



**6. IMPACT EVALUATION**

<u>Topical Categories:</u>	S M N N I I O O G N N N E I N V	REMARKS
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a. Social Impacts:

1. Land Use Changes	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.a.</u>
2. Community Cohesion	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.a.</u>
3. Relocation Potential	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.a.</u>
4. Community Services	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.a.</u>
5. Title VI Considerations	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.a.</u>
6. Controversy Potential	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.a.</u>
7. Utilities and Railroads	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.a.</u>

b. Cultural Impacts:

1. Section 4(f) Lands	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<u>See Attachment 6.b.</u>
2. Historical Sites/District	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.b.</u>
3. Archaeological Sites	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.b.</u>
4. Recreation Areas	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<u>See Attachment 6.b.</u>

c. Natural Environment:

1. Wetlands	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.c.</u>
2. Aquatic Preserves	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<u>See Attachment 6.c.</u>
3. Water Quality	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.c.</u>
4. Outstanding Fla. Waters	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<u>See Attachment 6.c.</u>
5. Wild/Scenic Rivers	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<u>See Attachment 6.c.</u>
6. Floodplains	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.c.</u>
7. Coastal Zone Consistency	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<u>Letter Dated 12/21/99</u>
8. Coastal Barrier Islands	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<u>See Attachment 6.c.</u>
9. Wildlife and Habitat	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.c.</u>
10. Farmlands	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<u>See Attachment 6.c.</u>

d. Physical Impacts:

1. Noise	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.d.</u>
2. Air	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.d.</u>
3. Construction	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.d.</u>
4. Contamination	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<u>See Attachment 6.d.</u>
5. Navigation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<u>See Attachment 6.d.</u>

- a.  FHWA has determined that a Coast Guard Permit IS NOT required in accordance with 23 CFR 650, Subpart H.
- b.  FHWA has determined that a Coast Guard Permit IS required in accordance with 23 CFR 650, Subpart H.

e. Permits Required:

Southwest Florida Water Management District – Environmental Resource Permit  
 U.S. Army Corps of Engineers – Section 404 Dredge and Fill Permit  
 Florida Department of Environmental Protection – NPDES Permit

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## 7. WETLANDS FINDINGS:

The recommended improvements will impact approximately 1.51 acres of wetlands. Wetland impacts, which result from the construction of this project, will be mitigated pursuant to S.373.4137 F.S. to satisfy all mitigation requirements of Part IV, Chapter 373 F.S. and 33 U.S.C.s 1344.

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## 8. COMMITMENTS AND RECOMMENDATIONS:

### a. Commitments:

Based on Section 106 consultation with the State Historic Preservation Officer, a Memorandum of Agreement (MOA) for the National Register of Historic Places (NRHP) eligible Alexsuk Site (8HE426) was executed by FHWA, FDOT, and SHPO on December 20, 2002. The mitigative efforts identified in the MOA will be implemented by the Department during subsequent project phases. Additionally, coordination and consultation with Native American Indian tribes has been initiated and will be continued during subsequent implementation phases of this project.

The recommended alignment of the Ayers Road Extension will bisect an existing cattle ranch. As a result, a cattle crossing allowing movement of cattle from one side of the road to the other may be considered for evaluation during the design phase of the project.

Based on consultation with the U.S. Fish and Wildlife Service, protection provisions may be implemented during project construction to minimize potential impacts to the Eastern indigo snake.

### b. Recommendations:

The recommended project involves improving C.R. 578 to a four-lane suburban facility requiring approximately 155 ft of right-of-way from the vicinity of U.S. 19 to the vicinity of U.S. 41, a distance of approximately 12.0 mi (19.3 km). A segment of roadway on new alignment, referred to as the Ayers Road Extension, is also recommended from the C.R. 578/Suncoast Parkway interchange north then east to the vicinity of U.S. 41 and Ayers Road (C.R. 576). The recommended route extends northward through mostly undeveloped pasture then east for a distance of approximately 3.5 mi (5.6 km) terminating at the U.S. 41/Ayers Road intersection north of Masaryktown. The Ayers Road Extension will provide a continuous east-west travel route from U.S. 19 to west of I-75 and facilitate new access to the Hernando County Airport in accordance with the *Hernando County Airport Master Plan*. Additional detail is provided on page 4 of 11.

