DOCUMENT ADDENDUM
WETLAND EVALUATION REPORT
AND
BIOLOGICAL ASSESSMENT

S. R. 39
FROM I-4 TO U.S. 301
HILLSBOROUGH AND PASCO COUNTIES, FLORIDA

Work Program Item Segment Nos: 255099 1 & 256289 1
Federal Aid Project No: F-321-1(4)

This proposed project involves multi-lane improvements to S.R. 39 and the proposed extension of the Alexander Street Bypass from I-4 in Hillsborough County to U.S. 301 in Pasco County, a distance of approximately 21.2 km (13.2 mi)

Prepared for:

Florida Department of Transportation
District Seven
11201 North McKinley Drive
Tampa, Florida 33612

April 2001

The attached Wetland Evaluation Report and Biological Assessment was completed in September 1995. This addendum provides updated project information that was not available in the previous Wetland Evaluation Report and Biological Assessment that was available for public review prior to and at the Public Hearing that was held on April 20, 2000. This addendum improves consistency between the Wetland Evaluation Report and Biological Assessment and the Environmental Assessment/Finding of No Significant Impact (EA/FONSI) that was approved by the Federal Highway Administration (FHWA) on November 14, 2000.

INTRODUCTION

Through the Project Development and Environment (PD&E) Study process, the Florida Department of Transportation (FDOT) evaluated the expansion of S.R. 39 to a four-lane facility from the vicinity of Joe McIntosh Road in Hillsborough County to the vicinity of U.S. 301 in Pasco County (Addendum Figure 1). In addition, the FDOT evaluated the extension of Alexander Street Bypass as a four-lane facility from Interstate 4 (I-4) northward to S.R. 39 in the vicinity of Joe McIntosh Road.

The S.R. 39 corridor is functionally classified as a north/south minor arterial facility between I-4 and U.S. 301. S.R. 39 is part of the Federal-Aid Primary and State Highway System and is classified as an emergency evacuation route. The project limits extend from I-4 in Plant City and Hillsborough County to U.S. 301 in Pasco County, a distance of 21.2 kilometers (km) [13.2 miles (mi)].

The existing S.R. 39 within the project limits contains a two-lane undivided typical section with 3.658 meter (m) [12 foot (ft)] wide travel lanes, 1.219 m (4 ft) paved shoulders, and open roadside ditches on both sides of the roadway. The existing right-of-way (ROW) varies from 18.288 m (60 ft) to 45.720 m (150 ft).

S.R. 39 is currently a two-lane undivided roadway with drainage ditches adjacent to the existing roadway. A CSX Transportation railroad line parallels the existing roadway on

the east side of S.R. 39 for approximately 17.7 km (11.0 mi) from the existing S.R. 39 and I-4 intersection to a point just north of Crystal Springs in Pasco County.

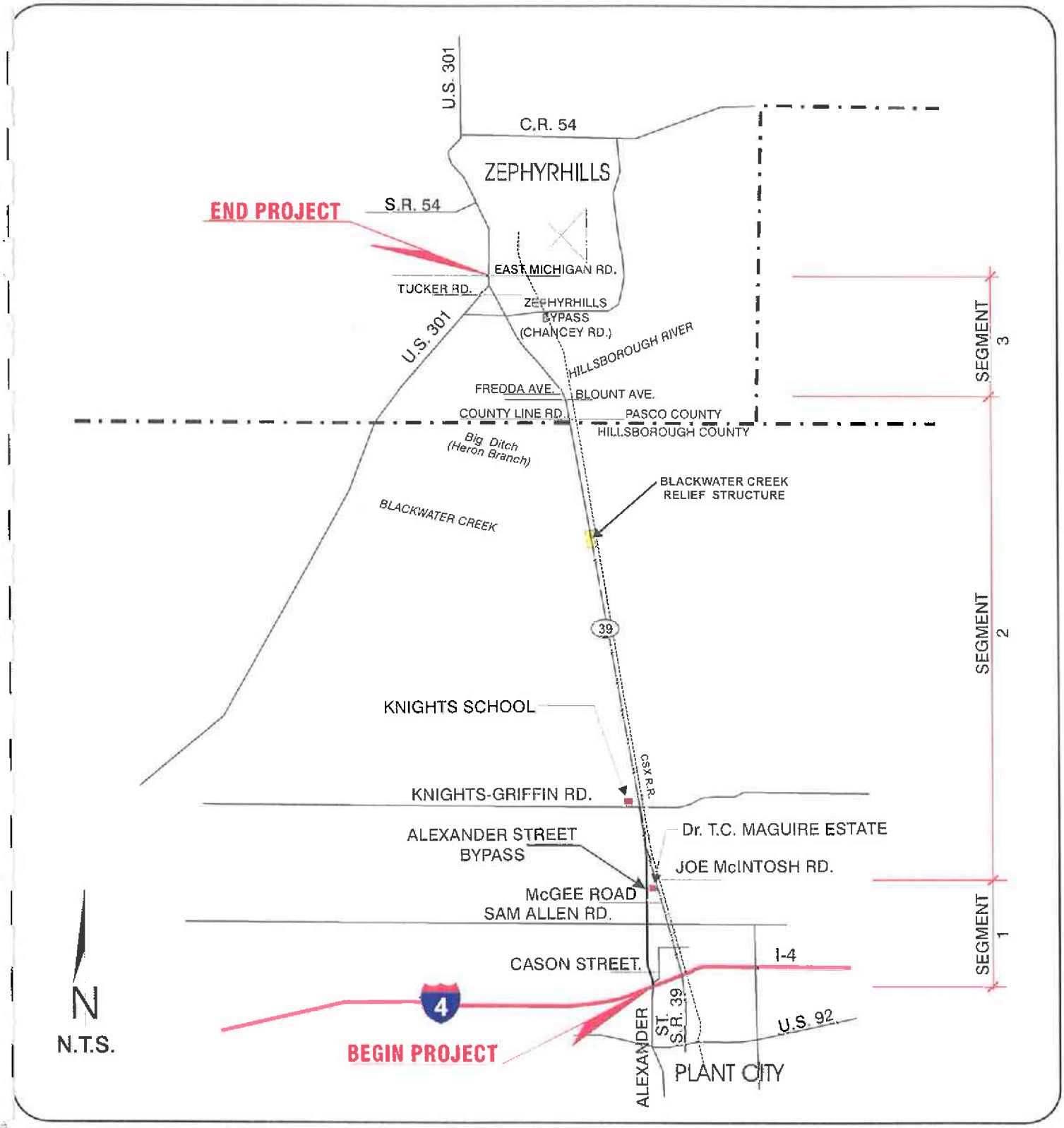
PROPOSED IMPROVEMENTS

The FHWA approved project involves multi-lane improvements to S.R. 39 and the planned extension of the Alexander Street Bypass from I-4 in Hillsborough County to U.S. 301 in Pasco County, a distance of approximately 21.2 km (13.2 mi). The Alexander Street Bypass portion from I-4 to the vicinity of Joe McIntosh Road is approximately 4.02 km (2.5 mi). This new alignment alternative is located to the west of S.R. 39 between I-4 and Joe McIntosh Road due to significant land use constraints on S.R. 39, including the Memorial Park Cemetery in the vicinity of I-4. Overall, improvements will consist of a four-lane divided roadway on new alignment (the Alexander Street Bypass) and improvement to S.R. 39 north of the merge point with the Alexander Street Bypass northward. The existing S.R. 39 north of the merge point will be improved from a two-lane undivided roadway to a four-lane divided facility.

DOCUMENT SPECIFIC UPDATES

This update to the Wetland Evaluation Report and Biological Assessment includes the following:

- Project Location Map has been updated (Addendum Figure 1).
- The Wetland Evaluation Report And Biological Assessment (September 1995) was updated in January 2000 (Addendum - Wetland Evaluation Report And Biological Assessment). The intent of the January 2000 addendum was to evaluate any changes that had occurred since the original 1995 document was approved. The January 2000 document has been made part of this addendum (Addendum Attachment 1).



FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 39

From I-4 to U.S. 301
Pasco County, Florida

PROJECT LOCATION MAP

Work Program Item Segment #: 255099 1 & 256289 1
FAP #: F321-1(4)

FIGURE 1

ADDENDUM

WETLAND EVALUATION REPORT
AND
BIOLOGICAL ASSESSMENT

For the

STATE ROAD 39 PD&E PROJECT CORRIDOR
(From I-4 to US 301)
HILLSBOROUGH AND PASCO COUNTIES

Work Program Item Segment Number 255099 1
Federal-Aid Program Number F-321-1(4)

January 2000

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1.0 PROJECT DESCRIPTION

The proposed project involves improvements to approximately 22 kilometers [km] (13.5 miles) of SR 39, in Hillsborough and Pasco Counties between Interstate 4 at Plant City and US 301 at Zephyrhills (Figure 1). Proposed improvements include widening the roadway from the current 2 lanes to 4 lanes with the addition of a median and the upgrading of bridge crossings. In addition, there is a recommended alternative for the new bypass alignment concept from the vicinity of Alexander Street and Interstate 4 to a point on SR 39 north of Knights-Griffin Road in Hillsborough County. A project location map is included in Appendix A.

The Florida Department of Transportation (FDOT) prepared a *Wetaland Evaluation Report and Biological Assessment* addressing the biota along the study corridor in September 1995. The report was submitted to the United States Fish and Wildlife Service (FWS) for review and concurrence. The FWS concurred in January 1996 with the FDOT's determination that the proposed project is not likely to adversely affect the species addressed in the assessment provided that the measures to protect the eastern indigo snake (*Drymarchon corais couperi*) be implemented during construction (FWS Log No: 4-1-96-096F). A copy of the no effect determination letter is in Appendix A.

The study was put on hold due to the fact that portions of the study corridor were removed from the Long Range Transportation Plan (LRTP) for Hillsborough County and Pasco County. The LRTP has since been updated so the FDOT is carrying forth the proposed recommendations. The FDOT is anticipating a Spring 2000 Public Hearing. The intent of this addendum is to reevaluate any changes that have occurred since the above mentioned correspondence.

2.0 ALTERNATIVE ALIGNMENT ANALYSIS

The previously recommended alignment is being carried forth to the upcoming Spring Public Hearing. The proposed project's original segments remain unchanged. The FDOT design standards have changed since the original study's conceptual design. The lane widths have remained the same. However, the median widths and border widths have increased. For Segment 3 a west alignment shift or an east alignment shift from the current roadway is still being evaluated. The design options are referred to as Alternative # 1 and Alternative # 2. The recommended alternatives along with the typical sections are included in Appendix B.

3.0 WETLANDS

3.1 Wetland Impacts

As mentioned in the Alternative Alignment Analysis the FDOT design standards have changed. The changes in typical sections resulted in additional wetland impacts from the original study. The increase from 63 meters (206 feet) to 82 meters (268 feet) of right-of-way for the new alignment (I-4 to Cason Street) will be required due to the amount of fill necessary for the Pemberton Creek floodplain. The following tables quantify the estimated impacts to wetland areas along the corridor. The estimated wetland impacts were generated from uncontrolled aerials of the conceptual design.

Table 1 Wetland Impact Areas

Alternative # 1 Segment 3 West Shift

Segment	Classification		Total Hectares/Acres
	Emergent (PEM)	Forested (PFO)	
1	4.0 (10.0)	3.0 (7.5)	7.0 (17.5)
2	2.6 (6.5)	4.8 (11.8)	7.4 (18.3)
3	2.2 (5.4)	1.4 (3.4)	3.6 (8.8)

Alternative # 2 Segment 3 East Shift

Segment	Classification		Total Hectares/Acres
	Emergent (PEM)	Forested (PFO)	
1	4.0 (10.0)	3.0 (7.5)	7.0 (17.5)
2	2.6 (6.5)	4.8 (11.8)	7.4 (18.3)
3	0.7 (1.7)	1.5 (3.7)	2.2 (5.4)

3.2 Wetland Impact Mitigation

There are no practical alternatives to this construction in wetlands. All practicable measures will be used to reduce harm to wetlands. Short term construction related impacts will be minimized by the adherence to FDOT's "Standard Specifications for Road and Bridge Construction." Mitigation will be required for impacts to wetlands which result from roadway construction. Mitigative actions are defined by the National Environmental Policy Act and subsequent regulations as actions to avoid, minimize, rectify over time or compensate for impacts by providing substitute resources.

For wetland impacts which cannot be avoided, the FDOT will utilize wetland mitigation through Senate Bill 1986. Through this bill, Chapter 373.4137 Mitigation Requirements was created. This Chapter states in part, "... mitigation for the impact of transportation projects proposed by the Department of Transportation can be more effectively achieved by regional, long-range mitigation planning rather than on a project-by-project basis. It is the intent of the Legislation that mitigation to offset the adverse effects of these transportation projects be funded by the Department of Transportation and carried out by the Department of Environmental Protection (FDEP) and the water management districts,...". As a result of this bill, the FDOT will provide funding to the Southwest Florida Water Management District (SWFWMD) for the construction of the new wetlands of equal

or better function and value. The current funding is $75,000 per acre of impact. The FDOT may also mitigate project impacts without the use of this legislation.

4.0 OUTSTANDING FLORIDA WATERS

Effective April 12, 1995, portions of the Hillsborough River and Blackwater Creek obtained an Outstanding Florida Water designation. The water bodies within the project corridor are Outstanding Florida Waters.

5.0 WILDLIFE AND HABITAT

Hillsborough County's Environmental Lands Acquisition and Protection Program (ELAPP) has acquired roughly 790 hectares (1,950 acres) along the study corridor. The FDOT will assess the applicability of the ELAPP acquisition at a future reevaluation phase. A map of the survey is included in Appendix B.

6.0 Federally Listed Species

No federally threatened or endangered floral species were observed or are known to occur within the project corridor. The entire corridor was surveyed on numerous occasions, strongly indicating the absence of these species. Faunal species federally classified as threatened or endangered that are present or have the potential to be present include the bald eagle and eastern indigo snake.

6.1 Bald Eagle

A new territory for the bald eagle (*Haliaeetus leucocephalus*) has been identified since the 1995/1996 USFWS coordination. The nesting pair is located 1,561 meters (5,121 ft) east of SR 39 in the vicinity of the Knights-Griffin intersection. The Florida Fish and Wildlife Conservation Commission has not assigned a nest designation to this territory at this time. Details of the nest and recommended management zones are included in Appendix B.

6.2 Eastern Indigo Snake

The eastern indigo snake (*Drymarchon corais couperi*) is a threatened species that occurs throughout peninsular Florida. This species is actually characteristic of moist habitats, but inhabits sandy xeric habitats in conjunction with gopher tortoises (*Gopherus polyphemus*). In the drier habitats, the eastern indigo snake will occupy gopher tortoise burrows. The preferred habitats include pine flatwoods, xeric oak stands, palmetto scrub, and tropical hammocks.

No eastern indigo snakes were observed within the study area during any of the field surveys. The prevalence of potential habitat within the corridor could potentially involve the eastern indigo snake. However, to minimize any impacts to individual eastern indigo snakes during construction, the following special provision will be included in the construction contract to advise the contractor of the potential presence of this species and its protected status:

* If an eastern indigo snake is sighted during construction, the contractor will be required to cease all operation(s) which might cause harm to the snake.

* If the snake does not move away from the construction area, a state or federal biologist will be contacted to capture and relocate the snake to suitable habitat either adjacent to the project area or off-site to an acceptable donor site.

* If an eastern indigo snake is killed or found dead within the construction area, the snake should be frozen and the USFWS Jacksonville Field Office [(904) 232-2580] via the FDOT Environmental Management office will be notified immediately at (813) 975-6457.

* In addition, educational signs with pictures shall be posted throughout the project prior to initiation of construction.

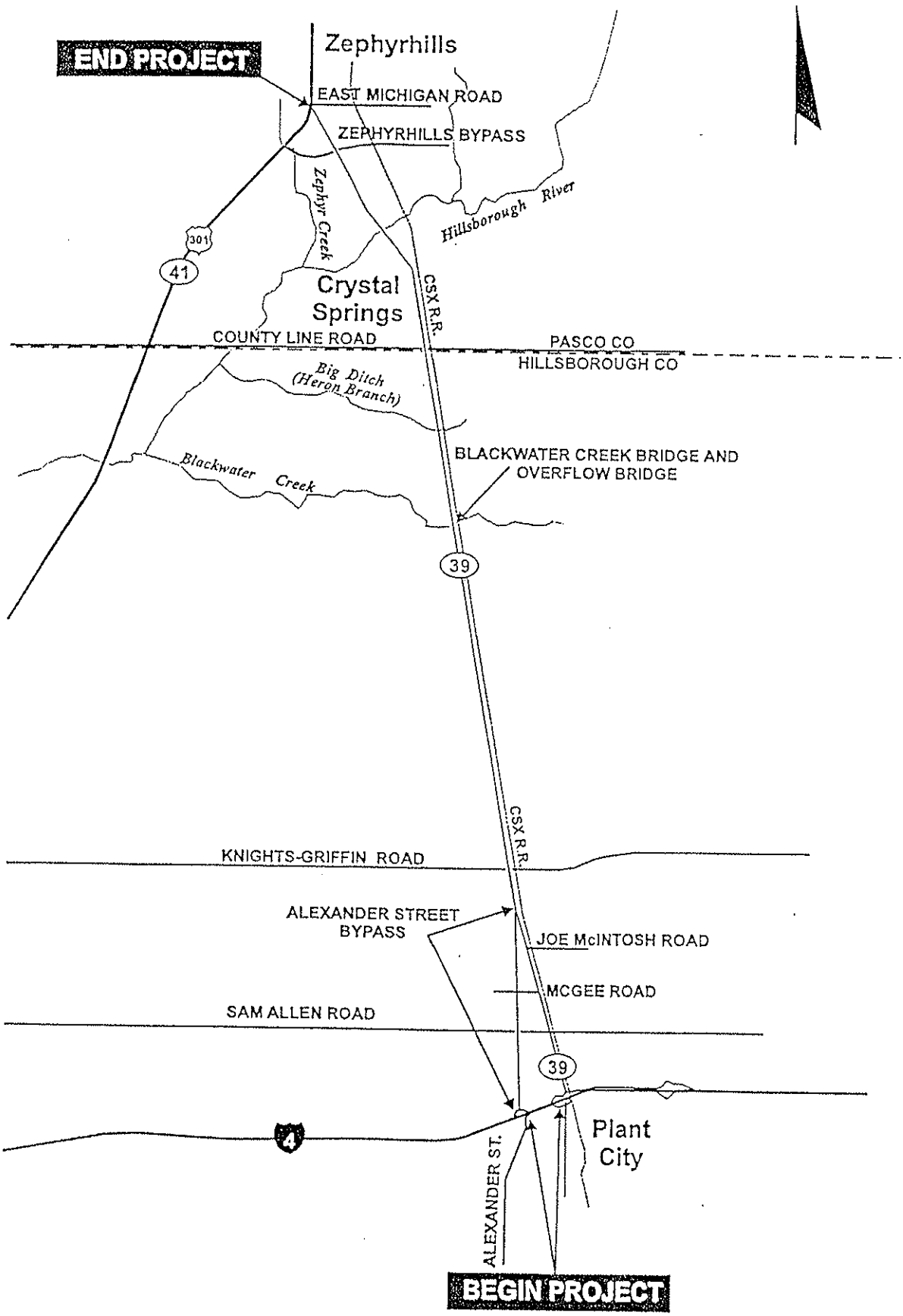
Due to the condition of the surrounding area, the abundance of habitat in the project area, and the special provisions to protect transient individuals encountered during construction, the proposed project is not anticipated to adversely affect the eastern indigo snake.

7.0 FEDERAL SPECIES INVOLVEMENT SUMMARY

The project has been evaluated for impacts on federally protected threatened and endangered species. A literature review was conducted to determine those possible threatened or endangered species which may inhabit the project area.

Based on the above results of the literature review and the field surveys conducted for the proposed roadway improvements, with implementation of the precautionary measures for the eastern indigo snake, the FDOT has determined that no federally listed threatened or endangered species will be affected by the project. Furthermore, the proposed project is not located in an area designated as critical habitat by the U.S. Department of the Interior. Therefore, FDOT on behalf of the Federal Highway Administration has determined that the proposed project will have "No Effect" on any federally protected threatened or endangered species.

