

**Updated Cost Estimates and Comparative Summary
For 1998 Feasibility Study Report on
Interstate 74
From Rockingham-Hamlet Bypass to US 74 Bypass
Richmond and Scotland Counties
Division 8
TIP No. I-3801**

April 2008

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Project Development & Environmental Analysis Branch
Division of Highways
N.C. Department of Transportation

Information in this report provides updated cost estimates and a comparative summary of alternates from the original Feasibility Study (FS) completed in February 1998 (a copy is attached for reference). The original FS described upgrading US 74 to interstate standards as part of the Interstate 74 corridor from the proposed Rockingham-Hamlet Bypass in Richmond County to the Laurinburg Bypass in Scotland County, a distance of 9.0 miles. A project vicinity map is attached (Figure 1) along with Figures 2-1 thru 2-9 which are Environmental Features maps (based on GIS Data) showing the alternates. Two main alternates were considered for this project:

- **Alternate 1** - Widen Existing US 74, recommends upgrading existing US 74 corridor to interstate standards.
 - Recommended cross-section is a four-lane divided facility with 12-foot travel lanes, a median width of 30 to 60 feet, 4-foot paved inside shoulders and 10-foot paved outside shoulders on 285 feet of right of way with full access control.

- **Alternate 2** - Combination of widening and new location, recommends a combination of upgrading existing US 74 and constructing a portion of the project on new location (bypasses around Old Hundred and Laurel Hill communities).
 - Recommended cross-section is a same as Alternate 1 for the existing alignment, but on new location portions, the roadway will have a median width of 60 feet. Right of way will be 285 feet wide on existing alignment and 300 feet wide on new location with full access control.

The following table presents the updated cost estimates based on the original alignments presented in the 1998 Feasibility Study:

Table 1: Updated Cost Estimates

Alternates	Right of Way Cost Estimates¹	Utility Cost Estimates²	Construction Cost Estimates³	Totals
Alternate 1	\$32,725,000	\$2,279,149	\$64,800,000	\$99,804,149
Alternate 2	\$22,525,000	\$1,575,931	\$87,500,000	\$111,600,931
Difference	\$10,200,000	\$703,218	\$22,700,000	\$11,796,782

Notes:

1. Based on Right of Way Estimate dated October 2007
2. Based on Utility Estimate dated July 2007
3. Based on Construction Estimate dated March 2008

The following table presents information from the 1998 Feasibility Study for Alternates 1 and 2 in a comparative summary. Where appropriate, the table reflects the new information from the updated right of way, utility and construction estimates.

Table 2 - Comparative Summary

Category	Units	Alternate 1 (Widening Existing)	Alternate 2 (Widening & New Location)
Alternate Length	Miles	9.0	9.0
Residential Relocations	Total	173	100
Business Relocations	Total	35	20
Non-Profit Relocations	Total	3	1
Number of Parcels	Total	250 to 260	150 to 160
Potential Hazardous Mat. Sites	Total	Unknown	Unknown
Wetlands	Total	Impacts to Gum Swamp expected, Section 404 Permit Anticipated	Impacts to Gum Swamp expected, Section 404 Permit Anticipated
Stream Impacts	Total	2 Class B, 1 Class C	2 Class B, 1 Class C
Protected Species	Species	Azure Sage, Pinewoods Darter, Pickerings Dawnflower identified	
Historic Architecture Sites	Total	2 Possible	1 Possible
Existing Structures	Total	4 Bridges (2 - Railroad, 2 - Gum Swamp Creek) 1 Culvert (Gum Swamp)	
Proposed Bridge Replacements	Total	3 (1-Railroad, 2 - Creeks)	4 (2-Railroad, 2 - Creeks)
Proposed Diamond Interchanges	Total	2	3
Proposed Grade Separations	Total	2	3
Proposed Semi-Directional Interchanges	Total	0	1
Right of Way Cost	Dollars	\$32,725,000	\$22,525,000
Utility Cost	Dollars	\$2,279,149	\$1,575,931
Construction Cost	Dollars	64,800,000	\$87,500,000
Total Cost	Dollars	\$99,804,149	\$111,600,931

Notes

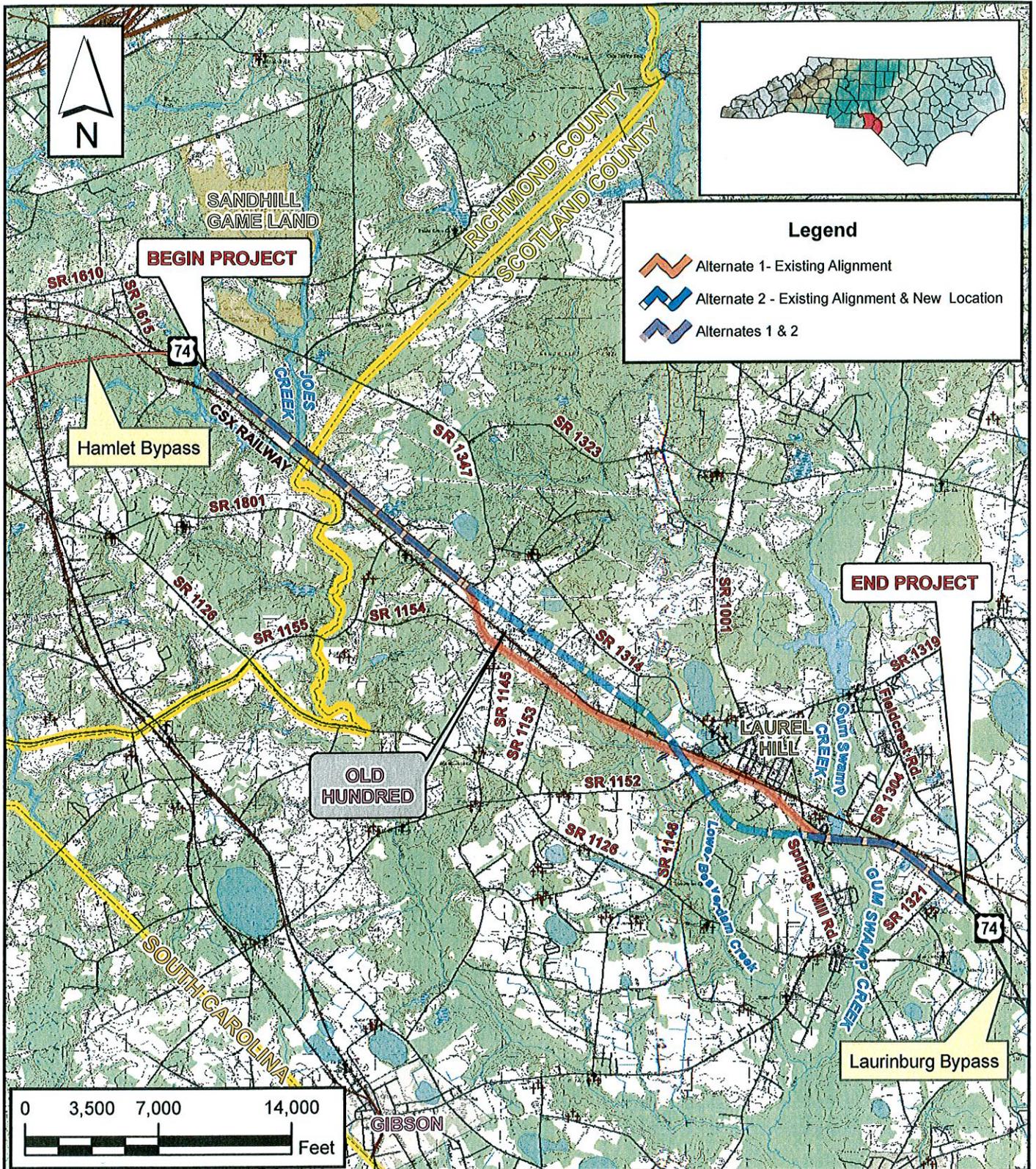
1. Estimated impacts are based on the typical sections and grade separations as presented in the original 1998 Feasibility Study for each of the alternates, which may need design modifications to meet current interstate standards.
2. The additional cost to have the 1998 alternates meet current interstate standards has been factored into the cost estimates presented above.

