x 2 = | |
| FAC species | 75 | x 3 = | 225 |
| FACU species | | x 4 = | |
| UPL species | | x 5 = | |
| Column Totals: | 120 (A) | | 270 (B) |

Prevalence Index = B/A = 2.25

**Hydrophytic Vegetation Indicators:**

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

Excessive hog rooting limits the ground cover in this area.

**SOIL**

Sampling Point: WL 2377 L

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☑ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☑ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ☑ **No** ☐

Remarks:

On-site soils exhibited hydric soil characteristics.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: SR 60 Grade Separation Over CSX RR City/County: Polk Sampling Date: 6/11/2015

Applicant/Owner: FDOT District One State: FL Sampling Point: WL 2380 L

Investigator(s): N. Cribbs, S. Ladd Section, Township, Range: S1 / T30S/ R26E

Landform (hillslope, terrace, etc.): level Local relief (concave, convex, none): none Slope (%): n/a

Subregion (LRR or MLRA): Florida Peninsula (LRR U) Lat: 27.905214 Long: -81.665385 Datum: _____

Soil Map Unit Name: Felda fine sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes [ ] No [✓]

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [✓] No [ ] |
| Hydric Soil Present? | Yes [✓] | No [ ] | |
| Wetland Hydrology Present? | Yes [✓] | No [ ] | |

Remarks:

Soils are mapped as non-hydric, however on-site conditions indicate hydric soils.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [✓] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [ ] | No [✓] | Depth (inches): _____ |
| Water Table Present? | Yes [ ] | No [ ] | Depth (inches): _____ |
| Saturation Present? (includes capillary fringe) | Yes [ ] | No [ ] | Depth (inches): _____ |

**Wetland Hydrology Present?** Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seasonal high water and normal pool elevations were evident in this area.

**VEGETATION –** Use scientific names of plants.

Sampling Point: WL 2380 L

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Quercus laurifolia | 20 | y | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 90 | = Total Cover | |
| **Sapling Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | = Total Cover | | |
| **Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. Cladium jamaicense | 45 | y | OBL |
| 2. Hydrocotyle umbellata | 30 | y | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 75 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 75 | x 1 = | 75 |
| FACW species | 20 | x 2 = | 40 |
| FAC species | | x 3 = | |
| FACU species | | x 4 = | |
| UPL species | | x 5 = | |
| Column Totals: | 95 (A) | | 115 (B) |

Prevalence Index = B/A = 1.2

**Hydrophytic Vegetation Indicators:**

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

Excessive hog rooting limits the ground cover in this area.

**SOIL**

Sampling Point: WL 2380 L

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☑ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☑ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ☑ **No** ☐

Remarks:

On-site soils exhibited hydric soil characteristics.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: SR 60 Grade Separation Over CSX RR City/County: Polk Sampling Date: 6/11/2015

Applicant/Owner: FDOT District One State: FL Sampling Point: SMF E WL 1

Investigator(s): N. Cribbs, S. Ladd Section, Township, Range: S1 / T30S/ R26E

Landform (hillslope, terrace, etc.): level Local relief (concave, convex, none): none Slope (%): n/a

Subregion (LRR or MLRA): Florida Peninsula (LRR U) Lat: 27.94502 Long: -81.658390 Datum: _____

Soil Map Unit Name: Felda fine sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes [ ] No [✓]

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [✓] No [ ] |
| Hydric Soil Present? | Yes [✓] | No [ ] | |
| Wetland Hydrology Present? | Yes [✓] | No [ ] | |

Remarks:

Soils are mapped as non-hydric, however on-site conditions indicate hydric soils.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [✓] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [✓] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes [ ] No [✓] Depth (inches): _____

Water Table Present? Yes [ ] No [ ] Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes [ ] No [ ] Depth (inches): _____

**Wetland Hydrology Present?** Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seasonal high water and normal pool elevations were evident in this area. Duckweed, a floating vegetation species, covered the area.

**VEGETATION –** Use scientific names of plants.

Sampling Point: SMF E WL 1

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | = Total Cover | | |
| Sapling Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | = Total Cover | | |
| Shrub Stratum (Plot size: ) | | | |
| 1. Salix caroliniana | 60 | y | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 60 = Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. Lemna minor | 45 | y | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 45 = Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 105 | x 1 = | 105 |
| FACW species | | x 2 = | |
| FAC species | | x 3 = | |
| FACU species | | x 4 = | |
| UPL species | | x 5 = | |
| Column Totals: | 105 (A) | | 105 (B) |

Prevalence Index = B/A = 1.0

**Hydrophytic Vegetation Indicators:**

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

## SOIL

Sampling Point: SMF E WL 1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☑ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☑ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ☑ **No** ☐

Remarks:

On-site soils exhibited hydric soil characteristics.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: SR 60 Grade Separation Over CSX RR City/County: Polk Sampling Date: 6/11/2015

Applicant/Owner: FDOT District One State: FL Sampling Point: WL 2413 R

Investigator(s): N. Cribbs, S. Ladd Section, Township, Range: S1 / T30S/ R26E

Landform (hillslope, terrace, etc.): level Local relief (concave, convex, none): none Slope (%): n/a

Subregion (LRR or MLRA): Florida Peninsula (LRR U) Lat: 27.901747 Long: -81.566335 Datum: _____

Soil Map Unit Name: Kaliga muck NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes [ ] No [✓]

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [✓] No [ ] |
| Hydric Soil Present? | Yes [✓] | No [ ] | |
| Wetland Hydrology Present? | Yes [✓] | No [ ] | |

Remarks:

Soils are mapped as non-hydric, however on-site conditions indicate hydric soils.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [✓] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [ ] | No [✓] | Depth (inches): _____ |
| Water Table Present? | Yes [ ] | No [ ] | Depth (inches): _____ |
| Saturation Present? (includes capillary fringe) | Yes [ ] | No [ ] | Depth (inches): _____ |

**Wetland Hydrology Present?** Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seasonal high water and normal pool elevations were evident in this area.

