

# Flemington Loop Study

Prepared for:

FORT STEWART / HAAF  
GROWTH MANAGEMENT PARTNERSHIP



In cooperation with Hinesville Area Metropolitan Planning Organization  
and the Liberty Consolidated Planning Commission

Prepared by:



**March 2012**

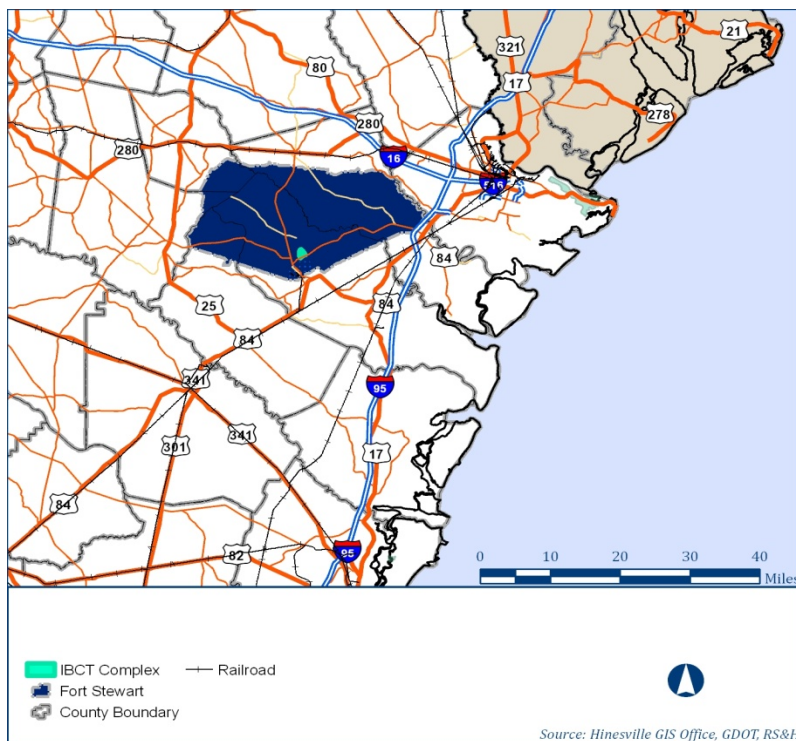
*This study was prepared with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the participating local government entities and stakeholders of the Fort Stewart/HAAF region and does not necessarily reflect the views of the Office of Economic Adjustment.*

## Introduction

This report presents alternative corridors for the Flemington Loop, a proposed road in Liberty County, Georgia. The study included a preliminary screening of several options, selection of four alternatives for further assessment, and documentation of the environmental impacts of each alternative. As the project enters the plan development phase, a full environmental assessment will be performed, which builds on the findings of this study, and a preferred alternative will be identified. Plan development will proceed when funding is available.

## Project Background

Fort Stewart, Georgia, has added a new secure area outside of the main cantonment area. The 4<sup>th</sup> Infantry Brigade Combat Team Complex (4IBCT Complex) is located north of SR 144 and east of SR 119, off of Military Road 47. (See the figure below.) The 4IBCT Complex introduced approximately 4,700 soldiers and civilians in an



area of Fort Stewart that was previously unoccupied; approximately 1,400 soldiers live in the Complex. The soldiers, along with supporting civilian and contract employees, have generated increasing traffic on roads in the area including Old Sunbury Road, Military Road 47, and US 84/SR 38. For example, traffic on Old Sunbury Road increased from 4,720 AADT (reported by the Georgia Department of Transportation in 2010) to 7,494 vehicles after the IBCT opened. This represents an increase of 59%. The growing traffic has produced stakeholder concerns including the performance of the Old Sunbury Road/Military Road 47 corridor, impacts on residents in the corridor, and operations in the US 84 Flemington curve area.

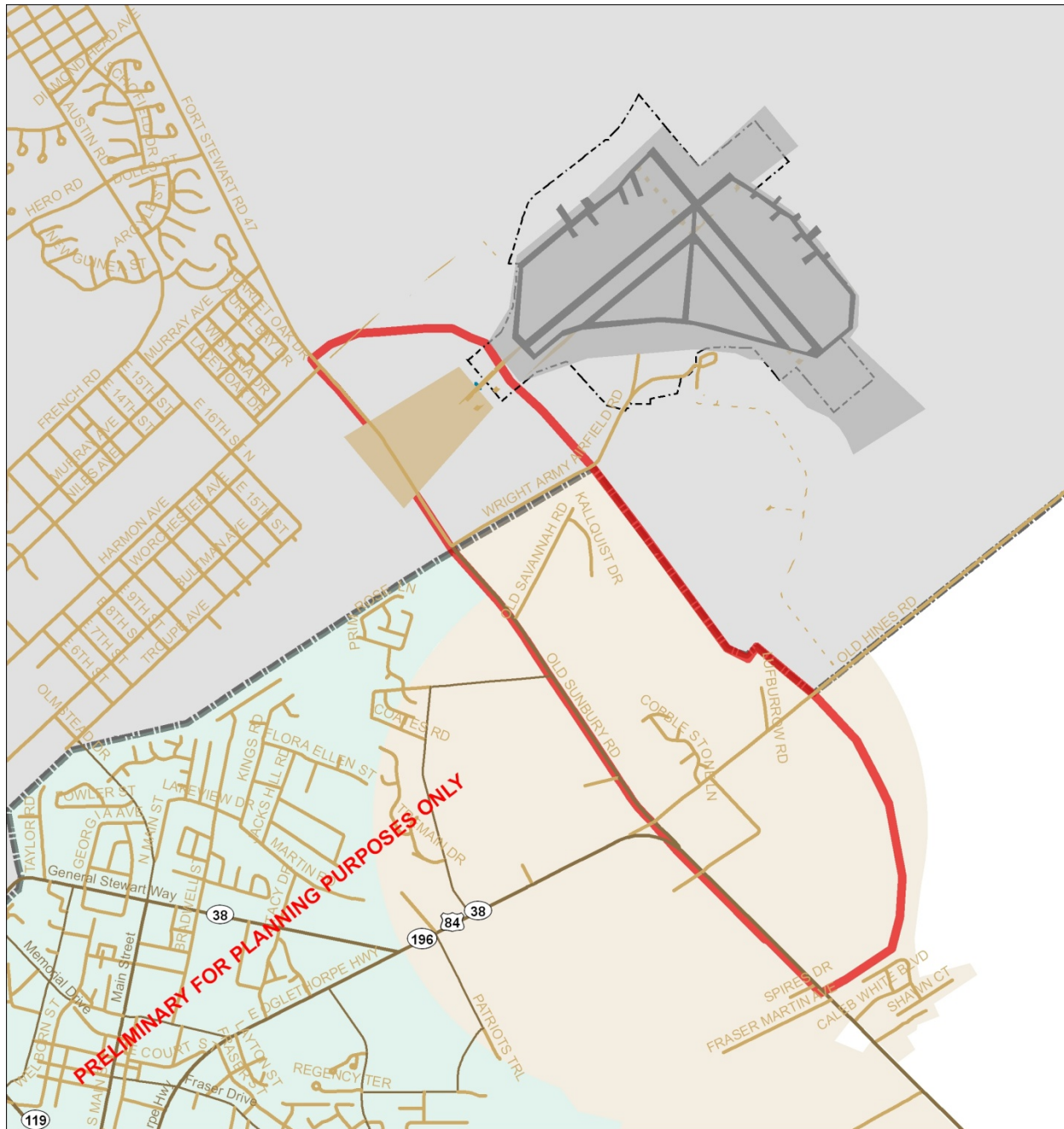
Figure 1 Location Map

## Purpose and Need

The Hinesville Area Metropolitan Planning Organization (HAMPO) has proposed constructing a new road to accommodate traffic from US 84/West Oglethorpe Highway in Liberty County to Fort Stewart's recently constructed 4IBCT Complex. The road will provide a bypass of Old Sunbury Road, a two lane road with historic significance in coastal Georgia. The new road, called the Flemington Loop, will also provide access to the civilian side of the MidCoast Regional Airport and proposed development adjacent to the airport in a Liberty County Development Authority (LCDA) development zone. Figure 2 shows the study area. The LCDA development zone

is located between the airport and Old Hines Road, just northeast of the study area. The entire study area is located in the City of Flemington or on Fort Stewart.

The new road is included in the HAMPO Long Range Transportation Plan, adopted October 2010. The adopted Transportation Investment Act (TIA) project list also includes the Flemington Loop as a designated improvement to receive funding through sales tax revenues. If the Transportation Investment Act referendum passes in the Coastal Georgia region, funds to design and construct the Flemington Loop will be collected starting in 2013. The project delivery framework for TIA projects is being developed by GDOT at this time; it is likely that specific projects will be managed locally and others will be managed by GDOT. The TIA legislation specifies that GDOT may delegate such construction and operation to governments and entities as appropriate to deliver projects.



- Flemington Loop Study Area
- Airport Site
- Fort Stewart
- Flemington
- Hinesville
- Joint-use Lease Line
- MALS
- Proposed Pvmt
- Ultimate RPZ

Source: Hinesville GIS, EPA, HAMPO, RS&H, WSA

**Figure 2 Study Area**



0 1,320 2,640 5,280  
Feet



## MidCoast Regional Airport

The study area is adjacent to the MidCoast Regional Airport, a cooperative effort between the City of Hinesville, the Liberty County Board of Commissioners, the Liberty County Development Authority, and the United States Army, acting under a Joint Management Board (JMB). Per an Airport Layout Plan (ALP) provided in draft form to the study team, the JMB has plans to expand the airport, including future light industrial development and runway extensions. Runway 6 has an ultimate Runway Protection Zone (RPZ) that will extend across the existing location of Military Road 47. Figure 3 shows the study area, which is bordered by Military Road 47 and includes the ultimate RPZ location. Construction of any new roadway is not permitted to encroach on the ultimate RPZ; therefore the future intersection of Flemington Loop and Military Road 47 will need to avoid the ultimate RPZ.

