CORRIDOR ALTERNATIVES EVALUATION SUMMARY REPORT

SR 87 CONNECTOR PD&E STUDY

From SR 87S at US 90 to SR 87N at Southridge Road
Santa Rosa County, Florida

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Prepared by:

Metric Engineering, Inc.

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1.0 PROJECT HISTORY

The Florida Department of Transportation is conducting a study to evaluate potential corridors that would connect SR 87S at US 90 east of Milton to SR 87N in Milton or north of Milton. The primary objectives in the extension of SR 87S is to facilitate north/south traffic movement to more effectively serve freight movement and to provide for a more direct hurricane evacuation route from the coast to areas north in Alabama. It also is the intent to reduce congestion in the City of Milton, and to alleviate travel demand on the section of US 90 currently shared by SR 87. Versions of this project have gone through ETDM screening as ETDM Project # 2861 in 2008. However, that project was much more limited in scope and only evaluated a corridor from SR 87S to Munson Highway.

SR 87 is the main north-south artery of Santa Rosa County. It links Milton at US 90 with US 98 at Navarre to the south and Alabama (transitions to Alabama 41 en route to Brewton then on to I-65) to the north. It also serves as a corridor for freight movement north to I-65 as well as a vital evacuation route for northbound traffic. During times of hurricane force winds, both the Escambia Bay Bridge and the Garcon Point Bridge close, leaving SR 87 north to the interstate and beyond as the only access out of the beach areas like Gulf Breeze and Navarre, and it is the only access into the area for Emergency First Responders. However, with a portion of the current alignment travelling along a congested portion of US 90 through historic downtown Milton, it cannot function as a contiguous facility. Future growth will continue to constrain this portion of the roadway. As reported in the *Haas Center's Impact of Economic Development in Santa Rosa County*, the County has grown 173% since 1980 and is expected to grow another 92% by 2030. This increase will put further demand on this roadway, making growth and evacuation difficult due to a lack of capacity on US 90. As a result, Santa Rosa County's Capital Improvements Schedule, includes Policy 4.1.E.3, *"The County shall continue to request, recommend, and support immediate roadway improvements in order to relieve the congestion on the segment of US 90 between Canal Street and SR 87S".*

1.1 Purpose and Need for the Project

This project is needed to provide for a new roadway facility linking SR 87S with SR 87N. This will serve as an alternative to the existing shared facility of SR 87 and US 90, which is a constrained facility that is currently operating at a failing level of service (LOS F). Therefore, the primary need for this new corridor is to provide additional capacity, and to improve regional connectivity by providing a more direct route from areas of high growth in northern Santa Rosa County, such as the Berryhill Road area, to I-10 and to areas further to the south. Likewise, access will be improved to and from I-10 for the Whiting Field U.S. Naval Air Station, and the County's Joint Use Planning Area near Whiting Field. It is also anticipated that this new roadway facility would provide relief to Ward Basin Road and its intersection with US 90. It is also intended to provide much needed relief to the US 90 Blackwater Bridge.

1.1.1 Emergency Evacuation

SR 87 serves as a vital evacuation route for northbound traffic destined for I-65 in Alabama. During times of hurricane force winds, both the Escambia Bay Bridge and the Garcon Point Bridge close leaving SR 87 north to the interstate and beyond as the only access out of the beach areas like Gulf Breeze and Navarre, and is the only access into the area for Emergency First Responders. However, with a portion of the current alignment travelling along a congested portion of US 90, through historic downtown Milton, it cannot function as a contiguous roadway. The project will address future projected deficiencies on an established emergency hurricane evacuation route.

1.1.2 Multi-modalism

The project will also address the need for greater bicycle and pedestrian connectivity within the County with possible connections with the Blackwater Heritage Trail, enabling area resident's direct access. Unfortunately, Escambia County Area Transit does not provide service to this area of Santa Rosa County; however, in the future if such services were to be provided, the proposed facility would offer greater opportunities in regional network systems for transit. Finally, connection to the proposed Whiting Aviation Park will be considered. This park will be located on the east side of Whiting Field and will include a 6,000 ft runway currently under a joint use agreement with the Naval Base. See Figure 1.1

Figure 1.1 Aviation Park

1.1.3 Social Demand and Economic Development

Santa Rosa County is not only a bedroom community to the greater Pensacola area, but in its own right, has also been experiencing considerable population growth. This growth has spurred the need for an improved roadway network. In addition, major traffic generators in the area such as new residential developments, the Santa Rosa Criminal Justice Center, the Santa Rosa Corrections Facility, the Whiting Field U.S. Naval Air Station, the Team Rosa Joint Planning area near Whiting Field, and the Santa Rosa Commerce Park on the US 90 corridor, would all benefit from the capacity this facility will provide. The need for the project is also related to committed trips associated with future development in the northern portions of Santa Rosa County, as well as, the future development on the US 90 corridor, which is hindered by the existing capacity limits of US 90.

1.1.4 Future Growth

As reported by the US Census Bureau 2010 Report, Santa Rosa County continues to be among the fastest growing counties in Florida. The county population has

grown 150% (from just under 60,000 to over 150,000 people) from 1980 to 2010. According to the University of Florida's Bureau of Economic and Business Research (BEBR) Report and the FL-AL Transportation Planning Organization's (TPO) 2035 Long Range Transportation Plan (LRTP), the population is expected to grow another 45% to nearly 220,000 people by 2035. This population growth will put further demand on the US 90/SR 87 segment, making growth and evacuation difficult due to a lack of roadway capacity.

In Traffic Analysis Zones adjacent to the corridor, population is anticipated to grow by 2,648 from 2,029 to 4,677, or 131 percent, between 1997 and 2020. Employment is projected to increase by 575 from 908 to 1,483, or 63 percent. The number of dwelling units is forecasted to rise by 1,114 from 827 to 1,941, or 135 percent. This projected growth is based on the 2035 Cost Feasible Transportation Model that was adopted in 2011 and accounts for the economic downturns of the past 3 years.

1.1.5 Traffic Data

According to the Santa Rosa County Comprehensive Plan, the current adopted Level of Service (LOS) standard for US 90 is D. In 2008, US 90 from Ward Basin Road to SR 87N had a failing level of service. Without the proposed improvement, the operating conditions will continue to deteriorate. The Raw Model Volume for the FL-AL TPO 2020 Needs Plan for this new segment was 9,472 vpd. This would provide much needed relief to US 90. In a more recent modeling analysis done in the SR 87 PD&E Connector Preliminary Traffic Report, dated September 2010, the volumes for the new segment are approximately 14,500 vpd. Traffic analysis is based on the adopted 2035 NWFRPM Cost Feasible Model. A sub-area model refinement has been performed and an updated traffic analysis is being undertaken for the final Traffic Memorandum but no significant changes to the previous results are anticipated.

1.1.6 Safety/Crash Rates

The information below contains crash data from the period of 2004 thru 2009 according to Florida Department of Transportation TSAT data base.

On SR 87 south, from I-10 to US 90, between mile points 18.500 (I-10) and 19.769 (US 90), there were a total of 86 crashes, 47 of those were with injuries, and 39 with property damage only. The majority of the crashes in this segment occurred at the US 90/SR 87S intersection.

On US 90, from SR 87 south to SR 87 north, between mile points 11.610 and 16.202, there were a total of 234 crashes, 144 of those were with injuries, 1 fatality and 89 with property damage only. The majority of these crashes were distributed throughout the segment. There was, however, a slightly higher

concentration of crashes at the US 90/SR 87N intersection. The single fatality in the segment occurred at milepost 13.847 just east of Ward Basin Road.

On SR 87N, from US 90 to Southridge Road, between mile points 0.004 and 11.362, there were a total of 166 crashes, 113 of those were with injuries, and 53 with property damage only. As with the segment along US 90, the majority of these crashes were distributed throughout the segment. There was, however, a slightly higher concentration of crashes at the US 90/SR 87N intersection.

The SR 87 Connector will include a new roadway to connect SR 87S and SR 87N. Presently, the SR 87 corridor follows along US 90, a congested roadway, for five miles. This portion of the corridor is operating at a LOS F and is the area where the only fatality in the corridor occurred. Improvements to the existing roadway in this vicinity are difficult due to the historic downtown Milton area. By developing a new corridor that does not follow the existing US 90 alignment, the traveler would be able to avoid this high traffic area.

1.1.7 Plan Consistency

The proposed new facility is consistent with the Santa Rosa County Comprehensive Plan, and is also referenced in the County's Capital Improvements Schedule in Policy 4.1.E.3. The Comprehensive Plan design year for this facility is currently 2025, although as the project moves through the next study phase and a formal forecast traffic report is completed, the design year will change to allow for a standard twenty year forecast year to comply with federal guidelines (Design Year 2035).

Likewise, the proposed new facility is in the proposed Transportation Improvement Plan (TIP) Appendices and in the current adopted State Transportation Improvement Plan (STIP) and current adopted TPO TIP 2009-2013. The current (adopted 2011) STIP includes Preliminary Engineering Funds for the year 2012 totaling nearly $1.9M. It was also included in the TPO's 2025 LRTP, as well as in the current 2035 LRTP Update as the SR 87 Connector or as part of the larger Outer Beltway Connector. It is listed as a Roadway Capacity Project in the Needs Plan as SR 87 Connector and in the "Beyond 2035" Projects as the Outer Beltway Connector. The Design phase is also listed in the Fiscal Year 2016-2020 Year of Expenditure Cost Feasible Plan in the latest LRTP.

1.2 Project Study Area

In an effort to improve emergency evacuation, and to more effectively meet area commuter's needs, the Florida Department of Transportation is conducting this Project Development and Environment Study to evaluate the potential for providing a new corridor for the missing link of SR 87. The study area, as shown in Figure 1.2, extends from a southern boundary just north of I-10 along SR 87S; to the intersection of

Southridge Road and SR 87N to the north; just west of SR 87N to the west; and just east of SR 87S to the east.

1.3 Corridor Build Alternatives

In addition to the No-build alternative and the Transportation System Management (TSM) alternative along the existing alignment, a number of new corridors will be identified and evaluated for improved mobility and safety. See Figure 1.3. Corridor Alternatives.

Segmentation

As shown below, the corridors have been divided up into segments, such as a, b, c, etc. This has been done to show segments of the roadway that are common to multiple Corridor Alternatives. For example Segment 1a is common to all three Corridors 1, 2, and 3. Segment 1b is common to Corridors 1 and 2. Likewise, on the Corridors to the south, segment 4a is common to all three Corridors 4, 5, and 6.

The Corridor segment make up are as follows:

Corridor 1 (Segments 1a+1b+1c)
Corridor 2 (Segments 1a+1b+2a)
Corridor 3 (Segments 1a+3a)
Corridor 4 (Segments 4a+4b)
Corridor 5 (Segments 4a+5a)
Corridor 6 (segments 4a+4b+6a)

Figure 1.2 Study Area Map

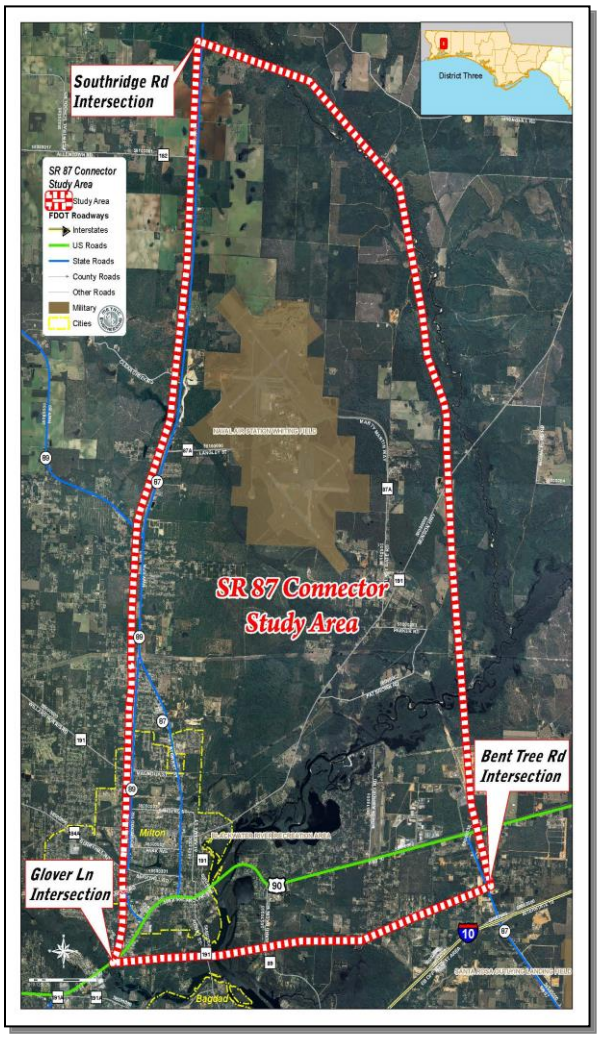
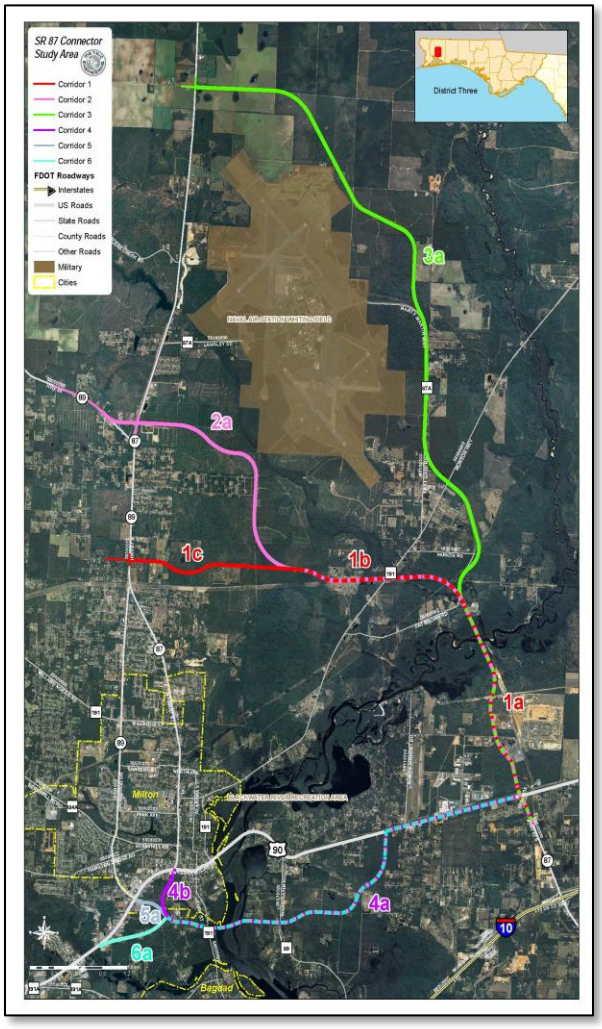


Figure 1.3 Corridor Alternatives



1.4 Prior Studies

After researching available information and/or meeting with representatives from the County, City of Milton, Whiting Field, Sheriff's Department, Northwest Florida TPO, West Florida Regional PC, North West Florida Corridor Authority, Correction Facility, etc, we found that this project has been reviewed and studied for many years under a variety of names. The FAST (Florida Alabama Strategic Task Force) studied this project calling it "Brewton to the Beaches'; the County includes it in the 'Better Santa Rosa Plan'; Team Santa Rosa includes it as part of their future planning; and the Corridor Authority, the County, and the Planning Council include this project as the eastern leg of the overall Beltway Project that spans both Escambia and Santa Rosa County in their Long Range Plans and Cost Feasible Projects. In addition, the Beltway Project was also studied by the Turnpike Enterprise. Their findings showed that there was enough demand for a roadway in our study area with a toll road being very close to being a feasible project. An ETDM review was done in February 2008. ETDM #2861 only looked at a potential corridor that went from SR 87S/US 90 to Munson Highway. It was the intent that this segment be the first phase of a corridor that would be extended to SR 87N. The corridor generally followed the route of Corridor 1 of this study.

1.5 Efficient Transportation Decision Making

On December 19, 2009, the ***SR 87 Connector*** project was submitted for ETDM review as Project #12597. Initially, five corridors were to be studied, with Corridor 4 having two different termini. In addition, these corridors were segmented to enhance the initial GIS review.

It should be noted, due to the limitations of discerning the different segments and termini within the Environmental Screening Tool, the Corridors were renamed in the ETDM as follows:

1.	*Corridor 1 – 1a+1b+1c*	*4.*	*Corridor 4 – 4a+4b*
2.	*Corridor 2 – 1a+1b+2a*	*5.*	*Corridor 5 – 4a+5a*
3.	*Corridor 3 – 1a+3a*	*6.*	*Corridor 6 – 4a+4b+6a*

The six corridors that are reflected in this report were evaluated. Of the six corridors, four were identified as having a Dispute Resolution degree of effect. Corridor 3 was issued a dispute by the Florida Department of Environmental Protection (DEP) due to the fact the Corridor's preliminary alignment is through parcels planned to be purchased as part of the Clear Creek/Whiting Field Florida Forever project. In addition, the planned corridor was to be co-located within a portion of the Blackwater River Heritage Trail, which DEP staff determined a dispute would be constituted since it would need to involve the Section 4(f) process.

Dispute Resolution

The Project Team and the FDOT Project Manager met with DEP, the Florida Department of State Lands (DOS), and the Office of Greenways and Trails (OGT) on **March 24, 2010** for the first attempt for mitigation of the disputes and to see if DEP would remove the dispute on Corridor 3 due to traversing lands planned to be purchased, but not yet owned. It was DEP's position that regardless of the ownership issue, the corridor and its secondary impacts orphaned a parcel that had already been purchased as part of the Clear Creek/Whiting Field Florida Forever project and therefore warranted the dispute.

Dispute Resolution Meetings

- **March 24, 21010 (FDEP, OGT, DOS, WFWMD)**
- **May 21, 2010 (FDEP, OGT, DOS, WFWMD)**

In a meeting with the Federal Highway Administration (FHWA) on **March 25, 2010**, FHWA staff stated that simply crossing the Blackwater River Heritage Trail and the Old US 90 Historic Trail would not constitute Section 4(f) involvement, but collocating and utilizing the trail right-of-way would. To address this conflict, Corridor 3 has been adjusted to simply cross the trail as in the case with the other five corridors.

The other three corridors that were issued a dispute were Corridors 4, 5, and 6, or commonly referred to as the southern corridors. In this case, the issuing agency was the Northwest Florida Water Management District (NWFWMD). The proposed three corridors directly impacted Florida Forever Lands adjacent to and within the Blackwater River that are owned by NWFWMD.

The agency reviews were completed in the spring of 2010 and the ETDM Summary Report was completed and published on May 12, 2010.

On **May 21, 2010**, another mitigation meeting was held with the FDEP, DOS, OGT, and NWFWMD to: review a modified alignment for Corridor 3, discuss whether there may be any flexibility on the NWFWMD properties, and to discuss answers to questions formulated by FDOT and the Project Team. The result of the meeting was that DEP maintained their position on Corridor 3. Likewise on May 21, 2010 a discussion regarding Corridors 4, 5, and 6 was conducted concerning the complexities associated with the funding used to purchase the NWFWMD lands through the Florida Forever Program, there were no options available that would allow for these corridors to impact the NWFWMD lands as long as there were other viable corridors.

On **March 29, 2011,** the Project Team met with FHWA and it was determined the Department of Transportation will be evaluating all three northern Corridors associated

with the SR 87 Connector PD&E Study. The NEPA process requires the evaluation of more than one Corridor, along with the No Build, through the alternatives phase.

It was stipulated that any viable corridor that meets the project's purpose and need, and has no fatal flaw, be carried forward for further evaluation in the alternatives phase of this study. In evaluating the northern corridors (Corridor's 1, 2, and 3) it was determined these corridors met the stipulated criteria. During the meeting, the red-flag condition imposed on Corridor 3 by DEP was discussed and whether it constituted a fatal flaw. The **FHWA Staff stated that it was not a fatal flaw** as the red-flag had been imposed on property owned by others beyond the jurisdiction of DEP.

On March 29, 2011, FHWA concluded that the southern alignments should be eliminated for further evaluation due to their impacts to the Water Management District's Florida Forever parcels, as this was determined to be a fatal flaw for the corridors, and due to the results of the dispute resolution.

As of June 30, 2011, the Florida Department of Environmental Protection, using Florida Forever Funds, purchased several parcels that are part of the Clear Creek/Whiting Field Florida Forever Board of Trustees Project. The path of Corridor 3 traverses these recently purchased parcels. In addition, the purchase of these parcels closes the gap in any physically viable corridor that would allow passage northeast of the Whiting Field Naval Air Station that would meet the Purpose and Need for the SR 87 Connector.

Article X, Section 18 of the Florida Constitution (as amended in 1998), states dispositions of state-owned conservation lands are restricted to those lands "no longer needed for conservation purposes". It would be unreasonable to meet the criteria that would establish that the land is no longer needed for conservation when the parcels are in fact part of an existing conservation master plan, and it was just established that the land was of significant conservation quality to be eligible for the Florida Forever Funding.

In some cases, linear facilities are permitted on Florida Forever Lands. Such approvals are made by the **Board of Trustees of the Internal Improvement Trust Fund** who is responsible for the protection and management of such lands. However, on January 23, 1996 the Board of Trustees approved a Policy for the Use of Natural Land by Linear Facilities that stipulates in **Section (C) Avoidance** that *"owners and operators of linear facilities **must avoid location on natural resource lands unless no other practical and prudent alternative is available** and all steps to minimize impacts are set forth below are implemented. The test of practicality and prudence will compare the social, economic, and environmental effects of the alternatives".*

Based on the stipulations noted above, the fact that there are other viable Corridors (Corridors 1 and 2), the opportunities to impact the DEP lands as a linear facility would also be precluded.

It is due to these limitations, along with the other restrictions and prohibitions provided by the legal counsel of the Navy, that Corridor 3 was also eliminated by FHWA from further considerations unless mitigating circumstances ensue.

2.0 ALTERNATIVE BUILD CORRIDORS

2.1 Corridor Descriptions

In addition to the No-build alternative and the Transportation System Management (TSM) alternative along the existing alignment, a number of new corridors will be identified and evaluated for improved mobility and safety. See Figure 2.1 Corridor Maps.

Corridor 1 As shown in the Corridor Maps, see Figure 2.1, **Corridor 1** will extend north from the US 90/SR 87S intersection crossing the river in proximity of the existing eastern power easement crossings. Once across the river, it will run parallel or adjacent to the power easement, then connect with SR 87N in proximity of the southern split of SR 87N and SR 89, utilizing the Manning Lane right-of-way. This corridor would be roughly 6.5 miles in length.

Corridor 2 Much like Corridor 1, **Corridor 2** will also extend north from the US 90/SR 87S intersection crossing the river in proximity of the eastern most existing power easement crossing. Once across the river, it will run slightly north of Corridor 1, and run adjacent to the Clear Water Creek environmental lands, where it then heads west to connect with SR 87N in proximity of the northern split of SR 87N and SR 89. This corridor would be roughly 7.2 miles in length.

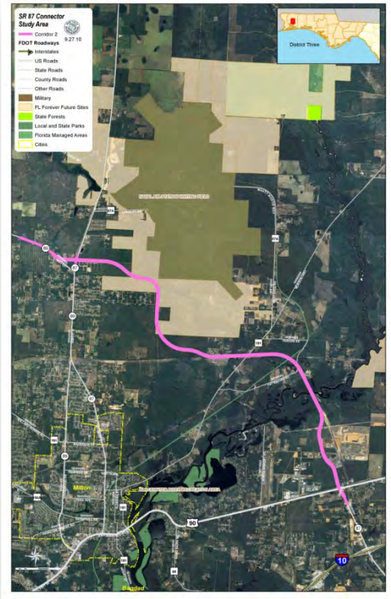
Corridor 3 Like Corridors 1 and 2, **Corridor 3** will extend north from the US 90/SR 87S intersection crossing the river in proximity of the eastern most existing power easement crossing. Once across the river, the corridor will proceed north on the east side of Whiting Field possibly utilizing portions of the Pat Brown Road right-of-way. Once north of Whiting Field, the corridor will seek passage through a narrow gap between the Nature Conservancy/Florida Forever Lands and Whiting Field to a point where it then can be rejoined with SR 87N north of Whiting Field and south of Southridge Road. This corridor would be around 10.5 miles in length.

