



DRAFT ENVIRONMENTAL ASSESSMENT

STATE ROUTE 144 WIDENING

GDOT Project STP00-0630-00(010), PI 532370

Bryan County, Georgia

State Route 144 Widening

Bryan County

Project STP00-0630-00(010)

PI Number 532370

The proposed widening and related improvements State Route 144 from northwest of County Road 100 (Timber Trail Road) to south of County Road 154 (Belfast River Road)

ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF TRANSPORTATION


FEDERAL HIGHWAY ADMINISTRATION

AND


GEORGIA DEPARTMENT OF TRANSPORTATION

SUBMITTED PURSUANT TO 42 USC 4321 et. seq.

And 49 USC 303 (for 4(f), if applicable)



1/13/2014
DATE
Todd A. Barker, AICP
Senior Planner
Adrian Collaborative, LLC

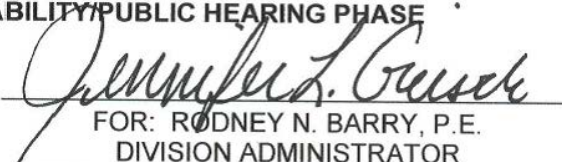


1/14/2014
DATE
Glenn Bowman, P.E.
Environmental/Location Engineer

APPROVAL FOR ADVANCEMENT TO AVAILABILITY/PUBLIC HEARING PHASE

1-16-14

DATE



FOR: RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

NEPA DATE

Glenn Bowman, P.E. DATE
Environmental/Location Engineer

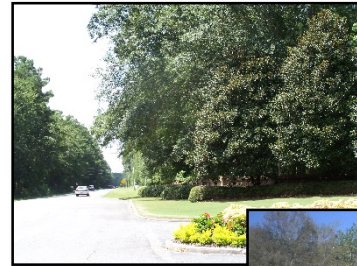
APPROVAL OF ENVIRONMENTAL ASSESSMENT

DATE

FOR: RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

Executive Summary

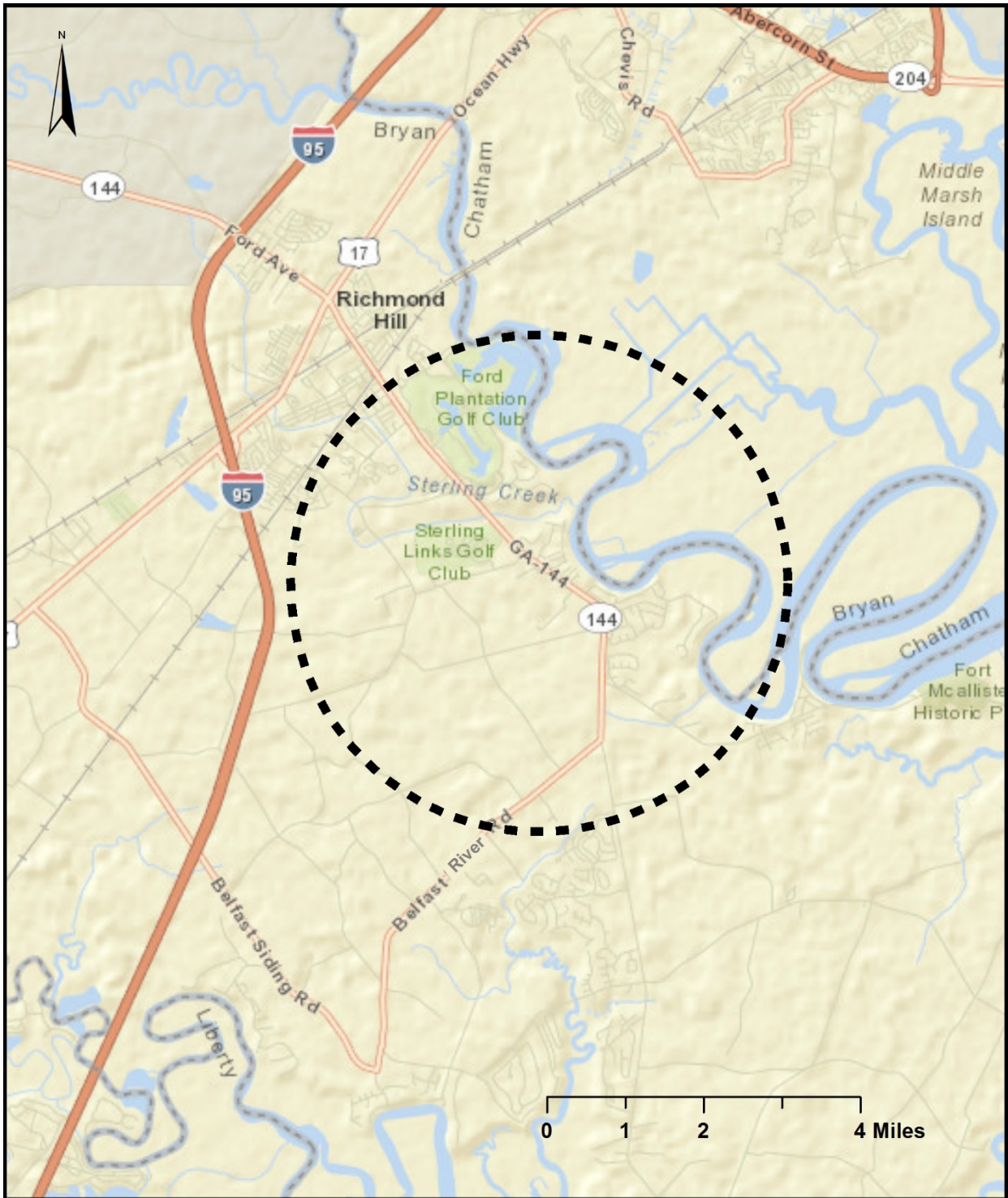
The Georgia Department of Transportation (GDOT) proposes to construct improvements on State Route (SR) 144 southeast of I-95, within the City of Richmond Hill and unincorporated Bryan County (see **Figure 1**). This Environmental Assessment (EA) describes the project, its potential impacts, and coordination that has occurred already with the public and resource agencies. The EA follows requirements of GDOT and the Federal Highway Administration (FHWA) to address the National Environmental Policy Act (NEPA).



The purpose of the proposed project is to improve the ability for SR 144 to handle future traffic efficiently. By adding lanes to existing SR 144, the project would address needs related to future traffic conditions, planned growth adjacent to the highway corridor, and the designation of SR 144 as part of the state system for hurricane evacuation. The recommended approach to address these needs, referred to as the Preferred Alternative, is to widen the existing two-lane section of SR 144 to four lanes from just north of Timber Trail Road and to just south of Belfast River Road, a distance of 5.051 miles. Including intersection improvements on side streets, the total project length would be 5.341 miles. Studies have been conducted to determine how the Preferred Alternative would affect nearby resources, described in the social, cultural, natural, and physical environments (see **Table 1**).

Table 1 Summary of Impacts: SR 144 Widening		
Resource	Findings / Level of Impacts	Recommendations to Reduce Harm
Social Environment	<ul style="list-style-type: none"> No relocations of any residences, business, church, or other facility No long-term impacts on local economy Traffic to be maintained on SR 144 during construction Local access will be changed for approximately 30 existing connections to SR 144 due to construction of a median with periodic median breaks and conversion of one local road to cul-de-sac 	Coordinate with affected property owners for concerns about medians; install additional signage for U-turn access and provide as many median breaks as practical
Cultural Environment	<ul style="list-style-type: none"> No adverse effects to any historic property, archaeology site, or cemetery 	None Needed
Natural Environment	<ul style="list-style-type: none"> 5 of 9 streams in project area avoided; total of 376 feet of impacts 11 of 36 wetlands and open waters avoided; total of 2.2 acres of impacts Protected buffer removed at 6 water features Potential for minor disturbance to habitat of protected species No substantial impacts to Essential Fish Habitat 	Wetland and stream credits as mitigation for impacts to waters and buffers
Physical Environment	<ul style="list-style-type: none"> Air quality emissions would improve compared to future congestion on two lanes; no pollutants would reach levels of health concern Noise levels would be considered substantial at 10 residences with future conditions with or without the SR 144 project No disturbance to known underground storage tanks 	The potential use of noise barriers as mitigation would be discussed with affected property owners.

Figure 1: Project Location



About this Document

This EA has been prepared in a format to encourage all members of the public and other stakeholders to participate in the review process. The document is organized to provide summary information and access to details depending on the reader's interests. The following features are included for reader convenience:

- *Question-and-Answer format:* Common questions are asked as the subheadings, allowing quick reference to answers.
- *QuickView:* Text boxes appear with this title, giving an overview of relevant topics.
- *Regulatory Note:* Many state and federal regulations must be followed. Text boxes by this title give the proper name and description of important regulations.
- *Links to additional information:* Within the text boxes, options are shown to search online resources. For smart phones, a code is included. The full online link also is listed in blue, providing access via the Internet to the resources. For interested persons who do not have a service provider, free access is available at the Richmond Hill Public Library (9607 Ford Avenue) during regular hours. A free wireless network is available for users to bring their own laptops, and seven computers are available in the library for free use in one-hour periods as well.
- *Topical Organization:* The EA is divided into chapters. Chapter 1 describes the need for improvements to SR 144 and the purpose of the overall project. Chapter 2 describes alternatives considered and details about the proposed project. In Chapter 3, existing conditions and potential impacts are discussed, along with measures to reduce the negative impacts (mitigation). Chapter 4 describes coordination with the public and agencies. Chapter 5 is a summary of the project findings. Chapter 6 provides a list of references, photo captions/credits, and data sources for figures.
- *Abbreviations and Definitions:* Throughout the document, certain technical terms and abbreviations are necessary due to the nature of this study. Appendix B is a list of abbreviations and definitions to help with the technical terms.

Table of Contents

Chapter 1: Need and Purpose	1
1.1 What Are the Existing Characteristics of State Route 144?	1
1.2 Why is the Project Needed?	1
1.2.1 To Serve Current and Future Traffic Volumes	1
1.2.2 To Improve Bicycle and Pedestrian Access.....	4
1.2.3 To Improve Safety	4
1.2.4 To Prepare for Emergency Evacuations	7
1.3 What is the Purpose of the Project?	7
1.4 How Has the Project Been Planned?	7
1.5 How Were Project Limits Determined?	9
Chapter 2: Alternatives	11
2.1 What Alternatives Have Been Considered?	11
2.1.1 Intersection Improvement Alternative	11
2.1.2 Limited Widening Alternative	11
2.1.3 Widening Alternative.....	12
2.1.4 Widening and New Location Alternative	12
2.1.5 No-Build Alternative.....	12
2.2 What is the Preferred Alternative?	12
2.3 How Would the Preferred Alternative Meet the Project Needs?	15
2.4 How Would the Preferred Alternative Affect the Environment?	15
Chapter 3: Resources and Impacts	17
3.1 Definitions of Impact and Boundaries	17
3.2 Social Environment	18
3.2.1 Characteristics of the Local Community	18
3.2.2 Land Use and Local Planning.....	21
3.2.3 Local Economy	27
3.2.4 Residences, Businesses, Churches, and Community Facilities.....	29
3.2.5 Parks and Recreational Areas	32
3.2.6 Community Cohesion and Local Access	34
3.2.7 Farmland	34

3.3 Cultural Environment	35
3.3.1 Historic Resources	36
3.3.2 Archaeological Resources	38
3.3.3 Historic Cemeteries.....	38
3.3.4 Historic Markers	39
3.4 Natural Environment.....	41
3.4.1 Waters of the US and State Waters	41
3.4.2 Water Quality	53
3.4.3 Floodplains.....	54
3.4.4 Essential Fish Habitat	57
3.4.5 Protected Species	58
3.4.6 Habitat and Wildlife	61
3.4.7 Invasive Species	62
3.4.8 Coastal Zone Resources and Coordination.....	63
3.5 Physical Environment	64
3.5.1 Climate Change	64
3.5.2 Air Quality	64
3.5.3 Noise.....	66
3.5.4 Hazardous Materials	70
3.5.5 Other Construction Impacts.....	72
Chapter 4: Coordination and Public Involvement	73
4.1 How Were Members of the Public Informed About the Project?	73
4.2 Which Agencies Were Invited to Participate in this Study?	73
4.3 How Can the Public and Agencies Remain Involved?.....	74
Chapter 5: Conclusion	75
Chapter 6: References and Credits	78

Tables

1. Summary of Impacts: SR 144 Widening	i
2. Annual Average Daily Traffic Volumes	2
3. Traffic Levels of Service	4
4. Accident History	5
5. Population and Income Characteristics	20
6. Present and Future Development in Study Area	24
7. Community Facilities	29
8. Protected Species	59
9. FHWA Noise Abatement Criteria	67
10. Hazardous Materials.....	70

Figures

1. Project Location.....	i
2. SR 144 Corridor.....	1
3. Growth Areas in Bryan County Transportation Study	2
4. Accident Locations on SR 144 (2009-2012)	6
5. Project Limits for NEPA Study	9
6. Logical Termini for Preferred Alternative	13
7. Preferred Alternative Urban Section	14
8. Preferred Alternative Rural Section	14
9. Population and Income Characteristics in Study Area	20
10. Existing Land Use.....	22
11. Future Land Use.....	23
12. Present and Future Planned Development.....	25
13. Community Facilities (North/West Section)	30
14. Community Facilities (South/East Section).....	31
15. Historic Resource in Project Area	37
16. Historic Markers.....	39
17. Waters of the US (North/West Section)	42
18. Waters of the US (South/East Section).....	43
19. Floodplains and Regulatory Floodways.....	56
20. Impacted Noise Sensitive Sites	68
21. Known UST Locations	71

Appendices

- A. Detailed Maps and Tables
- B. Abbreviations and Definitions
- C. Coordination
 - Agency Early Coordination
 - Farmland
 - Land Use and Planning
 - Cultural Resources
 - Ecology
 - Air Quality and Noise
- C. Detailed Maps and Tables
 - Figure A-1. Project Alignment Map Series
 - Figure A-2. State and Federal Waters Map Series
 - Table A-1. Streams
 - Table A-2. Wetlands, Ephemeral Channels, and Open Waters
- D. Public Involvement
 - Public Information Open House
 - Bryan County Transportation Study
- E. Special Study Citations and Summaries
 - Cultural Resources
 - Ecology
 - Air Quality and Noise

Chapter 1: Need and Purpose

1.1 What Are the Existing Characteristics of State Route 144?

The Georgia Department of Transportation (GDOT) has been conducting studies of the current and future conditions on State Route (SR) 144 southeast of I-95, within the City of Richmond Hill and unincorporated Bryan County. From I-95, SR 144 extends southeast as a four-lane highway before tapering down to two lanes near Timber Trail Road. For approximately five miles between Timber Trail Road and Belfast River Road, the existing roadway consists of two 12-foot lanes, with narrow shoulders except where recent development has included construction of paved shoulders or turn lanes adjacent to driveways. Sidewalks are located only at the corner of Timber Trail Road along the frontage of commercial development. South of Belfast River Road, SR 144 continues as a two-lane road for 5.5 additional miles, ending at local roads near the banks of the Ogeechee River.



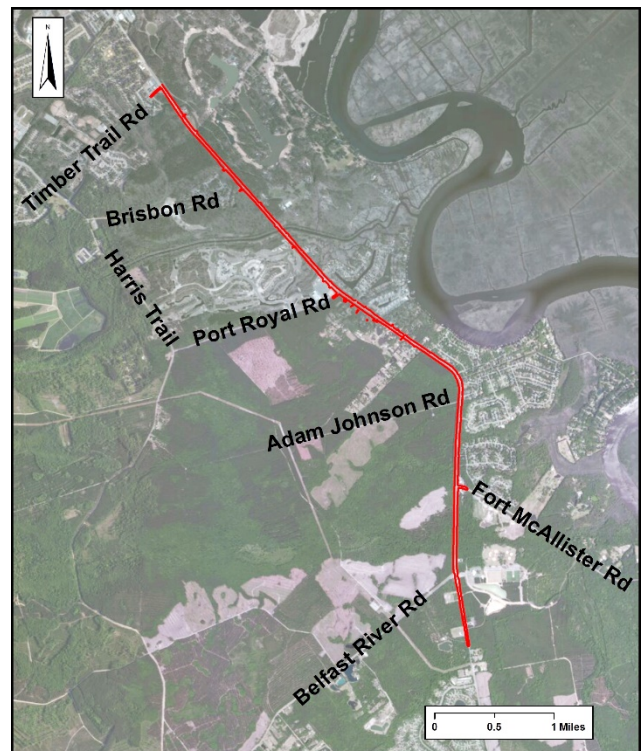
1.2 Why is the Project Needed?

Based on a series of studies conducted and coordination with local stakeholders and the public, several limitations have been identified with the existing and future conditions on SR 144 between Timber Trail Road and Belfast River Road. The following sections describe specific needs related to increasing traffic congestion, planned growth adjacent to SR 144, safety concerns, and the highway's use as a hurricane evacuation route.

1.2.1 To Serve Current and Future Traffic Volumes

Current traffic volumes on SR 144 were estimated between Timber Trail Road and Belfast River Road (see project corridor in **Figure 2**). Traffic volumes are counted in samples and then adjusted to an average number of vehicles per day (VPD). By considering seasonal factors and school calendars, an average annual daily traffic (AADT) volume is estimated. As shown in **Table 2**, the AADT

Figure 2: SR 144 Corridor



volumes were estimated for 2011 as the current year for studies conducted during this Environmental Assessment (EA). The existing volumes range from approximately 17,700 near Port Royal Road to 9,700 just south of Belfast River Road (18,400 to the north on the existing four-lane section). Future traffic volumes were estimated for two years:

SR 144 Section	2011	2018	2038
North of Timber Trail Road	18,400	21,700	34,500
South of Timber Trail Road	16,900	19,900	31,600
South of Port Royal Road	17,700	20,900	33,100
South of Belfast River	9,700	11,400	18,200

Source: GDOT Planning, 2012.

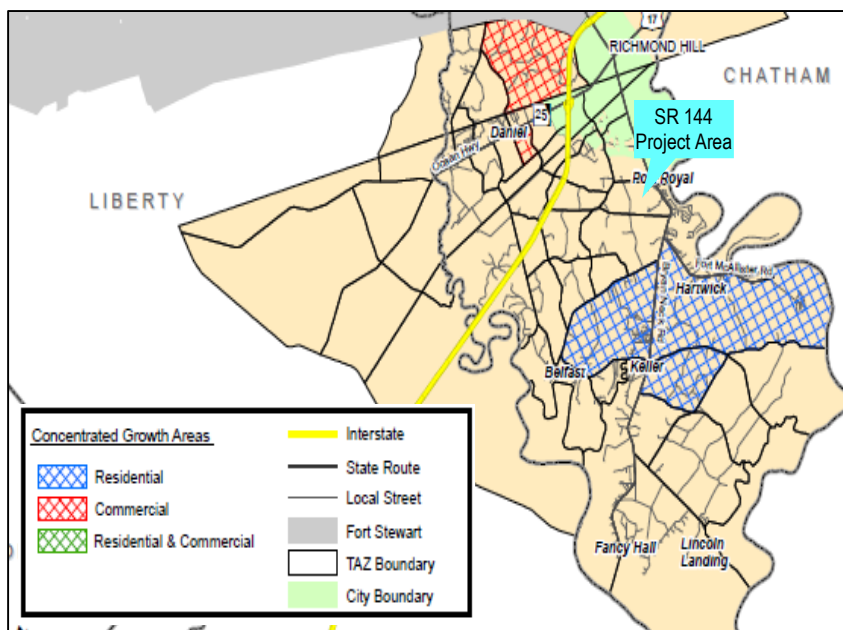
■ 2018 as the soonest year that improvements could be constructed.

■ 2038 as a 20-year period after construction, a reasonable estimate of the period that improvements would be expected to serve the traveling public.

As **Table 2** highlights, growth in traffic volumes is expected to remain steady on SR 144, to a range of 18,200 to 33,100 VPD by the year 2038. North of the project area on the existing four-lane section, the AADT would reach 34,500 VPD. These volumes are a reflection of growth already occurring within south Bryan County, especially residential development.

As described by the Coastal Regional Commission in its update of the 2008 *Bryan County Joint Comprehensive Plan*, “southern portions of Bryan County are home to large, master-planned communities as well as marsh-front property.” Similar findings were included in the Bryan County Transportation Study (BCTS), particularly within and adjacent to the SR 144 corridor (see **Figure 3**). In addition to several established subdivisions with entrances on SR 144, more than 5,000 new single-family homes are being constructed as part of approved new developments. According to Bryan County Planning and Zoning staff in 2010, construction was underway or planned for several large-scale neighborhoods that promote the scenic natural amenities near the Ogeechee River. New residents will rely on SR 144 for direct or indirect access from their neighborhoods to the employment and commercial areas in Richmond Hill and Chatham County. The traffic growth rates reflect these actual changes already occurring in the SR 144 corridor, with population and employment both expected to increase rapidly in south Bryan County.

Figure 3: Growth Areas in Bryan County Transportation Study



QuickView: Levels of Service (LOS)

The LOS grades A-F are much like a school report card, with A being best conditions and E-F being worst conditions.

LOS A: traffic is flowing freely with little or no delay at intersections.

LOS B: traffic flow is steady but the presence of other vehicles begins to be noticeable. Short delays at intersections.

LOS C: steady traffic flow, but speeds and maneuverability are more closely controlled by the higher volumes. Average delays at intersections.

LOS D: approaching an unsteady flow in which speed and maneuverability are severely restricted. Long delays at intersections.

LOS E: traffic flow is reduced to a slow but relatively uniform speed, and traffic volume is equal to or nearly equal to capacity. Very long delays at intersections.

LOS F: volume greatly exceeds the capacity and lengthy delays occur. Excessive, long delays at intersections.

To estimate a roadway's ability to handle traffic efficiently, its capacity is compared to the volumes. Several professional methods such as travel demand modeling can be used to determine roadway capacity, depending on available information and level of detail needed. As a simple and general planning estimate, a highway such as SR 144 can handle 8,000 VPD per lane. This total of 16,000 VPD for a two-lane highway is consistent with the Highway Capacity Threshold Table (created by the Florida Department of Transportation and widely used as a planning guide for highway volumes). According to this threshold table and GDOT planning procedures, a two-lane state highway similar to SR 144 has reached its capacity to handle traffic efficiently at 16,000 to 18,000 VPD. By comparing the expected volumes with the capacity of the existing two lanes, GDOT can determine when congested conditions would reach unacceptable levels.

A grading scale typically is used to evaluate a roadway's level of congestion, known as level of service (LOS). Similar to a report card, LOS grades range from an "A" to an "F" as congestions levels worsen from light to stop-and-go conditions. By estimating future traffic volumes, the future LOS also can be estimated for a given year.

Based on modeling of traffic conditions in the *BCTS* (2009), the current LOS is C along most of SR 144. However, sections of SR 144 have been experiencing LOS D and E conditions during peak hours of weekday traffic, indicating that drivers generally travel well below the posted speed limit and experience substantial delays at intersections.

Table 3
Traffic Levels of Service

SR 144 Corridor:	Existing Daily	Future (By 2035) Daily
North of Timber Trail Road	C or Better	C/D
Between Timber Trail Road and Belfast River Road	D	E/F
South of Belfast River Road	C or Better	C or Better
Intersection at:	Existing Peak Hour	Future (By 2035) Peak Hour
Timber Trail Road	A	D/E
Port Royal Road	D/E	E/F

Sources: GDOT Planning and District 5 Traffic Operations, 2012.
 GDOT Planning, *Bryan County Transportation Study*, 2010.

The future levels of traffic service are shown in **Table 3**. With the projected growth in volumes, traffic conditions gradually will worsen. From 2011 to 2038, volumes on each of the three listed sections of SR 144 would increase by 87%, while the current volumes already are approaching the full capacity of a two-lane state highway. As a result, future congestion on SR 144 will be unacceptable at LOS E or F in the absence of any roadway improvements that increase the capacity. Stop-and-go conditions would occur at intersections and along the main corridor.

1.2.2 To Improve Bicycle and Pedestrian Access

Most of the current SR 144 roadway shoulders are narrow, with rumble strips in some sections (the uneven strips of pavement to alert drivers who cross the line into the shoulder). Paved shoulders average two to four feet, except for short sections adjacent to where turn lanes have been added at commercial development and major intersections. No sidewalks or bicycle lanes are located on SR 144 other than a short section at the corner of Timber Trail Road. The lack of adequate sidewalks and bicycle access is a concern identified in the *Bryan County Bicycle and Pedestrian Plan* and the *BCTS*. The section of SR 144 between Timber Trail Road and Belfast River Road is identified in the county plans as a particular need for multimodal improvements due to the concentration of existing and planned neighborhoods and the scenic qualities on the route.

In addition, GDOT has begun a policy to consider how to add multimodal improvements as part of its Complete Streets Program. Without construction of new facilities, the current and future residents will not have safe and convenient connections for walking or biking between neighborhoods and other nearby uses on SR 144 such as shops, churches, and recreational facilities.

1.2.3 To Improve Safety

A roadway's history of vehicle accidents (also referred to as crashes) can provide an indication of safety or capacity improvements needed. Because the number of crashes would be expected to increase as traffic volumes on a specific roadway section increase, a rate is necessary to determine if the safety concerns actually are worsening. On a countywide basis, available crash data from 2000-2007 were combined with annual population to estimate a rate of crashes per 1,000 persons or population. While the Bryan County population increased each year, the crash rate remained similar

across the years at an average of 29.1 crashes per 1,000 population. By comparison, the statewide average for the same period was 37.9 crashers per 1,000 population.

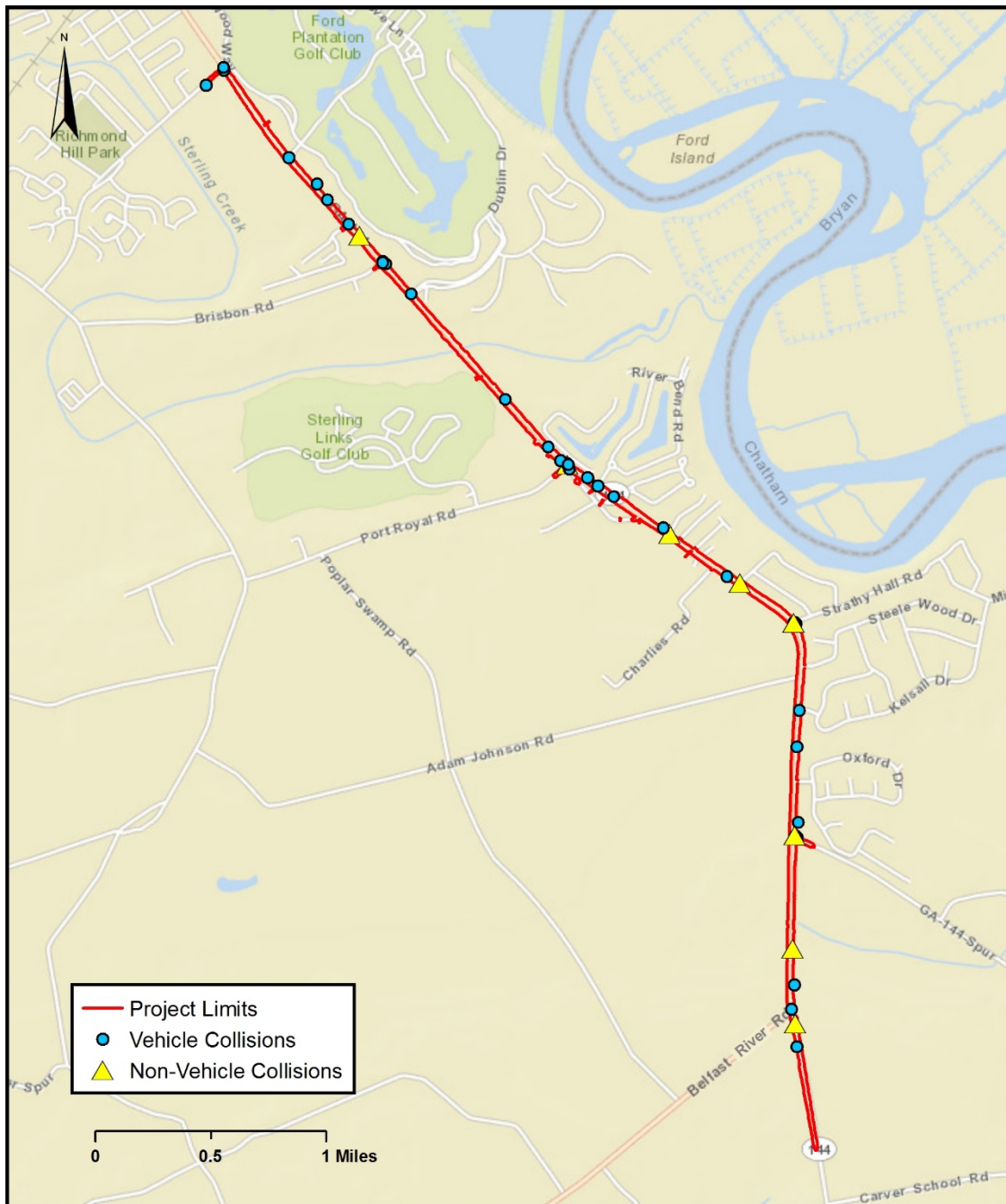
Crash data was reviewed within the project corridor. The unit of crashes per one hundred million vehicle miles (HMVM) is a standard rate to enable comparisons of safety on a roadway corridor. Rates for the period 2000-2007 are shown in **Table 4**. These comparisons show that existing SR 144 generally has fewer than average safety concerns in term of visibility, speeds, and other roadway factors.

Table 4 Accident History						
Location	Total 2000-2007			Statewide Average		
	Crash Rate	Injury Rate	Fatality Rate	Crash Rate	Injury Rate	Fatality Rate
SR 144 (5.1 Miles, Belfast River to Richmond Hill)	177	92	0	514	190	1.47
SR 144 at Timber Trail Road (Bryan County Top 6 Most Frequent Accident Intersections)	Crashes	Injuries	Fatalities	Average Annual Crashes	Average Annual Injuries	Average Annual Fatalities
	44	14	0	6	2	0

Source: GDOT Planning, Bryan County Transportation Study, 2010.

Table 4 also shows actual crash records at the intersection of SR 144 and Timber Trail Road, which has been determined to have the fifth highest accident frequency of intersections in Bryan County. Regardless of the rate comparisons, GDOT strategic plans include a goal to reduce and eliminate accidents. As part of this initiative, data is being converted to a new system that tracks accident reports from authorities statewide. The new Georgia Electronic Accident Reporting System (GEARS) data provide locations and some details on each accident within given roadway limits. By entering certain details in the system, data can be matched to a project corridor. In this case, 2009 - 2013 records were available within the corridor. The four years of accident records are shown in **Figure 4**.

Figure 4: Accident Locations on SR 144 (2009-2013)



The blue dots represent an accident involving more than one vehicle, while the yellow triangles show locations of vehicles crashing with some other type of object or debris. A total of 41 accidents were reported, concentrated along the busiest section near Port Royal Road. The accidents would be expected to increase on a crowded, two-lane highway when volumes are expected to grow by 87%. The resulting congestion would increase the potential for driver frustration, stop-and-go traffic with rear-end collisions, and angled accidents as drivers try to turn from cross streets.

1.2.4 To Prepare for Emergency Evacuations

In the wake of major coastal storm events during the past decade including Hurricane Katrina, the Georgia Emergency Management Agency (GEMA) prepared the *Georgia Hurricane Plan* in 2013. The plan outlines how the state will provide emergency notices, emergency operations during storm events, evacuation, and re-entry to coastal areas. For incident scenarios and evacuations, Bryan County is grouped with Chatham, Effingham, and Liberty Counties as the Northern subsection of Georgia Coastal Evacuations. The plan identifies SR 144 as one of its Critical Roadway Segments to direct evacuees out of Bryan County and toward I-95 and I-16 for access to safer inland locations. The re-entry plan also calls for SR 144 to be used as emergency periods end and residents are allowed to return to their communities. At county and regional levels, SR 144 from Belfast River Road westward also is identified in local emergency plans to provide an evacuation route to the interstates. Given this link in emergency evacuation plans, SR 144 will need improved capacity to provide the quick-response access during rare but potentially severe coastal weather emergencies.



1.3 What is the Purpose of the Project?

The purpose of the project is to improve traffic flow on SR 144 between Timber Trail Road and Belfast River Road so that the public will have safe and efficient travel in future conditions through the year 2038. By improving SR 144 to handle the anticipated future growth, the highway will address the identified needs related to congestion, safety, multimodal access, and emergency evacuation.

1.4 How Has the Project Been Planned?

Improvements to SR 144 have been considered in a series of plans by GDOT, Bryan County, and the Coastal Georgia Regional Commission. Local and state planning staff, elected officials, and the general public contributed in workshops, reviews, and presentations of the plans to guide the future growth within Bryan County and Richmond Hill. The following planning documents identify goals that include improving SR 144:

- *Bryan County and the Cities of Pembroke and Richmond Hill Joint Comprehensive Plan*, Georgia Coastal Regional Commission (2008) — Planning process to meet state laws including an assessment of existing and future conditions and goals to manage growth. Recommendations include sidewalk and bicycle facilities on SR 144 along with other needed improvements to support future land uses.
- *Bryan County Transportation Plan*, GDOT and JJG (2010) — SR 144 capacity improvements are identified as a priority project between Timber Trail Road and Belfast River Road.
- *Bryan County Bicycle and Pedestrian Plan*, Georgia Coastal Regional Commission (2007) — Recommendations include adding paved shoulders for bicycles on SR 144 as well as sidewalks to connect existing and planned neighborhoods within the corridor between Timber Trail Road and Belfast River Road.

Through planning exercises and workshops, stakeholders involved with the BCTS set performance measures for the overall study process and for specific project recommendations. Stakeholders included local officials, planning staff, community leaders, and local residents. The process began by adopting the goals from GDOT's Statewide Transportation Plan: to improve *safety*, reduce *congestion*, and enhance *connectivity, access, and mobility*. To apply those goals to Bryan County transportation needs, the stakeholder group developed a set of performance measures to evaluate potential projects objectively. The following performance measures were refined and used in the project evaluations:

- *Safety* — A project's estimated ability to reduce accidents as a percentage of current conditions.
- *Congestion* — A project's ability to reduce delay based on modeled future conditions.
- *Connectivity, Access, and Mobility* — A project's ability to reduce overall travel time in the modeled future conditions and its consistency with local plans.

More than 50 potential projects were evaluated, using a combination of the performance measures and an estimate of the value of benefits compared to the total costs (benefit-to-cost or B/C ratio). Scoring for the performance measures was adapted to a scale from 10 to 90 with 90 being the highest performance. The proposed project scored 74, tied with one other project for highest ranking. It ranked second in the B/C ratio. As a result, the stakeholders determined that capacity and multimodal improvements on SR 144 between Timber Trail Road and Belfast River Road should be the county's top priority transportation project.

The recommended SR 144 improvements have been included in the current State Transportation Improvement Program (STIP). (The STIP page is attached at the end of [Appendix D](#).) The project is designated as Project STP-0630-00(010), PI 532370. Pending approval of this NEPA process, funding would be programmed for right-of-way and construction.

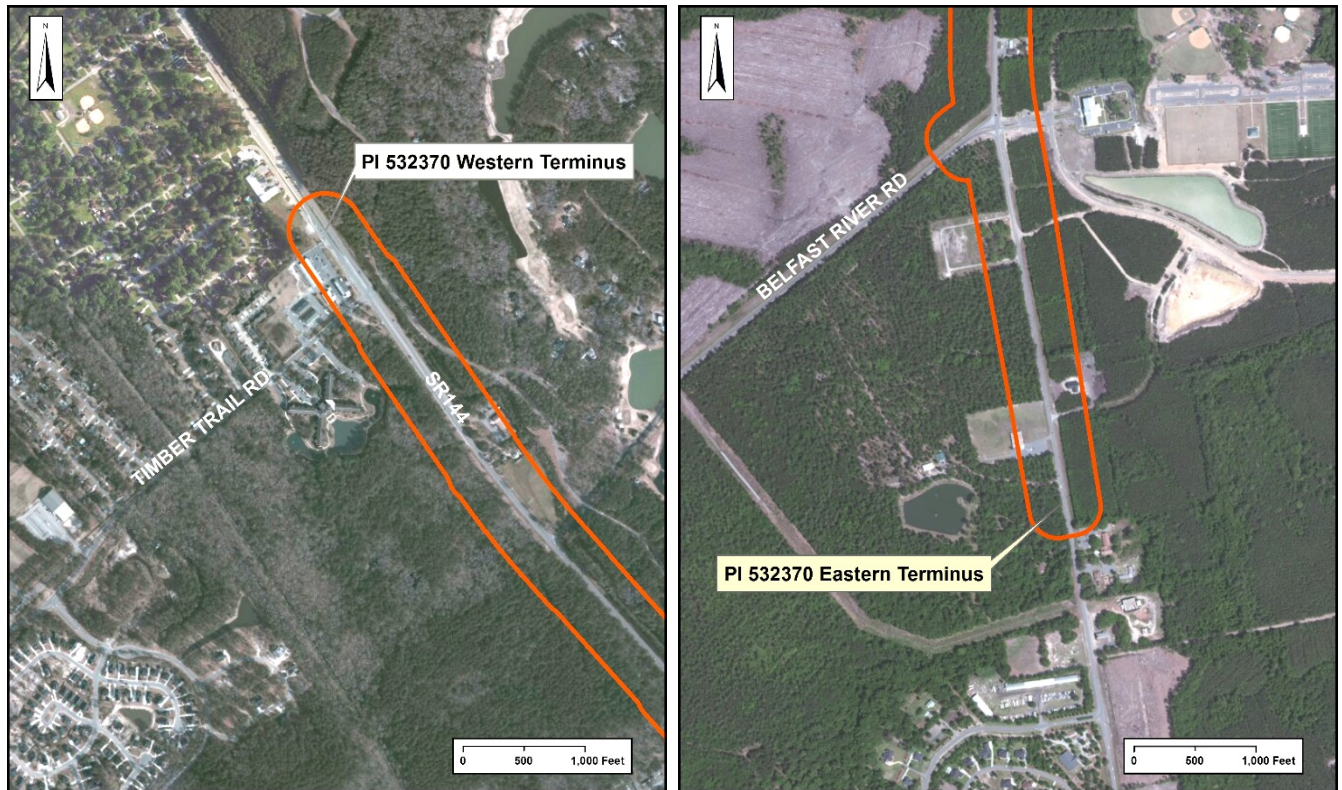
1.5 How Were the Project Limits Determined?

The need for improvements on SR 144 has been studied at an individual corridor level as well as the broader roadway network. From the findings of the local transportation plans previously described, project limits were refined for purposes of developing concepts and conducting environmental analysis under the National Environmental Policy Act (NEPA). The FHWA regulations for NEPA include setting project endpoints that are *logical termini*. Meeting this federal requirement is based primarily on how a proposed project definition relates to three questions:

- Are the limits long enough to address environmental matters on a broad scope?
- Does the project have independent utility? (Is it a usable and reasonable expenditure even if no additional transportation improvements in the area are made?)
- Does the project allow consideration of other reasonably foreseeable transportation improvements without limiting their alternatives?

As a west-east designated state route, the SR 144 project is oriented with the starting point at the western end. General limits for the proposed SR 144 improvements were defined as the corridor from just north of Timber Trail Road to just south of Belfast River Road. The western and eastern termini are shown in [Figure 5](#).

Figure 5: Project Limits for NEPA Study



The limits were necessarily broad to allow for reasonable alternatives to be developed and considered. Timber Trail Road is both an existing intersection and the point heading eastbound (south) at which the existing four-lane highway with a median narrows to two lanes. By starting the western endpoint (terminus) north of the intersection, adequate distance was provided to consider traffic movements approaching and leaving the intersection with Timber Trail Road.

The eastern terminus is south of CR 154 (Belfast River Road), the last major intersection after which traffic volumes historically have dropped off substantially. These limits are broad enough to gain an understanding of the corridor traffic and the potential for environmental impacts on the local community and resources. Although growth been occurring and planned south of Belfast River Road, developable land is limited due to the extent of protected marshlands along the Ogeechee River corridor. As a result, the proposed development south of the project's eastern terminus is lower density with fewer trips compared to the mixed-use developments located on and north of Belfast River Road. The state route designation ends as the road extends southward before ending at an intersection with local streets near the Ogeechee River corridor. The future traffic volumes (by 2035) would be handled by the existing roadway's capacity, with LOS C as shown in [Table 3](#). By contrast, the proposed project section would experience higher volumes and conditions over capacity with LOS E/F north of Belfast River Road without improvements.

The SR 144 corridor within the proposed limits would allow for an independent project. The proposed SR 144 improvements from just north of Timber Trail Road to just south of Belfast River Road could serve the local public with improved conditions for driving, walking, and biking without requiring additional expenditures before the benefits would be recognized.

Implementing improvements within this section of SR 144 would not prevent or alter any plans for or feasibility of other transportation projects nearby. Based on a review of the STIP and the BCTS, no other major capacity project is planned adjacent to the proposed SR 144 project corridor. The only other defined projects are located well to the north on SR 144: the upgrade of ramps at I-95 and operational improvements to the SR 25 intersection. Operational and maintenance activities include programming for shoulder and slope repairs.

The addition of sidewalk and bicycle facilities between Timber Trail Road and Belfast River Road would help meet local goals to provide better connection between the residential areas, recreational facilities, and other local trails located within these limits. Although the BCTS also identifies the need to widen the SR 144 shoulders south of the proposed project for bicycles, those shoulder improvements have been recommended as a maintenance project. The proposed terminus would not interfere with any recent or future shoulder improvements or other maintenance activities on the section of SR 144 south of the proposed project. Primary walking and biking activities on SR 144 are envisioned by the local plans to connect with the recreational trails on SR 144 Spur, the Bryan County recreational facilities across from Belfast River Road, and higher density residential development located within the proposed project limits.

Chapter 2: Alternatives

2.1 What Alternatives Have Been Considered?

Several alternatives have been considered during planning of the proposed project. They range in cost, impacts, and ability to meet the SR 144 needs.

2.1.1 Intersection Improvements Alternative

By upgrading only the major intersections on SR 144, the costs, land acquisition, and impacts would be reduced substantially. This alternative can be beneficial when a major cross street is involved with high levels of traffic. For this project, most of the traffic is dependent on SR 144 for access between south Bryan County and I-95. While intersection improvements on cross streets such as Belfast River Road and Timber Trail Road could provide safety and operational benefits, the existing and expected future congestion would remain on SR 144. The reduced delay from turn lanes and signalization would not provide the needed improvements in daily capacity and hurricane evacuation support. Intersection improvements would have minimal impacts, limited traffic benefits at major intersections, and no multimodal benefits. This alternative was considered and removed from further study.

2.1.2 Limited Widening Alternative

With a limited widening alternative, several options were considered in terms of short-term benefits and longer term costs. The limited widening could consist of:

- Adding a consistent raised grassed median with two through lanes and occasional turn lanes.
- Reducing multimodal improvements to sidewalks on just one side of the street, removing bicycle lanes, or combining into one wider multiuse trail along SR 144.
- Purchasing right-of-way (ROW) that can be used if needed for widening in the future.

These combinations could provide some benefits to the project area. For example, purchase of the full ROW needed would avoid the potential for increased relocations of future development. However, deferring the construction costs in the short-term could lead to higher total costs with future construction. Impacts would be limited along SR 144 to the width of the new median and turn lanes. Long-term impacts would be greater as the planned growth continues along the corridor while capacity improvements are held off for future consideration. As a result, future traffic conditions would worsen with the volumes exceeding the two-lane capacity by the time the limited widening is constructed. For multimodal improvements, the existing and planned neighborhoods would rely on the safety and access of sidewalks and bicycle lanes. Limited widening without the sidewalk and bicycle options would prevent the local community from having those benefits while bearing the burden of the construction. For these reasons, this alternative was considered and removed from further study.

2.1.3 Widening Alternative

The widening of SR 144 would include improvements to meet needs for increased capacity and multimodal access. The concept would be to add two through lanes between the existing section of four lanes near Timber Trail Road to south of Belfast River Road, Recommended multimodal improvements also would be included within the new ROW, with sidewalks and bicycles lanes on both sides. As the only practical way to add capacity on SR 144 this alternative has been carried forward in this study.

2.1.4 Widening and New Location Alternative

As a preliminary alternative, partial relocation of SR 144 onto new alignment was considered. At the time, relocations were assumed to be unavoidable for a widening project. The alternative would have widened on existing alignment from Timber Trail Road to Port Royal Road, then constructed two or four lanes on new location west of existing SR 144 from Port Royal Road to Belfast River Road. This alternative was found to have high potential for environmental impacts. Due to the presence of protected marshlands on the east side, wetlands and floodplains on both sides, and existing development patterns, any new location alternative would have severe impacts on both social and natural environments.

2.1.5 No-Build Alternative

The No-Build Alternative is commonly known as the “do-nothing” alternative. No improvements would be constructed on SR 144 as part of this project. As the name suggests, this alternative would avoid all of the costs and impacts of new ROW and construction in the corridor. However, none of the needed benefits would be provided to the local community and traveling public. Other development and construction would continue in the project area independently of any improvements on SR 144. Safety maintenance such as pavement repairs would require continued investments through the life of the existing roadway.

2.2 What is the Preferred Alternative?

Based on a review of alternatives and their ability to serve future traffic volumes between Timber Trail Road and Belfast River Road, widening of SR 144 to four lanes has been identified as the Preferred Alternative. Concepts and preliminary plans have been prepared to define the Preferred Alternative as

QuickView: No-Build Alternative

The No-Build Alternative means that no action would be taken related to the proposed project. No new ROW, widening, or related intersection improvements would occur. Although not always considered a reasonable alternative unless construction impacts otherwise would be severe, the No-Build Alternative is included in NEPA documents as a comparison to the Preferred Alternative (proposed project).

Learn more:

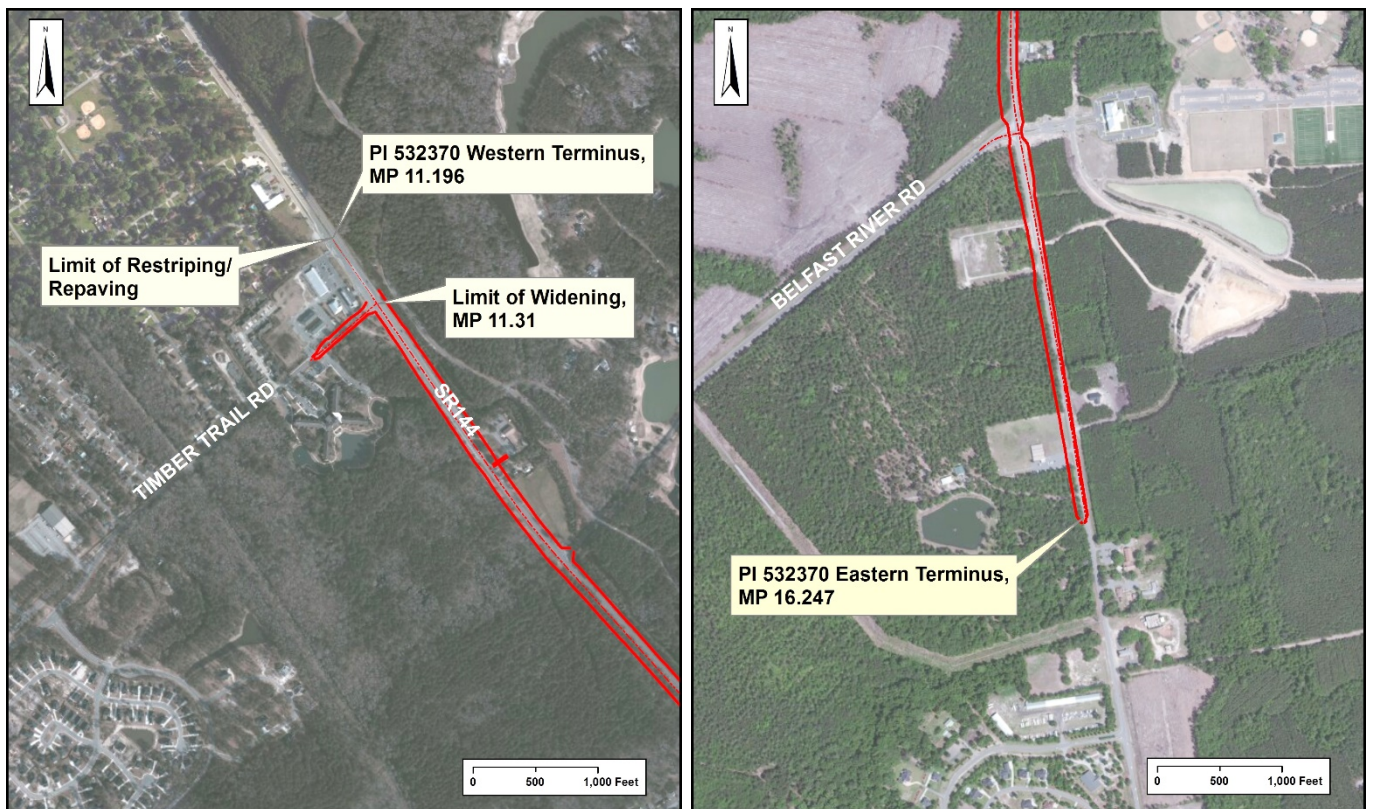


<http://www.environment.fhwa.dot.gov/projdev/tdmalts.asp>

it appears in this Environmental Assessment (EA). The four-lane widening was adapted to the existing land uses and transportation access within the SR 144 corridor. A combination of rural and urban roadway sections is proposed, as described below. A series of maps in **Appendix A** provides more detail of the Preferred Alternative alignment (**Figure A-1**). **Figures 7-8** show examples of the typical sections—a view from the middle of the proposed roadway with the proposed lanes, median, and other features shown. The Preferred Alternative includes the following proposed features:

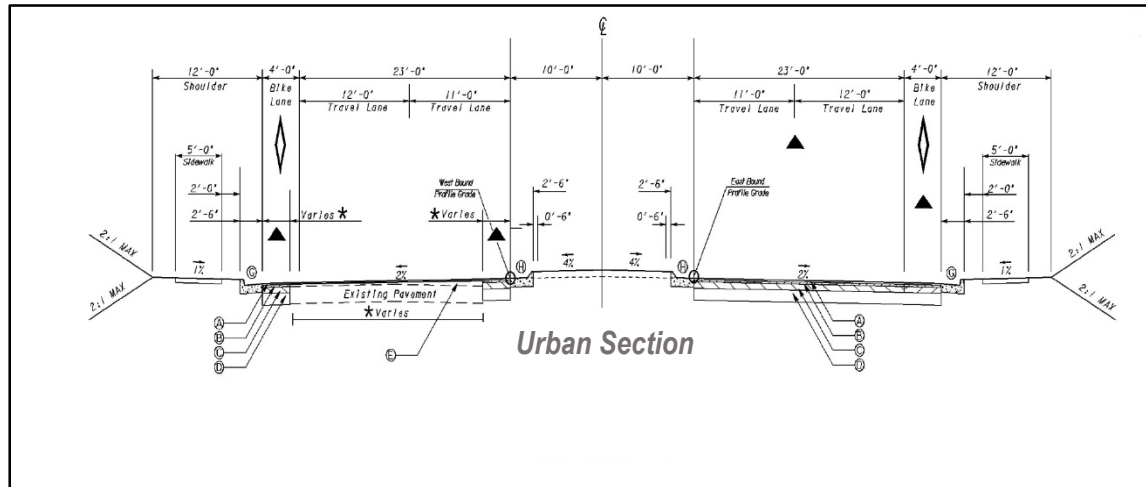
- Limits refined within the logical termini to allow for efficient traffic flow, transition of lanes into existing SR 144, and maintenance of traffic during project construction. The western terminus (overall project starting point) is Mile Post (MP) 11.196 and the eastern terminus is MP 16.247 (overall project end point). Widening of the existing roadway would occur between MP 11.31 at Timber Trail Road to MP 16.247 south of Belfast River Road (see **Figure 6**).

Figure 6: Logical Termini for Preferred Alternative



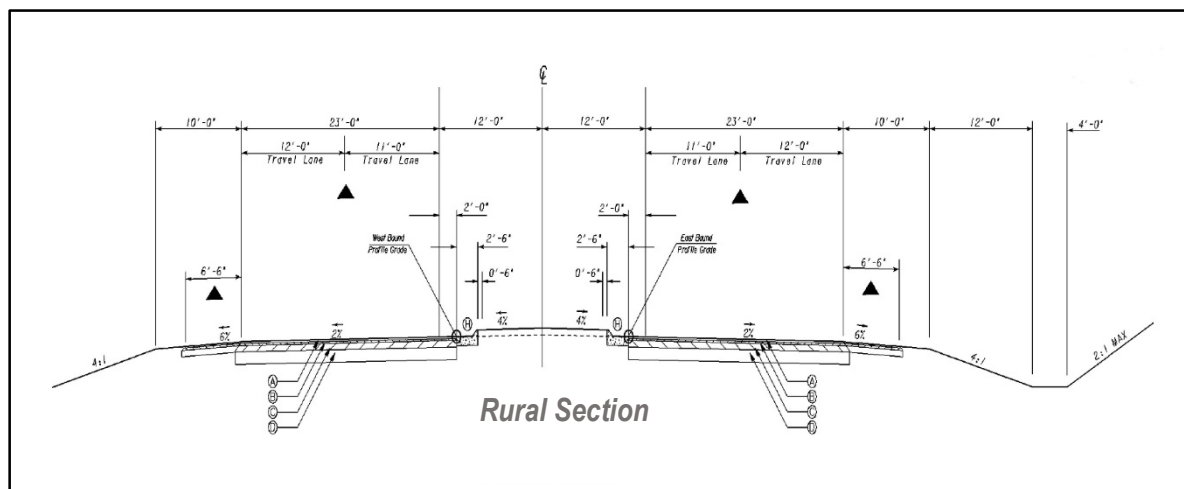
- An urban section is proposed from MP 11.31 to MP 15.09. The urban section proposes a signalized intersection at Timber Trail Road, four lanes, a 20-foot raised grass median, 4-foot bike lanes on each outside edge of travel lanes, and 12-foot shoulders that include 5-foot sidewalks on each side (see [Figure 7](#)).

Figure 7: Preferred Alternative Urban Section



The rural section would consist of four lanes, a 24-foot, raised grassed median, and 6.5-foot paved shoulders for bicycle access (see [Figure 8](#)). This rural section is proposed from MP 15.09 (SR 144 Spur / Fort McAllister Road) to the revised project terminus at MP 16.247.

Figure 8: Preferred Alternative Rural Section



- SR 144 intersection improvements on Timber Trail Road, Port Royal Road, SR 144 Spur (Fort McAllister Road), and Belfast River Road (see [Figure A-1](#) series in [Appendix A](#)). At total of 0.29 mile of improvements would be constructed on cross streets.
- Median openings to allow access at major intersections, with U-turn access and signs for other existing uses on SR 144.

- Installation of a signal at Timber Trail Road, improving overall LOS at the intersection compared to the No-Build conditions of a similar level of traffic on two lanes without a signal. During peak hours, the intersection condition could be limited to LOS C/D due to the side street movements.
- Extension of western limits to MP 11.196 (600 feet beyond the widening) to allow for staging of traffic and construction of the east side of Timber Trail Road. The process would involve tearing out the existing center raised median in this area and replacing it with temporary pavement to allow a traffic shift onto a temporary lane before the intersection of Timber Trail Road. Once the construction is complete on the east side of Timber Trail and the traffic can be shifted back, the center median would be reconstructed in its original location.

The total project length for the Preferred Alternative consists of 5.341 miles: 4.937 miles of widening on SR 144 for new through lanes and turn lanes, 0.114 mile of construction staging area on SR 144, and 0.29 mile of associated improvements at major SR 144 intersections.

2.3 How Would the Preferred Alternative Meet the Project Needs?

The Preferred Alternative was developed based on its ability to address the identified transportation needs on SR 144. The Preferred Alternative consists of a combination of widening, intersection improvements, and sidewalks, with bicycle lanes in the urban section and paved shoulders for bicycle access in the rural section.

An assessment of future traffic conditions indicates that the Preferred Alternative would enable SR 144 between Timber Trail Road and Belfast River Road to handle the ongoing and anticipated growth in the corridor. Based on average daily volumes and roadway capacity, the widened SR 144 would provide LOS C throughout the project limits. The major intersection of Timber Trail would experience some delay during afternoon peak hours, with LOS of D; however, adjustments to the timing of the new signal could improve this level. These findings are based on the future build conditions from the traffic analysis in the BCTS for SR 144 in the long-range year of the study (2035) and the FDOT capacity tables with design year (2038) volumes.

In summary, the Preferred Alternative would:

- Accommodate planned growth of residential and mixed-use development.
- Provide safer, more convenient travel on SR 144 with level-of-service of C based on expected future traffic conditions.
- Increase capacity on SR 144 as part of the state's hurricane / major storm evacuation plan.
- Enhance walking and biking within the corridor while providing a transition to rural paved shoulders at the eastern terminus that would be compatible with adjacent shoulder improvements by Bryan County.

In addition to meeting these needs, the Preferred Alternative would meet the long-range performance measures set by GDOT and stakeholders during the BCTS.

2.4 How Would the Preferred Alternative Affect the Environment?

The Preferred Alternative would have both beneficial and negative impacts. To meet the identified needs, some impacts would be unavoidable. Based on a series of studies conducted for this EA, the primary impact would include:

- No relocations of any residence, business, community facility, or other structure.
- Acquisition of land for right-of-way (ROW) and easements along existing SR 144.
- Change in access to and from SR 144 due to construction of median and the closure of one end of a local access street.
- Unavoidable clearing and fill activities that would affect floodplains, wetlands, and streams.

As described in Chapter 3, the Preferred Alternative has been considered along with the No-Build Alternative for their potential impacts on the social, cultural, natural, and physical environments.

Chapter 3: Resources and Impacts

3.1 Definition of Impacts and Boundaries

What kinds of impacts were studied?

The potential impacts of the proposed project have been studied for the Preferred Alternative and compared to the No-Build Alternative. Impact discussions in this chapter are divided into social, cultural, natural, and physical environments. Three types of impacts (also referred to as effects) have been considered:

- Direct impacts: temporary and permanent impacts that result directly from the construction and use of the proposed project, such as conversion of forest land for transportation facilities.
- Indirect impacts: longer term changes that may occur as an indirect result of how the proposed project affects land use patterns, traffic access, or other conditions within a reasonable future timeframe.
- Cumulative impacts: incremental impacts of the proposed project when looked in context with other projects and development in the past, present, and future.

What boundaries were used to determine impacts?

Several different boundaries were used to conduct studies of resources and potential impacts. They are defined in this Environmental Assessment (EA) as the following:

- Project Area: the limits of the Preferred Alternative including all construction activities and new required right-of-way (ROW) and the adjacent land uses.
- Study Area: a broader boundary around the project to consider the surrounding community and how the project could affect resources near the project area indirectly or cumulatively. A combination of data were used to set study area boundaries to consider community characteristics, travel patterns, and indirect impacts.
- Area of Potential Effect: specific resource boundaries were considered where necessary to meet regulations or to make the data and findings relevant. In those instances, the boundary may be referred to as the area of potential effect (APE) or resource study limits.

3.2 Social Environment

To understand how the proposed SR 144 improvements might affect the social environment, research and field surveys have been conducted. The existing community features are described in the following sections, along with discussions of potential impacts.

QuickView: Social/Community Impacts

The Preferred Alternative would:

- Avoid any relocation of residences, businesses, institutions, or other uses.
- Require approximately 42 acres of frontage ROW adjacent to existing SR 144.
- Change local access onto SR 144 through construction of a median with periodic breaks for major intersections and existing development.
- Close Rabbit Hill Road at Port Royal Road and convert to a cul-de-sac, with access remaining onto SR 144 at the other end.
- Not induce future land use

3.2.1 Characteristics of the Local Community

The proposed project is located partially within the City of Richmond Hill with most of it extending through the unincorporated southern part of Bryan County. Bryan County is part of Georgia's 11-county coastal zone.

Although designated as a west-to-east state route, SR 144 runs generally north-south in the project area. It connects downtown Richmond Hill and suburban and rural areas of south Bryan County. In addition to serving local traffic, SR 144 connects to the US 17 and I-95 corridors. These corridors provide access to major employment centers such as Ft. Stewart and the port city of Savannah for commuters from south Bryan County and adjacent Liberty County.

What are the local population trends?

The county has experienced strong population growth in recent decades, growing from 23,417 in 2000 to 30,233 in 2010. This growth trend is expected to continue, with population projected to rise to approximately 46,000 by 2030. The City of Richmond Hill has experienced a similar growth rate, with population rising from 7,063 in 2000 to 9,281 in 2010. Much of the growth has occurred in master planned neighborhoods just south of Richmond Hill, along the SR 144 corridor and Belfast River Road.

What is Environmental Justice?

In 1994, Executive Order 12898 directed federal agencies to achieve environmental justice in their programs, for minority populations as well as low-income populations. The USDOT and FHWA policies to carry out this Executive Order include three guiding principles:

- Full and fair participation by all affected communities
- Reduction of unfair negative impacts of transportation programs and projects
- Fair distribution of transportation benefits

Environmental justice is carried out through the planning, NEPA, and public outreach of GDOT and FHWA to assure that project design and implementation meet these principles.

Are any minority or low-income communities located in the project area?