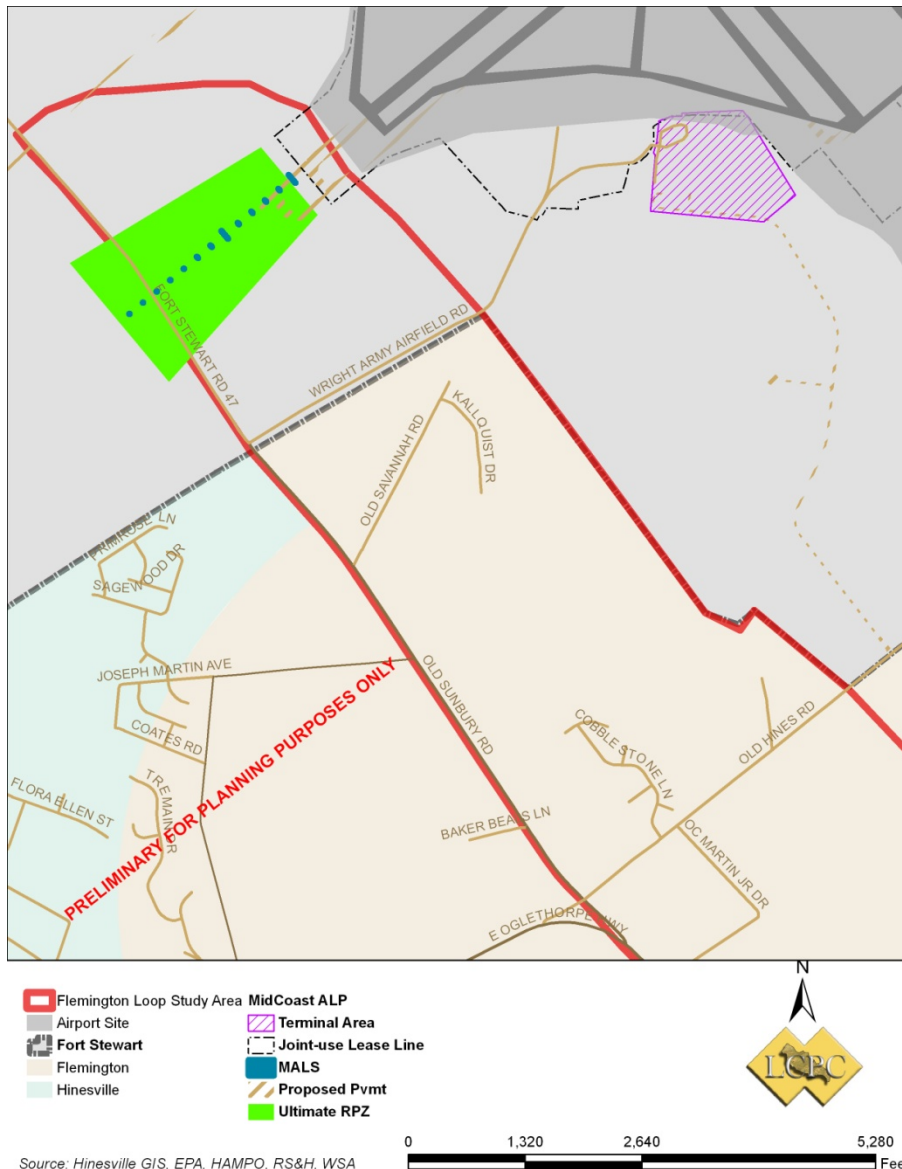


Figure 3 Airport Layout Plan

The terminal building, completed in 2007, contains a total of 13,825 square feet, which includes both a civilian Fixed Base Operation (FBO) terminal and military operations building (which is leased to the Army Corps of Engineers). The FBO terminal includes a large, open lobby with glass walls along the ramp side of the facility. There is also a conference/training room, offices, flight planning room, pilot lounge and snooze room, and other essentials such as free WiFi.

In addition to the terminal, other structures include 12 T-hangars, five box hangars, and a 10,000 square foot bulk hangar with a 30-foot door. The civilian general aviation part of the development also includes a large ramp and plans for a self-fueling facility and aircraft wash facility. To the northwest of the airport, Fort Stewart is currently constructing a hangar and operational facility for the Grey Eagle Unmanned Aerial System project.

## Alternatives

One no-build alternative and four build alternatives are described below. The no-build alternative would result in increasing traffic volumes on Old Sunbury Road. This would require upgrading the historic road, with possible widening required in the future. Traffic calming strategies would also be required to ensure that residents continue to have access to their properties.

This report assesses alternatives that meet the need for the project while minimizing environmental and community impacts. The four alternatives described below were the most suitable alternative corridors after a screening process that included approximately twenty options.

## Screening

Preliminary alternatives were screened based upon highway design criteria and environmental impacts, including:

- Does the alternative meet the purpose and need for the proposed roadway?
- Is standard roadway geometry feasible?
- What are the potential property impacts (including structures)?
- What are the potential natural resources impacts?
- What are the potential historic and cultural resources impacts?
- Is the alternative consistent with local plans, including proposed developments?
  - Local comprehensive and master plans
  - Liberty County Development Authority
  - MidCoast Regional Airport
  - Fort Stewart
  - HAMPO plans
- Other potential impacts

The figure below shows the preliminary alternatives developed prior to identifying the four corridors for a thorough impact assessment. The preliminary alternatives were ranked based upon the criteria above as well as staff and stakeholder input. The top four were selected to move forward, and revised as additional constraints were identified.

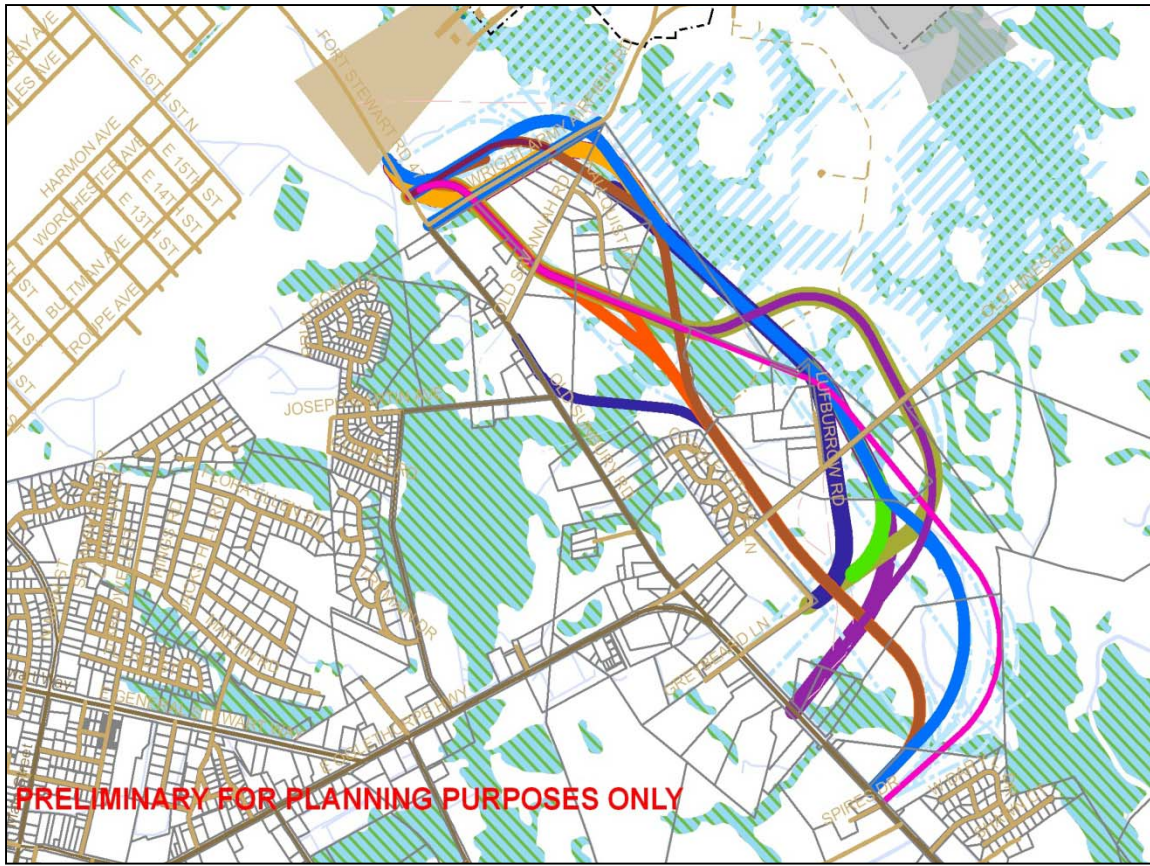


Figure 4 Preliminary Alternatives Developed for Screening

## Impact Assessment Overview

Figure 5 shows the four alternatives that were reviewed in detail. All four alternatives follow the same alignment for the western portion shown as alternative “A,G,J,L” on the map. The potential impacts of each alternative are described below by topic. Table 2 provides a side-by-side comparison of each alternative and the evaluation criteria. These evaluation criteria are:

- Roadway length
- Estimated travel time
- Potential noise impacts
- Potential wetland impacts
- Potential floodplain impacts
- Adjacent upland acres (for development)
- Property impacts
- Roadway geometry

A map series showing conditions in the study area is located after the narrative.



