Burke County
Bridge Nos. 149 and 150 on I-40
over SR 1744 (Mineral Springs Mountain Road)
Federal Aid Project No. BRNHS-40-1(160)112
W.B.S. No. 38372.1.1
T.I.P. No. B-4448

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

September 2016

9-9-16
Date

Charles R. Cox, PE
Project Development & Environmental Analysis Unit

9-12-16
Date

for **John F. Sullivan, III, PE, Division Administrator**
Federal Highway Administration

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Project Commitments

Bridge Nos. 149 and 150 on I-40 over SR 1744 (Mineral Springs Mountain Road)

BURKE COUNTY

WBS Element 38372.1.1
Federal Project No. BRNHS-40-1(160)112

TIP PROJECT B-4448

Project Development & Environmental Analysis Unit (Natural Environment Section) and Division 13

- Construction activities for this project will not take place until Endangered Species Act compliance is satisfied for Northern long-eared bat (NLEB). The NCDOT Biological Surveys Group will be responsible for habitat assessment and surveys for the NLEB.

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INTRODUCTION: Replacement of Bridge Nos. 149 and 150 is included in the latest approved North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (TIP). The location is shown in Figure 1 in the Appendix. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

I. PURPOSE AND NEED STATEMENT

NCDOT Bridge Management Unit records indicate Bridge No. 149 has a sufficiency rating of 66.7 out of a possible 100 for a new structure. It is considered functionally obsolete due to deck and superstructure conditions of 6 out of 9, a substructure condition of 5 out of 9, and deck geometry appraisal of 2 out of 9 according to Federal Highway Administration (FHWA) standards. It is estimated to have eight years of remaining life. Additionally, Bridge No. 149 has a 28-foot clear roadway width, which does not meet current design standards.

Bridge No. 150 has a sufficiency rating of 87 out of 100. Its deck and superstructure conditions are rated 6 out of 9, its substructure condition is rated 5 out of 9, and its deck geometry appraisal is 7 out of 9. It is estimated to have six years of remaining life.

Components of both the concrete superstructure and substructure of Bridge No. 149 have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities.

Bridge No. 150 is not currently classified as functionally obsolete or structurally deficient; however, the NCDOT Structures Management Unit compared future anticipated maintenance costs over a 30-year period for both rehabilitation and replacement of the bridge. The total maintenance costs for rehabilitation exceed those of replacement by more than $100,000. Additionally, replacing the bridge could eliminate or reduce the quantity of joints, which would further reduce future maintenance costs. The use of one temporary detour bridge for both bridge replacements will also increase the cost-effectiveness of the proposed project.

The overall crash rate for this section of I-40 (60.78 per 100 million vehicle miles traveled [MVMT]) is higher than the statewide crash rate for rural interstates (55.94 per 100 MVMT). The proposed replacement bridges will be built to meet current design standards and are expected to reduce the potential for these types of crashes.

The bridges are approaching the end of their useful life. Despite recent repairs, Bridge No. 149 has eight years of estimated remaining life, while Bridge No. 150 is estimated to have just six years of remaining life. Replacement of both bridges with structures that meet current design standards will result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located in Burke County, approximately one mile southeast of the Town of Valdese, where I-40 crosses Mineral Springs Mountain Road (see Figure 1 in Appendix). Development south of the bridges is mostly rural residential in nature, with the exception of the New Forty Flea Market near the southeast quadrant of the I-40/Mineral Springs Mountain Road interchange. Development intensity somewhat increases north of the bridges, and commercial uses appear in proximity to the Town of Valdese. The area surrounding the bridges is generally zoned for medium-density residential and business uses, with all new development subject to the standards of the Western Piedmont Council of Governments' *I-40 Corridor Plan*.

I-40 is classified as an interstate in the Statewide Functional Classification System. It is on the National Highway System (NHS) and the North Carolina National Truck Network for Surface Transportation Assistance Act (STAA) Vehicles. I-40 is designated as a Strategic Highway Corridor and a North Carolina Intrastate System route.

In the vicinity of the bridges, I-40 is an interstate on rolling terrain. It is a four-lane divided freeway with full access control. The roadway has two 12-foot lanes in each direction, a 20-foot grass median, 10-foot paved outside shoulders, and four-foot inside paved shoulders. Bridges 149 and 150 have a minimum vertical clearance restriction of 17 feet 6 inches and 14 feet 9 inches, respectively, above SR 1744.

Both bridges are three-span structures that consist of a reinforced concrete floor on I-beams. The end bents consist of reinforced concrete caps on steel H-piles. The interior bents consist of reinforced concrete caps on steel H-piles encased in concrete. Existing Bridge 149 was constructed in 1958. The overall length of Bridge 149 is 123 feet, and the clear roadway width is 28 feet. Existing Bridge 150 was constructed in 1958. The overall length of Bridge 150 is 123 feet, and the clear roadway width is 40 feet. Both bridges are currently un-posted for single vehicles and truck-tractor semi-trailer (TTST).

There are no utilities attached to the existing structures, but overhead power lines are located along the west side of SR 1744 (Mineral Springs Mountain Road) and cross both bridges.

The 2015 traffic volume of between 44,600 and 46,000 vehicles per day (VPD) on the bridges is expected to increase to between 63,200 and 64,800 VPD by the year 2040. The projected volume includes seven percent TTST and three percent dual-

tired vehicles (DT). The posted speed limit is 65 miles per hour in the project area. There are no school bus routes along I-40 through the project limits; however, three buses utilize the section of SR 1744 (Mineral Springs Mountain Road) below I-40 on their morning and afternoon routes each day.

