Federal Highway Administration
Florida Division

ADMINISTRATIVE ACTION

ENVIRONMENTAL ASSESSMENT
AND
SECTION 4(f) *De Minimis* USE OF THE JACKSONVILLE NATIONAL CEMETERY PROPERTY

U.S. Department of Transportation Federal Highway Administration
and
Florida Department of Transportation

Financial Project No. 428455-1
Federal Project No. PLH2-003-P and PLH2-004-P

JACKSONVILLE NATIONAL CEMETERY ACCESS ROAD
Duval County, Florida

The proposed project is for a new two-lane roadway 3.4 miles in length that begins at the western terminus of Arnold Road and ends at the intersection of Lannie Road and Ethel Road.

Submitted pursuant to 42 U.S.C. 4332(2)(c) and 49 U.S.C. 303

Approved For Public Availability

7/15/16
Date

for Division Administrator
Federal Highway Administration

A Federal agency may publish a notice in the Federal Register, pursuant to 23 USC §139(1), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 150 days after the date of publication of the notice, or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.

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DRAFT
ENVIRONMENTAL ASSESSMENT
AND
SECTION 4(f) *De Minimis* USE OF THE JACKSONVILLE NATIONAL CEMETERY PROPERTY

Jacksonville National Cemetery Access Road

Financial Project No.: 428455-1
Federal Aid Project No.: PLH2-003-P and PLH2-004-P
ETDM No.: 13064
Duval County, Florida

Florida Department of Transportation
District Two
1109 South Marion Avenue
Lake City, Florida 32025-5874

June 2016

TABLE OF CONTENTS

APPENDICES

SUPPORTING DOCUMENTS (Enclosed on CD) - Listing in order of CD

Air Quality Report

Bridge Hydraulics Report

USCG Bridge Questionnaire

Contamination Screening Evaluation Report

- Contamination Screening Evaluation of Selected Pond Sites
- Limited Level 2 Soil Assessment

Conceptual Stage Relocation Plan

Cultural Resource Assessment Survey

- Cultural Resource Assessment Survey of Ponds
- Evaluation of Effects Discussion for the Jacksonville National Cemetery

Indirect and Cumulative Effects Report

De minimis Package

Draft Environmental Assessment

Efficient Transportation Decision Making Programming Summary Report

- Class of Action Report
- Advance Notification Response Report

Geotechnical Exploration and Evaluation Report for Bridge

Geotechnical Exploration and Evaluation Report for Roadway and Ponds

Location Hydraulics Report

Noise Study Report

Public Involvement Plan

Roadway Plan Sheets

Pond Siting Report

Preliminary Engineering Report

Section 4(f) Determination of Applicability

Typical Section Package

Wetlands Evaluation Report

Endangered Species and Biological Assessment

Essential Fish Habitat

Wildlife and Habitat Report

Water Quality Impact Evaluation Form

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

Acronym	Definition
AADT	Annual Average Daily Traffic
ACS	American Community Survey
ADA	Americans with Disabilities Act
AN	Advance Notification
APE	Area of Potential Effect
BHR	Bridge Hydraulics Report
BMPs	Best Management Practices
CAAA	Clean Air Act Amendments
CBRS	Coastal Barrier Resource System
CEQ	Council on Environmental Quality
CFA	Core Foraging Area
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO2	Carbon dioxide
CRAS	Cultural Resources Assessment Survey
CSER	Contamination Screening Evaluation Report
CSRP	Conceptual Stage Relocation Plan
dB	Decibels
dBA	Decibels using the A-weighting scale
DCA	Department of Community Affairs
DEO	Department of Economic Opportunity
DOA	Determination of Applicability
DOE	Degree of Effect
DRI	Development of Regional Impact
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ERP	Environmental Resource Permit
ESA	Endangered Species Act
ESBA	Endangered Species Biological Assessment
EST	Environmental Screening Tool
ETAT	Environmental Technical Advisory Team
ETDM	Efficient Transportation Decision Making
F.A.C.	Florida Administrative Code
FCMP	Florida Coastal Zone Management Plan
FDEP	Florida Department of Environmental Protection
FDHR	Florida Department of Historical Resources
FDOS	Florida Department of State
FDOT	Florida Department of Transportation
FE	Federally Endangered
FEMA	Federal Emergency Management Agency
FWC	Florida Fish and Wildlife Conservation Commission
FHWA	Federal Highway Administration
FLUCFCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Areas Inventory
FY	Fiscal Year

Acronym	Definition
FWCA	Fish and Wildlife Coordination Act
FWS	United States Fish and Wildlife Service
GHG	Greenhouse Gases
GIS	Geographic Information System
ICE	Indirect and Cumulative Effects
IWHRS	Integrated Wildlife Habitat Ranking System
JEA	Jacksonville Electric Authority
JIA	Jacksonville International Airport
JNCAR	Jacksonville National Cemetery Access Road
LEP	Limited English Proficiency
LHR	Location Hydraulic Report
LOS	Level of Service
LRE	Long Range Estimate
LRTP	Long Range Transportation Plan
MA	Maintenance Agreement
MCC	James I. Montgomery Correction Center
MOU	Memorandum of Understanding
MOVES	Motor Vehicle Emissions Simulator
MPOs	Metropolitan Planning Organizations
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAVD	North American Vertical Datum
NCA	National Cemetery Administration
NEPA	National Environmental Policy Act
NFTPO	North Florida Transportation Planning Organization
NMFS	National Marine Fisheries Service
NERPM	North East Regional Planning Model
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
NWI	National Wetlands Inventory
OFW	Outstanding Florida Waters
OVA	Organic Vapor Analyzer
PD&E	Project Development and Environment
PER	Preliminary Engineering Report
PIP	Public Involvement Program
ROW	Right-of-Way
RSHCP	Rare Species Habitat Conservation Priorities
SCE	Sociocultural Effects
SDR	Sociocultural Data Report
SFH	Suitable Foraging Habitat
SHCA	Strategic Habitat Conservation Area
SHPO	State Historic Preservation Officer
SJRWMD	St. John's River Water Management District
SRCO	Site Rehabilitation Completion Order

Acronym	Definition
STIP	State Transportation Improvement Program
SWPPP	Stormwater Pollution Prevention Plan
TEA-21	Transportation Equity Act for the 21st Century
TIP	Transportation Improvement Program
UMAM	Uniform Mitigation Assessment Method
USACE	United Stated Army Corp of Engineers
U.S.C.	United States Code
USCG	United States Coast Guard
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
VA	Veterans Affairs
WER	Wetlands Evaluation Report
WQIE	Water Quality Impact Evaluation

1 PROJECT DESCRIPTION AND PURPOSE AND NEED

The Florida Department of Transportation (FDOT) in coordination with the Federal Highway Administration (FHWA) as the lead federal agency is conducting a Project Development and Environment (PD&E) Study for a proposed new roadway connecting the Jacksonville International Airport (JIA)/Interstate 95 (I-95) area and the Jacksonville National Cemetery.

The National Cemetery Administration (NCA) acquired the site of Jacksonville National Cemetery in 2008. At the time, the property was owned by the city, and leased for ranching. Jacksonville National Cemetery was formally dedicated later that year, and opened for burials in 2009. It is the seventh national cemetery in Florida and the 128th in the national cemetery system and is operated by the United States Department of Veterans Affairs (VA). The Jacksonville National Cemetery was established because in 1997, St. Augustine National Cemetery closed to new interments, except for second burials of dependents. As a result, there was no local burial option for veterans in northern Florida. In response, the National Cemetery Expansion Act of 2003 authorized the VA to establish six new national cemeteries in areas with at least 170,000 residents not currently served by burial locations for veterans.

The new 542-acre national cemetery in Jacksonville, Florida will serve veterans' needs for more than 100 years. The cemetery is located north of the JIA and approximately five miles from Interstate 295 (I-295). In 2007, the Phase 1 construction was initiated when a design contract was awarded. When completed, the 52-acre Phase 1 development will provide 8,145 full casket gravesites, including 7,300 pre-placed crypts, 5,100 in-ground cremation sites and 4,992 columbarium niches. Phase 1 includes roadways, an entrance area, an administration and public information center, a maintenance complex, a flag assembly area, a memorial walkway, two committal service shelters, as well as interment areas.

Lannie Road provides the sole access to the cemetery. The current access is not desirable since there are numerous daily burial processions that travel to the cemetery from the JIA/I-95 area along a 16 mile long and circuitous route through residential neighborhoods. The federal government has recognized the need for improved access to the Jacksonville National Cemetery and has directed funding to identify and implement a solution to the problem. The project has $800,000 of discretionary funds from the Federal Public Lands Discretionary Program. Additional funds have been allocated and are described in **Section 1.3.2**. Therefore, this PD&E study is investigating an alternative to meet the need for improved access between the JIA/I-95 area and the Jacksonville National Cemetery. The project vicinity and location maps (**Figures 1-1 and 1-2**) illustrates the location of the study limits.

1.1 PROJECT DESCRIPTION

The PD&E study limits encompass an area between the western terminus of Arnold Road and the Jacksonville National Cemetery at the intersection of Lannie Road and Ethel Road, in Duval County, Florida.

The study includes the following Sections, Townships and Ranges:

- Sections 39, and 40 of Township 1N, Range 26E
- Section 41 of Township 2N, Range 26E

The existing conditions of the project area, particularly of Lannie Road and Pecan Park/Arnold Road, are as follows.

Lannie Road is a rural two-lane roadway located on the western side of the project area. It is a residential roadway with numerous driveway connections along each side of the roadway (**Figure 1-3**).

Pecan Park/Arnold Road is currently a two-lane rural roadway located on the eastern side of the project area. Pecan Park/Arnold Road is a collector roadway and provides access to residential streets and subdivision entrances (**Figures 1-4 and 1-5**). Upcoming roadway improvements to Pecan Park Road are described in **Section 1.2.1**.

Lannie Road and Arnold Road are maintained by the City of Jacksonville. **Figure 1-6** shows the current existing typical section of these two roadways.

No Build and Build Alternatives were investigated throughout the PD&E process. The descriptions of the alternatives can be found in **Section 2.0**.

Figure 1-1 Project Vicinity Map

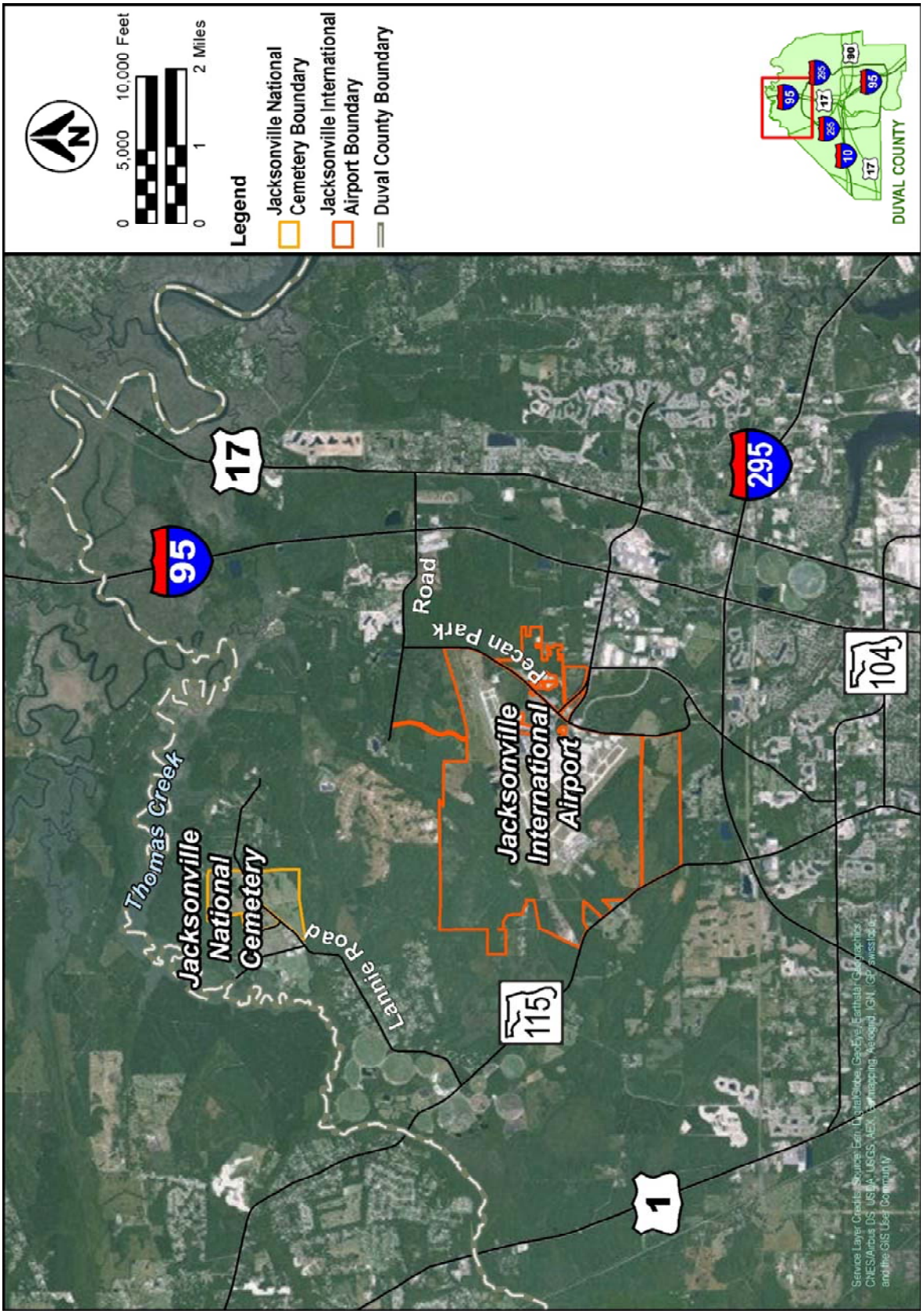


Figure 1-2 Project Location Map

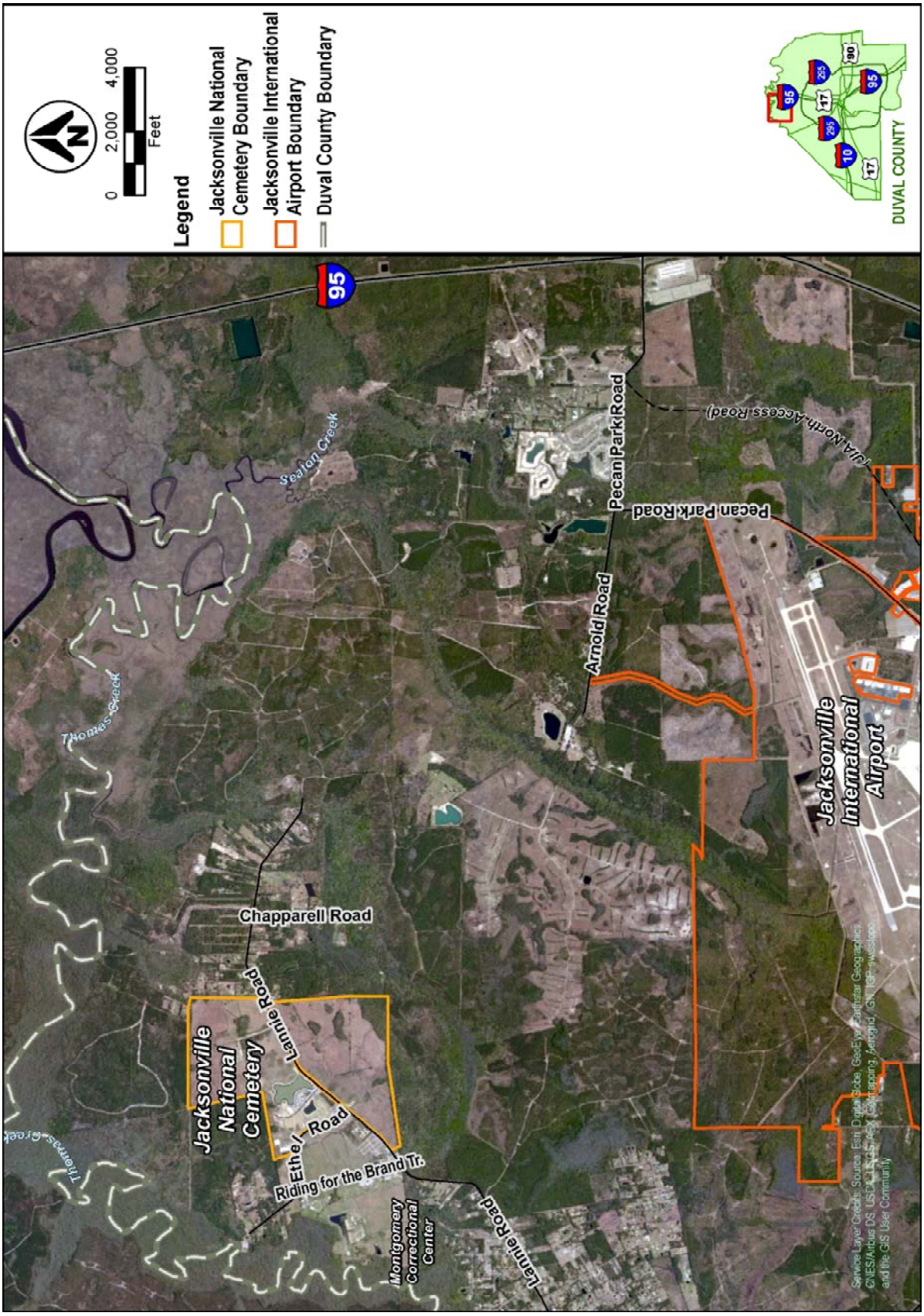


Figure 1-3 Photograph of Lannie Road

Figure 1-4 Photograph of Pecan Park Road

Figure 1-5 Photograph of Arnold Road

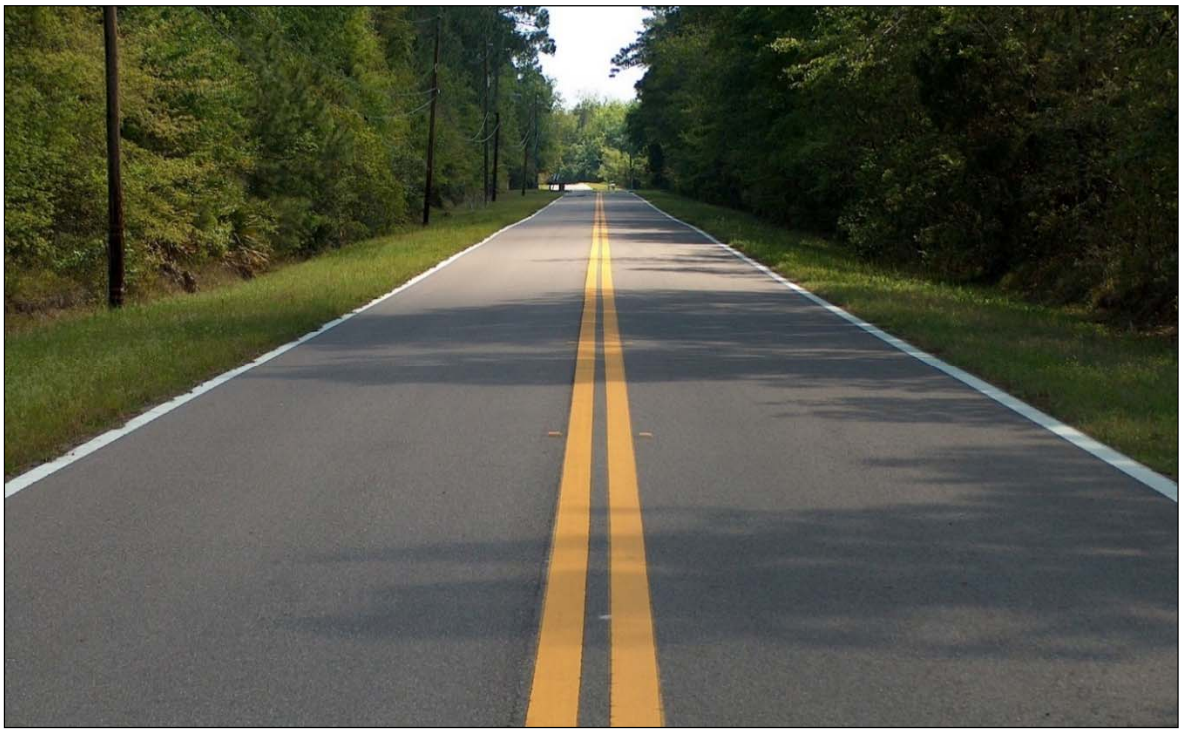
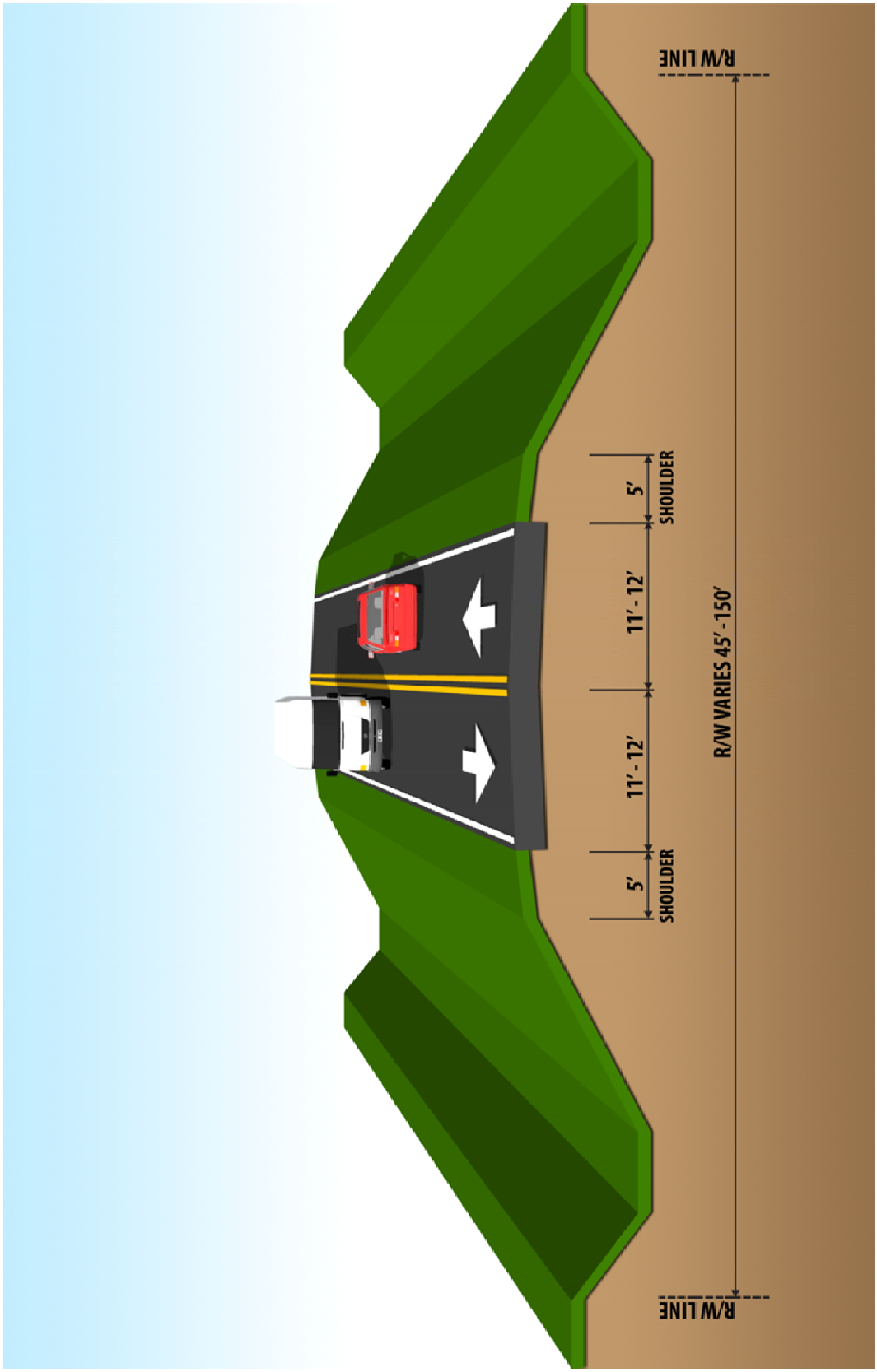


Figure 1-6 Existing Typical Section for Lannie Road and Pecan Park/Arnold Road



1.2 PURPOSE

The purpose of the project is to provide enhanced access to the Jacksonville National Cemetery in northern Duval County from the JIA and I-95 that is safe, efficient, and minimizes interaction with existing residential areas.

1.3 NEED

The cemetery is located at 4083 Lannie Road. Lannie Road, which is the sole access route to the cemetery, is a narrow, winding two-lane roadway lacking shoulders and adequate clear zone. The roadway was constructed to standards commensurate with a low volume, low speed residential roadway; however, over time, land uses along the road have evolved and the road is no longer adequate for the usage needed by the National Cemetery. Further, while located only 3.0 miles north of the JIA and 5.5 miles west of I-95, a trip to the cemetery from the JIA/I-95 area is 16 miles long. The existing 16-mile route is shown in **Figure 1-7**. As noted, this being a national cemetery, most trips begin/end near the JIA/I-95 area of Jacksonville either from the airport or local/regional locations. Enhanced access would also provide a more direct route for visitors flying into/out of JIA.

According to cemetery staff, the cemetery currently experiences approximately 38 interments per week and is anticipated to facilitate up to 45 interments per week in the future. As the cemetery expands, the number of funeral processions will increase and the disruption/inconvenience of the local traffic along Lannie Road will continue to worsen. The initial Phase 1A construction efforts focusing on a 20-acre early burial area with temporary facilities, will be followed by the second construction stage of the project (Phase 1B). Much of Phase I has been constructed. The VA owns land south of Lannie Road for future phases, but there currently is not a land plan for the cemetery in that area. More details and graphics concerning the cemetery can be found in **Section 3.1.4.** The Jacksonville National Cemetery Access Road (JNCAR) will bisect a portion of the undeveloped southern VA property.

1.3.1 SYSTEM LINKAGE

The new roadway would provide direct access from the I-95/Pecan Park Road Interchange to the National Cemetery, enhancing system linkages. Furthermore, the new roadway would provide access to the proposed JIA North Access Road/North International Airport Boulevard, enhancing multimodal and intermodal connectivity. As shown in **Figure 1-8**, the JIA North Access Road/North International Airport project will construct Pecan Park Road on new alignment to a four-lane divided urban roadway from SR 102 to the Pecan Park/Arnold Road intersection. The Pecan Park Road project is scheduled for construction in Fiscal Year (FY) 2016/2017. In addition, plans are also underway to widen Pecan Park Road to a four-lane divided urban roadway from the new JIA North Access intersection to east of I-95. This project will ease congestion at the SR 102/I-95 Interchange and require improvements to the entrance and exit ramps at I-95/Pecan Park Road Interchange.

Figure 1-7 Existing Route from the Jacksonville International Airport to the Jacksonville National Cemetery

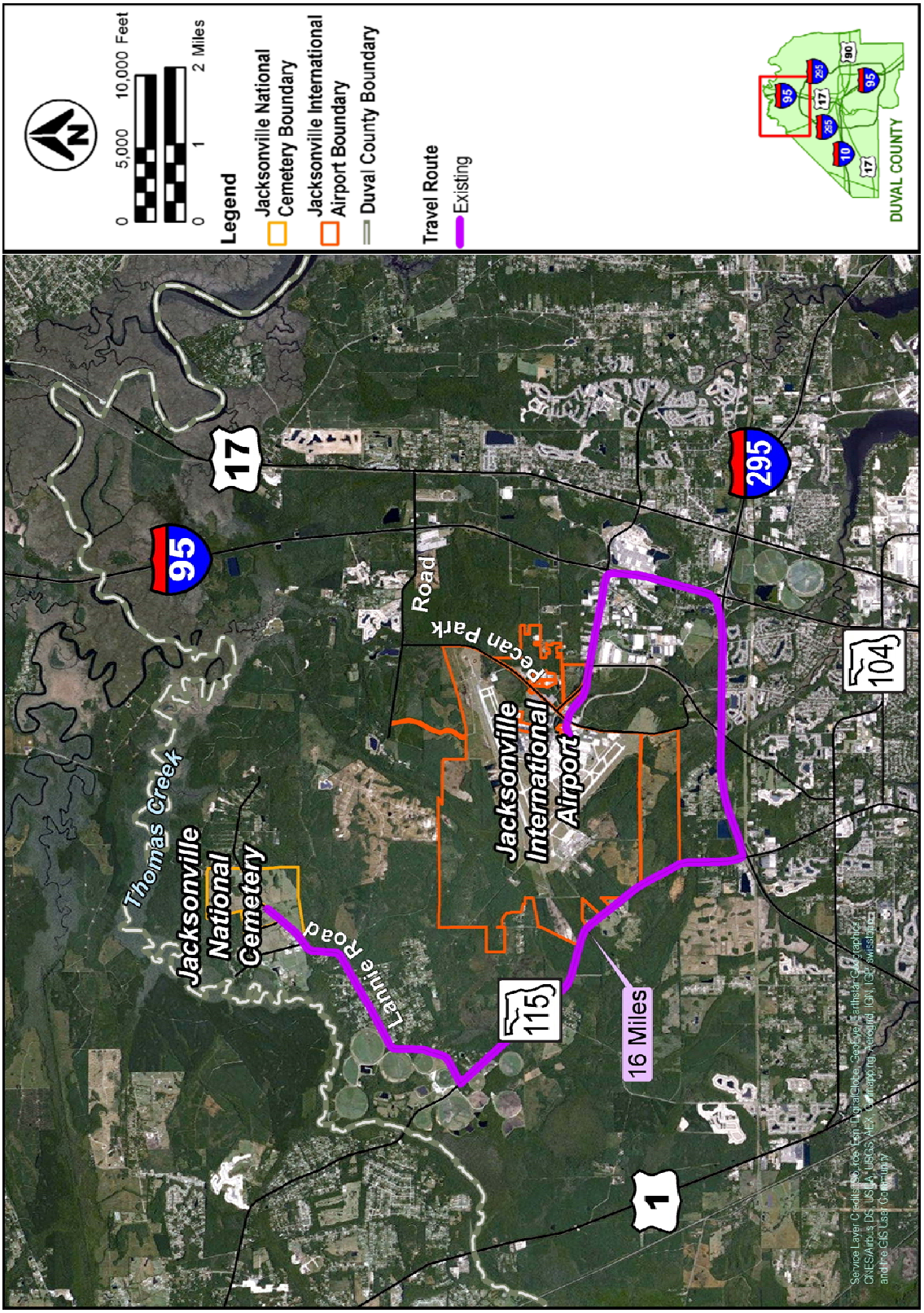
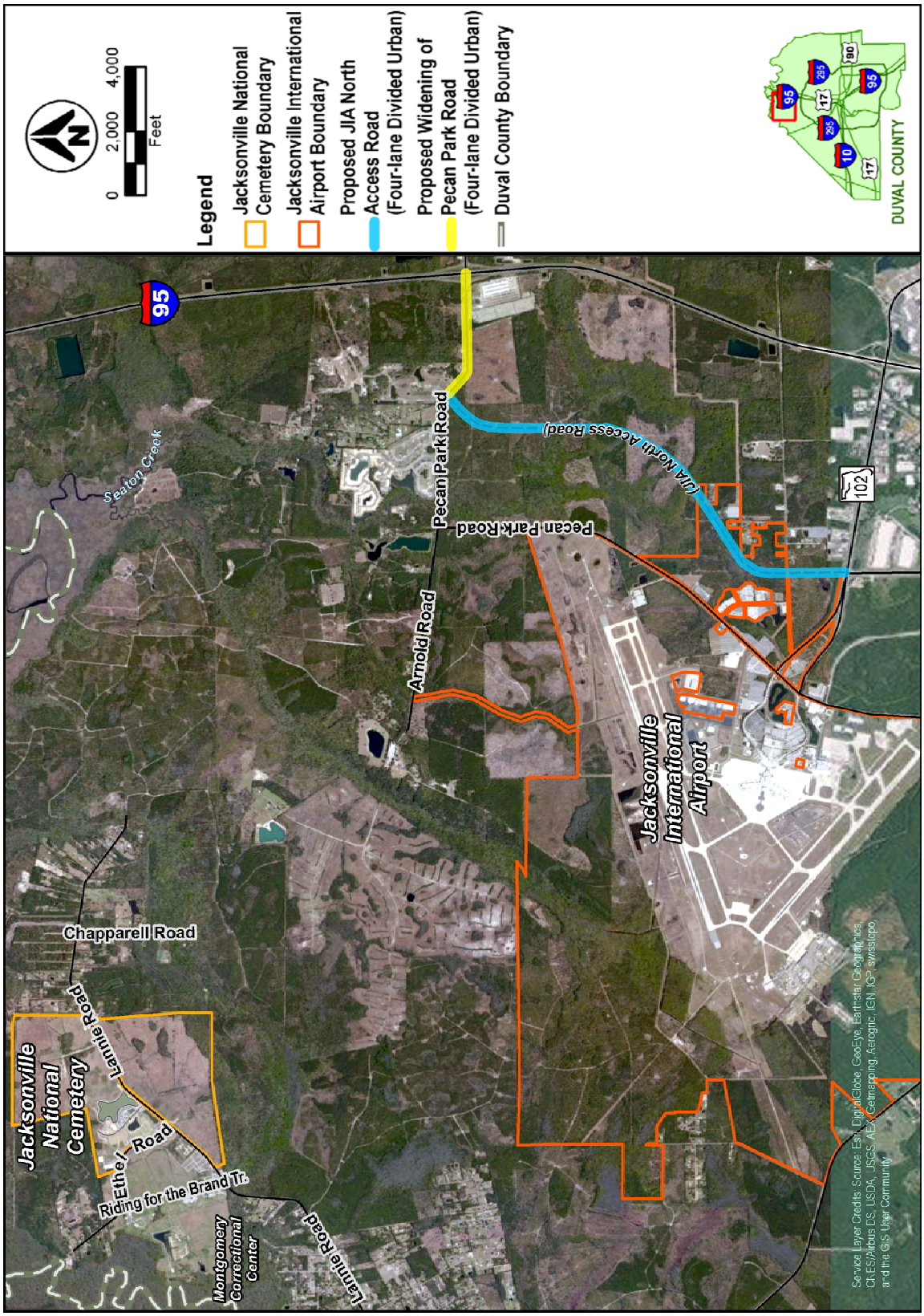


Figure 1-8 Proposed Roadways and Improvements in the Project Area



1.3.2 CONSISTENCY WITH LOCAL PLANS

The following findings of consistency for the JNCAR PD&E Study are provided below.