APPENDIX A



PROJECT LOCATION MAP

S.R. 39 FROM I-4 TO U.S. 301

WPI SEGMENT No. 255099 1 FAP No. F-321-1(4)

HILLSBOROUGH AND PASCO COUNTIES, FLORIDA

United States Department of the Interior
FISH AND WILDLIFE SERVICE
6620 Southpoint Drive, South
Suite 310
Jacksonville, Florida 32216-0912

IN REPLY REFER TO:

JAN 25 1996

Mr. Todd Mecklenborg
Project Development and Environment
Florida Department of Transportation
11201 N. Malcolm McKinley Dr., MS 7-500
Tampa, Florida 33612-6403

RE: State Road 39 Project Corridor in Hillsborough and Pasco Counties

FWS Log No: 4-1-96-096F

Dear Mr. Mecklenborg:

This responds to your letter and Biological Assessment dated November 29, 1995, pursuant to Section 7 of the Endangered Species Act of 1973, as amended (Act)(16 U.S.C. 1531 *et seq.*). The Florida Department of Transportation (FDOT) evaluated the impact this project would have on several federally threatened/endangered species and determined no effect.

The applicant proposes to make improvements to state road 39, in Hillsborough and Pasco Counties between Interstate 4 at Plant City and U.S. 301 at Zephyrhills. Improvements include road expansion from 2 lanes to 4 lanes for a distance of 13.5 miles, the addition of a median, and the upgrading of several bridge crossings. Additionally there is a preferred alternative for a new bypass alignment concept in the vicinity of Alexander Street.

The project corridor consists of various habitats as assessed by FDOT biologists and their consultant, HDR. Several different upland and wetland ecosystems exist, and have been researched and surveyed for the presence of threatened and endangered species. Woodstorks (*Mycteria americana*) closest to the project area were found to inhabit rookeries 9 miles to the northeast and 12 miles to the west. Bald eagle (*Haliaeetus leucocephalus*) nests are located more than 2 miles to the east and west of the project corridor. The eastern indigo snake (*Drymarchon corais couperi*) was not observed but may occur in various habitats in the area. If found during construction, FDOT has agreed to use the standard construction precautions, and will relocate the snake to an undisturbed area adjacent to the site. If an animal is accidentally killed due to construction activity, the Jacksonville office of the U.S Fish and Wildlife Service will be contacted.

The red-cockaded woodpecker (*Picoides borealis*) was not observed in the area due to the absence of suitable habitat. Accordingly, all nesting status and distribution information has been researched and confirmed by a Service biologist

Regarding the Florida scrub jay (*Aphelocoma coerulescens coerulescens*), there is a family near the project site, approximately 1.5 miles to the west of state road 39 near the Pasco County line. However, the distance between it and the proposed project are sufficient that it should not disturb the existing family.

Based on our review, the Service believes the project is not likely to adversely affect the species addressed in the assessment, and concurs with the no effect determination made by FDOT.

Although this does not represent a Biological Opinion as described in Section 7 of the Act, it does fulfill the requirements of the Act and no further action is required. If modifications are made in the project or additional information becomes available on listed species, reinitiation of consultation may be required.

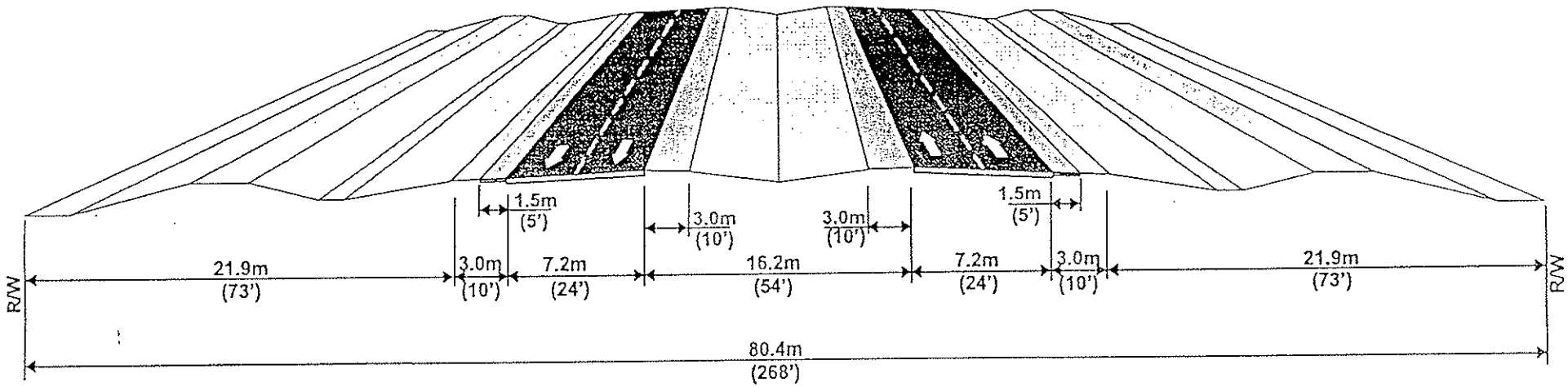
Sincerely yours,

Michael M. Bentzien

Michael M. Bentzien
Assistant Field Supervisor

cc: Manz

APPENDIX B



FROM I-4 TO CASON STREET

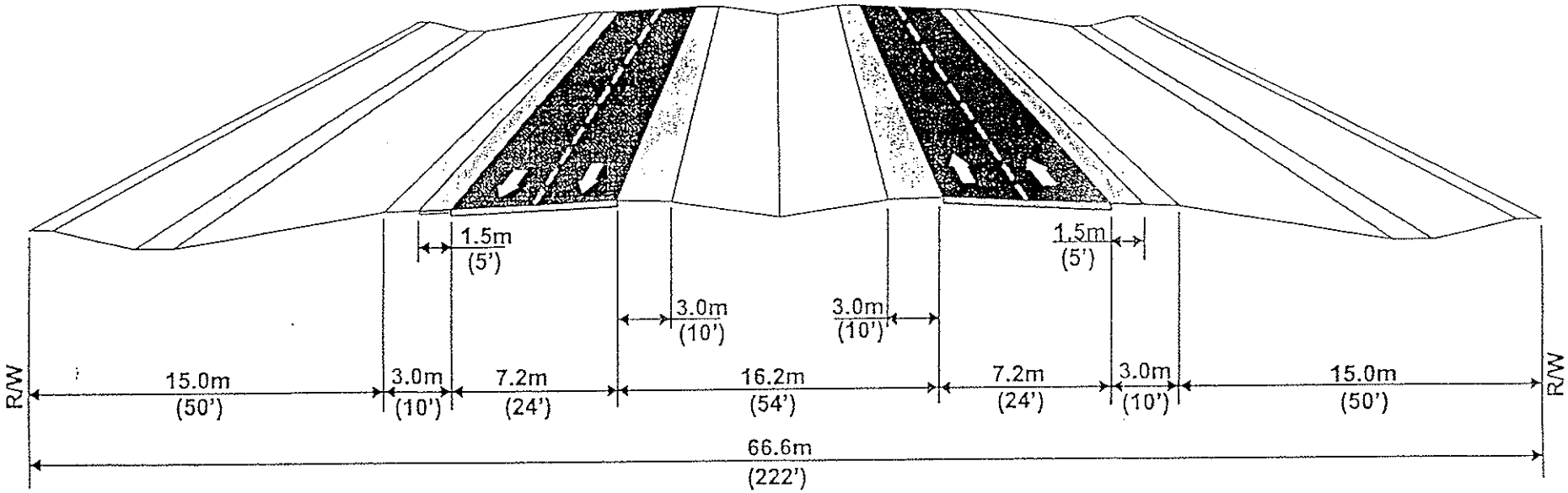
Based on 6' of Fill to Proposed PGL

TYPICAL SECTION 6

S.R. 39 FROM I-4 TO U.S. 301

WPI SEGMENT No. 255099 1 FAP No. F-321-1(4)

HILLSBOROUGH AND PASCO COUNTIES, FLORIDA



FROM CASON STREET TO S.R. 39

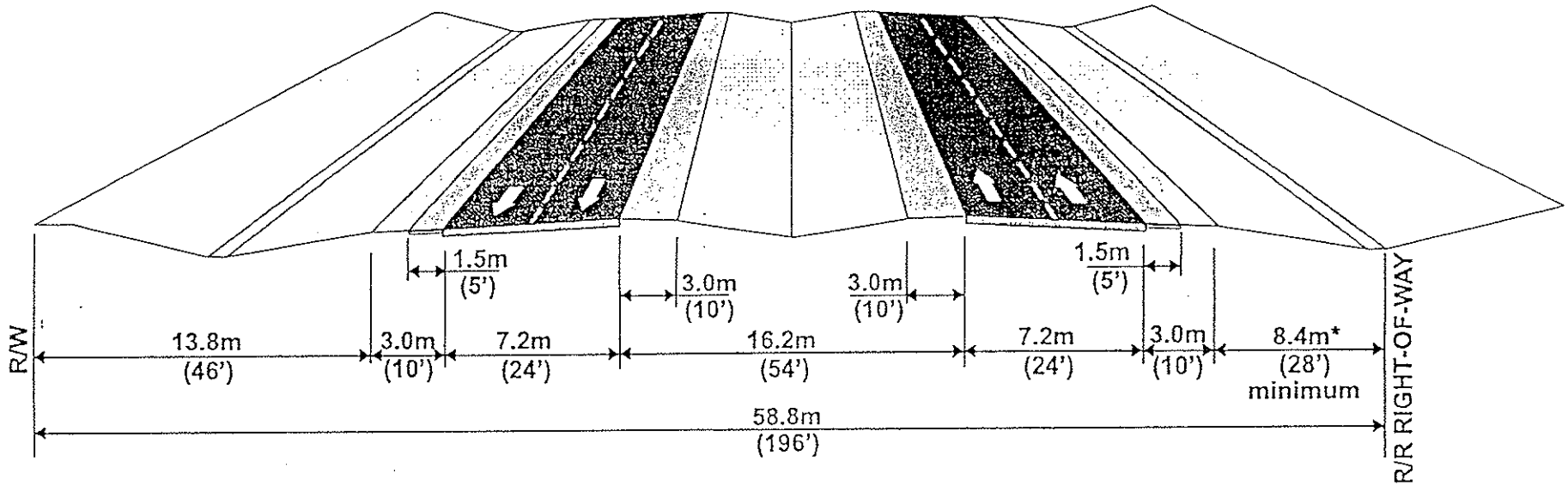
Based on 3' of Fill to Proposed PGL

TYPICAL SECTION 7

S.R. 39 FROM I-4 TO U.S. 301

WPI SEGMENT No. 255099 1 FAP No. F-321-1(4)

HILLSBOROUGH AND PASCO COUNTIES, FLORIDA



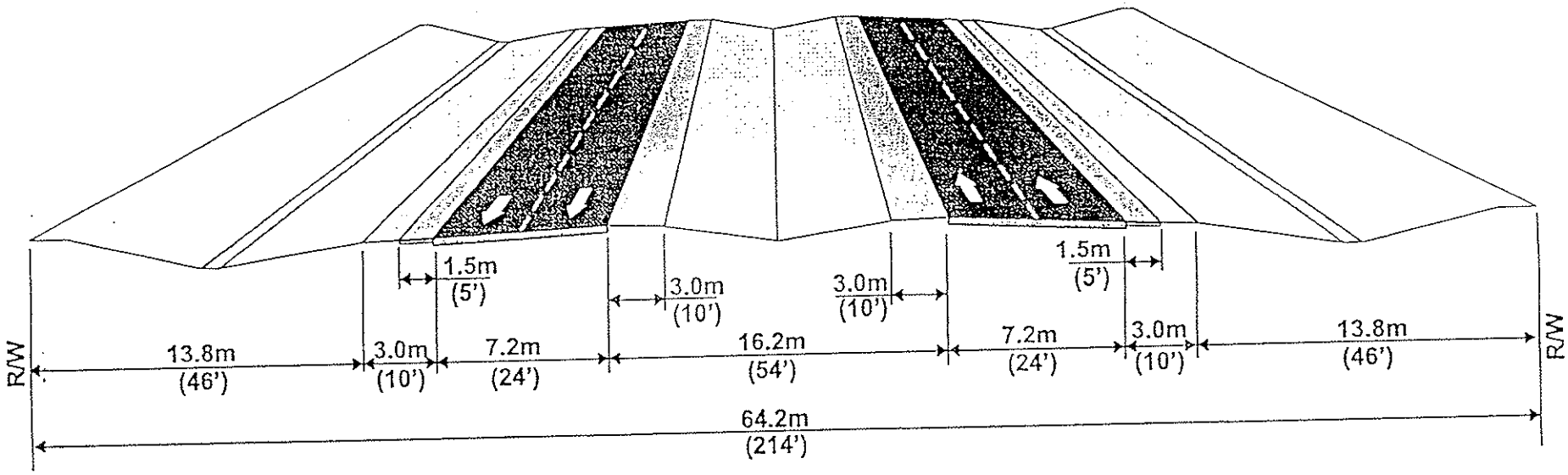
FROM S.R. 39 TO BLOUNT STREET

Based on 1.5' of Fill to Proposed PGL & Sharing R/R Right-of-Way

* Does Not Meet Border Criteria.
However, it does meet clear zone criteria.

TYPICAL SECTION 8

S.R. 39 FROM I-4 TO U.S. 301
WPI SEGMENT No. 255099 1 FAP No. F-321-1(4)
HILLSBOROUGH AND PASCO COUNTIES, FLORIDA



FROM BLOUNT AVENUE TO SHADY OAKS DRIVE

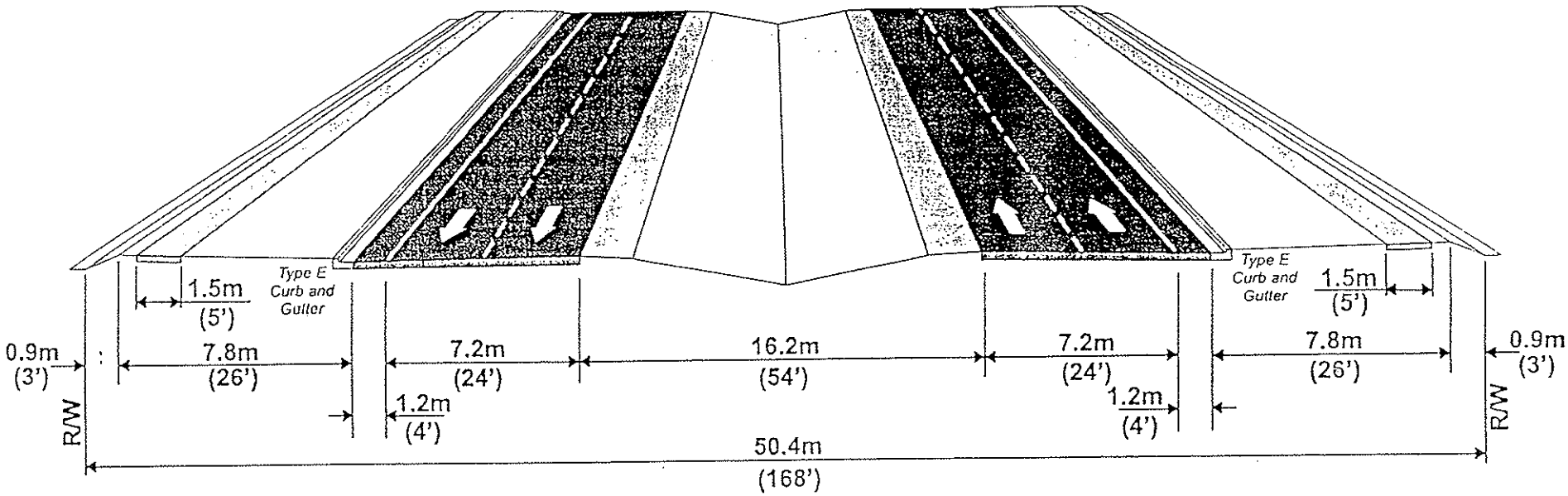
Based on 1.5' of Fill to Proposed PGL

TYPICAL SECTION 9

S.R. 39 FROM I-4 TO U.S. 301

WPI SEGMENT No. 255099 1 FAP No. F-321-1(4)

HILLSBOROUGH AND PASCO COUNTIES, FLORIDA



FROM SHADY OAKS DRIVE TO U.S. 301

Based on 1.5' of Fill to Proposed PGL

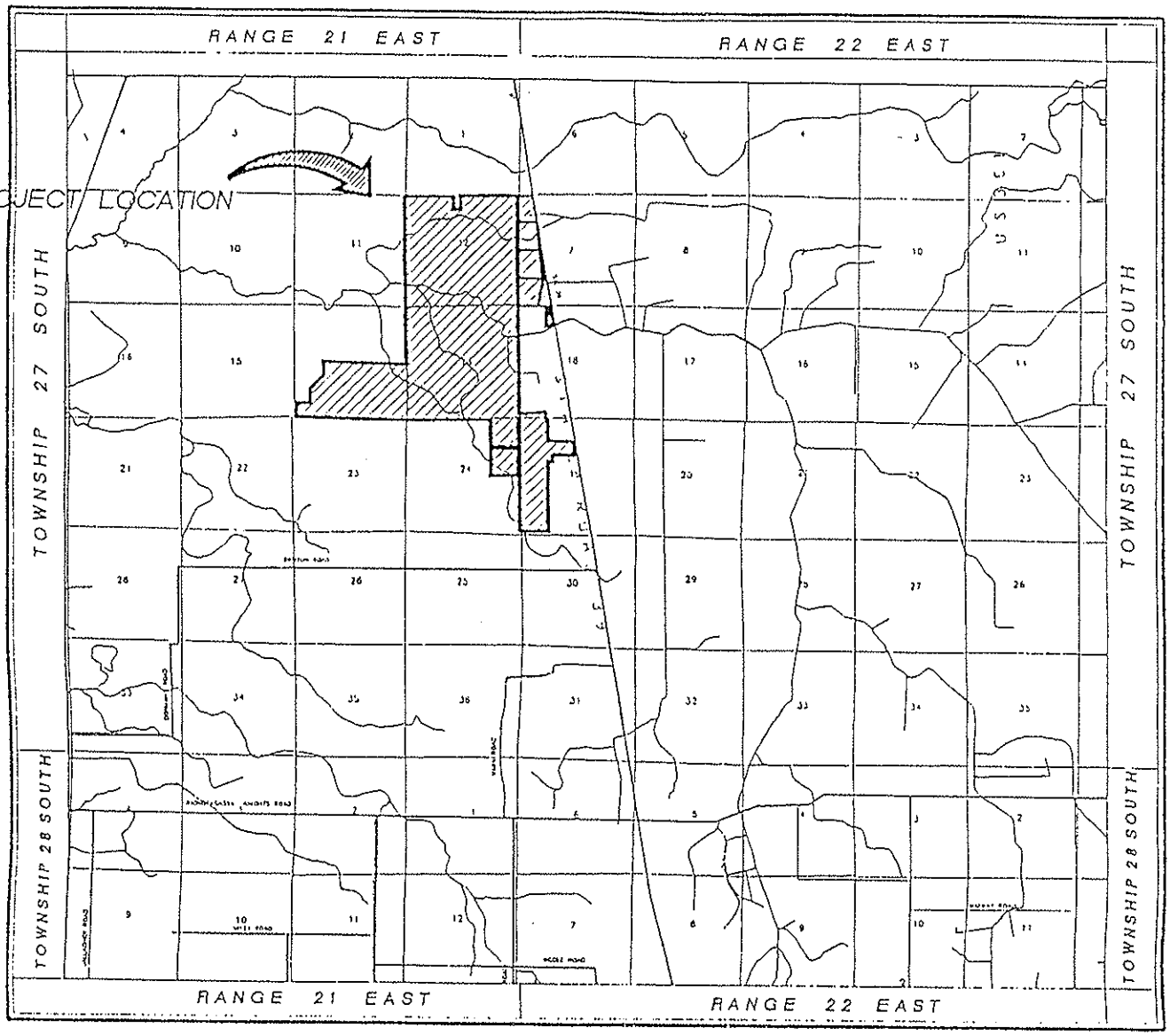
TYPICAL SECTION 10

S.R. 39 FROM I-4 TO U.S. 301

WPI SEGMENT No. 255099 1 FAP No. F-321-1 (4)