## ATTACHMENT 2 – PROJECT DESCRIPTION

### a. Existing:

C.R. 578 is currently a two-lane rural highway from U.S. 19 (S.R. 55) to Callaway Avenue and from Hallow Avenue to U.S. 41 (S.R. 45) and is functionally classified as a major collector. From the vicinity of Callaway Avenue to Hallow Avenue, C.R. 578 has been expanded to a four-lane divided suburban facility with an open drainage system. In addition, for 0.5 miles (mi) [0.8 kilometers (km)] west and east of the interchange at the Suncoast Parkway, C.R. 578 has been expanded to a four-lane divided facility. The existing right-of-way ranges from 50 feet (ft) [15.3 meters (m)] to 170 ft (51.9 m) except at the Suncoast Parkway interchange where the right-of-way is 254 ft (77.5 m) (see Project Location Map below). C.R. 578 is a designated evacuation route.

For the purpose of developing and evaluating project alternatives, C.R. 578 was divided into four study segments: Segment A from U.S. 19 to East Road, a distance of 2.4 mi (3.9 km); Segment B from East Road to Mariner Boulevard/Shady Hills Road, a distance of 3.2 mi (5.1 km); Segment C from Mariner Boulevard/Shady Hills Road to the Suncoast Parkway, a distance of 3.9 mi (6.3 km); and Segment D from the Suncoast Parkway to U.S. 41 (Ayers Road Extension), a distance of 3.5 mi (5.6 km).



Project Location Map

### b. Project Need:

The need for improvements along the C.R. 578 corridor is based primarily on the following conditions:

- Current substandard traffic operations;
- Future traffic demands along the C.R. 578 corridor, and the projected future; socioeconomic growth in northwest Pasco and southwest Hernando Counties;
- Inadequate driver sight distances;
- Inadequate capacity as a designated evacuation route;

- The need for adequate pedestrian facilities;
- Assistance in improving access to the Hernando County Airport; and
- Providing a continuous route between U.S. 19 and C.R. 581.

The needs of this project will be fulfilled with the design and construction of C.R. 578 to current design standards (see Section 5.0 of the Preliminary Engineering Report).

**c. Proposed Improvements:**

The recommended project involves improving C.R. 578 to a four-lane suburban facility from the vicinity of U.S. 19 to the vicinity of U.S. 41, a distance of approximately 12.0 mi (19.3 km). A segment of roadway on new alignment, referred to as the Ayers Road Extension, is also recommended from the C.R. 578/Suncoast Parkway interchange north then east to the vicinity of U.S. 41 and Ayers Road (C.R. 576). The recommended route extends northward through mostly undeveloped pasture then east for a distance of approximately 3.5 mi (5.6 km) terminating at the U.S. 41/Ayers Road intersection north of Masaryktown. Based on the design speed, level of service, and access requirements, the improved facility will be functionally classified as an arterial roadway.

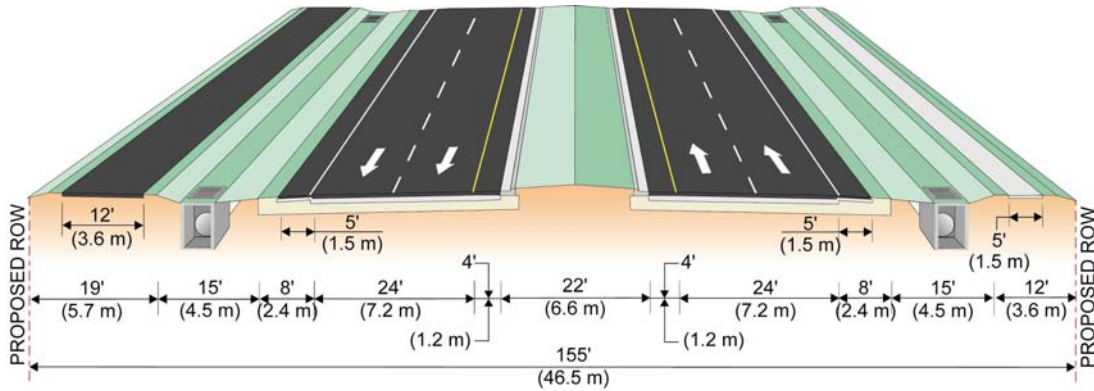
The portion of the project from East Road to the Suncoast Parkway is included in the Pasco County Metropolitan Planning Organization's (MPO's) *2025 Long Range Transportation Plan (LRTP)* as a four-lane divided facility. The portion of the project from U.S. 19 to the Suncoast Parkway is included in the Hernando County MPO's *2025 LRTP* and is recommended to be improved to a four-lane divided facility.