There were ten accidents reported in the project area during a recent five-year period. Two crashes occurred in the vicinity of Bridge No. 150 (I-40 westbound), and eight occurred in the vicinity of Bridge No. 149 (I-40 eastbound). Five of the crashes (50%) involved guardrail in the median or shoulder. The overall crash rate for this section of I-40 (60.78 per 100 MVMT) is higher than the statewide crash rate for rural interstates (55.94 per 100 MVMT). The proposed replacement bridges will be built to meet current design standards and are expected to reduce the potential for these types of crashes.

I-40 is an interstate facility with full access control; therefore, there are no existing bicycle or pedestrian facilities, and permanent or temporary bicycle or pedestrian accommodations are not proposed along I-40 for this project. Because there is little bicycle or pedestrian traffic in the area, no special accommodations are proposed along SR 1744 as a part of this project.

III. ALTERNATIVES

A. Preferred Alternative

Bridge Nos. 149 and 150 will be replaced on the existing alignment while traffic is maintained on a temporary two-lane onsite detour alignment to the south side (see Figure 2 in Appendix).

The replacement structures will consist of two bridges approximately 134 feet long. The bridge lengths are based on preliminary design information and will accommodate possible future widening of SR 1744 to three lanes. The bridges will be of sufficient width to provide for two 12-foot lanes with 12-foot offsets on the outside and six-foot offsets on the inside, and will be spaced far enough apart to accommodate possible future I-40 widening. The roadway grade of the new structures will be approximately the same as the existing grade.

Improvements to the approach roadway will be required for a distance of approximately 1,340 feet to the west and 1,530 feet to the east of the structures. The approach roadway will be 40-foot pavement width in each direction to provide two 12-foot lanes. A 14-foot outside shoulder (12 feet paved) and a four-foot paved inside shoulder will be provided, in accordance with the current NCDOT Design Policy. The shoulder will include three additional feet where guardrail is required.

Traffic will be maintained onsite during construction with the use of a temporary detour bridge just south of Bridge 149. The temporary structure will be approximately 127 feet in length with a roadway elevation approximately the same as the existing structures. The detour structure will have a clear deck width of 32 feet, which will

provide two 12-foot lanes with four-foot offsets. The cross-over will provide two 12-foot lanes with eight-foot shoulders, of which four feet will be paved.

Approximately 475 feet of SR 1744 will be improved that will tie into the existing cross section. The design for this section of SR 1744 has the following cross section: two 12-foot lanes with eight-foot shoulders (four-foot full depth paved shoulders under I-40 and four-foot grass shoulders).

NCDOT Division 13 concurs that replacement of both structures with an onsite detour is the preferred alternative.

B. Alternatives Eliminated From Further Consideration

The No Build alternative will eventually necessitate closure of the bridges. Closure is not acceptable due to the traffic service provided by I-40.

“Rehabilitation” of the old bridges is not practical due to their age and deteriorated condition. The concrete and steel elements of the existing structures have all deteriorated to a point where maintenance activities will be impractical and too costly for repair and rehabilitation.

An offsite detour is not practical because potential detour routes cannot support the high volume of traffic (greater than 20,000 vehicles per day) that uses I-40.

IV. ESTIMATED COSTS

The estimated costs, based on 2014 prices, are as follows:

Table 1. Estimated Project Costs

	Estimate
Structures	$ 1,298,000
Roadway Approaches	2,641,000
Detour Structure	400,000
Structure Removal	140,900
Misc. & Mob.	1,480,000
Eng. & Contingencies	841,000
Total Construction Cost	$ 6,800,000
Right-of-way Costs	0
Right-of-way Utility Costs	48,000
Total Project Cost	$ 6,848,000

V. NATURAL ENVIRONMENT

A. Physical Characteristics

1. Water Resources

The project study area is part of the Catawba River basin (U.S. Geological Survey [USGS] Hydrologic Unit 03050101). No streams were identified in the project study area.

2. Biotic Resources

Table 2. Coverage of Terrestrial Communities in the Study Area

Community	Coverage (ac.)
Maintained/ Disturbed	24.6
Total	**24.6**

B. Jurisdictional Topics

No jurisdictional features are located within the project study area.

1. Federally Protected Species

As of July 24, 2015 the United States Fish and Wildlife Service (USFWS) lists nine federally protected species for Burke County.

Table 3. Federally Protected Species Listed for Burke County.

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Glyptemys muhlenbergii	Bog turtle	T(S/A)	No	Not Required
Myotis septentrionalis	Northern long-eared bat	T	Yes	Unresolved
Hexastylis naniflora	Dwarf-flowered heartleaf	T	No	No Effect
Liatris helleri	Heller's blazing star	T	No	No Effect
Hudsonia montana	Mountain golden heather	T	No	No Effect
Gymnoderma lineare	Rock gnome lichen	E	No	No Effect
Isotria medeoloides	Small whorled pogonia	T	No	No Effect
Geum radiatum	Spreading avens	E	No	No Effect
Sisyrinchium dichotomum	White irisette	E	No	No Effect

E - Endangered
T - Threatened
T(S/A) - Threatened due to similarity of appearance

Northern long-eared bat

USFWS Optimal Survey Window: June 1 – August 15

Habitat Description: In North Carolina, Northern long-eared bat (NLEB) occurs in the mountains, with scattered records in the Piedmont and coastal plain. In western North Carolina, NLEB spend winter hibernating in caves and mines. Since this species is not known to be a long-distance migrant, and caves and subterranean mines are extremely rare in eastern North Carolina, it is uncertain whether or where NLEB hibernate in eastern North Carolina. During the summer, NLEB roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees (typically ≥3 inches diameter at breast height). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat has also been found, rarely, roosting in structures like barns and sheds, under eaves of buildings, behind window shutters, in bridges, and in bat houses. Foraging occurs on forested hillsides and ridges, and occasionally over forest clearings, over water, and along tree-lined corridors. Mature forests may be an important habitat type for foraging.