Corridors 4-6 These Corridors evaluate areas to the south of US 90, and will involve a new river crossing between Bagdad and Milton. The southern corridor will generally head west from SR 87S using a portion of the US 90 right-of-way that can accommodate widening, and reconnect with SR 87N at the US 90/SR 87N intersection. The western end of this corridor near SR 87N will utilize the right-of-way of the Blackwater Heritage Trail, and incorporate the trail into the roadway's cross section. This corridor may be approximately 5.6 to 6.5 miles in length depending on which option is selected. (The options for this corridor include Corridor 4, as well as the different terminus locations that make up Corridor 5 and Corridor 6.)

Figure 2.1 Corridor Maps

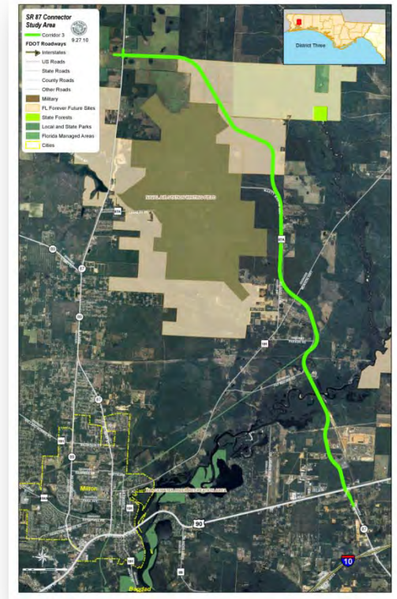
Corridor 1

This Corridor is approximately 6.5 miles in length. It begins at SR 87S, heads north passing just west of the Santa Rosa County Criminal Justice Facility and follows the existing powerline easement across Blackwater River. The alignment heads west just north of the powerline and intersects SR 87N near Oakland Dr.



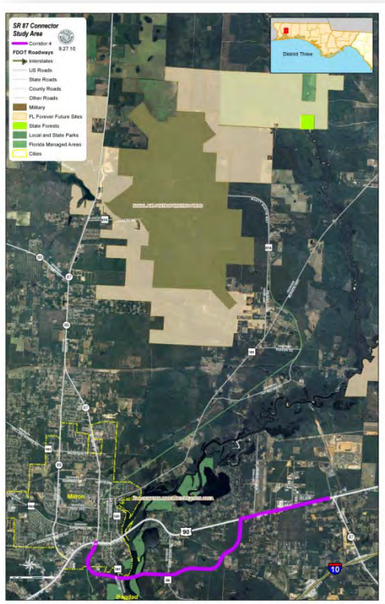
Corridor 2

This Corridor is approximately 7.2 miles in length. It begins at SR 87S, heads north passing just west of the Santa Rosa County Criminal Justice Facility and follows the existing powerline easement across Blackwater River. The alignment heads west just north of the powerline , then heads northwest and intersects SR 87N just north of the SR 89N intersection.



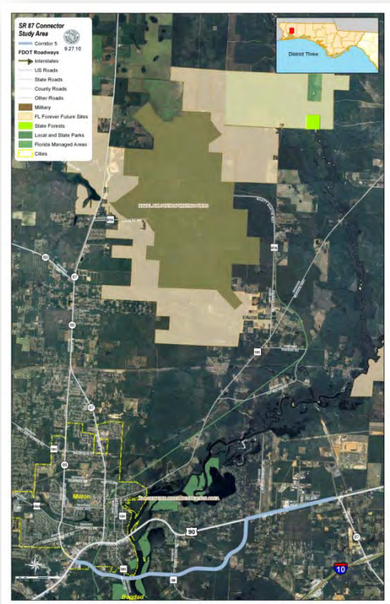
Corridor 3

This Corridor is approximately 10.5 miles in length. It begins at SR 87S, heads north passing just west of the Santa Rosa County Criminal Justice Facility and follows the existing powerline easement across Blackwater River. The alignment Continues north following the Blackwater Heritage Trail to Marty Martin Way. The trail then continues north and northwest until it intersects SR 87N near Jesse Allen Rd.



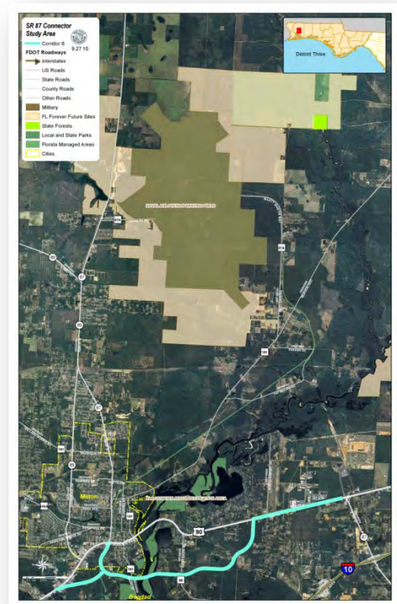
Corridor 4

This Corridor is approximately 5.6 miles in length. It begins at SR 87S and heads west following the existing US 90 alignment. Just west of Airport Rd., the alignment heads southwest, following a portion of S Airport Rd.'s alignment then crosses Blackwater River near McCray Rd. to the East and Taylor St. to the West. The alignment then heads north following the Trail to the SR 87N Intersection.



Corridor 5

This Corridor is approximately 5.6 miles in length. It begins at SR 87S and heads west following the existing US 90 alignment. Just west of Airport Rd., the alignment heads southwest, following a portion of S Airport Rd.'s alignment then crosses Blackwater River near McCray Rd. to the East and Taylor St. to the West. The alignment then continues along Old US 90 and West to the US 90/SR 89 intersection.



Corridor 6

This Corridor is approximately 6.5 miles in length. It begins at SR 87S and heads west following the existing US 90 alignment. Just west of Airport Rd., the alignment heads southwest, following a portion of S Airport Rd.'s alignment then crosses Blackwater River near McCray Rd. to the East and Taylor St. to the West. The alignment then heads north following the Trail to the SR 87N Intersection, as well as west along Old Hwy 90 until it intersects US 90.

2.2 Proposed Build Corridor Roadway Design

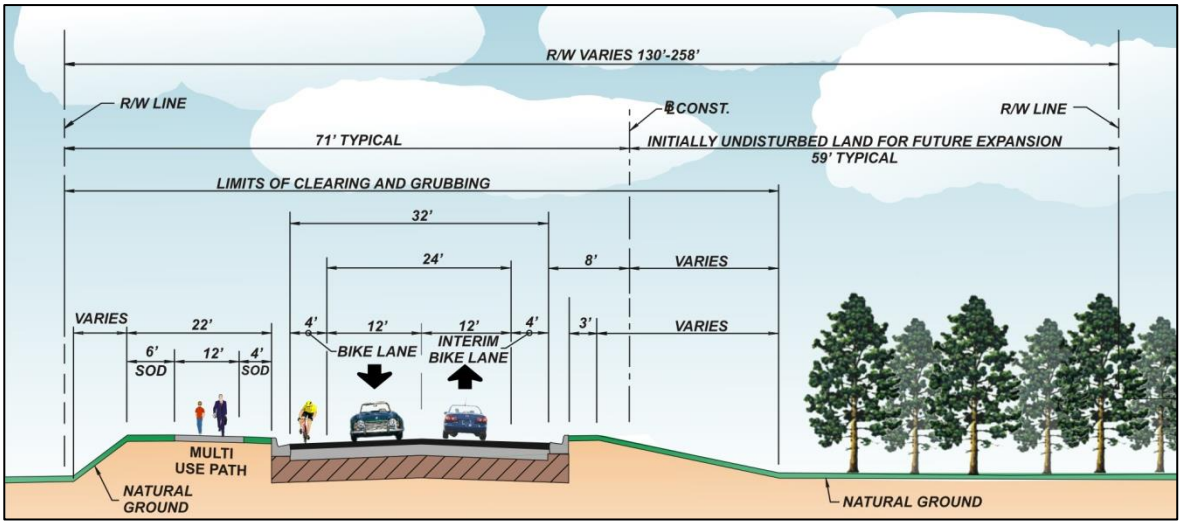
The roadway for the build alternatives is proposed as a four-lane, restricted access, divided highway. South of the Blackwater Bridge the roadway will be Access Class 5. The bridge and north of the bridge will be a Class 3. This change in class along the corridor reflects the change in roadway conditions along the corridor which becomes urban arterial from south of Blackwater Bridge, and rural north of the bridge. The proposed urban roadway has limited access but grants merge lanes for the prison facilities along this section. On the other hand, the section north of the bridge experiences traffic from various intersections, as well as scattered property owners and businesses which require access along the corridor. It is the intent for the project to build an initial two-lane road and as demand warrants the need, the road would be expanded to four lanes. The ultimate build out to four lanes is also desired to match the four lane section at the existing SR 87S, and at the connection with SR 87N which is also four lane. Most importantly, the four laning of the Connector is pursuant to recent legislation that addresses evacuation routes in Florida's Panhandle. HB 1359-SB 7121 mandates Regional Hurricane Evacuation Route and Shelter improvements for counties north of the US 98 Corridor. HB 1359 stipulates that *"the adopted level of service for out-of-county hurricane evacuation is maintained for a Category 5 storm event as measured on the Saffir-Simpson Scale"*. This is also to comply with rules 9J-5.012(3)(b)(6) and 9J-5.012(3)(b)(7), Florida Administrative Code, by following the process in paragraph (a), that states the level of service shall be no greater than 16 hours for a category 5 storm event.

SR 87 south of the project limits is a four-lane divided urban section. The proposed roadway is intended to match the segment to the south. An urban section will minimize right-of-way impacts and potential impacts to natural lands. As the corridor enters into less constrained areas north of the Blackwater River, a suburban section is being recommended. This will allow for slightly higher speeds and be more appropriate for the area's characteristics, while still reducing the amount of right of way required as compared to a rural section. As the corridor approaches SR 87N, where land uses become more dense, the corridor is recommended to resume the urban typical section minimizing social impacts.

Interim Urban Typical

The interim urban typical section will consist of two twelve-foot travel lanes, crowned in the middle, with four foot shoulder/bike lanes on each side. On the west and south side of the typical, a twelve foot bike/ped. trail will be provided. The future median will be used for open drainage in the interim. See Figure 2.2.

Figure 2.2 Interim Urban Typical

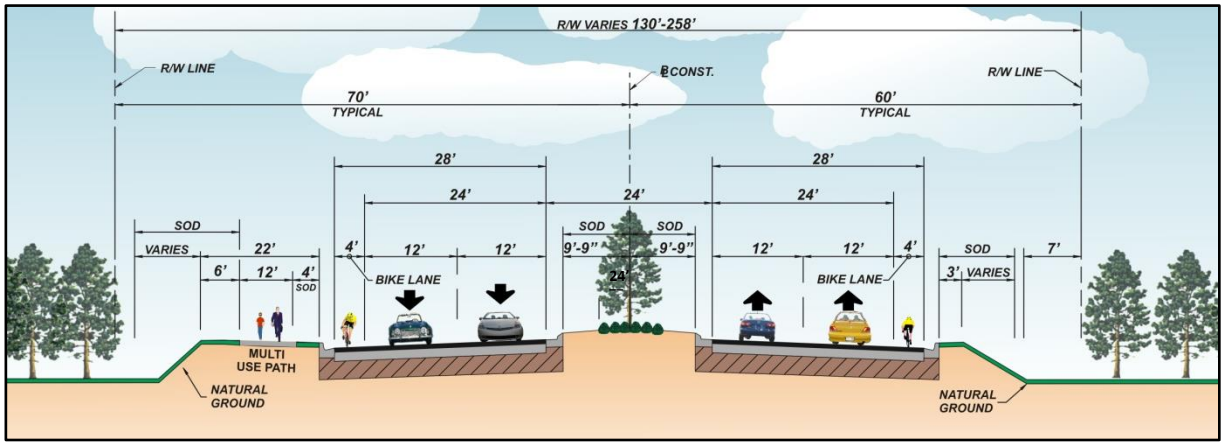


Future Build-out Urban Section

The future urban section will utilize the interim construction. The crown will be overbuilt to provide a single outside slope for drainage. The interim four foot inside shoulder will be eliminated with the over-build. A twenty-four foot median will be provided for landscaping and turn-bays. Two additional north/west bound travel lanes will be added to the typical, along with a four foot outside shoulder. See Figure 2.3.

The urban typical will be used between SR 87S and the bridge over the Blackwater River due to existing right of way constraints, and to match SR 87 between US 90 and I-10. The urban typical will also be used in Corridors 1 and 2 for the tie back into SR 87N.

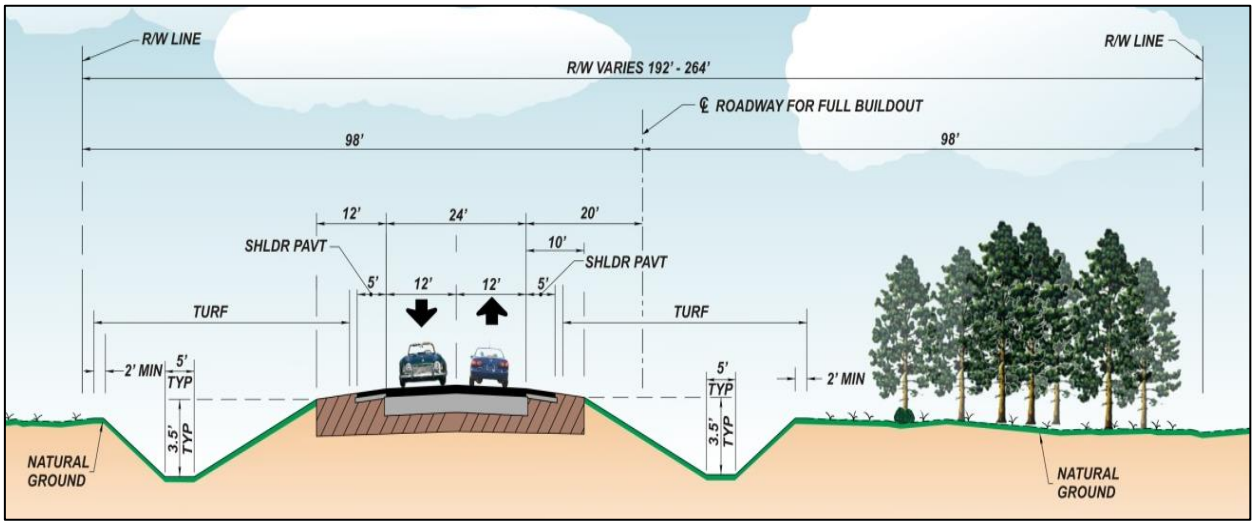
Figure 2.3 Build-out Urban Typical (4-Lane Arterial)



Interim Rural Typical

The interim rural typical section will consist of two twelve-foot crowned travel lanes, and five foot shoulders/bike lanes on each side. In the interim, the median will be utilized for an open drainage swale. See Figure 2.4.

Figure 2.4 Interim Rural Typical

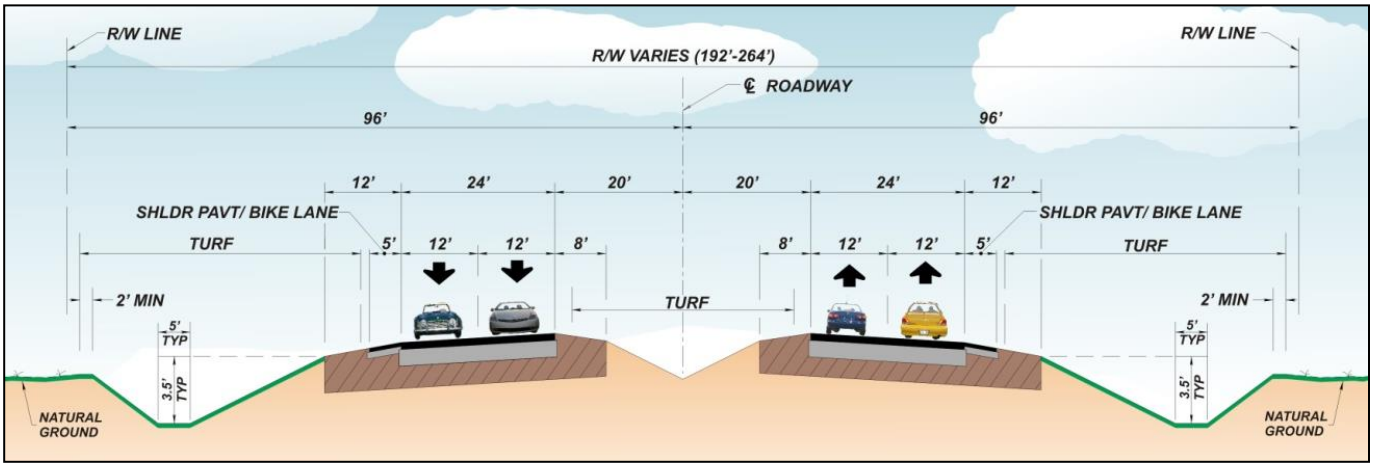


Future Build-out Rural Section

The future rural section will utilize the interim construction. The crown will be overbuilt to provide a single outside slope for drainage. The interim five foot inside shoulder will be eliminated with the over-build. A median will be provided for landscaping and turn-bays. Two additional north/west bound travel lanes will be added to the typical, along with a five foot outside shoulder/bike lanes. See Figure 2.5.

The rural typical will be used between the bridge over the Blackwater River and the urban approaches to SR 87N in both Corridors 1 and 2. In Alternative 3, it will be used between the bridge and the east gate to the Whiting Field Naval Station.

Figure 2.5 Build-out Rural Typical (4-Lane Arterial)



2.3 Storm Water Management Systems

The primary method of storm water attenuation and treatment will be handled in storm water ponds. All types of ponds will be considered, as the final design will depend on several factors such as soil types, proximity to wetlands or waterways, and proximity to aviation flight paths.

The storm water on bridges will be handled the same way on each alternative. The storm water will be collected in scuppers on the bridges, and transported through pipes along the underside of the bridge, and ultimately down a pier column and into the roadway drainage systems.

All corridors have an urban typical section and curb inlets will collect and pipe the runoff to storm water ponds. Corridor 3 has an option to be a rural typical section and will collect runoff in median and roadside ditches. The runoff can then be attenuated in roadside ditches with ditch blocks (weirs) or flow from ditches to storm water ponds to meet water quality treatment requirements.

During construction, ponds shall be constructed prior to any clearing and grubbing for roadbed construction. This will allow subsequent phases of construction to drain to the ponds for treatment and assist with erosion control. In order for the final ponds to function properly, any sedimentation (fine sands and clays) from construction will be excavated and backfilled with suitable soils.

2.4 Proposed Build Corridor Bridge Designs

A key component in all of the build alternatives is that a new bridge crossing will be required at the Blackwater River. As part of building the Corridor alternatives, various bridge locations were assessed in an effort to minimize environmental impacts. Working with environmentalists and DEP staff, two crossing locations were identified. A bridge that could serve potential corridors on the north side of the river was identified at a location immediately adjacent to an existing power line crossing. Likewise, a location was determined for any potential southern corridors.

2.4.1 Locations

North Bridge: The north bridge location will serve Corridors 1, 2, and 3 to the north. As noted, the north bridge location is adjacent to where a major power easement currently crosses the Blackwater River just north of the Santa Rosa County Criminal

Figure 2.6
Power-line easement (Corridors 1, 2, &3)

Justice Center on East Milton Road. See Figure 2.8. This location would place the bridge in an already disturbed river crossing area. In a meeting with DEP on March 24, 2010, DEP concurred that this location served as the best site for the bridge.

South Bridge: The bridge over the Blackwater River in Corridors 4, 5 and 6 is anticipated to tie into the current location of McCray Road on the east end and Taylor Street on the west end. The alignment may need to be shifted slightly to the north of the current alignment of Taylor Street on the west end due to a small canal just to the north of Taylor Street. The amount that it can be shifted will be limited by historic sites to the north and a small creek to the north. See Figure 2.7.

Figure 2.7 Corridors 4, 5 and 6 Crossing

Additional Bridge: For Corridors 1 and 2, there will need to be an additional crossing over Clear Creek south of Whiting Field.

2.4.2 Navigation

There is a railroad swing bridge approximately ¾ miles upstream of the proposed bridge location for Corridor 4a that allows unlimited vertical clearance. The SR 10 (US 90) Bridge is less than ¼ miles upstream from the railroad bridge and has 16.2 feet of vertical clearance over mean high water (MHW) based on the existing plans. The I-10 Bridge, which is approximately 2.5 miles downstream, has 45 foot of vertical clearance over MHW. Assuming the channel depth is sufficient, any vessels that could pass under the I-10 Bridge could make it up to the project location. However, during the ETDM Phase, the Army Corps of Engineers and the United States Coast Guard (USCG) both identified the Blackwater River as commercially un-navigable. The river is navigable for recreational traffic, therefore the bridge will need to provide adequate clearance for the type of boats currently used in the area; however, it does not need to be a high level bridge to accommodate commercial vessels.

Per 23 CFR 650.805 (a), FHWA has the responsibility to determine that a USCG permit is not required for bridge construction and, per 23 CFR 650.805 (d), this determination is to be based on supporting information provided by the

Department. A Bridge Questionnaire is being completed for the Department. Their determination will be then be submitted to FHWA for a final decision. Both Senior Structures Engineer Jeffrey Ger at FHWA and David Frank of the USCG have been contacted and are aware of this project.

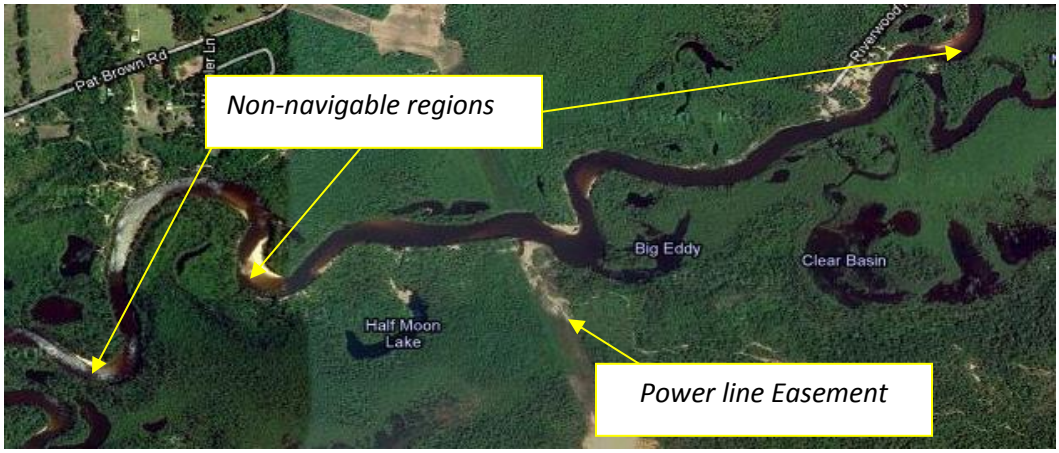


Figure 2.8 Non-Navigable Regions

2.4.3 Bridge Descriptions

The final required bridge length will be set during the preparation of the Bridge Hydraulics Report. For the purposes of this preliminary conceptual study, the total bridge length was estimated by extending it beyond the boundaries of the wetland areas.

