

Proposed US 321 Widening
From US 70 in Hickory to Southwest Boulevard in Lenoir
Catawba, Burke, and Caldwell Counties
NCDOT Divisions 11, 12 & 13

WBS Element 35993.1.2
Federal Aid Project NHF-0321(25)
STIP Project No. U-4700

FINDING OF NO SIGNIFICANT IMPACT

U.S. Department of Transportation
Federal Highway Administration
and
North Carolina Department of Transportation
Division of Highways

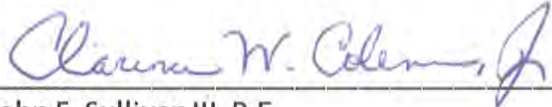
Submitted pursuant to the National Environmental Policy Act 42 U.S.C. 4332(2)(C)

APPROVED:

4/19/18
Date


Derrick Weaver, P.E.
Senior Project Manager, Project Management Unit
North Carolina Department of Transportation

4/19/18
Date


for John F. Sullivan III, P.E.
Division Administrator
Federal Highway Administration

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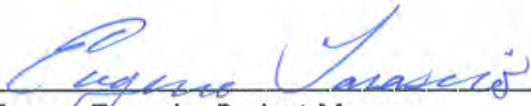
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Document prepared by Kimley-Horn and Associates, Inc.
For the North Carolina Department of Transportation
Division of Highways

April 2018

4/19/18
Date



Eugene Tarascio, Project Manager
Project Management Unit
North Carolina Department of Transportation

4/19/18
Date



Teresa Gresham, P.E., Project Manager
Kimley-Horn and Associates, Inc.



Project Commitments

Proposed US 321 Widening
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NCDOT Divisions 11, 12 & 13

WBS Element 35993.1.2
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Project Commitments

The following special commitments have been agreed to by the North Carolina Department of Transportation (NCDOT):

Hydraulic Unit – FEMA Coordination

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP) to determine the status of the project with regards to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Division Construction – FEMA Coordination

This project involves construction activities on or adjacent to FEMA-regulated streams. Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

Division Construction

On US 321, intermediate contact times will be included in the construction contract and traffic management plan to minimize the disruption to the travelling public. Specific access to the L.P. Frans Stadium will be considered in more detail during final design. NCDOT will coordinate with the stadium staff prior to construction.

Roadway Design and Hydraulic Design Units

As part of the Concurrence Point 2A agreement to narrow the 46' median option, NCDOT committed to treat storm water in designated places throughout the project. These locations will be identified during final design.

Environmental Analysis Unit – Dwarf-Flowered Heartleaf

Construction authorization will not be requested until ESA compliance is satisfied for dwarf-flowered heartleaf.

Community Studies Team

Pedestrian accommodations and access for pedestrians across U.S. 321 at the proposed 2nd Avenue SW interchange will be maintained to address the concerns and needs of area residents.

Division Project Development – FERC Coordination

The proposed project crosses Lake Hickory, which is a Federal Energy Regulatory Commission (FERC) site operated by Duke Energy. This crossing of Lake Hickory will require FERC coordination through Duke Energy. NCDOT Division 12, in conjunction with the NCDOT Environmental Analysis Unit, will coordinate with Duke Energy during final design to provide designs and ensure compliance with Duke Energy's FERC commitments.

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- B. Proposed Typical Sections
- C. Detailed Stream Impacts for Selected Alternative
- D. Agency Comments
- E. Merger Concurrence Forms
- F. Recommended Major Drainage Structures

Copies of the following documents completed since the publication of the Environmental Assessment:

- Community Impact Analysis Addendum (February 2018)
- Environmental Justice Memo (February 2018)
- Natural Resources Technical Report Addendum (March 2018)
- Geo-Environmental Report (September 2016)
- Traffic Forecast (January 2017)
- Traffic Capacity Analysis Report (July 2017)

May be attained by contacting: NCDOT Project Management Unit, 1548 Mail Service Center, Raleigh, NC 27699-1548 or by calling (919) 707-6000.

1. Type of Action

This Finding of No Significant Impact (FONSI) is a Federal Highway Administration (FHWA) administrative action.

The North Carolina Department of Transportation (NCDOT) and FHWA have selected an alternative for this project and have determined that the selected alternative will not have significant adverse impacts on the human or natural environments. This FONSI is based on the Environmental Assessment (EA), which was independently evaluated by the FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. After the EA was distributed, NCDOT announced and held a public hearing. Citizen comments were recorded and considered (see **Appendix A**) prior to final decisions being made. The EA was approved by the FHWA on February 25, 2016, and provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required.

2. Description of Proposed Action

The NCDOT and FHWA propose to widen US 321 to a six lane median divided facility from just north of the US 70 interchange in Hickory (Catawba County) to the Southwest Boulevard (SR 1933) interchange in Lenoir (Caldwell County). The proposed improvements involve approximately 13.9 miles of existing US 321 with a majority of the roadway located in Catawba and Caldwell Counties and 0.3 mile in Burke County, as shown in Figure 1. There are five municipalities that are located along the project corridor: City of Hickory, Town of Granite Falls, Town of Sawmills, Town of Hudson, and City of Lenoir.

3. Alternatives Considered

Eliminated Alternatives:

A full range of alternatives were considered, including a No-Build Alternative, a Public Transportation Alternative, a Transportation Systems Management (TSM) Alternative, and improvements to the existing facility. The No-Build, Public Transportation, and TSM Alternatives were eliminated for the following reasons:

The No-Build Alternative would not meet the purpose and need identified for the proposed project. It would not improve the traffic flow or LOS of US 321 through the project study area.

The project study area is not well served by mass transit. Based on the project context, improvements to public transportation would not improve vehicle flow on US 321 and would not eliminate the need for adding capacity. Therefore, the Public Transportation Alternative does not satisfy the purpose and need for this project and was eliminated from further study.

TSM improvements involve increasing the available capacity of the roadway within the existing right-of-way with minimum capital expenditures and without reconstructing or adding additional through lanes to the existing road. TSM improvements will not increase capacity or improve levels of service enough to prevent failing traffic conditions in the design year. Therefore, the TSM Alternative was eliminated from further study.

Detailed Study Alternatives:

The original limits of Project U-4700 were from US 70 in Hickory to US 64 in Lenoir. The northern terminus was changed in October 2015 from US 64 to Southwest Boulevard to provide additional time for the Department and the City of Lenoir to study alternatives at the US 321 with US 64/NC 18-90 intersection. The intersection project will move forward as a separate project, although it could be recombined with U-4700 in the future depending on schedules and funding. To allow for consideration of improvements either at the intersection or to allow consideration of a full range of alternatives, the project limits for U-4700 were shortened to Southwest Boulevard, a reduced distance of 3.3 miles.

In consideration of the right-of-way impacts, environmental constraints, and sound engineering principles, the Merger Process Team agreed at the October 20, 2009 meeting for Concurrence Point 2 (Detailed Study Alternatives Carried Forward) to the “Best Fit” Widening Alternative. This was reconfirmed for the new project limits at a Merger meeting on October 14, 2015. This alternative will widen US 321 at locations that “best fit” the current road location and surrounding land uses. “Best fit” locations were evaluated and selected to improve the existing roadway alignment, minimize impacts, and permit traffic maintenance during construction.

Four typical sections for the widening of US 321 were evaluated. These typical sections are shown in **Appendix B**. On February 26, 2014, the Merger Team revisited alignment review and agreed to remove Typical Section 4 (46-foot depressed grassed median) from further consideration. On October 14, 2015, the Merger Team agreed to use a combined 22-foot median (Typical Section 1) and 30-foot raised median (Typical Section 2) for the segment from US 70 to just north of 2nd Avenue NW in Hickory. A 30-foot raised median (Typical Section 3) is proposed along the remainder of the corridor.

Multiple options were considered at five locations along the corridor, listed in **Table 1** below. Three alternatives for the Grace Chapel Road intersection and the Falls Avenue intersection were presented in the EA and at the public hearing in July 2016. Based on public comments and updated traffic forecast data, additional alternatives were considered at Grace Chapel Road, 13th Street SW, Clement Boulevard, and Alex Lee Boulevard. These alternatives were presented at the public meetings in July 2017 and October 2017. Impacts are summarized in **Table 2**.

Table 1: Interchange Options

Location	Alternatives Considered
13 th Street SW/ 2 nd Avenue SW	<ul style="list-style-type: none"> • Interchange at 13th Street SW • Interchange at 2nd Avenue SW
Clement Boulevard	<ul style="list-style-type: none"> • Interchange • Superstreet intersection
Grace Chapel Road	<ul style="list-style-type: none"> • Trumpet interchange • Reverse or traditional superstreet intersection • Flyover
Alex Lee Boulevard	<ul style="list-style-type: none"> • Superstreet intersection • Trumpet interchange • Tight diamond interchange
Falls Avenue	<ul style="list-style-type: none"> • Partial clover interchange • Superstreet intersection • Tight diamond interchange

Note: The selected configuration is in **bold**

Table 2: Impacts of Detailed Study Alternatives

Topic	Impact by Location														
	13 th Street SW/2 nd Avenue SW		Clement Boulevard		Grace Chapel Road			Alex Lee Boulevard			Falls Avenue			Corridor	
	13 th St. SW Interchange	2 nd Ave. SW Interchange	Interchange	Superstreet Intersection	Flyover	Trumpet Interchange	Superstreet Intersection	Superstreet Intersection	Trumpet Interchange	Tight Diamond Interchange	Superstreet Intersection	Partial Clover Interchange	Tight Diamond Interchange	Between Alex Lee Blvd. and Falls Avenue	Between Falls Avenue and Southwest Blvd.
Railroad Crossings	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Impacts to National Register Eligible Resources	0	0	No Adverse Effect with conditions ^a	No Effect ^a	0	0	0	0	0	0	0	0	0	0	No Effect ^b
100-Year Floodplain Crossings	0	0	2	2	2	2	2	0	0	0	0	0	0	2	
Federal Listed Species	14														
Prime and Unique Farmland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Residential Relocations	5	11	10	0	1	1	1	3	7	6	11	21	8	1	5
Business Relocations	10	25	34	13	2	2	2	10	11	15	5	5	7	1	9
Non-Profit Relocation	1	0	1	0	0	0	0	0	0	0	1	1	1	0	0
Wetland Impacts (Acres)	0	0	0.1	0.1	0	0	0	0	0	0	<0.1	1.1	<0.1	0	0.6
Stream Crossings	0	0	3	2	3	3	3	0	1	0	3	3	3	6	20
Stream Impacts (linear feet)	0	0	1,110	860	930	1,100	950	0	305	0	970	1,080	845	770	2,440
Dwarf-flowered Heartleaf Impacts (Acres)	0	0	<0.1	<0.1	0	1.5	0	0	0	0	0.3	1.4	0.3	0.3	1.5
Potential Hazardous Material Site Impacts	8		20		0			11			8			5	18
Substantial Noise Impacts (# of receptors impacted)	29		0		0			8			3			19	43
Water Supply Watershed Protected Areas	0		1 (Site 2)		0			0			0			1 (Site 3)	1 (site 4)
Low Income Population Disproportionate and Adverse Impacts	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Minority Population Disproportionate and Adverse Impacts	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Construction Cost*	\$26,100,000	\$31,000,000	\$64,400,000	\$53,200,000	\$12,900,000	\$15,200,000	\$8,700,000	\$5,200,000	\$11,800,000	\$15,400,000	\$12,800,000	\$17,100,000	\$19,300,000	\$3,800,000	\$52,300,000
Right of Way Cost*	\$7,250,000	\$21,815,000	\$26,955,000	\$17,230,000	\$6,844,500	\$6,451,500	\$5,181,500	\$8,859,000	\$13,190,000	\$13,196,000	\$7,865,000	\$11,215,000	\$9,455,000	\$1,797,500	\$19,530,000

NOTE: There were no impacts for any alternatives on schools, recreational areas and parks, archaeological sites, churches, cemeteries, wildlife refuges and game lands, riparian buffers, Section 4(f) resources, or Section 6(f) resources.

^a The effects to National Register Eligible Resources at Clement Boulevard are in regard to Houck's Chapel (CT0180 – NR)

^b The effects to National Register Eligible Resources between Falls Avenue and Southwest Boulevard are in regard to the G. Haywood Hartley House (CW0231 – DE) and the Julius V. Stirewalt Farm (CW0832 – DE)

^c The utility relocation cost estimate report did not break the remaining corridor into sub-sections as shown here.

*The construction and right of way cost estimates shown are the most recently available estimates and are subject to change

4. Selected Alternative

The selected alternative, shown on **Figures 1A-10**, is a best-fit 6-lane median divided superstreet road, with non-superstreet intersection treatments at the following locations:

- A half-cloverleaf interchange at 2nd Avenue SW
- A flyover at Grace Chapel Road
- A tight diamond interchange at Alex Lee Boulevard
- A tight diamond interchange at Falls Avenue

These alternative intersection treatments were selected for the following reasons:

- Lowest stream and wetland impacts
- Aligned with local plans
- Met the traffic needs projected in 2040 in accordance with the purpose and need of the project
- Most supported alternatives based on public feedback

This alternative has been determined to meet the purpose of the project without significant impacts to the human or natural environments. The Merger Project Team concurred on the selection of this alternative as the Least Environmentally Damaging Practicable Alternative (LEDPA) On February 16, 2018 as part of Concurrence Point 3.

5. Summary of Project Impacts

Impacts are described below, and summarized in **Table 3**.

5.1 Natural Resources

Details on natural resources are in the *Natural Resources Technical Report* (September 2009), *NRTR Update* (October 2013), *NRTR Addendum* (December 2015), and *Natural Resources Technical Report Addendum* (March 2018).

There are approximately 0.7 acres of anticipated impacts to wetlands. The selected alternative is anticipated to have approximately 5,845 linear feet of stream impacts. A breakdown of individual stream impacts is provided in **Appendix C**.

The proposed project crosses Lake Hickory, which is a Federal Energy Regulatory Commission (FERC) site operated by Duke Energy. This crossing of Lake Hickory will require FERC coordination through Duke Energy. NCDOT Division 12, in conjunction with the NCDOT Environmental Analysis Unit, will coordinate with Duke Energy during final design to provide designs and ensure compliance with Duke Energy's FERC commitments.

There are 14 federally protected species listed in the study area. Details about the species are in the NRTR documents. The biological conclusion for each is listed below:

- “May Affect, Likely to Adversely Affect” for the dwarf-flowered heartleaf: The selected alternative is anticipated to impact approximately 2.0 acres of identified dwarf-flowered heartleaf population. These impacts will be minimized, where feasible, during final design. Impacts to a dwarf-flowered heartleaf conservation easement located along the east side of U.S. 321 will be avoided. Construction authorization will not be requested until Endangered Species Act (ESA) compliance is satisfied for the dwarf-flowered heartleaf.
- “No Effect” for Carolina northern flying squirrel, Virginia big-eared bat, spruce-fir moss spider, rock gnome lichen, Schweinitz’s sunflower, Heller’s blazing star, mountain golden heather, small whorled pogonia, white irisette, Roan Mountain bluet and spreading avens. (The Schweinitz’s sunflower within the 2018 NRTR Addendum study area currently has an “unresolved” biological conclusion that will be rendered when a pedestrian survey can be conducted during the optimal survey window)
- “Not Required” for the bog turtle.
- Northern long-eared bat is consistent with the 4(d) rule.

5.2 Community Resources

Based on preliminary designs, the selected alternative is anticipated to relocate 32 residences, 72 businesses, and one non-profit.

Community resources were originally described in the *Community Impact Assessment* (December 2014), and were updated following the EA based on changes in the proposed design (*Community Impact Assessment Addendum*, February 2018).

The selected alternative will likely require some right-of-way from the First Church of God, but will not affect buildings or operations on the property. The selected alternative will not affect any existing recreational facilities. There will not be impacts to any other public facilities or services.

5.3 Economic Resources

This project is not anticipated to create a new transportation or land use node. Continued growth is expected along the US 321 corridor with or without the project. Although some businesses will be affected through relocations or property impacts, this project is not expected to have an overall effect on existing commercial nodes along the corridor.

5.4 Indirect and Cumulative Effects

Analysis of the potential indirect and cumulative effects of this project suggests that development activities in the area may likely be accelerated, particularly around planned interchanges as a result of the project construction. Direct natural environmental impacts by NCDOT projects will be addressed by avoidance, minimization, or mitigation. All

developments will be required to follow local, state, and federal guidelines and permitting regulations. TIP U-4700 will have little effect on future stormwater runoff or water quality within the FLUSA.

The cumulative effects of this project, when considered in the context of other past, present and future actions, and the resulting impact on notable human and natural features are expected to be minimal.

5.5 Low Income and Minority Communities

The Westmont/West Hickory Neighborhood located near the southern project terminus near 2nd Avenue SW (see Figure 1). Census data indicates a notable presence of minority and low-income populations meeting the criteria for Environmental Justice within the block group that encompasses the Westmont/West Hickory neighborhood. This block group has a minority population of 49.4% compared with Catawba County's minority population of 23.0%. The block group has a Below Poverty Level population of 32.1% and a Very Poor population of 18.3%, compared with Catawba County's Below Poverty Level population of 15.5% and Very Poor population of 6.4%.

During a field visit in November 2017, multiple African-American, Hispanic, and Asian American individuals were observed in the neighborhood. The majority of the residences in the area are small, single-family units. A small number of multi-tenant units and mobile homes are in the neighborhood, although several of the mobile homes appeared to be vacant.

Following the October 2017 public meetings, a concern was raised that the new 2nd Avenue SW interchange would reduce mobility of the individuals living in the Westmont/West Hickory neighborhood, particularly for pedestrians. Design revisions were made to improve pedestrian accommodations and access across U.S. 321 at the proposed 2nd Avenue interchange. Based on input from a neighborhood meeting on January 26, 2018, the design revisions address the concern. Direct impacts are anticipated on the mobile homes, several of which are currently vacant.

Overall, adverse community impacts are anticipated with this project. These impacts appear to affect all populations equivalently. The inclusion of mitigation measures to enhance mobility for the Westmont/West Hickory neighborhood further ensures that impacts to minority and low-income populations are not disproportionately high and adverse. Benefits and burdens resulting from the project are anticipated to be equitably distributed throughout the community. No disparate impacts are anticipated under Title VI and related statutes. These impacts are discussed in more detail within the *U-4700 Environmental Justice Report* (April 2018).

5.6 Cultural Resources

Representatives of the North Carolina State Historic Preservation Office (SHPO), FHWA, and NCDOT met on March 10, 2015 and reached concurrence in the assessment of effects on two resources by the preliminary design. Following design changes and

additional investigations of an expanded study area, a new concurrence on the assessment of effects was reached on March 20, 2018 for the following three resources:

- Houck’s Chapel – No Effect
- G. Haywood Hartley House – No Effect
- Julius V. Stirewalt Farm – No Effect

The archaeological survey within the Area of Potential Effects (APE) was completed on July 24, 2015, and the results showed that none of the fifteen evaluated sites were determined to be eligible for the NRHP under any criteria and no further work necessary.

5.7 Section 4(f) Resources

Houck’s Chapel, G. Haywood Hartley House, and Julius V. Stirewalt Farm are Section 4(f) properties, but since the Selected Alternative will not require right-of-way from these properties, no Section 4(f) impacts are anticipated for these resources.

5.8 Section 6(f) Resources

No properties acquired or developed with the assistance of the Land and Water Conservation Funds exist on the project corridor.

5.9 Traffic Noise Analysis

Based on a preliminary evaluation (November 2015), noise walls were determined not to be feasible as part of this project. A more detailed review will be completed during project final design.

5.10 Air Quality Analysis

Based on the qualitative analysis completed, under the Build alternative in the design year it is expected there would not be higher MSAT emissions in the project study area relative to the No Build alternative. In considering the project study area, EPA’s vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause area-wide MSAT levels to be significantly lower than today.

The project is located in Catawba, Caldwell, and Burke Counties, which have been determined to comply with the National Ambient Air Quality Standards. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

5.11 Hazardous Materials

Based on the GeoEnvironmental Report (September 2016), 70 potential hazardous material sites are within the project corridor. All sites are anticipated to present low geoenvironmental impacts to the project.

Table 3: Summary of Preliminary Impacts for Selected Alternative

Topic	Segment A (US 70 to US 321A)	Segment B (US 321A to Mission Rd)	Segment C (Mission Rd to Southwest Blvd)	Total
Length (miles)	3.5	7.2	3.3	14.0
Railroad Crossings	2	0	0	2
100-Year Floodplain Crossings	4	0	2	6
Stream Impacts (linear feet) ^a	1,790	3,055	1,000	5,845
Wetland Impacts (acres) ^a	0.1	0.2	0.4	0.7
Water Supply Watersheds	1	2	0	3
Federal Listed Species ^b		13		13
Historic Properties Affected	0	0	0	0
Archaeological Sites Affected	0	0	0	0
Section 4(f) Resources	0	0	0	0
Total Relocations	73	27	5	105
Residential Relocations	18	12	2	32
Business Relocations	55	14	3	72
Non-Profit Relocations	0	1	0	1
Schools Affected	0	0	0	0
Recreation Areas and Parks Affected	0	0	0	0
Churches Affected	0	0	0	0
Cemeteries Affected	0	0	0	0
Environmental Justice Impacts	None	None	None	None
Wildlife Refuges or Gamelands	0	0	0	0
Noise Impacts ^c	33	43	14	90
Potential Hazardous Material Site Impacts	39	19	12	70
Total Cost*	\$176,857,244	\$82,774,280	\$22,398,320	\$282,029,844
Construction Cost*	\$116,300,000	\$61,200,000	\$10,400,000	\$187,900,000
Utility Relocation Cost*	\$931,744	\$2,781,780	\$548,320	\$4,261,844
Right-of-Way Cost*	\$59,625,500	\$18,792,500	\$11,450,000	\$89,868,000

^a Shown acreage includes 25-foot clearing limits outside slope stake lines.

^b Biological conclusions: “**No Effect**” for Carolina northern flying squirrel, Virginia big-eared bat, spruce-fir moss spider, rock gnome lichen, Schweinitz’s sunflower, Heller’s blazing star, mountain golden heather, small whorles pogonia, white irisette, and spreading avens; “**Not Required**” for the bog turtle; “**May Affect, Likely to Adversely Affect**” for the dwarf-flowered heartleaf; Northern long-eared bat is consistent with 4(d) rule.

^c Based upon preliminary traffic noise analysis.

*The construction, utility relocation, and right of way cost estimates shown are the most recently available estimates and are subject to change

6. Permit Clarification

Discharges of dredge or fill material into jurisdictional wetlands, streams, or open waters associated with the construction of the roadway project will require a Section 404 permit from the United States Army Corps of Engineers (USACE). Since project impacts are anticipated to exceed Nationwide Permit (NWP) thresholds, an Individual Section 404 Permit will likely be required. Final determination of permit applicability lies with the USACE and North Carolina Division of Water Resources (NCDWR).

Section 401 General Water Quality Certification – A Section 401 General Water Quality Certification from NCDWR will be required for any activity that may result in a discharge into “Waters of the United States” or for which an issuance of a federal permit is required. The project impacts are anticipated to exceed the NWP thresholds and an Individual Section 401 Water Quality Certification will likely be required.

7. Coordination and Comments

The following section provides a summary of the agency coordination and public involvement efforts that took place after approval of the EA in February 2016.

7.1 Circulation of the Environmental Assessment

The EA was made available for public review at the following locations:

- NCDOT Division 11 office – North Wilkesboro, Watauga County
- NCDOT Division 12 office – Shelby, Catawba County
- NCDOT Division 13 office – Asheville, Burke County
- NCDOT Central office – Raleigh
- City of Hickory
- City of Lenoir
- Project Website: <https://www.ncdot.gov/projects/us321widening/>

Copies of the approved EA were circulated to the following federal, state, and local agencies for review and comments. Comments were received from those marked with an asterisk (*). Agency comments are provided in **Appendix D**.

Federal Agencies

U.S. Army Corps of Engineers (USACE)

* U.S. Environmental Protection Agency (USEPA)

U.S. Department of Interior, Fish and Wildlife Service (USFWS)

State Agencies

- * N.C. Department of Cultural Resources – Division of Historical Resources (NCDCCR – HPO)
- N.C. Department of Environmental and Natural Resources (NCDENR)
- * NCDENR - Division of Water Resources (NCDWR)
- * NCDENR - Division of Waste Management
- * NCDENR - Solid Waste Section
- * N.C. Wildlife Resources Commission
- N.C. Division of Emergency Management – Floodplain Management Program
- N.C. Department of Agriculture

Local Agencies

Burke County
Caldwell County
Catawba County
City of Hickory
City of Lenoir
Town of Granite Falls
Town of Sawmills
Town of Hudson
Hickory-Conover-Newton MPO
Western Piedmont MPO

The following project-specific comments were provided on the EA:

- NC Wildlife Resources Commission (June 20, 2016)
 - *Comment:* Some of our concerns, submitted on April 24, 2006 as scoping comments, were not addressed in the EA, particularly our request to investigate wildlife-vehicle collisions and areas of habitat fragmentation affecting small and large wildlife in the project area. The widening of the roadway will increase the likelihood of wildlife-vehicle collisions, decreasing the safety of the traveling public. Wildlife crossing may be appropriate to improve safety for drivers and reconnect wildlife populations fragmented by the highway.
 - *Response:* The crash data included in the EA (pages 9-10) provided a summary of the full crash analysis performed for this project. Based on this data, wildlife collisions along the more rural sections of US 321 were determined to be a relatively small segment of the overall crashes. Animal crashes comprised 2.7% of the total crashes from 2004-2007, and crash rates on the rural segments of the project (US 321A to Southwest Boulevard) did not exceed the critical crash rate for those segments.

- *Response:* Most of the widening along the rural segments will take place within existing NCDOT right-of-way, which is currently maintained by NCDOT.
- NC Department of Environment and Natural Resources – Division of Water Resources (June 1, 2016)
 - *Comment:* Review of the project reveals the presence of surface waters classified as Water Supply Critical Area (WS CA) in the project study area. Given the potential for impacts to these resources during the project implementation, the NCDWR requests that the NCDOT strictly adhere to North Carolina regulations entitled Design Standards in Sensitive Watersheds (15A NCAC 04B.0124) throughout design and construction of the project. This would apply for any area that drains to streams having WS CA classifications. As described in the EA, portions of the project are located within the Critical Area of a Water Supply. As such, the NCDOT may be required to design, construct, and maintain hazardous spill catch basins in the project area. The number of catch basins installed should be determined during the final design, so that runoff would enter said basin(s) rather than flowing directly into the stream/lake an in consultation with the NCDWR.
 - *Comment:* This project is within the Catawba River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B .0234. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to “uses” identified within and constructed in accordance with 15A NCAC .02B .0295. Buffer mitigation may be required for buffer impacts resulting from activities classified as “allowable with mitigation” within the “Table of Uses” section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, coordinated with the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification.
 - *Comment:* In reference to the maps provided, it appears that a Section 401 Water Quality Certification may be necessary. Potential stream impacts should be determined prior to construction.
 - *Response:* NCDOT will follow Design Standards in Sensitive Watersheds, will provide a buffer mitigation plan, and will provide a Section 401 Water Quality Certification if needed.
- US Environmental Protection Agency (July 12, 2016)
 - *Comment:* Where feasible and practicable, use the median area to treat stormwater runoff from US 321. Hazardous spill catch basins may also be necessary depending on the projected level of composition of freight transportation along US 321.
 - *Response:* NCDOT will use NCDOT’s Stormwater BMP Toolbox, and will evaluate opportunities to use the median to treat stormwater runoff.

- *Comment:* The structural design of bridges and culverts with regard to the Northern long-eared bat and the Virginia big-eared bat might be considered during final design as a way to benefit and/or promote recovery of the species within the project study area. However, the EPA defers to the analysis and recommendations by the FWS and NCWRC on these endangered species issues. The EPA encourages the final design to avoid and minimize impacts to the dwarf-flowered heartleaf. Protection for avoided populations may be possible through conservation easements within the project corridor.
 - *Response:* NCDOT will coordinate with FWS regarding the two bat species through the Section 7 consultation, and will look for opportunities to minimize and avoid impacts to the dwarf-flowered heartleaf.
- *Comment:* The EA did not address climate change/greenhouse gas emissions. We recommend that the FHWA and NCDOT consider climate adaptation measures based on how future climate scenarios may impact the proposed project in the FONSI.
 - *Response:* The selected alternative crosses several major streams, which may be impacted by sea level rise. However, the bridge lengths established as part of the preliminary design are anticipated to provide greater conveyance than required. These designs will be re-evaluated during final design.

7.2 Public Outreach

In accordance with 23 USC 128, the North Carolina Department of Transportation certifies that a Public Hearing for the subject project has been held, and the social, economic, and environmental impacts, consistency with local community planning and goals and objectives, and comments from individuals have been considered in the selection of the Selected Alternative for the project.

Between July 2016 and October 2017, one set of public hearings, two public meetings, and a local commissioner's meeting were held for STIP Project U-4700. Changing feedback from the public affected designs between these dates and helped guide the selection of the LEDPA. The following meetings were held during this time:

- Public hearings were held on July 11-12, 2016 to present the location and design of the detailed study alternatives as presented in the EA. The meetings were held at in Hickory and Lenoir. The meetings included a formal presentation and public hearing maps for the study alternatives were available for review. Approximately 271 people attended the public hearings. Written comments were received from 54 citizens, and verbal comments were received from 25 citizens. Concerns were primarily focused on operation of the superstreet design. Several people expressed support for the superstreet intersection at Grace Chapel Road and the tight diamond interchange at Falls Avenue. A summary of comments and responses in the form of a Post Hearing Meeting

Summary is in **Appendix A**. Local officials meetings were held the same days as the public hearings.

- A public meeting was held on July 27, 2017 in Hickory to present updated designs at several locations on Section A. These design revisions were based on public input following the public hearing and an updated traffic forecast. The meeting was informal drop-in style, attended by 272 people. Written comments were received from a total of 203 citizens, most of whom were concerned about the Grace Chapel Road Superstreet intersection. A summary of comments and responses in the form of a Post Meeting Summary is in **Appendix A**. A local officials meeting was held the same day prior to the public meeting.
- A public meeting was held on October 12, 2017 in Lenoir to present additional changes at Grace Chapel Road and Alex Lee Boulevard. A total of 178 people signed in at the meeting. The design shown to the public at this time was the NCDOT recommended alternative for the entire corridor. The same maps were presented at a Caldwell County Commissioners meeting on October 16, 2017. These design revisions were based on public input following the July 2017 public meeting. Written comments were received by 19 citizens following the October 12 meeting, and an additional 8 verbal comments were made at the October 16 meeting. Comments were generally positive about the proposed design. A summary of comments and responses in the form of a Post Meeting Summary is in **Appendix A**. A local officials meeting was held on October 12 prior to the public meeting.

8. Merger

Since the EA, the Merger Team met in February 2018 for the following purposes. The new concurrence forms are in **Appendix E**.

8.1 Concurrence Point 1

The Merger Team added a study area to C.P. 1, which had not previously been discussed. The purpose of the project did not change: to reduce congestion on US 321 in order to achieve a level of service (LOS) D or better in the design year (2040).

8.2 Concurrence Point 2A

Based on design revisions, four changes to major hydraulic structures were agreed to by the Merger Team. One structure was removed, and three structures were added or modified. The full list is included in **Appendix F**.

8.3 Concurrence Point 3

The Merger Team agreed to retain the typical sections initially concurred with in C.P. 2, which utilizes a Superstreet design along the US 321 corridor, with the following exceptions:

- 2nd Avenue SW – Interchange
- Grace Chapel Road – Flyover
- Alex Lee Boulevard – Tight diamond interchange
- Falls Avenue – Tight diamond interchange

9. Changes Since the Environmental Assessment

9.1 Cultural Resources

Following design changes and additional investigations of an expanded study area, a new concurrence on the assessment of effects was reached on March 20, 2018 for the following three resources:

- Houck’s Chapel – No Effect
- G. Haywood Hartley House – No Effect
- Julius V. Stirewalt Farm – No Effect

9.2 Traffic Forecast

The traffic forecast was updated in January 2017. The new 2040 forecast indicates that an interchange is no longer warranted at Clement Boulevard.

9.3 Natural Resources

Following design changes and additional investigations of an expanded study area, an addendum to the NRTR was completed in March 2018. The following additional resources were identified:

Table 4: Additional Water Resources Identified in NRTR Addendum (2018)

Stream Name	Map ID	NCDWQ Index Number	Best Usage Classification
Billy Branch	Billy Branch	11-55-3	WS-IV
Geitner Branch	Geitner Branch	11-129-1-18	C
UT to Catawba River	SC	11-(51)	WS-IV,B;CA
UT to Catawba River	SD	11-(53)	WS-IV,B;CA
UT to Catawba River	SRR	11-(53)	WS-IV,B;CA
UT to Catawba River	SUU	11-(51)	WS-IV,B;CA
UT to Catawba River	SVV	11-(51)	WS-IV,B;CA

10. Wetlands Finding

The NCDOT, through the alternative selection process and design, has avoided and minimized impacts to streams and wetlands to the greatest extent practicable.

Compensatory mitigation is not normally considered until anticipated impacts to “Waters of United States” have been avoided and minimized to the maximum extent possible. It is recognized that “no net loss of wetlands” functions and values may not be achieved in each and every permit action. Compensatory mitigation is required for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been required. Once an alternative and right-of-way widths are established, specific impact calculations for wetlands and streams can be determined and mitigation requirements can be further evaluated.

The NCDOT will investigate potential on-site stream mitigation opportunities. If on-site mitigation is not feasible, mitigation will be provided by the North Carolina Department of Environmental Quality, Division of Mitigation Services (DMS). In accordance with the “Memorandum of Agreement Among the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, Wilmington District” (MOA), July 22, 2003, the DMS will be requested to provide off-site mitigation to satisfy the federal Clean Water Act compensatory mitigation requirements for this project.

11. Floodplain Finding

Catawba, Burke and Caldwell Counties are currently participating in the National Flood Insurance Program. This project contains eight crossings that are located in Zone AE FEMA floodplains. Four box culvert extensions are within the FEMA floodway and will most likely require a CLOMR (these locations can be found in the C.P. 2A Recommended Major Drainage Structures Table in **Appendix F**). Two culverts will be extended so that only the outlet is within the floodway. Two dual bridges will require widening, and may be widened to not impact the water surface elevations, the floodplain or the floodway. NCDOT has a Memorandum of Agreement (MOA) with FEMA that allows for roadway construction with minor impacts to the published Base Water Surface elevations, (BFEs). These site locations can be found in Appendix C.