Biological Conclusion: Unresolved
Potential roost trees exist within the study area. In addition, evidence indicates that bats are using the bridges for both day and night roosting. Due to the presence of unidentified bats in the overpasses, and the presence of potential roost trees, the Biological Conclusion for NLEB will remain Unresolved until further investigations can be conducted. Construction activities for this project will not take place until Endangered Species Act compliance is satisfied for NLEB. The NCDOT Biological Surveys Group will be responsible for habitat assessment and surveys for the NLEB.

Bald Eagle and Golden Eagle Protection Act

Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

No water bodies large enough or sufficiently open to be considered potential feeding sources were identified in the project study area. Additionally, a review of the July 2015 NCNHP database on September 2, 2015, revealed no known occurrences of this species within 1.0 mile of the project study area. Due to the lack of habitat, known occurrences, and minimal impact anticipated for this project, it has been determined that this project will not affect this species.

VI. HUMAN ENVIRONMENT

A. Section 106 Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at Title

36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and afford the Advisory Council a reasonable opportunity to comment on such undertakings.

1. Historic Architecture

In a form dated December 28, 2009, an NCDOT Cultural Resources Professional indicated no surveys for historic properties are required. The form is attached in the Appendix.

2. Archaeology

In a form dated January 20, 2010, an NCDOT Cultural Resources Professional indicated no surveys for archaeology are required. The form is attached in the Appendix.

B. Community Impacts

No adverse impact on families or communities is anticipated. Right-of-way acquisition is not anticipated. No relocatees are expected with implementation of the proposed alternative.

No adverse effect on public facilities or services is expected. The project is not expected to adversely affect social, economic, or religious opportunities in the area. The project is not in conflict with any plan, existing land use, or zoning regulation. No change in land use is expected to result from the construction of the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. All construction will take place along existing alignment. There are no soils classified as prime, unique, or of state or local importance in the vicinity of the project.

The project will not have a disproportionately high and adverse human health and environmental effect on any minority or low-income population.

C. Noise & Air Quality

The project is located in Burke County, which has been determined to comply with the National Air Quality Standards. The proposed project is located in an attainment area; therefore, 40 CFR Parts 51 and 93 are not applicable. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

1. Mobile Source Air Toxics (MSAT)

<u>Background</u>

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the

U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (http://www.epa.gov/iris/). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (http://www.epa.gov/ttn/atw/nata1999/). These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules. The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOVES2010b model, even if vehicle activity (vehicle-miles travelled, VMT) increases by 102 percent as assumed, from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

MSAT analyses are intended to capture the net change in emissions within an affected environment, defined as the transportation network affected by the project. The affected environment for MSATs may be different than the affected environment defined in the NEPA document for other environmental effects, such as noise or wetlands. Analyzing MSATs only within a geographically-defined "study area" will not capture the emissions effects of changes in traffic on roadways outside of that area, which is particularly important where the project creates an alternative route or diverts traffic from one roadway class to another. At the other extreme, analyzing a metropolitan area's entire roadway network will result in emissions estimates for many roadway links not affected by the project, diluting the results of the analysis.

Incomplete or Unavailable Information for Project Specific MSAT Health Impact Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of

electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, www.epa.gov/iris/). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, http://pubs.healtheffects.org/view.php?id=282) or in the future as vehicle emissions substantially decrease (HEI, http://pubs.healtheffects.org/view.php?id=306).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (http://pubs.healtheffects.org/view.php?id=282). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (www.epa.gov/risk/basicinformation.htm#g) and the HEI (http://pubs.healtheffects.org/getfile.php?u=395) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology

standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Summary

Vehicles are a major contributor to decreased air quality because they emit a variety of pollutants into the air. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. New highways or the widening of existing highways increase localized levels of vehicle emissions, but these increases could be offset due to increases in speeds from reductions in congestion and because vehicle emissions will decrease in areas where traffic shifts to the new roadway. Significant progress has been made in reducing criteria pollutant emissions from motor vehicles and improving air quality, even as vehicle travel has increased rapidly.

The project is located in Burke County, which have been determined to comply with the National Ambient Air Quality Standards. The proposed project is located in an attainment area for CO; therefore, 40 CFR Parts 51 and 93 are not applicable. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

This evaluation completes the assessment requirements for air quality of the 1990 Clean Air Act Amendments and the NEPA process, and no additional reports are necessary.

2. Noise

Noise levels may increase during project construction; however, these impacts are not expected to be substantial considering the relatively short-term nature of construction noise and the limitation of construction to daytime hours. The

transmission loss characteristics of nearby natural elements and man-made structures are believed to be sufficient to moderate the effects of intrusive construction noise.

VII. GENERAL ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of bridges with structures that meet current design standards will result in safer traffic operations.