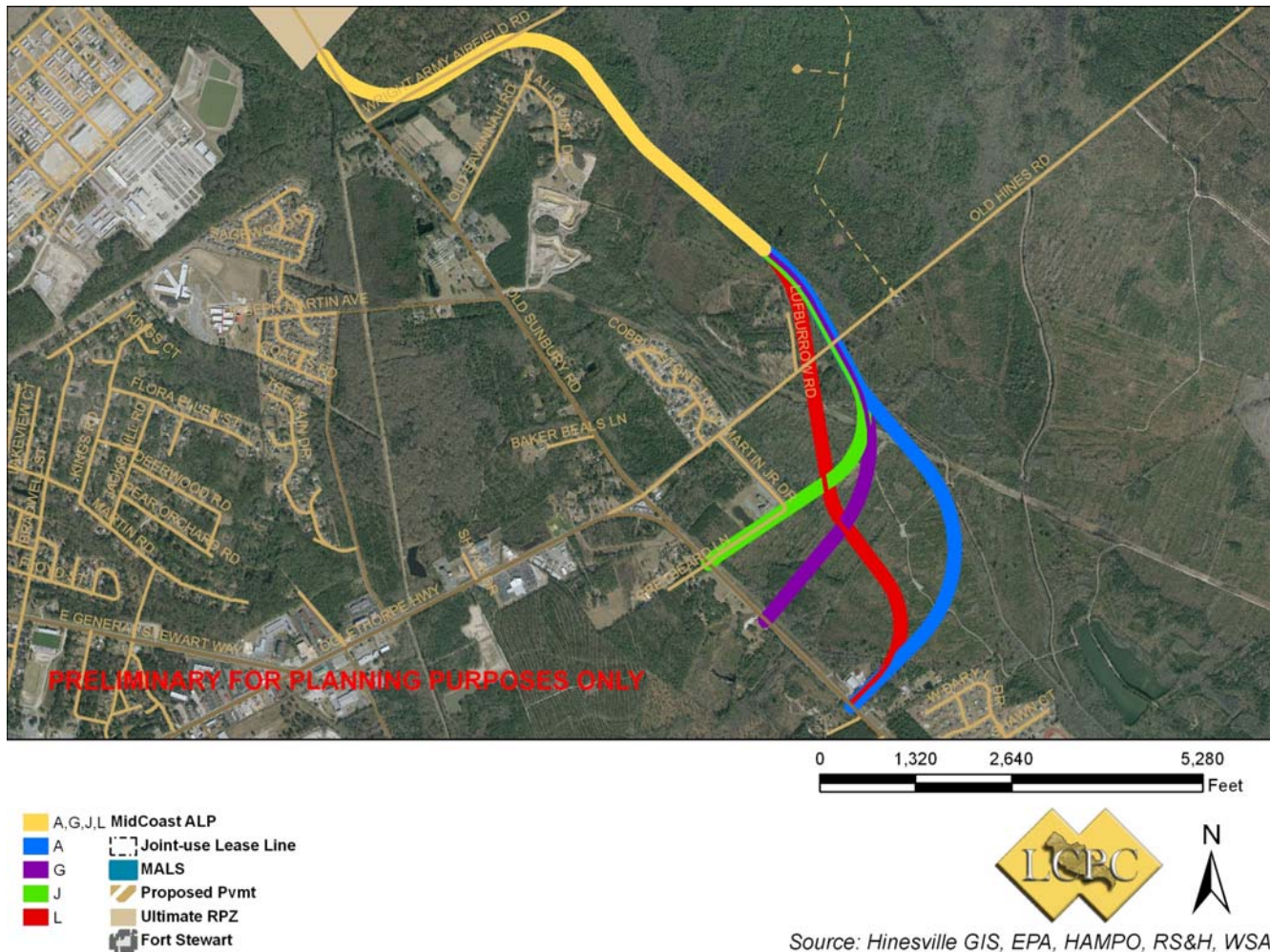


Figure 5 Flemington Loop Alternative Corridors

## Transportation

The Flemington Loop alternatives were planned to accommodate a 55mph design speed, with continuous movement to Military Road 47 at the western terminus. The 200-foot wide corridors shown in Figure 5 will accommodate a range of cross-sections as the plan development process progresses. As adjacent land develops, access should be managed to ensure that mobility on the Flemington Loop is not degraded. Parallel frontage or reverse frontage roads should be considered. US 84/SR 38 will be the eastern terminus of the Flemington Loop. There is a US 84 access management project in the region's Long Range Transportation Plan, which includes a raised median and dedicated turn lanes. All four alternatives intersect US 84/SR 38 at proposed median openings, as shown in Figure 7.

Figure 8 shows that the 2035 projected traffic on US 84 will be near capacity adjacent to the study area. By providing an alternate route to the so-called Flemington curve on US 84 at Old Sunbury and Old Hines Roads, the Flemington Loop should help mitigate increasing traffic congestion as a result of development of the 4IBCT Complex and new development. The increased traffic on Old Sunbury Road, a historic corridor, should also be mitigated by any of the Flemington Loop build alternatives.

In order for the build alternatives to improve mobility, Flemington Loop travel times will need to be shorter than the existing Old Sunbury Road/MR 47 route. Travel times were estimated for both eastbound traffic coming from Hinesville (which may use Old Hines Road from US 84 and then proceed to the loop) and westbound traffic that will use the full bypass. Assuming average speeds of 45 mph on the alternatives, bypass travel times will range from 2.3 to 2.6 minutes, as shown in Table 2. The bypass will improve trip times only if the average speed on Old Sunbury Road/MR 47 is reduced to 28 mph or less. Per HAMPO staff, the current average speed on Old Sunbury Road has been documented at 48 mph, despite the 35 mph posted speed. Traffic calming measures will be needed to lower the speeds on Old Sunbury Road in order to mitigate the impact on adjacent residences, preserve the historic character of the roadway, and increase the viability of any of the bypass build alternatives.

All four alternatives make use of the existing Wright Field Road alignment, as shown in Figure 6. Wright Field Road is a paved two lane road which would be improved as part of the Flemington Loop. Existing traffic using Wright Field Road will need an alternate route to the military side of MidCoast Regional Airport (MCRA). Fort Stewart will be responsible for providing military side access to MCRA, including a new Access Control Point. The Master Planning Division and MCRA Joint Management Board are aware of the alternatives and have provided input into the alignments.

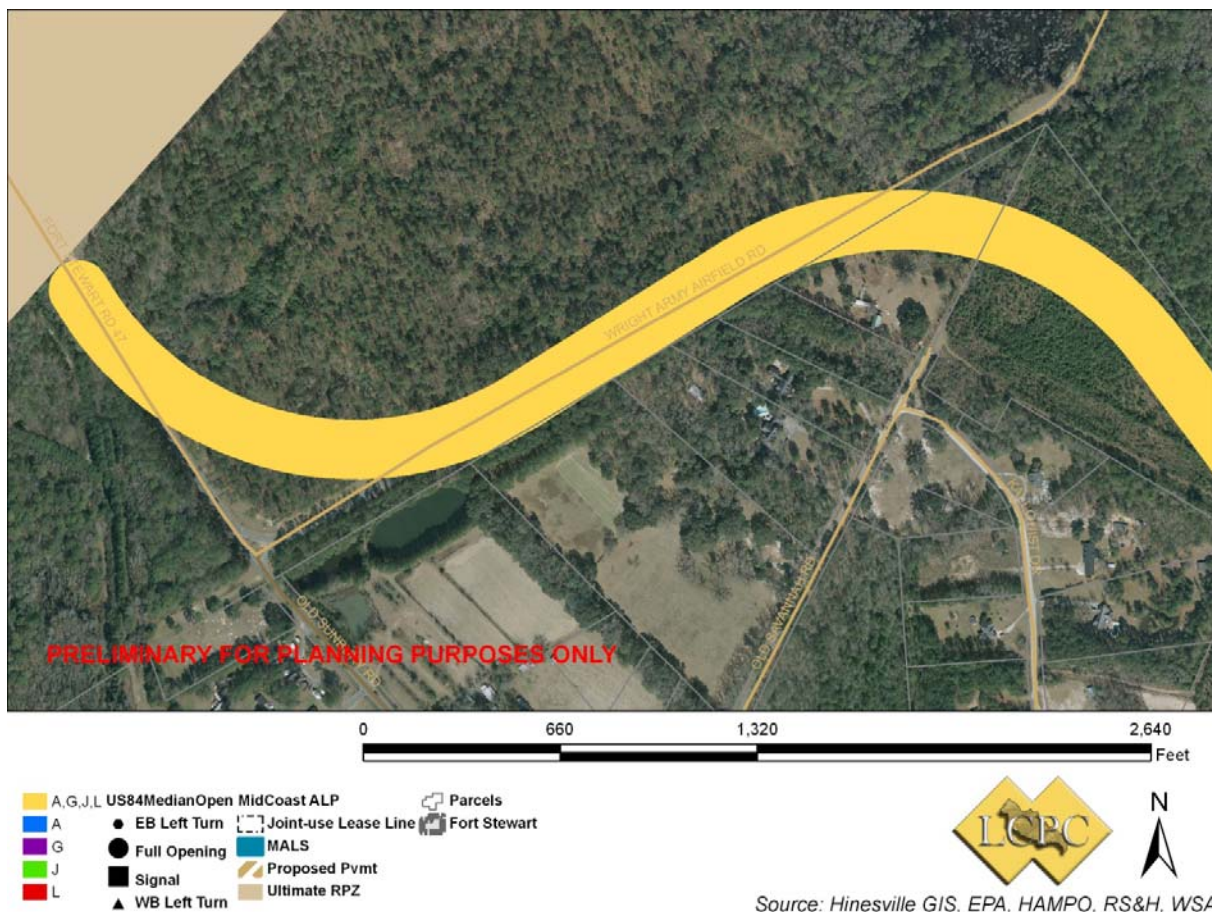


Figure 6 Western Terminus of Proposed Alternatives



### Environmental Impacts

The sections that follow document potential environmental impacts of the four build alternatives for the proposed roadway.

### Topography

The study area is relatively flat, with an elevation change from six meters to 22 meters across the study area, and a maximum localized grade of 2 percent. Figure 9 shows the topography of the study area.

### Natural Resources

Figure 10 shows natural resources in the study area. There are no Environmental Protection Agency (EPA) sites of interest within the study area; this includes brownfields, hazardous waste sites, sensitive receptors, and water discharge sources.

### Water Resources

Floodplain data was obtained from the Federal Emergency Management Agency Flood Insurance Rate Map database for Liberty County. Flood zones A and AE are within the 100-year floodplain. As shown in Figure 11, portions of the study area are within the 100-year and 500-year floodplains (labeled as 0.2 percent annual chance flood hazard). Table 2 shows that all four alternative corridors impact portions of the 100-year floodplain. Alternative A impacts a greater floodplain area than the other three as it approaches Peacock Creek and its tributary. There are no groundwater recharge areas or water supply watersheds in the study area.

### Wetlands

All four alternatives impact wetlands that are included in the National Wetlands Inventory database and additional wetlands delineated for the 2006 supplemental Environmental Assessment (EA) for an access road to the Airport. These wetlands include the Goshen Swamp, which is to the east of MidCoast Regional Airport. Figure 12 shows wetlands and the four alternatives. Table 2 shows the acreage of wetlands contained in the 200-foot wide analysis corridors.