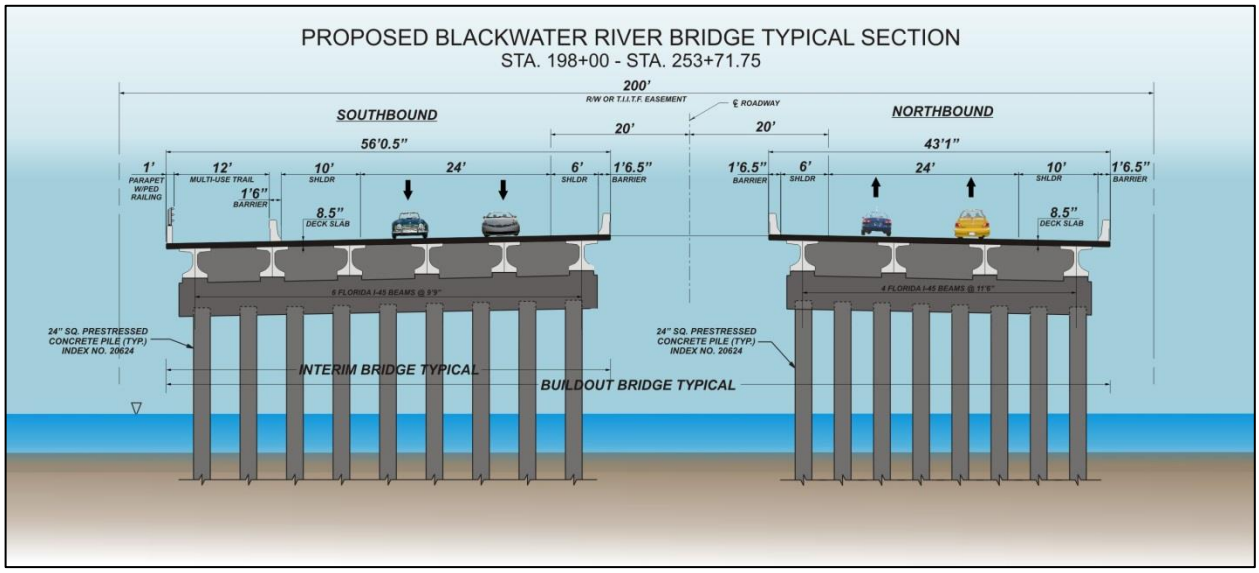
For Corridors 1 or 2, the total bridge length is anticipated to be near **3,380 feet** long. In addition, a bridge crossing Clear Creek is estimated to be around **1,170 feet** in total length. For Corridor 3, only the 3,380 ft bridge will be required.

For Corridors 4, 5 and 6, two alternatives were reviewed. These included a bridge with a clearance dictated by the SR 10 (US 90) bridge to the north, and a bridge with a clearance dictated by the I-10 bridge located to the south. The lower level bridge length would need to be approximately **3,105 feet**, and the higher level bridge would need to be approximately **3,800 feet** in total length. It is possible that the low level bridge may need to extend further, especially on the west end, in order to maintain "no-rise" conditions within the floodway.

Construction Requirements

The river crossing will consist of two parallel bridges that will be phased with the roadway phasing. Though two bridges require more piers, it will reduce the shadowing effects on the river by allowing sunlight in between. Figure 2.9 shows the potential concept:

Figure 2.9 Bridge Typical Section, Northern Corridors



All bridges associated with these corridors will have sections located in environmentally sensitive areas. The final bridge(s) can be constructed using conventional methods in the floodplain areas; however in wetland areas, the preferred construction method chosen will be one that minimizes impacts.

3.0 EVALUATION OF BUILD CORRIDORS

3.1 Evaluation Criterion for the Project's Purpose and Need

Florida's ETDM Programming Screen includes development of the project Purpose and Need. On December 2, 2009, FHWA concurred with the Purpose and Need Statement for the project. As previously discussed in detail in **Section 1.1**., the Purpose and Need of the proposed SR 87 Connector is to:

1) Provide a more direct connection between SR 87S and SR 87N as an alternative to the existing connection via US 90.
2) Improve hurricane evacuation by providing a more direct route to the north, avoiding having to go through the City of Milton.
3) Improve mobility within the regional transportation network by providing new connections to existing and future transportation routes consistent with the Florida/Alabama LRTP.
4) Enhance connectivity for more efficient operation of the Whiting Field Naval Air Station by providing a more direct route to I-10.
5) Improve multi-modalism for the region.
6) Enhance economic development by more effectively serving the Santa Rosa County/Whiting Field Industrial Park.

Criterion 1: ***Provide a more direct connection between SR 87S and SR 87N as an alternative to the existing connection via US 90.***

Corridors 1, 2, and 3 (the northern corridors) meet this criterion as they provide connections north of US 90 and redirect the northbound SR 87 traffic across US 90 to a point where it can reconnect with SR 87N north of the City of Milton. In addition, this provides an estimated 20% relief to the traffic volumes on US 90. Conversely, Corridors 4, 5, and 6 (the southern corridors) would utilize US 90 between SR 87S and just west of South Airport Road. Since these Corridors utilize the existing roadway, the build option of this corridor implies additional lanes of traffic would be added in order for these Corridors to meet Criterion 1. The southern corridors are unique in this fashion as all other corridors provide capacity improvements to the existing roadway network by providing a new alternative route to assist with traffic demands, and to facilitate a more northerly movement consistent with the travel use for SR 87. It should be noted; however, that the southern corridors do provide the greatest relief to the congested and failing sections of US 90. A preliminary traffic analysis reflected an estimated 30% reduction in key locations.

The traffic flow on the new corridor is not insignificant by any standards and the traffic reduction on SR 90 is important on most of the corridor. The new northern corridors will carry more traffic than the SR 90 corridor for two-thirds of its length between SR 87S and Ward Basin Road. The preliminary analysis does indicate that short constrained segments on SR 90 within the downtown of Milton may still fail in 2035. However, regional models in general and the NWFRPM in particular are not good tools to evaluate traffic conditions in a downtown setting because they are based on average link capacity and do not consider intersection capacity that is much more important in downtown environments. It should be noted that the preliminary analysis is based on the adopted NWFRPM. A sub-area model refinement has been developed to more accurately reflect traffic conditions in Downtown Milton and will be used to project traffic for the operational analysis phase of this PD&E. Further, the SR 87 connector has additional benefits such as hurricane evacuation, improved connectivity and access to NAS, enhanced safety, and reduction in fuel consumption and exhaust pollution.

Criterion 2: ***Improve hurricane evacuation by providing a more direct route to the north, avoiding traffic along US 90 in Milton.***

Future traffic projections derived from the adopted NWFRPM cost feasible model accounts for background traffic, regional traffic, and new traffic from new developments and committed projects.

The evacuation options from vulnerable coastal areas in south Santa Rosa County are limited to SR 87, SR 281 or CR 191. None of these routes provide for a direct north-south evacuation corridor. Currently, both SR 87 and CR 191 travel through the most congested areas of the City of Milton and SR 281 does not continue north of US 90. In addition, both SR 281 and CR 191 will not be available during high wind events due to bridge closures, leaving SR 87 as the only available route. The recent Florida Statewide Regional Evacuation Study Program for the West Florida Region named SR 87 as a major evacuation route. The most vulnerable residents, located in Category 1 evacuation zones, are those located in all of Navarre Beach, the Gulf Breeze Peninsula, and all waterfront residents who live within 1300 feet of water from the Okaloosa County Line to Escambia Bay, East Bay and East River. In addition, in East Milton just south and in our study area, all waterfront areas along Blackwater Bay, the Blackwater and Yellow Rivers and all residents who live within 2600 feet of these bodies of water are also in Category 1 Evacuation Zone. During evacuations, it was found that the SR 87S and US 90 intersection in our study area was on the list of most Critical Segments with Highest Queues in the Study.

Corridors 1, 2, and 3 meet this criterion as they all by-pass the City of Milton to its northeast and provide a continuous north-south corridor. The southern corridors do not meet this criterion because large sections of the evacuation route would still need to go through the City. The southern corridors only provide minimal relief from travelling through the Historic District of the Town by circuitously going south and west of the historic district; therefore these southern routes provide very little benefit to hurricane evacuation.

Criterion 3: ***Improve mobility within the regional transportation network by providing new connections to existing and future transportation routes consistent with the local, regional, and State planning documents.***

The project is also in the Florida - Alabama Transportation Planning Organization (TPO)'s 2025 Long Range Transportation Plan (LRTP) Cost Feasible Plan, adopted in Dec 2005, and in the more recently adopted Blueprint 2035 LRTP. Initially, this project was part of a larger Outer Beltway Connector project in the 2025 LRTP that included a new corridor from US 90 in Escambia County to US 90/SR87S in Santa Rosa County. The updated 2035 LRTP now includes specifically the SR 87 Connector as a stand-alone project as well as the Outer Beltway future project. It is listed as a Roadway Capacity Project in the Needs Plan and in the "Beyond 2035" Projects as the Outer Beltway Connector. The Design phase is also listed in the Fiscal Year 2016-2020 Year of Expenditure Cost Feasible Plan in the latest LRTP. In addition, the proposed new facility is in the proposed Transportation Improvement Plan (TIP) Appendices and in the current adopted State Transportation Improvement Plan (STIP). The current (adopted 2011) STIP includes Preliminary Engineering Funds for the year 2012 totaling nearly $1.9M.

Only one general alignment was shown which is similar to the general alignment in the TPO's Long Range Transportation Plan. The map does not, however, show the southern corridors. They were developed as part of this study in an effort to address the growing deficiencies of the US 90 Corridor.

Though all of the build corridors meet this criterion to greater or lesser degrees, Corridors 1, 2, and 3 improve mobility to a greater extent by providing a new bridge crossing in a more strategic location accommodating both travel from the northeast and northwest to areas south, and the reverse for northbound travel. Greater mobility is afforded by providing an alternate to what would otherwise be channeling traffic through the congested areas of the Town of Milton. The northern corridors also provide better links north and south serving areas east of Whiting Field. Corridor 3 offers the greatest mobility improvements in that it provides greater access and additional north/south capacity by providing a duplicate corridor for much of the existing SR 87N

Corridor. Corridor's 1 and 2 are most consistent with the region's LRTP as these corridors are in proximity of the originally intended location from the previous studies outlined in Section 1.2. Likewise, through consultation with Santa Rosa County Planning staff, it was confirmed that the County's Map 4-3 "Needs Not Cost Feasible with Existing Resources," modified November 2008, identifies the project. In addition, it was also included on the previous Map 4-4 "Not Cost Feasible with Existing Revenue Sources," dated April 2002. One alignment will be selected as the preferred alignment, and it will be added to the Comprehensive Plan. It will remain on the "Not Cost Feasible" map until we can show construction is cost feasible.

In addition, funding for this project is on Table 10-1 of the Schedule of Capital Improvements, page 10-13 of the Comprehensive Plan. It was $490,000 in FY 09, a federal earmark. The description is not more specific because generally the language of the earmark itself is used; however, as this study progresses, it can be more specific in the future. This PD&E study is actually funded by three earmarks with the $490,000 as the second earmark. The first was originally appropriated in FY 07, so it is not shown in the Schedule of Capital Improvements, since it is outside the five-year window of the schedule: FY 08 - FY 12. The third earmark is $475,000 appropriated for FY 10, which should be added to the Comprehensive Plan. As typical with most projects, no funding has been identified for the further phases of final design, right-of-way, or construction. It is very rare that a project is funded through all phases at one time. The known funding is included in the Schedule of Capital Improvements. All earmark funds for the PD&E Study have been in the TIP and STIP. The earmarks Include Numbers: 4167483, and 4167484.

The County also believes that if an alternative is not found to the existing roadways, sprawl will extend even further beyond the study area; congestion will worsen on US 90/SR 87 and job growth in particular in the East Milton industrial area will halt. The County's Comprehensive Plan also provides guidance on development around the military base, but the application of the land development code (LDC) further defines, for instance, protections for military airport zones (MAZs). In the LDC, some types of development are compatible with air operations, such as industrial development. The County is building an aviation industrial park adjacent to NAS Whiting Field, made possible by an agreement with the Navy.

Santa Rosa County is nationally known for its cooperation with the Navy to achieve goals of both the County and the military. So, at the very general level of the Comprehensive Plan, a project may appear to be inconsistent, but in fact stronger protections exist such as in the LDC.

Criterion 4: ***Enhance connectivity for more efficient operation of the Whiting Field Naval Air Station by providing a more direct route to I-10.***

Currently, Santa Rosa County is home to eight airfields utilized by the Navy, the largest being NAS Whiting Field. Whiting is supported by 14 NOLFs spread throughout Santa Rosa County, Escambia County, Florida and the counties of Baldwin, Conecuh and Escambia in Southern Alabama. Whiting's mission is to provide services and materials to support the training of US Navy, Coast Guard, Air Force, Marine and international student aviators in fixed-winged training as well as helicopter training. Whiting Field is responsible for 10% of the USN/USMC flight hours worldwide and is a vital flight training area for the US Navy. This vital role in the nation's defense program also represents a large participation in the Santa Rosa County job base and economy. Thousands of military, civilian contractor, and private industry personnel and/or students work or train at this facility and efficient methods of transporting goods and people to and from the base are essential to the success of the base's mission.

Figure 3.1
Blackwater Heritage Trail

Currently, the major roads to Whiting include SR 87 and CR 191, neither of which offers a connection to I-10 without travelling along the congested US 90/SR 87 alignment. Corridors 1, 2, and 3 all meet the criterion of improving connection to Whiting. Corridor 3 is the most successful in meeting this need since it includes roadway improvements all the way to Whiting Field's East Gate. Not only would there be a direct link from the East Gate to I-10, but an additional link north with Corridor 3.

Figure 3.2
US 90 Historic Trail

Corridors 4, 5, and 6 generally do not meet this criterion as they remain too circuitous of a route. These corridors are slightly better in providing a more direct route to I-10 than the existing US 90. The slight benefit is due to the corridors by-passing the historic district and by-passing the constrained US 90 bridge; however, much of the southern routes' alignments utilize the existing SR 87N into town and do not offer significant connectivity for Whiting Field to the north. In spite of the marginal benefits, Corridors 4, 5, and 6 fail to meet the objectives of this *need* as outlined in the Purpose and Need.

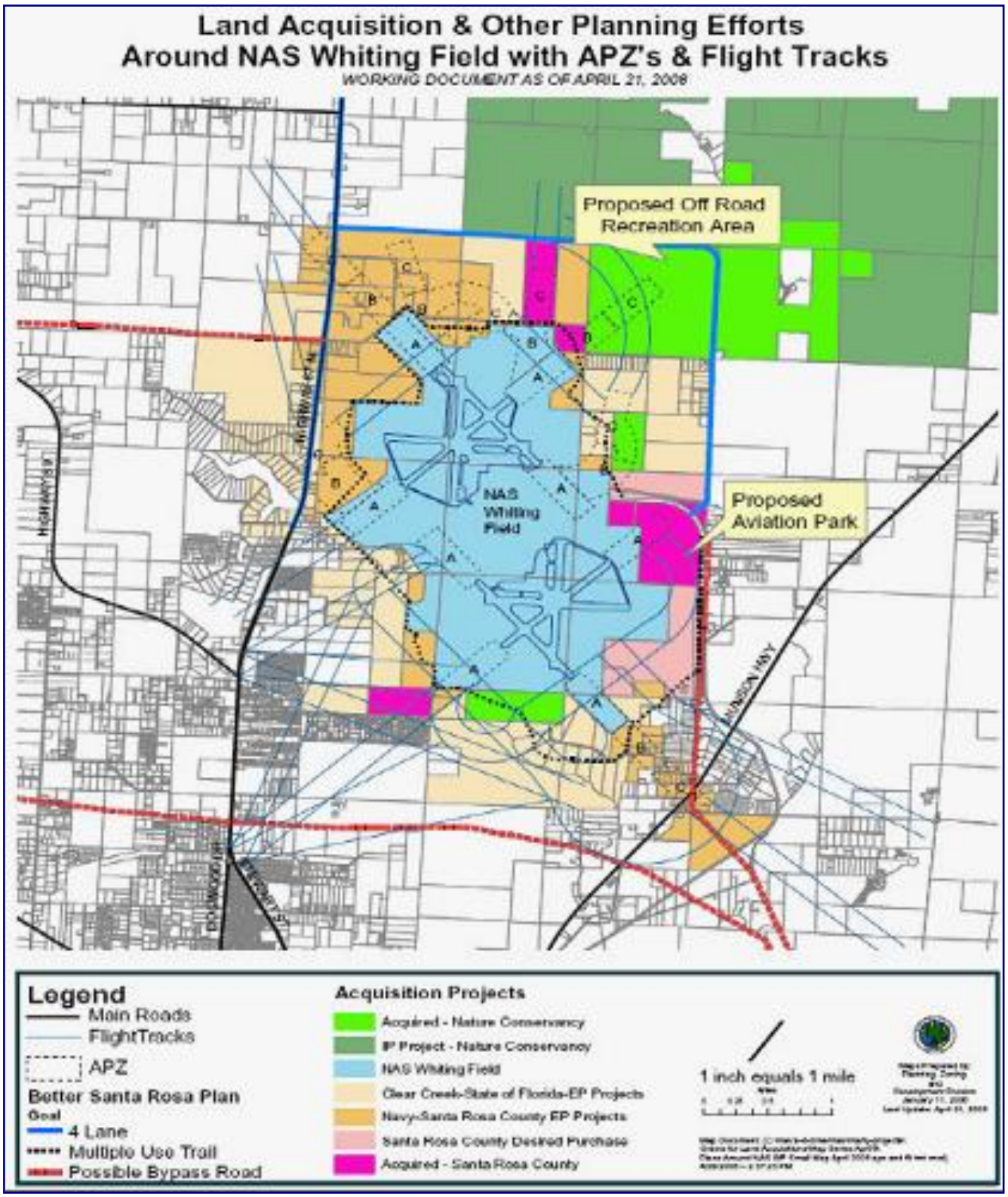
Criterion 5: ***Improve multi-modalism for the region.***

All proposed corridors enhance multi-modal aspects of the region. **The FL-AL TPO Long Range Transportation Plan (Blueprint) 2035 states:** ***"The project (SR 87 Connector) will address the need for greater bicycle and sidewalk connectivity in the County with possible connections to the Blackwater Heritage Trail."*** However, corridors vary in the effectiveness due to length, proximity, destination connections, etc. As there is no transit in the area, the multimodal improvements are based on the pedestrian and bicycle facilities provided in conjunction with the roadway, as well as connectivity to the new Whiting Aviation Park located on the east side of NAS Whiting Field that includes an airstrip under joint agreement between the County and the Naval Base.

The two most notable existing pedestrian/bicycle facilities in the region are the Blackwater Heritage Trail and the US 90 Historic Trail. All corridors make the desired connection with the Blackwater Heritage Trail increasing multi-modal opportunities in the area. Corridors 1, 2, and 3 make the connection to the trail near Munson Highway. Corridors 4, 5, and 6 make their connection with the trail at its southern terminus at Old Bagdad Highway. For the northern corridors, even greater opportunities could be explored by increasing the length and connectivity of the existing trail. The SR 87 Connector will greatly enhance the trail by providing a connection with eight to twelve additional miles of multi-use trail that will parallel the SR 87 connector. In addition, the SR 87 Connector will begin to build a network of trails for the Community linking the Blackwater Heritage Trail to the Historic SR 1 Trail along US 90. Likewise, future links can be made to area parks and recreation facilities. It is unknown at this point if there will be grade separation between the trail and the proposed roadway. The need will be determined as part of the final alternatives development.

The southern corridors likewise enhance multi-modal connections to the Blackwater Heritage Trail linking area neighborhoods parks and the Milton Historic District, as well as, areas to the south in the Bagdad Historic District. The northern corridors actually provide vital links to the County's multi-modal opportunities. First, these corridors cross the Blackwater River between the Blackwater Heritage Trail and the US 90 Historic Trail. This link between the two facilities significantly expands the multi-modal network for the region. In addition, Corridors 1 and 2 include both bicycle and pedestrian facilities for their entire length. The other link is the connection to the new Aviation Park on the east side of Whiting Field. This park includes an airstrip and industrial area that will be utilized by the county. Corridor 3 provides the most direct access to this high growth target area. See Figure 3.3.

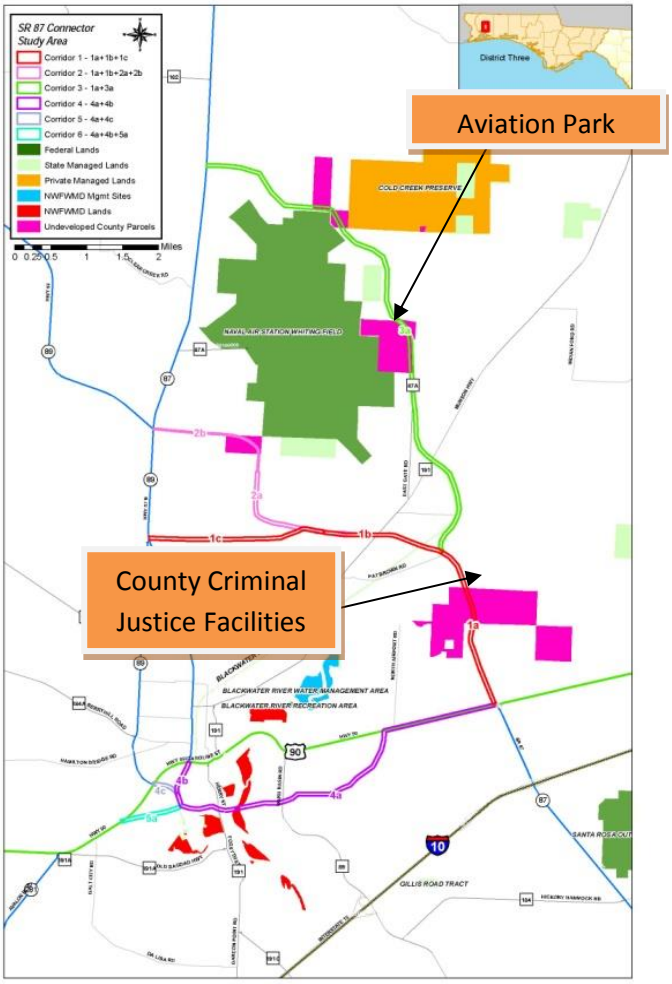
Figure 3.3 Aviation Park
(Shown in pink)



Criterion 6: ***Enhance economic development by more effectively serving the County, as well as the Santa Rosa Joint Land Use Study Planning Area.***

Generally, all corridors help facilitate the economic development targeted by the County and the Town of Milton east of the river by the fact that all corridors provide relief to the failing sections of US 90. However, in addition to the City of Milton's and Santa Rosa County's economic development area near the Santa Rosa Airstrip and the Criminal Justice Center, the County has also recognized Team Santa Rosa's efforts on a Joint Land Use Planning initiative See Figure 3.4. This study is a joint land use study that incorporates the land use planning efforts between Santa Rosa County and the NAS Whiting Field Military Installation. The study area encompasses a nearly 8,000 acre area around Whiting Field in northern Santa Rosa County and includes an Aviation park on the east side of the base and proposed roadways that are similar in location to Corridors 1 and 3.

Figure 3.4 Areas of Economic Development



The northern corridors serve this Study area, whereas, the southern corridors do not. Corridors 1 and 2 provide a bypass around Milton and a more direct route to SR 87N. In addition, they also intersect SR 87N in a more developed area than Corridor 3, potentially serving existing residents and business more efficiently. Likewise, Corridor 3 will serve the economic development of the area as it provides an additional North-South Corridor; and a route directly to the Aviation Park, Whiting's East Gate and to the proposed 4 lane section of SR 87N to the State Line.