**VEGETATION –** Use scientific names of plants.

Sampling Point: WL WL 2413 R

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | = Total Cover | | |
| **Sapling Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | = Total Cover | | |
| **Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. Paspalum notatum | 50 | y | FACU |
| 2. Hydrocotyle umbellata | 30 | y | OBL |
| 3. Paspalum urvillei | 15 | y | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 30 | x 1 = | 30 |
| FACW species | | x 2 = | 0 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 50 | x 4 = | 200 |
| UPL species | | x 5 = | |
| Column Totals: | 95 (A) | | 275 (B) |

Prevalence Index = B/A = 2.9

**Hydrophytic Vegetation Indicators:**

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

Area is the disturbed herbaceous edge of an off-site shrubby wetlands.

## SOIL

Sampling Point: WL WL 2413 R

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☑ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☑ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ☑ **No** ☐

Remarks:

On-site soils exhibited hydric soil characteristics.

# Appendix 6

# Sovereign Submerged Lands Correspondence

## Nicole I. Cribbs, CE

**From:** Chaz LaRiche <Chaz.LaRiche@swfwmd.state.fl.us>
**Sent:** Friday, February 27, 2015 8:15 AM
**To:** Nicole I. Cribbs, CE
**Subject:** FW: TD 2105 - Polk - SR 60 over CSX in Polk County-Peace Creek Drainage Canal

---

Chastity 'Chaz' LaRiche
Staff Environmental Scientist
Natural Resource Management Bureau
Southwest Florida Water Management District
7601 US Hwy 301 N
Tampa, FL 33637
(813) 985-7481 ext. 2092
(800) 836-0797 (Florida Only)
Fax: (813) 987-6746
chaz.lariche@watermatters.org


Please consider the environment when printing this email

---

**From:** Justin Eddy
**Sent:** Friday, February 27, 2015 8:13 AM
**To:** Chaz LaRiche
**Cc:** Yolanda Velazquez
**Subject:** FW: TD 2105 - Polk - SR 60 over CSX in Polk County-Peace Creek Drainage Canal

Hi Chaz,

I noticed you were not on the response, so I thought I would share.

Justin

---

**From:** Warner, Sara [mailto:Sara.Warner@dep.state.fl.us]
**Sent:** Monday, February 23, 2015 7:44 AM
**To:** Justin Eddy
**Subject:** RE: TD 2105 - Polk - SR 60 over CSX in Polk County-Peace Creek Drainage Canal

## Worksheet Details

Contact Us | FAQ

New Search | Results List

| | |
|---|---|
| **WS ID:** | 101917 |
| **File Number:** | SR 60 AT PEACE CREEK |
| **Counties:** | POLK |
| **Applicant:** | JUSTIN EDDY |
| **Address/Bureau:** | SR 60 OVER CSX PEACE CREEK DRAINAGE CANAL |
| **Type of Activity:** | |
| **Project Location:** | Section: 1 Township: 30S Range: 26E |
| **Comments:** | OUR RECORDS INDICATE THAT THE PEACE CREEK DRAINAGE CANAL IS A CHANNELIZED WATERBODY IN SECTION 1 T30S R26E WHERE IT CROSSES SR 60. WE RECOMMEND THAT THE PROPRIETARY REQUIREMENTS APPLIED TO STATE-OWNED LANDS NOT APPLY AT THE SUBJECT SITE. NO EASEMENTS OF RECORD WERE FOUND FOR THIS SITE.<br><br>SW 2-18-2015 TO JUSTIN EDDY, SWFWMD |
| **Preparer:** | SARA WARNER |
| **Date Prepared:** | 02/18/2015 |

**Documents:**

| DM ID | Doc Index | Relevant | Page(s) |
|---|---|---|---|
| 151168 | DRO0151168 | | |

NOTICE: THE CONCLUSIONS AND DETERMINATIONS SET FORTH IN THIS TITLE WORKSHEET ARE BASED ON A REVIEW OF THE RECORDS CURRENTLY AVAILABLE WITHIN THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AS SUPPLEMENTED, IN SOME CASES, BY INFORMATION FURNISHED BY THE REQUESTING PARTY. SINCE THE ACCURACY AND COMPLETENESS OF THE TITLE INFORMATION REVIEWED MAY VARY, THE CONCLUSIONS AND DETERMINATIONS SET FORTH HEREIN DO NOT CONSTITUTE A LEGAL OPINION OF TITLE AND SHOULD NOT BE RELIED ON AS SUCH

**From:** Justin Eddy [mailto:Justin.Eddy@swfwmd.state.fl.us]
**Sent:** Friday, February 13, 2015 1:32 PM
**To:** DSL FAX (Shared Mailbox)
**Cc:** Chaz LaRiche; Yolanda Velazquez
**Subject:** TD 2105 - Polk - SR 60 over CSX in Polk County-Peace Creek Drainage Canal

Attached is a title determination request for TD 2105 - Polk - SR 60 over CSX in Polk County-Peace Creek Drainage Canal.