The bridge replacements will not have an adverse effect on the quality of the human or natural environment with the use of the current North Carolina Department of Transportation standards and specifications.

The proposed project will not require right-of-way acquisition or easement from any land protected under Section 4(f) of the Department of Transportation Act of 1966.

An examination of local, state, and federal regulatory records by the GeoEnvironmental Section revealed no sites with a Recognized Environmental Concern (REC) within the project limits. RECs are most commonly underground storage tanks, dry cleaning solvents, landfills and hazardous waste disposal areas.

VIII. COORDINATION & AGENCY COMMENTS

NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service, U.S. Forest Service, Tennessee Valley Authority, Eastern Band of Cherokee Indians, N.C. Division of Water Resources, N.C. Division of Parks & Recreation, N.C. State Historic Preservation Office, Burke County Planning Department, Burke County Schools, Burke County Emergency Services, Town of Valdese, and Greater Hickory Urban Area Metropolitan Planning Organization (MPO). Copies of comments received are included in the Appendix.

The **U.S. Environmental Protection Agency** in their email dated September 4, 2009, indicated that the stream on the south side of the interchange should be avoided, if possible.

> **Response:** The stream is located outside of the project study area, and the project will not impact the stream.

The **Town of Valdese** in their email dated March 19, 2014, requested that the NCDOT-installed plantings along I-40 be replaced.

> **Response:** NCDOT will replace the plantings.

The **U.S. Fish and Wildlife Service, the U.S. Forest Service**, **the U.S. Army Corps of Engineers**, the **Tennessee Valley Authority**, the **N.C. Division of Water Resources**, the **Eastern Band of Cherokee Indians**, the **N.C. Division of Parks & Recreation**, the **Burke County Planning Department**, the **Burke County Schools**, and the **Greater Hickory Urban Area MPO** had no special concerns for this project.

IX. PUBLIC INVOLVEMENT

A newsletter has been sent to property owners and residents along I-40 from approximately 0.5 mile east and west of the proposed project, as well as to property owners and residents along SR 1744 between Refour Avenue SE to just southeast of Rutherford College Road. The newsletter was also sent to residents and property owners along Rutherford College Road (between SR 1744 and Fay Lowman Road), Hazel Street, Holly Hill Circle, Montanya View Drive, G.W. Abee Street, Laughridge Avenue, and John Icard Road. One comment has been received from a resident living near the bridges who is concerned about noise levels during construction. As stated in Section VI.C, construction noise impacts are not expected to be substantial.

Based on the receipt of one newsletter response, a Public Meeting was determined unnecessary. There is not substantial controversy on social, economic, or environmental grounds concerning the project.

X. CONCLUSION

On the basis of the above discussion, it is concluded that no substantial adverse environmental impacts will result from implementation of the project. The project is therefore considered to be a federal “Categorical Exclusion” due to its limited scope and lack of substantial environmental consequences.