Demographic characteristics were determined in the study area through a combination of US Census data and field observations along SR 144 and within adjacent land uses. As shown in **Figure 9** and summarized in **Table 5**, the project area is located within Census tracts 9203.05 and 9303.06. This combined area has a lower percentage of minorities than Bryan County or the State of Georgia. Similarly, the project area shows a lower percentage of population below the poverty level than does Bryan County or statewide. The percentage of the population that is Hispanic is consistent with the county total and approximately half of the statewide total. The median household income within the study area is considerably higher than that of the county or state.

Also shown in **Figure 9** is Richmond Hill Tract 9203.03 as a reference. This tract has higher percentages of minority and Hispanic population, with a lower median household income. Although this tract was included for reference, it is located within downtown Richmond Hill near I-95, more than one mile from proposed construction. No elements of the Preferred Alternative or any impacts would occur near the boundaries.

Regulatory Note: Environmental Justice

Executive Order 12898 (signed by the President in 1994) requires federal agencies and federally funded programs to identify and address “disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” USDOT and FHWA have developed policies to carry out the Executive Order in the outreach, impact assessment, and mitigation for transportation projects.

Learn more:

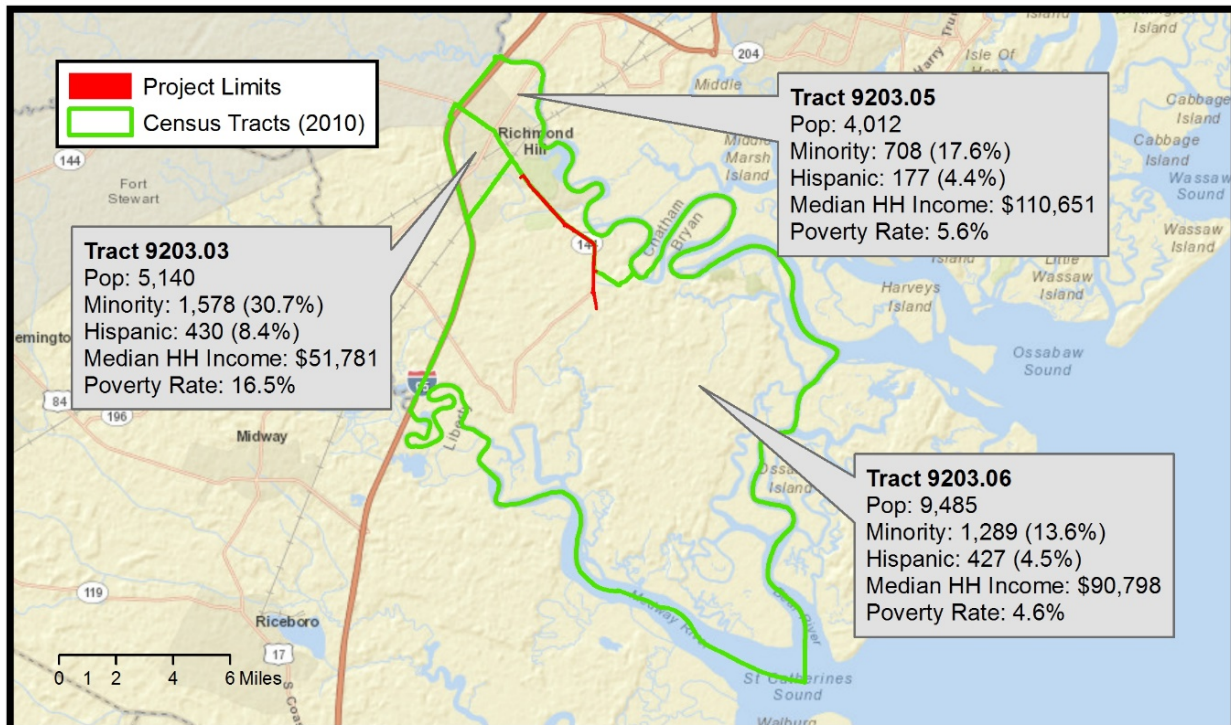


http://www.fhwa.dot.gov/environment/environmental_justice/overview/

Table 5 Population and Income Characteristics				
Characteristic	Project Area		Bryan County	State of Georgia
Total Population	13,497		30,233	9,687,653
White	11,500	85.2%	80.2%	59.7%
Black/African American	1,172	8.7%	14.2%	30.5%
Asian	289	2.1%	1.6%	3.2%
Other	536	4.0%	4.0%	0.0%
Total Non-White	1,997	14.8%	19.8%	33.7%
Hispanic	604	4.5%	4.4%	8.8%
Median Household Income	\$96,699		\$ 49,736	\$ 64,651
Percent Below Poverty Level	4.9%		12.6%	8.6%

Source: US Bureau of Census 2010 and American Community Survey 2011.
 Project Area Demographics made up from weighted averages of Tracts 9203.05 and 9203.06.

Figure 9: Population and Income Characteristics in Study Area



The demographic characteristics in the project area reflect the more rural and higher value riverfront neighborhoods that have been developing over the past 10 years. Based on the following findings, no minority or low-income populations have been identified in the project area, and no environmental justice concerns would apply:

- Census data indicate percentages of minority or poverty level persons that are lower than the reference populations in the nearby Census tract in Richmond Hill and the totals for Bryan County and State of Georgia.
- No low-income housing was observed within the project area.
- No foreign language signage, businesses, or religious institutions were observed that would suggest any minority communities or limited English proficiency (LEP) concerns.

Given the small percentage (4.5%) of Hispanic population in the project area, no language support is likely to be needed. However, Spanish translation of a handout will be available during the public involvement process for this Draft EA, including details on how to request additional language support.

3.2.2 Land Use and Local Planning

How would the project affect local planning goals?

Bryan County and Richmond Hill are active participants in local and regional planning, including the process required by the Georgia Department of Community Affairs to meet the requirements of the Georgia Planning Act of 1989 as amended. Local governments have created community visions and agenda for long-range growth in the study area.

The Preferred Alternative was reviewed for consistency with local plans, including the following:

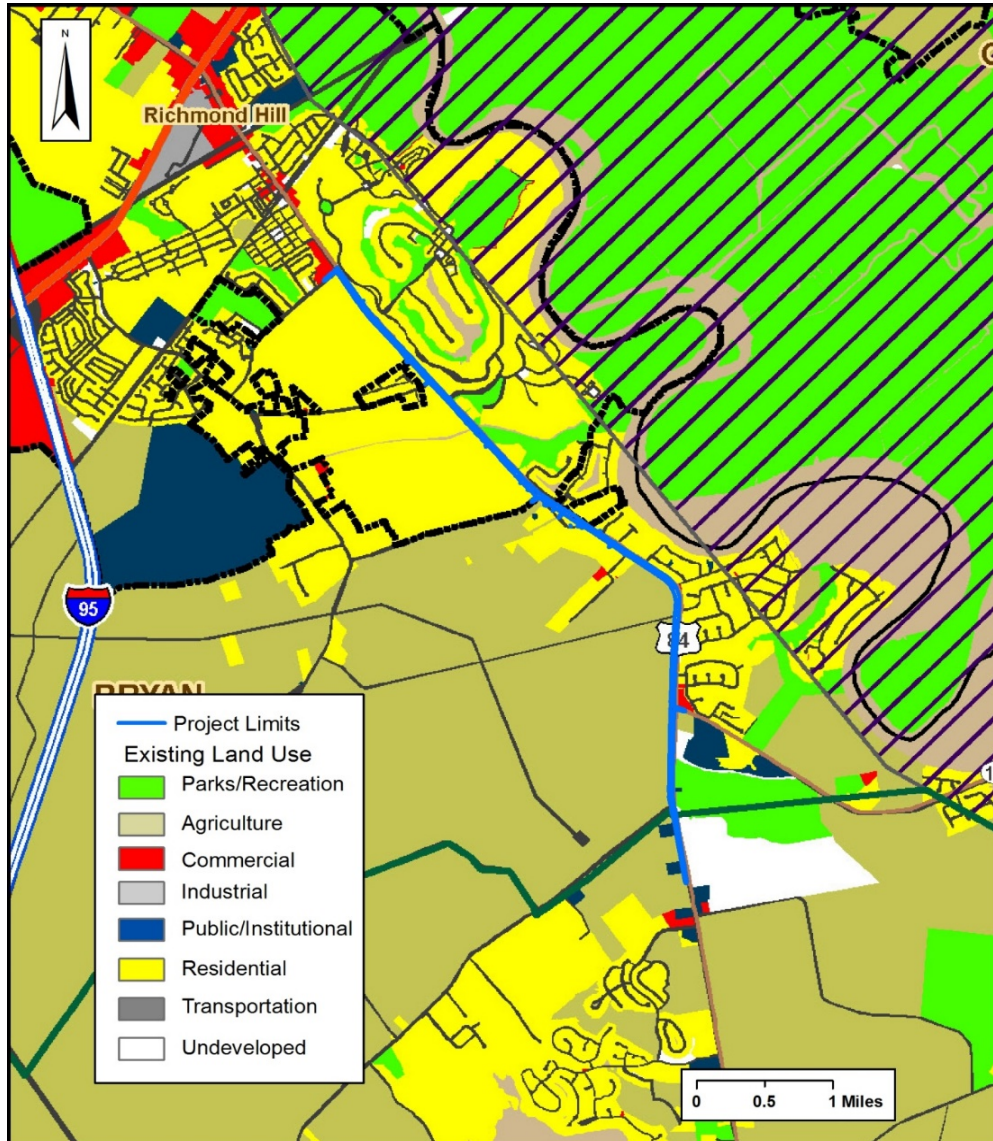
- Bryan County Joint Comprehensive Plan, Bryan County, Pembroke, and Richmond Hill (2008)
- Bryan County Transportation Study, Georgia Department of Transportation (2010)
- The Regional Plan of Coastal Georgia, Coastal Regional Commission (Amended 2012)
- Coastal Georgia Regional Bicycle and Pedestrian Plan, Coastal Regional Commission (2005)
- Bryan County Bicycle and Pedestrian Plan (2007)

The Preferred Alternative, particularly in keeping its multimodal features of sidewalks and bicycle facilities, is consistent with all of these current planning documents. A stakeholder advisory and public involvement process for the Bryan County Transportation Study identified the SR 144 widening with multimodal improvements as the County's highest priority project. The No-Build Alternative would not meet the goals identified for multimodal connections and improved capacity to serve the growth areas near the SR 144 corridor.

What are the existing and future land uses in the project area?

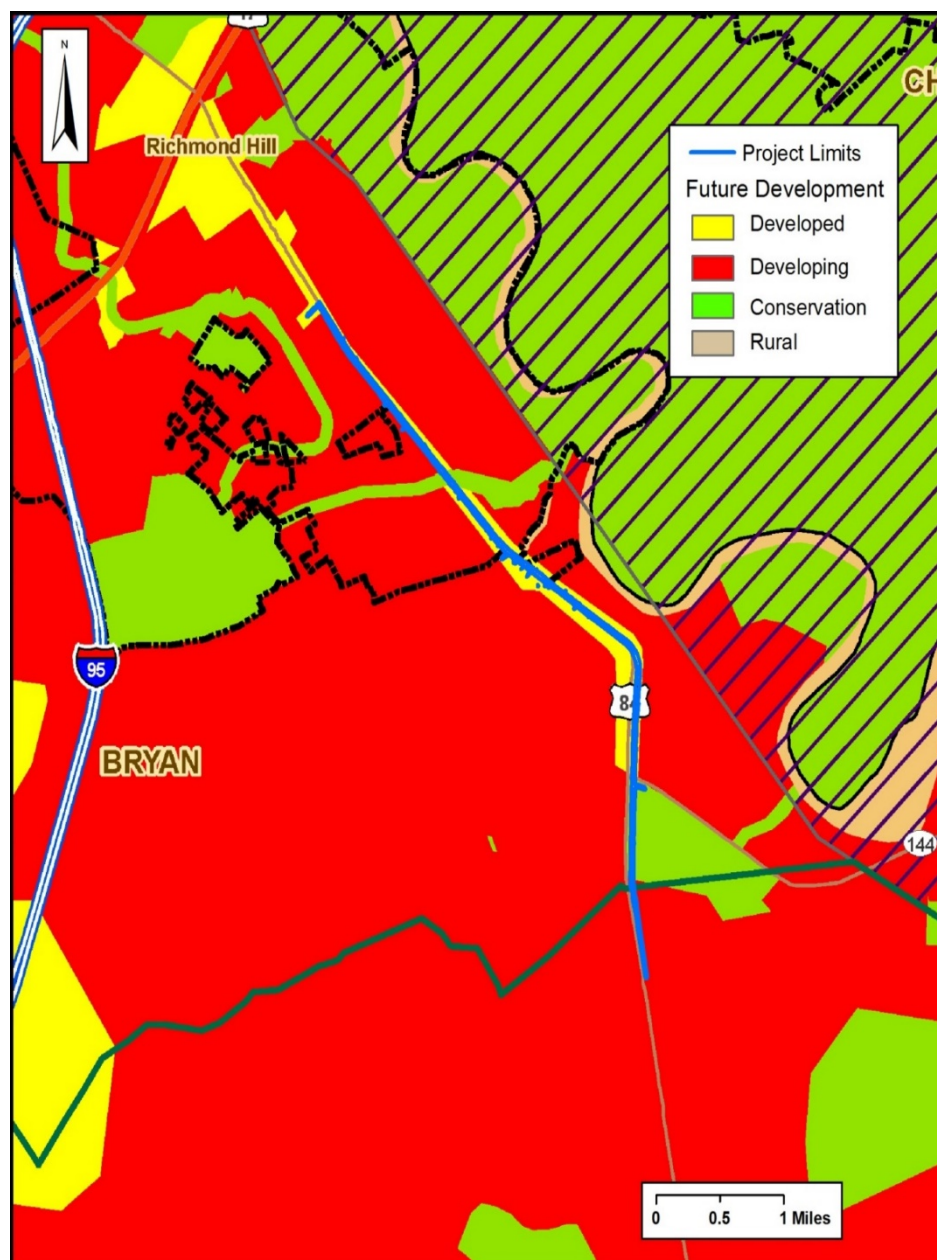
Existing land use in the project area is characterized by suburban residential development and agriculture/open space. Limited commercial and retail uses are present on stretches of SR 144, generally concentrated at major intersections. The existing land use in south Bryan County is shown in Figure 10.

Figure 10: Existing Land Use



The Bryan County future land use map, developed in 2006 and adopted in 2008 as part of the Joint Comprehensive Plan update, calls for continued suburban development in the project area, as well as in surrounding areas served by SR144. Significant residential and commercial/mixed-use development is underway or planned south of the proposed project, replacing much of the Agricultural designation. Timber management tracts along the corridor also are shown as Agricultural. **Figure 11** shows the Joint Comprehensive Plan's vision for future land use in the study area, with the SR 144 corridor added for context. As indicated by the coverage in yellow and red, much of the study area is envisioned for development by 2030, the horizon year of the comprehensive plan update. The remainder of land is green, showing its status as protected marshlands near the Ogeechee River. Many of the developable tracts have continued to undergo residential development since the plan was adopted.

Figure 11: Land Use



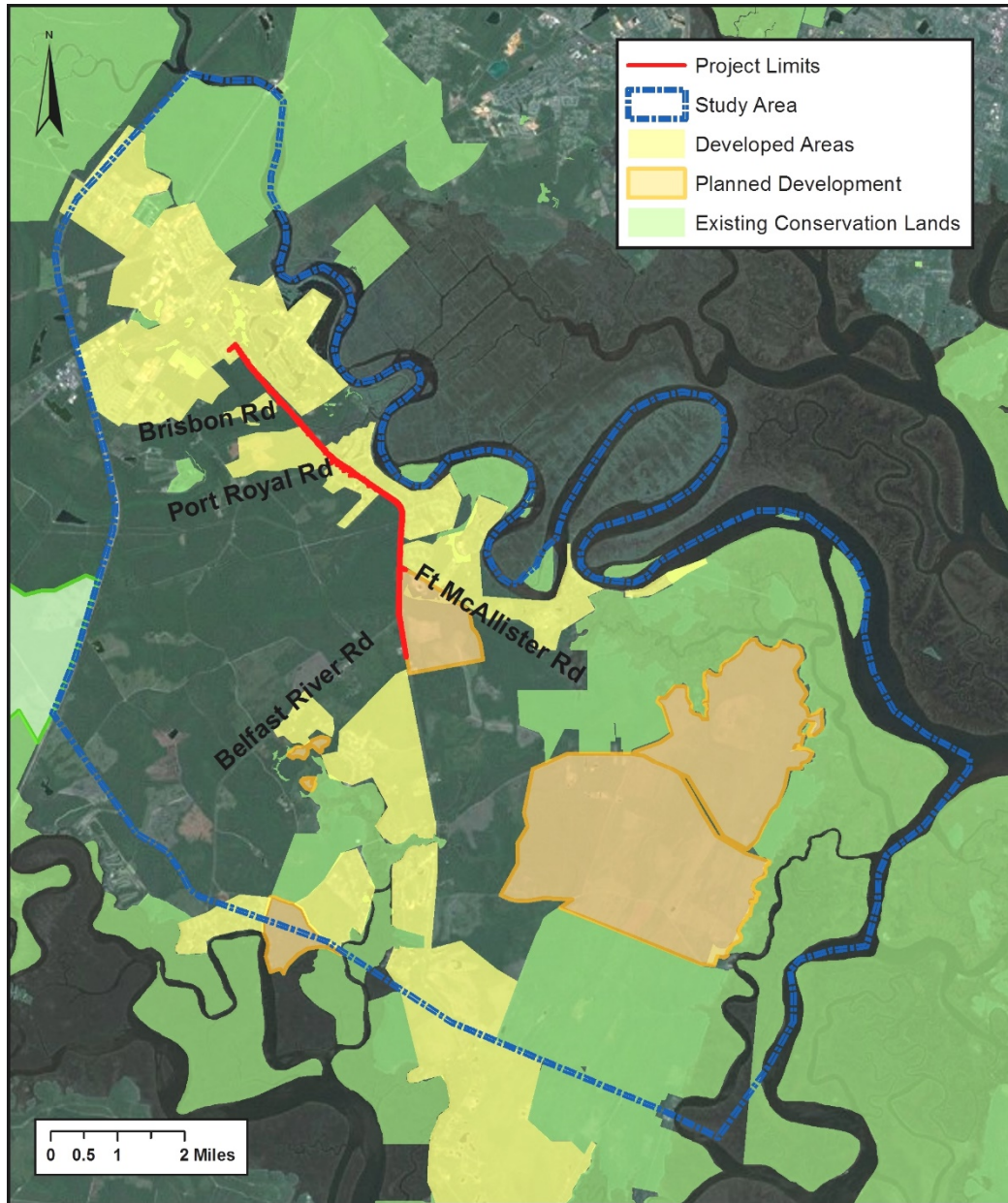
To understand more about future land use along SR 144, project staff coordinated with the Bryan County Planning and Zoning Department. According to the planning and zoning administrator in July 2010, south Bryan County was continuing rapid growth despite the regional and national economic downturn. Reasons included the value associated with the pristine natural resources as an attraction for larger amenity neighborhoods that would include preservation in its master plan. Several large-scale Planned Unit Developments (PUD) were underway in some phase of plan approval or construction.

A study area was developed to assess potential for land use changes. The study area covered 31,500 acres including land uses dependent on SR 144 for access and major streets connecting with SR 144. To consider *reasonably foreseeable* future development in the study area, projects were included only if they had a submitted or approved application with Bryan County Planning and Zoning or if a phase was approved or underway with construction. Many of the planned growth areas are in final design or construction already and will be built out sooner than the County's 2030 future land use plan. **Table 6** lists the identified development underway as of 2010 within the study area or adjacent land that could contribute trips along Belfast River Road and SR 144.

Table 6 Present and Future Development in SR 144 Study Area		
Development Type	Number of Units	Approximate Size
Single-Family Residential	7,720 Houses	10,500 acres
Multi-Family Residential	921 Apartments	(included with single-family area in master plan)
Retail	1,090 Stores/Restaurants/ Service Businesses	Additional 430 acres
Office/Mixed-Use	220,000 Square Feet of Interior Office Space	
Industrial/Other	6,900,000 Square Feet of Industrial Building Space	
Source: Bryan County Planning and Zoning. Development confirmed with official status of Application in Review, Application Approved, or Under Construction as of July 2010.		

This summary list is likely not complete in 2013, and future development projects are subject to modification as they advance through phases and adjust to market conditions. However, this estimate of total development provided an accurate understanding of local goals and land use changes occurring independently of the SR 144 project. Available information on planned development was matched to aerial mapping using Geographic Information System (GIS) tools. The mapping allow a review of these areas with the roadway network and Bryan County's future land use designations. The planned development areas are shown in **Figure 12**.

Figure 12: Present and Future Planned Development



How would the project affect existing land use?

The Preferred Alternative is the widening of SR 144 on both sides of the existing ROW. Therefore, some changes to existing land use are unavoidable. The total area of new transportation facilities—consisting of the new lanes, sidewalks, and shoulder—would be approximately 78 acres adjacent to the existing pavement. Of that estimated total, approximately 42 acres would be required for new ROW. The land would consist of the frontage along SR 144 and narrower strips on cross streets where intersections would be modified. The No-Build Alternative would have no ROW requirements or other alterations to existing land use. More about required ROW is discussed in [Section 3.2.4](#).

How would the project affect future land use?

An important step to understanding potential indirect impacts of a highway widening project is to determine how it would affect future land use. As assessment of indirect impacts was completed for the Preferred Alternative. Based on this review and coordination from local experts with Bryan County, the Preferred Alternative would not induce changes in the type or intensity of land uses. These findings are based on the following factors:

- County officials identified more than 10,000 acres of residential and mixed-use developed already in planning stages or approved on parcels with direct or indirect access onto existing SR 144. None of the projects was contingent upon the widening of SR 144. Many are in various phases of construction and active use as of 2013. Because the major development plans have been underway for several years, much of the growth is factored into the future traffic volumes on SR 144 already.
- No additional parcel was identified by local officials as a potential development site if SR 144 were widened.
- Much of the remaining land outside of the PUD tracts is not considered developable due to the presence of protected floodplains and sensitive marshlands around the Ogeechee River.
- New development is subject to a 75-foot buffer from the highway, including 50 feet of undisturbed forest. This requirement will limit future small level service development that relies on high visibility from the travel lanes.

South Bryan County is transforming into planned residential communities and a balance of other uses that will attract the anticipated growth in population and employment described previously. As these uses are developed, most of the resulting traffic will be dependent on SR 144 for access into Richmond Hill or Savannah as well as connections to US 17 and I-95. The constraints of local geography and protected natural resources will prevent construction of other new north-south access roads.

Based on coordination with local experts and review of the land use plans, neither the Preferred Alternative nor the No-Build Alternative would induce new development projects. Therefore, indirect impacts would be minimal, limited to resources adjacent to the project area that could experience longer term changes due to the increase in traffic on SR 144. Those indirect impacts are discussed in relevant sections of this chapter.

Would the project contribute to long-term changes already occurring in land use?

An assessment of cumulative impacts was conducted to consider the past, present, and reasonably foreseeable actions that would change land use. The study area for indirect analysis provided a basis also to consider cumulative development. Reviewing past development from available records and aerial photography, trends were reviewed from the year 2000 (10 years) through the present. The previously described reasonably foreseeable development was estimated out to the year of 2038, as the “planning horizon” and the project design year. During this period, total disturbance to the natural landscape is more than half of the 31,500 acre study area. Concentrated between 2010 and 2020, most of the total acreage is included within PUD or other master plans that include preservation and

conservation within their boundaries. Considered in this context, the Preferred Alternative would alter approximately 78 acres, of which 42 would be new ROW adjacent to the SR 144 facility. The existing two-lane highway and most of the connecting roadway network have been in active use for more than four decades. The minor land use conversion from roadway frontage to ROW would have a minimal contribution of less than half of one percent of the overall cumulative impacts on land use in the study area.

3.2.3 Local Economy

What is the local economy in the project area?

A majority of the land in south Bryan County is dedicated to residential uses and forest/open space. Non-farm employment is clustered in Richmond Hill and other nearby urban and suburban areas.

Statistics from the Georgia Department of Labor indicate that the service industry accounted for the largest share (60 percent) of non-farm employment in 2012.

Accommodations/food services and retail trade make up the largest share of the county's service sector.

Bryan County experienced an annual average unemployment rate of 7.6% in 2012, lower than both the Georgia rate of 9.0% and the national rate of 8.1%. Near the project area, the service sector includes retail centers located at Timber Trail Road and at Port Royal Road with employers ranging from Publix to specialty retail shops. Active timbering is underway beyond the tree buffer along SR 144, with Rayonier's local operations based at SR 144 Spur. The local economy is pursuing diversity in its employment, as shown by recent announcements of companies coming to the new industrial park area planned near SR 144. For example, Georgia Governor Nathan Deal announced in November 2013 that Israeli quartz surface manufacturer Ceasarstone will open a local site in the new industrial park. The Israeli company will invest more than \$70 million and create 180 jobs.



How would the project directly affect the local economy?

Potential economic impacts for the Preferred Alternative would occur as a result of ROW acquisition, construction activities, and changes in access.

The Preferred Alternative would require converting approximately 42 acres to transportation and ROW, effectively removing the land values from the Bryan County tax digest. According to a review of land sold during the past two years, the average fair market value is approximately \$8,500. By state law, properties are taxed at 40% of value, which would be approximately \$3,400 per acre. Of the total new ROW, approximately 25% may be in some type of exempt tax status such as homestead exemptions or institutional. By calculating the remaining 75%, approximately 32 acres would be worth \$108,800. At the current county tax (millage) rate, less than \$5,000 per year of revenue would be removed, a

negligible amount of less than 0.5% of the county's annual tax revenue. This cost would be recovered in the reduced maintenance, accident response, and travel times on the improved four-lane conditions of the Preferred Alternative. In addition, the construction of new homes in the study area continues to add value to the county tax digest, far exceeding the value of land converted to ROW.

Minor driver inconveniences are unavoidable during construction. Although access on SR 144 would be maintained, some occasional traffic delays or lane closures could have temporary adverse effects for local service businesses that depend on convenient access. Efforts would be made to provide directional signage and temporary access to businesses during construction activities in front of their specific parcels. With a total construction value of more than \$15 million, much of the cost would be invested in construction businesses. Employees working on the project would invest a portion of their earnings in local service businesses during the temporary construction period.

The Preferred Alternative includes a required median that would prevent access across lanes except at openings (median breaks). As a result, access to existing businesses would be modified. Some median breaks already are proposed to match entrances of major commercial development. Other necessary modifications to commercial entrances or replacement signage would be coordinated with property owners during ROW acquisition.

The No-Build Alternative would not alter existing commercial property, the county tax digest, or existing access from SR 144 to local businesses. The No-Build Alternative would avoid the public investment of more than \$25 million for ROW and construction.

Would the project have longer term economic impacts?

The Preferred Alternative would provide efficient, safe travel for the developing uses within and adjacent to the SR 144 corridor. The improved four-lane capacity would provide needed access for daily commutes to nearby employment centers in Richmond Hill, south Bryan County, and Chatham County. As a result, the Preferred Alternative would have an indirect and long-term positive effect of supporting local economic growth with improved access and reduced travel time.

The No-Build Alternative—based on the expected growth population, employment, and associated daily vehicle trips—would result in stop-and-go conditions during much of the peak weekday hours. As a result, access to existing businesses would be less convenient, particularly for service/retail/restaurant businesses on either side of SR 144.

From a cumulative impact view of the recent past, present, and foreseeable future conditions, the Preferred Alternative is consistent with growth patterns in south Bryan County that require improved transportation capacity to remain economically sustainable. Temporary impacts during construction and short-term reductions in the tax digest would be offset by positive economic conditions of reduced travel time in the roadway network and efficient access to commercial and employment centers. The No-Build Alternative would have the adverse effect of freezing SR 144 capacity at the present while trying to support future growth. The short-term savings of more than \$25 million prior to opening would be offset by increased costs in travel delays, maintenance of aging pavement, and the lost benefits of community health due to the lack of sidewalks or bicycle facilities.

3.2.4 Residences, Businesses, Churches, and Community Facilities

Are neighborhoods or residences located within the limits of the Preferred Alternative?

Between Timber Trail Road and Belfast River Road, the existing development includes a combination of subdivision entrances and single-family homes with driveway access onto SR 144. While some of the residences have been intact for more than 30 years, many are part of new construction underway since the mid-2000s.

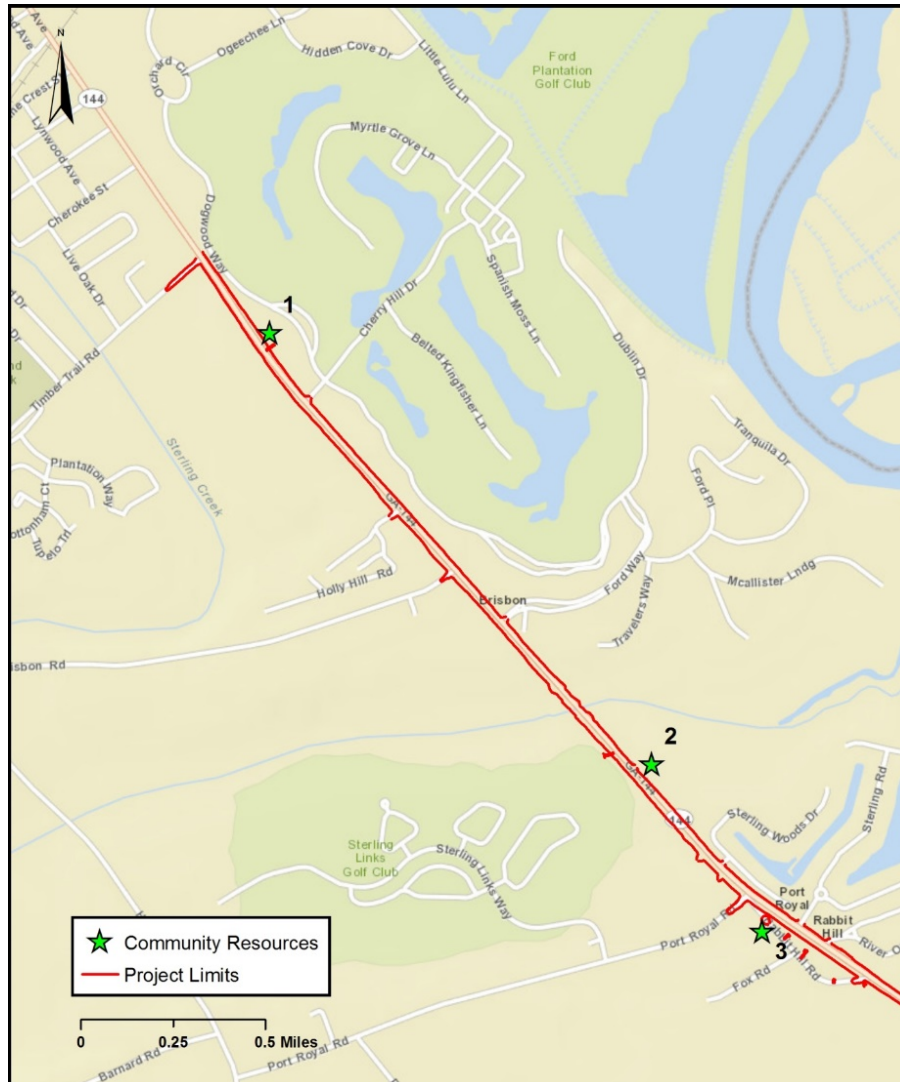


What businesses, churches, and institutions are located in the project area?

The SR 144 corridor is primarily rural with timber tracts, churches, and commercial/retail centers located along the project limits. Several other community facilities are located in the project area, as identified in **Table 7** and **Figures 13–14**.

Table 7 Community Facilities	
Figures 13-14 Map ID:	Name of Facility
1	Richmond Hill Church of Christ
2	Richmond Hill Presbyterian Church
3	Patterson Cemetery (Private/Family)
4	Richmond Hill Volunteer Fire Department
5	Bryan County Services and Devaul-Henderson Park
6	Burnt Church Cemetery (Public/Historic)
7	New Life Worship Center
Source: Adrian Collaborative Field Observations, GIS Mapping, and Google Earth, 2011-2013.	

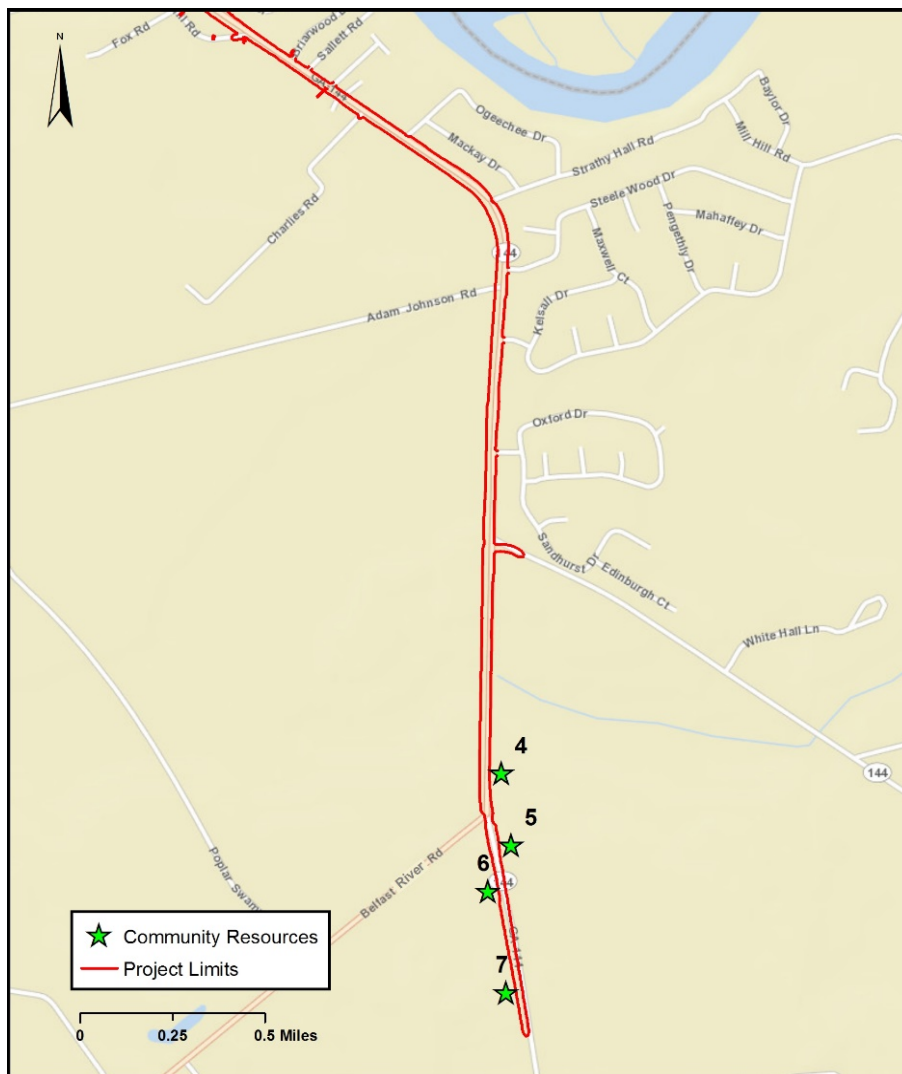
Figure 13: Community Facilities (North/West Section):



How would residences, businesses, churches, and institutions be affected by the project?

No residence would be located within the required ROW of the Preferred Alternative. The required ROW would consist of frontage strips along the existing edges of SR 144. Owners of approximately 91 parcels with SR 144 frontage from Timber Trail Road to just south of Belfast River Road could be affected. The required frontage areas would be measured and acquired by GDOT during the ROW phase of the project.

Figure 14: Community Facilities (South/East Section)



Approximately 42 acres of ROW would be acquired for the Preferred Alternative. Additional areas may be identified for temporary easements during construction or permanent easements for long-term maintenance. Individual and subdivision entrances with would be reconnected to SR 144 for access. Any landscaping or entry features within the required ROW would be replaced or replanted upon completion of the construction activities. The Preferred Alternative also would not require the relocations of any business, church, cemetery, park, or other community facility. Moreover, no parking facilities, outparcel buildings, or other structures would be displaced at any business, church, or community facility. No partial ROW or easements would be required within any cemetery boundary.

The No-Build Alternative would not require any ROW or easements; no business, church, cemetery, park, or other community facility would require relocation.

Affected property owners would receive compensation including fair market value for land acquisition and reasonable amounts for damages and temporary use of their property. The GDOT ROW acquisition program follows the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act).

Regulatory Note: Uniform Act

The Uniform Act is the abbreviated name for the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970." This law ensures that property owners affected by federally funded projects are treated fairly and equitably. The Uniform Act includes federal funds to assist affected property owners with relocating when necessary or to purchase land when only partial acquisition is needed for the project. The GDOT ROW Acquisition Program follows the Uniform Act.

Learn more:



http://www.fhwa.dot.gov/real_estate/practitioners/uniform_act/

<http://www.dot.ga.gov/localgovernment/Documents/Right-of-Way/ROWBrochure-English.pdf>

The GDOT ROW staff will be available at the Public Hearing Open House (PHOH) and upon request to speak with individuals or groups about their affected properties and the Uniform Act.

3.2.5 Parklands and Recreational Areas

What publicly owned parklands and recreational areas are in the project area?

One major recreational use is located within the project area as shown in **Figure 14** (Site 5): Devaul Henderson Park. The park is located in a large tract that Bryan County began developing in the mid-2000s as a government complex.

Administrative offices for the southern part of the county are based in new offices at this site, located at an entrance across from Belfast River Road. In addition to the government buildings, the property was planned as a county park. Devaul Henderson Park consists of the following facilities:

- Two astro-turf fields
- Two grass soccer fields
- Three youth softball fields
- Three adult softball fields
- Concession Stand
- Meeting room
- Public restrooms



The park provides classes, activities, and recreational team sport programs for the local community. Sidewalks and trails are located within the complex.

One additional recreational facility is located in the project area, Green Creek Interpretive Trail adjacent to SR 144 Spur. Considered a part of the Coastal Georgia Greenway Trail, this county-owned trail is located within a preserved wooded tract off SR 144 Spur. As funding becomes available for extension,



the trail is planned to connect via footbridge with one trail in Henderson Memorial Park and one trail on SR 144 Spur leading to Fort McAllister. The first phase of the interpretive elements will include tree labels to identify species of trees native to the area and a kiosk with various information concerning wetlands, vegetation, animals and preservation. Eventually, rare and endangered species will be planted and identified as well. There will be descriptions of bird species native to the area along the walkway for bird lovers and descriptions concerning the ecosystem and

how it operates in nature's setting. The trail project has received funding support through the state of Georgia and a federal grant from the National Oceanic and Atmospheric Administration (NOAA).

How would the project affect parklands and recreational areas?

The Devaul-Henderson Park and Green Creek Trail are located outside of the proposed construction and ROW limits of the Preferred Alternative. No publicly-owned land from either recreational facility would be taken, and no services or facilities would be affected. Proposed sidewalks for the Preferred Alternative would extend to Belfast River Road, while improvements for bicycles would extend for the entire project length. These multimodal improvements would enhance access to the existing park and trail. No temporary or permanent use would occur to these facilities; therefore, Section 4(f) would not apply.

The No-Build Alternative also would avoid any impact to the park and trail. However, no multimodal improvements would be constructed on SR 144.

Regulatory Note: Section 4(f) of the Department of Transportation Act of 1966

This law, commonly referred to as 4(f) because of the original section numbering, prevents approval by FHWA and other DOT agencies of any federally funded project that would require the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless:

There is no feasible and prudent alternative to the use of land.

The action includes all possible planning to minimize harm to the property resulting from use.

The law is implemented by FHWA through regulation 23 CFR 774.

Learn more:



<http://environment.fhwa.dot.gov/4f/4fAtGlance.asp>

3.2.6 Community Cohesion and Local Access

Would the project divide neighborhoods or affect community features?

The Preferred Alternative would widen existing SR 144, with no sections on new location. None of the existing subdivisions currently have facilities and residences on both sides of the highway. Therefore, the widening with two additional through lanes would not create any barriers within existing neighborhoods. In addition, the Preferred Alternative would avoid any neighborhood association property such as pools, guest centers, or community buildings. One of the goals of the project is to enhance options for walking and biking along SR 144 for current and planned neighborhoods. The Preferred Alternative would include sidewalks and paved bicycle lanes or shoulders on both sides of SR 144.

The No-Build Alternative would avoid any impacts to existing subdivisions or neighborhood facilities. However, the No-Build Alternative also would lack any sidewalk or bicycle facilities that would enhance multimodal connections.

How would the project affect local access?

The Preferred Alternative would require changes in the way access to SR 144 is provided from adjacent land uses.

- Rabbit Hill Road currently is a narrow local street connecting a small single-family neighborhood with Port Royal Road on the northwest end and SR 144 on the southeast end. The connection at Port Royal Road connects at a skew near the intersection with SR 144, which would be signalized. Due to the angle and limited distance, this end would be closed and converted to a cul-de-sac. Local residents would have full access to SR 144 at the other end with a median opening.
- The proposed median would vary in width while extending through most of the project length. As a result, no traffic would cross SR 144 for left-turns or cross-street access except at median openings or breaks. Approximately 18 median breaks are proposed for access to intersections, subdivision entrances, and major commercial developments. The approximate distance between median breaks would range from 600 feet to 3,200 feet, with an average of 1,200 feet.
- For local residents and other land uses not located across from a median break, the traffic flow would require a right-turn and a U-turn at the next median break. The distances to the nearest U-turn would range from 40 to 2,750 feet as currently proposed.

Details for median breaks would be completed during ROW and final design phases to coordinate with affected property owners. Additional breaks would be constructed and striped for emergency access where needs are indicated by local law enforcements and emergency response officials. While this change in access would be a permanent impact, it would be a minor inconvenience with a short delay compared to existing access conditions. By contrast, many of these access points would be difficult for drivers during anticipated stop-and-go conditions of the No-Build Alternative in future years.

How would the project affect emergency services?

The City of Richmond Hill and Bryan County currently serve the project area with emergency response services. The Preferred Alternative would have the following impacts on emergency response:

- The Richmond Hill Volunteer Fire Department is located on SR 144 across from Belfast River Road and near the entrance to the county services complex. The Preferred Alternative would include a median at this location. To avoid any delays in emergency response, an emergency median break would be constructed and striped for “authorized vehicles only” in front of the fire department.
- Previously described medians would affect access points to cross streets. Depending on location of existing driveways and proposed median breaks, minor delays could occur for emergency response compared to existing times. The GDOT design and ROW processes would include a commitment to coordinate with local law enforcement and emergency officials for any additional emergency median breaks needed.

Although the No-Build Alternative would avoid the impacts of medians, the lack of added capacity would lead to extended delays and less reliable emergency response times. Future traffic levels of service on the SR 144 corridor would be in stop-and-go conditions with failing levels of service.

3.2.7 Farmland

How would the project affect farmlands?

The existing land uses on SR 144 are primarily rural residential, small-scale commercial/retail, and timber management. Most historical farming practices in the local economy have been replaced by commute trips for non-farm work. No farm supply store, commercial agricultural property, or large-scale family farm business has been observed in the project area. However, a review of soil types and early coordination with the National Resources Conservation Service (NRCS) confirmed that prime farmland soil types are located along both sides of SR 144. To meet requirements of the National Farmland Protection Policy Act (found in 7 CFR, Part 658), criteria were applied to determine the effects to farmland using the Farmland Conversion Impact Rating.

Development of the Farmland Conversion Impact Rating found that approximately 20 acres of farmland soils would be converted to transportation use as a result of the Preferred Alternative. This information, combined with other important farmland values (such as availability of farm support services), resulted in a total score of 79 points. Because this score was lower than the threshold score of 160 points, alternatives to minimize farmland effects were not considered. See [Appendix A](#) to view the form and NRCS coordination.

3.3 Cultural Environment

This chapter describes the cultural environment and potential impacts of the proposed project on local or national cultural resources. Studies were conducted to meet the requirements of Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended. The project area was surveyed for historic and archaeological resources, including those listed in the National Register of Historic Places (NRHP). The purpose of these surveys was to locate, identify, and evaluate any historic or archaeological resources. The survey boundary and methodology were based on the *GDOT/FHWA Cultural Resource Survey Guidelines*, established as a result of past interaction with the Georgia Department of Natural Resources (GDNR) Historic Preservation Division, also known as the State Historic Preservation Officer (SHPO). The procedures were agreed upon by FHWA and SHPO. The discussion of cultural environment in this EA also includes a review of cemeteries and historic markers for their local importance.

Regulatory Note: Historic Preservation Act of 1966

The Historic Preservation Act of 1966 (as amended) requires federal agencies including FHWA to consider historic resources before implementing projects and to consult with the Advisory Council on Historic Preservation. A State Historic Preservation Officer (SHPO) is designated to review and concur with findings about project impacts.

Learn more:



<http://www.achp.gov/106summary.html>

3.3.1 Historic Resources

Are historic resources located in the project area?

Historians from GDOT have conducted research and surveyed the project corridor for historic resources. The survey area included properties along both sides of SR 144 within the proposed project limits and the *viewshed*. The viewshed includes any properties that can be viewed from the limits of the proposed project or alternative and the view of the proposed project from any historic properties. This combined survey boundary is defined as the *area of potential effect* (APE). The survey identified one property eligible for listing on the NRHP. The lone eligible property is the Ford Kindergarten Building, located at the intersection of SR 144 and Timber Trail Road (see **Figure 15**).



The Ford Kindergarten Building is one of many community buildings in Richmond Hill constructed in 1940 by the Ford Motor Company founder, Henry Ford, who had his winter home there. The kindergarten accommodated children aged three to six years with a kitchen and two classrooms. Its outdoor playground equipment was constructed by the workshops located on Ford's farm property. Today, the building serves as the office and museum of the Richmond Hill Historical Society.

The location and boundary of the property are shown on **Figure 15**. The Ford Kindergarten Building was determined to be eligible for the National Register due to its association with Henry Ford (Criterion B) and its architectural significance as an intact 1940's era school (Criteria C). The criteria for eligibility were developed by NRHP. Criterion B refers to properties of significant persons in history, while Criterion C refers to distinctive patterns in architecture that relate to a specific historic period.

How would historic properties be affected?

In the area of the Ford Kindergarten Building, the Preferred Alternative would consist of constructing a 20-foot raised grass median near the end of the existing four-lane section. All work would occur within the existing ROW. As a result, a finding of No Adverse Effect was recommended for this resource. The Historic Preservation Division (SHPO) concurred with the finding of No Adverse Effect in a letter to GDOT dated May 20, 2008. Correspondence with SHPO for this finding can be found in **Appendix C** under Cultural Resources.

The No-Build Alternative would avoid any direct impacts to the Ford Kindergarten Building, as no construction would occur. Potential indirect or cumulative impacts would be minimal, limited to possible increases in noise levels or air quality emissions due to stop-and-go traffic conditions in front of the property.

Would indirect impacts occur to historic resources?

Construction of the Preferred Alternative would not cause indirect impacts to the Ford Kindergarten Building or other historic properties within the study area. The Preferred Alternative would not cause or induce alterations in traffic patterns or substantial changes in viewshed, noise, or air quality adjacent to any historic property.

Would cumulative impacts occur to historic resources?

The Preferred Alternative would not contribute to any cumulative impacts on the Ford Kindergarten Building other historic properties within the study area. Although future development actions of others could affect or remove historic properties, the Ford Kindergarten site is a community resource as the office and museum of the Richmond Hill Historical Society. Removal or

Figure 15: Historic Resource in the Project Area



alteration of the property by others would not be likely given its current use and recognition by local officials.

What measures are proposed to minimize harm to historic resources?

Planning to minimize harm was taken into consideration by GDOT during project development. The existing roadway in the vicinity of the Ford Kindergarten Building would not be widened further, and all work would take place within the existing right-of-way (ROW).

3.3.2 Archaeological Resources

Are archaeological resources located in the project area?

Based on the background file research and archaeological field surveys conducted, no archaeological resources are located within the project area. The APE for archaeological resources included all areas of proposed disturbance and new required ROW for the Preferred Alternative.

How would archaeological resources be affected?

The Preferred Alternative would have no direct, indirect, or cumulative impacts on archaeological resources. A finding of No Effect was made in 2007, with SHPO providing concurrence on September 3, 2007.

The No-Build Alternative would have no direct, indirect, or cumulative impacts on archaeological resources. Independent new development by others could disturb previously unrecorded archaeological sites.

3.3.3 Cemeteries

Are historic cemeteries located within the project area?

Cemeteries are discussed in context with other community facilities in Chapter 3. In particular, the Burnt Church Cemetery has importance as a local cultural resource. Adjacent to this site in 1830, the Bryan Neck Presbyterian Church was established. After the original church accidentally burned in 1882, it was rebuilt in 1885, six miles away on Belfast River Road. The cemetery remained at the original site on the edge of SR 144, where it became known as Burnt Church Cemetery. In 2000, the rebuilt church site was named to the NRHP. The church celebrated the building's 125th birthday in 2010. The Burnt Church Cemetery remains open to visiting family members and tourists. Burial dates range from the 1840s to the present. Graves include some of Bryan County's most prominent early families. Live oaks and other hardwoods are located throughout the cemetery.



The reportedly historic Patterson family cemetery appears on standard topographic maps (Site 3 in **Figure 13**). Based on field review and interviews with nearby residents, the cemetery is located well outside the required project area in a wooded area.

How would historic cemeteries be affected?

The Preferred Alternative would require construction activities adjacent to the Burnt Church Cemetery. The boundary is recognized along the white split-rail fence and the prominent entrance sign, which run along SR 144 within 20 feet of the existing pavement. Recent burials have been located within five feet of the fenceline. Due to its local prominence and previous connection to the NRHP-listed church, the Burnt Church Cemetery would be considered an environmentally sensitive resource to be protected during construction activities. The proposed construction and ROW limits would avoid the entire cemetery boundaries. Consistent with state laws, detailed surveys and coordination would be required if any part of the Preferred Alternative would encroach within the cemetery.



Would indirect impacts occur to historic cemeteries?

Construction of the Preferred Alternative would introduce additional traffic lanes adjacent to the boundary, which could have a minimal effect on the serene setting for visitors. No long-term alterations to the cemetery or its features would occur, and the existing traffic already passes by the cemetery.

Would cumulative impacts occur to historic cemeteries?

The Preferred Alternative would have minimal cumulative impacts on the Burnt Church Cemetery based on slight change in setting and additional traffic lanes adjacent to the boundary. The surrounding land uses and traffic volumes will change regardless of the SR 144 widening. No reasonably foreseeable development would likely impact the graves or main features of the cemetery.

How would the No-Build Alternative affect historic cemeteries?

The No-Build Alternative would have no direct, indirect, or cumulative impacts on the Burnt Church Cemetery. Independent development by others could disturb the trees and undeveloped land adjacent to the tract regardless of the SR 144 widening.

3.3.4 Historic Markers

Would the Preferred Alternative impact any historic markers?

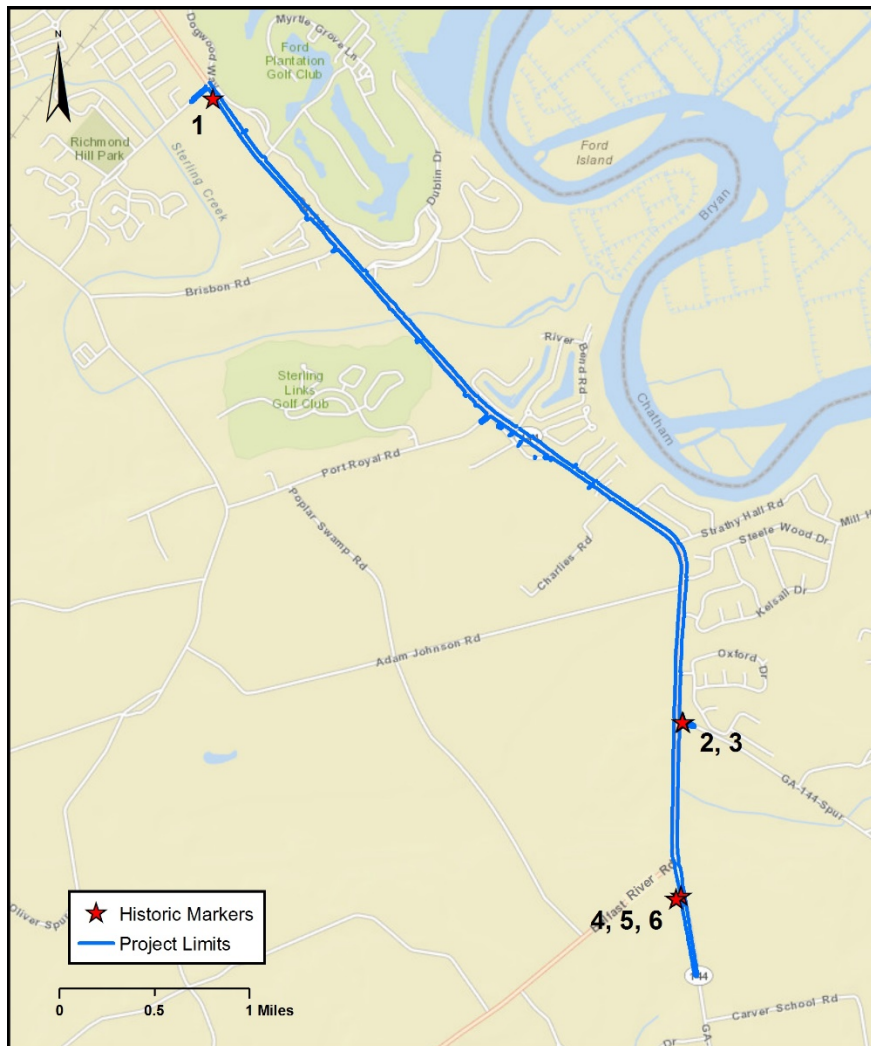
Historic markers are created to recognize important events and prominent individuals. They typically are installed at the edge of ROW. Six historic markers are located within the project area, as listed below and shown in **Figure 16**.

1. Kindergarten Building: As described in [Section 3.3.1](#).

2. Kilpatrick on Bryan Neck: Commemorating military movements of the 3rd Cavalry Division [US], Brig. Gen. J. L. Kilpatrick in December 1864, including his overnight stay at the plantation home of Lt. Col. Joseph L. McAllister near the site.
3. Fort McAllister: Commemorating military operations and marches along Fort McAllister Road.
4. Burnt Church Cemetery: As described in [Section 3.3.3](#).
5. George W. McAllister: Commemorating the life and grave of George Washington McAllister (1781-1850), a prominent planter of Bryan County.
6. The Clay Family of Bryan Neck: Commemorating the lives and graves of the locally prominent Clay family, from the colonial era of Georgia through the 19th century.



Figure 16: Historic Markers



One or more of these metal signs may need to be removed temporarily to avoid any potential damage during construction. To handle any affected historic markers through the construction of the Preferred

Alternative, GDOT proposes commitments and *Special Provisions 610/611* for the removal, storage, and reinstallation of historic markers. Details are provided with the Environmental Commitments Table (Green Sheet) that accompanies this EA.

3.4 Natural Environment

3.4.1 Waters of the US and State Waters

Are Waters of the US located in the project area?

Open waters, streams, and wetlands, identified as jurisdictional Waters of the U.S., are defined by 33 CFR Part 328.3 (b) and are protected by Section 404 of the Clean Water Act (33 USC 1344), which the USACE administers and enforces.

Georgia DOT, or consultants working behalf of GDOT, surveyed the project area for jurisdictional Waters of the U.S. that would be impacted by the proposed projects. This was performed using U.S. Geological Survey topography maps and National Wetland Inventory maps in-house and then refined during field visits. Wetland locations were determined using the 1987 Corps of Engineers Wetlands Delineation Manual. This multi-parameter approach requires positive evidence of three criteria:

- hydrophytic vegetation
- hydric soils
- wetland hydrology

Areas were considered wetlands if they exhibited evidence of all three of the above wetland parameters. Areas were considered jurisdictional streams if they exhibited a definite channel and showed evidence of water flow at times other than major storm events.

QuickView: Waters of the US

The Preferred Alternative would avoid all open waters, 5 of 9 streams, and 11 of 28 wetlands. The total impacts would be 2.2 acres of wetlands and 376 feet of stream. Mitigation would be provided by purchasing 16.07 wetland credits and 1,470.3 stream credits from a nearby approved mitigation bank.

Regulatory Note: Clean Water Act

The Clean Water Act (CWA) regulates discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. All waters with a "significant nexus" to "navigable waters" are protected under the CWA. Section 404 of the CWA is the common reference to regulations that protect wetlands, streams, and open waters.

Learn more:



<http://www.sas.usace.army.mil/Missions/Regulatory.aspx>

Surveys to identify and delineate the boundaries of jurisdictional Waters of the U.S. were undertaken in April of 2011 and are presented in the *Ecology Survey Report and Assessment of Effects* dated July 2013 (available upon request and incorporated with this EA by reference).

In the project area, GDOT identified a total of 45 Waters of the US as shown in **Figures 17-18**. They consist of 28 wetlands (WL), 8 open waters (OW), and 9 streams. The streams are classified (from larger channels with constant

water flow to drainages with limited flows) as perennial (PS) or intermittent (IS). Ephemeral channel (EC) are drainages with periodic flow, and they are grouped with wetlands in the impacts.