HILLSBOROUGH AND PASCO COUNTIES, FLORIDA

MAP OF SURVEY



ACREAGES

PARCEL 1

Section 12-27-21	640.36 Acres
Section 13-27-21	645.73 Acres
Section 14-27-21	275.14 Acres
Section 24-27-21	76.00 Acres
Section 7-27-22	
Crystal Springs Colony Farms	
Lots 8B, 9, 10A, 23B, 24, 25, 26A, 26B, 39B, 39C, 40, 41, 42A, 42B, 55A, 55B, 56, 57, 58A, 58B	119.0 Acres
Section 18-27-22	
North of Blackwater Creek	5.16 Acres
Patrinostro Road Area (not including maintained R/W)	8.47 Acres
Section 19-27-22	
Moriczville (not including R/W)	180.92 Acres
TOTAL ACREAGE (not including any right-of-way)	1950.87 Acres

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 7 - SURVEY - G.P.S. UNIT
EAGLES NEST LOCATION DATABASE
SHEET 1 OF 2

RETRIEVAL DATE 01/12/2000

STATE PLANE COORDINATES (FLORIDA WEST ZONE - NAD83 90 ADJUSTMENT)

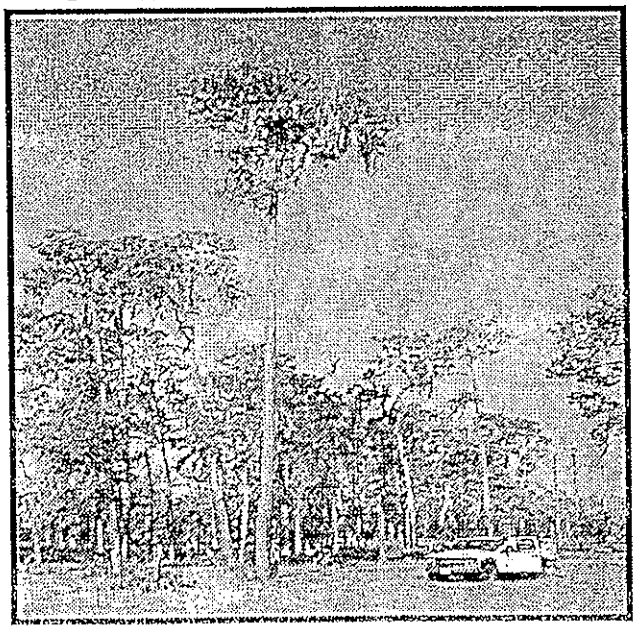
Eagles' Nest Designation :HL-XX	
WPI Seg. No.	255099 1
County	HILLSBOROUGH
State Road	39
County Road	N/A
LATITUDE	28° 04' 58.17"
LONGITUDE	82° 07" 23.34"
Northing (y)	415,393.5 METERS
Easting (x)	187,896.7 METERS

Data Verified by:

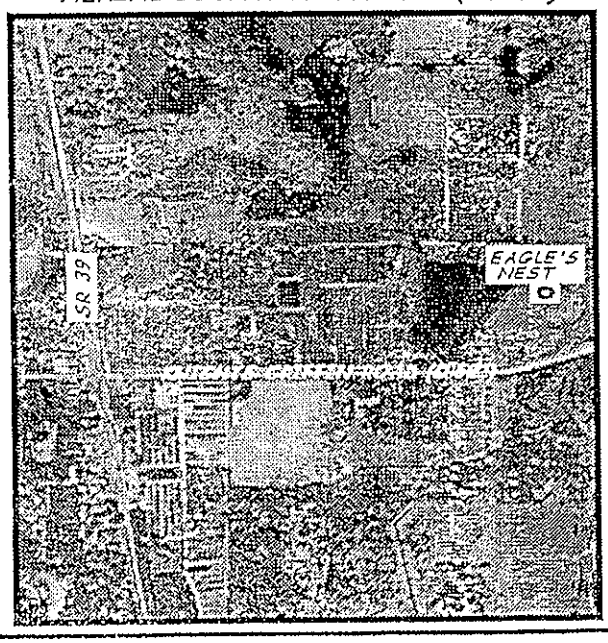
Alex W. Parnes, PSM
(DISTRICT 7 GPS COORDINATOR)

Field Crew
TODD MECKLENBORG (BIOLOGIST)
ALEX PARNES (SURVEYOR)
MIKE MALUDA (SURVEYOR)
JOSE SILVA (SURVEYOR)

DIGITAL PHOTO TAKEN AT SITE



AERIAL LOCATION PHOTO (N.T.S)



To reach this location from :

The nest is approximately 1561 meters (5121 ft) east of the east edge of pavement of SR 39 and approximately 563 meters (1847 ft.) north of the north edge of pavement of Knights Griffin Road. Please call Todd Mecklenborg at (813)975-6457. Suncom:512-7814 FAX:(813)975-6451. Toll Free: 1-800-226-7220. Internet address:todd.mecklenborg@dot.stste.fl.us . Address: Environmental Management Office 11201 N. McKinley Drive Mail Station 7-500 District Seven, Tampa, Florida 33612-6456.

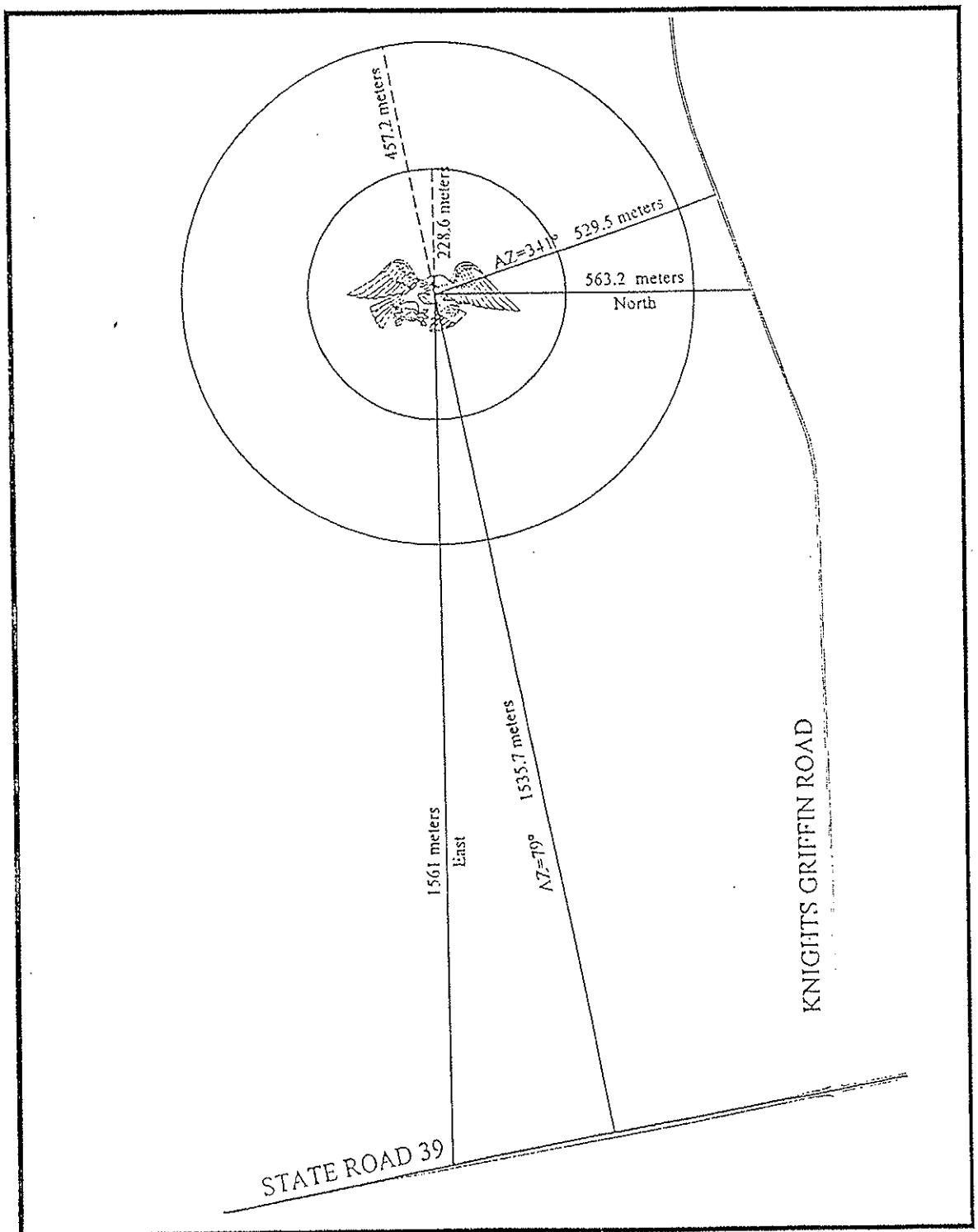
Details of Nest

The field reconnaissance occurred on 12/09/1999. Personal communication with Mr. Rodger Perry, Carlton Brothers Ranch manager, indicated that this is the third season the pair has had a nest at this location. The Florida Fish and Wildlife Conservation Commission has not given a nest designation at this location yet.

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 7 - SURVEY - G.P.S. UNIT
EAGLES NEST LOCATION DATABASE
SHEET 2 OF 2

LATITUDE : 28° 04' 58.170" X (EASTING) : 415393.5 METERS

LONGITUDE : 82° 07' 23.340" Y (NORTHING) : 187896.7 METERS



HL-XX NEST LOCATION AND MANAGEMENT ZONES

FIGURE 2

WETLAND EVALUATION REPORT
AND
BIOLOGICAL ASSESSMENT

For The

STATE ROAD 39 PD&E PROJECT CORRIDOR
(From I-4 to US 301)
HILLSBOROUGH AND PASCO COUNTIES

WPI Numbers 7113335 and 7115925
State Project Numbers 10200-1508 and 14110-1503
FAP Number F-321-1(4)

September, 1995

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LIST OF ILLUSTRATIONS

1.0 PROJECT DESCRIPTION

The proposed project involves improvements to approximately 22 kilometers [km] (13.5 miles) of SR 39, in Hillsborough and Pasco Counties between Interstate 4 at Plant City and US 301 at Zephyrhills (Figure 1). Proposed improvements include widening the roadway from the current 2 lanes to 4 lanes with the addition of a median and the upgrading of bridge crossings. In addition, there is a preferred alternative for the new bypass alignment concept in the vicinity of Alexander Street and Interstate 4 to a point on SR 39 in the vicinity of Joe McIntosh Road in Hillsborough County.

This report reviews potential environmental impacts (wetlands and wildlife) which may be associated with the proposed road improvements. Comments from the permitting agencies based on the review of this report will help in the refinement of the preferred alternative and its related typical sections in an effort to minimize impacts to wetlands and wildlife habitat resources.

The 22 km (13.5 miles) stretch of SR 39 traverses a relatively flat terrain dominated by agricultural land uses, natural areas, and some rural residential and commercial development. Environmental concerns include the crossing of the Hillsborough River, Blackwater Creek and a variety of marsh and cypress systems.

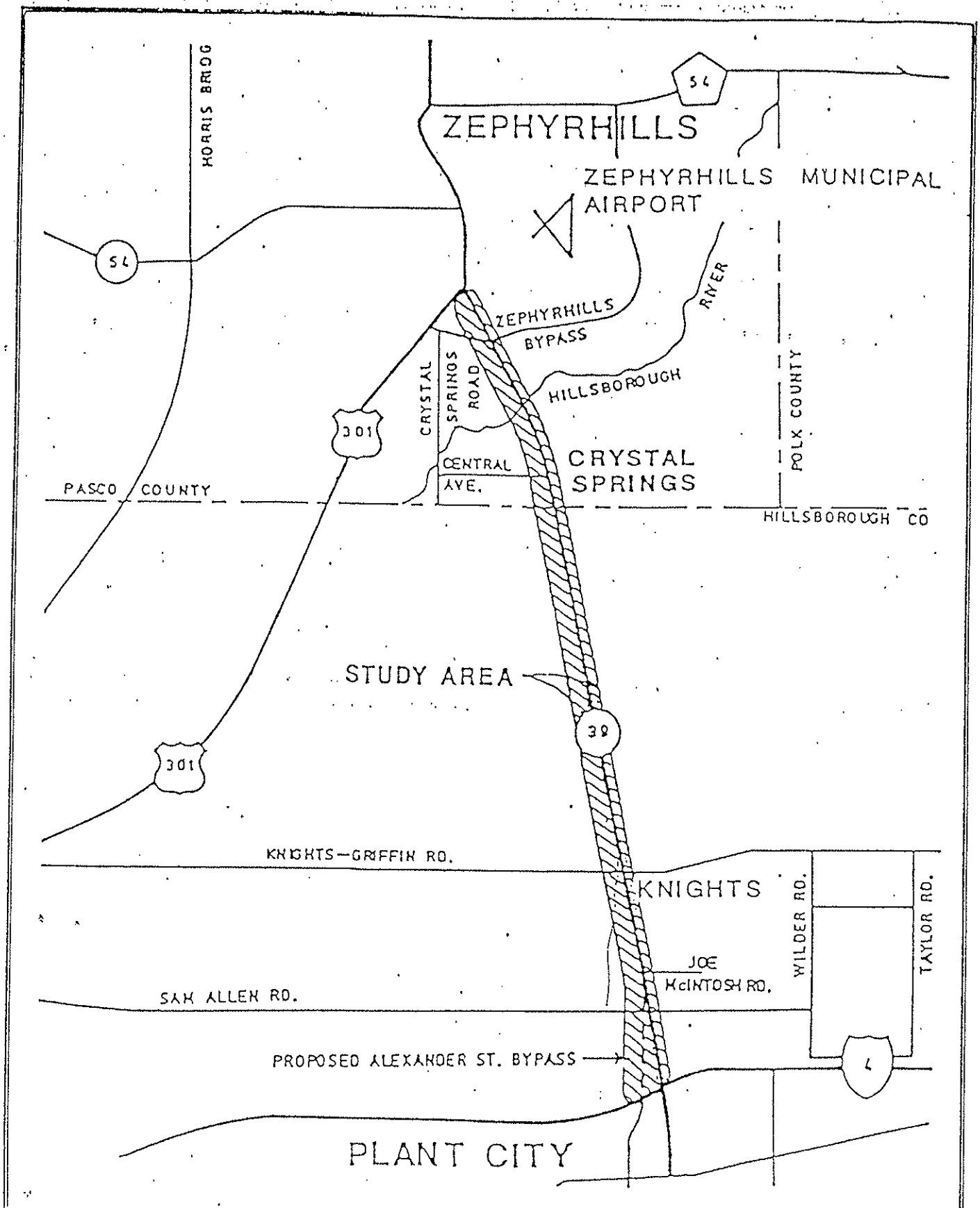
The CSX Railroad runs adjacent and parallel to the eastern side of SR 39 between I-4 and a point 4 km (2.5 miles) south of Zephyrhills. Due to the proximity of the railroad to SR 39, future improvements will need to be located primarily on the western side of the existing roadway to the point SR 39 and the railroad diverge.

2.0 NEED FOR PROJECT

Due to continuing growth in eastern Hillsborough and Pasco Counties the existing roadway network continues to experience increasing levels of traffic demands. By the design year 2020, traffic volumes are forecast to approximately triple on SR 39. These volumes would result in unacceptable levels of congestion, creating undesirable air quality levels and impede emergency service in the area. The proposed project will help alleviate future traffic congestion by providing additional travel capacity and by providing an improved major roadway connection between the eastern Hillsborough County/Plant City area and the eastern Pasco County/Zephyrhills area.

3.0 ALTERNATIVE ALIGNMENT ANALYSIS

To establish the alternative that will be in the overall best public interest, numerous build alternatives were developed for comparison to the No-Build alternative. These build alternatives were developed conceptually on aerial photographs at a scale of 1"=100' and are available under separate cover.



STUDY AREA

Figure 1

3.1 No Project Alternative

If the Alexander Street Bypass is not constructed or if SR 39 is not multi-laned in the project area, there will be advantages and disadvantages as discussed below:

No Alexander Street Bypass

If Alexander Street is not extended from I-4 northward to SR 39 the advantages would be:

- No direct social-economic impacts on the existing community located west of SR 39,
- No impacts to the wetland and wildlife communities in the Bypass area,
- No expenditures of funds for constructing the Bypass.

Disadvantages of not constructing the Alexander Street Bypass include:

- Approximately 38,000 vehicles per day are expected to be on SR 39 north of I-4 creating unacceptable traffic conditions,
- Because the SR 39 interchange with I-4 is being eliminated as part of the I-4 improvements, there would be an estimated 32,000 vehicles per day using the proposed frontage road from SR 39 to gain access to the Alexander Street interchange. Half of this traffic would be adjacent to an established residential neighborhood located south of I-4,
- Without the Alexander Street Bypass there would be a strong need to widen SR 39 north of I-4 in the area of the cemetery. This widening would require acquisition of occupied graves,
- If Alexander Street is not extended north to SR 39, there would not be a continuous multi-laned facility from north of I-4 southward through Plant City,
- Response times for emergency services would be increased significantly,
- Not consistent with the Hillsborough and Pasco County local government comprehensive plans and the Hillsborough County Metropolitan Planning Organization long range transportation plan.

No SR 39 Improvement

If SR 39 is not multi-laned from the Alexander Street Bypass to US 301 the advantages would be:

- No direct socio-economic impacts on the existing residential and business communities along SR 39,

- No impacts to the wetland and wildlife communities in the SR 39 area,
- No expenditures of funds for constructing SR 39.

Disadvantages of not multi-laning SR 39 include:

- The future level of service on the existing roadway would be unacceptable for motorists,
- Response times for emergency services would be increased significantly,
- Air pollution along SR 39 would be expected to increase with the increased traffic congestion,
- Travel times along SR 39 would increase significantly and would affect the regional mobility within the SR 39 corridor.
- Not consistent with the Hillsborough and Pasco County local government comprehensive plans and the Hillsborough Metropolitan Planning Organization long range transportation plan.

Postponing the Improvements

If the construction of the Alexander Street Bypass and SR 39 was postponed, the following disadvantages could develop:

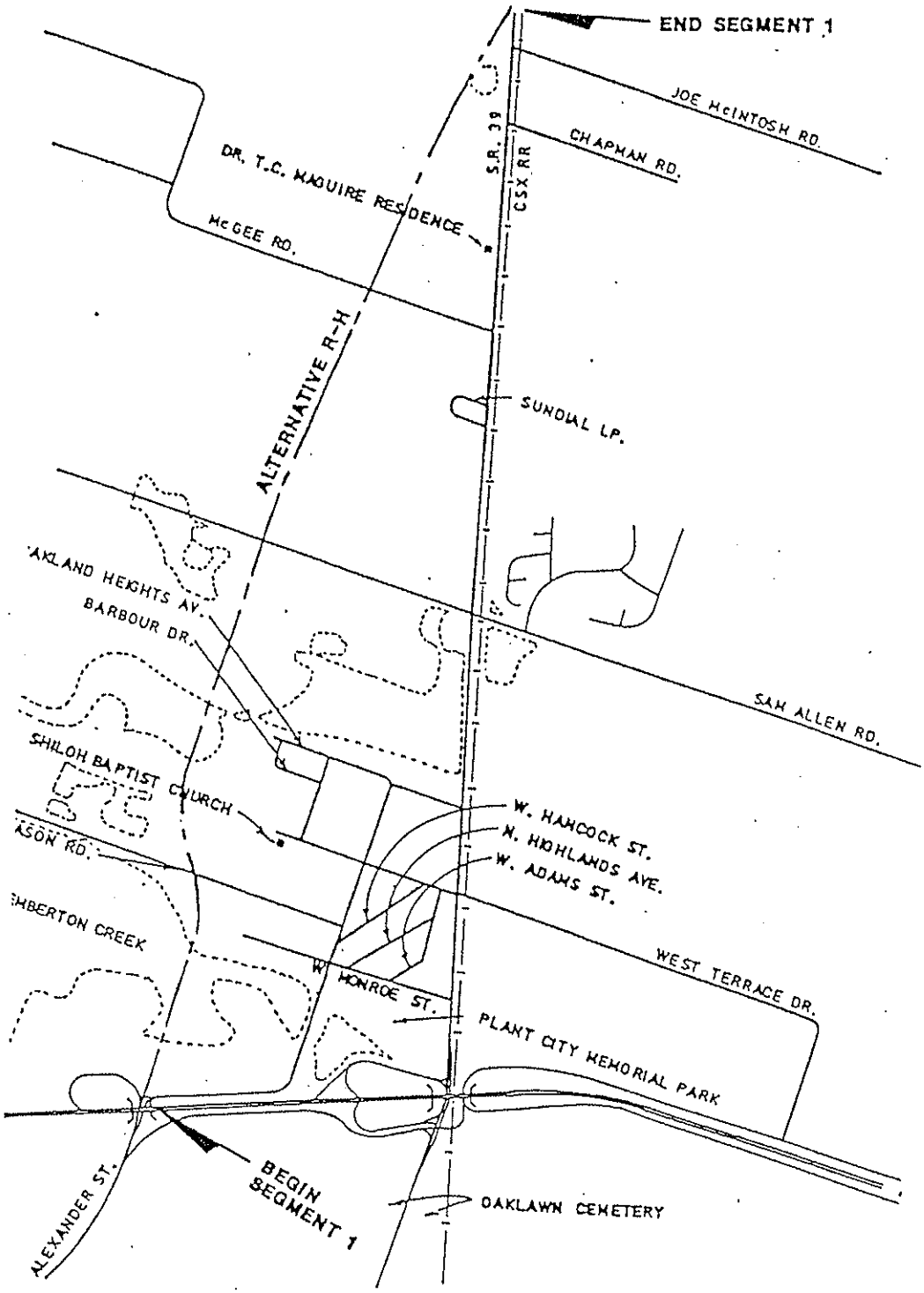
- If constructed before the SR 39 interchange on I-4 is abandoned, traffic from SR 39 would use the proposed frontage roads. This could create substantial congestion at the intersection of the frontage roads and SR 39, and on the frontage road adjacent to an established neighborhood,
- It could allow presently vacant lands required for right-of-way to be developed. This would increase the community impact of the roadway and would increase right-of-way aquistion and relocation costs.