Appendix

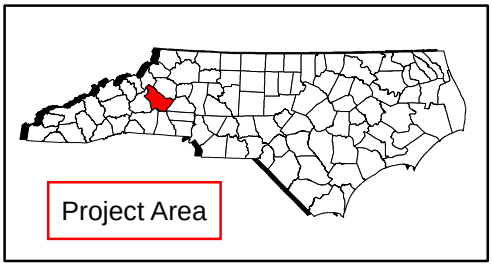


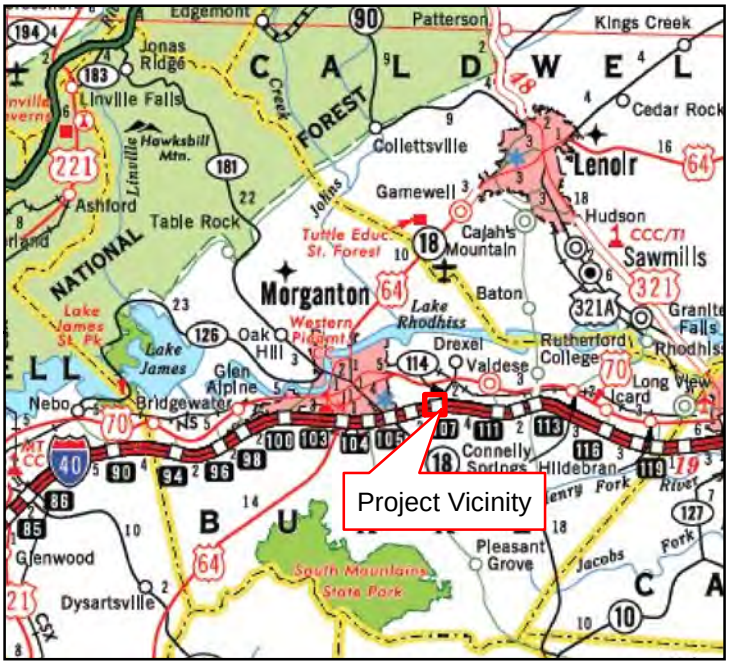
Figure 1

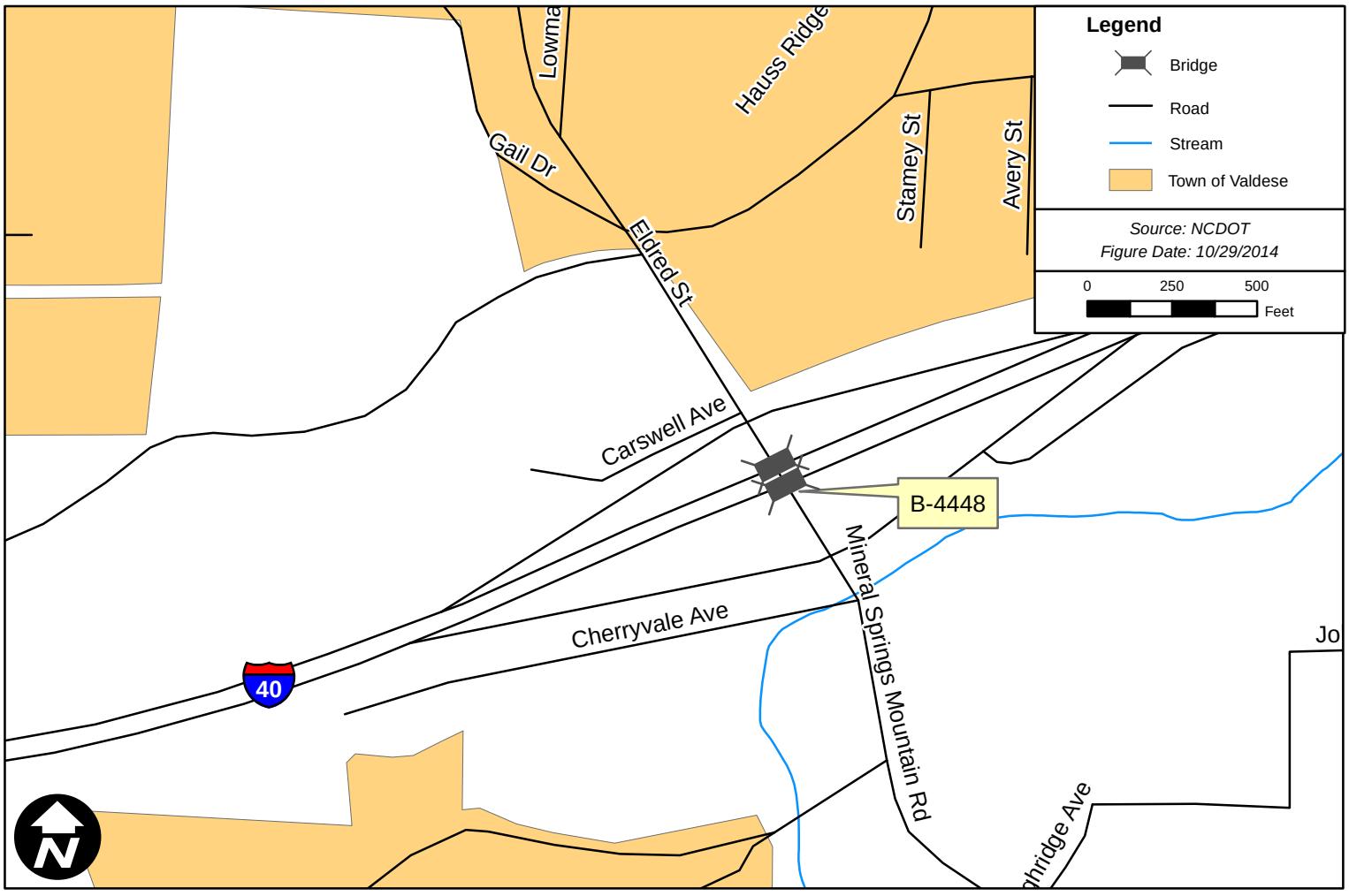
Project Vicinity

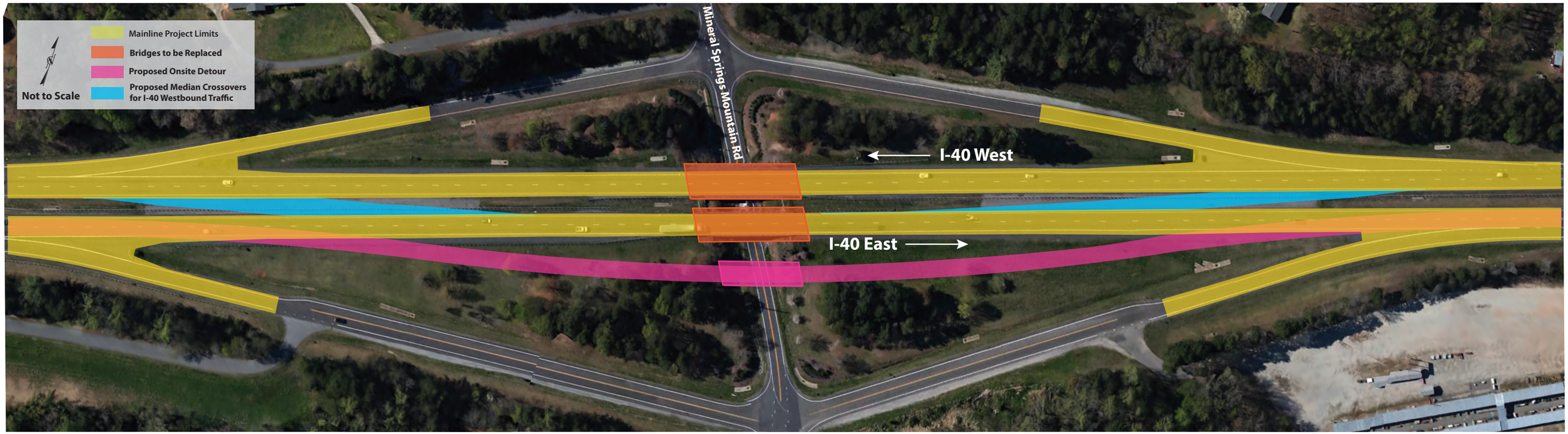
Replace Bridge No. 149
on I-40 over SR 1744
(Eldred St/Mineral Springs Mountain Rd)
STIP B-4448