The recommended new roadway alignment (S-5), the Ayers Road Extension, from the C.R. 578/Suncoast Parkway interchange to the vicinity of the U.S. 41/Ayers Road intersection, is also identified in the Hernando County *2025 LRTP* as a four-lane facility.

For the Ayers Road Extension, it was determined that because of the potentially adverse effects Alignment S-5 had on the Alexsuk Site (Site – 8HE426), further coordination with FHWA and SHPO was needed. Consequently, a new alignment, S-8, was developed. This alternative was developed in an effort to minimize or eliminate effects to the Alexsuk Site. Both alignments were presented at the Public Hearing. Alignment S-5 was the preferred alternative. The Ayers Road Extension will provide a continuous east-west travel route from U.S. 19 to west of I-75 and facilitate new access to the Hernando County Airport in accordance with the *Hernando County Airport Master Plan*. Both alignments are shown below.



The typical section recommended in this study and approved by Pasco and Hernando Counties, is a four-lane divided suburban facility with a 30 ft (9.0 m) median of which 22 ft (6.6 m) is raised, two 12 ft (3.6 m) travel lanes in each direction, 8 ft (2.4 m) outside shoulders with 5 ft (1.5 m) of the shoulder paved, and 15 ft (4.5 m) drainage swales. A 12 ft (3.6 m) multi-use facility on the north side of the roadway and a 5 ft (1.5 m) sidewalk on the south side of the roadway are recommended. The recommended design speed for this typical section is 55 mph (90 km/h).



**Suburban Typical Section**

## ATTACHMENT 6 – IMPACT EVALUATION

### a. Social Impacts:

#### 1. Land Use Changes

Primary land uses along the C.R. 578 corridor include numerous residential subdivisions, individual residences, commercial and industrial development, religious and community facilities, and undeveloped land. Existing land uses are similar on both the Pasco County and Hernando County sides of C.R. 578.

The Pasco County and Hernando County *Comprehensive Plans* indicate that future land uses along the project corridor are expected to follow the established trends of the existing land uses. Therefore, the project will have a minimal effect on overall land use in the study area. Existing and future land use maps for both Hernando and Pasco Counties are shown in Appendix B of the Preliminary Engineering Report.

#### 2. Community Cohesion

The Ayers Road Extension will provide a continuous travel route from U.S. 19 to east of U.S. 41 and facilitate new access for the Hernando County Airport in accordance with the *Hernando County Airport Master Plan*. The recommended improvements will not result in the isolation or separation of communities, ethnic groups or social groups. The project will enhance community cohesion in Masaryktown because the Ayers Road extension will reduce traffic on existing C.R. 578.

#### 3. Relocation Potential

The recommended widening of C.R. 578 will require a minimum right-of-way of 155 ft (46.5 m). The acquisition of right-of-way will necessitate residential and business relocations in some areas of the project. A *Conceptual Stage Relocation Plan* has been prepared to address the potential relocation of residences or businesses and analyze the availability of replacement dwellings or commercial properties.

The optimum alignment may result in the relocation of approximately 26 residences and 23 businesses including the New Hope Baptist Church. Evaluation of the area real estate market indicates that there are a sufficient number of residential properties available for relocatees within close proximity to the project area. Although business space available for relocation is minimal, there is an adequate supply of commercially zoned vacant land along the project corridor available for building new business facilities.