3.2 Study Alternatives

To provide a build alternative that is considered to be in the overall best public interest, numerous typical sections and roadway alignments have been developed.

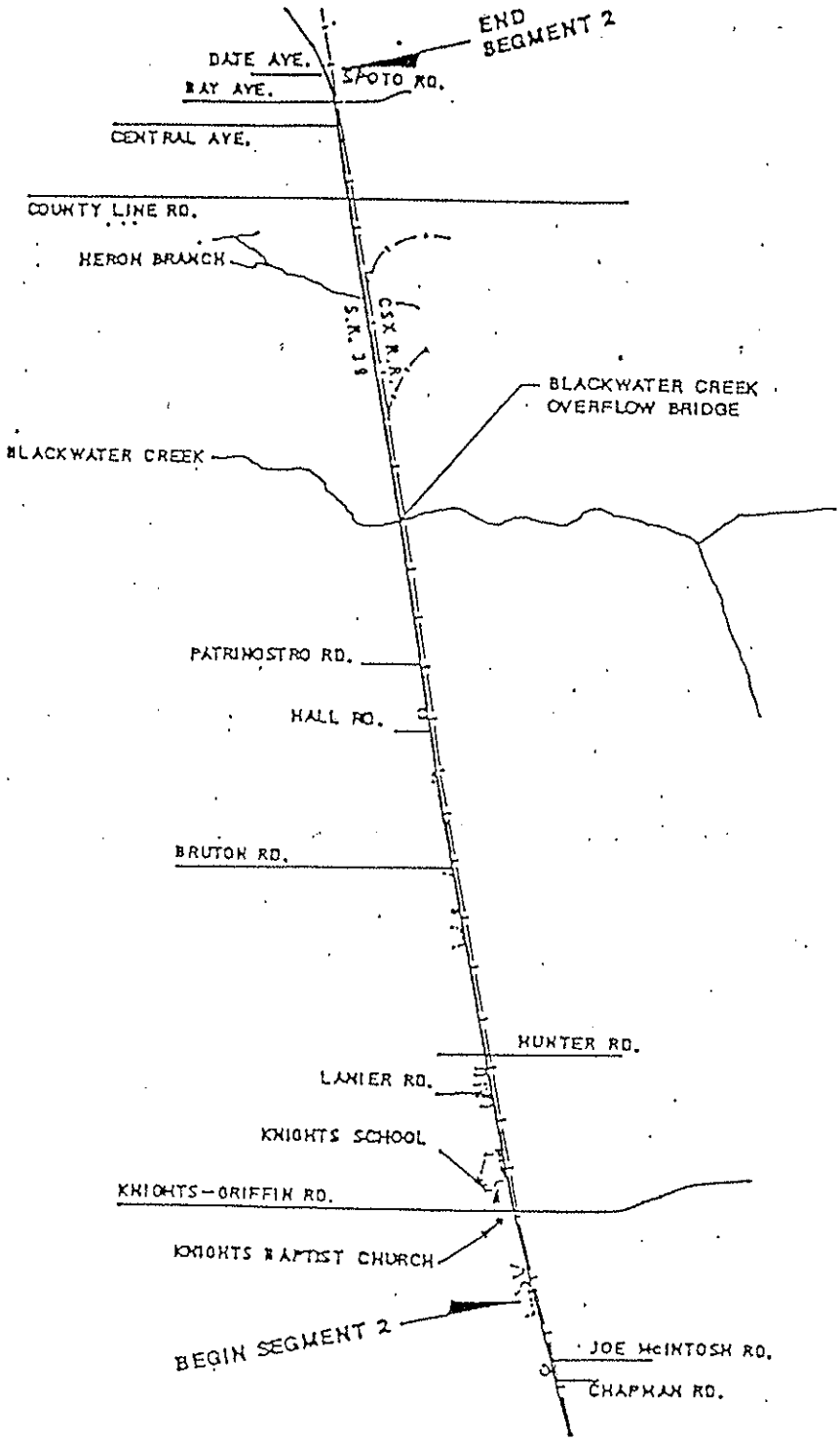
To facilitate the analysis of these alternatives, the study area has been divided into the following three segments as shown on the segment maps (Figure 2, Figure 3, Figure 4).

Segment 1 - Alexander Street Bypass area from I-4 to Joe McIntosh Road including the existing SR 39,



LOCATION MAP - SEGMENT #1

FIGURE 2



LOCATION MAP - SEGMENT #2

FIGURE 3

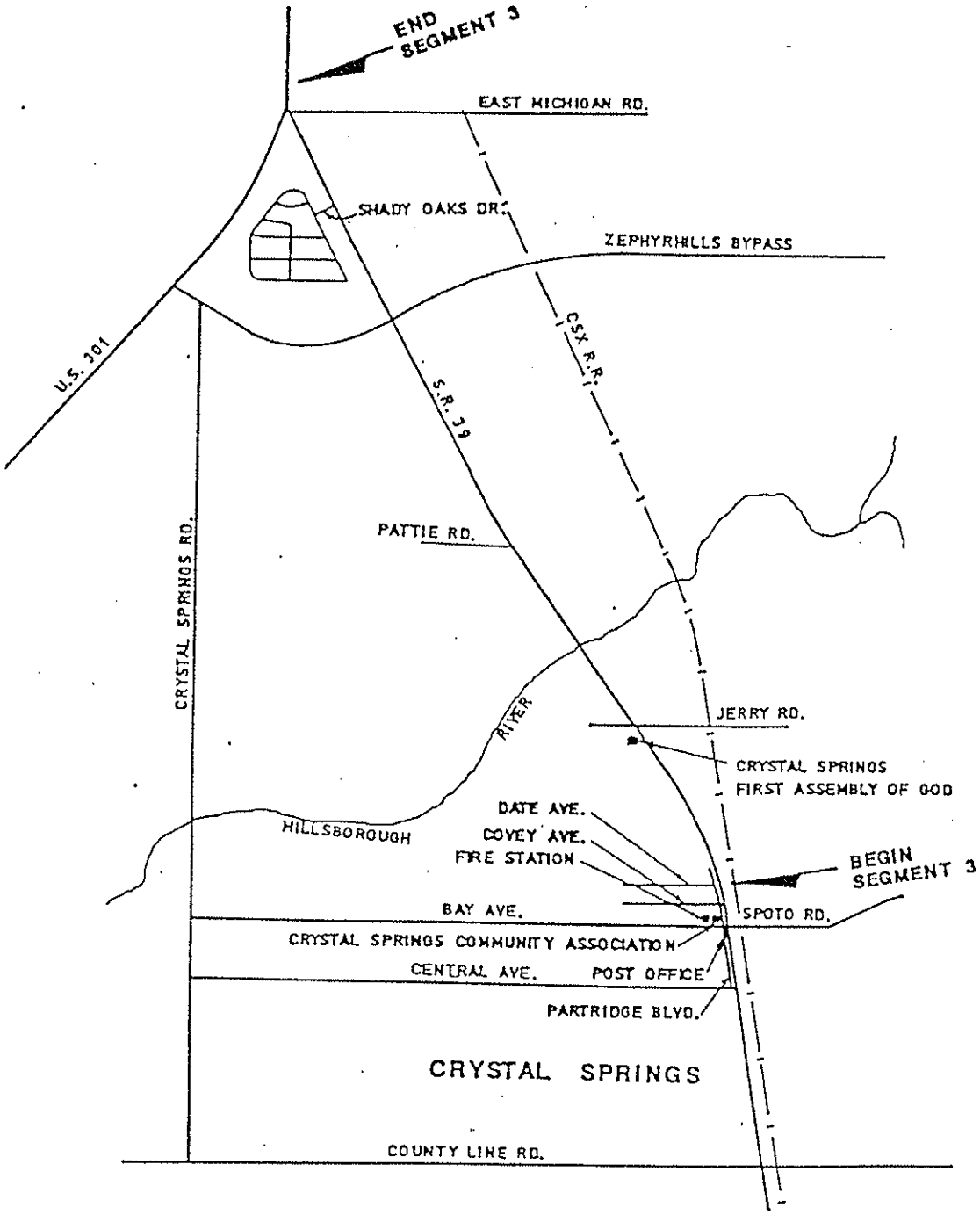


Figure 4

LOCATION MAP - SEGMENT #3

Segment 2 - SR 39 from Joe McIntosh Road to Date Avenue in Crystal Springs,

Segment 3 - SR 39 from Date Avenue to US 301.

3.3 Typical Sections

The following typical sections were developed for analysis and are shown on Figure 5.

Typical Section A is a new four lane divided rural roadway within 62.8 meters [m] (206 feet) [ft] of right-of-way. It was developed for the new alignment of the Alexander Street Bypass as well as selected alternatives for widening the existing SR 39.

Typical Section B is a four lane divided rural roadway that would utilize the existing two lanes of SR 39 as northbound lanes. All right-of-way would be acquired to the west. This typical section was developed for use on a portion of the existing SR 39 that would be used between the Alexander Street Bypass and Joe McIntosh Road within Segment 1, and for widening SR 39 in Segment 2 and Segment 3.

Typical Section C is a four lane divided rural roadway that would utilize the existing two lanes of SR 39 as southbound lanes. All right-of-way would be acquired to the east. This alternative was developed for widening SR 39 in Segment 3.

Typical Section D is a new four lane divided urban roadway within 37.2 m (122 ft) of right-of-way. This typical section was developed for the new alignment of the Alexander Street Bypass plus a portion of SR 39 north of the Alexander Street Bypass for selected alternatives and south of US 301.

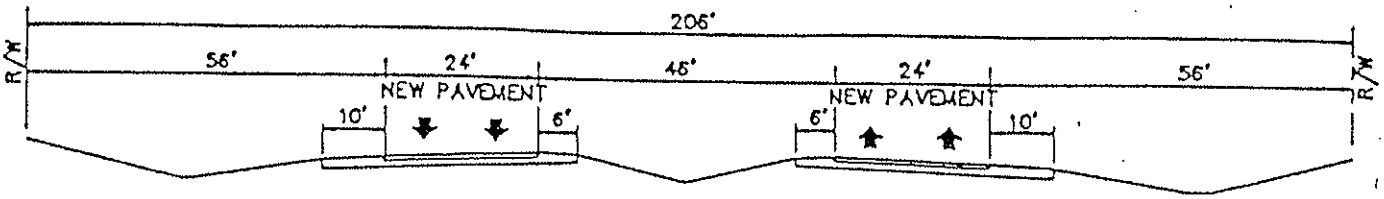
Typical Section E is a urban roadway developed to be used in widening SR 39 in the constrained area north of I-4. It would provide a five lane roadway section with a two-way left turn lane in the median within 27.4 m (90 ft) of right-of-way

3.4 Project Segments

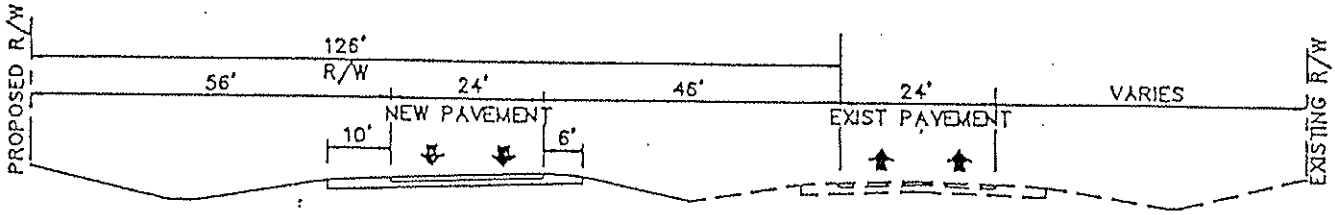
Several alignment alternatives were studied in each of the three segments and presented to the public during the Public Information Workshop in February 1993. Based on public input, all but the preferred alignments were eliminated from further consideration. In Segment 1 the preferred alignment is rural Segment R-H, in Segment 2 it is Alternative B. In Segment 3 both Alternatives B and D will remain viable until the Public Hearing process is completed.

Segment 1 Preferred Alternative (Alt. R-H)

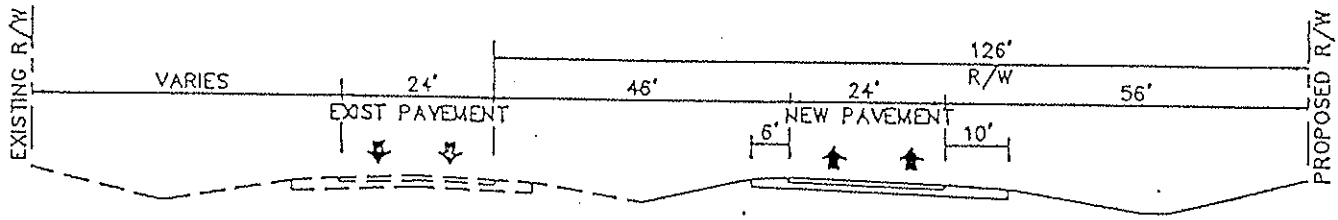
The preferred alternative begins at the proposed interchange of I-4 at Alexander Street and continues north through the Pemberton Creek floodplain to Cason Road. At that point, the alignment veers northwest to avoid the residences east of the area to a location south of McGee



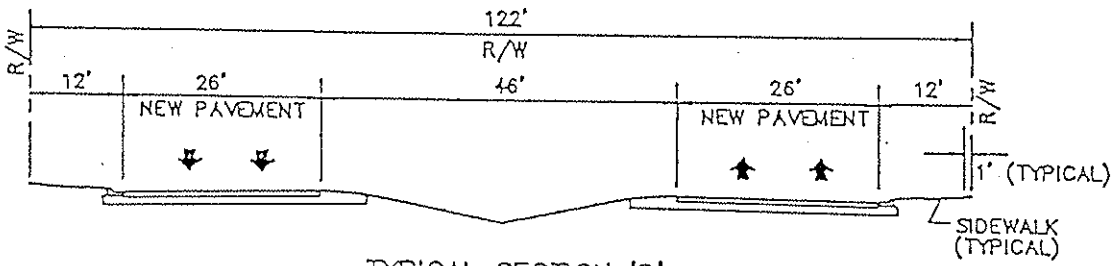
TYPICAL SECTION 'A'
NEW 4 LANE RURAL
N.T.S.



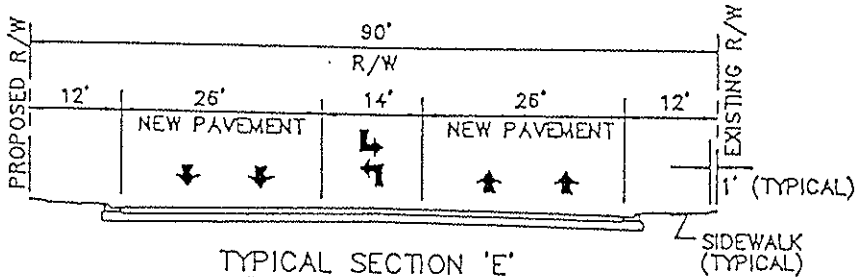
TYPICAL SECTION 'B'
ADD 2 RURAL LANES TO EXISTING
N.T.S.



TYPICAL SECTION 'C'
ADD 2 RURAL LANES TO EXISTING
N.T.S.



TYPICAL SECTION 'D'
NEW 4 LANE URBAN
N.T.S.



TYPICAL SECTION 'E'
NEW 5 LANE URBAN
N.T.S.

STATE ROAD 39 PROPOSED TYPICAL SECTIONS	Figure 5

Road. North of McGee Road the alignment continues northward past Joe McIntosh Road to avoid transversing the existing SR 39 at an intersection.

Segment 2 Preferred Alternative (Alt. B)

The preferred alternative would utilize the existing two lanes of SR 39 for northbound traffic. A 14 m (46 ft) median would be provided and two 3.6 m (12 ft) lanes would be constructed for southbound travel. The eastern right-of-way line adjacent to the railroad would be maintained and a new right-of-way line would be established 17 m (56 ft) west of the new travel lanes. This alternative was developed to make maximum use of the existing two lanes of SR 39 and to minimize right-of-way requirements.

Segment 3 Alternative B

Alternative B would utilize the existing two lanes of SR 39 for northbound traffic and would maintain the existing eastern right-of-way line. Total right-of-way would be approximately 57.3 m (188 ft) and would require approximately 26.8m (88 ft) of additional right-of-way to the west of the existing. This alternative was developed to utilize the existing two lanes.

Alternative D

Alternative D would use the existing two lanes of SR 39 as southbound lanes and should hold the existing western right-of-way line. Approximately 26.8 m (88 ft) of the existing roadway would be acquired from the east. This alternative was developed to utilize the existing roadway and to avoid taking right-of-way on the west side.

3.5 Intersection Improvements

To provide adequate intersection levels of service for the year 2020, improvements will be required for the approaches of the following intersections:

Sam Allen Road
Knights-Griffin Road
US 301

Sam Allen Road will require an exclusive eastbound and westbound left turn lane, and exclusive right turn lane and an additional eastbound and westbound through lane. This will require right-of-way from the north and south.

Knights-Griffin Road will require an exclusive eastbound and westbound left turn lane, and an additional eastbound and westbound through lane.

The US 301 approach will require an additional through lane for eastbound and westbound traffic, and a dual left turn lane for westbound traffic. To maximize the use of the existing right-of-way, an improvement centered on the existing roadway was selected.

4.0 WETLANDS

4.1 Wetland Impacts

PROJECT CORRIDOR

The SR 39 project corridor is located entirely within the Hillsborough River Basin. The SR 39 corridor crosses four drainage basins: Pemberton Creek, Hillsborough River, Blackwater Creek, and Big Ditch (also called Heron Branch Creek). There are bottomland hardwood swamps, marshes, cypress domes, creek and sloughs adjacent to the existing roadway, most of which have already been impacted by the existing road. Other wetland areas along the corridor include seasonal and semi-permanent marshes, shrub swamps, and farm ponds.

The CSX Railroad runs adjacent and parallel to the eastern side of SR 39 for approximately 18 km (11 miles). Due to the proximity of the railroad and SR 39, improvements and subsequent impacts will take place primarily on the western side of the existing roadway to a point 4 km (2.5 miles) south of Zephyrhills. At this point SR 39 and the railroad diverge. See Figure 6 for wetland site locations along the SR 39 corridor.