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP) to determine status of project with regard to applicability of NCDOT’s Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

This project involves construction activities on or adjacent to FEMA-regulated streams. Therefore, the Division shall submit sealed as-built construction plans to the Hydraulic Unit upon completion of project construction, certifying that

the drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

12. Basis for Finding of No Significant Impact

The EA documents a study of the impacts of the proposed project. Based upon this study and on comments received from federal, state, local agencies and the general public, it is the finding of the FHWA that this project will not have a significant impact upon the human or natural environment. No significant impacts to natural, social, ecological, cultural, economic, or scenic resources are expected. The proposed project is consistent with local plans. The project has been extensively coordinated with federal, state, and local agencies. In view of this evaluation, it has been determined that a FONSI is applicable for this project. Therefore, neither an Environmental Impact Statement nor further environmental analysis is required.

The following individuals can be contacted for additional information on the proposed project:

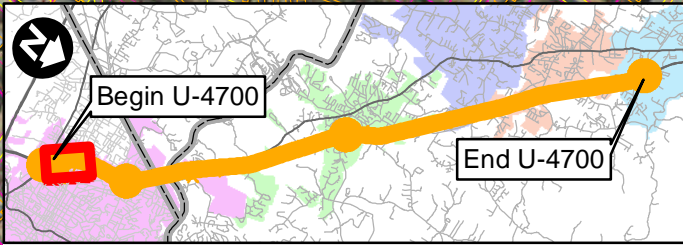
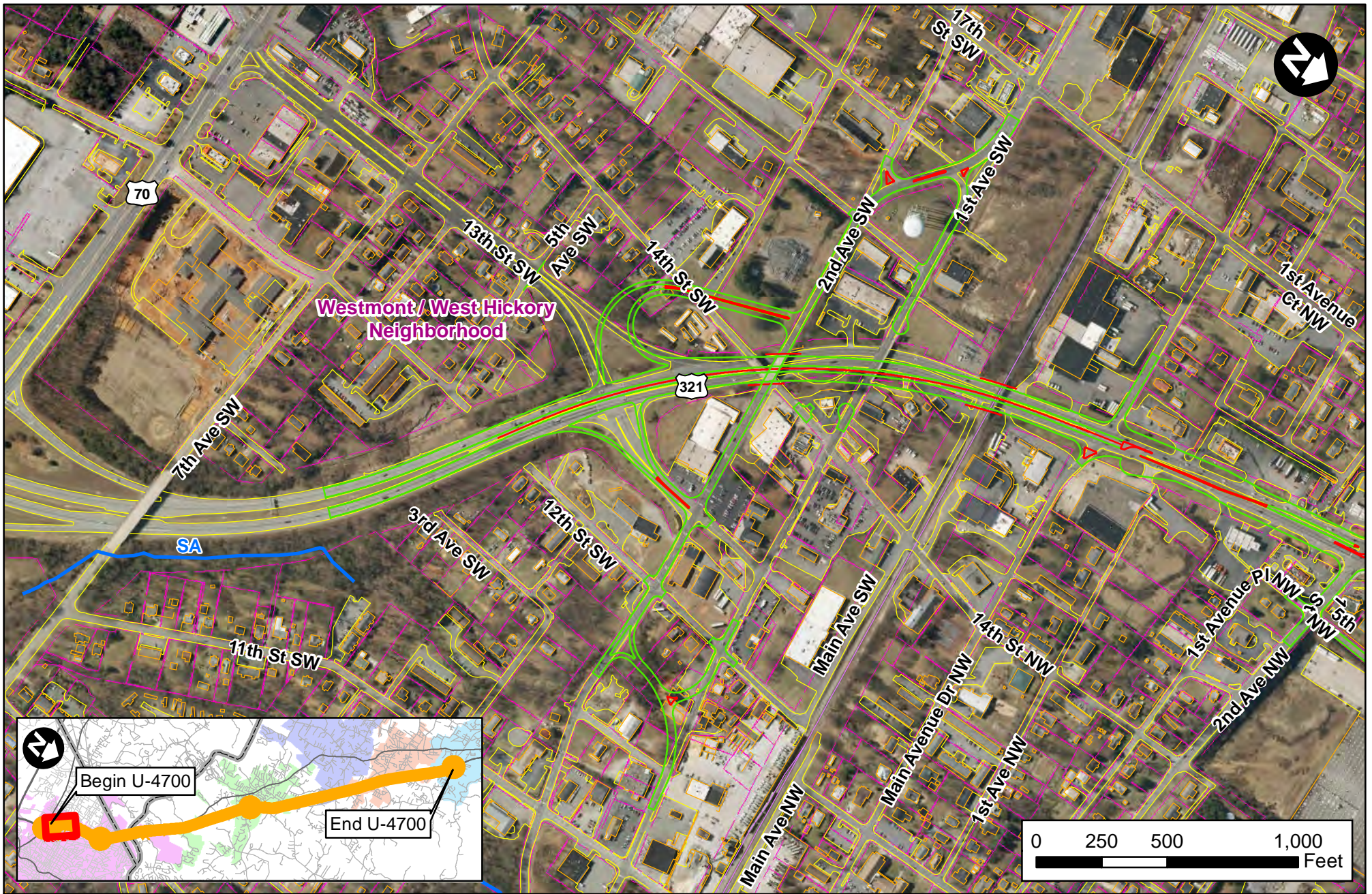
John F. Sullivan III, P.E.

Division Administrator
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601
Telephone: (919) 856-4346

Derrick Weaver, P.E.

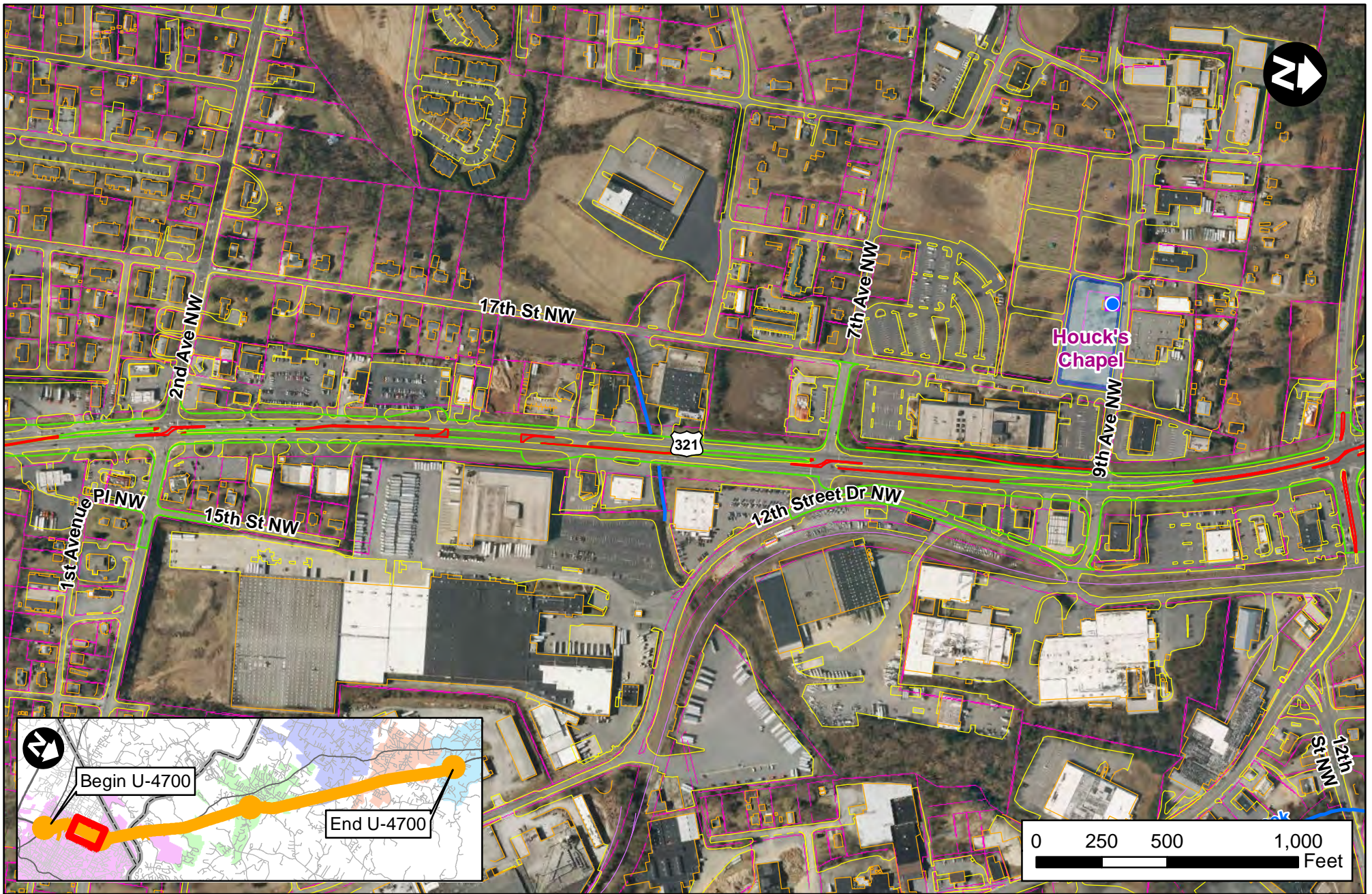
Senior Project Manager
Project Management Unit
North Carolina Department of Transportation
1582 Mail Service Center
Raleigh, North Carolina, 27699-1582
Telephone: (919) 707-6253

Figures 1A-10 – Selected Alternative Design



- ▨ Delineated Wetlands
- ▭ Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

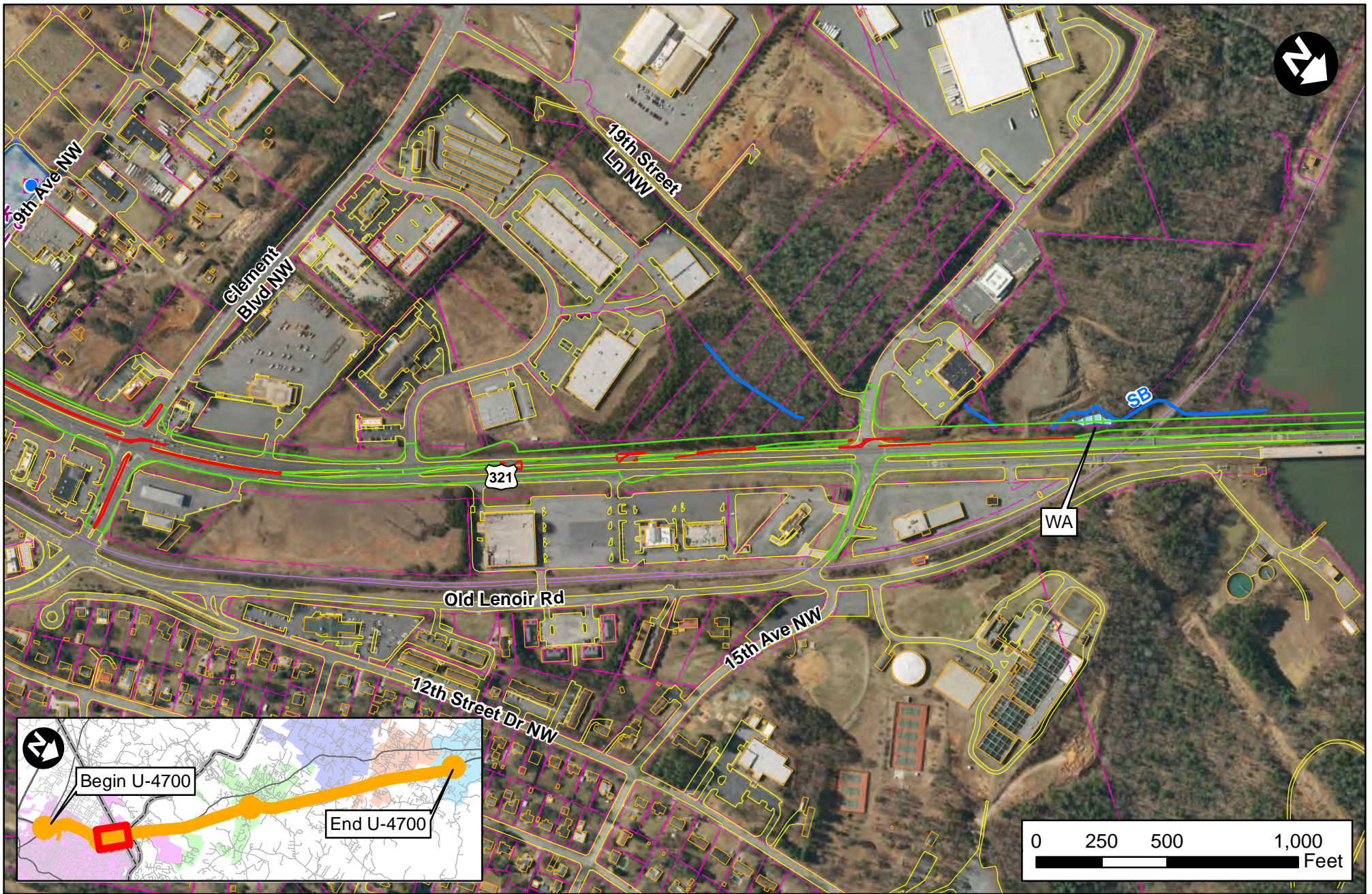
U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1A: Selected Alternative Design
 CATAWBA, BURKE, AND CALDWELL COUNTIES



- Delineated Wetlands
- Property Lines
- National Register
- NR and Local Landmark
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT

Figure 1B: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



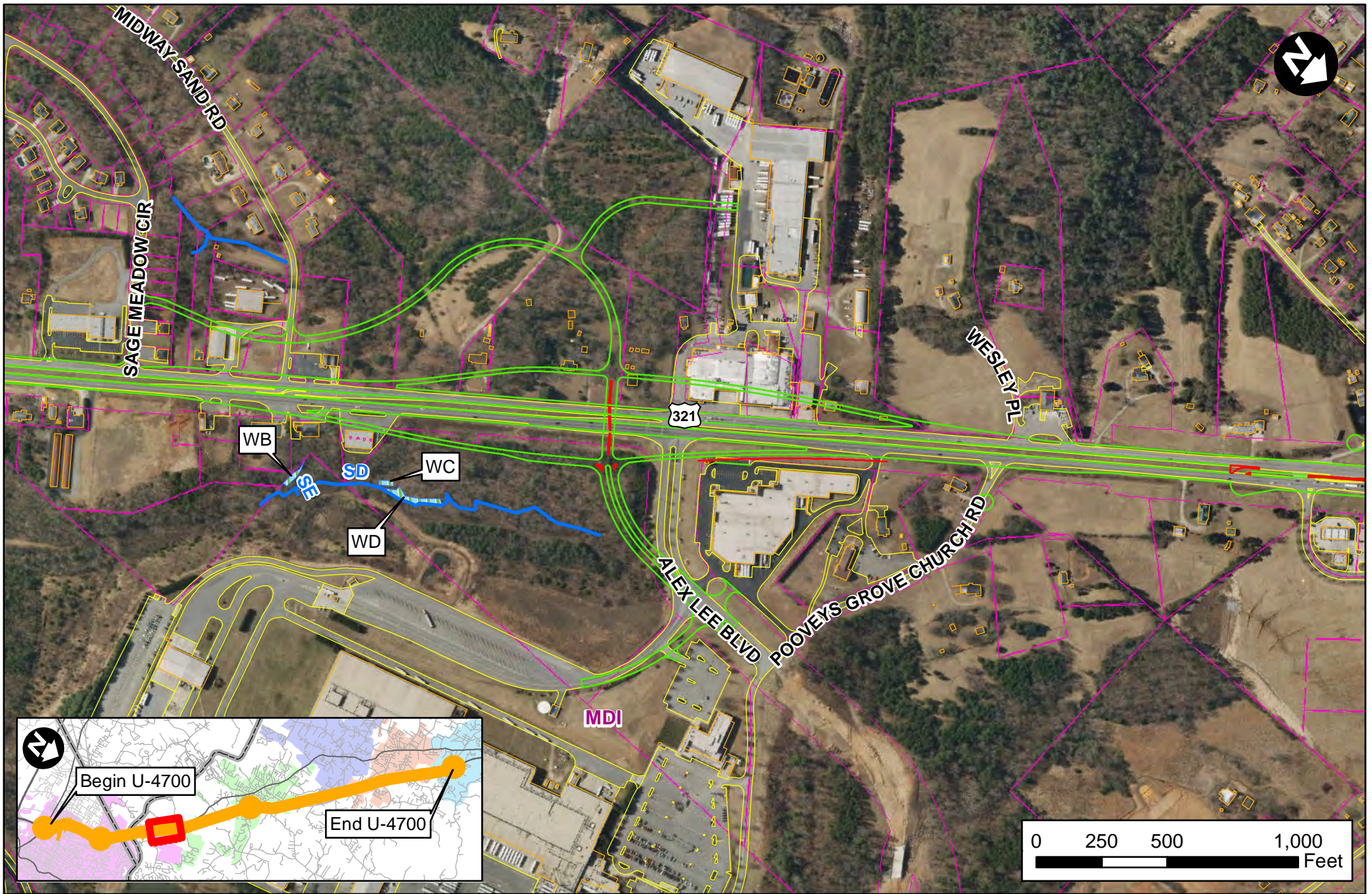
- Delineated Wetlands
- Property Lines
- National Register
- NR and Local Landmark
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1C: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



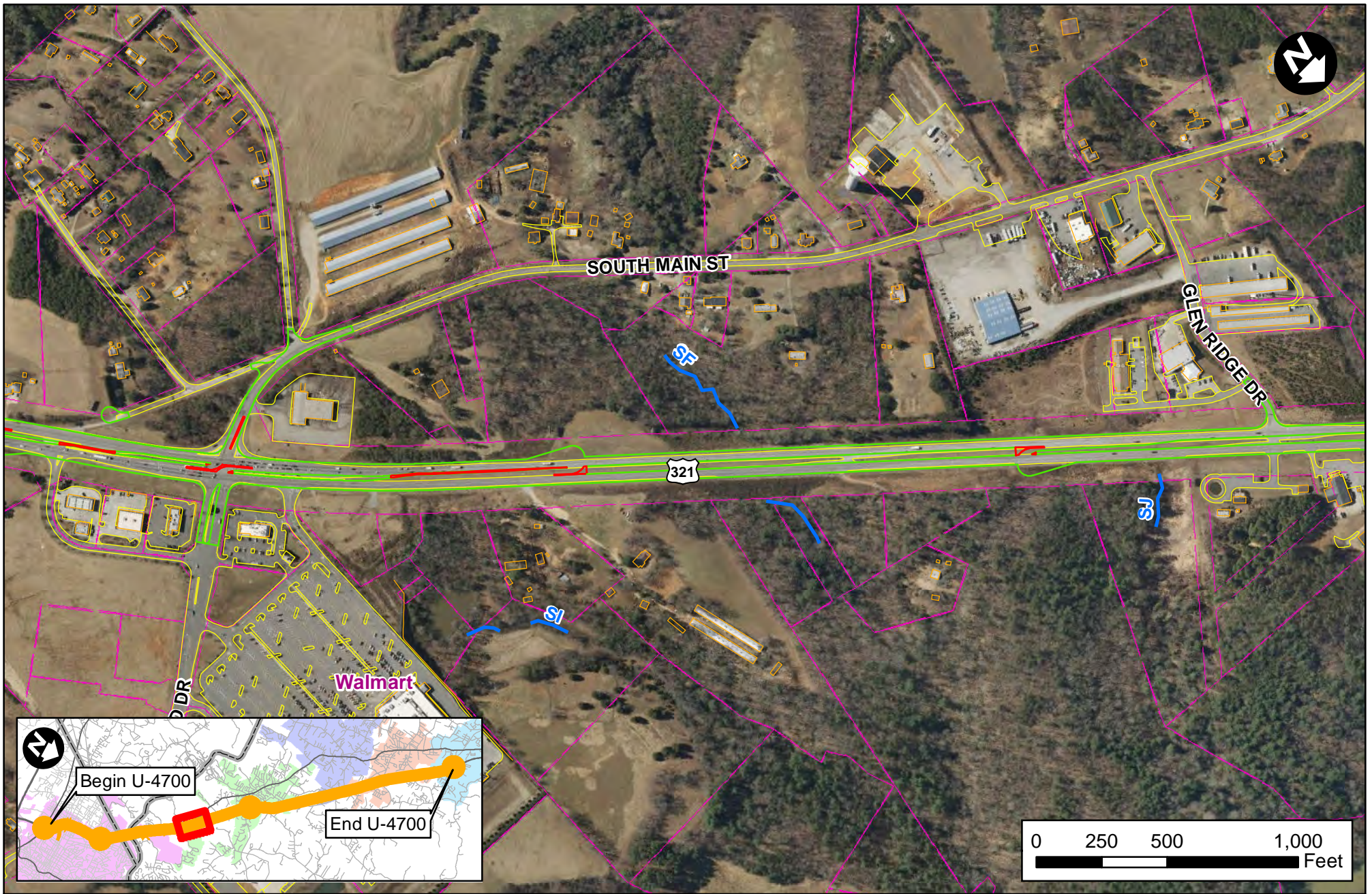
- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1D: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



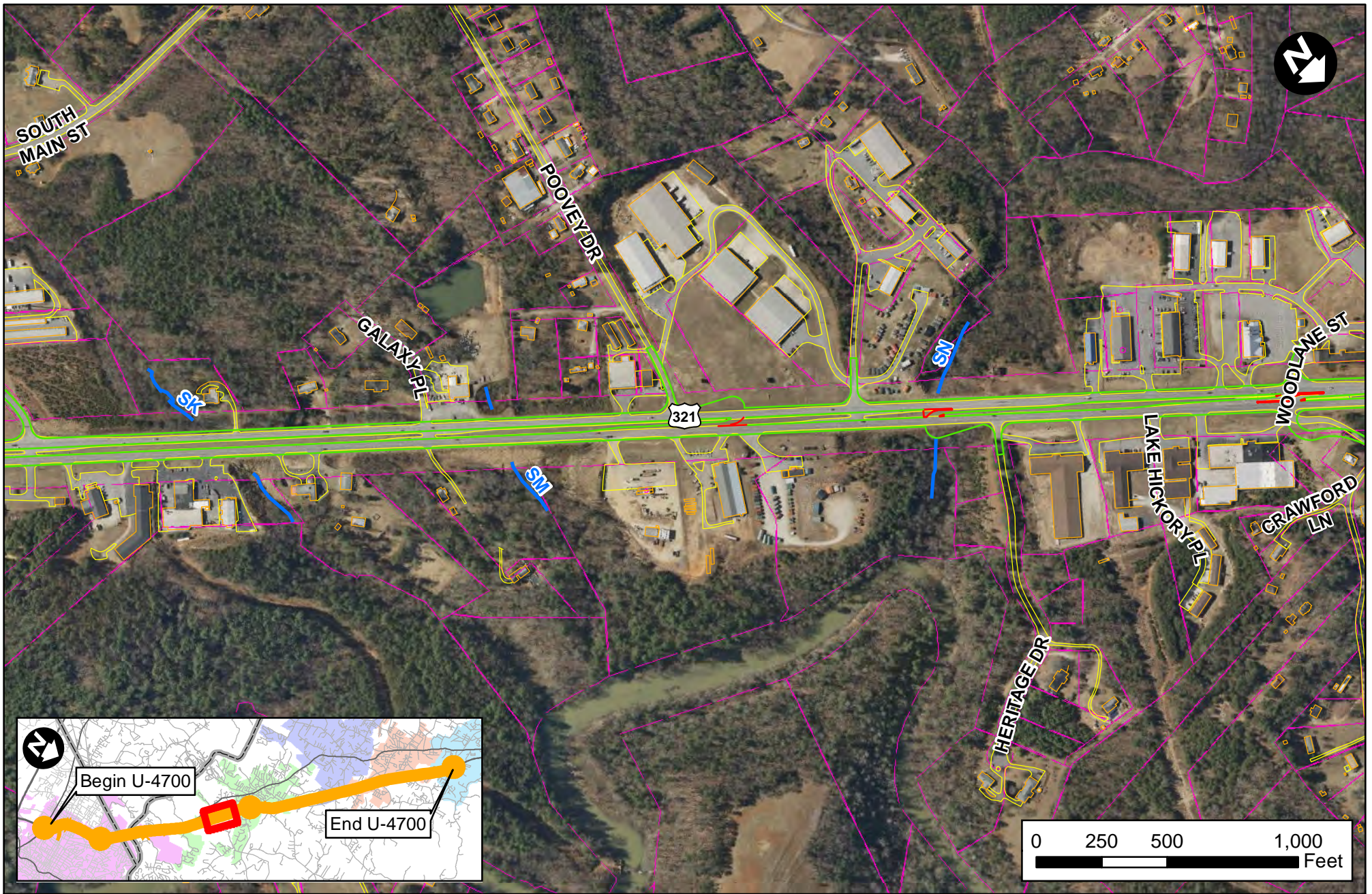
- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1E: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



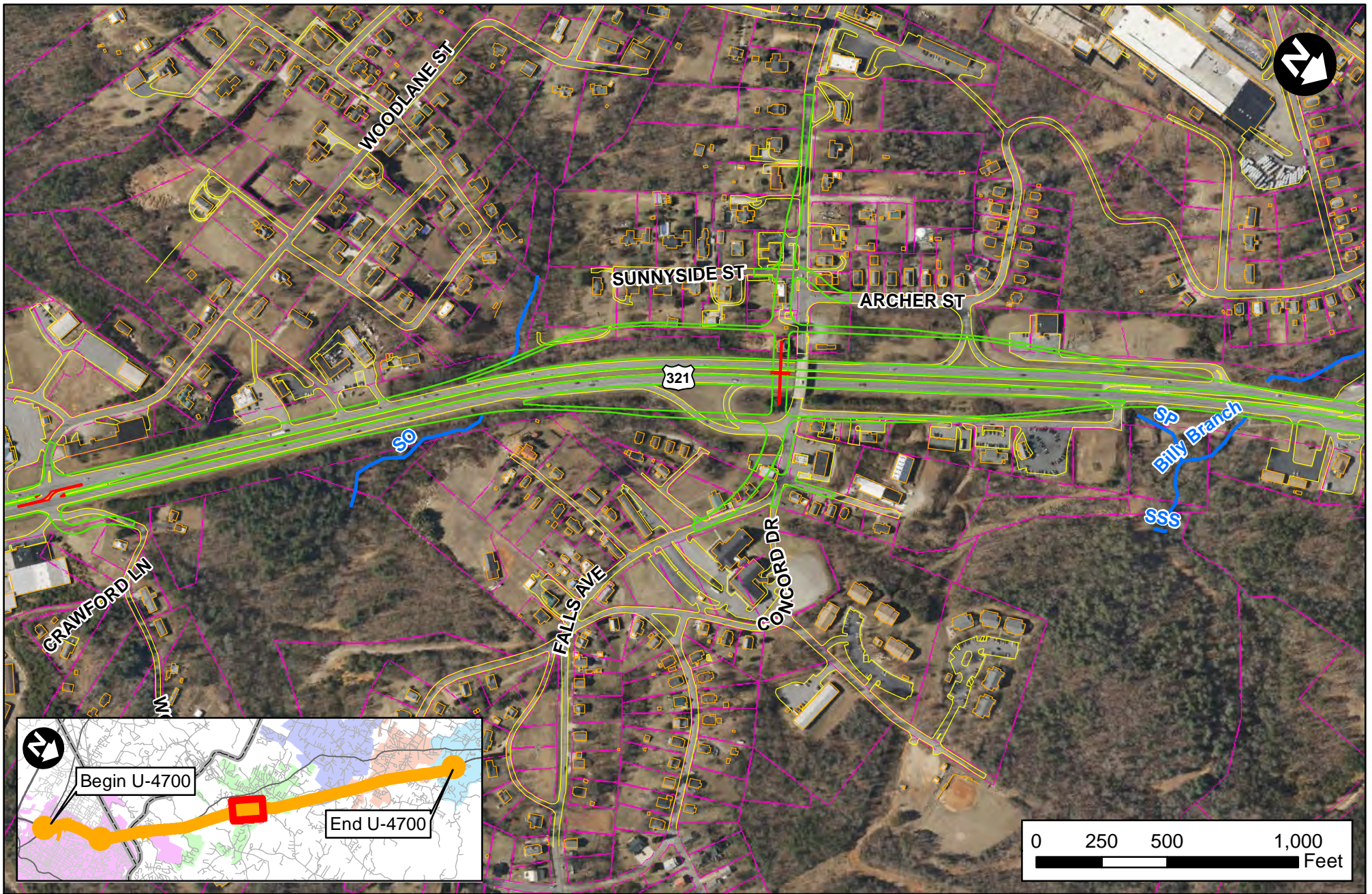
- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1F: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



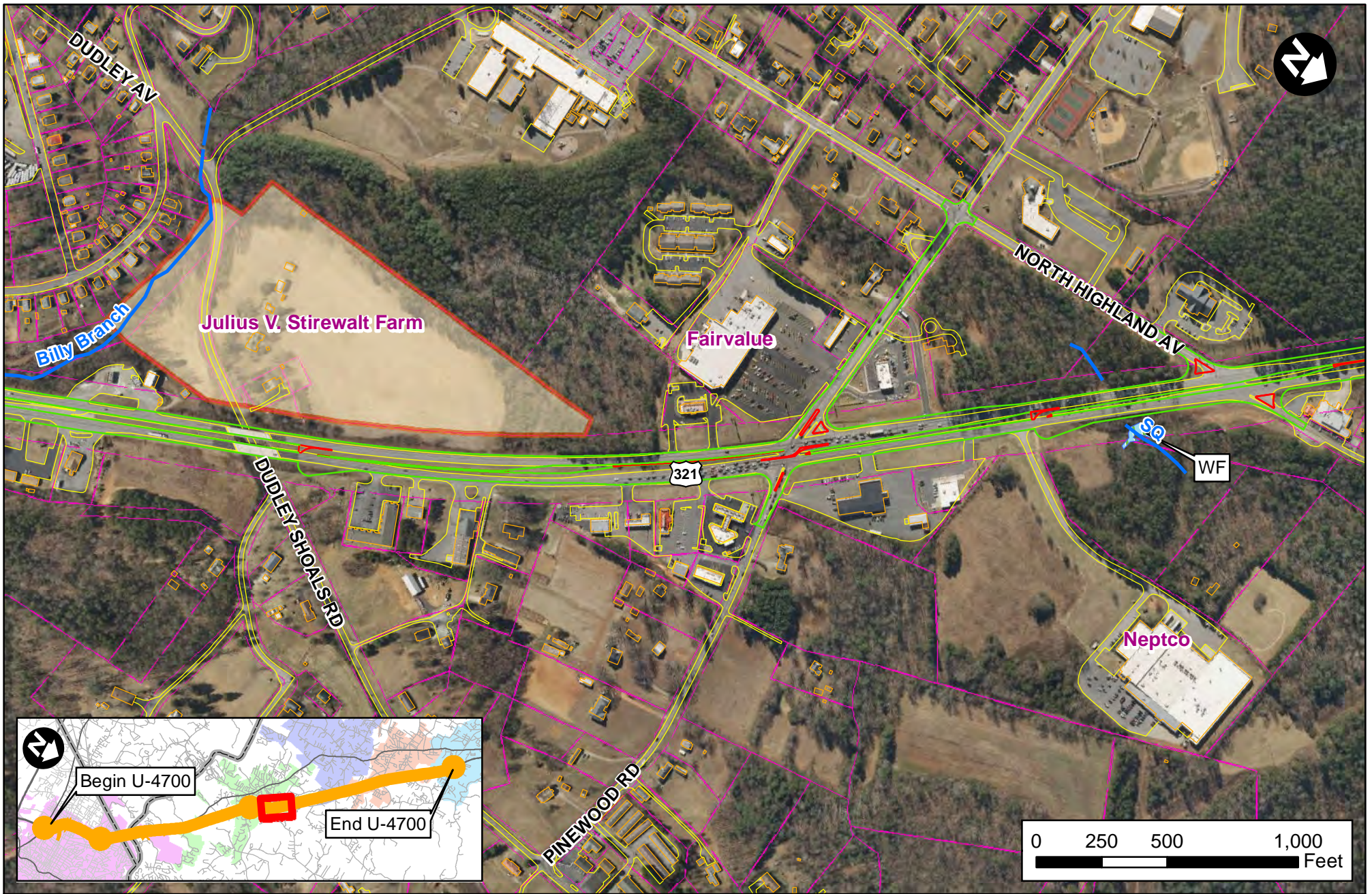
- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1G: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



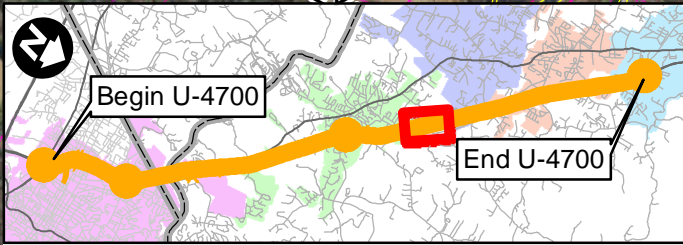
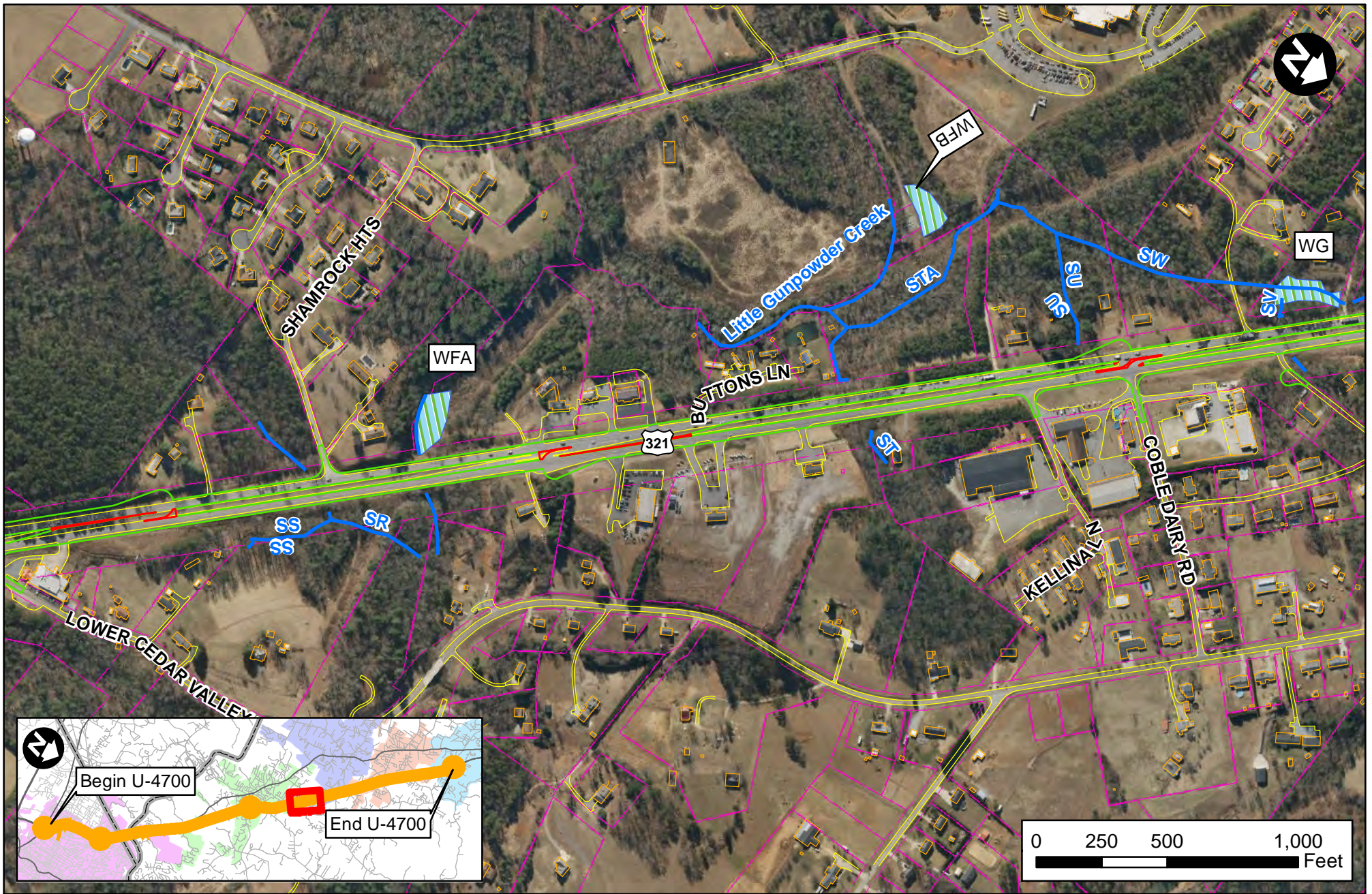
- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1H: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