Based on a field review and discussions with Right of Way and Project Services, the following issues were identified that could add additional costs to the project:

- Residential impacts to Old Hundred community by Alternate 1 may necessitate the need for provision of “Last Resort Housing” due to lack of available suitable replacement housing.
- Two large auto junkyards near beginning of project would lose access to US 74 (see Figures 2-1 and 2-2). If they had to be acquired, there could be contamination issues.
- Impacts to subdivision near SR 1267 (Devon Drive) and SR 1268 (Dorsett Drive), isolates substantial number of residential dwellings southwest of Gum Swamp Creek (see Figure 2-7).
- Both alternates create access issues for the Laurel Hill Industrial Park, which is north of CSX Railway crossing on SR 1304 (Armstrong Road). See Figure 2-7.
- High power transmission line towers (one or two) could be impacted (see Figures) and two other transmission line corridors could be impacted (see Figures 2-2 thru 2-9).
- Truck traffic volumes may require wider outside shoulder designs.
- Three cell phone towers could be impacted (see Figures 2-3, 2-6 and 2-8).
- There are two possible historic sites that maybe impacted (see Figure 2-7): Morgan Cemetery (1883) and Old Ida Yarn Mill (1882).
- Existing interchange where end of project ties into Laurinburg Bypass does not meet current interstate standards. This may require removing Bridge #15 and extending the project terminus to US 79 (Gibson Road) to accommodate a half diamond interchange to restore US 74 Business access (see Figure 2-9).
- Vertical grade issues need to be addressed at several of the proposed grade separation locations due to close proximity of CSX Railroad lines, railroad crossings, service and frontage roads.

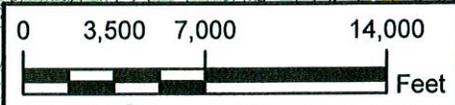
To include the costs of these issues in this memo would require additional detailed design studies, which is beyond the scope of this update. It is noted that a cost savings can be achieved and impacts lowered by using existing US 74 westbound lane as frontage road from Hamlet Bypass to CSX Railroad crossing. It should also be noted that the current Laurinburg Bypass, which this project will tie into, also does not meet current interstate standards.

Based on the findings of this study, we believe that the preparation of an Environmental Impact Statement (Draft and Final) and a Record of Decision is appropriate if the project is included for study in the Transportation Improvement Program. Additionally, due to the high numbers of relocatees associated with Alternate 1 (Existing Alignment) we believe that Alternate 2 (Existing and New Location) is a valid option. We recommend following the Merger Process I for new location projects.



Legend

-  Alternate 1- Existing Alignment
-  Alternate 2 - Existing Alignment & New Location
-  Alternates 1 & 2