If you have any questions regarding this title determination, please contact Chaz LaRiche, ext. 2092.

Thanks,
Justin J. Eddy
**Regulatory Support Technician**
Southwest Florida Water Management District
7601 Highway 301 North
Tampa, FL 33637
800-836-0797 (Florida only) or 813-985-7481 Ext 2097
justin.eddy@swfwmd.state.fl.us


# Appendix 7

# SHPO Concurrence

FDOT
Florida Department of Transportation
RICK SCOTT
GOVERNOR
801 North Broadway Avenue
Bartow, FL 33830
JIM BOXOLD
SECRETARY



January 26, 2016

Dr. Timothy Parsons, Interim Director
Florida Division of Historical Resources
Department of State, R.A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

**RE:** **Cultural Resource Assessment Survey**
**Technical Memorandum Addendum**
**SR 60 Grade Separation over CSX Railroad,**
**Polk County, Florida**
**Financial Project ID No.: 436559-1-32-01**
**Florida Division of Historical Resources (FDHR) File No. 2014-5682**

Dear Dr. Parsons:

A cultural resource assessment survey (CRAS) was performed within the area of potential effects (APE) for three additional areas related to the State Road (SR) 60 Grade Separation over CSX Railroad project in Polk County in June 2015. This work was conducted for the Florida Department of Transportation (FDOT) as part of their proposed state funded improvements to SR 60 and to update the previous CRAS that was prepared for this project. In 2014, a Project Development and Environment (PD&E) Study CRAS was conducted for SR 60 Grade Separation over the CSX Railroad corridor, including three pond sites. The 2014 CRAS report was approved by your office on December 29, 2014 (FDHR File No. 2014-5682). Since the submittal of the previous 2014 CRAS, minor design changes have occurred and additional archaeological testing and historic resources survey was required. Pond site locations have not changed; however, ingress/infall and egress/outfall easements were added for the pond sites.

The project study limits are SR 60 from 3600 feet (ft) west of CSX Railroad crossing #625419N to 2700 ft east of CSX Railroad crossing #625419N, a distance of 6300 ft (1.19 mile [mi]); however, the additional CRAS survey areas covered in the addendum are related to the pond sites ingress/infall and egress/outfall easements that have been added. The storm water management will be accomplished utilizing the existing FDOT owned borrow pit sites that are in the northwest and northeast quadrants of SR 60 and the CSX railroad.

For the purpose of the archaeological and historical survey, the APE was identified as the area contained within these three new project areas.

Enclosed you will find the CRAS Technical Memorandum Addendum. The following documents are attached:

- One original copy of the CRAS (January 2016)
- One Completed Survey Log

The field work was conducted in accordance with the FDOT's PD&E Manual and the research plan and field methodology follow the standards and guidelines of the Florida Division of Historical Resources as described in *The Historic Preservation Compliance Review Program of the Florida Department of State, Division of Historical Resources: A Guide to the Preservation Provisions of State and Federal Environmental Review Laws.*

Background research and a review of the FMSF indicated that no archaeological sites are recorded within or adjacent to the project APE. A review of relevant site location information for environmentally similar areas within Polk County and the surrounding region indicated a low probability for the occurrence of sites within the APE. As a result of field survey, no archaeological sites were discovered.

Background research and a review of the Florida Master Site File (FMSF) and the NRHP indicated that there are no previously recorded structures or buildings 50 years or older within the APE. No historic structures were identified during the historic resources survey.

I am requesting your concurrence with our evaluation that the **SR 60 Grade Separation over CSX Railroad** will have no effect on any resources listed or considered eligible for listing in the *NRHP*.

This information is being provided in accordance with the provisions of the National Historic Preservation Act of 1966 (as amended), which are implemented by the procedures contained in 36 CFR, Part 800, as well as the provisions contained in the revised Chapter 267, *Florida Statutes*.

If you have any questions, or if I may be of assistance, please contact me at (863) 519-2805 or Vivianne.Cross@dot.state.fl.us.

Sincerely,

Vivianne Cross
Environmental Project Manager

Enclosures
CC: Gwen Pipkin, FDOT
Amy Setchell, FDOT
Ken Muzyk, Faller Davis
Kim Warren, Atkins
Marion Almy, ACI

The Florida State Historic Preservation Officer (SHPO)/Florida Division of Historical Resources (FDHR)finds the attached Cultural Resources Assessment Survey Technical Memorandum Addendum complete and sufficient and ✓ concurs/ _____ does not concur with the recommendations and findings provided in this cover letter for SHPO/DHR Project File Number 2016-387. Or, the SHPO/FDHR finds the attached Cultural Resource Assessment Survey Technical Memorandum Addendum contains _____ insufficient information.

