

**Buncombe County
Bridge No. 416 on SR 1103 (Davis Creek Rd.)
over Stony Fork Creek
Federal Aid Project No. BRZ-1103(24)
W.B.S. No. 46111.1.1
T.I.P. No. B-5396**

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

7/28/14

DATE

Richard W. Hancock, PE
Richard W. Hancock, PE,
Manager, Project Development & Environmental Analysis Unit

7-29-14

DATE

John F. Sullivan, III, Division Administrator
John F. Sullivan, III, Division Administrator
Federal Highway Administration

Buncombe County
Bridge No. 416 on SR 1103 (Davis Creek Rd.)
over Stony Fork Creek
Federal Aid Project No. BRZ-1103(24)
W.B.S. No. 46111.1.1
T.I.P. No. B-5396

CATEGORICAL EXCLUSION

Documentation Prepared in
Project Development and Environmental Analysis Unit By:

7-28-14
DATE

Natalie Lockhart
Natalie Lockhart
Project Planning Engineer
Bridge Project Development Section

7-20-14
DATE

John L. Williams
John L. Williams, PE
Project Engineer
Bridge Project Development Section



PROJECT COMMITMENTS:

**Buncombe County
Bridge No. 416 on SR 1103 (Davis Creek Rd.)
over Stony Fork Creek
Federal Aid Project No. BRZ-1103(24)
W.B.S. No. 46111.1.1
T.I.P. No. B-5396**

All Design Groups/Division Resident Construction Engineer – Trout Issues

NCWRC has identified Stony Fork creek as supporting a trout population. Therefore a moratorium on all in water work will be in place from October 15 to April 15 of any given year.

NES, Roadside Environmental, Division – Trout Designation – DSSW

DWQ has designated this stream as trout and therefore Design Standards in Sensitive Watersheds will be incorporated.

Structure Design – TVA Permit

The proposed project is located in the Tennessee Valley Authority's (TVA) Land Management District. The project will require approval under Section 26a of the TVA Act.

Hydraulic Unit – FEMA Coordination

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).

Division Construction-FEMA

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

**Division 13 Construction, Structures Management Unit, Roadway Design Unit-
Bicycle Accommodations**

Bridge No. 416 is not located along a designated bicycle route; however, the NCDOT Division of Bicycle and Pedestrian Transportation indicated there are a high number of bicyclists crossing the bridge. As a result, 4-foot paved shoulder and 4-foot bridge offsets will be provided to accommodate bicyclists.

Buncombe County
Bridge No. 416 on SR 1103 (Davis Creek Rd.)
over Stony Fork Creek
Federal Aid Project No. BRZ-1103 (24)
W.B.S. No.46111.1.1
T.I.P. No. B-5396

INTRODUCTION: Bridge No. 416 is included in the latest approved North Carolina Department of Transportation (NCDOT) Transportation Improvement Program. The location is shown in Figure 1. 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. 416 has a sufficiency rating of 20.91 out of a possible 100 for a new structure. The bridge is considered functionally obsolete due to deck geometry of 2 out of 9 and considered structurally deficient due to a structural evaluation of 3 out of 9 according to Federal Highway Administration (FHWA) standards.

Bridge No. 416 has a fifty-five year old timber substructure which has a typical life expectancy between 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of a timber structure is generally practical only when a few members are damaged or prematurely deteriorated. However, past a certain degree of deterioration, timber structures become impractical to maintain and upon eligibility are programmed for replacement. Bridge No. 416 is approaching the end of its useful life.

Bridge No. 416 carries 1,300 vehicles per day with 1,700 vehicles per day projected for the year 2040. The projected volume includes one percent truck-tractor semi-trailer (TTST) and six percent dual-tired vehicles (DT). The speed limit is 55 miles per hour (statutory) in the project area. No school buses cross the bridge daily on their morning and afternoon routes. The substandard deck width, bridge railing and approach guardrail is becoming increasingly unacceptable and replacement of the bridge will result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located in southwestern Buncombe County, approximately 11 miles from downtown Asheville on SR 1103 (Davis Creek Road) as it crosses Stony Fork Creek (see Figure 1). Development in the area is rural in residential development with some farming operations.

SR 1103 is classified as a rural local route in the Statewide Functional Classification System and it is not a National Highway System Route.

In the vicinity of the bridge, SR 1103 has a 20-foot pavement width with 2-foot grass shoulders. The roadway grade is in a sag vertical curve through the project area. The existing bridge is on a tangent. The roadway is situated approximately 15.0 feet above the creek bed.

Bridge No. 416 is a single span bridge that consists of a timber deck, timber caps on timber posts, and sills with concrete footing. The bridge has vertical timber abutments, metal rails, and steel girders. The existing bridge was constructed in 1959. The overall length of the structure is 40 feet. The clear roadway width is 18.0 feet. The weight limit on this bridge is not posted.

There are no utilities attached to the existing structure but Charter Communications has aerial CATV both sides of NC 151 at SR 1103 intersection. Separate aerial CATV crosses over west approach to the north side before crossing creek. AT&T has hub station at NC 151 intersection with Honey Locust Lane / Stand Hill Drive. They have underground fiber-optic and/or copper cable along the north shoulder of west approach that goes aerial over stream north of bridge and remains aerial towards NC 151. Haywood EMC has aerial power crossing over west approach and stream north of bridge.

There were four accidents reported in the vicinity of Bridge No. 416 during a recent three-year period. The crashes were 500 feet from each end of the bridge, no crashes at or on the bridge. None of the crashes were associated with the alignment or geometry of the bridge or its approach roadway.

Bridge No. 416 on SR 1103 over Stoney Fork Creek is on recommended Buncombe County "Level 1" Bicycle Routes, where higher numbers of cyclists should be expected. On these projects it is recommended that additional width be provided to accommodate cyclists. Due to the relative shortness of this bridge, bike-safe railings would not be required.