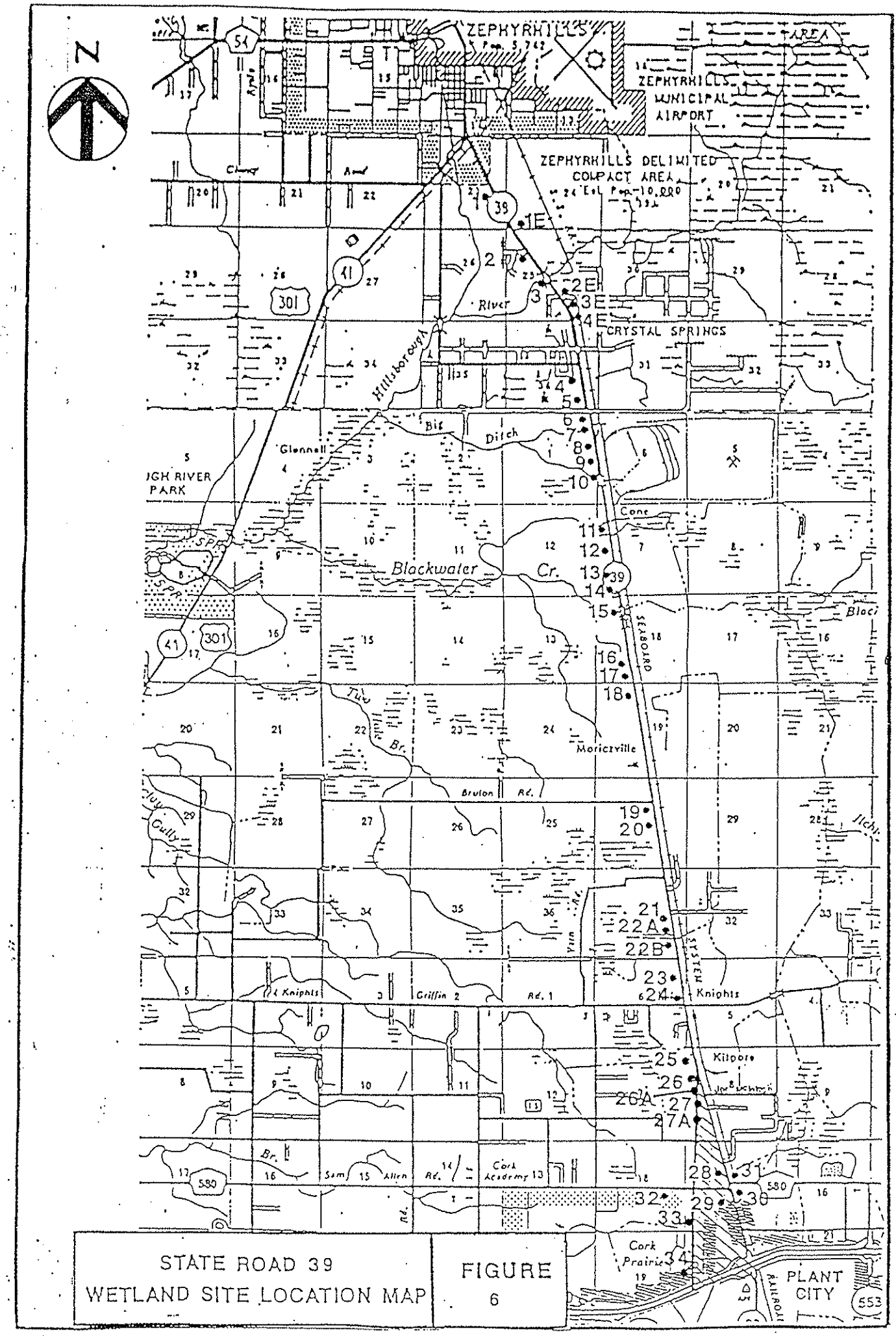
At Blackwater Creek, the CSX Railroad runs east of and parallel to SR 39. For reasons of available right-of-way and potential drainage problems associated with the railroad, road and bridge improvements must occur to the west. On this western side, Blackwater Creek's floodplain lies predominantly to the north of the main channel.

The Hillsborough River is currently traversed by a two lane concrete bridge on timber piles. There is an option of widening either to the east or the west at the Hillsborough River crossing. Approximately 9.1 m (30 ft) of cleared right-of-way exists on the western side; however, there are some areas of higher quality habitat on this western side. The eastern side of the crossing has an area approximately 30.5 m (100 ft) by 30.5 m (100 ft) straddling the channel which was cleared prior to 1951 with no revegetation until around 1974. This is a disturbed area. Also, the width of the floodplain on the east side is less than on the west which results in fewer wetland acres to be impacted on the east side.

PROJECT SEGMENT WETLAND INVOLVEMENT

Segment 1 begins at SR 39 and I-4 in Plant City and includes the Alexander Street By-Pass corridor. Segment 1 continues north to the intersection of SR 39 and just north of Joe McIntosh Road, and includes wetland sites 36 through 34.

The preferred alternative within Segment 1 follows an alignment from I-4 north through the Pemberton Creek area to the vicinity of Sam Allen Road, impacting the broad-leaved deciduous forested wetland sites 34 [1.45 h (3.59 acres)] and 33 [0.41 h (1.01 acres)]. North of Sam Allen Road, the alternative connects to SR 39 just north of Joe McIntosh Road. The alternative impacts emergent wetland sites 26, 26a, and 27a for a total of 2.11 h (5.21 acres) and the scrub/shrub



STATE ROAD 39
WETLAND SITE LOCATION MAP

FIGURE 6

portion of 27a for an additional 0.14 h (0.35) acres. Total Segment 1 acreage impacts for the alternative are 4.11 h (10.16 acres). Table 1 quantifies wetland impacts by site.

Table 1. Wetland Impact Acreage, Segment 1

Preferred Alternative	Wetland Number					Total Hectares
	34	33	27a	26a	26	
R-H	1.45 (PF)	0.41 (PF)	0.15 (PEM) 0.14(PSS)	0.11 (PEM)	1.85 (PEM)	4.11

Wetland Classification: PF Palustrine Forested
PSS Palustrine Scrub/Shrub
PEM Palustrine Emergent

Segment 2 involves SR 39 from the vicinity of Joe McIntosh Road north to Date Avenue. This 14 km (8.5 mile) segment includes wetland sites 4 through 25. Wetlands in Segment 2 include marshes, cypress domes and sloughs, shrub swamps, and farm pools. Alternative B involves rural typical-sections requiring right-of-way from the west side of the existing right-of-way. Wetland impacts are summarized in Table 2.

Table 2. Wetland Impact Acreage, Segment 2

Preferred Alternative	Classification			Total Hectares
	Emergent	Scrub/Shrub	Forested	
B	3.38	0.45	2.94	6.77

Segment 3 involves SR 39 from Date Avenue north to US 301. This 4 km (2.5 mile) segment covers the area where SR 39 diverges from the CSX railroad. It includes wetland sites 1E-4E and palustrine scrub/shrub, cypress strand, an emergent system, aquatic beds of floating vegetation, and a forested area of the Hillsborough River floodplain. Alternative B involves widening to the west minimizing impacts to the wetlands, while alternative D requires widening to the east minimizing relocations to residences. Typical sections of Segment 3 utilize the existing two lanes that parallel existing SR 39. Table 3 quantifies wetland impacts for both of these alternatives by wetland type.

Table 3. Wetland Impact Acreage, Segment 3

Preferred Alternatives	Classification			Total Hectares
	Emergent	Scrub/Shrub	Forested	
B	0.00	0.21	1.40	1.61
D	0.62	0.24	1.98	2.84

4.2 WET 2.0 Analysis

All wetlands affected by the project have been grouped and classified according to the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al., 1979). A wetland site list, including vegetation species and USFWS classification, is presented in Appendix A.

The 34 affected wetlands were divided into 20 groups based on similarity of vegetative composition and hydraulic regime. Wetland functions and values were evaluated according to Wetland Evaluation Technique 2.0 (WET 2.0), a revision of the method developed for the Federal Highway Administration. The FHWA-approved WET 2.0 provides an evaluation and analysis of the functions and values of affected wetlands within the corridor. A Level I assessment in term of social significance, effectiveness, and opportunity was completed for each group of wetlands.

The summary of evaluation results for systems function and values assessed in terms of social significance, effectiveness and opportunity can be found in the Appendix A. Summaries also contain site-specific characteristics.

In general, all wetlands rated low in terms of social significance due to the non-urban site location of all affected wetlands and service areas (the point to which a wetland service is delivered). The nearly level low flatwood region results in large watersheds (the upslope areas from which surface water enters the Assessment Area [AA] and expansive contiguous wetland systems). The AA is only a small part of these large systems, thus reducing its significance.

Generally, the wetlands rated low in terms of social significance in groundwater recharge, groundwater discharge, floodflow alteration, sediment/toxicant retention, nutrient removal/transformation, and recreation. Moderate ratings were received for sediment stabilization, wildlife diversity/abundance, aquatic diversity abundance and uniqueness/heritage.

Exceptions to general ratings are found in individual evaluation summaries in Appendix A. Parameters with functions and values common to typical systems are discussed below:

Ground Water Recharge and Discharge: Most wetlands were rated either low or moderate for ground water recharge and discharge in social significance and effectiveness. This was due to the limited population of the rural areas with low well yields. All wetlands rated low in groundwater recharge and discharge effectiveness.

Floodflow Alteration: The social significance of floodflow alteration was generally low for most wetlands. This resulted from the absence of populated downstream service areas. Effectiveness ratings varied from low to high. Low ratings resulted if the wetland AA was small and had unconstricted outlets. Wetlands received higher ratings if they had neither an outlet nor an inlet or if they were large wetlands covered with woody vegetation. Opportunity ratings also varied from high to low. Most wetlands received a moderate rating because although they had a large watershed relative to their size (higher rating), they were in non-urban areas and had predominantly forested

land cover in the watershed (lower rating). All wetlands, except SR 39-3, 5, 8, 16, and 19, rated high in floodflow alteration effectiveness.

Sediment Stabilization: Virtually all wetlands rated moderate for social significance. This resulted from the lack of erosive forces and the absence of features of high social or economic value for the AA to buffer. Effectiveness ratings were moderate to high because of the presence of vegetation and some open water. Contiguous palustrine wetlands rated high. Wetlands SR 39-2, 4, 8, 12, 19 and 20 rated high in sediment stabilization effectiveness.

Sediment Toxicant Retention: Most wetlands rated low for social significance due to the abundance of wetlands in the region which also perform this function. Effectiveness ratings were generally high because of lack of permanent outlets and presence of erect persistent vegetation. Lower ratings occurred for wetlands with permanent outlets and drained or channelized wetlands. Opportunity ratings were generally low because of absence of potential sediment sources such as urban land or tilled soils. All wetlands except SR 39-11, 16, 19, and 20 rated high in sediment/toxicant retention effectiveness.

Nutrient Removal/Transformation: Most wetlands rated low for social significance due to absence of surface drinking water and swimming areas and absence of nutrient sensitive waters. Ratings were lower also because of the typically non-urban wetlands areas. As with sediment/toxicant retention, wetlands lacking outlets rated high in effectiveness by providing a prolonged hydroperiod for the assimilation of nutrients. Wetlands with outlets rated low. Opportunity ratings were generally low due to the absence of potential nutrient sources combined with a forested watershed. All wetlands except SR 39-11, 16, and 19, rated high in nutrient removal/transformation effectiveness.

Product Export: All wetlands rated moderate or low for effectiveness due to the absence of inlets or outlets. Wetlands with a permanent outlet are more likely to rate high for effectiveness. No rating was generated for social significance or opportunity for this function.

Wildlife Diversity/Abundance: Most wetlands received a moderate rating in terms of social significance. There were no wildlife species on the USFWS National Species of Special Emphasis List and no special federal designation relating to recognized wildlife value of any of the wetlands.

Wildlife D/A Breeding: Most systems rated high or moderate for the effectiveness of performing this function due to the lack of toxins entering the wetlands and the existence of natural systems surrounding these non-urban wetlands. Floodplain wetlands and large, vegetationally diverse wetlands with permanent outlets received a high rating as well as those wetlands which support great on-site diversity and abundance of wetland dependent birds during breeding season. There were no social significance or opportunity ratings. All wetlands, except SR39-4, 6, 9, 13, 14, 15, 17 and 18, rated high in wildlife D/A breeding effectiveness.

Wildlife D/A Migration and Wintering: Wetlands varied from low to high on effectiveness ratings. Mixed hardwood and cypress swamps with vegetational diversity and vegetation/water interspersion rated high, while small wetlands without woody vegetation or having no outlet rated lower. A high

effectiveness rating also depends on great on-site diversity and/or abundance of wetland dependent birds during migration or wintering. Wetlands SR 39-1, 2, 8, 9, 12, 19, and 20 rated high in wildlife D/A migration effectiveness. Wetlands SR 39-1, 2, 4, 8, 9, 12, 19 and 20 rated high in wildlife D/A wintering effectiveness.

Aquatic Diversity/Abundance: Social significance and effectiveness ratings were moderate. Wetlands had moderate amounts of erect vegetation. Surface water was necessary for a high rating. A high effectiveness rating depends upon such characteristics as an area with inlet and outlet, larger than 81 hectares (200 acres), not dominated by sand bottom, should be permanently flooded and have a shallow area of diverse vegetation covering 10 percent. In addition have a diversity of depth, not be ditched, and have moderate erect vegetation with some open water. Forested areas should have some flow. Only wetland SR 39-2 rated high in aquatic diversity/abundance effectiveness.

Uniqueness Heritage: Social significance generally rated moderate due to the rural areas of the proposed project and its adjacent wetlands and the absence of threatened or endangered species, preservation areas, historical or archaeological sites, or pristine areas.

Recreation: All sites, rated low in social significance due to the absence of public recreational facilities within the area specified or downstream service areas.

4.3 Wetland Impact Minimization and Mitigation

Mitigation will be required for impacts to wetlands which result from roadway construction. Mitigative actions are defined by the National Environmental Policy Act and subsequent regulations as actions to avoid, minimize, rectify over time or compensate for impacts by providing substitute resources. Although none of the alternative alignments offer complete avoidance of wetland systems, due to the predominance of wetland systems in the project area, minimization of environmental impacts were of primary importance in selecting the Preferred Alternative.

During road construction best management practices will be employed. Where replacement of wetland habitat is required, the functions and values of the system should be replaced. Although no specific sites have been identified for wetland replacement, there is ample open pasture in the project vicinity which exhibits a high water table for extended periods during the year.

Suggested mitigation ratios have been estimated by the agencies. A minimum ratio of 1:1 (area of creation to area of impacts) will be required for all impacts. Ratios above 1:1 will be recommended by the SWFWMD for isolated wetlands, not to exceed 2.5:1 for forested systems and 1.5:1 for herbaceous systems. Ratios greater than 2.5:1 will be considered for those wetlands connected to Waters of the State and, therefore, regulated by FDEP guidelines. Maximum mitigation ratios for impacts to forested systems would be 4:1. Suggested ratios resulted from a pre-application meeting with SWFWMD. See Appendix A for meeting minutes.

Mitigation for impacts to roadside drainage ditches connected to Waters of the State can be accomplished in stormwater detention ponds. Mitigation through restoration/enhancement is

preferred to creation after the 1:1 replacement ratio is met. The agencies are also agreeable to replacement of low quality forested systems with herbaceous systems after the initial 1:1 in kind replacement. This is particularly desirable when the created wetlands will provide foraging habitat for listed species, thus increasing the wildlife diversity/abundance rating of these wetlands.

The Southwest Florida Water Management District (SWFWMD) and Florida Department of Environmental Protection (FDEP) have suggested the incorporation of wildlife crossings at Pemberton Creek, Blackwater Creek, and Hillsborough River. See SWFWMD correspondence, Appendix A. These crossings would be considered as a mitigative effort.

5.0 COORDINATION WITH PERMITTING AGENCIES

Permits will be required from the following agencies:

- U.S. Army Corps of Engineers (ACOE)
- Southwest Florida Water Management District (SWFWMD)
- Florida Department of Environmental Protection (FDEP)

Review of jurisdictional wetland boundaries in the field was conducted with SWFWMD (J. Sternfels) and FDEP (G. Craciun) on April 27, 1989 and with ACOE (D. Rosenwigh) on May 2, 1989. A meeting was conducted on April 17, 1989 with SWFWMD (J. Post) concerning stormwater treatment.

A permit coordination meeting was held December 14, 1992, with SWFWMD. The Tampa office of SWFWMD will process all permits for Hillsborough and Pasco Counties. They will process all Management and Storage of Surface Water (MSSW) and dredge and fill permits according to District and FDEP guidelines.

6.0 FLOOD ZONES

In accordance with the FEMA Flood Insurance Rate Maps for Hillsborough and Pasco Counties, SR 39 crosses six flood zone areas filling approximately 4.1 h-m (33 acre feet) of the 100-year floodplain with the roadway expansion. Four of the six crossings are Zone A and two are Zone A3 (Hillsborough River floodplain and Blackwater Creek floodplain). The majority of the alignment lies within Zone C. The addition of the two lanes is mostly a transverse encroachment.

7.0 WILDLIFE AND HABITAT

Natural habitats identified in the project area include freshwater marshes, cypress domes, creek and slough systems, mixed hardwood swamps, pine flatwoods, palmetto scrub, mesic oak forest and dry prairie. Significant wetland systems are associated with the Hillsborough River, Blackwater Creek, Big Ditch (Heron Branch Creek), and Pemberton Creek. There are also significant upland habitats associated with these riverine corridors, particularly the Hillsborough River and Blackwater Creek. These systems are contiguous with the Hillsborough River State Park to the west and the Green Swamp to the northeast.

The Hillsborough River corridor has been identified as one of the 150 Greenways identified statewide by the State of Florida. The Hillsborough River Greenways Task Force is a coalition of public, private, regulatory, environmental and corporate organizations formed in 1992 to seek and implement programs for the permanent protection of the Upper Hillsborough River Basin. The 1995 Legislature passed HB 2111 on Ecosystem Management. The bill includes pilot projects to begin to implement ecosystem management initiatives in three areas of the state. The Upper Hillsborough River Basin is one of three pilot projects designated in the bill. The pilot project will focus on the implementation of the Hillsborough River Greenways Task Force's recommendations.

The habitat found within the SR 39 project area is important to a wide variety of wildlife including a small population of black-bears residing within the Hillsborough River floodplain region. This is also an area of ongoing land acquisition for protection purposes by Hillsborough County's Environmental Lands Acquisition and Protection Program (ELAPP) and Southwest Florida Water Management District's Save Our Rivers Program.

Hillsborough County has designated approximately 2 km (1.3 miles) of the Blackwater Creek adjacent to the west side of SR 39 as Significant Wildlife Habitat. This area is part of 1457 hectares (3600 acres) along Blackwater Creek between US 301 and SR 39 targeted for purchase in the fifth year of the county's land-buying program. The meeting minutes held with ELAPP staff and pertinent information are contained in Appendix B.

7.1 Federally Listed Species

Suitable habitat for federally listed species was investigated for presence or absence by qualified FDOT and consultant biologists in 1989, 1992, 1994 and 1995. The project corridor was mapped adhering to "Florida Land Use, Cover and Forms Classification System" on 1":100' blue-line aerials (separate cover). In addition, the SWFWMD vegetation data is included in the text (Figure 7). Surveys were then conducted in each habitat type for species known to occur or utilize the classified habitats. A list of threatened or endangered faunal species present or with the potential to be present in the SR 39 corridor is found in Table 4.