One important concern voiced by Whiting Field staff was that Corridor 3 may limit some expansion possibilities for Whiting Field, restricting growth of the base to the north.

Corridors 4, 5, and 6 do not connect to the Joint Land Use Planning Area so do little to serve the economic development targeted for this area. The corridors are too far away from the land uses, and do not provide the much needed northbound bridge over the Blackwater River that will enhance the connectivity of the area, and provide north-south connections with I-10 and SR 87N to the Alabama State line. As such, these corridors are applicable to development east of Milton only due to the fact they provide a parallel crossing over Blackwater River to the existing US 90/SR 87 bridge.

3.1.1 Criterion Comparisons

Having evaluated the corridors with respect to the primary objectives of the Project's Purpose and Need, the following **Table 3.1.** compares the corridors to each other by each criterion. If the corridor simply did not meet the criteria, it was assigned a 7. The corridor with the lowest score generally would be considered the corridor that best meets the project's Purpose and Need.

Table 3.1

Purpose and Need Comparison

Corridor	Crit. 1 Connection between 87S and 87N	Crit. 2 Hurricane Evacuation	Crit. 3 Improve Mobility, consistent with LRTP	Crit. 4 Connectivity to WFNAS and Park	Crit. 5 Multi-Modalism	Crit. 6 Economic Dev.	Subtotal
1	1	3	1	3	2	1	11
2	2	2	2	2	3	2	13
3	3	1	3	1	1	3	12
4	5	7	5	7	5	5	34
5	6	7	6	7	6	6	38
6	4	7	4	7	4	4	30

As can be noted, the northern corridors best meet the project's Purpose and Need due to the fact they are avoiding the conflicts along US 90 and are by-passing the congestion of the Town of Milton. The northern corridors also lend themselves to more of a north/south travel consistent with SR 87. Though the southern corridors do meet many of the criteria for the project's purpose and need, they fail to meet all items.

It is important to note, had the primary objective of this Study been to provide east/west relief, the southern corridors would have fared much better. There is in fact a tremendous need for east/west relief on the sections of US 90 that are failing. The objective in looking at the southern corridors was to see how they would compete with the northern corridors in meeting the project's purpose and need. As noted in the analysis, the southern corridors were more effective in providing relief to US 90 (Reference Table 3.5 in Appendix), but fell short when providing for the north/south movement and hurricane evacuation. The other issue associated with the southern corridors was their impacts to the Water Management District's Florida Forever lands which remain to be a fatal flaw.

As stated earlier, regional models in general and the NWFRPM in particular are used for initial evaluations of traffic conditions in a downtown setting because they are based on average link capacity and do not consider intersection capacity that is much more important in downtown environments. A sub-area model refinement has been performed for the study area to more accurately reflect traffic conditions in Downtown Milton. The refined model will be used to project traffic to be used in the operational analysis task of this PD&E.

3.2 Traffic

3.2.1 Alternative Corridors:

Six corridor alternatives for SR 87 Connector, in addition to the No Build alternative, were evaluated for the design year 2035. The new corridor is anticipated to be a two-lane facility with right-of-way for a future four-lane divided facility. Therefore, both the two lane undivided and four-lane divided roadway configurations were evaluated for each new corridor.

3.2.2 Preliminary Analysis of Traffic Conditions:

The traffic analysis of existing conditions (2009) revealed that daily Level of Service (LOS) for most of the roadway segments were currently in the range of A to D, except for five roadway segments located on US 90 and SR 281/Avalon Boulevard. (See Table 3.2) These segments are the following:

1. US 90: from Glover Lane to SR 89 (LOS E)
2. US 90: from SR 87N/Stewart Street to Canal Street (LOS D)
3. US 90: from Broad Street/Willing Street to Johnson Road/Milton Trail (LOS F)
4. US 90: from Johnson Road/Milton Trail to Ward Basin Road (LOS F)
5. SR 281/Avalon Boulevard: from I-10 to US 90 (LOS E) (Currently under construction)

The Highway Capacity Manual (HCM) defines highway capacity and LOS analysis procedures. The 2009 FDOT Quality/Level of Service Handbook provides guidance to evaluate LOS on Florida's facilities. HCM divides highway quality of service into six letter grades, “A” through “F,” with “A” being the best and “F” being the worst.

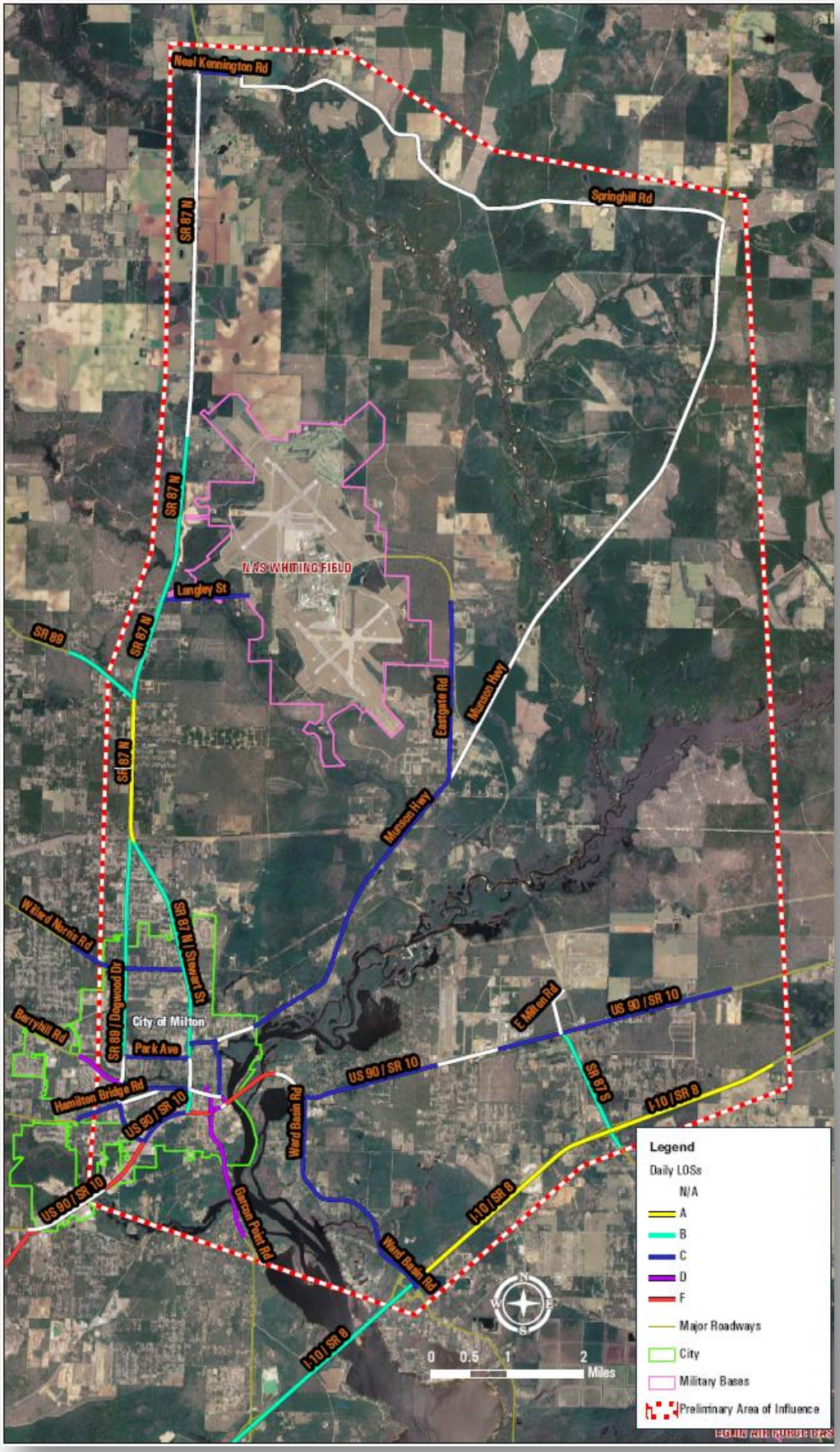
For most planning and preliminary engineering applications, the maximum service volumes for LOS E can be considered as the capacity of the roadway. LOS F implies travel demand exceeds capacity and the roadway is operating in oversaturated back-up conditions. However, local governments set the allowable LOS standards for each facility type in their comprehensive plans. These adopted LOS standards for suburban or rural facilities are generally less that the roadway capacity and limited to LOS B to D depending on facilities. The adopted LOS standards for the roadway facilities located within the study area are shown in Table 3.2 and in Figure 3.5.

There are three levels of analysis: (1) Generalized planning that makes extensive use of statewide default values and generalized LOS tables, and is intended for broad applications. (2) Preliminary engineering that is more detailed and

accurate than generalized planning and uses tools such as FDOT's LOS software (LOSPLAN), which includes ARTPLAN, FREEPLAN, and HIGHPLAN. And (3) detailed operational analysis using the HCS software, signal optimization software such as SYNCHRO or micro-simulation software such as CORSIM. FSUTMS Transportation models in Florida, including NWFRPM represent the first level of analysis because it is based on generalized LOS tables whereas HCM defines LOS for arterials and freeways based on average speed and density. This PD&E study includes a level (3) operational analysis using HCS, SYNCHRO and CORSIM.

The traffic analysis for the design year (2035) was performed for the six corridor alternatives in addition to the No-Build alternative for both the two-lane undivided and four-lane divided roadway configurations of the new corridors. The new SR 87 Connector corridor will attract significant traffic, changing traffic patterns in the study area, and partially relieving traffic congestion on US 90 within the study area.

Figure 3.5; 2009 Daily LOS



3.2.3 Two-lane Undivided Roadway Configuration:

Compared with the No-Build alternative, all six Build alternatives will improve the failing segments of US 90 between SR 87S and Ward Basin Road to a LOS D or better. The failing segments between Ward Basin Road and Broad Street/Willing Street will decrease by 20% to 30%, though these segments will remain operating at a failing LOS. The failing segments on US 90 west of Broad Street/Willing Street will experience a decrease in traffic volumes but, will also remain operating at a failing LOS. In addition, traffic volumes will decrease at some constrained and failing roadway segments within the Milton downtown area, even though these roadways will remain operating at a failing LOS.

It should be noted that for the regional traffic on SR 87 with no destination in Milton, Corridors 1-3 provide 2.0 to 3.5 miles shorter trip lengths than Corridors 4-5, and save 6 to 8 minutes on each one-way trip from Langley Street to the intersection of SR 87S and US 90, assuming no congestion in Downtown Milton.

Evacuation time will be significantly shorter due to expected congestion in historic downtown Milton and the constrained roadway capacity. Truck travel time savings are even greater due to slower speeds. Therefore, the additional benefits of Corridors 1-3 are to reduce traffic in downtown Milton which relieves congestion and improves safety. The preliminary operational analysis results are summarized in **Table 3.2**.

The 2010 Florida Traffic Information (FTI) DVD indicates that the daily truck percentages on SR 87S are 8.7% (Count Station 58-0020), SR 90 7.0% (Count Station 58-0019), and SR 87N up to 15.4% (Count Station 58-0114). Future truck traffic may even be higher on the SR 87 Connector northern corridors due to the planned and expanded industrial zones in the influence area; and because the connector will offer shorter distance, fewer stops and higher travel speed.

Two important qualifications must be made regarding the traffic analysis in this Corridor Alternatives Evaluation Summary Report. First, as stated above it is based on level 1 analysis using the default capacity tables included in the regional model. Such analysis does not offer a detailed evaluation of traffic conditions or congestion relief in a downtown setting such as the short failing sections on the constrained segments of US 90 located in Downtown Milton. Congestion relief can be better evaluated using detailed operational and intersection analyses to be documented in future reports. Second, the distinction between two-lane and four-lane corridors is very preliminary at this stage. It also requires operational analysis because generalized levels of service

do not account for many factors including truck operation that is very critical on two-lane undivided roadways. Therefore, both downtown congestion relief and the evaluation of two versus four-lane corridors must be performed during the detailed operational analysis phase of this study.

Table 3.2 Daily Level of Service in 2035 (SR 87 Connector is 2-Lane Undivided)

Roadway		Existing						Year 2035													
								No-Build		Alt 1		Alt 2		Alt 3		Alt 4		Alt 5		Alt 6	
From	To	Number of Lanes	Segment Length	Adpoted LOS	Capacity (LOS 2007 Tables)	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C
US 90																					
SR 281/Avalon Blvd	Parkmore Plaza	4	0.25	D	32,700	N/A		F	1.45	F	1.42	F	1.39	F	1.42	F	1.47	F	1.47	F	1.50
Parkmore Plaza	Glover Ln	4	0.74	D	32,700			F	1.45	F	1.42	F	1.39	F	1.42	F	1.46	F	1.44	F	1.49
Glover Ln	SR 89	4	0.70	D	32,700	F	1.12	F	1.26	F	1.23	F	1.21	F	1.23	F	1.10	F	1.15	F	1.07
SR 87N/Stewart Street	Canal Street	2	0.27	D	16,400	F	1.10	F	1.25	F	1.15	F	1.19	F	1.19	D	0.86	F	1.09	C	0.83
Broad St/Willing St	Johnson Rd/Milton Tr	2	0.69	D	16,400	F	1.04	F	1.81	F	1.40	F	1.42	F	1.53	F	1.30	F	1.25	F	1.30
Johnson Rd/Milton Tr	Dale St/Ward Basin Rd	2	0.42	D	16,400	F	1.04	F	1.67	F	1.28	F	1.29	F	1.40	F	1.17	F	1.11	F	1.16
Dale St/Ward Basin Rd	Airport Rd	2	1.26	D	16,400	C	0.79	F	1.09	C	0.78	C	0.80	D	0.86	D	0.94	D	0.92	D	0.97
Airport Rd	Industrial Blvd	2	0.97	D	16,400	N/A		F	1.19	D	0.90	D	0.91	D	0.98	B	0.66	B	0.68	B	0.69
Industrial Blvd	SR 87S	2	0.75	D	16,400	C	0.73	F	1.18	D	0.91	D	0.92	D	0.98	B	0.65	B	0.67	B	0.68
SR 281/Avalon Blvd																					
I-10	US 90	2	4.88	D	16,400	F	1.25	F	1.42	F	1.29	F	1.25	F	1.30	F	1.23	F	1.20	F	1.22
CR 191/Henry St																					
South of US 90	US 90	2	0.41	D	10,000	D	0.7	D	0.91	D	0.96	E	1.02	D	0.94	C	0.21	D	0.71	C	0.22
CR 191/Broad St/Willing St																					
US 90	Berryhill Rd	2	0.11	D	10,000	D	0.8	E	1.18	D	0.91	D	0.96	E	1.06	D	0.93	D	0.94	D	0.97
Old US 90 (High speed 2LU for Corridor 6 only)																					
Canal Street	US 90	2	1.03	D	10,000	N/A		C	0.08	C	0.07	C	0.08	C	0.08	D	0.83	C	0.12	C	0.63

Legend

X Acceptable LOS

X Traffic Volume Exceeds Adopted LOS

Four-lane Divided Roadway with the Capacity of 37,500 for Alts 4, 5 and 6

3.2.4 Four-lane Divided Roadway Configuration:

Except for Corridors 4, 5 and 6, the project traffic volumes of each segment for all Build Alternatives were almost the same as those with the two lane undivided roadway configuration for the new corridors. Therefore, the conclusion for the new corridors with the two-lane undivided roadway configuration is also applicable to the four-lane divided roadway configuration. The preliminary operational analysis results are summarized in **Table 3.3**. However, Corridors 4, 5 and 6 now attract slightly more traffic. **Table 3.4** shows the comparison of the project traffic volumes between the two-lane undivided and the four-lane divided roadway configurations for the Build Corridors.

Table 3.3 Daily Level of Service in 2035 (SR 87 Connector is 4-Lane Divided)

Roadway		Existing						Year 2035													
								No-Build		Alt 1		Alt 2		Alt 3		Alt 4		Alt 5		Alt 6	
From	To	Number of Lanes	Segment Length	Adpoted LOS	Capacity (LOS 2007 Tables)	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C
US 90																					
SR 281/Avalon Blvd	Parkmore Plaza	4	0.25	D	32,700	N/A		F	1.45	F	1.40	F	1.40	F	1.41	F	1.45	F	1.46	F	1.54
Parkmore Plaza	Glover Ln	4	0.74	D	32,700			F	1.45	F	1.40	F	1.40	F	1.41	F	1.42	F	1.43	F	1.52
Glover Ln	SR 89	4	0.70	D	32,700	F	1.12	F	1.26	F	1.22	F	1.22	F	1.22	E	1.04	F	1.20	E	1.04
SR 87N/Stewart Street	Canal Street	2	0.27	D	16,400	F	1.10	F	1.25	F	1.17	F	1.17	F	1.19	C	0.70	E	1.02	C	0.75
Broad St/Willing St	Johnson Rd/Milton Tr	2	0.69	D	16,400	F	1.04	F	1.81	F	1.36	F	1.39	F	1.53	F	1.24	F	1.15	F	1.17
Johnson Rd/Milton Tr	Dale St/Ward Basin Rd	2	0.42	D	16,400	F	1.04	F	1.67	F	1.23	F	1.26	F	1.40	F	1.10	E	1.01	E	1.03
Dale St/Ward Basin Rd	Airport Rd	2	1.26	D	16,400	C	0.79	F	1.09	C	0.76	C	0.78	D	0.87	D	0.89	D	0.85	D	0.87
Airport Rd	Industrial Blvd	2	0.97	D	16,400	N/A		F	1.19	D	0.87	D	0.90	D	0.98	B	0.69	B	0.70	B	0.72
Industrial Blvd	SR 87S	2	0.75	D	16,400	C	0.73	F	1.18	D	0.89	D	0.91	D	0.99	B	0.68	B	0.69	B	0.70
SR 281/Avalon Blvd																					
I-10	US 90	2	4.88	D	16,400	F	1.25	F	1.42	F	1.25	F	1.23	F	1.27	F	1.20	F	1.19	F	1.20
CR 191/Henry St																					
South of US 90	US 90	2	0.41	D	10,000	D	0.7	D	0.91	E	1.01	D	0.98	D	0.95	C	0.12	D	0.52	C	0.12
CR 191/Broad St/Willing St																					
US 90	Berryhill Rd	2	0.11	D	10,000	D	0.8	E	1.18	D	0.85	D	0.90	E	1.08	E	1.00	D	0.73	D	0.79
Old US 90 (Widened to 4LU for Corridor 6 only)																					
Canal Street	US 90	2	1.03	D	21,300	N/A		C	0.08	C	0.07	C	0.07	C	0.08	D	0.79	C	0.41	C	0.47

Legend

- X Acceptable LOS
- X Traffic Volume Exceeds Adopted LOS
- Four-lane Divided Roadway with the Capacity of 37,500 for Alts 4, 5 and 6

Table 3.4 Comparison (2-Lane divided) of Project Traffic Volumes (2035)								
Alternative	From	To	2-Lane Undivided			4-Lane Divided		
			AADT	V/C	LOS	AADT	V/C	LOS
1								
	US 90	Munson Hwy	15,746	0.75	D	17,046	0.30	A
	Munson Hwy	SR 87N	13,654	0.65	C	14,856	0.26	A
2								
	US 90	Munson Hwy	15,538	0.74	D	16,519	0.29	A
	Munson Hwy	SR 87N	13,065	0.62	C	13,945	0.25	A
3								
	US 90	Munson Hwy	13,244	0.63	C	13,420	0.24	A
	Munson Hwy	SR 87N	10,957	0.52	C	11,128	0.20	A
4								
	US 90	Ward Basin Rd	4,971	0.23	B	6,784	0.11	A
	Ward Basin Rd	Henry St	16,299	0.77	D	18,614	0.30	B
	Henry St	Old US 90	24,126	1.13	E	27,878	0.45	B
	(4b) Old US 90	SR 87 N	15,216	0.71	D	18,252	0.30	A
5								
	US 90	Ward Basin Rd	6,291	0.30	B	7,854	0.13	A
	Ward Basin Rd	Henry St	18,456	0.87	D	20,064	0.32	B
	Henry St	Old US 90	20,939	0.98	D	25,595	0.41	B
	(5a) Old US 90	SR 89	16,075	0.75	D	23,176	0.38	B
6								
	US 90	Ward Basin Rd	5,353	0.25	B	8,130	0.13	A
	Ward Basin Rd	Henry St	16,843	0.79	D	20,770	0.34	B
	Henry St	Old US 90	24,585	1.15	E	30,100	0.49	B
	(4b) Old US 90	SR 87 N	13,635	0.64	C	15,524	0.25	A
	(6a) Canal St	US 90	10,105	0.47	C	13,458	0.22	A

3.2.5 Overall Regional Affect

As illustrated in Table 3.5 (in Appendix D) and Table 3.6, the northern corridors pull the most traffic off of the network and decrease the overall Vehicle Miles Travelled (VMT). Corridor 3 provides access to Whiting Field, which is likely the largest traffic generator north of Milton, but its intersection with SR 87N is well north of Milton in a rural area. As a result, this may not be as effective in serving the more congested areas closer to Milton. Corridors 1 and 2 are closer to Milton and will serve as more of an alternative route to residences and businesses in the area. Corridors 1 and 2 also could include a connection to Munson Highway which would give direct access to Whiting.

Regionally, Corridors 4, 5, and 6 draw traffic from US 90, but do not offer the regional benefit to the roadway network the northern corridors offer. Please see the following tables and Appendix D for the Network Segment Performance and VMT results.

Table 3.6 Vehicle Miles Travel Reduction

Corridor	Existing trip length on SR 90	Existing trip length on SR 87 N	Total Existing trip length (miles)	New Corridor trip length (miles)	Trip Reduction (miles)	AADT	VMT Reduction (miles/day)	Gas Use Reduction (Gallons/ day)
1	4.6	3.8	8.4	6.5	1.9	14,856	28,200	1,410
2	4.6	5.0	9.6	7.2	2.4	13,945	33,500	1,675
3	4.6	9.0	13.6	10.5	3.1	11,128	34,500	1,725
4	4.6	n/a	4.6	5.6	n/a	n/a	n/a	n/a
5	4.6	n/a	4.6	5.6	n/a	n/a	n/a	n/a
6	4.6	n/a	4.6	6.5	n/a	n/a	n/a	n/a

- Daily reduction in gas consumption based on an average vehicle consumption of 20 miles per gallon

Corridor	Overall Regional Effect	Traffic Relief on US 90 and Downtown	Reduction in Vehicle Miles Traveled (VMT)	Subtotal
1	1	4	3	8
2	2	5	2	9
3	3	6	1	10
4	5	2	4	11
5	6	3	4	13
6	4	1	4	9

3.3 Alternative Build Corridors Potential Environmental Impacts

3.3.1 Wetlands, Species, Floodplains, and Outstanding Waterways

The six corridors were evaluated using geographic information system (GIS) data and limited field verification. All GIS data was evaluated within a 250 foot Right of Way (ROW) width to determine total corridor acreage and the acreage of each criterion evaluated. Acres were then calculated for all the criteria except for Florida Natural Areas Inventory (FNAI) element occurrences data and Florida Fish and Wildlife Conservation Commission (FFWCC) black bear kill data. Priority and class rankings for wetlands, habitat, floodplains, and Integrated Wildlife Habitat Ranking System were developed by Florida Natural Areas Inventory staff and Florida Fish and Wildlife Conservation Commission staff. The priorities and class rankings are "built-in" to the GIS shapefiles. The following table and figures summarize and illustrate the data collected for the impact evaluation:

GIS shapefile metadata

1. National Wetland Inventory

ETAT.NWIP_OCT10 [GIS Shapefile]. Washington D.C.: US Fish and Wildlife Service, Division of Habitat and Resource Conservation, 2010.