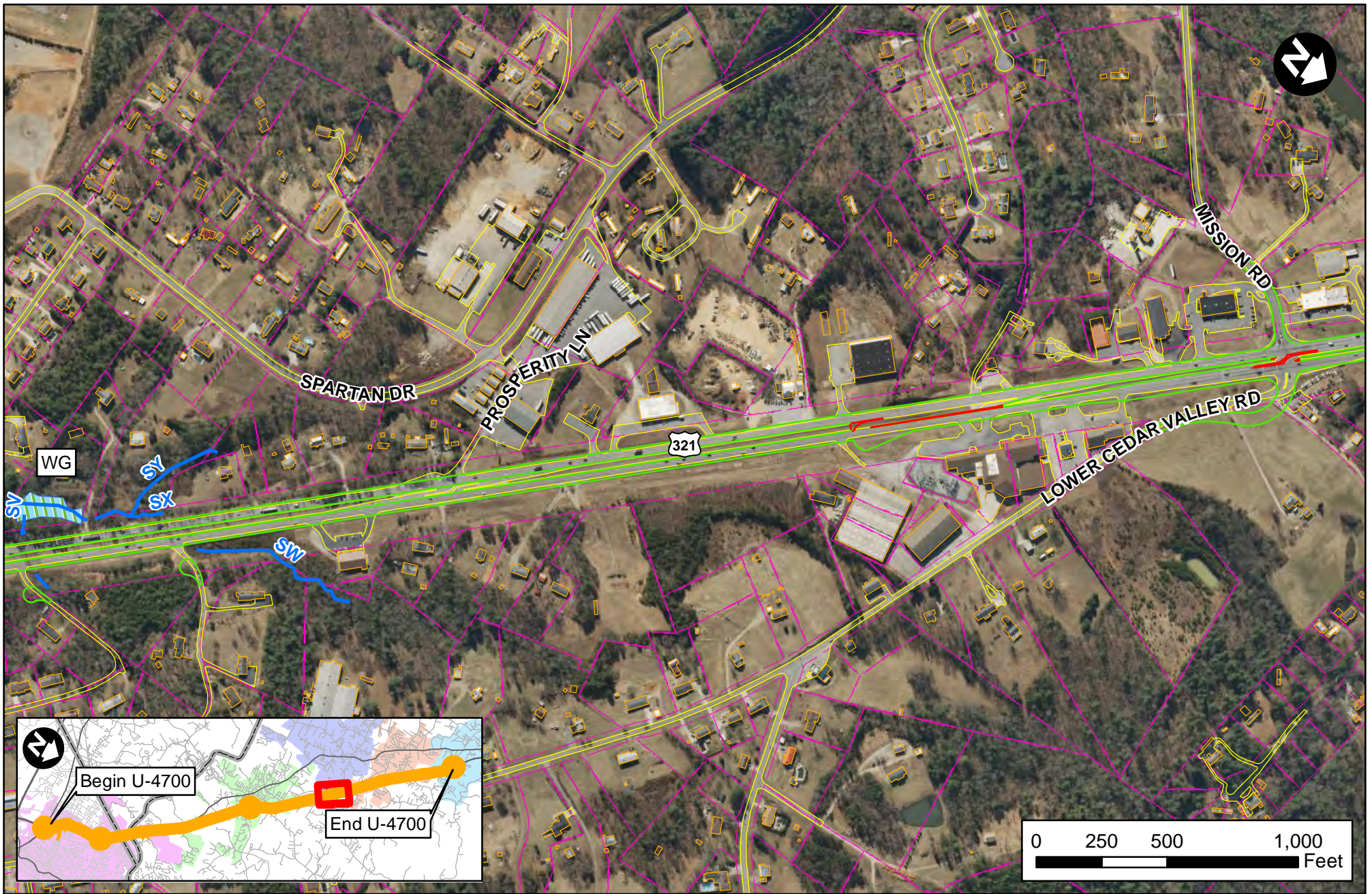
- Delineated Wetlands
- Property Lines
- Determined Eligible
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure II: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



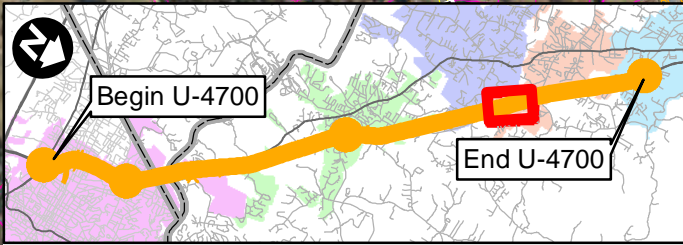
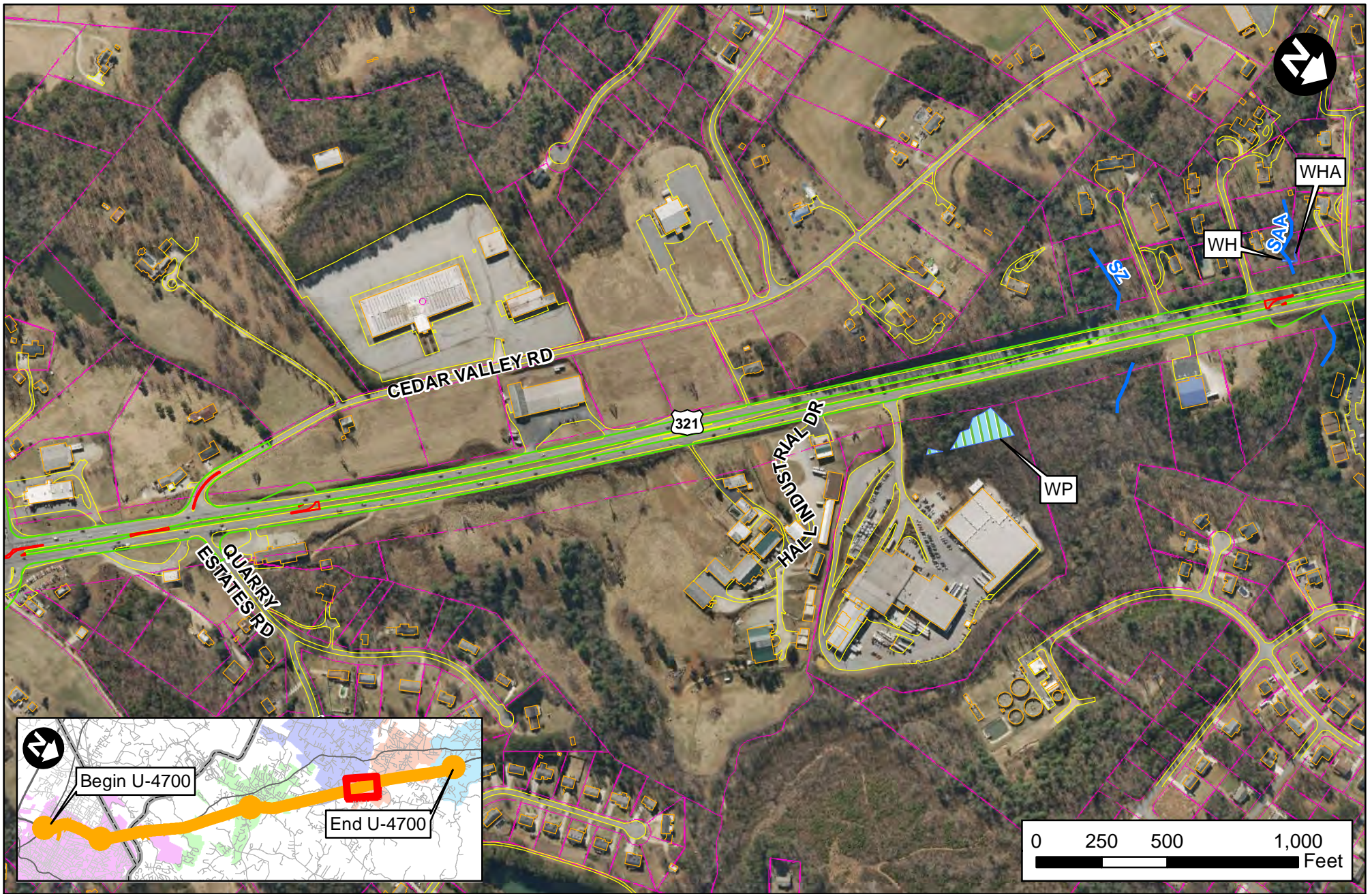
- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1J: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



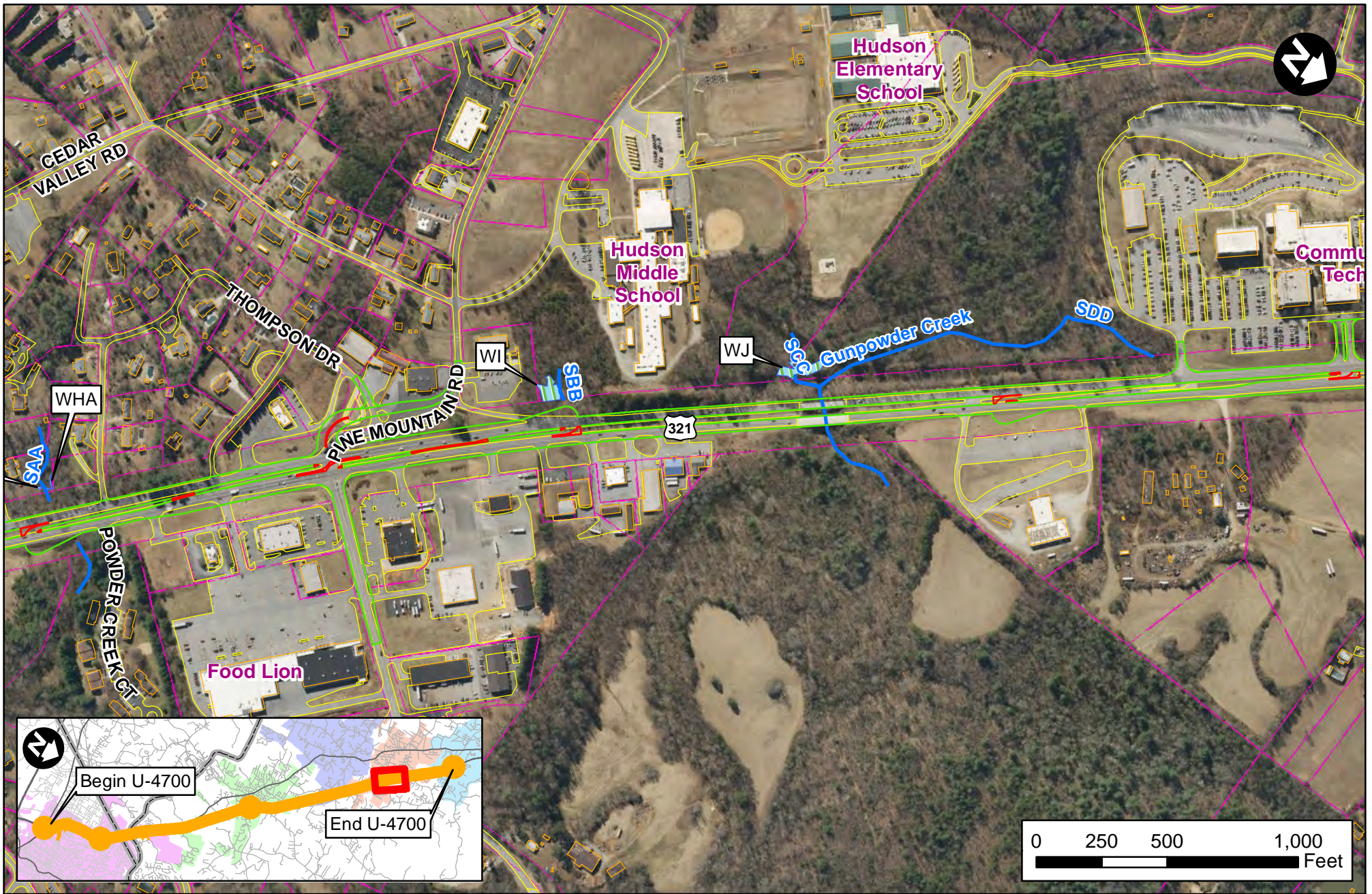
- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1K: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



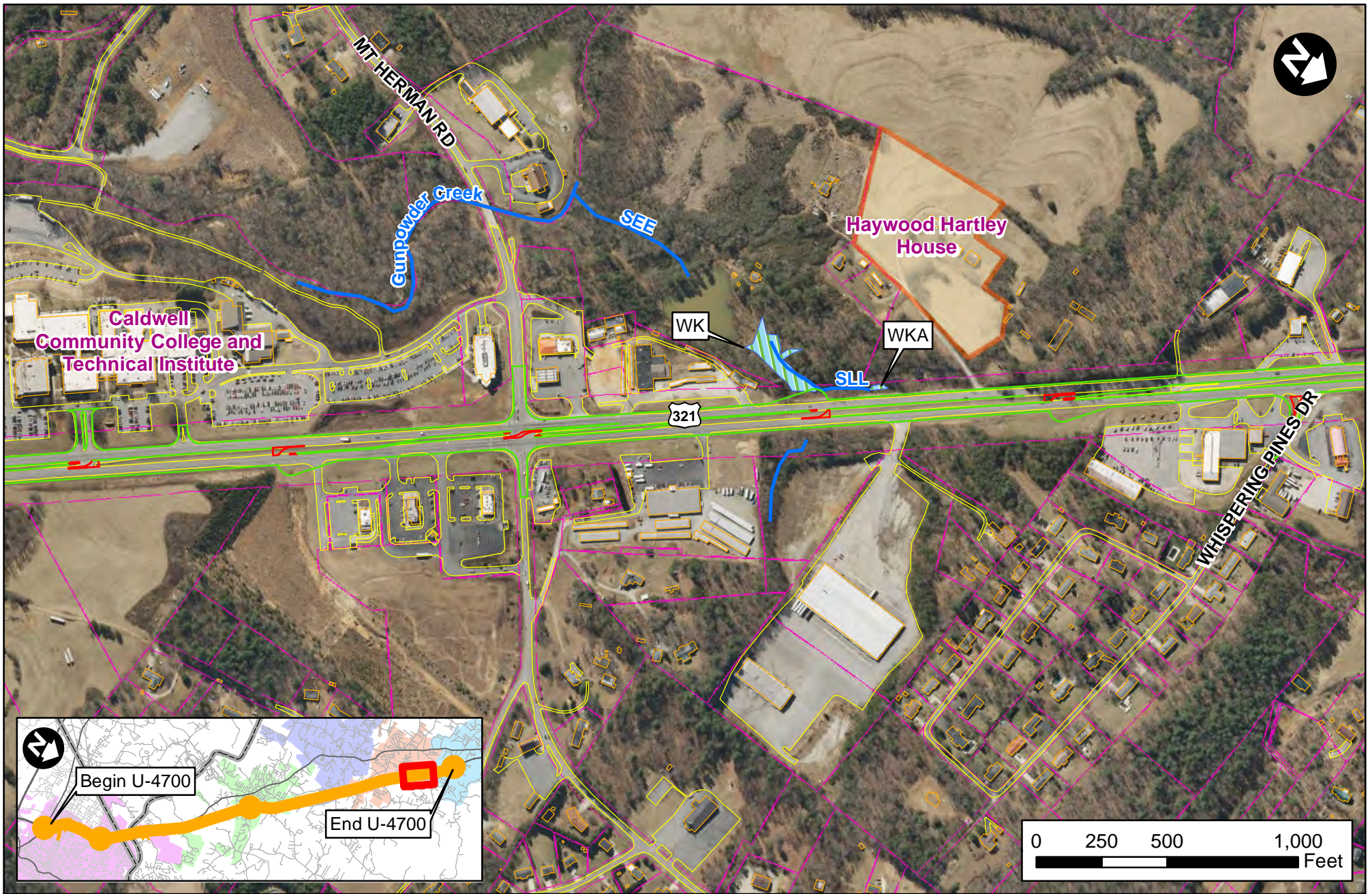
- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad











U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1L: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



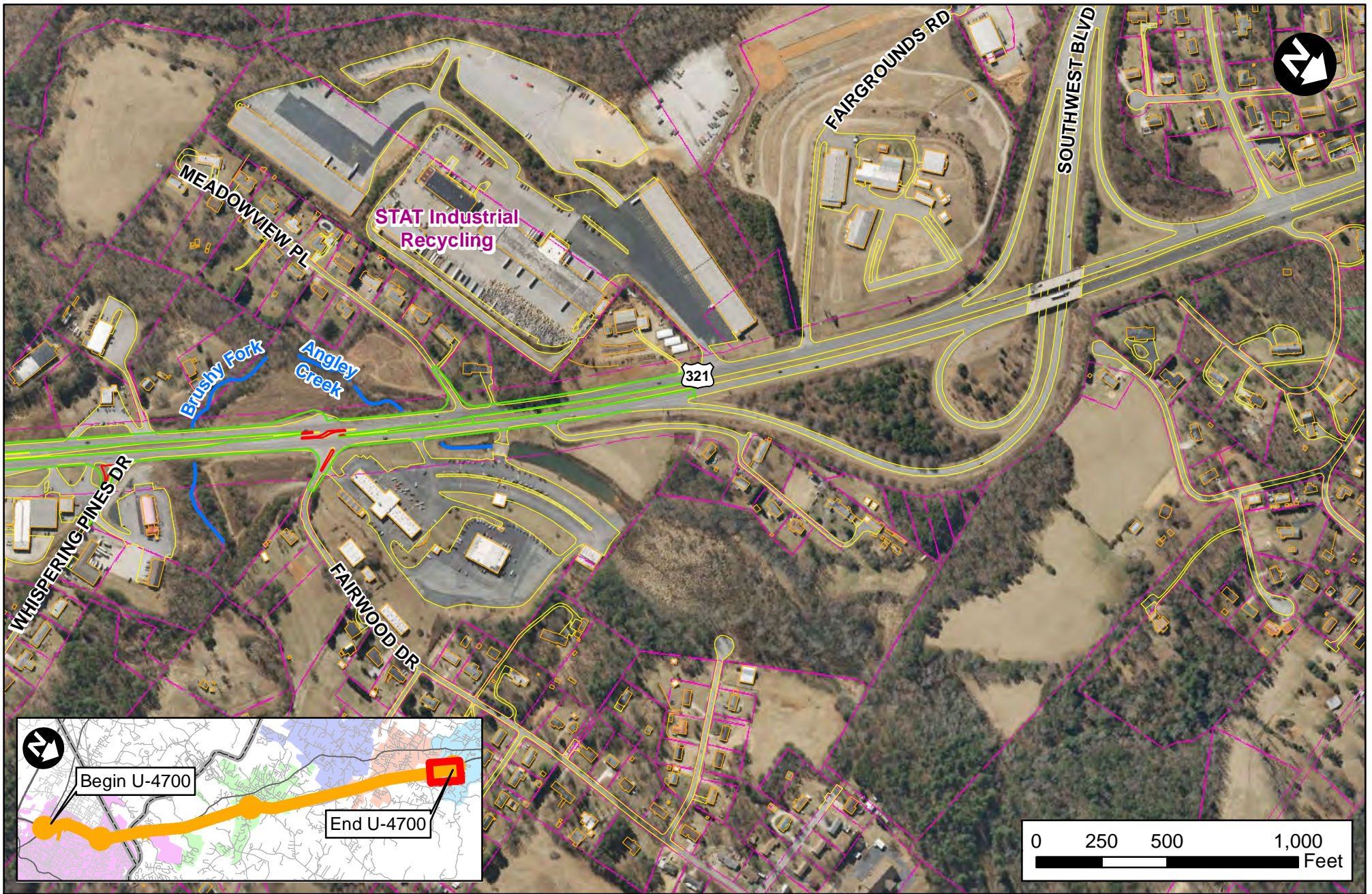
- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1M: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



- | | |
|---|---|
|  Delineated Wetlands |  Proposed Concrete Structure |
|  Property Lines |  Proposed EOT |
|  Determined Eligible |  Delineated Streams |
|  Determined Eligible - DOE |  Existing Building |
| |  Existing Paved Surface |
| |  Existing Railroad |

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 1N: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES



- Delineated Wetlands
- Property Lines
- Proposed Concrete Structure
- Proposed EOT
- Delineated Streams
- Existing Building
- Existing Paved Surface
- Existing Railroad

U-4700 - U.S. 321 Widening
FINDING OF NO SIGNIFICANT IMPACT
Figure 10: Selected Alternative Design
CATAWBA, BURKE, AND CALDWELL COUNTIES

Appendix A – Public Hearing and Public Meetings Summaries



PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

MEMOTO: Post Combined Public Hearing Meeting Attendees

FROM: Kevin Moore, P.E.
Roadway Design Project Engineer

DATE: November 15, 2016

SUBJECT: Project 35993.1.1 (U-4700) Caldwell, Catawba, and Burke Counties
F. A. Project NHF-321(18)
Proposed US 321 Widening from US 70 in Hickory to Southwest Boulevard in Lenoir

Post Combined Public Hearing Meeting Summary

Post Combined Public Hearing meetings were held on September 12, 2016 and October 12, 2016 in NCDOT’s Century Center conference rooms. The purpose of the meetings was to review verbal and written comments received during the comment period after the U-4700 Combined Public Hearing.

Two Combined Public Hearings were held for Project U-4700. The first hearing was on Monday, July 11, 2016 at the Winkler Activity Center in Hickory and the second hearing was on Tuesday, July 12, 2016 at The Broyhill Center Room. Pre-Hearing Open Houses were from 4:00 p.m. to 6:30 p.m. and the Combined Public Hearing began at 7:00 p.m.

The following people met to discuss the comments:

Name	Agency/Unit	9/12/16	10/12/16
Kevin Moore	NCDOT – Roadway	✓	✓
Brenda Moore	NCDOT – Roadway	✓	✓
Glenn Mumford	NCDOT – Roadway	✓	✓
Beverly Robinson	NCDOT – Project Development	✓	✓
Eugene Tarascio	NCDOT – Project Development		✓
Teresa Bruton	NCDOT – Design-Build	✓	
K. Zak Hamidi	NCDOT – Design-Build	✓	
Jim Dunlop	NCDOT – Congestion Management	✓	✓
Elise Groundwater	NCDOT – Congestion Management	✓	✓ *
Diane Wilson	NCDOT – HES Public Involvement	✓	✓
Daniel C. Sellers	NCDOT – TPB	✓	
Katina Lucas	NCDOT – Program Development/TIP	✓	✓
Pat Tuttle	NCDOT – Location and Surveys	✓	✓
James Jeffreys	NCDOT – Location and Surveys	✓ *	
Michael Pettyjohn	NCDOT – Division 11		✓ *

(continued on the next page)



Name	Agency/Unit	9/12/16	10/12/16
Dean Ledbetter	NCDOT – Division 11	✓ *	✓
Mark Stafford	NCDOT – Division 12	✓ *	
Larry Carpenter	NCDOT – Division 12	✓ *	✓ *
Michael Poe	NCDOT – Division 12	✓ *	✓
John Marshall	Western Piedmont COG	✓ *	✓ *
Anthony Starr	Western Piedmont COG	✓ *	
Cody Moneymaker	Western Piedmont COG		✓ *
Andrea Surrat	City of Hickory	✓ *	✓
Brandon McInnis	RK&K – Roadway Design	✓	✓
Brian Peeler	RK&K – Traffic	✓	
Jeff Weisner	AECOM – Traffic	✓ *	
Teresa Gresham	Kimley-Horn – Project Development	✓	✓
Aaron Heustess	Kimley-Horn – Project Development	✓	

* *Joined by phone*

Executive Summary

Project Description:

NCDOT and FHWA propose to widen US 321 to a six lane median divided facility from just north of the US 70 interchange in Hickory (Catawba County) to the Southwest Boulevard (SR 1933) interchange in Lenoir (Caldwell County). The proposed improvements involve approximately 13.5 miles of existing US 321 with a majority of the roadway located in Catawba and Caldwell Counties and 0.3 miles in Burke County. The purpose of the project is to reduce congestion on US 321 in order to achieve level of service D or better in the design year (2040).

More information is at the project website, <https://www.ncdot.gov/projects/us321widening/>.

Public Hearing Summary:

During the Pre-Hearing Open Houses and Public Hearings, a total of 154 people signed in on July 11, 2016 and 117 people signed in on July 12, 2016. Written comments were received from a total of 54 citizens at the hearings and in the comment period ending August 31, 2016. All verbal comments from the public hearing and written comments returned during the comment period are summarized below.

No preferences were given during the question and answer period of the Public Hearing. In written comments, some citizens indicated a preference for or opposition to a particular alternative for the Falls Avenue and Grace Chapel Road intersections. The following tables summarize the results:

Falls Avenue Intersection		
Alternative	Preferred (“For”)	Opposed (“Against”)
#1 Superstreet	-	4
#2 Partial Clover Interchange	1	1
#3 Tight Diamond Interchange	6	-

Grace Chapel Road Intersection		
Alternative	Preferred ("For")	Opposed ("Against")
#1 Superstreet*	2	-
#2 Flyover	1	-
#3 Trumpet Interchange	2	-
*Citizens that preferred Alternative #1 also wanted a traffic signal at the intersection.		

The post hearing meeting was opened with introductions and a brief summary of the alternatives presented at the public hearing. Attendees discussed the verbal and written comments received (summarized below), and then identified NCDOT’s recommended alternative.

**A. COMMENTS BY PUBLIC HEARING SPEAKERS AND
NCDOT RESPONSES**

An asterisk (*) by “Response” indicates a direct response to the comment is required.

Comment

1. Phil Shell (6724 Lakeview Terrace, Hickory, NC 28601)

Transcript: July 11 Line 464, July 11 Line 816, July 12 Line 387, and July 12 Line 486

Comment: Mr. Shell had multiple questions.

(1) He wants to know if the bridge is going to be elevated. He is worried that residents in Lakeview Terrace will be looking at the elevated bridge crossing, and is concerned about what the proposed bridge will look like. He also asked if a noise study is being done to account for increased noise due to the elevated bridge and removal of the woods, and requested noise abatement.

Response: The new bridge will be between 25 and 30 feet higher than the existing bridge. There is a 23-foot required clearance from the bottom of the bridge to the top of the railroad tracks, which is adjacent to the river. The look of the bridge is not known at this time. The City of Hickory is considering funding enhancements that will make it more aesthetically appealing.

A noise study has been conducted for the project corridor. The red hatched areas on the hearing maps are the areas that have been highlighted for further study. A final noise analysis will be done for the entire corridor prior to final design. The Lakeview Terrace neighborhood is not an area that was identified as an area that requires further study during the initial traffic noise analysis.

(2) He asked for verification that drivers from the west will have to cross the bridge and do a U-turn to access the Lakeview Terrace neighborhood.

Response: That is correct.

(3) He wants to know if a study has been done to consider elevating the railroad rather than elevating the road, since the trains run infrequently.

Response: An elevated railroad bridge was considered but not studied in detail due to the anticipated physical impacts of a railroad bridge. Several options were studied, including crossing the railroad at-grade, an elevated road bridge, and one bridge versus two bridges.

(4) He thinks an expressway on US 321 from Lenoir to Hickory with three exits (one each for Hickory, Granite Falls, and Lenoir) is all that is needed. He is concerned that billions of dollars are going to be spent on the road and the level of service (LOS) for the road is only going to be improved from the existing LOS E today to a LOS D after construction, which is still not a “passing grade.”

Response: The road is being designed to operate at an LOS D in 2040. LOS D is the level of service threshold commonly considered to be acceptable by NCDOT and FHWA. Today, the majority of US 321 and the intersections along the corridor operate at a LOS E. Without improvements, 12 of 13 segments along the mainline and 16 of 18 intersections are projected to operate at a LOS F by the year 2035. With improvements, the corridor and intersections are projected to operate at a LOS B or C immediately, and a LOS D by the design year of 2040.

2. Patty Thompson (6664 Lakeshore Drive, Hickory, NC 28601)

Transcript: July 11 Line 616 and July 11 Line 799

Comment: Ms. Thompson had multiple questions:

(1) She wants to know how the bridge will impact land and access for the Marina. She also wants to know if a piece of the existing bridge will remain for use as a pedestrian walkway.

Response: The new bridge will be further away from the marina. The existing northbound bridge may be retained for pedestrian use, which is part of the City of Hickory’s Riverwalk plan. Any work done to upgrade would be a City of Hickory cost, and the City would own and be responsible for future maintenance.

(2) She wants to know if the speed limit will change. She is concerned about drivers that currently exceed the speed limit and suggested additional police enforcement.

Response: The speed limit will not change north of the Catawba River bridge. The speed limit may be increased from 45 mph to 55 mph for a segment south of the bridge. Enforcement is the responsibility of the local jurisdiction.

3. Barbara Laufer (5231 Peninsula Drive, Granite Falls, NC 28630)

Transcript: July 11 Line 658

Comment: Ms. Laufer asked about the criteria that was used to identify noise study areas, what abatement measures may be considered, and if the cost of such abatement is included in the budget.

Response: The NCDOT Traffic Noise Abatement Policy (July 13, 2011) describes the

implementation of the requirements of the FHWA Noise Standard at 23 CFR 772 as they relate to federal and state funded highway construction in North Carolina. Traffic noise abatement for NCDOT highway projects is warranted and must be considered when traffic noise impacts are created by either of the following two conditions: 1) the predicted traffic noise levels for the Design Year (in this case, 2040) approach (reach one decibel less than) or exceed the Noise Abatement Criteria (NAC) contained in 23 CFR 772 or 2) the predicted traffic noise levels for the Design Year substantially exceed existing noise levels as defined in Table 2 of the NCDOT noise policy (shown below). The following noise abatement measures may be considered for incorporation into a project to reduce traffic noise impacts: construction of noise barriers, traffic management measures, alteration of horizontal and vertical alignments, establishment of buffer zones, and noise insulation of Activity Category D land use facilities listed in Table 1 of the NCDOT noise policy. The cost of noise abatement measures is included in the project budget.

Table 2	
Substantial Noise Level Increase	
Hourly Equivalent A-Weighted Sound Level (decibels (dB(A)))	
Existing Noise Level ¹ (Leq(h))	Predicted Design Year Noise Level Increase ² (Leq(h))
50 or less	15 or more
51	14 or more
52	13 or more
53	12 or more
54	11 or more
55 or more	10 or more

¹ Loudest hourly equivalent noise level from the combination of natural and mechanical sources and human activity usually present in a particular area.

² Predicted hourly equivalent Design Year traffic noise level minus existing noise level.

4. Jim Thompson (6664 Lakeshore Drive, Hickory, NC 28601)

Transcript: July 11 Line 714 and July 11 Line 904

Comment: Mr. Thompson had multiple questions.

(1) He wants to know if all traffic signals will be removed. He feels signals would be more appropriate in locations with a high percentage of left-turning traffic.

Response: Some traffic signals are anticipated along the project corridor at both left-over and U-turn locations. The installation of signals, where warranted, will be determined based on an updated traffic study completed prior to construction.

(2) He asked for the basis for the increase in traffic is for the projected year 2035. He also wants to know what the percentage of increase in traffic is projected to be for year 2035.

Response: The traffic forecast is based on current traffic volumes, historic traffic growth rates, and anticipated residential and employment growth based on input from local jurisdictions. The projected percentage of increase in traffic between 2011 and 2040 ranges along the corridor; it is anticipated to be approximately 26% on the north end of the project near Southwest Boulevard, and 45% on the south end of the project near US 70.

5. Mark Stitt (address was not provided; owns business on US 321)

Transcript: July 11 Line 748

Comment: Mr. Stitt wants to know how tractor trailers that access businesses along US 321 will operate with the U-turns and if the new traffic pattern will be an inconvenience.

Response: The new route will require tractor trailers to make a U-turn at many locations, but all of the intersections, U-turn bulbs, left-overs, etc. have all been designed to provide enough pavement width to accommodate tractor trailers. Some movements are rerouted for safety and efficiency.

6. Vicki Holder (4866 Sage Meadow Circle, Hickory, NC 28601)

Transcript: July 11 Line 773

Comment: Ms. Holder's house is located close to US 321 and she said it is already very noisy with four lanes of traffic. She wants to know what has happened to property values in small neighborhoods in NC that have had an increase in noise level without noise abatement that have been located near similar projects.

Response: Many factors affect property value, both positively and negatively.

7. Jerry Richardson (8 Mockingbird Lane, Granite Falls, NC 28630)

Transcript: July 11 Line 855

Comment: Mr. Richardson is concerned about a superstreet design at Falls Avenue, particularly for tractor trailers from MDI. He asked if Falls Avenue will be lowered or if US 321 will be raised for the superstreet alternative.

Response: The Falls Avenue superstreet alternative, which is an at-grade design, would lower Falls Avenue to the grade of US 321.

8. Carol Frye (929 17th Street, Hickory, NC 28601)

Transcript: July 11 Line 877

Comment: Ms. Frye said the proposed plan is going to take her and her husband's home. She wants to know, once a Right-of-Way agent comes to them with a proposal, how long they will have to relocate.