### Noise

Noise-sensitive receptors within the impact area of the alternatives are single family residences. The closest residence is within 200 feet of Alternative A and Alternative L at their shared eastern terminus shown in Figure 7. Any noise impacts generated by traffic on the proposed roadway could be mitigated within this buffer zone or the larger buffers described in Table 2.

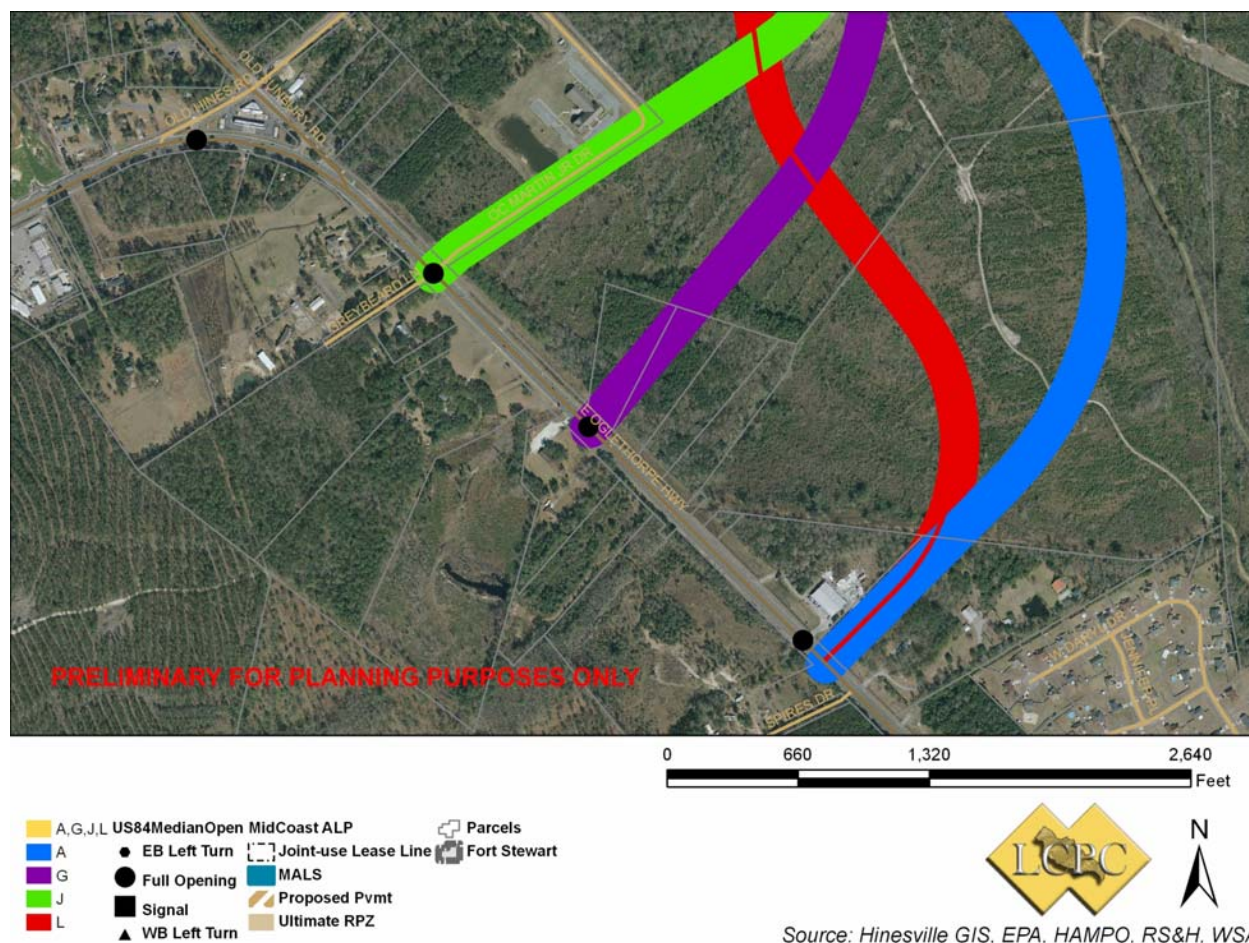


Figure 7 Eastern Termini of Alternative Corridors

## Biological Resources

The Georgia Department of Natural Resources (GADNR) Natural Heritage Program Database System website and the U.S. Fish and Wildlife Service (USFWS) Endangered Species website were consulted regarding current federally listed Threatened and Endangered Species within the study area.

The northwestern quadrant of the study area on Fort Stewart has been identified by the Georgia Natural Heritage Program Database System as habitat for several rare and protected species, including those listed in the table below.

Table 1 Listed Species with Habitat in Study Area

Common Name	Protection under the Endangered Species Act	State Status	Global Rarity Rank	State Rank
SCOMNAME	USESA	SPROT	GRANK	SRANK
Mud Sunfish			G5 Secure	S3 Vulnerable
Bachman's Sparrow		Rare	G3 Vulnerable	S3 Vulnerable

Common Name	Protection under the Endangered Species Act	State Status	Global Rarity Rank	State Rank
SCOMNAME	USES A	SPROT	GRANK	SRANK
Flatwoods Salamander	LT Threatened	Threatened	G2G3	S2 Imperiled
Eastern Indigo Snake	LT Threatened	Threatened	G3 Vulnerable	S3 Vulnerable
Gopher Tortoise	(PS:LT) listed as threatened in only a portion of the species range by USFWS	Threatened	G3 Vulnerable	S2 Imperiled
Slender Glass Lizard			G5 Secure	S3 Vulnerable
Mimic Glass Lizard			G3 Vulnerable	S2 Imperiled
Red-cockaded Woodpecker	LE Endangered	Endangered	G3 Vulnerable	S2 Imperiled
Florida Pine Snake			G4T3 Apparently Secure	S3 Vulnerable
Black Swamp Snake			G5 Secure	S3 Vulnerable

## Cultural Resources

There are no documented historic or cultural resources within the study area. Known sites near the study area include Flemington Presbyterian Church and its cemetery, and a cemetery on the south side of Old Sunbury Road at its intersection with Wright Field Road; these are shown in Figure 12.

## Socioeconomic Resources

The proposed roadway would not adversely impact Environmental Justice communities. The build alternatives would not displace any residents or eliminate low income jobs.

## Land Use

Figure 13 shows local zoning in the study area. The area on Fort Stewart impacted by the proposed alternatives is zoned Buffer Zone. The primary zoning in Liberty County is agricultural, with specific parcels zoned for residential and business uses. The zoning is consistent with the Comprehensive Plan Future Development Map shown in Figure 14. Although not documented in an adopted plan, City of Flemington long range plans call for commercial development along the Flemington Loop, focused on restaurants and hotels for the Fort Stewart community. Additionally, the Liberty County Development Authority has plans for a light industrial development zone to the north of the study area. The Flemington Loop will provide access to the development zone, as well as to a proposed civilian-use road to MidCoast Regional Airport. All four Flemington Loop alternatives will provide access to several undeveloped and developable parcels. Figure 15 shows existing land use in the study area.

Table 2 shows that Alternative A and Alternative L provide access to larger areas of developable land. It is likely that the new roadway will encourage development in these areas; access to new developments should be managed to ensure that the Flemington Loop provides for increased mobility between Fort Stewart and US 84.

# Flemington Loop Study

Table 2 Summary of Impacts by Alternative



	Alternative A	Alternative G	Alternative J	Alternative L	"Do Nothing" Old Sunbury Route
<b>Criteria</b>					
Road Length (centerline miles)	2.9	2.6	2.5	2.8	2.4
Estimated travel time (minutes)	2.6	2.3	2.3	2.5	3.6
Eastbound trip length using Old Hines Rd (miles)	2.5	2.5	2.5	2.4	1.6
Potential Noise Impacts	CL 345 ft from one residence, 500 ft from another at Wright Rd. CL 550 ft to 650 ft from three Kallquist Dr residences. CL 200 ft from two single family residences at 083D-002 and 530 ft from a third residence; 140 ft from Winlectric commercial building. CL 560 to 760 ft from two residences on Lufburrow Road.	CL 345 ft from one residence, 500 ft from another at Wright Rd. CL 550 ft to 650 ft from three Kallquist Dr residences. CL 560 to 760 ft from two residences on Lufburrow Road.	CL 345 ft from one residence, 500 ft from another at Wright Rd. CL 550 ft to 650 ft from three Kallquist Dr residences.	CL 345 ft from one residence, 500 ft from another at Wright Rd. CL 550 ft to 650 ft from three Kallquist Dr residences. CL 230 ft to 315 ft from two Lufburrow Road residences; CL 200 ft to 300 ft from two single family residences at 083D-002 and 630 ft from a third;	CL 50 to 300 ft from approximately 20 SF residences and 65 MF residences; CL 140 ft from one church and 150 to 375 ft from two cemeteries
Potential Wetland Impacts (Acres)	18.1	18.5	16.4	13.7	NA
Potential 100-year Floodplain Impacts (Acres)	29.3	15.0	13.4	18.1	NA
Potential 500-year Floodplain Impacts (Acres)	6.6	13.2	13.7	14.7	NA
Upland Acres within 200 foot Corridor	54.2	46.3	47.5	54.9	NA
Adjacent Upland Acres (for development)	Access provided to eight parcels with developable land	Access provided to nine parcels with developable land	Access provided to seven parcels with developable land	Access provided to eight parcels with developable land	No additional access provided to developable land
Property Impacts	Two existing residential parcels (James Gillis and GSP Unlimited Inc.) would be impacted, taken in part by the right-of-way; however, no existing buildings are impacted. New alignment provides access to several vacant parcels, but may increase traffic on Old Hines Road. Old Hines Road should be improved in coordination with the new roadway. Connection to US 84 at eastern terminus is adjacent to existing commercial property. Driveway access would be reconfigured due to new construction.	Two existing residential parcels (James Gillis and GSP Unlimited Inc.) would be impacted, taken in part by the right-of-way; however, no existing buildings are impacted. New alignment provides access to several vacant parcels, but may increase traffic on Old Hines Road. Old Hines Road should be improved in coordination with the new roadway.	Two existing residential parcels (James Gillis and GSP Unlimited Inc.) would be impacted, taken in part by the right-of-way; however, no existing buildings are impacted. New alignment provides access to several vacant parcels, but may increase traffic on Old Hines Road. Old Hines Road should be improved in coordination with the new roadway. New connection to OC Martin Road, adjacent to Performing Arts Center, will increase traffic on that roadway, and may contribute to peak congestion during special events.	Two existing residential parcels (James Gillis and GSP Unlimited Inc.) would be impacted, taken in part by the right-of-way; however, no existing buildings are impacted. New alignment provides access to several vacant parcels, but may increase traffic on Old Hines Road. Old Hines Road should be improved in coordination with the new roadway. Connection to US 84 at eastern terminus is adjacent to existing commercial property. Driveway access would be reconfigured due to new construction.	Based on property owner feedback, growing congestion on Old Sunbury Rd makes it difficult for residents to access their property
Substandard Road Geometry	N/A	N/A	Impacted US 84 connection is 1,415 ft from Old Hines Rd intersection; this is above the GDOT minimum median crossover -and signal- spacing of 1,320 ft on rural roads and 1,000 ft on urban roads. However, given the unique nature of the US 84 "Flemington Curve", maximizing spacing between major intersections may be appropriate.	Intersection less than 80 degrees at Old Hines Road.	N/A