Figure 17: Waters of the US (North/West Section)

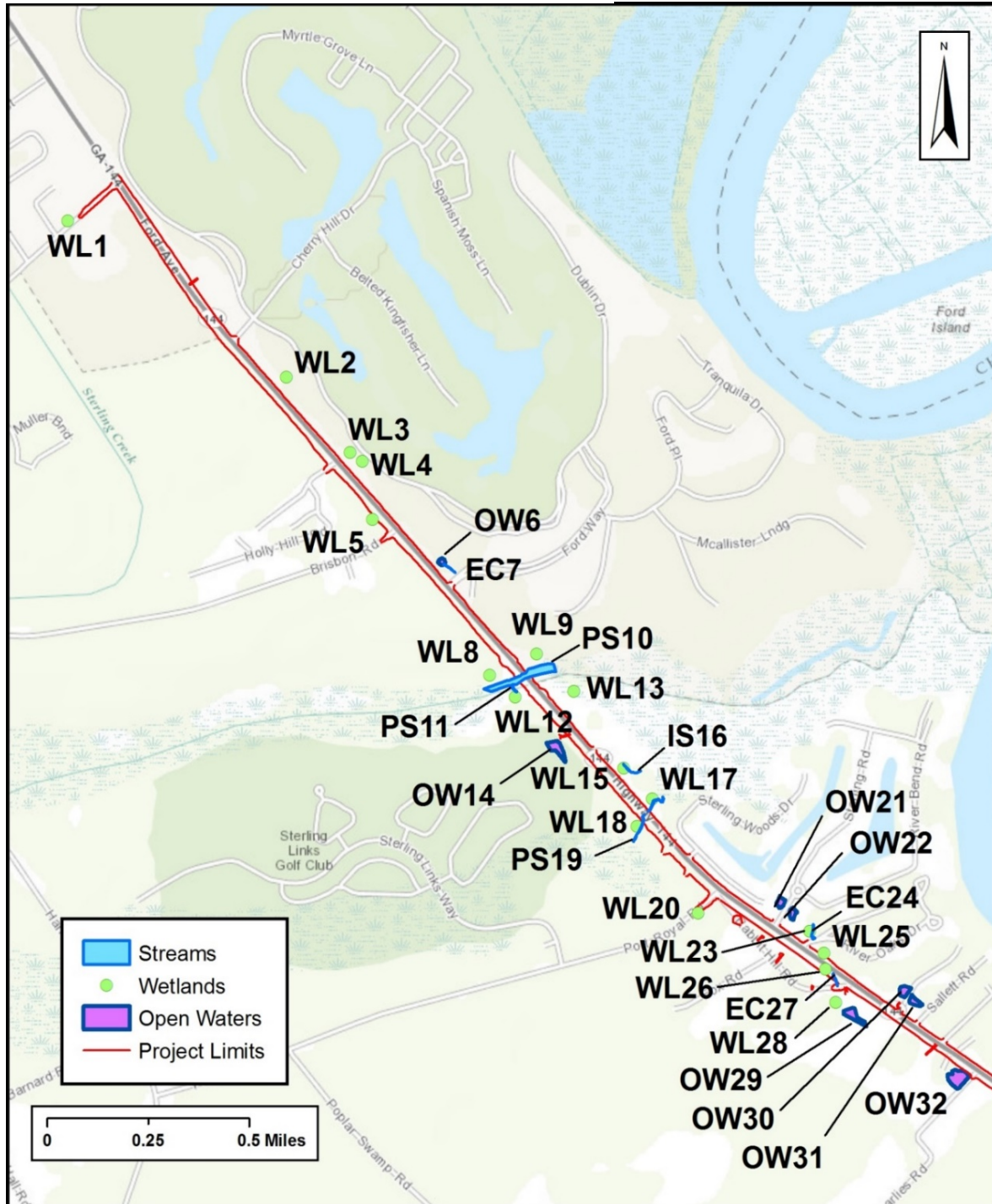
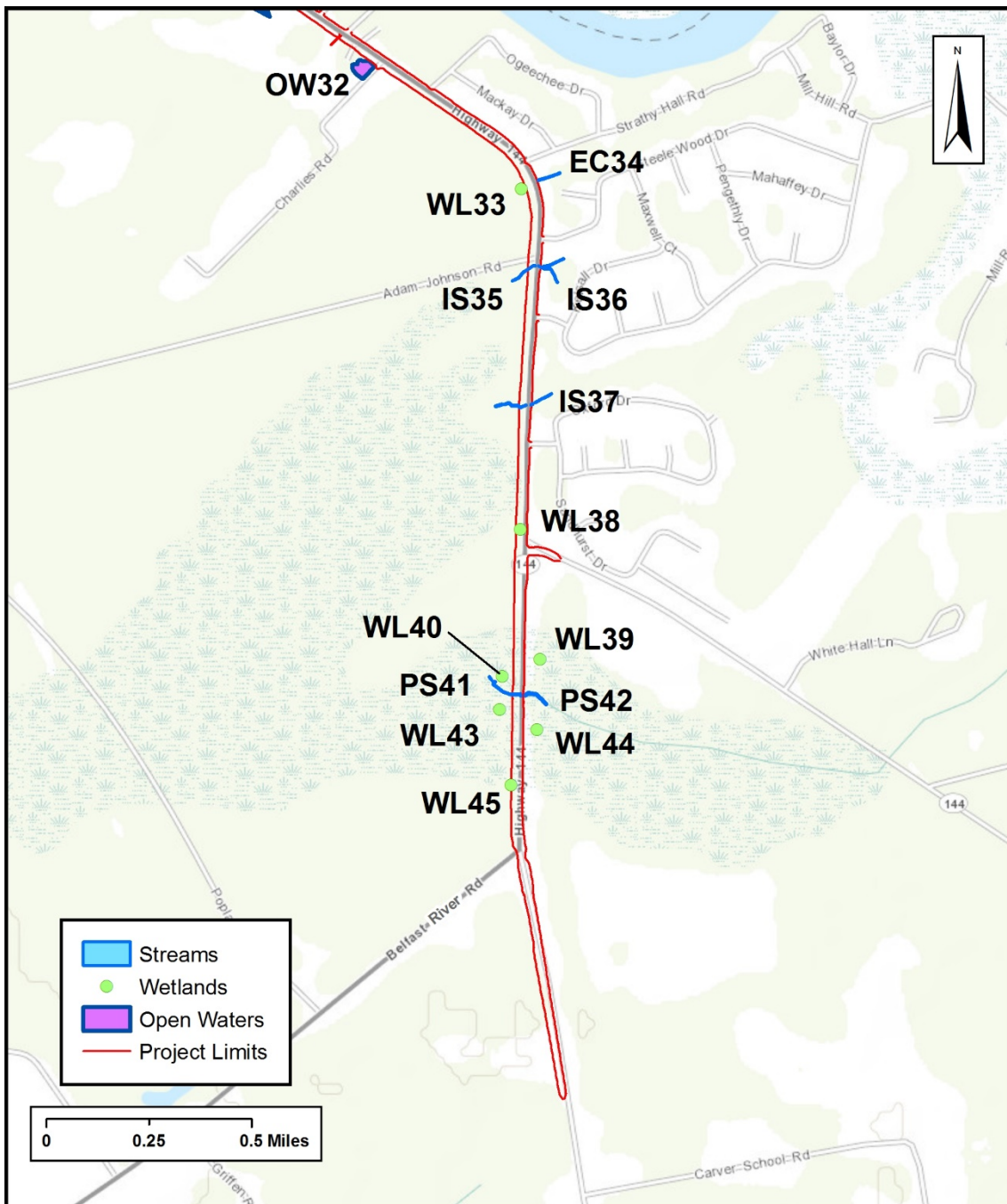


Figure 18: Waters of the US (South/East Section)



The waters that would be affected by the Preferred Alternative are described below. Due to the number of features and the map scale needed to view them, maps and tables of all 45 features are included in **Appendix A**. Several of the waters provide potential habitat for protected species. PS10 provides potential foraging habitat for bald eagles as well as potential habitat for the shortnose sturgeon, Atlantic sturgeon, loggerhead sea turtle, manatee, and wood stork. WL8, WL9, WL12, and WL13 may provide foraging habitat for the federally threatened eastern indigo snake, as well as foraging and roosting habitat for federally endangered wood storks. The emergent portion of WL17 may provide foraging habitat for wood storks. WL39, WL40, WL43, WL44, and WL45 may provide foraging habitat for the eastern indigo snake.

How would the project affect Waters of the US?

The Preferred Alternative would have permanent impacts totaling 2.2 acres of wetlands (including 167 linear feet of ephemeral channel), 234 linear feet of perennial streams, and 142 linear feet of intermittent streams. The waters and nature of the impacts are described below. **Tables A-1 and A-2** include details for those waters that would be directly impacted by the Preferred Alternative.

Wetland 5

Wetland 5 (WL5) is a palustrine forested wetland located on the southwest side of SR 144, approximately 200 feet north of the intersection of SR 144 and Brisbon Road. The wetland is considered moderate quality based on its limited connectivity to other resources and its proximity to SR 144 and Brisbon Road. This wetland does not provide suitable habitat for any protected species listed for Bryan County. WL5 would incur 0.10 acre (4,237 square feet) of permanent fill impact and 0.05 acre (2,085 square feet) of permanent clearing impact.



Wetland 8



Wetland 8 (WL8) is a jurisdictional, both tidally influenced emergent and palustrine forested system located southwest of SR 144, along the left bank of Sterling Creek. This feature is part of the Sterling Creek tidal floodplain. The freshwater palustrine forested portion of WL8 is approximately 2 acres in size, and the tidal portion is approximately 0.16 acre in size. This wetland is of moderate to high quality, with the moderate portions occurring immediately adjacent to SR 144, which contributes runoff to the wetland during rain events.

This wetland, in conjunction with the surrounding habitat, may provide foraging habitat for the federally threatened eastern indigo snake, as well as foraging and roosting habitat for federally endangered wood storks. The freshwater portion of WL8 would incur approximately 0.01 acre (314 square feet) of permanent fill impact and approximately 0.06 acre (2,806 square feet) of permanent clearing impact. The tidal portion of WL8 would incur approximately 0.06 acre (2,466 square feet) of permanent fill impacts.

Wetland 9

Wetland 9 (WL9) is a jurisdictional, both a tidally influenced emergent system and a palustrine forested system located northeast of SR 144, along the left bank of Sterling Creek. WL9 is part of the Sterling Creek tidal floodplain. The freshwater palustrine forested portion of WL9 is approximately 2.3 acres in size, and the tidal portion is approximately 0.06 acre in size. This wetland is of moderate to high quality, with the moderate portions occurring immediately adjacent to SR 144, which contributes runoff to the wetland during rain events. This wetland, in conjunction with the surrounding habitat, may provide foraging habitat for the federally threatened eastern indigo snake, as well as foraging and roosting habitat for federally endangered wood storks. The freshwater portion of WL9 would incur approximately 0.03 acre (1,477 square feet) of permanent impact due to fill and approximately 0.10 acre (4,193 square feet) of permanent impact from clearing. The tidal portion of WL9 would incur approximately 0.01 acre (621 square feet) of permanent impacts due to fill.



Wetland 12



Wetland 12 (WL12) is a jurisdictional, tidally influenced emergent system and palustrine forested system located southwest of SR 144, along the right bank of Sterling Creek. WL12 is part of the Sterling Creek tidal floodplain. The freshwater palustrine forested portion of WL12 is over 2 acres in size, and the tidal portion is approximately 0.06 acre in size. This wetland is of moderate to high quality, with the moderate portions occurring immediately adjacent to SR 144, which contributes runoff to the wetland during rain events. This wetland, in conjunction with the surrounding habitat, may

provide foraging habitat for the federally threatened eastern indigo snake, as well as foraging and roosting habitat for federally endangered wood storks. The freshwater portion of WL12 would incur approximately 0.09 acre (4,060 square feet) of permanent fill impact and approximately 0.14 acre (5,991 square feet) of permanent clearing impact. The tidal portion of WL12 would incur approximately 0.05 acre (2,363 square feet) of permanent impacts due to fill.

Wetland 13

Wetland 13 (WL13) is a jurisdictional, tidally influenced emergent system and palustrine forested system located northeast of SR 144, along the right bank of Sterling Creek. WL13 is part of the Sterling Creek tidal floodplain. The freshwater palustrine forested portion of WL13 is approximately 5.4 acres in size, and the tidal portion is approximately 0.05 acre in size.



This wetland is of moderate to high quality, with the moderate portions occurring immediately adjacent to SR 144, which contributes runoff to the wetland during rain events. This wetland, in conjunction with the surrounding habitat, may provide foraging habitat for the federally threatened eastern indigo snake, as well as foraging and roosting habitat for federally endangered wood storks. The freshwater portion of WL13 would incur approximately 0.06 acre (2,744 square feet) of permanent fill impact and approximately 0.16 acre (7,064 square feet) of permanent clearing impact. The tidal portion of WL13 would incur approximately 0.02 acre (896 square feet) of permanent fill impacts.

Wetland 17

Wetland 17 (WL17) is a jurisdictional system that exceeds two acres in size and is located on the northeast side of SR 144 approximately 1,075 feet north of Port Royal Road. It is associated with a perennial tributary to Sterling Creek and exhibits areas of both palustrine emergent and forested characteristics. The emergent areas are tidally influenced. WL17 is a moderate quality wetland in the areas adjacent to SR 144 and the residential development that occurs to the east due to the contribution of runoff from these areas during rain events. The emergent portion of the wetland, which lies beyond the project area, may contain foraging habitat for protected species such as wood storks. The forested portion within the project area does not contain any suitable habitat for protected species. WL17 would incur approximately 0.04 acre (1,764 square feet) of permanent fill impacts and 0.22 acre (9,393 square feet) of permanent clearing impacts.



Wetland 18

Wetland 18 (WL18) is a jurisdictional, approximately 4-acre, palustrine forested system located southwest of SR 144 approximately 1,075 feet north of Port Royal Road. WL18 is of medium quality based on its proximity to a highly developed commercial area with a large amount of impervious surface, which contributes runoff to the wetland system during rain events. This wetland does not contain suitable habitat for any protected species listed for Bryan County. WL18 would incur approximately 0.35 acre (15,033 square feet) of permanent fill impacts and 0.10 acre (4,424 square feet) of permanent clearing impacts.



Perennial Stream 19

Perennial Stream 19 (PS19) is an unnamed tributary to Sterling Creek and is a somewhat impaired perennial stream. This stream crosses under SR 144 approximately 1,100 feet north of Port Royal Road. The downstream portion north of SR 144 is tidally influenced. The width of the riparian buffer is over 600 feet on the left bank and is 60-100 feet along the right bank. The right bank riparian buffer is limited by residential development north of SR 144 and by a McDonald's restaurant south of SR 144. This feature does not contain suitable habitat for any protected species listed for Bryan County.



A new single 54-inch pipe culvert would be constructed in a new location to the east of the existing structure. This would result in approximately 98 linear feet (0.01 acre/438 square feet) of permanent impacts via channel relocation, approximately 19 linear feet (0.005 acre/221 square feet) of permanent fill impacts via new culvert, and approximately 22 linear feet (0.005 acre/215 square feet) of permanent fill impacts via placement of riprap. The culvert would be designed for fish passage. The impacts would require 621.6 stream mitigation credits from a mitigation bank or site within the Lower Ogeechee River basin. FWCA coordination is required for this feature since a portion of the channel would be relocated and there would be more than 100 linear feet of impacts to the channel of this feature.

Wetland 20

Wetland 20 (WL20) is a 0.13-acre, jurisdictional, palustrine emergent wetland located adjacent to the eastbound Port Royal Road shoulder near the intersection with SR 144. WL20 is considered low quality based on its limited connectivity to other hydrologic features and its proximity to the existing disturbed ROW. This feature does not contain suitable habitat for any protected species listed for Bryan County. WL20 would incur approximately 0.08 acre (3,337 square feet) of permanent clearing impacts.



Wetland 25



Wetland 25 (WL25) is a jurisdictional, 0.34-acre, palustrine forested system located north of SR 144, between Fox Road and Rabbit Hill Road. WL25 is of poor to medium quality due to adjacent residential properties and the close proximity to SR 144, both of which contribute runoff to the system during rain events. This feature does not provide suitable habitat for any protected species for Bryan County. WL25 would incur approximately 0.05 acre (2,193 square feet) of permanent fill impacts and 0.05 acre (2,106 square feet) of permanent clearing impacts.

Wetland 26

Wetland 26 (WL26) is a 0.20-acre, palustrine forested system located south of SR 144, north of the intersection with Rabbit Hill Road. WL26 is of poor to medium quality due to adjacent residential properties and the close proximity to SR 144, both of which contribute runoff to the system during rain events. This feature does not provide suitable habitat for any protected species for Bryan County. WL26 would incur approximately 0.20 acre (8,598 square feet) of permanent fill impacts.



Ephemeral Channel 27

Ephemeral Channel 27 (EC27) is a poorly defined, somewhat impaired ephemeral drainage located south of SR 144, downstream of W26. This ephemeral drainage also crosses under Rabbit Hill Road and empties into Wetland 28. The riparian corridor along the right bank varies in width from 125 feet wide at the point where it flows from Rabbit Hill Road, to 25 feet wide where it flows into WL 26. The riparian vegetation along the left bank is approximately 125 feet wide. EC27 does not provide suitable habitat for protected species listed for Bryan County. Approximately 0.007 acre (82 linear feet/288 square feet) of permanent impacts would be incurred due to the installation of new box culverts under SR 144 and Rabbit Hill Road.



Wetland 28

Wetland 28 (W28) is a 0.3-acre, medium quality, palustrine emergent wetland located approximately 140 feet southwest of the intersection of SR 144 and Rabbit Hill Road. The majority of wetland is within a mowed and maintained yard and a side channel is within a dug and maintained ditch. The wetland is considered low to medium quality based on its proximity to the disturbed ROW and the maintained nature of the wetland. This wetland does not provide suitable habitat for any protected species listed for Bryan County. W28 would incur a total of 0.01 acre (408 square feet) of permanent fill impacts.



Ephemeral Channel 34

Ephemeral Channel 34 (EC34) is a poorly defined, somewhat impaired ephemeral drainage that begins at a concrete pipe approximately 20 feet east of existing SR 144 edge of pavement and 225 feet south of Strathy Hall Road. The riparian buffer along the banks is not continuous, as this feature is located within a residential area, and the mowed yards come up to the banks. The right bank is approximately 200 feet wide and consists of spaced pine and hardwoods within a residential maintained yard. The riparian buffer along the left bank is only 25 to 50 feet wide and not continuous. It consists of the same species as are present along the right bank. EC34 does not provide suitable habitat for protected



species listed for Bryan County. Approximately 0.001 acre (6 linear feet/51 square feet) of permanent fill impacts would be incurred.

Ephemeral Channel/Intermittent Stream 35

Ephemeral Channel/Intermittent Stream 35 crosses SR 144 approximately 300 feet south of Steele Wood Drive and consists of an ephemeral portion west of SR 144 (EC35) and an intermittent portion east of SR 144 (IS35). EC35 is a poorly defined, somewhat impaired ephemeral drainage. The riparian buffer along both banks, which is approximately 75 to 175 feet wide along the left bank and greater than 1,000 feet wide along the right bank, consists of planted loblolly pine. IS35 is a somewhat impaired intermittent stream due to the presence of a moderately entrenched bank.



EC35 and IS35 do not provide suitable habitat for protected species listed for Bryan County. Approximately 0.01 acre (79 linear feet/422 square feet) of permanent impacts to the ephemeral portion via fill, and approximately 44 linear feet (0.005 acre/233 square feet) of permanent impacts to the intermittent portion via culvert extension would occur as a result of this project.

Intermittent Stream 37

Intermittent Stream 37 (IS37) is a somewhat impaired intermittent stream that crosses SR 144 approximately 400 feet north of Oxford Drive. IS37 does not provide suitable habitat for protected species listed for Bryan County. Approximately 98 linear feet (0.02 acre/823 square feet) of permanent impacts to IS37 via culvert extension are proposed.



Wetland 38



Wetland 38 (WL38) is a 0.04-acre, partially emergent and partially forested palustrine wetland. The majority of wetland is within a mowed and maintained yard. The wetland is considered low to medium quality based on its proximity to the disturbed ROW and the maintained nature of the wetland. WL38 does not provide suitable habitat for protected species listed for Bryan County. Approximately 0.04 acre (1,585 square feet) of permanent fill impacts would occur.

Perennial Stream 42

PS42 is a fully functional, well defined, perennial stream that crosses SR 144 approximately 1,640 feet south of Fort McAllister Road. PS42 does not provide suitable habitat for protected species listed for Bryan County. Approximately 95 linear feet (0.10 acre/4,265 square feet) of permanent impacts to PS42 via culvert extension would occur.



Wetland 43



Wetland 43 (WL43) is a palustrine forested wetland exceeding 2 acres in size. It is located along the west side of SR 144, just south of PS42. WL43 is of medium to high quality based on the minimal development immediately surrounding the system, as well as its proximity to a much larger wetland system which may fall within the protected boundaries of the Coastal Georgia Green Creek Trail Greenway. This wetland may provide foraging habitat for the federally threatened eastern indigo snake. WL43 would incur a total of 0.04 acre (1,619 square feet) of permanent clearing impacts.

Wetland 45

Wetland 45 (WL45) is a 0.11-acre, palustrine forested wetland located approximately 725 feet north of the intersection of SR 144 and Belfast River Road. WL45 is of medium to high quality based on the close proximity to a much larger wetland system, which may fall within the protected boundaries of the Coastal Georgia Green Creek Trail Greenway. This wetland may provide foraging habitat for the federally threatened eastern indigo snake. Approximately 0.02 acre (751 square feet) of WL45 would be permanently filled and 0.04 acre (1,681 square feet) of WL45 would be permanently cleared.



Have impacts to Waters of the US been avoided or reduced during project planning?

Chapter 2 of this EA describes the alternatives that were considered as part of the project development process. Avoiding or reducing (minimizing) impacts to wetlands and streams was one criteria in considering early alternatives. The nature of the proposed widening makes impacts unavoidable when wetlands and streams are located on both sides of the existing highway.

The Preferred Alternative has been refined with several variations of the typical sections to reduce impacts further. As a result, the Preferred Alternative would avoid all 8 open waters, 5 of 9 streams, and 11 of 28 wetlands. The impacts would total 2.2 acres of the 24 wetland acres in the project area (9%) and 376 of 1,770 feet of stream (21%). Moreover, the impacts have been reduced to edges of

water features already located adjacent to the existing SR 144 ROW. The No-Build Alternative would avoid impacts to any Waters of the US.

Measures were also taken to consider how to avoid or minimize impacts at each Water of the US. Due to the presence of 45 features and the nature of the widening project, impacts in one location would be unavoidable without increasing impacts in other locations. Design modifications have been made to reduce side slopes and the overall construction limits as much as practical. These measures are described in the *Ecology Assessment of Effects* as included in the Ecology Summary of **Appendix E**.

The Preferred Alternative would be expected to produce some increased siltation within wetlands and streams during the construction phase. Environmental harm would be minimized by best management practices in sedimentation, erosion, and hydrological control measures. These include the following:

1. Preservation of roadside vegetation beyond the limits of construction where possible.
2. Early re-vegetation of disturbed areas so as to minimize soil erosion.
3. The use of slope drains, detention/retention structures, surface, subsurface and cross drains, designed as appropriate or needed, so that discharge would occur in locations and in such a manner that surface and subsurface water quality would not be affected (the outlets may require aprons, bank protection, silt basins and energy dissipaters).
4. Inclusion of construction features for the control of predicted erosion and water pollution in the plans, specifications, and contract pay items (Georgia Standard Specifications 161 identifies the pollution control measures that may be used).
5. The dumping of chemicals, fuels, lubricants, bitumens, raw sewage, other harmful waste into or alongside of streams or impoundments, or into connected natural or man-made channels would be prohibited.

How would unavoidable impacts to Waters of the US be mitigated?

Mitigation for unavoidable impacts to waters of the US would come in the form of credits purchased from an approved mitigation bank in the Lower Ogeechee River watershed (the Hydrologic Unit Code 03060204). Mitigation would require the purchase of 16.07 wetland credits and 1,470.3 stream credits.

How would buffers of state waters be affected?

In a separate set of criteria from Waters of the US, the GDNR's EPD identifies State Waters and buffer requirements. Through coordination and field review, EPD confirmed that 43 of the 45 Waters of the US also qualify as State Waters, with 20 of them requiring 25-foot protective buffers. The Preferred Alternative would involve unavoidable permanent disturbance within six of the buffer areas: WL8, WL9, WL12, WL13, PS19, and OW32.

What permits would be required to allow for the impacts to Waters of the US and State Buffers?

The impacts to wetlands and streams would require the submission of an application for a Nationwide Permit (NWP) 14 to USACE. The permit would be reviewed and issued by USACE prior to GDOT commencing construction activities. The project would require a Pre-Construction Notification for use of NWP 14. The purchase of mitigation credits would be identified during that process.

For the unavoidable buffer impacts, a State of Georgia Buffer Variance (BV) would be required. The BV application would be prepared and submitted to EPD for approval, coordinated with details of the USACE Nationwide Permit. For buffer mitigation, dimensions of the encroachment would be confirmed during final design and used to calculate stream credits. The credits would be purchased in addition to the stream impact credits, typically at the same mitigation bank.

Would the project have longer term, indirect impacts to Waters of the US?

As described in [Section 3.2.2](#), the Preferred Alternative would not induce changes in land use patterns or development intensity. However, indirect impacts could occur during the long-term operation of the four-lane highway that would be located next to many of the Waters of the US. Potential stormwater runoff increases could lead to some degradation of the waters. Any indirect impacts would be similar to that of the No-Build Alternative in that vehicle traffic volume will increase by 87% or more by 2038 with or without the proposed widening. The indirect impacts would be minimized through the design plans incorporating new and effective stormwater elements to the extent practical. The No-Build Alternative would have increased traffic volumes without the opportunity to add roadside stormwater management improvements that would be included in the new widening of the Preferred Alternative.

Would the project add cumulative impacts to Waters of the US?

Most developable land adjacent to SR 144 is under construction or in plans for residential and mixed-use development. In a review of potential cumulative impacts, a resource boundary was identified with an approximate 500-foot buffer around the Preferred Alternative. Based on a review of data with GIS mapping, this area has a total of 500 acres of wetlands and 17,000 feet of streams. During the period from 2000 through 2010, freshwater wetlands near existing corridors have been filled under separate permits for roadway and private development. Recent residential developments have preserved natural features such as higher quality wetlands as amenities in low-density neighborhoods near the Ogeechee River. Current and reasonably foreseeable development will continue to deplete some of the wetlands within the study area. Permitting and mitigation would be required for each respective property owner/developer, under the Section 404 regulations.

Overall, the impacts of the Preferred Alternative, at 2.2 acres of wetlands and 376 feet of stream, would contribute a very small percentage toward the overall cumulative wetland depletion and stream impacts. The future independent development actions of others also would be likely with the No-Build Alternative. The high quality marshlands adjacent to the Ogeechee River are under long-term preservation and would not be removed under current long range planning and zoning.

3.4.2 Water Quality

Do any of the streams or other waters already have water quality issues?

Sterling Creek (PS10) is on the Georgia EPD Draft 2012 305(b)/303(d) list of streams not supporting their designated uses. It is not currently supporting its designated use for fishing due to a criterion violation in fecal coliform levels, likely related to rapid urbanization of the adjacent land uses. This creek provides potential foraging habitat for bald eagles as well as potential habitat for the shortnose sturgeon, Atlantic sturgeon, loggerhead sea turtle, manatee, and wood stork. In addition, PS19 is an unnamed tributary to PS10.

How would impacts to water quality be avoided or minimized?

The Preferred Alternative would have potential to increase sedimentation in nearby waters during construction. To reduce impacts, the same BMPs identified for wetlands in [Section 3.4.1](#) also would apply to overall water quality. The goals of the BMPs are to reduce water pollution issues during construction and to monitor the water quality during the process.

What permits would be required to assure water quality during construction?

Requirements of the National Pollutant Discharge Elimination System (NPDES) permit for construction activities must be met. Best management practices must be consistent with, and no less stringent than, practices set forth in the Manual for Erosion and Sedimentation Control in Georgia.

The NPDES was created by the federal Clean Water Act to control water pollution by regulating the discharge of pollutants to surface waters. In Georgia, any ground disturbing activities that exceed one acre are covered under the State's NPDES permit. Ground disturbing activities exceeding one acre would occur for the proposed project. Therefore, a public notice would be issued for the NPDES General Permit prior to construction (the Notice of Intent or NOI) and upon completion (the Notice of Termination or NOT). The NPDES permit also requires preparation and the implementation of an Erosion, Sedimentation, and Pollution Control Plan and a Comprehensive Monitoring Program.

Regulatory Note: 305(b)/303(d) List

In addition to protecting wetlands, the CWA requires each state to assess and describe the quality of its waters every two years in a report called the Section 305(b) report. The CWA also requires each state to submit a list every two years of all of the waters that are not meeting their designated uses, called the Section 303(d) list. Georgia submits a combined 305(b)/303(d), called the Integrated Report, as part of its "Water Quality in Georgia" publication. The 305(b)/303(d) list describes conditions for all waters that the State has assessed.

Learn more:



<http://www.gaepd.org/Documents/305b.html>

Would the project have longer term, indirect impacts to water quality?

Indirect water quality impacts from the Preferred Alternative would be minor, consisting of potential stormwater runoff during the operation of the four-lane highway. The proposed widening is estimated to add approximately 78 acres of new impervious surface for the through lanes, turn lanes, sidewalks, bicycles lanes, and paved shoulders. This increased impervious surface would contribute to runoff including potential vehicle pollutants during storm events. However, substantial increases in traffic volumes would occur with the No-Build Alternative as well. As described in the discussion of indirect wetland impacts, the Preferred Alternative, while increasing impervious surfaces, would allow for the addition of newer water quality features compared to the aging design of the existing SR 144 highway. From that perspective, the Preferred Alternative could allow for BMPs to help manage the water quality concerns from transportation sources as the volumes continue to grow.

Would the project add cumulative impacts to water quality?

Similar to wetland impacts, overall water quality within the study area is a function of surrounding changes in land use. The listing of Sterling Creek as an impaired water is a typical indicator of rapid development. The review of past land use changes indicated that impervious surfaces have been increasing as a ratio of the total area since 2000. During the past 10 to 15 years, improvements have been introduced both in stormwater technologies and in zoning measures. These improvements would continue with the reasonably foreseeable future development.

Although more than 10,000 acres of new development were identified by local planning officials, the acreage includes many natural features preserved as amenities. Bryan County's 75-foot buffer (50-foot undisturbed) would help reduce the stormwater effects from highway sources while encouraging best practices in site design to protect resources and water quality. Overall, the Preferred Alternative would add a minimal amount of impervious surface within the total study area and total estimated development. Most of the water quality concerns would occur under the No-Build Alternative through the long-term development actions by others.

3.4.3 Floodplains

What floodplains are located in the project area?

The Federal Emergency management Agency (FEMA) publishes a set of floodplain maps for Bryan County. Digital versions of the FEMA maps were obtained from the Georgia GIS Clearinghouse and overlaid with the project alignment to determine impacts. Floodplains in the study area appear in zones used by FEMA's National Flood Insurance Program (NFIP). The NFIP is coordinated with local communities to make effective zoning ordinances for floodplain preservation and protection against flooding.

As shown in **Figure 19**, all of the floodplain along SR 144 is within Zone A or AE, meaning that boundaries are either approximated or studied to set limits of an estimated 100-year storm event. In other words, the designated floodplains would be necessary to handle (discharge) the flooding caused by a storm severe enough to have only a 1% chance of occurring, commonly referred to as once in 100 years. Encroaching within floodplains for development decreases the capacity to handle the rise in flood waters.

The primary floodway, or stream channel, in the project area is at the existing SR 144 bridge over Sterling Creek. Sterling Creek is not a regulatory floodway, meaning that FEMA has not designated limits of the stream channel and adjacent floodplain that must be preserved to protect the water surface level from rising.

The floodplain along Sterling Creek is generally undisturbed, consisting of mature trees and brushy undergrowth. The floodplain is affected by daily tidal influences due to its confluence with the Ogeechee River approximately one mile from SR 144.

How would the Preferred Alternative affect floodplains?

Approximately 69% of the project area falls within the 100-year floodplain. Most of this area is located within the existing ROW. Encroachment of the Preferred Alternative within the floodplain associated with Sterling Creek and the Ogeechee River would be unavoidable. Approximately 27.1 acres of new ROW within the 100-year floodplain would be required.

How have impacts to floodplains been avoided or minimized?

The alignment for the Preferred Alternative was developed while considering ways to minimize impacts, including floodplain encroachment. Most of the floodplain impact area is located in frontage strips within or along the edge of existing ROW, which would have reduced flood storage capacity compared to the undeveloped floodplains that would be avoided. The total acreage of encroachment includes new maintained ROW after construction, similar to existing floodplain conditions.

QuickView: Floodplains and Floodways

The Preferred Alternative would require disturbance and fill within the 100-year floodplain, totaling 27.1 acres.

Floodplains are low-lying areas located adjacent to the channel of a river, stream, or other type of water body. These areas are subject to periodic flooding during heavy rains and/or long periods of wet weather. A floodplain provides important functions in the natural environment such as:

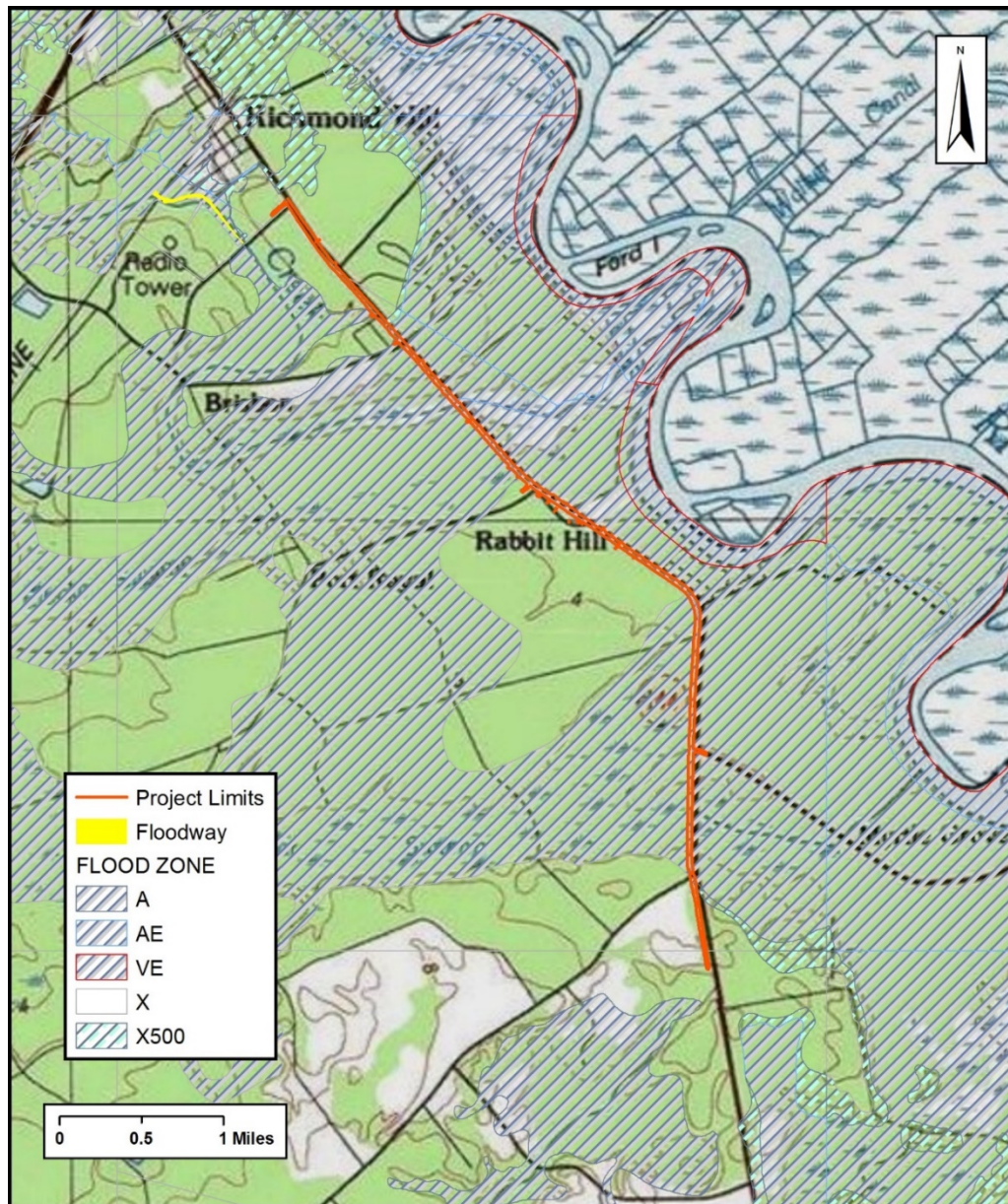
- Providing temporary storage of flood waters
- Preventing heavy erosion caused by fast moving water
- Providing a vegetative buffer to filter silt and contaminants before entering a water body
- Recharging and protecting groundwater; and accommodating the natural movement of streams

Learn more:



<http://www.fema.gov/floodplain-management/floodway>

Figure 19: Floodplains and Floodways



The “footprint” of temporary and permanent encroachment has been reduced by the decision to widen the existing bridge instead of constructing a parallel bridge across Sterling Creek. Procedures for Coordinating Highway Encroachments on Floodplains with the FEMA are being followed in the design, and GDOT notified GADNR of the proposed project’s involvement through early coordination. A hydraulic and hydrological study has been conducted with GDOT Office of Bridge Design to minimize impacts to the floodplain (PBS&J aka Atkins, December 2008). Based on the preliminary design and model results, the proposed SR 144 bridge over Sterling Creek would meet similar hydrological conditions as the existing bridge, designed to handle a 25-year tidal storm within the creek’s floodway, which would be more extensive than the 100-year non-tidal storm assumed for the adjacent floodplains. Based on the findings of the study, no further coordination with FEMA will be required.

Would the project have long-term impacts on floodplains?

Based on coordination with local planning and zoning officials and a review of published plans, the Preferred Alternative would not induce further development within the floodplain. The Preferred Alternative would not have indirect impacts on floodplains.

Would the project add cumulative impacts on floodplains?

Based on a review of aerial photography, coordination with planning staff, and identification of reasonably foreseeable future development, the Preferred Alternative would contribute to cumulative impacts on floodplains through disturbance of 27.1 acres, less than 5% of the study area floodplains. As shown previously in **Figure 12**, development has been occurring in south Bryan County, particularly along the SR 144 corridor. Although much of the fringe area of the floodplains likely would be disturbed, the new development would avoid the most sensitive floodplain areas around Sterling Creek and the Ogeechee River. Much of the floodplain protection remains the responsibility of local communities. Zoning in Bryan County includes protection of sensitive marshland areas, which comprise much of the undeveloped floodplains located east and south of SR 144.

3.4.4 Essential Fish Habitat

What Essential Fish Habitat is located in the project area?

Essential fish habitat (EFH) includes waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) defines EFH and measures to protect it. The habitat areas are identified and managed by the National Marine Fisheries Service (NMFS). Within counties that have designated EFH, GDOT must identify any unavoidable impacts. The nearest location of EFH occurs approximately 775 feet north of the SR 144 corridor at its closest point to the Ogeechee River. The entire reach of the Ogeechee River adjacent to SR 144 supports EFH that has been designated for three species: red snapper, grouper, and spiny lobster.

Would the project affect EFH?

The Preferred Alternative would avoid any disturbance of or encroachment within EFH. Due to the location of EFH near the existing SR 144 corridor, the Preferred Alternative would have a finding of “no substantial adverse effect.” Project findings were provided to NMFS for review and coordination (see Appendix C). No correspondence regarding EFH has been received from NMFS in response to the 2010 and 2012 coordination letters. Coordination will continue with the NMFS Habitat Conservation Division, including an additional opportunity to respond during agency review of this EA.

No changes to land use or travel patterns would induce development near any EFH. The construction phase of the Preferred Alternative would involve clearing and grading within approximately 775 feet of EFH and the continued operation of SR 144. Uncontrollable factors including coastal storm events could increase the potential for stormwater runoff and siltation to reach the EFH during construction. However, with stringent best management practices (BMPs) in place, it is unlikely indirect or cumulative impacts to EFH would occur. Thus, the project would have no substantial, long-term adverse impact to EFH.

3.4.5 Protected Species

What protected species are located in the project area?

To meet requirements of the Endangered Species Act of 1973 (ESA), GDOT conducted surveys along the entire project corridor to identify federally protected species and/or potential habitat for protected species. Results of these surveys are presented in the July 2013 *Ecology Assessment of Effects Report*. Species listed in Bryan County as federally threatened or endangered under the (ESA) or state-listed species with occurrence records in the County are identified in **Table 7**.

Regulatory Note: Endangered Species Act

The Endangered Species Act of 1973 was created to “protect and recover imperiled species and the ecosystems upon which they depend.” Under the ESA, species are protected based on their listing as either endangered or threatened. *Endangered* means a species is in danger of extinction throughout all or a significant portion of its range. *Threatened* means a species is likely to become endangered within the foreseeable future. Section 7 of the ESA spells out certain roles of federal agencies. Depending on the species, consultation is required with the US Fish and Wildlife Service and National Marine Fisheries Service to assure that a project would not harm protected species.

Learn more:



<http://www.fws.gov/endangered/laws-policies/index.html>

Would the project affect protected species?

The Preferred Alternative has the potential for minor impacts to six of the 23 species listed in **Table 8** due to the disturbance of suitable habitat. Each species with potential impacts is described briefly below. Special Provision (SP) 107.23G would be implemented to define methods during construction to protect these six species. Informal coordination with the United States Fish and Wildlife Services (USFWS) and National Marine Fisheries Service (NMFS) through Section 7 of the ESA has been conducted. As the lead Federal agency on this project, FHWA is responsible for making the determinations of effects. In correspondence provided to USFWS and the NMFS Protected Resources Division, FHWA summarized the determinations based on findings of the surveys conducted. Both agencies concurred with the determinations, as shown in **Appendix C** under Ecology. As listed in **Table 8**, the Preferred Alternative would have no effect on 17 species and may affect, but likely would not adversely affect, six species.

West Indian manatee

The West Indian manatee is an aquatic mammal that migrates through coastal waters. During the winter, manatees are found in natural or artificial

warm water sites in Florida. However, during the summer manatees are more dispersed and are residents in Georgia from March through October. No observations of the manatee occurred during field studies. The GDNR listed the occurrence of the manatee in tidal waters within three miles of the project area, and the USFWS suggested that this species may occur in Sterling Creek.

Wood stork

Wood storks inhabit swamps and other wetland areas in the southeast. Wood storks use a variety of wetlands for breeding, feeding, and roosting. According to correspondence with the USFWS, there are two wood stork colonies within seven miles of the project corridor, and the project contains foraging habitat within the cypress wetland areas for several other colonies. In addition, the trees lining Sterling Creek may provide roosting habitat for this species.

Loggerhead sea turtle

The loggerhead sea turtle is found in the Atlantic, Pacific, and Indian oceans, as well as the Mediterranean. Loggerheads are found throughout the coastal waters of Georgia during the warm months of spring, summer, and fall. Loggerheads are a primary nesting sea turtle, laying eggs on the beaches of every barrier island during the summer nesting season. No loggerhead sea turtle was observed during the April 2011 ecology survey. Because this species are regularly observed in tidal creeks and rivers of Georgia's salt marshes, Sterling Creek may contain suitable habitat.

**Table 8
Protected Species**

Common Name	Scientific Name	Status*		Effect Determination*
		Federal	State	
North Atlantic right whale	<i>Eubalaena glacialis</i>	E	E	NE
Humpback whale	<i>Megaptera novaenangliae</i>	E	E	NE
West Indian manatee	<i>Trichechus manatus</i>	E	E	MA, NLAA
Piping plover	<i>Charadrius melodus</i>	T	T	NE
Wood stork	<i>Mycteria americana</i>	E	E	MA, NLAA
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	E	NE
Bachman's warbler	<i>Vermivora bachmanii</i>	E	E	NE
Loggerhead sea turtle	<i>Caretta</i>	T	E	MA, NLAA
Green sea turtle	<i>Chelonia mydas</i>	E	E	NE
Leatherback sea turtle	<i>Dermochelys coriacea</i>	E	E	NE
Eastern indigo snake	<i>Drymarcho couperi</i>	T	T	MA, NLAA
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	E	E	NE
Gopher tortoise	<i>Gopherus polyphemus</i>	C	T	NE
Kemp's Ridley sea turtle	<i>Lepidochelys kempii</i>	E	E	NE
Mimic glass lizard	<i>Ophisaurus mimicus</i>	NP	R	NE
Frosted flatwoods salamander	<i>Ambystoma cingulatum</i>	T	T	NE
Striped newt	<i>Notophthalmus perstriatus</i>	C	T	NE
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	E	E	MA, NLAA
Atlantic sturgeon	<i>Acipenser oxyrinchus</i>	E	E	MA, NLAA
Pond spicebush	<i>Lindera melissifolia</i>	E	E	NE
Savannah lilliput	<i>Toxolasma pullus</i>	NP	T	NE
Robust redhorse	<i>Maxostoma robustum</i>	NP	E	NE
Atlantic pigtoe	<i>Fusconaia masoni</i>	NP	E	NE

*T=Threatened; E=Endangered; C=Candidate; NP=Not Protected; R=Rare; MA, NLAA=May Affect, Not Likely to Adversely Affect; NE=No Effect

Source: GDOT and Ecological Solutions, Inc. Ecology Assessment of Effects Report. July 2013.

Eastern indigo snake

The eastern indigo snake is found along sand ridges in the Coastal Plain of Georgia and Florida, usually in areas inhabited by gopher tortoises, a species of management concern. The eastern indigo snake uses the burrows of the tortoise for foraging, nesting, denning, and for overwintering. Eastern indigo snakes have a large home range and may forage in areas near or within the project limits.

Shortnose sturgeon

The shortnose sturgeon inhabits large coastal rivers, though it occasionally does enter the Atlantic Ocean. The historic range of the shortnose sturgeon extends from the St. John's River in Florida to the Saint John River in New Brunswick, Canada. The Savannah, Ogeechee, and Altamaha rivers in Georgia have known populations of shortnose sturgeon, with the Altamaha River containing the largest population south of the Delaware River. The GDNR identified three recorded occurrences of this species in the vicinity of the project. Correspondence from the USFWS also stated that shortnose sturgeon may occur in Sterling Creek.

Atlantic sturgeon

The Atlantic sturgeon is a long-lived, estuarine dependent, anadromous fish. Adults spawn in freshwater in the spring and early summer and migrate into estuaries and marine waters after spawning. In some southern rivers, a fall spawning migration may also occur. Spawning habitat includes moderately flowing water in deep parts of large rivers. Atlantic sturgeons are benthic feeders and typically forage on benthic invertebrates such as crustaceans, worms, and mollusks. Habitat for Atlantic sturgeon exists within the project corridor, in Sterling Creek.

Suitable habitat for protected species is located within both the project area and the broader study area, particular on the east side of SR 144 near the Ogeechee River. The Preferred Alternative would not induce additional land development near these sensitive habitats. However, minimal indirect impacts could result as a chain reaction result from any water quality issues as described in Section 3.4.2. The use of BMPs to reduce runoff would have benefits for water quality and wetlands as well as the habitat for protected species.

The Preferred Alternative also would have minimal cumulative impacts to protected species by adding to the incremental conversion of suitable habitat to a permanent transportation use. The past, present, and reasonably foreseeable commercial or residential development by others would have the overall effect of reducing buffers between human activities and the protected species habitat.

How would impacts to protected species be avoided or minimized?

Impacts to protected species and their habitat were taken into consideration during design of the project and evaluation of alternative alignments. Where impacts are unavoidable, Special Provision 107.23G is recommended to minimize the intensity and duration of impacts. This special provision provides guidance to project construction personnel to help them identify and avoid sensitive species, implement clean and safe construction practices, and fully document all construction activities. Special provisions are included with the Environmental Commitments sheet (also known in Georgia as the

Green Sheet) that accompanies this EA and follows project phases to assure mitigation commitments are met.

3.4.6 Habitat and Wildlife

Is wildlife or wildlife habitat located in the project area?

Protected species and their habitats that can be found in the project area are described above. In addition to these protected species, the project area and surrounding areas provide habitat for bald eagles and migratory birds. State and federal laws protect these species and their habitat.

The Migratory Bird Treaty Act (MBTA) and the Executive Order on the Responsibility of Federal Agencies to Protect Migratory Birds (EO 13186), require the protection of migratory birds and their habitats. The mixed forest areas in and around the project provide nesting, roosting, and foraging habitat for some migratory birds. In addition, barn swallows were identified under the bridge over Sterling Creek.

The Bald and Golden Eagle Protection Act of 1940 (BGEPA) provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. The BGEPA defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” According to USFWS, the definition also includes any human-induced alteration around a previously used nest site that “interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.”

The USFWS identified four bald eagle nests located 0.3 mile, 0.5 mile, 1.3 miles, and 1.7 miles from SR 144 between Timber Trail Road and Belfast River Road. According to the 1989 Recovery Plan Management Guidelines for the Southeastern Region, any area within one mile of a bald eagle nest is called the “secondary management zone.” The GDNr listed four recorded occurrences of bald eagle nests within a three-mile radius of the survey area. Bald eagles have been identified approximately one mile southeast, 1.5 miles east, and two miles southeast of the northern terminus of the project alignment, as well as approximately 1.5 miles east of the southern terminus of the project alignment. In addition, Sterling Creek (PS10) provides potential foraging habitat for these birds. No bald eagle nests are located within the project area.

Regulatory Note: Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Act prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald eagles, including their parts, nests, or eggs.

(16 U.S.C. 668-668d, 54 Stat. 250)

[Code of the Federal Register 50 Part 22](#)

Learn more:



<http://www.fws.gov/midwest/midwestbird/eaglepermits/bagepa.html>

How would the project affect wildlife and wildlife habitat?

The MBTA prohibits the collection, disturbance, killing, capturing, transporting, taking, buying, or selling any migratory bird or any part, nest or egg of any such bird. Any impacts to migratory birds as a result of this project would equate to a disturbance. The proposed road widening project is located along an existing roadway (SR 144). The project would require the clearing of habitat in forested tracts within approximately 20 to 60 feet from the existing ROW, on one or both sides of the existing roadway. The edge habitat that would be cleared within the mixed pine hardwoods and hardwood forested areas provides nesting, roosting, and foraging habitat for many species of migratory birds. However, it represents only a small fraction of the large forested tracts beyond the survey area. Migratory birds would likely leave the immediate area during construction but would return to nest, roost, and forage once construction is complete. SP107.23G would be implemented to protect migratory birds nesting under the bridge during construction. Construction of the Preferred Alternative would have no substantial impact on migratory birds. The No-Build Alternative would have no effect on migratory birds.

The only potential direct impact to bald eagles would be from the widening of the existing bridge over Sterling Creek. New pilings would be driven into the stream channel substrate parallel to the existing pilings. No dewatering or the use of coffer dams would be required. SP107.23G would include measures to protect bald eagles during construction. Due to the localized nature of the disturbance to Sterling Creek and the implementation of SP107.23G, this project would not result in a “take” as defined in the BGEPA.

Would the project have long-term indirect impacts on protected species?

Several areas adjacent to the project corridor were contiguous forested tracts. The Preferred Alternative would not induce additional development within these tracts, for reasons discussed previously in [Section 3.2.2](#).

Cumulative impacts to migratory birds along the project corridor could occur because of the potential incremental conversion of nesting and foraging habitat of migratory birds to residential or commercial development. No additional new roadway facility is planned or approved that would bisect forest tracts further. The primary source of cumulative impacts would be the past, present, and future construction of residential and commercial developments. The Preferred Alternative would add minimal incremental impacts through the removal of forest edge in the new required ROW. The No-Build Alternative would avoid any disturbance for the project corridor; however, the habitat removal by others would continue with or without the SR 144 widening.

3.4.7 Invasive Species

In accordance with Executive Order 13112, a survey for populations of invasive species that may be spread during construction was conducted for this project. The invasive species for which the survey was conducted are those that have been identified by the Department as having the highest priority due to environmental and economic impacts. Both the selected species and the management practices will be re-evaluated and revised as more information is obtained.

**Regulatory Note: Executive Order 13112
on Invasive Species**

Invasive species are any species not native to the ecosystem and whose introduction does or is likely to cause economic or environmental harm or harm to human health. Invasive species also include seeds, eggs, spores, or other biological material capable of propagating that species.

The State of Georgia has identified 29 **invasive species** of the highest priority due to economic or environmental impacts caused by those species. Two of these 29 invasive species were observed in the project area during the ecology survey: alligator weed and Chinese tallow tree.

GDOT will take measures during project construction to prevent or minimize the spread of these species. These measures will include removal and disposal of vegetative parts in the soil that may reproduce by root raking prior to moving the soil, burning on site any such parts and aboveground parts that bear fruit, controlling or eradicating infestations prior to construction, and cleaning of vehicles and other equipment prior to leaving the

infested site. The measures used will be those that are appropriate for the particular species and the specific site conditions, as described in the *Georgia Standard Specifications 201, Clearing and Grubbing of Right-Of-Way*.

3.4.8 Coastal Zone Resources and Coordination

The Coastal Zone Management Act (CZMA), as amended (1990) encourages protection and enhancement of coastal area natural resources. The CZMA requires coordination measures for federal actions including federally funded highway projects. Georgia's coastal zone includes the counties of Chatham, Effingham, Bryan, Liberty, Long, McIntosh, Wayne, Glynn, Brantley, Camden, and Charlton.

The designated agency for the State of Georgia is the Coastal Management Program (GCMP) within the Coastal Resources Division, Department of Natural Resources. Under Federal Consistency provisions (15 CFR 930), the federal agency must determine if its proposed project would affect coastal zone resources. Coordination and project documentation are required between FHWA and GCMP for any project within Bryan County (and the other 10 counties) to confirm that the proposed project is consistent with the Georgia Coastal Zone Management Plan (CZMP). Based on the environmental analyses summarized in this EA, the proposed SR 144 improvements meet the requirements for consistency with the CZMP by avoiding impacts to any marine habitat or species or shorelines. Coordination between FHWA and GCMP will continue as necessary throughout design and permitting of the proposed project. A copy of this Draft EA will be provided to CRD during the agency and public review period.

3.5 Physical Environment

3.5.1 Climate Change

How would the proposed project affect global climate change?

The issue of global climate change is an important national and global concern that is being addressed in several ways by the federal government. The transportation sector is the second largest source of total greenhouse gas emissions (GHG) in the U.S. and the largest source of CO₂ emissions—the predominant GHG. In 2004, the transportation sector was responsible for 31% of all CO₂ emissions in the US. 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%) of transportation-sector emissions result from the consumption of petroleum products such as motor gasoline, diesel fuel, jet fuel, and residual fuel.

To date, no national standards have been established regarding greenhouse gases, nor has the US Environmental Protection Agency (USEPA) established criteria or thresholds for GHG emissions. On April 2, 2007, the Supreme Court issued a decision in *Massachusetts et al v. Environmental Protection Agency et al* that the USEPA does have authority under the Clean Air Act to establish motor vehicle emissions standards for CO₂ emissions. The USEPA is currently determining the implications to national policies and programs as a result of the Supreme Court decision. However, the Court's decision did not have any direct implications on requirements for developing transportation projects. Recognizing these concerns, FHWA is working with other modal administrations through the Department of Transportation Center for Climate Change and Environmental Forecasting to develop strategies to reduce transportation's contribution to greenhouse gases—particularly CO₂ emissions—and to assess the risks to transportation systems and services from climate changes.

Because climate change is a global issue and the emissions changes due to project alternatives are very small compared to global totals, GHG emissions were not calculated for the alternatives considered for the proposed SR 144 project. The FHWA does not believe it is informative at this point to consider GHG gas emissions in a project level NEPA document. The climate impacts of CO₂ emissions are global in nature. Further, due to the interactions between elements of the transportation system as a whole, emissions analyses would be less informative than ones conducted at regional, state, or national levels. Because of these concerns, CO₂ emissions cannot be usefully calculated in this document in the same way that other vehicle emissions are addressed. As more information emerges and as policies and legal requirements evolve, approaches to climate change at both the project and policy level will be reviewed and updated.

3.5.2 Air Quality

How would the proposed project affect air quality?

Air quality is an important concern for transportation projects, particularly capacity projects with federal funding. For the proposed SR 144 widening, GDOT has conducted studies to assure that the proposed project would be consistent with state and federal laws. The findings are detailed in the *Air Quality Impact Assessment Addendum* (Atkins, 2008; ARCADIS, August 2012; GDOT, 2013; incorporated by

reference). The studies addressed air quality requirements as they relate to the common transportation pollutants of ozone, particulate matter, carbon monoxide, mobile source air toxics

The 1990 Clean Air Act amendments and guidelines, issued by the USEPA, are followed by agencies responsible for attainment of the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The Clean Air Act (CAA) section 176(c) requires that federal transportation projects be consistent with state air quality goals, found in the State Implementation Plan (SIP). The process to ensure this consistency is called transportation conformity. Conformity to the SIP means that transportation activities will not cause new violations of the NAAQS, worsen existing violations of the standards, or delay timely attainment of the relevant standards.

Ozone and Particulate Matter (PM_{2.5})

The project area in Bryan County is not located within an area that has been designated for not meeting certain criteria (nonattainment) for PM_{2.5} and ozone. Therefore, no further analysis of these pollutants is required.

Carbon Monoxide (CO)

The CO concentrations were modeled for 24 receptors for the existing year (2011), open year (2018), and design year (2038) conditions. The receptors, including the sites of expected highest CO concentrations, are located at multiple locations along SR 144 and Timber Trail Road. The proposed signalized intersection of these two roads was identified as the location likely to have the highest emissions.

Generally, the model indicated CO concentrations would be higher in the Preferred Alternative than in the No-Build Alternative. This occurs primarily where signalization at Timber Trail Road would increase delay and idling SR 144 in order to reduce delay on Timber Trail Road. However, the scope of the modeling did not consider the rapid growth outside the corridor in the No-Build Alternative. The additional traffic relying on SR 144 would have similar levels of projected traffic for the Preferred and No-Build Alternatives, with the four-lane highway attracting slightly more traffic as commuters would divert from other routes. Given the projected levels of traffic that would be forced onto the existing two lanes, the No-Build Alternative would be expected to have higher overall emission levels within the SR 144 corridor due to the stop-and-go conditions in the through lanes.

Additionally, despite volume increases in the design year, open year concentrations were found to be higher or equal to design year. This result occurs because average emission rates are expected to decrease in future years through improved technology and fleet turnover. The CO concentrations for the Preferred Alternative and the No-Build Alternative are significantly below the NAAQS limits for both one-hour (35 ppm) and eight-hour (9 ppm).

Mobile Source Air Toxics (MSATs)

In addition to the criteria air pollutants under the NAAQS, the USEPA regulates air toxics, including MSATs. These toxics are a subset of the 188 air toxics defined under CAA and are compounds emitted from highway vehicles and non-road fuel evaporates or passes through the engine unburned. Other

toxics are emitted from incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in the oil or gasoline. Georgia DOT completed a qualitative analysis of MSATs, detailed in the air quality assessment. This assessment was completed in accordance with FHWA's "Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents," dated September 30, 2009.

As the air quality assessment indicates, the amount of MSATs emitted along the project corridor would be proportional to the vehicle miles traveled (VMT). Because the estimated VMT is the same for the No-build and Build condition, GDOT expects there would be no appreciable difference in overall MSAT emissions. EPA 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 EPA's 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.

In addition, the air quality assessment indicates that the Preferred Alternative would have the effect of moving some traffic closer to nearby homes, businesses, and other local uses. Under the Build condition there may be localized areas where ambient concentrations of MSATs could be higher than under the No Build condition. However, this potential local increase in MSATs could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also MSATs would be lower in other locations when traffic shifts away from them. On a regional basis, USEPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

Conclusion

Air quality is not likely to change as a result of the Preferred Alternative. The proposed project was evaluated for consistency with state and federal air quality goals, including ozone, PM_{2.5}, CO, and MSATs as part of the air quality assessment. Results of the air quality assessment indicate that the Preferred Alternative and the No-Build Alternative would have emissions well below state and federal limits. The proposed project is consistent with the SIP for the attainment of clean air quality in Georgia and is in compliance with both state and federal air quality standards.

3.5.3 Noise

How was noise evaluated along the project corridor?

The potential for noise impacts has been considered in a noise assessment for the proposed project (Atkins, 2008; ARCADIS, 2012; incorporated by reference). The assessment followed procedures outlined in FHWA Regulation 23 CFR 772, using existing and future traffic volumes, alignment files, and software to simulate the noise levels of vehicles in future years. The software, Version 2.5 of FHWA's Traffic Noise Model (TNM), was used to calculate existing and future traffic noise levels for the Preferred Alternative and the No-Build Alternative. The model also considers the number, type, and speed of vehicles; highway alignment and grade; cuts, fills and natural berms; surrounding terrain features; and the location of activity areas likely to be impacted by the associated traffic noise.

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	
Quiet Urban Daytime	50	Large Business Office Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background) Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

How much noise does the project area currently experience?

Georgia DOT calculated existing traffic noise levels along the project corridor by using the TNM 2.5 and from gathering from field measurements using a Delta Ohm HD 9020 sound level meter (SLM). The measurements were used in a process called “model calibration,” which ensures that existing noise levels at the measured and modeled receivers produce equivalent results. Field model calibration measurements were collected on November 16, 2011. Field measurements and noise modeling indicate that the project area currently experiences noise in the range of 48.5 to 69.8 decibels (dba).

How would noise sensitive areas be affected?

Georgia DOT considers noise as part of the planning, design and construction of all federal-aid projects. Traffic noise impacts are defined by 23 CFR 772 as “impacts which occur when the predicted traffic noise

levels approach or exceed the Noise Abatement Criteria (NAC) or when the future predicted traffic noise levels substantially exceed the existing noise levels.” The NAC are summarized in **Table 9**.

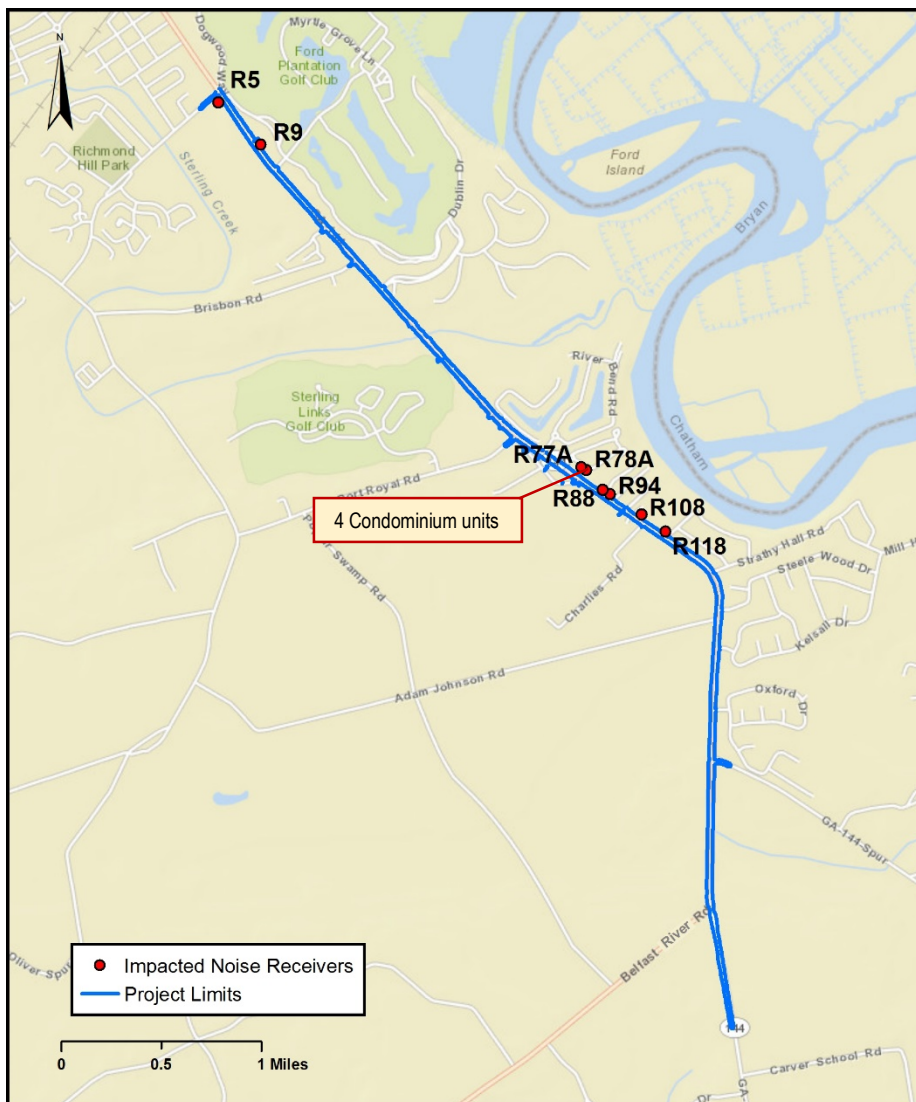
Activity Category	NAC, Hourly A-Weighted Noise Level, dBA Leq(h)	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above
D	–	Undeveloped lands.
E	52 Interior	Residence, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: FHWA, 23 CFR 772

Primary consideration is given to exterior areas (Category A, B and C) where frequent human activity occurs. However, interior areas (Category E) are used if exterior areas are physically shielded from the roadway, or if there is little or no human activity in exterior areas adjacent to the roadway.