Response: A Right-of-Way Agent will contact the property owner to look at the plans, discuss

anticipated effects, and explain the property owner's rights during this process. An appraisal will be prepared after this initial contact. Once the appraisal has been completed, the Right-of-Way Agent will make an initial written offer for the property. At that time, negotiations can begin. Once a settlement has been reached and the owner has received the settlement check, they have 90 days to relocate.

9. John Pierce (6202 Galaxy Place, Granite Falls, NC 28630)

Transcript: July 11 Line 963

Comment: Mr. Pierce wants to know how close NCDOT's project estimates have been to the actual costs for projects in the past.

Response: Estimates become more precise as the project development process occurs. At the time of letting, if project bids are greater than 10% of the engineer's estimate, NCDOT rejects the bids.

10. Sean Evans (5192 Northview Drive, Hickory, NC 28601)

Transcript: July 11 Line 985

Comment: Mr. Evans wants to know if the public has the ability to provide additional comments as the project develops or changes. He also wants to know if the comments of people who are directly impacted by the project have greater value than other citizens' comments. He wants to know how the public can follow up on their comments.

Response: The public has the right to provide comments on the project up until the project is completed. All comments carry the same weight and are treated the same. During the post-hearing meeting, NCDOT will respond to all comments received verbally or in writing from the public hearings and during the following comment period. A copy of the post-hearing meeting minutes can be emailed or mailed to you once completed. To request a copy of the post-hearing meeting minutes, contact Diane Wilson.

11. Frank Wuest (816 US 321, Hickory, NC 28601)

Transcript: July 11 Line 1045

Comment: Frank Wuest had multiple comments/questions.

(1) He feels like the NCDOT is going to make decisions following the public hearing, and wants to know how the public can stay informed on the project as it progresses and changes are potentially made.

Response: For a copy of the comments and responses, contact Diane Wilson. The project website (www.ncdot.gov/projects/us321widening) will be updated as new information becomes available. You can also contact the Project Manager, Gene Tarascio, with any questions that you may have.

(2) He wants to know what the confidence level is that the maps shown at the public hearing are close to what is actually constructed. He also wants to know if any other options will be considered for the interchange on Clement Boulevard.

Response: The maps shown at the public hearing were preliminary maps, approximately 25% complete. The design may be further refined based on new information gathered during the final design process (such as updated traffic counts), and based on comments from the public and discussions with property owners during the right of way acquisition process.

Multiple options were considered for the interchange at Clement Boulevard during preliminary design. If there is new information or input from the public that prompts NCODT to look at a different design, then additional alternative designs will be considered.

12. Shawn Beichler, Merchants Distributors, LLC (MDI) (120 4th Street SW, Hickory, NC 28602)

Transcript: July 12 Line 372

Comment: MDI has approximately 3,200 tractor trailers entering and existing the US 321 and Alex Lee Boulevard intersection weekly from the MDI distribution warehouse. Mr. Beichler said a large majority of the tractor trailer traffic makes a left turn onto US 321, which will no longer be permitted directly with the proposed design. MDI's biggest concerns are the stacking of the tractor trailers trying to make U-turns and the difficulty for tractor trailers to make the turn. MDI would like left turns to be allowed at the Alex Lee Boulevard/US 321 intersection.

Response: The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. The traffic analysis took into account projected truck volumes. Sidestreet left-turns have been redirected for safety and efficiency. Additional coordination with MDI will occur.

13. John Dybus (204 Woodmere Point, Granite Falls, 28630)

Transcript: July 12 Line 433

Comment: Mr. Dybus is concerned about the tractor trailers from MDI and Walmart that will have to make a U-turn. He thinks left turns are necessary where there are large amounts of tractor trailer traffic.

Response: The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. The traffic analysis took into account projected truck volumes.

14. Audience Member (representing Emergency Services)

Transcript: July 12 Line 445

Comment: This audience member said that any improvement on US 321 will be helpful. However, he was concerned about the impact of a superstreet design on emergency services. He asked that at major access roads that do not have a left turn from US 321, that the design accommodate emergency vehicles crossing the median. Bridges are preferred where feasible, such as at Falls Avenue.

Response: In the numerous superstreets constructed in the state, there have not been reported delays in emergency response. The U-turn bulbs and left-overs have been designed to accommodate large emergency vehicles. The median will be designed to accommodate emergency vehicles to cross over if warranted. Some traffic signals are anticipated along the

project corridor at both left-over and U-turn locations. The installation of signals, where warranted, will be determined based on an updated traffic study completed prior to construction.

15. Steven Heffner (No address provided; lives in Lakeview Park neighborhood)

Transcript: July 12 Line 507

Comment: Mr. Heffner is concerned that Caldwell County police, emergency services, and fire department cannot turn left into his development and will have to cross the entire bridge into Hickory to make a U-turn and then come back. He said they are the only development cut off from Caldwell County services. He said not all emergency vehicles can drive over medians, so he thinks there should be a left-over for emergency service vehicles.

Response: In the numerous superstreets constructed in the state, there have not been reported delays in emergency response. The U-turn bulbs and left-overs have been designed to accommodate large emergency vehicles. The median will be designed to accommodate emergency vehicles to cross over if warranted.

16. Audience Member

Transcript: July 12 Line 524

Comment: Has NCDOT studied the overall safety of the superstreet design? Did NCDOT consider using the jughandle design rather than the U-turn design for this project? Is the traffic report available to the public?

Response: Several studies have shown the safety benefits of superstreet design. A jughandle design typically requires more right-of-way, specifically at the intersection, without offering improved traffic operations compared to the superstreet U-turn. As a result, NCDOT did not specifically consider a jughandle design for this corridor. With the U-turn design, drivers have to look only at one direction of traffic. With the jughandle design, drivers have to cross both directions of traffic. Based on the project's traffic analysis, NCDOT anticipates that the proposed design will accommodate traffic volumes and queuing through the design year of 2040. The superstreet design results in less queuing and delay than a traditional intersection corridor. The traffic report is available upon request.

17. Audience Member

Transcript: July 12 Line 583

Comment: Is there a timeframe proposed for Sections B and C?

Response: There is not a timeframe for Sections B and C, except for the US 321/Mount Herman Road intersection, which is scheduled to begin right of way acquisition in fiscal year 2018 and construction in fiscal year 2020.

18. Donnie Potter, Caldwell County Commissioner

Transcript: July 12 Line 588

Comment: Mr. Potter wants NCDOT to look for an option that does not require emergency

response vehicles to drive over the median. Although they are able to do so, it wears out the vehicles, which are paid for by local funds. He asked if there are any other superstreets in North Carolina.

Response: The median will be designed to accommodate emergency vehicles to cross over if warranted. Many of the existing intersections will have left turn lanes from US 321 onto the connecting road. Some other superstreets are located on NC 16 in Lincoln County, NC 55 between Holly Springs and Fuquay-Varina, and US 401 around Rolesville.

19. Renee Winkler (No address provided)

Transcript: July 12 Line 680

Comment: Ms. Winkler is concerned that the level of service (LOS) is only going to be improved one grade to a D. She thinks at least a LOS of C, which is stable flow, should be the goal. She is concerned because most of her neighbor's travel (medical, shopping, etc.) requires turning left toward Hickory. She also noted that traffic signals create platoons that result in gaps in traffic, and without those gaps it will be difficult to merge into the traffic flow.

Response: The road is being designed to operate at an LOS D in 2040. LOS D is the level of service threshold commonly considered to be acceptable by NCDOT and FHWA. Today, the majority of US 321 and the intersections along the corridor operate at a LOS E. Without improvements, 12 of 13 segments along the mainline and 16 of 18 intersections are projected to operate at a LOS F by the year 2035. With improvements, the corridor and intersections are projected to operate at a LOS B or C immediately, and a LOS D by the design year of 2040. Some traffic signals are anticipated along the project corridor at both left-over and U-turn locations. The installation of signals, where warranted, will be determined based on an updated traffic study completed prior to construction.

20. Doug Nichols (No address provided; lives on Grace Chapel Road)

Transcript: July 12 Line 711

Comment: Mr. Nichols is concerned that traffic (including trucks from MDI) currently using Alex Lee Boulevard will not be able to turn left onto US 321. He thinks many drivers will access US 321 via Grace Chapel Road, using New Farm Road (a very small and windy road). He is also concerned about zoning and new development along the widened US 321 corridor, because he feels it will add even more traffic.

Response: The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. Large trucks are restricted from using New Farm Road. The traffic forecast is based on current traffic volumes, historic traffic growth rates, and anticipated residential and employment growth based on input from local jurisdictions.

21. Audience Member

Transcript: July 12 Line 730

Comment: The audience member asked about common levels of service on other area roads, and if LOS D was acceptable.

Response: The road is being designed to operate at an LOS D in 2040. LOS D is the level of service threshold commonly considered to be acceptable by NCDOT and FHWA. Levels of service vary on other area roads.

22. Mary Morrow (No address was provided)

Transcript: July 12 Line 748

Comment: Ms. Morrow noted that at the existing U-turn near Fairwood Drive you cannot see the “Do Not Enter” sign when driving in a small car.

Response: NCDOT will look into the placement of this sign.

23. Audience Member

Transcript: July 12 Line 763

Comment: The audience member asked several questions about the design, which the moderator answered during the hearing. These include: (1) What is the current median width along US 321? (2) What does Section CA mean? (3) What is the role of the right-of-way agent?

Response: The current median is typically about 30 feet wide. Section CA refers to the intersection of US 321 and Mount Herman Road, which is a subset of Section C. The role of the right-of-way agent is to provide information to property owners regarding NCDOT’s right of way acquisition process, and to negotiate with the property owner during the right of way acquisition process.

24. Kenny Whiteside (No address was provided)

Transcript: July 12 Line 867

Comment: Mr. Whiteside is concerned that without traffic signals, there will not be gaps in the traffic for drivers to use, and that safety will not be improved. He suggested a design that includes more interchanges/overpasses.

Response: Interchanges/overpasses are more impactful than U-turn bulbs, and are not warranted in most locations. Based on the project’s traffic analysis, NCDOT anticipates that the proposed design will accommodate traffic volumes and queuing through the design year of 2040. Some traffic signals are anticipated along the project corridor at both left-over and U-turn locations. The installation of signals, where warranted, will be determined based on an updated traffic study completed prior to construction.

25. Audience Member

Transcript: July 12 Line 905

Comment: What is the duration for construction? Why are only parts of the project funded?

Response: Generally, for a project of this length, construction is anticipated to take two to three years (for Section A). Until final plans are finished and a contractor is selected, NCDOT will not have a detailed estimate. The intent is for US 321 to remain open to traffic during construction. Projects are funded based on prioritization through the NCDOT Strategic Prioritization Process,

sometimes referred as the SPOT (Strategic Planning Office of Transportation) process. Some sections ranked higher because of specific needs, or because of the cost/benefit ratio.

**B. WRITTEN CITIZEN COMMENTS AND
NCDOT RESPONSES**

An asterisk (*) by “Response” indicates a direct response to the comment is required.

**B.1. Comments That Require
Additional Information**

The following citizens provided written comments that required additional information. Responses are provided for each comment or question.

Comment

26. Eugene and Betty Chase (5358 Beacon Ridge Drive, Granite Falls, NC 28630)

Comment: Mr. and Ms. Chase had multiple comments/questions.

(1) They feel there has been very little communication from NCDOT to most of the residents of Caldwell County who would be affected by the project. They did not learn about the project from NCDOT. They want to know why were the meetings were scheduled for the summer when so many people are vacation and with very little warning.

Response: NCDOT mailed a newsletter to over 2,800 residents along the project corridor about the project and the public hearing approximately two weeks before the hearing was held. For residents who do not own property along the corridor, information on the public hearing was also published in the local newspapers beginning on June 19, 2016 and advertised via radio beginning on July 6, 2016. Anyone who was in attendance to the public meeting will be included on future mailings. The project website (www.ncdot.gov/projects/us321widening) will be updated with information on the project as it becomes available, including location and date of future meetings. The public hearing took place this summer based on the overall project planning schedule.

(2) They feel this project has not been thought out or tested significantly for traffic patterns in Granite Falls. They would like to know if a traffic survey has been done on Falls Avenue. They feel a bridge at Falls Avenue is needed because they believe not having a bridge would severely limit the Granite Falls Fire Co. and Rescue Squads, cause backups on US 321 at the Pinewood traffic signal to as far as the Walmart shopping center during rush hour, and cause backups on Pinewood Road past the Granite Falls Recreation Center. They want to make sure an in-depth study of all the variables is done before this project is done.

Response: Based on the project’s traffic analysis, NCDOT anticipates that the proposed design will accommodate traffic volumes and queuing through the design year of 2040. The superstreet design results in less queuing and delay than a traditional intersection corridor. In the numerous superstreets constructed in the state, there have not been reported delays in

emergency response. The U-turn bulbs and left-overs have been designed to accommodate large emergency vehicles. The median will be designed to accommodate emergency vehicles to cross over if warranted.

27. John J. Dybus (204 Woodmere Point, Granite Falls, 28630)

Comment: Mr. Dybus is concerned with the superstreet concept, especially the current intersection allowing access to MDI, the sock outlet, and the New Farm Road intersection, where there is a large Walmart Shopping Center. He would like to review the traffic study that defines and supports the benefits proposed by the superstreet.

***Response:** Several studies have shown the safety benefits of superstreet design. A copy of the traffic study will be provided.

28. Bethany Lingle (4870 Pooveys Grove Church Road, Granite Falls, NC)

Comment: Ms. Lingle had multiple comments/questions.

(1) Ms. Lingle is concerned about the large volume of trucks coming out of MDI that will have to make a right turn and U-turn to travel south on US 321. She would like to know how many vehicles the left-over (U-turn) lanes can accommodate and if that number can include a semi-truck.

Response: The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. The traffic analysis took into account projected truck volumes. Vehicles queue in the turn lanes in the median, not in the U-turn bulb. Each location is a different length and can accommodate a different number of vehicles, depending on the anticipated volume at each location.

(3) She would like the Poovey's Grove Church Road cul-de-sac proposal to be changed to a right turn only.

Response: This road is near other intersections onto US 321, and will be cul-de-sac'd to allow for required spacing between intersections.

29. Shawn Beichler, Merchants Distributors, LLC (MDI) (120 4th Street SW, Hickory, NC 28602)

Comment: Mr. Beichler had multiple comments/questions.

(1) MDI has approximately 3,200 tractor trailers entering and existing the US 321 and Alex Lee Boulevard intersection weekly from the MDI distribution warehouse. A significant majority of the tractor trailer traffic makes a left turn onto US 321, which will no longer be permitted with the proposed design. The proposed design would require these tractor trailers to make a right turn and then a U-turn, which MDI believes is a safety and traffic concern for the public and a time and financial concern for the MDI distribution warehouse. MDI would like the Alex Lee Boulevard/US 321 intersection to allow left turns from Alex Lee Boulevard onto US 321.

Response: The design team believes the superstreet design will safely accommodate the needs of MDI, however we are open to the possibility of other surface street intersection designs should that not be the case in the final design stage. The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. The driveway and the U-turn bulbs are anticipated to be signalized, which will provide turning movements for trucks and other vehicles. The storage lane for the trucks waiting for the u-turn signal will be designs to provide adequate length to store queued trucks. Traffic signals will be programmed to provide responsive operation for trucks leaving the MDI facility during its night-time peak. The Division Office will continue to work with MDI officials to see that their needs are met in the final design.

(2) MDI has two different parcels that look like one has full controlled access and one has partial controlled access. MDI would like to know if these two parcels are completely cut off from direct access to US 321.

Response: Private driveway connections will not be allowed onto US 321 in areas with full controlled access. In partial controlled access areas, private driveways onto US 321 may be allowed, but limited to one connection per parcel. That one connection is defined as one ingress and one egress point.

(3) MDI wants to know, if the purple on the hearing map represents the new 12th Street Drive, what happens to the old ROW that is not between the MDI parcel and the new purple 12th Street Drive?

Response: The purple on the map is existing utility easement. 12th Street Drive will not be relocated as part of this project. The existing access directly onto US 321 across from 7th Avenue will be removed.

30. Vicki Holder (4866 Sage Meadow Creek, Hickory, NC 28601)

Comment: Ms. Holder prefers Alternative #1, a superstreet, with a signal for the Grace Chapel Road intersection. She also had additional comments/questions.

(1) She would like noise abatement to be considered to limit noise generated by the additional two lanes of traffic.

Response: A noise study has been conducted for the project corridor. The red hatched areas on the hearing maps are the areas that have been highlighted for further study. A final noise analysis will be done for the entire corridor prior to final design.

(2) She would like to know how property values are affected when neighborhoods are near higher traffic/noisy highways.

Response: Many factors affect property value, both positively and negatively.

31. Daniel Duncan (95 Archer Street, Granite Falls)

Comment: Mr. Duncan is concerned about the noise and value of his property. There are two houses next to his house that are being taken for construction. He is concerned the dust/debris

will affect the quality of life of his family. He wants to know what options there are for purchasing his house. He thinks the purchase of his house would allow the ending angle for Archer Street to be less harsh.

Response: The project team will revisit the design in this location during final. A preliminary review of this request does not indicate a change will be made. The contractor will follow standard procedures to minimize creating dust and debris during construction.

32. Ben Belton (benbelton@hotmail.com)

Comment: Mr. Belton wants to know if the U-turns movements will have traffic signals. Mr. Belton is concerned about the intersection of US 321 and Mt. Herman Road in Caldwell County. He said traffic is particularly heavy when Hudson Elementary School and classes at Caldwell Early College let out in the afternoons and he believes a signalized intersection would be much safer.

Response: Some traffic signals are anticipated along the project corridor at both left-over and U-turn locations. The installation of signals, where warranted, will be determined based on an updated traffic study completed prior to construction.

33. Carness D. Wilson, Jr. (114 Royal Wood Drive, Lenoir, NC 28645)

Comment: Mr. Wilson is concerned there is not enough room to slow down to make the turn from US 321 to Royal Wood Drive due to traffic getting onto the ramp to Southwest Boulevard. He would like NCDOT to look at this issue.

Response: The project team will consider improvements to this intersection to mitigate this potential issue.

34. Carol Frye (929 17th Street NW, Hickory, NC 28601)

Comment: Ms. Frye said she and her husband are willing to negotiate the impacts to their property.

Response: A Right-of-Way Agent will contact the property owner to look at the plans, discuss anticipated effects, and explain the property owner's rights during this process. An appraisal will be prepared after this initial contact. Once the appraisal has been completed, the Right-of-Way Agent will make an initial written offer for the property. At that time, negotiations can begin.

35. Gary Dean Frye (929 17th Street NW, Hickory, NC 28601)

Comment: Mr. Frye requested to move the Clement Boulevard 50-foot easement from beside Pizza Hut to the rear of his property. He also requested to start grading at the chain link fence to allow his garage to be retained and a 53-foot trailer to back inside the gate and driveway.

Response: The project team will revisit the design in this location during final design. Easements will likely change during final design.

36. David W. Starnes (1021 14th Avenue NW, Hickory, NC 28601)

Comment: Mr. Starnes wants to move the U-turn bulb at Station 245+00 and the C/A fence south 75 feet, so he can access his driveway at Wesley Place in Granite Falls, NC.

Response: The project team will revisit the design in this location during final design. A preliminary review indicates this may be feasible.

37. Don McMullin, Signature Seating, Inc. (1718 9th Avenue NW, Hickory, NC 28601)

Comment: The encroachment on parcel 3271 will adversely affect the operation of Mr. McMullin's business. He would like to be contacted to discuss plans during construction and options to help his business continue operations without obstruction.

Response: The area NCDOT anticipates needing to access during construction is at the tie slope for the proposed interchange in the corner of the business parking lot. Full access to your driveway will remain during construction. Please contact the Project Manager, Gene Tarascio via email at gtarascio@ncdot.gov or phone at 919-707-6046 with any additional concerns you have about construction impacting your business.

38. Guy M. Long III (building on LV4, LLC property in Granite Falls/Hudson area)

Comment: Mr. Long had multiple comments/questions.

(1) If his building is partly in the utility easement area, he wants to know if that means NCDOT will likely buy it.

Response: If a building is partly within the utility easement, there is the possibility that it would be purchased or need a temporary easement. During final design, the design will be refined and temporary impact easements may change. There is no schedule for buying right-of-way or starting construction, however, because there are currently no funds for this section of the project (Section B).

(2) He has another property in the Hickory area under Guy Max Long II and it is in the noise study area. He would like to know what this means.

Response: Being in the noise study area means that this property might be eligible for traffic noise abatement. A noise study has been conducted for the project corridor. The red hatched areas on the hearing maps are the areas that have been highlighted for further study. A final noise analysis will be done for the entire corridor prior to final design.

39. Jack Temple III, Tailored Chemical Products, Inc. (700 12th Street Dr. NW, Hickory, NC 28601)

Comment: Tailored Chemical Products, Inc. has a lot of inbound/outbound trucks that enter/exit off of US 321 via the 7th Avenue NW intersection. Their facility is beside of Performance Food Group that also has a lot (several hundred a day) of truck traffic. They are

concerned where the truck traffic will enter/exit after the new road design/widening occurs. They feel that the existing intersection is not safe.

Response: The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. The traffic analysis took into account projected truck volumes. This area will be reevaluated to determine if an intersection can be retained at the existing location.

40. Mark Seaman, Hickory Crawdads (2500 Clement Blvd NW, Hickory, NC 28601)

Comment: There are more than 70 home games and outside events between April 1 and Labor Day every year. Mr. Seaman would like to know how traffic be effected for fans trying to reach the stadium (LPFRANS) for games.

Response: Two lanes of traffic in each direction will remain open during construction. Specific access to the stadium will be considered in more detail during final design. NCDOT will coordinate with the stadium staff prior to construction.

41. Matt Maulding, Peak Motors (peakmotorsinc@yahoo.com)

Comment: Mr. Maulding would like to know when Peak Motors will get compensated for their property and business, assuming right-of-way is acquired in FY 2018. They also want to know when they will have to completely vacate the property and cease doing any more business.

Response: A Right-of-Way Agent will contact the property owner to look at the plans, discuss anticipated effects, and explain the property owner's rights during this process. An appraisal will be prepared after this initial contact. Once the appraisal has been completed, the Right-of-Way Agent will make an initial written offer for the property. At that time, negotiations can begin. Once a settlement has been reached and the owner has received the settlement check, they have 90 days to relocate.

42. Mike Brady (5052 Lake Valley Place, Hickory, NC 28601)

Comment: Mr. Brady lives in a valley and has a creek on his property that, during bad weather, fills up quite high (see attached photographs). He said that most of the water is runoff from US 321. He is concerned that this project will make the creek even more susceptible to flooding due to more runoff water. His home is directly beside the creek. He has lived there since 1988 and has never seen the creek out of its banks or had any flooding issues with his home, but he feels it would not take much more water to do so. There are three other homes nearby that would also be in question due to more runoff from US 321.

Response: The additional information will be reviewed during the hydraulic design of the project.

43. Mike Brown, AllState Agency (907 US 321 NW, Hickory, NC)

Comment: If Mr. Brown is forced to relocate, AllState's corporate office has to conduct costly demographic and traffic studies and approve a new location before he can move. As a result, he said the unreimbursed cost of moving could potentially force him to close.

Response: This impact will be considered during the right of way acquisition and final design process. A Right-of-Way Agent will contact the property owner to look at the plans, discuss anticipated effects, and explain the property owner's rights during this process. An appraisal will be prepared after this initial contact. Once the appraisal has been completed, the Right-of-Way Agent will make an initial written offer for the property. At that time, negotiations can begin. Once a settlement has been reached and the owner has received the settlement check, they have 90 days to relocate.

44. Sharon Grindstaff, SunLife Sunrooms Spas & More (5035 Hickory Boulevard, Hickory, NC)

Comment: Ms. Grindstaff wants to know how the proposed setback will affect their parking and if they will be able to use their existing parking lot.

Response: The proposed permanent right of way impact area is approximately at the edge of the parking lot, although a small section of temporary easement as currently shown encroaches into the first row of parking. Temporary easements may change during final design. A Right-of-Way Agent will contact the property owner following final designs to look at the plans, discuss anticipated effects, and explain the property owner's rights during this process.

45. Steve and Connie Minton (410 Thompson Drive, Hudson, NC 28638)

Comment: Mr. and Ms. Minton wish traffic signals would be reconsidered. Four major schools are impacted between Mission Road and Mt. Herman Road. They would like to know how many vehicles (cars and buses) the U-turn bulb will hold. They are concerned about tractor trailers from MDI, both Walmarts, and Food Lion along the corridor.

Response: Some traffic signals are anticipated along the project corridor at both left-over and U-turn locations. The installation of signals, where warranted, will be determined based on an updated traffic study completed prior to construction. The U-turn bulbs and left-overs have been designed to accommodate tractor trailers and buses. The traffic analysis took into account projected truck volumes. Vehicles queue in the turn lanes in the median, not in the U-turn bulb. Each location is a different length and can accommodate a different number of vehicles, depending on the anticipated volume at each location.

46. William Hutson (210 13th Street SW)

Comment: Mr. Hutson, who has a business located at this address (the property is currently listed on the plan as Charles Thomas Jr.'s property), had multiple comments/questions.

(1) He would like to know if the rear part of his building (left rear facing) is to be removed. He would like to know if the rear parking area is to be removed. He would like to know if he will have access to the front parking lot.

Response: The rear part of the building is inside the limits of construction and inside of the temporary construction easement. Part of the rear parking is within the limits of construction and will be part of the cut slope needed to widen US 321. The majority of the parking is within the temporary construction easement but the property in the easement will be reverted to the

property owner once the project is complete. The current design, approximately 25% completed, has not yet been refined to consider individual property impacts due to temporary easements and driveway connections. During final design, the project team will look at these details. The access on 13th Street SW will be controlled for the majority of the parking lot which means there will not be access from the parking lot to 13th Street SW in this area. Access from 2nd Avenue SW will remain the same.

(2) He is concerned about the height of the new bridge compared to the existing height of the US 321 bridge over Catawba River. He would like to know if the current road level of US 321 will be raised or lowered.

Response: Based on the preliminary design the new bridge will be 23 feet above the existing US 321 (measured from the US 321 roadway to the riding surface on the bridge). The preliminary design for US 321 includes only resurfacing along this section of US 321. So, US 321 will remain at approximately the same level it is currently.

(3) He would like to know if 13th Street, which is in front of his store, will be divided. He would like to know if the new ramp that carries vehicles to 13th Street will allow for left turns, or just right turns and if there are plans for a signal at the end of the ramp. He would like to know if 14th Street is planned to become a dead end prior to the 2nd Avenue intersection. He would like information on studies that have been done that show that a U-turn is safer than traffic signals or other alternatives. He would like clarification on if there will be a traffic signal at the 2nd Avenue NW intersection or only a left turn when you can across three lanes of traffic.

Response: The preliminary design for 13th Street SW includes a painted island in the median in front of the business. There is not a raised island in the median in this area. 14th Street will become a dead end prior to the 2nd Avenue intersection. Several studies have shown the safety benefits of superstreet design. A new study on signalized superstreets safety benefits is currently underway and is expected to be published by late 2016. Typically, dual left turns or dual right turns are signalized. The need for signals will be determined at a later date during final design.

(4) He would like clarification on how customers will be able to access the businesses along US 321, or if the NCDOT plans on relocating, buying, or closing all the businesses for which access will be cut.

Response: If access is restricted permanently, NCDOT will either provide a new access point into the property or will purchase the property. Access will be retained to businesses during construction.

47. James R. Mitchell (200 1st Avenue NW, Suite 507, Hickory, NC 28601)

Comment: Mr. Mitchell had multiple comments/questions.

(1) He requested a driveway for the business at 66 US 321 NW.

Response: The project team will revisit the design in this location during final design to determine if it is feasible to reestablish a driveway onto US 321.

(2) He stated he will be damaged by the closing of Main Avenue NW. He feels the U-turn north of the railroad underpass is dangerous due to poor sight distance. He also feels truck traffic on 14th Street will increase.

Response: A Right-of-Way Agent will contact the property owner to look at the plans, discuss anticipated effects, and explain the property owner's rights during this process.

48. Juliet Good (juliet@goodinsurancenc.com)

Comment: Ms. Good is a tenant of property on 15 US 321 SW, Hickory, NC 28602, which is owned by William Graham. She rents the space for her business, Juliet Good State Farm. She would like to know if she would be eligible for moving expenses as a tenant. She would also like to know when she would have to move, as she is part of project section A.

Response: Tenants are eligible for moving expenses. More information is at the following link – https://www.ncdot.gov/download/construction/roadbuilt/relocationbooklet_07.pdf or by contacting the NCDOT Division Right of Way office. Right of way acquisition is scheduled to begin in fiscal year 2018, which begins in October 2017. It is unknown when each property will be contacted specifically, but the right of way acquisition process is anticipated to take approximately three years for Section A.

49. Dr. James Robinette (1850 Clement Boulevard NW, Hickory, NC 28601)

Comment: Dr. Robinette does not like the clover leaf design near Clement Boulevard because it impacts the driveways to his business. If he cannot have access to Clement Boulevard NW, then he would like NCDOT to buy his property.

Response: Access to Clement Boulevard NW will be lost with the proposed design. NCDOT will attempt to maintain at least one driveway for each property.

50. Sean M. and Kimberly F. Evans (5192 Northview Drive, Hickory, NC 28601)

Comment: Mr. and Ms. Evans had multiple concerns/questions.

(1) They want to know what the thick black line is that is shown on Parcel 3174 on the Grace Chapel Road Alternative #1, superstreet, map.

Response: The line of concern on the map is a Control of Access line, which means driveway access will not be allowed in that location.

(2) They have safety concerns about the slope adjacent to their driveway and the end of Northview Drive. The neighborhood pump house is located at the end of the road. They propose a retaining wall at the back of the roadway berm instead of tie slopes in this area.

Response: The angled line on this property is the control of access boundary. The slope will be approximately parallel with US 321.

51. Anne Seitz (P.O. Box 335, 20 Montclair Avenue, Granite Falls, NC 28630)

Comment: Ms. Seitz wants to make sure truck traffic out of MDI is taken into account during design. She feels that making trucks cross three lanes of traffic and make a U-turn will not be safer and will back up traffic. She requested first responders be consulted so that their concerns are understood.

Response: The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. The traffic analysis took into account projected truck volumes. In the numerous superstreets constructed in the state, there have not been reported delays in emergency response. The U-turn bulbs and left-overs have been designed to accommodate large emergency vehicles. Emergency response personnel attended a Local Officials' Informational Meeting held the same day as the public hearing, and provided their input on the project at that time.

52. Karen Dybus (204 Woodmere Point, Granite Falls, 28630)

Comment: Ms. Dybus is concerned the right turn to U-turn coming from New Farm Road will back up enormously on US 321, because of the large amounts of traffic, which include large trucks, coming from Walmart. She said there will be more traffic with the construction of UNC Health Care and Crystal IT on New Farm Road.

Response: Based on the project's traffic analysis, NCDOT anticipates that the proposed design will accommodate traffic volumes and queuing through the design year of 2040. The superstreet design results in less queuing and delay than a traditional intersection corridor. The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. The traffic analysis took into account projected truck volumes.

53. Jonathan Greer (126 Deer Ridge Drive, Hudson, NC 28638)

Comment: Mr. Greer requested to add a U-turn bulb near Station 575+00, which is located near an existing U-turn.

Response: The project team will revisit the design in this location during final design. Changes or additions to U-turn bulbs will be considered.

54. Walter Spicer (623 Providence Court, Hudson, NC 28638)

Comment: Mr. Spicer requested to add a U-turn bulb near Station 575+00.

Response: The project team will revisit the design in this location during final design. Changes or additions to U-turn bulbs will be considered.

55. Donald Monts (5184 Corbin Lane, Hickory, NC 28601)

Comment: The proposed design shows Corbin Lane being extended to Lake Hickory Marina, which Mr. Monts believes will increase traffic on the road specifically in the spring/summer months. He feels the existing road is narrow and is not safe. However, if the road is widened, it

will encroach on the Condo units.

Response: The project team will revisit the design in this location during final design. The width was designed to accommodate a vehicle pulling a boat trailer.

56. Julie Hall (juliedhall0113@gmail.com)

(1) Ms. Hall likes that the Highland Avenue/Lower Cedar Valley Road/US 321 intersection is closed with the proposed design, because she thinks it is a very dangerous intersection. She is concerned about the right in/right out design at the Mission Road/Lower Cedar Valley Road/US 321 intersection, because schools buses will be forced to make several U-turns in both the northbound and southbound directions and this area is very close to the high school.

Response: The U-turn bulbs and left-overs have been designed to accommodate tractor trailers and school buses. The traffic analysis took into account projected large vehicle volumes. Some traffic signals are anticipated along the project corridor at both left-over and U-turn locations. The installation of signals, where warranted, will be determined based on an updated traffic study completed prior to construction.

(2) She is also concerned the location of the U-turn used by drivers headed south from Quarry Estates Road is too close to the Quarry Estates Road/US 321 intersection. She feels it will be very difficult for a passenger car and, even more so, school buses to cross three lanes of traffic to get to the U-turn in the distance proposed, especially if there is no stop light at the Mission Road/Lower Cedar Valley Road/US 321 intersection to provide breaks in traffic. She said, if the Quarry Estate Road/US 321 intersection is the only access for the Meadowcreek Development, a very high number of cars needing to travel southbound to the high school, jobs, and/or shopping in Hickory will be at the intersection and required to cross three lanes of traffic and make a U-turn.

Response: Drivers from Quarry Estates Road could choose to use a U-turn bulb further from Quarry Estates Road, especially during peak periods when traffic volumes are higher. Another U-turn bulb may be added east of the bulb at Quarry Estates Road.

57. Greg Wilson, Granite Falls Town Planner

Comment: Mr. Wilson had multiple concerns/questions.

(1) A new business is proposed to be built near Glen Ridge Drive (-Y24-) that wants to have direct access to US 321 southbound. They will be requesting a new left-over at or north of Glen Ridge Drive.

Response: The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. The traffic analysis took into account projected truck volumes. The project team will revisit the design in this location. Based on a preliminary review, it is likely that a left-over from US 321 onto Glen Ridge Drive will be feasible. Vehicles turning left from Glen Ridge Drive onto US 321 will first turn right, then use the nearest U-turn bulb. The property is also accessed from US 321A via Glen Ridge Drive; left turns from US 321 will be allowed onto US 321A.

(2) Mr. Wilson is concerned about the section of US 321 between US 321A/River Bend Drive and Woodlane Street. He said this section currently offers three crossover/U-turn opportunities that many existing businesses currently rely on, including the Lovelady Rescue Squad. The proposed design shows this section being reduced to zero crossover/U-turn opportunities for that same stretch. He is concerned the reduced access will reduce the desirability of the adjacent properties for development or occupancy. He expects an increase in traffic volumes on side streets. Additional crossover/U-turn opportunities are requested to be included in the section of US 321 between US 321A/River Bend Drive and Woodlane Street to provide better access to businesses along the corridor.