## Stakeholder Involvement

The study included significant outreach to public agencies and other stakeholders. Work sessions were conducted with representatives of Fort Stewart, MidCoast Regional Airport, Liberty County Development Authority, and local jurisdictions. Sessions were also held with the City of Flemington staff and elected officials. Study progress was presented to the Fort Stewart Growth Management Partnership and HAMPO committees, including Georgia Department of Transportation staff. The following list highlights significant meetings during the project:

- October 6, 2011: Coordination meeting with MCRA, Fort Stewart, and County
- October 20, 2011: Coordination meeting with the City of Flemington
- November 4, 2011: HAMPO and GMP coordination meeting re: alternatives screening
- November 21, 2011: Coordination meeting with the City of Flemington
- November 22, 2011: Coordination meeting with Fort Stewart Department of Public Works and Master Planning
- December 8, 2011: Presentation to GMP Board meeting
- December 15, 2011: Coordination meeting with MCRA consultant staff
- January 2012: Presentation to HAMPO Technical Coordinating Committee
- February 2012: Presentation to HAMPO Policy Committee and GMP Board

In addition to the planning partner agency coordination, a workshop for property owners and their representatives was held on January 24, 2012. The public meeting was advertised in the local paper and in the City of Hinesville's news email blasts. Thirty-seven attendees, along with several staff members, discussed maps of the proposed alternatives and environmental resources, and other presentation materials. The study objectives, process, proposed alternatives, and potential funding sources were presented. Public comments were documented. In general, the workshop attendees were in favor of the Flemington Loop. Some property owners expressed a preference for a specific alternative. Many expressed a desire to expedite construction of an alternate route to Old Sunbury Road and the US 84 Flemington curve at the intersection with Old Sunbury Road. There were a few questions about access to the new roadway, and attendees were assured that access would need to be managed to maintain the speed and capacity of the proposed roadway. Consistent with the recommendations of this report, the study team suggested parallel access roads for new development along the Flemington Loop. Public meeting sign-in sheets are located at the end of this report.