2. FNAI Wetland Priorities

Wetlds_v3 [GIS Shapefile]. Tallahassee, Florida: Florida Natural Areas Inventory, 2008.

3. FFWCC Strategic Habitat Conservation Area Priorities

Shca_v3 [GIS Shapefile]. Tallahassee, Florida: Florida Fish and Wildlife Conservation Commission, 2008.

4. FNAI Floodplains

Floodpl_v3 [GIS Shapefile]. Tallahassee, Florida. Florida Natural Areas Inventory, 2007.

5. FNAI T&E Species

FNAI_FLEO_ERC_20091202_Sant_2 [GIS Shapefile]. Tallahassee, Florida: Florida Natural Areas Inventory, 2009.

6. OFW acres

ofw_other_jan11 [GIS Shapefile}. Tallahassee, Florida. Florida Department of Environmental Protection, 2011.

7. Black Bear Road Kills

Bearrdkill_2009 [GIS Shapefile]. Tallahassee, Florida. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, 2009.

8. FWC Integrated Wildlife Habitat Ranking System

Iwhrs_2007 [GIS Shapefile}. Tallahassee, Florida. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, 2007.

9. Pristine Lands (FLUCCS)

lu_nwfwmd_2007 [GIS Shapefile]. Tallahassee, Florida. Florida Department of Environmental Protection, Bureau of Watershed Restoration, 2011

10. Special Flood Hazard (FEMA)

dfirm_fldhaz_feb09 [GIS Shapefile]. Washington D.C. Federal Emergency Management Agency, 2009

Table 3.8 Environmental Comparison

		Corridors					
Criterion		***1***	***2***	***3***	***4***	***5***	***6***
Total Corridor Acres		***413.94***	***495.90***	***637.93***	***345.76***	***338.35***	***406.40***
NWI Wetlands (Acres)[1]	Palustrine	101.1	93.83	0.43	108.77	105.8	126.82
	Estuarine	0	0	0	16.03	16.03	16.03
	Total	101.1	93.83	0.43	124.8	121.83	142.85
	% of Total	24%	19%	0%	36%	36%	35%
Florida Natural Areas Inventory (FNAI) Wetland Priorities (Acres)[2]	Priority 1	84.21	83.72	42.43	63.01	63.01	63.01
	Priority 2	0	0	0	0	0	0
	Priority 3	17.55	11.74	1.31	43.9	40.45	41.5
	Priority 4	0	0	0	0	0	0
	Total	101.76	95.46	43.74	106.91	103.46	104.51
	% of Total	25%	19%	7%	31%	31%	26%
FFWCC Strategic Habitat Conservation Areas (Acres)[3]	Priority 1	0	0	0	0	0	0
	Priority 2	1.11	1.11	14.97	10.5	4.73	11.14
	Priority 3	0	0	0.13	2.93	2.93	2.93
	Priority 4	0	0	0	0	0	0
	Priority 5	233.44	202.69	108.93	154.41	146.85	177.4
	Total	234.55	203.8	124.03	167.84	154.51	191.47
	% of Total	57%	41%	19%	49%	46%	47%
Floodplains (Acres)[4]	Priority 1	35.26	35.26	29	0	0	0
	Priority 2	0	0	0	18	18	18
	Priority 3	0.07	0.07	0.07	66.82	60.22	75.45
	Total	35	35	29	85	78	93
	% of Total	9%	7%	4%	25%	23%	23%
FNAI T/E Species (Count)[5]		0	0	0	0	0	1
FDEP OFW (Acres)[6]		39.05	39.05	44.22	35.84	35.84	35.84
Black Bear Kills (Count)[7]		0	0	0	0	0	0
FFWCC Integrated Wildlife Habitat Ranking System (Acres)[8]	Class 1	0	0	0	0	0	0
	Class 2	0.62	0.62	78.34	23.35	19.71	27.4
	Class 3	15.97	11.05	127.37	93.37	88.32	109.58
	Class 4	56.18	32.52	109.31	120.65	118.67	126.41
	Class 5	101.09	145.7	50.74	79.5	82.77	109.08
	Total 1-5	173.86	189.89	365.76	316.87	309.47	372.47
	% of Total	42%	38%	57%	92%	91%	92%
	Class 6	80.02	145.96	22.97	15.67	15.67	15.67
	Class 7	59.14	59.14	30.64	13.2	13.2	13.2
	Class 8	100.93	100.93	119.34	0	0	0
	Class 9	0	0	0	0	0	0
	Class 10	0	0	0	0	0	0
	Total 6-10	240.09	306.03	172.95	28.87	28.87	28.87
	% of Total	58%	62%	27%	8%	9%	7%
FLUCCS Pristine Lands (Acres)[9]	Total	220.31	273.1	375.4	234.58	233.52	233.46
	% of Total	53%	55%	59%	68%	69%	57%
FEMA Special Flood Hazard (Acres)[10]	Total	94.22	94.22	84.3	67.01	66.4	105.56
	% of Total	23%	19%	13%	19%	20%	26%

Superscripts refer to the metadata references in Appendix C (**pg.39**)

Figure 3.6 Environmental Concerns

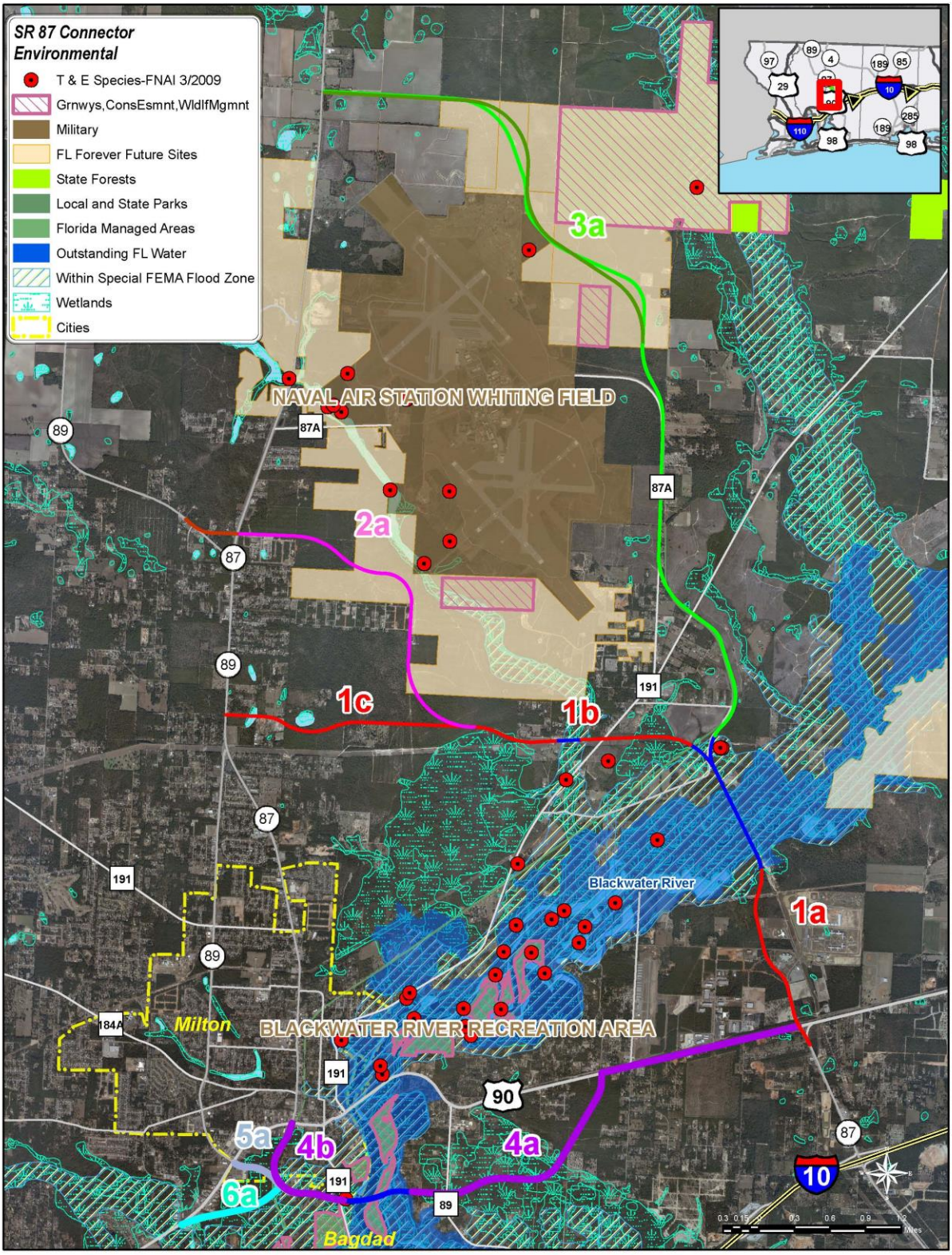
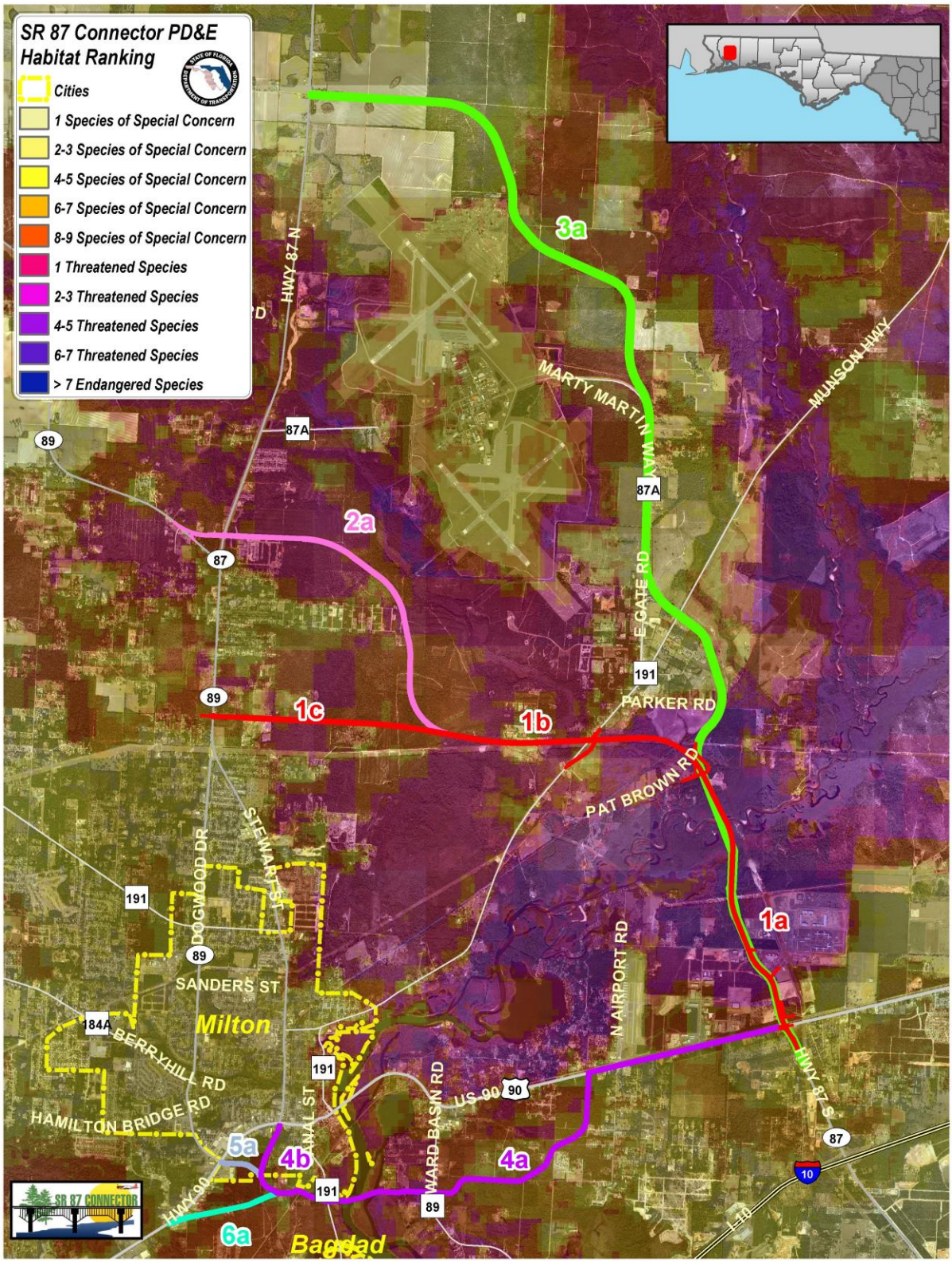


Figure 3.7 Integrated Wildlife Habitat Rankings



3.3.2 Avoidance, Minimization, and Secondary and Cumulative Impacts

Avoidance and Minimization

Planning measures are being taken to avoid and minimize wetland impacts to the maximum extent practicable. The Blackwater River will have to be crossed in all Corridors. To determine the least environmentally damaging practical corridor, a crossing analysis was conducted. Working with DEP the location that would have the least impact was to co-locate the bridge with the power line easement where the environment adjacent to the river is most degraded. In a meeting on May 25, 2010 DEP staff stated they would support the proposed bridge location associated with Corridors 1, 2, and 3.

Corridors 1 and 2 must also cross Clear Creek. A similar crossing analysis will be conducted for Clear Creek and the least environmentally damaging practicable alternative will be selected. Further, wetlands associated with the creek will be bridged where feasible to reduce direct wetland impacts.

If avoidance of T/E species is not feasible, then impacts to the habitats will be minimized or appropriate permits from the State or Federal agencies will be obtained to transplant or relocate the particular species. The State requires incidental take permits for wildlife through the Florida Fish and Wildlife Conservation Commission (FFWCC). The FFWCC also regulates relocating gopher tortoises. If necessary, relocation permits will be obtained for gopher tortoises prior to construction. The Federal government requires incidental take permits for plants and wildlife through the US Fish and Wildlife Services (USFWS). Depending on the species within the corridor areas, if any, permits will be applied for prior to construction. Relocation plans will be species dependent. Takes will be considered as a last resort, but will be avoided if possible.

Road placement is being carefully considered to try to avoid or minimize wetland impacts. Simply providing bridges over significant wetland areas will help to avoid and minimize impacts to wetlands as well. Acceptable mitigation will be provided for all unavoidable wetland impacts. Stormwater treatment is being planned for the new corridor to eliminate untreated runoff to wetlands.

Where impacts to wetlands or T/E species are necessary, appropriate mitigation plans will be developed to address each resource. Wetland impacts will be assessed using the Uniform Mitigation Assessment Methodology (UMAM) and the necessary off-set will be offered. T/E species mitigation will be evaluated with the Florida Fish and Wildlife Conservation Commission and/or the US Fish and Wildlife Service.

Wetland impacts were evaluated using both the National Wetlands Inventory (NWI) and the FNAI Wetland Priority data layer. The summary table indicates that Corridor 3 has the smallest acreage and percentage of impact for both of these categories although it is the longest corridor.

Floodplains were evaluated using Federal Emergency Management Agency (FEMA) flood zone designation data and the Florida Natural Areas Inventory (FNAI) floodplain priority data layer. To evaluate the FEMA data, all floods zones in the high risk category were included. Based on the FEMA data, Corridor 5 has the least acreage impact out of all the corridors. Corridor 3 has the least impact by percentage out of all the corridors and the least acreage impact out of the northern corridors. Corridor 3 also impacts the least acreage of FNAI floodplain priority areas out of all the corridors.

Due to the presence of the Blackwater River in the vicinity of all the corridors, the acreage of impact to Outstanding Florida Waters (OFW) was evaluated using data from the Florida Department of Environmental Protection (FDEP). Corridors 4-6 have less impact to OFW designated waters than Corridors 1-3.

To evaluate the potential impacts to pristine habitat areas, Florida Land Use, Cover, Forms Classification System (FLUCCS) data, FNAI Habitat Priority data, and Florida Fish & Wildlife Conservation Commission (FFWCC) Integrated Wildlife Habitat Ranking System (IHWRS) data were evaluated. Corridor 3 had the least impact based on the FNAI habitat priority data. Corridor 1 had the least impact based on the FLUCCS data.

The IHWRS ranks wildlife habitat using ten different data layers. A higher score represents a higher priority for use by wildlife. The highest rankings occur close to the Blackwater River floodplain, the Clear Creek floodplain, and the FDEP Florida Forever Tracts. The IHWRS data was evaluated by comparing the scores of 1-5 as compared to scores of 6-10. Corridors 4-6 have a smaller impact to the higher priority habitats since 90% (+/-) of their land area is classified between Priorities 1-5. Corridor 3 has the lowest impact to the highest priority areas when comparing the three northern corridors.

To evaluate the potential impacts to known threatened and/or endangered species, FNAI element occurrence data and FFWCC black bear kill data were evaluated. The Blackwater River floodplain and the Clear Creek floodplain have the most suitable habitat for many threatened and endangered plant species; however, only Corridor 6 had a documented species occurrence even though all the corridors require bridging the floodplains. There were no identified black bear kills within the vicinity of any corridors.

Many measures can be taken to reduce the amount of secondary and indirect impacts. Specific erosion control measures can be implemented during construction, construction activities can be planned to take place outside of nesting or breeding season of any listed species that may be present in the area, and additional mitigation can be provided. Additional mitigation can include: educational signage on nearby nature trails, culverts for wildlife crossings under certain sections of roadway, and wildlife crossing signs posted on the new roadway.

Secondary and Cumulative Impacts

Many measures will be taken to reduce the amount of secondary and indirect impacts. Specific erosion control measures will be implemented during construction, construction activities will be planned to take place outside of nesting or breeding season of any listed species that may be present in the area, and additional mitigation will be provided. Additional mitigation will include: educational signage on nearby nature trails, culverts for wildlife crossings under certain sections of roadway, and wildlife crossing signs posted on the new roadway.

3.3.3 Noise Receptors

A preliminary field review was conducted on July 1, 7 & 8, 2010 for the proposed alternative corridors (Corridors 1, 2, 3, 4, 5 and 6) of the SR 87 Connector PD&E Study. The purpose of the field review was to identify and map all noise receptors within 400 feet of the each proposed roadway corridor. As defined in Chapter 17 Noise of the PD&E Manual, a noise receptor is: *Any property (owner occupied, rented, or leased) where frequent exterior human use occurs and where a lowered noise level would be of benefit. In those situations where there are no exterior activities to be affected by the traffic noise, the interior of the building shall be used to identify a noise sensitive receiver. Many commercial and/or industrial land uses are not particularly noise sensitive and may not require consideration of noise abatement. This determination must be made on a case-by-case basis. Undeveloped land is not considered to be noise sensitive.*

The proposed alternative corridors were reviewed by traversing all roads within and adjacent to each corridor alignment. For those areas that were not accessible in the field, aerial photo-interpretation of the Santa Rosa County Property Appraiser maps (2006) and recently flown (2010) aerials were used to identify potential noise receptors. The noise receptors identified within 400 feet of each proposed corridor consisted of residences scattered through-out each corridor, the Milton Girls Juvenile Residential Facility recreational area, Whiting Field Naval Air Station (NAS) golf course (a “special use” noise receptor), the Blackwater Heritage State Trail, recreation trail rest areas, First Baptist Church of East Milton, and Living God’s Standard Community Outreach Church. All noise receptors identified are shown on Figures 3.8 and 3.9 and in Table 3.9:

Table 3.9 Noise Receptors

Proposed Corridor	Potential Noise Receptors			
	Residences	Churches	Recreation	Total
Corridor 1 (1a+1b+1c)	90	0	1 (juvenile rec. facility), 1 (trail)	92
Corridor 2 (1a+1b+2a+2b)	98	0	1 (juvenile rec. facility), 1 (trail)	100
Corridor 3 (1a+3a)	86	0	1 (juvenile rec. facility), 4 (trails), 1 (trail rest area), 1 (golf course)	93
Corridor 4 (4a+4b)	58	2	1 (trail rest area)	61
Corridor 5 (4a+4c)	50	2	1 (trail rest area)	53
Corridor 6 (4a+4b+5a)	67	2	1 (trail rest area)	70

Figure 3.8 Northern Corridors Noise Receptors

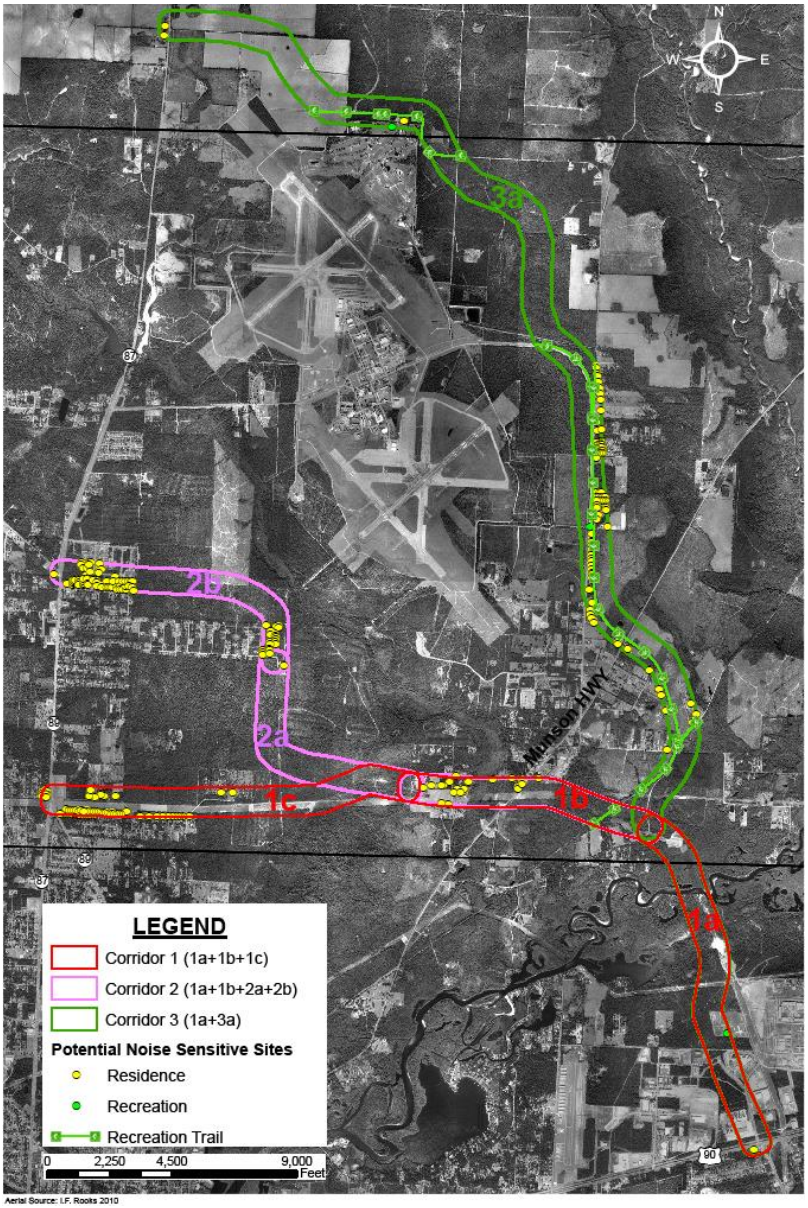
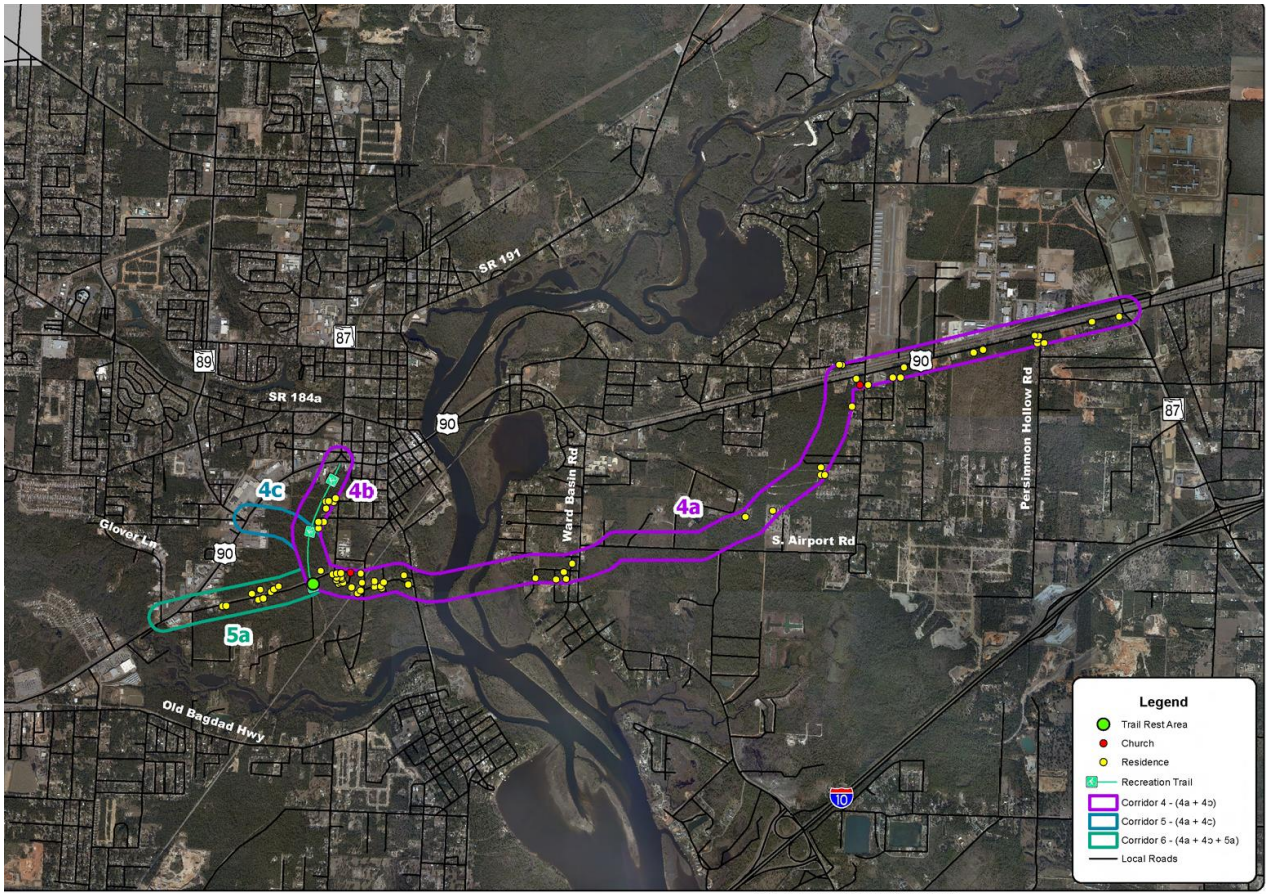