He provided the list below of other business in this section of the project corridor that have unique traffic characteristics.

- Captains Galley Seafood Restaurant is one of the most popular eateries in the entire County.
- Falls Medical Park is currently planning an expansion/remodel.
- Krystal Engineering is a new industry getting started that anticipates providing up to 80 new jobs in Granite Falls and will have truck traffic.
- A new industry involving vertical farming/hydroponics is getting started on 80 acres. The industry will produce truck traffic that will primarily carry shipping containers.
- Lovelady Rescue Squad serves southern Caldwell County.
- A-1 Scrapyard is a metal processing and recycling facility that produces truck traffic and serves heavily loaded customer vehicles/trailers.
- Dr. Glander's Veterinary Clinic.
- Lamar Sign Company produces large bucket truck and tractor trailer traffic.
- Frito Lay Distribution Center produces a high volume truck traffic.
- C CON Metals USA produces truck traffic.
- Several furniture showrooms and other businesses.

Response: The current design, approximately 25% completed, has not yet been refined to consider individual property impacts due to temporary easements and driveway connections. During final design, the project team will look at these details. Changes or additions to U-turn bulbs will be considered.

58. J. Douglas Wilkins, Colonial Development Company, LLC (P.O. Box 3025, Hickory, NC 28603)

Comment: Colonial Development Company has substantial capital investment in parcels 3273 (CVS/pharmacy), 3276 (Social Security Administration), and 3275 (Taco Bell) which will be impacted by the proposed design of the US 321 and Clement Boulevard interchange. Information on current leases and history on the site was provided. The properties were developed via a master plan that allowed ready access to the surrounding roadways and cross access. The proposed interchange design eliminates three of four points of access to the property. The one remaining access is a right in/right out onto US 321 and requires drivers to cross a deceleration lane for northbound traffic that is attempting to exist onto Clement Boulevard, which they feel is not safe. While the proposed plan only shows a full taking of parcel 3273, they said the design essentially will result in a full taking of all three parcels. They said proposed plan appears to eliminate access to the adjacent parcel 3276, which is not theirs,

from both US 321 and 9th Avenue NW.

Response: The current design, approximately 25% completed, has not yet been refined to consider individual property impacts due to temporary easements and driveway connections. During final design, the project team will look at these details. For impacted properties, a Right-of-Way Agent will contact the property owner to look at the plans, discuss anticipated effects, and explain the property owner's rights during this process.

59. Lois Williams, The Rosemyr Corp. (903 US 321, Hickory)

Comment: The proposed design shows taking all of The Rosemyr Corp. property, which is a commercial office building. Ms. Williams said tenants are already considering moving because they know they can't be there long term and this information has to be disclosed to any new proposed tenants, which limits the ability to lease space now. She said this project will devastate her property leading up to any taking.

Response: A Right-of-Way Agent will contact the property owner after final designs to look at the plans, discuss anticipated effects, and explain the property owner's rights during this process. Tenants are eligible for moving expenses under the NCDOT Relocation Assistance policy. NCDOT's Advanced Acquisition Process addresses concerns about the schedule of right of way acquisition.

60. Pam Taylor (6733 Lakeview Terrace, Hickory)

Comment: Ms. Taylor asked if this project will affect her property. She is also concerned that if any of the land between her driveway and the cliff is removed, it will be dangerous to live so close to the edge.

Response: This project will not affect her property. There will be some changes to the topography along the cliff between her house and US 321, a combination of cut and fill. The final design will be based on more detailed surveys, which may result in a change to the cut and fill limits.

61. Jeff Carr, Exclusive Honda Power Sports (property listed as "diamondhead" near Glenn Ridge Drive)

Comment: Mr. Carr provided information on a planned development in the Town of Granite Falls. He is concerned about losing full movement access at the US 321/Glen Ridge Drive intersection. He also is concerned about motorcyclists having to use the U-turn bulbs.

Response: The project team will revisit the design in this location. Based on a preliminary review, it is likely that a left-over from US 321 onto Glen Ridge Drive will be feasible. Vehicles turning left from Glen Ridge Drive onto US 321 will first turn right, then use the nearest U-turn bulb. The U-turn bulbs and left-overs have been designed to accommodate tractor trailers. The traffic analysis took into account projected truck volumes. Several studies have shown the safety benefits of superstreet design for all vehicle types.

B.2. Comments Related to Falls Avenue

The following citizens provided written comments but did not request additional information.

The response to these comments is that the selection of the preferred design will take into account effects on natural resources, community facilities such as schools and churches, neighborhoods, businesses, and vehicle access due to construction impacts, long-term direct impacts, changes in traffic and access, and other indirect and cumulative factors. It also will depend on State and Federal agency input, public input, and cost.

The U-turn bulbs and left-overs have been designed to accommodate tractor trailers, buses, and other large vehicles. The traffic analysis took into account projected large vehicle volumes. Some traffic signals are anticipated along the project corridor at both left-over and U-turn locations. The installation of signals, where warranted, will be determined based on an updated traffic study completed prior to construction.

Opposed to Superstreet

62. Becky Harris (185 Greens Road, Granite Falls, NC)

Comment: Mrs. Harris is very excited about the widening of US 321 and believes it is greatly needed. She has concerns about the proposal of the Falls Avenue interchange in Granite Falls. It is her understanding the current "preferred" option for Falls Avenue is to demolish and not replace the Falls Avenue bridge, replacing it with a superstreet intersection.

She is not in favor of this option for the following reasons. There are too many residential houses on the NE side of US 321 that would lose access to the SW side of Granite Falls. The Falls Avenue bridge is needed to access the elementary school, middle school, post office, police, and fire station along with downtown Granite Falls businesses and churches. She, along with other parents, feel it is not safe for their children's school busses to have to cross traffic and make a U-turn to get to the schools.

63. Dino Bidernardi

Comment: Mr. Bidernardi is concerned about emergency response times and access to the eastern side of US 321 from the western side of US 321 with the potential absence of bridges/intersections. He feels that a bridge at Falls Avenue will decrease the impact.

64. John Douglas (johndouglas06@gmail.com)

Comment: Mr. Douglas is concerned about the potential plan to replace the interchange with a superstreet. He feels that increasing U-turn traffic on a highway with growing volume does not increase safety based on his observation of other existing superstreets. He thinks the turn lanes for the U-turns will become full due to the inability to find a break in oncoming traffic, which will cause traffic to back up on the high speed through lanes.

Support Partial Clover Interchange

65. Julie Hall (juliedhall0113@gmail.com)

Comment: Ms. Hall prefers Alternative #2, a partial clover interchange, for the Falls Avenue intersection.

Support Tight Diamond Interchange

66. Eric Koch (5476 Bridgewater Drive, Granite Falls, NC 28630)

Comment: Mr. Koch prefers Alternative #3, a tight diamond interchange, for the Falls Avenue intersection. His second choice is Alternative #2, a partial clover interchange. As a board of directors member of the Anchors Landing community on the east side of Granite Falls, Mr. Koch is concerned about future access to EMS services, the Post Office, and general access to downtown Granite Falls and Hickory. He is not in favor of removing the Falls Avenue bridge nor the superstreet concept.

67. Roberta Brenman (4988 Harbor View Drive W., Granite Falls, NC 28630)

Comment: Ms. Brenman prefers Alternative #3, a tight diamond interchange, for the Falls Avenue intersection because it takes less people's homes. Her second choice is Alternative #2, a partial clover interchange. She is concerned about the residents east of Granite Falls losing direct access to the town with Alternative #1, a superstreet. She feels keeping the bridge at Falls Avenue is important. She feels the Falls Avenue entry south towards Hickory needs more approach area because the hill makes it hard to see traffic coming from the north.

68. Kassa Hart (219 Taylor Circle Granite Falls, NC 28630)

Comment: Alternative #3, a tight diamond interchange, is the preferred for the Falls Avenue intersection.

69. Stephen Fee (5648 Anchor Drive, Granite Falls, NC 28630)

Comment: Mr. Fee prefers Alternative #3, a tight diamond interchange, for the Fall Avenue intersection. He feels it will keep Granite Falls connected as a community and be safer than an at-grade solution.

70. Anne Seitz (P.O. Box 335, 20 Montclair Avenue, Granite Falls, NC 28630)

Comment: Ms. Seitz prefers Alternative #3, a tight diamond interchange, for the Falls Avenue intersection.

71. John Douglas (johndouglas06@gmail.com)

Comment: Mr. Douglas prefers Alternative #3, a tight diamond interchange, for the Falls Avenue intersection, because he feels it will provide a safe entrance to and exit from US 321,

continue to provide access to merchants in Granite Falls for individuals east of US 321, and eliminate the need for a dedicated pedestrian bridge.

Town Recommendation

72. Town of Granite Falls

Comment: At the regular Town Council meeting held on Monday, July 18, 2016, the Town Council unanimously approved a Resolution in support of NCDOT Project U-4700B, Alternative Design #3 - Tight Diamond Interchange, for the intersection of Falls Avenue and US 321.

B.3. Comments Related to Grace Chapel Road

The following citizens provided written comments but did not request additional information. The response to these comments is that the selection of the preferred design will take into account effects on natural resources, community facilities such as schools and churches, neighborhoods, businesses, and vehicle access due to construction impacts, long-term direct impacts, changes in traffic and access, and other indirect and cumulative factors. It also will depend on State and Federal agency input, public input, and costs.

The U-turn bulbs and left-overs have been designed to accommodate tractor trailers, buses, and other large vehicles. The traffic analysis took into account projected large vehicle volumes. Some traffic signals are anticipated along the project corridor at both left-over and U-turn locations. The installation of signals, where warranted, will be determined based on an updated traffic study completed prior to construction.

Support Superstreet

73. Ed Bujold, MD (54 Peaceful Cove Court, Granite Falls, NC 28630)

Comment: Mr. Bujold prefers Alternative #1, a superstreet, with a signal for the Grace Chapel Road intersection, because it preserves properties on and provides access to the service drive, including his medical office building and would be the cheapest option. His second choice is Alternative #2, a partial clover interchange, since it provides access to the service drive. His third choice is Alternative #3, a tight diamond interchange. He stated that the town of Granite Falls is not in favor of the at-grade option at his intersection and one of their big arguments against it is the lack of access to Dudley Shoals and Grace Chapel, where 30% of their calls come from. He said EMS still has access to those areas from Dudley Shoals Road, which is a half block from the EMS station in downtown Granite Falls, so the Town's argument doesn't carry much weight in his opinion. He would like to be kept posted moving forward.

Support Flyover

74. Anne Seitz (P.O. Box 335, 20 Montclair Avenue, Granite Falls, NC 28630)

Comment (2): Ms. Seitz prefers Alternative #2, a flyover, for the Grace Chapel Road intersection.

Support Trumpet Interchange

75. James Holdon (4866 Sage Meadow Circle)

Comment: Mr. Holdon prefers Alternative #3, a trumpet interchange, for the Grace Chapel Road intersection. He also feels a noise barrier wall is needed for the Sage Meadow subdivision.

76. Julie Hall (juliedhall0113@gmail.com)

Comment (2): Ms. Hall prefers Alternative #3, a trumpet interchange, for the Grace Chapel Road intersection.

B.4. Comments Not Requesting Additional Information
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The following citizens provided written comments opposing the project, but did not request additional information. No response is needed.

77. Shelia Walker-Joplin (1718 Cahah Mountain Road, Hudson, NC 28638)

Comment: Ms. Walker-Joplin does not feel a 6-lane road is needed and hopes this widening will be put on hold for many years.

78. Garry Bradshaw (1149 Moller Creek Road, Lenoir, NC, 28645)

Comment: Mr. Bradshaw feels the road is fine the way it is today.

79. Crystal Kirby

Comment: Ms. Kirby is opposed to the project, because she feels it will create more problems than it solves. She said Granite Falls is a small town that isn't growing at a fast rate and does not need widening; however, Conover and Hickory areas are congested and need the widening more.

80. Dan Grogan (James D. and Nancy A. Grogan) (4992 Sage Meadow Circle, Hickory, NC 28601)

Comment: Mr. Grogan has no problem with his property being taken, because he has other land to rebuild on.

81. Paul Solomon

Comment: Public utilities/water and sewer are located from 13th Street SW to Grace Chapel Road. A sewer force main hangs on the bridge at the river crossing.

82. Shawn Yamber, Fair Value Stores, Inc. (31 Pinewood Road, Granite Falls, NC 28630)

Comment: Mr. Yamber is opposed to this project because he believes customers will not be willing to go north past Lower Cedar Valley Road to make a U-turn, which will make their business inconvenient for customers and cause their business to cease to exist. He said the current access is vital to maintaining a viable business. He also stated that customers trying to leave and get back to Pinewood Road Ext. would face an even worse situation. He realizes the value of US 321 and needed improvements, but wants other alternatives to be evaluated.

C. Citizens Requesting Meeting Minutes

The following citizens provided written comments that they would like minutes of the post-hearing meeting mailed to them.

- Bethany Lingle (4870 Pooveys Grove Church Road, Granite Falls, NC)
- Phil Shell (6724 Lakeview Terrace, Hickory, NC 28601)
- Lois Williams, The Rosemyr Corp. (903 US 321, Hickory)

D. Other Discussion

NCDOT (PDEA, Roadway, TPB, and Division) and Greater Hickory MPO staff met with Representative Jay Adams on August 19, 2016. He asked NCDOT to consider two changes to the design:

- At Clement Boulevard, he felt that the 2011 traffic forecast was too high because the area around the stadium has not developed as quickly as expected, and that an interchange is not justified. The original desire from the community was for an interchange at this location, and a superstreet design would not work based on the current traffic forecast.
- At 13th Street, he suggested moving the interchange to the 1st and 2nd Avenue pairs to reduce traffic through Clement and more effectively utilize the existing major thoroughfares.

Attendees discussed the need to update the traffic forecast for this project.

- The original traffic forecast was completed in 2009 for a design year of 2035. The forecast was based on the 2008 regional travel demand model.
- The forecast was updated in 2011, extrapolating to a design year of 2040. The forecast continued to use the 2008 regional travel demand model. Volumes were generally lower because of the recession and associated changes in traffic volumes and development pressures.
- The latest regional travel demand model is from 2011. An update is underway now, and is expected to be finished in Spring 2017.
- A new forecast would be based on a design year of 2040. It could either use the 2011 model, or wait for the new model.

A new schedule has been proposed:

- End of November/Early December – update the traffic forecast for intersections of interest (MDI driveway, Grace Chapel Road, Clement Boulevard, and 13th/1st/2nd Avenue)
- End of December – receive approval of traffic forecast for four intersections
- End of January – update the traffic forecast for the rest of the corridor
- End of January – revise designs for four intersections
- Mid-February – Merger CP 3 meeting
- End of February – draft FONSI
- End of April – FONSI approved
- FY 2018 – project let for Design-Build

Teresa Gresham will contact Brian Wert and Daniel Sellers with the Transportation Planning Branch to discuss options and need for updating the forecast. [This has been completed, and the traffic forecast update is underway.]

E. Selection of a Preferred Alternative

Three alternatives were presented at the public hearing at both Falls Avenue and Grace Chapel Road One. Elsewhere along the corridor, one typical section and roadway alignment was carried forward for detailed study and presented at the public hearing. Attendees discussed the options at both locations.

Falls Avenue

- The superstreet had been studied because it was anticipated to have fewer physical impacts and operate sufficiently. However, the Town supports a tight diamond, and the majority of citizens who expressed a preference also support a tight diamond.
- **NCDOT selects the Tight Diamond Interchange Alternative as their recommended alternative.**
- Attendees discussed potential minor design changes: (1) roundabouts at the ramp termini, (2) narrowing the bridge to 2 lanes with pedestrian facilities, and (3) realigning Archer Street into the ramp intersection. These changes will be considered during the next phase of design, but will not affect selection of the Tight Diamond Interchange Alternative as the recommended alternative.

Grace Chapel Road

- There was not a majority support for any particular alternative.
- The Division would prefer a superstreet design if three turn lanes weren't needed, especially if a more traditional (left in instead of left out) design would work.
- Attendees discussed the current traffic forecast at this location, which assumed growth of traffic volumes from 9,000 vehicles per day (vpd) in 2011 to 21,000 vpd in 2040. The forecast was prepared in 2011 by NCDOT (Paul Schroeder, Transportation Planning Branch). The forecast was based on the 2008 model. The network may have been modified for the 2011 forecast, but still would not have included New Farm Road, which was completed more recently.

- **NCDOT will wait to recommend an alternative until it is determined if the traffic should be updated at this location.**

In addition to these two locations, attendees also discussed potential options at the two locations identified by Representative Jay Adams.

Clement Boulevard

- Representative Adams recommended consideration of an at-grade superstreet intersection rather than an interchange.
- If a new traffic forecast will be prepared, this location will be revisited.
- Ms. Surrat noted that the City of Hickory is doing a road diet on Clement Boulevard east of US 321.
- **Attendees agreed to retain a proposed interchange at Clement Boulevard at this time.**

13th Street

- Representative Adams recommended moving this interchange to use the 1st and 2nd Avenue one-way pair. The City of Hickory and the MPO agree with investigating new options as long as it does not delay the project
- **NCDOT will consider a revised design using the current traffic forecast.**

If anyone has any questions or comments regarding this information, please contact Kevin Moore, PE, Roadway Design Project Engineer at 919-707-6287.

KM/trg

cc:
Attendees



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

MEMOTO: Post-Public Meeting Meeting Attendees

FROM: Kevin Moore, P.E.
Roadway Design Project Engineer

DATE: September 28, 2017

SUBJECT: Project 35993.1.1 (U-4700) Caldwell, Catawba, and Burke Counties
F. A. Project NHF-321(18)
Proposed US 321 Widening from US 70 in Hickory to Southwest Boulevard in Lenoir

**Post-Public Meeting
Meeting Summary**

The post-public meeting meeting was held on September 22, 2017 at NCDOT’s Century Center Roadway Design Conference Room. The purpose of the meeting was to review written comments received during the comment period after the U-4700 Public Meeting held on Thursday, July 27, 2017 at the Western Piedmont Council of Governments in Hickory, NC.

The following people met to discuss the comments:

Name	Agency/Unit
Derrick Weaver	NCDOT – Roadway
Kevin Moore	NCDOT – Roadway
Eugene Tarascio	NCDOT – Project Development
James Dunlop	NCDOT – Congestion Management
Diane Wilson	NCDOT – HES Public Involvement
Michael Pettyjohn*	NCDOT – Division 11
Dean Ledbetter*	NCDOT – Division 11
Mark Stafford*	NCDOT – Division 12
Michael Poe*	NCDOT – Division 12
Colin Frosch	Kimley-Horn – Project Development
Teresa Gresham	Kimley-Horn – Project Development
Brandon McInnis	RK&K – Roadway Design

* *Joined by phone*

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
PROJECT MANAGEMENT UNIT
1582 MAIL SERVICE CENTER
RALEIGH, NC 27610

Telephone: (919) 707-6200
Fax: (919) 250-4036
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH, NC 27610

Executive Summary

Project Description:

NCDOT and FHWA propose to widen US 321 to a six lane median divided facility from just north of the US 70 interchange in Hickory (Catawba County) to the Southwest Boulevard (SR 1933) interchange in Lenoir (Caldwell County). The proposed improvements involve approximately 13.5 miles of existing US 321 with a majority of the roadway located in Catawba and Caldwell Counties and 0.3 miles in Burke County. The purpose of the project is to reduce congestion on US 321 in order to achieve level of service D or better in the design year (2040).

More information is available on the project website:

<https://www.ncdot.gov/projects/us321widening/>

Public Meeting Summary:

During the public meeting, a total of 272 people signed in. Written comments (summarized below) were received from a total of 203 citizens at the meeting and in the comment period ending August 18, 2017.

A. SUMMARY OF DESIGN ALTERNATIVES

Grace Chapel Road

NCDOT recommended alternative – NCDOT recommends the **Flyover with superstreet intersection** (modified October 2017) alternative at Grace Chapel Road. This alternative will provide residents on Grace Chapel Road direct access to US 321 north and southbound, and will minimize impacts to local residents and businesses.

Alternatives considered included:

- Flyover with a Superstreet Intersection (shown at the July 2016 public hearing) – An elevated road would be constructed to allow drivers on Grace Chapel Road to proceed directly to US 321 where they will merge with existing traffic. Right turns into and out of Grace Chapel Road, as well as left turns on to Grace Chapel Road will be controlled with an at-grade signalized intersection.



- Trumpet Interchange (shown at the July 2016 public hearing) – This interchange would provide direct connection between US 321 and Grace Chapel Road. A new road would connect Lake Valley Place and the power station.



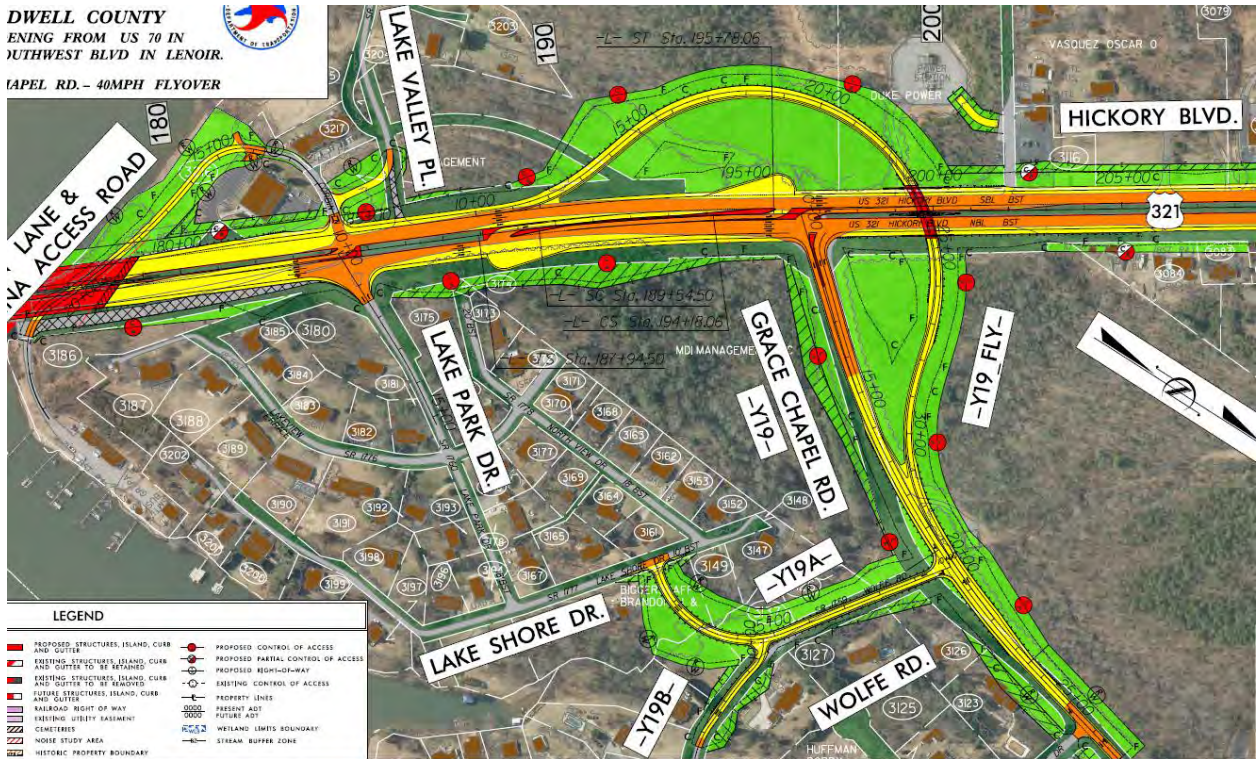
- Reverse Superstreet Intersection (shown at the July 2016 public hearing) – An at-grade intersection would allow left turns from Grace Chapel Road onto southbound US 321, controlled by a traffic signal. Left turns from US 321 South to Grace Chapel Road would be restricted.



- Superstreet Intersection (shown at the 2017 public meeting) – An at-grade intersection would allow left turns from southbound US 321 onto Grace Chapel Road. Left turns from Grace Chapel Road to southbound US 321 would be restricted.



- Flyover with a Superstreet Intersection (modified October 2017) – An elevated road would provide a direct connection from Grace Chapel Road to southbound US 321. All other movements will be controlled with an at-grade signalized intersection. Modification from the Flyover with a Superstreet Intersection Alternative design originally shown in 2016 includes adding a new connector from Lake Shore Drive to Grace Chapel Road via Wolfe Road.

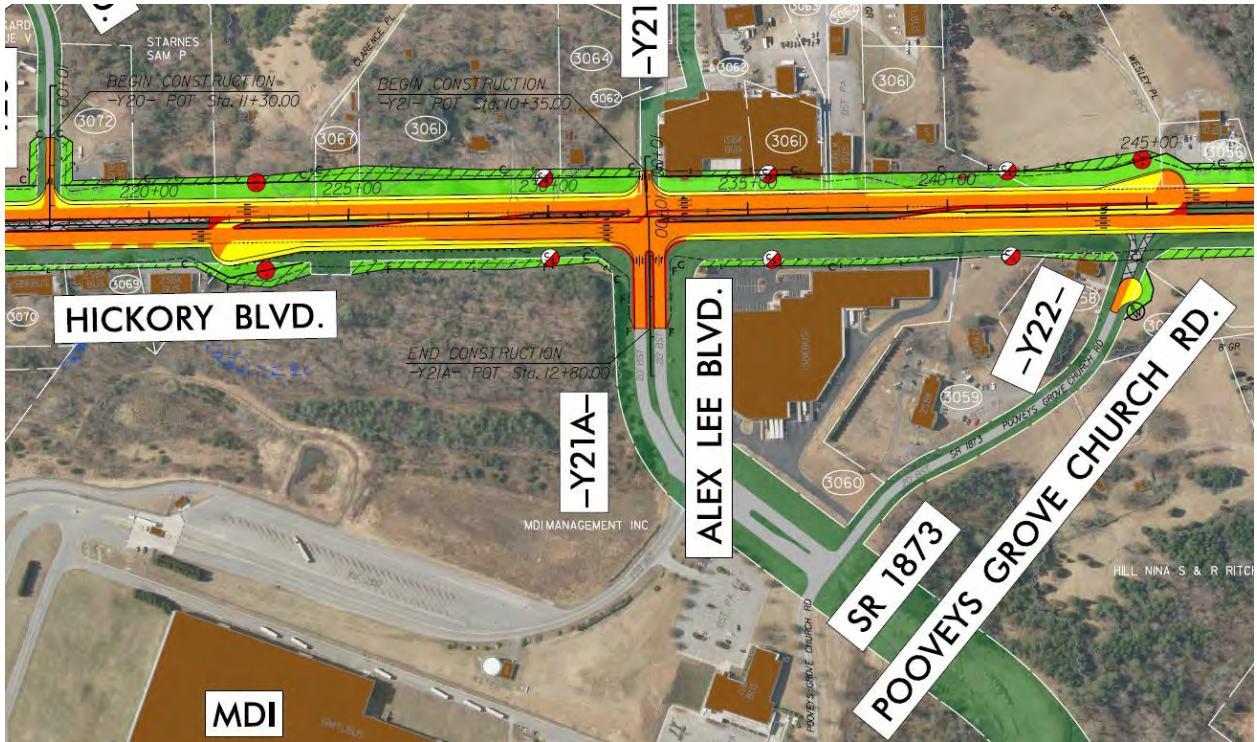


Alex Lee Boulevard

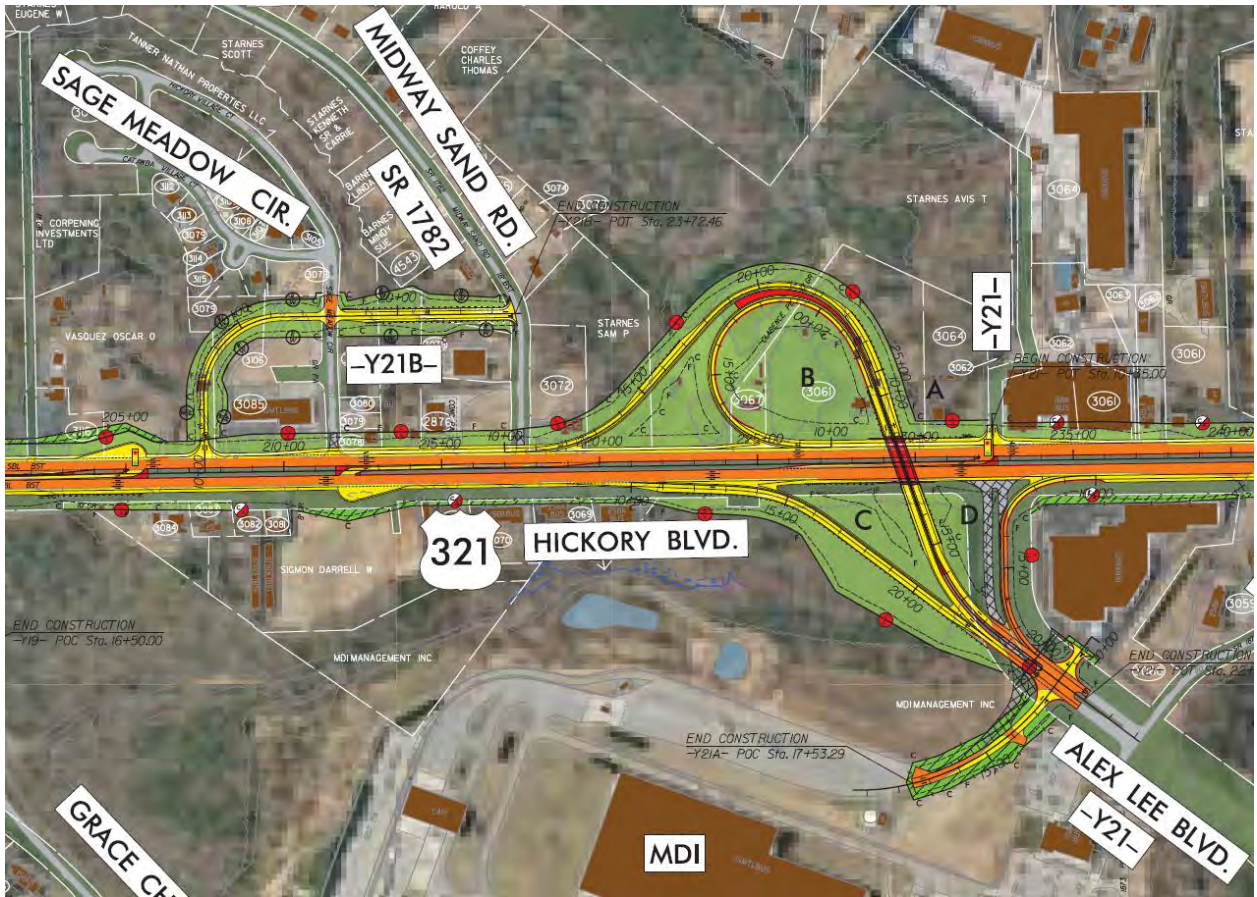
NCDOT recommended alternative – NCDOT recommends a **tight diamond interchange** at Alex Lee Boulevard.

Alternatives considered included:

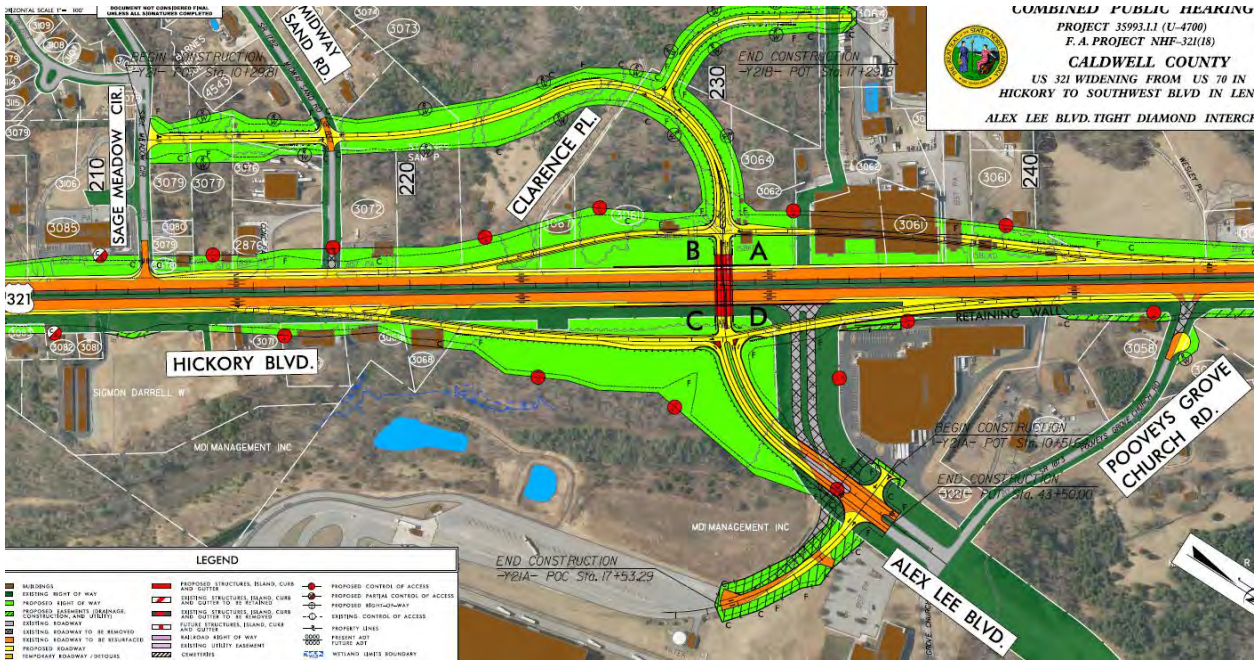
- Superstreet intersection (shown at the 2016 public hearing) – A superstreet intersection would allow left turns from US 321 onto Alex Lee Boulevard. Left turns from Alex Lee Boulevard to US 321, and on Alex Lee Boulevard across US 321, would be restricted.



- Trumpet Interchange (shown at the July 2017 public meeting) – This interchange would provide direct connection between US 321 and Alex Lee Boulevard. In addition, a new road would connect Sage Meadow Circle and Midway Sand Road.



- Tight Diamond Interchange (shown at the October 2017 public meeting) – This interchange would have ramps in all four quadrants. In addition, a new road would connect Sage Meadow Circle, Midway Sand Road, and the new interchange.