In order to minimize the unavoidable effects of right-of-way acquisition and relocations, the Florida Department of Transportation will carry out a right-of-way and relocation program in accordance with *Florida Statute 339.09* and the *Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Public Law 91-646)*.

#### 4. Community Services

The following community service facilities are located within the project study area:

- Spring Hill Regional Hospital
- Spring Hill Medical Mall
- Spring Hill Assisted Living Facility
- Suncoast Elementary School
- VFW Post 8681
- Slovene National Benefit Society Lodge #778
- Hosanna Assembly of God Church
- Cornerstone Christian Center Church
- First Baptist Church of Masaryktown
- New Hope Mission Baptist Church

Only the New Hope Mission Baptist Church will be affected by the project and may require relocation.

## 5. Title VI Considerations

*Title VI of the 1964 Civil Rights Act (Title VI)*, and related statutes, provides that no person shall, on the grounds of race, color, age, religion, sex, national origin, or handicap/disability, be excluded from participation in, or be denied the benefits of, or be otherwise subject to discrimination under any program of the Federal, State, or local government. *Title VIII of the 1968 Civil Rights Act (Title VIII)* guarantees each person equal opportunity in housing.

*Executive Order 12898 - Environmental Justice* was issued to underscore and complement certain provisions of existing law, including *Title VI* and *Title VIII*.

Additional right-of-way acquisition is anticipated to affect residences and businesses along the existing corridor and recommended alignment. A small percentage of these may be minority, ethnic, or low-income persons. Households with elderly residents account for approximately 40 percent of the population in the areas adjacent to the project corridor and it is anticipated that this percentage will be reflected in the relocation population.

No discriminatory criteria were used during the development of the alternatives and none of these groups will become socially or culturally isolated because of the recommended improvements. The improvements have not been planned to affect any specific groups or individuals, but rather to improve the existing transportation facility. A *Conceptual Stage Relocation Plan* has been prepared for this study to address the potential for relocation of residences or businesses and analyze the availability of replacement dwellings or commercial properties.

## 6. Controversy Potential

A program of informational meetings was conducted to inform the public and local officials about the proposed improvements to C.R. 578 and to solicit input. Efforts to date have consisted of a public workshop conducted on December 14, 2000, at Frank W. Springstead High School; several small community meetings with local home owners associations; project status presentations before the Pasco and Hernando County MPOs; and a Public Hearing, held August 8, 2002, at Frank W. Springstead High School.

The comments received as a result of the Public Involvement Program, in combination with the engineering and environmental analyses performed for this project, were the basis for Pasco and Hernando Counties to select the preferred alternative. The preferred alternative is Alignment S-8 from U.S. 19 to the Suncoast Parkway and Alignment S-5 from C.R. 578 to U.S. 41, the Ayers Road Extension. This was the alternative which was most favored by the property owners and the local officials of the project area. It also involves the least effects to existing structures, the environment, and to the community.

The comments that were received at the Public Workshop and the Public Hearing primarily dealt with access management (median openings), effects of increased traffic noise, and ROW takings from individual properties.

In general, the public and local officials support the project. All comments received have been addressed during the PD&E Study. The project is considered to have a minimal potential for controversy.

## 7. Utilities and Railroads

### Utilities

Utility locations were obtained using the *Utility Request Package*. The following utility owners have been identified within the project area.



- Bell-South Telecommunications
- Time Warner
- Florida Power Corporation
- Pasco County Utilities
- E-Spire/ASCI
- Intermedia Communications
- Sprint Fiber Operations
- TECO/Peoples Gas
- Withlacoochee Electric
- Hernando County Utilities
- AT&T
- Verizon Communications
- MCI WorldCom
- NorthStar Communications Group

Construction impacts associated with the recommended improvements may require relocation of some of the utilities listed above. Coordination with the various utility providers will continue throughout the design phase of the project.

#### Railroads

One existing railroad was identified within the project study area. The CSX Rail Road crosses Ayers Road immediately east of U.S. 41. The C.R. 578 project terminus extends to east of U.S. 41. However, no adverse impacts are anticipated at this existing rail crossing.