Figure 3.9 Southern Noise Receptors



3.4 Cultural Resource Assessment Survey

3.4.1 Corridors 1, 2, and 3

Archaeological

There are no previously recorded archaeological sites located within the Area of Potential Effect (APE) for this corridor. However, there are four high Zones of Archeological Potential (ZAP)s and seven moderate ZAPs. These generally correspond to better-drained soils proximate to Blackwater River, Clear Creek, and other potable water sources. In addition, there is a historic archaeological ZAP associated with the swamp crossing for the railroad. The general setting is rural in nature and has undergone little disturbance except for timbering and agricultural use of the area. The area immediately south of the western limits of the corridor is residential.

Historical

Two previously recorded sites are located within this APE. 8SR1313 is Florida State Road 1, which is listed in the NRHP (Figure 3.10). 8SR1095 is a ca. 1925 Bungalow style residence that has not been evaluated by the SHPO in terms of NRHP eligibility. In addition to these, two historic railroads, one historic structure, and a historic cemetery not previously recorded are located within the APE for this corridor. The historic railroad corridors, buildings, and the cemetery do not appear to be eligible for listing in the NRHP.

Figure 3.10. *SR 1 (8SR1313), Facing West across East Milton Road. P10027A – SR 87 CRPA 5-2*

3.4.2 Corridors 4, 5, and 6

Archaeological

There is one previously recorded archaeological site located within the APE for this corridor. 8SR766, the Blackwater Air-Dry Pilings, is located on an island in the Blackwater River over which the proposed corridor will cross. The site has not been evaluated in the terms of NRHP eligibility. There are three high ZAPs and four moderate ZAPs. The moderate ZAPs generally correspond to better-drained soils proximate to Blackwater River and other potable water sources. The ZAP along the west side of the river was elevated to a high ZAP when the visual reconnaissance revealed historic structural remains along the bank of the river. In addition, there is another historic archaeological ZAP associated with early settlement along Taylor Road.

8SR766 is also considered a high ZAP. The general setting is rural in. There has been some development along US 90 and Taylor Street, and a few other residential areas in the vicinity.

3.4.3 Corridor 4 and 5

Historical

Two previously recorded sites are located within this APE. 8SR1313 is Florida SR 1, which is listed in the NRHP. 8SR1095 is a ca. 1925 Bungalow style residence that has not been evaluated by the SHPO in terms of NRHP eligibility. In addition to these, two historic railroads cross the corridor, and there are 10 historic buildings located within the APE for this Corridor. The historic railroad corridors and buildings are not considered eligible for listing in the NRHP as they do not appear to meet NRHP eligibility criteria. P10027A – SR 87 CRPA 5-3.

3.4.4 Corridor 6

Historical

Two previously recorded sites are located within this APE. 8SR1313 is Florida State Road 1, which is listed in the NRHP. 8SR1095 is a ca. 1925 Bungalow style residence that has not been evaluated by the SHPO in terms of NRHP eligibility. In addition to these, two historic railroads cross the corridor, and there are 15 historic buildings located within the APE for this corridor. The historic railroad corridors and buildings are not considered eligible for listing in the NRHP, as they do not appear to meet NRHP eligibility criteria.

Table 3.10 summarizes each corridor's potential impact to the cultural environment. Archeological and historic sites are the number of sites from the Florida Master Site File that fall within a corridor's area. Similar to the Elemental Occurrence data, social and cultural impacts are estimated by calculating the number of each parcel type, or archeological and historic site that fall within the limits of the corridor. For the archeological and historic sites, impacts are based on an 800-foot wide corridor in rural area, and a 400-foot wide corridor in the urban areas.

Table 3.10 Cultural Impacts

Corridor	Property Types Within Corridors		
	Historical Sites		Archaeological
	Listed	To be	
1	1	1	0
2	1	2	0
3	1	1	0
4	1	11	1
5	1	11	1
6	1	16	1

The background research, data analysis, and reconnaissance survey detailed in this report identified one potential cultural resource issue -- SR 1 (8SR1313) that is listed in the NRHP and is located within all of the potential corridors. Based on this initial research, no other historic resources appear to be eligible for listing in the NRHP. However, impacts to historical and archeological resources will require further analysis and potentially mitigation.

3.5 Social Impacts

Table 3.11 summarizes each corridor's potential impact to the social environment. For purposes of this comparison, social impacts were confined to impacts to residential and business properties as no community facilities would be impacted. As illustrated, Corridors 4, 5 and 6 impact the greatest number of Residential Parcels.

Table 3.11 Social Impacts

Corridor	Residential Parcels		Manufactured Home	Business Parcels	Agriculture Parcels
	Vacant	Single Family			
1	3	0	1	0	14
2	4	0	1	0	16
3	3	2	0	0	19
4	35	2	0	1	3
5	34	1	0	1	3
6	37	3	1	1	3

Of the northern corridors, Corridor 3 is the only corridor that impacts permanent residences. At this point, it appears that two residences will need to be taken near the 87A merge. Through alignment refinement, it may be possible to affect just one. The Figure below shows the location of the impacts. The property Owners of all impacted parcels have been notified of all public meetings to date.

Figure 3.11 Impacted Residences

Table 3.12 Environmental Analysis Summary						
Corridor Evaluation						
Environmental Criteria	Corridor Scoring					
	1	*2*	*3*	*4*	*5*	*6*
Wetlands	3	2	1	5	4	6
FNAI	3	2	1	6	4	5
Habitat	6	4	3	2	1	5
Floodplain	2	3	1	5	4	6
T/E Species**	1	1	1	1	1	6
OFW*	4	4	4	1	1	1
Black Bear	0	0	0	0	0	0
FFWCC 1-5	1	2	6	4	3	5
FFWCC 6-10*	4	4	4	1	1	1
Pristine Lands	4	5	6	2	1	3
FEMA	4	5	3	2	1	6
Noise	4	6	5	2	1	3
CRAS	1	3	1	4	4	6
Social	1	3	2	5	4	6
Total Score:	38	44	38	40	30	59

*** Tie between the Northern or Southern Corridors**
****Only Corridor 6 had impacts**

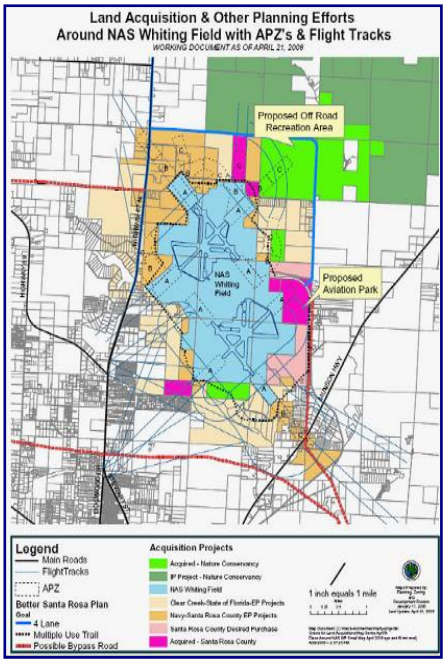
3.6 Alternative Build Corridors Estimated Costs

Costs of the Build Corridor Alternatives were calculated by totaling the right-of-way and construction cost estimates. Construction cost estimates were based on an average per-unit lane-mile cost for a four-lane urban section. The estimated costs of each alternative Corridor are summarized in Table 3.11.

Table 3.13: Summary of Costs for Alternative Build Corridors (in millions)

Corridor	Right-of-Way Costs	Construction Costs			Total Estimated Costs
		Roadway Cost	Low Level Bridge Cost	High Level Bridge Cost	
1	$2.24	$45.83	$55.4	N.A.	$103.47
2	$2.74	$57.88	$55.4	N.A.	$116.02
3	$2.20	$78.57	$42.6	N.A.	$123.37
4	$4.09	$42.75	$41.0	$59.8	$87.84/$106.64
5	$13.49	$41.47	$41.0	$59.8	$95.96/$114.76
6	$8.38	$50.70	$41.0	$59.8	$100.08/$118.88

Note: Blue text represents costs associated with high level bridge. High level bridges were not reviewed for the Northern Corridors due to the USGS ruling the waters were not commercially navigable in the crossing area.



As seen in the above table, Corridor 3 has the lowest right-of-way costs due its more rural nature. In addition, a number of the properties impacted have already had their development rights purchased through programs with the Whiting Field Naval Air Station in an effort to keep development away from the naval air station. As shown in the map to the right, the dark beige areas are lands where the development rights have been purchased from property owners. The effort in this program is to prevent development that may create problems for Whiting Field in the future. A prime example is when an area develops as residential, and then later property owners complain about jet noise.

Corridor 5 has the lowest roadway cost because it is shortest in length and likewise, Corridor 3 has the highest roadway cost due to its longer length. Overall on a per mile basis including the bridge costs, Corridors 3 and 6 have the lowest costs at $15.55/mile, and $15.33/mile respectively. Generally, the northern corridors are more expensive because they are longer, and mostly due to the bridge length needed to clear the wide flood plain. Corridor 1 is the least expensive of the northern corridors.

4.0 PUBLIC INVOLVEMENT AND COORDINATION

At the initiation of the project, a series of four public kick-off meetings were conducted.

They were:

- ***Elected Official Meetings***

  A meeting was held with the Santa Rosa County, County Commissioners on February 25th, 2010; the City of Milton, City Council on March 9th, 2010; and the Florida/Alabama TPO on March 10, 2010. At these meetings, a brief overview was provided outlining the project's need, known issues, and the schedule. In addition, preliminary corridors were presented to the elected officials for comments and suggestions.

- ***Public Kick-off Meeting***

  A presentation of the project was given to the public in a similar format as the Elected Officials meetings on March 23rd, 2010 at the Santa Rosa County Auditorium. The project team members emphasized the purpose and need for the study, including the need for more efficient traffic circulations as well as environmental and military area protection constraints. During the meeting, the project team members also held informal discussions with the public. There were over 300 FDOT, County, and City officials; business owners; property owners and interested citizens at this meeting.

- ***Project Scoping Meeting***

  On July 29, 2010 the Project Team conducted a Scoping Meeting for the projects to enable the agencies to become more familiar with the project and corridor locations. The meeting was initiated with a presentation covering corridor locations, project issues, ETDM findings, and preliminary corridor analysis. Following the presentation a tour of the corridors was conducted. Representatives from 12 agencies, as well as, representatives from various FDOT departments, the County, the City, and Team Santa Rosa were invited to attend the meeting.

- ***ETDM Workshop***

  As part of District 3's quarterly ETDM Workshops, the District hosted a presentation on the SR 87 Connector PD&E Study. Much like the public kick-off meeting and scoping meeting, the presentation covered corridor locations, project issues, ETDM findings, and preliminary corridor analysis.

- ***Corridor Public Meeting***

  The next public meeting planned will be the Corridor Public Meeting. This meeting will be geared to presenting the public the analysis of the corridors, and outline issues associated with each of the corridors. As a result of this Corridor Analysis, a corridor will be selected and recommended for further study. Based on public comment, and the analysis and findings of this report, FHWA will be consulted for the selection of a preferred corridor.

- **City of Milton Endorsement**

  It should also be noted that the City of Milton passed and adopted Resolution #1160-10 on August 10, 2010 endorsing Corridor 1. The resolution was forwarded to FDOT Secretary Stephanie Kopelousos on September 9, 2010 to make the Department aware of their position. See Appendix B.

5.0 CORRIDOR EVALUATION SUMMARY

Through the course of this analysis, the six build corridors have been compared in terms of their effectiveness in meeting the stated project's Purpose and Need. In addition, four corridors appear to have fatal flaws. As can be seen through the course of this comparison and determination in meeting the project's Purpose and Need, it often involves a series of evaluations that may have competing objectives. For example: the least expensive corridor might provide the worst traffic service, or have the highest environmental impact. Therefore, how important is minimizing cost versus traffic service or environmental impacts? In order to quantify this dilemma, members of the consultant's team, reflecting a broad range of professional backgrounds, were asked to provide their perceived degree of importance (weights) for each of the four evaluation parameters (e.g. – purpose and need compatibility, traffic service, environmental impacts and cost). The resulting relative weights shown in Table 5.1 serve as an additional aid in evaluation, and are thus reflective of the average of the individual weighting results submitted by the team. Compliance with the project's Purpose and Need was judged to be the most important parameter with an overall weight of 40% (0.40), while cost was the least important at 10% (.10). In order to determine the final scoring, each individual rank was multiplied by the assigned parameter weight and the resulting score added for all evaluation parameters. The corridors with the lowest resulting total scores are the more successful options. For example, as previously stated, under the "Purpose and Need" parameter, Corridor 1 was the most successful, so this score was multiplied by the relative weight and a resulting score was obtained (1 x 0.4 = 0.4). According to the results shown on the table, Corridors 1, 2, and 3 perform well.

Table 5.1 Final Evaluation Summary

20% **Relative Weight**

0.40 **Resulting Score**

Corridors Evaluated	40% Purpose and Need		20% Traffic		30% Environmental		10% Cost	
1	1	**0.40**	1	**0.20**	2	**0.60**	4	**0.40**
2	3	**1.20**	2	**0.40**	5	**1.50**	5	**0.50**
3	2	**0.80**	4	**0.80**	2	**0.60**	6	**0.60**
4	5	**2.00**	5	**1.00**	4	**1.20**	1	**0.10**
5	6	**2.40**	6	**1.20**	1	**0.30**	2	**0.20**
6	4	**1.60**	2	**0.40**	6	**1.80**	3	**0.30**

When looking at Table 5.1, it can be seen that in comparing the corridors, the northern corridors perform better than the southern corridors. Regardless, as outlined at the beginning of this report that discussed the ETDM review, Corridor's 4, 5, and 6 are fatally flawed due to their passage through protected lands owned by the Water Management District. After two mitigation meetings with the North West Florida Water Management District, it was determined that there were no reasonable designs that would circumvent the detrimental impacts to the property. After discussing challenging design options (aerial spans), and discussing the financial ramifications relative to the debt bonds, such alternatives were decided to not be viable especially in light of the fact there are reasonable alternatives to the north that are viable options.

Likewise, FHWA has removed Corridor 3 from consideration for further evaluation since DEP, using Florida Forever funds, recently purchased additional lands where Corridor 3 was located. The purchase not only blocked passage of Corridor 3, it also blocked any other nearby potential Corridors that might have been explored.

As such, Corridors 1 and 2 remain as the viable potentials with no fatal flaws.

APPENDIX A

Corridor Alternative Detail Sheets

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

METRIC ENGINEERING
- ENGINEERS
- PLANNERS
- SURVEYORS

C. BRIAN FULLER, P.E. # 49524
METRIC ENGINEERING, INC.
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-1921
FLORIDA CERT. NO. EB-0002294

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
87	SANTA ROSA	4167483-22-01,-02 4167484-22-01,-02

SR 87 CONNECTOR STUDY AREA

FIGURE

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BEGIN CORRIDOR I

N

0 400 2000

Feet

LEGEND

BRIDGE

URBAN ROADWAY
Ia+Ib+Ic

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METRIC ENGINEERING, INC.
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
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CORRIDOR 1

FIGURE

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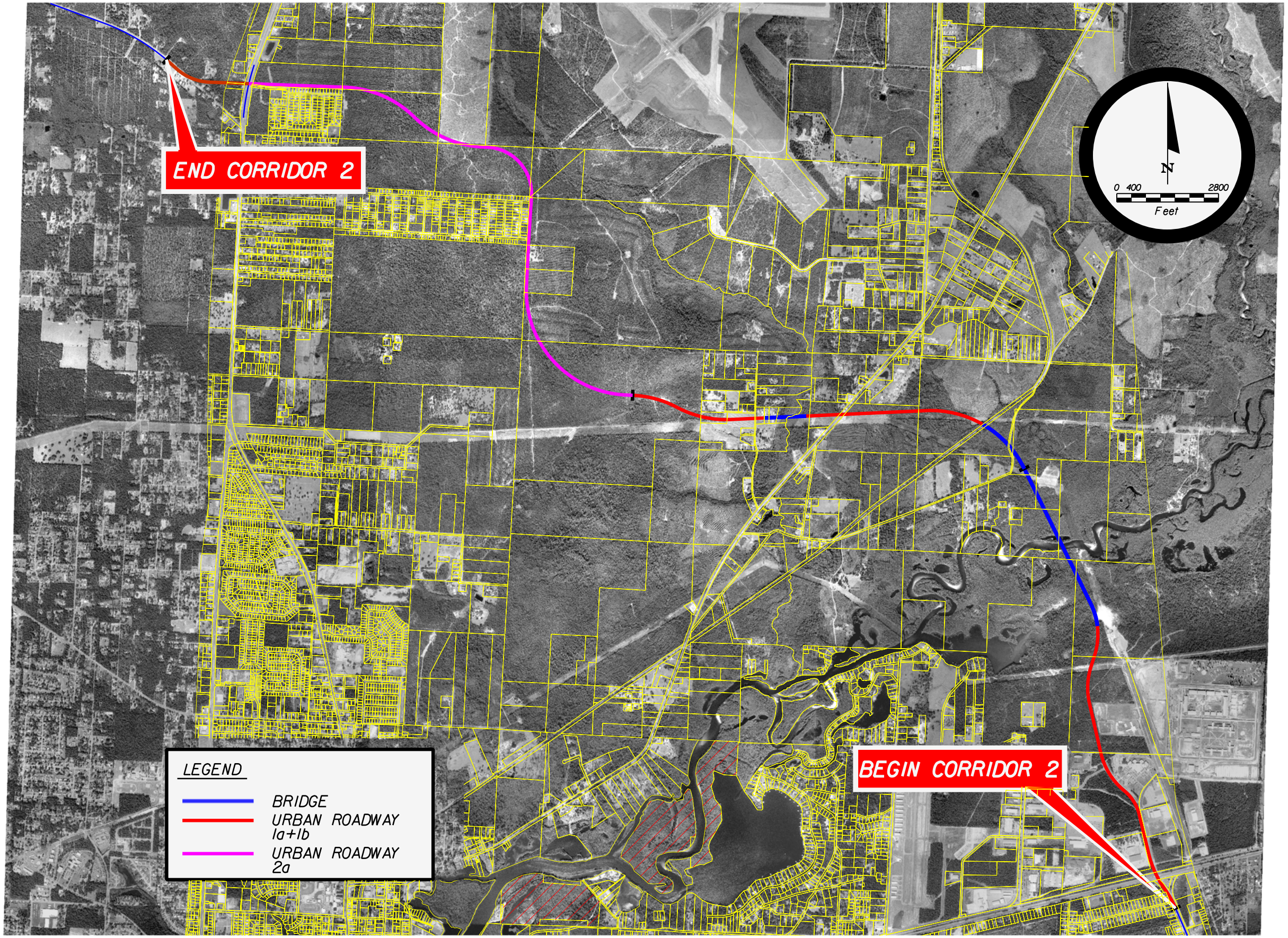

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FAX. (407) 644-1921
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CORRIDOR 2