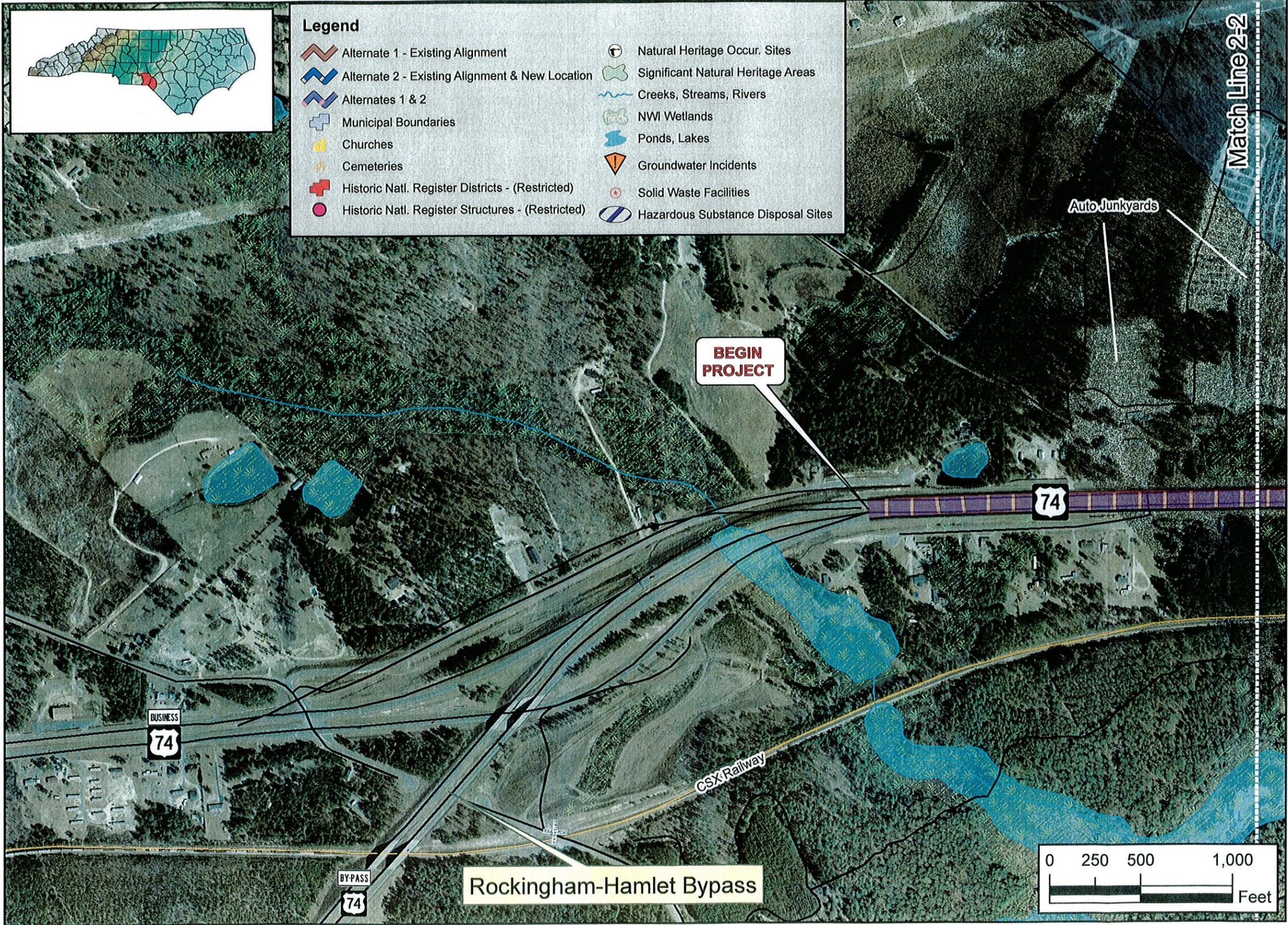


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 BY: J.TORTORELLA

VICINITY MAP
US 74 (FUTURE I-74) FROM
ROCKINGHAM-HAMLET BYPASS
TO LAURINBURG BYPASS
 RICHMOND & SCOTLAND COUNTIES
 TIP PROJECT I-3801

County:	RICHMOND & SCOTLAND
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Figure
1



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ENVIRONMENTAL FEATURES MAP
US 74 (FUTURE I-74) FROM
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TIP PROJECT I-3801



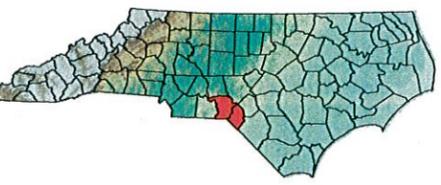
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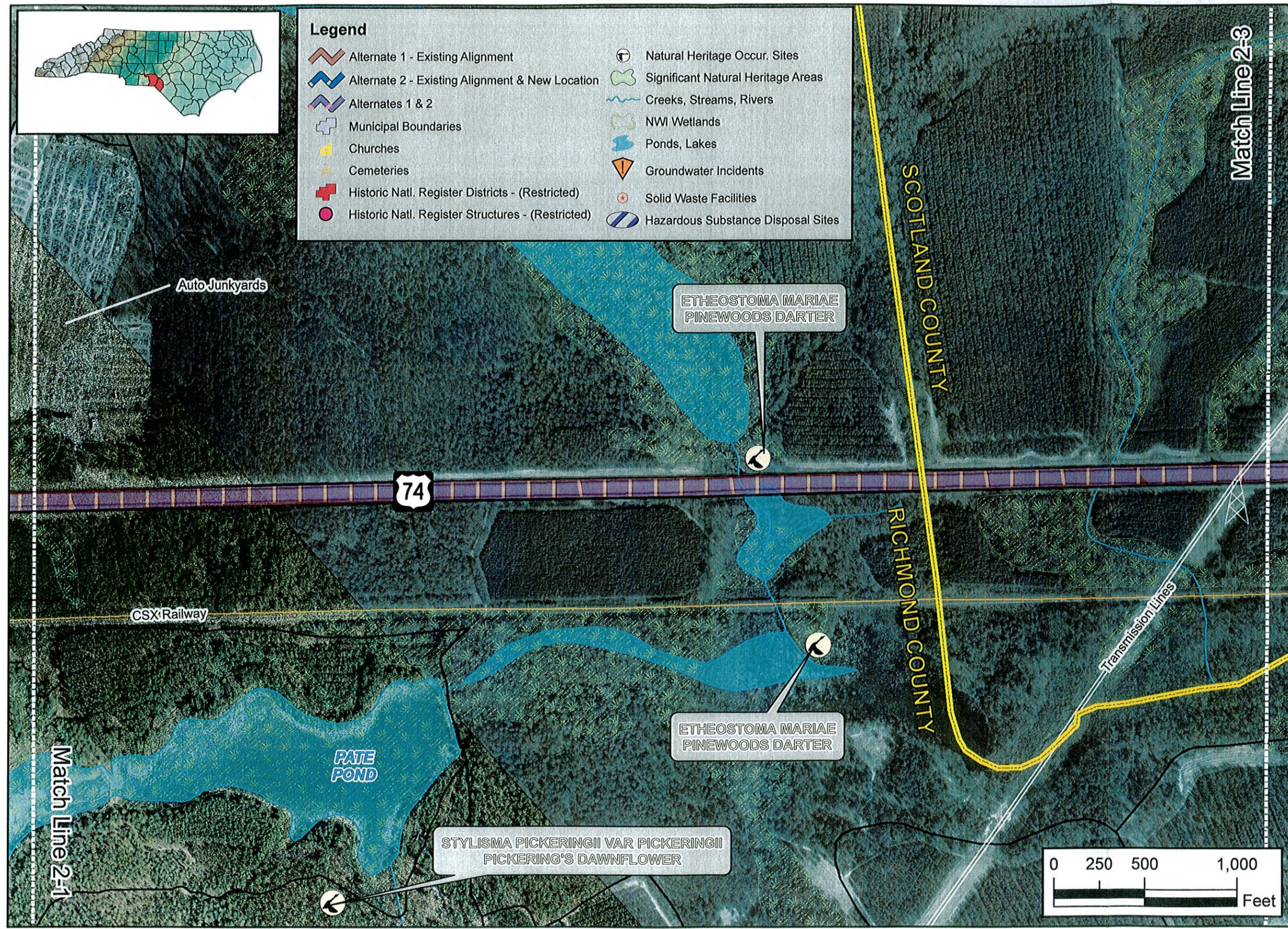
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Figure
2-1