Falls Avenue

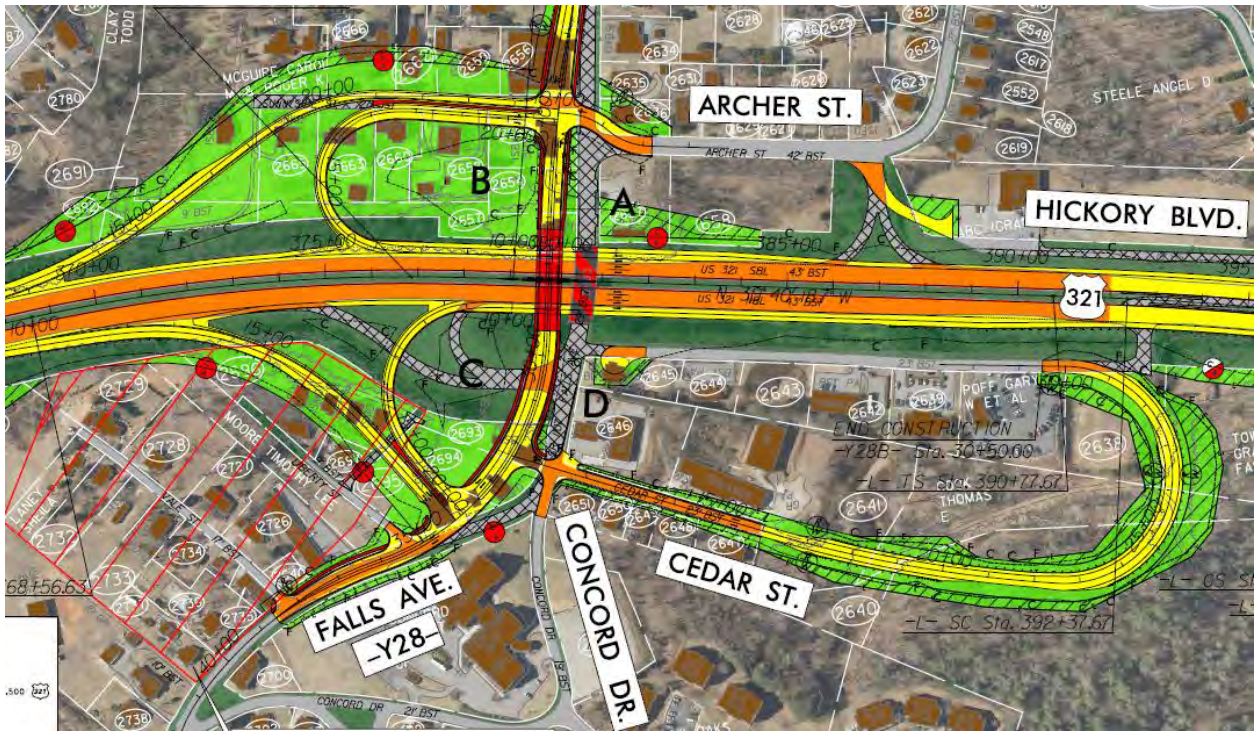
NCDOT recommended alternative – NCDOT recommends a **tight diamond interchange** at Falls Avenue.

Alternatives considered included:

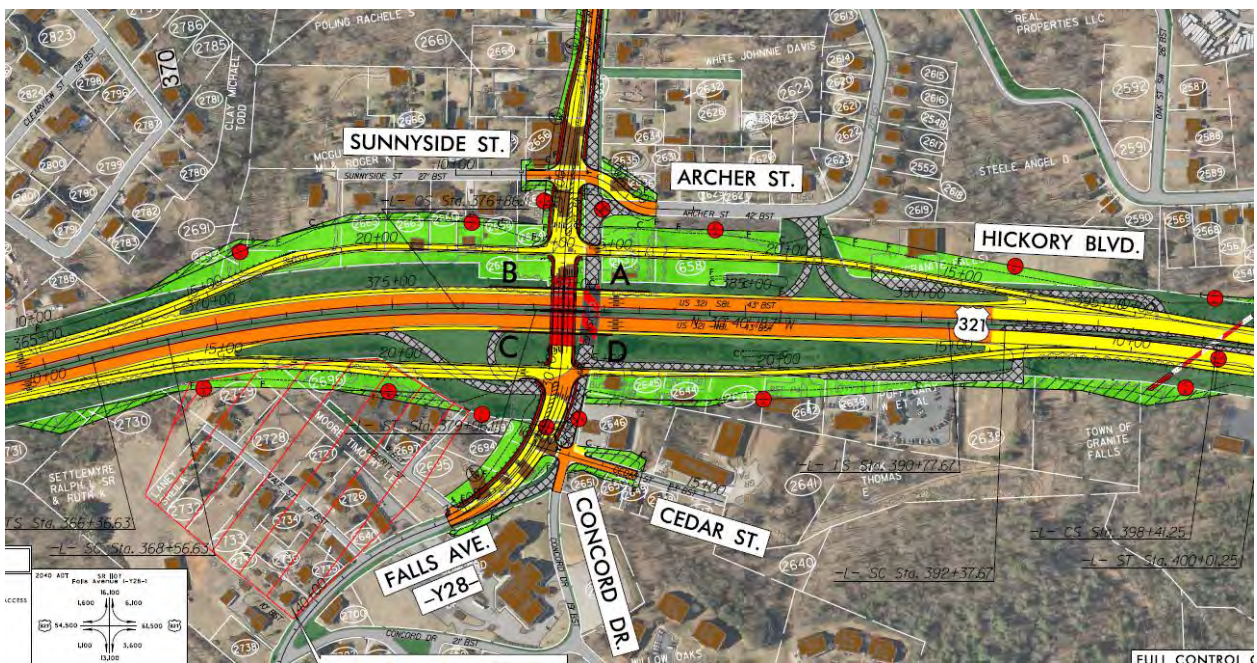
- Superstreet (shown at the 2016 public hearing) – A superstreet intersection would allow left turns from US 321 onto Falls Avenue. Left turns from Falls Avenue to US 321, and on Falls Avenue across US 321, would be restricted.



- Partial Clover Interchange (shown at the 2016 public hearing) – This interchange would have ramps and loops in the southwest and southeast quadrants. New roads would connect Falls Avenue to the existing streets parallel with US 321.



- Tight Diamond Interchange (shown at the 2016 public meeting) – This interchange would have direct on and off-ramps in all four quadrants.

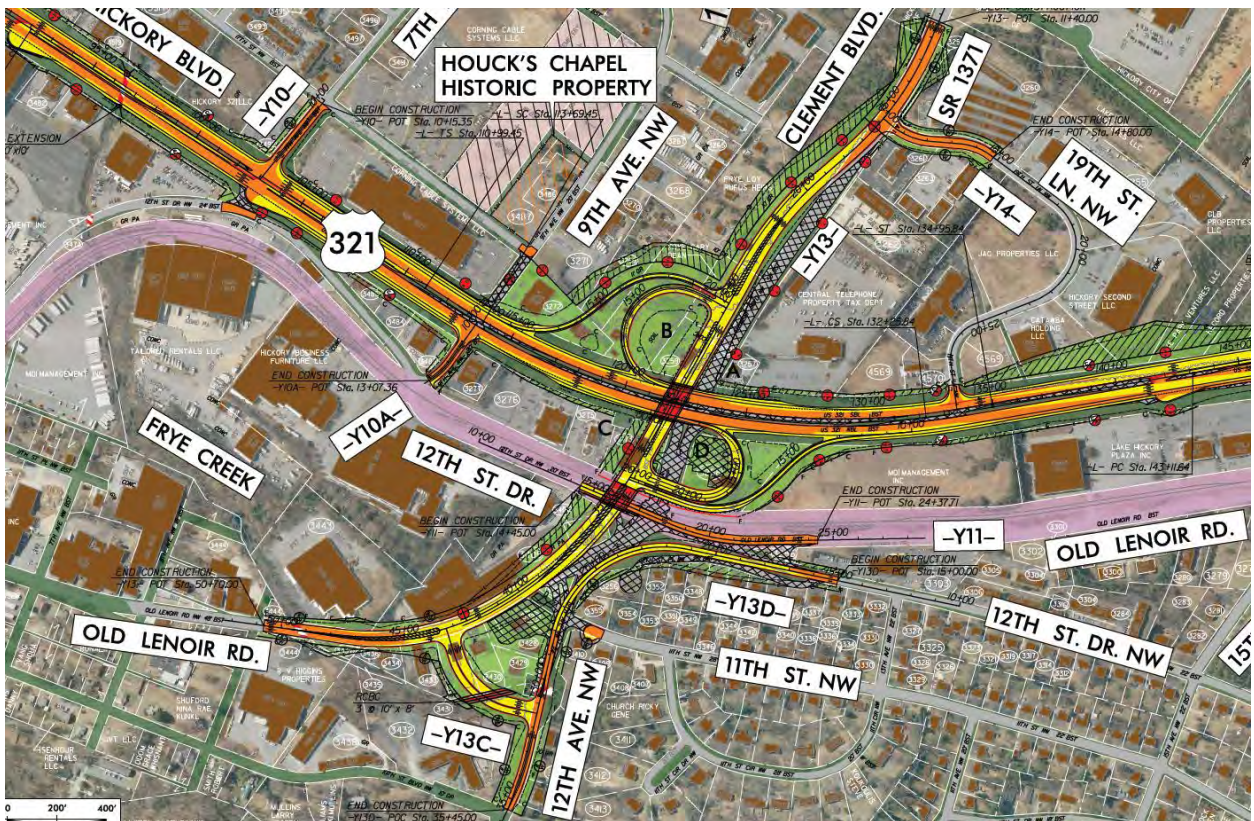


Clement Boulevard

NCDOT recommended alternative – NCDOT recommends a superstreet intersection at Clement Boulevard.

Alternatives considered included:

- Partial Cloverleaf Interchange (shown at the 2016 public hearing): This interchange would have ramps and loops in the southwest and north east quadrants. Due to the proximity to the railroad, Clement Boulevard/Old Lenoir Road would be grade separated over the railroad, and the adjacent street network will be modified to connect with the new elevation of Clement Boulevard/Old Lenoir Road.



- Superstreet intersection (shown at the July 2017 public meeting) – A superstreet intersection would allow left turns from US 321 onto Clement Boulevard. Left turns from Clement Boulevard to US 321, and on Clement Boulevard across US 321, would be restricted.



B. WRITTEN COMMENTS AND NCDOT RESPONSES

Comments Related to Grace Chapel, MDI, and Walmart Intersections

1. **Comment:** The new design benefits MDI and not residents.

Response: Based on the updated forecast, none of these three intersections (Grace Chapel Road, MDI/Alex Lee Boulevard, Walmart/New Farm Road) require an interchange to address traffic operations or congestion concerns. At the July 2017 meeting, the interchange was proposed at a central location (Alex Lee Boulevard) to provide direct access for all users in this area. The recommended alternative proposes a flyover from Grace Chapel Road to US 321 South, and an interchange on US 321 at Alex Lee Boulevard/MDI.

2. **Comment:** A large proportion of this area’s arterial street traffic routinely turns left.

Response: While a superstreet option provides a safe and efficient operation for motorists, the reverse superstreet and interchange alternatives initially presented in July 2016 would provide direct movements for the heaviest turn movement Grace Chapel Road, and the interchange presented in July 2017 would provide direct movements for the heaviest turn movements via Alex Lee Boulevard. Since Grace

Chapel Road and Alex Lee Boulevard intersect east of US 321, traffic from this area could use either route. The recommended alternative proposes a flyover at Grace Chapel Road and an interchange at Alex Lee Boulevard, providing a direct movement for left-turning vehicles from both roads onto US 321 Southbound.

3. **Comment:** It will be difficult to access US 321 from Grace Chapel Road, Lakeview Park, and River Bend/New Farm Road.

Response: Although the route is slightly different, travel time would be on average shorter for the new alternatives compared with the existing roadway configuration. The reverse superstreet and interchange alternatives initially presented in July 2016 would address left turn demand more directly. The recommended alternative proposes a flyover at Grace Chapel Road. New Farm Road connects with Grace Chapel Road.

4. **Comment:** It will be difficult to access Walmart and New Farm Road.

Response: The current design proposes allowing left and right turns into Walmart/New Farm Road, which retains the same ingress movements that exist today.

5. **Comment:** Will residents have access to Alex Lee Boulevard to reach 321?

Response: Residents will be able to access US 321 from Grace Chapel Road via a flyover to US 321 South and a traditional superstreet intersection for the other movements; via a full tight diamond interchange at Alex Lee Boulevard, and via a traditional superstreet intersection at New Farm Road. Alex Lee Boulevard, New Farm Road, and Grace Chapel Road intersect east of US 321.

6. **Comment:** The proposed design is ignoring a large population that lives near Grace Chapel Road and uses it to access 321.

Response: The forecast and analysis accounted for this population and driving volumes.

7. **Comment:** There will be reduced access to Lakeview Park and Lake Park Drive, which is a concern for increased emergency response time and ease of daily traffic.

Response: The design will be evaluated to determine if a more direct connection is feasible to this area.

8. **Comment:** Keep the 2016 plans.

Response: There were three options at Grace Chapel Road presented at the 2016 public hearing, based on the 2011 traffic forecast. This forecast assumed all traffic would be concentrated on Grace Chapel Road because New Farm Road was not in place at that time. Based on an updated traffic forecast (2017), a fourth option (a traditional superstreet) was added for consideration, and presented during the July 2017 public meeting. The recommended alternative proposes a flyover at Grace Chapel Road.

9. **Comment:** Leave the signal at Grace Chapel Road.

Response: With a traditional traffic signal, the intersection Grace Chapel Road at US 321 is projected to operate with long delays. Also, leaving the existing traffic signal at this location would interrupt the signal timing progression along US 321, affecting travel time and delay for all drivers on the corridor. With addition of a superstreet or a reverse superstreet, a signal would still be included to ensure drivers had sufficient gaps to get onto US 321. With the preferred alternative, a southbound flyover to US 321, a signal is proposed to remain at the at-grade intersection of Grace Chapel Road and US 321 to ensure drivers have sufficient gaps to turn right from Grace Chapel Road onto US 321, and to turn left from US 321 onto Grace Chapel Road.

Comments Related to the Clement Boulevard Intersection

- 10. Comment:** Bond money is currently allocated to build a corridor connecting downtown to the lake for bike and pedestrian use. This will need to be accessed by Clement Boulevard.

Response: This has been accommodated in the current design.

- 11. Comment:** Traffic to/from Crawdads Stadium will be disrupted during construction and upon completion of construction.

Response: The project team will continue to coordinate with the Crawdads, and will look at accommodating the heaviest movements through traffic signal timing. Traffic counts are being collected at the stadium for this study. Access during construction will be evaluated during the final design period.

- 12. Comment:** The superstreet will negatively affect surrounding businesses, baseball stadium, airport, etc. There is a group of investors looking at the large building next to the stadium and at creating an arts/innovation district south of Clement Boulevard on US 321. The superstreet will disrupt these projects.

Response: Overall travel time is better with superstreets than with traditional intersections. There is no evidence to indicate that conversion from a traditional signalized median-divided facility to a superstreet corridor negatively impacts businesses.

- 13. Comment:** Traffic currently crossing US 321 will be inconvenienced and travel time increased with a superstreet compared with an interchange.

Response: An interchange, which had previously been proposed at this location, is no longer needed based on the updated traffic forecast.

- 14. Comment:** There is too much volume present on the cross-streets at this location to be acceptable for a super street.

Response: Based on the capacity analysis, the proposed superstreet design will provide acceptable operations.

Comments Related to Other Locations

Impact Concerns

These impacts were noted and discussed by the NCDOT and taken in to consideration when the preferred alternative was chosen.

15. **Comment:** The proposed option puts Jack B. Quick out of business.
16. **Comment:** The business Sunlife Center will be severely negatively impacted with loss of driveway and 2/3 of parking, and lose direct access to US 321. (Received twice)
17. **Comment:** The proposed plan will take some of my yard on Falls Avenue. I don't believe the widening is necessary.
18. **Comment:** The proposed design will take my entire business on Poovey Drive in Granite Falls. Can the widening be moved to the north side?
19. **Comment:** Design requires "Your Home Furnishings" to close
20. **Comment:** Impacts Teff Hair Design Studio tremendously.
21. **Comment:** Business will be negatively affected by the closing of Sage Meadow Circle.
22. **Comment:** Accessibility to 321-Alternative will be decreased.
23. **Comment:** No longer will have direct access to Midway Sand Road. (Received twice)
24. **Comment:** Residents and businesses on Midway Sand Road will be severely negatively impacted.
25. **Comment:** A temporary bridge should have been used while the Falls Avenue Bridge (near Grace Chapel Road) is replaced.

Design Questions or Comments

26. **Comment:** I use Woodlane Avenue to access US 321, and there are sight distance issues at this intersection.

Response: Woodlane St. which is just south of Falls Ave will be maintained as is per the preliminary design, the intersection will maintain the leftover design that is existing. Construction will be tied into existing Woodlane St. per NCDOT standards. In final design, appropriate intersection sight distances will be checked and accommodated.

27. **Comment:** I am concerned with the elimination of traffic control stop lights at the intersection of Mission road and US 321.

Response: Mission Road has been identified as needing a traffic signal based on the 2040 traffic forecast.

28. **Comment:** Why is 9th Avenue NW Closed? I propose it be a right-in-right-out intersection. My business will be negatively impacted.

Response: This road was initially closed because of the interchange at Clement Boulevard. After removing the interchange, we looked at the spacing of the intersections in the area and determined there were several intersections closely spaced in this area. We will take a look at this area again and see if we can allow access at 9th Avenue NW.

29. Comment: Please check noise levels at 528 11th Street SW. We believe study levels are low.

Response: A final noise study will be conducted during final design. However, the project limits do not extend to 528 11th St. NW along US 321 and this property is unlikely to be within the noise study area for this project.

30. Comment: I want to know the impact to the property at 5171 Lake Park Drive, the only property between Limbaugh Lane and Grace Chapel Road.

Response: There are no construction impacts to the parcel for 5171 Lake Park Drive.

31. Comment: How exactly will I be getting on and off Whispering Pines Drive?

Response: Whispering Pines Drive will have right in/right out access. There are U-turn bulbs located along US 321 on either side of Whispering Pine Drive that will provide areas to U-turn for access to Whispering Pines Drive.

32. Comment: Will access to parcel 5919 on 321 South be changed? If so, it will be landlocked.

Response: Yes, access to US 321 will be maintained from parcel 5919.

33. Comment: Will 12th Street Place NW have the option to turn left onto 12th Street Drive NW and then left onto Old Lenoir Road?

Response: By changing the proposed design from an interchange to a superstreet at Clement Boulevard, no work will be done at these intersections, and they will continue to operate as they do today.

34. Comment: Can the cul-de-sac shown on the 321 plan at the east end of 1st Ave (where the bridge is eliminated) be a hammerhead with one leg serving as a drive entrance?

Response: Access will be given to the parcel from the cul-de-sac. The cul-de-sac is for vehicles to turnaround without going through the parking lot. Access to parcels will be finalized in final design and the cul-de-sac may be adjusted to help provide better access.

35. Comment: Will there be a connection off 2nd Avenue onto 15th St SW where circled?

Response: Currently access is not given off of 2nd Avenue. However, the Team will revisit this area and see if access is possible.

36. Comment: Will 15th Street SW be two way as shown instead of the current one way street?

Response: 15th Street SW is currently two way and will remain two way for this project.

37. Comment: The Town of Granite Falls is concerned about accessing Falls Avenue for emergency travel times and has adopted a resolution to support alternative design #3 – Tight Diamond Interchange.

Response: NCDOT recommends the tight diamond interchange alternative at this interchange.

38. Comment: Easy access will be cut off to the Town of Granite Falls.

Response: The Town of Granite Falls will be accessed from US 321 via a diamond interchange, retaining similar movements as the current interchange.

39. Comment: In the 2016 meetings Dudley Shoals Avenue intersection was not mentioned, why is it now added?

Response: The queuing issue from Dudley Shoals Avenue onto US 321 was identified following the 2016 public hearing. A revision to the design is recommended based on that need.

General Concerns about Superstreet Design

40. Comment: There is a short distance to merge over 3 lanes to reach the U-turn lane.

Response: The current proposed design provides for safe and efficient operation now and through the 2040 design year. Signals along the corridor help provide gaps for turning traffic. Right on red may also be allowed, which would shorten delays further.

41. Comment: Drivers will potentially need to wait through up to three signals instead of one to turn left and drive towards Hickory.

Response: That is correct. However, the signals will operate more efficiently than the current signalized traditional intersection and therefore the overall travel time will be reduced.

42. Comment: The proposed U-Turn lanes are too short for the traffic demand which will cause a queue to extend to the through lanes.

Response: Based on the capacity analysis, the design provides adequate queue space for vehicles in the peak period for 2040 traffic. The queues with the superstreet will be shorter than current queues because the superstreet design is a more operationally efficient design.

43. Comment: U-Turns are dangerous.

Response: Studies have shown that U-Turns do not increase accidents.

44. Comment: There will be an increase to travel time for drivers and emergency vehicles.

Response: There will be an overall lower travel time with the proposed designs during peak periods.

45. Comment: There will be a negative impact on businesses and residents in the area.

Response: Superstreets have an overall positive impact on the community because of reduced congestion and improved safety. There is no evidence to indicate that conversion from a traditional signalized median-divided facility to a superstreet corridor negatively impacts businesses.

46. Comment: More accidents will occur due to U-turns.

Response: Superstreets are safer than traditional streets, primarily because the design reduces potential conflict points between vehicles moving in different directions.

47. Comment: U-turns will add traffic to US 321.

Response: Additional turning traffic has been accounted for in the traffic analysis and design. The proposed design accommodates these movements.

General Questions or Comments

48. Comment: When will residents know which option has been chosen?

Response: NCDOT and other state and federal agencies anticipate selecting a preferred alternative this winter. Information about the updated design and schedule will be provided on the project website and in local newspapers.

49. Comment: There is insufficient traffic demand for the widening to be warranted. There are only 2-3 congested hours of traffic congestion per day.

Response: This project was supported by local and state agencies and has been prioritized and funded for many years. A 4-lane design wouldn't work in part because of the 60/40 traffic directional split. The project is being designed to accommodate projected 2040 traffic volumes, which will be higher than current volumes.

50. Comment: The proposed design change is based on a new forecast, why is the new forecast determined to be reliable?

Response: The 2011 forecast was based on information at the time. The 2016 forecast update is based on current information, including new and proposed roads and land uses provided by the local counties and municipalities.

51. Comment: Displeased with the format of the public meeting, process, etc.

Response: No response necessary.

52. Comment: There was too short of a comment time following the public meeting.

Response: Comments will be received throughout the duration of the project. The two-week comment period used is a standard response time following public meetings. Due to the level of responses following the 2017 public meeting, the comment period was extended before a summary was prepared.

Petition:

Stop the Caldwell County Hwy 321 Superstreet's Alex Lee Blvd Interchange

US Highway 321 in southern Caldwell County certainly has a traffic problem. Before relying on an experimental, unproven super street design to solve this issue, we encourage county officials, state representatives and the NCDOT to research alternatives to alleviate traffic in a safer & more efficient manner.

US Highway 321 in southern Caldwell County has a high-volume of vehicles entering & exiting to access many large Retail Centers, Businesses & Neighborhoods adjacent to Hwy 321. Residents, school buses and emergency personnel should be able to safely navigate this area.

Traffic backs up terribly at several large intersections now. With the new Superstreet design - those wanting to turn left to access Hwy 321 will be expected to enter & merge left across 3 lanes of traffic, into new U-turn bulbs. With the backups at those intersections now, sending them to these new U-Turn bulbs will create potential (& probable) dangerous backups onto US Highway 321 instead.

The current, July 2017 plans by the NCDOT provides only 1 interchange through this area at Alex Lee Blvd (not Grace Chapel Road or Wal-Mart/US 321-A). The traffic counts for Alex Lee Blvd (MDI) is no where near the traffic counts for Grace Chapel Road or WalMart/US321-A.

We are proposing the NCDOT replaces this Alex Lee Blvd Interchange with the 2016 proposed Flyover at Grace Chapel road. We are proposing that the NCDOT replaces this Alex Lee Blvd Interchange with a Flyover at WalMart/US321-A. This would greatly reduce backups at those U-Turn bulbs in those areas and increase the safety of the drivers. This would also reduce the amount of property, residents & businesses hurt by the proposed Alex Lee Blvd / MDI Interchange. And we feel this would be the most efficient & cost-effective manner to alleviate traffic concerns for US Highway 321 in southern Caldwell County.

Response: At the July 2016 public hearing, three options were proposed based on the 2011 traffic forecast: a flyover, an interchange, and a reverse superstreet.

The traffic forecast was updated in February 2017. Based on the updated forecast, none of these three intersections (Grace Chapel Road, MDI/Alex Lee Boulevard, Walmart/New Farm Road) require an interchange to address traffic operations or congestion concerns.

At the July 2017 public meeting, an interchange was proposed at a central location (Alex Lee Boulevard) to provide direct access for all users in this area. Although an interchange is not needed, the centralized interchange was proposed based on a desire from residents and businesses to more directly accommodate the left turn movement

from the area onto US 321. Grace Chapel Road, Alex Lee Boulevard, and New Farm Road intersect east of US 321, allowing traffic from this area to use any of the intersections.

The recommended alternative proposes a flyover from Grace Chapel Road to US 321 South, and an interchange on US 321 at Alex Lee Boulevard/MDI.

C. SELECTION OF A RECOMMENDED ALTERNATIVE

Following review of public comments, impacts, and anticipated costs, NCDOT recommends the design shown at the July 2017 public meeting with the following exceptions:

- Recommend a flyover ramp from Grace Chapel Road to US 321 South (Alternative 2 shown at the July 2016 public hearing)
- Recommend a tight diamond interchange on US 321 at Alex Lee Boulevard, with several design modifications to minimize impacts to properties and access (as shown at the October 17th public meeting).
- Recommend a tight diamond interchange at Falls Avenue (Alternative 3 shown at the July 2016 public hearing)

D. UPCOMING DATES

- October 12, 2017 – Public Meeting (Open House) hosted by NCDOT at Broyhill Center in Lenoir 4:00-7:00 pm
- October 16, 2017 – Public Meeting hosted by Caldwell County Commissioners at Broyhill Center in Lenoir beginning at 6:00 pm with presentation and formal Q&A session

If anyone has any questions or comments regarding this information, please contact Kevin Moore, PE, Roadway Design Project Engineer at 919-707-6287.

KM/cmf

cc:

Attendees



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

MEMO TO: Post-Public Meeting Meeting Attendees

FROM: Kevin Moore, P.E.
NCDOT – Project Management Unit

DATE: November 17, 2017

SUBJECT: Project 35993.1.1 (U-4700) Caldwell, Catawba, and Burke Counties
F. A. Project NHF-321(18)
Proposed US 321 Widening from US 70 in Hickory to Southwest Boulevard in Lenoir

**Post-Public Meeting
Meeting Summary**

The post-Public Meeting meeting was held on November 13, 2017 at NCDOT’s Century Center Roadway Design Conference Room. The purpose of the meeting was to review written comments received during the comment period after the U-4700 Public Meeting held on Thursday, October 12, 2017 at the Broyhill Convention Center in Lenoir, NC. Verbal comments received at the October 16, 2017 Caldwell County Commissioner’s meeting were also reviewed.

The following people met to discuss the comments:

Name	Agency/Unit
Kevin Moore	NCDOT – Project Management Unit
Eugene Tarascio	NCDOT – Project Management Unit
James Dunlop	NCDOT – Congestion Management
Diane Wilson	NCDOT – EAU Public Involvement
Dean Ledbetter*	NCDOT – Division 11
Michael Poe*	NCDOT – Division 12
John Marshall*	Hickory MPO
Colin Frosch	Kimley-Horn – Project Development
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* *Joined by phone*

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
PROJECT MANAGEMENT UNIT
1582 MAIL SERVICE CENTER
RALEIGH, NC 27610

Telephone: (919) 707-6200
Fax: (919) 250-4036
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH, NC 27610

Executive Summary

Project Description:

NCDOT and FHWA propose to widen US 321 to a six-lane median divided facility from just north of the US 70 interchange in Hickory (Catawba County) to the Southwest Boulevard (SR 1933) interchange in Lenoir (Caldwell County). The proposed improvements involve approximately 13.5 miles of existing US 321 with a majority of the roadway located in Catawba and Caldwell Counties and 0.3 miles in Burke County. The purpose of the project is to reduce congestion on US 321 in order to achieve level of service D or better in the design year (2040).

More information is available on the project website:

<https://www.ncdot.gov/projects/us321widening/>

Public Meeting Summary:

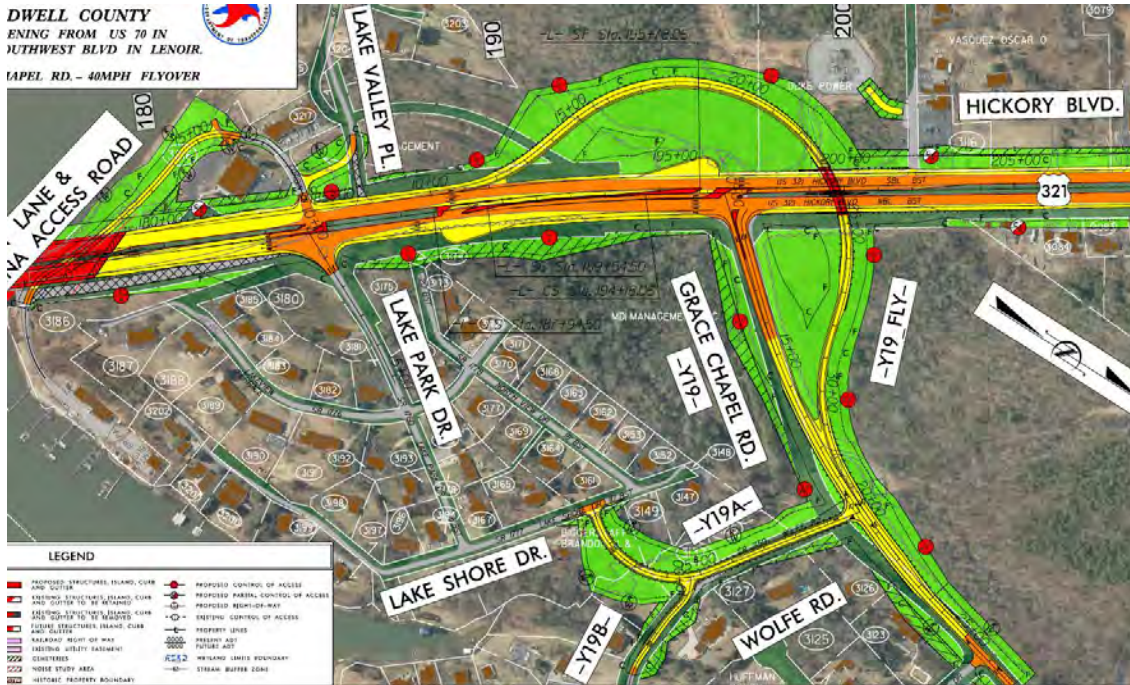
NCDOT's recommended alternative (as identified during the September 22, 2017 post-public meeting meeting) was presented at the October meetings.

During the public meeting, 178 people signed in. Written comments were received from a total of 19 citizens at the meeting and in the comment period ending November 9, 2017. An additional 8 verbal comments were made at the Caldwell County Commissioners meeting.

A. SUMMARY OF RECOMMENDED DESIGN

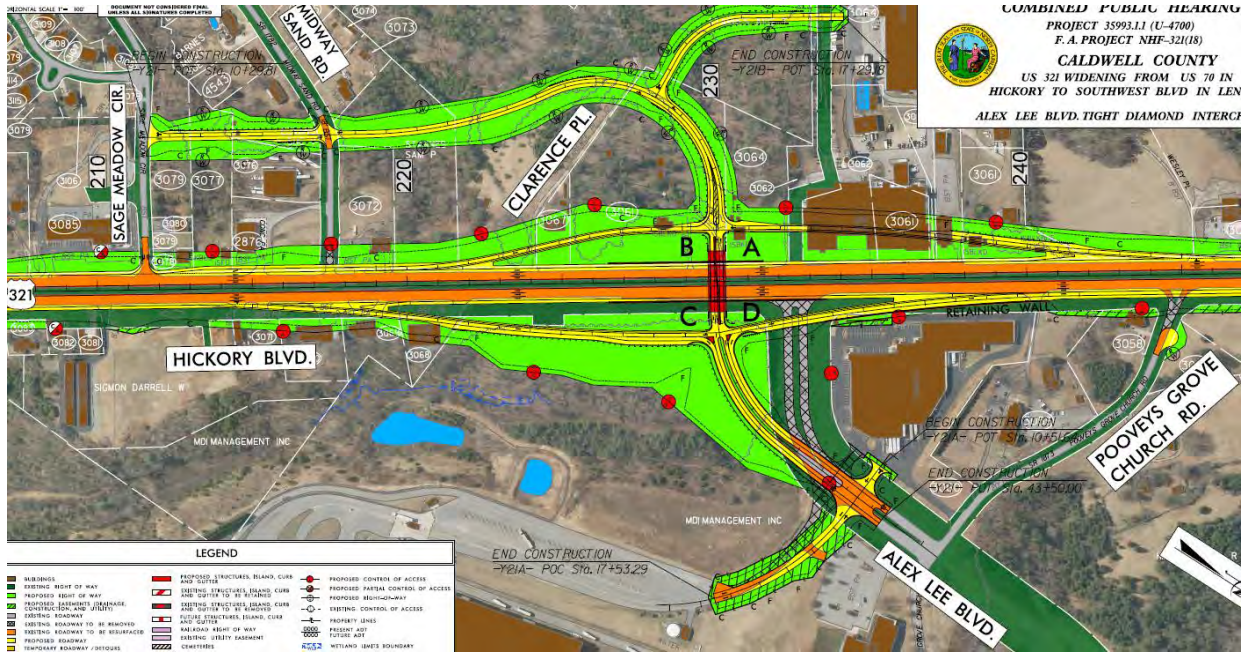
Grace Chapel Road

NCDOT recommends the **Flyover with superstreet intersection** alternative at Grace Chapel Road. An elevated road would provide a direct connection from Grace Chapel Road to southbound US 321. All other movements will be controlled with an at-grade signalized intersection. A new connector from Lake Shore Drive to Grace Chapel Road via Wolfe Road.