Burke County, North Carolina

North Carolina
Department of Transportation







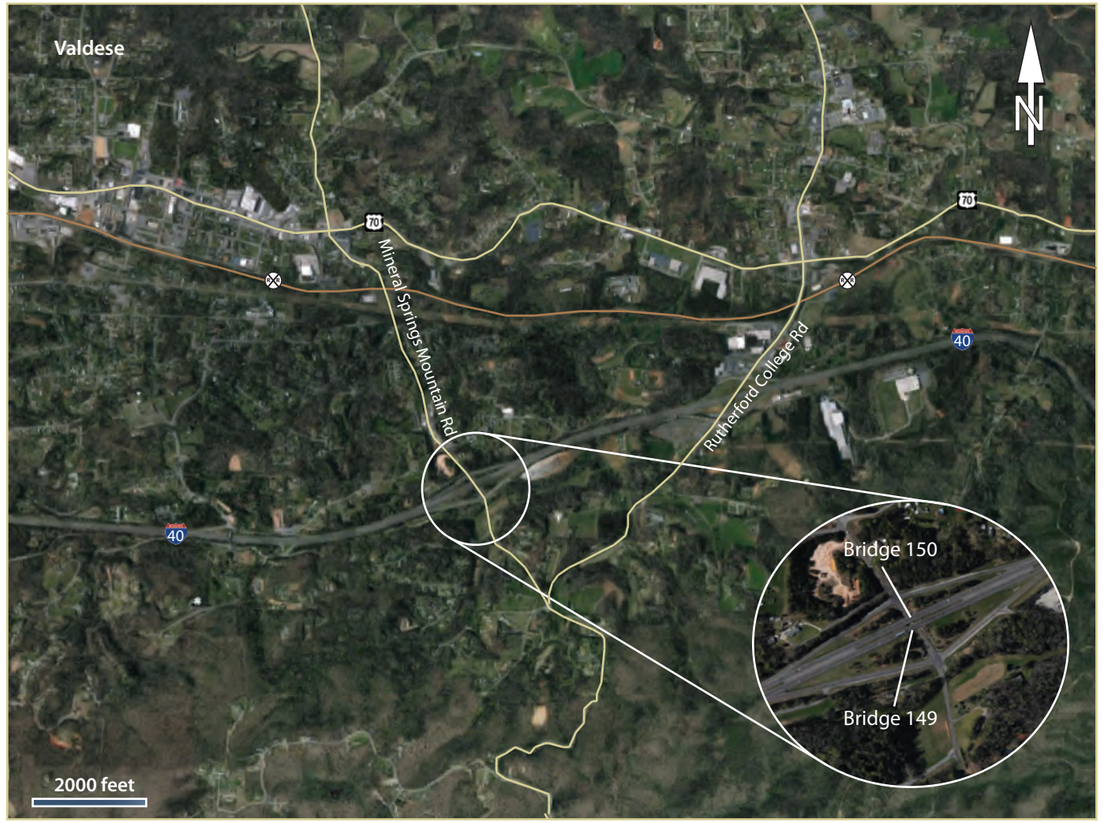


Figure 2

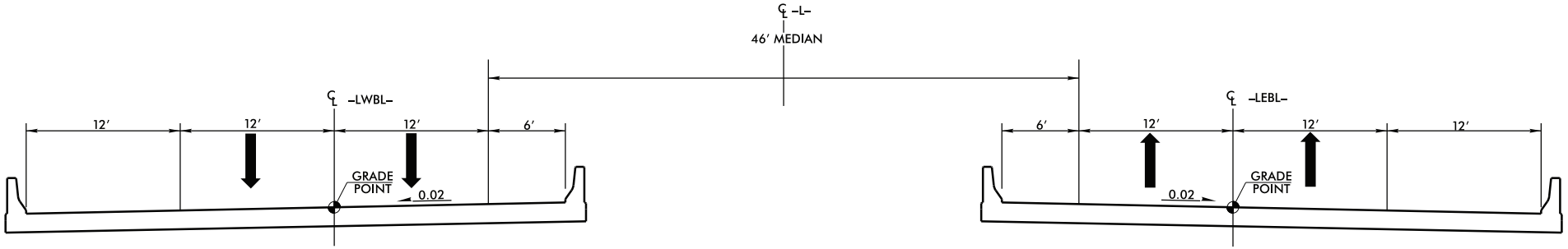
Proposed Project

Replacement of Bridge Nos. 149 and 150 on I-40
Over SR 1744 (Mineral Springs Mountain Road)