### **b. Cultural Impacts:**

#### **1. Historical Sites**

A *Cultural Resources Assessment Survey (CRAS)*, conducted in accordance with the procedures contained in *36 CFR Part 800* (revised May 1999) and including background research and a field surveys coordinated with the State Historic Preservation Officer (SHPO), was performed for the project. As a result of the assessment, fifteen historic resources were identified within the project study area. Fourteen resources (*Florida Site File numbers 8HE408-8HE417; 8PA1297-8PA1300*) were newly recorded during this survey, and one resource (*8HE384*) was recorded during previous survey work. The Federal Highway Administration (FHWA), after application of the *National Register Criteria of Significance*, found that none of the fifteen sites are eligible for listing on the *National Register of Historic Places (NRHP)*. The SHPO rendered the same opinion. Based on the fact that no additional historic sites or properties are expected to be encountered during subsequent project development, the FHWA, after consultation with the SHPO, has determined that no *NRHP* properties will be affected. A copy of the SHPO coordination letter is attached.

#### **2. Archaeological Sites**

Archaeological background research, including a review of the *FSF* and *NRHP* was conducted. A total of 13 archaeological sites were identified within the project area. Eleven of the 13 archaeological sites are newly identified (*8PA1301, 8PA1302, 8HE419-8HE423, 8HE425, 8HE426, 8GE428, and 8HE429*); two previously recorded sites (*8PA185* and *8HE284*) were revisited during testing. Based on preliminary analysis, 12 sites are considered ineligible for listing in the *NRHP*. Nine sites (*8PA1301, 8PA1302, 8HE419-8HE423, 8HE425, and 8HE428*) are short-term campsites of small limited lithic scatters associated with resource procurement. Site *8HE429* is a cistern or drainage pond most likely dating from the turn-of-the-century. Although site *8HE429* provides useful information of historic studies of this area, no other artifacts were recovered from shovel testing within the project impact area. That indicates that the potential for recovering further important information is relatively low. Sites *8PA185* and

8HE284 are not considered locally or regionally significant and, therefore, are considered ineligible for listing in the *NRHP*. No further work is recommended at these sites.

One site, (8HE426 – *Alexsuk Site*), is situated within the proposed Ayers Road Extension area. This site is considered regionally significant and eligible for listing in the *NRHP*. Based on Section 106, consultation with the State Historic Officer, a Memorandum of Agreement (MOA) identifying the potential effects as well as mitigative efforts to recover the history of the National Register of Historic Places eligible Alexsuk Site (8HE426) was executed by FHWA, FDOT, and SHPO on December 20, 2002. Additionally, coordination and consultation with Native American Indian tribes has been initiated and will be continued during subsequent implementation phases of this project.

**c. Natural Environment:**

**1. Wetlands**

In accordance with *Executive Order 11990, Protection of Wetlands*, dated May 23, 1977, a study was conducted to assess the potential wetland impacts of the proposed project. The wetlands were classified according to the United States Fish and Wildlife Service (USFWS) methodology.

Twelve wetland areas consisting of three wetland community types were identified within the study corridor. The three wetland community types identified consisted of Open Water Lake or Pond, Marsh Wetland, and Forested Wetland.

A total of 1.51 acres (ac) of affected wetlands are located along the optimal alignment resulting in a loss of 0.64 wetland functional units. Of these, 0.30 ac (0.09 wetland functional units) are located between U.S. 19 and East Road and 1.20 ac (0.55 wetland functional units) are located between East Road and Mariner Boulevard/Shady Hills Road. None of the remaining segments, including the Ayers Road Extension, contains affected wetlands.

Mitigation for potential wetland impacts will be coordinated through the Southwest Florida Water Management District (SWFWMD). Wetland impacts, which result from the construction of this project, will be mitigated pursuant to *S.373.4137 F.S.* to satisfy all mitigation requirements of *Part IV, Chapter 373 F.S.* and *33 U.S.C.s 1344*.

**2. Water Quality**

The recommended drainage systems will be designed to convey stormwater runoff away from the roadway in the existing natural basin flow directions. The recommended improvements will consist of a four-lane divided suburban typical section. Stormwater runoff will be collected via inlets and conveyed through a storm sewer system to stormwater management ponds generally situated outside the roadway right-of-way in close proximity to the outfall locations.