Legend

- Alternate 1 - Existing Alignment
- Alternate 2 - Existing Alignment & New Location
- Alternates 1 & 2
- Municipal Boundaries
- Churches
- Cemeteries
- Historic Natl. Register Districts - (Restricted)
- Historic Natl. Register Structures - (Restricted)
- Natural Heritage Occur. Sites
- Significant Natural Heritage Areas
- Creeks, Streams, Rivers
- NWI Wetlands
- Ponds, Lakes
- Groundwater Incidents
- Solid Waste Facilities
- Hazardous Substance Disposal Sites



Match Line 2-3

Match Line 2-1



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ENVIRONMENTAL FEATURES MAP
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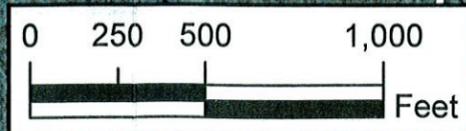
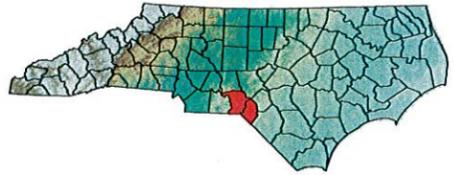


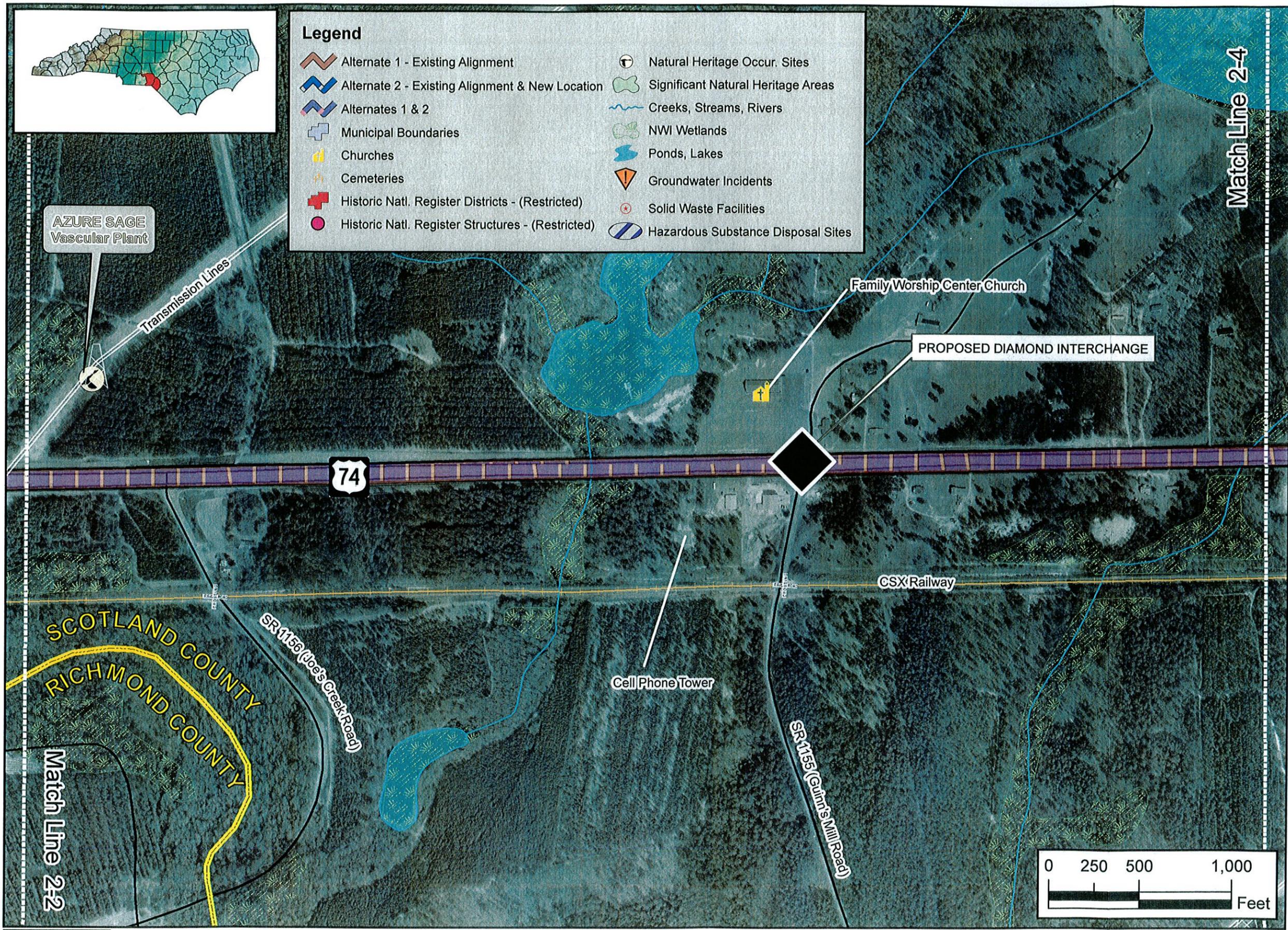
Figure
2-2

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Legend

Alternate 1 - Existing Alignment	Natural Heritage Occur. Sites
Alternate 2 - Existing Alignment & New Location	Significant Natural Heritage Areas
Alternates 1 & 2	Creeks, Streams, Rivers
Municipal Boundaries	NWI Wetlands
Churches	Ponds, Lakes
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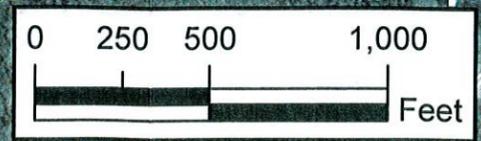
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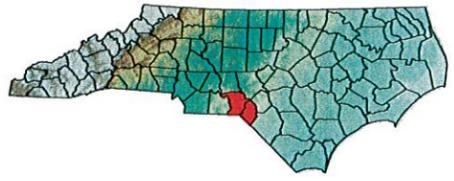
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Figure
2-3