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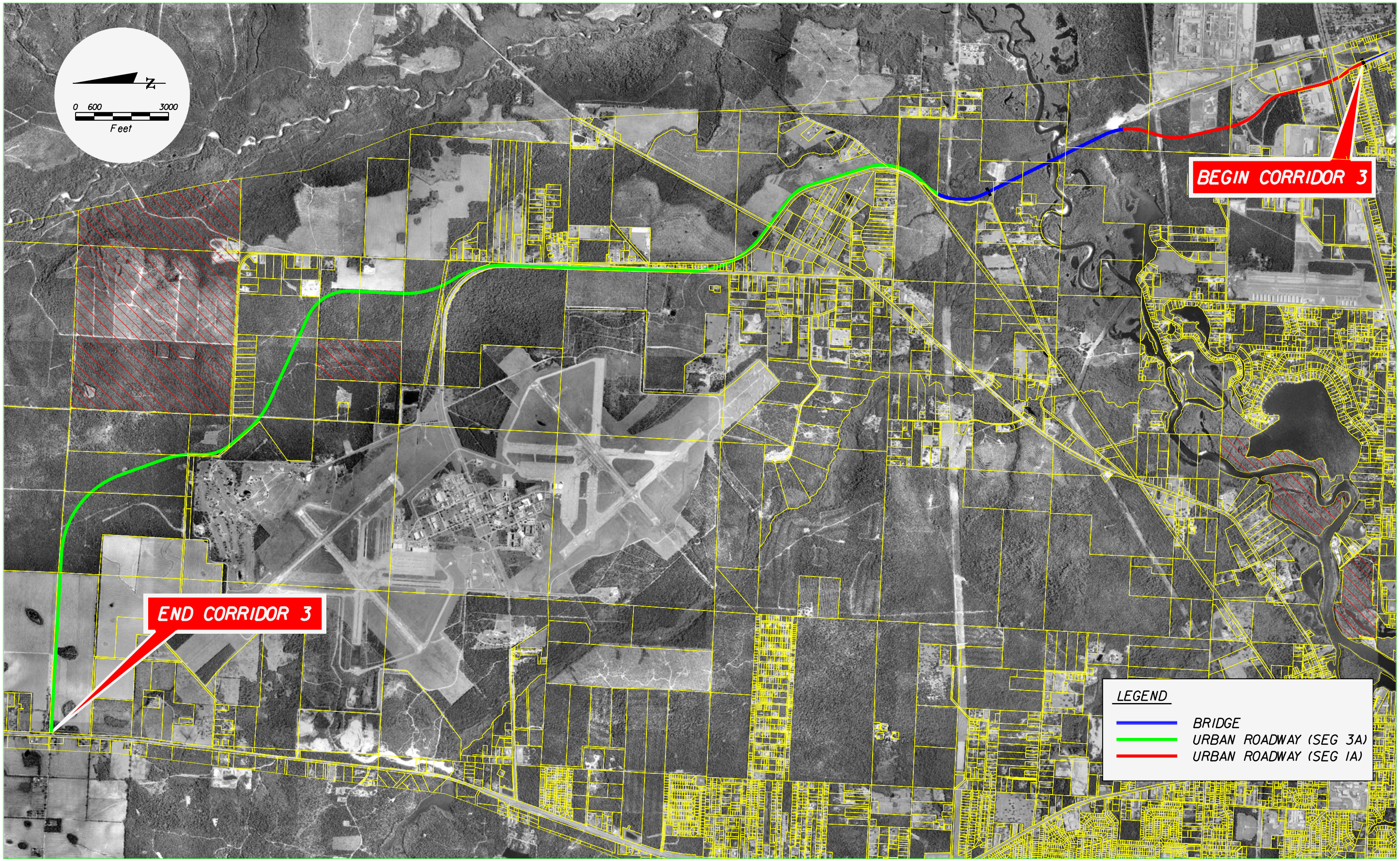

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SUITE 524
LAKE MARY, FLORIDA 32746
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CORRIDOR 3
URBAN

FIGURE

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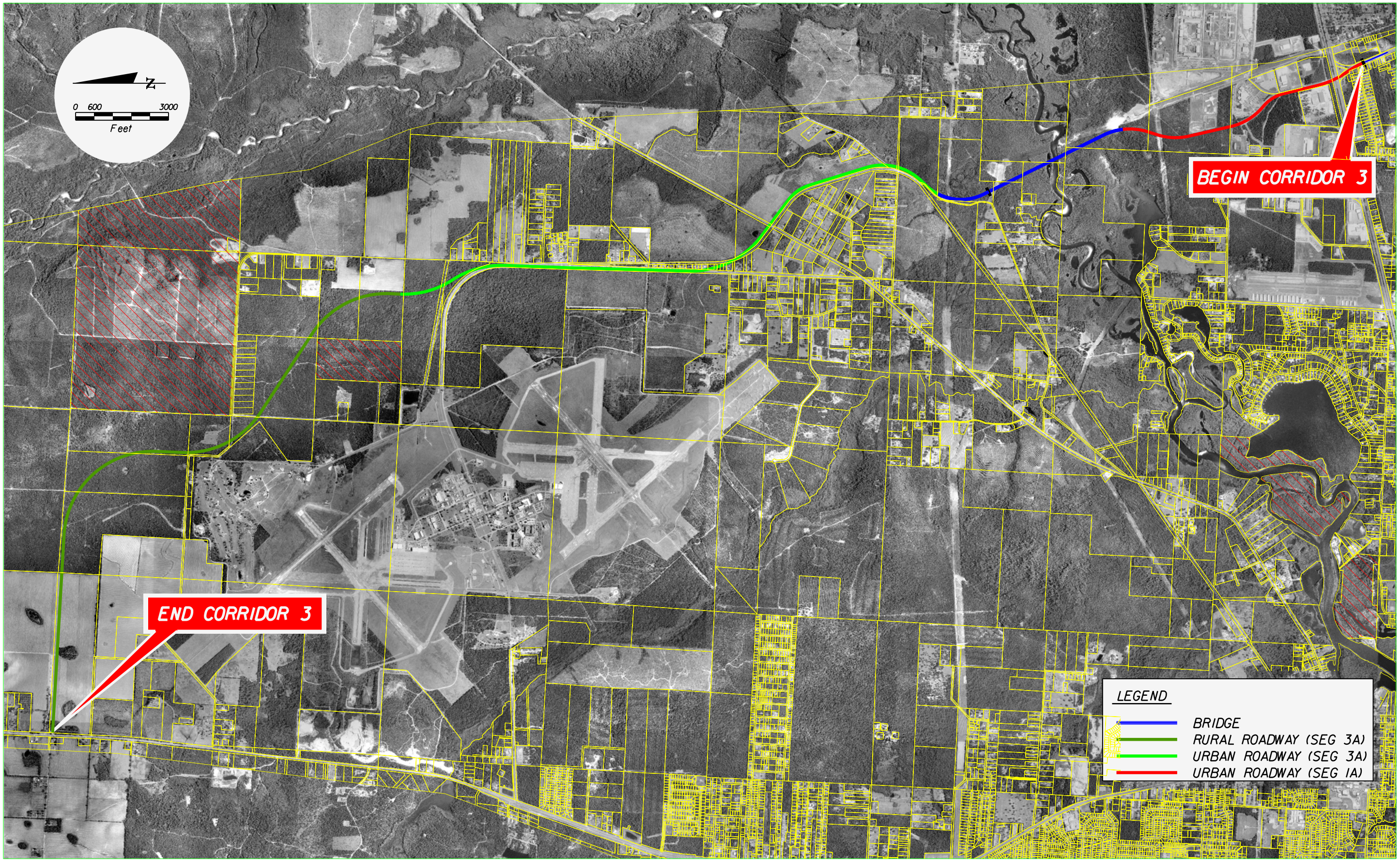

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615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-1921
FLORIDA CERT. NO. EB-0002294

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CORRIDOR 3
URBAN AND RURAL

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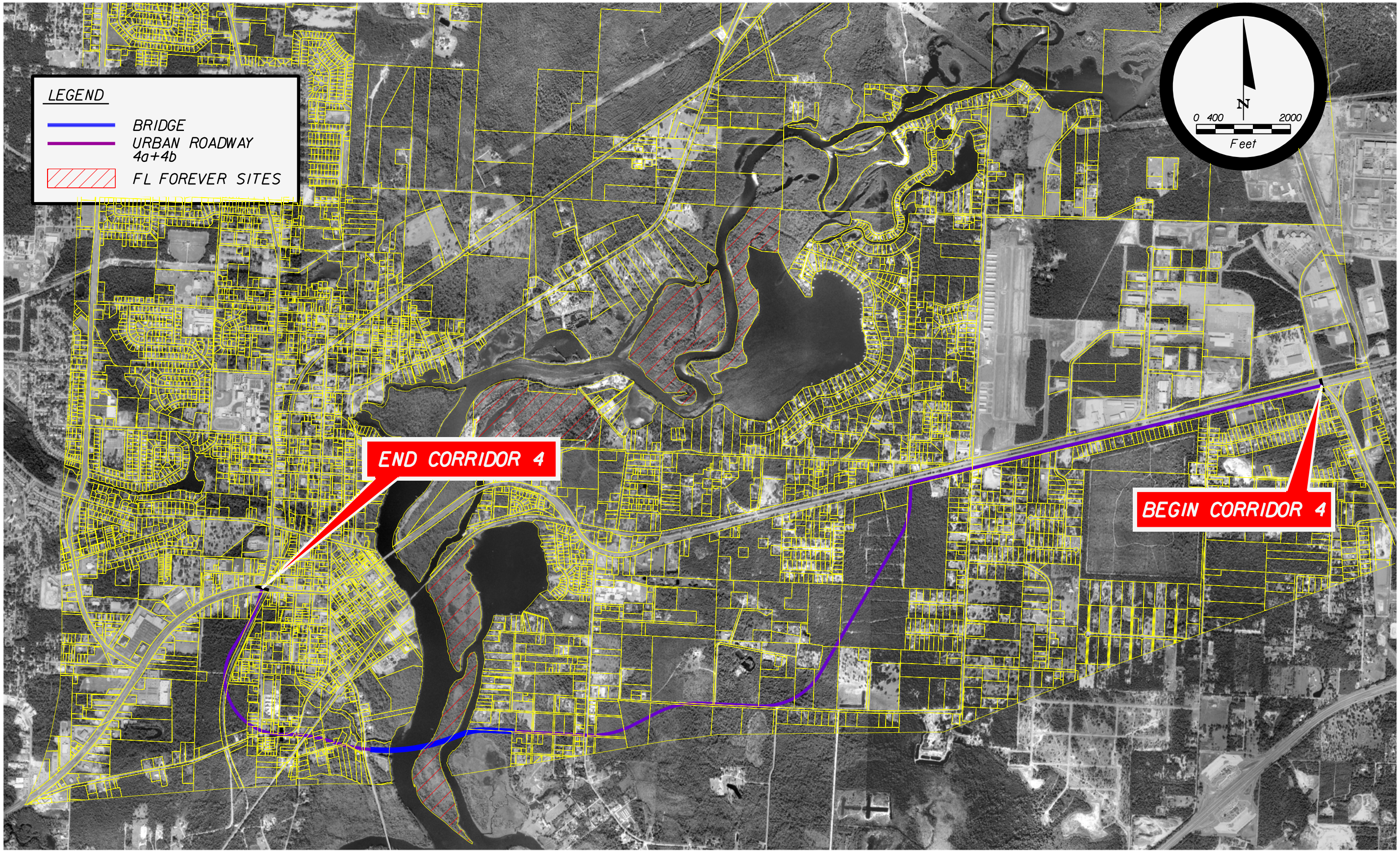

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CORRIDOR 4

FIGURE

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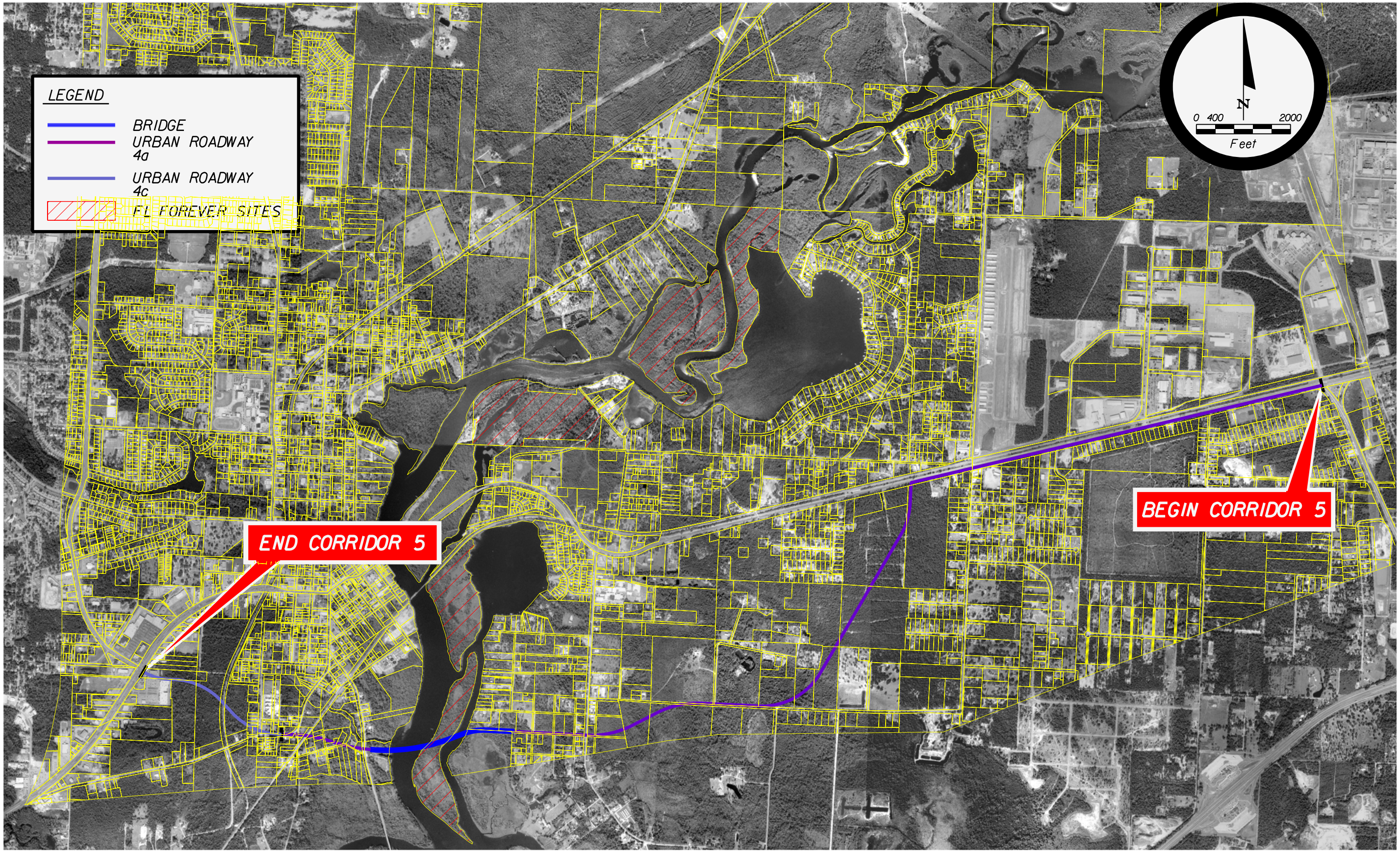

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

C. BRIAN FULLER, P.E. # 49524
METRIC ENGINEERING, INC.
615 CRESCENT EXECUTIVE CT
SUITE 524
LAKE MARY, FLORIDA 32746
TEL. (407) 644-1898
FAX. (407) 644-1921
FLORIDA CERT. NO. EB-0002294

● ENGINEERS
● PLANNERS
● SURVEYORS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
87	SANTA ROSA	4167483-22-01,-02 4167484-22-01,-02

CORRIDOR 5

FIGURE

$USER$ $DATE$ $TIME$ $FILE$

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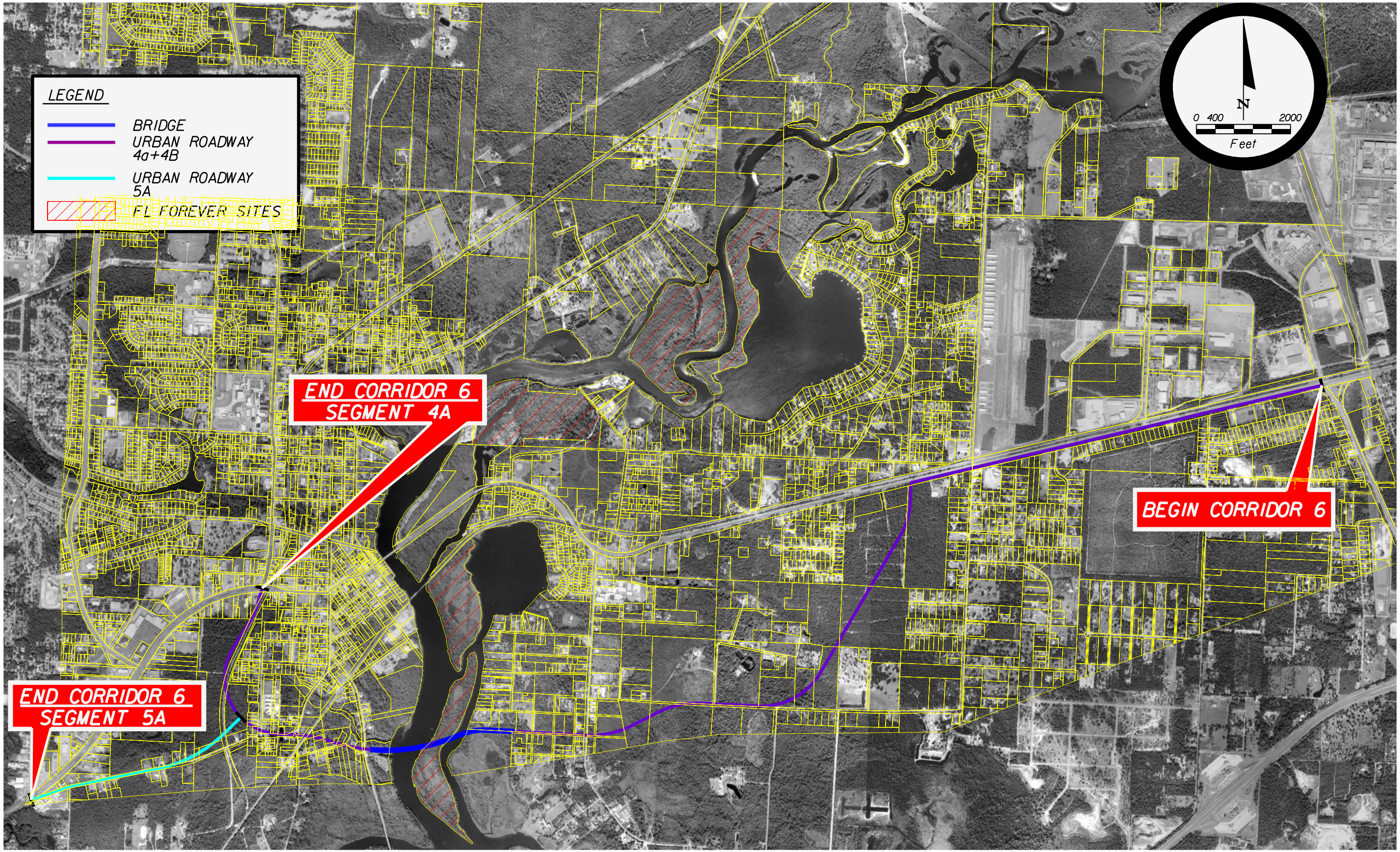

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CORRIDOR 6

FIGURE

$USER$ $DATE$ $TIME$ $FILE$

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APPENDIX B

City of Milton Endorsement of Corridor 1.

City of Milton

Office of the Mayor

September 9, 2010

Secretary Stephanie Kopelousos
Florida Dept. of Transportation
605 Suwannee St – MS 54
Tallahassee, FL 32399-0450

Dear Secretary Kopelousos:

The City of Milton would like to thank you for the allowing us to be involved in the Project Development and Environmental Study (PD&E) in regard to the Highway 87 Connector. The Study is reviewing four alternatives that will connect Highway 87 South to Highway 87 North. We believe a thorough review of all four alternatives will be of great benefit to the City, State, and FHA as it pertains to this issue, as well as to deal with future needs in and around this community. Therefore, the City of Milton respectfully requests that all alternatives remain in the study.

As you are aware the selected alternative will connect Highway 87 S to 87 N, either south of the City as is the case with alternative 4, or north as is the case with alternates 1, 2, and 3 (see attachment 1). The City has examined the alternates as presented and believes the best option is the one depicted as proposed segments 1a, 1b and 1c. We believe this option provides the best potential for long term economic impact on the City of Milton and the least potential for long term operational impact on NAS Whiting Field. We believe this option should also be very attractive to the state as to cost, schedule and environmental impact. With this in mind the City Council has endorsed the alternative identified in proposed segments 1a, 1b, and 1c and unanimously passed a resolution stating the same (see attachment 2).

The City Council has taken this action and provided this information to ensure you have a clear understanding of our desires. The City of Milton is working diligently to provide for the economic interest of the citizens of Milton and the surrounding area. The selection of option 1a, 1b and 1c would greatly help us in this quest and the protection of NAS Whiting Field, one of the economic engines of this area. It is the City's opinion that any alternative that could impact the

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~ Established 1844 ~

future expansion or operations of NAS Whiting Field should not be considered. Once again, thank you for the opportunity to participate in the process and your consideration of our request.

Sincerely,

Guy Thompson
Mayor

GT:pkh

Cc: Senator Durell Peaden, Jr.
Senator Bill Nelson
State Representative Jeff Miller
State Representative Greg Evers
Board of County Commissioners
West Florida Regional Planning Council
Florida Highway Administration
Florida/Alabama TPO
Captain Peter Hall, NAS Whiting Field
Metric Engineering

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RESOLUTION #1160-10

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MILTON, FLORIDA SUPPORTING CORRIDOR 1 FOR THE SR 87 CONNECTOR

WHEREAS, the City of Milton is responsible for local planning; and

WHEREAS, this corridor should be identified in a manner consistent with the City's plans; and

WHEREAS, the city's proposed evaluation and appraisal report identifies this corridor to enhance the City's and County's economic development opportunities; and

WHEREAS, in the National Highway System Act of 1995, Congress directed that designs for new and reconstructed highways take into account: the community impact of road construction; and

WHEREAS, a well-constructed and well-designed corridor 1 improves mobility, improves area commercial activity and thus increases community property values; and

WHEREAS, funding is limited for development of new roads and this corridor is cost effective; and

WHEREAS, the other corridors cross areas classified by State agencies as "critical wildlife habitat"; and

WHEREAS, construction of the other proposed corridors may severely limit Whiting Fields ability to respond to a changing mission environment; and

WHEREAS, Whiting Field is a vital part of the area's economic base; and

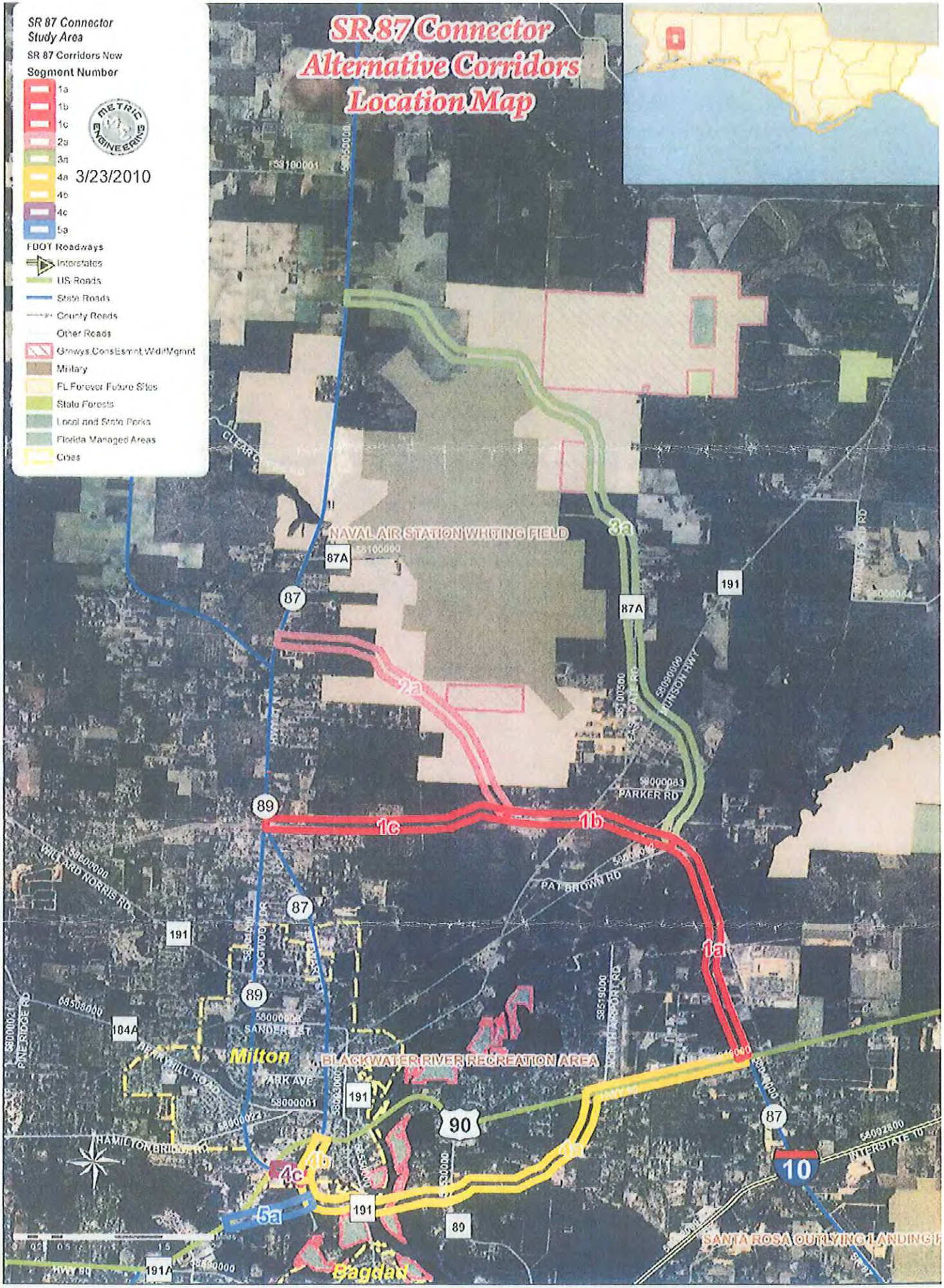
WHEREAS, there is no better route to SR 87 N which will open new lands and provide for economic growth:

NOW, THEREFORE BE IT RESOLVED: that the City Council of the City of Milton believes it to be in the best interest of the City, County, and State to extend SR 87 N to a point at or about the Southern split of SR 87 and SR 89.