1.3.2.1 Consistency with the City of Jacksonville 2030 Comprehensive Plan

The proposed JNCAR is in the *City of Jacksonville 2030 Comprehensive Plan (2011).* The Capital Improvement Element for the 2030 Comprehensive Plan, which was updated in November 2014, lists the JNCAR as an FDOT PD&E study initiated in FY 2011-2012 for $740,000.

1.3.2.2 Consistency with the North Florida Transportation Planning Organization's (NFTPO) Long-Range Transportation Plan and TIP, and the FDOT Work Program and STIP.

The JNCAR is included in the NFTPO *Path Forward 2040 Long Range Transportation Plan's Cost Feasible Plan (2014)* and Transportation Improvement Plan (TIP) FY15/16 – 19/20, which was adopted June 11, 2015. The project is also programmed in the FDOT 5-Year Work Program and listed in the State Transportation Improvement Plan (STIP) FY15/16 – 19/20 (**Appendix A)**.

Both plans provide funding for Preliminary Engineering, Right-of-Way (ROW) and Environmental mitigation. A summary of the funding allocation is provided in **Table 1-1**. Preliminary Engineering and ROW are fully funded.

The NFTPO has included this project on their list of recommendations for adjustments and additions for FY 2018/19 thru FY 2019/2020. The current recommendation allocates $10,266,422 million of Surface Urbanized (SU) Funds for FY 2018/2019 (**Appendix A**).The remaining balance will be comprised of local funds. This additional construction funding will be allocated during the next Work Program cycle and incorporated into the TIP/STIP as appropriate.

The FDOT FY starts on July 1 and ends on June 30 of the following year. The Federal FY starts October 1 and ends September 30 of the following year.

Table 1-1 Transportation Plan Funding

	$ Millions	Time Frame	Funding Type
Preliminary Engineering*	$2.62	2015 - 2018	State/Federal
Right-of-Way	$2.86	2017 - 2018	Local/Federal

*Preliminary Engineering includes PD&E, Design, and Mitigation

1.4 STUDY COORDINATION

The JNCAR project was screened through the FDOT Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) simultaneously with the Advance Notification (AN) package. The Purpose and Need Statement was reviewed by the Environmental Technical Advisory Team (ETAT). FHWA, the lead agency, accepted the Purpose and Need Statement on December 5, 2010. The project is listed as ETDM project #13064 – Jacksonville National Cemetery Access Road. A copy of the ETDM *Programming Summary Report (2011),* finalized

March 28, 2011, is provided in **Appendix B**. This document, along with other project related content, can also be found on the ETDM public access website (http://etdmpub.fla-etat.org/est/#).

2 ALTERNATIVES CONSIDERED

The purpose of the alternatives analysis is to identify and develop reasonable alternatives for the JNCAR project. This section describes the process that FDOT used to identify, analyze, and recommend a proposed action, or Recommended Alternative.

More information on the conceptual design, summarized below, is provided in the *Preliminary Engineering Report (2015)* (PER).

2.1 PLANNING PHASE - CORRIDOR AND ALTERNATIVE ANALYSIS

ETDM Programming Screen

Two corridor build alternatives were presented to the ETAT through the ETDM process – Corridor Alternative 1 and Corridor Alternative 2 illustrated in **Figure 2-1**. The eastern portion of both alternatives will utilize the existing Pecan Park Road / Arnold Road. Corridor Alternative 1 begins at the western terminus of Arnold Road, heads west, curves to the south and then curves to the north, and intersects Lannie Road at the Ethel Road intersection. Corridor Alternative 1 is on new alignment between the western terminus of Arnold Road and the Ethel Road intersection on Lannie Road. Corridor Alternative 2 also begins at the western terminus of Arnold Road, but travels north then west to connect to the eastern terminus of Lannie Road. From this terminus, Corridor Alternative 2 follows the existing Lannie Road alignment to the west, ending at the Ethel Road intersection. Corridor Alternative 2 is on new alignment from the western terminus of Arnold Road to the eastern terminus of Lannie Road. **Table 2-1** provides a preliminary review and summary of the impacts of these two alternatives.

Corridor Alternative 1 impacts eight vacant parcels and results in no relocations. Initial analysis showed that Corridor Alternative 2 has high socio-economic impacts, due to the large number of impacted developed parcels and residential relocations. Corridor Alternative 2 impacts a total of 52 parcels, of which 40 are residential parcels, and results in seven residential relocations. The purpose and need for this project is to provide improved access between the JIA/I-95 area and the Jacksonville National Cemetery, which is safe, efficient and minimizes interaction with residential areas. While Corridor Alternative 2 improves the quality of the portion of Lannie Road used to access the cemetery, it does not remove the conflict and impacts that funeral processions have brought to the residences that existed along Lannie Road prior to the construction of the cemetery.

Figure 2-1 ETDM Corridor Alternatives Evaluated by the ETAT

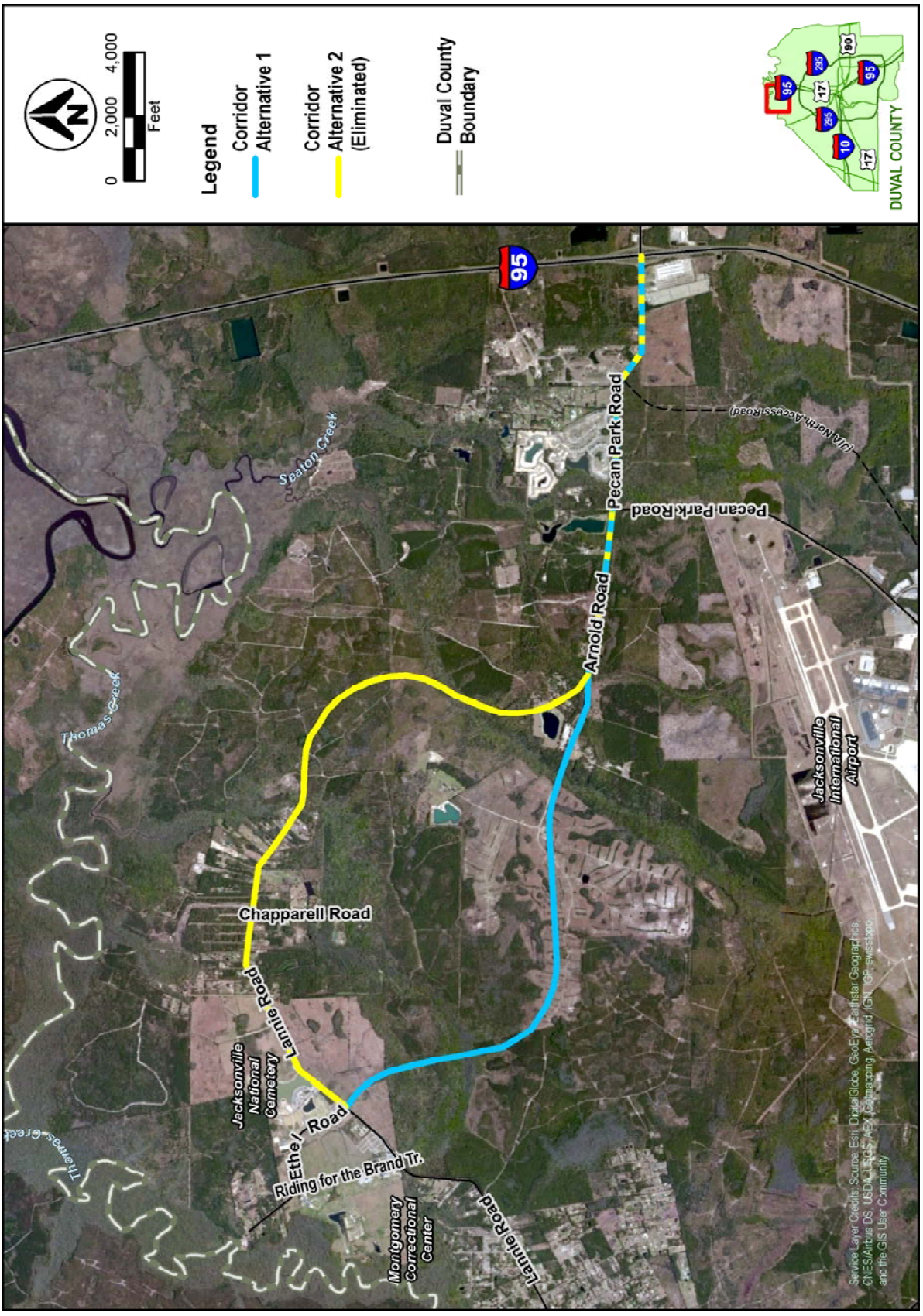


Table 2-1 Comparison of Corridor Alternatives 1 and 2

	Corridor Alternative 1 (South)	Corridor Alternative 2 (North) - Eliminated
Alignment Length (miles)	3.34	4.77
Construction Costs	$15,849,000	$16,779,000
Engineering Costs (estimated at 10% of Construction Costs)	$1,585,000	$1,678,000
Construction Engineering Inspection Costs (estimated at 10% of Construction Costs)	$1,585,000	$1,678,000
Number of Parcels Impacted	8	52
Residential Relocations	0	7
ROW Costs	$2,623,000	$5,110,000
Acres of Impacted Wetlands	17.7	11.3
Wetland Mitigation Costs (estimated at $110,000 per acre)	$1,947,000	$1,243,000
Total Costs	**$23,589,000**	**$26,488,000**

Due to the impacts to the existing, established residential areas along Lannie Road, the FDOT requested that Corridor Alternative 2 be eliminated from further consideration and only Corridor Alternative 1 be carried forward. This request was submitted to FHWA using the ETDM EST. FHWA accepted the request to eliminate Corridor Alternative 2 on August 28, 2014.

Figure 2-2 is a flowchart that depicts the corridor and alternative analysis process through the planning phase which includes the ETDM Programming Screen discussed and the Alternative Refinement described below. Based on this process a Build Alternative was developed.

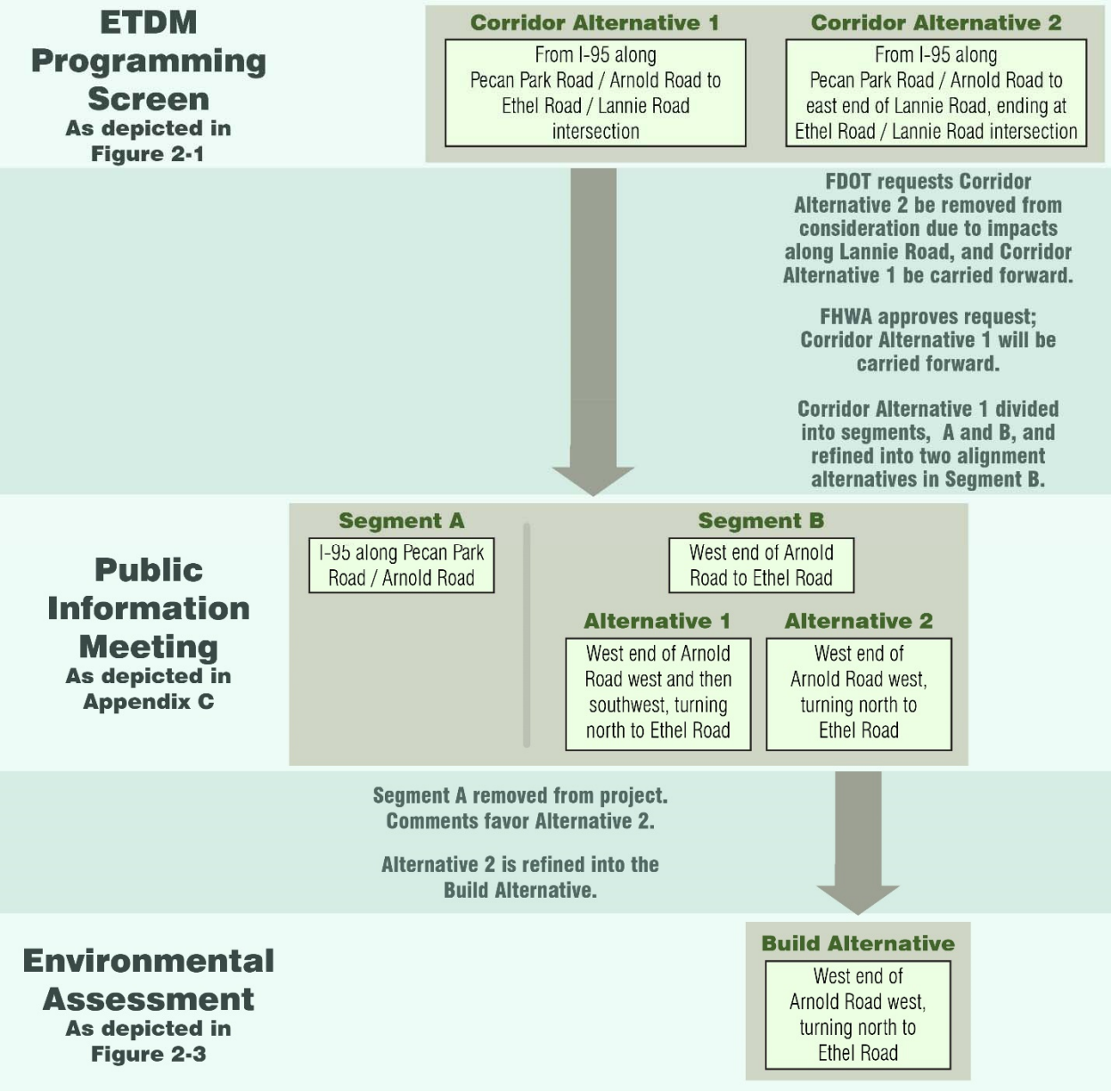
Alternative Refinement

Corridor Alternative 1 from the ETDM Programming Screen was refined and became two alignment alternatives that the FDOT presented to the public for review; Alternative 1 and Alternative 2. Each of these alternatives had two segments; Segment A and Segment B. Limits shown at the public meeting started at I-95 and continued to Lannie Road. Segment A was to upgrade the existing Pecan Park Road/Arnold Road from I-95 to the western terminus of Arnold Road. Segment A is no longer part of this project. Segment B showed the new alignment of the Jacksonville National Cemetery Access Road from the western terminus of Arnold Road to Lannie Road. A map showing these alternatives and segments is included in the public meeting materials located in **Appendix C**. A Public Information Meeting was held on Thursday, June 2, 2011 at 4:30 pm at the Hampton Inn and Suites located at 13551 Airport Court, Jacksonville, Florida, 32218. At 6:30 pm, the public was allowed to provide comments in the presence of those attending. A total of 37 people attended the meeting. An evaluation matrix, typical section and displays showing the alternatives were presented at the meeting.

Feedback from the meeting was in favor of Alternative 2 which was refined to be the Build Alternative. Public comments were received at the meeting. There were three speakers that commented in favor of the project including a formal written comment received from the Aide to

U.S. Representative Ander Crenshaw. There were also two letters that were in favor of the project. No negative feedback or controversy was presented at the meeting.

Figure 2-2 Corridor and Alternative Analysis Flowchart



2.2 NO BUILD ALTERNATIVE

The No Build Alternative would leave the current access to the Jacksonville National Cemetery from Lannie Road. This road is a narrow, winding two-lane roadway lacking shoulders and adequate clear zones. The roadway was constructed to standards commensurate with a low

volume, low speed residential roadway; however, over time, land uses along the road have evolved and the road is no longer adequate for the usage needed by the Jacksonville National Cemetery and the neighborhoods along Lannie Road. If the current access to the cemetery remains, congestion along Lannie Road will further increase due to funeral processions as the cemetery increases its capacity.

Lannie Road provides the sole access to the cemetery, which is located at 4083 Lannie Road **(Figure 2-1)**. The Jacksonville National Cemetery, operated by the VA, is a 542-acre site that is planned for phased development. According to cemetery staff, the cemetery currently experiences approximately 38 interments per week and is anticipated to facilitate up to 45 interments per week in the future. As the cemetery expands, the number of funeral processions will increase and the disruption of the local traffic along Lannie Road will continue to worsen.

The No Build Alternative is not compatible with the goals of NFTPO and the City of Jacksonville to accommodate usage needed by the Jacksonville National Cemetery and the neighborhoods along Lannie Road and any future growth; therefore, it does not meet the established purpose and need for the project.

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

2.3 TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS

The Federal Highway Administration defines Transportation Systems Management and Operations (TSM&O) as "an integrated program to optimize the performance of existing multimodal infrastructure through implementation of systems, services, and projects to preserve capacity and improve the security, safety, and reliability of our transportation system [http://www.dot.state.fl.us/trafficoperations/tsmo/tsmo-home.shtm]." The purpose of this project is to provide improved access between the JIA/I-95 area and the Jacksonville National Cemetery. The existing facility, Lannie Road, which is currently the sole access route to the cemetery, is a narrow, winding two-lane roadway lacking shoulders and adequate clear zone. Therefore, Lannie Road would need to be upgraded from a residential roadway in order to provide adequate and safe access to the cemetery. Even with an upgraded Lannie Road, a trip to the cemetery from the JIA/I-95 area is 16 miles long, nearly 8 miles longer than the trip would be with the proposed project. Due to this being a national cemetery, most trips begin/end near the JIA/I-95 area of Jacksonville. Therefore, upgrading Lannie Road will not solve the access issues and a Transportation Systems Management and Operations alternative is not proposed.

2.4 MULTI-MODAL ALTERNATIVES

There are no stand-alone multimodal alternatives that would meet the accepted purpose and need for the project. There are no existing transit facilities and there are none planned for the project area. Mass and rapid transit options are not viable on this project due to the low population density of the region. However, the proposed improvements will provide for non-motorized transportation by including sidewalks and bicycle lanes as part of the project.

2.5 ALTERNATIVE EVALUATION

A Build Alternative was developed based on the corridor and alternative analysis conducted for this project (refer to **Section 2.1 and Figure 2-2**). The Build Alternative is shown in **Figure 2-3**.

2.5.1 TYPICAL SECTION

The Build Alternative would utilize three typical sections at locations shown in **Figure 2-4**.

Rural Typical Section

A rural typical section consisting of two 12-foot wide travel lanes, two eight-foot shoulders, of which five feet are paved, and five-foot sidewalks will be provided within a proposed ROW width of 150 feet as shown on **Figure 2-5**.

Bridge Typical Section

A bridge typical section will be utilized at the proposed bridge crossing over Seaton Creek Tributary 1. Two 12-foot wide travel lanes, with eight-foot wide shoulders and six foot-wide sidewalks separated from the shoulders with a barrier wall will be provided within a proposed ROW width of 150 feet as shown on **Figure 2-6**. Existing and proposed bridge locations are shown in **Figure 2-8**.

Urban Typical Section

To minimize wetland and Section 4(f) resource impacts, approximately 1.7 miles of the proposed roadway beginning at Lannie Road and traveling 1.7 miles south/east of the Lannie Road intersection will utilize an urban typical section. This typical section consists of two 11-foot travel lanes, four-foot bike lanes, curb and gutter, and six-foot sidewalks. **Figure 2-7** shows the proposed urban typical section for the Build Alternative with a proposed ROW width of 90 feet.