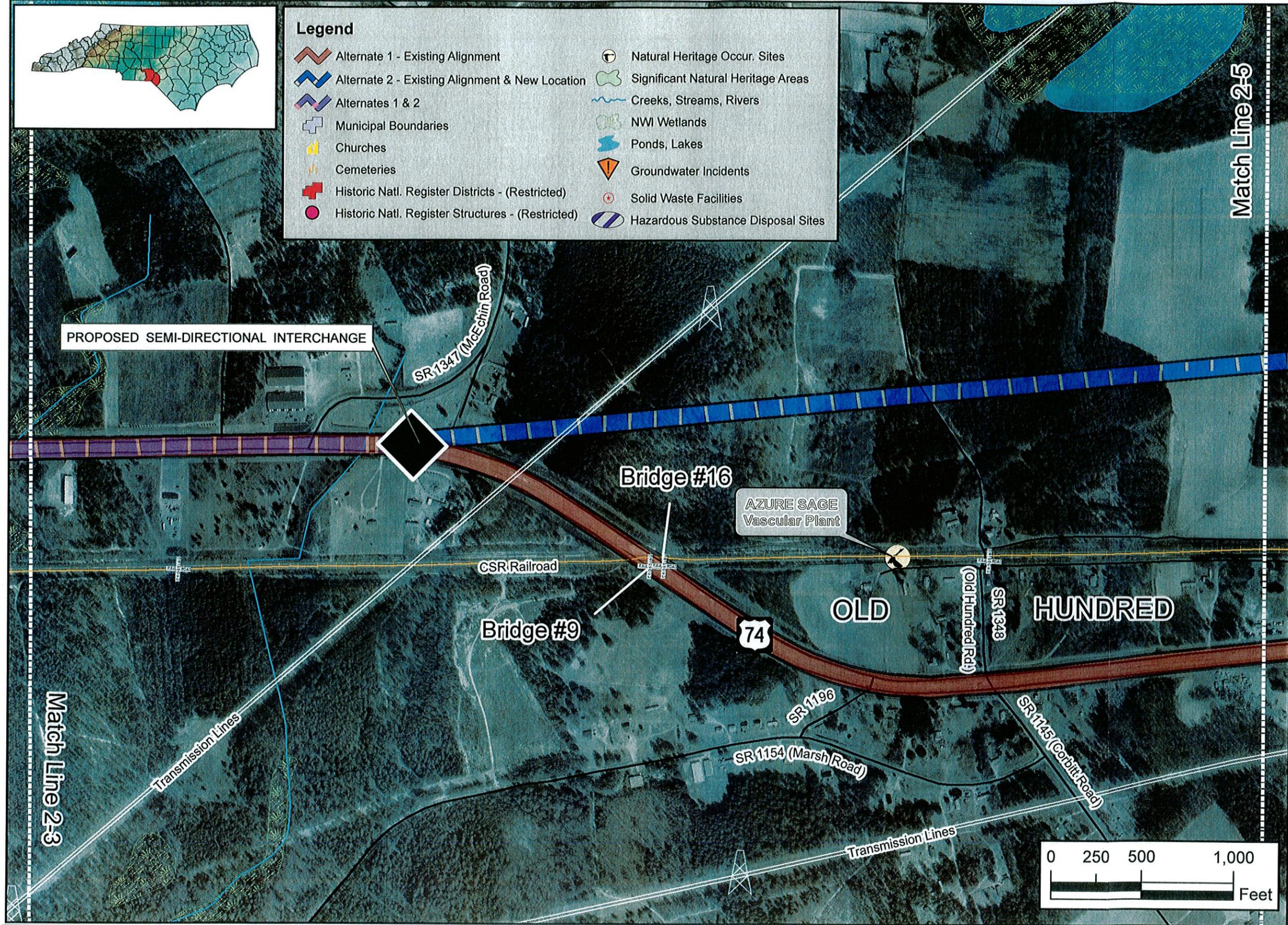


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Legend

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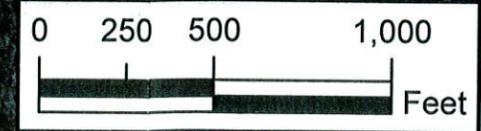
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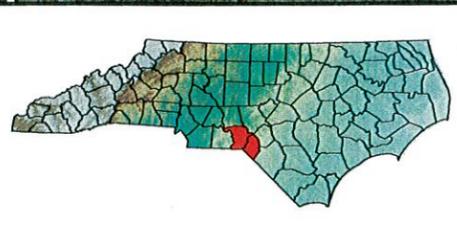
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Figure
2-4