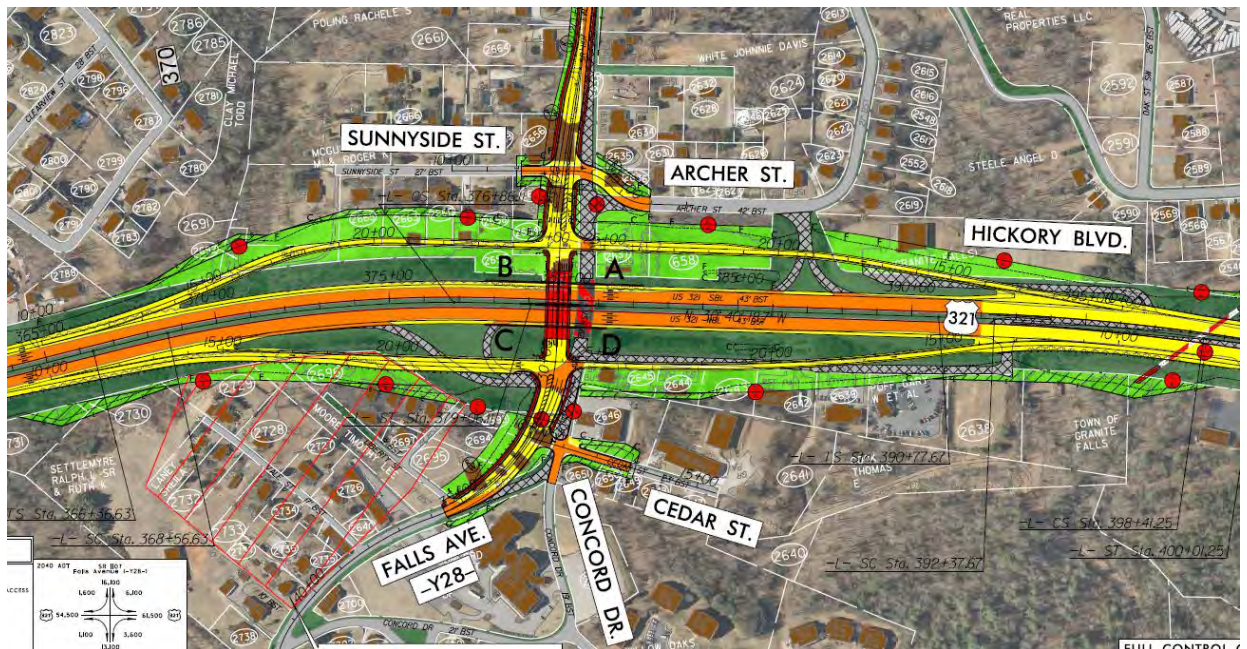
Alex Lee Boulevard

NCDOT recommends a **tight diamond interchange** at Alex Lee Boulevard. This interchange would have ramps in all four quadrants. In addition, a new road would connect Sage Meadow Circle, Midway Sand Road, and the new interchange.



Falls Avenue

NCDOT recommends a **tight diamond interchange** at Falls Avenue. This interchange would have direct on and off-ramps in all four quadrants.



Clement Boulevard

NCDOT recommends a **superstreet intersection** at Clement Boulevard. A superstreet intersection would allow left turns from US 321 onto Clement Boulevard. Left turns from Clement Boulevard to US 321, and on Clement Boulevard across US 321, would be restricted.



B. WRITTEN COMMENTS AND NCDOT RESPONSES

Comments in Support of Project

No response needed

1. Thank you for being ahead of the growth instead of behind.
2. Thank you for addressing access to the Lakeview Park community
3. Thank you for changing the Grace Chapel and Alex Lee interchange designs, they look much better. (x2)
4. I fully support this project!

Comments Regarding Grace Chapel Road

1. **Comment:** Can the speed limit on New Farm Road be increased to 45 mph? Can trucks be allowed on New Farm Road instead of spending money on the interchange? (x3)

Response: After further investigation by the NCDOT it was determined that the pavement structure on New Farm Road was designed to support truck traffic. It is unknown why exactly the “No Truck Traffic” signs were installed on this road. New Farm Road was designed for a posted speed limit of 35 mph. Most of New Farm Road is a local road; therefore, NCDOT does not control the posted speed limit. The interchange on U.S. 321 at Alex Lee Boulevard will allow businesses and the general public on both

sides of the road to have direct access to U.S. 321 and minimize the amount of truck traffic on local neighborhood roads.

2. **Comment:** Why is it necessary to use land on Grace Chapel Road if the existing road is moved further to the right? Concerned about property impacts along this section of Grace Chapel Road. (x2?)

Response: Some right of way or temporary easements on Grace Chapel Road will be needed to tie the new flyover into the existing road. During the final design process, the project team will minimize impacts where feasible to property along Grace Chapel Road.

3. **Comment:** How will we turn left from U.S. 321 onto Grace Chapel Road?

Response: There will be a dedicated left turn lane from southbound U.S. 321 onto Grace Chapel Road.

4. **Comment:** How long will the merge lane be on U.S. 321 South coming from Grace Chapel Road? Will it be long enough to be safe?

Response: The merge lane at the end of the flyover from Grace Chapel Road is approximately 850 feet long, and has been designed to meet the criteria for merging at the design speed on U.S. 321.

Comments Regarding Other Locations

1. **Comment:** How do I go southbound on U.S. 321 when exiting Fairwood Drive?

Response: Traffic exiting Fairwood Drive onto southbound U.S. 321 will make the same movement that is required today, including turning right (north) on U.S. 321 and making a U-turn at Clover Drive SW

2. **Comment:** There is a low income and minority neighborhood that will become isolated with a long detour to get uptown to 13th Street and 1st and 2nd Avenue. Pedestrian access to the area will also be cut off and unsafe due to missing pedestrian signals.

Response: A study is underway to evaluate potential impacts and mitigation measures for this neighborhood.

3. **Comment:** Please address access from Tom Calloway Lane on to Lower Cedar Valley Road. The residents need a better way out.

Response: The intersection of Tom Calloway Lane and Lower Cedar Valley Road will be retained in the current location. It is anticipated that the superstreet design on U.S. 321 will improve traffic operations along the corridor, including shorter queues on side streets.

4. **Comment:** I'm concerned properties and businesses near the Alex Lee Boulevard interchange will be negatively impacted and would be better off with the interchange at Walmart.

Response: The proposed interchange at Alex Lee Boulevard impacts fewer residences and businesses than would an interchange at Walmart.

Comments Related to Impacts

1. **Comment:** Concerned about negative impacts to businesses along the corridor due to limited access and inconvenience to consumers. **(x3)**

Response: Studies specific to superstreets have not shown conclusive evidence as to whether superstreets are positively or negatively impactful to local businesses. Studies on median divided roads indicate that there is typically no negative impact to businesses other than to some convenience-based ones (fast food restaurants, gas stations, etc.). Other studies have shown the benefits to businesses with improved traffic flow and reduced congestion. Many of the results are dependent on unique locational factors. Along this corridor, the project team has maintained access to buildings and is proposing a design that will improve traffic flow for users visiting these businesses.

2. **Comment:** Could the U-turn bulb near station 255+00 be moved north or south by 200 feet to minimize impacts in front of the house?

Response: The design of this U-turn bulb and the adjacent turn lanes will be evaluated during final design.

3. **Comment:** We can't see how the benefits outweigh the costs, and the project isn't cost effective.

Response: The project purpose is to improve traffic congestion along the U.S. 321 corridor between Hickory and Lenoir. This design will satisfy the purpose and need of the project.

4. **Comment:** What will happen to the protected flowers?

Response: Studies have been done to locate existing communities of threatened and endangered species, including the dwarf flowered heartleaf. The project has been designed to minimize impacts to these communities.

Design Questions

5. **Comment:** Making U-turns is unsafe without lights stopping the oncoming traffic. Will the lights be taken away at the U-turn areas? Concerned the superstreet design isn't safer. **(x4)**

Response: The combination of a right-turn followed by a U-turn has been shown to be safer than a direct left-turn from a side street. Traffic signals are proposed at U-turn areas that are projected to have sufficient traffic to warrant a signal. If not included with the initial construction, signals may be added in the future when warranted.

6. **Comment:** The travel time will only be reduced for drivers going through on U.S. 321. I don't see how travel time will be reduced with a superstreet. **(x2)**

Response: By synchronizing the timing of the lights, and reducing the total number of phases needed in a signal (grouping of traffic going a single direction), more time with a green light will be given to each direction. Most drivers on the side streets turn onto U.S. 321, and while there may not be a large travel time savings at that intersection, these drivers gain with the greatly improved travel flow on US 321.

7. **Comment:** Is the widening necessary? Why is the median so wide? I would rather see property not be impacted. I don't think the traffic on U.S. 321 warrants this project. **(x2)**

Response: The median is generally the same width as it is now. The width is needed to accommodate turn lanes for the left turns and U-turns. The current traffic data projections show that a six-lane superstreet is warranted to meet the traffic demanded in the design year 2040.

8. **Comment:** Concerned about long queues in U-turn lanes. **(x2)**

Response: The U-turn lanes have been designed to be long enough to accommodate the projected vehicle volumes. With a more efficient system, the queues are anticipated to be shorter than they are today.

9. **Comment:** How are these U-turns different than Texas U-turns?

Response: Texas U-turns are typically found at the end of off-ramps from a highway facility on an adjacent parallel road known as a frontage road. These frontage roads have lower speeds than the highway and allow drivers to access specific locations along the highway. The U-turns allow drivers to by-pass two signalized intersections typically to proceed the opposite direction on the neighboring superstreet.

Comments Requesting Additional Information

1. **Comment:** Lisa Yount requested a copy of the widening plans to review.

Response: The latest designs are available on the project website: <https://www.ncdot.gov/projects/us321widening/>, under "October 2017 Public Meeting Materials."

2. **Comment:** Scott Willis requested a copy of the video shown on loop at the public meeting open house.

Response: The video shown on loop at the public meeting open house can be viewed here: <https://www.youtube.com/watch?v=GgmHD8O0qok&feature=youtu.be> or on the project website: <https://www.ncdot.gov/projects/us321widening/>

3. **Comment:** What alternatives were selected? (Gene Tarascio responded)

Response: The recommended design is described above in this meeting summary, or can be viewed online at the project website under "October 2017 Public Meeting Materials": <https://www.ncdot.gov/projects/us321widening/>

4. **Comment:** No relocation assistance brochure, right-of-way acquisition process brochure, or right-of-way FAQs were available at the meeting. Please send information via mail to Richard Pink.

Response: The NCDOT right-of-way acquisition process brochure can be viewed here: <https://connect.ncdot.gov/business/ROW/ROWManualsandPublications/Right%20of%20Way%20Brochure%20-%20Single%20Page%20Layout.pdf> and information on Relocation Assistance can be viewed here: <https://connect.ncdot.gov/business/ROW/ROW%20Documents/Relocation%20Assistance%20Brochure.pdf>

C. NEXT STEPS

Following review of public comments, impacts, and anticipated costs, NCDOT confirmed their recommendation of the design shown at the October 2017 public meeting. Further investigation will be completed to potentially add pedestrian accommodation to provide access between the community divided by the proposed U.S. 321 and 13th Street interchange.

If anyone has any questions or comments regarding this information, please contact Kevin Moore, PE, Roadway Design Project Engineer at 919-707-6287.

KM/cmf

cc:
Attendees

Appendix B – Proposed Typical Sections

Three typical sections were agreed to by the Merger Team in October 2015. NCDOT recommends the typical sections:

Typical Section Alternatives

Typical Section 1: Six-lane divided with 22-foot raised median with a concrete barrier with curb and gutter in outside lanes

Typical Section 2: Six-lane divided with 30-foot raised grassed median with curb and gutter in median and shoulder

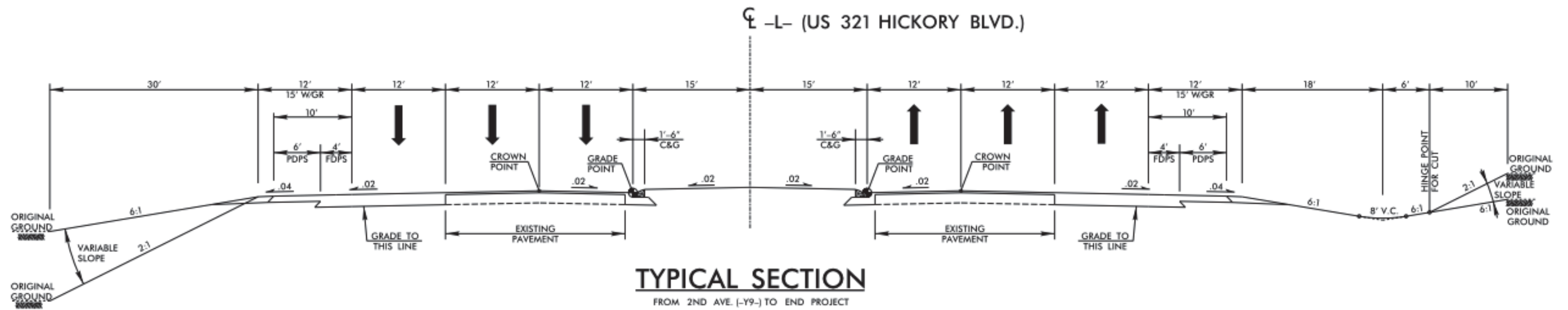
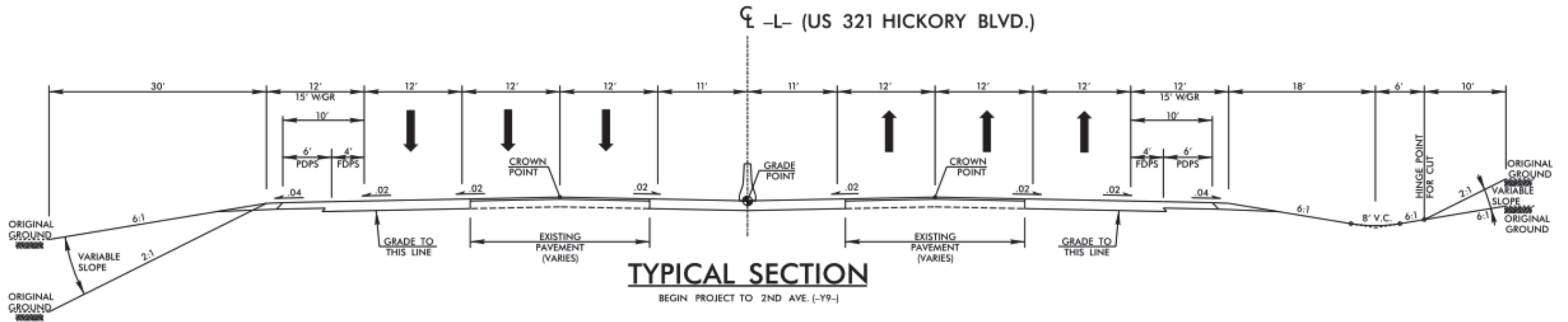
Typical Section 3: Six-lane divided with 30-foot raised grassed median with curb and gutter in median and grassed shoulder

Table A1: Recommended Typical Section

U-4700 Segments*	Typical Section Alternatives for Detailed Study
Segment A: North of US 70 to 800 feet north of 2nd Avenue NW in Hickory (0.95 miles)	Typical Section 1/2 (combination)
Segment B: 800 feet north of 2nd Ave. NW to 1300 feet north of Clement Blvd (0.95 miles)	Typical Section 3
Segment C: 1300 feet north of Clement Blvd to just south of Grace Chapel Rd (1.12 miles)	Replace bridges over Catawba River and grade-separate RR crossing
Segment D: Just south of Grace Chapel Rd. to 400 feet south of Gunpowder Creek (8.10 miles)	Typical Section 3
Segment E: 400 feet south of Gunpowder Creek to Southwest Blvd (2.04 miles)	Typical Section 3

* These segments are for C.P.2 purposes – these are not the STIP sections

Appendix B: Recommended Typical Sections



Appendix C – Detailed Stream Impacts for Selected Alternative

Table C1: Anticipated Stream Impacts for Selected Alternative

Map ID ^a	Stream Name	Bank Height (ft)	Bankful Width (ft)	Water Depth (in)	Classification	Impacts (lf) ^b
Angley Creek	Angley Creek	5	12-18	18	Perennial	200
Billy Branch	Billy Branch	7	6-7	6	Perennial	300
Brushy Creek	Brushy Creek	10	25	24	Perennial	120
Frye Creek	Frye Creek	12	12-15	12	Perennial	125
Gunpowder Creek	Gunpowder Creek	10	15	24	Perennial	55
Little Gunpowder Creek	Little Gunpowder Creek	6	20	24	Perennial	150
SAA	UT to Gunpowder Creek	3	5	6	Perennial	115
SB	UT to Catawba River	7-9	5	24	Perennial	735
SBB	UT to Gunpowder Creek	3	3	6	Intermittent	70
SC	UT to Catawba River	5	5	0.5	Perennial	300
SDD	UT to Gunpowder Creek	2	4	6	Intermittent	20
SEE	UT to Gunpowder Creek	3	6	6	Intermittent	150
SF	UT to Gunpowder Creek	10-12	5	12	Perennial	230
SJ	UT to Gunpowder Creek	3	3	6	Intermittent	40
SK	UT to Gunpowder Creek	3	3	6	Perennial	120
SLL	UT to Gunpowder Creek	1	6	6	Perennial	185
SM	UT to Gunpowder Creek	3	4	4	Perennial	100
SN	UT to Gunpowder Creek	1	1	4	Perennial	280
SO	UT to Gunpowder Creek	7-8	10-15	6	Perennial	365
SP	UT to Billy Branch	3	5	3	Perennial	180
SQ	UT to Little Gunpowder Creek	2	3	3	Perennial	130
SQQ	UT to Catawba River	5	5	0.5	Intermittent	40
SR	UT to Little Gunpowder Creek	2	3	3	Perennial	170
SRR	UT to Catawba River	10	10	2	Perennial	590
SS	UT to Little Gunpowder Creek	4	5	3	Intermittent	65
ST	UT to Little Gunpowder Creek	2	6	2	Intermittent	30
STA	UT to Little Gunpowder Creek	3	10	3	Perennial	85
SU	UT to Little Gunpowder Creek	4	7	6	Intermittent	65
SV	UT to Little Gunpowder Creek	1	3	3	Intermittent	110
SW	UT to Little Gunpowder Creek	1-2	5-8	6	Perennial	540
SX	UT to Little Gunpowder Creek	1	3-4	6	Intermittent	50
SY	UT to Little Gunpowder Creek	1	2	3	Intermittent	45
SZ	UT to Gunpowder Creek	5	3	3	Perennial	85

^a Map ID refers to Figures 1A through 1O

^b Stream impacts are based on slope stakes plus a 25' buffer, rounded to the nearest 5 feet.

Appendix D – Agency Comments



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

July 12, 2016

Mr. Robert P. Hanson, P.E.
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

SUBJECT: EPA Review Comments for the Federal Environmental Assessment (EA) for Proposed US 321 Widening, from US 70 in Hickory to Southwest Boulevard (SR 1933) in Lenoir, Catawba, Burke, and Caldwell Counties, NC; Federal Aid Project NHF-321(18), STIP Project No. U-4700

Dear Mr. Hanson:

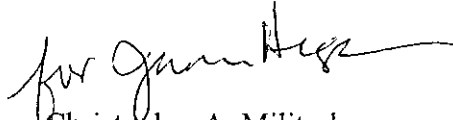
The US Environmental Protection Agency (EPA) has reviewed the subject document and is providing comments consistent with §309 of the Clean Air Act and §102(2)(C) of the National Environmental Policy Act (NEPA). The North Carolina Department of Transportation (NCDOT) is proposing to widen US 321 to a six-lane median divided facility from just north of the US 70 interchange in Hickory and Catawba County, NC to the Southwest Blvd interchange in Lenoir and Caldwell, NC for a total of approximately 13.5 miles.

The proposed project is included in the NEPA/Section 404 Merger process. The EPA staff signed the Concurrence Point (CP) 2a revisited on October 14, 2015. The EPA's detailed technical review comments on the Federal Environmental Assessment (EA) are enclosed with this letter (See Enclosure A). The build alternative consists of a best-fit widening alignment with four (4) typical section alternatives to be studied in detail.

The EPA acknowledges the NCDOT's 'Green Sheet' project commitments included in the EA. The EPA appreciates the opportunity to review the EA and requests a copy of the Finding of No Significant Impact (FONSI) when it becomes available. The EPA plans to remain an active participant in the NEPA/Section 404 Merger process as the proposed project moves forward.

Thank you and please feel free to contact me directly should you or your staff have any questions at (919) 450-6811 or by e-mail at: vanderwiele.cynthia@epa.gov

Sincerely,

A handwritten signature in black ink, appearing to read "for James Higgs" or similar, written over the typed name.

Christopher A. Militscher
Chief, NEPA Program Office
Resource Conservation and Restoration Division

cc: Michael Batuzich, FHWA
Steven Kichefski, USACE Asheville Field Office
Marella Buncick, USFWS Asheville Field Office
Dave Wanucha, NCDWR Winston-Salem Regional Office
Marla Chambers, NCWRC

Enclosure A: Detailed technical comments

Enclosure A
Detailed Technical Comments
Proposed US 321 Widening
Catawba, Burke, and Caldwell Counties, N.C.
STIP No. U-4700

Purpose and Need and Build Alternatives

The purpose of the project is to improve traffic capacity and reduce congestion along US 321 from US 70 in Hickory to Southwest Boulevard in Lenoir. Existing traffic congestion within the project corridor along with projected growth in the area will continue to exacerbate travel times.

The EA considers four typical sections for a best-fit widening of US 321 as noted on page 17. At a February 26, 2014, NEPA/404 Merger meeting, the team revisited the typical sections and removed Typical Section 4 from consideration due to the substantial amount of impacts estimated. On October 14, 2015, the Merger Team agreed to use a combined 22-foot median (Typical Section 1) and 30-foot median (Typical Section 2) for the segment from US 70 to just north of 2nd Avenue NW in Hickory. A 30-foot median (Typical Section 3) is proposed along the remainder of the corridor.

Natural Resources Impacts

Table 1 [p. S-5] summarizes the impacts to the human and natural environment. The majority of the jurisdictional streams within the study area are classified as Water Supply (WS)-IV, with two streams (Gunpowder Creek and the Catawba River) designated as being within the Critical Area (CA) as noted in Tables 10 and 12 on pages 24 and 29, respectively. Seventeen (17) jurisdictional wetlands were identified within the study area; however, impacts appear to be limited with minor impacts to five wetlands (Table 13, page 30).

EPA Recommendations: Where feasible and practicable, use the median area to treat stormwater runoff from US 321 [using the NCDOT *Stormwater BMP Toolbox*] as per the Project Commitments by the Roadway Design and Hydraulic Design Units. Hazardous spill catch basins may also be necessary depending on the projected level and composition of freight transportation along US 321.

Five (5) endangered species have suitable habitat within the project area. The EPA understands that the biological conclusion for the Northern long-eared bat (*Myotis septentrionalis*) and the Virginia big-eared bat (*Corynorhinus townsendii*) is as yet unresolved with the U.S. Fish and Wildlife Service (FWS). Dwarf-flowered heartleaf (*Hexastylis naniflora*) has several occurrences within one mile of the study area. To date, formal Section 7 consultation has not occurred; however, it is anticipated that the biological conclusion will be that the US 321 may affect, and is likely to adversely affect this species depending on the final design.

EPA Recommendations: Several recent studies have examined the use of bridges and culverts as [day and night] bat roosting habitat¹. The structural design of bridges and culverts with regard to the two aforementioned bat species might be considered during final design as a way to benefit and/or promote recovery of the species within the project study area. However, the EPA defers to the analysis and recommendations by the FWS and North Carolina Wildlife Resources Commission on these endangered species issues. The EPA encourages the final design to avoid and minimize impacts to the dwarf-flowered heartleaf. Protection for avoided populations may be possible through conservation easements within the project corridor.

Climate Change Adaption: The EA did not address climate change/greenhouse gas emissions. We recommend that the Federal Highway Administration and the NCDOT consider climate adaption measures based on how future climate scenarios may impact the proposed project in the FONSI. The National Climate Assessment (NCA) contains scenarios for regions and sectors, including transportation. Using the NCA or other peer review-reviewed climate scenarios to inform alternatives analysis and possible changes to the proposal can improve resilience and preparedness for climate change. Changing climate conditions can affect a proposed project as well as the project's ability to meet the designated purpose and need. For additional information, the transportation agencies may wish to refer to:
https://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf

Cultural Resources

The EPA understands that none of the identified historic properties within the project study area would have an adverse effect determination based upon preliminary designs.

Social Environment Effects

The social effects for the U-4700 project were described in the *Community Impact Assessment* (December 2014). Among the anticipated effects are impacts to environmental justice (EJ) communities. The EA notes one Hispanic neighborhood, four census block groups where language assistance would likely be needed, and below median incomes within the project study area. Further, the census data indicates a notable presence of populations meeting the criteria for EJ communities. While the EA states that the project would avoid a direct impact on the EJ low income population in Census Tract 313 Block Group 3 (Granite Falls) with a grade separation at Falls Avenue and US 321, there would in all likelihood be a substantial impact with an at-grade intersection without an overpass.

EPA Recommendations: Impacts to EJ communities do not only include direct impacts such as physical separation/isolation or deleterious effects to neighborhood cohesion. EJ communities, due to the very nature of their demographic characteristics, have higher rates of asthma and other chronic health issues. These populations are more vulnerable to

¹ See: <http://www.icoet.net/downloads/99paper21.pdf>

the health effects of near-road exposure to air pollutants such as when the average annual daily traffic increases through widening projects. Using EPA's EJScreen tool, three environmental indicators²—the National-Scale Air Toxics Assessment (NATA) respiratory hazard index, the NATA air toxics cancer risk, and traffic proximity—show areas of high percentiles along US 321. Consequently, both environmental risk factors and demographic indicators should be discussed in the Finding of No Significant Impact, with potential mitigation offered for any factors that could pose a substantial risk to EJ populations.

² See: <https://www.epa.gov/ejscreen/overview-environmental-indicators-ejscreen>



Kathryn Johnston
Secretary

William W. Peaslee
General Counsel

June 21, 2016

Mr. Eugene Tarascio
North Carolina Department of Transportation
Project Development & Environmental Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Re: SCH File # 16-E-4220-0347; EA; Proposal to widen US 321 from US 70 in Hickory to Southwest Blvd in Lenoir. STIP #U-4700

Dear Mr. Tarascio:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are comments made by the agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

Crystal Best

State Environmental Review Clearinghouse

Attachments
cc: Region E



State of North Carolina | Administration
116 West Jones St. | 1301 Mail Service Center | Raleigh, NC 27699-1301
state.clearinghouse@doa.nc.gov | 919 807 2419 T




Environmental
Quality

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MEMORANDUM

To: Crystal Best
State Clearinghouse Coordinator
Department of Administration

FROM: Lyn Hardison 
Division of Environmental Assistance and Customer Service
Permit Assistance & Project Review Coordinator

RE: 16-0347 (06-0294)
Environmental Assessment
Proposal to widen US 321 from US 70 in Hickory to Southwest Blvd. in Lenoir – STIP U-4700
Catawba, Burke and Caldwell Counties

Date: June 20, 2016

The Department of Environmental Quality has reviewed the proposal for the referenced project. Based on the information provided, several of our agencies have identified permits that may be required and offered some valuable guidance to minimize impacts to the natural resources within the project area. The comments are attached for the applicant's review.

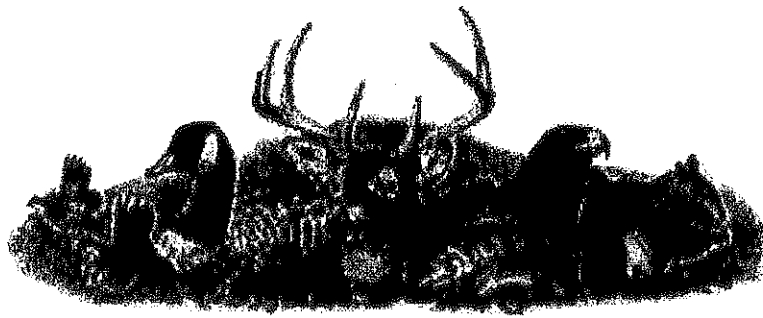
The Department encourages the applicant to continue to work with our agencies during the NEPA Merger Process and as this project moves forward.

Thank you for the opportunity to respond.

Attachment

Nothing Compares

State of North Carolina | Environmental Quality
943 Washington Square Mall | Washington, North Carolina 27889
252-946-6481



☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

June 20, 2016

MEMORANDUM

TO: Lyn Hardison, Environmental Assistance and SEPA Coordinator
Division of Environmental Assistance & Customer Services, NCDENR

FROM: Marla Chambers, Western NCDOT Coordinator *Marla Chambers*
Habitat Conservation Program, NCWRC

SUBJECT: Review of the Environmental Assessment document for NCDOT's proposal to widen US 321 from US 70 in Hickory to Southwest Boulevard (SR 1933) in Lenoir; Burke, Caldwell and Catawba Counties. TIP No. U-4700. OLIA Project No. 16-0347, due 06/15/2016, extended.

The North Carolina Department of Transportation has submitted for review an Environmental Assessment document for the subject project. Staff biologists with the North Carolina Wildlife Resources Commission have reviewed the information provided and are participating in the Merger process for this project. These comments are provided in accordance with the provisions of the state and federal Environmental Policy Acts (G.S. 113A-1 through 113-10; 1 NCAC 25 and 42 U.S.C. 4332(2)(c), respectively), the Clean Water Act of 1977 (33 U.S.C. 466 et seq.) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d), as applicable.

The NCDOT proposes to widen US 321 from US 70 in Hickory to Southwest Boulevard (SR 1933) in Lenoir for a 13.5 mile project length. NCWRC submitted scoping comments dated April 24, 2006, which are included in the EA document. Some of our concerns were not addressed in the EA, particularly our request to investigate wildlife-vehicle collisions and areas of habitat fragmentation affecting small and large wildlife in the project area. The widening of the roadway will increase the likelihood of wildlife-vehicle collisions, decreasing the safety of the traveling public. Wildlife crossings may be appropriate to improve safety for drivers and reconnect wildlife populations fragmented by the highway.

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at marla.chambers@ncwildlife.org or (704) 982-9181.



Water Resources
ENVIRONMENTAL QUALITY

PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

S. JAY ZIMMERMAN

Director

June 1, 2016

MEMORANDUM

To: Lyn Hardison, Environmental Coordinator, Office of Legislative and Intergovernmental Affairs

From: Dave Wanucha, Division of Water Resources, Winston Salem Region Office *DW/6-1-16*

Subject: Comments on the Final Environmental Impact Statement, Environmental Assessment related to proposed US 321 Widening in Catawba, Burke and Caldwell Counties; Federal Aid Project No. NHF-321(18); STIP No. U-4700; WBS Element 35993.1.1.; and, SEPA Project No. 16-0347.

This office has reviewed the referenced document dated February, 2016. The NC Division of Water Resources (NCDWR) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. It is our understanding that the project as presented will result in impacts to jurisdictional wetlands, streams, and other surface waters. The NCDWR offers the following comments based on review of the aforementioned document:

Project Specific Comments:

1. This project is being planned as part of the 404/NEPA Merger Process. As a participating team member, the NCDWR will continue to work with the team.
2. Review of the project reveals the presence of surface waters classified as Water Supply Critical Area (WS CA) in the project study area. Given the potential for impacts to these resources during the project implementation, the NCDWR requests that the NCDOT strictly adhere to North Carolina regulations entitled *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) throughout design and construction of the project. This would apply for any area that drains to streams having WS CA classifications.

As described in the EA, portions of the project are located within the Critical Area of a Water Supply. As such, the NCDOT may be required to design, construct, and maintain hazardous spill catch basins in the project area. The number of catch basins installed should be determined during the final design, so that runoff would enter said basin(s) rather than flowing directly into the stream/lake and in consultation with the NCDWR.

3. This project is within the Catawba River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B .0243. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC .02B .0295. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, coordinated with the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, coordinated with the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification.

General Comments:

4. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.
5. Environmental impact statement alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. To meet the requirements of NCDOT's NPDES permit NCS000250, these alternatives should include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual, which includes BMPs such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.
6. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The North Carolina Division of Mitigation Services may be available to assist with wetland mitigation.
7. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts of greater than 150 linear feet to any single stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The North Carolina Division of Mitigation Services may be available to assist with stream mitigation.
8. Future documentation, including the 401 Water Quality Certification Application, shall continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.
9. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
10. The NCDOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.
11. Where streams must be crossed, the NCDWR prefers bridges be used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove preferable. When applicable, the NCDOT should not install the bridge bents in the creek, to the maximum extent practicable.
12. Whenever possible, the NCDWR prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.
15. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers,

etc.) before entering the stream. To meet the requirements of NCDOT's NPDES permit NCS000250, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures.

13. Sediment and erosion control measures should not be placed in wetlands or streams.
14. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.
15. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.
16. Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require an Individual Permit (IP) application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the NCDOT and written concurrence from the NCDWR. Please be aware that any approval will be contingent on appropriate avoidance and minimization of wetland and stream impacts to the maximum extent practical, the development of an acceptable stormwater management plan, and the inclusion of appropriate mitigation plans where appropriate.
17. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
18. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
19. Unless otherwise authorized, placement of culverts and other structures in waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required.
20. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
21. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3883/Nationwide Permit No. 6 for Survey Activities.
22. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.

23. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of the NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
24. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.
25. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
26. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.
27. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

The NCDWR appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact Dave Wanucha at (336) 776-9703 or dave.wanucha@ncdenr.gov.

Electronic copy only distribution:

Steven Kichefsky, US Army Corps of Engineers, Asheville Field Office
Dr. Cynthia Van Der Wiele, US Environmental Protection Agency
File Copy



Waste Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Commissioner

DONALD R. VAN DER VAART
Secretary

MICHAEL SCOTT
Assistant Secretary

Date: May 31, 2016

To: Michael Scott, Director
Division of Waste Management

Through: Dave Lown, Head
Federal Remediation Branch

From: Melanie Bartlett, Federal Remediation Branch

Subject: NEPA Project #16-0347, Proposed US 321 Widening from US 70 in Hickory to Southwest Boulevard (SR 1933) in Lenoir, Catawba, Burke, and Caldwell Counties, North Carolina

The above-mentioned project covers approximately 13.5 miles of US 321 across portions of three North Carolina counties and five municipalities. For individual highway segment and intersection work, nearby regulated sites may be viewed via maps found at <https://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/waste-management-gis-maps>. Information included on these various maps are Site Name and/or Site ID.

If regulated sites are present in the area of a specific address or construction project, additional information for the sites can be accessed by following the "Access Online Files" link on the Superfund Section website: <https://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/e-documents>. The sites may be searched by Site ID or Site Name. If you have any questions, please contact me at (919) 707-8373 or via email at melanie.bartlett@ncdenr.gov.



Waste Management
ENVIRONMENTAL QUALITY

PAT MCCRORY

Supervisor

DONALD R. VAN DER VAART

Supervisor

MICHAEL SCOTT

Supervisor

DATE: June 14, 2016

TO: Michael Scott, Division Director through Sharon Brinkley

FROM: Deb Aja, Western District Supervisor - Solid Waste Section *Deborah Aja*

RE: NEPA Review Project #16-0347, Burke, Caldwell, and Catawba Counties
NCDOT Project to widen US Highway 321 From Hickory to Lenoir

Digitally signed by Deborah Aja
DN: cn=Deborah Aja, o=NC
Waste Section, ou=Environmental Quality
Serial=160347, email=deborah.aja@ncdenr.gov,
c=US
Date: 2016.06.14 15:17:17-0400

The Solid Waste Section has reviewed the Environmental Assessment document for the proposed widening of US Highway 321 from Hickory to Lenoir in Burke, Caldwell, and Catawba Counties, North Carolina. The review has been completed and has seen no adverse impact on the surrounding community and likewise knows of no situations in the community, which would affect this project from a solid waste perspective.