SHPO/FDHR Comments:

_____

_____

_____

_____

_____

_____

_____
Dr. Timothy Parsons, Interim Director
Florida Division of Historical Resources
and State Historic Preservation Officer

2/18/16
Date

# Appendix 8

# UMAMs-Federal WOUS

**UMAM Summary Table--USACE MITIGATION REQUIREMENTS**

**SR 60 Grade Separation over CSX Railroad**

**FPID 436559-1-52-01**

**Peace River Basin**

**October 9, 2016**

| Wetland | FLUCFCS | FWS Classification | Location & Landscape Support | | Water Environment | | Community Structure | | Score (sum/30) | | Delta | Wetland Impacts | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Current | With | Current | With | Current | With | Current | With | | Impact Acres | Functional Loss |
| **WETLANDS-Dredge and Fill Impacts** | | | | | | | | | | | | | |
| WL 2377 L | 641 | PEM1C | 5 | 0 | 5 | 0 | 3 | 0 | 0.43 | 0.00 | 0.43 | 0.03 | 0.01 |
| WL 2380 L | 641 | PEM1C | 5 | 0 | 5 | 0 | 3 | 0 | 0.43 | 0.00 | 0.43 | 0.25 | 0.11 |
| WL 2413 R | 641 | PEM1C | 4 | 0 | 5 | 0 | 4 | 0 | 0.43 | 0.00 | 0.43 | 0.26 | 0.11 |
| SMF E WL 1 | 618 | PSS1C | 4 | 0 | 3 | 0 | 3 | 0 | 0.33 | 0.00 | 0.33 | 0.09 | 0.03 |
| | | | | | | | | | | | **TOTAL** | **0.63** | **0.26** |
| **SURFACE WATERS-Federal Jurisdiction Only** | | | | | | | | | | | | | |
| SW 2392 L | 510 | PEM1Cx | 4 | 0 | 2 | 0 | 1 | 0 | 0.23 | 0.00 | 0.23 | 0.01 | 0.00 |
| SW 2399 L | 510 | PEM1Cx | 4 | 0 | 3 | 0 | 3 | 0 | 0.33 | 0.00 | 0.33 | 0.30 | 0.10 |
| SMF E SW 1 (PCDC/ Pond 3 Outfall) | 510 | R2UB3Hx | 5 | 0 | 5 | 0 | 2 | 0 | 0.40 | 0.00 | 0.01 | 0.01 | 0.00 |
| | | | | | | | | | | | **TOTAL** | **0.32** | **0.10** |
| **SFH Impacts-Wet Ditches and Surface Waters** | | | | | | | | | | | | | |
| SW 2419 L | 510 | PEM1Cx | 4 | 0 | 3 | 0 | 2 | 0 | 0.30 | 0.00 | 0.30 | 0.01 | 0.00 |
| SW 1 (PCDC/ Bridge) | 510 | R2UB3Hx | 5 | 0 | 5 | 0 | 5 | 0 | 0.50 | 0.00 | 0.50 | 0.18 | 0.09 |
| | | | | | | | | | | | **TOTAL** | **0.19** | **0.09** |
| | | | | | | | | | | | **GRAND TOTAL** | **1.14** | **0.45** |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2337 L |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 641 | PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded) | Impact, Wetland, Permanent (w/SFH) | 0.03 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This area is located north of SR 60 at about Sta. 2337 L; isolated from other wetlands; within a wooded area actively grazed by cattle; surrounded by rural, wooded uplands

Assessment area description

This area is a small area of seasonally flooded wetland vegetated by *Juncus effusus* . Extensive hog rooting damage was noted as well as accessibility by cattle.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| Peace Creek Drainage Canal; SR 60; rural wooded uplands used for grazing | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Minimal water storage | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Seasonally: wading birds; amphibians | Occasionally: wading birds, Wood Storks |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Extensive hog rooting was noted.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

## PART II – Quantification of Assessment Area (impact or mitigation)
## (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2377 L |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact, Wetland, Permanent (w/SFH) | NC | 6/11/2015 |

| Scoring Guidance | **Optimal (10)** | **Moderate(7)** | **Minimal (4)** | **Not Present (0)** |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | w/o pres or current | with |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | The area is adjacent to SR 60 within a rural, wooded setting and surrounded by uplands. Cattle have full access to the wetland and extensive hog rooting was noted. | 5 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | Hydrology is provided by seasonal rainfall; hydrology is sufficient enough for biologic seasonal high water indicators to establish. | 5 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | Vegetation includes soft rush (*Juncus effusus*) and heavy leaf litter from live oak (*Quercus virginiana*) overstory; hog rooting disturbs most ground cover. | 3 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.43 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.43 x 0.03 = 0.01 |

| Delta = [with-current] |
|---|
| -0.43 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2380 L |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 641 | PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded) | Impact, Wetland, Permanent (w/SFH) | 0.25 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This area is located north of SR 60 at about Sta. 2380 L; isolated from other wetlands; surrounded by rural, wooded uplands with actively grazing cattle.

Assessment area description

This is a small area of seasonally flooded wetland vegetated by *Juncus effusus* . Extensive hog rooting damage was noted as well as accessibility by cattle.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| Peace Creek Drainage Canal; SR 60; rural wooded uplands used for grazing | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Minimal water storage | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Seasonally: wading birds; amphibians | Occasionally: wading birds, Wood Storks |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Extensive hog rooting was noted.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

**PART II – Quantification of Assessment Area (impact or mitigation)**
**(See Sections 62-345.500 and .600, F.A.C.)**

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2380 L |
| Impact or Mitigation | Assessment conducted by: | Assessment date: |
| Impact, Wetland, Permanent (w/SFH) | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | w/o pres or current | with |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | The area is within a rural, wooded setting and surrounded by uplands. Cattle have full access to the wetland and extensive hog rooting was noted. | 5 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | Hydrology is provided by seasonal rainfall; hydrology is sufficient enough for biologic seasonal high water indicators to establish. | 5 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | Vegetation includes soft rush (*Juncus effusus*); hog rooting disturbs most ground cover. | 3 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.43 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.43 x 0.25 = 0.11 |

| Delta = [with-current] |
|---|
| -0.43 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2413 R |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 641 | PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded) | Impact, Wetland, Permanent (w/SFH) | 0.26 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This area is located south of SR 60 at about Sta. 2413 R, within the SR 60 R/W. Industrial uses are adjacent; there is no connection to other wetlands or surface waters.