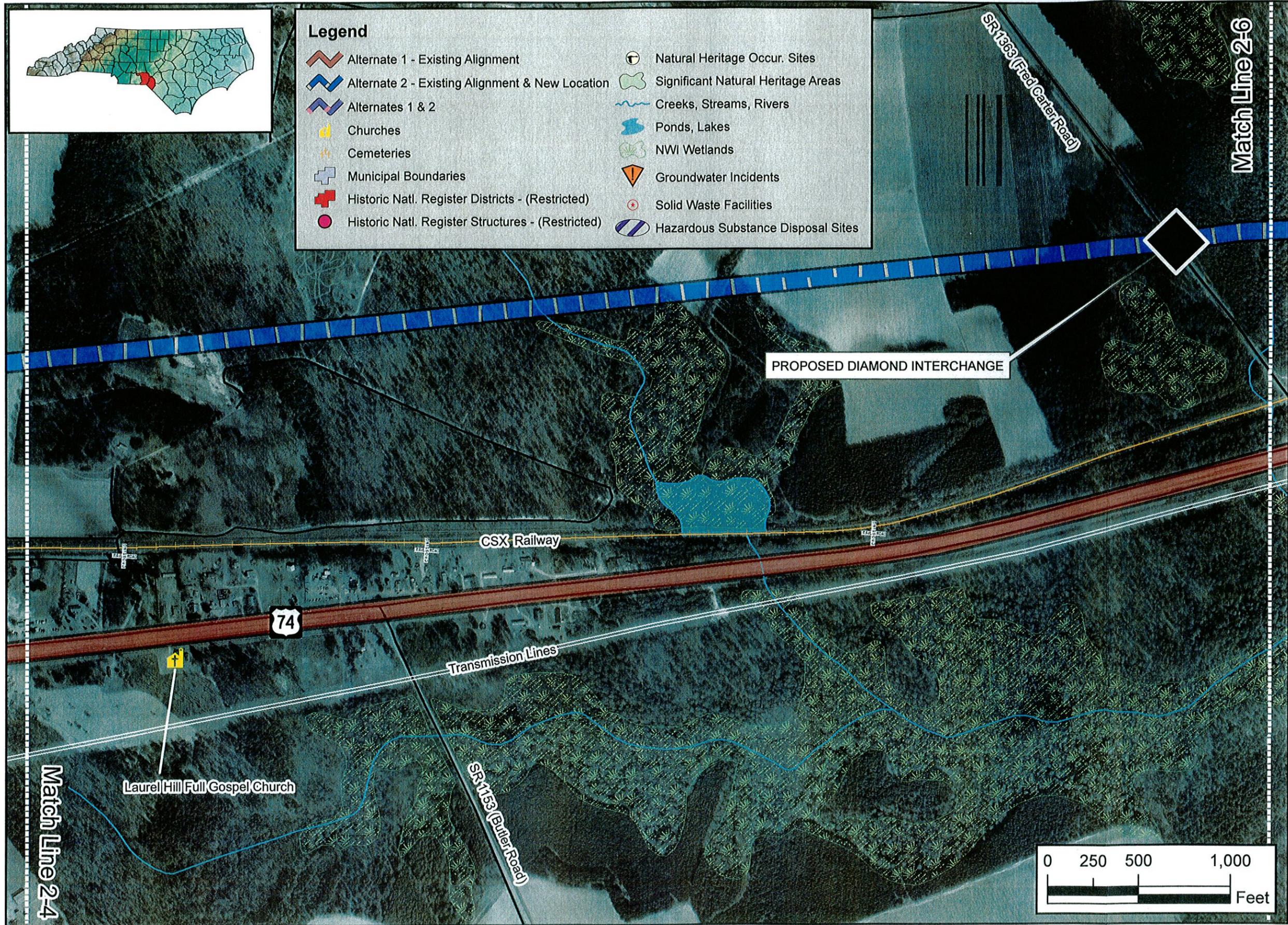


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Legend

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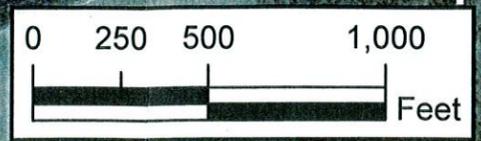


Figure
2-5



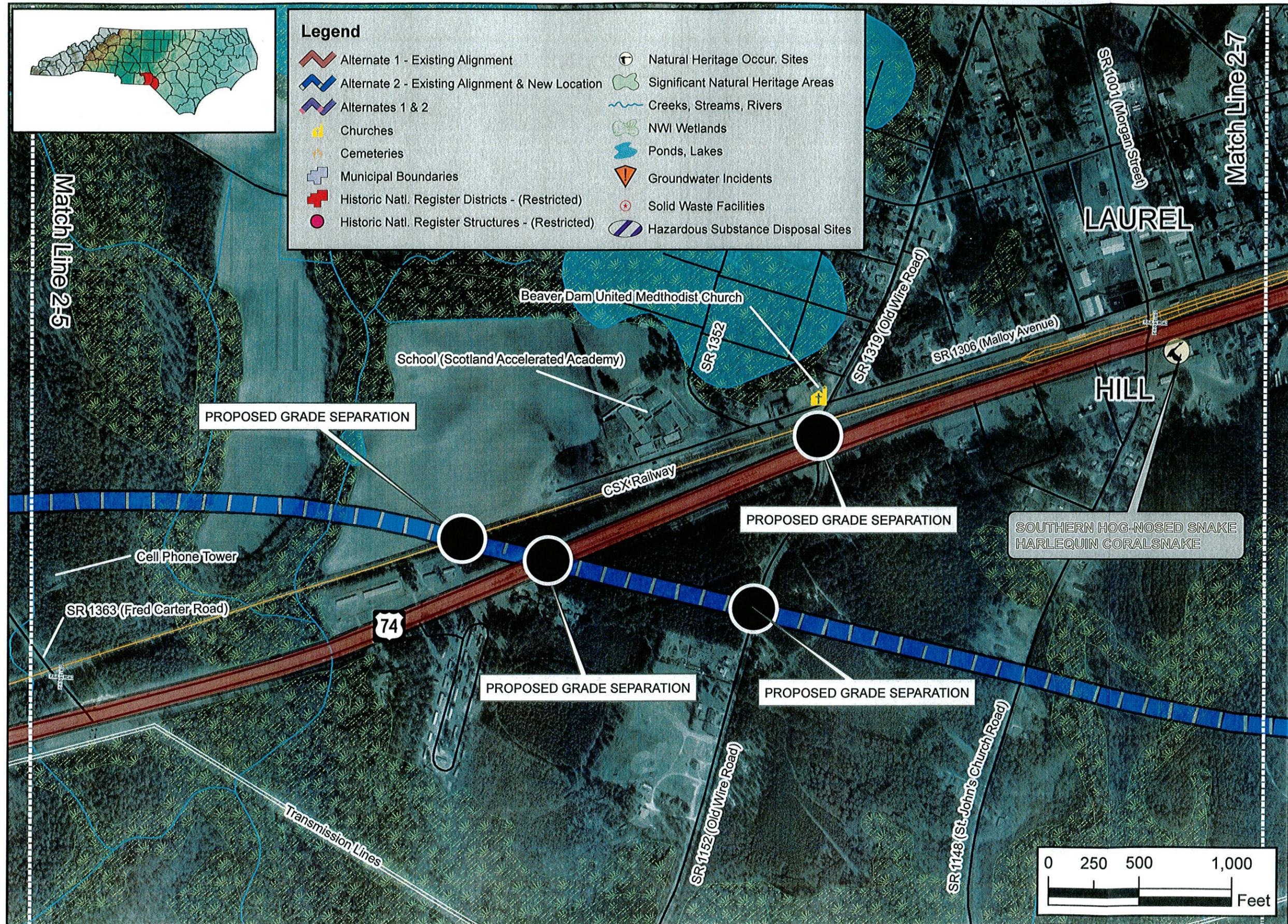
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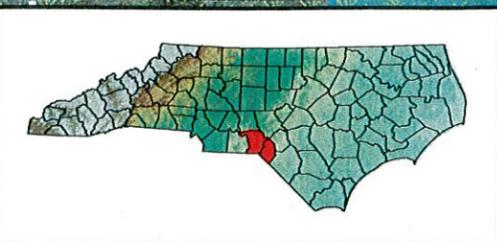
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Figure
2-6