## Map Series

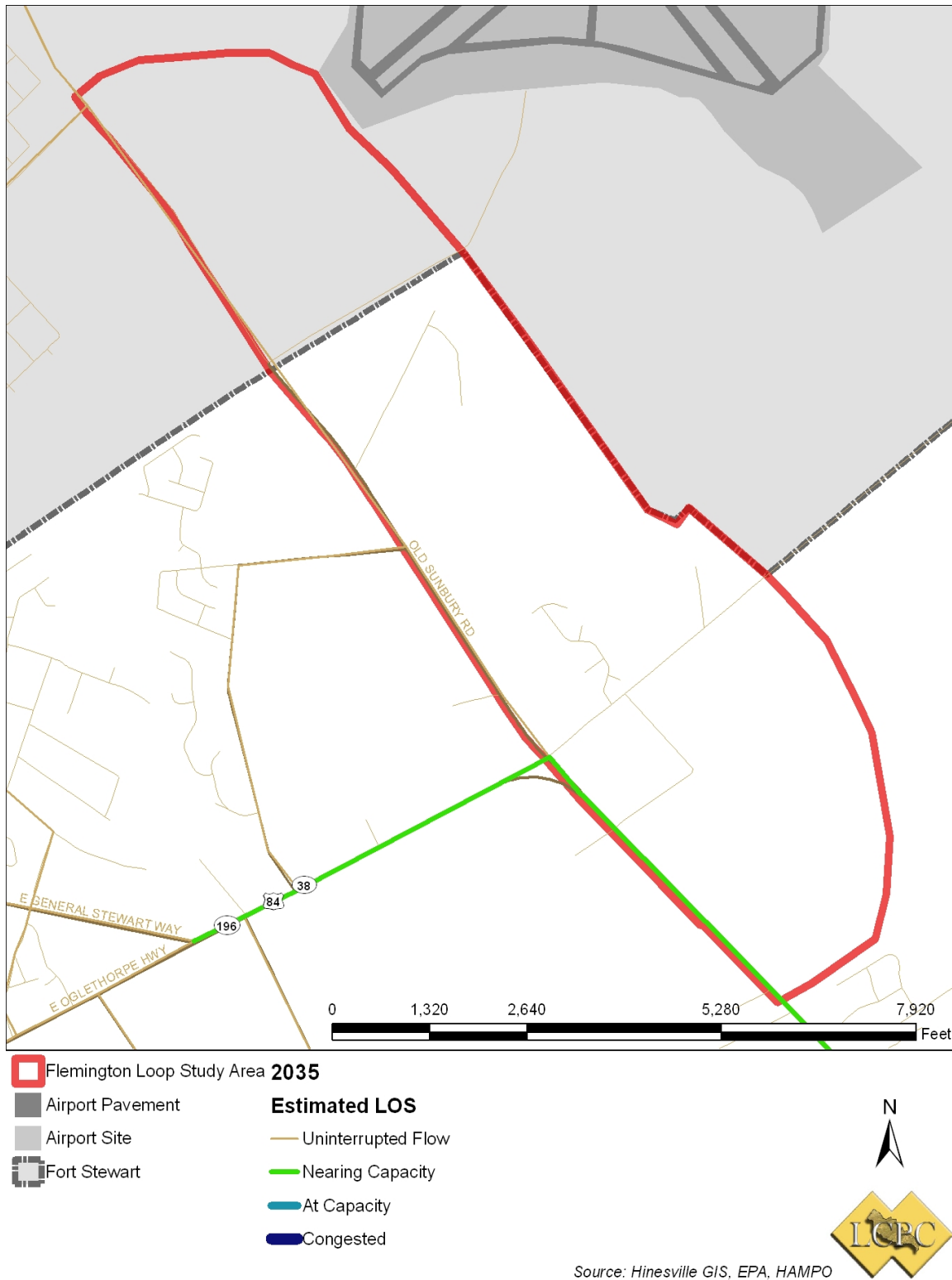


Figure 8 2035 Roadway Level of Service

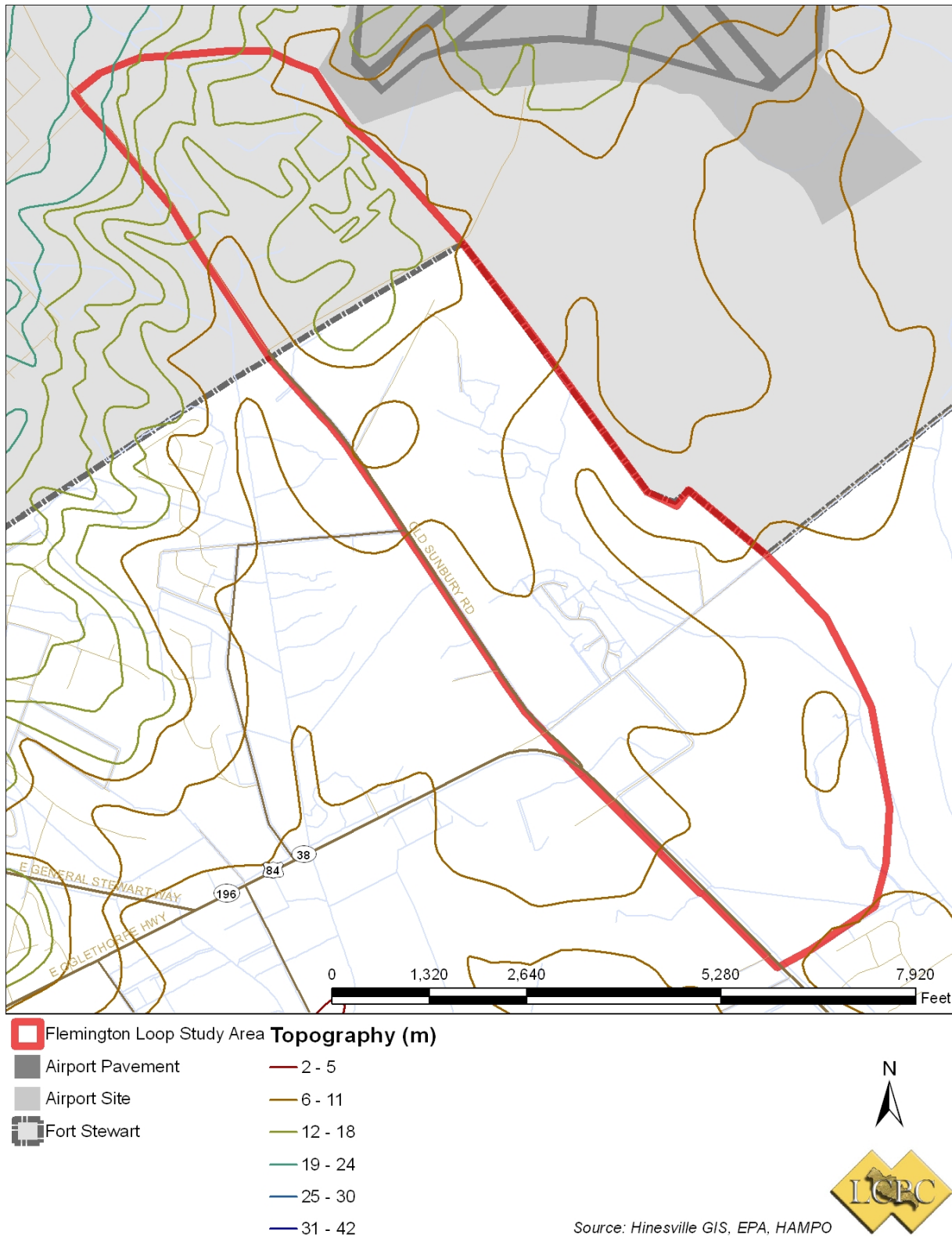


Figure 9 Topography

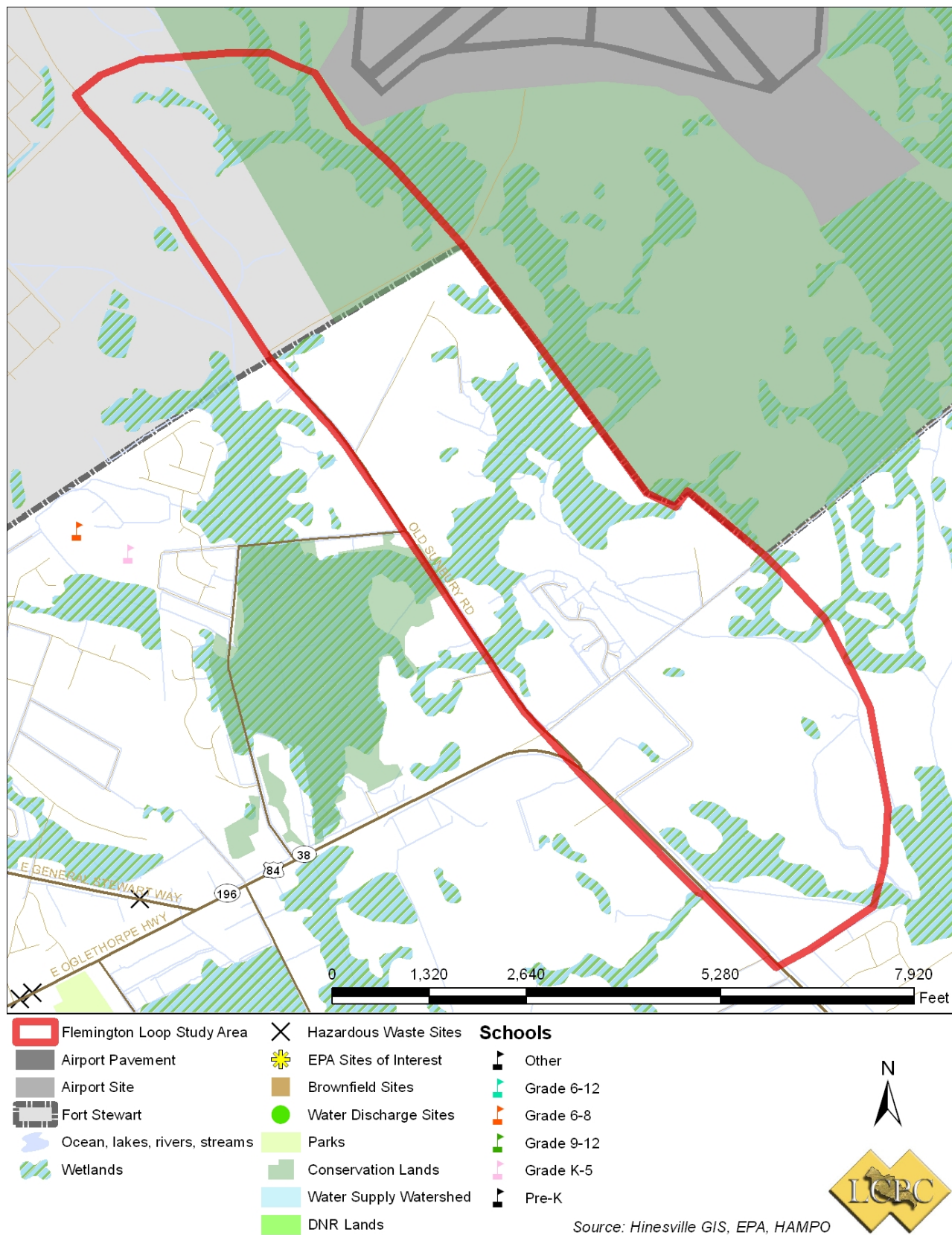