Figure 2-3 Project Build Alternative

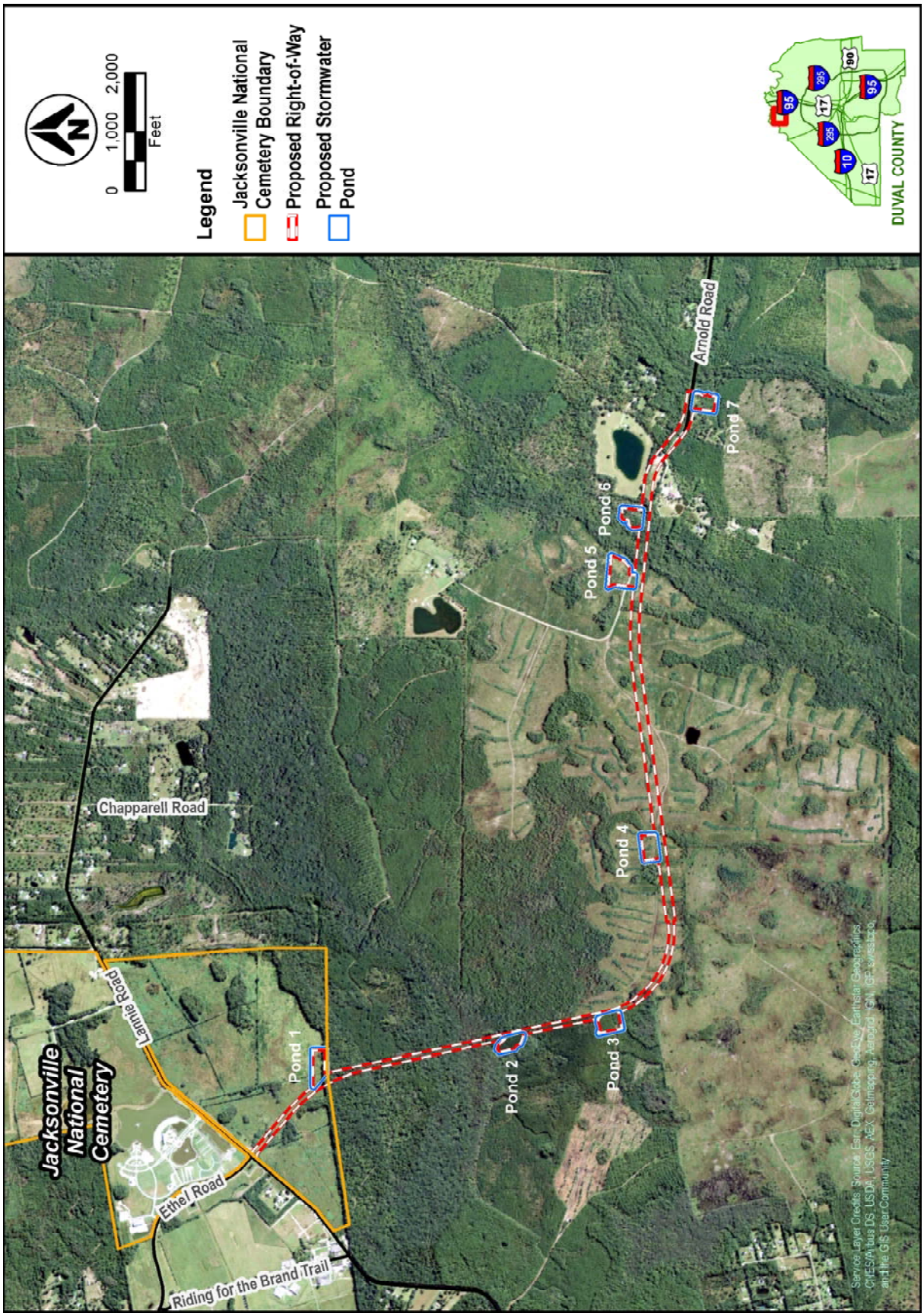


Figure 2-4 Location of Build Alternative Typical Sections

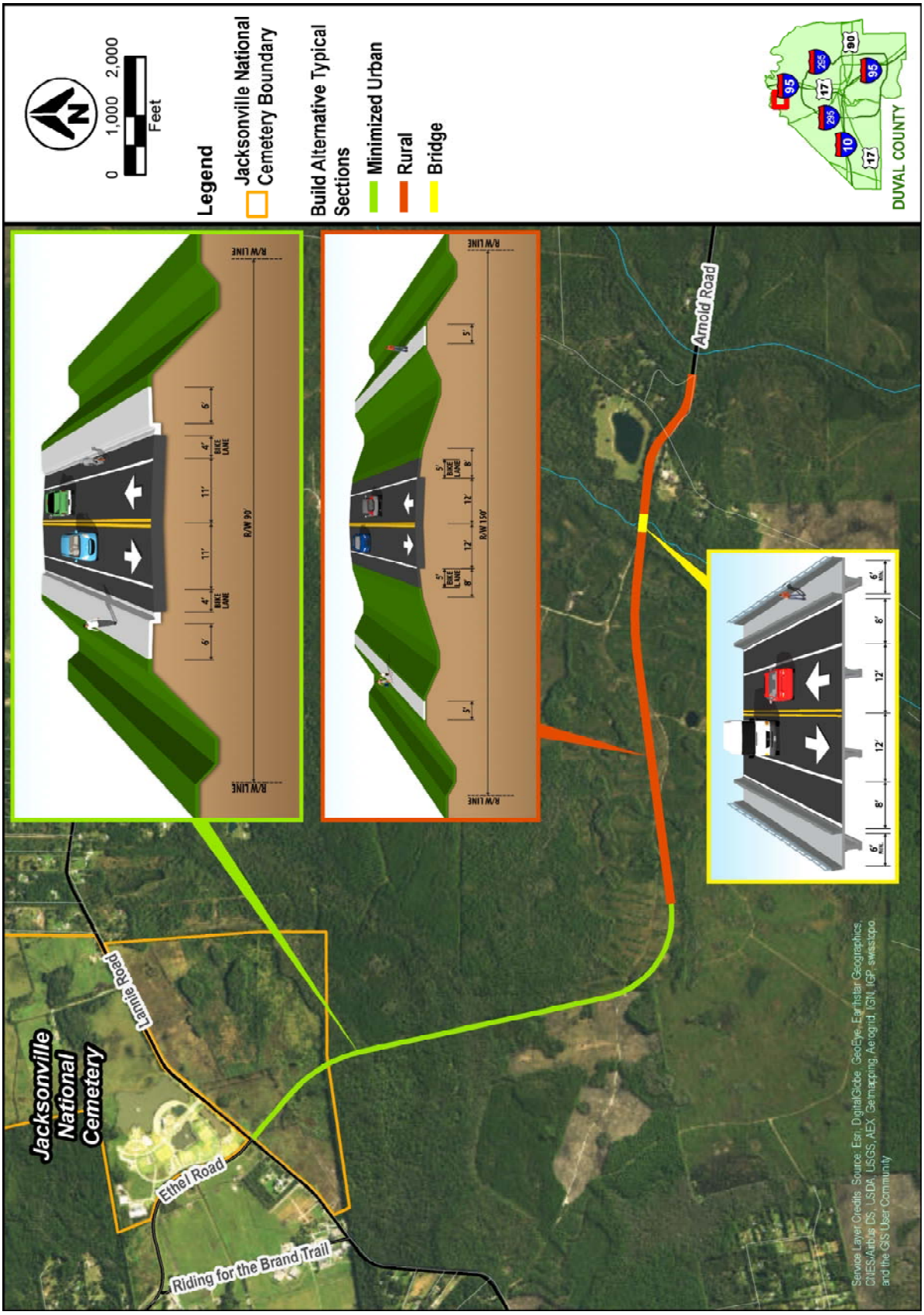


Figure 2-5 Proposed JNCAR Rural Typical Section

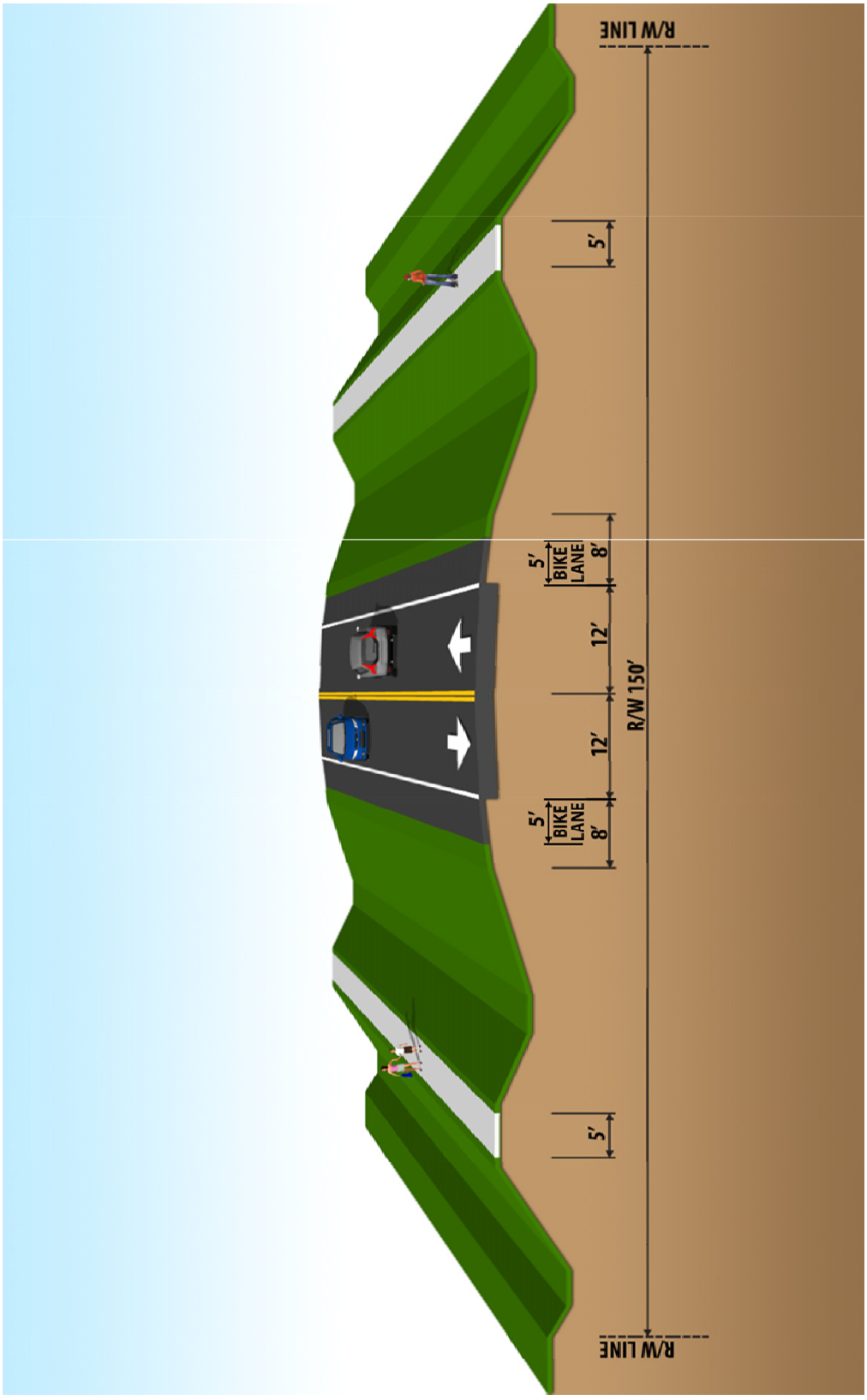


Figure 2-6 Proposed JNCAR Bridge Typical Section

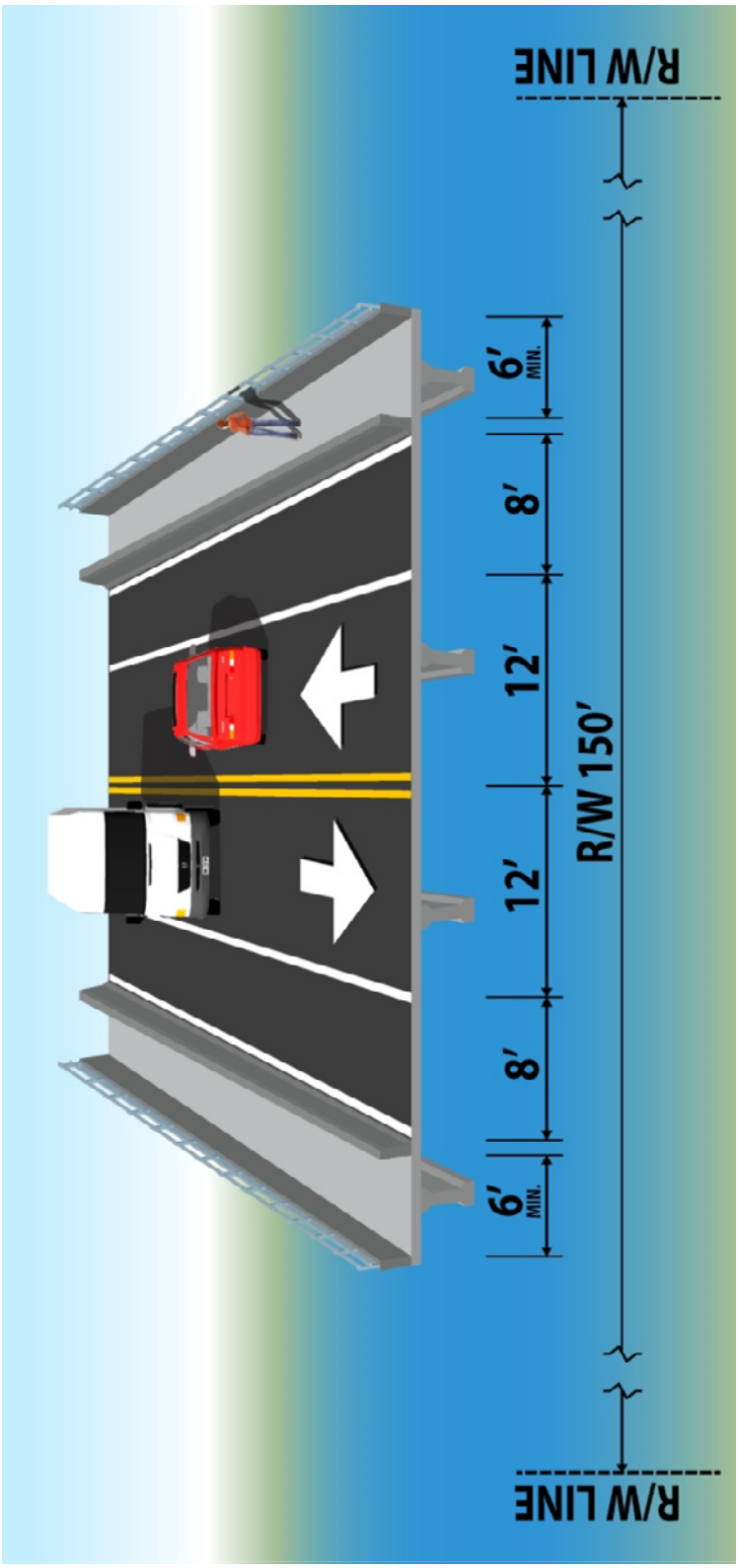
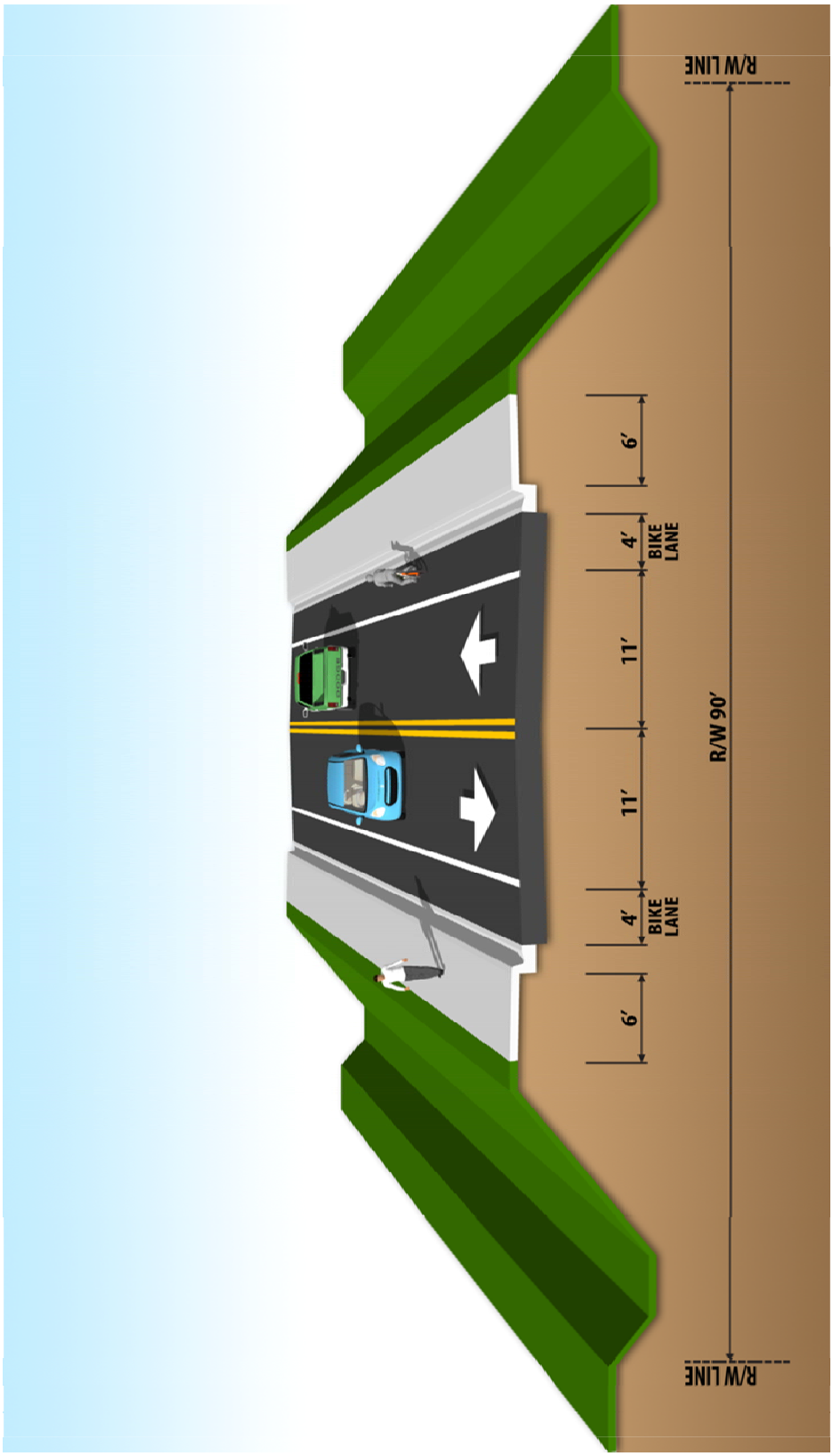


Figure 2-7 Proposed JNCAR Urban Typical Section



2.5.2 HORIZONTAL AND VERTICAL ALIGNMENT

The Build Alternative was designed to meet the FDOT *Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (2013)* (Florida Greenbook) standards. The design speed is 45 mph within the urban typical section, and 55 mph within the rural typical section.

2.5.3 CONCEPTUAL PLANS

The Build Alternative is approximately 3.4 miles long. Conceptual plans are shown in Appendix C of the *Preliminary Engineering Report* under separate cover.

2.5.4 RIGHT-OF-WAY

The proposed ROW width is 90 feet within the limits of the urban typical section, and 150 feet within the limits of the rural and bridge typical sections. Additional ROW will be needed for stormwater retention ponds. The *Pond Siting Report (2014)* identified seven pond sites (shown on **Figure 2-8**) needed for the project. A total amount of 12.90 acres ROW are estimated to be required from five different property owners, but there are no relocations anticipated. The total includes the roadway and stormwater retention ponds. The Build Alternative, including stormwater retention ponds, will impact ten parcels; two residential and eight vacant parcels. The ROW acquisition costs were estimated in June 2015 to be $2,860,423.

2.5.5 COST ESTIMATES

ROW acquisition costs have been estimated based on the current conceptual plans. Construction costs have been estimated using the current conceptual plan and FDOT's Long Range Estimates (LRE) software. This does not include mitigation costs. The wetland impact acreages were taken from the *Final Wetland Evaluation Report (2015)* (*WER*) completed for this project. Cost estimates for the Build Alternative are shown in the evaluation matrix later in the report in **Table 2-3**.

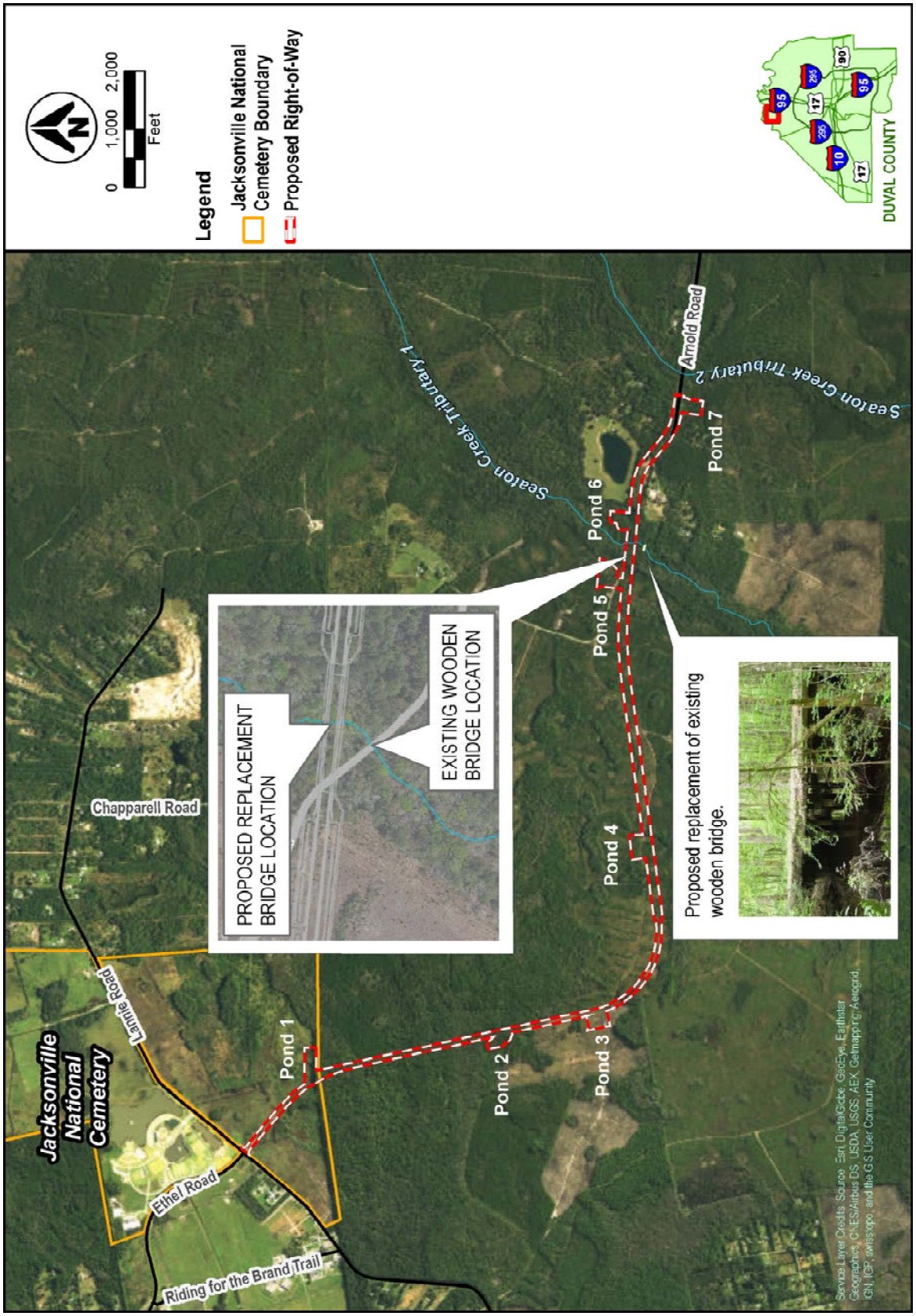
2.5.6 PRELIMINARY DRAINAGE

Stormwater will be conveyed via piping and / or roadside ditches to stormwater ponds for treatment, attenuation, and eventual discharge. Eight (8) separate basins were identified by the Pond Siting Report (shown in Appendix B of the Pond Siting Report under separate cover), and seven (7) pond sites were recommended.

Cross drains are proposed to maintain the existing drainage patterns and wetland connectivity along the alignment. No additional wetland impacts outside of the proposed ROW impacts are anticipated for these cross drains.

In summary, an evaluation of stormwater options has been completed to accommodate the construction of the JNCAR. All pond sites avoid wetlands, floodplains, and historic or archaeological sites. Pond sizes and locations may be revised during final design as more detailed information on wetland lines, topographic survey of ground elevations, seasonal high groundwater table, final cross drain design, final roadway profile design, etc., become available.

Figure 2-8 Existing and Proposed Bridges



2.5.7 UTILITIES

Base maps were sent to utility providers in accordance with Part 2, Chapter 10 of the FDOT *Project Development and Environment Manual* with a request to provide information on existing and planned utilities. Correspondence and sketches of the existing utilities are included in the project file.

Jacksonville Electric Authority (JEA) provides water, sewer and electric service in Jacksonville. AT&T is the local telephone service provider. Comcast was also identified by the Sunshine One Call.

Within the project area, utilities exist along Lannie Road and Arnold Road. At the intersection of Lannie Road and Ethel Road, overhead utilities are located on the north side of Lannie Road. Overhead utilities are located on the north side of Arnold Road, at the western terminus of Arnold Road.

Utility impacts are expected to be minimal as this project will be constructed on new alignment. However, construction activities could affect existing utilities where the project ties into existing roads. As a result, there may be a need to temporarily re-route utility lines or cables. Such relocations may result in intermittent and short-term interruption of service. Prior to construction occurring in these areas, coordination will be conducted with utility providers to minimize any disruption in service.

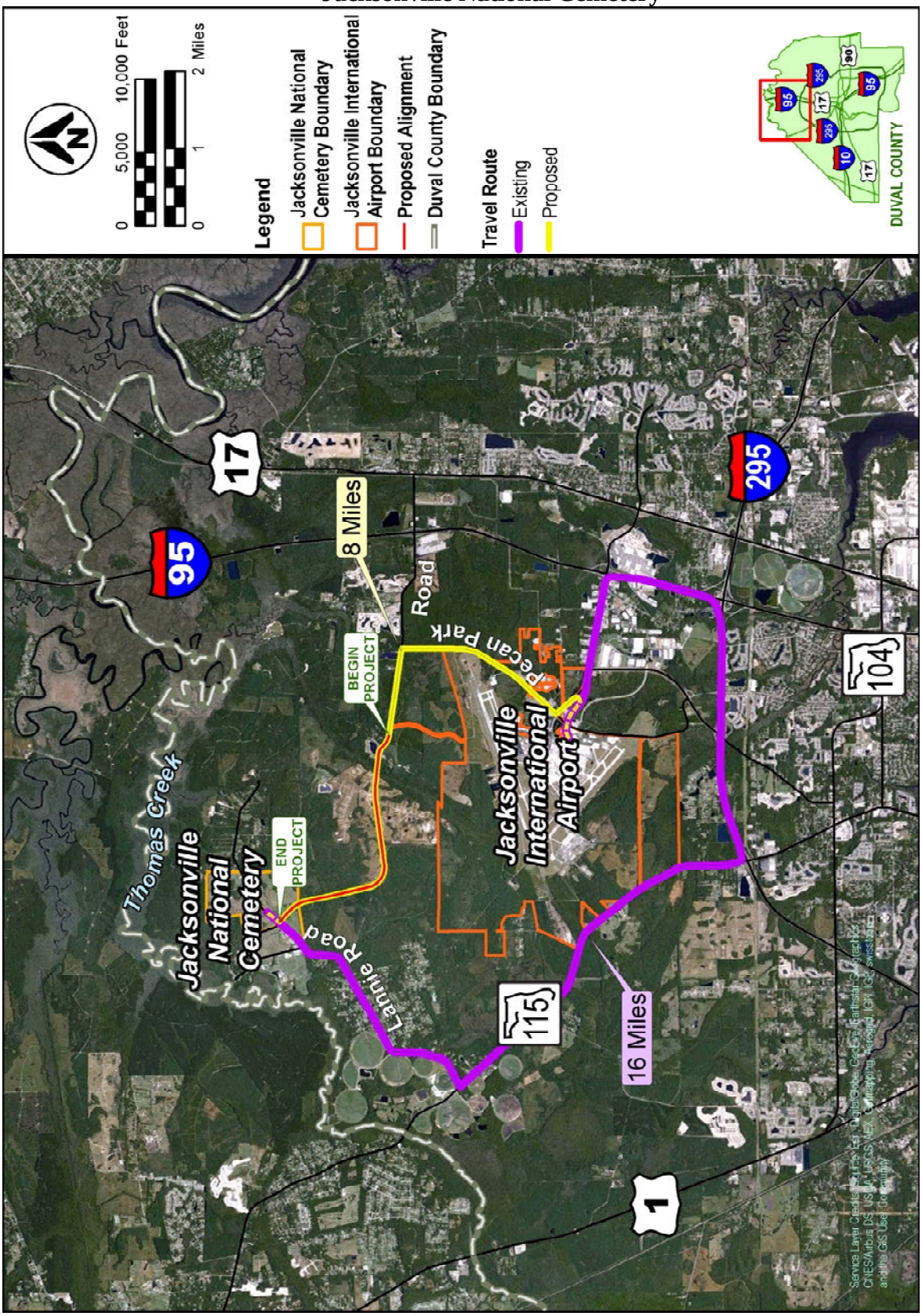
2.5.8 TRAFFIC

The Jacksonville National Cemetery is a 542-acre site that is planned for phase development. The first few phases of the project are currently open. Lannie Road provides the sole access to the cemetery, which is located at 4083 Lannie Road. The cemetery currently experiences approximately 38 interments per week and is anticipated to facilitate up to 45 interments per week in the future. As the cemetery expands, the number of funeral processions will increase and the disruption of the local traffic along Lannie Road will continue to worsen.

While located only three miles north of the Jacksonville International Airport and five and a half miles west of I-95, a trip to the cemetery from the airport/interstate area is approximately 16 miles long (see **Figure 2-9**). Due to this being a national cemetery, most trips begin/end near the I-95/airport area of Jacksonville. The route to the cemetery utilizes I-95, SR 115 (Lem Turner Road) and Lannie Road. Local law enforcement has noted the disruption the cemetery traffic causes. The new proposed route will reduce the trip to approximately eight miles.

Existing traffic data (April, 2014) was collected along Lannie Road, SR 115 (Lem Turner Road), the Jacksonville National Cemetery entrance and Ethel Road. These counts were projected based on historical traffic data. A review of historical Annual Average Daily Traffic (AADT) suggests that growth rates over the past 15 years have decreased slightly or remained flat. A 1% growth rate per year was assumed for our projections, and it was further assumed that 20% of traffic destined to the cemetery will still use Lannie Road. The 2035 Cost Feasible North

Figure 2-9 Comparison of Routes from the Jacksonville International Airport to the Jacksonville National Cemetery



East Regional Planning Model (NERPM) was also analyzed for the new roadway. The results from the model confirm that the AADT's used in this report based on 1% growth rates are reasonable.

The project is located in an area transitioning into an urbanized area. The level of service (LOS) standard is LOS C for the project area. **Table 2-2** shows the volumes currently using Lannie Road and the vicinity. Lannie Road remains at LOS B through year 2040. Therefore, Lannie Road currently operates and will continue to operate at an acceptable LOS through year 2040. However, this LOS does not account for the traffic disruptions due to funeral processions using Lannie Road to access the cemetery.

2.5.9 TRAFFIC CONTROL CONCEPTS

The JNCAR will be constructed on new alignment, the temporary traffic control plan will be minimal. The plan will be limited to the west tie-in at the Lannie Road / Ethel Road intersection and tie-in at the western terminus of Arnold Road.

2.5.10 BICYCLE AND PEDESTRIAN ACCOMODATIONS

No bicycle or pedestrian facilities are present in the project area. Bike lanes, four-feet wide, will be provided within the urban typical section of the project. Two eight-feet wide shoulders, five feet wide paved, will be provided and available for use by bicycles within the rural typical section and the bridge section of the project, respectively. Sidewalks will be provided throughout the project limits.

2.5.11 ACCESS MANAGEMENT

The proposed project access management classification will match that of existing Arnold Road which is Access Class 4. Access Class 4 roadways are controlled access facilities where direct access to abutting land is controlled to maximize the operation of the through traffic movement. The land adjacent to these roadways is generally not extensively developed and/or the probability of significant land use change exists. These roadways are distinguished by existing or planned non-restrictive median treatments.

Table 2-2 Volumes and Level of Service for Existing Roadways

Facility	Location	2014		2020		2035		2040	
		Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS
Lannie Road	Northeast of the SR 115 (Lem Turner Road) intersection	3,700	B	4,000	B	4,700	B	5,000	B
Lannie Road	Between Ethel Road and the Jacksonville National Cemetery Entrance	980	B	1,900	B	2,300	B	2,500	B
Lannie Road	Northeast of the Jacksonville National Cemetery Entrance	660	B	710	B	830	B	880	B
Ethel Road	North of the Lannie Road intersection	280	B	300	B	350	B	370	B
Jacksonville National Cemetery entrance	North of the Lannie Road intersection	350	B	1,200	B	1,400	B	1,500	B
SR 115 (Lem Turner Road)	North of the Lannie Road intersection	13,000	C	14,000	C	17,000	C	18,000	D
SR 115 (Lem Turner Road)	South of the Lannie Road intersection	15,000	C	16,000	C	19,000	D	20,000	D

Notes: The Level of Service (LOS) shown is based on the generalized tables in the *2013 FDOT Quality/Level of Service Handbook* for "Uninterrupted Flow Highways". Volumes are AADT volumes (vehicles per day).

2.5.12 BRIDGE ANALYSIS

A new bridge is proposed for JNCAR crossing of the Seaton Creek Tributary 1. There is an existing bridge over Seaton Creek Tributary 1, shown in **Figure 2-8**, that would be removed as part of the proposed project due to its close proximity to the proposed bridge. A *Draft Bridge Hydraulics Report (2015)* (*BHR*) was prepared to evaluate any changes that may occur to the floodplain, and to determine the length and height of the required structure.

The project will span multiple drainage flow paths, with the key crossing proposed across Seaton Creek Tributary 1. The proposed bridge crossing over Seaton Creek Tributary 1 will utilize the bridge typical section shown in Figure 2-6. The minimum horizontal clearance of 87 feet is comprised of 3-29 foot bridge spans over 18-inch piers. The 100-year flood stage is calculated to be 14.0 feet North American Vertical Datum (NAVD). Since a Federal Emergency Management Agency (FEMA) regulatory floodway has been delineated for the stream, a recommended minimum low chord elevation of one-foot above the floodway elevation is suggested. Assuming a floodway surcharge of one-foot above the 100-year flood stage, the recommended minimum low chord elevation is 16.0 feet NAVD.

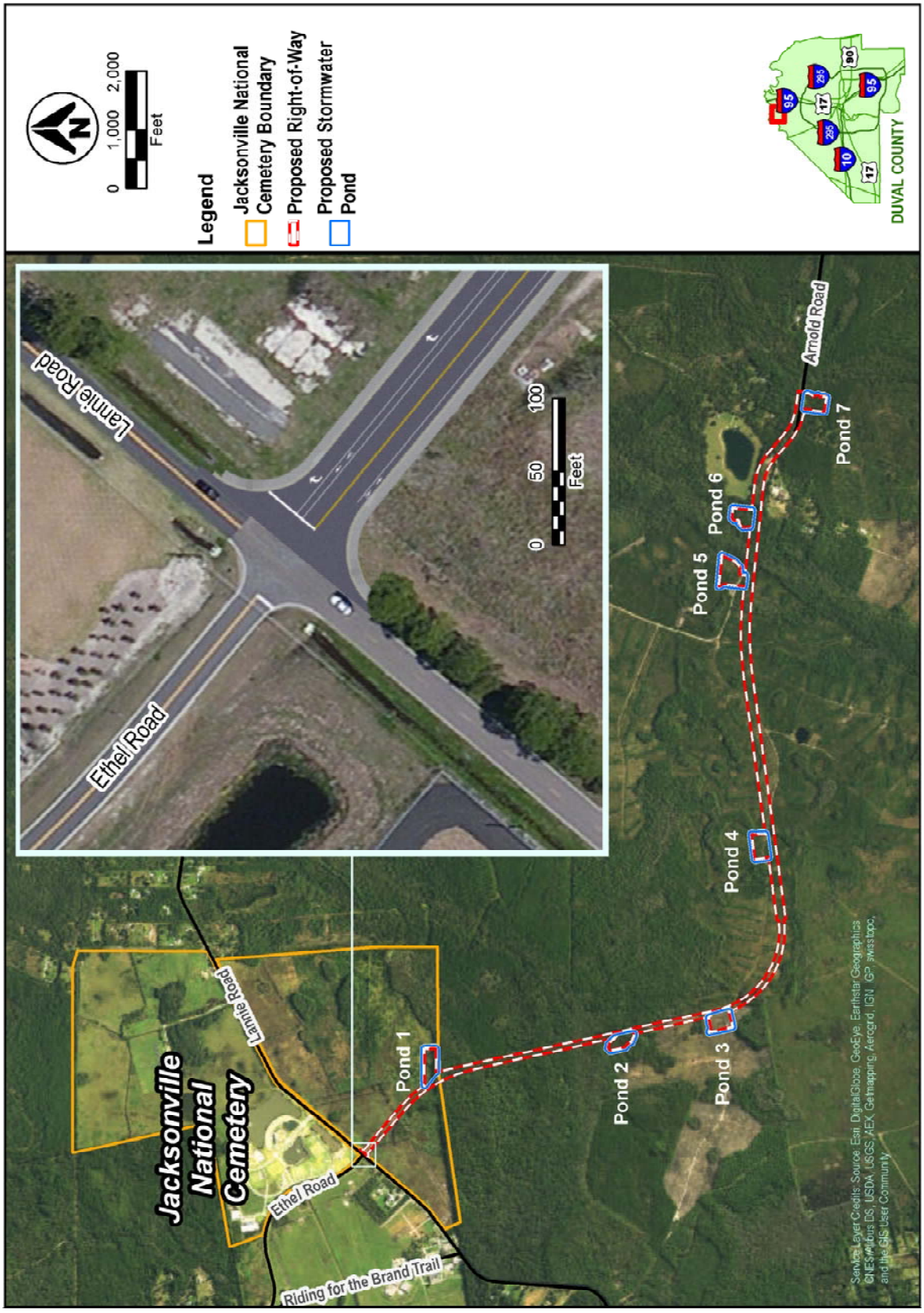
The proposed deck drainage system is expected to use the longitudinal grade of the bridge to convey the deck drainage equally to the ends of the bridge on either side of the proposed bridge crest. The deck runoff will collect in shoulder gutters off the bridge deck to be conveyed through flumes into the roadside ditch system.

The conceptual bridge design presented in the BHR represents the minimum clearance necessary to avoid hydraulic impacts to the effective 100-year flood stages along Seaton Creek Tributary 1. The intent of the conceptual bridge design is to achieve a “No-Rise” certification relative to the 100-year flood elevation and floodway elevation.

2.5.13 INTERSECTION LAYOUT

A stop-controlled intersection will be provided at the intersection of JNCAR and Lannie Road. As shown in **Figure 2-10**, this intersection will be improved from the existing three-leg intersection to a four-leg intersection. The existing Lannie Road runs in a northeast/southwest direction, while the existing Ethel Road is the western leg. The proposed JNCAR will be a two-lane urban roadway becoming the eastern leg, intersecting Lannie Road at its existing grade. A 300-foot exclusive westbound to northbound right-turn lane is proposed on JNCAR. This will benefit access to the national cemetery entrance. All three of the other legs will be the existing two-lane undivided rural roadways, with a single-lane approach providing shared left/through/right-turn lanes.

Figure 2-10 Stop Controlled Intersection Layout



2.6 ALTERNATIVE EVALUATION

Table 2-3 compares the No Build Alternative and the Build Alternative. The impacted acres of wetlands shown in the table are for direct impacts only and do not include secondary impacts (refer to **Section 3.3.1** and the *Final Wetland Evaluation Report* (2015) completed for this project for more information).

Table 2-3 Evaluation Matrix

Item	No Build Alternative	Build Alternative
Engineering		
Functional Classification	Not Applicable	Minor Collector 2-Lane Rural Undivided
Access Classification	Not Applicable	Access Class 4, Non-restrictive with 2,640 foot Signal Spacing
Social & Economic Impacts		
Land Use Changes	Not Consistent	Consistent with Future Land Use
Community Cohesion	Not Applicable	None
Relocation Potential	None	10 – Parcel Impacts, No Relocations
Community Services	None	None
Nondiscrimination Considerations	Not Applicable	No Disproportionate Effects
Controversy Potential	Not Applicable	None
Economic	None	Enhances Tax Base and Job Creation
Scenic Highways	Not Applicable	Not Applicable
Farmlands	None	None
Cultural Impacts		
Section 4(f)	None	No Adverse Effects
Historic Sites/Districts	None	No Effect
Archeological Sites	None	No Effect
Recreational Areas	None	No existing Recreation Areas Impacted. Provide Pedestrian Facilities to Access Planned Facilities
Natural Impacts		
Wetlands (acres)	None	13.43 acres
Aquatic Preserves	Not Applicable	Not Applicable
Water Quality	None	Meets Water Quality Standards
Outstanding Florida Waters	Not Applicable	Not Applicable
Wild and Scenic Rivers	Not Applicable	Not Applicable
Floodplains	None	Minimal Floodplain Encroachments
Coastal Zone Consistency	Not Applicable	Consistent
Coastal Barrier Resources	Not Applicable	Not Applicable

Item	No Build Alternative	Build Alternative
Wildlife and Habitat	None	Avoidance, Minimization, and Mitigation Required
Essential Fish Habitat	None	None
Physical Considerations		
Noise	None	No Impacted Sites
Air Quality	None	Meets NAAQS Criteria
Construction	None	Minimal
Contamination	None	1 Medium Risk Site, 2 Low Risk Sites
Aesthetic Effects	None	Minimal
Bicycles and Pedestrians	None	Enhanced, New Facilities Provided
Utilizes and Railroads	None	Minor Adjustments
Navigation	None	None
Project Costs		
Engineering Cost	$0	$1,220,000
ROW Costs	$0	$2,860,423
Mitigation Cost	$0	$1,200,000
VA Mitigation	$0	$1,000,000
Construction Engineering Inspection	$0	$1,220,000
Construction Cost (from FDOT Long Range Estimates program)	$0	$12,200,000
Total Costs	$0	$19,700,423

2.7 RECOMMENDED ALTERNATIVE

The Build Alternative is being recommended. It is the only alternative that meets the project's purpose and need. The new access road will provide improved access between the JIA/I-95 area and the Jacksonville National Cemetery. The No-Build Alternative will remain a viable alternative throughout the study and a Public Hearing will be conducted to determine the Preferred Alternative.

3 IMPACTS

A description of the potential impacts in the study area associated with the Build Alternative is presented in this section. More detailed information on these potential impacts is presented in the individual technical support documents referenced in each applicable section (CD of support documents is attached).

On October 25, 2010, the ETDM Programming Screen review was initiated. During this 45 day review, the ETAT provided their comments on the project's purpose and need, and issued their Degree of Effect (DOE) and comments by resource area for each of the proposed corridors. **Section 4** summarizes the ETAT's DOE and comments for the Build Alternative. FDOT responses are included with reference to where the ETAT comments are addressed in Section 3.

Following the ETDM Programming Screen review, a *Final Programming Summary Report (2011)* (**Appendix B**) was developed and entered into the EST.

3.1 SOCIAL AND ECONOMIC

3.1.1 LAND USE CHANGES

Existing Land Use

The adopted *City of Jacksonville Comprehensive Plan 2030* Existing Land Use Map depicts Agricultural and Industrial as the primary land use in the project area with sparse Residential and Special – Other land uses as shown by category in **Figure 3-1**.

Future Land Use

The adopted *City of Jacksonville 2030 Comprehensive Plan (2011), Future Land Use Element* (revised December 2011), shown in **Figure 3-2**, indicates that the project area is planned for Light Industrial land use with some remaining areas designated Agriculture and Recreation and Open Space. There is also a Public Buildings and Facilities land use at the western terminus of the project. This is currently undeveloped land that is slated for the National Cemetery Phase II.

3.1.2 COMMUNITY COHESION

No splitting or isolation of neighborhoods will occur as a result of this project. This project will provide more direct access from the area neighborhoods along Lannie Road to I-95 and the Jacksonville International Airport.