Legend

Alternate 1 - Existing Alignment	Natural Heritage Occur. Sites
Alternate 2 - Existing Alignment & New Location	Significant Natural Heritage Areas
Alternates 1 & 2	Creeks, Streams, Rivers
Churches	NWI Wetlands
Cemeteries	Ponds, Lakes
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Historic Natl. Register Districts - (Restricted)	Solid Waste Facilities
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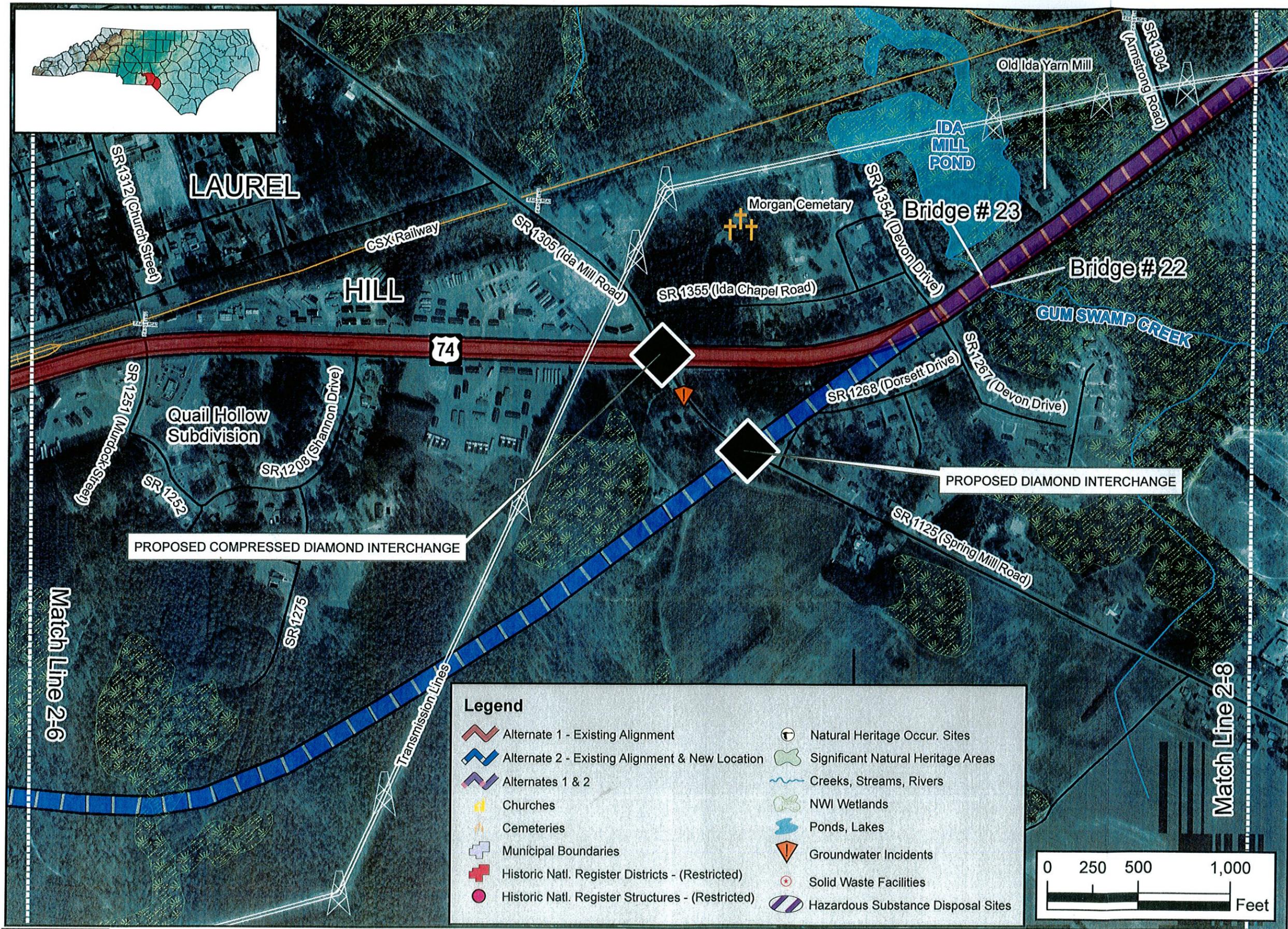
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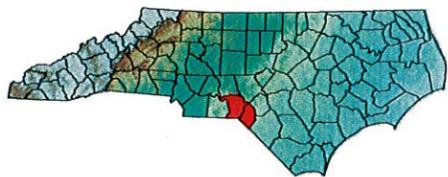
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Figure 2-7