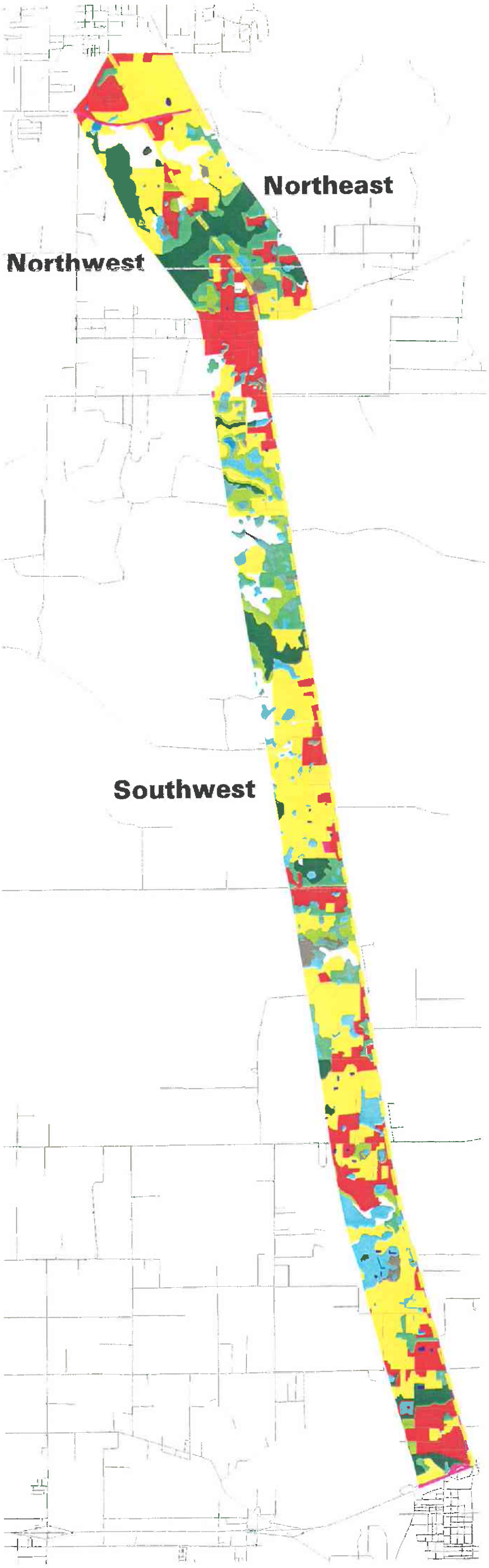
No federally threatened or endangered floral species were observed or are known to occur within the project corridor. The entire corridor was surveyed on numerous occasions, strongly indicating the absence of these species. Faunal species federally classified as threatened or endangered that are present or have the potential to be present include the bald eagle, wood stork, and eastern indigo snake.

7.1.1 Bald Eagle

The bald eagle (Haliaeetus leucocephalus) is a threatened species with a preferred habitat that is primarily riparian, either associated with the coast or with lake and river shores, usually nesting along open bodies of water where they feed. No bald eagles or bald eagle nests were observed in the project corridor. There are no known nests within 3 km (2.0 miles) of the project corridor. The closest active nest (HL-22) is located roughly 4 km (2.5 miles) to the west of the study area along Big Ditch. There is also an active bald eagle territory (HL-16) approximately 10 km

Vegetative Cover Within 0.5 Miles Of SR 39

Figure 7



N

Scale 1:130,000

LEGEND

- Urban
- Agriculture
- Rangeland
- Upland Coniferous
- Upland Hardwood-Coniferous
- Water
- Wetland Hardwoods
- Wetland Coniferous
- Wetlands Hardwood-Coniferous
- Freshwater Marsh
- Wet Prairie
- Littoral Zones
- Barren
- Transportation
- Roads
- SR 39 Study Alignment

Source: Vegetation data, SWFWMD
Roads, Census TIGER

HDR

Table 4
SR 39 - Potential Threatened and Endangered Species

Birds		FGFWFC	USFWS
Common Name	Scientific Name		
Bald eagle	*Haliaeetus leucocephalus*	T	T
Burrowing owl	*Athene cunicularia*	SSC	
Crested caracara	*Polyborus plancus audubonii*	T	T
Florida sandhill crane	*Grus canadensis pratensis*	T	
Florida scrub jay	*Aphelocoma coerulescens*	T	T
Limpkin	*Aramus guarauna*	SSC	
Little blue heron	*Egretta caerulea*	SSC	
Piping plover	*Charadrius melodus*	T	T
Red-cockaded woodpecker	*Picoides borealis*	T	E
Southeastern American kestrel	*Falco sparverius paulus*	T	C2
Snowy egret	*Egretta thula*	SSC	
Tricolored heron	*Egretta tricolor*	SSC	
White ibis	*Eudocimus albus*	SSC	
Wood stork	*Mycteria americana*	E	E
Amphibians and Reptiles			
American alligator	*Alligator mississippiensis*	SSC	T (S/A)
Eastern indigo snake	*Drymarchon corais couperi*	T	T
Gopher frog	*Rana capito*	SSC	C2
Gopher tortoise	*Gopherus polyphemus*	SSC	C2
Short-tailed snake	*Stilosoma extenuatum*	T	C2
Mammals			
Florida black bear	*Ursus americanus floridanus*	T	C2
Florida mouse	*Podomys floridanus*	SSC	C2
Sherman's fox squirrel	*Sciurus niger shermani*	SSC	C2

List of species having the potential to occur in the SR 39 corridor which are considered endangered (E), threatened (T), threatened/similarity of appearance [T(S/A)], a candidate for listing without sufficient supporting data (C2), or species of special concern (SSC), by the Florida Game and Fresh Water Fish Commission (FGFWFC) and/or the US Fish and Wildlife Service (USFWS).

(6 miles) east of the corridor adjacent to the CSX Railroad at the Hillsborough/Polk county line (Figure 8).

The project is not expected to impact any existing foraging areas or any potential nesting trees in or adjacent to the corridor. Therefore, the proposed improvements are not anticipated to impact any foraging or nesting habitats of the bald eagle.

7.1.2 Wood Stork

The wood stork (Mycteria americana) is an endangered wading bird that utilizes freshwater and brackish wetlands. The wood stork primarily nests in cypress or mangrove swamps and forages in freshwater marshes, flooded pastures, and roadside ditches. The study area includes potential foraging and nesting areas. Wood storks have been observed foraging in the project corridor, however no nesting areas will be impacted by the proposed improvements. The wetland impacts are qualified and quantified in the wetland section.

In Hillsborough County, the nearest documented wood stork rookery (Figure 9) is roughly 15 km (9 miles) to the northeast adjacent to the Withlacoochee River (Rookery # 611024). Rookery # 611163 is located 19 km (12 miles) west of the corridor along the Hillsborough River The proposed improvements are not anticipated to reduce the available foraging or nesting habitats for this species after the wetland permitting and mitigation processes have been completed. Wetland mitigation will be designed to replace by restoring, enhancing, and creating or maintaining suitable habitat through preservation along the project corridor. Therefore, this project is not expected to impact the wood stork, reduce the wood stork population level in the region, or reduce their foraging or nesting habitats.

7.1.3 Eastern Indigo Snake

The eastern indigo snake is a threatened species that occurs throughout peninsular Florida. This species is actually characteristic of moist habitats, but inhabits sandy xeric habitats in conjunction with gopher tortoises (Gopherus polyphemus). In the drier habitats, the eastern indigo snake will occupy gopher tortoise burrows. The preferred habitats include pine flatwoods, xeric oak stands, palmetto scrub, and tropical hammocks.

No eastern indigo snakes were observed within the study area during any of the field surveys. The prevalence of potential habitat within the corridor could potentially involve the eastern indigo snake. However, to minimize any impacts to individual eastern indigo snakes during construction, the following special provision will be included in the construction contract to advise the contractor of the potential presence of this species and its protected status:

* If an eastern indigo snake is sighted during construction, the contractor will be required to cease all operation(s) which might cause harm to the snake.

* If the snake does not move away from the construction area, a state or federal biologist will be contacted to capture and relocate the snake to suitable habitat either adjacent to the project area or off-site to an acceptable donor site.

* If an eastern indigo snake is killed or found dead within the construction area, the snake should be frozen and the USFWS Jacksonville Field Office [(904) 232-2580] via the FDOT PD&E Department will be notified immediately at (813) 975-6457.

* In addition, educational signs with pictures shall be posted throughout the project prior to initiation of construction.

Due to the condition of the surrounding area, the abundance of habitat in the project area, and the special provisions to protect transient individuals encountered during construction, the proposed project is not anticipated to effect the eastern indigo snake.

7.1.4 Florida Scrub Jay and Red-Cockaded Woodpecker

The proposed project does not impact any native oak scrub or mature pine communities. During field reconnaissances, all mature pine trees were surveyed for cavities. No cavities were observed in the corridor. Neither species have a historical record of occupying this area. Therefore, the proposed improvements will not impact the Florida scrub jay or the red-cockaded woodpecker.

7.2 State Listed Species

The FGFWFC Office of Environmental Services responded to the Advance Notification (Appendix B) with concerns regarding a small population of black bear residing in the riverine corridors. The following summarizes state listed species involvement and meetings held with the FGFWFC staff.

7.2.1 Black Bear

The black bear (Ursus americanus floridanus) is listed as a Threatened species by FGFWFC in this portion of Florida and a candidate for listing by USFWS. The Florida Natural Areas Inventory and the FGFWFC data base have records of this species utilizing the Hillsborough River floodplain corridor. A meeting was held May 5, 1994 with the FGFWFC to discuss the need and locations of potential wildlife crossings along the project corridor. Jim Beever from the Office of Environmental Services was briefed on the status and engineering aspects of the project. Suggested locations and design specifications are contained in the meeting minutes in Appendix B. Several issues have been resolved since this meeting. The two major issues remaining include the design dimensions of the replacement of the bridge spanning the Hillsborough River and the relief structure at Blackwater Creek. The dimensions of the large mammal wildlife crossings at these two locations will be coordinated with the USFWS and the FGFWFC during the permitting and final design phases of the project to ensure implementation in the construction phase in order to maintain the continuity of these important corridor.

7.2.2 Sherman's Fox Squirrel

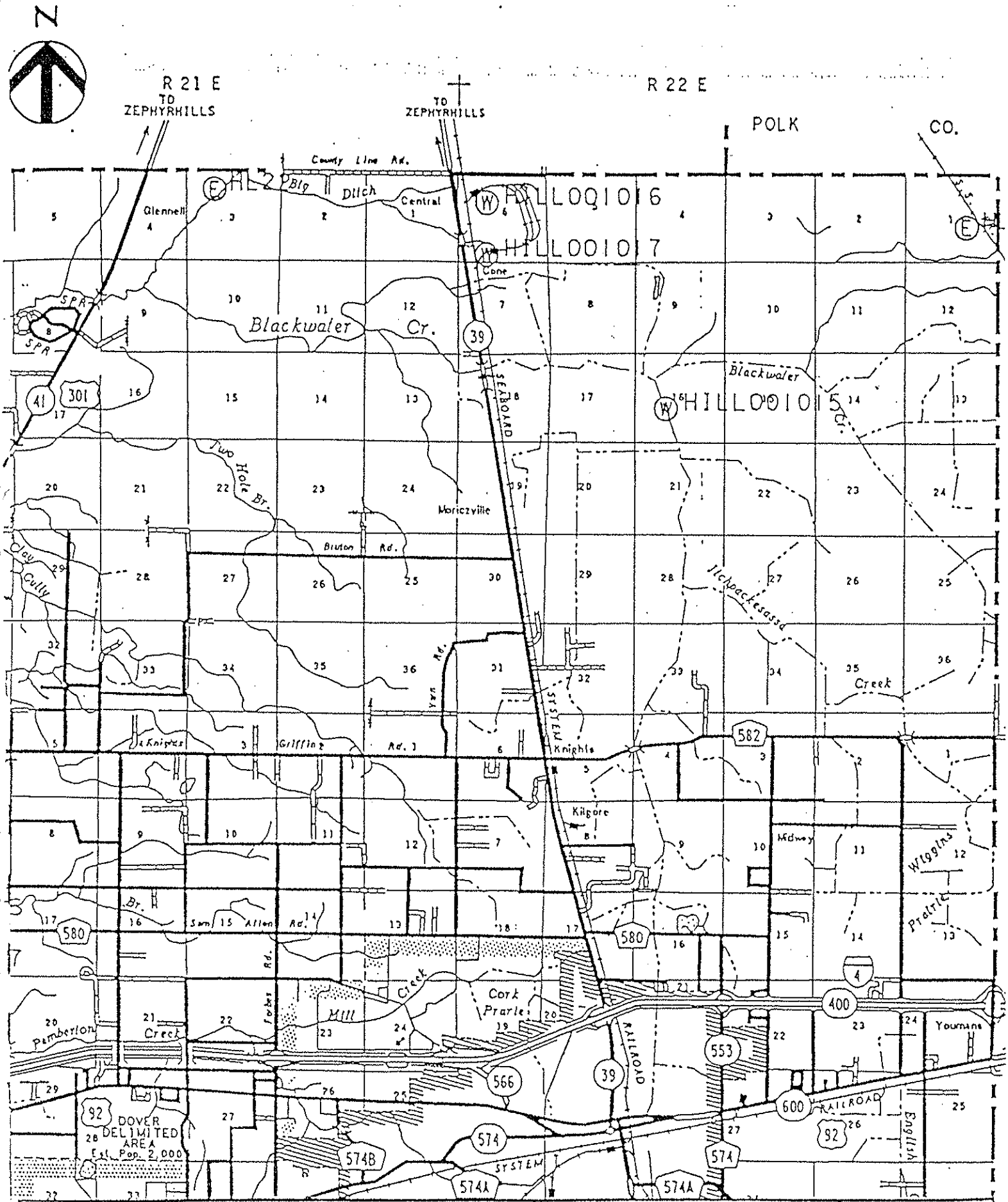
Sherman's fox squirrels (Sciurus niger shermani) are known to occur in the project corridor. Fox squirrels have been observed on portions of Two Rivers Ranch outside the limits of the proposed right-of-way. No fox squirrels were observed within the proposed right-of-way during any of the field reviews.

7.2.3 Southeastern American Kestrel

Southeastern American Kestrel (Falco sparverius paulus) surveys were conducted along the project corridor. All snags within and adjacent to the right-of-way were surveyed for nesting cavities. No kestrel cavities or individuals were observed during the field surveys.

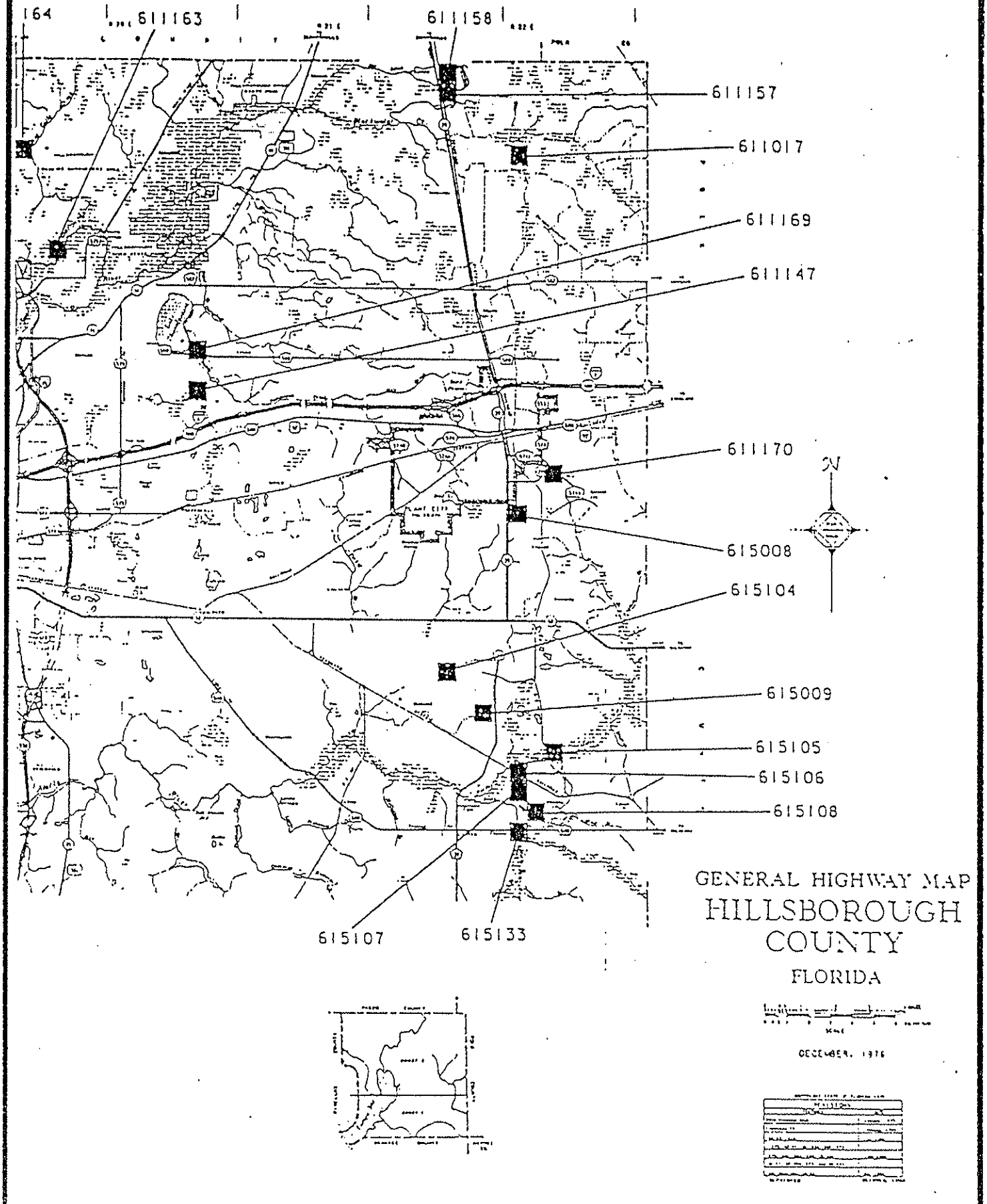
7.2.4 Wading Birds

The FGFWFC data base indicates wading bird rookeries 611157 and 611158 located on the east side of SR 39 at Big Ditch just south of the Pasco County Line (Figure 9, Table 5). Since the existing eastern right-of-way is to be maintained in this portion of Segment 3, there will be no impacts to the rookeries in this area.



Bald Eagle Location Map

FIGURE 8



FGFWFC WADING BIRD ROOKERY LOCATION MAP | FIGURE 9

Table 5 **Florida Game and Fresh Water Fish Commission**
Wading Bird Rookery Location

Colony #611158		
Date of Survey	Species Present	Abundance
June 14, 1988	Great or common egret	101-250 birds
	Snowy egret (SSC)	
	Great blue heron	
	Anhinga	
	Double-crested cormorant	
June 21, 1988	Snowy egret (SSC)	101-250 birds
	Cattle egret	
	Little blue heron (SSC)	
	Tricolored heron (SSC)	
	Blackcrowned night heron	
	White ibis	
	Anhinga	
Colony #611157		
Date of Survey	Species Present	Abundance
June 14, 1988	Cattle egret	101-250 birds
	Double-crested cormorant	
June 21, 1988	Great or common egret	> 100 birds
	Snowy egret (SSC)	
	Cattle egret	
	Green heron	
	Anhinga	

8.0 FEDERAL SPECIES INVOLVEMENT SUMMARY

The project has been evaluated for impacts on federally protected threatened and endangered species. A literature review was conducted to determine those possible threatened or endangered species which may inhabit the project area. This included, among other methods, using the FDOT's computer list of threatened or endangered species, USFWS's "The Red Book", FGFWFC's Florida Atlas of Breeding Sites For Herons And Their Allies (updated 1986-89), phone conversations with FGFWFC (Paul Schulz, Lakeland) and Florida Natural Areas Inventory (Steve Jones) for lists and locations of confirmed, reported or potentially occurring threatened or endangered species.

Based on the above results of the literature review and the field surveys conducted for the proposed roadway improvements, the Department has determined that no federally listed threatened or endangered species will be affected by the project. Furthermore, the proposed project is not located in an area designated as critical habitat by the U.S. Department of the Interior. Therefore, FDOT on behalf of the Federal Highway Administration has determined that the proposed project will have "No Effect" on any federally protected threatened or endangered species.