Assessment area description

This area is the herbaceous edge of a larger, offsite shrubby wetland. The assessment area is mowed fairly regularly as part of road side maintenance. The assessment area includes a linear ditch used in the roadway drainage system.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| SR 60; ruderal shrubby wetlands/uplands, and industrial land uses | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water conveyance, storage for SR 60 | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Wading birds; amphibians | Occasionally: wading birds, Wood Storks |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

## PART II – Quantification of Assessment Area (impact or mitigation)
## (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2413 R |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact, Wetland, Permanent (w/SFH) | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | w/o pres or current | with |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | This area includes the herbaceous edge of a shrubby wetland and a SR 60 roadside ditch. Industrial buildings are present to the east and the CSX railroad segments the southwestern portion of the wetland. The surrounding uplands are ruderal and shrubby. SR 60, the railroad, and the industrial land uses act as barriers to wildlife movement into and out of this wetland area. | 4 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | Hydrology is provided by seasonal rainfall; hydrology is sufficient enough for biologic seasonal high water indicators to establish. | 5 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | Vegetation includes Bahia grass (*Paspalum notatum*), vasey grass (*Paspalum urvillei*), carpet grass (*Axonopus* sp.), and dollarweed (*Hydrocotyle umbellata*). Beyond the R/W, the wetland becomes shrubby and is vegetated with Carolina willow (*Salix caroliniana*) and primrose willow (*Ludwigia peruviana*). The wetland is seasonally flooded. The maintained roadside ditch is grassy. | 4 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.43 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.43 x 0.26 = 0.11 |

| Delta = [with-current] |
|---|
| -0.43 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SMF E WL 1 |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 618 | PSS1C (Palustrine, scrub-shrub, broad leaf deciduous, seasonally flooded) | Impact, Wetland, Permanent (w/SFH) | 0.09 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This area is located north of SR 60 within the boundaries for Pond 3; east of the CSX RR track. It is surrounded by commercial land uses, residential and natural lands. No cattle can access this area. There are no connections to other wetlands or surface waters.

Assessment area description

This is a small, deep depressional area of that is seasonally flooded. Tires and plastic debris has been dumped in this depression.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| Wooded uplands, low density residential and commercial land uses | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Wading birds; amphibians; reptiles | wading birds and Wood Storks occasionally |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Frogs were heard at this site.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

**PART II – Quantification of Assessment Area (impact or mitigation)**
**(See Sections 62-345.500 and .600, F.A.C.)**

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SMF E WL 1 |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact-Wetland, Permanent w/SFH | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | |
|---|---|
| .500(6)(a) Location and Landscape Support<br>w/o pres or current: 4 / with: 0 | The area is within a low-density residential site in a wooded setting and surrounded by uplands. |
| .500(6)(b)Water Environment (n/a for uplands)<br>w/o pres or current: 3 / with: 0 | Hydrology is provided by seasonal rainfall; hydrology is sufficient enough for biologic seasonal high water indicators to establish. There is no inflow or outflow for water; the water sits and becomes very stagnent and oxygen deficient. Dumping impacts the water quality. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community<br>w/o pres or current: 3 / with: 0 | Dominant vegetation was Carolina willow (*Salix caroliniana*) and duckweed (*Lemna minor*) provided a layer over the ground. Dumping of tires and household debris was noted; there is significant amounts of plastic debris throughout. |

| Score = sum of above scores/30 (if uplands, divide by 20) | |
|---|---|
| current or w/o pres | with |
| 0.33 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.33 x 0.09 = 0.03 |

| Delta = [with-current] |
|---|
| -0.33 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 2392 L |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 510 | PEM1Cx (Palustrine, Emergent, Persistent, Seasonally Flooded, excavated) | Impact, Surface Waters, Permanent | 0.01 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This is a roadside drainage ditch cut in hydric soil located north of SR 60 at about Sta. 2392 L; it has a culverted connection to an adjacent ditch. There are no wetlands associated with this ditch.

Assessment area description

Roadside ditch excavated in mapped hydric soils.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| SR 60 corridor | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| water conveyance | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Limited due to excessive nuisance species cover and overall dry conditions. | None; not SFH due to extensive nuisance vegetation cover and dry conditions. |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

100% nuisace species coverage.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