Figure 10 Natural Resources



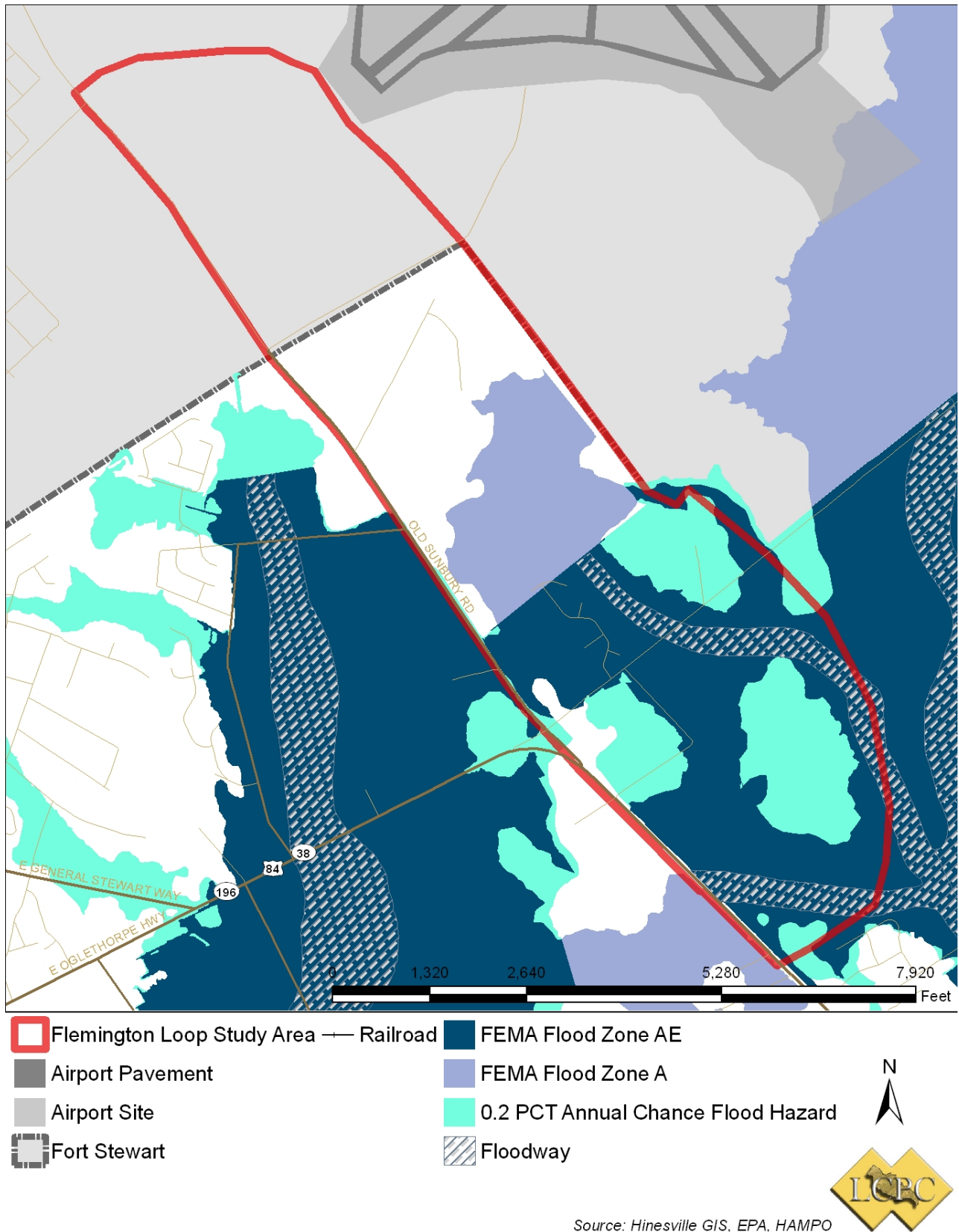


Figure 11 Flood Zones in the Study Area



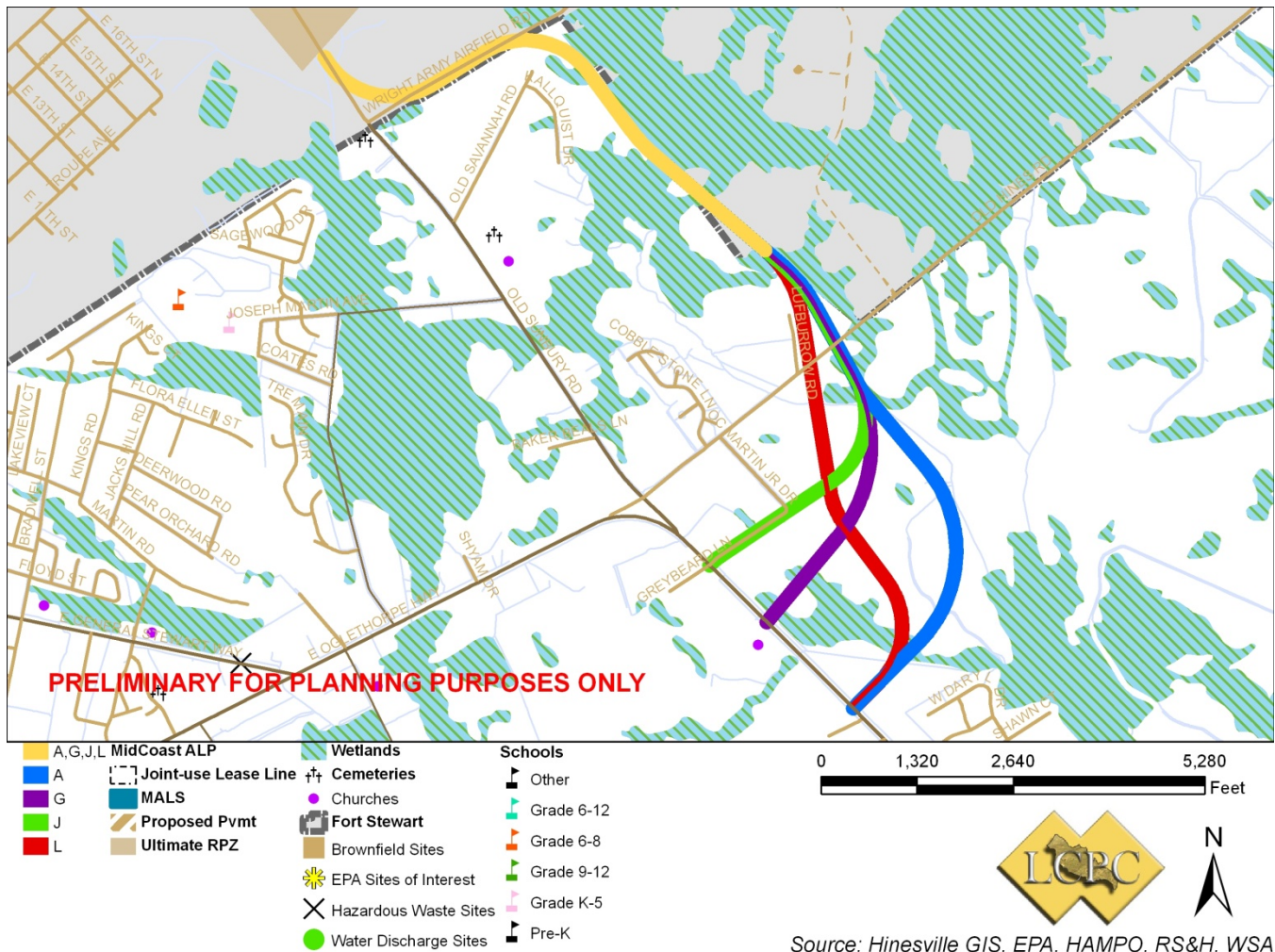
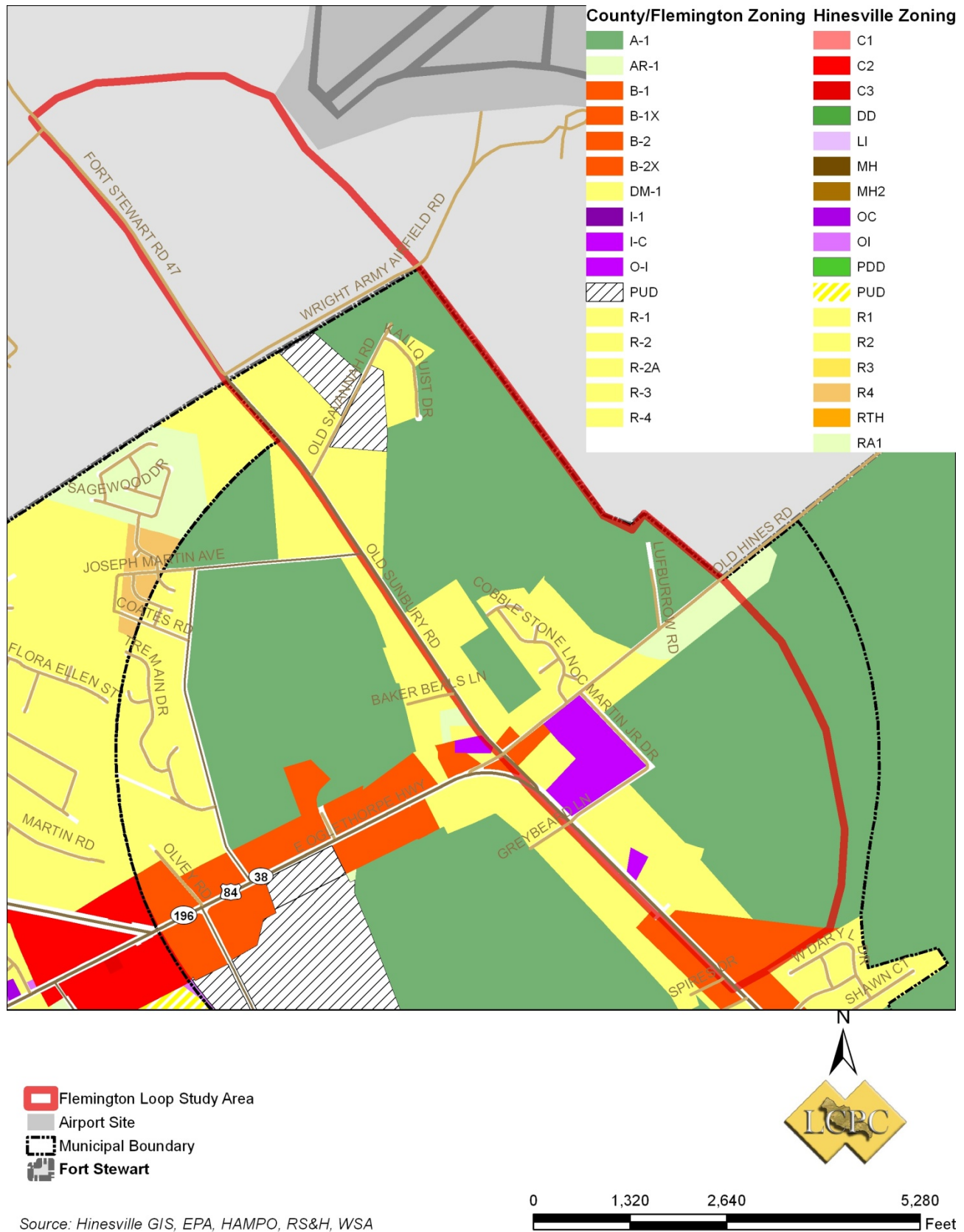