The recommended improvements will increase the amount of impervious surface and consequently increase stormwater runoff. A *Water Quality Impact Evaluation (WQIE)* checklist was completed in accordance with Chapter 20 of the *PD&E Manual*. The appropriate Best Management Practices will be used during the construction phase for erosion control and water quality considerations.

The stormwater facility designs will include, at a minimum, the water quantity requirements for water quality impacts as required by SWFWMD in *Rules Chapters 40D-4 and 40D-40*. Therefore, no further mitigation for water quality impacts will be needed.

**3. Floodplains**

Examination of *FEMA Community Panel Numbers 120230-0020C, 120230-0050C, 120230-0075C, 120110-270B, 120110-300B, and 120110-352B* indicates that relatively small portions of the C.R. 578 right-of-way encroach upon the 100-year flood zone.

The modification and construction of the drainage structure(s) recommended for this project will cause changes in flood stage and flood limits. These changes will not result in any significant adverse impacts on the natural and beneficial floodplain values or any significant changes in flood risk or damage. These changes have been reviewed by the appropriate regulatory authorities who have concurred with the determination that there will be no significant impacts. There will not be significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.

There are no regulated floodways located within the project limits. Therefore, it has been determined through consultation with local, state, and federal water resources and floodplain management agencies that there is no regulatory floodway involvement on the proposed project and that the project will not support base floodplain development that is incompatible with existing floodplain management programs.

#### **4. Wildlife and Habitat**

The project was evaluated for impacts on threatened and endangered species. A literature review and corresponding field reviews were conducted to determine those possible threatened and endangered species that inhabit the project area. In addition, the USFWS, Florida Fish and Wildlife Conservation Commission (FWC) and the Florida Natural Areas Inventory (FNAI) were contacted for a list of known or potentially occurring threatened or endangered species. One Federally-listed species, the Eastern indigo snake, is known to occur within the project limits.

Coordination with the USFWS regarding the potential occurrence of the Florida scrub-jay (*Aphelocoma coerulescens*) within the project corridor resulted in performance of a formal scrub-jay survey. This survey was conducted from March 4 through March 6 at locations identified by a joint field review conducted on March 4, 2003 by USFWS and FDOT biologists. The formal survey was performed in accordance with FWC Technical Memorandum No. 8. As a result of this survey no scrub-jays were observed.

Based on the February 20, 2003 letter from USWS which stated “If the survey finds no scrub-jays within the project footprint, we would concur with a “not likely to adversely affect” determination and thus complete informal consultation on the project for this species.” Given the results of the survey, which observed no scrub-jays, the “not likely to adversely affect” determination has been completed.

Additionally, the project study area was evaluated for the potential of affecting designated critical habitat as defined by the USFWS. No designated critical habitat for listed species occurs within the project study area.

The moderate probability of occurrence of the Federally-listed Eastern indigo snake may require precautions during construction and subsequent coordination with the USFWS. Based on the above considerations, and with the inclusion of Eastern indigo snake construction provisions, the project will have no effect on any Federally-listed threatened and endangered species.

#### **d. Physical Impacts:**

##### **1. Noise**

Two hundred twenty four (224) noise-sensitive sites were identified as having the potential to be affected by traffic-related noise adjacent to the C.R. 578 project corridor including the Ayers Road Extension.

In the year 2025 with the Build Alternative, predicted exterior traffic noise levels at the residential sites along C.R. 578 and the Ayers Road Extension range from 49.2 to 69.9 dBA, with levels above the Federal Highway Administration Noise Abatement Criteria (NAC) at 56 of the single-family residences. Three of the single-family residences along the Ayers Road Extension are predicted to experience traffic

noise levels that exceed existing levels by 15 dBA or more. The predicted interior traffic noise levels at the religious and public/private meeting facilities range from 30.0 to 47.0 dBA, which are below the NAC.