Figure 3-1 Existing Land Use

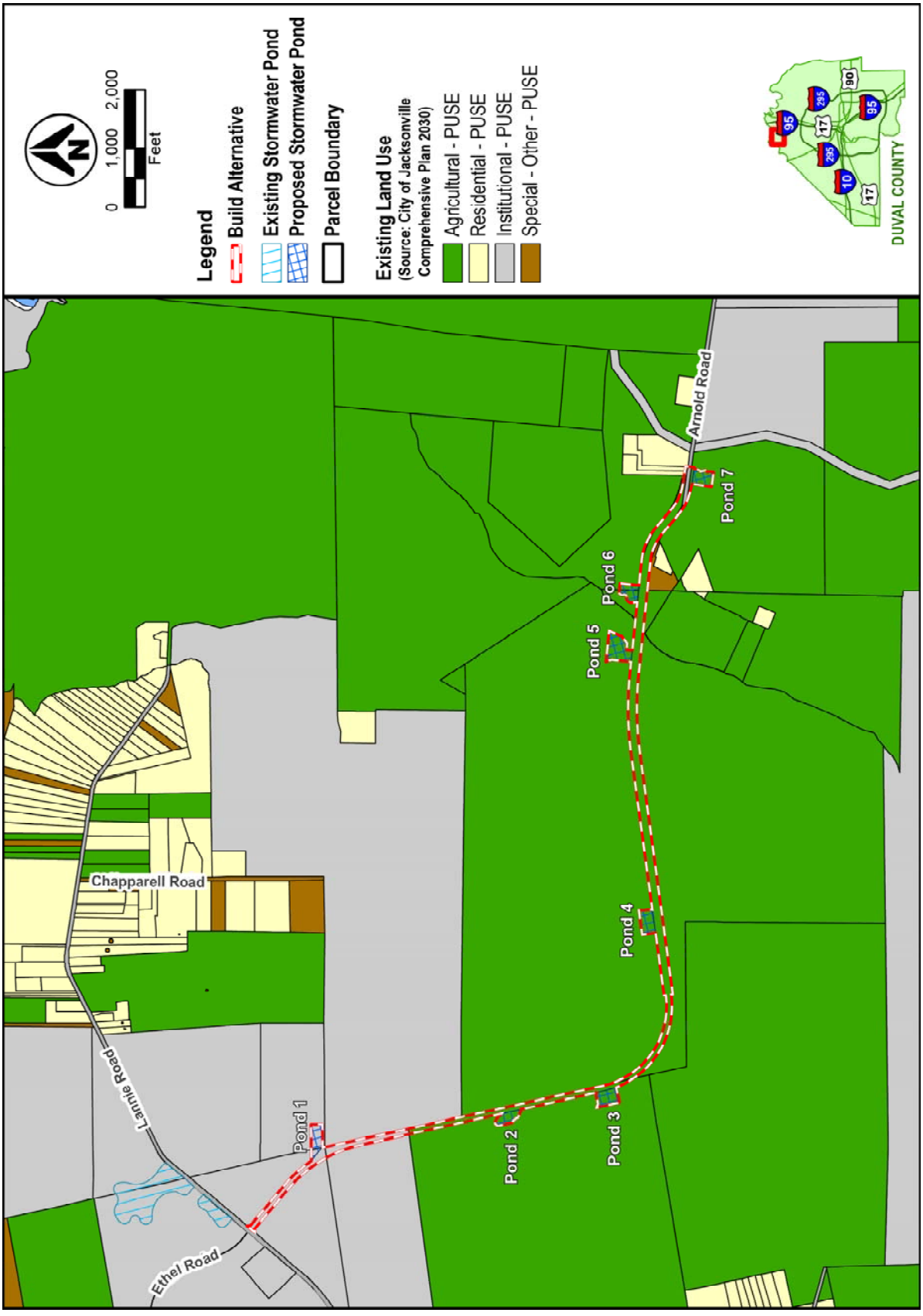
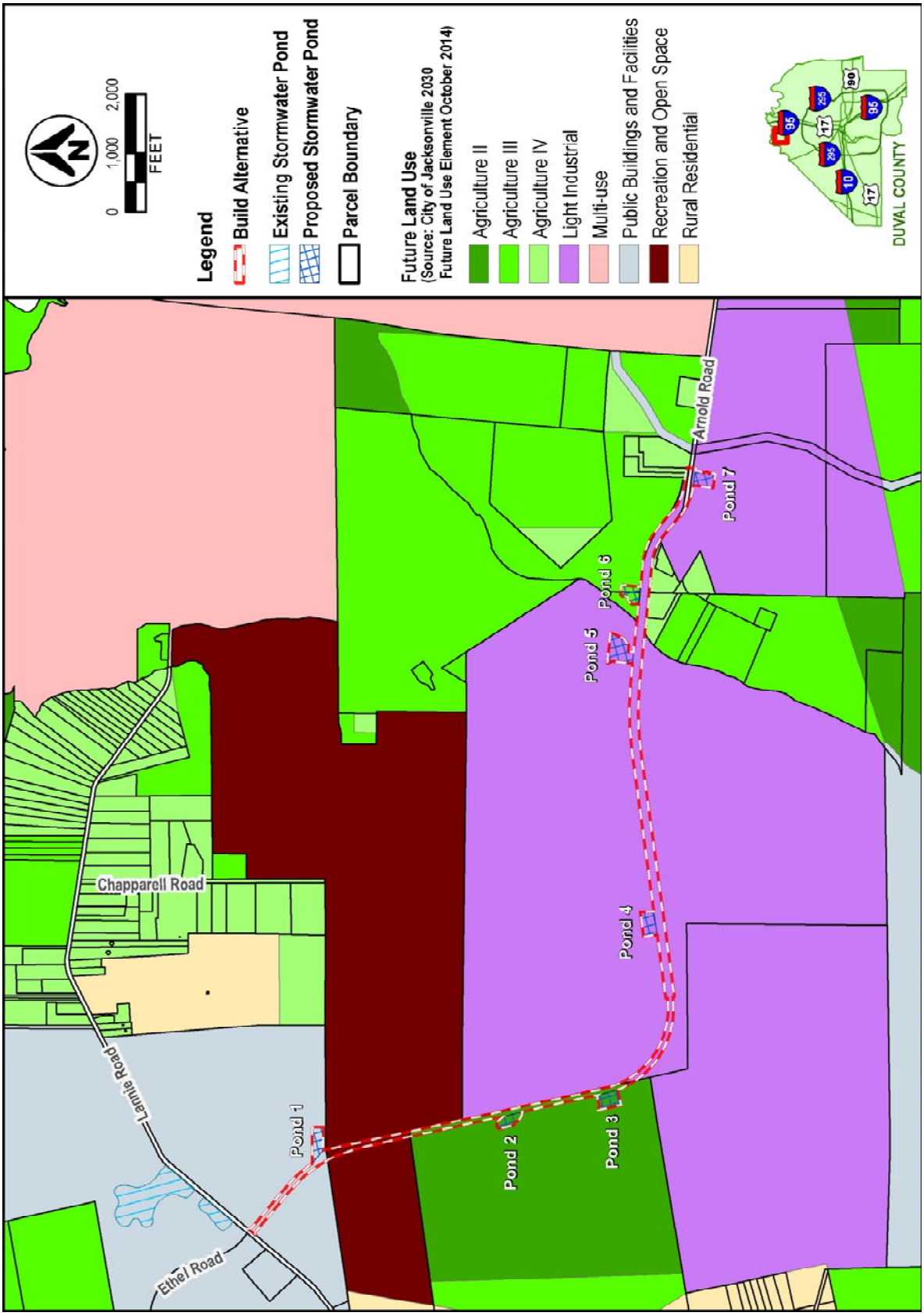


Figure 3-2 Future Land Use



3.1.3 RELOCATION POTENTIAL

A *Conceptual Stage Relocation Plan (CSRP) (2012)* has been prepared for this project. The proposed project corridor traverses through a mixture of vacant land, farm land, and low-density residential homesteads in the northwest portion of the City of Jacksonville. Many of the homes in the area are situated on larger home sites than are typically found in a residential neighborhood. In addition, many of the homes located within the project area are manufactured homes.

The Build Alternative, including stormwater retention ponds, will impact ten (10) parcels; two residential (2) and eight (8) vacant parcels. The proposed project, as presently conceived, will not displace any residences or businesses within the community. Should this change over the course of the project, the FDOT will carry out a ROW and Relocation Program in accordance with *Florida Statute 339.09* and the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 as amended by Public Law 100-17)*.

3.1.4 COMMUNITY SERVICES

Community services typically serve the needs of the surrounding area and provide a focal point for adjacent neighborhoods and communities. For the purpose of this study, community services include churches, schools, community centers, and public facilities. There are no existing parks and recreational facilities in the project study area. There are three community service facilities within the project area; Jacksonville National Cemetery, James I. Montgomery Correctional Center (MCC) and the Tiger Success Center (Tiger S.H.O.P.) (**Figure 3-3**).

The Jacksonville National Cemetery is located at 4083 Lannie Road. The new 542-acre national cemetery will serve veterans' needs for more than 100 years. The VA completed an Environmental Assessment for the Cemetery in May 2006 (Appendix E). Figure 3-4 is a graphic provided by the VA that shows Phase 1A of the development which is currently open. The initial Phase 1A construction efforts, focusing on a 20-acre early burial area with temporary facilities, will be followed by the second construction stage of the project (Phase 1B). When completed, the 52-acre Phase 1 development will provide 8,145 full casket gravesites, including 7,300 pre-placed crypts, 5,100 in-ground cremation sites and 4,992 columbarium niches. Phase 1 includes roadways, an entrance area, an administration and public information center, a maintenance complex, a flag assembly area, a memorial walkway, two committal service shelters, as well as interment areas. Other infrastructure improvements will include grading, drainage, fencing, landscaping, irrigation system and utilities. Much of Phase I has been constructed. The FDOT added to the graphic where the proposed JNCAR will tie into the existing roadways. The VA owns land south of Lannie Road for future phases, but there currently is not a land plan for the cemetery in that area. The JNCAR will bisect the undeveloped southern property.

Numerous coordination meetings have occurred with the VA and are documented in **Section 4.5** of this report within **Table 4-2**. The VA is supportive of this project.

Figure 3-3 Community Service Facilities

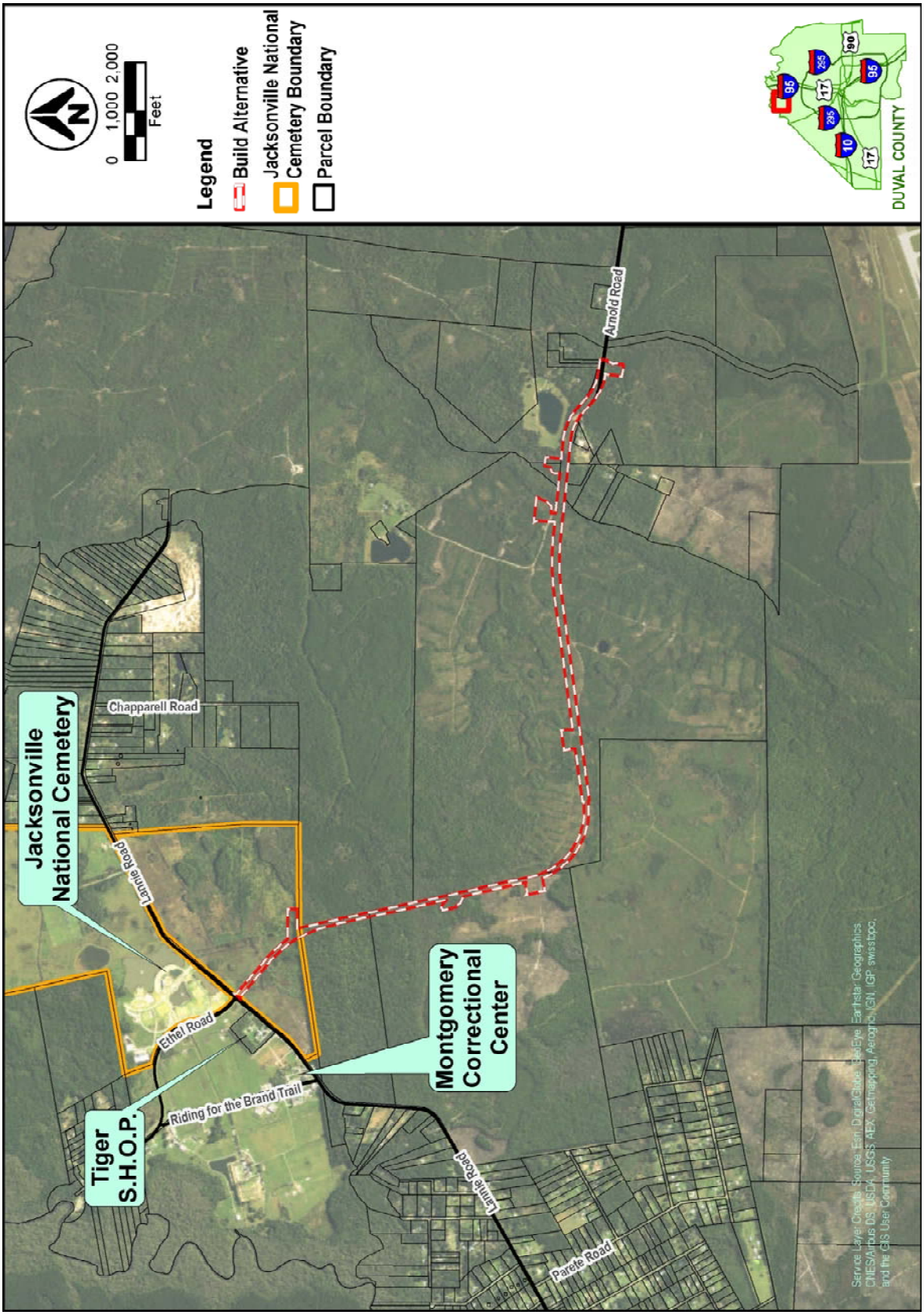


Figure 3-4 Jacksonville National Cemetery Phase 1 Development

The MCC is located at 4727 Lannie Road. The MCC is committed to the utilization of its physical and prisoner resources to advance the general good of the citizenry of Jacksonville/Duval County by providing carefully selected work projects and programs throughout the community. The MCC is charged with the co-equal responsibilities of public safety and public service. Its public safety role is to provide care, custody, control and supervision of county sentenced prisoners. Utilizing county sentenced prisoner labor for carefully selected community work projects fulfills the public service function.

The Tiger Success Center is located at 4501 Lannie Road. It is a 24-bed residential program for high-risk boys who are adjudicated delinquent and are designated for placement in a Serious Habitual Offender Program (S.H.O.P.) and committed to the Department of Juvenile Justice after being assessed and classified as high risk. On-site medical, mental health, substance abuse and educational services are provided, as well as behavior modification and life skills.

The project will provide additional access to these facilities and will enhance emergency response time to this area. This improved access will substantially reduce the travel time from the JIA/I-95 area.

3.1.5 NONDISCRIMINATION CONSIDERATIONS

In February 1994, the President of the United States issued *Executive Order 12898 (Environmental Justice)* requiring federal agencies to analyze and address, as appropriate, disproportionately high adverse human health and environmental effects of federal actions on ethnic and cultural minority populations and low income populations, when such analysis is required by the National Environmental Policy Act (NEPA)of 1969. An adverse effect on minority and/or low-income populations occurs when: (1) the adverse effect occurs primarily to a minority and/or low-income population; or, (2) the adverse effect suffered by the minority and/or low-income population is more severe or greater in magnitude than the adverse effect suffered by the non-minority and/or non-low-income populations. An evaluation of environmental, public health and interrelated social and economic effects of proposed projects on minority and/or low-income populations is required. All proposed projects should include measures to avoid, minimize, and/or mitigate disproportionately high and adverse impacts and provide off-setting benefits and opportunities to enhance communities, neighborhoods, and individuals affected by these activities.

The 17 Environmental Justice criteria identified in *Executive Order 12898* are: (1) air pollution; (2) noise; (3) water pollution; (4) soil contamination; (5) destruction of manmade resources; (6) destruction of natural resources; (7) diminution of aesthetic values; (8) detriment to community cohesion; (9) diminution of economic viability; (10) detriment to facilities access - public and private; (11) detriment to services access - public and private; (12) vibration; (13) diminution of employment opportunities; (14) displacement; (15) traffic congestion and impairment to mobility; (16) exclusion, isolation, or separation; and, (17) diminution of U.S. Department of Transportation benefits.

In addition to compliance with *Executive Order 12898*, any proposed federal project must comply with the provisions of Title VI of the Civil Rights Act of 1964 and other nondiscrimination authorities. Neither FDOT nor this project will deny benefits, exclude from participation in or subject to discrimination anyone on the basis of race, color, national origin, sex, age, disability or income status. Title VIII guarantees each person equal opportunity in housing.

In August 2000, the President of the United States issued *Executive Order 13166* (*Improving Access to Service for Persons with Limited English Proficiency*), to clarify Title VI of the Civil Rights Act of 1964. Its purpose was to ensure accessibility to programs and services to eligible persons who are not proficient in the English language.

FHWA noted in their comments as part of the ETDM Programming Screen that there is "one block group revealed to have a minority population of 57 percent (649 persons) within 500 feet." The FDOT has reviewed the Geographic Information System (GIS) data and this comment is based on the 2000 Census data which shows the referenced population between I-95 and Pecan Park Road. This portion of the project, although reviewed by the ETAT, is no longer within the project study area. The 2014 American Community Survey (ACS) data does not show any minority populations greater than 40 percent within the project study area.

Characteristics of the population within Census blocks and tracts lying either partially or wholly within the study area were identified. In order to evaluate any possible disproportionate effects of the project, it was also necessary to identify population characteristics of a larger population (Duval County), for comparison purposes.

The ETDM EST *Sociocultural Data Report (2016)* (SDR) was used for demographic data (the SDR is included in **Appendix F**). The SDR uses the Census 2014 ACS data and reflects the approximation of the population within the 500-foot buffer of the project's alignment intersecting the block groups. A Census Block Group is a geographical unit used by the United States Census Bureau which is between the Census Tract and the Census Block. It is the smallest geographical unit for which the Bureau publishes sample data, i.e. data which is only collected from a fraction of all households.

Population Trends

Based on the SDR population, the study area growth has been minimal with 79 people in 1990 and 104 people in 2014. In 2014, the total number of households in the study area was 28 with 3.15 persons per household.

Demographics

Table 3-1 compares the race composition for the study area and Duval County. The project area has a lower minority population percentage than Duval County. Also, there are 0.96% Hispanic or Latino of any race ethnicity which is a lower percentage than in the County (8.12%) as a whole.

Table 3-1 Study Area Demographics

Demographic		500-foot Project Buffer Area	Duval County
White Alone (Race)		74.04%	61.68%
Black or African-American Alone (Race)		21.15%	29.45%
"Other"* (Race)		4.81%	8.87%
Hispanic or Latino of Any Race (Ethnic Group)		0.96%	8.12%

Source: United States Census Bureau (2014 US Census ACS)
* "Other" includes Asian Alone, American Indian or Alaska Native Alone, Native Hawaiian & Other Pacific Islander Alone, Some Other Race Alone, and Claimed 2 or More Races.

Language

Within the study area there are no persons who speak English "not well" and no persons who speak English "not at all." Based on United States Department of Transportation (USDOT) Policy Guidance, the FDOT has identified four factors to help determine if Limited English Proficiency (LEP) services would be required as listed in the *FDOT PD&E Manual, Part 1, Chapter 11, Section 11.2.4*. Based on reviews of these factors and the fact that potential LEP population only accounts for 0.96% of the population for this project, LEP services will not be required. Refinement of the LEP population totals and requirements will be further evaluated in Project Development as part of the public involvement efforts.

Age and Disability

The median age in the project area is 42. Persons that are 65 years and over comprise 11.54% of the population. There are six people (10.91%) between the ages of 16 and 64 that are designated as having a disability.

Housing

As **Table 3-2** outlines, housing trends are different than in the County as a whole with a higher percentage of owner occupied and median housing value. Every home has a vehicle.

Table 3-2 Study Area House Trends

Housing Trends	500-foot Project Buffer Area	Duval County
Number of homes	32	391,719
Primary Type of Home	Single family homes (65.6%)	Single family homes (65.6%)
Owner occupied homes	71.9%	51.5%
Median housing value	$121,200	$144,000
Homes without a vehicle	0	27,965 (8.35%)

Based on field reviews, the only homes in the immediate study area are at the Arnold Road/Eastern Terminus of the project. This part of the project area has the only existing residential development (2 parcels) in the project area. Both of these sites are single family residences. The remaining homes identified within the 500-foot buffer area are along Lannie Road surrounding the western terminus of the project and east of the project along Arnold Road.

Income

The median household income for Duval County is $47,582 with a median family income of $59,043. The income in the study area is slightly higher with a median household income of $48,484 and a lower median family income of $45,144. There are 3.57% households below poverty level and 3.57% households with public assistance within the study area.

Additional sources utilized to evaluate social and economic data for this project, which is on new alignment with scarce residential areas, included:

- Coordination with the City of Jacksonville.
- Field investigations of the area and land uses.
- Aerial mapping, as shown in the PER Appendix B Plan sheets (supporting documents CD), confirm the absence of residential areas.
- Evaluation by the FDOT Right-of-Way Specialist who analyzed the proposed alignments for disproportionate adverse effects on minority populations, other protected classes and low-income populations. This information is included in **Section 3.1.3** of this document and in the CSRP (supporting documents CD).

A proactive public involvement approach has been implemented for the project to ensure that opportunity is given to all residents and businesses along the corridor to provide input into this project. Title VI information will be made available at the Public Hearing.

Many aspects of this project will be enhancements to the standard of living for all residents in the study area, minority or otherwise, and all users of the facility. The project will improve mobility throughout the area for all users. Therefore, FDOT does not anticipate that the proposed project will result in any disproportionate adverse impacts to any distinct minority, ethnic, elderly or handicapped groups, and/or low-income households. All pedestrian facilities will be designed and constructed according to applicable *Americans with Disabilities Act of 1990* (ADA) standards.

3.1.6 CONTROVERSY POTENTIAL

The level of analysis for this project was partially based on the level of controversy involved. This was established by implementing the Public Involvement Program (PIP) that has been initiated with this project and considering the comments received by the public, public officials, and agencies.

Through the AN process FDOT informed numerous federal, state, and local agencies of the project and its scope. An AN Package was transmitted to the Florida State Clearinghouse, Department of Environmental Protection/Office of Intergovernmental Programs, on October 25, 2010 and comments were received through December 21, 2010. There were no controversial comments.

In addition, FDOT submitted this project in the ETDM EST simultaneously with the AN package (ETDM #13064 – Jacksonville National Cemetery Access Road). Comments from the ETAT were received during the ETAT review period from October 25, 2010 through December 6, 2010. During the 45-day review, the ETAT provided their comments on the project's purpose and need, and issued their DOE and comments by resource area. The DOE indicated the greatest impact/concern was "Substantial" and was identified for the Build Alternative for the Land Use, Recreation, Wetlands, and Special Designation issues. Each of these issues were evaluated further and addressed in **Section 3** of this Environmental Assessment.

A Public Information Meeting was held on Thursday, June 2, 2011. Public comments were received at the meeting. These comments can be found in **Appendix C**. Three speakers commented in favor of the project. This includes a formal verbal comment received from the Aide to U.S. Representative Ander Crenshaw. There were also two letters in favor of the project, one from a person who spoke at the public meeting and one from U.S. Representative Ander Crenshaw. All other comments were made informally and verbally and were in support of the project. No negative feedback was presented at the meeting.

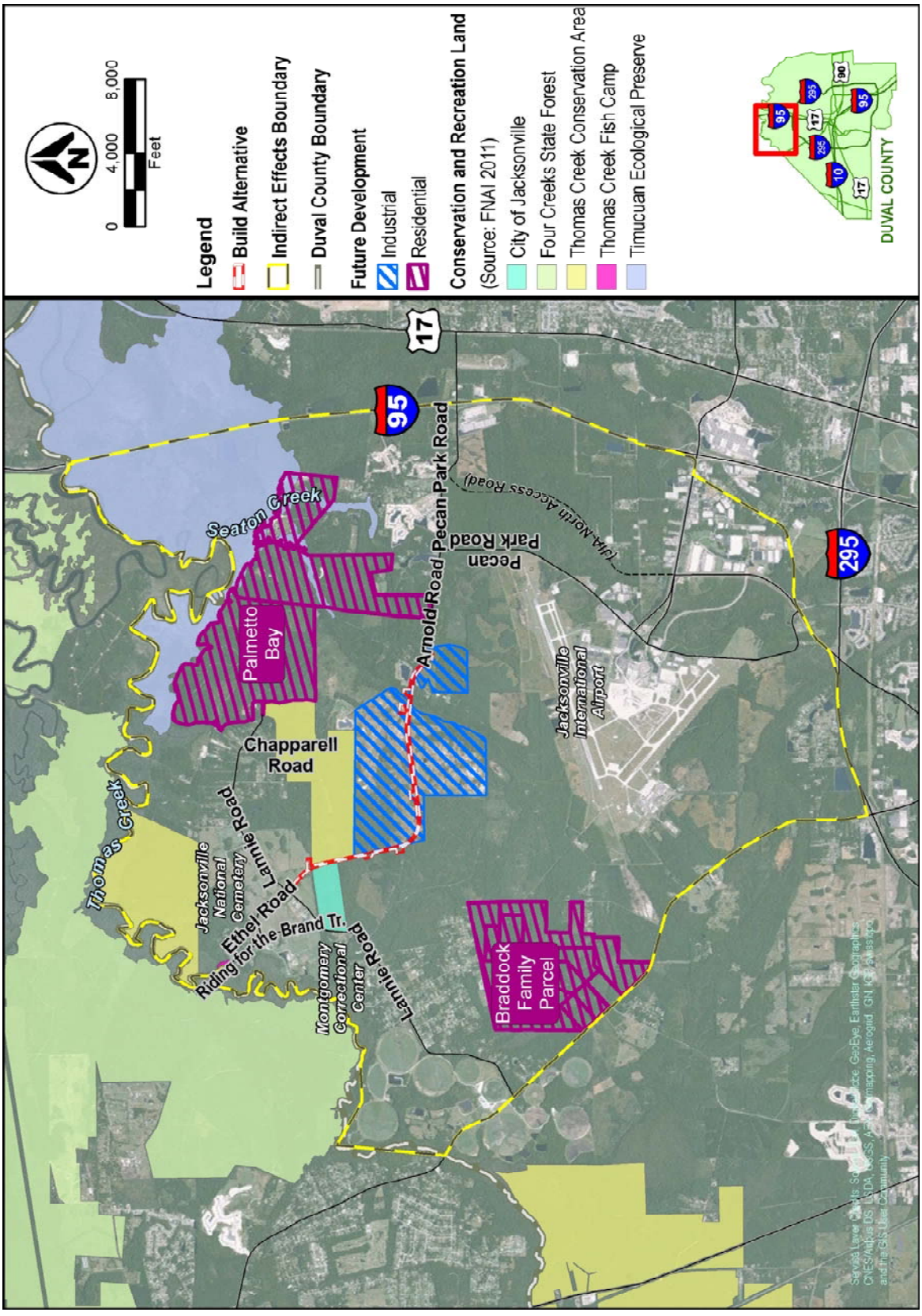
A Public Hearing is planned for fall or winter 2016. As a result of the coordination with the public and agencies to date, there is expected to be no controversy associated with the proposed improvements since no opposition to the project was received at prior meetings or during agency review periods.

Additional information related to the public outreach efforts are included in **Section 4** of this Environmental Assessment.

3.1.7 ECONOMIC EFFECTS

The City of Jacksonville Planning Department was contacted to determine whether there were any planned or approved future developments within the JNCAR study area. There had been a large Development of Regional Impact (DRI), known as the Timucuan DRI, which never materialized. In its place smaller developments, shown on **Figure 3-5,** have been approved. Of the four developments only two developments are residential, the Braddock Family Parcel and Palmetto Bay.

Figure 3-5 Land Available for Future Development in the JNCAR Indirect and Cumulative Effects Study Area



Information on the proposed residential developments, provided by the Jacksonville Planning Department, is provided in **Table 3-3**.

Table 3-3 Approved Future Residential Developments in the JNCAR Study Area

Development	Maximum Residential Units
Braddock Family Parcel	2,500
Palmetto Bay	1,499
Total Units	3,999

This project will provide access between the future industrial developments and Interstate 95. The future residential developments shown on **Figure 3-5** are outside of the project area. The proposed project does not provide direct access to these developments.

3.1.8 SCENIC HIGHWAYS

There are no Scenic Highways within the project area as described in the FDOT *Project Development and Environment Manual*, Part 2, Chapter 29.

3.1.9 FARMLANDS

Based on coordination with the Natural Resource Conservation Service (NRCS) during the ETDM Programming Screen, it has been determined that there are no farmlands as defined by *7 Code of Federal Regulations (CFR) 658* in the project area. Therefore, the provisions of the Farmland Protection Policy Act of 1984 do not apply to this project.

3.2 CULTURAL

3.2.1 SECTION 4(F)

In accordance with Section 4(f) of the *Department of Transportation Act of 1966 (Title 49, United States Code (U.S.C.), Section 1653(f))*, amended and re-codified in *Title 49, U.S.C., Section 303, in 1983*, the project was examined for involvement with possible Section 4(f) properties. There are three potential Section 4(f) resources that have been identified along the project corridor:

- Thomas Creek Preserve Wright Property (Real Estate Number 019620-0500)
- City of Jacksonville Ogilvie/Baxley Property (Real Estate Number 019640-0000)
- Jacksonville National Cemetery

3.2.1.1 Thomas Creek Preserve Wright Property and Ogilvie/Baxley Property

The approximate location of the Thomas Creek Preserve Wright Property and Ogilvie/Baxley Property resources are shown in **Figure 3-6**. The properties are located south of Lannie Road in western Duval County, near the Jacksonville National Cemetery.

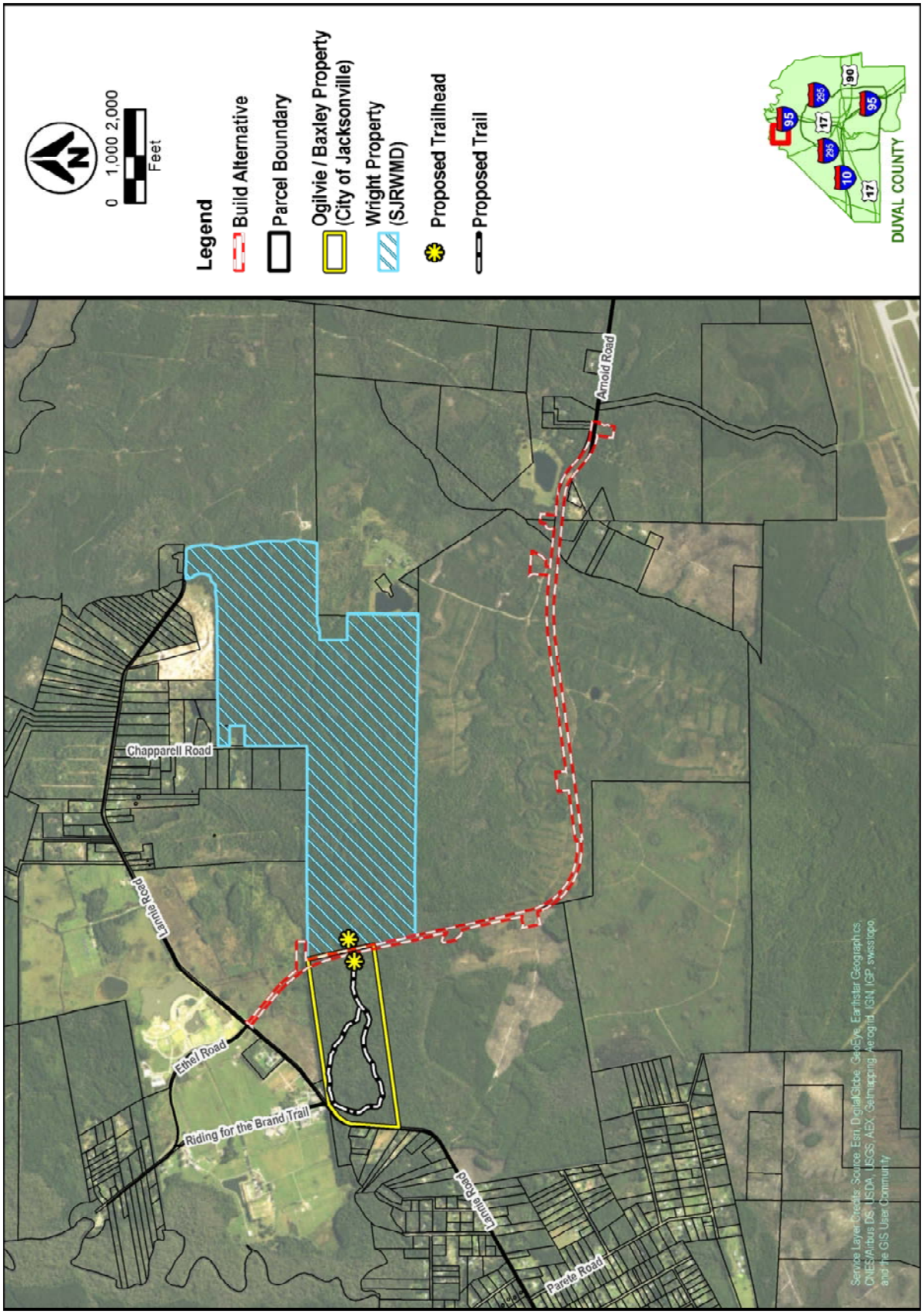
The Wright Property of the Thomas Creek Preserve is 715 acres as shown in the *Thomas Creek Conservation Area Land Management Plan (2008).* This parcel is owned by the St. Johns River Water Management District (SJRWMD) and the City of Jacksonville. The property currently does not have public use facilities or access along the project corridor, but does have plans for future recreational use. The Wright Property, within this project corridor, has been determined by local officials and by the agencies during the ETDM Programming Screen to be significant. However, the project will not have any impact on this property as shown in **Figure 3-5.** The Wright Property is adjacent to the proposed roadway and the roadway will not intersect or require ROW from the Wright Property.

The Ogilvie/Baxley property of the Thomas Creek Preserve is 125.46 acres as shown in the *Thomas Creek Conservation Area Land Management Plan.* This undeveloped parcel is not a conservation property, but is owned by the City of Jacksonville and managed by the SJRWMD until the city has a designated use for it. The property currently does not have public use facilities or access along the project corridor, but the City does have plans for future passive recreational use. The proposed project would require a 90-foot wide strip of ROW from the Ogilvie/Baxley property or approximately 3.663 acres.

The City of Jacksonville and FDOT began coordination on this project on November 4, 2010, during the initial phases of the PD&E Study. At this initial meeting, FDOT and City of Jacksonville discussed the undeveloped Ogilvie/Baxley parcel. A follow-up meeting was held on April 8, 2011, to further discuss the Ogilvie/Baxley parcel and how the JNCAR would provide the desired access to the parcel. The City of Jacksonville provided FDOT with a conceptual layout of trailheads located on either side of the proposed alignment (**Figure 3-6**). Three subsequent meetings were held on April 19, 2012, May 2, 2012, and June 11, 2012, in addition to the Public Information Meeting that was held on June 2, 2011. These meetings were to further discuss the proposed trailheads and access provided by JNCAR. FDOT committed to provide the City of Jacksonville with the funding to construct the proposed trailheads. In addition, drainage structures placed along the new roadway, on the east side of the Ogilvie/Baxley property will facilitate wildlife passage of small species between local and state recreational lands. FDOT will design JNCAR to provide paved shoulders for bicyclists and pedestrians.