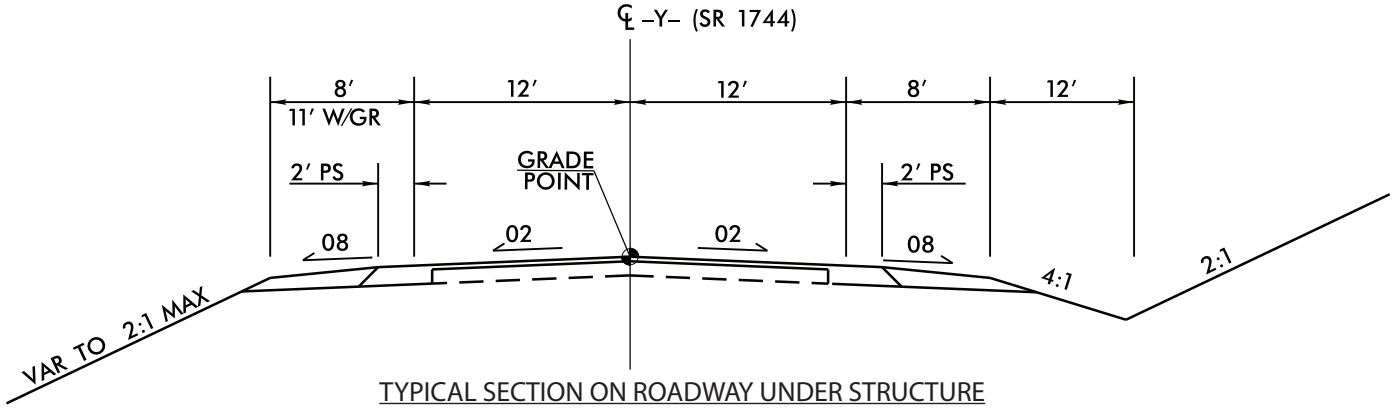
STIP B-4448

Burke County, North Carolina

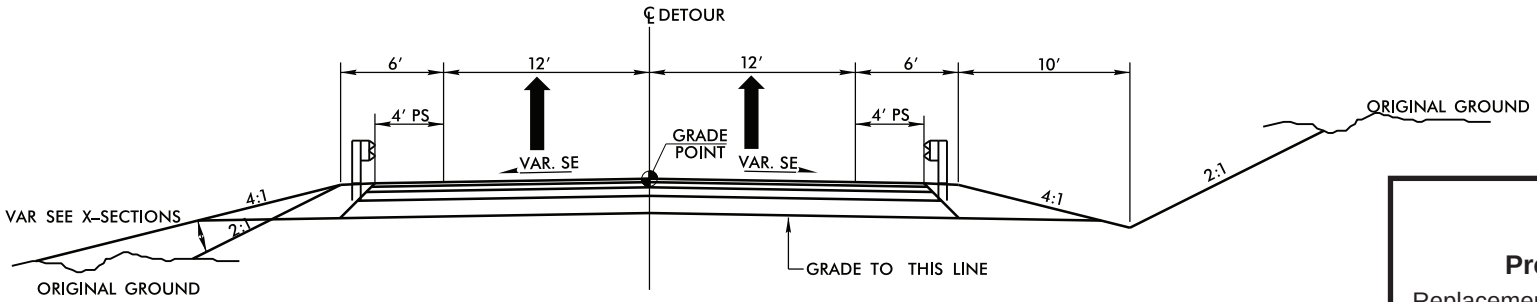
North Carolina
Department of Transportation



TYPICAL SECTION ON STRUCTURE



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE



TYPICAL SECTION ON DETOUR

Figure 3

Proposed Typical Sections

Replacement of Bridge Nos. 149 and 150 on I-40 over SR 1744 (Mineral Springs Mountain Road)

STIP B-4448

Burke County, North Carolina

North Carolina
Department of Transportation

Project Tracking No. (Internal Use)

09-11-0021

NO SURVEY REQUIRED FORM

PROJECT INFORMATION

Project No:	B-4448	*County:*	Burke
WBS No:	38372	*Document:*	CE/PCE
F.A. No:	BRNHS-40-1(160)11	*Funding:*	☐ State ☒ Federal

Federal (USACE) Permit Required? ☐ Yes ☐ No *Permit Type:*

Project Description: Replace Bridge No. 149 over SR 1744 on I-40 in Burke County

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:
HPO letter dated 10 August 2005 recommended no survey.

Review of HPO quad maps, historic designations roster, and indexes was undertaken on 15 December 2009. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects. The CRS also reviewed the Burke County GIS website and concluded that there are no structures within the APE.

Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:

The bridge being replaced carries I-40 over SR 1744 at an interchange. There are no historic properties within the APE.

FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL

NO SURVEY REQUIRED

NCDOT Cultural Resources Specialist — Date: 28 DECEMBER 2009

Project Tracking No: (Internal Use)

09-11-0021

NO SURVEY REQUIRED FORM

PROJECT INFORMATION

Project No:	B-4448	*County:*	Burke		
WBS No:	38372	*Document:*	CE/PCE		
F.A. No:	BRNHS-40-1(160)11	*Funding:*	☐ State	☒ Federal	

Federal (USACE) Permit Required? ☐ Yes ☒ No *Permit Type:* na

Project Description: NCDOT intends to replace the I-40 overpass (Bridge No. 149) over SR 1744 (Eldred Street). Bridge No. 149 carries the eastbound lanes of I-40 over SR 1744. The proposed bridge replacement will occur within the existing ROW for I-40 and will likely require an on-site detour within existing ROW to carry local traffic during construction.

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:
A review of the USGS quadrangle maps and site files at OSA was conducted on January 7, 2010. No archaeological sites have been previously recorded in the project area, nor have any archaeological sites been identified in the project vicinity. On January 12, 2010, an archaeological reconnaissance of the proposed study corridor was conducted. It was determined that the likelihood of intact or significant archaeological resources in within the study corridor is very remote.