Noise abatement measures were considered for the noise sensitive sites predicted to experience traffic noise levels that approach, meet, or exceed the NAC. Although feasible, traffic management, alternative roadway alignments, and property acquisition were determined to be unreasonable methods to reduce the predicted traffic noise levels for the affected sites with the C.R. 578 improvements.

Noise barriers were also evaluated to determine if barriers would be a feasible and reasonable noise abatement measure. Twenty-four (24) barriers were analyzed for the affected noise-sensitive sites. The results of the analysis indicate that none of the barriers are reasonable and feasible to reduce predicted traffic noise levels because of the following findings:

- The minimum required insertion loss would not be provided by a noise barrier.
- The cost of a barrier would exceed the FDOT's cost reasonable guideline of \$30,000 per benefited receiver.

Notably, in most cases, the barriers were determined to be unreasonable or unfeasible due to limitations on barrier length because of required property access (driveways), intersecting roadways, and property line and line-of-sight limitations.

Based on this analysis, there are no noise commitments as a result of construction of the C.R. 578 improvements.

In order to assist local officials in promoting compatibility between land development and highway, noise contours were developed for the proposed project. The results indicate that a traffic noise level of 66.0 dBA or more is predicted to extend 60 to 90 feet (ft) (18.0 to 27.4 meters (m)) from the edge-of-pavement of the improved roadway.

## 2. Air

An *Air Quality Report* has been prepared separately for this study in accordance with the procedures in the *FDOT PD&E Manual, Part II*.

A Screening Test for Suburban Areas was conducted using the computerized version of *COSCREEN98R*. This version contains conservative, worst-case assumptions about meteorology, traffic, and other site conditions in the *MOBILE* emissions and *CALINE3* model to produce maximum concentrations at receptors near roadway intersections. The results were compared to the maximum one- and eight-hour concentrations of carbon monoxide (CO) and *NAAQS*.

The intersection of U.S. 19 and C.R. 578 was used for the Screening Test because it had a combination of highest traffic volumes and lowest vehicular speeds based on traffic data obtained for the opening year (2005) and the design year (2025). The receptor used was a mobile home located in the southwest quadrant of the intersection.

The *NAAQS* 1-hour CO levels for the Build/No-Build Alternatives for the opening year were 10.8 ppm and 10.6 ppm compared to the *NAAQS* standard of 35 ppm. For the design year, CO levels were 11.4 ppm and 11.0 ppm for the Build/No build scenarios. *NAAQS* 8-Hour standards are 9 ppm. The test results were 6.5 ppm and 6.4 ppm for the opening year, and 6.9 ppm and 6.6 ppm for the design year. The Screening Test determined that the project would not cause or contribute to an exceedance of the *NAAQS* for carbon monoxide. This project is in conformance with the *State Implementation Plan (SIP)*.

### 3. Construction

Construction activities for the recommended improvements to C.R. 578 will have temporary air, noise, water, traffic flow, and visual impacts for those residents and travelers within the immediate vicinity of the project. These construction impacts will be minimized in accordance with FDOT's *Standard Specifications for Road and Bridge Construction* and *Best Management Practices*. Additionally, traffic flow along the C.R. 578 corridor will be maintained during the construction period.

### 4. Contamination

A Level I Contamination Screening of the C.R. 578 project corridor was conducted to determine the potential for contamination of the right-of-way from adjacent properties and business operations. Abutting sites were identified based on regulatory standards as potential sources of hazardous materials and petroleum contamination. Sites with suspected or documented contamination were further evaluated for potential contamination risks with respect to impacts to construction and right-of-way acquisition.

A *Contamination Screening Evaluation Report (CSER)* was prepared pursuant to the Federal Highway Administration's *Technical Advisory T 6640.8A*, dated October 30, 1987, and in accordance with the FDOT's *PD&E Manual, Part 2, Chapter 22*, dated February 8, 1994.

A total of 33 sites having the potential for contamination were identified in close proximity to or within the project corridor. Of these sites, 19 were assigned a degree of risk for potential contamination. Ten sites have been identified as having a potential for petroleum and or hazardous-material-based impacts. These sites are rated as having a "MEDIUM" to "HIGH" risk for environmental contamination within the project corridor.