As a result of this coordination, FDOT has designed the JNCAR between Lannie Road and 1.7 miles east of the Lannie Road intersection, shown in **Figure 2-3**, to provide a minimized urban typical section with dedicated 11-foot travel lanes, four-foot bike lanes, curb & gutter, and six-foot sidewalks, as shown in **Figure 2-6**. The provision for bike lanes and sidewalks will allow additional access to the future facilities to be provided at the Ogilvie/Baxley property. All of these features will enhance this city-owned parcel and are consistent with City of Jacksonville's plans for the Ogilvie/Baxley property.

Figure 3-6 Section 4(f) Lands



The City of Jacksonville will provide approximately 90 feet of ROW along the eastern property line of the Ogilvie/Baxley parcel to build the JNCAR. The City of Jacksonville and FDOT will continue to work together in order to facilitate the future goals for the Ogilvie/Baxley parcel. This information is documented in a letter from the City of Jacksonville dated August 8, 2012, located in **Appendix D**.

The FDOT prepared a Statement of Significance Letter for the Ogilvie/Baxley property and provided this letter to the City of Jacksonville for concurrence on April 21, 2014. On April 22, 2014, the City of Jacksonville provided concurrence with the determination that the Ogilvie/Baxley site is not a significant facility and that there will be no use of this resource due to the implementation of the proposed project (**Appendix D**).

In summary, FDOT does not believe that Section 4(f) applies to this resource for the following reasons:

- In a Statement of Significance letter, signed April 22, 2014, the City of Jacksonville concurred that the Ogilvie/Baxley property is not a significant facility and that there will be no use of this resource due to the implementation of the proposed project.
- There is currently no public access provided to the parcel.
- The parcel is not currently open to the public and public use facilities have not been constructed, but are planned for the future.
- Future public use facilities may include a passive recreational area including trails for walking, jogging and hiking, providing access to the unique ecosystems of the site.
- Parking and other potential facilities have not yet been determined.
- FDOT has worked with the City of Jacksonville during the planning of the JNCAR project and has committed to provide the City with funding to construct the proposed trailheads.
- Placement of drainage structures along the new roadway, on the east side of the Ogilvie/Baxley property will facilitate wildlife passage of small species between local and state recreational lands.
- FDOT has designed the JNCAR to provide a minimized urban typical section in this area with a dedicated four-foot bike lane and a six-foot sidewalk in each direction. The provision for bicyclists and pedestrians will allow additional access to the future facilities to be provided at the property.

All of these features will enhance the planned property and are consistent with the City of Jacksonville's plans for the Ogilvie/Baxley property.

FDOT transmitted the *Determination of Applicability (2014) (*DOA) to the FHWA on April 28, 2014. The FHWA determined in an e-mail dated May 12, 2014 that these two properties are Section 4(f) resources. FHWA concurred that the proposed route as described and depicted in the Section 4(f) DOA submittal will not impact the Thomas Creek Preserve Wright Property therefore there is no Section 4(f) involvement with this resource. FHWA determined that based on the current property condition, the opinion of the official with jurisdiction, and the concurrent, or joint planning and development of the roadway and resource development, there is no Section 4(f)

use of the Ogilvie/Baxley property. A copy of the FHWA determination e-mail is included in **Appendix D** of this report.

3.2.1.2 Jacksonville National Cemetery

The Jacksonville National Cemetery (8DU21717) has recently been determined eligible for listing in the National Register of Historic Places (NRHP) by the FHWA and the State Historic Preservation Office (SHPO). The approximately 542 acre cemetery was established in 2008/2009 and is eligible under Criteria A for its contribution to the broad patterns of our history with significance as a national place for burial and commemoration to the military history of the United States. It also meets NRHP Criterion Considerations D for cemeteries and G for resources less than 50 years of age. The cemetery consists of three parcels of varying sizes. Only one parcel, (Parcel A which is approximately 82 acres), is developed and currently used for burials (see **Figure 3-7**). Parcel A is considered contributing to the NRHP-eligibility for this cemetery. Parcels B and C are not currently developed as part of the cemetery and are planned for future use. The proposed access road will cross undeveloped portions of 8DU21717 and will not encroach upon contributing elements of the resource, therefore it is the opinion of the FDOT, in consultation with FHWA that the proposed undertaking will have "no adverse effect" on historic properties.

The project proposes to use 6.17 acres of the cemetery property that has been identified as permitted mitigation or conservation lands for the Jacksonville National Cemetery. The property needed for the proposed access road and pond is shown in **Figure 3-8**. As a result of coordination, FDOT has committed to provide an additional 6.17 acres of land on the Jacksonville National Cemetery property for development that was previously permitted for mitigation or conservation, located east of the proposed road. In coordination with the VA, FDOT will modify the existing WMD permit releasing property for VA development and use. To offset this release FDOT will obtain and fund the mitigation credits in an appropriate mitigation bank.

The FDOT is seeking a Section 4(f) *de minimis* finding for the Jacksonville National Cemetery property from the FHWA. A Section 4(f) *de minimis* finding is one that the FHWA has determined, in accordance with 36 CFR Part 800, that no historic property is affected by the project or that the project will have "no adverse effect" on the historic property in question. On March 21, 2016, FDOT notified the VA, in coordination with the FHWA, of the intent to pursue a Section 4(f) *de minimis* finding for the use of the Jacksonville National Cemetery property, in accordance with 23 CFR Part 774. The VA concurred with the finding of "no adverse effect" and the Section 4(f) *de minimis* process. These letters are located in **Appendix D.**

In the upcoming months, the FDOT will hold a Public Hearing to present the Recommended Alternative. The Public Hearing will also provide the opportunity for public review and comment on the Section 106 and Section 4(f) effects of the proposed project on the Jacksonville National Cemetery. The project record will reflect these comments.

The Jacksonville National Cemetery property is also discussed later in **Section 3.2.2**.

Figure 3-7 Contributing and Non-contributing Areas of the Jacksonville National Cemetery Property

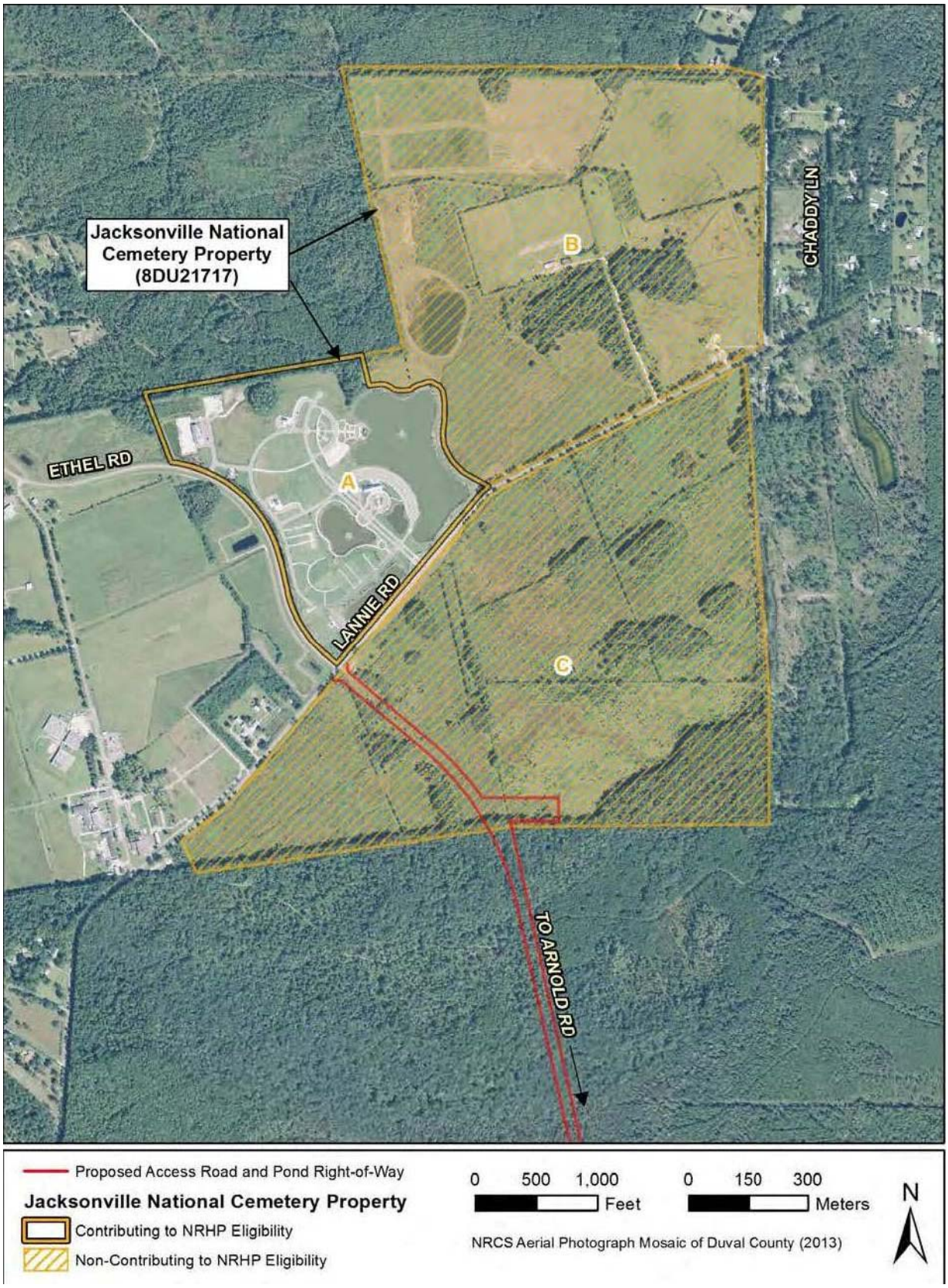
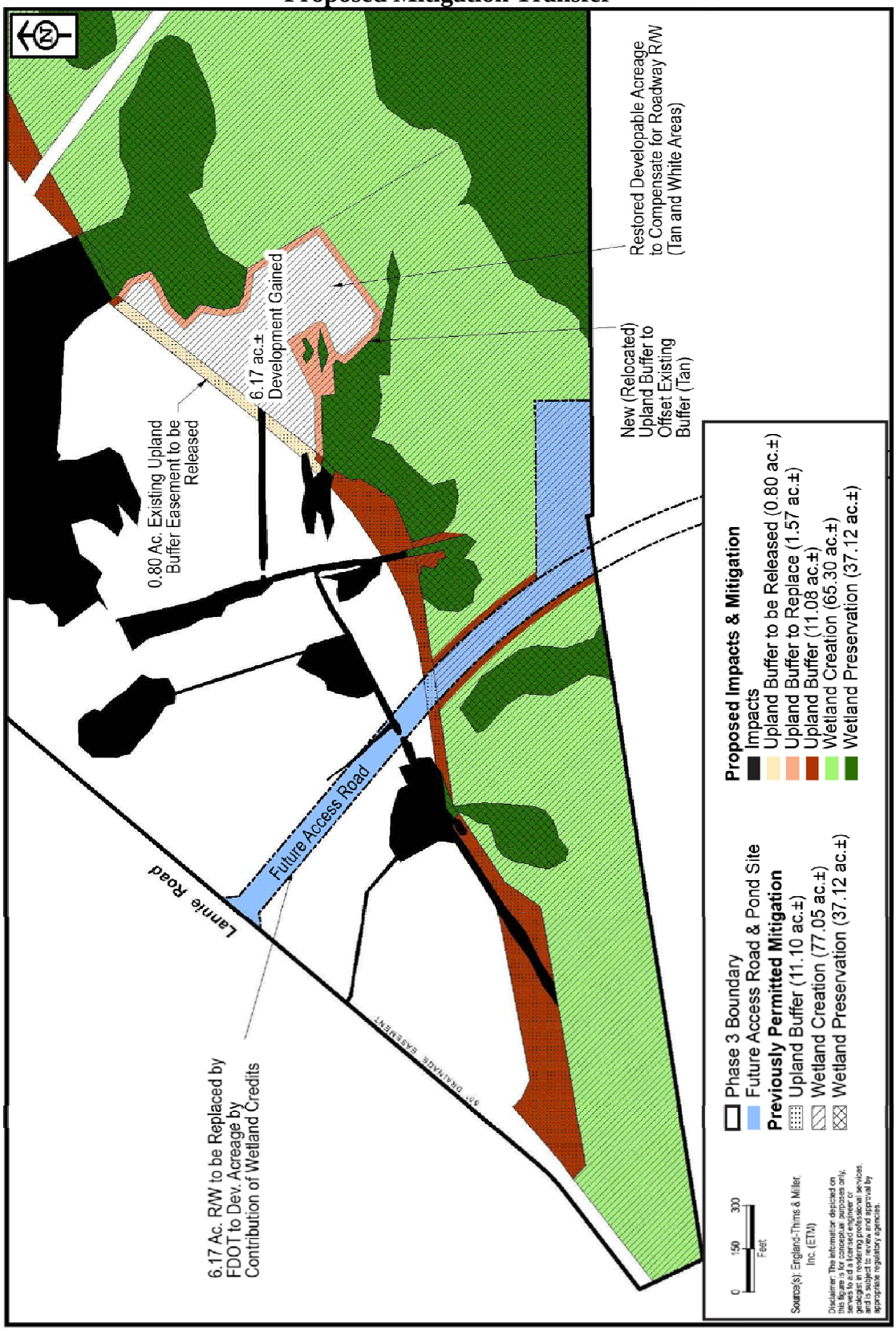


Figure 3-8 Location of Jacksonville National Cemetery Property and Proposed Mitigation Transfer



3.2.2 HISTORIC SITES/DISTRICTS

A Cultural Resource Assessment, conducted in accordance with the procedures contained in *36 CFR Part 800* and including background research and a field survey coordinated with the State Historic Preservation Officer (SHPO), was performed for the project. This included several different surveys as described below. The FHWA, after consultation with the SHPO, has determined that the proposed project would have no adverse effect to resources listed or eligible for listing on the National Register of Historic Places (NRHP). The FHWA and SHPO coordination letters are shown as **Appendix G**.

A *Final Cultural Resource Assessment Survey* (CRAS) *(2011)* was prepared for the proposed roadway in order to comply with Section 106 of the National Historic Preservation Act of 1966 (Public Law 89-665), as amended, and the implementing regulations *36 CFR 800* (revised August 2004) and *Chapter 267 Florida Statutes*. The purpose of the survey was to locate, identify, and bound any historic structures and historic districts within the project area and assess their potential for listing in the NRHP. The project Area of Potential Effect (APE) for historic sites and districts was developed to consider any visual, audible, and atmospheric effects that the project may have on historic properties. The APE was defined to include the proposed roadway ROW in addition to a 500-foot buffer to either side of the proposed centerline.

One historic resource, 8DU21331 (Arnold Road Bridge), was recorded within the APE. The bridge is illustrated in **Figure 3-9**. The bridge is a simple wooden bridge, dating from the 1960s or later, and is considered ineligible for listing in the NRHP due to its lack of architectural distinction or significant historical associations. No potential NRHP districts were identified due to the lack of historic structures. The Final *CRAS* was submitted to FHWA on November 10, 2011. FHWA approved the document on December 28, 2011 and submitted it to the SHPO for review and concurrence. On January 12, 2012, SHPO concurred with the findings of the CRAS (**Appendix G**).

A CRAS of the seven proposed ponds along the proposed roadway corridor was conducted and documented in a *Technical Memorandum CRAS of Ponds (2015)*. No historic structures were identified within the JNCAR Ponds APE. The *Technical Memorandum CRAS of Ponds* was submitted to FHWA on April 6, 2015. FHWA approved the document on April 13, 2015 and submitted it to the SHPO for review and concurrence with the findings. On April 23, 2015, SHPO concurred with the findings of the *Technical Memorandum CRAS of Ponds* (**Appendix G**).

Figure 3-9 Resource 8DU21331, Facing Southeast

Finally, a CRAS to record and evaluate the Jacksonville National Cemetery's eligibility for listing in the NRHP and to discuss the effects that the proposed access road may have on NRHP-eligible (contributing) elements of the Cemetery was conducted and documented in the *Technical Memorandum - Evaluation of Effects Discussion for the Jacksonville National Cemetery (2016)*. A portion of the proposed ROW for the roadway corridor and pond locations is located on property owned and administered by the Jacksonville National Cemetery; however, this acreage is currently unimproved. NRHP Criteria Consideration D states "National Cemeteries administered by the Veterans Administration are eligible for listing in the NRHP because they have been designated by Congress as primary memorials to the military history of the United States…the age of the cemetery is not a factor in judging eligibility…" (National Register Bulletin [NRB] 15:36). Thus, while the Jacksonville National Cemetery has only been in operation since 2009, it meets the Criteria Consideration to be determined eligible for listing on the NRHP. However, the Criterion Consideration goes on to state that "A national cemetery or portion of a national cemetery that has only been set aside for use in the future is not eligible…" (NRB 15:36). A policy clarification paper published by the National Park Service (NPS) in 2011 further clarifies that "Unimproved acreage within the cemetery boundaries that is being held for future use is considered noncontributing…" (NPS 2011:2) (**Appendix G**).

The approximately 542 acre cemetery was established in 2009 and is eligible under Criteria A for its contribution to the broad patterns of our history with significance as a national place for burial and commemoration to the military history of the United States. It also meets NRHP Criterion Considerations D for cemeteries (as noted above) and G for resources less than 50 years of

age. The cemetery consists of three parcels of varying sizes. Only one parcel, (Parcel A which is approximately 82 acres), is developed and currently used for burials (see **Figure 3-7**). Parcel A is considered contributing to the NRHP-eligibility for this cemetery. Parcels B and C are not currently developed as part of the cemetery and are planned for future use. The proposed access road will cross undeveloped portions of 8DU21717 within Parcel C and will not encroach upon contributing elements of the resource.

Based on the survey results the proposed project will have no adverse effect on cultural resources listed or eligible for listing in the NRHP. The *Technical Memorandum - Evaluation of Effects Discussion for the Jacksonville National Cemetery* was submitted to FHWA on February 8, 2016. FHWA determined on March 9, 2016 that the Jacksonville National Cemetery is eligible for listing in the NRHP, however, only Parcel A is considered contributing, and the proposed undertaking will have "no adverse effect" on historic properties. FHWA submitted the document to the SHPO for review and concurrence with the findings. On April 14, 2016, SHPO concurred with the findings (**Appendix G**).

3.2.3 ARCHAEOLOGICAL SITES

In accordance with the same regulations and procedures as listed in **Section 3.2.2**, a CRAS was conducted to locate, identify, and bound any archaeological resources within the project area and assess their potential for listing in the NRHP. Based on the CRAS results described below, the proposed project will have no effect on archaeological sites that are listed or eligible for listing in the NRHP. The FHWA, after consultation with the SHPO, has determined that the proposed project would have no effect on archaeological sites listed or eligible for listing on the NRHP. The FHWA and SHPO coordination letters are shown as **Appendix G**.

A *Final* CRAS *(2011)* was prepared for the proposed roadway. The archaeological APE was defined to include the proposed roadway ROW. The archaeological survey included the excavation of 46 shovel tests within the proposed roadway ROW for the access road. Shovel tests were excavated at 100-meter intervals except in areas of standing water; several such areas were encountered within the east–west portion of the proposed roadway ROW west of Arnold Road. No artifacts were recovered from any of the 46 shovel tests, and no archaeological sites or occurrences were identified within the proposed roadway ROW. The Final *CRAS* was submitted to FHWA on November 10, 2011. FHWA approved the document on December 28, 2011 and submitted it to the SHPO for review and concurrence. On January 12, 2012, SHPO concurred with the findings of the CRAS (**Appendix G**).

A cultural resource assessment survey of the seven proposed ponds along the proposed roadway corridor was conducted and documented in a *Technical Memorandum CRAS of Ponds (2015).* The archaeological survey included the excavation of 23 shovel tests within the proposed ponds. No artifacts were recovered from any of the shovel tests excavated within the proposed ponds within the JNCAR Ponds APE. The *Technical Memorandum CRAS of Ponds* was submitted to FHWA on April 6, 2015. FHWA approved the document on April 13, 2015 and submitted it to the SHPO for review and concurrence with the findings. On April 23, 2015, SHPO concurred with the findings of the *Technical Memorandum CRAS of Ponds* (**Appendix G**).

Since there were no archaeological sites identified, there were no resources requiring coordination with Native American Tribes.

3.2.4 RECREATIONAL AREAS

There are no existing parks or recreational facilities in the project area. The Wright Property of the Thomas Creek Preserve currently does not have public use facilities or access along the project corridor, but there are plans for future recreational use. The Wright Property is adjacent to the proposed roadway and the roadway will not intersect or require ROW from the Wright Property. The Ogilvie/Baxley property of the Thomas Creek Preserve also currently does not have public use facilities or access along the project corridor, but does have plans for future passive recreational use. The FDOT will acquire approximately 90 feet of ROW from the Ogilvie/Baxley property for the proposed project. These properties are shown in **Figure 3-6,** and are discussed in detail in **Section 3.2.1**.

3.3 NATURAL

3.3.1 WETLANDS

In accordance with *Presidential Executive Order 11990,* and using assessment methodology, evaluation procedures, and document preparation guidance found in the FHWA's *Technical Advisory T6640.8A, Title 23, CFR, Part 777, and Part 2, Chapter 18* of the FDOT's *Project Development and Environment Manual,* consideration was given to the protection of wetland resources. A *Final Wetlands Evaluation Report (WER)* (2015) has been prepared for this project. Information from the assessment is included in the WER and the findings within this report.

Project wetlands were identified and classified using definitions and guidelines contained in the FDOT's *Florida Land Use, Cover and Forms Classification System (1999)* (FLUCFCS). Also, the United States Army Corps of Engineers' (USACE) *Wetland Delineation Manual (2010)* and its recent supplements, the *Florida Wetlands Delineation Manual (1995),* and several field guides aided in the identification of project wetlands. The attributes of the three parameters of vegetative composition, hydrologic regime, and soil classification determine to be within the wetland definition or not: "Those areas that are inundated or saturated, with surface of ground water, at a frequency and duration, sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adopted for life in saturated soil conditions."

3.3.1.1 Existing Wetland Communities

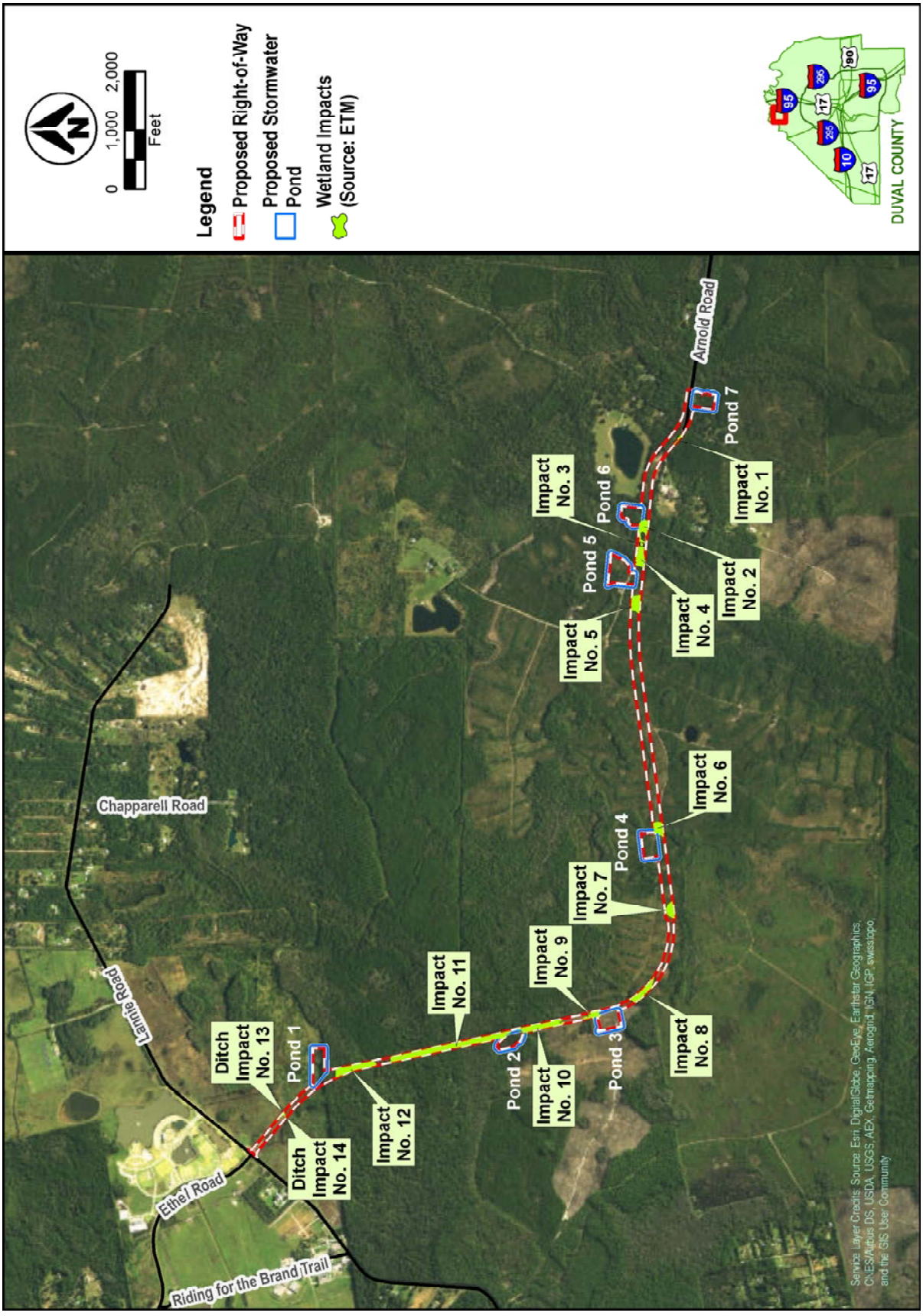
Wetlands, and other surface waters as defined and regulated by SJRWMD and USACE, exist throughout the Build Alternative study corridor. Wetlands and other surface waters include ditches, ponds, wet prairies, coniferous wetlands, sloughs, and a creek.

All habitats within this corridor were inspected and classified. FLUCFCS was used to classify and describe land cover and use within the study area. The documented land uses within the study area (listed in order of decreasing prevalence) are, Coniferous Plantations (441), Improved Pastures (211), Hardwood-Conifer Mixed (434), Mixed Wetland Hardwoods (617), Wetland Coniferous Forests (620), Inland Ponds and Sloughs (616), Stream and Lake Swamps (615), Wet Prairies (643), Roads and Highways (814), Wet Coniferous Plantations (441w), Cypress (621), Pine-Mesic Oak (414), Temperate Hardwoods (425), and Upland Cut Ditches (511).

3.3.1.2 Wetlands and Other Surface Waters

Individual wetlands in the Build Alternative corridor were given identification numbers and are shown on the Wetland Impacts Map on **Figure 3-10**. Detailed maps can be found in **Appendix H**. The individual wetlands that correspond to each habitat type are indicated in the habitat descriptions below.

Figure 3-10 Wetlands Impact Map



Wetland Coniferous Plantations (441w)
This habitat is similar in vegetative composition to the upland coniferous plantation community with a dense artificial canopy of planted slash pine and loblolly pine. However, the hydrologic indicators, wetland understory vegetation, and hydric soils present classify this community as a jurisdictional wetland.

Upland Cut Ditches (511)
A small and narrow ditch runs through the fallow pasture near the western end of the Build Alternative. It contains dogfennel, smartweed, and soft rush (*Juncus effusus*).

Stream and Lake Swamps (Bottomland) (615)
This habitat occurs in only one location – an unnamed creek near the eastern end of the project. A defined channel is present, with perennial flowing water. Typical species include Carolina ash (*Fraxinus caroliniana*), swamp tupelo (*Nyssa sylvatica* var. *biflora*), bald cypress (*Taxodium distichum*), red maple (*Acer rubrum*), and beaksedges (*Rhynchospora* spp.).

Inland Ponds and Sloughs (616)
The deepest parts of the large slough near the western end of the Build Alternative consist of this habitat. No defined channel is present, and perennial flowing water is absent, but signs of seasonal sheet flow (visible seasonal high water marks on tree trunks) are present. Dominant species include swamp gum, shiny lyonia, buttonbush (*Cephalanthus occidentalis*), and blue flag (*Iris virginica*). The habitat appears to be less frequently inundated than the Stream and Lake Swamps habitat.

Mixed Wetland Hardwoods (617)
This habitat type lacks perennial flow, a defined channel, and signs of sheet flow. Typical species include bluestem palmetto (*Sabal minor*), swamp chestnut oak (*Quercus michauxii*), elm (*Ulmus americana*), sweetbay magnolia (*Magnolia virginiana*), hornbeam (*Carpinus caroliniana*), and laurel oak. This habitat type occurs in several areas, and usually represents the floodplain of the deeper wetland habitats of Stream and Lake Swamps and Inland Ponds and Sloughs.

Wetland Coniferous Forests (620)
This habitat type occurs within the pine plantations in the center of the Build Alternative corridor. While often shaped like cypress domes, these wetlands contain a mix of species. They are dominated by slash pine and pond cypress (*Taxodium ascendens*), and also contains red maple, maidencane (*Panicum hemitomon*), and swamp tupelo.

Cypress Wetlands (621)
A single cypress dome occurs within the Build Alternative (Wetland 18). It is similar to the Wetland Coniferous Forests (620), but pond cypress is more dominant. Other species include chain fern (*Woodwardia virginica*), xyris (*Xyris carolinana*), and maidencane.

Wet Prairies (643)
In young Coniferous Plantation or Forest Regeneration habitats, open wet areas often fringe forested domes or occur surrounded by open upland areas. Dominant species include hypericum (*Hypericum fasciculatum*), xyris, maidencane, blue maidencane (*Amphicarpum muhlenbergianum*), broomgrass, and beaksedges.

3.3.1.3 UMAM Analysis

A Uniform Mitigation Assessment Method (UMAM) analysis was performed and an assessment value for each wetland habitat potentially impacted within the Build Alternative corridor was assigned. All of the matrix assessment scores were assigned in accordance with the guidelines outlined in *Chapter 62-345, FAC*, (February 2, 2004). The resultant scores and analyses are presented in the WER Appendices. These representative UMAM scores will be reevaluated at the time of permitting based on the specific areas that would be proposed to be impacted. Final UMAM scores can only be prepared in conjunction with the regulatory agencies during the permitting process.

3.3.1.4 Wetland Impacts

For the purpose of this study, two types of potential wetland impacts (direct and secondary) were considered. It is presumed that all wetland areas within the actual proposed Build alternative ROW will be directly impacted. Secondary impacts may occur to remaining wetlands outside of the ROW. For purposes of this assessment, wetlands within an area extending 300 feet on either side of the ROW have been identified as wetlands potentially being secondarily impacted during wetland permitting are approximately 64.88 acres.

Each proposed impact area was scored individually, even in the instances in which one impact includes multiple FLUCFCS-defined habitats. The scores are independent of the habitat type (as expressed by FLUCFCS code), as each area is unique. The estimated functional loss resulting from the build alternative's direct wetland impacts was determined by multiplying the acreage of each impact area by its score, and summing all the resultant functional losses. Functional losses due to secondary impacts are not calculated in this report. They are variable and are based on the final design and site conditions at the time of permitting. The UMAM scores are summarized in **Table 3-4**.

Table 3-4 Summary of Direct Wetland Impact Acreages and Functional Losses

Impact No.	FLUCFCS	UMAM DELTA	Direct Impact Area (acres)	Direct Impact Functional Loss (units)
1	617	0.40	0.11	0.044
2	617	0.83	0.94	0.783
3 (Shading Impacts)	615	0.53	0.09	0.048
4	617	0.83	0.99	0.825
5	620/643	0.67	0.92	0.613
6	620/643	0.57	0.76	0.431
7	621	0.63	0.64	0.405
8	620/643	0.63	0.98	0.621
9	620/643	0.60	0.48	0.288
10	617	0.77	1.5	1.150
11	615/616/617/441w	0.77	4.25	3.400
12	617	0.77	1.67	1.392
Direct Impact Total			**13.33**	**10.000**
Upland-Cut Ditch Impacts				
13	511	-------	0.09	0.000
14	511	-------	0.01	0.000
Direct and Upland-Cut Ditch Impact Total			**13.43**	**10.000**

Based on past and recent findings the proposed road is expected to have unavoidable impacts on wetlands. The proposed road is expected to directly impact a total of approximately 13.43 acres of wetlands and other surface waters and require mitigation. Based on the Build alternative, the direct and shading impacts would result in approximately 10.000 UMAM units of functional loss being needed for mitigation purposes. Additional functional loss and mitigation requirements will be associated with the secondary impacts, which will be determined as part of the permitting process.