The noise levels for the Preferred Alternative are compared with the No-Build levels for context in assessing impacts. Noise modeling results indicate that the project area will experience noise levels in the 50.3 to 71.6 dbA range under No-Build conditions and in the range of 51.0 to 69.7 dbA with implementation of the Preferred Alternative. By comparison, the average human ear cannot distinguish a change of less than 3 dbA. Results from the 2038 model for the No-Build Alternative indicate 16 dwelling units would experience noise levels that exceed the FHWA NAC based on projected traffic growth. No dwelling units would be impacted as a result of a substantial increase in traffic-related noise over 2011 existing conditions. The 2038 model for the Preferred Alternative indicates that 10 dwelling units would experience noise levels that exceed the FHWA NAC, consisting of four multifamily condominium units and six single-family residences (see **Figure 20**).

Figure 20: Impacted Noise Sensitive Sites (Receivers)



No dwelling units would be impacted as a result of a substantial increase in traffic-related noise over 2011 existing conditions. There are more dwelling units than receptors because some receptors represent multi-family structures that include more than one dwelling unit.

What measures have been considered to reduce the noise impacts?

Various measures to reduce the noise levels (referred to as noise mitigation or noise abatement) were reviewed. Noise abatement measures including noise barriers, earthen berms, acquisition of ROW, traffic management, and alteration of horizontal and vertical alignment were considered to reduce or eliminate noise impacts. Of the possible methods, only noise barriers were identified as a form of abatement would be feasible to consider.

All 10 impacted receivers were reviewed in detail for noise abatement. Locations with direct driveway access to SR 144 could not use a barrier, as it would prevent access to the properties. Five barriers were evaluated and designed as noise abatement strategies. Only three of the five barriers were identified to be reasonable and feasible. These barriers could benefit three dwelling units (all single-family homes) within the limits of the Preferred Alternative.

A reevaluation of the noise analysis would occur during final design. If conditions have changed, the feasibility and/or reasonableness determinations and decision to provide abatement would be reconsidered at that time. The final decision on the installation of any abatement measures would be made upon the completion of the project's final design and the public involvement process.

What noise would occur during construction?

Areas along the project corridor could be affected by noise generated from construction activities. The major construction elements of the proposed projects are expected to be earth moving, hauling, grading, paving, and bridge construction. General construction noise impacts to individuals living or working near the proposed projects would be expected, particularly from noise generated by paving operations and from earth moving equipment. Overall construction noise impacts are expected to be minimal since construction noise would be relatively short in duration and could be restricted to daytime hours. To the fullest extent possible, construction equipment used would be muffled appropriately.

Would the project have long-term noise impacts?

The Preferred Alternative would not induce changes to adjacent land uses or traffic patterns that would generate additional noise. The identified noise impacts, along with noise generated from anticipated future development along SR 144 and the potential residential development south and east of the proposed project, could lead to additional noise impacts. Only transportation noise is assessed within the scope of this EA. The future traffic volumes used in the noise modeling included growth from anticipated development. To that extent, the identified noise impacts include increases in traffic volumes generated by additional development in and near the SR 144 corridor.

3.5.4 Hazardous Material Sites

Are underground storage tanks or hazardous waste sites located in the project area?

Based on a review of agency records and a field survey of land uses along SR 144, a list of known underground storage tanks (USTs) was obtained from the Georgia Environmental Protection Division. Locations of known USTs were geocoded and mapped using a geographic information system (GIS). The UST locations are listed in **Table 10** and shown on **Figure 21**. Only the Zip-N Food Store and Parker Convenience Store are current, active uses within the project limits. No hazardous materials handling, processing, or disposal sites were identified within the project area.



None of the known USTs are expected to be impacted by the Preferred Alternative or No-Build Alternative. The GDOT Office of Materials and Research would test soils where ROW would be required by the Preferred Alternative adjacent to any UST or hazardous material site.

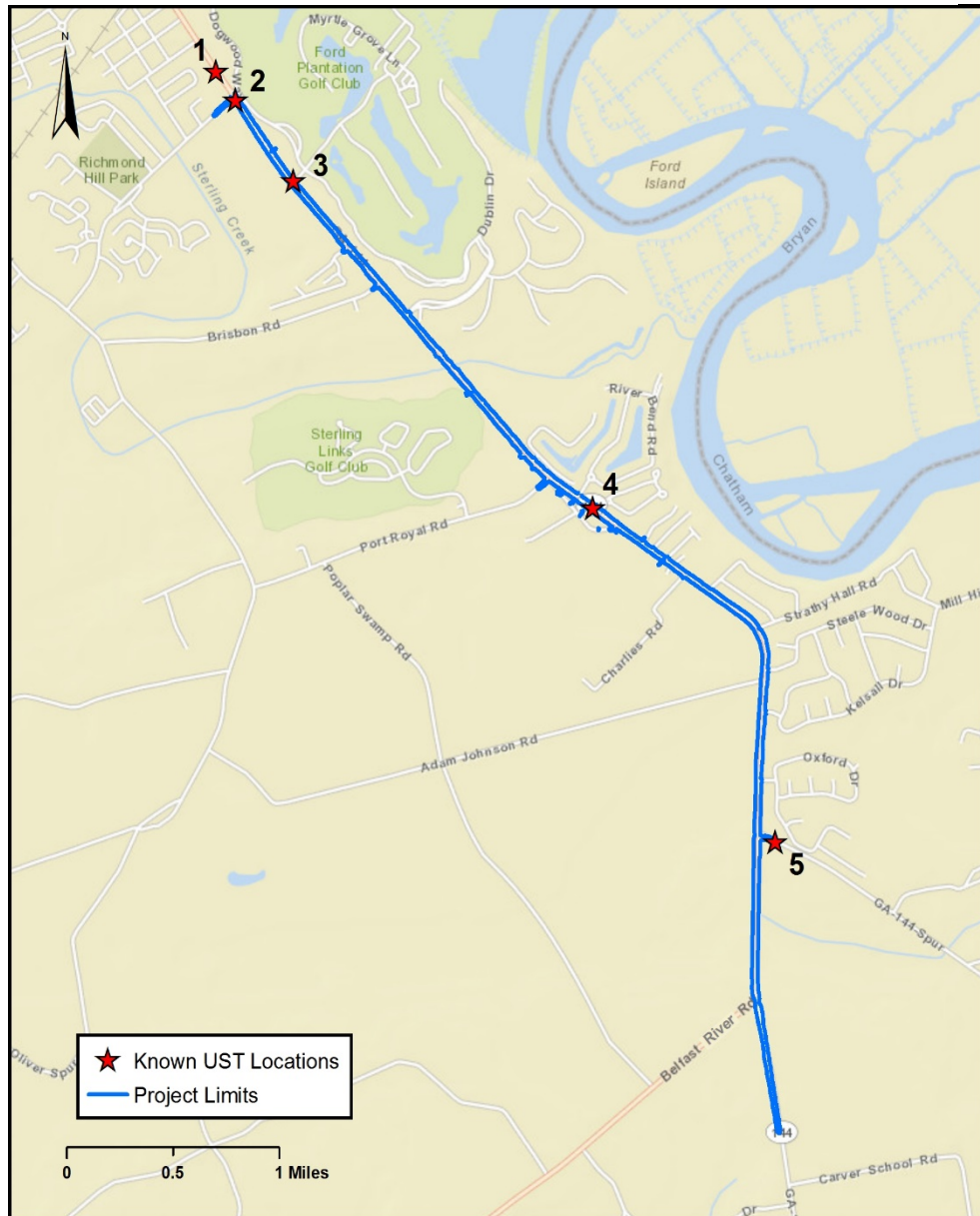


**Table 10
 Known UST Locations**

Figure 21 Map ID:	Name/Address	UST Status
1	IPR Commercial Property 11244 Ford Avenue	Closed
2	Parkers #26 Convenience Store 11416 Ford Ave	Active
3	Ford Plantation 12511 Ford Avenue	Closed
4	Commercial Property (Rezoned/Sold) 3000 River Oaks Drive	Closed
5	Zip-N Food Store #6 58 Highway 144 Spur	Active

Georgia DNR UST Database Review, 2013.

Figure 21: Hazardous Material Sites (Storage Tanks)



Any necessary removal of UST's during construction would follow appropriate safety and environmental procedures, consistent with *Standard Specification 217 – Removal of Underground Storage Tanks*. For any parcels requiring partial acquisition for ROW and construction, subsurface testing would be conducted to determine if contaminants are leaking into the soil.

If contaminants are found, avoidance alternates may be considered, or applicable laws and regulations concerning the removal of toxic or hazardous material would be followed and the removal coordinated with EPD. Ongoing site remediation would be the responsibility of property owners regardless of the project.

3.5.5 Additional Construction Impacts

Would motorists be affected by the proposed project during construction?

Although construction of the Preferred Alternative would create unavoidable inconveniences to motorists, traffic would be maintained including access to the major intersections and driveways. In the existing four-lane section at the western terminus, phasing would include restriping of temporary lanes during construction of the new median. The existing lanes and striping would be restored upon completion. The safety and convenience of the general public would be provided for at all times.

Would utility and emergency services be maintained during construction?

Any necessary relocation of utilities—such as water, sewer, and telephone equipment adjacent to existing SR 144—would be accomplished with no long-term interruption of services. All other required construction functions would be accomplished in a timely and orderly fashion so as to keep disruptions minimal, of short duration, and safe for the public.

Access to enter and exit SR 144 would be maintained for the Richmond Hill Volunteer Fire Department during construction. All other county services including emergency response also would have access to the construction area.

Chapter 4: Public and Agency Coordination

4.1 How Were Members of the Public Informed About the Project?

During the planning of the proposed project, GDOT has coordinated with local stakeholders and the general public. The following meetings were held near the project area to discuss either the SR 144 widening specifically or transportation needs within southern Bryan County. Copies of materials from these meetings are included in [Appendix D](#).

Public Information Open House for SR 144

A Public Information Open House (PIOH) was held for the proposed project on October 5, 2006 in Richmond Hill. Officials from Bryan County and Richmond Hill attended the meeting. A total of 102 persons attended the meeting, which was held in an informal setting with displays of the project corridor and GDOT staff available to answer questions. Twenty-seven citizens left written comment forms while nine shared verbal comments with a court reporter. Another 14 comments were mailed to GDOT in the 10-day review period after the meeting. Of those 50 total comments, 24 supported the project and 16 expressed conditional support, with no opposition to the project. The primary concerns in the comments included:

- A previously considered mid-project crossing of a bike lane from one side of the road to the other was considered unsafe.
- Preference for a two-way left-turn lane instead of a median for emergency access.
- Questions about whether the funds and additional right-of-way should be used for sidewalks and bicycles.
- Requests to expedite the project schedule to keep up with the anticipated traffic needs.

The comments were considered by GDOT designers in their future updates to the concept for the project, to the extent they were practical and met the project's identified needs. Commenters also received a response letter about their concerns and the next steps in the project.

Public Involvement for Bryan County Transportation Study

During 2008 and 2009, GDOT and a planning consultant team conducted public involvement as part of the Bryan County Transportation Study. Although the plan covered a much broader area than the proposed project, GDOT held a series of meetings in Richmond Hill to discuss local transportation issues and needs. In addition to the general public, GDOT formed a 20-person advisory committee and interviewed 17 local stakeholders including elected officials as well as community- and faith-based leaders. Through the public comments, stakeholder interviews, and a public meeting "voting exercise," future congestion on SR 144 (including between Timber Trail Road and Belfast River Road) was identified as a major concern. The proposed widening of SR 144 became the overall top priority project recommended by local stakeholders for the plan.

4.2 Which Agencies Were Invited to Participate in this Study?

State and federal agencies and local officials were invited to provide information about any resources or concerns within the project area. Coordination letters were mailed to request any project details that could contribute to the studies. The agencies listed below in blue italics responded in writing or with other coordination on resources. Any correspondence received during various phases of SR 144 planning is included in **Appendix C**, which divided into topics of Early Coordination, Cultural Resources, Ecology, Farmland, and Air Quality and Noise.

- *Georgia Department of Natural Resources, Historic Preservation Division, also referred to as Georgia's State Historic Preservation Officer (HPD or SHPO)*
- *Georgia Department of Natural Resources, Coastal Resources Division (GDNR, CRD)*
- *GDNR, Environmental Protection Division (EPD)*
- *GDNR, Wildlife Resources Division (WRD)*
- *Natural Resources Conservation Service (NRCS)*
- *United States Fish and Wildlife Service (USFWS)*
- Coastal Regional Commission (CRC)
- *United States Army Corps of Engineers (USACE)*
- *National Marine Fisheries Service (NMFS)*
- United States Environmental Protection Agency (USEPA)
- United States Department of Housing and Urban Development (HUD)
- United States Geological Survey, Environmental Affairs Program (USGS)
- Centers for Disease Control, National Center for Environmental Health (CDC/NCEH)
- *Georgia Forestry Commission (GFC)*
- Bryan County Commission
- *Bryan County Planning and Zoning Department*
- *City of Richmond Hill*
- Representatives of Georgia House and Senate

Additional coordination has included a meeting with Bryan County planning staff to discuss future land use and growth, field reviews with EPD and CRD, and review and concurrence of special study reports by SHPO and USFWS.

4.3 How Can the Public and Agencies Remain Involved?

With the publication of this Draft Environmental Assessment (EA), GDOT welcomes comments from the public and interested resource agencies about the proposed project. A Public Hearing Open House (PHOH) will be scheduled and held to introduce the Draft EA and project details. Comments can be provided at the PHOH or during an extended review period for 10 days following the PHOH. Copies of this study will be available at the GDOT Savannah Area Office. In addition, the Richmond Hill Public Library will provide opportunities to review a hard copy and electronic copies that can be viewed for free on one of the library's computers.

Chapter 5: Conclusion

Need and Purpose and Preferred Alternative

The Georgia Department of Transportation (GDOT) proposes to construct improvements on State Route (SR) 144 southeast of I-95, within the City of Richmond Hill and unincorporated Bryan County. This Environmental Assessment (EA) has been prepared to meet requirements of GDOT and the Federal Highway Administration (FHWA) to address the National Environmental Policy Act (NEPA).



The purpose of the proposed project is to improve the ability for SR 144 to handle future traffic efficiently. By adding lanes to existing SR 144, the project would address needs related to future traffic conditions, planned growth adjacent to the highway corridor, and the designation of SR 144 as part of the state system for hurricane evacuation. The Preferred Alternative would widen the existing two-lane section of SR 144 to four lanes from just north of Timber Trail Road and to just south of Belfast River Road, a distance of 5.051 miles. Including intersection improvements, the total project length would be 5.341 miles. Sidewalks and bicycle lanes also would be added to both sides for improved multimodal access in the community.

Impacts and Mitigation

Studies have been conducted to consider the project's impacts. The potential impacts are described in this EA as they relate to the social, cultural, natural, and physical environments.

Social Environment

The existing and future community characteristics were studied in the project area. The proposed widening of SR 144 would avoid relocation of any residences, businesses, churches, parks, or other facilities. Some strips of frontage land would be required adjacent to the existing highway right-of-way (ROW). Due to the need for a medians, access to SR 144 would be modified for



current property owners.

The median would be open at primary intersections and periodic intervals to allow drivers to make U-turns for access to driveways on the other side of the highway. One end of a local street would be converted to a cul-de-sac. No low-income or minority communities or other underserved populations would experience impacts that would be disproportionately high and adverse. Local residents would share the benefits of improved sidewalk and bicycle facilities and reduced congestion in future years.



Cultural Environment

No historic or archaeological resources would be disturbed including the Ford Kindergarten Building as the only eligible historic property identified within the project limits. The widening would not disturb the boundary of this resource. The Burnt Church Cemetery and other cemeteries along SR 144 also would be avoided.



Natural Environment

Like many areas of Bryan County, wetlands and stream are located along both sides of SR 144. To add the two lanes for needed capacity as well as the sidewalks and bicycle lanes, some impacts to wetlands and streams would be unavoidable. The width of the proposed highway section has been reduced as much as possible near these sensitive natural resources. A total of eight open waters, nine streams, and 28 wetlands are located adjacent to the project area, all associated with either Sterling Creek or tributaries to the Ogeechee River. Through GDOT's efforts to reduce impacts, the proposed project would avoid all of the open waters, five of the streams, and 11 of the wetlands. A total of 2.2 acres of wetland impacts and 376 feet of stream impacts would occur. For these impacts that could not be avoided, mitigation would be included in the form of wetland and stream credit purchases at an approved mitigation bank.

In addition to wetlands and streams, protected animals and plants also were considered. The project would not affect most of the protected species known to occur nearby. It would have potential for minor impacts to habitat for the following species): West Indian manatee, loggerhead sea turtle, wood stork, eastern indigo snake, shortnose sturgeon, and Atlantic sturgeon.

Physical Environment

The proposed project would avoid any known hazardous material sites including underground storage tanks (UST's). Slight increases in noise levels would occur at 10 residential units by the year of 2038, based on the future traffic volumes with or without the proposed project. Most of the increases would occur regardless of the project as traffic volumes continue to grow. The improved traffic flow could reduce emissions that typically are worse in congested conditions, no emissions would reach thresholds of elevated health concerns.

Indirect and Cumulative Impacts

Based on coordination with local planning officials and review of planned development, the proposed project would not induce changes to adjacent land use. Steady growth has occurred along the SR 144 corridor, with more than 2,000 new residences and mixed-use development approved for construction since 2010. Considering this planned growth and the lack of other major roadway access from southern Bryan County to I-95, widening of SR144 would relieve future congestion and provide better sidewalk and bicycle access for the community. Due to the direct impacts of widening roadway and the ongoing development by others, the proposed project would contribute to overall cumulative impacts to wetlands and water quality. Impacts would be mitigated through purchasing wetland and stream credits and adding features in the design to reduce potential for storm water runoff to reach nearby streams.

Public Involvement

During the past several years, GDOT has reached out to the public for comments about the SR 144 project and overall transportation needs in Bryan County. Meetings were held in a Public Information Open House (PIOH) format and stakeholder meetings during 2006, 2008, and 2009. The proposed project was identified as a high priority need by the local stakeholders. The public involvement will continue with this Draft EA, as residents, business leaders, elected officials, and other stakeholders have an opportunity to comment on the proposed project and findings of the impact studies.

Next Steps

As part of the NEPA process, GDOT will give the public another opportunity to comment on the proposed project. Copies of this Draft EA are available for review at the GDOT Savannah Area office and the Richmond Hill Public Library. Electronic copies also will be available at the library, with free use of a computer to review the document and the internet links for more information. Comment forms will be available upon request at these locations.

Any comments concerning this Draft EA should be addressed to the following:

Mr. Glenn Bowman, P.E.
State Environmental Administrator
Georgia Department of Transportation
600 West Peachtree Street, N.W.
16th floor
Atlanta, Georgia 30308

~or~

Mr. Rodney N. Barry, P.E.
Division Administrator
Federal Highway Administration
61 Forsyth Street, S.W.
Suite 17 T100
Atlanta, GA 30303-3104

After a review of the comments received during the comment period, a decision will be made by the responsible officials concerning which alternative will be selected. A Final EA will summarize the agency and public comments and the selected alternative. The NEPA process is complete after FHWA makes a determination and issues a Finding of No Significant Impacts.

Chapter 6: References and Credits

References

- Coastal Regional Commission. (2005). *Coastal Georgia Regional Bicycle and Pedestrian Plan*. Darien, GA: for Georgia Department of Transportation.
- Coastal Regional Commission. (2007). *Bryan County Bicycle and Pedestrian Plan*. Darien, GA.
- Coastal Regional Commission. (2008). *Bryan County and the Cities of Pembroke and Richmond Hill Joint Comprehensive Plan*.
- Coastal Regional Commission. (2011). *Regionally Important Resources Plan*. Darien, GA.
- Coastal Regional Commission. (2012 (Amended); 2010 (Adopted)). *The Regional Plan of Coastal Georgia*. Darien, GA.
- Florida Department of Transportation. (2012). *2012 Generalized Service Volume Tables*. Retrieved October 5, 2013, from <http://www.dot.state.fl.us/planning/systems/programs/sm/los/pdfs/fdot%202012%20generalized%20service%20volume%20tables.pdf>
- Georgia Department of Transportation and JGJ (aka Jacobs). (2010). *2035 Bryan County Transportation Study*.
- Georgia Emergency Management Agency. (2013). *Georgia Hurricane Plan: Annex to Georgia Emergency Operations Plan*.
- Latitude 34 North. (2013, November 5). *Bryan County*. Retrieved from Historic Markers Across Georgia: <http://www.lat34north.com/historicmarkers/CountyDetail.cfm?CountyNameKey=Bryan>
- Real Estate Transactions 2013-2012, Queries for Richmond Hill and Bryan County*. (2013, November 5). Retrieved from Zillow: <http://www.zillow.com/>
- US Census Bureau. (n.d.). *2010 American Community Survey: Richmond Hill, Georgia*. Retrieved March 15, 2013, from American FactFinder: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>
- US Census Bureau. (2013, August 15). *Census 2010, Summary Files 1 and 3*. Retrieved from American FactFinder: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>

Data Sources for Figures

1. Project Location: Adrian Collaborative, LLC.
2. SR 144 Corridor: Adrian Collaborative, LLC.
3. Growth Areas in Bryan County Transportation Study: Bryan County Transportation Study, 2010.
4. Accident Locations on SR 144 (2009-2012): Georgia Emergency Accident Reporting System, 2009-August 2013.
5. Project Limits for NEPA Study: Adrian Collaborative, LLC.
6. Logical Termini for Preferred Alternative: Adrian Collaborative, LLC; GDOT, PI 532370 SR 144 Preliminary Plans.
7. Preferred Alternative Urban Section: GDOT, PI 532370 SR 144 Preliminary Plans.
8. Preferred Alternative Rural Section: GDOT, PI 532370 SR 144 Preliminary Plans.
9. Population and Income Characteristics in Study Area: US Census Bureau, American FactFinder, 2010.
10. Existing Land Use: Bryan County and the Cities of Pembroke and Richmond Hill: Joint Comprehensive Plan, 2008.
11. Future Land Use: Bryan County and the Cities of Pembroke and Richmond Hill: Joint Comprehensive Plan, 2008.
12. Present and Future Planned Development: Adrian Collaborative, LLC; Bryan County Department of Planning and Zoning, 2010.
13. Community Facilities (North/West Section): Adrian Collaborative, LLC: 2009-2013.
14. Community Facilities (South/East Section): Adrian Collaborative, LLC: 2009-2013.
15. Historic Resource in Project Area: Georgia Department of Transportation, 2008.
16. Historic Markers: Historic Markers Across Georgia: Bryan County, 2013.
17. Waters of the US (North/West Section): Ecological Solutions, Inc., 2013.
18. Waters of the US (South/East Section): Ecological Solutions, Inc., 2013.
19. Floodplains and Regulatory Floodways: FEMA Digital Floodplain Data (Q4), 2013.
20. Impacted Noise Sensitive Sites: ARCADIS, 2012.
21. Known UST Locations: Adrian Collaborative, LLC, 2012-2013; Environmental Protection Divisions Underground Storage Tank Database, 2013.

Image Captions and Credits

<i>Page</i>	<i>Caption</i>	<i>Credit</i>
i	SR 144 Corridor with Subdivision Entrance	Todd Barker, 2009-2013
ii	SR 144 at SR 144 Spur	Todd Barker, 2009-2013
1	Existing Conditions on SR 144	Todd Barker, 2009-2013
7	Official Logo, Georgia Hurricane Program	Georgia Emergency Management Agency, 2013
27	Typical Service Businesses in Project Area	Todd Barker, 2009-2013
29	Neighborhood Entrances/Landscaping	Todd Barker, 2009-2013
32	County Services / Devaul-Henderson Park	Todd Barker, 2009-2013
33	Green Creek Interpretive Trail	Todd Barker, 2009-2010
36	Ford Kindergarten Building	Richmond Hill Historical Society, Facebook, 2013
38	Burnt Church Cemetery Entrance	Todd Barker, 2009-2013
39	Burnt Church Cemetery Boundary at SR 144	Todd Barker, 2009-2013
40	Burnt Church Historic Marker	Todd Barker, 2009-2013
44	Wetland 5	Ecology Assessment of Effects, 2013
44	Wetland 8	Ecology Assessment of Effects, 2013
45	Wetland 9	Ecology Assessment of Effects, 2013
45	Wetland 12	Ecology Assessment of Effects, 2013
45	Wetland 13	Ecology Assessment of Effects, 2013
46	Wetland 17	Ecology Assessment of Effects, 2013
46	Wetland 18	Ecology Assessment of Effects, 2013
47	Stream 19 with Sterling Creek	Ecology Assessment of Effects, 2013
47	Wetland 20	Ecology Assessment of Effects, 2013
47	Wetland 25	Ecology Assessment of Effects, 2013
48	Wetland 26	Ecology Assessment of Effects, 2013
48	Ephemeral Channel 27	Ecology Assessment of Effects, 2013
48	Ephemeral Channel 34	Ecology Assessment of Effects, 2013
49	Ephemeral Channel / Intermittent Stream 35	Ecology Assessment of Effects, 2013
49	Intermittent Stream 37	Ecology Assessment of Effects, 2013
49	Wetland 38	Ecology Assessment of Effects, 2013
50	Perennial Stream 42	Ecology Assessment of Effects, 2013
50	Wetland 43	Ecology Assessment of Effects, 2013

50	Wetland 45	Ecology Assessment of Effects, 2013
67	Common Noise Levels	ARCADIS, 2012
70	Active Underground Storage Tanks (2)	Todd Barker, 2009-2013
75	SR 144 at SR 144 Spur	Todd Barker, 2009-2013
75	Typical Development in Project Area (2)	Todd Barker, 2009-2013
76	Burnt Church Historic Marker	Todd Barker, 2009-2013

Appendix A

Detailed Maps and Tables

**State Route 144 Widening, Bryan County
Project STP00-0630-00(010), PI Number 532370**

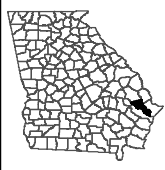
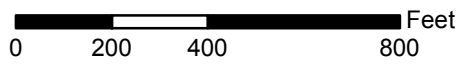


Figure A-1a: Project Alignment Map 1 of 8



PESTP-0630-00(010)
 Bryan County
 P.I. No: 532370
 SR 144



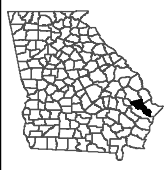
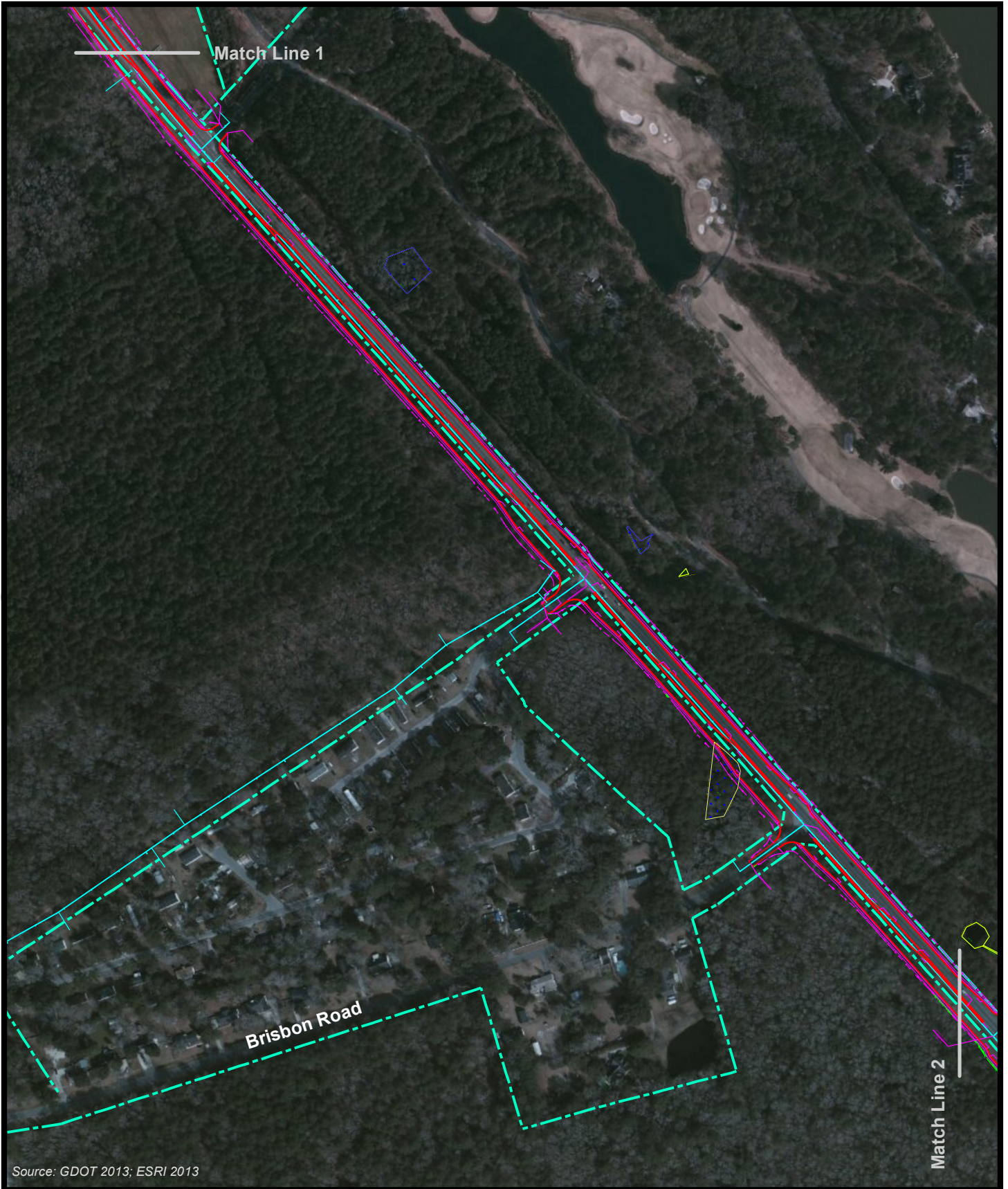
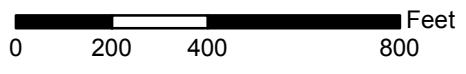
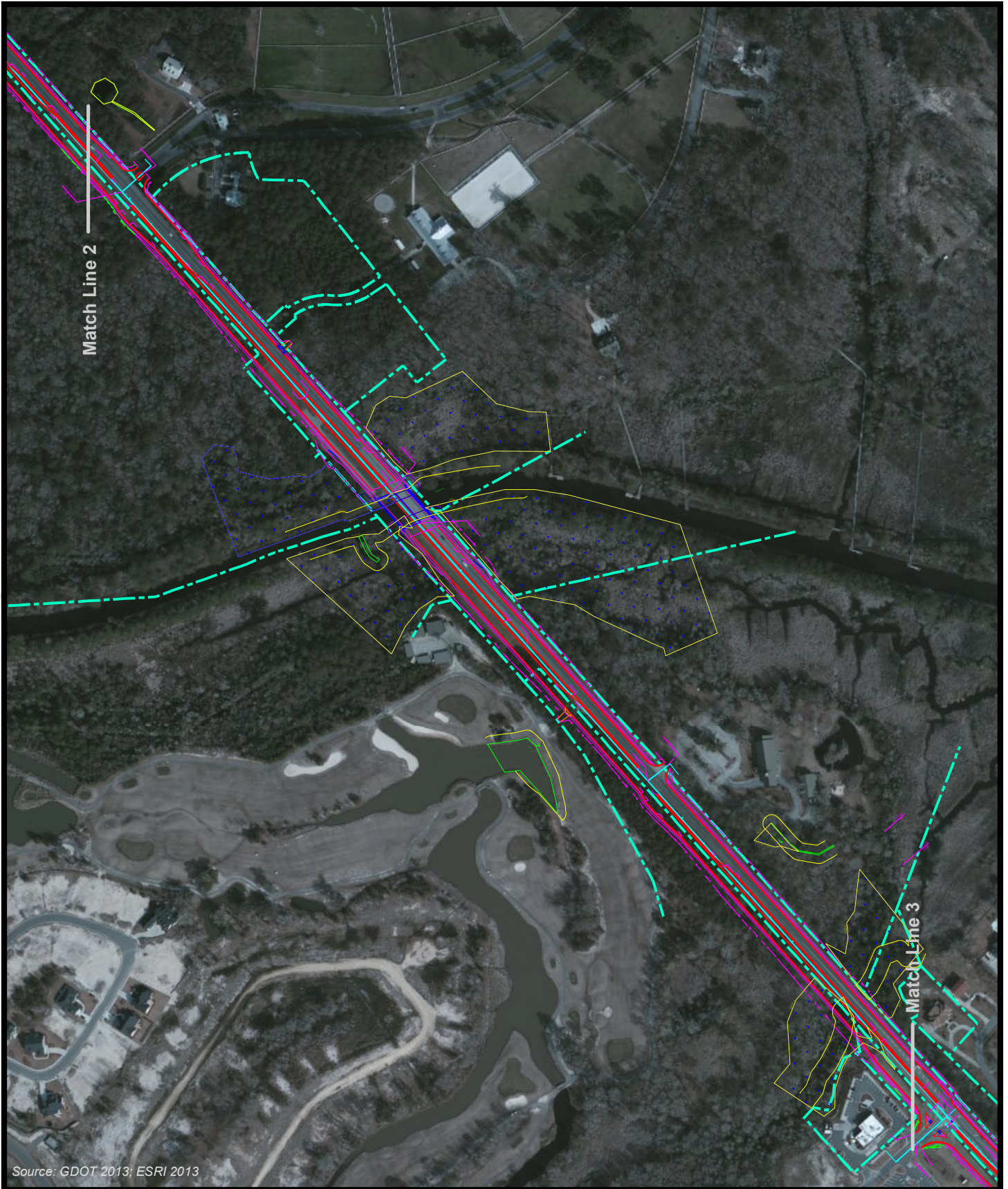


Figure A-1b: Project Alignment Map 2 of 8



PESTP-0630-00(010)
 Bryan County
 P.I. No: 532370
 SR 144





Source: GDOT 2013; ESRI 2013

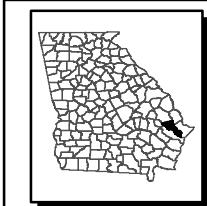
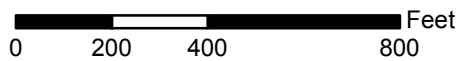
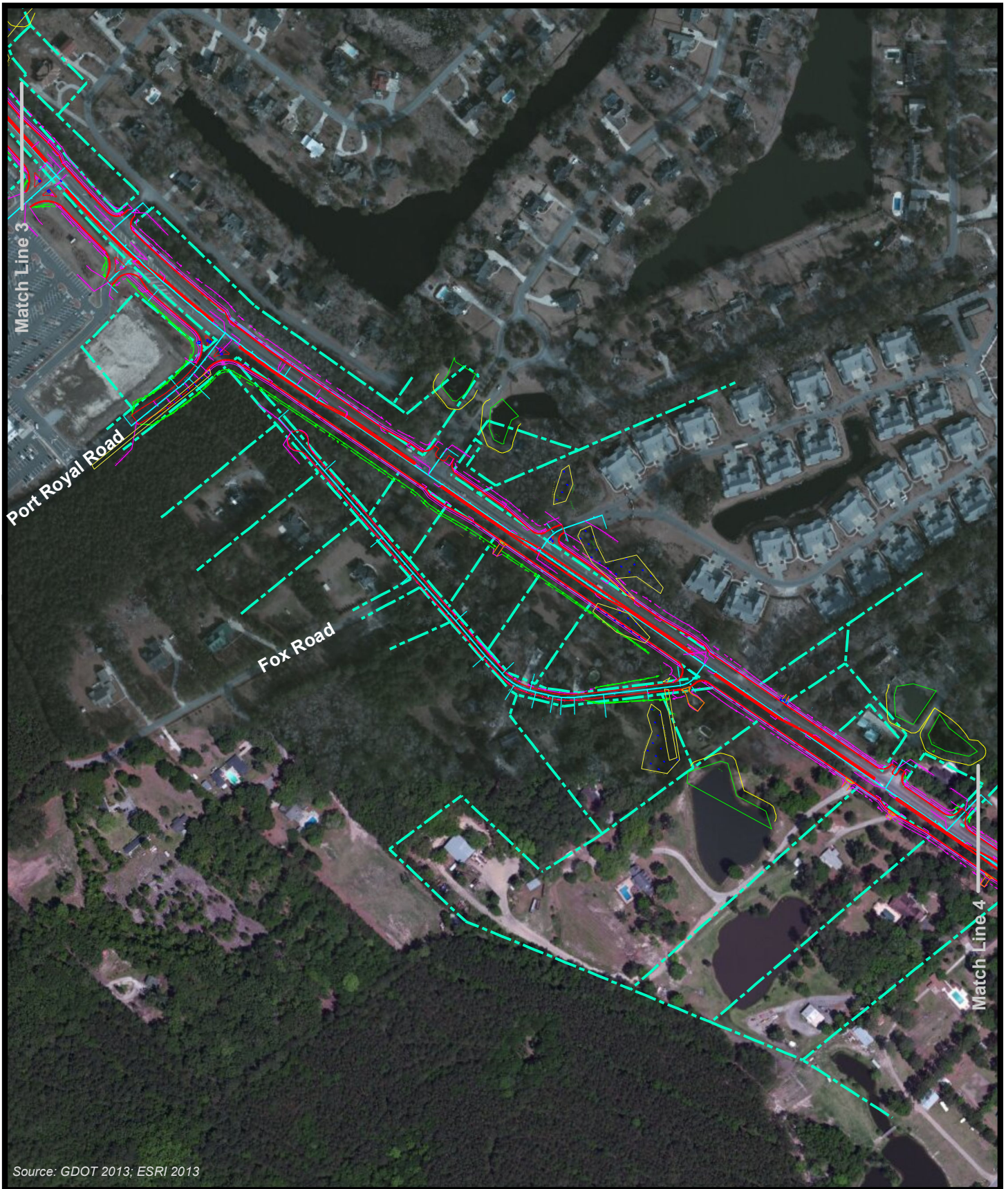


Figure A-1c: Project Alignment Map 3 of 8



PESTP-0630-00(010)
 Bryan County
 P.I. No: 532370
 SR 144

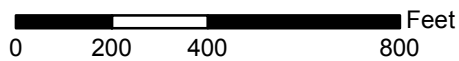




Source: GDOT 2013; ESRI 2013

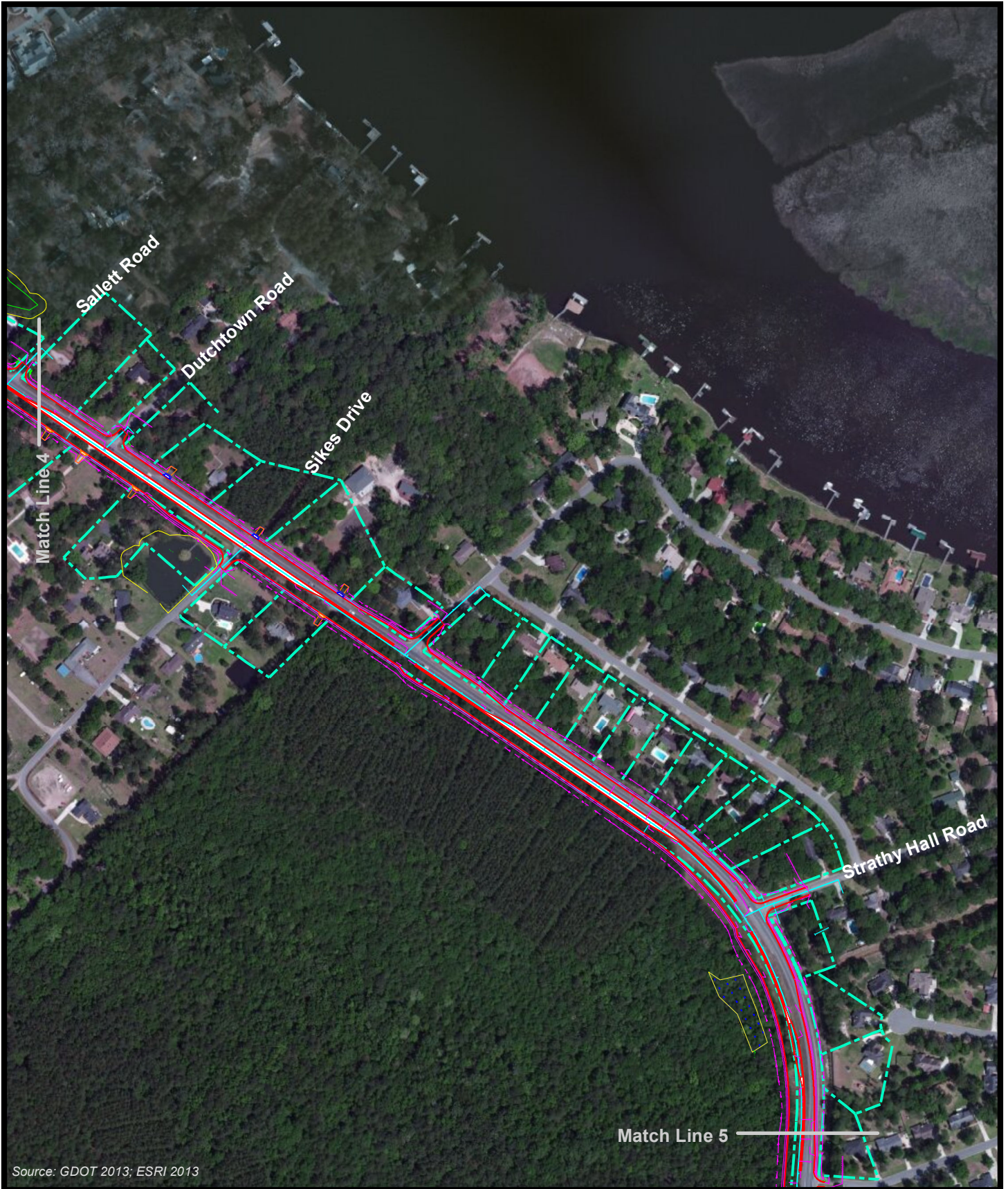


Figure A-1d: Project Alignment Map 4 of 8



PESTP-0630-00(010)
 Bryan County
 P.I. No: 532370
 SR 144





Source: GDOT 2013; ESRI 2013

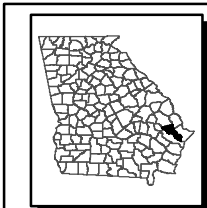
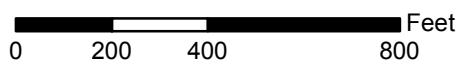


Figure A-1e: Project Alignment Map 5 of 8



PESTP-0630-00(010)
 Bryan County
 P.I. No: 532370
 SR 144



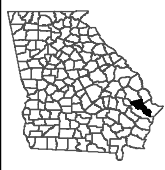
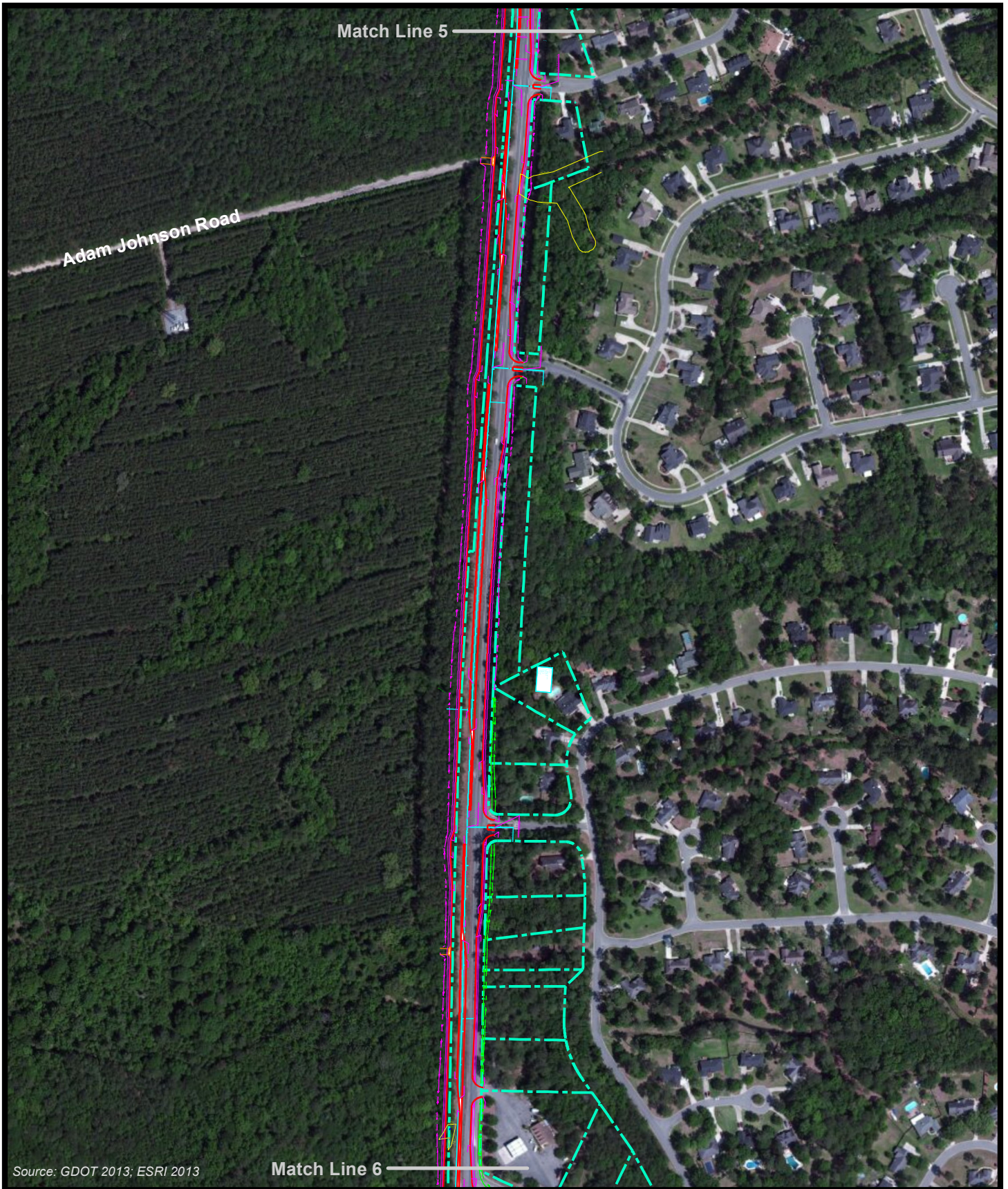
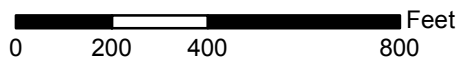
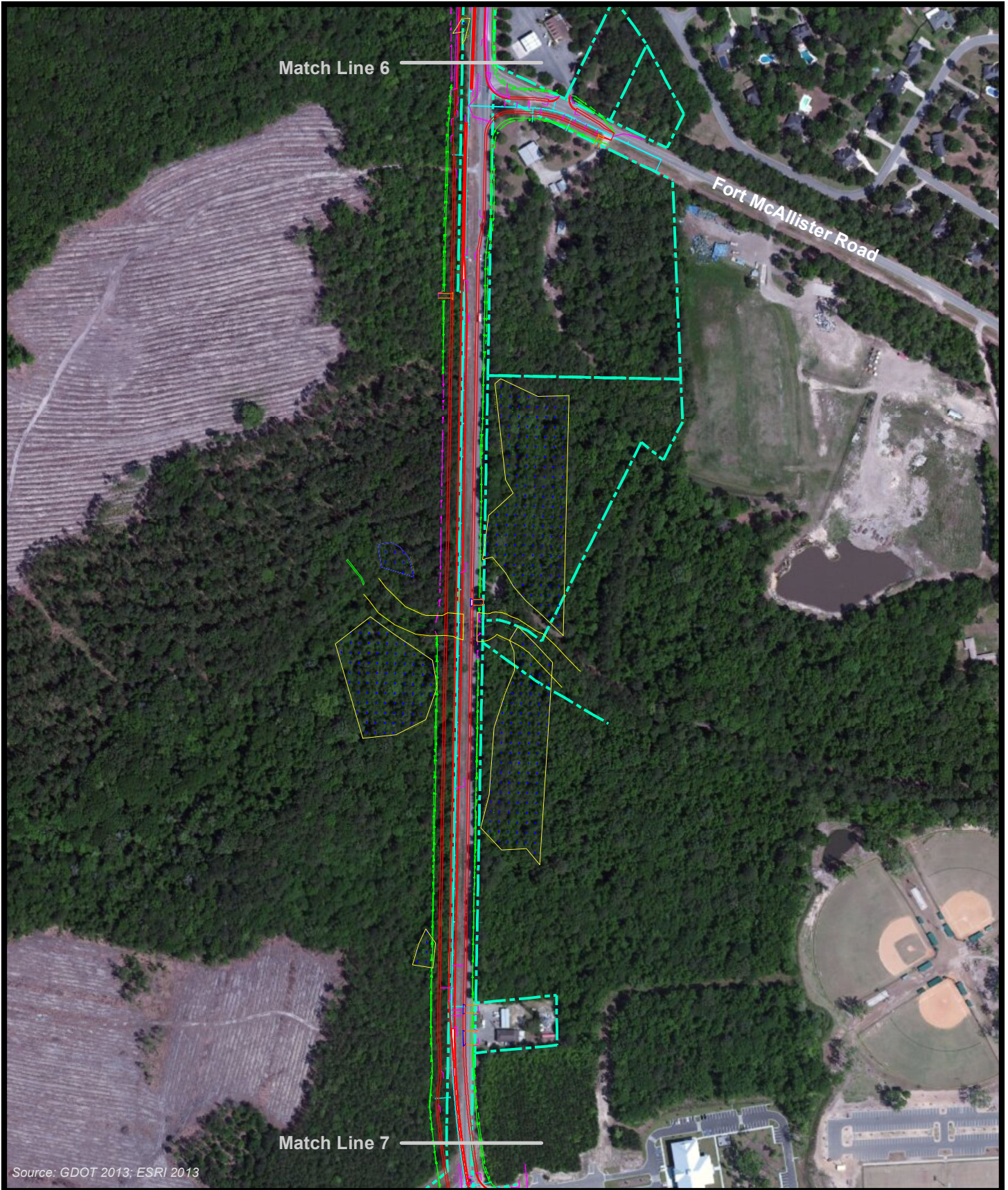


Figure A-1f: Project Alignment Map 6 of 8



PESTP-0630-00(010)
 Bryan County
 P.I. No: 532370
 SR 144





Source: GDOT 2013; ESRI 2013

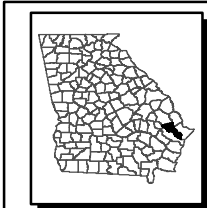
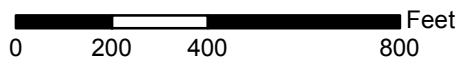


Figure A-1g: Project Alignment Map 7 of 8



PESTP-0630-00(010)
 Bryan County
 P.I. No: 532370
 SR 144



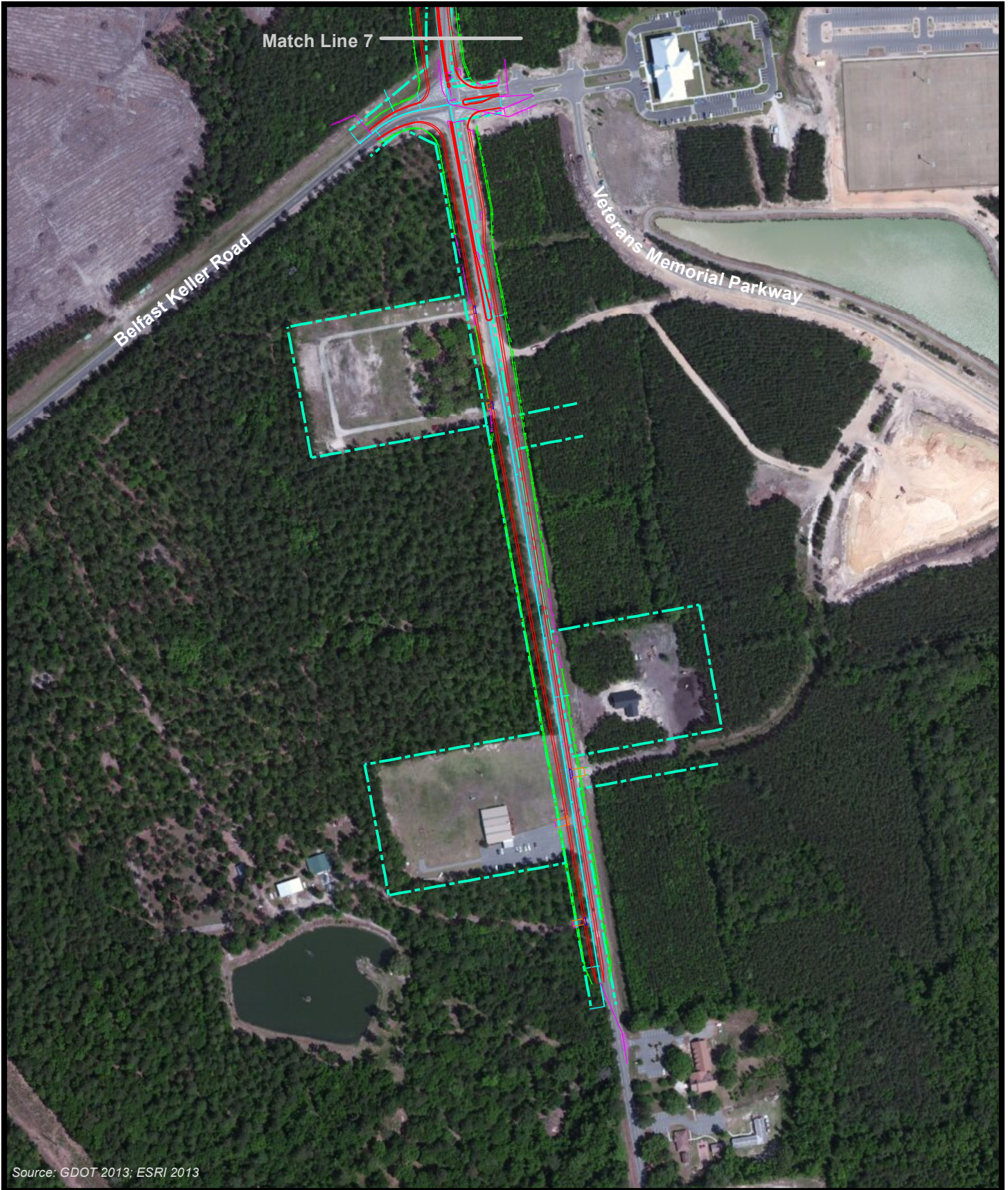
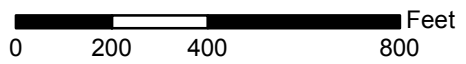
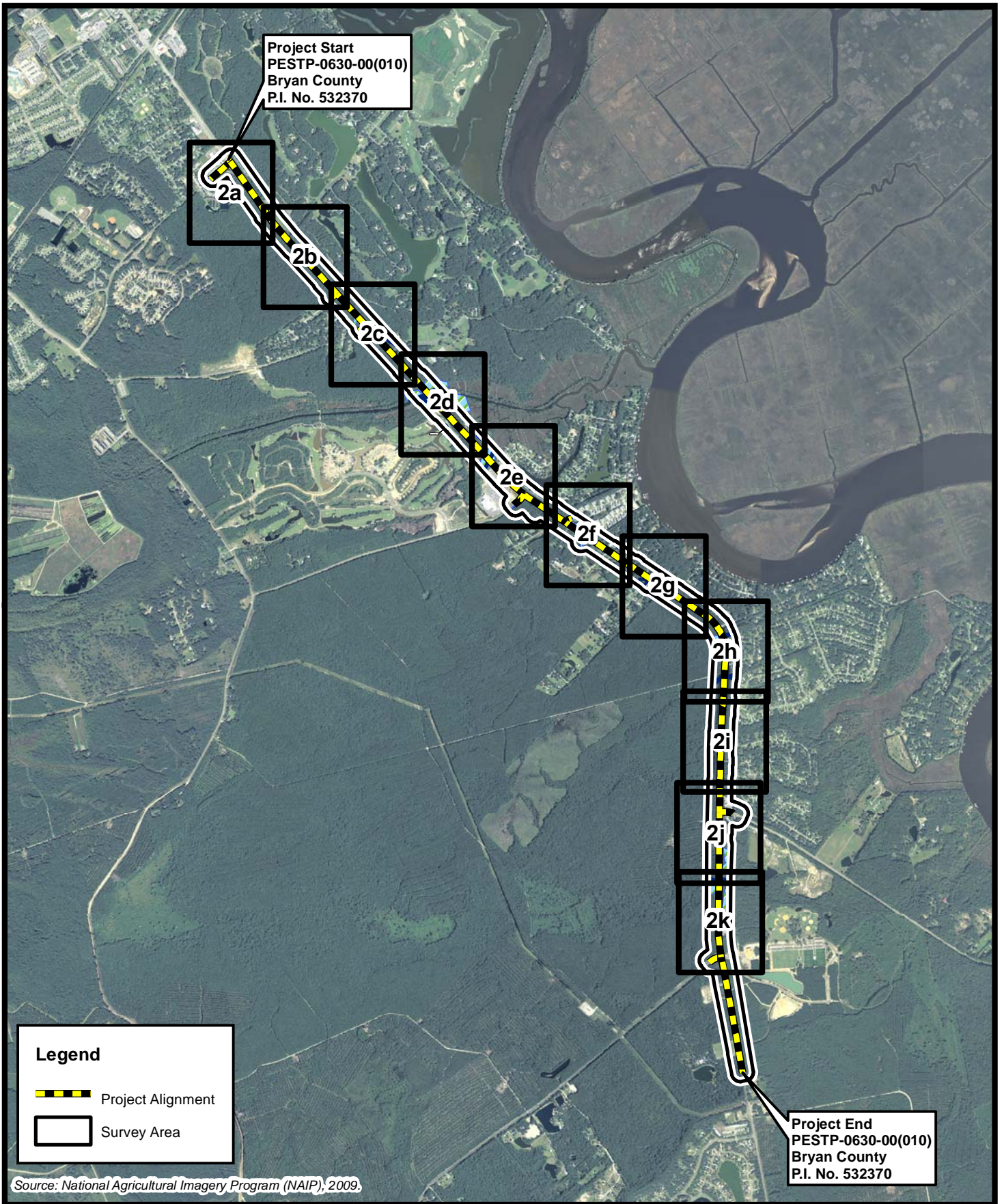


Figure A-1h: Project Alignment Map 8 of 8



PESTP-0630-00(010)
 Bryan County
 P.I. No: 532370
 SR 144





50511-007 EnvDoc del5.mxd

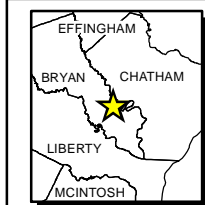
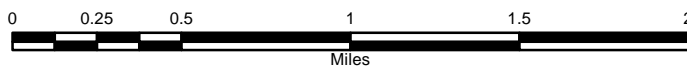
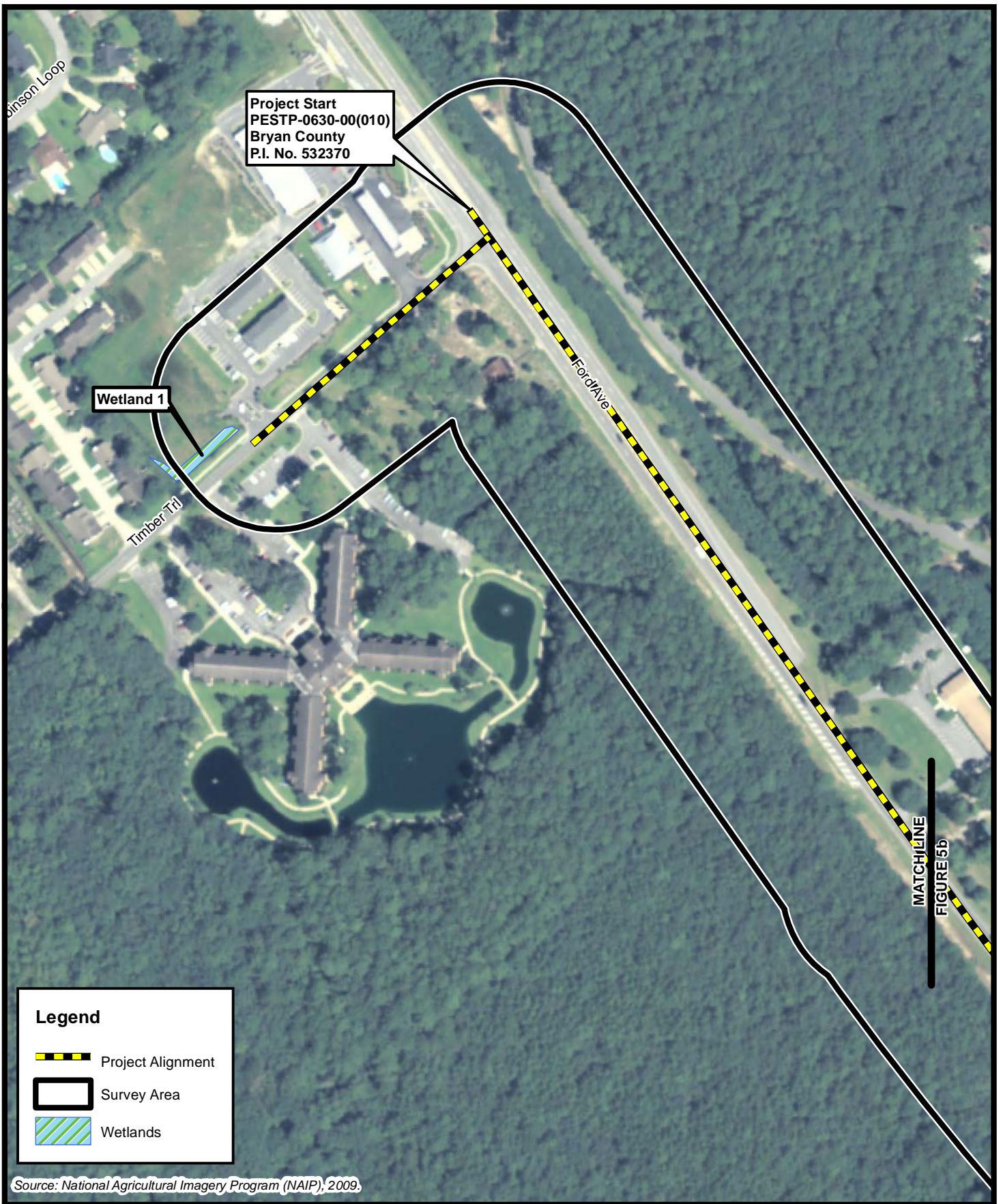


Figure A-2 - State and Federal Water Map: Index






Project PESTP-0630-00(010)
Bryan County
P.I. No. 532370
SR 144 Improvements





Legend

-  Project Alignment
-  Survey Area
-  Wetlands

Source: National Agricultural Imagery Program (NAIP), 2009.