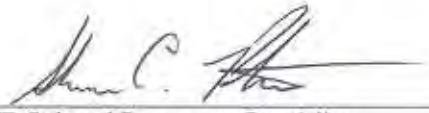
Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:
A reconnaissance of the I-40/SR 1744 interchange reveals than no area adjacent I-40 is free of significant alterations to the landscape; in particular those areas delineated as the study corridor on the aerial photo provided are severely disturbed.

SUPPORT DOCUMENTATION

See attached: Detail of the Valdese, NC (1993) topographic map; project location map; aerial photo of the study area; photos of the project area.

FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL

NO SURVEY REQUIRED



NCDOT Cultural Resources Specialist

01-20-10

Date

Williams, Pamela R

From: Matthews.Kathy@epamail.epa.gov
Sent: Friday, September 04, 2009 9:06 AM
To: Williams, Pamela R
Subject: Comments to Bridge scoping letters for several bridge projects

Pamela,

I have reviewed the scoping letters, vicinity maps, and aerial photographs for the following projects:

B-4448
B-4687
B-4734
B-4763
B-4775
B-4822
B-4849
B-4986
B-5158
B-5159
B-5167
B-5170

I have the following comments for your consideration.

For B-4734, B-4763, B-4775, B-4822, B-4849, B-4986, B-5158, B-5159, B-5167, B-5170:
1. In general, for all bridge replacements, EPA prefers structures that span the waterbody. Efforts should be made if possible to also span or avoid any wetlands or other aquatic resources in the project area.
2. EPA also generally prefers the replacement of a bridge in the same location, either with road closure and off-site detour, or staged construction. If a temporary on-site detour is required, it should be designed to avoid impacts to wetlands or other aquatic resources.
3. Approach fills from the old structure should be removed and restored to the natural ground elevation. We recognize that formal or significant informal human use should be considered in the decision to remove approach fills or causeways.
4. Bridge supports should not be placed in the stream, if possible.
5. Bridge deck drains should not discharge directly into the stream, and stormwater should be pre-treated prior to discharge to a stream or wetland.

For B-4687:
1. The Cane River, just downstream of this project, is listed on the North Carolina Division of Water Quality's (NCDWQ) draft 2008 list of impaired waters, due to aquatic life impairments from turbidity violations. NCDOT should commit to enhanced construction stormwater controls to avoid contributing sediment and other sources of turbidity to Little Creek. Such enhanced controls may include sedimentation basins, Polyacrylamide (PAM), coconut fiber, absorbent wattles, or other NCDOT-researched and recommended soil erosion and sediment control measures which have been shown to dramatically improve the quality of runoff from road construction sites.
2. Bridge supports should not be placed in the stream, if possible.
3. Bridge deck drains should not discharge directly into the stream, and stormwater should be pre-treated prior to discharge to a stream or wetland.

For B-4448:
1. The stream on the south side of the interchange should be avoided, if possible.

Thank you for the opportunity to provide comments, please contact me if you have any questions. Have a good weekend,

Kathy Matthews
USEPA - Region 4 Wetlands & Marine Reg. Section
109 T.W. Alexander Dr.
Durham, NC 27711
MAIL CODE: E143-04

phone 919-541-3062
cell 919-619-7319

Lockhart, Natalie N

From: Morse, Jeff <JMorse@ci.valdese.nc.us>
Sent: Wednesday, March 19, 2014 1:24 PM
To: Lockhart, Natalie N
Cc: Johnson, Larry; Chip Black- Office; Francess Hildebran - Office; Frances Hildebran; Delp, Gary; Morse, Jeff; LaMaster, Jerry; Jim Hatley_Charter; Keith Ogle - Office; Marc Mitchell - Office; Rhoney, Thelda; Susan Stevenson - Office
Subject: RE: B-4448 Burke County

Natalie, sorry for the delay in responding to your request. The only issue for the Town of Valdese concerns the plantings the State DOT installed. The Town of Valdese has entered into a contract with the DOT to provide maintenance for these plantings. As plans proceed for this project , it will be our desire to make sure that the planting be replaced.

Jeff Morse, Town Manager.

From: Lockhart, Natalie N [mailto:nnlockhart@ncdot.gov]
Sent: Wednesday, March 19, 2014 1:14 PM
To: Morse, Jeff; john.marshall@wpcog.org
Subject: FW: B-4448 Burke County

From: Lockhart, Natalie N
Sent: Tuesday, November 26, 2013 3:31 PM
To: 'john.marshall@wpcog.org'; 'jmorse@ci.valdese.nc.us'
Cc: Williams, John L
Subject: B-4448 Burke County

The Project Development and Environmental Analysis Unit is in the process of project development, environmental and engineering studies for the replacement of Bridge No. 149 on I-40 over SR 1744 B-448 Burke County. This project is included in the North Carolina State Transportation Improvement Program.

We would appreciate any information you might have that would be helpful in evaluating potential environmental impacts of the project including recommendation of alternates to be studied and public involvement.. Your comments will be used in the preparation of a federally funded Categorical Exclusion, prepared in accordance with the National Environmental Policy Act. It is desirable that your agency respond by December 10, 2013 so that your comments can be used in the selection of alternatives to be studied for this project.

If you have any questions concerning this project, please contact Natalie Lockhart at (919) 707-6175. Please include the TIP Project Number in all correspondence and comments.

Natalie N. Lockhart
Project Planning Engineer
Project Development & Environmental Analysis Branch
NCDOT
(919) 707-6175 (o)
(919) 250-4224 (f)