3.3.1.5 Avoidance and Minimization

Avoidance and minimization of wetland impacts has been employed to the maximum extent practicable through the Quality Enhancement Strategies process. The project has been designed to avoid wetland impacts where practicable, although complete avoidance would make the project impracticable. Many of these wetlands proposed to be impacted are degraded in comparison to natural habitat due to grazing, nutrient-loading and/or hydrological alterations associated with the current land uses. The original direct wetland impacts were estimated to be 17.70 acres, while the secondary impacts were estimated to be 98.23 acres. In an effort to reduce wetland impacts, no wetlands are proposed to be impacted for the construction of stormwater management facilities. In addition, a significant portion of the proposed alternative has now been designed with curb and gutter, which reduces the footprint of the roadway by 40 percent from 150 feet to 90 feet. The eastern portion of the road will remain a rural road typical section. In addition to the curb and gutter design alternative, the unnamed tributary of Seaton Creek, a forested, freshwater wetland,

is now proposed to be bridged. Native vegetation will be used to stabilize exposed soil in the immediate vicinity of the wetland. Impervious surface runoff will be treated before discharge into the tributary. The impact and functional loss to this forested, freshwater wetland system has been reduced by the greatest degree practicable. Only shading impacts and canopy loss will be incurred, reducing the functional loss from the original estimate to the current estimate of only 0.048 UMAM units for Impact 3. During final bridge design, this impact may be further reduced by additional design modifications. In addition, the wetland habitat that will be lost as a result of unavoidable impacts will be compensated for through the purchase of mitigation bank credits.

3.3.1.6 Wetland Mitigation (Conceptual)

Wetland impacts which will result from the construction of this project will be mitigated pursuant to *Section 373.4137, F.S.* to satisfy all mitigation requirements of *Part IV. Chapter 373, F.S.* and *33 U.S.C.s. 1344*. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.

Subsection 373.4137(4), F.S., requires the District to consider the use of permitted mitigation banks in developing the FDOT mitigation plan. All proposed impacts will be offset through the purchase of mitigation bank credits from Northeast Florida Wetland Mitigation Bank or Longleaf Mitigation Bank. Northeast Florida Wetland Mitigation Bank and Longleaf Mitigation Bank are located in the same watershed basin as the proposed project, and will therefore be appropriate mitigation and will not result in cumulative impacts to the watershed. All mitigation proposed will be completed in compliance with, and to the satisfaction of, all state and federal regulatory requirements. In addition to the mitigation bank credits, an existing wooden bridge over the unnamed tributary of Seaton Creek will be removed, along with all fill material within the floodway. The area will be graded to mimic natural grade and planted with approved species. Removing the bridge and restoring the wetland and upland area back to its natural conditions will restore lost functions and values of the wetland, therefore off-setting some of the wetland impacts. The USACE and SJRWMD will negotiate mitigation during the permitting process at which time the mitigation value of restoring the wetland will be determined. Impacts to water quality, will be controlled and minimized by utilizing Best Management Practices (BMPs), including the use of silt screens, floating turbidity barriers, etc. as appropriate with regular inspection and maintenance.

3.3.1.7 Anticipated Permits Required

USACE and SJRWMD have jurisdiction over potentially affected wetlands and will require permits for the proposed roadway construction. Due to differences in jurisdiction and UMAM interpretation, differences in mitigation requirements may occur between the two agencies. Coordination with the regulatory agencies will continue through the design phase to evaluate permitting and mitigation requirements. It is anticipated that permitting will require an Environmental Resource Permit (ERP) from SJRWMD and the applicable Section 404 Permit from USACE.

Any project that results in the clearing of one or more acres of land will require a National Pollutant Discharge Elimination System (NPDES) permit form the Environmental Protection Agency (USEPA), pursuant to *40 CFR parts 122* and 124. In association with this permit, a Stormwater Pollution Prevention Plan (SWPPP), which will be implemented during the construction of the project, will also be required. The primary functions of the NPDES requirements are to ensure that

sediment and erosion during construction of the project is controlled. These permits typically utilize BMPs to ensure compliance.

As a result of coordination, FDOT has committed to provide an additional 6.17 acres of land on the Jacksonville National Cemetery property for development that was previously permitted for mitigation or conservation, located east of the proposed road. In coordination with the VA, FDOT will modify the existing WMD permit releasing property for VA development and use. To offset this release FDOT will obtain and fund the mitigation credits in an appropriate mitigation bank.

3.3.1.8 Agency Coordination

Early agency coordination was accomplished through the ETDM Programming Screen. Initially, several alternatives extending from I-95 to Lannie Road were screened as ETDM #13064. In 2010, members of the ETAT commented on the expected DOE on resources. The ETAT provided comments concerning wetlands, wildlife, and habitat which are addressed in **Table 4-1**.

On January 23, 2012, FDOT forwarded copies of the original *WER* and *Endangered Species Biological Assessment (ESBA)* to United States Fish and Wildlife Service (FWS) and requested agency concurrence with the findings regarding federally listed species. On February 29, 2012, FWS provided a letter detailing comments under the Endangered Species Act (ESA) and Fish and Wildlife Coordination Act (FWCA). The ESBA and WER were updated to contain additional information in response to FWS and submitted back to FWS on April 10, 2015 for concurrence. FWS provided concurrence on July 29, 2015 (**Appendix I**).

3.3.2 AQUATIC PRESERVES

Aquatic Preserves are designated as such, in order to maintain an area in an essentially natural or existing condition so that their aesthetic, biological, and scientific values may endure for the enjoyment of future generations (*Section 258.36, F.S.*). The project is not located within a designated Aquatic Preserve as per the FDOT *Project Development and Environment Manual,* Part 2 Chapter 19.

3.3.3 WATER QUALITY

A *Water Quality Impact Evaluation (2015)* (*WQIE*) checklist has been completed for this project. No significant degradation of water quality is anticipated. During the design and permitting phase of the project, coordination with appropriate environmental agencies would be carried out. The proposed roadway improvements will include a stormwater treatment system. The stormwater management facility design will include, at a minimum, the water quantity requirements for water quality impacts as required by the SJRWMD in *Chapter 40C-41, F.A.C.* and the United States Environmental Protection Agency (USEPA). Therefore, no further water quality mitigation measures will be needed.

3.3.4 OUTSTANDING FLORIDA WATERS

Outstanding Florida Waters (OFW's) are designated and specially protected because of their natural attributes. (*Section 403.061, F.S.*). Based on a review of the project, no OFW's were identified within the JNCAR project limits. No further documentation is required as per the FDOT *Project Development and Environment Manual,* Part 2, Chapter 21.

3.3.5 WILD AND SCENIC RIVERS

Within the project area, there are no Wild and Scenic Rivers as listed in the FDOT *Project Development and Environment Manual*, Part 2, Chapter 23 (Revised January 8, 2008), Wild and Scenic Rivers.

3.3.6 FLOODPLAINS

The project has been developed and evaluated in accordance with *Executive Order 11988*, "Floodplain Management", *USDOT Order 5650.2*, "Floodplain Management and Protection", and *Federal-Aid Policy Guide 23 CFR 650A*. Impacts to floodplains from the proposed improvements have been considered.

The *Final Location Hydraulic Report (2015)* (LHR) documents any potential significant impacts to floodplains caused by the Build Alternative. The project will be designed consistent with the local FEMA, FDOT, and SJRWMD design guidelines. **Figure 3-11** illustrates the relationship of the Build Alternative to the flood hazard areas.

The following items have been addressed to document that the floodplain encroachments of the Build Alternative will be minimal.

- History of Flooding: JNCAR is a proposed new alignment roadway that will be elevated above the 100-year floodplain. No roadway flooding is anticipated with the proposed project.

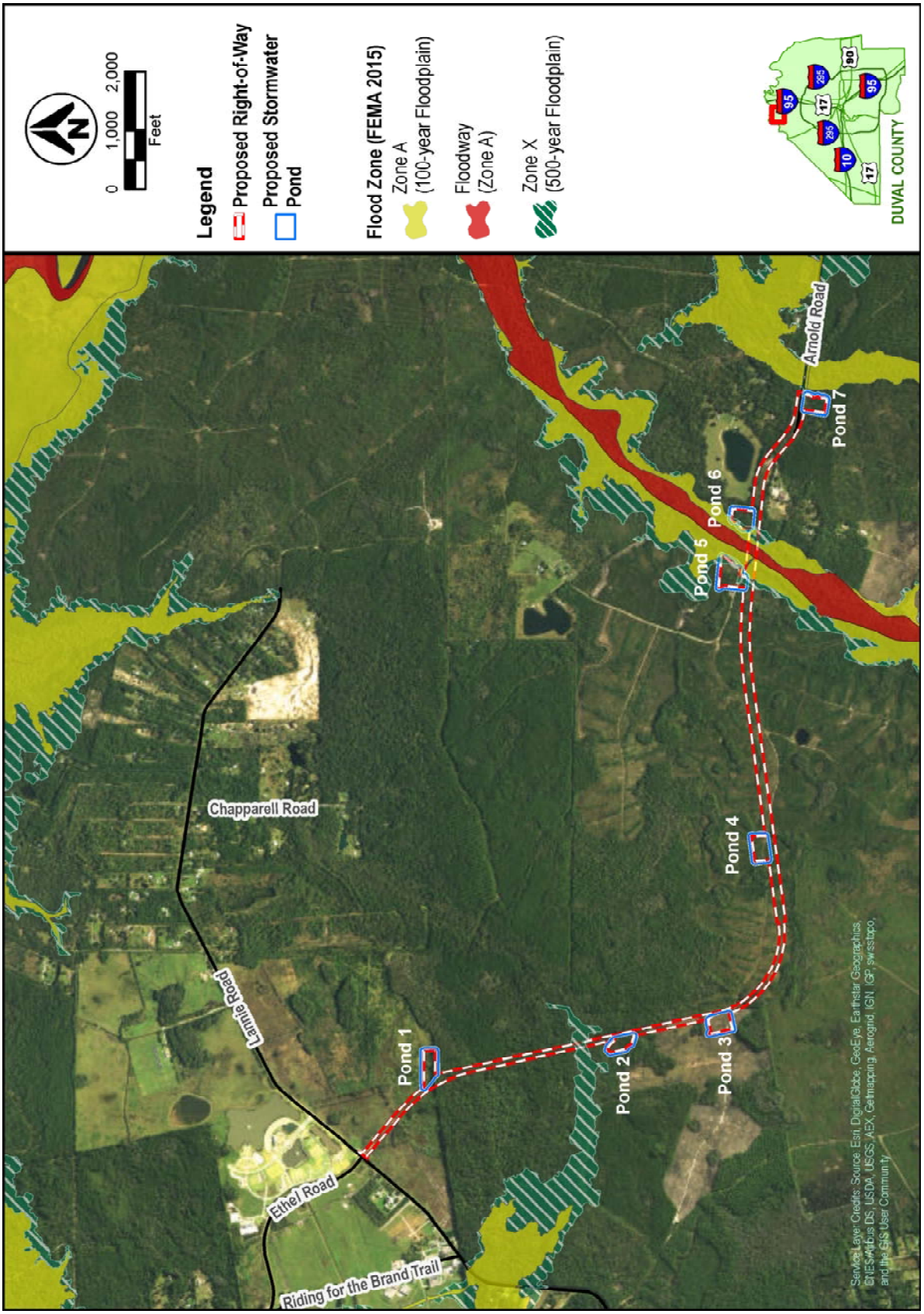
- Longitudinal or Transverse Encroachments: The Build Alternative has a transverse encroachment of Seaton Creek Tributary 1. There are no longitudinal floodplain encroachments.

- Avoidance Alternatives: The Build Alternative has been developed to minimize the number of waterway crossings.

- Emergency Services and Evacuation: The proposed project improves mobility for emergency services and emergency evacuation.

- Base Flood Impacts: The project will be designed consistent with the current local (FEMA), FDOT, and St. Johns River Water Management District (SJRWMD) design guidelines. Therefore, no significant changes in base flood elevation or limits will occur. The project crosses the floodplain of Seaton Creek Tributary 1, which has a FEMA regulatory floodway. In February 2015, a bridge hydraulics report was prepared for this crossing. The report indicates an 87 feet long bridge should meet the FEMA requirement for "No-Rise" to the floodway. The bridge will consist of 3-29 feet spans with sloping abutments. A No-Rise analysis was submitted to the local FEMA agency (City of Jacksonville) for this crossing.

Figure 3-11 Flood Zone and Floodway Location Map



Drainage structures conveying non-regulatory floodplains will be sized to generate less than 0.1 feet increase in backwater during a 100-year flood event. Volumetric floodplain calculations will be done as needed during the design phase for floodplain encroachments to be consistent with local (FEMA) floodplain regulations and water management district regulations.

- Regulatory Floodways: The Build Alternative crosses the FEMA regulatory floodway of Seaton Creek Tributary 1.

The construction of the drainage structure(s) proposed for this project outside of the Regulatory Floodway 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 will be designed in accordance with pertinent state and local regulations and have been discussed with the appropriate regulatory authorities who have concurred with the determination that there will be no significant impacts.

There will be no fill placed within Regulatory Floodways and crossings of such Floodways will be designed to produce no rise in the base flood elevation, no rise in the floodway elevation, and no reduction in the floodway width. There will be no adverse impact to the natural and beneficial floodplain values and no change in flood risk or damage. A "No Rise" analysis for the crossing of the Floodway was submitted to the City of Jacksonville.

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.

3.3.7 COASTAL ZONE CONSISTENCY

The State of Florida has determined, through the AN process, that this project is consistent with the Florida Coastal Zone Management Plan (FCMP) and, therefore has no objections to allocation of federal funds for the subject project. To insure the project's continued consistency with the FCMP, the concerns identified by the reviewing agencies must be addressed prior to project implementation. The state's continued concurrence with the project will be based on the activity's compliance which FCMP authorizes, including federal and state monitoring of the activity to ensure its continued conformance, and the adequate resolution of issues identified during subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting process in accordance with *Section 373.428, Florida Statutes*.

3.3.8 COASTAL BARRIER RESOURCES

Coastal Barrier Resource System (CBRS) and Other Protected Area (OPA) maps were reviewed to determine if any CBRS or OPA units are within the project vicinity. It was determined that this project is not located in the vicinity of, nor leads to, a coastal barrier resource unit as defined by the Federal Coastal Barrier Resources Reauthorization Act of 1999. Therefore, the provisions of the *Coastal Barrier Resources Act, Public Law 97-348 (96 Stat. 1653; 16 U.S.C. 3501 et seq.)*, enacted October 18, 1982, and the Coastal Barrier Improvement Act of 1990 do not apply.

3.3.9 WILDLIFE AND HABITAT

This project was evaluated for impacts to wildlife and habitat resources, including both federally protected and other listed species including proposed/candidate species or their designated Critical Habitat, in accordance with *Section 7(c) of the Endangered Species Act (ESA)* of 1973, as amended, and FDOT *Project Development and Environment Manual*, Part 2, Chapter 27: Wildlife and Habitat Impacts (October, 1991). The *Final Endangered Species Biological Assessment (2015)* was prepared as part of the overall PD&E study. A supplemental assessment of pond site alternatives was completed in December 2014. Information from this assessment is included in the ESBA and the findings within this report.

State and federally listed wildlife that may occur in Duval County were obtained from the Florida Natural Areas Inventory (FNAI), Florida Fish and Wildlife Conservation Commission (FWC), and the United States Fish and Wildlife Service (FWS).

Literature reviews, agency database searches, agency coordination, and field surveys of potential habitat areas were conducted to identify federally-listed species potentially occurring within the project area. The Jacksonville Duval County Soil Survey, recent aerial photographs, and FLUCFCS data were reviewed to determine habitat types occurring within and adjacent to the project corridor.

A compilation of federal and state listed species, potential habitat availability, and probability of occurrence within the project corridor was developed and is detailed in **Table 3-5**. Each species is given a low, moderate, or high probability of occurrence rating within the project boundaries. Species with a low likelihood of occurrence within or adjacent to the project corridor are defined as those species that are known to occur in Duval County but preferred habitat is limited or nonexistent within the project corridor, or has been destroyed. Species with a moderate probability for occurrence are those species known to occur in Duval County, and for which suitable habitat is well represented within or adjacent to the project corridor, but no observations or positive indications exist to verify their presence. Species with a high likelihood for occurrence are suspected within the project corridor based on known ranges and existence of sufficient preferred habitat in the project corridor, are known to occur adjacent to the study area, or have been previously observed or documented within the project corridor.

There is no National Migratory Bird Area present within or adjacent to the study area.

Table 3-5 Listed Species with a Probability of Occurrence

Scientific Name	Common Name	Federal Status	State Status	Preferred Habitat	Habitat Occurred Within Project Corridor	Probability of Occurrence
Plants						
Balduina atropurpurea	Purple Honeycomb-head	-	LE	Wet flatwoods, savannas, seepage slopes, and ditches	Yes	Moderate
Calydorea coelestina	Bartram's Ixia	-	LE	Wet to mesic flatwoods	Yes	Moderate
Coelorachis tuberculosa	Piedmont Jointgrass	-	LT	Pond and marsh margins	Yes	Moderate
Ctenium floridanum	Florida Toothache Grass	-	LE	Wet flatwoods	Yes	Moderate
Drosera intermedia	Spoon-leaved Sundew	-	LT	Pond margins	Yes	Low
Litsea aestivalis	Pondspice	-	LE	Pond edges, maidencane marshes, cypress wetlands	Yes	Low
Schoenolirion croceum	Yellow Sunnybell	-	LE	Wet savannas, bogs, and seepage slopes	Yes	Moderate
Decapods						
Procambarus pictus	Black Creek Crayfish	-	SSC	Small streams originating in sandhill; mostly in Black Creek and Rice Creek drainages	Yes	Low
Reptiles						
Alligator mississippiensis	American Alligator	****SAT	FT(SA)	Freshwater lakes, rivers, and marshes	Yes	Low
Drymarchon corais couperi	Eastern Indigo Snake	LT	FT	Various natural habitats; linked to xeric habitats and gopher tortoise burrows	Foraging habitat (wetlands and mesic uplands) present; xeric habitat and tortoise burrows absent	**Low
Gopherus polyphemus	Gopher Tortoise	C	ST	Sandhill, scrub, dry flatwoods, dry ruderal areas	Some uplands may be marginally suitable	Low
Birds						
Aramus guarauna	Limpkin	-	SSC	Secluded flooded swamps	Yes	Moderate
Athene cunicularia floridana	Florida burrowing owl	-	SSC	Open dry fields and banks	Yes	Low
Egretta caerulea	Little Blue Heron	-	SSC	Coastal and freshwater waterways and wetlands	Yes	Moderate
Egretta thula	Snowy Egret	-	SSC	Coastal and freshwater waterways and wetlands	Yes	Moderate

Scientific Name	Common Name	Federal Status	State Status	Preferred Habitat	Habitat Occurred Within Project Corridor	Probability of Occurrence
Egretta tricolor	Tricolored Heron	-	SSC	Coastal and freshwater waters and wetlands	Yes	Moderate
Eudocimus albus	White Ibis	-	SSC	Coastal and freshwater waterways and wetlands	Yes	Moderate
Mycteria americana	Wood Stork	LE	LE	Freshwater waterbodies and wetlands, and estuarine	Yes	**Low/Moderate
Mammals						
Sciurus niger shermani	Sherman's Fox Squirrel	-	SSC	Sandhill, scrub, mature pine and oak uplands	Possibly suitable habitat occurs	Low
Ursus americanus floridanus	Florida Black Bear	-	ST	Various forested habitats	Yes	Moderate

Federal Legal Status:
C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
CH = Critical habitat designated.
LE = Endangered: species in danger of extinction throughout all or a significant portion of its range.
LT = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
SC = Not currently listed, but considered a "species of concern" to FWS.
State Legal Status:
FE = Federally Endangered.
FT = Federally Threatened.
FT(SA) = Federally Threatened due to similar appearance to another federally listed species.
ST = State Threatened.
SSC = State Species of Special Concern.
LE = Listed by the state as Endangered (plants).
LT = Listed by the state as Threatened (plants).
*Notes: **The proposed project's possible effects on these species were determined using the species' respective effect determination keys.*
*****These federally listed species are listed as occurring in Duval County by FNAI, but are not included on the FWS' official list of federally listed species in Duval County. Consequently, they are not included in the ESBA Report, which only discusses federally listed species from the FWS list.*

Federally Listed Species

No Federally-listed plant species are likely to occur in the build alternative corridor. Two Federally-listed wildlife species, the Eastern indigo snake and wood stork, have a low and moderate likelihood of occurrence within the study area, respectively.

- Eastern Indigo Snake (Drymarchon corais couperi): GIS resources that included unpublished data from the FWC were used to screen for potential indigo snake sightings

within or adjacent to the project corridor. No documented occurrences are known within five miles of the project corridor.

This species is dependent on xeric or dry habitat, and the habitat suitability is most easily determined by the presence of gopher tortoise burrows. No xeric habitats that are highly suitable for tortoises or indigo snakes were found in the corridor, but the uplands that are present were surveyed for the presence of these species. Since temperatures were above 60 degrees Fahrenheit, the indigo snake was likely to be active at the time of the survey, and may have been visible above ground.

No indigo snakes, xeric habitat, or gopher tortoise burrows were found. However, the project corridor contains large areas of undeveloped lands that may be suitable as foraging habitat for indigo snakes. The likelihood of occurrence of indigo snakes is low.

Based on the information available at this time, it is anticipated that this project "may affect, but is not likely to adversely affect" the Eastern indigo snake. If, during further investigations conducted prior to construction, it is determined that potentially occupied gopher tortoise burrows or other refugia that may be utilized by indigo snakes are present within the impact area, FDOT will adhere to all applicable requirements regarding the indigo snake.

FDOT is committed to the utilization of the Service's Survey Protocol for the Eastern Indigo Snake during the design/permits phases, if applicable, as well as the Standard Protection Measures (2013) during construction phase, if applicable. Furthermore, FDOT is committed to coordination with FWS as the project moves though subsequent project phases.

- Wood Stork (Mycteria americana): All wetlands in the corridor were surveyed for wood storks using visual and aural means. No wood storks were observed. However, wetlands within the project corridor may qualify as Suitable Foraging Habitat (SFH), and the project is within the Core Foraging Area (CFA) of two documented wood stork nesting colonies. These locations are shown in the ESBA. Because the wood stork may use any of the project's wetlands as foraging habitat, this species has been given a low/moderate likelihood of occurrence.

A USACE permit will be required for this project and as such wetland mitigation will be required and offered to offset the impacts to wetlands and potentially SFH. Based on the information available at this time, it is anticipated that the project "may affect, but is not likely to adversely affect" the wood stork.

- Gopher Tortoise (Gopherus polyphemus): The gopher tortoise has been listed as a Candidate species and is also listed as a state species. This status, however, does not afford it protection under ESA. This species is dependent on xeric or dry habitat, and its presence is indicated by the presence of its characteristic burrows. No gopher tortoises are documented within five miles of the site. During the site inspection on October 10, 2011, a preliminary survey for tortoises and their burrows was conducted. No highly suitable habitats (sandhill, scrub, dry flatwoods, dry fields, etc.) were found. However, some habitat that may be marginally suitable for tortoises was identified. All habitats present with any potential to support this species (such as FLUCFCS codes 110, 211, 320, 414, 425, 434, and 441) were surveyed utilizing pedestrian transects. Since temperatures were above 60 degrees Fahrenheit this species was likely to be active at the time of the survey, and may

have been visible above ground. No tortoises or evidence of tortoises were found. This species is therefore given a low likelihood of occurrence in the corridor. Should the gopher tortoise be listed prior to the time construction commences, an effects determination will be made in coordination with FWS.

- Bald Eagle (Haliaeetus leucocephalus): While no longer considered a listed species, discussion of the bald eagle is prudent due to work restrictions near nests (FWS, 2007). One eagle nest (DU016) is documented to occur in the southwest quadrant of the northern I-95/I-295 intersection, approximately 4.7 miles southeast of the project corridor. Since the nest is over 660 feet away from the project corridor, it is not anticipated to be affected by the project.

On January 23, 2012, FDOT forwarded copies of the original *WER* and *ESBA* to FWS and requested agency concurrence with the findings regarding federally listed species. On February 29, 2012, FWS provided a letter detailing comments under the ESA and FWCA. The *ESBA* and *WER* were updated to contain additional information in response to FWS and submitted back to FWS on April 10, 2015 for concurrence. FWS provided concurrence with the may effect, but not likely to adversely affect determination for the Eastern Indigo Snake and the Wood Stork on July 29, 2015 (**Appendix I**).

State Listed Species:

In addition to the Federally-listed species discussed above the following species are on the State list.

- Black Creek Crayfish (*Procambarus pictus*): Aquatic habitats capable of supporting aquatic species were limited to a horse pond and a small unnamed creek. This creek is a tributary of Thomas Creek, which flows into the Nassau River and then into the Atlantic Ocean. Since this creek is not part of the Black Creek or Rice Creek drainages, it is unlikely that the Black Creek crayfish is present; therefore, this species was given a low likelihood of occurrence.

- American Alligator (*Alligator mississippiensis*): Perennial aquatic habitats are limited to two areas (Wetlands 1 and 3) in the build alternative corridor. They consist of a single small unnamed creek and a horse pasture pond. The remainder of the corridor's wetlands is likely flooded for limited periods of time, making them unsuitable as permanent alligator foraging and denning habitats. During the field survey, no evidence of the alligator was observed; therefore, the alligator has been given a low likelihood of occurrence.

- Florida Burrowing Owl (*Athene cunicularia floridana*): Suitable habitat for burrowing owls was limited to the horse pasture near the eastern end of the corridor. This habitat was surveyed via pedestrian transects. Neither owls nor their burrows were observed, and this species was given a low likelihood of occurrence.

- Wading Birds: Listed wading birds (limpkin, little blue heron, tricolored heron, snowy egret, white ibis, and wood stork) share similar habitat requirements, and may use many of the corridor's wetlands as foraging habitat. Several wading bird rookeries are within 13 miles of the project area. All wetlands in the corridor were surveyed for wading birds using

visual and aural means. No listed wading birds were observed, but all have been given moderate likelihoods of occurrence based on the presence of SFH in onsite wetlands.

- Sherman's Fox Squirrel (*Sciurus niger sherman*): Surveys for this species included the identification of suitable habitat. No highly suitable habitat was found; however, representative areas of marginally suitable habitats (FLUCFCS codes 414, 425, 434, and 441) were surveyed via pedestrian transects using visual and aural means. No fox squirrels were observed, and the species was given a low likelihood of occurrence in the build alternative corridor.

- Florida Black Bear (*Ursus americanus floridanus*): The FWC has delisted this species in its Florida Black Bear Management Plan approved in June 2012.

- Vascular Plants: Many state-listed plants have some likelihood of occurrence within the corridor because suitable habitats are present, but no federally or state listed plants were observed in the build alternative corridor. Onsite community types do not include any xeric habitats, the habitats required by most of Florida's federally-listed plant species.

  Several state-listed plants may occur in the build alternative corridor; all have a low or moderate likelihood of occurrence. Several state-listed wildlife species may occur; all have a low or moderate likelihood of occurrence. These include the Black Creek crayfish, American alligator, burrowing owl, limpkin, little blue heron, tricolored heron, white ibis, snowy egret, Sherman's fox squirrel, and Florida black bear.

Commitments for Wildlife and Habitat are listed in Section 5 of this report.

3.3.10 ESSENTIAL FISH HABITAT

This project was evaluated for impacts to Essential Fish Habitat (EFH) in accordance with FDOT *Project Development and Environment Manual*, Part 2, Chapter 11, Essential Fish Habitat.

During the ETDM Programming Screen, National Marine Fishery Services (NMFS) commented that the project is expected to have a Moderate level of effect on Coastal and Marine and Wetlands resources due to possible impact to EFH. Subsequent coordination with NMFS revealed that the expected impact to EFH was believed to occur where the proposed project crossed a small forested tributary of Thomas Creek. After limited observations of the creek, NMFS indicated that the creek at the proposed crossing location was tidally influenced, and; therefore, represented EFH for white shrimp. In December 2011, an EFH assessment was conducted. At the time of the assessment, no additional information regarding the possible tidal nature of this creek was available and concluded that the unnamed tributary may be EFH. The precise nature of the impacts (if any) would be determined during later phases of the project when more detailed data would be available.

Since 2011, the FDOT developed reliable methodologies to determine whether a waterway is tidally influenced. In order to ensure that observations were capturing actual high and low tide events (if they occurred), FDOT established an automatic data collection system using a camera programmed to take time interval photographs. The automatic camera and staff gauge were installed in the unnamed tributary at the centerline of the proposed road.

Data collected from October 21, 2014 through November 14, 2014 revealed no evidence of rising and falling water level every six hours, corresponding to a tidal pulse. Therefore, the unnamed tributary to Thomas Creek is not tidally influenced, and does not provide EFH for white shrimp or any other species managed by the NMFS. A *Non-Tidal/Non-EFH Determination Technical Memorandum (2014)* was prepared and provides information, correspondence, and data collected for this analysis.

The *Non-Tidal/Non-EFH Determination Technical Memorandum* was provided to NMFS on January 7, 2015. NMFS responded agreeing with the data and providing concurrence that the movement could be due to many different things that were not the tide. NMFS noted that in certain rare situations that the area could be tidal, but not for enough sequential days for white shrimp to complete their specific life history stage.

Coordination with NMFS has occurred throughout the PD&E Study and is documented in **Appendix J**.

3.4 PHYSICAL

3.4.1 NOISE

In accordance with *Title 23, CFR, Part 772*, "Procedures for Abatement of Highway Traffic Noise and Construction Noise," and using methodology established by the FDOT in Part 2, Chapter 17, of the FDOT's *Project Development and Environment Manual*, an assessment of noise impacts has been conducted for the proposed improvements and is documented in a *Final Noise Study Report (2016)* (*NSR*). Noise levels were predicted using the FHWA Traffic Noise Model, version 2.5. All measured and predicted noise levels are expressed in decibels (dB) using the A-weighting scale denoted as decibels using the A-weighting scale (dBA).

Noise monitoring was performed on September 22, 2011 to establish background noise levels so that any substantial increases could be documented. Two receivers representing two residences were identified as noise sensitive sites. One of these sites is north of Arnold Road and the other is south of it. The residences are single-family homes and would be evaluated under Activity Category B of the FHWA Noise Abatement Criteria (NAC). These noise sensitive sites are represented by R1 and R2 in **Table 3-6** and **Figure 3-12**.

Table 3-6 Predicted Noise Levels

Receiver Identification	2011 Existing (dBA)	2040 No-Build (dBA)	2040 Build (dBA)	Difference between Existing and Build (dBA)	Site to be Considered for Abatement?
Arnold Road Area					
R1	53.3	53.3	55.3	2.0	No
R2	53.3	53.3	54.9	1.6	No

Noise levels at noise sensitive sites are not predicted to approach or exceed the NAC for the Design Year (2040) Build Alternative. Compared to existing conditions, the largest predicted increase attributable to the project is 2.0 dBA. Therefore, no substantial increase will occur. Noise abatement measures were not considered as none of the noise sensitive sites are predicted to experience traffic noise that approach or exceed the NAC.

Information gathered as part of this project analysis will be shared with local planning officials to help promote compatibility between land development and highways. Upon receiving Location Design Concept Acceptance, the FDOT will remit a copy of the project NSR to local agencies responsible for land use planning. The noise contours described in the NSR can be used by planning officials to restrict development of exterior land uses associated with residences, motels, schools, churches and recreational facilities which would be considered incompatible with traffic noise generated from the Build Alternative for the proposed improvement. Local officials can use the noise contour data to establish compatible development of currently undeveloped parcels or compatible redevelopment in areas where land use changes.

3.4.2 AIR QUALITY

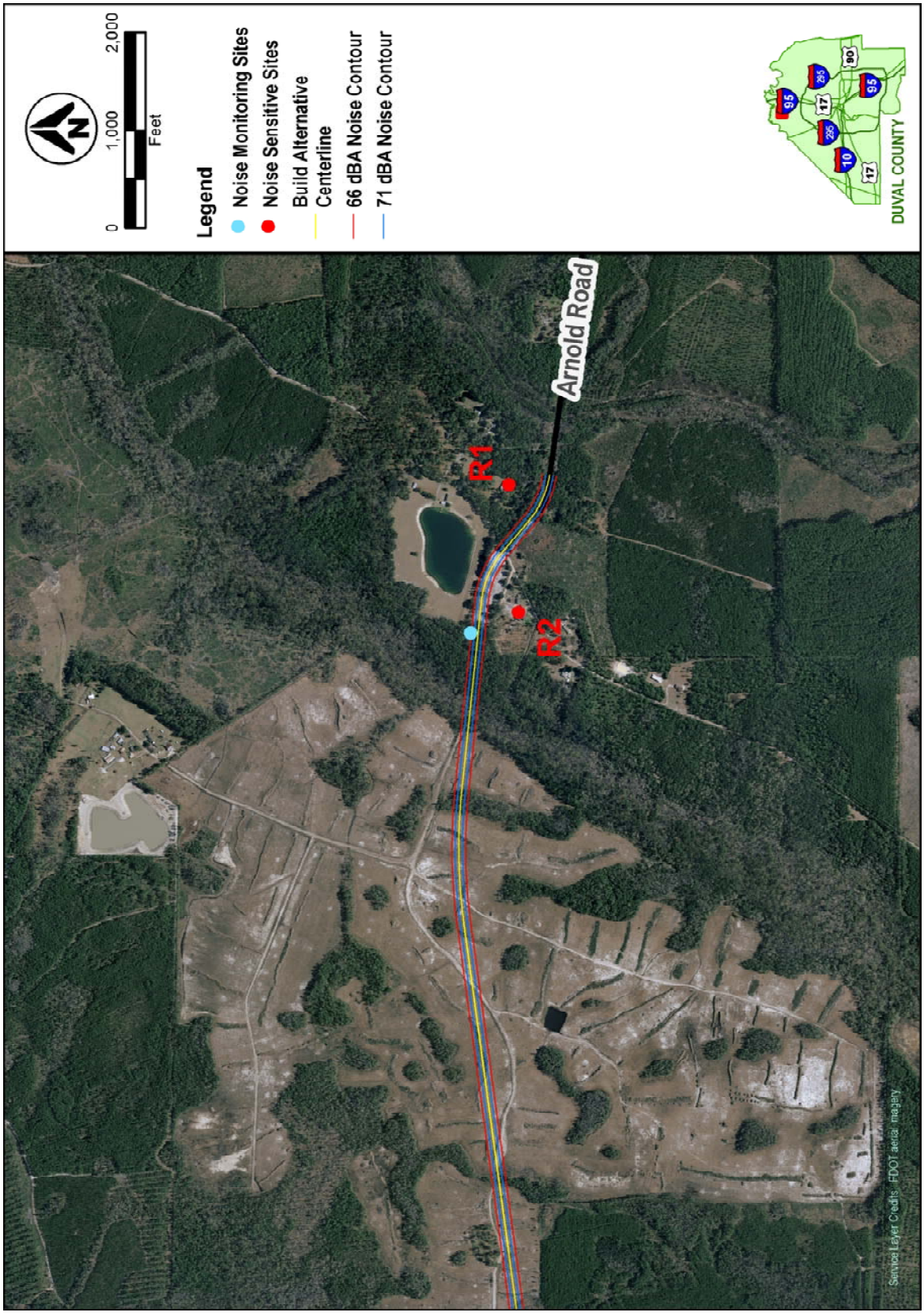
Project Level Air Quality Analysis

An *Air Quality Technical Memorandum* (2013) was prepared to determine whether or not project-related motor vehicle emissions will cause or contribute to a violation of National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), the most prevalent air pollutant emission from motor vehicles.