50511-007 EnvDoc del5a.mxd

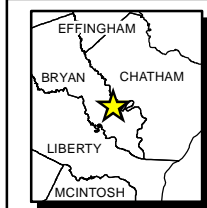
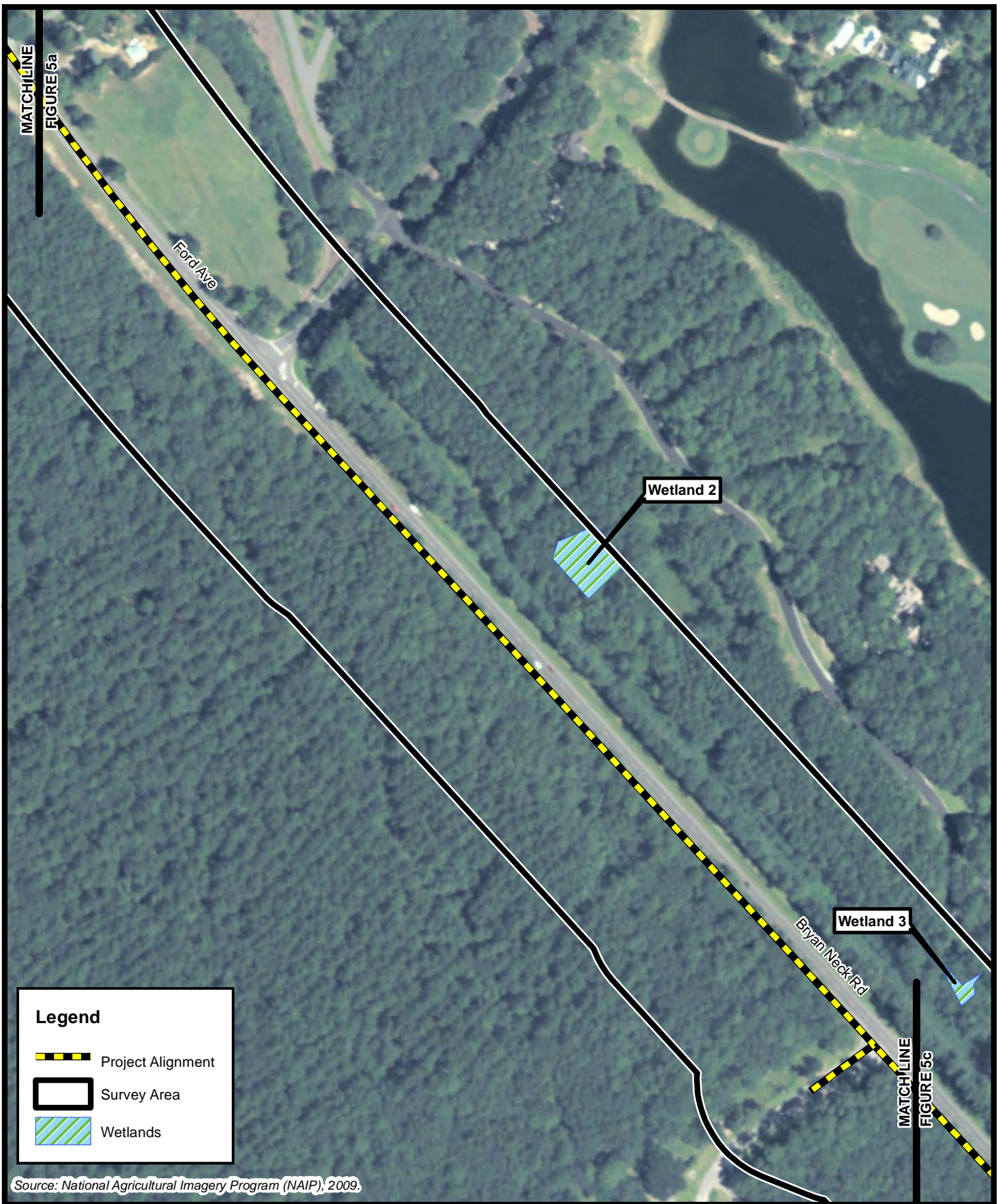


Figure A-2a - State and Federal Water Map



Project PESTP-0630-00(010)
Bryan County
P.I. No. 532370
SR 144 Improvements





50511-007_EnvDoc_del5b.mxd

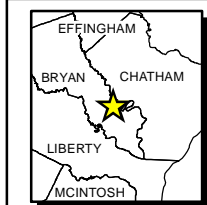
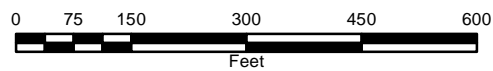
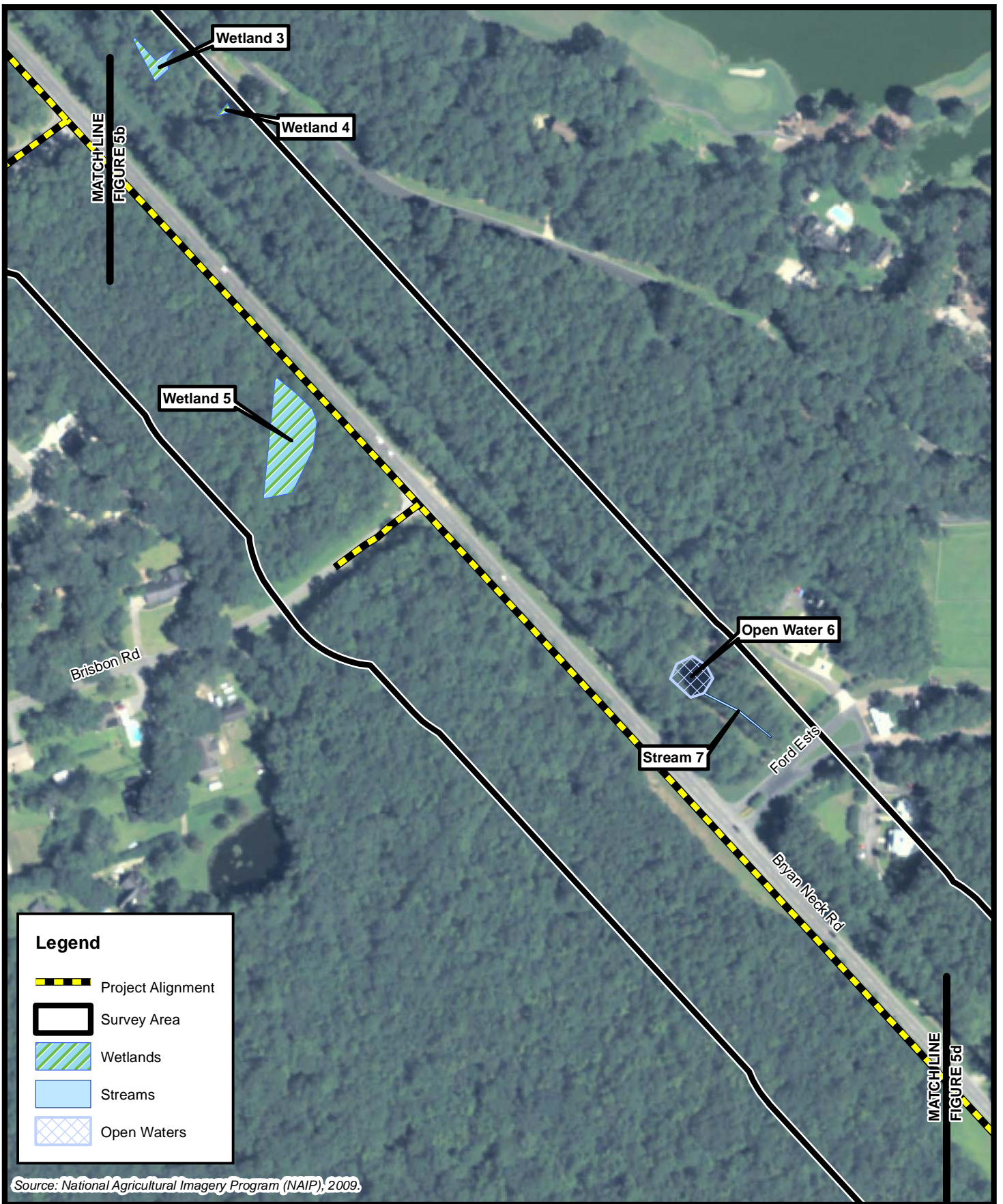


Figure A-2b - State and Federal Water Map



Project PESTP-0630-00(010)
 Bryan County
 P.I. No. 532370
 SR 144 Improvements





50511-007 EnvDoc del5c.mxd

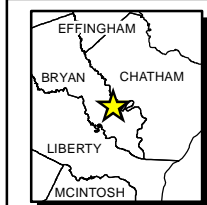
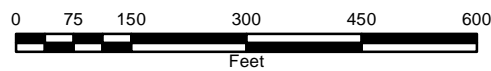
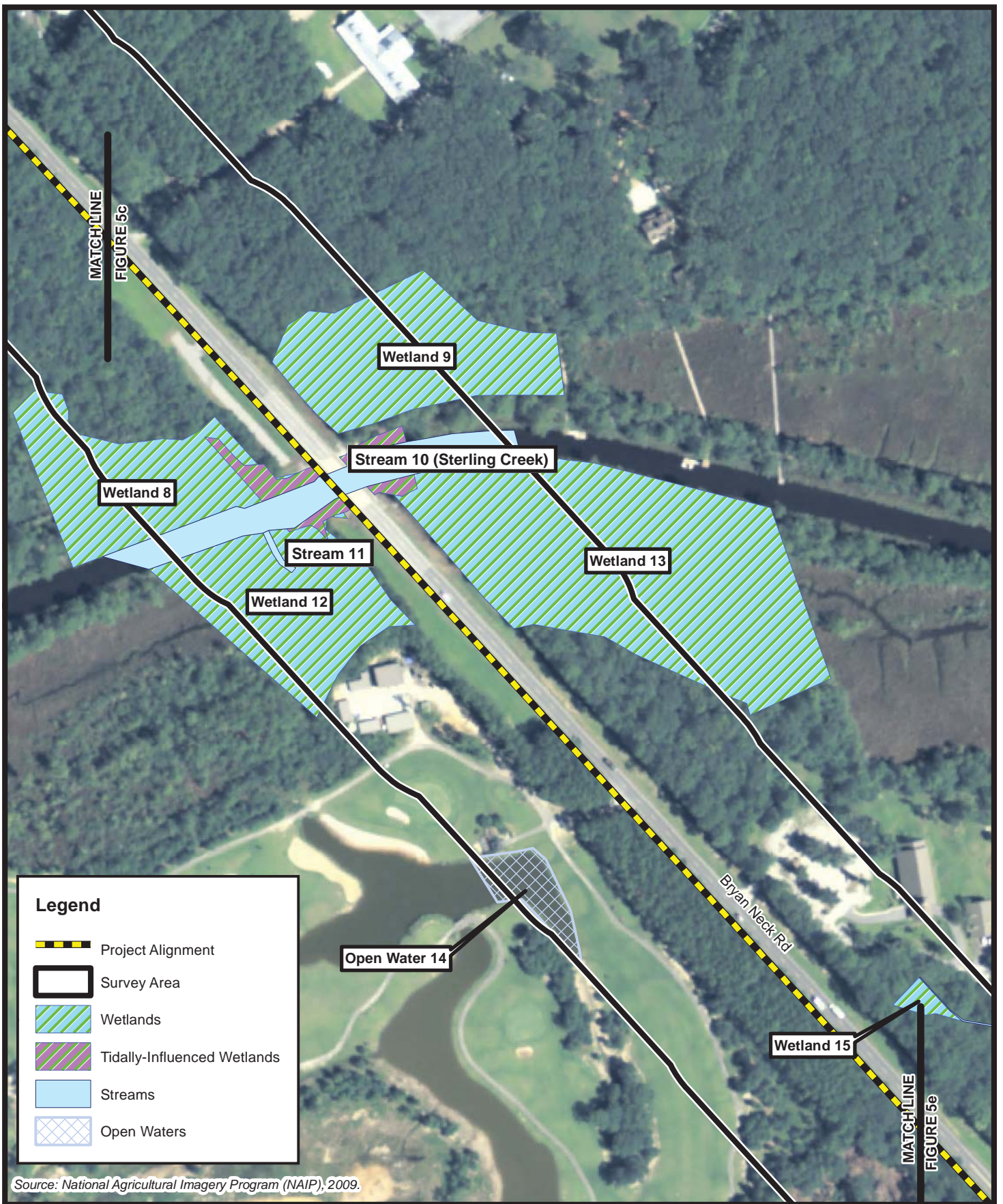


Figure A2-c - State and Federal Water Map



Project PESTP-0630-00(010)
 Bryan County
 P.I. No. 532370
 SR 144 Improvements





Legend

- Project Alignment
- Survey Area
- Wetlands
- Tidally-Influenced Wetlands
- Streams
- Open Waters

Source: National Agricultural Imagery Program (NAIP), 2009.

50511-007_EnvDoc_del5d.mxd

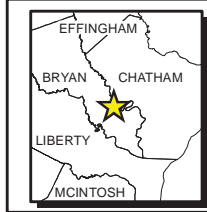
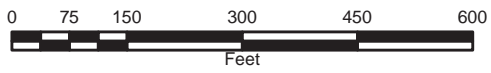
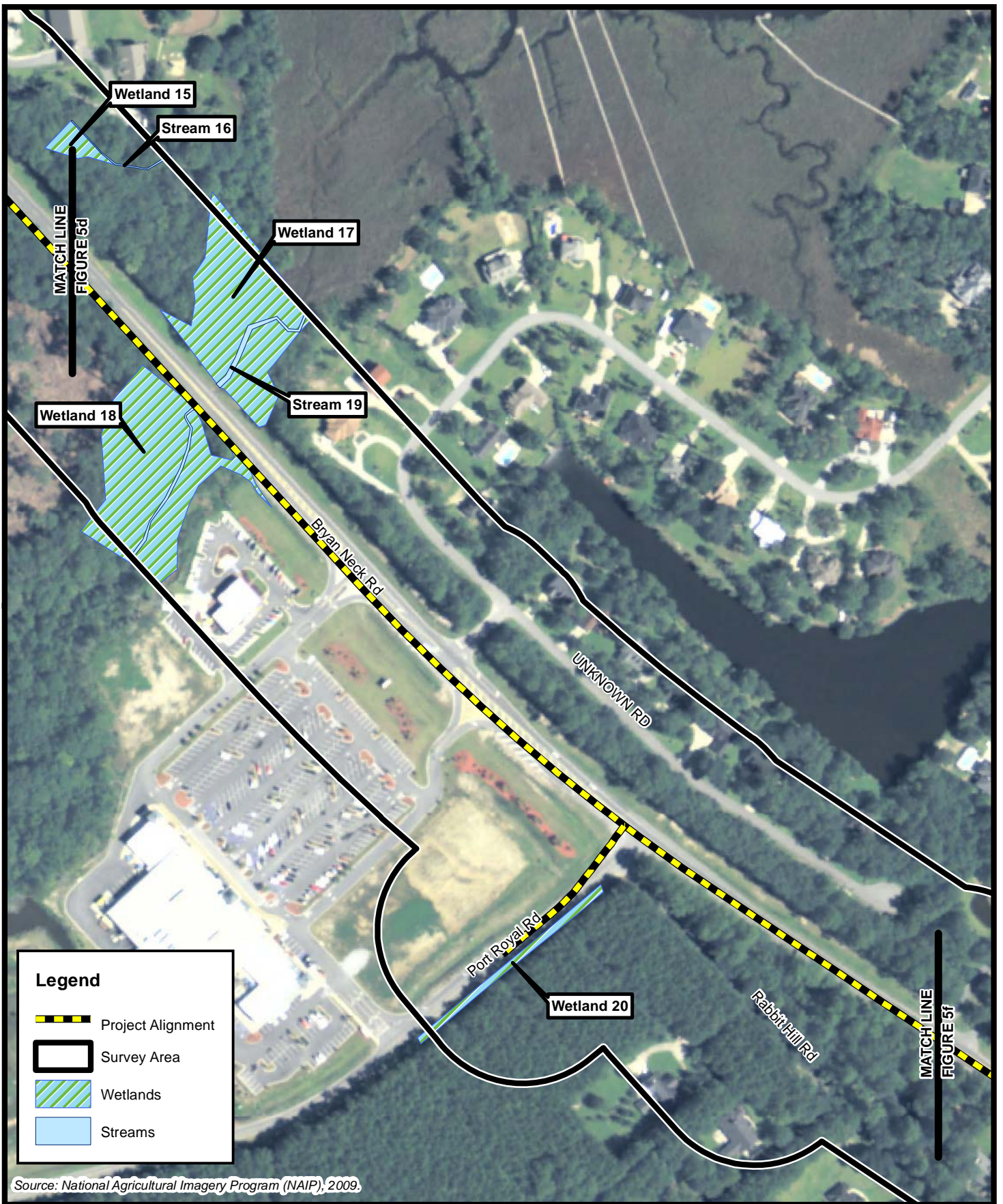


Figure A-2d - State and Federal Water Map



Project PESTP-0630-00(010)
 Bryan County
 P.I. No. 532370
 SR 144 Improvements



50511-007 EnvDoc del5e.mxd

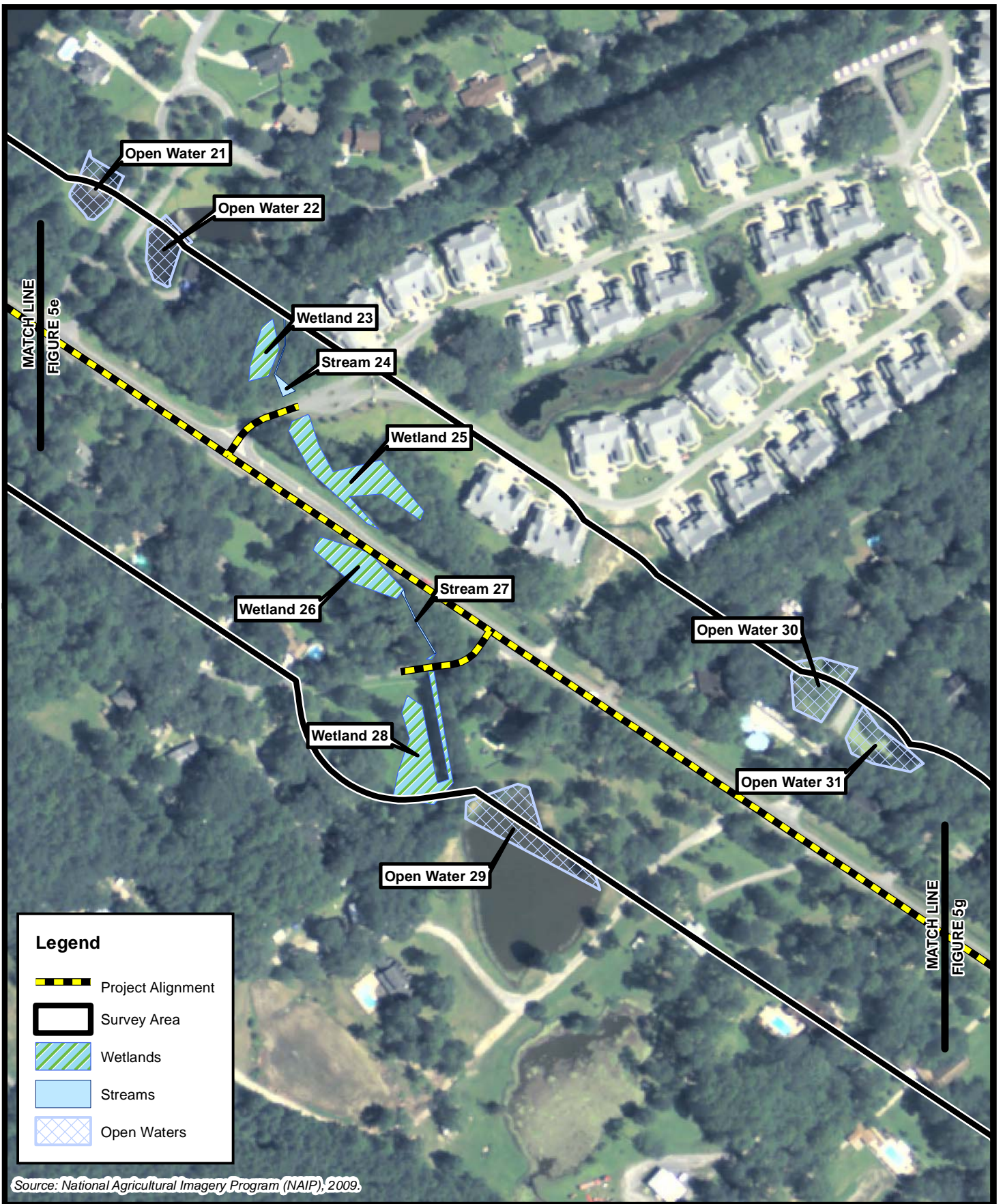


Figure A-2e - State and Federal Water Map



Project PESTP-0630-00(010)
 Bryan County
 P.I. No. 532370
 SR 144 Improvements





50511-007 EnvDoc del5f.mxd

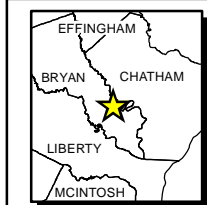
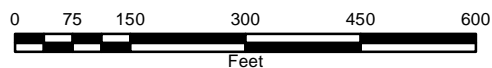
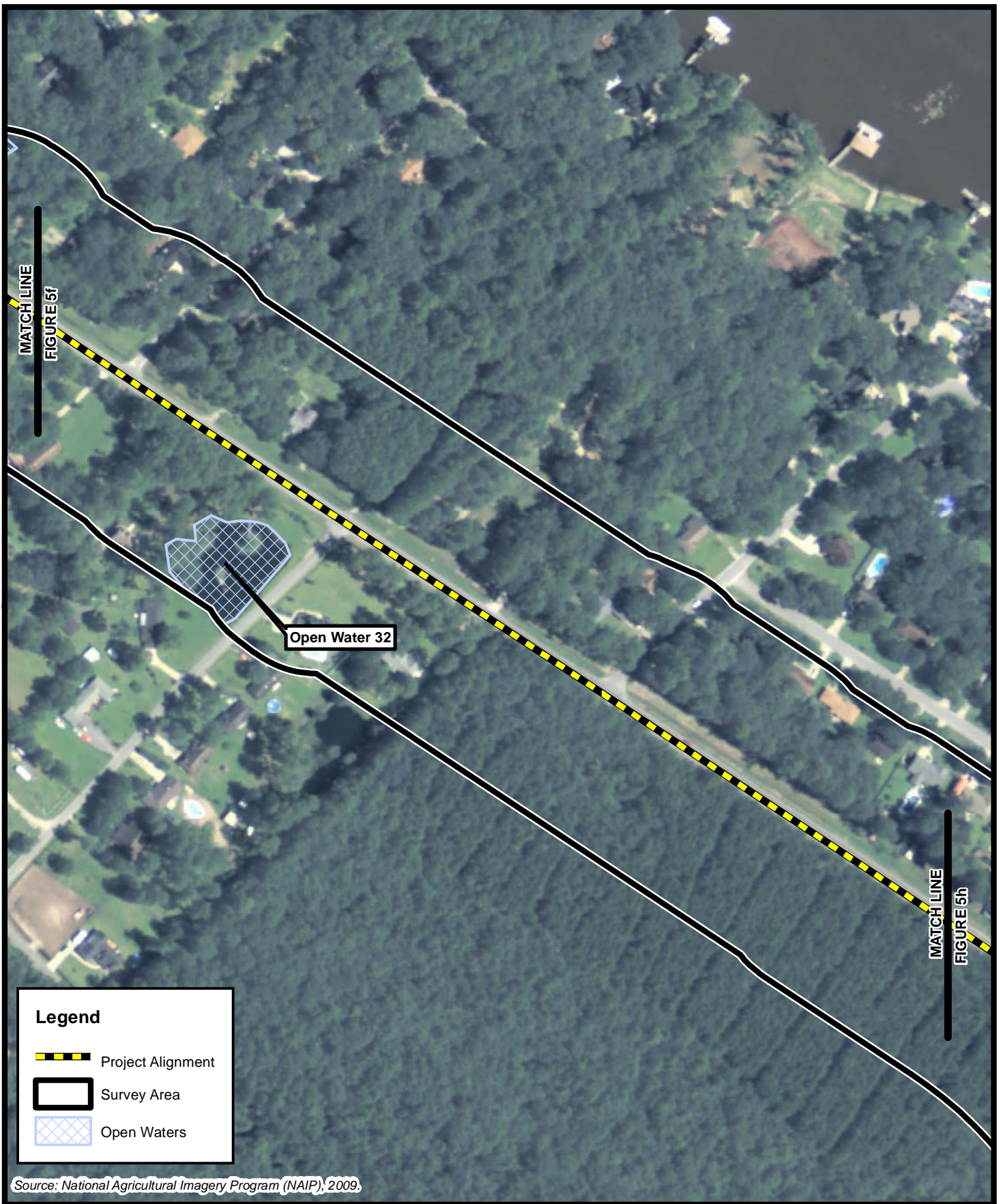


Figure A-2f - State and Federal Water Map



Project PESTP-0630-00(010)
 Bryan County
 P.I. No. 532370
 SR 144 Improvements





50511-007 EnvDoc del5g.mxd

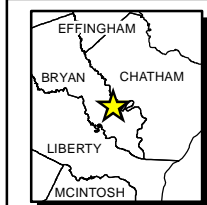
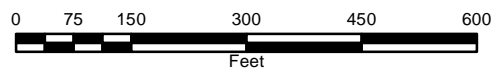
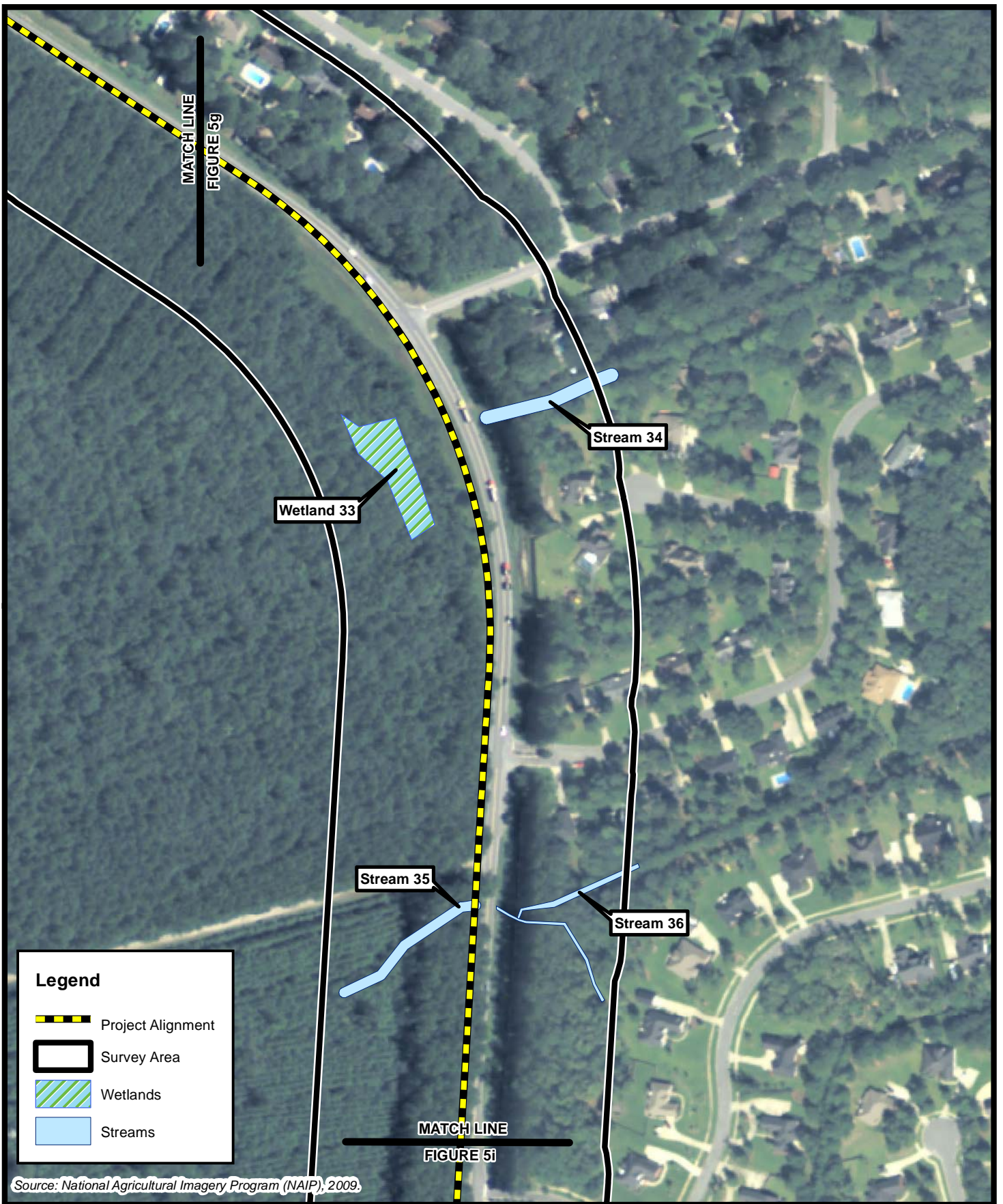


Figure A-2g - State and Federal Water Map



Project PESTP-0630-00(010)
Bryan County
P.I. No. 532370
SR 144 Improvements





50511-007 EnvDoc del5h.mxd

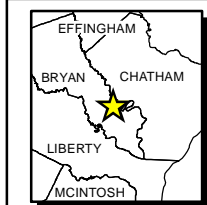
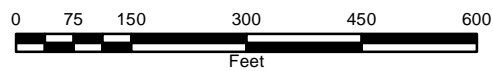
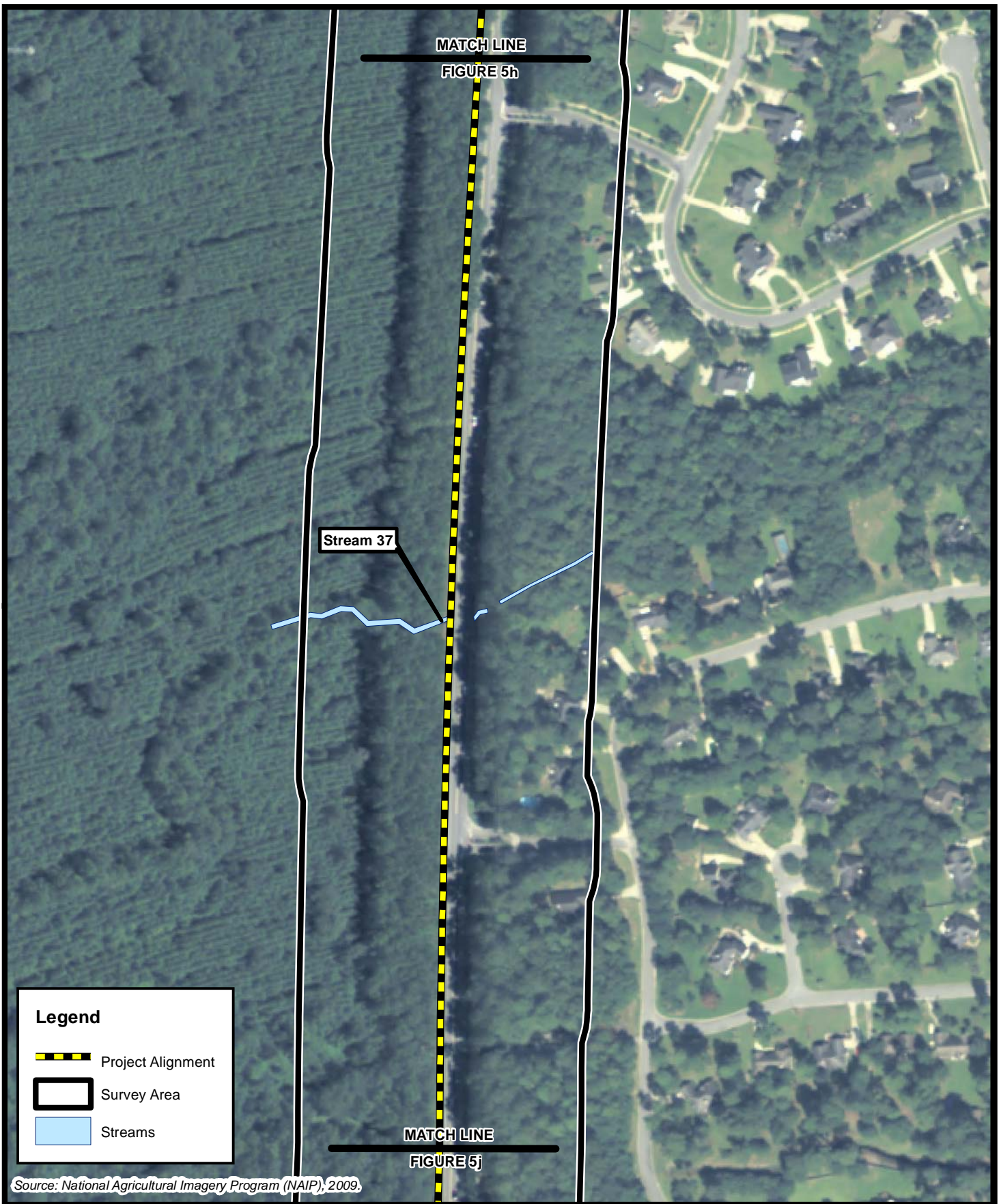


Figure A-2h - State and Federal Water Map



Project PESTP-0630-00(010)
 Bryan County
 P.I. No. 532370
 SR 144 Improvements





50511-007 EnvDoc_del5i.mxd

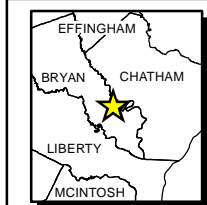
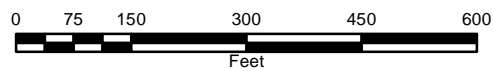
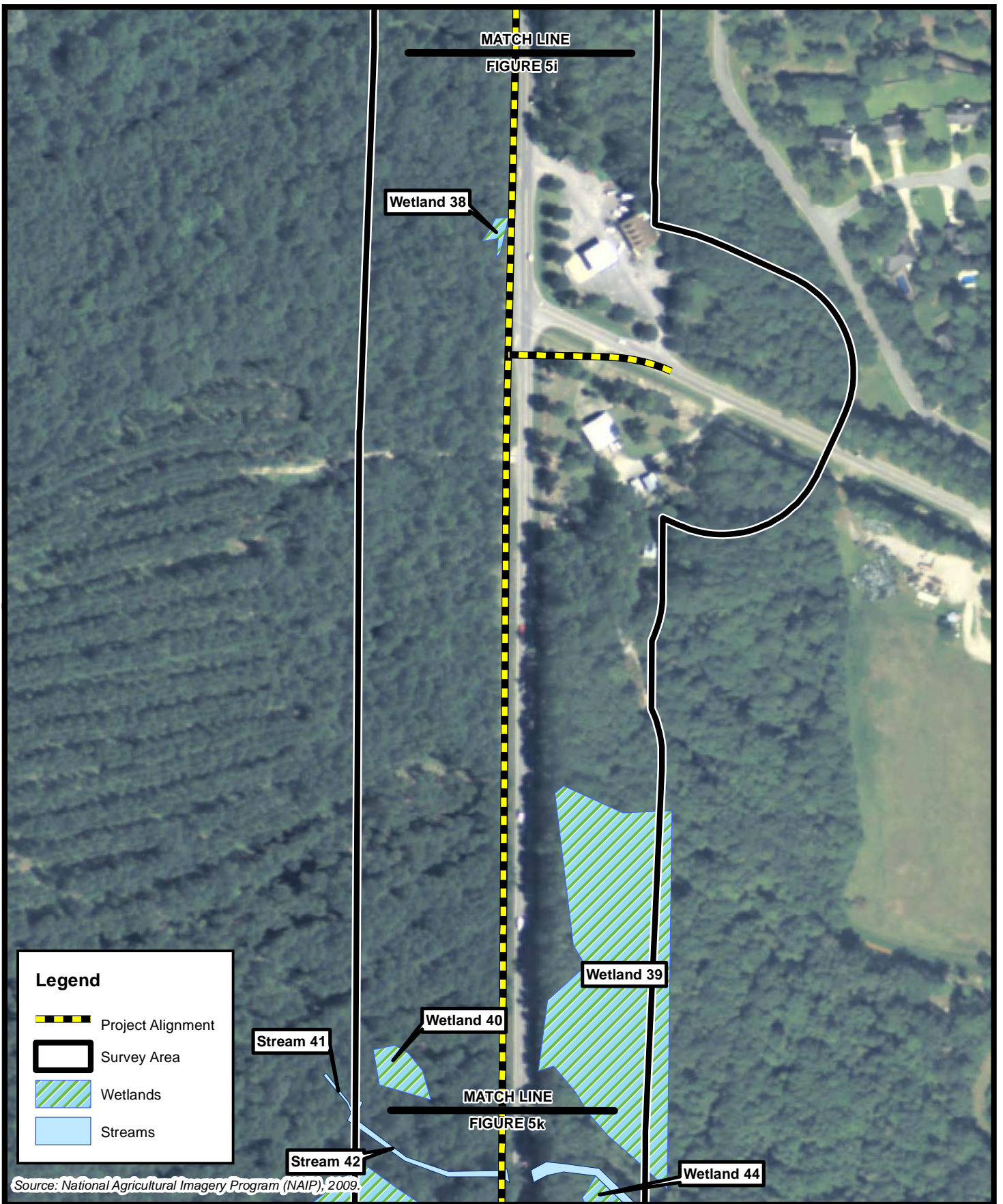


Figure A-2i - State and Federal Water Map



Project PESTP-0630-00(010)
Bryan County
P.I. No. 532370
SR 144 Improvements





50511-007 EnvDoc del5j.mxd

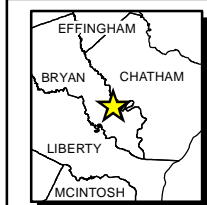
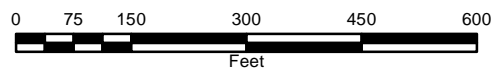


Figure A-2j - State and Federal Water Map



Project PESTP-0630-00(010)
 Bryan County
 P.I. No. 532370
 SR 144 Improvements



**Table A-1
Streams
SR 144 Widening**

Figure A-2 Label	Type	Protected Stream Buffer Affected?	More than 100 Feet of Impact?	Habitat for Protected Species Nearby?	Channel Width (feet)	Channel Depth (feet)	Impact Type	Impact Length (linear feet)	Impact Area (acre)
PS10	Perennial	No	No	Yes	60	10+	N/A	0.0	0.00
PS11	Perennial	No	No	No	4	6	N/A	0.0	0.00
IS16	Intermittent	No	No	No	2	2	N/A	0.0	0.00
PS19	Perennial	Yes	Yes	No	2	1	stream relocation/ culvert/riprap	98.0/ 19.0/ 22.0	0.01/ 0.005/ 0.005
IS35	Intermittent	No	No	No	3	<1	culvert ext.	44.0	0.005
IS36	Intermittent	No	No	No	3	1-2	N/A	0.0	0.00
IS37	Intermittent	No	Yes	No	6-8	2	culvert ext.	98.0	0.02
PS41	Perennial	No	No	No	6	1	N/A	0.0	0.00
PS42	Perennial	No	No	No	6-12	4+	culvert ext.	95.0	0.03
Total Impacts								376.0 linear feet	0.075 acre

Source: PI 532370 Ecology Assessment of Effects, Ecological Solutions, Inc., July 2013.

**Table A-2
Wetlands, Ephemeral Channels, and Open Waters
SR 144 Widening**

Figure A-2 Label	Type	Protected Stream Buffer Affected?	Habitat for Protected Species Nearby?	Impact Type	Permanent Clearing Area (acre)	Permanent Fill Area (acre)
WL1	Wetland	No	No	N/A	0.00	0.00
WL2	Wetland	No	No	N/A	0.00	0.00
WL3	Wetland	No	No	N/A	0.00	0.00
WL4	Wetland	No	No	N/A	0.00	0.00
WL5	Wetland	No	No	fill/clear	0.05	0.10
OW6	Open Water	No	No	N/A	0.00	0.00
EC7	Ephemeral Channel	No	No	N/A	0.00	0.00
WL8	Wetland	Yes	Yes	fill/clear	0.06	0.07
WL9	Wetland	Yes	Yes	fill/clear	0.10	0.04
WL12	Wetland	Yes	Yes	fill/clear	0.14	0.14
WL13	Wetland	Yes	Yes	fill/clear	0.16	0.08
OW14	Open Water	Yes	No	N/A	0.00	0.00
WL15	Wetland	No	No	N/A	0.00	0.00
WL17	Wetland	No	Yes	fill/clear	0.22	0.04
WL18	Wetland	No	Yes	fill/clear	0.10	0.35
WL20	Wetland	No	No	clear	0.08	0.00
OW21	Open Water	Yes	No	N/A	0.00	0.00
OW22	Open Water	Yes	No	N/A	0.00	0.00
WL23	Wetland	No	No	N/A	0.00	0.00
EC24	Ephemeral Channel	No	No	N/A	0.00	0.00
WL25	Wetland	No	No	fill/clear	0.05	0.05
WL26	Wetland	No	No	fill	0.00	0.20

Appendix B

Abbreviations and Definitions

State Route 144 Widening, Bryan County
Project STP00-0630-00(010), PI Number 532370

Appendix B

Abbreviations and Definitions

Many abbreviations and terms are common to specialists conducting environmental and planning studies, while new to most other readers. Definitions and acronyms from the technical and legal words in this document are shown here for reader convenience.

As a quick reference for many transportation related terms, FHWA also provides a free online resource, a Planning Glossary at the following scan code or link:



http://www.fhwa.dot.gov/planning/glossary/glossary_listing.cfm?sort=definition&TitleStart=L

Abbreviations/Acronyms

ADT	Average Daily Traffic (also AADT for Annual Average Daily Traffic)	MP	Mile Post
AOE	Assessment of Effects	NAC	Noise Abatement Criteria
BCTS	Bryan County Transportation Study	NEPA	National Environmental Policy Act
CR	County Road	NMFS	National Marine Fisheries Service
CRC	Coastal Regional Commission	NPDES	National Pollutant Discharge Elimination System
CRD	Georgia Coastal Resources Division	NWI	National Wetland Inventory
CZMA	Coastal Zone Management Act	OES	GDOT Office of Environmental Services
DNR	Georgia Department of Natural Resources, also known as GDNR	PHOH	Public Hearing Open House
EFH	Essential Fish Habitat	PIOH	Public Information Open House
EPD	Georgia DNR Environmental Protection Division	PUD	Planned Unit Development
ESA	Endangered Species Act	ROW	Right-of-Way
FHWA	Federal Highway Administration	SHPO	State Historic Preservation Officer
GDOT	Georgia Department of Transportation	SOP	Standard Operating Procedure
GIS	Geographic Information Systems	SR	State Route (State Highway)
GPS	Global Positioning System	TIP	Transportation Improvement Program
HPD	DNR Historic Preservation Division	TMDL	Total Maximum Daily Load
HUC	Hydrologic Unit Code (watershed)	USACE	United States Army Corps of Engineers (Savannah District)
LOS	Level of Service, for Traffic Conditions	USFWS	United States Fish and Wildlife Service
MBTA	Migratory Bird Treaty Act of 1918	UST/LUST	Underground Storage Tank (Leaking UST)
		VPD	Vehicles Per Day
		WL	Wetland

Definitions

A-WEIGHTED SOUND LEVEL (dBA): The ear does not respond equally to different frequencies of sound. It is less efficient at low and high frequencies than it is at medium or speech-range frequencies. Thus, to obtain a single number representing the sound level of a noise having a wide range of frequencies in a manner representative of the ear's response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies. The resultant sound level is said to be A-weighted, and the units are decibels (dB); hence, the abbreviation is dBA. The A-weighted sound level is also referred to as the noise level.

ADVERSE AFFECT (FOR HISTORIC RESOURCES): When an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places (NRHP). Such adverse effects include the introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's historic features (36 CFR 800.5).

AMBIENT NOISE: The total of all noise in a system or situation, independent of the presence of the specific sound to be measured. In acoustical measurements, ambient noise means electrical noise in the measurement system. However, in popular usage, ambient noise is also used to mean "background noise" or "residual noise."

AREA OF POTENTIAL EFFECT (APE): Federal regulations define the area of potential effect as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist" (36 CFR 800.16[d]). Such changes may include physical destruction, damage, or alteration of a property; change in the character of the property's use or of physical features within its setting that contribute to

its historic significance; and introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features (36 CFR 800.5(a)(2)).

AREA SOURCES (FOR AIR QUALITY): Non-regulated air quality sources that have relatively low emissions when considered individually but are significant when combined over the entire non-attainment region. Some examples of area sources include vehicle refueling, underground storage tanks (USTs), dry cleaning, and outdoor painting.

BIOGENIC SOURCES: Biological sources of air emissions that include crops, trees, and natural vegetation. These sources emit NO_x and various types of Volatile Organic Compounds (VOCs) (depending on species) as a result of photosynthesis and other life-sustaining biological processes.

CARBON MONOXIDE (CO): A colorless and odorless gas that is a product of incomplete combustion. Carbon monoxide is absorbed by the lungs and reacts with hemoglobin to reduce the oxygen carrying capacity of the blood. Both federal and state emission limits regulate CO.

CEQ (COUNCIL ON ENVIRONMENTAL QUALITY) REGULATIONS: CEQ Regulations implementing the National Environmental Policy Act of 1969 (NEPA) were published in the Federal Register on November 29, 1978.

DECIBEL (dB): A unit for measuring the volume of a sound, equal to the logarithm of the ratio of the intensity of the sound to the intensity of an arbitrarily chosen standard sound.

FEDERALLY ENDANGERED SPECIES (AS DEFINED IN THE ENDANGERED SPECIES ACT): Any resident species that is in danger of extinction throughout all, or a significant portion of its range.

FEDERALLY THREATENED SPECIES (AS DEFINED IN THE ENDANGERED SPECIES ACT): Any resident species that is likely to become an endangered species within the foreseeable future throughout all, or a significant portion of its range.

COMPREHENSIVE PLAN: An overall plan of a political jurisdiction setting forth the goals and objectives of the jurisdiction, policies for development and redevelopment, and maps showing the spatial arrangement of land uses, circulation routes, and community facilities.

CONCURRENCE: Approval by a regulatory agency or decision-making stakeholder on a specific resource topic. Typically required from SHPO for cultural resources and USFWS and NMFS for protected species or habitat issues.

GEOGRAPHIC INFORMATION SYSTEM (GIS): A system of hardware and software used for storage, retrieval, mapping, and analysis of geographic data.

GLOBAL POSITIONING SYSTEM (GPS): A navigational system that uses a series of satellites orbiting the earth to provide non-precision guidance in azimuth, elevation, and

HAZARDOUS MATERIALS: Any chemical or material that requires a Material Safety Data Sheet (MSDS) under Occupational Safety and Health Act (OSHA). Hazardous wastes are wastes that have either been specifically identified as hazardous by the U.S. Environmental Protection Agency (USEPA), or that exhibit one of the four hazardous characteristics. These characteristics are ignitability, corrosivity, reactivity, or toxicity.

IMPACT (OR EFFECT): In environmental studies, the word "impact" is used to express the extent or severity of an environmental problem, e.g., the number of persons exposed to a given noise environment. As indicated in CEQ 1500 (Section 1508.8), impacts and effects are considered to be synonymous. Effects or impacts may be ecological, aesthetic, historic, cultural, economic, social, or health related, and they may be direct, indirect, or cumulative.

INDUCE: Used in NEPA analysis, this term means to influence, cause, or accelerate, such as induced changes to land use patterns.

INFILL: The development of small pieces of property remaining in previously developed larger areas.

JURISDICTIONAL WETLAND: Wetlands that contain all three wetland criteria set by the U.S. Army Corps of Engineers: 1) dominance of wetland vegetation; 2) physical evidence of wetland hydrology; and 3) indication of hydric soils.

LAND USE CONTROLS: Controls established by local or state governments to implement land use planning. The controls include zoning, subdivision regulations, land acquisition (in fee simple, lease-back, or easements), building codes, building permits, and capital improvement programs (to provide sewer, water, utilities, or other service facilities).

LAND USE PLANNING: Comprehensive planning carried out by units of local government, for all areas under their jurisdiction, to identify the optimum uses of land and to serve as a basis for the adoption of zoning or other land use controls.

LOUDNESS: The judgment of the intensity of a sound by a person, loudness depends primarily on the sound pressure of the stimulus. Over much of the loudness range, it takes about a threefold increase in sound pressure (approximately 10 decibels) to produce a doubling of loudness.

LOW-INCOME: Populations in an affected area with the annual statistical poverty thresholds (obtained from the Bureau of the Census Current Population Reports, Series P-60 on Income and Poverty). In identifying low-income populations, the ultimate goal was to consider as a community either a group of individuals living in geographic proximity to one another or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.

MINORITY: People who are members of American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic

MITIGATION MEASURE: An action that can be planned or taken to alleviate (mitigate) an adverse environmental impact. Mitigation includes:

- (1) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (2) Minimizing the impact by limiting the degree or magnitude of the action and its implementation.
- (3) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (5) Compensating for the impact by replacing or providing substitute resources or environments.

MITIGATION BANK OR CREDIT: Preferred method for Georgia transportation projects to compensate for impacts to Waters of the US. Credits are purchased within banks that are approved by USACE to improve wetlands and streams on a site. The mitigation bank gains a supply of credits, which are in turn sold as mitigation for project impacts within or near the watershed.

MULTIMODAL: A combination of travel modes in addition to vehicles, typically emphasizing the connections for walking and biking within a corridor.

NOISE: Noise is any sound that is considered to be undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.

NOISE-SENSITIVE LAND USE OR SITE: A land use that can be adversely affected by high levels of noise. Residences, schools, hospitals, religious facilities, libraries, and other similar uses are typically considered to be noise-sensitive.

ON-ROAD MOBILE SOURCES (FOR AIR QUALITY): This grouping includes cars, trucks, buses, and all other licensed vehicles operating on local roads, state highways, and interstate highways.

OXIDES OF NITROGEN (NO_x): When combustion temperatures are extremely high, as in automobile engines, atmospheric nitrogen gas may combine with oxygen gas to form various oxides of nitrogen. Of these, nitric oxide (NO) and nitrogen dioxide (NO₂) are the most significant air pollutants generally referred to as NO_x. Oxides of nitrogen emissions are controlled by emissions limits, and NO₂ is regulated by federal and state AAQS.

PARTICULATE MATTER LESS THAN 2.5 MICROMETERS (PM_{2.5}): Small solid particles and liquid droplets. Suspended particulates refer to particles of approximately 25 micrometers or less in diameter, while PM_{2.5} refers to particulate matter with an aerodynamic diameter of 2.5 micrometers and smaller. Both federal and state emission limits regulate PM_{2.5} levels in the atmosphere.

PLANNED UNIT DEVELOPMENT: Special zoning designation for a proposed development with planned phases of mixed uses, with an emphasis on neighborhoods.

POINT SOURCES (FOR AIR QUALITY):

Stationary, industrial emission sources that are regulated under the Clean Air Act and are permitted by state and local environmental agencies, as well as the Environmental Protection Agency.

SOUND LEVEL METER: An instrument consisting of a microphone, an amplifier, an output meter, and frequency-weighting networks used to measure noise and sound levels in a specified manner.

SPECIES OF MANAGEMENT CONCERN (OR FEDERAL CANDIDATE SPECIES): Species under review for possible addition to the Federal list of protected species under the Endangered Species Act.

VOLATILE ORGANIC COMPOUNDS (VOC): A general class of compounds containing hydrogen and carbon. VOCs are precursors to the formation of ozone (O₃). When VOC and nitrogen oxides accumulate in the atmosphere and are exposed to the ultraviolet component of sunlight, ozone is formed. VOC emissions are regulated by emission restrictions, while ambient air quality standards exist for ozone.

Appendix C

Coordination

**State Route 144 Widening, Bryan County
Project STP00-0630-00(010), PI Number 532370**

Agency Early Coordination



630 Colonial Park Drive
Suite 200
Roswell, Georgia 30075
P 770.998.7848 • F 770.998.5606
www.ecologicalsolutions.net

September 1, 2010

Mr. James Johnson
Interim Chief, Forest Management
Georgia Forestry Commission
Box 819
Macon, Georgia 31298-4599

Re: Early Coordination Request for Project PESTP00-0630-00(010), Bryan County, P.I. No. 532370,
SR 144 Widening

Dear Mr. Johnson:

The Georgia Department of Transportation has been in the concept development stage for the above noted project during recent years. Ecological Solutions currently serves as the Department's environmental consultant for transportation improvements within this district. This letter is intended to provide an update and to request any relevant information you may have on the project.

The current proposal consists of widening the existing two-lane section of SR 144 to four lanes from south of Timber Trail Road to east of County Road 154 for a total project length of 4.93 miles. Intersections within these limits would be improved, with signalization proposed at Timber Trail Road and Port Royal Road. From Timber Trail Road to SR 144 Spur, the proposed improvements consist of an urban section with a 20-foot raised grass median, bicycle lanes, and sidewalks. From SR 144 Spur eastward to the end of the project, a rural section is proposed with a 24-foot raised grass median and 6.5-foot "bikeable" shoulders.

The design for the project is being developed concurrently with environmental studies and in compliance with applicable environmental laws and regulations. This process, developed by the Department to make our projects responsive to social, economic, and environmental concerns, offers you the opportunity to identify site specific conditions to be addressed in the environmental assessment.

Please advise us of any known project area conditions of concern. With your assistance, we can give these issues due consideration and integrate them into the project alignment and design.

Your assistance is appreciated. If you have any questions or need additional information, please contact me at (770) 998-7848 or via email at todbarker@ecologicalsolutions.net.

Sincerely,

ECOLOGICAL SOLUTIONS, INC.

A handwritten signature in blue ink, appearing to read "Todd A. Barker". The signature is fluid and cursive, with a long horizontal stroke at the end.

Todd A. Barker, AICP
Project Manager

TB/tb
Attachment

cc:
Dennis Odom, GDOT District 5 Design Engineer
Sam Pugh, GDOT Office of Environmental Services

Agencies Consulted - Early Coordination
SR 144 Widening, Bryan County, PI Number 532370

Mr. James Tillman
Natural Resource Conservation Service
US Department of Agriculture
355 East Hancock Avenue
Mail Stop 200
Athens, Georgia 30601-2769

Mr. Edward Ealy
State Soil Scientist
Natural Resource Conservation Service
355 East Hancock Avenue
Mail Stop 200
Athens, Georgia 30601-2769

Medical Officer
National Center for Environmental Health
4770 Buford Highway
Atlanta, Georgia 30341

Region Four
US Environmental Protection Agency
Atlanta Federal Center
100 Alabama Street, SW
Atlanta, Georgia 30303-3104

Ms. Linda Poythress
Regional Environmental Officer
US Department of Housing and Urban
Development
Atlanta Regional Office
40 Marietta Street
Atlanta, Georgia 30303

Ms. Tricia Reynolds
Director of Planning and Government
Services
Coastal Regional Commission
127 F Street
Brunswick, Georgia 31520

Chief
US Geological Survey
Environmental Affairs Program
12201 Sunrise Valley Drive, Mail Stop 423
Reston, Virginia 20192

Mr. Jimmy Burnsed
Chairman
Bryan County Commission
116 Lanier Street
Pembroke, Georgia 31321

Mr. James Johnson
Interim Chief, Forest Management
Georgia Forestry Commission
Box 819
Macon, Georgia 31298-4599

Mr. Harold Fowler
Mayor
City of Richmond Hill
PO Box 250
40 Richard R. Davis Drive
Richmond Hill, Georgia 31324

Branch Chief
National Marine Fisheries Service
Habitat Conservation Division
219 Fort Johnson Road
Charleston, South Carolina 29412-9110

Representative Ron Stevens
164th District
Georgia House of Representatives
45 Cove Drive
Savannah, Georgia 31419

National Marine Fisheries Service
National Oceanic and Atmospheric
Administration
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

Senator Earl Carter
District 1
Georgia Senate
406 Purple Finch Drive
Pooler, Georgia 31322

Ms. Christy Kinzie
Zoning Administrator
Bryan County Commission
66 Cpt. Matthew Freeman Drive
Richmond Hill, Georgia 31324



Sonny Perdue
Governor

Robert D. Farris
Director

Board of Commissioners:

Wesley Langdale, Chairman
Valdosta

Victor Beadles
Moultrie

Jim L. Gillis, Jr.
Soperton

H. G. Thomas New
Louisville

Robert Pollard
Appling

Fred Warnell
Richmond Hill

H. G. Yeomans
Swainsboro

October 13, 2010

Attention: Todd A. Barker, Project Manager
Ecological Solutions, Inc.
630 Colonial Park Dr.
Suite 200
Roswell, GA 30075

Dear Mr. Barker:

This letter is in response to the Early Coordination Request for Project PESTP00-0630-00(010), Bryan County, P.I. No. 532370, SR 144 Widening. Green Creek and Sterling Creek may need special consideration when widening SR 144. Some wetland areas are also indicated on the location map. At this time, there are no other known conditions of special concern within this project area.

If you have any questions or need further assistance, please contact me at 912-681-0490.

Sincerely,

A handwritten signature in cursive script that reads 'Shawn Diddie'.

Shawn Diddie
Forester
Certified Arborist
SO-5673A



Natural Resources Conservation Service
355 East Hancock Avenue
Athens, GA 30601

October 4, 2010

Mr. Todd A. Barker, AICP
Project Manager
630 Colonial Park Drive
Suite 200
Roswell, Georgia 30075

Re: Early Coordination Request for Project PESTP00—0630-00(010), Bryan County, P.I. No. 532370, SR 144 Widening

Dear Mr. Barker:

This letter is in reference to your request for comments and resource information relevant to the project listed above. The following outlines our concerns with the proposed project with regards to farmland protection, and Natural Resources Conservation Service (NRCS) watershed dams and project easements.

Farmland Protection

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. It should be noted that the FPPA does not authorize the Federal Government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

NRCS uses a Land Evaluation and Site Assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. It is our understanding that the proposed project involves Federal funds or assistance, and would be subject to this assessment. The area you described in your request does contain Prime and Statewide Important farm land therefore this project is not exempt from FPPA rules and the Farmland Conversion Impact Rating (Form AD -1006) is required for this project.



Barker
Page 2

The proposed area also contains hydric soils and soils with hydric inclusion and maybe subject to jurisdictional wetlands rules and regulation. The U.S. Army Corp of Engineers can better advise you on whether wetlands are present.

NRCS Watershed Dams

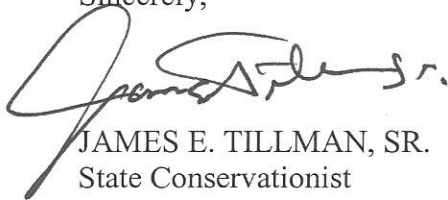
More than 50 years ago, the U.S. Department of Agriculture was authorized by Congress to help local communities with flood control and watershed protection through the Watershed Program (PL-534 Flood Control Act of 1944 and PL-566 Watershed Protection and Flood Prevention Act). As a result, local communities, with NRCS assistance, have constructed over 11,000 dams in 47 states since 1948. These dams were originally constructed for protection of farmlands from flooding impacts. In 2000, PL-566 was amended to provide NRCS authorization to assist communities with rehabilitation of their aging dams. The legislation authorizes NRCS to work with local communities and watershed project sponsors to address public health and safety concerns and potential environmental impacts of aging dams.