**PART II – Quantification of Assessment Area (impact or mitigation)**
**(See Sections 62-345.500 and .600, F.A.C.)**

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 2392 L |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact-Permanent, Surface Water | NC | 6/11/2015 |

| Scoring Guidance | **Optimal (10)** | **Moderate(7)** | **Minimal (4)** | **Not Present (0)** |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | w/o pres or current | with |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | This ditch is within the existing SR 60 right-of-way and is adjacent to the SR 60 mainline. Upland areas surround the ditch although mapped soils indicate the ditch was cut in a hydric mapping unit. It is connected to SW 2399 L to the east via a culvert. There is no culvert on the west end of this ditch and therefore there is no connection to the Peace Creek Drainage Canal to the west. | 4 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | Although cut in a hydric soil mapping unit, this ditch does not support any wetland vegetation and no hydric indicators are present. The ditch may convey rainfall runoff during heavy storm events. | 2 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | The ditch is vegetated entirely by Cogon grass (*Imperata cylindrica* ). | 1 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.23 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.23 x 0.01 = 0.00 |

| Delta = [with-current] |
|---|
| -0.23 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 2399 L |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 510 | PEM1Cx (Palustrine, Emergent, Persistent, Seasonally Flooded, excavated) | Impact, Surface Waters, Permanent | 0.30 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This is a roadside drainage ditch cut in hydric soil located at about Sta. 2399 L; it typically has standing water, and is vegetated by nuisance species. It has a culverted connection to an adjacent ditch (SW 2392 L) but no connections to other ditches or wetlands. There are no wetlands associated with this ditch.

Assessment area description

Roadside ditch excavated in hydric soils; excessively steep sides and deep water result in the determination that this area does not provide SFH for the Wood Stork.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| SR 60 corridor | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| water storage | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| None | None; not SFH due to excessively steep-sided ditch banks |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

High nuisance species coverage.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

## PART II – Quantification of Assessment Area (impact or mitigation)
## (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 2399 L |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact, Permanent, Surface Water | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | | |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 4 | with: 0 | This ditch is within the existing SR 60 right-of-way and is adjacent to the SR 60 mainline. Upland areas surround the ditch although mapped soils indicate the ditch was cut in a hydric mapping unit. It is connected to SW 2392 L to the west via a culvert. There is no culvert on the east end of this ditch and therefore there is no other connection to ditches or wetlands. There are no wetland associated with the ditch or near the ditch. |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 3 | with: 0 | The ditch was cut in a hydric soil mapping unit. It has steep banks and is very deep. It functions for basically storage of stormwater runoff from SR 60. Stagnant, standing water is often present throughout the year. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 3 | with: 0 | The ditch is vegetated by Carolina willow (*Salix caroliniana*), Cogon grass (*Imperata cylindrica*) along the banks, Peruvian primrose willow (*Ludwigia peruviana*), and cattails (*Typha* sp.). |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.33 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.33 x 0.30 = 0.10 |

| Delta = [with-current] |
|---|
| -0.33 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 2419 L |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 510 | PEM1Cx (Palustrine, Emergent, Persistent, Seasonally Flooded, excavated) | Impact, Permanent Surface Waters (w/SFH) | 0.01 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This is a roadside sump area cut in upland soils at about Sta. 2419 L. It typically has standing water, and is vegetated by nuisance species. It has a culverted connection to an adjacent ditch (SW 2424 L) but no connections to other ditches or wetlands. There are no wetlands associated with this ditch.

Assessment area description

Roadside sump area excavated in upland soils at a culvert mitered end section; ponded water may provide SFH for the Wood Stork.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| SR 60 corridor | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| water storage | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| potentially wading birds | potentially listed wading birds (e.g. Wood Stork) |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

High nuisance species coverage.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

**PART II – Quantification of Assessment Area (impact or mitigation)**
**(See Sections 62-345.500 and .600, F.A.C.)**

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 2419 L |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact-Permanent, Surface Water w/SFH | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | w/o pres or current | with |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | This area is an excavated sump area at a culverted driveway crossing; it is within the existing SR 60 right-of-way and is adjacent to the SR 60 mainline. Upland commercial use areas are north of the ditch. The area was cut in non-hydric soils. It is connected to SW 2424L to the east via a culvert under the driveway. There is no culvert on the west end of this ditch. There are no wetland associated with the ditch or near the ditch. | 4 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | The ditch was cut in upland soils. It is a shallow sump area. It functions for basically storage of ponded stormwater runoff from SR 60. Stagnant, standing water is often present throughout the year. | 3 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | The ditch is vegetated by cattails (Typha sp.). | 2 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.30 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.30 x 0.01 = 0.00 |

| Delta = [with-current] |
|---|
| -0.30 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 1 (Peace Creek Drainage Canal/Bridge Location) |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 510 | R2UB3Hx (Riverine, lower periennial, mud, permanently flooded, excavated) | Impact, Permanent, Surface Water (w/SFH) | 0.18 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Peace Creek Drainage Canal is a man-made drainage canal.

Assessment area description

Man-made drainage canal; spoil is occassionally found along the banks with mature trees. The canal is shallow and supports hydric vegetation edges along the toe-of-slope, and provides SFH for wading birds at this location.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| SR 60 corridor | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| water conveyance | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Wading birds; amphibians; reptiles | listed wading birds, Wood Storks |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Wood Storks, Great Blue Heron, Great Egret, Cattle Egret (observed at bridge location)