During construction, every feasible effort should be made to minimize the generation of waste, to recycle materials for which viable markets exist, and to use recycled products and materials in the development of this project where suitable. Any waste generated by this project that cannot be beneficially reused or recycled must be disposed of at a solid waste management facility approved to manage the respective waste type. The Section strongly recommends that any contractors are required to provide proof of proper disposal for all waste generated as part of the project. A list of permitted solid waste management facilities are available on the Solid Waste Section portal site at:

<http://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/solid-waste-management-annual-reports/solid-waste-permitted-facility-list>.

Questions regarding solid waste management should be directed to Deb Aja, Western District Supervisor at (822)-296-4702 or by email at deborah.aja@ncdenr.gov.

Cc: Jason Watkins, Field Operations Branch Head
Charles Gerstell, Environmental Senior Specialist
Kim Sue, Environmental Senior Specialist
Sarah Rice, Compliance Officer

State of North Carolina
 Department of Environment and Natural Resources
 INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

Reviewing Office: MRO

Project Number 16-0347 Due Date: 6/15/2016
 County Burke

After review of this project it has been determined that the ENR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
<input checked="" type="checkbox"/>	Permit to construct & operate wastewater treatment facilities, sewer system extensions & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts. On-site inspection. Post-application technical conference usual.	30 days (90 days)
<input checked="" type="checkbox"/>	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time. 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
<input type="checkbox"/>	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
<input type="checkbox"/>	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
<input type="checkbox"/>	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
<input type="checkbox"/>	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.0100 thru 2Q.0300)	Application must be submitted and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113).	90 days
<input type="checkbox"/>	Permit to construct & operate Transportation Facility as per 15A NCAC (2D.0800, 2Q.0601)	Application must be submitted at least 90 days prior to construction or modification of the source.	90 days
<input type="checkbox"/>	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
<input type="checkbox"/>	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950.		
<input type="checkbox"/>	Complex Source Permit required under 15 A NCAC 2D.0800		
<input type="checkbox"/>	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Section) At least 30 days before beginning activity. A fee of \$65 for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
<input checked="" type="checkbox"/>	Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable stormwater conveyances and outlets.		(30 days)
<input type="checkbox"/>	Mining Permit	On-site inspection usual. Surety bond filed with ENR Bond amount varies with type mine and number of acres of affected land. Any acre mined greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
<input type="checkbox"/>	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
<input type="checkbox"/>	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.C. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned."	1 day (N/A)
<input type="checkbox"/>	Oil Refining Facilities	N/A	90-120 days (N/A)
<input type="checkbox"/>	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction, certify construction is according to ENR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of \$200.00 must accompany the application. An additional processing fee based on a percentage of the total project cost will be required upon completion.	30 days (60 days)

County <u>Burke</u>		Project Number: <u>16-0347</u>	Due Date: <u>6/15/2016</u>	Normal Process Time (statutory time limit)
PERMITS		SPECIAL APPLICATION PROCEDURES or REQUIREMENTS		
<input type="checkbox"/>	Permit to drill exploratory oil or gas well	File surety bond of \$5,000 with ENR running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to ENR rules and regulations.		10 days N/A
<input type="checkbox"/>	Geophysical Exploration Permit	Application filed with ENR at least 10 days prior to issue of permit. Application by letter. No standard application form.		10 days N/A
<input type="checkbox"/>	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.		15-20 days N/A
<input checked="" type="checkbox"/>	401 Water Quality Certification	N/A		60 days (130 days)
<input type="checkbox"/>	CAMA Permit for MAJOR development	\$250.00 fee must accompany application		55 days (150 days)
<input type="checkbox"/>	CAMA Permit for MINOR development	\$50.00 fee must accompany application		22 days (25 days)
<input type="checkbox"/>	Several geodetic monuments are located in or near the project area. If any monument needs to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687 Raleigh, NC 27611			
<input checked="" type="checkbox"/>	Abandonment of any wells, if required must be in accordance with Title 15A, Subchapter 2C.0100.			
<input checked="" type="checkbox"/>	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.			
<input type="checkbox"/>	Compliance with 15A NCAC 2H 1000 (Coastal Stormwater Rules) is required.			45 days (N/A)
<input type="checkbox"/>	Catawba, Jordan Lake, Randalman, Tar Pamlico or Neuse Riparian Buffer Rules required.			
<input checked="" type="checkbox"/>	Plans and specifications for the construction, expansion, or alteration of a public water system must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction as per 15A NCAC 18C .0300 et. seq. Plans and specifications should be submitted to 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. All public water supply systems must comply with state and federal drinking water monitoring requirements. For more information, contact the Public Water Supply Section, (919) 707-9100.			30 days
<input checked="" type="checkbox"/>	If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources/Public Water Supply Section at 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. For more information, contact the Public Water Supply Section, (919) 707-9100.			30 days

Other comments (attach additional pages as necessary, being certain to cite comment authority)

Division	Initials	No comment	Comments	Date Review
DAQ		<input type="checkbox"/>		/ /
DWR-WQROS (Aquifer & Surface)	JB	<input type="checkbox"/> <input type="checkbox"/>	MRO WQROS defers to the DWR Transportation Permitting Unit for all commentary specifically related to transportation planning and permitting issues. <ul style="list-style-type: none"> In reference to the maps provided, it appears that a Section 401 Water Quality Certification may be necessary. Potential stream impacts should be determined prior to construction. Modification to NPDES Wastewater, and Wastewater Collection System Permits may be necessary if existing facilities are modified as a result of the project. If located, wells should be properly abandoned. 	6/14/16 / /
DWR-PWS	JHW	<input type="checkbox"/>	See Above	5/31/16
DEMLR (LQ & SW)	ZSK	<input checked="" type="checkbox"/>		6/9/16
DWM - UST	RHT	<input type="checkbox"/>	RE: Project Review Form: 16-0347 The following comments are pertinent to my review: <ol style="list-style-type: none"> The Mooresville Regional Office (MRO) UST Section recommends removal of any abandoned or out-of-use petroleum USTs or petroleum above ground storage tanks (ASTs) within the project area. The UST Section should be contacted regarding use of any proposed or on-site petroleum USTs or ASTs. We may be reached at 704-663-1699. Any petroleum spills must be contained and the area of impact must 	6/6/16

		<p>be properly restored. Petroleum spills of significant quantity must be reported to the North Carolina Department of Environmental Quality – Division of Waste Management Underground Storage Tank Section in the Mooresville Regional Office at 704-663-1699.</p> <p>3. Any soils excavated during demolition or construction that show evidence of petroleum contamination, such as stained soil, odors, or free product must be reported immediately to the local Fire Marshall to determine whether explosion or inhalation hazards exist. Also, notify the UST Section of the Mooresville Regional Office at 704-663-1699. Petroleum contaminated soils must be handled in accordance with all applicable regulations.</p> <p>If you have any questions or need additional information, please contact me at Ron.Taraban@ncdenr.gov or by phone at 704-235-2157.</p>	
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REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

- | | | |
|--|--|---|
| <input type="checkbox"/> Asheville Regional Office
2090 US Highway 70
Swannanoa, NC 28778
(828) 296-4500 | <input checked="" type="checkbox"/> Mooresville Regional Office
610 East Center Avenue, Suite 301
Mooresville, NC 28115
(704) 663-1699 | <input type="checkbox"/> Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 796-7215 |
| <input type="checkbox"/> Fayetteville Regional Office
225 North Green Street, Suite 714
Fayetteville, NC 28301-5043
(910) 433-3300 | <input type="checkbox"/> Raleigh Regional Office
3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 791-4200 | <input type="checkbox"/> Winston-Salem Regional Office
450 West Hanes Mill Road, Suite 300
Winston-Salem, NC 27105
(336) 771-9800 |
| | <input type="checkbox"/> Washington Regional Office
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481 | |

State of North Carolina
 Department of Environment and Natural Resources
 INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

Reviewing Office: Asheville

Project Number 16-0347 Due Date: 6/15/2016
 County Burke

After review of this project it has been determined that the ENR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

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<input type="checkbox"/>	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
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<input type="checkbox"/>	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
<input checked="" type="checkbox"/>	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
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<input type="checkbox"/>	Permit to construct & operate Transportation Facility as per 15A NCAC (2D.0800, 2Q.0601)	Application must be submitted at least 90 days prior to construction or modification of the source.	90 days
<input checked="" type="checkbox"/>	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900		
<input checked="" type="checkbox"/>	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950.	N/A	60 days (90 days)
<input type="checkbox"/>	Complex Source Permit required under 15 A NCAC 2D.0800		
<input type="checkbox"/>	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Section) At least 30 days before beginning activity. A fee of \$65 for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
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<input type="checkbox"/>	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.C. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned."	1 day (N/A)
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<input type="checkbox"/>	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction, certify construction is according to ENR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of \$200.00 must accompany the application. An additional processing fee based on a percentage of the total project cost will be required upon completion.	30 days (60 days)

County Burke		Project Number: 16-0347	Due Date: 6/15/2016	Normal Process Time (statutory time limit)
PERMITS		SPECIAL APPLICATION PROCEDURES or REQUIREMENTS		
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<input type="checkbox"/>	Abandonment of any wells, if required must be in accordance with Title 15A. Subchapter 2C.0100.			
<input checked="" type="checkbox"/>	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.			
<input type="checkbox"/>	Compliance with 15A NCAC 2H 1000 (Cnasta) Stormwater Rules) is required.			45 days (N/A)
<input checked="" type="checkbox"/>	Catawba, Jordan Lake, Randalman, Tar Pamlico or Neuse Riparian Buffer Rules required.			
<input checked="" type="checkbox"/>	Plans and specifications for the construction, expansion, or alteration of a public water system must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction as per 15A NCAC 18C .0300 et. seq. Plans and specifications should be submitted to 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. All public water supply systems must comply with state and federal drinking water monitoring requirements. For more information, contact the Public Water Supply Section, (919) 707-9100.			30 days
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Other comments (attach additional pages as necessary, being certain to cite comment authority)

Division	Initials	No comment	Comments	Date Review
DAQ	BGD	<input type="checkbox"/>	Note two boxes checked above regarding open burning and asbestos requirements.	6/6/16
DWR-WQROS (Aquifer & Surface)	BL BL	<input type="checkbox"/> <input type="checkbox"/>	Checked several boxes including dredge & fill permit, Catawba buffer rules, 401 permit, and NCDOT sediment and erosion control requirements.	6/6/16 6/6/16
DWR-PWS	WPC	<input type="checkbox"/>	Note two boxes checked above regarding construction, expansion, or alteration of a public water system, and relocation of water lines.	6/13/16
DEMLR (LQ & SW)	SEA	<input type="checkbox"/>	See Above	6/14/16
DWM - UST	JCA	<input type="checkbox"/>	Checked Orphan UST box above	6/1/16

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

Asheville Regional Office

2090 US Highway 70
Swannanoa, NC 28778
(828) 296-4500

Mooresville Regional Office

610 East Center Avenue, Suite 301
Mooresville, NC 28115
(704) 663-1699

Wilmington Regional Office

127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 796-7215

Fayetteville Regional Office

225 North Green Street, Suite 714
Fayetteville, NC 28301-5043
(910) 433-3300

Raleigh Regional Office

3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 791-4200

Winston-Salem Regional Office

450 West Hanes Mill Road, Suite 300
Winston-Salem, NC 27105
(336) 771-9800

Washington Regional Office

943 Washington Square Mall
Washington, NC 27889

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

COUNTY: CATAWBA
BURKE
CALDWELL

F02: HIGHWAYS AND ROADS

STATE NUMBER: 16-E-4220-0347
DATE RECEIVED: 05/19/2016
AGENCY RESPONSE: 06/15/2016
REVIEW CLOSED: 06/20/2016

MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORDINATOR
DNCR - DIV OF PARKS AND RECREATION
MSC 4617 - ARCHIVES BUILDING
RALEIGH NC

02 06-0885

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WESTERN PIEDMONT COG

P (NC) 6/16/16
JW/CRK

NATURAL HERITAGE (NC) 6/2/16

Due 6/15/16

PROJECT INFORMATION

APPLICANT: NC Department of Transportation
TYPE: National Environmental Policy Act
Environmental Assessment

DESC: Proposal to widen US 321 from US 70 in Hickory to Southwest Blvd in Lenoir. STIP #U-4700

CROSS-REFERENCE NUMBER: 06-E-4220-0294

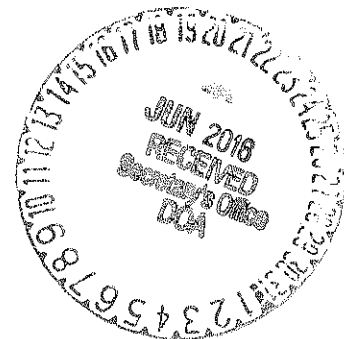
The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: NO COMMENT COMMENTS ATTACHED

SIGNED BY: Renee Gledhill-Earley

DATE: 6.16.16



Department of Environmental Quality Project Review Form

Project Number: 16-0347

**County: Burke, Caldwell and
Catawba**

Date Received: 05/19/2016

Due Date: 6/15/2016

Project Description: Environmental Assessment - Proposal to widen US 321 from US 70 in Hickory to Southwest Blvd in Lenoir. STIP #U-4700

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
<input checked="" type="checkbox"/> Asheville	<input checked="" type="checkbox"/> Air	<input type="checkbox"/> Air Quality	<input type="checkbox"/> Coastal Management
<input type="checkbox"/> Fayetteville	<input checked="" type="checkbox"/> DWR	<input checked="" type="checkbox"/> Parks & Recreation & NC	<input type="checkbox"/> DCM-Marine Fisheries
<input checked="" type="checkbox"/> Mooresville	<input checked="" type="checkbox"/> DWR - Public Water	<input checked="" type="checkbox"/> <u>Natural Heritage</u>	<input type="checkbox"/> Military Affairs
<input type="checkbox"/> Raleigh	<input checked="" type="checkbox"/> DEMLR (LQ & SW)	<input checked="" type="checkbox"/> Waste Mgmt	<input type="checkbox"/> DMF-Shellfish Sanitation
<input type="checkbox"/> Washington	<input checked="" type="checkbox"/> DWM-UST	<input type="checkbox"/> Water Resources Mgmt (Public Water, Planning & Water Quality Program)	<input type="checkbox"/> Wildlife
<input type="checkbox"/> Wilmington		<input checked="" type="checkbox"/> DWR-Transportation Unit <u>Dave Wanucha, Kevin Barnett & Donna Hood</u>	<input checked="" type="checkbox"/> Wildlife - DOT <u>Marla Chambers</u>
<input type="checkbox"/> Winston-Salem			

Manager Sign-Off/Region:	Date: <u>2016-06-08</u>	In-House Reviewer/Agency: <u>Suzanne Mason/NCWTR</u>
--------------------------	----------------------------	---

Response (check all applicable)

No objection to project as proposed.

No Comment

Insufficient information to complete review

Other (specify or attach comments)

If you have any questions, please contact:

**Lyn Hardison at lyn.hardison@ncdenr.gov or (252) 948-3842
943 Washington Square Mall Washington NC 27889
Courier No. 16-04-01**

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

MAY 25 2016

COUNTY: CATAWBA
BURKE
CALDWELL

F02: HIGHWAYS AND ROADS

STATE NUMBER: 16-E-4220-0347
DATE RECEIVED: 05/19/2016
AGENCY RESPONSE: 06/15/2016
REVIEW CLOSED: 06/20/2016

MS PAULA CUTTS
CLEARINGHOUSE COORDINATOR
DPS - DIV OF EMERGENCY MANAGEMENT
FLOODPLAIN MANAGEMENT PROGRAM
MSC # 4218
RALEIGH NC

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WESTERN PIEDMONT COG

PROJECT INFORMATION

APPLICANT: NC Department of Transportation
TYPE: National Environmental Policy Act
Environmental Assessment

DESC: Proposal to widen US 321 from US 70 in Hickory to Southwest Blvd in Lenoir. STIP
#U-4700

CROSS-REFERENCE NUMBER: 06-E-4220-0294

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If additional review time is needed, please contact this office at (919)807-2425.



AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: NO COMMENT COMMENTS ATTACHED

SIGNED BY:

John D. Bumbaker

DATE: 10 June 2016

Samuel

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

Wayne Davis

COUNTY: CATAWBA
BURKE
CALDWELL

F02: HIGHWAYS AND ROADS

STATE NUMBER: 16-E-4220-0347
DATE RECEIVED: 05/19/2016
AGENCY RESPONSE: 06/15/2016
REVIEW CLOSED: 06/20/2016

MS CARRIE ATKINSON
CLEARINGHOUSE COORDINATOR
DEPT OF TRANSPORTATION
STATEWIDE PLANNING - MSC #1554
RALEIGH NC

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WESTERN PIEDMONT COG



PROJECT INFORMATION

APPLICANT: NC Department of Transportation
TYPE: National Environmental Policy Act
Environmental Assessment

DESC: Proposal to widen US 321 from US 70 in Hickory to Southwest Blvd in Lenoir. STIP #U-4700

CROSS-REFERENCE NUMBER: 06-E-4220-0294

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If additional review time is needed, please contact this office at (919)807-2425.

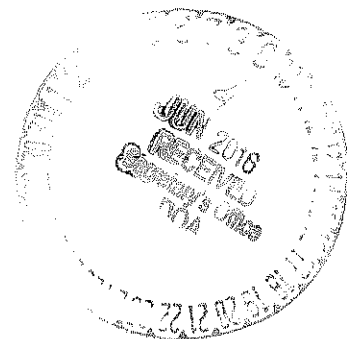
AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: NO COMMENT COMMENTS ATTACHED

SIGNED BY:

David Kelly

DATE:

David Kelly
6/16/16



Appendix E – Merger Concurrence Forms

Section 404/NEPA Interagency Agreement

Concurrence Point 1

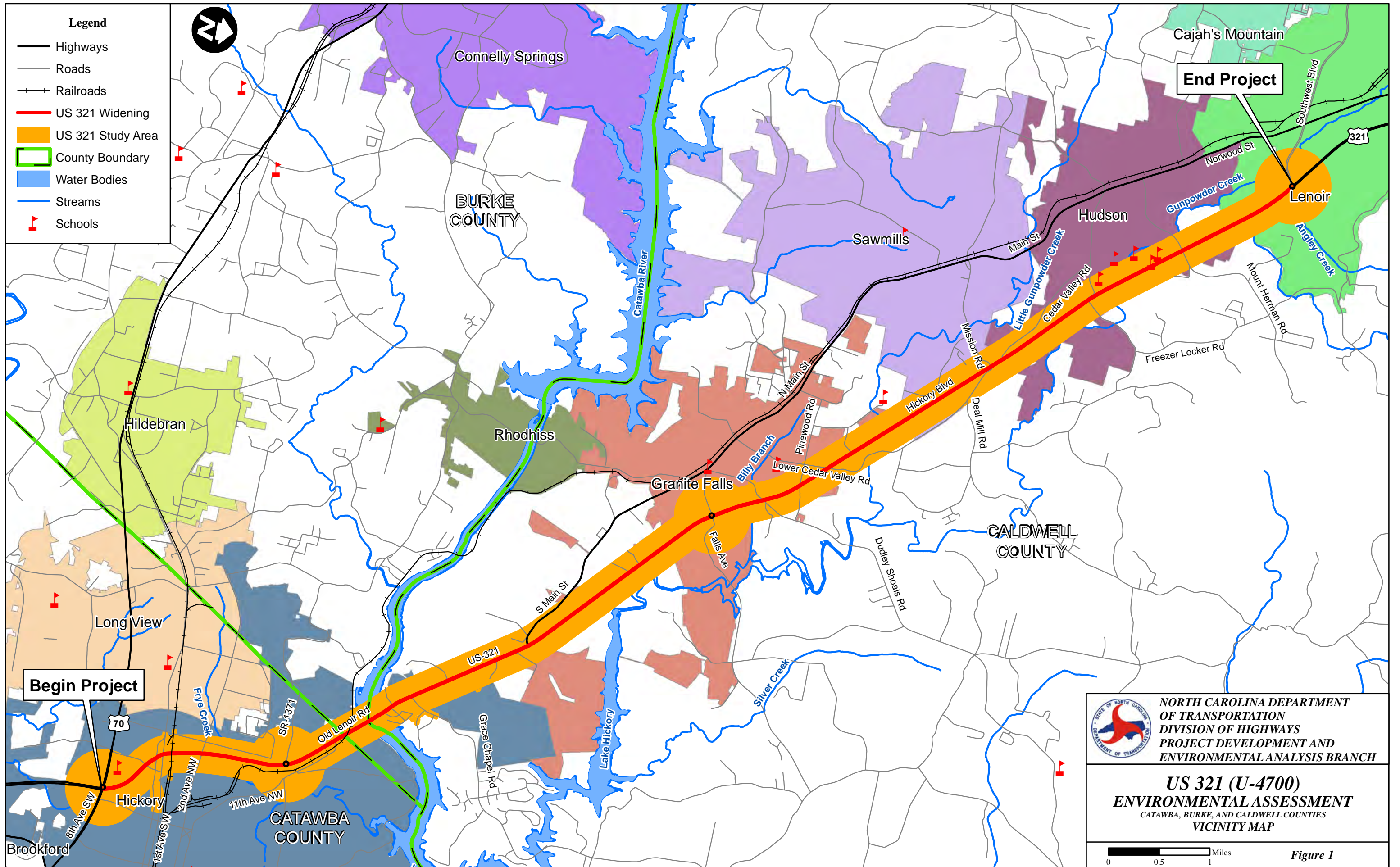
Purpose and Need and Study Area Defined

Project Title: US 321 Improvements from north of US 70 in Hickory to Southwest Boulevard in Lenoir
TIP Project No.: U-4700
WBS No.: 35993.1.1

The Project Team met on February 16, 2018 and concurs with the following purpose and need and the attached study area:

- Need: Some segments of U.S. 321 between Hickory and Lenoir are currently experiencing congestion and operate at level of service (LOS) E and F. Also, a majority of intersections along the project area currently operate at LOS E and F. In 2035, 12 of 13 segments along the mainline and 16 of 18 intersections are projected to operate at LOS F.
- Purpose: The purpose of this project is to reduce congestion on U.S. 321 in order to achieve a LOS of D or better in the Design Year (2040).

<u>Name</u>	<u>Agency</u>	<u>Date</u>
	FHWA	2-16-18
	USEPA	
	USACE	2-27-18
	USFWS	3/20/18
	NCDOT	2/16/18
	NCWRC	4/29/2018
	NCDWR	2-21-18
	NCDCR	2-21-18
	MPO	2/23/2018



SECTION 404 / NEPA MERGER PROCESS CONCURRENCE AGREEMENT

CONCURRENCE POINT 2: Design Options for Detailed Study

NCDOT STIP Project No.: U-4700

US 321 from US 70 to US 64/NC18-90 (17.2 miles)

Catawba, Burke and Caldwell Counties

NCDOT Divisions 11, 12, and 13

STIP Description: The North Carolina Department of Transportation proposes to widen US 321 from US 70 in Hickory to US 64/NC 18-90 in Lenoir. The proposed action involves approximately 17.2 miles of existing US 321 with a majority of the roadway located in Catawba and Caldwell Counties and 0.3 mile in Burke County.

Best Fit Alternatives to Study in Detail:

- Typical Section 1:** Six-lane divided with 22-foot raised median with a concrete barrier with curb and gutter in outside lanes
- Typical Section 2:** Six-lane divided with 30-foot raised grassed median with curb and gutter in median and outside lanes
- Typical Section 3:** Six-lane divided with 30-foot raised grassed median with curb and gutter in median and grassed shoulder
- Typical Section 4:** Six-lane divided with 46-foot depressed grassed median and grassed shoulder

U-4700 Segments*	Typical Section Alternatives for Detailed Study
Segment A: US 70 to 800 feet north of 2 nd Avenue NW in Hickory (1.24 miles)	<input checked="" type="checkbox"/> Typical Section 1 with Interchange at 13 th Street SW <input checked="" type="checkbox"/> Typical Section 2 with Interchange at 13 th Street SW
Segment B: 800 feet north of 2 nd Ave. NW to 1300 feet north of Clement Blvd. (0.95)	<input checked="" type="checkbox"/> Typical Section 3 with Interchange at Clement Blvd. <input checked="" type="checkbox"/> Typical Section 4 with Interchange at Clement Blvd.
Segment C: 1300 feet north of Clement Blvd to just south of Grace Chapel Road (1.12 miles)	<input checked="" type="checkbox"/> Replace bridges over Catawba River and grade-separate Catawba County railroad crossing
Segment D: Just south of Grace chapel Rd. to 400 feet south of Gunpowder Creek (8.10)	<input checked="" type="checkbox"/> Typical Section 3 <input checked="" type="checkbox"/> Typical Section 4
Segment E: 400 feet south of Gunpowder Creek to Southwest Blvd. (2.04)	<input checked="" type="checkbox"/> Typical Section 3 <input checked="" type="checkbox"/> Typical Section 4
Segment F: Southwest Blvd. to just south of Mclean Drive (2.18)	<input checked="" type="checkbox"/> Typical Section 3 <input checked="" type="checkbox"/> Typical Section 4
Segment G: South of McLean Dr. to South of US 64/NC 18-90 in Lenoir (1.04 miles)	<input checked="" type="checkbox"/> Typical Section 1 <input checked="" type="checkbox"/> Typical Section 3 <input checked="" type="checkbox"/> Typical Section 4
Segment H: US 321 US 64/NC18-90 intersection in Lenoir	<input checked="" type="checkbox"/> Interchange at US 321 and US 64/NC18-90

*These segments are for CP2 purposes-these are not the STIP sections

The Merger Team met on October 20, 2009 and concurs with the alternatives to be carried forward for the proposed project as indicated above.

FHWA <u>Donnie Brew</u> 10-20-09 USACE <u>Monte Matthews</u> 10-20-09 USEPA <u>Christopher Militscher</u> 10/20/09 USFWS <u>Marella Buncick</u> 10/20/09	NCDOT <u>Kristina Solberg</u> 10-20-09 NCDWQ <u>Amy Buliss</u> 10-20-09 SHPO <u>Renee Gladhill-Early</u> 10/20/09 NCWRC <u>Marla Chambers</u> 10/20/2009
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Section 404/NEPA Interagency Agreement

**Concurrence Point 2A
Bridging Decisions and Alignment Review**

Project Title: US 321 Improvements from north of US 70 in Hickory to Southwest Boulevard in Lenoir
 TIP Project No.: U-4700
 WBS No.: 35993.1.1

The Project Team met on February 16, 2018 and concurs with the following major drainage structures:

Site No.	Proposed Hydraulic Structure
1	Extend 2 – 10' x 10' RCBC (26' LT & 15' RT)
2	2 – New Bridges (1 @ 825' & 1 @ 944')
3	Extend 1 – 6' x 7' RCBC (73' LT & 89' RT)
4	Extend 2 – 6' x 7' RCBC (56' LT & 49' RT)
5	Extend 1 – 38' x 18' RC Arch (20' LT & 22.5' RT)
6	2 – Widen Bridges (1 @ 158' & 1 @ 173')
7	Extend 3 – 9' x 9' RCBC (31' LT & 15' RT)
8	Extend 1 – 7' x 7' RCBC (41' LT & 23' RT)
17	Extend 1 – 72" CMP (38' RT)
17A	New 135' bridge
17B	New 8' X 8' RCBC – 187'

<u>Name</u>	<u>Agency</u>	<u>Date</u>
<i>[Signature]</i>	FHWA	2-16-18
	USEPA	
<i>[Signature]</i>	USACE	2/27/2018
<i>[Signature]</i>	USFWS	3/26/18
<i>[Signature]</i>	NCDOT	2/16/18
<i>[Signature]</i>	NCWRC	4/24/2018
<i>[Signature]</i>	NCDWR	2-21-18
<i>[Signature]</i>	NCDCR	2-21-18
<i>[Signature]</i>	MPO	2/23/2018

Section 404/NEPA Interagency Agreement

Concurrence Point 3

Least Environmentally Damaging Practicable Alternative (LEDPA)/Preferred Alternative Selection

Project Title: US 321 Improvements from north of US 70 in Hickory to Southwest Boulevard in Lenoir
 TIP Project No.: U-4700
 WBS No.: 35993.1.1

The Project Team met on February 16, 2018 and concurs with the following LEDPA/preferred alternative:

- Typical Section 1: Six-lane divided with 22-foot raised median with a concrete barrier with curb and gutter in outside lanes
- Typical Section 2: Six-lane divided with 30-foot raised grassed median with curb and gutter in median and shoulder
- Typical Section 3: Six-lane divided with 30-foot raised grassed median with curb and gutter in median and grassed shoulder

U-4700 Segments*	NCDOT Recommended Design
Segment A: North of US 70 to 800 feet north of 2nd Avenue NW in Hickory (0.95 miles)	Typical Section 1/2 (combination)
Segment B: 800 feet north of 2nd Ave. NW to 1300 feet north of Clement Blvd (0.95 miles)	Typical Section 3
Segment C: 1300 feet north of Clement Blvd to just south of Grace Chapel Rd (1.12 miles)	Replace bridges over Catawba River and grade-separate at RR crossing
Segment D: Just south of Grace Chapel Rd. to 400 feet south of Gunpowder Creek (8.10 miles)	Typical Section 3
Segment E: 400 feet south of Gunpowder Creek to Southwest Blvd (2.04 miles)	Typical Section 3

* These segments are for C.P. 2 purposes - these are not the STIP sections

U-4700 Interchange Locations	NCDOT Recommended Design
2 nd Avenue SW	Interchange
Clement Boulevard	Superstreet intersection
Grace Chapel Road	Flyover
Alex Lee Boulevard	Tight diamond interchange
Falls Avenue	Tight diamond interchange

<u>Agency</u>	<u>Name</u>	<u>Date</u>	<u>Agency</u>	<u>Name</u>	<u>Date</u>
FHWA	<i>Dahler Brown</i>	<i>2-16-18</i>	NCDOT	<i>Egmont Trossen</i>	<i>2/16/18</i>
USACE	<i>St. Kiehl</i>	<i>2/27/2018</i>	NCDWR	<i>D. Williams</i>	<i>2-27-18</i>
USEPA			NCDRC	<i>Renee Medhill-Easley</i>	
USFWS	<i>M. L. Price</i>	<i>3/26/18</i>	NCWRC	<i>Marla Chambers</i>	<i>4/24/18</i>
MPO	<i>John Marshall</i>	<i>2/23/2018</i>			

Appendix F – C.P. 2A Recommended Major Drainage Structures

Table F1: Recommended Major Drainage Structures

Near Station	Site #	Field Verification ID #	Name	Existing Structure: Type, Size, Length	Proposed Structure	Estimated Min Length / Min Culvert Total Length	Cost Estimate ^a	Stream Classification	Proposed Wetland (ACRE) / Stream Impacts (LF) ^b	Intermittent / Perennial	FEMA	Channel Dimensions	Riparian Buffer Impacts
-L- 95+00	1	Frye Creek	Frye Creek	2 @ 10' X 10' RCBC, 120.5'	Retain and Extend	26' (LT) & 15' (RT)/ 161.5'	\$90,200	WS-IV	144 LF - Stream Impact	Perennial	Yes	8' wide, 5' deep	N/A
-L- 175+00	2	Catawba River	Catawba River	2 Bridges: #1: 10 spans, 825' length; #2: 12 spans, 944' length	Remove and Replace Bridges	NB Bridge: 1809' SB Bridge: 1720'	\$29,248,500	WS-IV, B, CA	Bridge (No impacts)	Perennial	Yes	680' wide, depth varies	Yes
-L- 338+00	3	SN	UT to Gunpowder Creek	6' X 7' RCBC, 275'	Retain and Extend	76' (LT) & 89' (RT)/ 440'	\$144,180	WS IV, CA	268 LF - Stream Impact	Perennial	Only at Outlet	12' wide, 5' deep	N/A
-L- 400+00	4	Billy Branch	Billy Branch	2 @ 6' X 7' RCBC, 264'	Retain and Extend	56' (LT) & 49' (RT)/ 369'	\$99,225	WS-IV	197 LF - Stream Impact	Perennial	Yes	15' wide, 3' deep	N/A
-L- 465+00	5	Little Gunpowder Creek	Little Gunpowder Creek	38' X 18' RC Arch, 147'	Retain and Extend	20'(LT) & 22.5'(RT)/ 189.5'	\$85,000	WS-IV	0.10 ACRE - Wetland Impact/ 150 LF - Stream Impact	Perennial	Yes	19' wide, 4' deep	N/A
-L- 625+00	6	Gunpowder Creek	Gunpowder Creek	2 Bridges: #1: 3 spans, 158' length; #2: 3 spans, 173' length	Retain and Widen Bridges	Widen NB Bridge 16' Widen SB Bridge 25'	\$1,051,400	C	Bridge (No impacts)	Perennial	Yes	22' wide, 7' deep	N/A
-L- 696+00	7	Brushy Fork	Brushy Fork	3 @ 9' X 9' RCBC, 136'	Retain and Extend	31'(LT) & 15'(RT)/182'	\$148,700	C	124 LF - Stream Impact	Perennial	Only at Outlet	9' wide, 11' deep	N/A
-L- 705+00	8	Angley Creek	Angley Creek	7' X 7' RCBC, 189'	Retain and Extend	41'(LT) & 23'(RT)/253'	\$59,040	C	366 LF - Stream Impact	Perennial	Yes	9' wide, 2' deep	N/A
-Y19- 19+88	17	SRR	UT to Catawba River	72" CMP, 209'	Retain and Extend	38'(RT)/247'	\$5,320	WS-IV, B, CA	59 LF - Stream Impact	Perennial	No	10' wide, 2" deep	N/A
-Y19 FLY- 14+98	17A	SC	UT to Catawba River	N/A	Proposed Bridge ^c	135'	\$610,000	WS-IV, B, CA	N/A	Perennial	No	5' wide, 5' deep	N/A
Wolfe Rd. 17+00	17B	SRR	UT to Catawba River	N/A	Proposed Culvert	187' - 8' x 8' RCBC	\$250,000	WS-IV, B, CA	380 LF - Stream Impact	Perennial	No	10' wide, 2" deep	N/A

^a Cost Estimates are based off Bid Averages provided by NCDOT for 2012

Stream/wetland impacts are measured from openings of existing culvert to 25' beyond slope stakes

^c Only proposed for Flyover alternative at Grace Chapel Road intersection