We have reviewed our records and have determined that there are no NRCS Watershed dams downstream or in the vicinity of this project.

NRCS Easements

NRCS easements relate to our Wetland Reserve Program and the Farm and Ranch Land Protection Program. We have reviewed our records and have determined that there are no such easements within the vicinity of the proposed project that would be impacted.

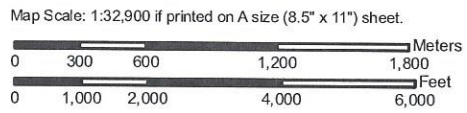
Sincerely,


























JAMES E. TILLMAN, SR.
State Conservationist

cc: James Austin, District Conservationist, NRCS, Richmond Hill, Georgia
Dan Wallace, State Resource Inventory Coordinator, NRCS, Athens, Georgia

Farmland Classification—Bryan and Chatham Counties, Georgia
(landclass)



MAP LEGEND

-  Area of Interest (AOI)
 -  Area of Interest (AOI)
 - Soils**
 -  Soil Map Units
 - Soil Ratings**
 -  Not prime farmland
 -  All areas are prime farmland
 -  Prime farmland if drained
 -  Prime farmland if protected from flooding or not frequently flooded during the growing season
 -  Prime farmland if irrigated
 -  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
 -  Prime farmland if irrigated and drained
 -  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
 -  Prime farmland if irrigated and the product of (soil erodibility) x C (climate factor) does not exceed 60
 -  Prime farmland if irrigated and reclaimed of excess salts and sodium
 -  Farmland of statewide importance
 -  Farmland of local importance
 -  Farmland of unique importance
 -  Not rated or not available
- Political Features**
 -  Cities
 - Water Features**
 -  Oceans
 -  Streams and Canals
 - Transportation**
 -  Rails
 -  Interstate Highways

MAP INFORMATION

- Map Scale: 1:32,900 if printed on A size (8.5" x 11") sheet.
- The soil surveys that comprise your AOI were mapped at 1:20,000.
- Please rely on the bar scale on each map sheet for accurate map measurements.
- Source of Map: Natural Resources Conservation Service
- Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
- Coordinate System: UTM Zone 17N NAD83
- This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.
- Soil Survey Area: Bryan and Chatham Counties, Georgia
- Survey Area Data: Version 5, Dec 21, 2006
- Date(s) aerial images were photographed: 12/4/2007; 7/19/2007; 6/26/2007
- The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Bryan and Chatham Counties, Georgia				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
As	Albany fine sand	Not prime farmland	7.4	4.4%
Cc	Cape Fear soils	Not prime farmland	13.0	7.8%
EI	Ellabelle loamy sand	Not prime farmland	39.8	23.8%
Oj	Ocilla complex	Farmland of statewide importance	25.7	15.4%
OI	Olustee fine sand	Farmland of statewide importance	40.9	24.4%
PI	Pelham loamy sand	Not prime farmland	33.3	19.9%
Tmh	Tidal marsh, fresh	Not prime farmland	0.0	0.0%
W	Water	Not prime farmland	0.9	0.5%
Waf	Wahee sandy loam	Not prime farmland	6.3	3.7%
Totals for Area of Interest			167.3	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Land Use and Planning

Land Use Coordination
Indirect and Cumulative Impact Assessment

Project: PI 532370, Bryan County: SR 144 Widening

Meeting Date: July 17, 2010

Prepared By: Todd A. Barker, AICP

Local Coordination:

Bryan County Department of Engineering, Bryan County Planning and Zoning

Findings:

- High rate of growth in recent years, with many new development applications in the pipeline for approval or construction.
- Christine Kinzie, zoning administrator, gave background on trends and current large-scale Planned Unit Developments
- County has 75-foot setback with 50-foot vegetated buffer from highway
- Most residential growth is higher value, riverfront/riverview with low density lots and neighborhood amenities
- Major mixed-use development including TerraPointe will be adding office space, retail in addition to housing products.
- Industrial park growth also planned.
- Most of area will be built out, other than undevelopable land due to floodplains and/or sensitive marshlands under protection in Ogeechee River buffer.
- SR 144 only way “out” from southern riverfront developments; new subdivisions will feed into SR 144 for access to I-95 or other connections.
- As a result of trends and approved projects, development will precede or at least begin ahead of SR 144 widening. Not anticipated to induce new land use changes or affect patterns of growth.
- Cumulative result of development will be heavy traffic volumes needing the four-lane SR 144.

Farmland



630 Colonial Park Drive
Suite 200
Roswell, Georgia 30075
P 770.998.7848 • F 770.998.5606
www.ecologicalsolutions.net

October 30, 2010

Mr. Casey Sowell
Resource Soil Scientist
Natural Resource Conservation Service
Statesboro USDA Service Center
Bulloch County Agric-Bus Center
151 Langston Chapel Rd
Statesboro, GA 30458-3751

Re: Farmland Coordination Request for Project PESTP00-0630-00(010)
Bryan County, P.I. No. 532370, SR 144 Widening

Dear Mr. Sowell:

The Georgia Department of Transportation has been in the concept development stage for the above noted project during recent years. Ecological Solutions currently serves as the Department's environmental consultant for transportation improvements within this district. This letter is intended to provide an update and to request your assistance with the farmland conversion impact rating. We recently received a response from NRCS to our general coordination letter, confirming the need to complete the farmland conversion rating.

Attached are the NRCS-CPA-106 form for corridor type projects and an aerial map that features federal prime and statewide important soils from county soil conservation data. Parts I, III, and VI have been completed on behalf of the Department and the Federal Highway Administration.

The current proposal consists of widening the existing two-lane section of SR 144 to four lanes from south of Timber Trail Road to east of County Road 154 for a total project length of 4.93 miles. Intersections within these limits would be improved, with signalization proposed at Timber Trail Road and Port Royal Road. From Timber Trail Road to SR 144 Spur, the proposed improvements consist of an urban section with a 20-foot raised grass median, bicycle lanes, and sidewalks. From SR 144 Spur eastward to the end of the project, a rural section is proposed with a 24-foot raised grass median and 6.5-foot "bikeable" shoulders.

In general, the surrounding land uses are rural, with large tracts held by timber companies or trusts. Most of those tracts are being proposed for estate and subdivision development by the landowners. No indications of active agricultural or timbering businesses are apparent from the existing highway.

This information is provided to your office in accordance with Section 658.4 of the Farmland Protection Policy Act. Your assistance is appreciated.

If you have any questions or need additional information, please contact me at (770) 998-7848 or via email at toddbarker@ecologicalsolutions.net.

Sincerely,

ECOLOGICAL SOLUTIONS, INC.

A handwritten signature in blue ink, appearing to read "Todd A. Barker". The signature is fluid and cursive, with a long horizontal stroke at the end.

Todd A. Barker, AICP
Project Manager

TB/tb
Attachment

cc:
Dennis Odom, GDOT District 5 Design Engineer
Sam Pugh, GDOT Office of Environmental Services



630 Colonial Park Drive
Suite 200
Roswell, Georgia 30075
P 770.998.7848 • F 770.998.5606
www.ecologicalsolutions.net

SR 144 Farmland Conversion Summary

To assist the NRCS review and completion of the farmland conversion impact rating, we delineated a corridor around the proposed improvements on SR 144, consisting of a 100-foot buffer beyond the proposed ROW along each side. The total primary farmland soils and statewide important soils were aggregated within this corridor using GIS. Totals can be used if appropriate for Part IV, A and B.

Total corridor length: 4.93 miles

Total right-of-way area: 94.6 acres

Total Prime or Statewide Important Soils within Right-of-Way: 16.9

Most of the undeveloped parcels along or feeding into the SR 144 corridor are planned for single-family residential development except for protected state marshlands. No current farming businesses were observed within or immediately adjacent to the project right-of-way.

Todd A. Barker

From: Ealy, Edward - Athens, GA <Edward.Ealy@ga.usda.gov>
Sent: Friday, November 05, 2010 11:53 AM
To: Todd Barker
Cc: Sowell, Casey - Statesboro, GA
Subject: RE: Farmland Conversion rating for a GDOT project

Mr. Barker,

You can send this request to Casey Sowell, Resource Soil Scientist in Statesboro, GA. Casey will provide you with how he prefers to receive these requests.

Here is the contact information

Statesboro USDA Service Center
Bulloch County Agric-Bus Center
151 Langston Chapel Rd
Statesboro, GA 30458-3751

(912) 871-2605 ext 3
(912) 871-6549 fax

I have copied Casey on this reply so you have his email address.

Edward Ealy

State Soil Scientist
Natural Resources Conservation Service
355 E. Hancock Ave., M.S. 208
Athens, GA 30601
(706) 546-2079

From: Todd Barker [mailto:toddbarker@ecologicalsolutions.net]
Sent: Thursday, November 04, 2010 2:49 PM
To: Ealy, Edward - Athens, GA
Subject: Farmland Conversion rating for a GDOT project

Mr. Ealy

I wanted to confirm the appropriate NRCS contact to review and complete a farmland conversion impact rating for a GDOT project under my NEPA management. We have prepared the CPA-106 for corridor type projects to address the AD-1006 requirements under FPPA. The project is a five-mile widening of SR 144 in Bryan County. Please confirm who to send the information and whether I could do so by e-mail (PDF's). Mr. Tillman recently responded to a general letter about the project, confirming the need to complete the impact rating.

Sincerely,

Todd A. Barker, AICP
Senior Planner / District 5 Contract Manager

Ecological Solutions, Inc.
630 Colonial Park Drive, Suite 200
Roswell, GA 30075
678.469.1600 Cell
770.998.7848 Phone
770.998.5606 Fax

United States Department of Agriculture



USDA Service Center –NRCS
Bulloch County Agricultural Business Center
151 Langston Chapel Road, Suite 200
Statesboro, GA 30458
Phone: (912) 871-2605 ext.3
Fax: (912) 871-6549

November 19, 2010

Todd Barker
Ecological Solutions, Inc
630 Colonial Park Drive, Suite 200
Roswell, GA 30075

Re: Request for Farmland Conversion Impact Rating, Bryan County

Dear Mr. Barker

This letter is in response to your request for a Farmland Conversion Impact Rating for the widening of SR 144 in Bryan County, Georgia. Attached you will find the AD1006 completed as requested.

If you have any questions or need any additional information please give me a call.

Sincerely,

Casey Sowell
Resource Soil Scientist, Area 4

Helping People Help the Land

An Equal Opportunity Provider and Employer



**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 8/20/10	4. Sheet 1 of <u>1</u>
1. Name of Project State Route 144 Widening		5. Federal Agency Involved Federal Highway Administration	
2. Type of Project Widening Existing 2 Lanes to 4 Lanes		6. County and State Bryan County, GA	
PART II (To be completed by NRCS)		1. Date Request Received by NRCS 11/17/10	2. Person Completing Form Casey Sowell
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated Average Farm Size 0 264	
5. Major Crop(s) Soybeans	6. Farmable Land in Government Jurisdiction Acres: 143,320 % 50		7. Amount of Farmland As Defined in FPPA Acres: 80,975 % 50
8. Name Of Land Evaluation System Used LESA	9. Name of Local Site Assessment System		10. Date Land Evaluation Returned by NRCS

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	17			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	3			
C. Total Acres In Corridor	20	0	0	0

PART IV (To be completed by NRCS) Land Evaluation Information	
A. Total Acres Prime And Unique Farmland (calc. from 100-ft buffer both sides)	0
B. Total Acres Statewide And Local Important Farmland (calc. from 100-ft buffer both sides)	7
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.0091
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	61

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)	
	26

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points			
1. Area in Nonurban Use	15	15		
2. Perimeter in Nonurban Use	10	8		
3. Percent Of Corridor Being Farmed	20	1		
4. Protection Provided By State And Local Government	20	0		
5. Size of Present Farm Unit Compared To Average	10	5		
6. Creation Of Nonfarmable Farmland	25	3		
7. Availability Of Farm Support Services	5	1		
8. On-Farm Investments	20	8		
9. Effects Of Conversion On Farm Support Services	25	2		
10. Compatibility With Existing Agricultural Use	10	10		
TOTAL CORRIDOR ASSESSMENT POINTS	160	53	0	0

PART VII (To be completed by Federal Agency)				
Relative Value Of Farmland (From Part V)	100	26		
Total Corridor Assessment (From Part VI above or a local site assessment)	160	53	0	0
TOTAL POINTS (Total of above 2 lines)	260	79	0	0

1. Corridor Selected: GDOT has one preferred corridor, shown as A	2. Total Acres of Farmlands to be Converted by Project: 17-20	3. Date Of Selection: 5/1/10	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
---	---	--	---

5. Reason For Selection:
The project has one alternative due to its purpose of widening the existing alignment. The alignment shifts as necessary to avoid environmental constraints.

Signature of Person Completing this Part: _____ DATE _____

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?

More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?

More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?

More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ?

(Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with \$1,000 or more in sales.)

As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

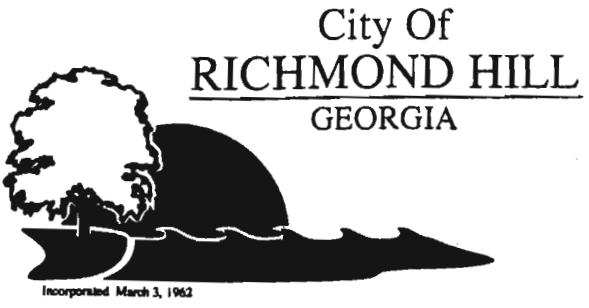
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?

Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

Cultural Resources

Smart



June 28, 2002

Harvey D. Keeper
 Department of Transportation
 Office of Enviroment/Location
 3993 Aviation Circle
 Atlanta, Ga 30336- 1593

Mayor
 Richard R. Davis

City Council Members
 Dennis L. O'Neil
 E. Harold Fowler
 Floyd Hilliard
 Van Hunter

City Administrator
 Michael J. Melton

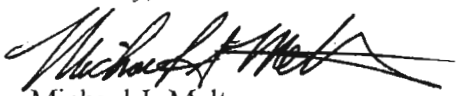
City Clerk
 Ursula G. Lee

Dear Mr. Keeper,

Please be advised that the City of Richmond Hill, is making a request to be a consulting party for the Section 106 process for GDOT project STP-0630 (10), Bryan County. Portions of this project are in the incorporated limits of the city of Richmond Hill.

If you have any questions, please call me at 756-3345.

Sincerely,



Michael J. Melton
 City Administrator

MJM/kab

DEPARTMENT OF TRANSPORTATION

RECEIVED

STATE OF GEORGIA

AUG 24 2007

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. 532370

OFFICE

Environment/Location

OFFICE OF HISTORIC PRESERVATION DIVISION

DATE

June 21, 2007

FROM James Pomfret, Archaeologist

TO Sheree Smart, NEPA Specialist

SUBJECT Archaeological Survey of Project STP-0630(10), Bryan County

The following is being furnished to you for inclusion as written, in the appropriate environmental document:

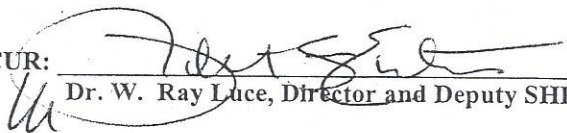
"In compliance with Section 106 of the National Historic Preservation Act of 1966 and amendments thereto, project STP-0630(10), Bryan County, has been surveyed with respect to archaeological resources, especially those on or eligible for inclusion in the National Register of Historic Places (NRHP). The purpose of the survey was to locate, identify and evaluate the significance of any archaeological resources within the proposed project's area of potential environmental effect.

The proposed project would widen SR 144 to an urban 4-lane divided highway with a 20 foot raised grass median with sidewalks. The proposed project would begin at CR 100/Timber Trail Road (MP 11.37) and would end at MP 16.42 for a total distance of 5.05 miles. Existing right-of-way on SR 144 is 80 feet, expanding to 140 feet where it crosses Sterling Creek. Required right-of-way would vary from 0-80 feet.

An archaeological survey (Level II) was conducted in accordance with "GDOT/FHWA Cultural Resource Survey Guidelines" developed by the GDOT Staff Archaeologists in consultation with DNR Historic Preservation Division Staff and concurred in by the Federal Highway Administration and State Historic Preservation Officer. These guidelines provide general survey boundaries and methodological approaches to archaeological surveys based on the type/scope of work of proposed highway projects and are followed during the initial identification of archaeological resources.

No existing or eligible National Register resources were located within the project's area of potential environmental effect. It is concluded, therefore, that the project will have no effect upon archaeological resources on or eligible for inclusion in the NRHP provided that the project conforms to that described above."

CONCUR:


Dr. W. Ray Luce, Director and Deputy SHPO

DATE: 9/3/2007

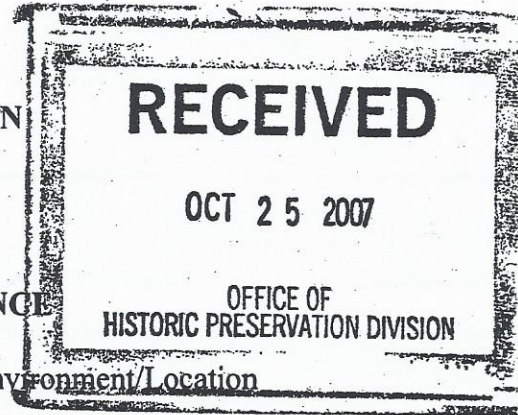
HP# 020677-001

Cc: Alabama Coushatta Tribe of Texas, Chickasaw Nation, Muscogee (Creek) Nation, United Keetoowah Band, Poarch Band of Creek Indians, Seminole Nation of Florida, and Thlopthlocco Tribal Town
Michael J. Melton, City Administrator, Richmond Hill

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE



FILE P.I. #532370

OFFICE Environment/Location

DATE October 22, 2007

FROM Lauren Thompson

TO Files

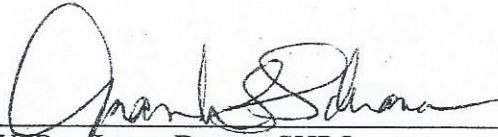
SUBJECT GDOT Project STP-0630(10), Bryan County;
P.I. #532370 and HP #HP020627-001:
Survey Report.

Attached is the Survey Report for the subject project. This document describes the Department's efforts to identify historic properties located within the proposed project's area of potential effects and the evaluation of all identified properties through the application of the Criteria of Eligibility to determine eligibility for inclusion in the National Register of Historic Places.

LMT/

cc: Rodney N. Barry, P.E., FHWA, w/attachment (Attn: Jennifer Giersch)
W. Ray Luce, Deputy SHPO, w/attachment
Coastal Georgia Regional Development Center, w/attachment
City of Richmond Hill, w/attachment

CONCUR:


W. Ray Luce, Deputy SHPO

DATE:

11/1/07

cc: Lisa Westberry, GDOT Permitting, w/attachment
Sheree Smart, GDOT NEPA, w/attachment



Department of Transportation

State of Georgia

#2 Capitol Square, S.W.

Atlanta, Georgia 30334-1002

GENA L. ABRAHAM, Ph.D.
COMMISSIONER
(404) 656-5206

GERALD M. ROSS, P.E.
CHIEF ENGINEER
(404) 656-5277

BUDDY GRATTON, P.E.
DEPUTY COMMISSIONER
(404) 656-5212

EARL L. MAHFUZ
TREASURER
(404) 656-5224

May 9, 2008

Dr. W. Ray Luce, Director and
Deputy State Historic Preservation Officer
Historic Preservation Division
34 Peachtree Street, NW
Suite 1600
Atlanta, Georgia 30303-2316

RE: Project STP-0630(10), Bryan County, P.I.#532370 and HP #020627-001:
Section 106 Compliance - Federal Highway Administration.
Assessment of Effects

Dear Dr. Luce:

Project STP-0630(10), Bryan County consists of the proposed widening of SR 144 in Richmond Hill. Please find enclosed the Section 106 documentation for the Ford Kindergarten Building, a National Register eligible historic property located within the proposed project's area of potential effects (APE).

The enclosed documentation was prepared for use in compliance with Section 106 of the National Historic Preservation Act of 1966 and subsequent amendments. The documentation consists of the Assessment of Effects and a copy of the Survey Report Property Information Form for the resource. The Survey Report was previously submitted to your office, to the Federal Highway Administration (FHWA) and to all other consulting parties in the Section 106 process for this project. In compliance with 36 CFR 800.4(c)(2), the Ford Kindergarten Building was considered an eligible National Register property by the FHWA and the SHPO.

A copy of the enclosed documentation has been forwarded to the FHWA and to all other consulting parties. Please notify this office of the scheduled consultation date, if any, with the FHWA to discuss this project. Please respond to this documentation within thirty (30) days of receiving this information.

If additional information is required, please contact Lauren Thompson (404-699-4431 or lathompson@dot.ga.gov) or Sandy Lawrence (404-699-4425 or slawrence@dot.ga.gov) of the Office of Environment and Location. We appreciate your assistance in this matter.

Sincerely,

Handwritten signature of Glenn Bowman, P.E. in black ink.

Glenn Bowman, P.E.
State Environmental/Location Engineer

GB/LMT
Enclosure

cc: Rodney N. Barry, P.E., FHWA, w/attachment (Attn: Jennifer Giersch)
Coastal Georgia Regional Development Center, w/attachment
City of Richmond Hill, w/attachment
Lisa Westberry, GDOT Permitting, w/attachment
Sheree Smart, GDOT NEPA, w/attachment

Georgia Department of Natural Resources

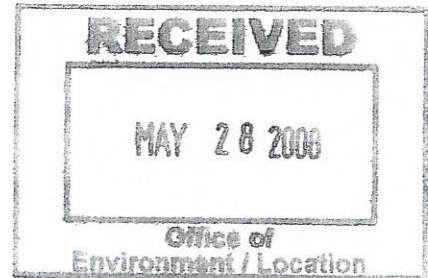
Historic Preservation Division

Noel Hoicomb, Commissioner

W. Ray Luce, Division Director and Deputy State Historic Preservation Officer
34 Peachtree Street, NW, Suite 1600, Atlanta, Georgia 30303
Telephone (404) 656-2840 Fax (404) 657-1040 <http://www.gashpo.org>

May 20, 2008

Glenn Bowman, P.E.
State Environmental/Location Engineer
Office of Environment & Location
Georgia Department of Transportation
3993 Aviation Circle
Atlanta, Georgia 30336-1593



Attn: Lauren Thompson

**RE: GDOT Project STP-0630(10); PI# 532370
Widen SR 144 from Timber Trail to SR 144 Spur, Richmond Hill
Bryan County, Georgia
HP-020627-001**

Dear Mr. Bowman:

The Historic Preservation Division (HPD) has received the information submitted concerning the above-referenced project. Our comments are offered to assist the Georgia Department of Transportation (GDOT) and the Federal Highway Administration (FHWA) in complying with Section 106 of the National Historic Preservation Act, as amended.

Based on the information provided in the April 24, 2008 Assessment of Effects document, HPD concurs with GDOT's determination that the proposed project will have **no adverse effect** to the Ford Kindergarten Building, as defined in 36 CFR Part 800.5(d)(1).

If we may be of further assistance, please do not hesitate to contact Amanda Schraner, Transportation Projects Coordinator, at (404) 463-6687 or Amanda.Schraner@dnr.state.ga.us.

Sincerely,

A handwritten signature in cursive script that reads "Richard Cloues".

Richard Cloues
Deputy State Historic Preservation Officer

RC:als

cc: Rodney N. Barry, P.E., FHWA (Attn: Jennifer Giersch)
Mary Beth Bass, Coastal Georgia RDC

BOWMAN
D'AVINO *Smart*
KNUDSON
THOMPSON
WILLIAMS *Thompson*
FILE: *STP-0630(10)*
532370

BOWMAN
D'AVINO Smart
KNUDSON
THOMPSON
WILLIAMS Thompson
FILE: STP-0630-(10)
532370

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE



FILE P.I. #532370

OFFICE Environment/Location

DATE June 6, 2008

FROM Lauren Thompson

TO Files

SUBJECT GDOT Project STP-0630(10), Bryan County;
P.I. #532370 and HP #020627-001:
Revised Boundary for Ford Kindergarten Building.

The boundary for the Ford Kindergarten Building was described in both the previously submitted Survey Report and the AOE (which received concurrence on 11/1/07 and 5/20/08 respectively; see attached) as the legal property boundary. Two descriptions exist on the Tax Assessor record concerning the acreage for the parcel. The record describes the parcel as consisting of two parts, one comprising 10 acres and one comprising 28.56 acres. Because the Tax Assessor's description of the acreage divisions on the parcel is not clear, it has been determined that the boundary for the Ford Kindergarten Building should consist of a visual boundary instead of the legal property boundary. Please find attached a revised Property Information Form for the Ford Kindergarten Building that describes the new boundary, as well as a new boundary graphic.

LMT/

cc: Rodney N. Barry, P.E., FHWA, w/attachment (Attn: Jennifer Giersch)
W. Ray Luce, Deputy SHPO, w/attachment
Coastal Georgia Regional Development Center, w/attachment
City of Richmond Hill, w/attachment

CONCUR: Smart & Luce DATE: 6/18/08
for W. Ray Luce, Deputy SHPO

Lisa Westberry, GDOT Permitting, w/attachment
Sheree Smart, GDOT NEPA, w/attachment
Travis Dent, GDOT Project Manager, w/attachment



DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I.#532370 **OFFICE** Environmental Services
FROM Sandy Lawrence **DATE** January 29, 2010
TO Files
SUBJECT GDOT Project STP00-0630-00(010), Bryan County;
P.I. # 532370; Project Re-evaluation

The subject project would consist of the widening of the existing two 12-ft. travel lanes of SR 144 to provide an urban four-lane section of roadway with a 20 foot raised grass median with sidewalks from Timber Trail (Milepost 11.5) to SR 144 Spur (Milepost 15.2). The total length of the project is 4.5 miles.

The proposed project was surveyed for historic resources in October 2007. Of the three historic resources identified, only one historic resource, the Ford Kindergarten Building, was determined eligible for the National Register. The SHPO concurred with this finding by signature dated November 1, 2007 and also concurred with the finding of No Adverse Effect to the resource in a letter dated May 20, 2008.

The project design was modified on two separate occasions that were not noted in the 2008 Assessment of Effect. In 2006, the extent of the project changed from MP 11.5 through MP 16 to MP 11.4 through MP 16 – adding 0.1 mile to the project. In 2008, the extent of the project changed from MP 11.4 through MP 16 to MP 11.31 through 16.247 – adding 0.337 mile to the project. Since this increase falls within the original Area of Potential Effect, no additional survey for historic resources is required, and no further documentation under Section 106 is required.

SJL/

cc: Rodney N. Barry, P.E., FHWA (Attn: Jennifer Giersch)
David Crass, Deputy SHPO
Coastal Regional Commission
City of Richmond Hill

DEPARTMENT OF TRANSPORTATION


STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. 532370

OFFICE Environmental Services

DATE March 3, 2010

FROM Pamela J. Baughman, Archaeologist 

TO Sam Pugh, NEPA Specialist

SUBJECT Archeological Reassessment of Project STP00-0630-00(010), Bryan County

The following is being furnished to you for inclusion as written, in the appropriate environmental document:

"In compliance with Section 106 of the National Historic Preservation Act of 1966 and amendments thereto, project STP00-0630-00(010), Bryan County, has been surveyed with respect to archeological resources, especially those on or eligible for inclusion in the National Register of Historic Places (NRHP). The purpose of the survey was to locate, identify and evaluate the significance of any archeological resources within the proposed project's area of potential environmental effect.

The proposed project would consist of widening SR 144 in Bryan County to an urban 4-lane divided highway with a 20-foot raised median with sidewalks and bike lanes. Originally, the project included a corridor defined as beginning at CR 100/Timber Trail Road (MP 11.37) and ending at MP 16.42 for a total distance of 5.05 miles. This project area was surveyed by Jim Pomfret in June of 2007; no NRHP eligible sites were located during that survey. The revised project corridor includes an urban 4-lane section of roadway with a 20-foot raised median, sidewalks, and bike lanes, along with a rural 4-lane section of roadway with a 24-foot raised median with bikeable shoulders. New traffic signals have been proposed at Timber Trail Road and Port Royal Road. The proposed project corridor has also been adjusted to begin at MP 11.31 and end at MP 16.24, for a total length of 4.903 miles. An archeological survey consistent with these project revisions was performed within the project corridor.

An archeological survey (Level I) was conducted in accordance with "GDOT/FHWA Cultural Resource Survey Guidelines" developed by the GDOT Staff Archeologists in consultation with DNR Historic Preservation Division Staff and concurred in by the Federal Highway Administration and State Historic Preservation Officer. These guidelines provide general survey boundaries and methodological approaches to archeological surveys based on the type/scope of work of proposed highway projects and are followed during the initial identification of archaeological resources.

By agreement, since no archaeological resources were located within the project's area of potential effect, no signed concurrence from the State Historic Preservation Officer is required. It is concluded, therefore, that the project will have no effect upon archaeological resources on or eligible for inclusion in the NRHP provided that the project conforms to that described above.

HP#020627-001

cc: Dr. David Crass, Director and Deputy SHPO, Poarch Band of Creek Indians, Seminole Tribe of Florida

Ecology

Stephanie Sorensen

From: Christopher_Coppola@fws.gov
Sent: Friday, July 08, 2011 11:52 AM
To: Chris Covington
Subject: Re: Early Coordination Request for Bryan County, PI#532370, STP-0630(10)

Chris,

I'm not sure what response Ben may have provided, so here's what I've found. There are 4 bald eagle nests east and northeast of the project. They are 0.3 mi., 0.5 mi., 1.3 mi., and 1.7 mi. from SR 144 between the Timber Trail and Belfast Keller Road. Sterling Creek is a tributary of the Ogeechee River and may provide habitat for the West Indian Manatee and possibly the Atlantic and Shortnose sturgeons (you should contact NOAA/NMFS since these fish are under their jurisdiction).

There are significant floodplain forest remnants along this corridor despite the residential development. These may provide valuable foraging and possible nesting habitat for a variety of migratory birds. The Service recommends that if possible to avoid impacting these habitats versus impacts to disturbed habitats such as planted pine stands. Where the roadway bisects wetlands we recommend the use of larger culverts to accommodate sheet flow during flooding and to facilitate wildlife passage underneath the roadway (existing or planned drop-inlets from the median can be incorporated into the design as day-lighting features to enhance the attractiveness of the culvert passage for wildlife) to reduce road-mortality - a significant cause of population and demographic impacts to a wide variety of wildlife species (e.g. female turtles, snakes, small mammals).

Thank you for the opportunity to provide comments and recommendations. If I can further assist you please let me know.

Chris

Christopher Coppola
Fish and Wildlife Biologist
Georgia Ecological Services

4980 Wildlife Drive, NE
Townsend, GA 31331
912-832-8739 ext 6

▼ Chris Covington <ccovington@ecologicalsolutions.net>

Chris Covington
<ccovington@ecologicalsolutions.net>

07/06/2011 09:53 AM

To "Coppola, Christopher
(Chris_Coppola@fws.gov)"
<Christopher_Coppola@fws.gov>

cc

Subject Early Coordination Request for Bryan County,
PI#532370, STP-0630(10)

Chris,
David Hedeem sent a USFWS Early Coordination Request and received an email response from Ben Dickerson on July 18, 2008. I have attached his original request to this email. Can you please inform me of any updates or changes that may have occurred to this corridor since the 2008 response?
Thanks,
Chris Covington

On a side note, my Outlook contact information for you contained Chris Goodson's email address. I accidentally sent him the request back on June 30th. I'm sure he was just as confused about my request as I was to receive his response.

----- 0400- 10:31:20 2008Jul 17 ,on Thu <gov.ga.dot@DHedeem> "David ,Hedeem"e from Messag -----
"gov.fws@Dickerson_Ben"
<gov.fws@Dickerson_Ben> :To
Early :(10)0630-STP ,532370#PI ,Bryan County :Subject
Coordination

Ben,

I am writing to request early coordination for the subject project.

GDOT Project STP-0630(10) proposes to widen the existing two travel lanes (24 foot wide) of SR 144 east of the City of Richmond Hill in Bryan County to provide an urban four-lane section of roadway with a 20-foot raised grassed median with sidewalks starting at Timber Trail, at approximately MP 11.4, to SR 144 Spur (MP 15.2). A 22.5-foot shoulder on the right side, which will contain an 8-foot asphalt bike lane, will begin at approximately MP 14. 7. After MP 14.7, the typical will revert back to regular 16-foot shoulders. The posted speed limit will be 45 MPH. The proposed design from SR 144 Spur (MP 15.2) to east of Belfast Keller Road (MP 16.0) will consist of a rural four-lane section of roadway with a 24-foot raised grassed median with 6.5-foot bikeable shoulders with a design speed of 55 MPH. The project also includes the construction of a bridge at Sterling Creek (MP 12.7). The project corridor is approximately 4.6 miles in length. Please find the project concept map attached. The approximate mid-point of this project is:

31° 54' 26.5068"N, -81° 16' 15.978"W.

To assist our field surveys and to support our commitment to protect unusual, rare, threatened, and endangered species, please inform this office of any known occurrences of state and federal species within a three-mile radius of the project corridor. If you have any questions, please direct them to the attention of David Hedeem at (404) 699-4428 or dhedeem@dot.ga.gov. Thank you for your assistance.

David Hedeem

Ecologist, GDOT

404-699-4428[attachment "Bryan 532370 Concept Map.pdf" deleted by Christopher Coppola/R4/FWS/DOI]

Ben,

I am writing to request early coordination for the subject project.

GDOT Project STP-0630(10) proposes to widen the existing two travel lanes (24 foot wide) of SR 144 east of the City of Richmond Hill in Bryan County to provide an urban four-lane section of roadway with a 20-foot raised grassed median with sidewalks starting at Timber Trail, at approximately MP 11.4, to SR 144 Spur (MP 15.2). A 22.5-foot shoulder on the right side, which will contain an 8-foot asphalt bike lane, will begin at approximately MP 14.7. After MP 14.7, the typical will revert back to regular 16-foot shoulders. The posted speed limit will be 45 MPH. The proposed design from SR 144 Spur (MP 15.2) to east of Belfast Keller Road (MP 16.0) will consist of a rural four-lane section of roadway with a 24-foot raised grassed median with 6.5-foot bikeable shoulders with a design speed of 55 MPH. The project also includes the construction of a bridge at Sterling Creek (MP 12.7). The project corridor is approximately 4.6 miles in length. Please find the project concept map attached. The approximate mid-point of this project is:

31° 54' 26.5068"N, -81° 16' 15.978"W.

To assist our field surveys and to support our commitment to protect unusual, rare, threatened, and endangered species, please inform this office of any known occurrences of state and federal species within a three-mile radius of the project corridor. If you have any questions, please direct them to the attention of David Hedeem at (404) 699-4428 or dhedeem@dot.ga.gov. Thank you for your assistance.

David Hedeem
Ecologist, GDOT
404-699-4428

Help GDOT serve you better. Visit <http://www.howmyservice.dot.ga.gov> and rate the service you received from Team GDOT.
(See attached file: Bryan 532370 Concept Map.pdf)

Hedeen, David

From: Ben_Dickerson@fws.gov
Sent: Friday, July 18, 2008 3:29 PM
To: Hedeen, David
Cc: Jennifer.Giersch@fhwa.dot.gov
Subject: Re: Bryan County, PI #532370, STP-0630(10): Early Coordination
Attachments: Bryan 532370 Concept Map.pdf

Thank you for your correspondence requesting early coordination for Georgia Department of Transportation (GDOT) project STP-0630-(10), PI# 532370 in Bryan County, Georgia. These comments are provided in accordance with provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) to further the conservation of fish and wildlife resources and their habitat, including federally listed threatened and endangered species.

The proposed project is within 7 miles of two wood stork (*Mycteria americana*) rookeries and within the foraging range of several others. There are at least 3 records of bald eagle (*Haliaeetus leucocephalus*) nests adjacent to the project. One or two of them may be within the secondary management zone according to the new bald eagle management guidelines. If you need more specific information let me know. Remember to conduct species specific surveys according to the approved survey methodologies if suitable habitat for any of the species is present.

We appreciate the opportunity to comment during the planning stages of your project. If you have any additional questions or need more information let me know.

Thanks,

Ben Dickerson
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
4270 Norwich Street
Brunswick, GA 31520
(912) 265-9336 ext. 23
(912) 265-1061 fax

"Hedeen, David"
<DHedeen@dot.ga.gov>

07/17/2008 10:31
AM

"Ben_Dickerson@fws.gov"
<Ben_Dickerson@fws.gov>

To

cc

Subject

Bryan County, PI #532370,
STP-0630(10): Early Coordination



MARK WILLIAMS
COMMISSIONER

DAN FORSTER
DIRECTOR

July 28, 2011

Chris Covington
Ecologist
Ecological Solutions, Inc.
630 Colonial Park Drive
Suite 200
Roswell, GA 30075

Subject: Known occurrences of natural communities, plants and animals of highest priority conservation status on or near SR 144 Widening, Bryan County, Georgia

Dear Mr. Covington:

This is in response to your request of June 30, 2011. According to our records, within a three-mile radius of the project corridor there are the following Natural Heritage Database occurrences:

North End (-81.30035, 31.93473; NAD27):

- US *Acipenser brevirostrum* (Shortnose Sturgeon) in the Lower Ogeechee River approx. 1.0 mi. NE of site
- US *Acipenser brevirostrum* (Shortnose Sturgeon) approx. 1.5 mi. S of site in Sterling Creek
- Acipenser oxyrinchus oxyrinchus* (Atlantic Sturgeon) approx. 1.5 mi. NE of site in the Ogeechee River
- Amorpha georgiana* var. *georgiana* (Georgia Indigo-bush) approx. 2.0 mi. NW of site
- Desmognathus auriculatus* (Southern Dusky Salamander) approx. 1.0 mi. NW of site
- GA *Haliaeetus leucocephalus* (Bald Eagle) approx. 1.0 mi. SE of site
- GA *Haliaeetus leucocephalus* (Bald Eagle) approx. 1.5 mi. E of site
- GA *Haliaeetus leucocephalus* (Bald Eagle) approx. 2.0 mi. SE of site
- Illicium parviflorum* (Yellow Anise-tree) approx. 2.0 mi. NW of site
- Nyssa biflora* - *Acer rubrum* var. *rubrum* / *Lyonia lucida* Forest (Sandhills Swamp Blackgum Floodplain Forest) approx. 3.0 mi. W of site
- GA *Ophisaurus mimicus* (Mimic Glass Lizard) [HISTORIC?] approx. 1.5 mi. NW of site
- Pinus glabra* - *Quercus (laurifolia, michauxii, nigra)* / *Carpinus caroliniana* ssp. *caroliniana* / *Sabal minor* Forest (Coastal Plain Spruce Pine - Oak Stream Forest) approx. 2.5 mi. N of site
- Pseudacris brimleyi* (Brimley's Chorus Frog) [HISTORIC?] approx. 1.0 mi. NE of site
- Quercus pagoda* - *Quercus michauxii* - *Quercus alba* / *Arundinaria gigantea* ssp. *tecta* - *Sabal minor* / *Chasmanthium laxum* Forest approx. 1.5 mi. SE of site

Quercus virginiana - *Quercus pagoda* - *Magnolia grandiflora* - *Carya glabra* / *Ilex opaca*
Forest 0.4 mi. S of site

Quercus virginiana - *Quercus pagoda* - *Magnolia grandiflora* - *Carya glabra* / *Ilex opaca*
Forest 0.5 mi. NE of site

Quercus virginiana - *Quercus pagoda* - *Magnolia grandiflora* - *Carya glabra* / *Ilex opaca*
Forest approx. 1.0 mi. SE of site

Quercus virginiana - *Quercus pagoda* - *Magnolia grandiflora* - *Carya glabra* / *Ilex opaca*
Forest approx. 1.5 mi. SE of site

Spartina cynosuroides Herbaceous Vegetation (Atlantic Giant Cordgrass Marsh) approx.
2.0 mi. SE of site

US *Trichechus manatus* (Manatee) in tidal waters

Fort Stewart [U.S. Department of Defense] approx. 2.5 mi. NW of site

Ogeechee River [High Priority Stream] approx. 1.0 mi. NE of site

RICHMOND HILL FH [Heritage Preserve] approx. 1.5 mi. NW of site

South End (-81.26143, 31.88105; NAD27):

US *Acipenser brevirostrum* (Shortnose Sturgeon) approx. 1.5 mi. N of site in the Lower
Ogeechee River

GA *Haliaeetus leucocephalus* (Bald Eagle) approx. 1.5 mi. E of site

Nyssa biflora - *Acer rubrum* var. *rubrum* / *Lyonia lucida* Forest (Sandhills Swamp
Blackgum Floodplain Forest) approx. 1.0 mi. W of site

Quercus virginiana - (*Pinus elliotii* var. *elliottii*, *Sabal palmetto*) / *Persea borbonia* -
Callicarpa americana Forest (Maritime Live Oak Hammock) approx. 2.5 mi. E of site

Quercus virginiana - *Quercus hemisphaerica* - *Pinus taeda* - *Quercus falcata* / *Ilex*
vomitaria Forest (Atlantic Coastal Fringe Evergreen Forest) approx. 2.5 mi. E of site

Quercus virginiana - *Quercus pagoda* - *Magnolia grandiflora* - *Carya glabra* / *Ilex opaca*
Forest approx. 1.0 mi. E of site

Quercus virginiana - *Quercus pagoda* - *Magnolia grandiflora* - *Carya glabra* / *Ilex opaca*
Forest approx. 2.0 mi. SE of site

Quercus virginiana - *Quercus pagoda* - *Magnolia grandiflora* - *Carya glabra* / *Ilex opaca*
Forest approx. 2.5 mi. E of site

Quercus virginiana - *Quercus pagoda* - *Magnolia grandiflora* - *Carya glabra* / *Ilex opaca*
Forest approx. 3.0 mi. E of site

US *Trichechus manatus* (Manatee) in tidal waters

FORT MCALLISTER SP [Heritage Preserve] approx. 3.0 mi. E of site

Ogeechee River [High Priority Stream] approx. 1.0 mi. NE of site

RICHMOND HILL WMA [Heritage Preserve] approx. 1.0 mi. NE of site

* Entries above preceded by "US" indicates species with federal status (Protected, Candidate or Partial Status). Species that are federally protected in Georgia are also state protected; "GA" indicates Georgia protected species.

Recommendations:

We have no records of high priority species or habitats within the project area. However, two federally listed species, *Acipenser brevirostrum* (Shortnose Sturgeon) and *Trichechus manatus*

(Manatee) within three miles of the proposed project. Section 9 of the Endangered Species Act states that taking or harming of a listed species is prohibited. We recommend all requestors with projects located near federally protected species consult with the United States Fish and Wildlife Service. For southeast Georgia, please contact Strant Colwell (912-265-9336, ext.30 or Strant_Colwell@fws.gov). In southwest Georgia, please contact John Doresky (706-544-6999 or John_Doresky@fws.gov). In north Georgia, please contact Robin Goodloe (706-613-9493, ext.221 or Robin_Goodloe@fws.gov).

Four records of Bald Eagles (*Haliaeetus leucocephalus*) nests are also within three miles of the proposed project. Although Bald Eagles are no longer considered an endangered species, they are still protected by the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act and the Georgia Endangered Species Act. These Acts continue to protect bald eagles from potentially harmful human activities. For more information on how to prevent impacts to bald eagles that could violate the Eagle Act, download the National Bald Eagle Management Guidelines:

<http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>

Please minimize disturbance to stream banks, wetlands, and riparian zones during bridge rehabilitation. Conduct activities from a stable stream bank or reinforced platform that does not cause degradation or destabilization of stream banks. Prohibit operation of equipment in the channel or use of the channel as a ford. We recommend that stringent erosion control practices be used during construction activities and that vegetation is re-established on disturbed areas as quickly as possible. Silt fences and other erosion control devices should be inspected and maintained until soil is stabilized by vegetation. Please use natural vegetation and grading techniques (e.g., vegetated swales, turn-offs, vegetated buffer strips) that will ensure that the road or ROW does not serve as a conduit for storm water or pollutants into the stream during or after construction. No uncured concrete or water used to facilitate curing should be discharged directly into the stream; curing water should be pumped into filter bags (i.e., "dirt bags") or detention basins before coffer dams or other diversion structures are dismantled. These measures will help protect water quality in the vicinity of the bridge crossings as well as downstream.

Before any bridge work is completed, please survey the bridge for roosting birds and bats. If any are present, please delay bridge work until the birds and/or bats are no longer using the site.

Please be aware that this project occurs near a high priority waterbody or within a high priority watershed. As part of an effort to develop a comprehensive wildlife conservation strategy for the state of Georgia, the Wildlife Resources division has developed and mapped a list of streams that are important to the protection or restoration of rare aquatic species and aquatic communities. High priority waters and their surrounding watersheds are a high priority for a broad array of conservation activities, but do not receive any additional legal protections. We now have GIS ESRI shapefiles of GA high priority waters available on our website (<http://www.georgiawildlife.com/content/displaycontent.asp?txtDocument=89&txtPage=13>). Please contact the Georgia Natural Heritage Program if you would like additional information on high priority waters.

NEW - Data Available on the Nongame Conservation Section Website - NEW

NEW Georgia protected plant and animal profiles are available on our website. Originating with the State Wildlife Action Plan, a strategy guiding conservation in Georgia, the accounts cover basics like descriptions and life history, as well as threats, management recommendations and conservation status. Visit <http://www.georgiawildlife.com/node/2223?cat=6>.

By visiting the Nongame Conservation Section Website you can view the highest priority species and natural community information by Quarter Quad, County and HUC8 Watershed. To access this information, please visit our GA Rare Species and Natural Community Information page at: <http://www.georgiawildlife.com/conservation/species-of-concern?cat=conservation>

An ESRI shape file of our highest priority species and natural community data by quarter quad and county is also available. It can be downloaded from:

<http://georgiawildlife.com/sites/default/files/uploads/wildlife/nongame/zip/gnhpds.zip>

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Nongame Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Nongame Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of highest priority species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (<http://www.georgiawildlife.com/node/1376>) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,



Katrina Morris
Environmental Review Coordinator

Georgia Department of Natural Resources

Environmental Protection Division, Watershed Protection Branch
4220 International Parkway, Suite 101, Atlanta, Georgia 30354
Linda MacGregor, P.E., Branch Chief
404/675-6232
FAX: 404/675-6245

Reply To:
NonPoint Source Program
404/675-6240

June 29, 2011

Mr. Glenn Bowman
Georgia Department of Transportation
Office of Environmental Services
600 W. Peachtree Street, NW, 16th Floor
Atlanta, Georgia 30308
Attention: Doug Chamblin

Re: State Waters Determination
GDOT PI #532370
Bryan County

Dear Mr. Bowman:

A site visit was conducted on June 21, 2011 by the Georgia Environmental Protection Division (EPD) to determine if state waters that require an undisturbed buffer were present. In attendance were Chris Covington (Ecological Solutions, Inc.), Steve Price (GDOT), and Dewey Richardson (EPD). Based upon the site inspection, the EPD has determined the following:

- (1) State waters identified as Stream 4a, **does** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of base flow, a defined channel and wretched vegetation. As a result, the EPD has determined the feature **is** subject to state-mandated buffer requirements as measured from the DNR jurisdictional line.
- (2) State waters identified as Open Water 6, does have an outflow and exhibits evidence of a normal pool elevation and wretched vegetation. However, the feature & outflow reside on one property. As a result, the EPD has determined the feature **is not** subject to state-mandated buffer requirements so long as it & the outflow remain "entirely confined and retained completely upon the property of a single individual, partnership, or corporation".
- (3) State waters identified as Stream 7, **does not** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of a defined channel. However, the feature does not exhibit evidence of a base flow. The feature has abundant leaf litter in the channel. As a result, the EPD has determined the feature **is not** subject to state-mandated buffer requirements.

- (4) State waters identified as Stream 19, **does** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of base flow (groundwater component), a defined channel and wretched vegetation. As a result, the EPD has determined the feature **is** subject to state-mandated buffer requirements.
- (5) State waters identified as Stream 24, **does not** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of a defined channel. However, the feature does not exhibit evidence of a base flow. The feature has leaf litter in the channel. The feature scored 12.75 on the North Carolina Division of Water Quality Stream Identification Form. As a result, the EPD has determined the feature **is not** subject to state-mandated buffer requirements.
- (6) State waters identified as Wetland 25, **does not** exhibit evidence of being at least an intermittent stream. The feature does not exhibit evidence of base flow or a clear point of wretched vegetation. The feature has a poorly defined channel and wetland vegetation. As a result, the EPD has determined the feature **is not** subject to state-mandated buffer requirements.
- (7) State waters identified as Stream 27, **does not** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of a defined channel. However, the feature does not exhibit evidence of a base flow. The feature has abundant leaf litter and wetland vegetation in the channel. The feature is more characteristic of a wetland drainage feature. As a result, the EPD has determined the feature **is not** subject to state-mandated buffer requirements.
- (8) State waters identified as Wetland 28, **does not** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of a defined channel. However, the feature does not exhibit evidence of a base flow. The feature has abundant leaf litter and wetland vegetation in the channel. The feature is more characteristic of a wetland drainage feature. As a result, the EPD has determined the feature **is not** subject to state-mandated buffer requirements.
- (9) State waters identified as Open Water 29, **does** have an inflow and outflow and exhibits evidence of a normal pool elevation and wretched vegetation. As a result, the EPD has determined the feature **is** subject to state-mandated buffer requirements.

- (10) State waters identified as Open Water 30, **does** have an inflow and outflow and exhibits evidence of a normal pool elevation and wretched vegetation. As a result, the EPD has determined the feature **is** subject to state-mandated buffer requirements.
- (11) State waters identified as Open Water 31, **does** have an inflow and outflow and exhibits evidence of a normal pool elevation and wretched vegetation. As a result, the EPD has determined the feature **is** subject to state-mandated buffer requirements.
- (12) State waters identified as Stream 34, **does not** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of a defined channel. However, the feature does not exhibit evidence of a base flow or a clear point of wretched vegetation. As a result, the EPD has determined the feature **is not** subject to state-mandated buffer requirements.
- (13) State waters identified as Stream 35 W, **does not** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of a defined channel. However, the feature does not exhibit evidence of a base flow. The feature has abundant leaf litter in the channel. The feature scored 8.5 on the North Carolina Division of Water Quality Stream Identification Form. As a result, the EPD has determined the feature **is not** subject to state-mandated buffer requirements.
- (14) State waters identified as Stream 35 E, **does** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of a defined channel and wretched vegetation. While base flow is not present, there is evidence of saturation or flow during drought conditions. As a result, the EPD has determined the feature **is** subject to state-mandated buffer requirements.
- (15) State waters identified as Stream 36, **does** exhibit evidence of being at least an intermittent stream. The feature exhibits evidence of a defined channel and wretched vegetation. While base flow is not present, there is evidence of saturation or flow (groundwater component) during drought conditions. There are fish in the standing pool of water. As a result, the EPD has determined the feature **is** subject to state-mandated buffer requirements.

The EPD reserves the right to change this determination if additional information is obtained during a later site inspection or if site conditions have changed.

Mr. Glenn Bowman
Page 4
June 29, 2011

This letter does not relieve you from obtaining any other permits that would be required by any other local, state, or federal agency.

If additional information is required, please do not hesitate to contact me at (478) 751-6612.

Sincerely,

A handwritten signature in blue ink that reads "Dewey Richardson". The signature is written in a cursive, flowing style.

Dewey Richardson
Environmental Specialist
Erosion and Sedimentation Control Unit

cc: Catherine Samay
Bruce Foisy
Daryl Williams
Chris Covington
Todd Barker
Steve Price



630 Colonial Park Drive
Suite 200
Roswell, Georgia 30075
P 770.998.7848 • F 770.998.5606
www.ecologicalsolutions.net

September 6, 2012

Jaclyn Daly
NOAA Fisheries Service
Southeast Regional Office
263 13th Avenue South
Saint Petersburg, FL 33701

RE: Early Coordination Request
PESTP-0630-00(010), Bryan County, Georgia
SR 144 Eastbound From South of CR 100 to South of CR 154
P.I. #: 532370

Dear Ms. Daly:

The Georgia Department of Transportation (GDOT) has contracted with Ecological Solutions, Inc. to conduct ecology studies and complete the ecological documentation requirements under the National Environmental Policy Act (NEPA) for the referenced project. The proposed project consists of the rehabilitation and widening of State Route (SR) 144 in Bryan County, Georgia. SR 144 is a two-lane highway in Bryan County, with a functional classification as a rural major collector. The proposed project would extend from its western terminus at Milepost (MP) 11.197 north of Timber Trail Road to its eastern terminus at MP 16.24 just south of Belfast Keller Road (County Road [CR] 154).

The project is located within the City of Richmond Hill in Bryan County, 1.5 miles southeast of the intersection of SR 144 and U.S. Highway 17 (Figure 1). According to the 1974 Hydrologic Unit Map of Georgia, the project is located within Hydrologic Unit Codes (HUC) 03060202 and 03060204 of the Lower Ogeechee River and Ogeechee River Coastal Watersheds, respectively. The project begins at approximately 31.931228 N and -81.297656 and terminates at approximately 31.873583 N and -81.260335 W on the Richmond Hill and Limerick Southeast, Georgia, United States Geological Survey (USGS) 7.5-minute topographic maps (Figure 2).

The design for the project is being developed concurrently with environmental documentation and in compliance with applicable environmental laws and regulations. This process offers you the opportunity to identify site-specific conditions to be addressed in the environmental information document. The proposed project involves widening of the existing 120-foot by 50-foot bridge across Sterling Creek, which would require the placement of new pile bents adjacent to the existing pile bents in order to accommodate the widening of the bridge. Sterling Creek is a tidally-influenced stream that leads directly to the Ogeechee River and is surrounded by tidal wetlands. It is our concern that this activity may impact two sturgeon species that are federally listed in Bryan County: Atlantic sturgeon (*Acipenser oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum*). In addition, while there is no essential fish habitat designated within the project limits, essential fish habitat for red snapper (*Lutjanus campechanus*), grouper (*Epinephelus* spp.), and spiny lobster (*Panulirus argus*) may be considered near enough to the project area to incur an indirect or cumulative effect as a result of project construction (Figure 3).

In order to assist our field surveys and commitment to protect threatened and endangered species, please inform our office of any measures that can be taken to minimize impacts to the aforementioned species and habitats, in addition to any known occurrences of state and federally listed marine species within the project area. If you have any questions or need additional information, please contact me at 770-998-7848 x115.

Sincerely,
ECOLOGICAL SOLUTIONS, INC

A handwritten signature in blue ink that reads "Stephanie S. Sorensen".

Stephanie Sorensen
Senior Ecologist

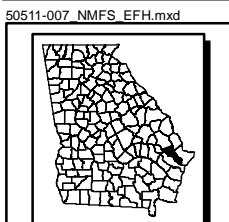
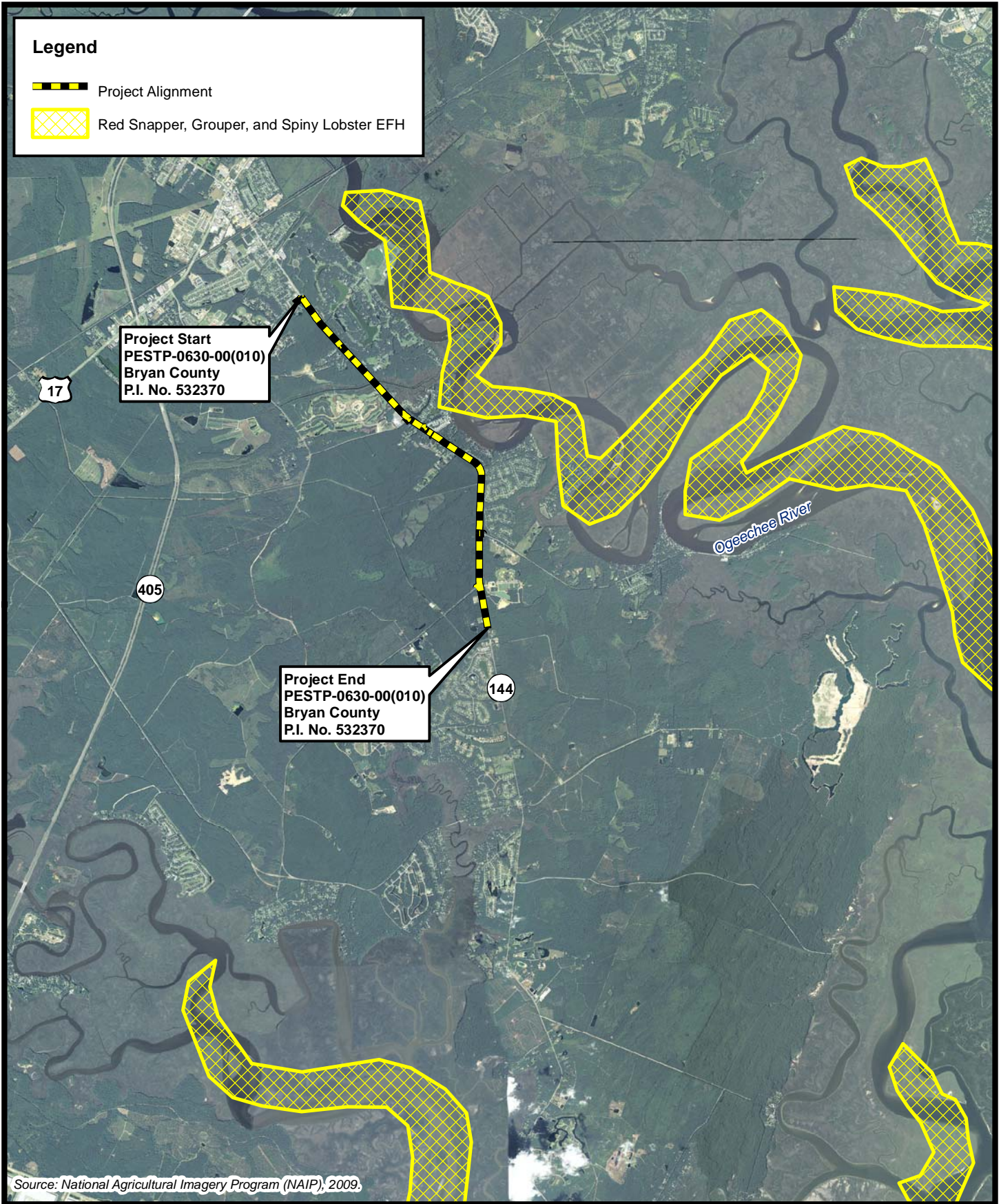
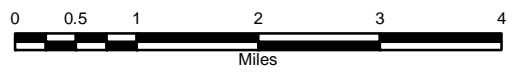


Figure 3 - Essential Fish Habitat Map



Project PESTP-0630-00(010)
 Bryan County
 P.I. No. 532370
 SR 144 Improvements



50511-007 NMFS_EFH.mxd



MARK WILLIAMS
COMMISSIONER

A.G. 'SPUD' WOODWARD
DIRECTOR

July 11, 2013

Mr. Glenn Bowman
GDOT-Office of Environmental Services
600 W. Peachtree Street, NW, 16th Floor
Atlanta, GA 30308

**RE: Jurisdictional Determination – GDOT Project P.I. 532370, SR 144 Improvements,
Tidal Wetlands at Sterling Creek, Bryan County, Georgia.**

Dear Mr. Bowman:

Our office has received the survey exhibit entitled “Figure 5d – State and Federal Water Map, Project PESTP-0630-00(010) Bryan County, P.I. No. 532370, SR 144 Improvements.” The “tidally influenced wetlands” areas shown in brown hatching within wetland areas 8, 9, 12 and 13 were field verified by staff on June 22, 2010 and generally depict the delineation of the marsh/upland boundary as required by the State of Georgia for jurisdiction under authority of the Coastal Marshlands Protection Act of 1970.

The delineation of jurisdictional tidal wetlands is subject to change due to environmental conditions and legislative enactments. This delineation is valid for one year from the date of this letter, but may be voided should legal and/or environmental conditions change.

This letter does not relieve you of the responsibility of obtaining other state, local or federal permission or authorization relative to the site. It is also incumbent upon you to contact your local government authority or the Environmental Protection Division of the Department of Natural Resources regarding any impacts of land within 25 feet of the established marshlands jurisdiction boundary.

We appreciate you providing us with this information for our records. Please contact me at 912-266-0277 should you have any questions.

Sincerely,

John Wynne
Permit Coordinator
Habitat Management Program

Cc: file #(JDS20100053)

Stephenie Sorensen
Ecological Solutions, Inc.
630 Colonial Park Drive, Ste 200
Roswell, GA 30075



September 16, 2013

David Bernhart
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Regional Office
Protected Resources Division
263 13th Avenue South
St. Petersburg, Florida 33701-5505

Re: Request for Section 7 Consultation for GDOT Project PESTP-0630-00(010), Bryan County, P.I. No. 532370
SR 144 Eastbound from South of CR 100 to South of CR 154

Dear Mr. Bernhart:

The purpose of this letter is to transmit the Ecology Assessment of Effects Report for Georgia Department of Transportation (GDOT) Project PESTP-0630-00(010) and request initiation of informal Section 7 consultation for potential impacts to habitat of the shortnose sturgeon (*Acipenser brevirostrum*), Atlantic sturgeon (*Acipenser oxyrinchus*), and loggerhead sea turtle (*Caretta caretta*).