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

**PART II – Quantification of Assessment Area (impact or mitigation)**
**(See Sections 62-345.500 and .600, F.A.C.)**

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 1 Peace Creek Drainage Canal at Bridge |
| Impact or Mitigation | Assessment conducted by: | Assessment date: |
| Impact, Permanent, Surface Water (w/SFH) | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | w/o pres or current | with |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | The Peace Creek Drainage Canal is cut through a relatively rural landscape with adjacent areas being either in a natural condition or use for active cattle pastures. | 5 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | The Peace Creek Drainage Canal is normally flooded and flows to the south at this location. Areas well upstream and downstream of this location have active cattle pasture and cattle have unrestricted access to the canal. Water quality may be diminished as a result of the proximity of the cattle. | 5 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | Vegetation at the bridge impact area includes smartweed (*Polygonum hydropiperoides*), paragrass (*Brachiaria mutica*), and Peruvian primrose willow (*Ludwigia peruviana*). The canal is wider at this location and has shallow areas suitable for wading bird foraging. | 5 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.50 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.50 x 0.18 = 0.09 |

| Delta = [with-current] |
|---|
| -0.50 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SMF E SW 1 (Peace Creek Drainage Canal/Pond 3 Outfall Location) |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 510 | R2UB3Hx (Riverine, lower periennial, mud, permanently flooded, excavated) | Impact, Permanent, Surface Water | 0.01 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Peace Creek Drainage Canal is a man-made water feature.

Assessment area description

Man-made drainage canal; spoil mounds are along the banks with mature trees at this location. The banks are very steep sided with little vegetation.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| SR 60 corridor | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| water conveyance | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| None | None |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

**PART II – Quantification of Assessment Area (impact or mitigation)**
**(See Sections 62-345.500 and .600, F.A.C.)**

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SMF E WL 1 Peace Creek Drainage Canal at Pond 3 Outfall |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact, Permanent-Surface Water | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | |
|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 5 | with: 0 |
| The Peace Creek Drainage Canal is cut through a relatively rural landscape with adjacent areas being either in a natural condition or use for active cattle pastures. | | |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 5 | with: 0 |
| The Peace Creek Drainage Canal is normally flooded and flows to the south at this location. Areas well upstream and downstream of this location have active cattle pasture and cattle have unrestricted access to the canal. Water quality may be diminished as a result of the proximity of the cattle. | | |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 2 | with: 0 |
| No hydric vegetation is present; the canal is steep sided at this location with no littoral shelf or shallow water areas for wading bird use. | | |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.40 | 0 |

| Delta = [with-current] |
|---|
| -0.40 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.40 x 0.01 = 0.00 |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

# Appendix 9

# UMAMs-State Wetlands and Surface Waters

**UMAM Summary Table--SWFWMD MITIGATION REQUIREMENTS**

**SR 60 Grade Separation over CSX Railroad**

**FPID 436559-1-52-01**

**Peace River Basin**

**October 9, 2016**

| Wetland | FLUCFCS | FWS Classification | Location & Landscape Support | | Water Environment | | Community Structure | | Score (sum/30) | | Delta | Wetland Impacts | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Current | With | Current | With | Current | With | Current | With | | Impact Acres | Functional Loss |
| **WETLANDS-Dredge and Fill Impacts** | | | | | | | | | | | | | |
| WL 2413 R | 641 | PEM1C | 4 | 0 | 5 | 0 | 4 | 0 | 0.43 | 0.00 | 0.43 | 0.26 | 0.11 |
| | | | | | | | | | | | **TOTAL** | **0.26** | **0.11** |
| **WETLANDS-Secondary Impacts** | | | | | | | | | | | | | |
| WL 2413 R | 618 | PSS1C | 4 | 4 | 5 | 5 | 4 | 2 | 0.43 | 0.37 | 0.07 | 0.19 | 0.01 |
| | | | | | | | | | | | **TOTAL** | **0.19** | **0.01** |
| **SFH Impacts-Wet Ditches and Surface Waters** | | | | | | | | | | | | | |
| SW 1 (PCDC/ Bridge) | 510 | R2UB3Hx | 5 | 0 | 5 | 0 | 5 | 0 | 0.50 | 0.00 | 0.50 | 0.18 | 0.09 |
| | | | | | | | | | | | **TOTAL** | **0.18** | **0.09** |
| | | | | | | | | | | | **GRAND TOTAL** | **0.63** | **0.21** |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2413 R |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 641 | PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded) | Impact, Wetland, Permanent (w/SFH) | 0.26 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This area is located south of SR 60 at about Sta. 2413 R, within the SR 60 R/W. Industrial uses are adjacent; there is no connection to other wetlands or surface waters.

Assessment area description

This area is the herbaceous edge of a larger, offsite shrubby wetland. The assessment area is mowed fairly regularly as part of road side maintenance. The assessment area includes a linear ditch used in the roadway drainage system.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| SR 60; ruderal shrubby wetlands/uplands, and industrial land uses | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water conveyance, storage for SR 60 | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Wading birds; amphibians | Occasionally: wading birds, Wood Storks |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2413 R |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 641 | PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded) | Impact, Wetland, Permanent-Secondary | 0.19 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This area is a 25-foot-wide assessement area of the off-site portion of WL 2413 R.