APPENDIX A

SR 39

Observed Plant List

Trees	
Common Name	**Scientific Name**
American elm	*Ulmus americana*
Black gum	*Nyssa sylvatica*
Blue beech	*Carpinus caroliniana*
Cabbage palm	*Sabal palmetto*
Cypress	*Taxodium distichum*
Hackberry	*Celtis laevigata*
Hickory (water)	*Carya aquatica*
Laurel oak	*Quercus laurifolia*
Longleaf pine	*Pinus palustris*
Red maple	*Acer rubrum*
Sand pine	*Pinus clausa*
Sweet bay	*Magnolia virginiana*
Sweetgum	*Liquidamber styraciflua*
Water oak	*Quercus nigra*
Shrubs	
Common Name	**Scientific Name**
Groundsel tree	*Baccharis glomerulifolia*
Dahoon holly	*Ilex cassine*
Elderberry	*Sambucus canadensis*
Primrose willow	*Ludwigia peruviana*
Saw palmetto	*Serenoa repens*
Sparkleberry	*Vaccinium spp.*
Wax myrtle	*Myrica cerifera*
White tassel	*Itea virginica*
Emergent Plants	
Common Name	**Scientific Name**
Arrowhead	*Sagittaria lancifolia*
Aster (Annual Marsh)	*Aster sublets*
Blackberry	*Rubus cunneifolius*
Carpet grass	*Axonopus affinis*
Cattail	*Typha latifolia*
Coinwart	*Centella spp.*
Common three square	*Scirpus americanus*
Cordgrass	*Spartina bakeri*
Green dragon	*Arisaema dracontium*

Soft rush	*Juncus effusus*
Lizard tail	*Saururus cernuus*
Pennywort	*Hydrocotyle ranunculoides*
Pennywort	*Hydrocotyle umbellata*
Aquatic Bed/Floating Vascular	
Common Name	**Scientific Name**
Duckweed	*Lemna minor*
Mosquito fern	*Azolla spp.*

SR 39

WET 2.0 Evaluation Classification

WET 2.0 Evaluation Number	Wetlands Evaluated	USFWS Classification
SR 39-1	1, 2, 2E, 19, 31	PSS1
SR 39-2	3E, 3W	PF01
SR 39-3	3E	PAB
SR 39-4	4	PF02/1C
SR 39-5	5, 4E	PF02
SR 39-6	6, 28	PUBH
SR 39-7	7, 12	PEM/PF01
SR 39-8	9	PF02F/PSS1F
SR 39-9	10	PSS1C/PEM1A
SR 39-10	13, 24, 26, 1E	PEM1F
SR 39-11	14	PEM/C
SR 39-12	15	PF01A
SR 39-13	15X, 16, 25	PEM
SR 39-14	18a, 18b	PEM/PUBH
SR 39-15	20	PUBH
SR 39-16	21, 27	PEM1A
SR 39-17	22	PSS1
SR 39-18	23a, 23b	PSS/PUBH
SR 39-19	29, 30, 32, 33, 34	PF01
SR 39-20	11	PF02

USFWS Classification of Wetlands and Deepwater Habitats of the United States

SYSTEM	P - PALUSTRINE															
CLASS	RB	ROCK BOTTOM	UB	UNCONSOLIDATED BOTTOM	AB	AQUATIC BED	US	UNCONSOLIDATED SHORE	ML	MOSS-LICHEN	EM	EMERGENT	SS	SCRUB-SHRUB	FO	FORESTED
Subclass	1	Bedrock	1	Cobble Gravel	1	Algal	1	Cobble Gravel	1	Moss	1	Persistent	1	Broad Leaved Deciduous	1	Broad Leaved Deciduous
	2	Rubble	2	Sand	2	Aquatic Moss	2	Sand	2	Lichen	2	Nonpersistent	2	Needle Leaved Deciduous	2	Needle Leaved Deciduous
			3	Mud	3	Rooted Vascular	3	Mud					3	Broad Leaved Evergreen	3	Broad Leaved Evergreen
			4	Organic	4	Floating Vascular	4	Organic					4	Needle Leaved Evergreen	4	Needle Leaved Evergreen
					5	Unknown Submergent	5	Vegetated					5	Dead	5	Dead
					6	Unknown Surface							6	Deciduous	6	Deciduous
													7	Evergreen	7	Evergreen

WETLAND LEGEND			
P - PALUSTRINE			
NO SUBSYSTEM		WATER REGIME (PALUSTRINE SYSTEM ONLY)	
RB	Rock Bottom	A	Temporarily flooded
UB	Unconsolidated Bottom	B	Saturated
US	Unconsolidated Shore	C	Seasonally Flooded
AB	Aquatic Bed	F	Semipermanently Flooded
ML	Moss/Lichen	H	Permanently Flooded
EM	Emergent		
SS	Scrub-Shrub		
FO	Forested/Scrub-Shrub		

****

Summary of Evaluation Results for "SR39-1"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	H	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	L
Production Export	*	M	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	H	*
Wildlife D/A Wintering	*	H	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-1

Wetlands 1, 2, 2E, 19, 31 PSSI

Contiguous palustrine scrub shrub fringe, broad-leaved deciduous (willow, elderberry, groundsel-tree, primrose willow). Disturbed sites fringing marsh and forested area resulting in high wildlife diversity/abundance Effectiveness rating.

****

Summary of Evaluation Results for "SR39-2"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	U	*
Ground Water Discharge	M	L	*
Floodflow Alteration	L	H	H
Sediment Stabilization	M	H	*
Sediment/Toxicant Retention	M	H	M
Nutrient Removal/Transformation	M	H	M
Production Export	*	M	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	H	*
Wildlife D/A Wintering	*	H	*
Aquatic Diversity/Abundance	M	H	*
Uniqueness/Heritage	H	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-2

Wetlands - 3E, 3W PFO1C

Hillsborough River floodplain contiguous palustrine forested system, broad-leaved deciduous, seasonally flooded - (dominant tree canopy includes red maple, sweetgum, laurel oak and water oak with cypress, redbay, and sweetbay magnolia). This floodplain wetland is highly effective and floodflow alteration, sediment stabilization, sediment/toxicant retention, and nutrient removal/transformation. The floodplain also support a wide variety of wildlife.

****

Summary of Evaluation Results for "SR39-3"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	M	M
Sediment Stabilization	M	L	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	L
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	M	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-3

Wetlands 3E - PAB4H

Palustrine, aquatic bed, floating vascular vegetation, permanently flooded. Vegetation includes duckweed and mosquito fern with emergent including smartweed and juncus. Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-4"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	M	L	*
Ground Water Discharge	M	L	*
Floodflow Alteration	M	H	M
Sediment Stabilization	M	H	*
Sediment/Toxicant Retention	M	H	L
Nutrient Removal/Transformation	M	H	M
Production Export	*	M	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	M	*
Wildlife D/A Migration	*	L	*
Wildlife D/A Wintering	*	H	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-4

Wetland 4 - PF02/1C

Isolated palustrine forested wetland - needle-leaved and broad-leaved deciduous (Dominated by cypress with elm, red maple, sweetgum, water oak and laurel oak), seasonally flooded. Disturbed site isolated by two road beds, providing highly effective sediment stabilization and retention. Social significance is moderate.

****

Summary of Evaluation Results for "SR39-5"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	M	M
Sediment Stabilization	M	L	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	M
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	M	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-5

Wetlands 5, 4E - PF02

Contiguous palustrine forested system - needle-leaved deciduous (cypress strand with some sweetbay magnolia and laurel oak). Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-6"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	H
Sediment Stabilization	M	L	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	L
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	L	*
Wildlife D/A Migration	*	L	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	L	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-6

Wetlands 6, 28 - PUBH

Isolated palustrine open water, unconsolidated bottom, permanently flooded wetland-shallow excavated ponds vegetated on fringe (smartweed, dog fennel, red maple). Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-7"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	L	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	M
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	M	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-7

Wetlands 7, 12 - PEM1/PF01

Contiguous palustrine persistent emergent, broad-leaved forested system. Hardwood swamp and marsh (laurel oak, water oak, red maple with sawgrass, lizard's tail, sedges and cattail. Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-8"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	M	L	*
Ground Water Discharge	M	L	*
Floodflow Alteration	M	M	M
Sediment Stabilization	M	H	*
Sediment/Toxicant Retention	M	H	L
Nutrient Removal/Transformation	M	H	L
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	H	*
Wildlife D/A Wintering	*	H	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-8

Wetland 9 - PF02F & PSS1F

Contiguous palustrine, needle-leaved deciduous forested cypress strand with a broad-leaved deciduous scrub-shrub edge of primrose willow and carolina willow, semi-permanently flooded. Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-9"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	L	M	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	M	H	H
Production Export	*	M	*
Wildlife Diversity/Abundance	L	*	*
Wildlife D/A Breeding	*	M	*
Wildlife D/A Migration	*	H	*
Wildlife D/A Wintering	*	H	*
Aquatic Diversity/Abundance	L	M	*
Uniqueness/Heritage	L	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-9

Wetland 10 - PSS1C and PEM1A
Big Ditch (Heron Branch Creek)

Contiguous palustrine broad-leaved deciduous scrub-shrub and persistent emergent temporarily flooded system. SR 39 traverses Big Ditch by box culvert. Vegetation at outfall consists of primrose willow, groundsel-tree, Carolina willow and pickerelweed. North of the creek channel is a wet prairie dominated by carpetgrass and spike rush. Highly effective floodflow alteration.

****

Summary of Evaluation Results for "SR39-10"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	L	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	L
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	M	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-10

Wetland 13, 24, 26, 1E - PEM1F

Contiguous palustrine, semi-permanently flooded emergent systems (soft-rush, pickerelweed and primrose willow). All wetlands disturbed by grazing to varying degrees. Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-11"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	M	*
Sediment/Toxicant Retention	L	L	L
Nutrient Removal/Transformation	L	L	L
Production Export	*	M	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	L	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-11

Wetland 14 - PEM1C

Small contiguous palustrine persistent emergent seasonally flooded system (soft rush, arrowhead, and watergrass). Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-12"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	U	*
Ground Water Discharge	M	L	*
Floodflow Alteration	L	H	H
Sediment Stabilization	M	H	*
Sediment/Toxicant Retention	L	H	M
Nutrient Removal/Transformation	L	H	M
Production Export	*	M	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	H	*
Wildlife D/A Wintering	*	H	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	H	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-12

Wetland 15 - PF01A
Blackwater Creek

Contiguous broad-leaved, deciduous forest (red-maple, sweetgum, bluebeech), temporarily flooded. Blackwater Creek is a perennial drainage conveying water from east to west and joins the Hillsborough River 4 miles downstream. There are two bridge crossings.

System rates as highly effective on floodflow alteration, sediment stabilization, sediment/toxicant retention, nutrient removal/transformation as well as wildlife diversity/abundance. It also has a medium opportunity rating for sediment/toxicant retention.

****

Summary of Evaluation Results for "SR39-13"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	M	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	M
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	M	*
Wildlife D/A Migration	*	L	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-13

Wetlands 15x, 16, 25-PEM

Isolated palustrine emergent wetlands (soft rush, water hyacinth, carpet grass, pickerelweed, and cattail). Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-14"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	M	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	L
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	M	*
Wildlife D/A Migration	*	L	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-14

Wetlands 18a, 18b - PEM, PUBH

Isolated palustrine emergent and open water, unconsolidated bottom wetlands - natural lowland partially drained by excavation of a farm pond (primrose willow, carolina willow, soft rush and cattail). Disturbed site. Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-15"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	L	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	M
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	M	*
Wildlife D/A Migration	*	L	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-15

Wetland 20 - PUBH

Isolated excavated open water, unconsolidated bottom pond. Soft rush has moved into the dewatered area. Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-16"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	M	M
Sediment Stabilization	M	M	*
Sediment/Toxicant Retention	L	L	L
Nutrient Removal/Transformation	L	L	L
Production Export	*	M	*
Wildlife Diversity/Abundance	H	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	L	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-16

Wetlands 21, 27 - PEMIA

Contiguous palustrine persistent emergent system, temporarily flooded and dewatered by ditch (stressed softrush, dog fennel). High social significance rating for wildlife diversity/abundance as sandhill crane feeding area.

****

Summary of Evaluation Results for "SR39-17"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	L	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	L
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	M	*
Wildlife D/A Migration	*	L	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-17

Wetland 22 - PSS1

Isolated palustrine scrub shrub, broad-leaved deciduous wetland (dominated by Carolina willow, groundsel-tree and primrose willow). Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-18"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	L	*
Sediment/Toxicant Retention	L	H	L
Nutrient Removal/Transformation	L	H	L
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	M	*
Wildlife D/A Migration	*	M	*
Wildlife D/A Wintering	*	M	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-18

Wetlands 23a, 23b - PSS, PUBH

Contiguous palustrine scrub shrub wetland with an excavated open water unconsolidated bottom pond (willow, baccharis, primrose willow, duckweed, and water hyacinth). Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-19"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	L	L	*
Ground Water Discharge	L	L	*
Floodflow Alteration	L	M	M
Sediment Stabilization	M	H	*
Sediment/Toxicant Retention	L	L	L
Nutrient Removal/Transformation	L	L	M
Production Export	*	M	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	H	*
Wildlife D/A Wintering	*	H	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluated

SR 39-19

Wetlands 29, 30, 32, 33, 34 - PF01

Contiguous palustrine broad-leaved decidous forested system (red bay, red maple, sweetgum, laurel oak, water oak). Part of the Pembesto Creek drainage. Functions and values common to typical systems.

****

Summary of Evaluation Results for "SR39-20"

****

	Social Significance	Effectiveness	Opportunity
Ground Water Recharge	M	L	*
Ground Water Discharge	M	L	*
Floodflow Alteration	M	H	M
Sediment Stabilization	M	L	*
Sediment/Toxicant Retention	M	H	L
Nutrient Removal/Transformation	M	H	L
Production Export	*	L	*
Wildlife Diversity/Abundance	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	H	*
Wildlife D/A Wintering	*	H	*
Aquatic Diversity/Abundance	M	M	*
Uniqueness/Heritage	M	*	*
Recreation	L	*	*

Note: "H" = High, "M" = Moderate, "L" = Low, "U" = Uncertain, and "*"'s identify conditions where functions and values are not evaluate

SR 39-20

Wetland 11 - PF02

Contiguous palustrine needle-leaved, deciduous forested system (cypress dome with understory of sedges, lizard's tail, canna, and sawgrass). Provides stormwater retention - moderate social significance rating for groundwater recharge and discharge, flood flow alteration, and sediment stabilization, retention.

FDR

Memorandum

TO: Attendees
FROM: George Eliason
DATE: December 14, 1992
SUBJECT: SR39 PD&E Study
WPI Nos. 713335 & 7115925, SPN Nos. 14110-1503 & 10200-1508
Preliminary Engineering, potential environmental impacts

The subject meeting was held on December 14 1992 at the Southwest Florida Water Management District (SWFWMD) office in Tampa. Meeting attendees are listed at the end of this memorandum. The following summarizes the discussion of this meeting:

1. An introduction to the project was made by Mr. Eliason, noting that the majority of the project had been reviewed in the field in 1989 by Mr. Eliason and Ms. Sternfels. Areas not reviewed in the field involve what is now called the Alexander Bypass. The bypass is located at the intersection of I-4 and Alexander St. and heads north, eventually connecting to existing SR39 in the vicinity of Sam Allen Rd. This new alignment is being considered for a number of reasons as pointed out by Ms. Hybarger.

    a. SR39 can not be widened south of I4 because of graves located east and west of the existing 2 lane right-of-way. therefore, SR39 can not provide a contiuous multilaned facility.

    b. North of I4, SR39 has graves to the west and the railroad to the east. Widening would relocate graves in that area.

    c. Due to similar problems in improving the existing I4/SR39 interchange, FDOT and FHWA has decided to close access to I4 at SR39. New access to I4 will be provided at Alexander Street. The use of Alexander Street will provide a modern interchange with the feasibility of providing a continuous 4 lane facility, north and south of I4.

2. Ms. Sternfels asked about projects associated with the widening of Alexander St. which may be done to accommodate the realigned SR39. The SWFWMD may want to review potential impacts from these projects (cumulative impacts) in conjunction with SR 39.

3. Concerning alternative alignments for the Alexander Bypass, Mr. Lincks pointed out the large number of potential Historic structures in the area and small neighborhoods which

present a significant constraint to the alternatives being considered. Generally speaking, alternatives which traverse these residential areas have fewer wetland impacts. Ms. Sternfels pointed out that a strong case would have to be made for the selection of an alignment which does not minimize impacts to wetlands.

4. Ms. Sternfels pointed out the flea Market on Sam Allen Road and said there were complaints of flooding in the area. Local land owners indicated that the flooding has occurred following the construction of a residential development located just upstream (east) of SR 39.

5. Under current state laws, all MSSW and dredge and fill permits will be processed through the SWFWMD who will in turn process them according to district and FDER guidelines.

6. Ms. Sternfels stressed the need to minimize impacts and to justify those alternatives which impact wetlands.

7. The incorporation of wildlife crossings at Pemberton Creek, Blackwater Creek and the Hillsborough River were suggested by Ms. Sternfels. These crossings could be considered as a mitigative effort. Lengths and sizes of these crossings were not provided but coordination with the Florida Game and Freshwater Fish Commission was suggested. Generally, if a crossing is too long or too dark for a human to feel comfortable to walk through, the same is true for wildlife and therefore is not suitable. The Hillsborough River is a significant crossing and therefore should be considered strongly for incorporation of wildlife crossings and for the minimization of impacts in general.

8. Fences in the vicinity of wildlife crossings should be planned for to minimize road kills.

9. Concerning mitigation for impacts to wetlands:

    a. A ratio of 1:1 (area of creation to area of impacts) will be required for all impacts.

    b. Ratios above 1:1 will be recommended by the district for isolated wetlands, not to exceed 2.5 : 1 for forested systems and 1.5:1 for herbaceous systems.

    c. Ratios greater than 2.5 : 1 will be considered for those wetlands connected to waters of the state (FDER guidelines).

    d. Upland cut ditches are not considered jurisdictional by the district but will be considered jurisdictional according to FDER guidelines should they be connected to waters of the state.

    e. Mitigation for impacts to road side drainage ditches can be done in storm water detention ponds.

f. Mitigation through restoration/enhancement is preferred to creation after the 1:1 replacement ratio is meet.

g. Replacement of low quality forested systems with herbaceous systems (both deep and shallow water marshes) can be considered when these wetlands will provided habitat for listed species, most notable the sand hill crane and the wood stork. Again, this mitigation option can be considered after the initial 1:1 in kind replacement.

9. A follow-up phone call between Ms. Sternfels and Mr. Eliason was held on December 15 for additional information obtained from the FDER (George Craciun) by Ms. Sternfels, concerning impacts to wetlands. The following is a summary of that call:

a. Mr. Craciun indicated that the maximum mitigation ratio for impacts to forested systems would be 4:1. Mr Craciun also indicated that a strong case would have to be made for selection of alternatives in the Alexander Bypass area which would affect aa greater amount of wetlands than other viable alternatives.

b. Mr Craciun indicated that due to the sensitivity of the Hillsborough River, consideration of retrofitting the bridge there (removal of existing fill and lengthening of the structure) should be considered and that mitigation credit could be applied for work in this direction.

c. For existing road side ditches which are contiguous with waters of the state; these areas would be delineated from top of bank (TOB) to TOB. However, mitigation would only be required for those areas vegetated by wetland dependant species.

10. The Tampa office of SWFWMD will process all permits for Hillsborough and Pasco Counties.

11. Mitigation areas should be consolidated as much as possible.

The above minutes reflect the meeting as understood by HDR Engineering. Please advise of any inaccurate or missing information.

Attendees:

Lynn Hybarger - FDOT
Tod Mecklenborg - FDOT
Julie Sternfels - SWFWMD
Alba Evans - SWFWMD
Ted Lincks - Ted Lincks & Assoc.
Jim Roberts - HDR Engineering
George Eliason - HDR Engineering

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APPENDIX B

FLORIDA GAME AND FRESH WATER FISH COMMISSION

FARRIS BRYANT BUILDING
620 South Meridian Street
Tallahassee, Florida 32399-1600
(904) 488-1960

March 31, 1992

Ms. Janice L. Alcott, Director
Florida State Clearinghouse
Executive Office of the Governor
Office of Planning and Budgeting
The Capitol
Tallahassee, FL 32399-0001

RE: SAI #FL9203110391C, Hillsborough and Pasco Counties, SR 39 from I-4 to SR 41.

Dear Ms. Alcott:

The Office of Environmental Services of the Florida Game and Fresh Water Fish Commission has reviewed the referenced document, and offers the following comments.

The Florida Department of Transportation is proposing to expand SR 39 in eastern Hillsborough and Pasco Counties, within the 13.5 miles from I-4 to US 301. Our biologist surveyed the project alignment during work on other projects throughout the winter of 1991/92.

Existing land use in the project area is predominantly rural and agricultural, and includes significant wildlife habitat. Residential and commercial areas are found at the termini of the project in Plant City and Zephyrhills. Intervening residential areas are rural agriculture. Natural habitats include freshwater marshes, cypress domes, creek and slough systems, mixed hardwood swamp forest, pine flatwoods, scrub, mesic oak forest, and dry prairie.