PASSED AND ADOPTED by the City of Milton, this 10th, day of August, 2010.

By: _____
Guy Thompson, Mayor

ATTEST: _____
Dewitt Nobles, City Clerk


SR 87 Connector Alternative Corridors Location Map
SR 87 Connector Study Area
SR 87 Corridors New Segment Number
1a
1b
1c
2a
3a
4a
4b
4c
5a
3/23/2010
FDOT Roadways
Interstates
US Roads
State Roads
County Roads
Other Roads
Grnways,ConsEsmnt,WdlfMgmnt
Military
FL Forever Future Sites
State Forests
Local and State Parks
Florida Managed Areas
Cities
NAVAL AIR STATION WHITING FIELD
BLACKWATER RIVER RECREATION AREA
Milton
Bagdad
SANTA ROSA OUTLYING LANDING F
PARKER RD
PAT BROWN RD
WILLARD NORRIS RD
PARK AVE
HAMILTON BRIDGE RD
INTERSTATE 10
87A
87
89
191
184A
191A
90
10

APPENDIX C GIS shapefile metadata

1. National Wetland Inventory

ETAT.NWIP_OCT10 [GIS Shapefile]. Washington D.C.: US Fish and Wildlife Service, Division of Habitat and Resource Conservation, 2010.

2. FNAI Wetland Priorities

Wetlds_v3 [GIS Shapefile]. Tallahassee, Florida: Florida Natural Areas Inventory, 2008.

3. FFWCC Strategic Habitat Conservation Area Priorities

Shca_v3 [GIS Shapefile]. Tallahassee, Florida: Florida Fish and Wildlife Conservation Commission, 2008.

4. FNAI Floodplains

Floodpl_v3 [GIS Shapefile]. Tallahassee, Florida. Florida Natural Areas Inventory, 2007.

5. FNAI T&E Species

FNAI_FLEO_ERC_20091202_Sant_2 [GIS Shapefile]. Tallahassee, Florida: Florida Natural Areas Inventory, 2009.

6. OFW acres

ofw_other_jan11 [GIS Shapefile}. Tallahassee, Florida. Florida Department of Environmental Protection, 2011.

7. Black Bear Road Kills

Bearrdkill_2009 [GIS Shapefile]. Tallahassee, Florida. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, 2009.

8. FWC Integrated Wildlife Habitat Ranking System

Iwhrs_2007 [GIS Shapefile}. Tallahassee, Florida. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, 2007.

9. Pristine Lands (FLUCCS)

lu_nwfwmd_2007 [GIS Shapefile]. Tallahassee, Florida. Florida Department of Environmental Protection, Bureau of Watershed Restoration, 2011

10. Special Flood Hazard (FEMA)

dfirm_fldhaz_feb09 [GIS Shapefile]. Washington D.C. Federal Emergency Management Agency, 2009

Appendix D.

Table 3.5

Table 3.5 Network Segment Performance

SR 87 CONNECTOR PD&E STUDY - AADT (2 WAY) FOR ALL ALTERNATIVES

ROADWAY FROM	TO	DIST (MIL	2035 CF CAPA-CITY	NO OF LANES PER DIR	2006-AADT	35-H-CF AADT	35-R 2035-NB AADT	35-X Alt 1-AADT	35-Y Alt 2-4LD AADT	35-Z Alt 3-4LD AADT	35-L Alt 4-4LD AADT	35-M Alt 5-4LD AADT	35-I Alt 6-4LD AADT	35-U Alt 1-2L AADT	35-V Alt 2-2L AADT	35-W Alt 3-2L AADT	35-J Alt 4-2L AADT	35-K Alt 5-2L AADT	35-D Alt 6-2L AADT
I-10 / SR 8																			
SR 281 /	Garcon Point	3.92	95,837	1.0	39,279	56,633	57,020	56,983	57,531	57,448	57,899	58,215	56,884	57,313	56,842	57,112	57,992	57,519	57,925
Garcon	Ward Basin	2.06	8,450	2.0	32,389	45,192	47,378	45,182	45,558	46,161	44,684	44,553	44,113	45,730	44,966	46,150	44,618	44,697	44,590
Ward	SR 87 S / E.	2.78	19,441	1.8	27,419	37,297	42,159	36,612	37,892	39,817	39,347	39,419	38,779	37,366	37,043	39,671	40,789	39,513	40,221
SR 87 S	Log Lake	13.6	14,919	1.9	19,342	24,586	27,160	27,620	27,940	28,217	27,055	27,193	27,113	27,278	27,587	28,136	27,093	27,119	27,088
US 90 / SR 10																			
SR 281 /	Parkmore	0.25	46,200	1.0	35,824	47,090	47,404	45,695	45,891	46,078	47,351	47,747	50,433	46,375	45,476	46,342	48,133	48,077	48,939
Parkmo	Glover Lane	0.74	46,200	1.0	36,183	46,988	47,310	45,730	45,907	46,073	46,522	46,822	49,778	46,338	45,543	46,322	47,814	47,088	48,722
Glover	SR 89 /	0.70	15,443	2.2	29,792	38,952	41,095	39,779	39,889	40,007	34,166	39,173	34,059	40,211	39,639	40,272	35,830	37,638	35,045
SR 89 /	SR 87N /	0.64	54,368	1.0	13,104	16,526	21,192	21,668	21,699	21,329	16,539	16,819	14,336	21,676	21,380	21,421	16,798	16,919	15,547
SR 87N	Canal Street	0.27	51,510	1.0	12,279	14,625	20,528	19,239	19,124	19,449	11,482	16,698	12,277	18,918	19,494	19,455	14,168	17,853	13,673
Canal	Elmira Street	0.14	10,200	1.0	8,375	11,826	18,227	15,208	15,187	15,574	10,934	14,877	11,912	15,310	15,088	15,879	14,420	14,188	14,156
Elmira	Broad Street /	0.06	4,800	1.0	8,100	11,588	18,046	15,213	15,187	15,450	10,829	14,773	11,811	15,272	15,052	15,752	14,277	14,045	13,998
Broad	Johnson	0.69	29,481	1.0	20,969	28,245	29,608	22,225	22,794	25,050	20,349	18,872	19,234	22,988	23,208	25,094	21,378	20,464	21,309
Johnson	Dale St /	0.42	8,234	1.4	19,342	25,780	27,425	20,152	20,715	22,914	17,968	16,614	16,835	20,910	21,135	22,949	19,142	18,236	19,078
Dale St	Airport Road	1.26	9,461	1.0	14,982	16,252	17,807	12,431	12,806	14,241	14,625	13,936	14,191	12,824	13,060	14,183	15,481	15,017	15,965
Airport	Industrial	0.97	10,200	1.0	15,622	17,397	19,579	14,297	14,682	16,149	23,380	23,713	24,282	14,689	14,932	16,078	22,390	23,200	23,235
Industri	SR 87 S / E.	0.75	100,000	1.0	14,822	16,377	19,400	14,609	14,916	16,165	23,034	23,362	23,898	14,937	15,157	16,086	22,065	22,874	22,888
SR 87 S	S. A. Jones	5.83	7,446	1.0	10,160	13,966	8,223	8,791	8,599	8,374	8,316	8,226	8,376	8,743	8,635	8,378	8,274	8,299	8,358
HAMILTON																			
Glover	SR 89 /	0.54	9,314	1.4	2,394	4,623	4,467	4,489	4,463	4,484	4,298	5,660	3,684	4,455	4,499	4,490	4,365	5,577	4,336
SR 89 /	Berryhill Road	0.47	12,885	1.0	1,749	2,475	2,751	2,748	2,743	2,736	1,733	1,015	1,730	2,735	2,734	2,753	2,167	1,170	2,250
BERRYHILL ROAD																			
Glover	SR 89 /	0.57	47,219	1.0	8,676	10,712	11,108	10,807	11,172	11,196	11,825	10,216	11,303	11,185	11,143	11,188	11,533	11,233	11,557
SR 89 /	SR 87 N /	0.79	64,937	1.3	5,729	8,229	8,948	7,911	8,263	8,495	9,880	5,608	8,948	8,196	8,392	8,523	9,054	6,430	9,017
SR 87 N	Canal Street	0.26	39,493	1.4	9,209	12,327	8,986	6,783	7,262	7,900	4,667	3,015	4,279	7,150	7,490	7,913	4,729	3,924	4,611
Canal	Broad Street	0.10	100,000	1.0	8,629	9,047	6,059	5,040	5,580	6,274	4,570	2,968	4,191	5,348	5,887	6,123	4,642	3,813	4,541
PARK AVENUE																			
SR 89 /	SR 87 N /	0.75	13,236	1.3	1,332	1,492	1,538	1,538	1,534	1,530	1,817	1,788	1,763	1,518	1,540	1,510	1,797	1,707	1,777
WILLIARD NORRIS ROAD /																			
Northro	SR 89 /	1.71	18,919	1.5	6,786	8,918	8,720	8,871	8,291	8,548	8,965	8,993	8,691	8,563	8,302	8,538	8,934	9,008	8,864
SR 89 /	SR 87 N /	0.68	5,587	1.0	4,496	6,844	4,847	4,454	5,011	5,472	6,162	4,992	5,526	4,613	5,161	5,533	6,086	4,924	5,875
LANGLEY STREET /																			
SR 87 N	NAS Whiting	0.94	13,175	1.9	9,736	11,036	11,052	11,196	11,260	11,042	11,060	11,050	11,058	11,204	11,274	11,042	11,060	11,050	11,058

ROADWAY FROM	TO	DIST (MIL	2035 CF CAPA-CITY	NO OF LANES PER DIR	2006-AADT	35-H-CF AADT	35-R 2035-NB AADT	35-X Alt 1-AADT	35-Y Alt 2-4LD AADT	35-Z Alt 3-4LD AADT	35-L Alt 4-4LD AADT	35-M Alt 5-4LD AADT	35-I Alt 6-4LD AADT	35-U Alt 1-2L AADT	35-V Alt 2-2L AADT	35-W Alt 3-2L AADT	35-J Alt 4-2L AADT	35-K Alt 5-2L AADT	35-D Alt 6-2L AADT
WHITING FIELD																			
SR 87 N	NAS Whiting																		
GEORGE																			
SR 87 N	NAS Whiting																		
SPRINGHILL ROAD / NEAL																			
SR 87 N	Lewis Road	0.60	80,634	1.0	1,354	1,417	1,428	1,310	1,328	1,281	1,405	1,404	1,405	1,310	1,329	1,282	1,404	1,404	1,404
Lewis	Munson	6.16	20,097	1.0	258	323	331	214	222	199	304	304	304	214	224	198	304	304	304
SR 281 / AVALON																			
I-10	US 90 / SR 10	4.88	34,895	1.4	14,226	22,797	23,259	20,488	20,223	20,870	19,650	19,446	19,722	21,165	20,439	21,260	20,152	19,704	20,006
SR 89 /																			
US 90 /	Hamilton	0.53	19,811	1.0	20,884	26,852	27,178	25,474	25,629	26,075	25,401	31,124	25,618	25,871	25,623	26,225	26,216	30,012	26,295
Hamilto	Berryhill Road	0.25	18,030	1.0	19,928	25,846	27,178	25,550	25,656	26,142	24,696	30,042	25,484	25,912	25,728	26,283	25,777	29,113	25,959
Berryhil	Park Avenue	0.29	48,682	1.7	20,094	26,269	26,989	24,293	24,482	25,161	25,465	27,826	25,855	24,653	24,586	25,350	25,825	26,622	25,923
Park	Williard N.	0.99	25,580	1.5	17,669	22,860	23,504	20,871	21,072	21,772	21,807	24,814	22,269	21,223	21,164	21,917	22,167	23,486	22,293
Williard	SR 87 N /	1.51	11,287	1.0	9,216	14,684	13,673	13,146	12,414	13,126	12,866	15,887	13,429	12,741	12,141	13,267	13,184	14,358	13,148
SR 87 N	West	1.81	45,835	1.1	6,510	8,519	8,395	11,318	9,902	4,246	8,770	8,459	8,468	10,689	9,770	4,242	8,787	8,401	8,645
SR 87 N / Stewart																			
US 90 /	Berryhill Road	0.26	60,813	1.6	12,762	14,952	22,778	17,576	17,715	19,422	30,859	25,972	31,068	17,365	17,932	19,493	30,744	25,835	29,988
Berryhil	Park Avenue	0.34	9,600	1.3	17,799	20,862	22,237	16,970	17,117	18,133	26,745	24,905	27,632	16,748	17,561	18,204	27,222	24,789	26,379
Park	Magnolia	1.01	31,306	1.2	17,464	22,539	22,001	14,595	14,809	16,756	24,714	21,498	24,132	14,572	15,359	16,831	24,568	22,649	24,161
Magnoli	SR 89 /	1.67	32,013	1.0	11,594	14,114	14,686	7,273	6,854	8,151	15,930	13,181	15,645	7,085	7,284	8,254	15,676	14,654	15,564
SR 89 /	SR 89 North	1.57	28,234	1.5	20,783	26,376	26,273	30,063	18,424	18,974	26,743	26,321	26,474	29,431	18,612	19,156	26,774	26,275	26,637
SR 89	Langley	1.20	9,870	1.0	13,760	16,250	16,224	16,939	16,322	13,288	16,353	16,335	16,345	16,924	16,321	13,477	16,346	16,333	16,339
Langley	Whiting Field	0.45	100,000	1.0	8,605	9,854	9,836	10,060	10,226	6,898	9,899	9,903	9,898	10,028	10,151	7,081	9,895	9,902	9,891
Whiting	Springhill Rd /	5.59	30,438	1.0	7,463	8,732	8,707	8,957	9,118	8,765	8,769	8,773	8,766	8,922	9,049	8,899	8,764	8,770	8,759
ALABAMA ST & HENRY ST (CR 191																			
South	US 90 / SR 10	0.41	30,553	1.0	7,768	9,764	9,064	10,124	9,826	9,532	1,190	5,186	1,164	9,600	10,209	9,357	2,062	7,122	2,162
US 90 /	North of US	0.19	7,750	1.0	2,995	5,386	4,750	1,958	1,906	1,875	158	211	150	2,029	1,825	2,038	174	285	150
BROAD STREET & WILLING STREET																			
US 90 /	Berryhill Road	0.11	5,880	1.0	13,186	16,881	11,836	8,525	9,011	10,815	10,030	7,271	7,919	9,068	9,556	10,601	9,261	9,427	9,697
Berryhil	Munson	0.63	10,805	1.0	6,784	9,841	7,714	3,694	3,654	4,821	5,697	4,442	3,967	3,927	3,859	4,757	4,814	5,750	5,342
WARD BASIN																			
I-10	South Airport	1.73	6,855	1.0	2,788	7,464	8,008	5,872	6,068	6,950	12,952	12,717	12,990	6,236	6,242	7,036	12,872	13,286	12,466
US 90 /	US 90 / SR 10	0.93	6,471	1.9	2,231	6,478	7,006	4,983	5,175	6,027	1,536	1,942	1,919	5,345	5,343	6,116	1,501	1,614	1,760
AIRPORT ROAD																			
South	US 90 / SR 10	0.97	100,000	1.0	192	492	704	681	684	770	779	733	772	680	682	766	745	697	727
US 90 /	North of US	0.85	10,200	1.0	450	896	1,314	1,186	1,192	1,272	1,194	1,192	1,190	1,184	1,190	1,278	1,194	1,192	1,191

ROADWAY FROM	TO	DIST (MIL	2035 CF CAPA-CITY	NO OF LANES PER DIR	2006-AADT	35-H-CF AADT	35-R 2035-NB AADT	35-X Alt 1-AADT	35-Y Alt 2-4LD AADT	35-Z Alt 3-4LD AADT	35-L Alt 4-4LD AADT	35-M Alt 5-4LD AADT	35-I Alt 6-4LD AADT	35-U Alt 1-2L AADT	35-V Alt 2-2L AADT	35-W Alt 3-2L AADT	35-J Alt 4-2L AADT	35-K Alt 5-2L AADT	35-D Alt 6-2L AADT
SR 87 S																			
Hickory	I-10	2.10	34,281	1.2	16,125	19,206	20,714	21,272	21,530	21,482	20,835	21,169	20,825	21,568	21,140	21,532	21,416	20,811	21,442
I-10	US 90 / SR 10	1.24	11,179	1.9	12,343	13,311	17,140	24,434	24,654	23,891	18,201	18,578	18,567	23,514	23,852	23,697	17,416	18,146	17,982
US 90 /	Correction																		
MUNSON																			
SR 87 N	Broad Street	0.31	10,243	1.0	6,508	9,602	7,746	3,587	3,593	4,695	7,115	3,845	5,378	3,830	3,805	4,630	4,862	5,268	5,194
Broad	Munson Lane	0.45	9,600	1.0	3,088	3,169	3,306	1,480	1,515	1,412	3,306	3,307	3,308	1,478	1,533	1,412	3,298	3,296	3,297
Munson	CR 87 A	1.91	54,712	1.5	3,661	3,754	3,899	1,900	2,167	1,740	3,892	3,893	3,895	1,884	2,105	1,738	3,885	3,884	3,884
CR 87 A	Springhill	7.39	10,131	1.0	1,667	1,701	1,822	2,229	2,192	2,030	1,798	1,801	1,802	2,241	2,209	2,035	1,792	1,793	1,792
CR 87 A / WHITING FIELD CIRCLE /																			
Munson	NAS Whiting	2.47	5,920	1.0	1,984	2,054	2,058	2,120	2,118	777	2,056	2,056	2,056	2,120	2,118	773	2,056	2,056	2,056
OLD US 90																			
Canal St	US 90 / SR 10	1.03	4,800	1.0	450	2,837	765	730	753	764	8,300	1,228	13,458	740	732	751	7,881	4,075	10,105
SR 87 CONNECTOR (ALTs 1 - 2 - 3)																			
US90 /	CR 191 /			1 OR 2				17046	16,519	13,420				15746	15538	13244			
CR 191	SR 87 N			1 OR 2				14156	13,945	11,128				13654	13065	10957			
SR 87															**4 Lanes**	**2 Lanes**			
US90 / SR 10	WARD BASIN ROAD	1.87	7,362	1 OR 2		**2006-Val:**	**- Validated 2006 NWFRP**	**- 2006-Val**			6,784	7,854	8,130	**ALT 1**	35-X	35-U	4,971	6,291	5,353
WARD	HENRY ST /	0.87	5,920	1 OR 2							18,614	20,064	20,770	**ALT 2**	35-Y	35-V	16,299	18,456	16,843
HENRY ST / CR 191	Old US 90	0.33	9,600	1 OR 2		**35-H-CF:**	**Cost Feasible 2035**	**35-H-CF**			27,878	25,595	30,100	**ALT 3**	35-Z	35-W	24,126	20,939	24,585
Old US	SR 87 N OR										18,252	23,176	15,524	**ALT 4**	35-L	35-J	15,216	16,075	13,635
SR 87 N OR SR 89	US 90	1.03	20,492	1 OR 2		**35-R:**	**Revised Cost Feasible model**	**35-R**			8,300	1,228	13,458	**ALT 5**	35-M	35-K	7,881	4,075	10,105
							based on subarea refinement							**ALT 6**	35-I	35-D			

Appendix E. Regional Freight Network Plan excerpts

1. The Freight Movement Study lists SR 87 as a Regional Freight Corridor:

SR 87 US 98 US 90	SIS	750 – 1,800	C
SR 87 US 90 Alabama Line	RTN	1,000 – 3,000	D

2. The Beltway is included on the freight network map to connect SR 87 S to SR 87 N. It is called "Future By-Pass"
3. SR 87 is cited as a Corridor 'Critical to Business Success'
4. Finally and probably most importantly, In Table 2-2, "Freight Issues and Needs", the following was stated as a need:
   a. SR 87 Gulf Coast to I-65 (Alabama) Lacks strategic connection
   b. US 90 E. Downtown Milton to SR 87, Congestion & delay, incompatibility;

      evaluate truck signage through downtown
5. Projects List from Freight Network Plan:

   Santa Rosa County

   • SR 87, US 90 north to Whiting Field and south to I-10; eastern and southern bypasses to divert traffic around Milton and serve Whiting Aviation Park; PD&E study underway; construction unfunded.
6. In Table 4-2, Identification and Prioritization of Issues and Needs, the following project tied for 3rd with a cumulative score of 14

   Santa Rosa US 90, Downtown Milton to SR 87, FA22 1, Congestion & delay, incompatibility; evaluate truck signage through downtown, 1,000-3,000
7. Bridge Replacement Project # 4229071 PM 2 14, Consider PD&E for bypass Route
8. Longer-Term Recommendations

   A bridge replacement project on US 90 over Macavis Bayou programmed in the TIP will help alleviate congestion in the east/west direction through Milton. Longer term, the planned SR 87 by-pass will both divert freight traffic around Milton and serve the Whiting Field aviation commerce park. A PD&E study is in progress but funding for ROW and construction are not programmed.

9. Question and Answer Section at the end:

Q: Are there specific improvements programmed or identified as unfunded needs that would address the issues from 6, 7, or 8 above (Capacity, Safety, and Intersection Improvement)

A: The current SR 87 PD&E study will look at improving capacity through or around the City of Milton to include a connection between SR 87S and SR 87N (also known as eastern bypass) and the need for a southern bypass. In addition to relieving freight traffic in Milton, this may also help solve the issue of freight traffic through Bagdad, a small historic community whose vision is to become a walkable community. Freight traffic passes through Bagdad between SR 87N and I-10. We are hoping the PD&E study will show an eastern bypass will be the preferred route for freight traffic between SR 87N and I-10. This study will also address access to the new County air industrial park adjacent to Naval Air Station Whiting Field.

Q: What are the capacity issues that would affect trucking operations in your county? Is

congestion/delay a factor?

A: Another capacity issue is related to strategic connections. Four-lane capacity is needed from the Gulf Coast to I-65. With the military, industrial, commercial and residential growth east of Pensacola from Santa Rosa to Okaloosa County, four lanes along the SR 87 corridor from the Gulf Coast to I-65 would improve the STRAHNET, hurricane evacuation, hurricane recovery and economic development. This would take cooperation between Alabama and Florida, which has been occurring at the local level for 10 years. The effect of industrial growth in Mobile County should also be considered