Assessment area description

This secondary impact assessment area is directly connectd to the grassy, maintained edge that will be permanently impacted by the proposed project.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| SR 60; CSX Railraod, ruderal shrubby uplands and industrial land uses | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| Water storage, cover, foraging for small wetland-dependant species | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Wading birds; amphibians | Occasionally: wading birds, Wood Storks |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

## PART II – Quantification of Assessment Area (impact or mitigation)
## (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2413 R |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact, Wetland, Permanent (w/SFH) | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | w/o pres or current | with |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | This area includes the herbaceous edge of a shrubby wetland and a SR 60 roadside ditch. Industrial buildings are present to the east and the CSX railroad segments the southwestern portion of the wetland. The surrounding uplands are ruderal and shrubby. SR 60, the railroad, and the industrial land uses act as barriers to wildlife movement into and out of this wetland area. | 4 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | Hydrology is provided by seasonal rainfall; hydrology is sufficient enough for biologic seasonal high water indicators to establish. | 5 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | Vegetation includes Bahia grass (*Paspalum notatum*), vasey grass (*Paspalum urvillei*), carpet grass (*Axonopus* sp.), and dollarweed (*Hydrocotyle umbellata*). Beyond the R/W, the wetland becomes shrubby and is vegetated with Carolina willow (*Salix caroliniana*) and primrose willow (*Ludwigia peruviana*). The wetland is seasonally flooded. The maintained roadside ditch is grassy. | 4 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.43 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.43 x 0.26 = 0.11 |

| Delta = [with-current] |
|---|
| -0.43 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART II – Quantification of Assessment Area (impact or mitigation)
## (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | WL 2413 R |
| **Impact or Mitigation** | **Assessment conducted by:** | **Assessment date:** |
| Impact, Wetland, Permanent-Secondary | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | | |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | w/o pres or current: 4 | with: 4 | This secondary assessment area includes the off-site shrubby wetland that is directly connected to the herbaceous edge within the R/W that will be permanently impacted. The surrounding uplands are ruderal and shrubby. SR 60, the railroad, and the industrial land uses act as barriers to wildlife movement into and out of this wetland area. In the post-construction condition there will be no changes to the Location and Landscape Support. |
| .500(6)(b)Water Environment (n/a for uplands) | w/o pres or current: 5 | with: 5 | Hydrology is provided by seasonal rainfall; hydrology is sufficient enough for biologic seasonal high water indicators to establish. In the post-construction condition, there will still be sufficient wetland hydrology due to the small direct impact relative to the overall size of the wetland system. |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | w/o pres or current: 4 | with: 2 | Vegetation includes Carolina willow (*Salix caroliniana* ), Peruvian primrose willow (*Ludwigia peruviana* ), and salt bush (*Baccharis halimifolia* ). In the post-construction condition, there is the opportunity for minimal changes to occur to the community structure. There will be sufficient internal wetland areas that are unaffected by the relatively minimal impacts to the edge of this wetland system. |

| Score = sum of above scores/30 (if uplands, divide by 20) | |
|---|---|
| current or w/o pres: 0.43 | with: 0.37 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.07 x 0.19 = 0.01 |

| Delta = [with-current] |
|---|
| -0.07 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 1 (Peace Creek Drainage Canal/Bridge Location) |

| FLUCCs code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| 510 | R2UB3Hx (Riverine, lower periennial, mud, permanently flooded, excavated) | Impact, Permanent, Surface Water (w/SFH) | 0.18 ac |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| Peace River | III | None |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Peace Creek Drainage Canal is a man-made drainage canal.

Assessment area description

Man-made drainage canal; spoil is occassionally found along the banks with mature trees. The canal is shallow and supports hydric vegetation edges along the toe-of-slope, and provides SFH for wading birds at this location.

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| SR 60 corridor | Not unique |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| water conveyance | None |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| Wading birds; amphibians; reptiles | listed wading birds, Wood Storks |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Wood Storks, Great Blue Heron, Great Egret, Cattle Egret (observed at bridge location)

Additional relevant factors:

None.

| Assessment conducted by: | Assessment date(s): |
|---|---|
| N. Cribbs | 6/11/2015 |

**PART II – Quantification of Assessment Area (impact or mitigation)**
**(See Sections 62-345.500 and .600, F.A.C.)**

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| SR 60 Grade Separation over CSX (FPID 436559-1-52-01) | | SW 1 Peace Creek Drainage Canal at Bridge |
| Impact or Mitigation | Assessment conducted by: | Assessment date: |
| Impact, Permanent, Surface Water (w/SFH) | NC | 6/11/2015 |

| Scoring Guidance | Optimal (10) | Moderate(7) | Minimal (4) | Not Present (0) |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | | w/o pres or current | with |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | The Peace Creek Drainage Canal is cut through a relatively rural landscape with adjacent areas being either in a natural condition or use for active cattle pastures. | 5 | 0 |
| .500(6)(b)Water Environment (n/a for uplands) | The Peace Creek Drainage Canal is normally flooded and flows to the south at this location. Areas well upstream and downstream of this location have active cattle pasture and cattle have unrestricted access to the canal. Water quality may be diminished as a result of the proximity of the cattle. | 5 | 0 |
| .500(6)(c)Community structure<br>1. Vegetation and/or<br>2. Benthic Community | Vegetation at the bridge impact area includes smartweed (*Polygonum hydropiperoides*), paragrass (*Brachiaria mutica*), and Peruvian primrose willow (*Ludwigia peruviana*). The canal is wider at this location and has shallow areas suitable for wading bird foraging. | 5 | 0 |

| Score = sum of above scores/30 (if uplands, divide by 20) | current or w/o pres | with |
|---|---|---|
| | 0.50 | 0 |

| If preservation as mitigation, |
|---|
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| For impact assessment areas |
|---|
| FL = delta x acres = |
| 0.50 x 0.18 = 0.09 |

| Delta = [with-current] |
|---|
| -0.50 |

| If mitigation |
|---|
| Time lag (t-factor) = |
| Risk factor = |

| For mitigation assessment areas |
|---|
| RFG = delta/(t-factor x risk) = |