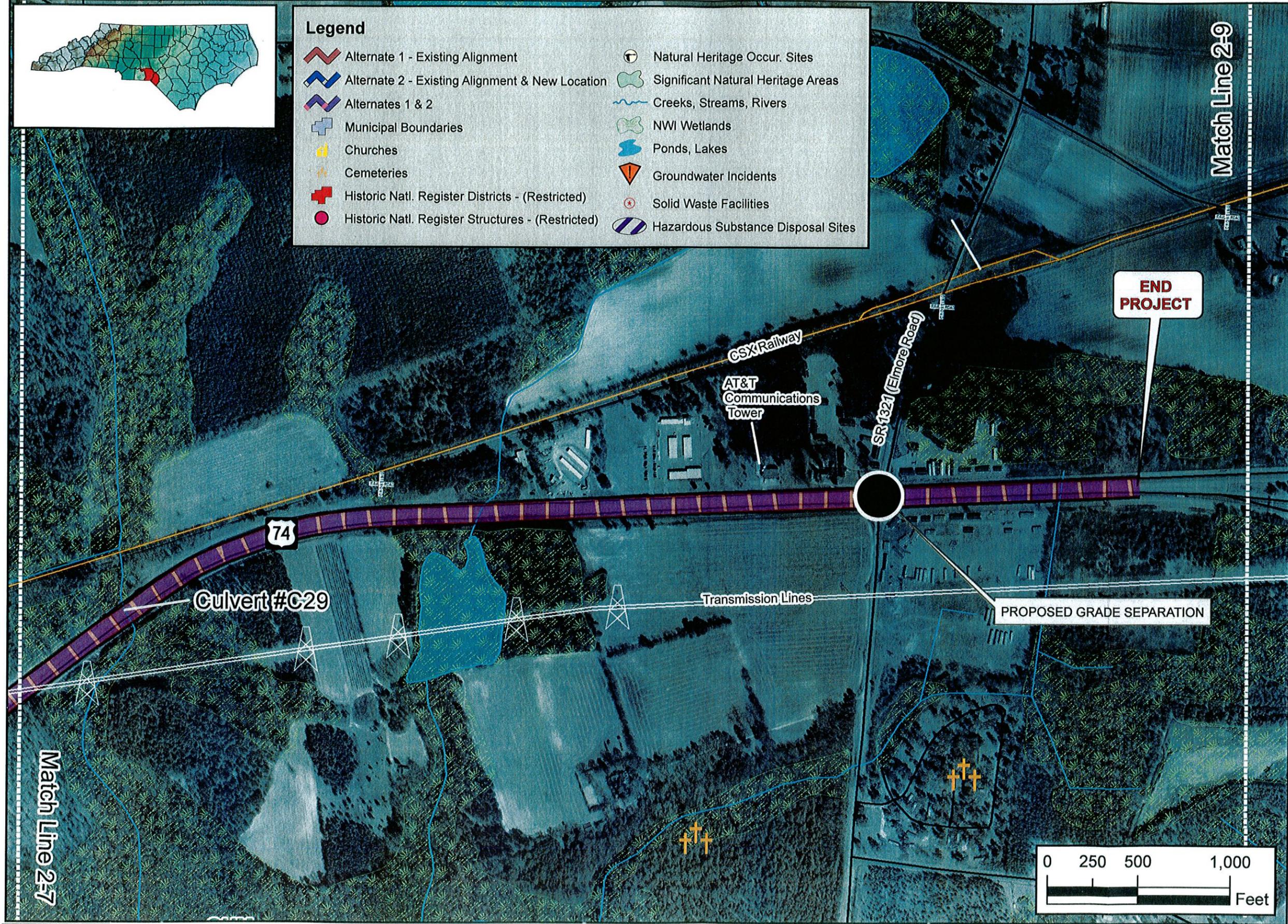


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Legend

	Alternate 1 - Existing Alignment		Natural Heritage Occur. Sites
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	Alternates 1 & 2		Creeks, Streams, Rivers
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END PROJECT

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ENVIRONMENTAL FEATURES MAP
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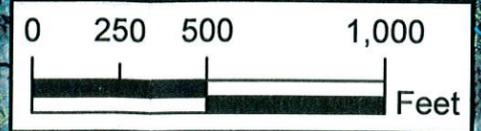


Figure 2-8



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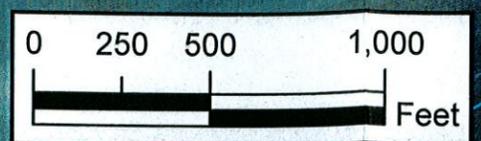
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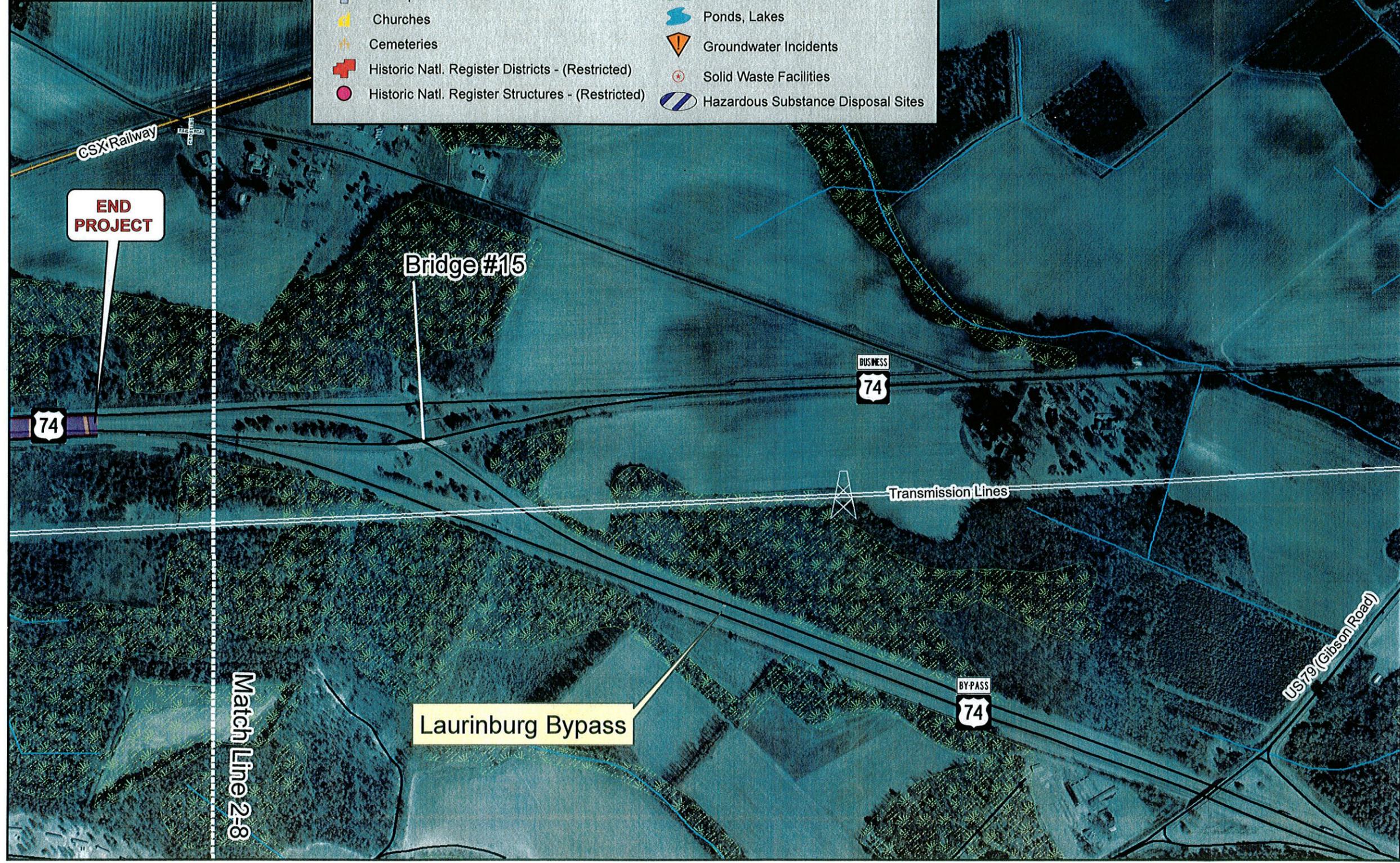
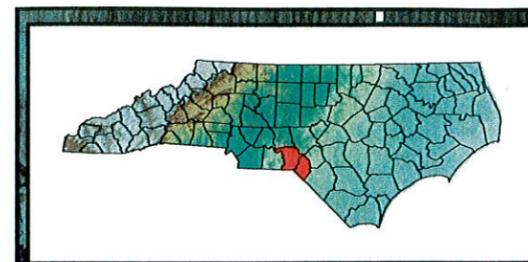
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Figure
2-9



Legend

Alternate 1 - Existing Alignment	Natural Heritage Occur. Sites
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