Figure 12 Natural Resources and Alternative Corridors



Source: Hinesville GIS, EPA, HAMPO, RS&H, WSA

Figure 13 Zoning

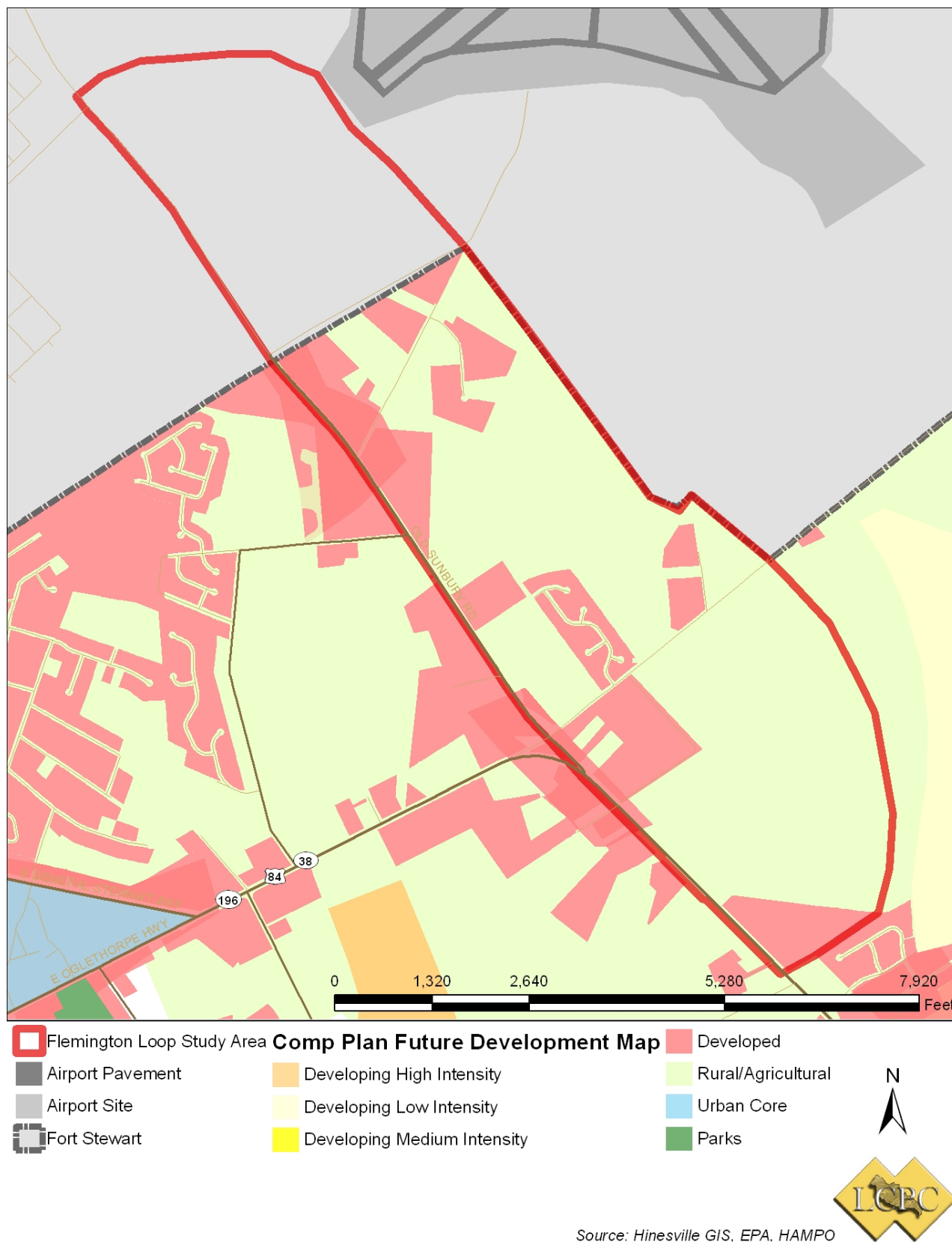


Figure 14 Comprehensive Plan Future Development Map



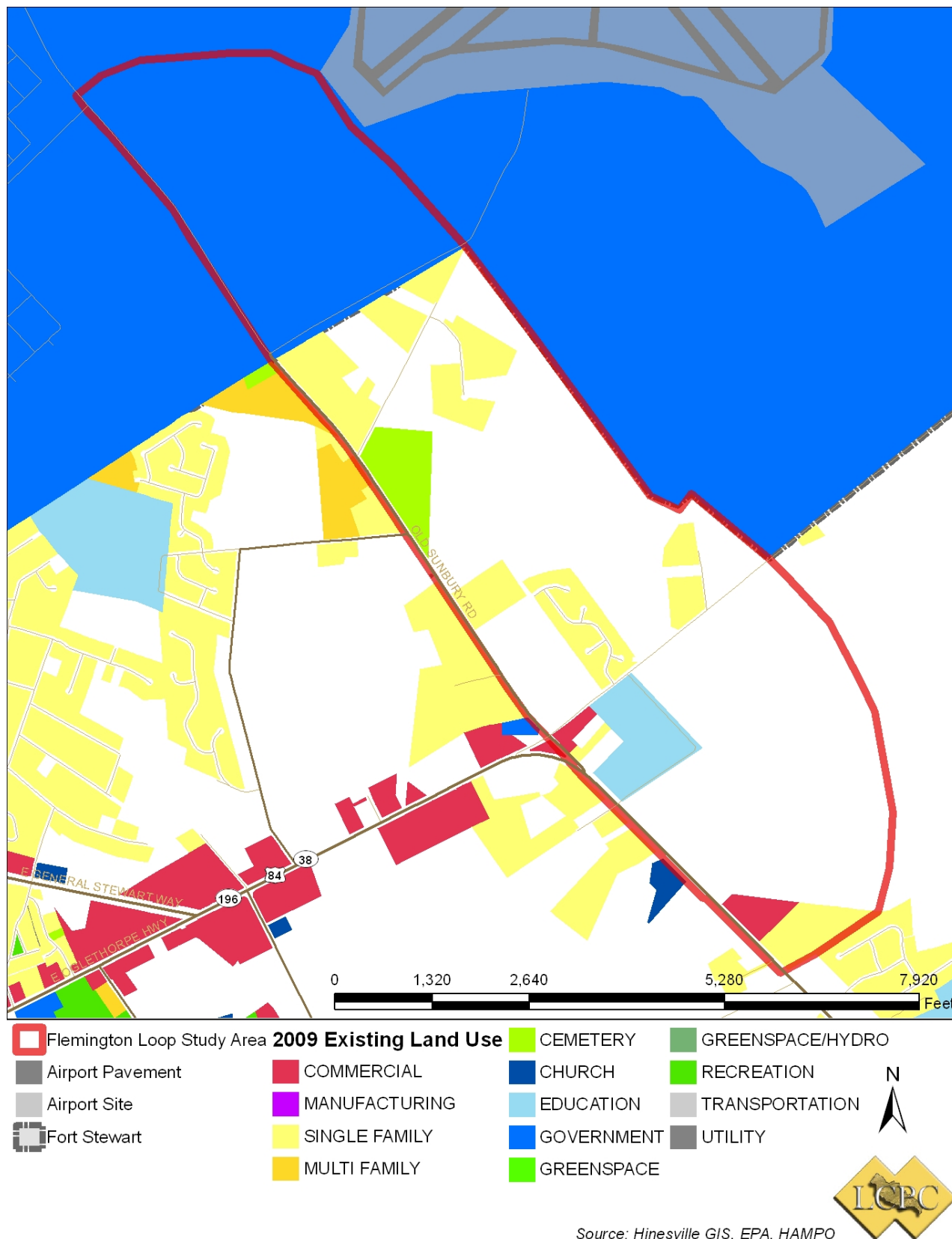


Figure 15 Existing Land Use

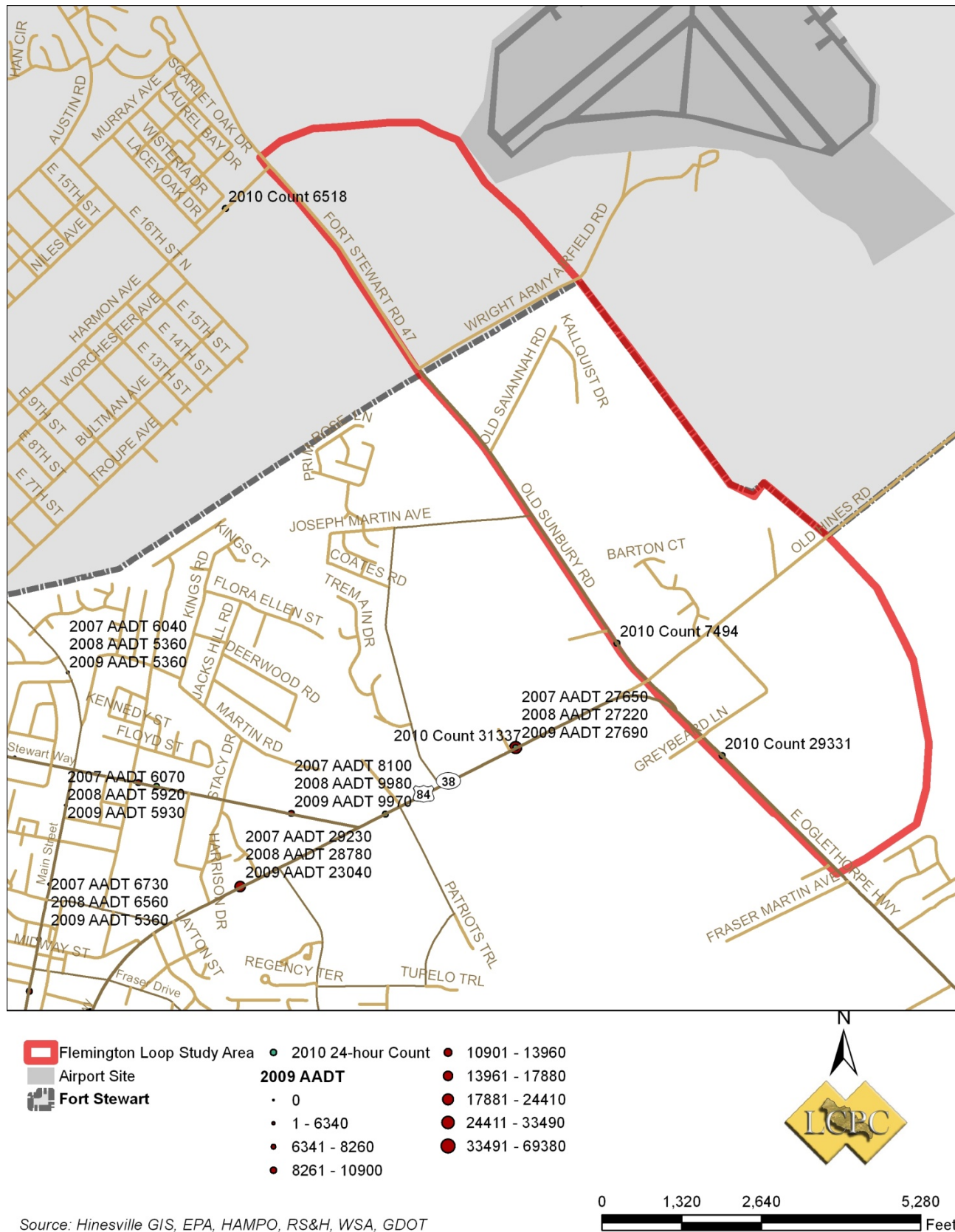


Figure 16 Traffic Counts



## Public Meeting Sign-in Sheets

Flemington Loop Public Participation			
Letter	Name	Address	Phone #
✓	Doni & Juanita Perry	17 Barton Ct.	876-2348
	Herbert Stacy		
✓	TERRY Delenach	481 Old Sunbury Road	876-2878
✓	GEROLD Delenach	481 Old Sunbury Road	876-2878
✓	W.L. HALL	525 Old Sunbury Road	876-2792
✓	Robey Bell	#7014 Sunbury Road	876-0008
✓	Donna Bell	7 Old Sunbury Rd	876-0008
✓	Terry Force	165 Kallquist Dr	368-5622
	Paul Hawkins	212 Joseph Martin	876-2714
✓	William & Susan Steckland	1445 Leroy Giffen Hwy	977-6600
✓	Carol Force	165 Kallquist	
✓	Thomas L. Carter	1872 E. Oglethorpe	876-5095
	Gene Davis	322 Old Sunbury Rd	876-5981
	Jackie Davis	322 Old Sunbury Rd	876-5981
✓	Beverley Gunk	188 Old Sunbury Rd	368-1433
✓	David Edwards	188 Old Sunbury Rd	368-1433
	Danielle Hips	Coastal Courier	368-8601
✓	Keith Rahn	511 Fraser Dr	876-5902
	SANDRA MARTIN	JOHN MARTIN R	876-3325
✓	JOHN MARTIN	" "	
✓	JAMES M Floyd Jr	133 Greyhound Lane	977-1363
	Leroy George	915 Old Hines Rd	877-4629
✓	PALMER DASTER	298 TREMAIN DR	876-5821
✓	Christine Swiese	9316 Revenwood Rd <sup>Granbury TX 76049</sup>	682-936-2682
	Marissa Thompson	17 Kook Ford Court	(912) 432-1934
	Jim Gillis	500 Old DAVANNA Rd	320-5054 (912) 492-7814

Name	Address	phone	Received letter
Doug Delzeth	118 Kallquist Dr	912-977-5278	Yes
Renee Delzeth	118 Kallquist Dr	912-877-6477	Yes
Edwin Thompson	17 Rockford Ct	912-610-0636	Yes
Brandon Boyce	235 Magnolia Pl, M. Hwy	(412) 312-0403	No
Gail Cross	2239 E. Delzeth Ave	912-876-5767	yes
Pat Kee	14114/4	576-311	88

Received letter	Name	Address	phone #
	Karen Branson	212 Topi Trail, Winesville	912/369-4722
	Phil Odom	287 Spencer Fmly Dr E	912/658/9053
	Jim M. Smith		
✓	Donnie & William Smith	430 Old Sunbury Rd	912-876-3989
✓	Speir Flanders	496 Old Sunbury Rd	368-6007
	Rachel Hatcher		
	Donna Shivers		
	Whitney Shepherd		
	Jeff Richeson		
	Sonny Timmerman		