The proposed project consists of the rehabilitation and widening of State Route (SR) 144 in Bryan County, Georgia. SR 144 is a two-lane highway in Bryan County, with a functional classification as a rural major collector. Due to recent and planned residential development, traffic volumes are projected to continue to grow within the corridor. To improve safety and operational conditions on SR 144 and accommodate the projected traffic, additional through lanes and turn lanes are proposed along 4.93 miles of the existing roadway. The proposed project would extend from its western terminus at Milepost (MP) 11.31 north of Timber Trail Road to its eastern terminus at MP 16.24 just south of Belfast Keller Road (County Road [CR] 154).

There are 45 waters of the U.S. within the project corridor. The anticipated impacts associated with the proposed project are as follows:

- A total of 2.29 acres of permanent impacts to waters of the U.S.: Approximately 234 linear feet of impacts to perennial streams, 142 linear feet of impacts to intermittent streams, 167 linear feet of impacts to ephemeral channels, 1.04 acres of permanent wetland fill impacts, and 1.158 acres of permanent wetland clearing impacts;
- May affect, not likely to adversely affect the shortnose sturgeon, Atlantic sturgeon, wood stork, West Indian manatee, eastern indigo snake, and loggerhead sea turtle. SP107.23G will be implemented to protect these species during construction;
- No effect upon North Atlantic right whale (*Eubalaena glacialis*), humpback whale (*Megaptera novaenangliae*), piping plover (*Charadrius melodus*), Bachman's warbler (*Vermivora bachmanii*), red-cockaded woodpecker (*Picoides borealis*), green sea turtle (*Chelonia mydas*), leatherback sea turtle (*Dermochelys coriacea*), hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's Ridley sea turtle (*Lepidochelys kempii*), frosted flatwoods salamander (*Ambystoma cingulatum*), and pond spicebush (*Lindera melissifolia*) due to the absence of suitable habitat;

The Department respectfully requests to initiate informal Section 7 consultation for the may affect, not likely to adversely affect determination for loggerhead sea turtle, shortnose sturgeon, and Atlantic sturgeon. If you have any questions or need additional information, please contact Meghan Hedeem (404-631-1812) or Doug Chamblin (404-631-1447) of the GDOT Office of Environmental Services.

Sincerely,

Glenn Bowman, P.E.
State Environmental Administrator

GB/HDC/ss
Attachment

cc: Matt Bennett, GDOT Project Manager
Paul Alimia, GDOT NEPA Analyst
Eugene Hopkins, GDOT ECB
Chris Coppola, USFWS
Katrina Morris, GADNR WRD
Eric Somerville, EPA
Jennifer Giersch, FHWA

FHWA Transmittal - FWCA and Informal Section 7 Coordination

From: Davis, James B. <jbdavis@dot.ga.gov>
Sent: Tuesday, September 17, 2013 5:21 PM
To: Davis, James B.
Subject: FW: FWCA and ESA Coordination for PESTP-0630-00(010), PI 532370

From: Jennifer.Giersch@dot.gov [<mailto:Jennifer.Giersch@dot.gov>]
Sent: Monday, September 09, 2013 10:21 AM
To: christopher_coppola@fws.gov
Cc: Hedeem, Meghan W.; Chamblin, Douglas
Subject: FWCA and ESA Coordination for PESTP-0630-00(010), PI 532370

Hello Chris,

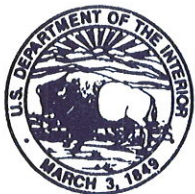
The subject project provides for widening SR 144 in Bryan County, Georgia. Please reference the Ecology Assessment of Effects Report transmitted with the GDOT's letter of July 18, 2013.

Based on the information provided by the Georgia DOT, we have determined that the project may affect but is not likely to adversely affect the wood stork, West Indian manatee, and eastern indigo snake. We have further determined that the project will have no effect on other species managed by the USFWS and listed in this county. Separate coordination will be conducted for species managed by the NMFS. We request your concurrence with our determination.

In addition, stream impacts are required to construct this project. Coordination under the FWCA is required for Stream 19, which will have 139 linear feet of impacts. We have determined that the impacts can not be avoided, that all practicable measures have been implemented to minimize the effects to the stream and the mitigation is commensurate with the level of impacts that will be incurred. We request your concurrence with this determination.

Please let us know if you need additional information.

Regards,
Jen Giersch
404-562-3653



United States Department of the Interior

Fish and Wildlife Service

105 West Park Drive, Suite D
Athens, Georgia 30606
Phone: (706) 613-9493
Fax: (706) 613-6059

West Georgia Sub-Office
Post Office Box 52560
Fort Benning, Georgia 31995-2560
Phone: (706) 544-6428
Fax: (706) 544-6419

Coastal Sub-Office
4980 Wildlife Drive
Townsend, Georgia 31331
Phone: (912) 832-8739
Fax: (912) 832-8744

September 30, 2012

Mr. Rodney N. Barry, P.E.
Division Administrator
Federal Highway Administration
61 Forsyth Street, S.W.
Atlanta, Georgia 30103-3104
Attention: Jennifer Giersch

RE: USFWS Log Number 2013-0872

Dear Mr. Barry:

Thank you for your e-mail correspondence received September 9, 2013, initiating Fish and Wildlife Coordination and informal consultation for Georgia Department of Transportation (GDOT) project PESTP-0630-00(010), P. I. Number 532370 in Bryan County, Georgia. The proposed project would widen State Route 144 through the addition of turn lanes and travel lanes. The proposed project is located in the Lower Ogeechee River Watershed, Hydrologic Unit Code (HUC) 03060202 and the Ogeechee River Coastal Watershed HUC 03060204. These comments are provided in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) and Endangered Species Act (ESA) of 1973, as amended; (16 U.S.C. 1531 *et seq.*) to further the conservation of fish and wildlife resources and their habitats.

The proposed project would result in a total of 245 linear feet of perennial stream impacts, 142 linear feet of intermittent stream impacts, 167 linear feet of ephemeral stream impacts and 2.198 acres of permanent wetland impacts. Stream 19, an unnamed tributary of Sterling Creek, would receive 139 linear feet of combined impacts from channel relocation, fill, and armoring associated with the culvert replacement. Based on the information presented in the GDOT ecology assessment, we agree that these impacts are unavoidable, that adequate efforts have been made to design the project to minimize impacts to stream and wetland resources, and that the proposed compensatory mitigation is adequate.

The field surveys of the project corridor identified suitable habitat for species listed under the ESA. Jurisdictional wetlands and streams located within the project area may provide foraging opportunities for wood storks (*Mycteria americana*) and Eastern indigo snakes (*Drymarchon couperi*) along the project corridor. Additionally, pile driving for the widening of the bridge over Sterling Creek may affect West Indian manatees (*Trichechus manatus*) in the creek. No individuals of these species were observed during field surveys conducted in 2011. The project corridor did not contain suitable winter habitat for the Eastern indigo snake and was not located near any known wood stork rookeries.

Based on the information provided in GDOT's July 2013 Ecology Report, we concur with your determination of "not likely to adversely affect" for wood stork, eastern indigo snake, and West Indian manatee. The requirements of section 7 of the ESA have been satisfied and no further consultation is required. However, obligations under section 7 of the ESA must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner which was not considered in this assessment; or (3) a new species is listed or critical habitat determined that may be affected by the identified action.

We appreciate the opportunity to comment on your project. If you have any additional questions, please write or call our Coastal Georgia Sub Office staff biologist, Christopher Coppola, at 912-832-8739 extension 6.

Sincerely,



Strant Colwell
Coastal Georgia Supervisor

cc: GDOT, Atlanta, Georgia (Glen Bowman)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric
Administration

NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
(727) 824-5312; FAX (727) 824-5309
<http://sero.nmfs.noaa.gov>

F/SER31:EGH
SER-2013-12316

DEC 03 2013

Mr. Glenn Bowman, P.E.
State Environmental Administrator
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308

Ref.: Road Widening Project PESTP-0630-00(010) (P.I. No. 532370) in the City of Richmond Hill, over Sterling Creek in the Lower Ogeechee River Watershed, Bryan County, Georgia

This responds to your letter dated September 16, 2013, and accompanying documentation dated June 14, 2013 (*Aquatic Protected Species Report: SR 144 Eastbound From South of CR 100 to South of CR 154*), July 2013 *Ecology Assessment of Effects Report, Project PESTP-0630-00(010)*, and attached Georgia Department of Transportation (GDOT) Special Provision 107.23G for the referenced project. GDOT has requested Endangered Species Act (ESA) Section 7 consultation with the National Marine Fisheries Service (NMFS) for the above-referenced project and concurrence with its project-effect determinations. GDOT determined that the proposed action may affect but is not likely to adversely affect shortnose sturgeon (*Acipenser brevirostrum*), Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), and loggerhead sea turtles (*Caretta caretta*) under NMFS's purview. You also determined that the project would have no effect on any other sea turtle species, nor on North Atlantic right whales and humpback whales.

This consultation is being conducted with GDOT as the non-federal representative designated by the Federal Highway Administration, Georgia Division, pursuant to 50 CFR 402.08. NMFS's determinations regarding the effects of the proposed action are based on the description of the action in this informal consultation. Any changes to the proposed action may negate the finding of the present consultation and may require reinitiation of consultation with NMFS.

Project Location and Description:

The project is located within the city of Richmond Hill in Bryan County, 1.5 miles southeast of the intersection of State Road (SR) 144 and U.S. Highway 17, in the Lower Ogeechee River and Ogeechee River Coastal Watersheds (Figure 1). Project construction will begin at ca. 31.931228°N, 81.297656°W and end at ca. 31.873583°N, 81.260335°W (North American Datum 1983 – NAD1983). To improve safety and operational conditions on SR 144 and



accommodate future projected traffic, additional through lanes and turn lanes are proposed along 4.93 miles of the existing roadway.



Figure 1. Project location in Lower Ogeechee River Watershed.

The project includes the demolition and replacement of the existing two-lane highway bridge over Sterling Creek. The approximate midpoint of the bridge is at 31.916400°N, 81.282931°W (NAD1983). The existing bridge over the tributary of the Lower Ogeechee River (Figures 2 and 3) will be replaced by adding travel and turn lanes.

Proposed Conservation Measures

GDOT will implement Special Provision 107.23G “Protection of Federally Protected Species” during the project. These include but are not limited to the following relevant conservation measures: (1) a provision that any in-water work on the Sterling Creek Bridge shall take place outside of the upstream spawning season of the shortnose sturgeon and the Atlantic sturgeon, which occurs between the months of September 1-March 31 and from May 1-June 15 of any year; (2) an in-water moratorium that prohibits pile installation and removal, and activities associated with bridge construction or destruction (including cofferdams and blasting); (3) a prohibition on dredging; (4) a 200-foot buffer with enhanced erosion control (two rows of silt fence with hay bales) will abut equipment staging areas; (5) erosion control of all disturbed soil, excavation spoil, and stockpiled materials by daily mulching or by covering with erosion control mats; (6) runoff prevention by placing stockpiles materials at least 200 feet from the stream banks; and (7) preventing construction equipment, concrete debris, paving materials, litter, bridge falsework, demolition debris or any other materials from falling in the stream.

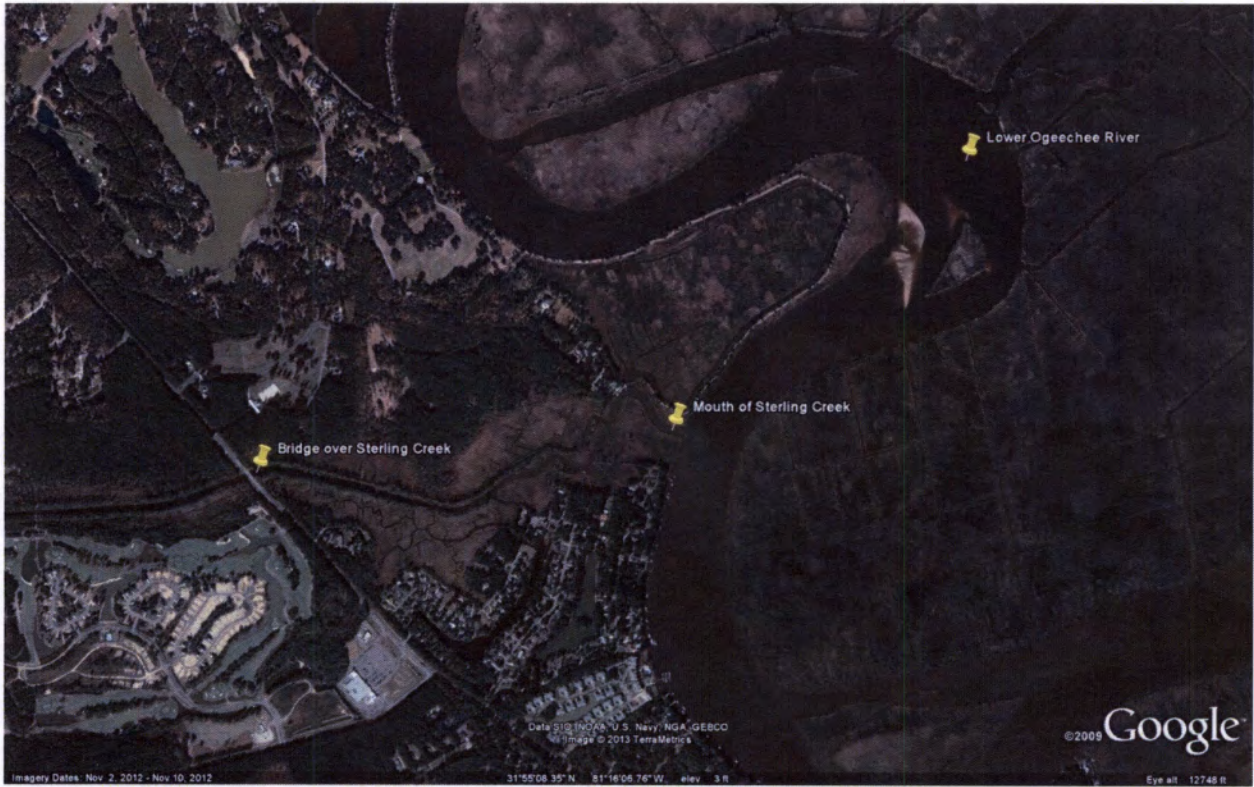


Figure 2. Bridge location in relation to the Ogeechee River.

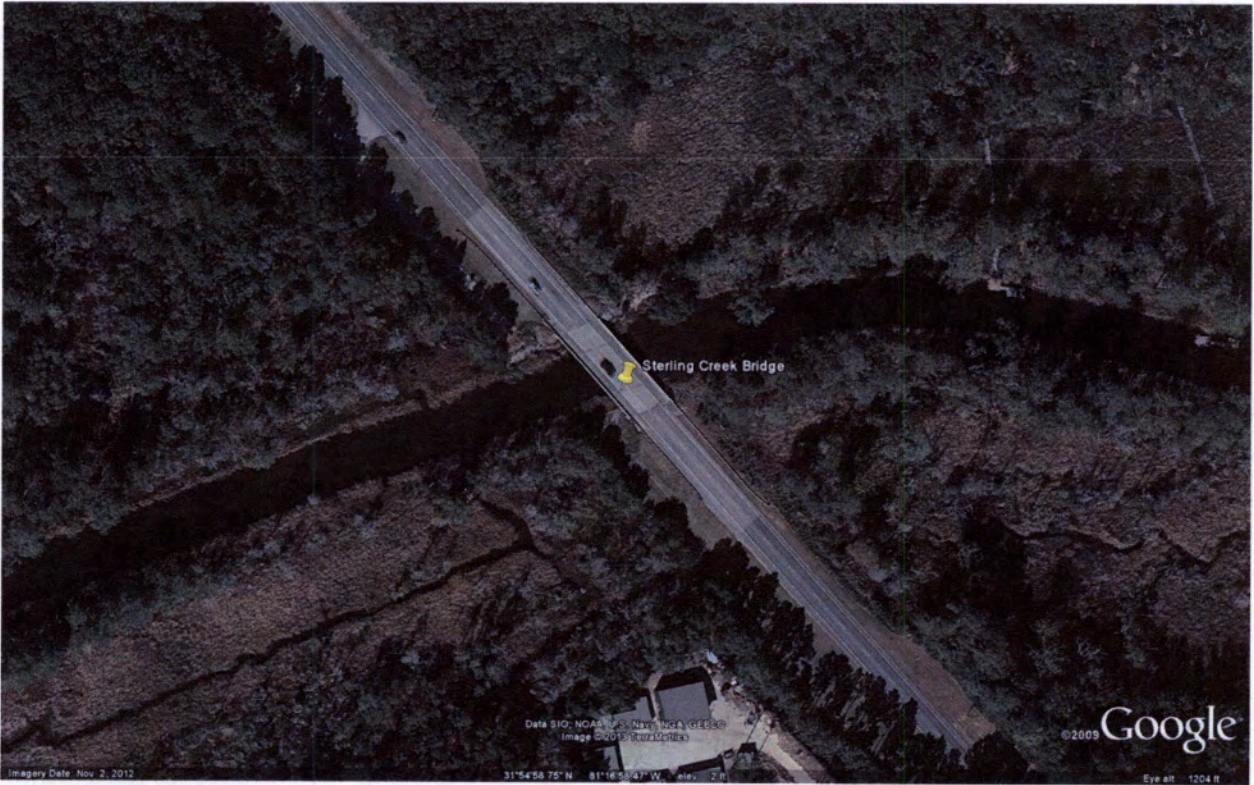


Figure 3. Sterling Creek and two-lane highway bridge.

NMFS Analysis

ESA-listed species under our purview that may occur in the action area are limited to shortnose and Atlantic sturgeons and loggerhead sea turtles. We believe that no other sea turtle species will be present at the bridge location over Sterling Creek, despite the creek being tidally influenced, because of its mostly freshwater environment; distance from the open ocean and marine environment; its lack of suitable foraging habitat for other sea turtle species; and these species' (leatherback, Kemp's ridley, green, and hawksbill) very specific life history requirements that are not met by the estuarine conditions existing in or near the project area. No nesting stages or developmental life stages of these species would be expected to occur in the project area: nesting occurs on wide, sandy, coastal beaches and barrier islands; leatherbacks are associated with deepwater, pelagic habitats; greens with seagrass habitat; Kemp's ridleys with nearshore, crustacean-rich bottoms; hawksbills with coral reefs. These habitats are not present at the project location. None of these species have been seen by the Georgia Department of Natural Resources (GDNR) within three miles of the project area. Similarly, due to the project location, we believe that no whale species will ever be present at the project location.

Although loggerhead sea turtles have not been seen by GDNR within three miles of the project area, they are known to forage in Georgia rivers' tidal creeks and extensive salt marshes; therefore, the occasional presence of a loggerhead cannot be ruled out (page 9 of Ecology of Effects Assessment Report). As well, shortnose and Atlantic sturgeon may be present near the project area. GDNR has identified three occurrences of shortnose sturgeon in the Lower Ogeechee River, ca. one mile northeast of the northern terminus of the project; ca. 1.5 miles south of the northern terminus of Sterling Creek; and ca. 1.5 miles north of the southern terminus of the project, in the Lower Ogeechee River.

We have reviewed the proposed action, analyzed its potential direct and indirect effects, and determined that shortnose and Atlantic sturgeon and loggerhead sea turtles are not likely to be adversely affected by the proposed road widening/bridge replacement project over Sterling Creek. All effects of the bridge demolition/replacement action will be either insignificant and/or discountable, as described in the following paragraphs:

These species could be injured by being struck by construction machinery or construction materials (e.g., piles) during bridge demolition or pile driving operations; however, we believe the risk of this occurring is discountable given the species' mobility, ability to detect in-water noise, and expected normal noise/activity avoidance behavior if disturbed. Also, no dewatering or cofferdams will be required for the work in Sterling Creek. In addition, a sea turtle foraging in a small creek such as Sterling Creek should be easily spotted (and work halted) by construction personnel.

Atlantic sturgeon spawning has been confirmed in the Ogeechee River, ca. one mile northeast of the project corridor (page 12 of Ecology of Effects Assessment Report), and a spawning population of shortnose sturgeon also exists in the Ogeechee. However, even if present in the river, spawning sturgeon are unlikely to be affected during in-water construction in the creek because of the required implementation by GDOT of Special Provision 107.23G, previously discussed in the Proposed Conservation Measures, stating that any in-water work on the Sterling Creek Bridge shall take place outside of the upstream spawning season of the shortnose sturgeon

and the Atlantic sturgeon, which occurs between September 1-March 31 and from May 1-June 15 of any year. In any event, it is unlikely that spawning sturgeon would utilize the creek or be present at the bridge location because the site is not suitable for spawning: it is a slow-flowing shallow creek, with a silt/clay bottom, and suffers from low dissolved oxygen, while sturgeon select well-oxygenated, fast-flowing streams with gravel/rock bottoms to spawn in. Therefore, we believe that project effects on sturgeon spawning will be discountable.

Potential foraging/sheltering habitat for these species in the creek could be affected by bridge demolition and replacement and pile driving. However, the proposed project will cause minimal disturbance, due to the implementation of harm avoidance measures in Special Provision 107.23G; thus, potential foraging/sheltering habitat will be minimally affected. If the species are present and disturbed by project activities, they could simply move away to adjacent or nearby alternate, similar habitats, as shown in Figure 3 to exist next to the project site. Furthermore, the project will only impact a small portion of the available habitat while not preventing upstream or downstream movement of aquatic species within the river. Therefore, we believe that project effects to the habitat of sturgeon and sea turtles will be insignificant.

The greatest potential for disturbance from the project will occur from pile driving, which is anticipated to last only a few days and is limited to the 3.5-month in-water construction window (April, June 16-August 31). Potential turbidity impacts from pile driving will be minimized through the use of turbidity control measures. Sediment barriers will also provide protection to the species by preventing their close proximity to operating equipment. Noise transmission underwater will be dampened by the soft (silt/clay) nature of the muddy bottom substrates. Based on this, and the short, intermittent duration of the noise disturbances; the short window for in-water construction; the requirements to observe for protected species; the availability of nearby, unaffected habitat; and the implementation of the in-water moratorium during sturgeon spawning season, we believe the possibility of loggerhead sea turtles or sturgeon being present and undetected or being adversely affected by pile jetting/driving/vibrating noise is discountable. We believe the possibility of pile-driving work barge collisions with sea turtles is discountable because of the stationary position of the work barges during pile driving, and very slow movement when moving from one pile driving location to the next. Sturgeon will not be affected by the movement of barges because of their demersal habits.

Finally, we concur with your project effect determinations and conclude that loggerhead sea turtles, Atlantic sturgeon, and shortnose sturgeon are not likely to be adversely affected by the proposed action, and no other listed species under our purview will be affected by the proposed actions. This concludes your consultation responsibilities under the ESA for species under NMFS's purview. A new consultation must be initiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action.

Thank you for your efforts to ensure the conservation of listed species and their habitat under NMFS's purview. We have enclosed additional relevant information for your review.

If you have any questions, please contact Eric Hawk, consultation biologist, at (727) 551-5773 or by e-mail at Eric.Hawk@noaa.gov.

Sincerely,



for

Roy E. Crabtree, Ph.D.
Regional Administrator

Enc.: *PCTS Access and Additional Considerations for ESA Section 7 Consultations*

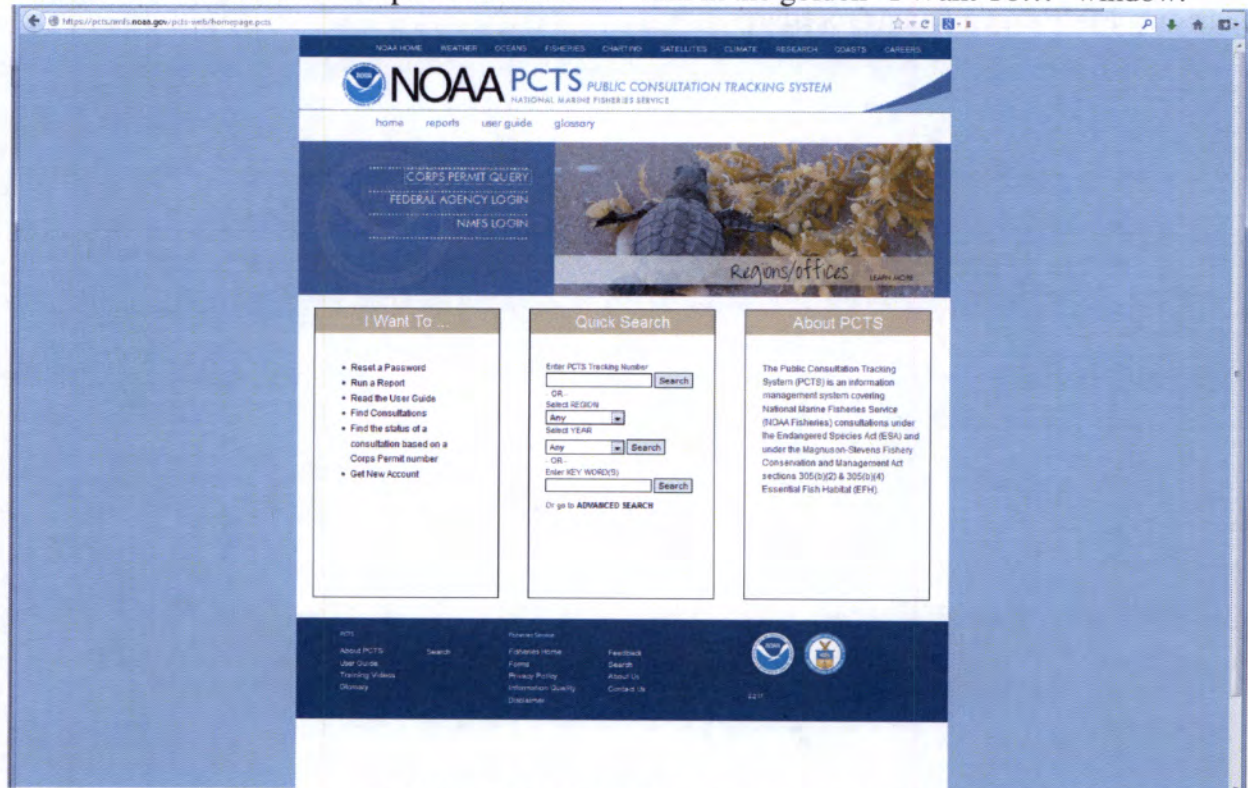
cc: Jennifer Giersch, FHWA

File: 1514-22.L.3.GDOT

PCTS Access and Additional Considerations for ESA Section 7 Consultations (Revised 6-11-2013)

Public Consultation Tracking System (PCTS) Guidance: PCTS is a Web-based query system at <https://pcts.nmfs.noaa.gov/> that allows all federal agencies (e.g., U.S. Army Corps of Engineers - USACE), project managers, permit applicants, consultants, and the general public to find the current status of NMFS's Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultations which are being conducted (or have been completed) pursuant to ESA Section 7 and the Magnuson-Stevens Fishery Conservation and Management Act's (MSA) Sections 305(b)2 and 305(b)(4). Basic information including access to documents is available to all.

The PCTS Home Page is shown below. For USACE-permitted projects, the easiest and quickest way to look up a project's status, or review completed ESA/EFH consultations, is to click on either the "Corps Permit Query" link (top left); or, below it, click the "Find the status of a consultation based on the Corps Permit number" link in the golden "I Want To..." window.



Then, from the "Corps District Office" list pick the appropriate USACE district. In the "Corps Permit #" box, type in the 9-digit USACE permit number identifier, with no hyphens or letters. Simply enter the year and the permit number, joined together, using preceding zeros if necessary after the year to obtain the necessary 9-digit (no more, no less) number. For example, the USACE Jacksonville District's issued permit number SAJ-2013-0235 (LP-CMW) must be typed in as 201300235 for PCTS to run a proper search and provide complete and accurate results. For querying permit applications submitted for ESA/EFH consultation by other USACE districts, the procedure is the same. For example, an inquiry on Mobile District's permit MVN201301412 is entered as 201301412 after selecting the Mobile District from the "Corps District Office" list. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov or (727) 551-5773.

EFH Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division pursuant to Section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the MSA requirements for EFH consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Marine Mammal Protection Act (MMPA) Recommendations: The ESA Section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA Section 101 (a)(5) is necessary. Please contact NMFS' Permits, Conservation, and Education Division at (301) 713-2322 for more information regarding MMPA permitting procedures.

Air Quality and Noise

Memo

Approved
3-31-10

To: NEPA Project File

From: Zanda Crawford, Air & Noise

Date: 3/8/2010

Re: Project STP00-0630-00(010), Bryan County, PI No. 532370

Original Project Description:

The proposed project would widen the existing two lanes of State Route (SR) 144 to provide an urban four-lane section of roadway with a 20-foot raised grassed median with sidewalks starting at Timber Trail to SR 144 Spur. A 22.5-foot shoulder on the right side, which would contain an 8-foot asphalt bike lane, would tie into an existing bike lane on the left side at approximate mile point 14.7. After mile point 14.7, the typical section would revert back to regular 16-foot shoulders. The proposed design from SR 144 Spur to east of Belfast Keller Road would consist of a rural four-lane section of roadway with a 24-foot raised grassed median with 6.5-foot bikable shoulders. This project would also include a bridge at Sterling Creek at approximate mile point 12.7. The project length is approximately 4.5 miles.

Changes in Project Description:

The revision consists of an urban four-lane section of roadway with the incorporation of 4-foot bike lanes on each side of the edge of the travel lanes, a 20-foot raised median with 12-foot shoulders with sidewalks included with a design speed of 45 mph. The typical between MP 15.09 (SR 144 spur) and the end of the project will remain the same (rural-four-lane section of roadway with a 24-foot raised grassed median with 6.5-foot paved bikeable shoulders) per the revised concept dated May 1, 2006. Also within this typical there will be a proposed signalized intersection at MP 11.36 (Timber Trail Rd.) and a proposed signalized intersection at MP 13.29 (Port Royal Rd. and the New Entrance to Sterling Woods Subdivision). The project termini need to be revised to incorporate the signalized intersection at Timber Trail and at the end of the project it needs to be lengthened to transition the traffic after CR 154 back to the existing roadway typical. The new project termini need to be as follows: The project will begin at MP 11.31 and end at MP 16.24. The total length of the project will now be 4.903 miles.

This project was re-evaluated for the above noted project description changes.

Based on the previous analysis conducted for the project, there have not been any significant changes in the concept and scope that would have adverse impact on previously approved air and noise assessments.

MSAT guidelines updated September 30, 2009 do no change findings in original report.

Keith Golden, P.E., Commissioner



DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

October 26, 2012

Mr. Rodney N. Barry, P.E.
Division Administrator
Federal Highway Administration
Atlanta Federal Center
61 Forsyth Street, S.W.
Suite 17 T100
Atlanta, Georgia 30303-3104

ATTN: Jennifer Giersch

Dear Mr. Barry:

Re: Project: Bryan County, P.I. No. 532370 - SR 144 Widening from CR 100/Timber Trail to
CR 154/Belfast Keller Road

Please find enclosed the Air Quality Impact Assessment Addendum for the above noted project. It is being sent to you for your information and files.

Should you need further information, please contact Andrew Clay at (404) 631-1597 or Amber Phillips at (404) 631-1117.

Sincerely,

A handwritten signature in cursive script, appearing to read "Glenn Bowman".

Glenn Bowman, P.E.
State Environmental Administrator

GB/ac
Enclosures

cc: Project Manager (letter, report)
General File (letter, report)

PI 532370: Noise Assessment

From: "Jackson, Keisha" <kejackson@dot.ga.gov>

Date: Thu, Jul 5, 2012 9:00 am

Subject: Bryan County, Noise Assessment

To: "Price, Steve" <stprice@dot.ga.gov>, "Racha, Sujith" <Sujith.Racha@arcadis-us.com>

Cc: "Bennett, Matt" <mabennett@dot.ga.gov>, "Phillips, Amber" <aphillips@dot.ga.gov>

Please submit two copies of the final revision of the noise tech report for the subject project. Please also include the TNM file, a Word and PDF version of the report.

Pending confirmation of the minor requested changes, the report is approved 7/2/12.

Keisha L. Jackson

Georgia Department of Transportation

Office of Environmental Services

Keijackson@dot.ga.gov

(404)631-1160

16th Floor, One Georgia Center
600 West Peachtree Street, N.W.
Atlanta, Georgia 30308



ARCADIS U.S., Inc.
2410 Paces Ferry Road
#400
Atlanta
Georgia 30339
Tel 770 431 8666
Fax 770 435 2666

MEMO

To:
File

Copies:
Steve Price, GDOT
Todd Barker, Adrian Collaborative

From:
Jody Peace, PE

Date:
September 28, 2012

ARCADIS Project No.:
GA064001

Subject:
Air Quality Impact Analysis Memo to File (P.I. 532370)

P.I. 532370 is a proposed project to widen State Route 144 (SR 144) from Timber Trail Road to Belfast Keller Road in Bryan County, Georgia. An Air Quality Impact Assessment Addendum was completed for the project in August 2012. At that time, the air impact analysis included the signalization of two intersections SR 144 at Port Royal Road and SR 144 at Timber Trail Road. A subsequent signal warrant study by the Georgia Department of Transportation (GDOT) determined that a signal at the intersection of SR 144 at Port Royal Road is not warranted; therefore, the intersection of SR 144 at Port Royal Road will not be signalized as part of this project.

GDOT currently requires that all signalized intersections which operate at LOS D or worse and have volumes greater than 10,000 vehicles per day (vpd) be considered for carbon monoxide (CO) analysis. In August 2012, both intersections were considered for analysis as part of the Air Quality Impact Assessment; however, SR 144 at Timber Trail Road was selected for quantitative analysis because it was projected to have the highest delay and greatest number of entering vehicles. The results of modeling indicated that CO emissions would be well below the National Ambient Air Quality Standards (NAAQS).

This change in project scope, not signalizing the intersection of SR 144 at Port Royal Road, will not affect the findings of the Air Quality Impact Assessment Addendum completed by ARCADIS in August 2012. The report found that the worst-case intersection is SR 144 at Timber Trail Road and the qualitative analysis was completed for that intersection. Under current GDOT policy, an unsignalized intersection of SR 144 at Port Royal Road would not be considered for qualitative CO analysis because signalization is no longer planned. While the project description and delay at the intersection of SR 144 at Port Royal Road included in the August 2012 report will change, this information would not affect the results of the analysis. The decision to not signalize the intersection of SR 144 at Port Royal Road does not require a revision to the Air Quality Impact Assessment.

Appendix D

Public Involvement

**State Route 144 Widening, Bryan County
Project STP00-0630-00(010), PI Number 532370**

**Public Information Open House
SR 144 Widening**



Department of Transportation

HAROLD E. LINNENKOHL
COMMISSIONER
(404) 656-5206

DAVID E. STUDSTILL, JR., P.E.
CHIEF ENGINEER
(404) 656-5277

State of Georgia
#2 Capitol Square, S.W.
Atlanta, Georgia 30334-1002

BUDDY GRATTON
DEPUTY COMMISSIONER
(404) 656-5212

EARL L. MAHFUZ
TREASURER
(404) 656-5224

October 5, 2006

Thank you for attending the public information open house for STP-0630(10), P.I. No. 532370, the proposed widening and reconstruction of SR 144 from Timber Trail Rd. (CR 100) to Belfast Keller Rd. (CR 154). In this handout package you will find a project description, location map and comment card.

As you enter the room, you will notice displays of the proposed project. Department of Transportation (DOT) representatives, who can be identified by the nametags they are wearing, are available to discuss the project and answer your questions. Please take this opportunity to discuss the project with a DOT representative. There will be no formal presentation.

A court reporter will be available for those persons who would like to make a verbal statement about the project. You may also complete a comment card and deposit it into the box provided here or send in written comments about the project until October 18, 2006. Written comments should be sent to Mr. Harvey D. Keeper, State Environmental/Location Engineer, Georgia Department of Transportation, 3993 Aviation Circle, Atlanta, Georgia 30336-1593. Comments can also be made via the web at www.dot.state.ga.us. Click on **Public Outreach** from the list of Featured Links. All comments will be made a part of the project record. We hope you will take advantage of one of these opportunities to let the Department know your view of the proposal.

The displays will be available for review for ten days after the public information open house at the following locations.

GDOT District 5 Office
204 N. Highway 301
Jesup, GA 31598
(912) 427-5700

GDOT Savannah Area Office
630 West Boundary Street
Savannah, GA 31402
(912) 651-2144

A copy of all comments received will be available for public review at this same location and at the Office of Environment/Location, 3993 Aviation Circle, Atlanta, GA 30336-1593, as soon as compilation is completed.

Again, thank you for attending this public information open house and for giving us your comments.

Sincerely,

A handwritten signature in cursive script that reads "Todd Long".

Todd Long, P.E.
Director of Preconstruction

TL/td
Attachments

**GEORGIA DEPARTMENT OF TRANSPORTATION
PROJECT STP-0630(10), BRYAN COUNTY, P.I. NO. 532370
WIDENING AND RECONSTRUCTION OF SR 144**

Project Need and Purpose

The purpose of this project is to improve the safety and operational conditions of State Route 144 through the addition of travel and turn lanes. The need exists to increase the number of travel lanes in order to satisfactorily accommodate existing and future traffic volumes. Potential benefits of the project include energy conservation through the efficient movement of traffic that would otherwise be idled or delayed without the improvement and a safer traveling environment.

Project Description

The project involves the widening and reconstruction the existing two travel lanes (24 foot wide) of State Route 144 to provide an urban four-lane section of roadway with a 20-foot raised grassed median with sidewalks starting at Timber Trail (County Road 100), at approximately Mile Post 11.4, to State Route 144 Spur (Mile Post 15.2). A 22.5-foot shoulder on the south side (right-hand side of the road if traveling east), which will contain an 8-foot asphalt bike lane, will begin at approximately Mile Post 11.6 and will tie into an existing bike lane on the north side (left hand side of road if traveling east) at approximately Mile Post 14.7 of the project. After Mile Post 14.7, the typical will revert back to regular 16-foot shoulders. The posted speed limit will be 45 mph. The proposed design from SR 144 Spur (Mile Post 15.2) to east of Belfast Keller Rd (County Road 154-Mile Post 16.0) will consist of a rural four-lane section of roadway with a 24-foot raised grassed median with 6.5-foot bikeable shoulders with a design speed of 55 mph. A bridge will also be included at Sterling Creek (Mile Post 12.7).

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: P. I. No. 532370 OFFICE: Environmental/Location
DATE: October 10, 2006

FROM Harvey D. Keeper, State Environmental/Location Engineer

TO Distribution Below

SUBJECT PUBLIC INFORMATION OPEN HOUSE SYNOPSIS

PROJECT No. & COUNTY: STP-0630(10), Bryan Co.

PROJECT DESCRIPTION: The widening and reconstruction of SR 144

DATE: 10-05-06

NUMBER IN ATTENDANCE: 102

FOR: 24

CONDITIONAL: 16

UNCOMMITTED: 62

AGAINST: 0

OFFICIALS IN ATTENDANCE: 3

ADDITIONAL COMMENTS: There were many concerns about the bicycle lane crossing over to the other side mid-project. There were also concerns that the project should be extended beyond the present proposed limits and that a middle turn lane should be installed instead of the raised median to allow for emergency vehicles.

PREPARED BY: Sheree Smart

TELEPHONE No.: (912) 427-5756

cc: David E. Studstill, Jr., P.E.
Russell McMurry
Jonathan Cox Via email
Susan Knudson
Glynn W. Durrence, P.E., Dist. Engr.
Anthony D. Odom, Dist. Design Engr.
Neil Kantner

DISPOSITION OF COMMENTS:

The following represents a breakdown of a review of comments by the offices to which they pertain:

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Design	1	Bike land further increasing required right-of-way needed from property owners.
	2, 14, 18, 20, 37, 44, 44A	Bike lane crossover unsafe.
	3, 4, 7, 11, 12, 29, 36, 40, 41	Need to extend project limits.
	8, 8A	Elimination of median and replace with emergency and/or turn lanes.
	13, 31	Request for acceleration/deceleration and turn lanes.
	16, 21, 29	Project needs to be let sooner than anticipated.
	17	Need to open ramp off I-95 to Belfast Siding Road
	19, 19B	Too much required right-of-way, project concept is "overkill".
	23, 30	Need a new entrance to Fox Road/Rabbit Hill community.
	25	Sidewalks are not a public need.
	26	Need for a bridge over railroad crossing.
	27	Trucking business states that raised median will not allow their tractor trailers to get out on to SR 144. Suggests a turn lane median at east until Strathy Hall curve.
	34	Realignment of entrance into Sterling Woods Subdivision and request that tree buffer not be removed in same subdivision.
	35	Request for more symmetrical right-of-way takes and drainage improvements.
	39, 19A, 19B	Request for drainage improvements and request for barriers to protect homes from traffic.
43	Unsafe pedestrian cross walk going across SR 144 and request for dock and parking lot to be included as part of the project for public use.	

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Right-of-Way	19, 19A, 19B	Right-of-way takes not being equally taken from both sides of the road. How much required right-of-way will be bought from property owner? Will there be Compensation for septic system relocation?
	28, 28A	Fair compensation for necessary property takes.

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Traffic Operations	1, 17, 21, 42	Traffic light at the intersection of Port Royal and SR 144
	10	Traffic light at the intersection of SR 144 and Rabbit Hill Road
	13	Traffic lights at the intersections of SR 144 and Timber Trail, Port Royal, and SR 144 Spur
	20	Asks that speed limit not be reduced below 55 mph.
	33, 37	Traffic light at the intersection of Timber Trail and SR 144

RESPONSIBLE OFFICE	COMMENT 3	NATURE OF COMMENT
Planning and Programming	24	Need for more ideas by DOT for better road service to accommodate the excessive development. Better citizen's awareness of upcoming meetings.
	26	Need for better planning of road service to match future development.

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
All Letters	All	<p>Thank you for your input regarding the public information open house for the proposed project. Your interest in this meeting and your comments are appreciated. Your comments will be made a part of the official record of the project.</p> <p>The attendees of the open house and those persons sending in comments afterwards raised the following questions and concerns. The GDOT has prepared one response to all comments so that everyone can be aware of the concerns raised and the responses given. Please find the comments, concerns, and questions listed below along with their response.</p>

Please review the comments and email responses to Sheree Smart (Sheree.Smart@dot.state.ga.us) by March 14, 2007.

Attached is a complete transcript of the comments received during the comment period and a copy of the public information open house handout.

If you have any questions about the comments, please either email or call Sheree Smart at (912) 427-5756.

HDK/ss

Attachments

DISTRIBUTION:

- Neil Kantner
- Howard (Phil) Copeland
- Keith Golden
- Russell McMurry
- Joe Palladi, P.E.
- Susan Knudson
- Glenn W. Durrence, P.E., D. E.



Department of Transportation

State of Georgia

#2 Capitol Square, S.W.

Atlanta, Georgia 30334-1002

HAROLD E. LINNENKOHL
COMMISSIONER
(404) 656-5206

DAVID E. STUDSTILL, JR., P.E.
CHIEF ENGINEER
(404) 656-5277

BUDDY GRATTON, P.E.
DEPUTY COMMISSIONER
(404) 656-5212

EARL L. MAHFUZ
TREASURER
(404) 656-5224

April 18, 2007

RE: Project STP-0630(10) – Widening of SR144

Dear _____,

Thank you for your input regarding the public information open house for the proposed project. Your interest in the meeting and your comments are appreciated. Your comments will be made a part of the official record of the project.

The attendees of the open house and those persons sending in comments afterwards raised the attached questions and concerns. The GDOT has prepared one response to all comments so that everyone can be aware of the concerns raised and the responses given. Please find the comments, concerns, and questions listed on the attachment along with the response.

Please feel free to call Dennis Odom at 912-427-5716 if the responses listed do not answer all the questions or concerns you have about the project.

Yours very truly,

For: Glenn W. Durrence, P.E.
District Engineer

By: _____
Dennis Odom, District Design Engineer

ADO
Attachment

Bike land further increasing required right-of-way needed from property owners.

Although the bike lane encroaches on the existing property, it is necessary to add it to this project. Not only is this a designated bike route, but adding the bike route will make it safer for bike riders as an alternative to riding on the roadway.

Bike/Pedestrian crossover unsafe.

We have considered several locations for the bike/pedestrian route crossing. We will look at this again and see if there is a better place to put the crossing.

Need to extend project limits.

Extending this project was considered as an option. It was not extended because the traffic did not warrant it. Also, a church and cemetery are located past the end of the project. It would be difficult to construct a 4-lane roadway between the church and the cemetery.

Elimination of median and replace with emergency and/or turn lanes.

Because of the current traffic counts, it is our policy to construct a 4-lane roadway with a raised median. A raised median is safer than a constant center turn lane.

Request for acceleration/deceleration and turn lanes.

Acceleration/deceleration lanes will be placed in locations where our guidelines indicate these are needed. This is usually determined by the amount of traffic on the side roads or drives.

Project needs to be let sooner than anticipated.

This project will be let to construction as soon as our office completes all the phases of plan production. Along with completing the plans, right of way has to be purchased and we have to obtain environmental approval for the project. Field plan reviews are also held to review the plans for accuracy and constructability.

Need to open ramp off I-95 to Belfast Siding Road

A ramp has been considered at Belfast Siding and I-95. We are currently conducting a study of this location to determine the feasibility of an interchange.

Too much required right-of-way, project concept is “overkill”.

Only enough right-of-way is purchased to construct the project with room to tie into the existing ground on each side. Widening this road to a 4-lane with a median is a much needed project for this area. With increasing development and traffic, the current 2-lane road is not capable of maintaining traffic. Accidents are also more likely to happen with the increased traffic.

Need a new entrance to Fox Road/Rabbit Hill community.

We will consider the suggestion of tying Fox Road to Port Royal Road.

Sidewalks are not a public need.

Homes are located along most of this roadway. We have determined that there is a need for sidewalks to accommodate pedestrians. Also, it is our policy to construct sidewalks in areas where we are placing curb and gutter next to the road.

Need for a bridge over railroad crossing.

A railroad overpass at this location is not feasible because of the impacts on property owners. Also, the cost of the overpass can not be justified based on the delays caused by trains.

Trucking business states that raised median will not allow their tractor trailers to get out on to SR144. Suggests a turn lane median at east until Strathy Hall curve.

Because of the current traffic counts, it is our policy to construct a 4- lane roadway with a raised median. A raised median is safer than a constant center turn lane. We will look into the situation with your trucking business and try to find a solution.

Realignment of entrance into Sterling Woods Subdivision and request that tree buffer not be removed in same subdivision.

The existing entrance to the subdivision will be relocated to a safer area. There will be some impact on the tree buffer, but it will not be completely eliminated.

Request for more symmetrical right-of-way takes and drainage improvements.

The alignment through this project has been designed to minimize the impacts on home owners. In some areas, we have shifted the alignment to minimize impacts, but it is not feasible to continuously change the alignment from one side to the other. Drainage should improve since we are using curb and gutter. All of the roadway water will be channeled into pipes. We will also provide yard drains where the roadbed traps any water.

Request for drainage improvements and request for barriers to protect homes from traffic.

Most of roadway will be constructed with curb and gutter. This should improve the drainage along the roadway. Yard drains will also be placed where water is trapped between the road and yards. The curb and gutter will also act as a barrier to keep someone from driving into a yard.

Request for dock and parking lot at Sterling Creek to be included as part of the project for public use.

The public use of the bridge at Sterling Creek will be considered when the new bridge is designed. However, the construction of a dock or parking lot will need to be coordinated with local government officials.

How much required right-of-way will be bought from property owner? Will there be Compensation for septic system relocation?

When right of way plans are completed, representatives from our Right of Way Section will meet with property owners and give them information about the amount of right of way needed. Property owners will be compensated for any right of way or easements which will be needed for this project. Property owners will also be compensated if our right of way encroaches on septic tank drain lines.

Traffic lights at the intersections of Port Royal Rd, Rabbit Hill Rd, Timber Trail Rd, and SR 144 Spur with SR 144

The Traffic Operations Section is in the process of collecting and reviewing traffic data to determine if various intersections meet warrants for signalization.

Speed limit not be reduced below 55 mph.

The speed limit will be determined based on a study of the area and the design of the roadway.

Need for more ideas by DOT for better road service to accommodate the excessive development. Better citizen's awareness of upcoming meetings.

GDOT follows guidelines set by the FHWA to inform the public of upcoming public meetings. The signs are placed two weeks ahead of the meeting dates. Advertisements for the meetings are

run in the legal ads of the legal organs (newspapers) in the county where the meeting will take place, and the City Manager and County Administrator are sent letters advising them of the meetings. We will glad to explore other ideas to ensure that the public is made aware of all meetings in the future.

Need for better planning of road service to match future development.

GDOT coordinates with the Local Governments on all proposed road projects, through initial and final concept meetings. During this coordination, GDOT makes every effort to ensure that any future plans for the area are discussed. We will continue to work with the local governments and others as necessary to plan all future projects.

**Public Involvement from
Bryan County Transportation Study**

Bryan County Transportation Study
TWO PUBLIC MEETINGS
Tuesday, April 21st:
At the County Commissioner's Meeting Room in
Pembroke at 2:00pm
And
At the John W. Stevens Wetlands Education Center in
Richmond Hill at 6:00pm

About the Study:

The Georgia Department of Transportation (GDOT) is preparing the Bryan County Transportation Study in cooperation with Bryan County, the City of Pembroke, the City of Richmond Hill, and various other planning partners. The objective of the study is to identify and **potentially** recommend transportation improvements necessary to meet existing and **anticipated** future travel needs through the year 2035. Bryan County is experiencing a significant increase in population. Studies suggest that the County's population could potentially double from 23,500 in 2000 to roughly 46,000 by 2030. The Bryan County Transportation Study, scheduled for completion in the fall of 2009, will identify mobility and travel impacts associated with the anticipated growth, and recommend potential transportation improvements to serve the current and the anticipated future needs of Bryan County.

Purpose of Meetings:

The purpose of the meetings is to get the public's input regarding the transportation issues and challenges in the County and discuss some of the potential improvement suggestions available. These meetings are open to all, and will consist of informational displays and interactive discussion sessions. The community will be encouraged to share their ideas on the direction of transportation planning for Bryan County.

WE NEED YOUR INPUT!

Public Meeting Locations and Times

Tuesday, April 21st, 2009

County Commissioner's Meeting Room (2:00PM)

151 South College Street, Pembroke, GA 31321

And

John W. Stevens Wetlands Education Center (6:00PM)

600 Cedar Street, Richmond Hill, GA, 31324

To find out more, please visit:

www.dot.ga.gov/bryanstudy

Contact:

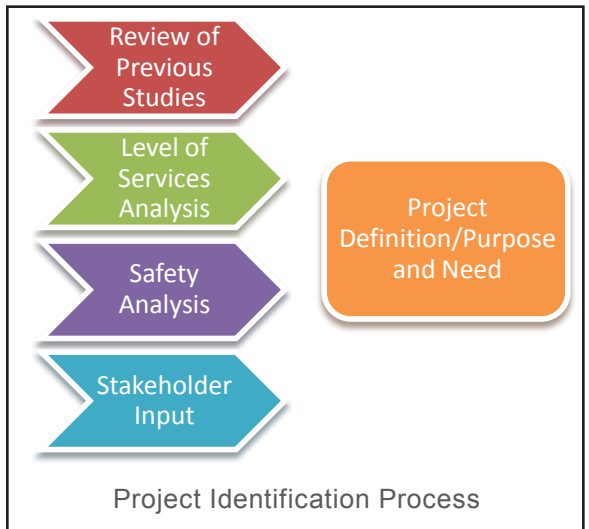
Kyle Mote, GDOT Project Manager
One Georgia Center
600 W. Peachtree Street, 5th Floor – Office 566
Atlanta, Georgia 30308
404-631-1987 (kmote@dot.ga.gov)

Grady Smith, Consultant Team
400 Colony Square
1201 Peachtree Street NE. Ste. 1905
Atlanta, GA 30061
770-455-8555 (grady.smith.jjg.com)

Bryan County Transportation Study Team is set to present a Preliminary List of Potential Transportation Projects for Public Review and Comment.

After more than ten months of intensive research, analysis and public outreach, The Georgia Department of Transportation (GDOT) has presented a list of potential transportation improvements for review and comment by public officials and other stakeholders in Bryan County. Through the work completed to date, which includes baseline conditions assessment, formulation of study goals, and travel demand model development, the study team has determined mobility and travel impacts associated with the anticipated growth in the County. The draft transportation improvements are designed to respond to an aggressive population projection, and also considered future land use strategies outlined in the

County's Joint Comprehensive Plan. The project categories include Traffic Operations/System Management Projects, Bicycle/Pedestrian Projects and New Capacity Projects.



Traffic Operation/System Management Projects: These projects could maximize the effectiveness of the existing system, and can be potentially implemented quickly. Total of 22 project concepts have been identified to include improvements such as new traffic signals, adding turn lanes, and bridge replacements.

Bicycle and Pedestrian Projects: The multimodal recommendations are designed to potentially improve the general quality of life as well as improve safety for all users of the transportation network. Total of 22 potential sidewalks and shared-use paths have been identified throughout the County.



New Capacity Projects: The new capacity recommendations can be significant investments. Thus, these potential projects are evaluated based on performance and benefit-cost.

Bryan County Transportation Study Final Public Meetings

The purpose of the last series of public meetings is to solicit input from stakeholders and residents in the county to prioritize and reach consensus on the list of potential transportation improvements. These meetings are open to all, and will consist of informational displays as well as interactive discussion sessions. The community will be encouraged to share their ideas on the direction of transportation planning for Bryan County.

WE NEED YOUR INPUT!

Thursday, August 6th, 2009

2:00 PM

Bethel Baptist Church Fellowship Hall
40 White Oak Lane, Richmond Hill, GA

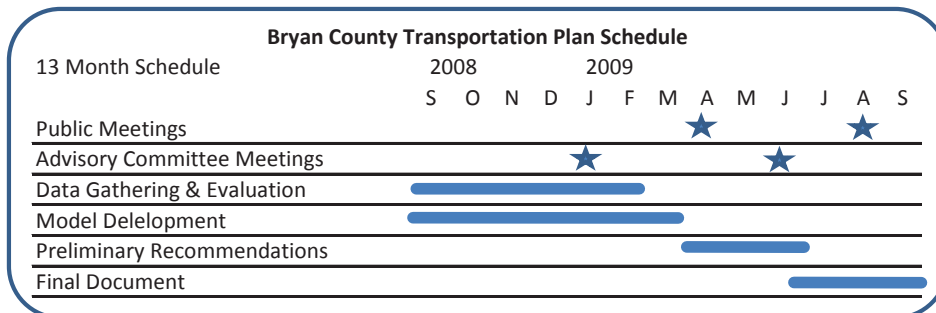
6:00 PM

J Dixie Harn Community Hall
91 Lanier St, Pembroke, GA

Next Steps

The Bryan County Transportation Study will address public comments, then submit a long-term transportation plan for the county's consideration. Given funding constraints facing the state, it is unlikely that all of the projects identified by the study can be funded over the next 25 years. Therefore, the principal task remaining in the Bryan County Transportation Study is to identify potential funding programs for the recommended projects. Based on the input from the last series of public meetings (scheduled for August 6th), GDOT will then finalize study recommendations and submit the final documentation in the fall of 2009.

Bryan County Transportation Study Schedule



Additional information regarding the study is available via the GDOT website: www.dot.ga.gov/bryanstudy. For general comments or inquiries, please contact:

GDOT Contact:

Kyle Mote, Project Manager

One Georgia Center
600 W Peachtree Street, 5th Floor,
Office 566
Atlanta, Georgia 30308
404-631-1987
kmote@dot.ga.gov



Consulting Team Contact:

Grady Smith

Jordan, Jones and Goulding
400 Colony Square
1201 Peachtree Street NE. Ste. 1905
Atlanta, GA 30061
678-333-0414
grady.smith@jjg.com



Final List of Stakeholders

SAL	First Name	Last Name	Agency	Title	Street	City	Zip
Ms.	Betty	Hill	City of Pembroke	City Clerk	160 N Main St	Pembroke, GA	31321
Mr.	Billy	Albritton	Planning Commission Richmond Hill		40 Richard Davis Dr	Richmond Hill, GA	31324
Chief	Billy D.	Reynolds	Richmond Hill Police Department		40 Richard Davis Dr	Richmond Hill, GA	31324
Mr.	Brad	Saxon	GDOT District 5 Office	District Preconstruction Engineer	P.O. Box 610	Jesup, GA	31598
Mr.	Carlton	Cooper	Bethel Baptist Church	Pastor	40 White Oak Lane	Richmond Hill	31324
Mr.	Dale	Dudley	Bryan County Planning and Zoning	Engineer	185 Richard Davis Drive Suite 105	Richmond Hill, GA	31324
Mr.	Derrell	Newman	Bryan County Public Works	County Engineer	PO Box 186 500 Ledford Avenue	Pembroke, GA	31321
Ms.	Donna	Reed	Richmond Hill Recreation Assoc	Director	508 Timber Trail	Richmond Hill , GA	31324
Ms	Gwen	Strickland	Bryan County Development Authority		116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Ms.	Jan	Bass	Richmond Hill Planning and Zoning	Community Development Specialist	40 Richard Davis Dr	Richmond Hill, GA	31324
Ms.	Jean	Bacon	Development Authority of Bryan County	Executive Director	116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Mr.	Jim	Anderson	Bryan County	EMS Director	PO Box 430	Pembroke, GA	31321
Mr.	Jimmy	Burnsed	Bryan County Commission	Chairman	116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Ms.	Jo	Hickson	Coastal Georgia Greenway Program		3601 Abercorn Street	Savannah, GA	31405
Father	Joe	Smith	St. Anne's Catholic Church	Pastor	40 Richard Davis Dr	Richmond Hill, GA	31324
Mr.	Johnny	Murphy	Richmond Hill Planatation		10950 Ford Ave	Richmond Hill, GA	31324
Mayor	Judy	Cook	City of Pembroke		160 N Main St	Pembroke, GA	31321
Ms.	Kay	Green	Bryan County	Recreation Director	508 Timber Trail	Richmond Hill , GA	31324
Ms.	Kittie	Franklin	Bryan County Chamber of Commerce	Executive Director	2591 Hwy 17, Suite 100	Richmond Hill, GA	31324
Mr.	Leon	Davenport	Assistant Chatham County Engineer		124 Bull Street Room 430	Savannah, GA	31401
Chief	Mark	Crowe	Pembroke Police Department		160 N Main St	Pembroke, GA	31321
Ms.	Maureen	Casey	Fort Stewart	ITO	Building 2916 1624 West 6th Street	Fort Stewart , GA	31314
Mr.	Mike	Melton	City of Richmond Hill	Richmond Hill City Manager	40 Richard Davis Dr	Richmond Hill, GA	31324
Ms.	Nancy	Frye	City of Richmond Hill	Zoning Administrator	40 Richard Davis Dr	Richmond Hill, GA	31324
Mr.	Neil	Smiley	Bryan County	Director of Engineering	116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Ms.	Nevin	Brown	Main Street Homeowners Assoc		P. O. Box 856 758 E. Bristol Way	Richmond Hill	31324
Mr.	Nevin	Patton	First Bank of Coastal Georgia	Senior Vice President	9720 Ford Ave	Richmond Hill, Ga	31324
Mr.	Phil	Jones	Bryan County	County Manager	116 Lanier Street P.O. Box 430	Pembroke, GA	31321
Mayor	Richard R	Davis	City of Richmond Hill		40 Richard Davis Dr	Richmond Hill, GA	31324
Mr.	Rickey	McCoy	City of Pembroke	City Engineer	160 N Main St	Pembroke, GA	31321
Ms.	Rita	Johanson	Transportation, Ft. Stewart	ITO Chief	Building 2916 1624 West 6th Street	Fort Stewart GA	31314
Mr.	Sonny	Timmerman	Hinesville Area Metropolitan Planning Organization	Executive Director	205 E. Court Street	Hinesville, GA	31313
Mr.	Steve	Scholar	Richmond Hill Planning and Zoning	Director	40 Richard Davis Dr	Richmond Hill, GA	31324
Ms.	Tanya	Raulston	North Pembroke Chamber of Commerce	Director	18 E. Bacon St P.O. Box 916	Pembroke, GA	31321
Ms.	Teresa	Scott	GDOT District 5 Office	District Planning Programming Engineer	P.O. Box 609	Jesup, GA	31597
Ms.	Terri	Taylor	Bryan County	Director of Transportation	116 Lanier Street	Pembroke, GA	31321
Mr.	Tom	Thomson	Chatham County-Savannah Metropolitan Planning Commission	Executive Director	110 East State Street	Savannah, GA	412-8246
Ms.	Tricia	Reynolds	Services Coastal Georgia RDC	Director of Planning & Government	127 F Street	Brunswick, GA	31520

Chapter 6

6.0 Public Involvement

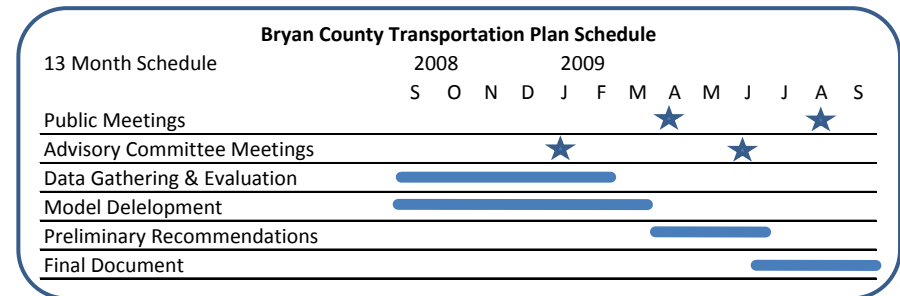
It was determined early in the planning process that a major public outreach effort would be launched to target all segments of the population. The process of public involvement was outlined in the Public Involvement Plan (PIP). The PIP outlined how the input from stakeholders – public and private, elected and appointed officials, representatives of business, faith-based and community-based groups, representatives of minority populations, and the public at large—would be incorporated to establish a successful plan. A copy of the PIP and other public involvement materials are included in the appendices.