The amount of wetland impact anticipated from project construction is not currently known. Significant wetland systems are associated with the Hillsborough River, Blackwater Creek, Heron Branch Creek, and Mill Creek. Significant upland habitats are found in association with these riverine wildlife corridors, particularly the Hillsborough River and Blackwater Creek which connect westward to the Hillsborough River State Park and northeastward to the Green Swamp. This habitat is important for a wide variety of wildlife, including a small population of black bears that reside in this region. This

is a major area of ongoing land acquisition by Hillsborough County's Environmental Lands Acquisition and Protection Program (ELAPP) and the Southwest Florida Water Management District's Save Our Rivers program.

The following endangered (E), threatened (T) and species of special concern (SSC) animal species are present, or have the potential to be present in the proposed road corridor: wood stork (E), Florida black bear (T), bald eagle (T), Florida sandhill crane (T), southeastern American kestrel (T), short-tailed snake (T), eastern indigo snake (T), Sherman's fox squirrel (SSC), Florida mouse (SSC), limpkin (SSC), snowy egret (SSC), tricolored heron (SSC), little blue heron (SSC), burrowing owl (SSC), gopher tortoise (SSC), gopher frog (SSC), and American alligator (SSC).

Planning efforts for this proposed project should include wildlife surveys for listed species, review of potential restoration of natural hydrology in the floodplains crossed by the roadway, provision of large mammal (black bear) roadway undercrossings associated with the riverine wildlife corridors, and consideration of mitigation alternatives for unavoidable wetland impacts incurred by the project.

Sincerely,

Bradley J. Hartman, Director
Office of Environmental Services

BJH/JWB3/rs
ENV 1-3-2
cc: Mr. David A. Twiddy, Jr.
Project Development & Environmental Engineer
District Seven
Florida Department of Transportation
4950 West Kennedy Boulevard
Tampa, FL 33609

Mr. Leroy C. Irwin, Manager
Environmental Management Office
Florida Department of Transportation
605 Suwanee Street MS37
Tallahassee, FL 32399-0450

HILLSBOROUGH COUNTY
FLORIDA

Report To The
Board of County Commissioners

Recommendations Concerning
HILLSBOROUGH COUNTY'S
ENVIRONMENTAL LANDS ACQUISITION
AND PROTECTION PROGRAM
(ELAPP)

FIFTH YEAR

ELAPP Site Assessment Team
ELAPP Site Review Team
ELAPP Site Selection Team

Parks & Recreation Department
Real Estate Department

August 1992

CLASS "B" SITES

NEW SITES

Blackwater Creek +/- 3,600 acres*

Location: Land located in Northeast Hillsborough County along Blackwater Creek from US 301 to SR 39.

Recommendation: Negotiate protection or acquisition

Brooker Creek 1,600 +/- acres *

Location: Land in Northwest Hillsborough County north of Van Dyke Road south of Lutz-Lake Fern Road, west of Carlton Arms apartments and the Cheval subdivision.

Recommendation: Negotiate Protection or acquisition. Any realignment of the major highway, currently planned for land to the east, on to this site, would eliminate this project from consideration.

Cypress Street +/- 60 acres*

Location: Land located at the end of Cypress Street on Old Tampa Bay in the Westshore District.

Recommendation: Negotiate protection or acquisition contingent upon funded and approved restoration program.

Little Manatee Corridor +/- 1,400 acres *

Location: Land in southern Hillsborough County along the Little Manatee River Corridor from I-75 upstream as far as Leonard Lee Road.

Recommendation: Negotiate protection or acquisition.

* The above sites have been temporarily place in the "B" category due to category "A" being at the capacity of ten sites. Upon the completion of a preservation or acquisition of a site in "A" these sites will be moved up in accordance with the site ranking policy.

BLACKWATER CREEK

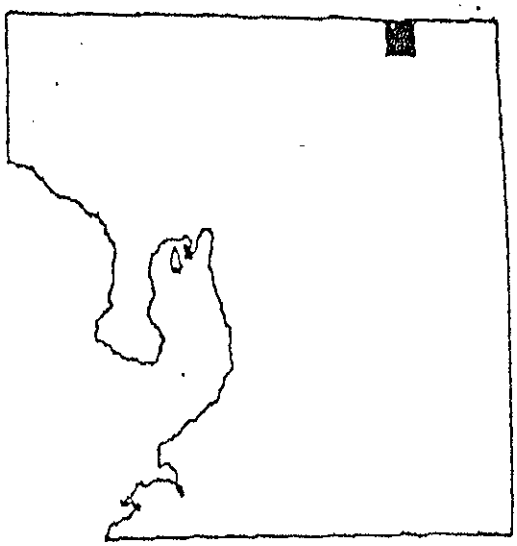
APPROXIMATE SITE AREA 3600 Acres

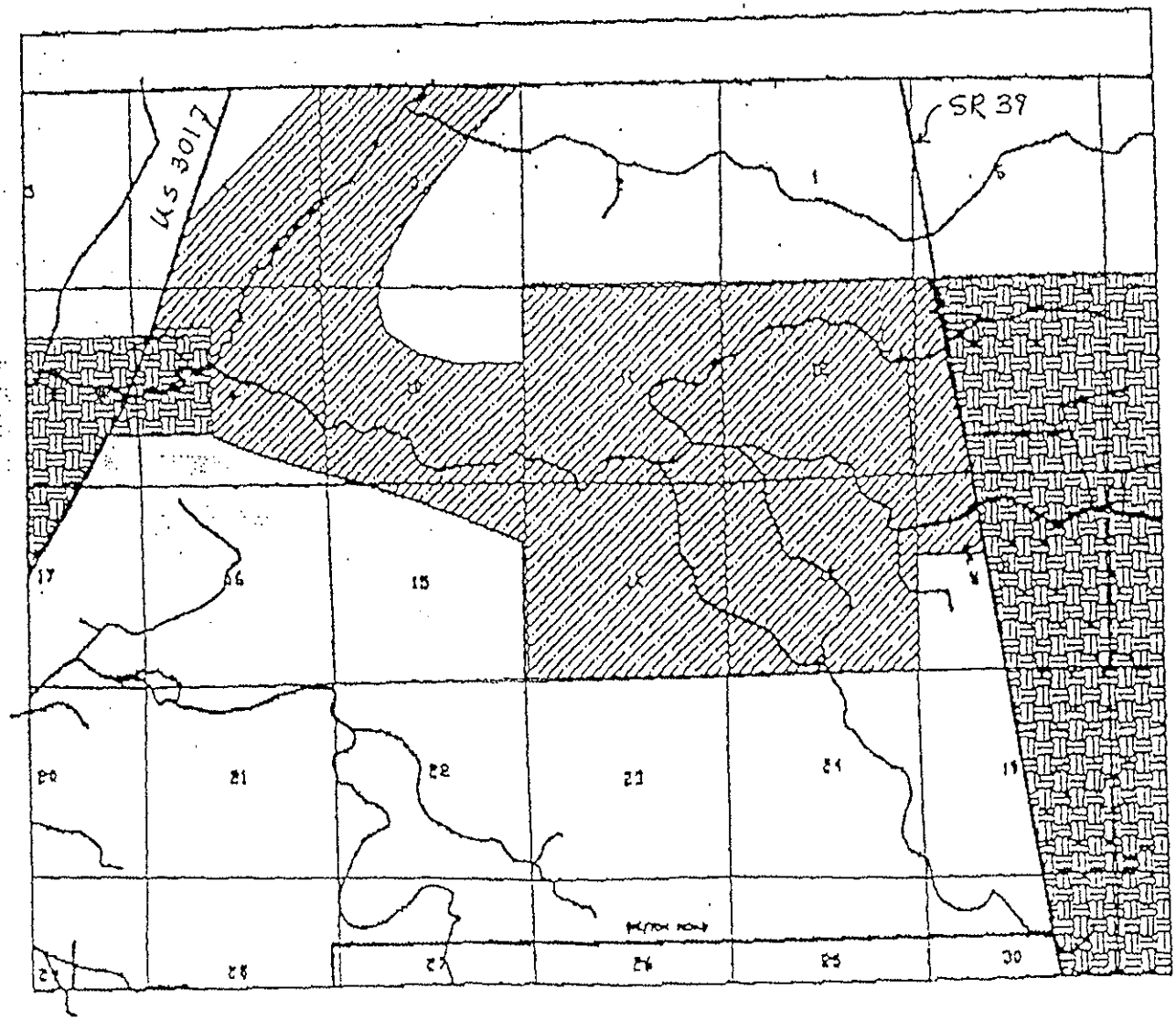
AREA AQUIRED -0-

OTHER PRESERVATION -0-

OTHER PUBLIC LAND

PURCHASE PRICE (No Acquisitions to Date)





HILLSBOROUGH COUNTY

Florida

ROADWAY WILDLIFE CROSSINGS

Section 3.5.3.4.2.2.3 of the Hillsborough County Land Development Code requires that new roadways be routed to avoid traversing "significant" and "essential" wildlife habitat,* unless there is no feasible and prudent alternative and the roadway design incorporates design features for the safe passage of wildlife. Improvements to existing roads (e.g., road reconstruction or widening) must also incorporate design features for the safe passage of wildlife when located in these environmentally sensitive habitat areas. Such design features must be appropriate for the wildlife which would be expected to use the crossing and designed in accordance with the recommendations of the Florida Game and Freshwater Fish Commission.

Described below are the recommendations of the Game Commission regarding the design of wildlife crossings. The Game Commission's Office of Environmental Services prepared these guidelines for Hillsborough County government in 1992.

Florida Game and Freshwater Fish Commission Wildlife Crossing Guidelines

The following guidelines are useful in designing wildlife crossings under roadways. The objectives in designing effective wildlife crossings are 1) to provide sufficient air or head clearance; 2) to provide sufficient width to make the crossing a more attractive route for the animal than crossing the road elsewhere; 3) to avoid the tunnel effect caused by a passage too narrow for the target species to comfortably use; and 4) to provide sufficient barriers to direct animals to the crossing as the path of least resistance to their travel.

Roadway wildlife crossings generally fall into three categories: aquatic species crossings, small terrestrial animal crossings, and large terrestrial animal crossings.

---

* Definitions of these terms and provisions pertaining to habitat protection are contained in the Hillsborough County Land Development Code.

Aquatic species crossings

Aquatic species crossings are typically incorporated as part of a roadway's drainage conveyance system. Effective aquatic species crossings provide sufficient air or head clearance during seasonal high water and sufficient width to avoid the tunnel effect.

Crossings designed to allow passage of air breathing aquatic species (otters, alligators, crocodiles, turtles, manatees, bottlenose dolphins) should provide a minimum of 3 feet of clearance above the seasonal highest high water line. In known manatee and dolphin use areas, a minimum of 5 feet of clearance above the highest tide line is recommended.

The width of aquatic species crossings should either be equal to the width of the waterway from bank to bank during the highest high water level or equal to the width of the intersected roadway grade from toe of slope to toe of slope.

For all aquatic species crossings, the natural waterway substrate should be retained through the profile of the crossing. Hardening with concrete, rip-rap, or other artificial surfaces will reduce the attractiveness of the undercrossing to the target species.

Where the target species are capable of moving terrestrially as well as aquatically (otter and some species of reptiles and amphibians), the crossing should be designed to accommodate both types of movement, combining the crossing designs for aquatic species and small terrestrial animals.

Small terrestrial animal crossings

There are two types of small terrestrial animal crossings: undercrossings associated with wetlands and aquatic systems, and undercrossings in upland areas.

The clearance above grade of the either type of crossing should be a minimum of 3 feet, with 4 to 5 feet clearance strongly recommended, particularly if small mammals are included as target species.

The width of the undercrossing associated with wetland and aquatic systems should be equal to either the width of the wetland area, plus a 15-foot buffer on each side, or equal to the width of the intersected roadway grade from toe of slope to toe of slope, whichever is greater.

The width of the crossing associated with uplands should be equal to either the width of the natural upland habitat (e.g., scrub, sandhill, pine flatwoods) utilized by the target species and traversed by the roadway or equal to the width of the intersected roadway grade from toe of slope to toe of slope divided by 10, whichever is less. For example, a 120-foot-wide roadway would have a 12-foot wide undercrossing.

The natural wetland and upland substrate should be retained throughout the profile of the crossing. Hardening with concrete, rip-rap, or other artificial surfaces will reduce the attractiveness of the undercrossing to the target species. If a culvert is used, the bottom should be buried in, and covered with, natural soils and vegetation.

Natural vegetation should be retained on both sides of the undercrossing. If vegetation is removed during construction of the road, the area should be replanting to provide cover attractive to the target species.

Fencing, a minimum of 5 feet in height, should be erected parallel to the roadway at the toe of the roadway slope for the width of the habitat utilized by the target species and traversed by the road. When the target species include burrowing animals, such as the gopher tortoise, the fence should be partially buried.

Large terrestrial animal crossings

There are two types of large terrestrial animal crossings: undercrossings associated with wetland and aquatic systems, and undercrossings in upland areas. The design features of these crossings must be larger than those described above due to the size of the animals (white-tailed deer, Florida black bear) and their ability and proclivity to leap, climb, or otherwise cross small barriers. Where to locate these crossings should be determined by the Game Commission based on field review, in coordination with the U.S. Fish and Wildlife Service and other wildlife management entities.

The width of undercrossings associated with wetland and aquatic systems should be equal to either the width of the wetland, plus a 60-foot buffer on each side, or equal to the width of the intersected roadway grade from toe of slope to toe of slope, whichever is greater. If the wetland area is extensive, and distinct animal use areas are unknown or ill-defined, a case-by-case width determination must be made.

The width of undercrossings associated with uplands should be equal to at least the width of the intersected roadway grade from toe of slope to toe of slope. The clearance above grade of the crossing should be a minimum of 7 feet, with 10 to 12 feet of clearance strongly recommended.

The natural upland substrate should be retained throughout the profile of the crossing. Hardening with concrete, rip-rap, or other artificial surfaces will reduce the attractiveness of the undercrossing to target species. Natural vegetation should be retained on both sides of the undercrossing. If vegetation is removed during construction of the road, the area should be replanted to provide cover attractive to the target species.

Fencing should be erected parallel to the roadway at the toe of slope for the entire distance of the habitat utilized by the target species and traversed by the road. Return arms of the fence should be erected to funnel the target species to the undercrossings.

Fencing height should be 10 to 12 feet with a back return at the top. In Collier County, this fencing design has been used along I-75 (Alligator Alley).

Conclusion

In general, it is important to avoid wildlife crossing designs that are very small, tunnel-like, floored in unnatural material, and, for terrestrial animals, submerged during the wet season. A useful rule of thumb for a terrestrial animal, and particularly a large mammal, is that if you, as an adult human, would feel uncomfortable going through the undercrossing and would rather take your chances crossing the roadway, then other large mammals likely would react in a similar way.

RDWYCROSS
1 July 1992

SR 39 COORDINATION MEETING
REVIEW OF MEETING MINUTES

NOVEMBER 20, 1992

HDR

On Thursday, November 19, 1992, at 3:00 p.m., a coordination meeting with Hillsborough County ELAPP Acquisition Manager was held at HDR Engineering, Inc., 5100 W. Kennedy Blvd.

The following were attendees at the Meeting:

Lynn Hybarger - Florida Department of Transportation
Kurt Gremley - Hillsborough County/ELAPP
Ted Lincks - Lincks & Associates
Randy Toth - Lincks & Associates
George Eliason - HDR Engineering
Betsy Davis - HDR Engineering

Kurt Gremley informed attendees about Hillsborough County's intended land use for the Blackwater Creek Parcel. This 3,600 Acre parcel is made up primarily of property of two owners - Weiss and Thomas. The Weiss property is the "core" property for this acquisition.

To the north, in the Crystal Springs Area, Mr. Gremley indicated that it was his understanding that FDOT was considering a upland mitigation bank in this area.

K. Gremley expressed an interest in bridge and railroad trestle clearance both for wildlife and trail use (bikes, small vehicles, horses, etc.). Six feet is considered minimum clearance for these uses.

K. Gremley discussed an "acquisition of convenience" for the SR 39 R.O.W. property. The County hopes to purchase the Blackwater Creek core parcels within 2 to 3 years. Since this project is not in the 5 year program for D.O.T., the County would most likely consider "acquisition of convenience". This would be done prior to the County taking title of the land. This allows conveyance to the designated entity for other identified purposes provided environmental issues are addressed and a price is agreed upon.

The County is also interested in buying additional parcels in this area. Gremley suggested working with D.O.T. on R.O.W. purchases.

It was suggested by Gremley that contact should be made with SWFWMD and Pasco County regarding Hillsborough River and contiguous conservation lands in adjacent counties as the ELAPP program deals only with Hillsborough County.

It was mentioned that the County Comprehensive Plan addresses wildlife corridors. Hillsborough County has adopted the FGFWFC wildlife crossing criteria.

HDR Engineering, Inc.
Suite 300
5100 W. Kennedy Boulevard
Tampa, Florida
33609-1806
Telephone
813 287-1960

Stormwater ponds on County property were discussed. The County could conceivably provide the land at no cost but require more environmentally sensitive design to increase wildlife habitat value of the pond.

An opportunity for conservation or restoration of County land was discussed as part of a mitigation plan. The County would consider allowing FDOT Mitigation plans to include the restoration of County owned property.

The preceding information is HDR's understanding of items discussed at the November 19, 1992 meeting.

E559A007.wp1

Meeting Minutes

HDR

PROJECT: SR 39 from Plant City to Zephyrhills
State Project Number: 10200-1508; 14110-1503
W.P.I. Number: 7113335; 7115925

ATTENDEES: Jim Beever, FGFWFC
Mike Coleman, FDOT
Todd Mecklenborg, FDOT
George Eliason, HDR Engineering, Inc.

The subject meeting was held in the field on May 5, 1994. The need and location of potential wildlife crossings were discussed. The following items were addressed:

1. The project will traverse the Hillsborough River. Beever strongly suggested the existing structure be lengthened to accommodate large mammals (e.g., deer and black bear) utilizing the forested floodplain as a transportation corridor. Beever indicated the new bridge should extend 60 to 100 feet beyond normal pool (NP) elevation, on each side of the channel. A minimum of eight feet of head clearance was specified.

   If the extension of the bridge beyond NP is found to be cost prohibitive, Beever suggested the construction of a shelf which is above NP and which is spanned with proper head clearance, could be considered.

   If the cost of the lengthened bridge is determined to be cost prohibitive, the FGFWFC would seek compensation for impacts to wildlife habitat. Specifically, "acre for acre, type for type" mitigation for the loss of habitat suitable for the support of state listed species. Preservation of lands contiguous with the Hillsborough River corridor is the preferred method of compensation.

2. The project will traverse Blackwater Creek. There are two structures at this location; one which crosses the main channel and one which crosses a relief channel. The relief channel rarely conveys water and appears to be above NP. The relief channel is traversed by a three bay culvert (arched bays) and is considered to be historically significant. A case study has been prepared and is being reviewed by the State Historic Preservation Officer who will make recommendations for the preservation of the structure. The study recommends the existing facia (rock and granite) be preserved and replaced on the new culvert after widening has been completed.

   Beever indicated the relief channel would adequately serve as a wildlife crossing, but enlarging the existing openings is necessary to obtain proper head clearance. Due to the historic significance of the culvert and the need to preserve its design, enlarging the

culvert openings does not appear to be a viable alternative. If this is the case, other alternatives should be considered.

3. Pemberton Creek will be crossed by new alignment (Alexander Street Bypass). Beever indicated that due to the small amount of habitat upstream from the project, crossings which will allow the movement of aquatic wildlife would be sufficient.

4. Generally, the FGFWFC wants to see some sort of effort towards minimization of impacts to wildlife habitat either through compensation for impacts or bridge lengthening for wildlife movements.

5. Assuming that wildlife crossings are incorporated into design, further surveys for the occurrence of state listed species is not warranted along the Hillsborough River floodplain at this time. Surveys for State listed species within suitable habitat (as identified through updated FLUCFCS mapping) will be conducted. Species which will be considered include the gopher tortoise, wading birds, Red-cockaded woodpeckers, scrub jays, southeastern American kestrals and Shermans fox squirrels.

6. These meeting minutes reflect my understanding of the issues as discussed. Concurrence with these minutes are requested from the attendees.