This project is in an area which has been designated as attainment for all the air quality standards under the criteria provided in the Clean Air Act Amendments (CAAA) of 1990, therefore, conformity does not apply.

The existing year (2011) conditions and design year (2040) build and no build conditions were analyzed for comparison. Also, CO concentrations are typically highest where vehicles incur delay caused by traffic signals. Along facilities such as the JNCAR, delay usually occurs at the intersections. Therefore, one intersection within the project limits (Lannie Road intersection) was evaluated for the existing year conditions and design year build and no build conditions. None of

Figure 3-12 Noise Sensitive Sites (Receptors R1 and R2)



the predicted concentrations for existing year conditions and design year build and no build conditions at the intersection exceeded the CO NAAQS of 35 parts per million (ppm) for a 1-hour averaging time and 9 ppm for an 8-hour averaging time.

This project has been determined to generate minimal air quality impacts for CAAA criteria pollutants and has not been linked with any special Mobile Source Air Toxics (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with USEPA's Motor Vehicle Emissions Simulator (MOVES) model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 100 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

Global Climate Change

The issue of global climate change is an important national and global concern that is being addressed in several ways by Federal and State government. The transportation sector is the second largest source of total Green House Gases (GHG) in the United States, and the greatest source of carbon dioxide (CO_2) emissions – the predominant GHG. In 2004, the transportation sector was responsible for approximately 31 percent of all CO_2 emissions in the United States. The principal anthropogenic (human-made) source of carbon emissions is the combustion of fossil fuels, which account for approximately 80 percent of anthropogenic emissions of carbon worldwide. Almost all (98 percent) transportation-sector emissions result from the consumption of petroleum products such as gasoline, diesel fuel, and aviation fuel.

The transportation sector is a substantial contributor to GHG emissions in Florida, accounting for about 46 percent of CO_2 emissions in Florida. The transportation sector's GHG emissions in Florida are dominated by personal vehicle travel in cars and light trucks, which account for almost two-thirds of these emissions. Other trucks account for an additional 4 percent of CO_2 emissions.

Strategies are being developed and/or implemented at the Federal and State level to address transportation GHG. Former Governor Crist established the Action Team on Energy and Climate Change by signing *Executive Order 07-128*, "Florida Governor's Action Team on Energy and Climate Change," on July 13, 2007. A Florida climate change Action Plan is being developed that would include strategies to reduce emissions, including recommendations for proposed legislation for consideration by the Florida Legislature.

Key Florida strategies for reducing transportation's contribution to GHG emissions include:

- Reducing the rate of fuel consumption by enhancing vehicle efficiency;
- Reducing congestion and delay on the transportation system;
- Reducing the carbon content of fuel, so that fewer emissions are generated for each gallon of fuel consumed;
- Reducing the growth rate in travel by managing travel demand; and

- Expanding options for travel by means other than single-occupant vehicles, and changing land use patterns.

Because climate change is a global issue, and the emissions changes due to project alternatives (including the No Build Alternative) are not different or very small compared to global totals, the GHG emissions associated with the alternatives were not calculated.

3.4.3 CONSTRUCTION

Construction activities for this proposed project will have minimal, temporary, yet unavoidable, air, noise, water quality, traffic flow, and visual impacts for those residents and travelers within the immediate vicinity of the project.

The air quality impact will be minor and short term in the form of dust from earthwork and unpaved roads. These impacts will be minimized or controlled by adherence to all state and local regulations, the most current edition of the FDOT *Standard Specifications for Road and Bridge Construction (2015),* local ordinances, and any special provisions in the construction contract.

Water quality impacts resulting from erosion and sedimentation will be controlled in accordance with the most current edition of the FDOT *Standard Specifications for Road and Bridge Construction*, "Prevention, Control and Abatement of Erosion and Water Pollution," and through the use of BMP's. All oil, chemicals, fuel, etc. used in construction must be disposed of in an acceptable manner, consistent with local, state, and federal regulations, and must not be dumped on the ground or in drainage ways.

Maintenance of traffic and sequence of construction will be planned and scheduled so as to minimize traffic delays throughout the project. Signage will be used as appropriate to provide pertinent information to the traveling public. The local news media will be notified in advance of road closings and other construction related activities that would excessively inconvenience the community so that motorists, residents, and business persons can plan travel routes accordingly. All provisions of the most current edition of FDOT *Standard Specifications for Road and Bridge Construction* will be followed.

For the residents living in the project area, some of the materials stored for the project may be displeasing visually; however, this will be a temporary condition and should pose no substantial, long term problem.

Construction of the roadway and bridges requires excavation of unsuitable material (muck), placement of embankments, and use of materials, such as limerock, asphaltic concrete, and Portland cement concrete. Demucking is anticipated at most of the wetland sites and will be controlled by Section 120 of the FDOT S*tandard Specifications for Road and Bridge Construction*. Disposal may be on-site in detention areas or off-site. The removal of structures and debris will be in accordance with local and State regulation agencies permitting this operation. The contractor is responsible for the methods of controlling pollution on haul roads, in borrow pits, other materials pits, and areas used for disposal of waste materials from the project. Temporary erosion control features, as specified in the FDOT's S*tandard Specifications for Road and Bridge Construction*, Section 104, will consist of temporary grassing, sodding, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings, and berms.

Procedures specifying the contractor's responsibilities in regard to encountering petroleum contaminated soil and/or groundwater are set forth in the FDOT's *Standard Specifications for Road and Bridge Construction*. Resolution of problems associated with contamination will be coordinated with appropriate regulatory agencies and, prior to ROW acquisition and construction, appropriate action will be taken. Erosion control measures as specified in FDOT *Standard Specifications for Road and Bridge Construction* will be implemented for this project.

3.4.4 CONTAMINATION

The State of Florida has evaluated the proposed right-of-way and has identified potentially contaminated sites for the various proposed alternatives. Results of this evaluation will be utilized in the selection of a preferred alternative. A site assessment was performed to the degree necessary to determine levels of contamination and evaluated the options to remediate along with the associated costs. Resolution of problems associated with contamination will be coordinated with appropriate regulatory agencies and, prior to right-of-way acquisition, appropriate action will be taken, where applicable.

A *Final Contamination Screening Evaluation Report (2011)* (*CSER*) has been prepared pursuant to the FHWA's Technical Advisory T 6640.8A and the FDOT *Project Development and Environment Manual*, Part 2, Chapter 22. A *Contamination Screening Evaluation of Selected Ponds Technical Memorandum (2015)* was also prepared. Risk rankings were assigned after reviewing data obtained from on-site reviews of the parcels, a review of historical land use, review of aerial photos, hazardous petroleum regulatory site lists, and other pertinent information.

3.4.4.1 Regulatory Database Review

The regulatory review of the federal and state environmental databases revealed two potential contamination sites in the vicinity of the proposed Build Alternative as shown in **Figure 3-15**:

1. Jacksonville City-Montgomery Correctional Facility
2. Jacksonville City-P-Farm Fuel Site

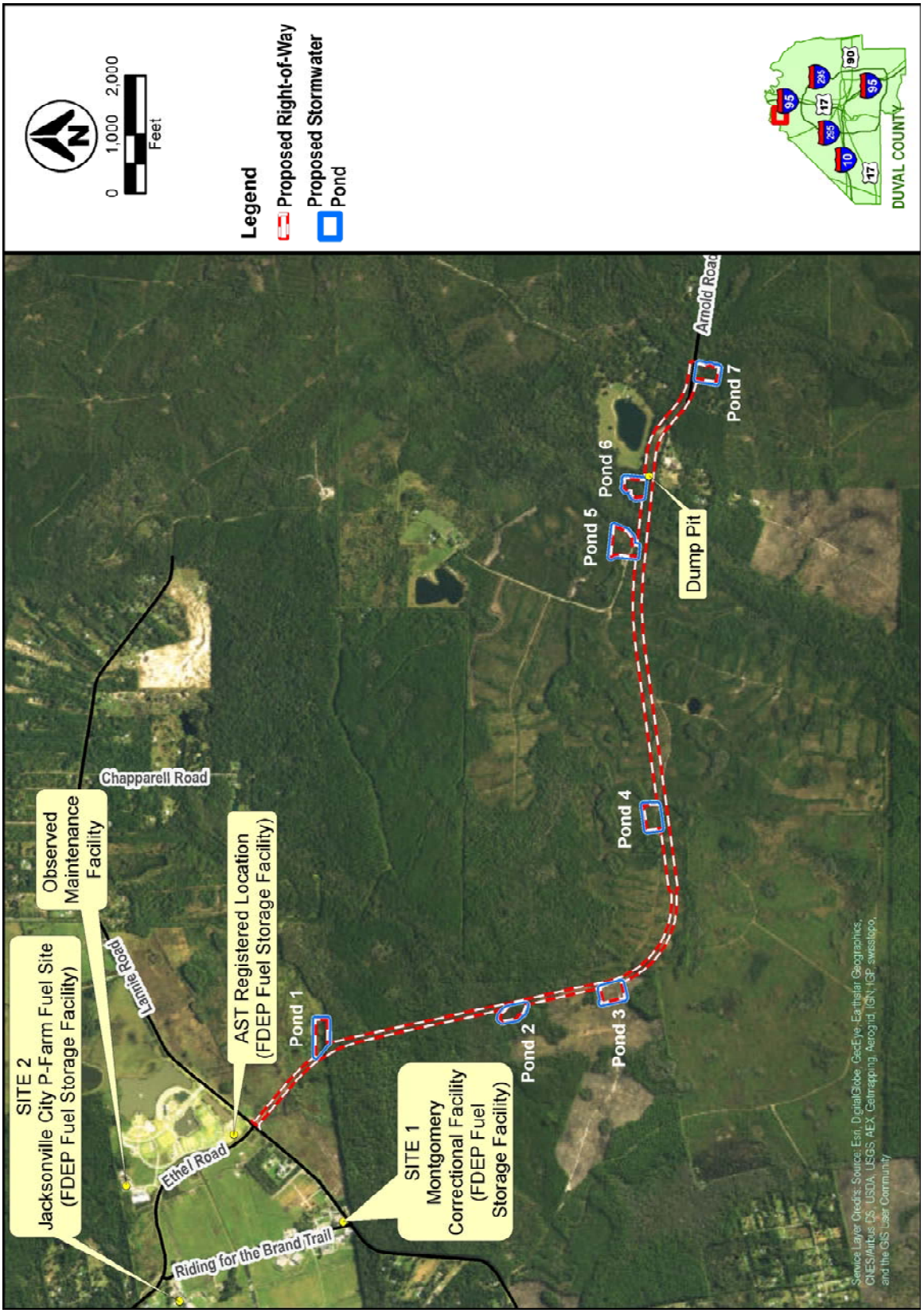
3.4.4.2 Field Review

A site reconnaissance and limited investigation of the Build Alternative project limits was conducted in 2011. The reconnaissance consisted of a visual inspection for evidence of potential contamination or environmental violations.

The field review in 2011 did not identify any other potential contamination sites within and/or immediately adjacent to the proposed Build Alternative project limits. The proposed Build Alternative is primarily located within undeveloped areas consisting of fields and forests.

A physical reconnaissance of the pond areas was conducted on November 20, 2014, December 4, 2014, and June 2, 2015. Property conditions and operations were evaluated at each site and at the adjacent properties for indications of activities that may contribute to the potential for soil and/or groundwater contamination. Seven pond areas were investigated during the field reconnaissance and database review. These locations are illustrated on **Figure 3-13**.

Figure 3-13 Potential Contamination Site Locations



3.4.4.3 Site Ratings

A rating system was then used to assess the potential effect of each identified source with a potential for contamination on the proposed Build Alternative. The rating system includes the type, severity of contamination, and proximity of the potential source to the proposed Build Alternative of the project. These locations are described **Appendix K**. The "No" risk rating is assigned to six of the pond sites, a "Low" risk rating is assigned to two sites (Sites 1 and 2), and a "Medium" risk rating is assigned to one site (Pond Site 6). There are no sites with a "High" risk rating.

Using the same rating system, pond site locations were also evaluated for risk of involvement with potential contamination from sites nearby. Results of the pond site evaluation are described in **Appendix K**.

Since Potential Contamination Sites 1 and 2 are both located approximately a half mile from the proposed project and both sites have received a Site Rehabilitation Completion Order (SRCO) indicating remediation has occurred, the project would have little likelihood of involvement with contamination from these sites.

3.4.4.4 Level 2 Investigation

The seven proposed pond sites were evaluated for the risk of involvement with contamination. Six of the seven sites were found to have no risk of involvement with contamination. Pond 6 was found to be located close to a dumping pit and subject to involvement with contamination. A Level 2 investigation was performed to verify the type and extent of contamination present. Results are documented in a *Limited Level 2 Soil Assessment (2015)* and included in **Appendix K**.

On June 28, 2015, four hand auger borings were performed and a soil sample headscape vapor screening of samples was collected. Field activities included utility locations and clearance, as well as assessment of debris found in the area of investigation.

Based on the organic vapor analyzer (OVA) soil screening results and lack of petroleum odors, no groundwater or soil samples were collected for laboratory analysis. No contamination impacts to construction from the debris area are anticipated. If contaminated debris and materials are found then they will be disposed per local, state, and federal requirements, and FDOT S*tandard Specifications for Road and Bridge Construction*. No additional Level 2 analysis is required.

3.4.5 AESTHETIC EFFECTS

The topography of the area is generally flat. There is no unusual vegetation and no high points of vista. The majority of the roadway corridor is agricultural land and open space. There are a few residences primarily on the east limits of the proposed roadway.

Aesthetics are an important consideration in any transportation project. The Recommended Alternative calls for an urban typical section for the western portion of the corridor and a rural typical section in the eastern portion of the corridor. There are currently no landscaping or aesthetic treatments planned for this project.

3.4.6 PEDESTRIAN/BICYCLE FACILITIES

No bicycle or pedestrian facilities are currently present in the project area. Four-foot wide bike lanes will be provided within the urban typical section of the project. Two paved shoulders, five-foot wide and eight-foot wide will be provided and available for use by bicycles within the rural typical section and the bridge section of the project, respectively. Sidewalks will be provided throughout the project limits.

3.4.7 UTILITIES AND RAILROADS

The utility impacts are expected to be minimal since this project will be constructed on new alignment. A description of utilities in the project area is in **Section 2.5.7**.

There are no railroads within the project study area.

3.4.8 NAVIGATION

There are no navigable waterways within the project study area. Based on comments received as part of the ETDM Programming Screen, the United States Coast Guard (USCG) determined no involvement and the USACE stated that additional coordination regarding navigation is not required.

A new bridge is proposed for JNCAR crossing of the Seaton Creek Tributary 1. There is an existing bridge over Seaton Creek Tributary 1, shown in **Figure 2-8**, that would be removed as part of the proposed project due to its close proximity to the proposed bridge. A *Draft Bridge Hydraulics Report (2015)* (*BHR*) was prepared to evaluate any changes that may occur to the floodplain, and to determine the length and height of the required structure. The project will span multiple drainage flow paths, with the key crossing proposed across Seaton Creek Tributary 1. Based on coordination with FHWA a USCG Bridge Project Questionnaire was drafted for this project and submitted to FHWA and USCG for review. The Bridge Project Questionnaire and agency correspondence is located in **Appendix L**.

FHWA responded that based on criteria stated in 23 CFR 650, Subpart H, from the information submitted in the USCG Bridge Project Questionnaire and their own review, FHWA made the determination that the USCG permit is not required for the bridge over the tributary to Seaton Creek. The USCG stated that the waterway is not navigable waters of the United States and not subject to USCG jurisdiction, but provided several stipulations to be met which are noted in the Commitments Section of this document (**Section 5.1**).

3.5 CUMULATIVE AND INDIRECT EFFECTS ANALYSIS

An Indirect and Cumulative Effects (ICE) analysis was conducted for the JNCAR project. Indirect effects are effects caused by the proposed action but occur later in time or farther removed from the project's direct effects. Cumulative effects are the sum of the project's direct and indirect effects in combination with the effects of past, present and reasonably foreseeable future actions of others. Past, present and reasonably foreseeable future actions of others frequently result in changes in land use. Therefore, this ICE analysis is based on the determination and analysis of impacts to sensitive resources resulting from potential changes in land use that might occur as a result of a proposed action.

The methodology utilized in this analysis of cumulative effects follows guidelines from several documents including those outlined by the Council on Environmental Quality (CEQ) (1997) in *Considering Cumulative Effects under the NEPA (1997)* and FHWA's *Interim Guidance: Indirect and Cumulative Impacts in NEPA (2003).* The determination of cumulative effects utilizes an eight-step process detailed in the *Final Indirect and Cumulative Effects Report.*

3.5.1 INDIRECT EFFECTS

Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (*CEQ 1986, 40 CFR 1508).*

If induced developments would occur, the indirect effects analysis also examines a second type of indirect effect, known as encroachment-alteration effects. Encroachment-alteration effects are the effect on, "the behavior and functioning of the affected environment caused by the project's encroachment" (2002). These may be ecological and/or socioeconomic effects.

The area of influence of an action is much greater than the range of its direct effects, which are essentially confined to the "footprint" of an action. The boundaries for the indirect effects analysis for the JNCAR project (as shown previously in **Figure 3-5**) are the same as the U.S. Census Bureau's Census Block 120310103011. Details of the indirect effects analysis can be found in the *Final Indirect and Cumulative Effects Report (2012)* and are summarized below.

Based on the projected future population of 6,899 and using a person's-per-dwelling unit ratio of 2.18, it is estimated a total of 3,165 additional dwelling units would be required to accommodate the predicted study area 2035 population. Given that the two approved future developments would have a total housing capacity of 3,999 units, there would be more than adequate housing to accommodate the projected future population of the ICE study area.

Figure 3-5 shows the approved future developments, conservation areas, and institutional land uses within the study area. The map shows how little of the study area remains available for potential development. Further, the Four Creeks State Forest has plans to acquire additional lands south of Thomas Creek. The land currently available for development will likely be in conservation by the time the demand for additional development occurs; therefore, it is deemed unlikely that additional development would occur. In addition, the purpose of the proposed JNCAR is to accommodate through traffic traveling from I-95 to the Jacksonville National Cemetery. Although the road is providing new access to the cemetery it is not connecting commercial areas, or residential areas to employment centers, or to locations that would attract new growth. The one new intersection (at Lannie Road) provided by the proposed access road that might have attracted commercial type development is located where the land use is institutional and not likely to be changed to allow commercial development. Therefore, it has been concluded that the Build Alternative for the JNCAR would not lead to induced residential or commercial development.

Because there is no justification for development beyond what is currently approved, and potentially little remaining land within the JNCAR ICE study area for development, it has been determined that the proposed project is not likely to induce future growth. Therefore, the Build Alternative future development scenario would be the same as that of the No Build Alternative. Since the proposed project would not cause induced growth, there would be no indirect effects from the project within the study area.

3.5.2 CUMULATIVE EFFECTS

3.5.2.1 Identification of the Resources for Analysis

The cumulative effects analysis was conducted for those resources identified by the ETAT as having a potential moderate or substantial DOE from the project (**Table 3-7**). Not shown in **Table 3-7**, but identified by the ETAT as having a moderate or substantial DOE, are Section 4(f) resources. Section 4(f) of the U. S. Department of Transportation (USDOT) Act of 1966, as amended, prevents the Secretary of the USDOT from approving any project which requires the use of any publicly-owned land from a public park, recreation area, wildlife and waterfowl refuge of National, State or local significance, or any land from an historic site of National State, or local significance unless there is no prudent or feasible alternative and all possible planning to minimize harm to such resources has been incorporated. Since Section 4(f) is not a resource, but a regulation that affords another level of protection to certain publicly-owned lands, it was not appropriate to include it as a "resource" in **Table 3-7**.

Table 3-7 Resources Potentially Experiencing a Moderate or Substantial Degree of Effect from the Proposed Jacksonville Cemetery Access Road Project

Environmental Category	Resource
Natural	Water Quality
	Wetlands
	Wildlife and Habitat
Cultural	Recreation/Special Designations (Conservation Lands)

3.5.2.2 Define the Study Area

The cumulative effects analysis considers both geographic and temporal study limits. The geographic study limits were the same as those used for the indirect effects analysis shown on **Figure 3-5**.

Additionally, the temporal limits for the cumulative effects analysis were generally from 1990 to 2035. The reasons for not going further back in time were that most of the project area is very rural and has not changed much over time. Further, there is very limited, readily attainable data prior to 1990.

The year 2035 was selected for the identification of reasonably foreseeable future projects because that was the furthest planning horizon for most of the adopted planning documents in the region, including the 2035 Long Range Transportation Plan (LRTP) prepared by the NFTPO.

3.5.2.3 Describe the Condition of Each Resource

An understanding of the current condition of a resource is necessary to establish the baseline condition of the resource and determine the trend the resource is experiencing which, in turn, is necessary to estimate the magnitude of the cumulative effects the resource would experience as a

result of future development. The current conditions of each resource included in the analysis can be found in the *Final Indirect and Cumulative Effects Report.*

3.5.2.4 Other Past, Present, and Reasonably Foreseeable Future Actions

The impacts of past projects in combination with the recently completed projects provide the baseline condition in the study area. Past and present projects within or adjacent to the study area are listed in **Table 3-8.**

Table 3-8 Past and Present Projects by Others in the Indirect and Cumulative Effects Study Area

Time Period	Projects
Past	Residential areas along Lannie Road
	Residential area east of Ethel Road
	Residential area north of Pecan Park Road/Arnold Road
	Nutri-Turf Facility
	Montgomery Correctional Center
	Tiger Serious Habitual Offender Program
	Jacksonville International Airport
	Airport Business Park
Present	Jacksonville National Cemetery

Reasonably foreseeable projects are projects for which plans have been approved, projects for which funding has been identified, recently completed projects, and projects in progress. Land use planning indicates that growth can be expected to occur in the study area. That growth is expected to follow the plan outlined in the *North Jacksonville Shared Vision and Master Plan (2003)* which would allow mostly low density residential development with some office/commercial/industrial development in the southern half of the study area. Consistent with the goals of the *North Jacksonville Shared Vision and Master Plan* and the City's *Comprehensive Plan*, the City has approved four development projects within the cumulative effects study area. **Table 3-9** lists the four approved development projects.

Table 3-9 Reasonably Foreseeable Future Projects in the Indirect and Cumulative Effects Study Area

Development	Development Size (in acres)	Allowable Uses			
		Residential Units	Maximum Non-Residential Use	Light Industrial & Supporting Uses	Industrial Uses
Braddock Family Parcel	2,312	2,500	700,000 sq. ft.	N/A	N/A
Palmetto Bay RAC	1,760	1,499	200,000 sq. ft. (commercial) 100,000 sq. ft. (office) Golf Course 400 acres (conservation)	N/A	N/A
Light Industrial Piece	142	N/A	N/A	1,320,000 sq. ft.	N/A
Light Industrial Piece	1,013	N/A	N/A	4,000,000 sq. ft.	320 acres

Source: Jacksonville Planning Department

Future transportation projects within the study area have been identified from the adopted Needs Plan of the *Path Forward 2040 (2014)*, the North Florida TPO's LRTP. **Table 3-10** summarizes the proposed transportation projects that are within or adjacent to the ICE study area.

Table 3-10 Future Transportation Projects from the Adopted Path Forward 2040 Needs Plan

Road	From	To	Proposed Improvement
I-295@ Dunn Avenue			Interchange Modification
Pecan Park Road	JIA North Access Road	I-95	Widen to 4 Lanes
I-95 @ I-295/SR 9A North			Interchange Modification
I-95 @ Airport Road			Interchange Modification
Jacksonville International Airport North Access Road	Airport Road	Pecan Park Road	New 2 Lane Road
Braddock Parkway	Lem Turner Road	Pecan Park Road	New 2 Lane Road
Airport Road	Airport Entrance	I-95	Widen to 6 Lanes

Source: North Florida Transportation Planning Organization, *Path Forward 2040 Needs Plan*, June 12, 2014.

3.5.2.5 Magnitude and Significance of Cumulative Effects

Since the JNCAR Build Alternative is not anticipated to induce growth in the study area, the analysis of cumulative effects evaluated the direct effects of the JNCAR in combination with the impacts of the reasonably foreseeable projects by others (the previously identified four approved development projects in **Table 3-9** and the future transportation projects in **Table 3-10**).

The following summarizes the cumulative effects of the past, present and reasonably foreseeable future actions by others on the sensitive resources in the ICE study area.

Water Quality

Potential cumulative effects to surface water quality from future development include degradation due to contaminants in non-point source run-off and increased impervious surfaces which increases the run-off to surface waters. Two aspects of water quality were quantified: the involvement with surface waters according to their classification and the involvement with potentially-impaired or verified-impaired waters. Since all surface waters are designated Class III waters, the cumulative involvement of future development, including the proposed new access road, would result in the conversion of 3,976 acres, or 15.08 percent of a total 26,369 acres, of lands designated as Class III waters in the ICE study area. There would be no direct involvement with potentially-impaired or verified-impaired waters.

Wetlands

Potential cumulative effects to wetlands include placement of fill and degradation of wetland functions. Based on National Wetlands Inventory (NWI) maps, approximately 7,623 acres, or 28.9 percent, of the ICE study area, is wetlands. Of these, 871 acres, or 11.42 percent, are within the boundaries of the future development areas, including the JNCAR. Because the specifics of the future development projects are unknown, these impacts are based on a worst-case scenario

and do not reflect the actual impacts that the future developments would have. Further, prior to receiving permits to construct these developments, efforts to avoid and minimize impacts will be required. Any remaining, unavoidable impacts would be mitigated.

Therefore, the estimated cumulative effect on wetlands of 11.29 percent should be taken as a conservative indicator of the overall impact of the proposed future development. Once all approved future developments and the access road have been constructed better than 89 percent of the wetlands within the ICE study area would remain.

Floodplains

Floodplains were not identified by the ETAT as having a moderate or substantial DOE; however, they were included in this analysis because they usually occur with wetlands. As with the assessment of the cumulative effects on wetlands, the specifics of the future development projects are unknown, therefore, the quantified impacts to the 100-year base floodplain are based on a worst-case scenario and do not reflect the actual impacts that the future development would have.

Within the ICE study area there are a total of 7,623 acres of 100-year floodplain, 251 acres of 500-year floodplain, and 5,018 acres of regulated floodways. The No Build Alternative would have 663 acres, or 13.9 percent, of development within the 100-year floodplain and no involvement with the 500-year floodplain or regulated floodways. The Build Alternative would have eight acres, or 0.16 percent, involvement with the 100-year floodplain and no involvement with the 500-year floodplain or regulatory floodways. Therefore, the worst case scenario would result in a cumulative involvement of 671 acres, or 14.1 percent, of 100-year floodplain. This does not take into consideration that future developments will be required to meet avoidance, minimization, and mitigation requirements regarding fill in floodplains. Therefore, the estimated cumulative effect of the future development of approximately 14 percent is a conservative indicator of the potential impact to floodplains.

Wildlife and Habitat

To acquire some perspective of the cumulative effect of future development on listed species and their habitats, two measures were used to quantify effects: the FWC Integrated Wildlife and Habitat Ranking System (IWHRS), and the FNAI Rare Species Habitat Conservation Priorities (RSHCP).

None of the land in the ICE study area is ranked in the three highest IWHRS categories. There are a total of 1,409 acres of Priority 7 lands of which 320 acres, or 22.71 percent, would be affected by future development, including the proposed new access road. There are also 5,653 acres of Priority 6 lands of which 1,641 acres or 29.03 percent would be affected. The remaining lands in this category are less than average quality (with Priority 6 being average quality lands).

None of these lands are ranked in the top three FNAI RSHCP priorities. Within the ICE study area there are 1,535 acres in Priority 4 and 374 acres in Priority 5 (lowest). The proposed new access road would have 61 acres, or 4.00 percent, of involvement with Priority 4 lands and none with Priority 5 lands. The approved future development projects would have 91 acres, or 24.33 percent, involvement with the Priority 5 lands and none with Priority 4 lands.

Recreation and Conservation Lands

There are 3,432 acres of recreation/ conservation lands within the ICE study area. Most of these are small portions of much larger conservation tracts. Of the 3,432 acres of conservation lands

within the ICE study area, 145 acres, or 4.22 percent, are subject to conversion by future development projects, including the JNCAR project. Without knowing the plans for the future developments, this estimate is somewhat arbitrary. Even so, except for the six acres under the jurisdiction of the City of Jacksonville, the future development projects would be required to set aside lands for conservation. Further, if the total acreages of the conservation lands were utilized to estimate the impacts rather than acreages within the study area, the impact would be less than one percent. For these reasons the 145 acres of conservation lands affected by future development projects is not considered a substantial impact.

3.5.3 MITIGATION OPPORTUNITIES

Mitigation measures for cumulative effects to resources are not intended mitigation measures to be implemented by the project sponsor, or even land developers (unless permitting requirements were to change at some future date). Mitigation measures are suggested in the *Final Indirect and Cumulative Effects Report*.

4 COMMENTS AND COORDINATION

4.1 INTRODUCTION

FDOT recognizes the importance of proactive, integrated, and continuous public involvement. FDOT has prepared a *Public Involvement Program (2011) (PIP)* to successfully execute this transportation improvement study. This PIP for the PD&E study has been prepared in compliance with the FDOT *Project Development and Environment Manual*, *Florida Statutes 339.155; Executive Orders 11990 and 11988; Council of Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the Natural Environmental Policy Act (NEPA)*; and *FHWA Order 5610.1C.*

Coordination with other agencies and the public is an important element in the PD&E study process. Section 3.0 included references to the agency coordination that took place relevant to specific environmental issues. The following sections describe the public involvement and agency coordination that occurred through FDOT's Efficient Transportation Decision Making (ETDM) process, the AN process, and other related public involvement efforts during the PD&E study.

4.2 EFFICIENT TRANSPORTATION DECISION MAKING

In an attempt to streamline procedures for planning transportation projects, conducting environmental reviews, and developing and permitting projects, FDOT established the ETDM process. This streamlining was in response to the provisions contained within the *Transportation Equity Act for the 21st Century* (TEA-21), which the United States Congress passed in July 1999. Additional information regarding the ETDM Process or project-related ETDM comments is available on the ETDM website at: http://etdmpub.fla-etat.org/. The premises for ETDM include:

- Early and continuous agency involvement
- Good data upon which to base decisions
- Better transportation decisions

Each of FDOT's seven geographic regions has identified an Environmental Technical Advisory Team (ETAT) consisting of representatives from agencies that have statutory responsibility for issuing permits or conducting consultation under NEPA of 1969. The ETAT is responsible for interacting with FDOT and Metropolitan Planning Organizations (MPOs) throughout the ETDM process. Early in a project's process, the ETAT reviews the purpose and need, reviews direct impacts, recommends avoidance and minimization, suggests mitigation strategies, provides secondary and cumulative effects commentary, assesses issue DOEs, and coordinates to reduce conflicts through the web-based ETDM EST.

The FDOT initiated early agency involvement through the ETDM process for this project. The JNCAR project was screened through the EST simultaneously with the AN package. The project is listed as ETDM #13064 – JNCAR. ETAT comments were published in the *Final Programming Summary Report (2011)*, finalized March 28, 2011, and are provided in **Appendix B**. The *Final Programming Screen Summary Report* includes all ETAT comments

submitted electronically through the EST and responses from the ETDM Coordinator. This information is available to the public through the public access website https://etdmpub.fla-etat.org/est/. Agency comments are summarized by issue in **Table 4-1**, which also provides a reference to technical documents and the section of the Environmental Assessment (providing FDOT's current responses to comments for which further analysis was completed following publication of the *Final Programming Screen Summary Report*.)