Although Bryan County’s north-south divide posed some logistical challenges, the project team undertook a broad dissemination of user-friendly information about the study throughout the planning process, and to provide a wide range of opportunities for all stakeholders to make their views known. The following sections detail the major components of the public outreach efforts employed as part of the Bryan County Transportation Study process.

6.1 Advisory Committee

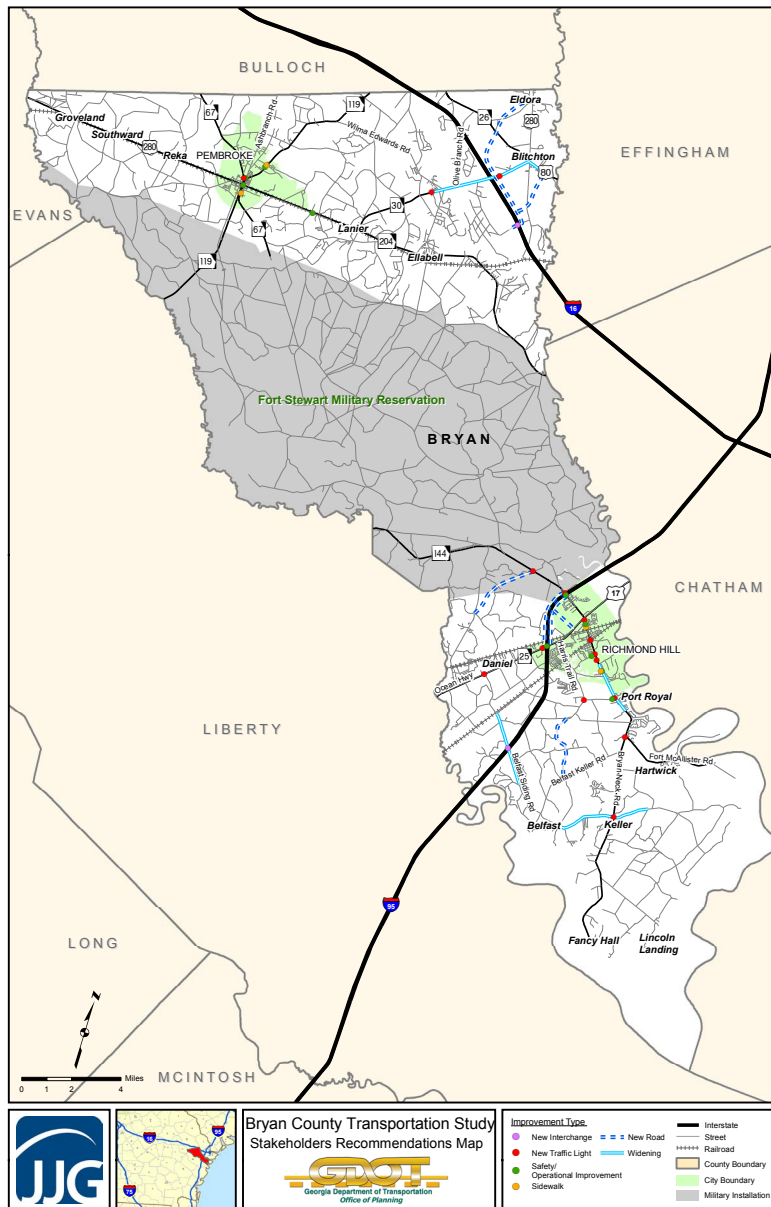
The PIP called for the formation of an Advisory Committee which provided oversight on technical and policy issues through a series of meetings. The Advisory Committee consisted of over twenty members from Bryan County, Cities of Richmond Hill and Pembroke, GDOT’s Transportation Planner, District Planning and Programming Engineer, RC staff, and other agency partners. Meeting minutes including the sign-in sheets are included in the appendices. The Advisory Committee met three times throughout the course of the study to provide feedback, general oversight and technical review of the study findings. This committee also identified critical areas within the transportation network, reviewed potential alternatives, and assisted in the outreach effort. **Figure 6.1** (opposite) illustrates the study schedule that highlights the Advisory Committee and public meeting dates at project milestones.

Figure 6.1: Project Schedule



Chapter 6

Figure 6.2: Potential Improvements from Map Exercise



The first Advisory Committee meeting was held on November 18, 2008, as the official Local Agency Kick-off Meeting for the Bryan County Transportation Study. The purpose of this meeting was to introduce the study to local officials and receive input on key issues affecting the Bryan County transportation system. The group engaged in a map exercise to assist the study team in identifying transportation issues to be considered in the study. **Figure 6.2** (opposite) illustrates the potential improvements to be considered as a result of the map exercise. It is important to note that many of the improvements identified in the kick-off meeting were incorporated into the final recommendations.

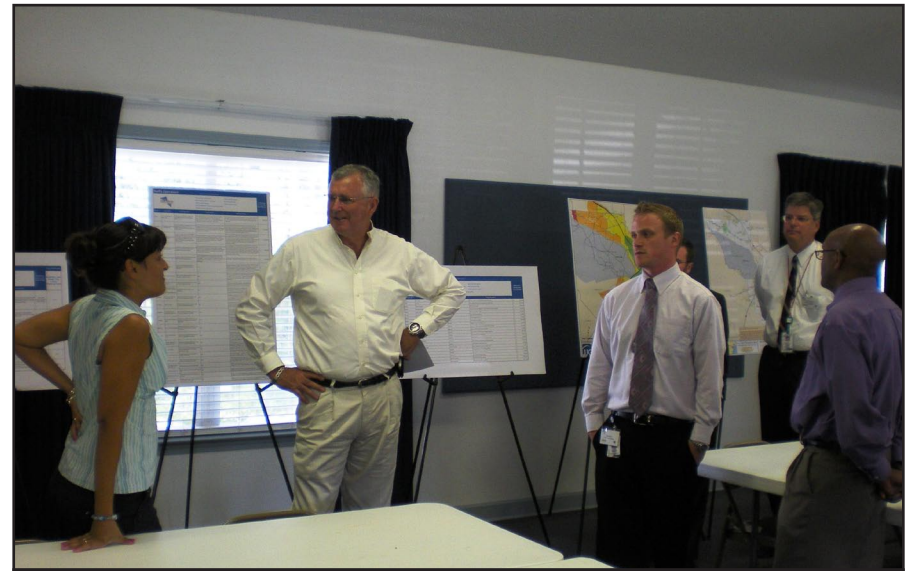
The second Advisory Committee meeting took place on February 11, 2009, at the Bryan County Courthouse Annex in Richmond Hill. Topics discussed included a progress update on study activities, review of travel demand model assumptions, and an exercise that refined transportation related goals from previous studies to shape the format and direction of the Bryan County Transportation Study. An electronic voting system was employed to gather committee input on potential study goals. The voting exercise was based on four potential goals that were drafted by consolidating goal statements

Chapter 6

presented in previous Bryan County planning efforts (e.g., Bryan County City of Pembroke and City of Richmond Hill Comprehensive Plans and Bryan County Bicycle Pedestrian Study). **Figure 6.3** (page 6-4) displays the local priorities reflected in the results from the voting exercise. Refer to *Chapter 2 – Goals Development and Evaluation Framework*, for the study goals and the corresponding needs statements which shaped the format and direction of this study.

The final Advisory Committee meeting was held on June 24, 2009 at the John W. Stevens Wetlands Education Center in Richmond Hill. The purpose of this meeting was to present the preliminary project recommendations and receive input from the committee to finalize these recommendations. The committee conducted group discussions regarding potential project termini as well as the need for other projects. The following bullets highlight the Advisory Committee comments, many of which came from city staff of Richmond Hill, that have been reflected in the final list of improvements:

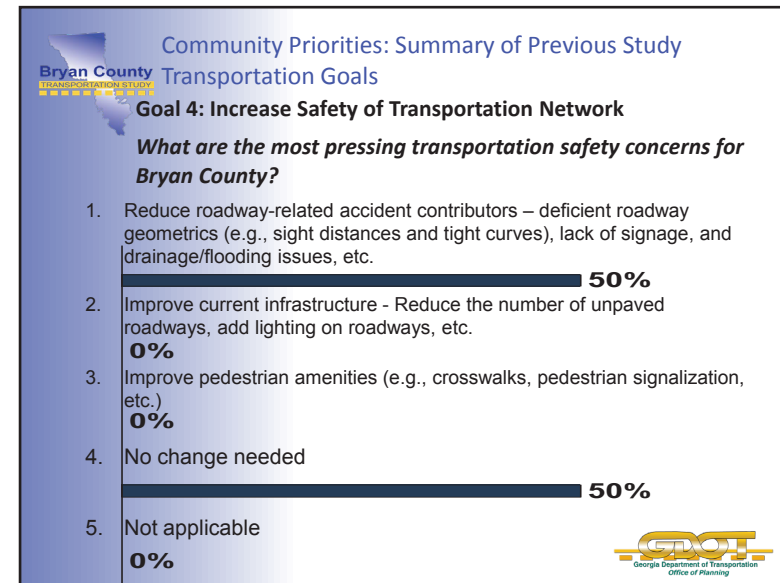
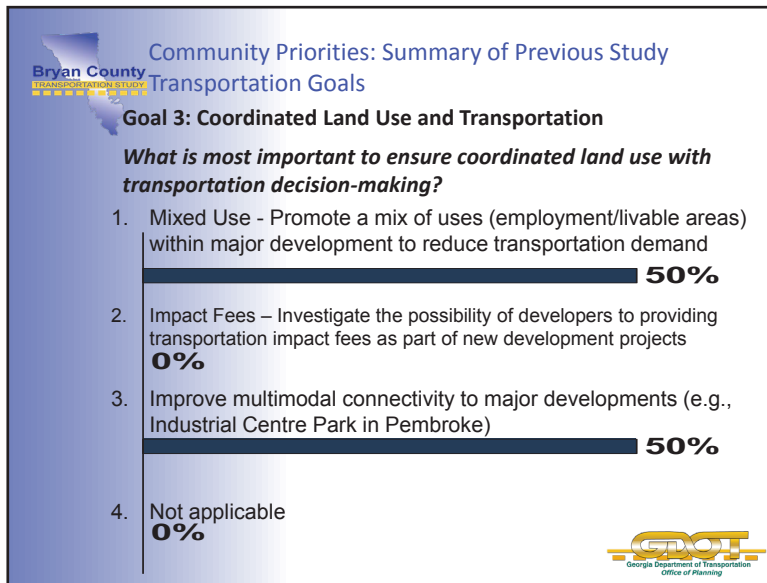
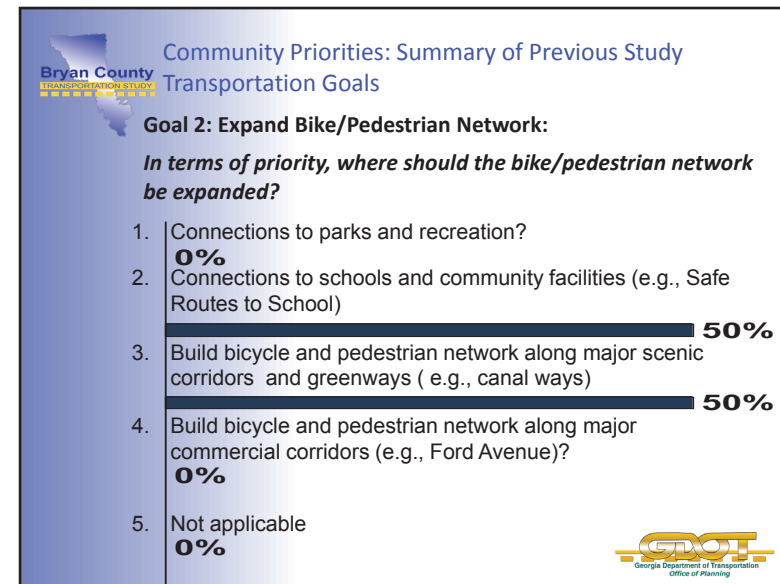
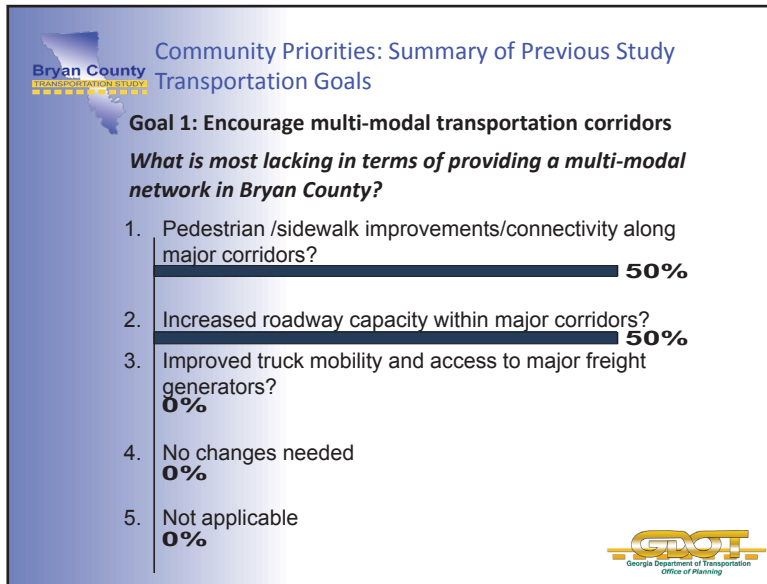
- The widening of US 17 from SR 196 to SR 144 should terminate west of the I-95 interchange to direct commuter traffic from Liberty County to I-95 without having to go through the commercial district in Richmond Hill;
- The widening of SR 144 to four lanes between Timber Trail and Belfast Keller Road should be a top priority;
- The widening of SR 144 to six lanes between US 17 and Timber Trail is not consistent with Richmond Hill's plans to promote a pedestrian-friendly environment and preserve its downtown; and
- Harris Trail Road functions as the most logical bypass to the city. Improving this road will deflect traffic from SR 144 and preserve the character of downtown Richmond Hill.



Advisory Committee Meeting, June 2009

Chapter 6

Figure 6.3: Local Priorities from Voting Exercise



Chapter 6

6.2 Stakeholder Interviews

Stakeholder interviews and one-on-one briefings with a cross section of community leaders in the study area were conducted at the onset of the study as part of the outreach effort. These interviews allowed the project team to identify key issues and consensus-building opportunities, obtain specific ideas and suggestions regarding desired quality of life, population growth, land use preferences, transportation priorities, and assist in the outreach effort.

Initially, the study team identified 39 elected and appointed officials, civic leaders, and representatives from faith and community-based organization, for the one-on-one interviews. As presented in **Table 6.1** (opposite), the study team was able to interview 17 of the identified stakeholders. A list of all the identified stakeholders as well as a summary of the interviews are included in the appendices. The following bullets highlight some of the major findings and common themes derived from the interviews:

- SR 144 widening and Harris Trail Extension are priority projects for the county and Richmond Hill;
- US 17 faces capacity issues during the peak hours of travel;
- Interchange at US 17 and I-95 needs to be upgraded to accommodate current and forecast traffic;
- Sidewalks along urban sections of major thoroughfares are needed to provide a safer environment for pedestrians;
- School traffic causes congestion because many are located in close proximity within Richmond Hill;
- The proposed interchange at I-95 and Belfast Siding Road should be considered in the long-term; and
- Growing truck traffic on US 280 at Interstate Centre necessitates the widening of the roadway.

Table 6.1: Stakeholder Interviews

Name	Organization	Title
Jimmy Burnsed	Bryan County Planning Commission	Chairman
Phil Jones	Bryan County	County Administrator
Billy Albritton	City of Richmond Hill Planning Commission	Chairman
Richard Davis	City of Richmond Hill	Mayor
Michael Melton	City of Richmond Hill	City Manager
Steve Scholar	City of Richmond Hill	Planning Director
Judy Cook	City of Pembroke	Mayor
Betty Hill	City of Pembroke	City Clerk
Wynn Carney	City of Pembroke	City Planner
Jean Bacon	Bryan County Development Authority	Executive Director
Jo Hickson	Coastal Georgia Greenway	Executive Director
Nevin Patton	1st Bank of Coastal Georgia	Senior VP
Sallie Brewer	Bryan County Schools	Superintendent
Nevin Brown	Main Street Homeowners Association and NAACP	
Johnny Murphy	Buckhead Lakes	Developer
Carlton Cooper	Bethel Baptist Church	Pastor
Sonny Timmerman	Hinesville MPO	Executive Director

STATE TRANSPORTATION IMPROVEMENT PROGRAM

11/9/12

Bryan

Project: **0010739** Type Work: Operational Improvement

Descp: SR 144 @ I-95 SB & NB OFF RAMP

Length: 0.40

Phase	Fund	Year	Federal	State	Other	Total
PE	STP	LUMP	\$120,000	\$30,000	\$0	\$150,000
CST	STP		\$640,000	\$160,000	\$0	\$800,000

Total Project Cost: \$ 950,000

Total Project Authorizations: \$ 150,000

Uses Lump Sum Bank: OPERATIONS FOR ANY AREA FOR FY 2013 - FY 2016

Project: **0010740** Type Work: Operational Improvement

Descp: SR 25/US 17 @ SR 144

Length: 0.40

Phase	Fund	Year	Federal	State	Other	Total
PE	STP	2012	\$80,000	\$20,000	\$0	\$100,000
CST	STP	LUMP	\$340,000	\$85,000	\$0	\$425,000

Total Project Cost: \$ 525,000

Total Project Authorizations: \$ 100,000

Uses Lump Sum Bank: OPERATIONS FOR ANY AREA FOR FY 2013 - FY 2016

Project: **0010912** Type Work: Shoulder Work

Descp: SR 21 SPUR; SR 144 & SR 144 SPUR @ 3 LOCS IN
BRYAN & CHATHAM

Length: 13.16

Phase	Fund	Year	Federal	State	Other	Total
CST	HSIP	LUMP	\$710,100	\$78,900	\$0	\$789,000

Total Project Cost: \$ 789,000

Total Project Authorizations: \$ 0

Uses Lump Sum Bank: HIGH RISK RURAL ROADS FOR FY 2013 - FY 2016

Also in Chatham County

Project: **0010913** Type Work: Slope Repair

Descp: SR 144 SPUR @ OGEECHEE RIVER-INSTALL
RIPRAP SCOUR PROTECTION

Length: 0.28

Phase	Fund	Year	Federal	State	Other	Total
PE	STP	2013	\$1,361,280	\$340,320	\$0	\$1,701,600
ROW	STP	2016	\$108,000	\$27,000	\$0	\$135,000
CST	STP	After 2016	\$3,880,800	\$970,200	\$0	\$4,851,000

Total Project Cost: \$ 6,687,600

Total Project Authorizations: \$ 0

Project: **532370-** Type Work: Widening

Descp: SR 144 EB FROM S OF CR 100 TO S OF CR 154

Lanes: Exist. 2 Prop. 4 Length: 4.60

Total Project Cost: \$ 25,830,390

Total Project Authorizations: \$ 0

Phase	Fund	Year	Federal	State	Other	Total
ROW	STP	2014	\$6,672,709	\$1,668,177	\$0	\$8,340,887
CST	STP	After 2016	\$13,196,664	\$3,299,166	\$0	\$16,495,831
UTL	STP	After 2016	\$794,938	\$198,735	\$0	\$993,673

Appendix E

Special Study Citations and Summaries

State Route 144 Widening, Bryan County
Project STP00-0630-00(010), PI Number 532370

Appendix E

Special Study Citations and Summaries

A series of special (technical) studies has been completed for the proposed SR 144 widening project. Each report has been coordinated through state and federal agencies for approval and to meet any regulatory requirements, as shown in Appendix C. Complete copies are maintained in GDOT files and can be provided for review upon request. These reports are incorporated by reference as part of this Environmental Assessment. Summary excerpts from the most recent (current) approved report for each topic follow this list.

■ History:

- Historic Resources Survey Report – Project STP-0630-00(010), Bryan County, HP# 020627-001. GDOT. October 2007.
- Assessment of Effects for Project STP-0630-00(010), Bryan County, HP# 020627-001. GDOT. April 2008.
- History Re-evaluation – Project STP-0630-00(010), Bryan County, HP# 020627-001. GDOT. January 2010.

■ Archaeology:

- Archaeological Survey of Project STP-0630-00(010), Bryan County. GDOT. June 2007.
- Archaeological Reassessment of Project STP-0630-00(010), Bryan County. GDOT. March 2010.

■ Ecology: Ecology Assessment of Effects – Project STP-0630-00(010), Bryan County, PI 532370. Ecological Solutions, Inc. July 2013.

■ Air Quality and Noise:

- Air-Noise Addendum Memo to File – Project No. STP00-0630-00(010), Bryan County, P.I. No. 532370. GDOT. March 2010.
- Air Quality Impact Assessment Addendum – Project No. STP00-0630-00(010), Bryan County, P.I. No. 532370. ARCADIS. October 2012.
- Noise Assessment Addendum – Project No. STP00-0630-00(010), Bryan County, P.I. No. 532370. ARCADIS. July 2012.

Cultural Resources

DESCRIPTION OF HISTORIC PROPERTIES

The Ford Kindergarten Building

The Ford Kindergarten Building is a wood frame building with clapboard siding, a low-pitched shingled gabled roof, 6/6 windows, and a pierced brick foundation, located on the west side of State Route 144 at the corner of Timber Trail Road and State Route 144 (refer to Figure 1). The Kindergarten Building is one of many community buildings in Richmond Hill constructed by Ford Motor Company founder, Henry Ford, who had his winter home there. It accommodated children aged 3 years to 6 years, and its outdoor playground equipment was constructed by the workshops located on Ford's farm property. The building now serves as the headquarters for the Richmond Hill Historical Society and Museum and is owned by the Magnolia Manor nursing home located at the rear of the property.

This property was evaluated for eligibility for listing in the National Register under Criteria B and C. The Ford Kindergarten Building was evaluated under Criterion B and appears to possess a national level of significance for its association with automobile industry pioneer Henry Ford. The Ford Kindergarten Building was also evaluated under Criterion C and appears to possess significance in the area of architecture as an almost fully intact example of a 1940's school building. It retains all of its original architectural features, including windows, doors, fence, walkway, and layout.

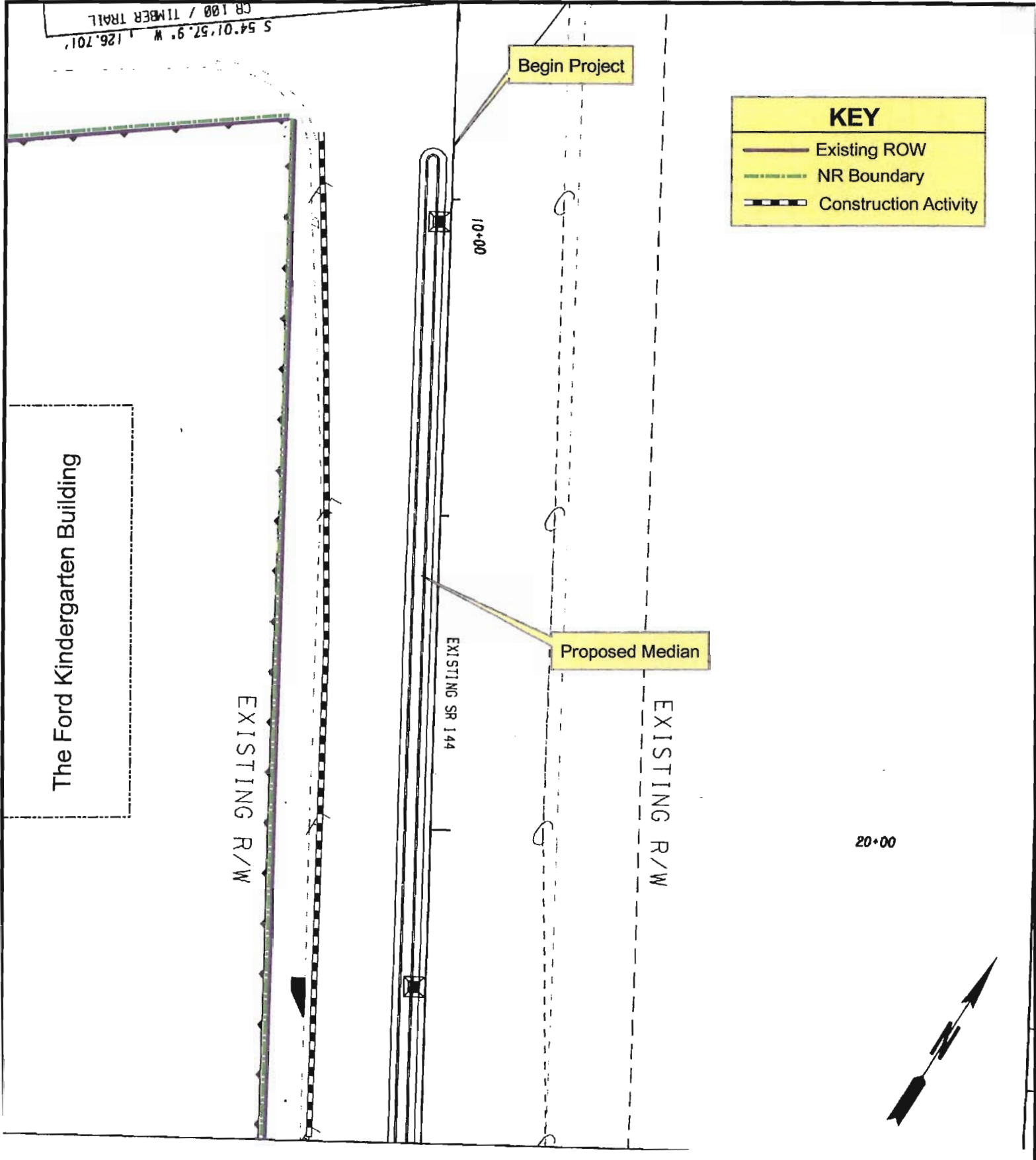
The proposed National Register boundary of the Ford Kindergarten Building corresponds to the legal property boundary, and contains approximately 10 acres. The proposed boundary contains all National Register qualifying characteristics and features of the property and includes the building, as well as the fencing and its immediate surrounds. All significant and character defining features of the property are included within the legal boundary (refer to property information form in Appendix B).

The right-of-way line along SR 144 has been proposed as the eastern border of the proposed boundary because the area within the right-of-way does not contain any landscape or other features that contribute to the National Register eligibility of this property (see Figures 3 and 4).

ASSESSMENT OF EFFECTS

The Ford Kindergarten Building

A finding of **No Adverse Effect** is anticipated for the Ford Kindergarten Building. In the area of the resource, project implementation would consist of constructing a 20-foot grassed raised median. The roadway consists of an existing 5-lane section and the median would be added with milling and overlay. All work would take place within the existing right-of-way (see Figure 2).



The Ford Kindergarten Building

EXISTING R/W

EXISTING SR 144

EXISTING R/W

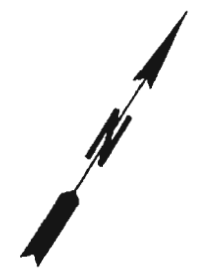
Begin Project

Proposed Median

10+00

20+00

KEY	
	Existing ROW
	NR Boundary
	Construction Activity



Proposed Improvements in the Area of the
 Ford Kindergarten Building
 Figure 2
 Bryan County
 STP-0630(10); PI #532370
 Widening of SR 144



S 54°01'57.9" W 126.701'
 CR 100 / TIMBER TRAIL

Physical destruction of or damage to all or part of the property would not occur. All work would take place outside the historical boundary and within existing right-of-way. The roadway in that area already consists of a 5-lane section and no further widening would occur.

Project implementation would not result in a change in the character of the property's use. There are no direct or indirect effects anticipated to the Ford Kindergarten Building that would alter the character of the continued institutional use of the property as the Richmond Hill Historical Society. All work will take place within the existing right-of-way and the existing roadway will not be widened. Therefore, project implementation would not result in a change in the character of the property's use.

Project implementation would not result in a change in the character of the property's physical features within the property's setting that contribute to its historic significance. The median would be constructed outside the historical boundary of the resource and within existing right-of-way. No contributing features to the property would be altered or removed.

Project implementation would not result in the introduction of visual elements that diminish the integrity of the property's significant historic characteristics or features. The existing roadway is currently a 5-lane section and it would not be widened further; the existing facility would continue to be an element of the visual character of the property. The addition of a median will not significantly change the viewshed of the resource. The distance from the property to the transportation facility would not change. The visual perception from the property would not change. The visual character of the area surrounding the resource has been compromised by modern commercial development. The improvement of the existing transportation facility in the area of the resource would not further compromise the visual character of the resource (see Figures 3 and 4).

Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the property's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. The project is consistent with the State Implementation Plan for air quality in the region.

Project implementation would audibly affect the Ford Kindergarten Building; however, this effect would not be adverse. The existing noise level at the property is 61.8 dBA LEQ. The no-build noise level at the property is 66.7 dBA LEQ. The build noise level (design year 2035) at the resource is 68.8 dBA LEQ. This 2 decibel increase would occur over twenty years and would not be perceptible to the human ear. The build noise level would not exceed the FHWA noise abatement criterion of 72 dBA LEQ established for commercial land use.

Project implementation is not anticipated to indirectly affect the Ford Kindergarten Building. No change in traffic patterns would result from project implementation. No additional access to the existing transportation facility would be provided and no existing access to the facility would be removed. The proposed project would only increase the capacity of the existing roadway to meet current and anticipated future demand.

DEPARTMENT OF TRANSPORTATION


STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. 532370

OFFICE Environmental Services

DATE March 3, 2010

FROM Pamela J. Baughman, Archaeologist 

TO Sam Pugh, NEPA Specialist

SUBJECT Archeological Reassessment of Project STP00-0630-00(010), Bryan County

The following is being furnished to you for inclusion as written, in the appropriate environmental document:

"In compliance with Section 106 of the National Historic Preservation Act of 1966 and amendments thereto, project STP00-0630-00(010), Bryan County, has been surveyed with respect to archeological resources, especially those on or eligible for inclusion in the National Register of Historic Places (NRHP). The purpose of the survey was to locate, identify and evaluate the significance of any archeological resources within the proposed project's area of potential environmental effect.

The proposed project would consist of widening SR 144 in Bryan County to an urban 4-lane divided highway with a 20-foot raised median with sidewalks and bike lanes. Originally, the project included a corridor defined as beginning at CR 100/Timber Trail Road (MP 11.37) and ending at MP 16.42 for a total distance of 5.05 miles. This project area was surveyed by Jim Pomfret in June of 2007; no NRHP eligible sites were located during that survey. The revised project corridor includes an urban 4-lane section of roadway with a 20-foot raised median, sidewalks, and bike lanes, along with a rural 4-lane section of roadway with a 24-foot raised median with bikeable shoulders. New traffic signals have been proposed at Timber Trail Road and Port Royal Road. The proposed project corridor has also been adjusted to begin at MP 11.31 and end at MP 16.24, for a total length of 4.903 miles. An archeological survey consistent with these project revisions was performed within the project corridor.

An archeological survey (Level I) was conducted in accordance with "GDOT/FHWA Cultural Resource Survey Guidelines" developed by the GDOT Staff Archeologists in consultation with DNR Historic Preservation Division Staff and concurred in by the Federal Highway Administration and State Historic Preservation Officer. These guidelines provide general survey boundaries and methodological approaches to archeological surveys based on the type/scope of work of proposed highway projects and are followed during the initial identification of archaeological resources.

By agreement, since no archaeological resources were located within the project's area of potential effect, no signed concurrence from the State Historic Preservation Officer is required. It is concluded, therefore, that the project will have no effect upon archaeological resources on or eligible for inclusion in the NRHP provided that the project conforms to that described above.

HP#020627-001

cc: Dr. David Crass, Director and Deputy SHPO, Poarch Band of Creek Indians, Seminole Tribe of Florida

Ecology

Executive Summary

Georgia Department of Transportation (GDOT) Project PESTP-0630-00(010), P.I. 532370, proposes the addition of through lanes and turn lanes with the incorporation of 4-foot bike lanes, a 20-foot raised grass median with 12-foot shoulders, and sidewalks from Mile Post (MP) 11.31 to MP 16.24 on State Route (SR) 144. The total project length is 4.93 miles. The project is within the City of Richmond Hill, Bryan County, Georgia.

The project corridor was surveyed April 5-8, 2011. This *Assessment of Effects Report* (2013 EAOE) addresses resource impacts based on the current design and approved concept report.

- **Habitats and Land Use Areas** – The survey area is bisected by an existing roadway (SR 144) with existing right-of-way (ROW) that is lined with commercial buildings (strip malls, office buildings, and gas stations), residential areas, institutional organizations (churches, cemeteries) and natural forested areas of mixed pine hardwoods and planted pine. The habitats are described in nine categories: mixed pine hardwood forest, residential, transportation ROW, planted pine forest, mesic mixed hardwood forest, commercial, institutional, early successional, and Waters of the U.S.
- **Federally Threatened and Endangered Species** – Prior to field investigations, an office review of protected species was conducted, including the 2012 United States Fish and Wildlife Service (USFWS) database by county, the USFWS Information, Planning, and Conservation (IPaC) database, and the Georgia Department of Natural Resources (GDNR) database by county and hydrologic unit code (HUC) 8 watershed list. These databases indicated that 16 federally protected faunal and one federally protected floral species are known to occur in Bryan County. GDNR correspondence dated July 28, 2011, lists records of three federally protected species occurring within three miles of the project area: the endangered West Indian manatee (*Trichechus manatus*), the endangered shortnose sturgeon (*Acipenser brevirostrum*), and the endangered Atlantic sturgeon (*Acipenser oxyrinchus*). USFWS correspondence dated July 8, 2011, listed no known occurrences of federally protected species within three miles of the survey corridor. The project is determined to have no effect on the North Atlantic right whale (*Eubalaena glacialis*), humpback whale (*Megaptera novaenangliae*), piping plover (*Charadrius melodus*), Bachman's warbler (*Vermivora bachmanii*), red-cockaded woodpecker (*Picoides borealis*), green sea turtle (*Chelonia mydas*), leatherback sea turtle (*Dermochelys coriacea*), hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's Ridley sea turtle (*Lepidochelys kempii*), frosted flatwoods salamander (*Ambystoma cingulatum*), and pond spicebush (*Lindera melissifolia*) as suitable habitat was not identified within the survey corridor.

The following species have a “may affect, not likely to adversely affect” determination due to the presence of suitable habitat: West Indian manatee, loggerhead sea turtle (*Caretta caretta*), wood stork (*Mycteria americana*), eastern indigo snake (*Drymarchon couperi*), shortnose sturgeon, and Atlantic sturgeon.

- **Candidate Species** – The office review identified two federal candidate species: gopher tortoise (*Gopherus polyphemus*) and striped newt (*Notophthalmus perstriatus*). The project would have no effect on these species due to the absence of suitable habitat.
- **Critical Habitat** – The closest critical habitat designation for a species that is federally listed in Bryan County is for the piping plover on the ocean side of Ossabaw Island in

Chatham County, approximately 12.9 miles southeast of the southern terminus of the project. There is no critical habitat designated for Bryan County. Therefore, the project would have no adverse modification on critical habitat of protected species.

- **Bald and Golden Eagle Protection Act** – The GDNR listed four recorded occurrences of bald eagle (*Haliaeetus leucocephalus*) nests within a three-mile radius of the survey area. Bald eagles have been identified approximately one mile southeast, 1.5 miles east, and two miles southeast of the northern terminus of the project alignment, as well as approximately 1.5 miles east of the southern terminus of the project alignment. In addition, Sterling Creek (PS10) provides potential foraging habitat for these birds. No bald eagle nests are located within the survey area. Due to the localized nature of the disturbance to Sterling Creek and the implementation of Special Provisions 107.23G, the proposed project would not result in a “take,” as defined under the BGEPA.
- **Migratory Birds** – Neotropical migratory birds and nests were observed under and around the vicinity of the Sterling Creek Bridge. The project would require the clearing of habitat in forested tracts within approximately 20 to 60 feet from the existing ROW, on one or both sides of the existing roadway. The edge habitat that would be cleared within the mixed pine hardwoods and mesic hardwoods forested areas provides nesting, roosting, and foraging habitat for many species of migratory birds; however, it represents only a small fraction of the large forested tracts beyond the survey area. SP107.23G would be implemented to protect migratory birds nesting under the bridge during construction.
- **Invasive Species** - The survey revealed that two of the 29 priority invasive plant species were located within the proposed corridor: alligator weed (*Alternanthera philoxeroides*) and Chinese tallow tree (*Triadica sebifera*). Chinese tallow is found primarily along the ROW adjacent to SR 144; however, a few were also identified lining the outsides of several wetlands within the survey area. Alligator weed was identified in a few wetland areas and in open waters as well.
- **Essential Fish Habitat (EFH)** – This project occurs in a county that has EFH; however, no EFH occurs within the survey area. The nearest location of EFH occurs in the Ogeechee River, approximately 775 feet north of the midpoint of the project corridor. The species this habitat has been identified for are red snapper (*Lutjanus campechanus*), grouper (*Epinephelus* spp.), and spiny lobster (*Panulirus argus*). The project would have no substantial adverse impact to EFH.
- **Waters of the U.S.** – Field studies conducted on April 5-8th, 2011 included a GPS survey of Waters of the U.S. within the project area. Eight open waters, 13 streams, and 24 wetlands are located within the survey area. All of the identified wetlands are associated with either Sterling Creek or unnamed tributaries of the Ogeechee River, located north of SR 144.
- **Streams Requiring Fish and Wildlife Coordination Act (FWCA) Coordination** – Approximately 117 linear feet of impacts to Stream 19 will require FWCA coordination.
- **Compensatory Mitigation and Permitting** – Approximately 376 linear feet (0.075 acre) of perennial and intermittent streams would be impacted, requiring the purchase of 1,470.30 stream mitigation credits from a USACE-approved mitigation bank. Approximately 2.22 acres of permanent impacts to wetlands (including tidal areas) and

ephemeral drainages would occur, requiring the purchase of 16.07 wetland mitigation credits from a USACE-approved mitigation bank, of which 14.81 credits are for freshwater impacts and 1.26 credits are for tidal impacts. The project would require a Pre-Construction Notification for use of Nationwide Permit (NWP) 14.

- **State Protected Species** - According to GDNR correspondence received on July 28, 2011, two state protected species are located within a three-mile radius of the project: bald eagle and a historic occurrence of the mimic glass lizard (*Ophisaurus mimicus*). The project would have no effect on the mimic glass lizard due to lack of habitat. The bald eagle is discussed in the BGEPA section of this document. The project is located within the Lower Ogeechee River Watershed (HUC 03060202). The GDNR species list by Hydrologic Unit Code (HUC) 8 for the Lower Ogeechee watershed listed three state-protected aquatic species [Savannah lilliput (*Toxolasma pullus*), Atlantic pigtoe (*Fusconaia masoni*), and robust redhorse (*Moxostoma robustum*)], known to occur within these watersheds. The southernmost 570 feet of the project alignment occurs within the Ogeechee River Coastal Watershed (HUC 03060204); however, no resources were observed along this portion of the alignment.

No suitable habitat was identified for the Atlantic pigtoe or robust redhorse. The project as proposed would have no effect on these species. An aquatic protected species survey was conducted May 1 and 2, 2013, in order to assess the presence of suitable habitat and individuals of the Savannah lilliput. No suitable habitat or individuals of this species were identified during the aquatic survey. The project would have no effect on the Savannah lilliput.

- **Bats** – No state or federal listed bat species are listed for Bryan County. No bats or presence of bat guano, guano stains, or distinctive odor were observed on or under the Sterling Creek Bridge during field surveys. Therefore, the project is not anticipated to impact bats.
- **State Waters** – Based on field surveys and coordination with the DNR Environmental Protection Division (EPD), 43 features were determined to be state waters. Of those 43 state waters, 20 were determined by EPD to have points of wretched vegetation, requiring a protected 25-foot buffer. Additionally, coordination with the GDNR Coastal Resources Division resulted in four wetlands determined to be tidally influenced, also requiring a protected 25-foot buffer.
- **Impacts to State Waters** - Impacts to the 25-foot buffers of WL8, WL9, WL12, WL13, and PS19 would require a buffer variance under Criterion (h). Impacts to the 25-foot buffer of OW32 would require a buffer variance under Criterion (a). None of the state waters identified in the project area are designated as trout streams in the most recent version of the Georgia Water Quality Control Act.

D. Avoidance and Minimization

In accordance with Section 404 (b)(1) guidelines, alternatives were considered in order to avoid and minimize wetland and stream impacts; however, the National Environmental Policy Act (NEPA), and other acts and regulations, require that a number of additional environmental factors be taken into account, which can create additional constraints on avoidance and minimization of ecological impacts.

Measures Prior to Construction

Prior to determining the proposed project alignment, the possible occurrence of protected species habitat, floodplains, wetland boundaries, stream locations, historic properties, and existing ROW boundaries were considered in the planning process.

On February 17, 1993, a concept was approved for the proposed project. It consisted of eastbound passing lanes from milepost (MP) 14.0 to MP 15.5. No alternatives were explored at that time. On February 4, 2002, a revised concept was approved for the proposed project. The revised concept consisted of widening SR 144 to an urban five-lane section of roadway from MP 11.5 to MP 15.1 with a future 20-foot raised median. From MP 15.1 to MP 16.0, the project would have consisted of a four-lane divided section with a 44-foot depressed median. No alternatives were explored at that time either.

On January 5, 2004, An Alternatives Analysis for SR 144 was performed by the Office of Planning, Data, & Intermodal Development. Three alternatives were evaluated:

1. Widen SR 144 on the existing alignment between CR 100 and CR 154 for a total cost of \$6.9 million.
2. Widen SR 144 on the existing alignment between CR 100 and CR 97, and construct four lanes of the new location west of the existing SR 144 between CR 97 and CR 154 (the existing SR 144 between CR 97 and CR 154 would remain a two-lane facility), for a total cost of \$10.4 million.
3. Widen SR 144 on the existing alignment between CR 100 and CR 97 and construct two lanes on new location west of the existing SR 144 from CR 97 to CR 154 (the existing SR 144 between CR 97 and CR 154 would remain a two-lane facility), for a total cost of \$6.7 million.

Each alternative's cost and level of service (LOS) were calculated in the analysis. Only Alternative 1, widening along existing alignment, yields an acceptable LOS in the year 2025 on SR 144 between CR 100 and CR 154. Alternatives 2 and 3 result in an acceptable LOS between CR 100 and CR 97 but result in an unacceptable LOS on the existing SR 144 alignment between CR 97 and CR 154. Based on the LOS and costs of each alternative, the Office of Planning does not support constructing a new location facility for SR 144 in lieu of widening on the existing alignment.

On May 1, 2006, a revised concept was approved to provide an urban four-lane section of roadway with a 20-foot raised median with sidewalks starting at MP 11.4 to MP 15.2 with a 22.5-foot shoulder for an 8-foot asphalt bicycle lane on the right side. From MP 15.2 to MP 16.0 consists of a four-lane section of roadway with a 24-foot raised grassed median with a 6.5-foot bikeable shoulder. This is the current concept, which was re-evaluated and approved again on October 17, 2008.

The resources that would be impacted by the proposed project are listed below, along with measures considered to avoid or minimize impacts to each.

WL5 – This feature would incur approximately 0.10 acre of permanent fill impacts and approximately 0.05 acre of permanent clearing impacts. This feature could be avoided if the widening occurred on the northeast side of SR 144; however, it may result in impacts to WL2, 3, and 4, as well as OW6 and EC7, all of which are currently not impacted by the project. The designers for the project have reduced the slopes from 4:1 to 2:1 from Station 62+50 to 64+50, which has reduced impacts to WL5. No further minimization of impacts to this resource was feasible.

WL8 – This feature would incur approximately 0.07 acre of permanent fill impacts and approximately 0.06 acre of permanent clearing impacts. Impacts to this feature cannot be avoided. They could be reduced by shifting the widening to the northeast side of SR 144; however, that would result in a substantial increase in impacts to WL9 and WL13. The fill and clearing impacts in this area are unavoidable due to the construction of the bridge approaches and the expanded bridge over Sterling Creek (PS10).

WL9 - This feature would incur approximately 0.04 acre of permanent fill impacts and approximately 0.10 acre of permanent clearing impacts. Impacts to this feature cannot be avoided. A shift of construction to the southeast would lead to building on new location, which would result in a substantial increase in impacts to WL8 and WL12, as well as impacting PS11, which is not currently being impacted by the project. A southeast shift would also impact the golf course (and OW14), which occurs south of this area. The fill and clearing impacts in this area are unavoidable due to the construction of the bridge approaches and the expanded bridge over Sterling Creek (PS10).

WL12 - This feature would incur approximately 0.14 acre of permanent fill impacts and approximately 0.14 acre of permanent clearing impacts. Impacts to this feature cannot be avoided. They could be reduced by shifting the widening to the northeast side of SR 144; however, that would result in a substantial increase in impacts to WL9 and WL13. The fill and clearing impacts in this area are unavoidable due to the construction of the bridge approaches and the expanded bridge over Sterling Creek (PS10).

WL13 - This feature would incur approximately 0.08 acre of permanent fill impacts and approximately 0.16 acre of permanent clearing impacts. Impacts to this feature cannot be avoided. A shift of construction to the southeast would lead to building on new location, which would result in a substantial increase in impacts to WL8 and WL12, as well as impacting PS11, which is not currently being impacted by the project. A southeast shift would also impact the golf course (and OW14), which occurs south of this area. The fill and clearing impacts in this area are unavoidable due to the construction of the bridge approaches and the expanded bridge over Sterling Creek (PS10).

WL17 – This feature would incur approximately 0.04 acre of permanent fill impacts and approximately 0.22 acre of permanent clearing impacts. Impacts to this feature are unavoidable. A shift in construction to the southwest would result in building on new location, which would result in a substantial increase in impacts to WL18 and PS19, as well as resulting in the relocation of a business that occurs just east of WL18. Minimization measures were explored, and it was determined that impacts to WL17 cannot be further minimized in this area.

WL18 – This feature would incur approximately 0.35 acre of permanent fill impacts and approximately 0.10 acre of permanent clearing impacts. Impacts to this feature cannot be avoided; however, they could be minimized by shifting the widening of SR 144 to the northeast side of the roadway in this area. This would result in a substantial increase in impacts to WL17 and PS19, as well as the relocation of a residence that occurs to the east of WL17. Minimization measures were explored, and it was determined that impacts to WL17 cannot be further minimized in this area.

PS19 – This feature would incur approximately 98 linear feet of permanent impacts via stream relocation, approximately 19 linear feet of permanent impacts via a new culvert, and approximately 22 linear feet of permanent impacts via placement of riprap as a result of this project. This feature is a perpendicular crossing; it cannot be avoided. A shift in construction to one side of SR 144 or the other would result in similar or increased impacts to this feature. The new culvert would be designed for fish passage. Additional minimization measures were explored. Design factors were taken into consideration to avoid impacts to PS19. These included a curb and gutter sidewalk, tie-back into the channel as soon as possible to reduce the project footprint, and a Value Engineering (VE) study which further reduced the project footprint. In the conceptual stage, in order to reduce impacts throughout the project, it was decided to implement an urban four-lane roadway. The minimum amount of pipe was installed to meet clear zone. Also, the VE study recommended use of 11-foot lanes on the inside in lieu of 12-foot lanes. This was implemented. Construction of guardrail and a headwall were considered, but the cost is extremely high. Impacts to PS19 cannot be further minimized in this area.

WL20 – This feature would incur approximately 0.08 acre of permanent clearing impacts. A shift of construction along SR 144 to the northeast would avoid impacts to this feature; however, it would result in the relocation of several residences and the removal of a residential street. Due to its proximity to the intersection of SR 144 and Port Royal Road, these impacts cannot be avoided or minimized.

WL25 – This feature would incur approximately 0.05 acre of permanent fill impacts and approximately 0.05 acre of permanent clearing impacts. Impacts to this feature cannot be avoided; the SR 144 widening would occur on the southwest side of SR 144 in this area. If construction was shifted further to the south, it would result in construction on new alignment, which would result in a substantial increase in impacts to EC27 and WL28, in addition to displacing several residences. Slopes have been reduced from 4:1 to 2:1 along the north side of SR 144 from Station 131+50 to 133+50, which has minimized the impacts to this feature. No further minimization is possible in this area.

WL26 – This feature would incur approximately 0.20 acre of permanent fill impacts. Because this feature occurs adjacent to the south side of SR 144 and the widening of SR 144 also occurs along the south side, this feature would be impacted in its entirety. This is unavoidable because a shift of construction to the north side of SR 144 in this area would result in an awkward intersection at SR 144 and Private Road, it would result in a substantial increase in impacts to WL23, EC24, and WL25, and it would also displace two apartment buildings. Minimization is not possible in this area.

EC27 – This feature would incur approximately 0.007 acre of permanent impacts due to the installation of new box culverts under SR 144. Because this feature is on the south side of SR 144 and the widening of SR 144 occurs along the south side, this feature would be impacted

in its entirety. A shift of construction to the north side of SR 144 in this area would result in an awkward intersection at SR 144 and Private Road and would result in a substantial increase in impacts to WL23, EC24, and WL25, and it would also displace two apartment buildings. Minimization is not possible in this area.

WL28 – This feature would incur approximately 0.01 acre of permanent impacts via fill. Due to the fact that this wetland crosses under Rabbit Hill Road and connects to EC27, impacts to it are unavoidable. The SR 144/Rabbit Hill Road intersection will be realigned as part of this project in order to create a safer intersection combined with the widening which would be constructed along the south side of SR 144. A shift of construction in either direction would still impact this feature, as well as increasing impacts to surrounding features (WL23, EC24, WL25, WL26, and EC27). No minimization is feasible in this area.

EC34 – This feature would incur approximately 0.001 acre of permanent fill impacts. The widening of SR 144 occurs on the west side of the roadway, which is opposite this feature. The slopes could not be reduced in this area. Therefore, no avoidance or minimization of this feature is possible.

EC35 – This feature would incur approximately 0.01 acre of permanent fill impacts. This feature occurs on the west side of SR 144, which is the same side that is being widened. A shift in construction to the east side of SR 144 would avoid impacts to this ephemeral drainage; however, it would substantially increase impacts to the intermittent portion of this channel (IS35), as well as impacting IS36, which would not be impacted by the currently proposed project. In addition, a shift to the east side of SR 144 would displace several residences. Therefore, no avoidance or minimization is possible in this area.

IS35 – This feature would incur approximately 44 linear feet of permanent impacts via culvert extension. SR 144 is being widened on the opposite side of the roadway from this feature. The impacts to it are unavoidable, and the slopes could not be reduced in this area. Therefore, no minimization is possible in this area.

IS37 – This feature would incur approximately 98 linear feet of permanent impacts via culvert extension. IS37 is a perpendicular crossing; therefore, no shifts in construction would result in an elimination of impacts. The slopes could not be reduced in this area, so no minimization is possible.

WL38 – This feature would incur approximately 0.04 acre of permanent fill impacts. WL 38 could be avoided if construction could be shifted to the east side of SR 144 in this area. However, such a shift would result in the displacement of a business located at the corner of SR 144 and Fort McAllister Road. Due to the proximity of this feature to the existing SR 144 roadway, minimization of impacts is not possible.

PS42 – This feature would incur approximately 95 linear feet of permanent impacts via culvert extension as a result of this project. PS42 is a perpendicular crossing; therefore, any shifts in construction would result in similar impacts to this feature and may increase impacts to the surrounding wetlands (WL38, WL39, WL40, WL43, and WL44). Therefore, no avoidance or minimization is possible for this feature.

WL43 – This feature would incur approximately 0.04 acre of permanent clearing impacts. Impacts to WL43 could be avoided by shifting the widening of SR 144 to the east side of the roadway; however, doing so would result in impacts to WL39 and WL44. The slopes could

not be reduced in this area; therefore, avoidance or minimization of this feature is not possible.

WL45 – This feature would incur approximately 0.02 acre of permanent fill impacts and 0.04 acre of permanent clearing impacts. Impacts to WL45 could be avoided by shifting the widening of SR 144 to the east side of the roadway; however, doing so would result in impacts to a commercial property that is located on the east side of SR 144 across from this feature. The slopes could not be reduced in this area; therefore, avoidance or minimization of this feature is not possible.

Measures During Construction

Orange barrier fence will be used around all environmentally sensitive areas on the project. The following best management practices (BMPs) would be implemented on the project: perimeter silt fence; double rows of silt fence with baled straw in between cross drains are being extended or constructed; filter rings at the upstream side of cross drains and orange barrier fencing; mulching and temporary grassing for disturbed areas; temporary pipe, ditch checks, and inlet sediment traps; erosion control mats for waterways and permanent soil reinforcing mats during completion of final grading; plastic filter fabric and riprap at drainage outfalls; and erosion control mats and permanent grassing of completed shoulders and slopes. The proposed project will comply with design standards by meeting the 80 percent reduction in total suspended solids (TSS) and the 60 percent reduction in other pollutants.

The project would be expected to produce some increased siltation within wetlands and streams during the construction phase. Environmental harm would be minimized by standard sedimentation, erosion and hydrological control measures. These include the following:

- 1) Preservation of roadside vegetation beyond the limits of construction where possible.
- 2) Early revegetation of disturbed areas so as to hold soil movement to a minimum.
- 3) The use of slope drains, detention/retention structures, surface, subsurface and cross drains, designed as appropriate or needed, so that discharge would occur in locations and in such a manner that surface and subsurface water quality would not be affected (the outlets may require aprons, bank protection, silt basins and energy dissipaters).
- 4) Inclusion of construction features for the control of predicted erosion and water pollution in the plans; specifications and contract pay items (Georgia Standard Specifications - Section 161 through 171 and 700 through 715 identify the pollution control measures, which may be used).
- 5) The prohibition of dumping of chemicals, fuels, lubricants, bitumens, raw sewage, other harmful waste into or alongside of streams or impoundments, or into natural or man-made channels leading thereto.
- 6) Compliance with terms of the National Pollutant Discharge Elimination System (NPDES) permit for construction activities to include preparation and submittal of project Notice of Intent (NOI) and Notice of Termination (NOT). The NPDES permit also requires preparation and implementation of an Erosion, Sedimentation, and

Pollution Control Plan (ESPCP) and a Comprehensive Monitoring Program. BMPs outlined in the ESPCP must be consistent with, and no less stringent than, practices set forth in the *Manual for Erosion and Sedimentation Control in Georgia*.

Air Quality and Noise

Air Quality Impact Assessment Addendum
Project No.
STP00-0630-00(010), PI No. 532370
Bryan County
June 2012

SR 144 Widening

Traffic Data Years: Existing (2011), Open (2018), and Design (2038)

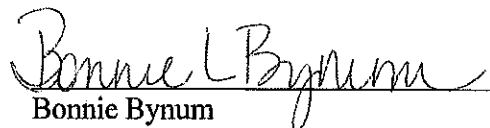
State Route 144 (SR 144) is a two-lane highway in Bryan County, with a functional classification as a rural major collector. Due to recent and planned residential development, traffic volumes are projected to continue to grow within the corridor. To improve safety and operational conditions on SR 144 and accommodate the projected traffic, additional through lanes and turn lanes are proposed along 5.333 miles of the existing roadway. The proposed project would extend from its western terminus at Milepost (MP) 11.197 north of Timber Trail Road to its eastern terminus at MP 16.24 just south of Belfast Keller Road. The project was evaluated for its consistency with state and federal air quality goals, including carbon monoxide (CO), ozone, particulate matter 2.5 (PM_{2.5}), and mobile source air toxics (MSATs) as part of this assessment. Results indicated that the project is in compliance with both state and federal air quality standards.

Prepared By:

QC/QA Name and signature:



Jody Peace, PE



Bonnie Bynum

Approved By (GDOT): 

Date: 8-28-2012



STP-00-0630-00(010), Bryan County
SR 144 Widening from CR 100/Timber Trail to
CR 154/Belfast Keller Road, P.I. No. 532370

Noise Impact Assessment Addendum

February 2012

Executive Summary

State Route 144 (SR 144) is a two-lane highway in Bryan County, Georgia, with a functional classification as a rural major collector. As a result of recent and planned residential development, traffic volumes are projected to continue to increase within the corridor. To improve safety and operational conditions on SR 144 and to accommodate the future traffic volumes, additional through lanes and turn lanes are proposed along 4.93 miles of the existing roadway. The proposed project would widen the two existing lanes along SR 144 to provide an urban four-lane section of roadway with a 20-foot raised grass median, 4-foot bike lanes, and 12-foot shoulders. The proposed project would extend from its western terminus at Milepost (MP) 11.31 north of CR 100/Timber Trail Road to its eastern terminus at MP 16.24 just south of CR 154/Belfast Keller Road.

It should be noted that the Noise Impact Assessment prepared in 2008 for the proposed SR 144 widening project was approved by Georgia Department of Transportation (DOT). This addendum updates the approved document to be in compliance with the latest Georgia DOT noise policy (*Highway Noise Abatement Policy for Federal-Aid Projects, July 2011*). The changes in noise levels reported in the approved document are a result of the following:

- Revised existing-year (2011) and design-year (2038) traffic volumes for the proposed project
- Addition of turn lanes at some intersections along the proposed corridor
- Revised study limits in accordance with the new policy, which resulted in the addition of 126 receiver locations along the proposed corridor
- Inclusion of elevations for receivers and roadway segments modeled in Federal Highway Administration (FHWA) Traffic Noise Model (TNM) Version 2.5

The noise impact assessment was performed for existing-year (2011) and future-year (2038) no-build and build conditions using the approved traffic volumes from the Georgia DOT Office of Planning. Exhibit 1 below summarizes the noise impacts for these scenarios.



STP-00-0630-00(010), Bryan County
SR 144 Widening from CR 100/Timber Trail to
CR 154/Belfast Keller Road, P.I. No. 532370

Noise Impact Assessment Addendum

February 2012

Exhibit 1 Noise Impact Assessment Summary

Scenario	Total No. of Receivers	Total No. of Dwelling Units	Total No. of Impacted Dwelling Units	Estimated Noise level Range in dB(A)
Existing (2011)	224	323	9	48.5 – 69.8
2038 No-Build	224	323	16	50.3 – 71.6
2038 Build	224	323	10	51.0 – 69.7

The 2011 existing conditions assessment indicates that nine dwelling units (represented by seven receivers-all residential) are impacted under the Federal Highway Administration (FHWA) noise abatement criteria (NAC). Noise levels under 2011 existing conditions range from 48.5 dB(A) to 69.8 dB(A).

The results indicate that future traffic-generated noise levels would range from 50.3 dB(A) to 71.6 dB(A) under 2038 no-build conditions and 51.0 dB(A) to 69.7 dB(A) under 2038 build conditions within the entire study area.

Results from the 2038 no-build analysis indicate 16 dwelling units (represented by 14 receivers-all residential) would experience noise levels that exceed the FHWA NAC based on projected traffic growth. No dwelling units would be impacted as a result of a substantial increase in traffic-related noise over 2011 existing conditions. The 2038 build analysis indicates that 10 dwelling units (represented by eight receivers-all residential) would experience noise levels that exceed the FHWA NAC. No dwelling units would be impacted as a result of a substantial increase in traffic-related noise over 2011 existing conditions.

The predicted changes in traffic-related noise levels between the 2038 no-build and 2038 build scenarios range from a -3.1 dB(A) reduction to a 2.7 dB(A) increase. The slight reduction in noise levels at some of the receiver locations in the 2038 build scenario as compared to the 2038 no-build scenario is a result of the reduction in speed limit on the proposed SR 144 from 55 miles per hour to 45 miles per hour. The noise level increase in the 2038 build scenario over the 2038 no-build scenario is attributed to the widening of SR 144 to accommodate additional through lanes with a subsequent decrease in the distance between the traffic noise source and the receiver units. The results of the analysis show that most receivers in the study area that are impacted under build conditions are also impacted under no-build conditions, indicating that the SR 144 widening project will not have a significant impact on traffic-related noise within the project area.



STP-00-0630-00(010), Bryan County
 SR 144 Widening from CR 100/Timber Trail to
 CR 154/Belfast Keller Road, P.I. No. 532370

**Noise Impact
 Assessment
 Addendum**

February 2012

Various noise abatement measures were reviewed to mitigate noise impacts and protect public health in the vicinity of the proposed project. All impacted receivers were reviewed in detail for noise abatement; however, a few impacted receivers could not be mitigated as they have direct driveway access to SR 144, preventing access to the properties that resulted in none of the measures being feasible. Five barriers were evaluated and designed as noise abatement strategies. These barriers would benefit three dwelling units (represented by three receivers – all single-family homes) within the limits of the proposed project. Only three of the five barriers were identified to be reasonable and feasible.

Prepared By:

QA/QC By:

 Sujith Racha
 ARCADIS U.S., Inc.

 Koushik Arunachalam
 ARCADIS U.S., Inc.

Reviewed By: _____

Date: _____