Table 4-1 ETDM Comment and Response Summary

Degree of Effect)	Degree of Effect	Comment	Response/Reference
Air Quality			
USEPA	Minimal	USEPA does not anticipate any negative air quality impacts relating specifically to the project. As population growth and vehicle volumes increase, there is the potential to have air quality conformity and non-attainment issues in the future. FDOT should be aware of this and take appropriate measures to ensure compliance with all applicable air quality standards and regulations.	An air quality screening analysis was completed for the project as described in **Section 3.4.2**, Air Quality.
Coastal and Marine			
NMFS	Moderate	The portion of the project east of Arnold Road would impact high quality forested palustrine wetlands. These wetlands are associated with a tributary to the St. Mary's River and are essential fish habitat (EFH) for white shrimp. The South Atlantic Fishery Management Council designates forested palustrine wetlands as EFH for juvenile white shrimp.	An EFH assessment was completed for the project as described in **Section 3.3.10**, Essential Fish Habitat. On January 7, 2015, NMFS provided concurrence that the movement could be due to many different things that were not the tide. NMFS noted that in certain rare situations that the area could be tidal, but not for enough sequential days for white shrimp to complete their specific life history stage.
Contaminated Sites			
USEPA	None	No Comment.	A contamination screening evaluation was completed for the project as described in **Section 3.4.4**, Contamination.
FDEP	None	No Comment.	
Farmlands			
NRCS	None	There are no Prime and Unique Farmland soils within any buffer width within the Project Area.	Based on coordination with the NRCS during the ETDM Programming Screen, it has been determined that there are no Prime and Unique Farmland soils in the project area. Therefore, the provisions of the Farmland Protection Policy Act of 1984 do not apply to this project.
Floodplains			

Degree of Effect)	Degree of Effect	Comment	Response/Reference
USEPA	Minimal	USEPA noted that the majority of the project area is outside of the 100-year floodplain. USEPA requests that FDOT consider alternatives to avoid adverse effects and incompatible development in the floodplains. Efforts should be made to avoid or minimize impacts to floodplain resources and functions.	A *LHR (2015)* was completed for the project as described in **Section 3.3.6**, Floodplains.
Navigation			
USCG	N/A / No Involvement	No comment.	There are no navigable waterways within the project study area, as addressed in **Section 3.4.8**
USACE	None	The USACE noted that the GIS analysis did not reveal the presence of any navigable waterways within the project limits and additional coordination regarding navigation is not required.	
Special Designations			
USEPA	Substantial	The USEPA noted special designations as the Florida Forever BOT project, public lands, and special flood hazard areas.	Public lands were evaluated and are described in **Section 3.2.1**, Section 4(f). A *LHR* was completed for the project as described in **Section 3.3.6**, Floodplains.
FDEP	Substantial	FDEP noted that the project has the potential to impact public lands acquired by the St. Johns River Water Management District (SJRWMD), Duval County, City of Jacksonville, and State of Florida for the purposes of conservation and preservation.	While the western parcel is shown in the St. John's River Water Management District's (SJRWMD) Thomas Creek Conservation Area Land Management Plan (2008), the plan clearly shows that it is owned in fee simple by the City of Jacksonville. This property is not a conservation property, but is owned by the City of Jacksonville and managed by SJRWMD until the City has a designated use for it. The FDOT has coordinated with SJRWMD who confirmed that "it is not a SJRWMD property and they are aware of no conservation easement on it." Public lands were evaluated and are described in **Section 3.2.1**, Section 4(f). Also, the FDOT coordinated with the City of

Degree of Effect)	Degree of Effect	Comment	Response/Reference
			Jacksonville concerning this property. Coordination details are documented in **Section 3.2.1**.
Water Quality and Quantity			
FDEP	Moderate	The FDEP noted that stormwater treatment be evaluated during Project Development and that stormwater treatment should be designed to maintain the natural predevelopment hydroperiod and water quality, as well as to protect the natural functions of adjacent wetlands.	The stormwater management facility design will include, at a minimum, the water quantity requirements for water quality impacts as required by the SJRWMD in *Chapter 40C-41, F.A.C.* and the Environmental Protection Agency (USEPA). See **Section 3.3.3**, Water Quality and the *WQIE (2015)*.
Wetlands			
USEPA	Substantial	USEPA noted potential to impact forested palustrine wetlands directly and indirectly.	A *WER (2015)* has been drafted for this project and contains detailed estimation of the wetland extent, type, and quality within the build alternative. See **Section 3.3.1**, Wetlands.
FWS	Substantial	The new roadway would impact forested palustrine wetlands and no measures to avoid these wetlands are evident in either alternative. The FWS wetland policy emphasizes the avoidance of wetland impacts. Active wood stork colonies are located within 15 miles of the proposed wetland impacts. Impacts to wetlands within the core foraging area of these active colonies needs to be considered and measures should be taken to avoid impacts to foraging habitat. Eastern indigo snakes would also need to be addressed if this proposal moves forward. New roadways through previously undisturbed habitats would result in increased road kill for reptiles, amphibians, birds and mammals for as long as the roadway is in existence. The use of existing roads should be examined further a direct route, rather than a wide loop road would reduce the direct, indirect and cumulative long term impacts of the proposed route.	See above and **Section 3.3.9**, Wildlife and Habitat which specifically addresses woodstorks and Eastern indigo snakes. The *ESBA* and *WER* were submitted to FWS on April 10, 2015 for concurrence. FWS provided concurrence on July 29, 2015.

Degree of Effect)	Degree of Effect	Comment	Response/Reference
USACE	Substantial	The proposed project would impact the headwater wetlands of Seaton Creek a tributary of the Nassau River. These wetland systems play a vital role as habitat for wildlife, flood storage, water quality issues, and drainage for the surrounding areas. Additionally, the review area is rural/agricultural lands with large buffers which allow for generally unrestricted wildlife movement and large wetland buffers. The subject wetlands and tributaries are considered a high importance. Remnant wetlands scattered throughout the proposed corridor vary in functions and value which may reduce their importance. A functional analysis would determine the extent of high, moderate, and low quality wetland. USACE noted that Alternative 1 most closely follows the existing alignment (Arnold Road) and does not require an additional crossing of forested wetlands. Alternative 1 also appears to cause less habitat fragmentation by following an existing route. The applicant should delineate all wetlands within the project corridor. Completion of a jurisdictional determination in accordance with the "Rapanos guidance" will be required. The USACE will require a functional analysis and mitigation for impacts to water of the United States (wetlands and surface waters). All mitigation should occur within the same drainage basin as the proposed impacts.	A wetlands evaluation was conducted for the project as described in **Section 3.3.1**, Wetlands. This section addresses wetland identification, functional analysis, and has a discussion regarding avoidance, minimization, and mitigation. Several agencies commented that the wetlands within the corridor required a more detailed evaluation, and that all efforts should be made to avoid, minimize, and mitigate wetland impact. Since initiating final design, Wally Esser with the SJRWMD has been on-site to review wetland delineation methodology. Furthermore, Ryan Spohn and Jon Summerfield with the SJRWMD reviewed and approved the jurisdictional limits of the wetlands within the proposed corridor. In addition, the FDOT has coordinated with Andrew Phillips and Jon Griffin of USACE, to determine if the appropriate mitigation bank credits were available for this basin. Subsequently FDOT coordinated with Longleaf Mitigation Bank and Northeast Florida Wetland Mitigation Bank and determined that credits are available for purchase. As detailed throughout the *WER*, all means of wetland impact avoidance and minimization will continue to be employed as the project progresses through the final design phase. Wetland mitigation will be carried out in accordance with state and federal requirements. Best Management Practices (BMPs) will be used to ensure that water quality standards are upheld.

Degree of Effect)	Degree of Effect	Comment	Response/Reference
NMFS	Moderate	National Marine Fisheries Service (NMFS) noted that the project is within the known range of the shortnose sturgeon, which is listed as endangered under the Endangered Species Act (ESA). The project is also within the range of Atlantic sturgeon which may be listed as endangered if the new rules proposed by NMFS are implemented. The lead federal agency should make an effects determination for these species and if it is determined that the project has the potential to adversely affect either of these species, consultation under Section 7 of the ESA should be initiated.	An assessment of Federally-listed species was conducted for the project. There were no Federally-listed fish identified in the project area. See the *ESBA Report (2015)* and **Section 3.3.9**, Wildlife and Habitat, for a discussion of the Federally- and state-listed species in the project area.
FDEP	Moderate	The proposed project will require an environmental resource permit (ERP).	Noted. Permits are described in **Section 3.3.1.5**, Anticipated Permits Required.
Wildlife and Habitat			
FWS	Moderate	FWS noted that impacts to wetlands within the core foraging area of active wood stork colonies should be avoided and Eastern Indigo Snakes would also need to be addressed.	An assessment of Federally- and state-listed species was conducted for the project and described in **Section 3.3.9**, Wildlife and Habitat.
FWC	Moderate	FWC noted that a small portion of (7.8%) have been determined through modeling to represent a Strategic Habitat Conservation Area (SHCA) for the Cooper's hawk. Cogan grass and Chinese tallow have been documented within portions of the 100-foot and 200-foot buffer distances. FWC recommended consideration of bridging high quality forested wetlands, and tributary streams, and the use of oversized box culverts to avoid habitat loss and degradation and to promote hydrological and habitat connectivity functions. Also, to consider appropriately designed exclusionary fencing along the roadway at these structures.	An assessment of state-listed species has been conducted and documented in the Endangered Species and Biological Assessment Report and **Section 3.3.9**, Wildlife and Habitat.

Degree of Effect)	Degree of Effect	Comment	Response/Reference
Historic and Archaeological Sites			
FHWA	Minimal	A CRAS should be prepared for this project.	A cultural resource assessment was conducted for the project and described in **Sections 3.2.2**, Historic Sites/Districts and **Section 3.2.3**, Archaeological Sites. This information is also documented in the *CRAS (2011)*. Since no archaeological sites identified, there were no resources for the Tribes to comment.
FDOS	Minimal	A CRAS should be prepared for this project.	
Seminole Tribe of Florida	Minimal	A CRAS should be prepared for this project. The STOF-THPO noted that they would like to review a CRAS before commenting on direct effects to archaeological sites in the project area.	
Miccosukee Tribe of Indians of Florida	Minimal	The Miccosukee Tribe of Indians of Florida noted that if the CRAS shows that archaeological sites will be impacted by this project, that further consultation with the Miccosukee Tribe of Indians of Florida should be done.	
Recreation Areas			
USEPA	Substantial	A Section 4(f) review may be necessary for this project.	The project was examined for possible Section 4(f) resources. These are described in the **Section 3.2.1**, Section 4(f).
FDEP	Substantial	FDEP noted that the project has the potential to impact public lands acquired by the St. Johns River Water Management District (SJRWMD), Duval County, City of Jacksonville, and State of Florida for the purposes of conservation and preservation.	
FHWA	Moderate	A Section 4(f) Determination of Applicability may need to be prepared.	
Section 4(f) Potential			
FHWA	Moderate	Full consideration of negative impacts needs to be investigated and avoided or mitigated. A Section 4(f) determination of applicability may be needed if any recreation areas or areas functioning as a wildlife refuge are affected by the proposed project.	The project was examined for possible Section 4(f) resources. These are described in the **Section 3.2.1**, Section 4(f). In summary, FDOT transmitted a DOA to FHWA for review. FHWA determined that there is no Section 4(f) involvement with the Thomas Creek Preserve Wright Property and there is no Section 4(f) impact to the Ogilvie/Baxley property. The FHWA concurrence letter is in **Appendix D**.
Aesthetics			

Degree of Effect)	Degree of Effect	Comment	Response/Reference
FHWA	Minimal	Careful consideration of potential negative impacts must be reviewed and avoided or minimized.	Aesthetics was considered as part of the project evaluation as described in **Section 3.4.5**, Aesthetic Effects.
Land Use			
DEO (formerly DCA)	Substantial	The DCA noted that this project is generally consistent with the Goals, Objectives, and Policies of the City of Jacksonville Comprehensive Plan, but the alternative is not depicted on the City's Future Transportation Map or the Five Year Schedule of Capital Improvements. Once an alternative is selected, the City of Jacksonville Future Transportation Map should be updated that include this project.	Land use and plan consistency were considered as part of the project evaluation as described in **Section 3.1.1**, Land Use. The FDOT will coordinate with the City and request an amendment to the Comprehensive Plan to show the project on the Transportation Map.
FHWA	Minimal	Careful consideration of potential negative impacts must be reviewed and avoided or minimized.	
Relocation			
FHWA	Minimal	Careful consideration of potential negative impacts must be reviewed and avoided or minimized.	A *CSRP (2012)* was prepared for the project and is summarized in **Section 3.1.3**, Relocation Potential. The proposed project, as presently conceived, will not displace any residences or businesses within the community.
Social			
FHWA	Minimal	Careful consideration of potential negative impacts must be reviewed and avoided or minimized.	A desktop Sociocultural Effects (SCE) Evaluation was completed for this project using 2014 ACS Census data. The information covered under Social resources has been presented in **Section 3.1.1**, Land Use; **Section 3.1.2**, Community Cohesion; **Section 3.1.3**, Relocation Potential; **Section 3.1.4**, Community Services; **Section 3.1.5**, Nondiscrimination Considerations; and **Section 3.1.6**, Controversy Potential.
USEPA	Minimal	The project area is primarily rural/agricultural. Based upon land use in the project area and a review of the GIS analysis data at the programming screen review stage, direct impacts to social resources are anticipated to be minimal for the proposed project.	

Degree of Effect)	Degree of Effect	Comment	Response/Reference
DEO (formerly DCA)	None	No comment.	

4.3 ADVANCE NOTIFICATION

Through the AN process the FDOT informed numerous Federal, state, and local agencies of the project and its scope. An AN Package was prepared in accordance with Part 1, Chapter 3 of the FDOT *Project Development and Environment Manual* and was transmitted to the Florida State Clearinghouse (FSC), Department of Environmental Protection/Office of Intergovernmental Programs. The agency responses to the AN package are contained in **Appendix M**.

4.3.1 AGENCIES ON MAILING LIST

The following agencies received AN packages through the EST or directly from FDOT.

Federal Agencies

- Federal Highway Administration, Division Administrator
- Federal Highway Administration – **ETAT Representative**
- Federal Emergency Management Agency-Mitigation Division, Chief
- Federal Railroad Administration
- Federal Transit Administrator – **ETAT Representative**
- U.S. Department of the Interior – Bureau of Land Management, Eastern States Office
- U.S. Department of Housing and Urban Development, Regional Environmental Officer
- U.S. Department of the Interior – U.S. Geological Survey, Chief
- U.S. Environmental Protection Agency – **ETAT Representative**
- U.S. Department of Interior – U.S. Fish and Wildlife Service – **ETAT Representative**
- U.S. Army Corps of Engineers-Regulatory Branch – **ETAT Representative**
- U.S. Department of Commerce-National Marine Fisheries Service – Southeast
- U.S. Department of Commerce-National Marine Fisheries Service – Southeast Regional Superintendent Conservation Division – **ETAT Representative**
- U.S. Department of Agriculture – Southern Region
- U.S. Department of Interior – National Park Service – Southeast Regional Office – **ETAT Representative**
- Federal Aviation Administration, Airports District Office
- U.S. Department of Health and Human Services – National Center for Environmental Health
- U.S. Department of Interior – Bureau of Indian Affairs-Office of Trust Responsibilities
- U.S. Coast Guard – Seventh District – Commander (oan) – **ETAT Representative**
- U.S. Forest Service – **ETAT Representative**
- Federal Transit Administrator –**ETAT Representative**
- U.S. Department of Veterans Affairs, National Cemetery Administration

State Agencies

- Florida Inland Navigation District
- Florida Fish and Wildlife Conservation Commission – **ETAT Representative** Florida Department of Environmental Protection – **ETAT Representative**
- Florida Department of Environmental Protection **– State Clearinghouse**
- Florida Department of State – **ETAT Representative**
- Florida Department of Community Affairs – **ETAT Representative**
- Florida Department of Agriculture and Consumer Services – **ETAT Representative**
- FDOT Environmental Management Office, Engineer/Manager

Regional/Local Agencies/Government Officials

- St. Johns River Water Management District - **ETAT Representative**
- North Florida Transportation Planning Organization
- Federal, State, and Local Government Officials

Indian Nations

- Miccosukee Tribe of Indians of Florida – Chairperson
- Mississippi Band of Choctaw Indians – Chairman
- Muscogee (Creek) Nation of Oklahoma – Principal Chief
- Poarch Band of Creek Indians of Alabama – Chairperson
- Seminole Nation of Oklahoma – Principal Chief
- Seminole Tribe of Florida – Chairperson

4.4 SUMMARY OF AN COMMENTS AND RESPONSES

Based on the AN review, the Federal Consistency Determination resulted in a selection of Consistent, with Comments. The state has no objections to allocation of federal funds for the subject project and, therefore, the future funding award is consistent with the FCMP. To insure the project's continued consistency with the FCMP, the concerns identified by the reviewing agencies must be addressed prior to project implementation. The state's continued concurrence with the project will be based on the activity's compliance which FCMP authorizes, including federal and state monitoring of the activity to ensure its continued conformance, and the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting process in accordance with *Section 373.428, Florida Statutes*.

Agency: **Florida Department of Community Affairs**

Comment: The proposed project is Consistent with the Comprehensive Plan of the City of Jacksonville.

Response: *Comment noted.*

Agency: **Department of Environmental Protection**

Comment: Consistent, With Comments. Please note the Department's concern with potential impacts to Thomas Creek Preserve and Thomas Creek Conservation Areas.

Response: *The project will traverse the Ogilvie/Baxley property of the Thomas Creek Preserve as shown in the Thomas Creek Conservation Area Land Management Plan. This undeveloped parcel is not a conservation property, but is owned by the City of Jacksonville and managed by the SJRWMD until the city has a designated use for it. The property currently does not have public use facilities or access along the project corridor, but does have plans for future passive recreational use. As a result of coordination with the City of Jacksonville, FDOT has designed the JNCAR to provide a minimized urban typical section with a dedicated bike lanes and sidewalks. The provision for bicyclists and sidewalks will allow additional access to the future facilities to be provided at the Ogilvie/Baxley property. All of these features will enhance the planned parcel and are consistent with City of Jacksonville's plans for the Ogilvie/Baxley property. The City of Jacksonville will provide approximately 90 feet of ROW along the eastern property line to build the JNCAR.* The *FDOT transmitted a DOA to FHWA for review. FHWA determined that there is no Section 4(f) involvement with the Thomas Creek Preserve Wright Property and there is no Section 4(f) impact to the Ogilvie/Baxley property. The FHWA concurrence letter is in* ***Appendix D***.

Agency: **Florida Department of State**

Comment: No Comment/Consistent.

Response: *No response necessary.*

Agency: **Florida Fish and Wildlife Conservation Commission**

Comment: The regional area crossed by the two proposed alignments is within the Seaton Creek and Thomas Creek Drainage basins; and at their closest point, Alternative 1 is about 2 miles while Alternative 2 is approximately 1.0 mile south of the Nassau River. We recommend that the environmental evaluation consider impacts to forested wetlands and tributary streams of the Nassau River, potential impacts to Listed Species and other wildlife and habitat resources, and indirect impacts including habitat fragmentation and degradation by construction of a new roadway in a rural undeveloped region.

Response: *Comment noted, these issues have been evaluated as part of the PD&E Study and are summarized in Sections 3.3.1 (Wetlands) and 3.3.9 (Wildlife and Habitat).*

4.5 INTERAGENCY CONSULTATION AND COORDINATION

4.5.1 CONSULTATION

No additional comments have been received from review agencies outside of the ETDM process which was summarized in **Table 4-2** and included in **Appendix B** with the Final Programming Summary Report. In response to the comments and concerns, technical studies have been completed and consultation has been implemented with SHPO, NMFS, FWS, FWC, City of Jacksonville, and the VA as follows:

- A Final *CRAS* for the project corridor was submitted to FHWA on November 10, 2011. FHWA approved the document on December 28, 2011 and submitted it to the SHPO for review and concurrence with the findings. On January 12, 2012, SHPO concurred with the findings of the *CRAS*. The *Technical Memorandum CRAS of Ponds (2015)* was submitted to FHWA on April 6, 2015. FHWA approved the document on April 13, 2015 and submitted it to the SHPO for review and concurrence with the findings. On April 23, 2015, SHPO concurred with the findings of the *Technical Memorandum CRAS of Ponds.* The *Technical Memorandum - Evaluation of Effects Discussion for the Jacksonville National Cemetery* was submitted to FHWA on February 8, 2016. FHWA approved the document on March 9, 2016 and submitted it to the SHPO for review and concurrence with the findings. On April 14, 2016, SHPO concurred with the findings (**Appendix G**).

- A *Non-Tidal/Non-EFH Determination Technical Memorandum (2014)* was provided to NMFS on January 7, 2015. NMFS responded on the same day agreeing with the data and providing concurrence that the movement (in an unnamed tributary to Thomas Creek) could be due to many different things that were not the tide. NMFS noted that in certain rare situations that the area could be tidal, but not for enough sequential days for white shrimp to complete their specific life history stage (**Appendix J**).

- On January 23, 2012, FDOT forwarded a copy of the original *ESBA* to FWS and requested agency concurrence with the findings regarding federally listed species. On February 29, 2012, FWS provided a letter detailing comments under the ESA and FWCA. The *ESBA* and *WER* were updated to contain additional information in response to FWS and submitted back to FWS on April 10, 2015 for concurrence. FWS provided concurrence on July 29, 2015 (**Appendix I**).

- The City of Jacksonville and FDOT began coordination on this project on November 4, 2010, during the initial phases of the PD&E Study. At this initial meeting, FDOT and City of Jacksonville discussed the undeveloped Ogilvie/Baxley parcel. A follow-up meeting was held on April 8, 2011, to further discuss the Ogilvie/Baxley parcel and how the JNCAR would provide the desired access to the parcel. The City of Jacksonville provided FDOT with a conceptual layout of trailheads located on either side of the proposed alignment. Three subsequent meetings were held on April 19, 2012, May 2, 2012, and June 11, 2012, in addition to the Public Information Meeting that was held on June 2, 2011. These meetings were to further discuss the proposed trailheads and access provided by JNCAR. FDOT committed to provide the City of Jacksonville with the funding to construct the proposed trailheads. In addition, drainage structures will be enhanced along the new roadway, on the east side of the Ogilvie/Baxley property, in order to facilitate

wildlife passage between local and state recreational lands. FDOT will design JNCAR to provide paved shoulders for bicyclists and pedestrians. The City of Jacksonville will provide approximately 90 feet of ROW along the eastern property line of the Ogilvie/Baxley parcel to build the JNCAR. The City of Jacksonville and FDOT will continue to work together in order to facilitate the future goals for the Ogilvie/Baxley parcel. This information is documented in a letter from City of Jacksonville dated August 8, 2012, located in **Appendix D**.

The FDOT prepared a Statement of Significance Letter for the Ogilvie/Baxley property and provided this letter to the City of Jacksonville for concurrence on April 21, 2014. On April 22, 2014, the City of Jacksonville provided concurrence with the determination that the Ogilvie/Baxley site is not a significant facility and that there will be no use of this resource due to the implementation of the proposed project (**Appendix D**).

The FDOT has been coordinating with the VA throughout the Project Development and Design Phases as documented in **Table 4-2**. The FDOT began working with VA in 2010 to identify an agreeable location for the proposed new access road and any associated drainage system improvements. Initially, a number of alternatives were considered with at least one specific alternative that avoided the VA property altogether. Due to the narrow right of way and inadequate drainage facilities this option was not feasible. The current concept is to obtain a permanent easement on undeveloped land from the VA for the access road and pond property and to offset the VA's loss of use of this property by increasing the amount of developable land. In coordination with the VA, the FDOT is proposing to modify the existing VA permit/mitigation plan thereby increasing the amount of developable land for future use. The intent of the permit modification is to release area that is currently designated for wetland creation under the existing permit. The area has been permitted as mitigation but, to date, no conservation easement has been recorded and no earthwork has been initiated. To offset the loss of permitted mitigation, the permit modification includes permit credits from an approved mitigation bank with available credits in Basin 3. In essence this would result in an increase of useable land to the VA of 6.17 acres. See **Figure 3-7** for detailed acreages. Additional coordination and further documentation is ongoing. Refer to **Appendix N** for specific coordination information and figures. The VA Environmental Assessment drafted for the Cemetery is located in **Appendix E**.

4.5.2 FEDERAL, STATE, AND LOCAL AGENCY COORDINATION MEETINGS

The FDOT understands that a successful PIP seeks stakeholder's comments. One way to accomplish this is by hosting agency meetings. The FDOT has had numerous meetings throughout the PD&E study and will use the information gathered to recommend an alternative to advance to the design phase.

Coordination and consultation were accomplished through a series of meetings and correspondence over the course of the study to ensure all appropriate parties were appraised of the project status and provided ample opportunity to submit comments.

Through the PD&E coordination process, government agencies and departments (local, state, and federal) were contacted through correspondence and/or meetings to solicit their comments

regarding the proposed project. **Table 4-2** is a list of these project coordination meetings that FDOT attended.

4.6 PUBLIC INFORMATION MEETING

A Public Information Meeting was held on Thursday, June 2, 2011, at the Hampton Inn & Suites, 13551 Airport Court, Jacksonville, Florida. The purpose of the Public Information Meeting was to provide the public with information on the alternative concepts developed to date and to allow the public the opportunity to comment on these concepts. There were 37 attendees at the meeting, including some government agencies. Meeting materials are located in **Appendix C**.

The meeting was held in an open house format with no formal presentation. Project boards showing an evaluation matrix, typical section, and displays showing the alternatives were presented at the meeting. FDOT project team members were available for questions and to explain the alternative concepts in greater detail.

Limits shown at the public meeting started at I-95 and continued to Lannie Road. Segment A was to upgrade the existing Pecan Park Road/Arnold Road from I-95 to the western terminus of Arnold Road. Segment A is no longer part of this project. Segment B showed the new alignment of the JNCAR from the western terminus of Arnold Road to Lannie Road.

The FDOT developed two alignments to present to the public for review; Alternative 1 and Alternative 2. A map showing these alternatives is included in the public meeting materials located in **Appendix C**. Feedback from the meeting was in favor of Alternative 2 which was refined to be the Build Alternative. Public comments were received at the meeting. There were three speakers that commented in favor of the project. This included a formal verbal comment received from the Aide to U.S. Representative Ander Crenshaw. There were also two letters that were in favor of the project. No negative feedback or controversy was presented at the meeting.

Table 4-2 Project Coordination Meetings

Meeting Date and Time	Attendees	Meeting Location	Brief Summary
July 30, 2010	England Thims and Miller (design consultant to the VA for the Jacksonville National Cemetery)	Jacksonville	Discussed the project and the site plan for the cemetery.
August 25, 2010 at 2:30 pm	Staff of Congressman Ander Crenshaw, England, Thims & Miller	Jacksonville	Discussed the project.
September 21, 2010 at 10:00 am	Aide to Florida Senator Wise, Aide to U.S. Congressman Crenshaw, Sleiman Enterprises (property owner), St. Johns River Water Management District, Rotary Club of North Jacksonville, Jacksonville National Cemetery Support Committee	Jacksonville	Discussed the project.
November 4, 2010 at 1:30 pm	City of Jacksonville	Ed Ball Building (City of Jacksonville offices), downtown Jacksonville	Met with City of Jacksonville Parks and Recreation, Planning and Public Works departments to discuss this project, who will maintain the road when completed (City of Jacksonville) and the impacts to the City of Jacksonville parcel (Ogilvie/Baxley parcel).
April 8, 2011 at 10:00 am	City of Jacksonville	Ed Ball Building (City of Jacksonville offices), downtown Jacksonville	Met with City of Jacksonville Parks and Recreation, Planning and Public Works departments to provide an update on this project and discussed the project's impacts on the City of Jacksonville parcel (Ogilvie/Baxley parcel).
May 9, 2011 at 11:30 am	Congressman Ander Crenshaw, Congressman Cliff Sterns, Congresswoman Corine Brown, Aide to Congressman John Mica, Aide to Senator Bill Nelson, Aide to Senator Marco Rubio, Aide to Lieutenant Governor Jennifer Carroll, Jacksonville National Cemetery Support Committee, Rotary Club of North Jacksonville, Sleiman Enterprises	Axioun Strategic Planning, Sheltair Air Travel Office Building, Jacksonville	Discussed the project.
June 2, 2011 at 4:30 pm	Public Information Meeting	Hampton Inn and Suites, 13551 Airport Court, Jacksonville	Public Information Meeting held to discuss project. Public comment period held at 6:30 pm.
January 24, 2012 at 10:00 am	Jacksonville National Cemetery Support Committee, Jacksonville National Cemetery staff, Rotary Club of North Jacksonville	Axioun Strategic Planning, Sheltair Air Travel Office Building, Jacksonville	Provided a project update and status.

Meeting Date and Time	Attendees	Meeting Location	Brief Summary
April 19, 2012 at 2:30 pm	City of Jacksonville	Ed Ball Building (City of Jacksonville offices), downtown Jacksonville	Met with City of Jacksonville Planning, Public Works and Parks and Recreation departments. Discussed this project.
May 2, 2012	City of Jacksonville	Ed Ball Building (City of Jacksonville offices), downtown Jacksonville	Met with City of Jacksonville Planning, Public Works and Parks and Recreation departments. Discussed this project.
June 11, 2012 at 10:30 am	City of Jacksonville	Ed Ball Building (City of Jacksonville offices), downtown Jacksonville	Met with City of Jacksonville Planning, Public Works and Parks and Recreation departments. Discussed this project's impacts on the City of Jacksonville parcel (Ogilvie/Baxley parcel) and the proposed typical sections.
February 5, 2013 at 11:00 am	St. Johns River Water Management District, England, Thims, and Miller, Inc.	SJRWMD (Jacksonville Service Center)	Discussed this project's drainage criteria and potential environmental impacts.
August 6, 2014 at 11:00 am	St. Johns River Water Management District, England, Thims, and Miller, Inc.	SJRWMD (Jacksonville Service Center)	Discussed SJRWMD review process, compensatory treatment alternatives, sovereign submerged lands, and Outstanding Florida Waters designations for the project.
August 25, 2014 at 2 pm	VA, England, Thims, and Miller, Inc.	Jacksonville National Cemetery	Discussed this project's potential impacts to the Jacksonville National Cemetery property.
June 30, 2015	VA, England, Thims, and Miller, Inc., FDOT	VANTS Call	Project schedule, Memorandum of Understanding (MOU), and land acquisition.
January 13, 2016	VA, England, Thims, and Miller, Inc., FDOT	Teleconference	Mitigation transfer and EA.
March 2, 2016	VA and FDOT	Teleconference	Mitigation transfer.
March 9, 2016	VA, FHWA, and FDOT	Teleconference	Jacksonville National Cemetery property eligibility for listing in the NRHP.
April 11, 2016	VA, England, Thims, and Miller, Inc., FDOT	Teleconference	Permit modification and ALTA survey.

4.7 PUBLIC HEARING

FDOT will not make a final decision on the proposed action or any alternative until a public hearing has been held on this project and all comments received have been taken into consideration.

This section will be completed after the Public Hearing is held. A Public Hearing is anticipated in fall or winter 2016.

5 COMMITMENTS AND RECOMMENDATIONS

5.1 COMMITMENTS

During construction, all provisions of the FDOT's most recent version of the S*tandard Specifications for Road and Bridge Construction* as well as Best Management Practices will be followed. All State and Federal requirements related to the *ADA*, ROW acquisition, erosion control, and water quality will be adhered to. In addition, FDOT is committed to the following measures for the JNCAR project.

Section 4(f)

- FDOT committed to provide the City of Jacksonville with the funding to construct the proposed trailheads. In addition, drainage structures placed along the new roadway, on the east side of the Ogilvie/Baxley property will facilitate wildlife passage of small species between local and state recreational lands. FDOT will design JNCAR to provide a minimized urban typical section with paved shoulders for bicyclists and sidewalks. The provision for bike lanes and sidewalks will allow additional access to the future facilities to be provided at the Ogilvie/Baxley property. All of these features will enhance this city-owned parcel and are consistent with City of Jacksonville's plans for the Ogilvie/Baxley property.

Wetlands

- Mitigation that is suitable and adequate for all applicable state and federal regulatory agencies will be provided as necessary for wetland impacts.

Federally Listed Species

- FDOT is committed to the utilization of the FWS's Survey Protocol for the Eastern Indigo Snake during the design/permits phases, if applicable, as well as the Standard Protection Measures for the Eastern Indigo Snake (2013) during construction phase, if applicable.

Directional Signs

- FDOT is committed to installing directional signs on Interstate 95 at Pecan Park Road directing personnel to the Jacksonville National Cemetery.

Future Driveway Connections

- FDOT will process a Maintenance Agreement (MA) with the City of Jacksonville, and include a requirement to allow for future driveway connections from VA property east and west of the proposed connector road.

Navigation

- The FDOT will provide a timely notice if any and all events that may affect navigation shall be given to the District Commander during construction of the bridge project. The FDOT will contact Michael Lieberum at (305) 415-6744, or current District Commander, sixty (60) days prior to commencement of construction.

- Upon completion of construction, the FDOT will submit photos and "as built" drawings, in 8 ½ x 11" format, showing clearances through the bridge and sufficient data to permit the USCG office to prepare a Completion Report. This report will be used for the USCG and other mariner publications.

Permit Modification

- In coordination with the VA, the FDOT will modify the existing VA property ERP permit to remove acreage of permitted wetland creation. These areas have been permitted as mitigation, but to date no conservation easement has been recorded and no earthwork has been initiated. To offset the loss of permitted mitigation, the FDOT will purchase credits from an approved mitigation bank with available credits in Basin 3.

5.2 RECOMMENDATIONS

Recommendations will be included after the Public Hearing is complete and public comments are received.