III. ALTERNATIVES

A. Project Description

The replacement structure will consist of a bridge approximately 50-foot long. The bridge length is based on preliminary design information and is set by hydraulic requirements. The bridge will be of sufficient width to provide for two 10-foot lanes with 4-foot full depth paved shoulders to accommodate bicycles on each side. The roadway grade of the new structure will be approximately the same as the existing grade.

Bridge No. 416 is not located along a designated bicycle route; however, the NCDOT Division of Bicycle and Pedestrian Transportation indicated there are a high number of bicyclists crossing the bridge. As a result, 4-foot paved shoulder and 4-foot bridge offsets will be provided to accommodate bicyclists. There is no pedestrian traffic known in the vicinity of the bridge.

The existing roadway will remain 20-foot pavement width to provide two 10-foot lanes. Four-foot paved shoulders will be provided on each side in accordance with the current NCDOT

Design Policy (the shoulder will include three additional feet where guardrail is required). This roadway will be designed as a rural local route.

B. Reasonable and Feasible Alternatives

Two alternatives for replacing Bridge No. 416 that were studied in detail are described below.

Alternate 1

Alternate 1 involves replacement of the structure along the existing roadway alignment. Improvements to the approach roadways will be required for a distance of approximately 413 feet to the west and 155 feet to the east of the new structure. This alternate will be designed using Sub-Regional Tier guidelines with a design speed of 30 miles per hour. No design exception is required for this alternative. Traffic will be detoured offsite (see Figure 1) during the construction period.

NCDOT Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects considers multiple project variables beginning with the additional time traveled by the average road user resulting from the offsite detour. The offsite detour for this project would include NC 151 (Pisgah Highway), SR 1102 (Davis Chapel Rd), and then back to SR 1103 (Davis Creek Rd.). The majority of traffic on the road is through traffic. The detour for the average road user would result in 5 minutes additional travel time (1 miles additional travel). Up to 12-month duration of construction is expected on this project.

Portion of the offsite detour is a dirt road, SR 1102 (Davis Chapel Rd.), that would not provide a safe alternative for traffic due to its narrow-ness and sight visibility issues. There have been attempts to improve the road in the past (pave it) that were stopped due to the impracticability to improve the sight distance.

Alternate 2 (Preferred)

Alternate 2 will involve replacement of the structure on a new alignment to the south. Traffic will be maintained on the existing bridge. Improvements to the approach roadways will be required for a distance of approximately 413 feet to the west and 155 feet to the east of the structure. This alternate will be designed using Sub-Regional Tier guidelines with a design speed of 30 miles per hour. No design exception is required for this alternative.

C. Alternatives Eliminated From Further Consideration

The “do-nothing” alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by SR 1103.

“Rehabilitation” of the old bridge is not practical due to its age and deteriorated condition. Bridge No. 416 has a fifty-five year old timber substructure which has a typical life expectancy between 40 to 50 years due to the natural deterioration rate of wood.

Staged Construction is not ideal for this bridge due to the deck width and beam configuration, but if needed to reduce impacts to the wetland a portion of the existing bridge can be removed to support traffic during construction.

D. Preferred Alternative

Bridge No. 416 will be replaced on new location to the south as shown by Alternative 2 in Figure 2B. Alternative 2 was selected because of eliminating the possibility of a relocate, improved sight distance, and lower construction costs.

NCDOT Division 13 concurs with the selection of Alternative 2 as the preferred alternative.

IV. ESTIMATED COSTS

The estimated costs, based on 2013 prices, are as follows:

	Alternative 1	Alternative 2 Preferred
Structure	\$ 285,000	\$ 285,000
Roadway Approaches	168,000	193,000
Structure Removal	16,000	16,000
Misc. & Mob.	122,000	133,000
Eng. & Contingencies	110,000	99,000
Total Construction Cost	\$ 700,000	\$ 725,000
Right-of-way Costs	174,000	42,000
Right-of-way Utility Costs	83,000	83,000
Total Project Cost	\$ 957,000	\$ 850,000

V. NATURAL ENVIRONMENT

Physical Characteristics

Water Resources

Water resources in the study area are part of the French Broad River basin [U.S. Geological Survey (USGS) Hydrologic Unit 06010105]. Three streams were identified in the study area (Table 1).

Table 1. Water resources in the study area.

Stream Name	Map ID	NCDWQ Index Number	Best Usage Classification
Stony Fork	SA	6-76-5-3	C;Tr
UT to Stony Fork	SB	6-76-5-3	C;Tr
UT to Stony Fork	SC	6-76-5-3	C;Tr

Table 2. Physical characteristics of water resources in the study area.

Map ID	Bank Height (ft.)	Bankful Width (ft.)	Water Depth (in)	Channel Substrate	Velocity	Clarity
SA	5-10	25	6-12	Sand, Gravel, Cobble	Moderate	Clear
SB	1-3	6-24	3-6	Sand, Boulder	Slow	Clear
SC	.5-3	.5-1	2-4	Sand, Silt, Gravel	Moderate	Clear

The North Carolina Wildlife Resources Commission (NCWRC) has identified Stony Creek as trout water in a letter dated April 1, 2011. There are no designated anadromous fish waters or Primary Nursery Areas (PNA) present in the study area. There are no designated High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II) within 1.0 mile downstream of the study area. The North Carolina 2012 Final 303(d) list of impaired waters does not identify streams in the study area or within 1 mile of the project site as being impaired waters. There are no benthic or fish monitoring sites within 1.0 mile of the study area.

Biotic Resources

Table 3. Coverage of terrestrial communities in the study area.

Community	Coverage (ac.)
Maintained/ Disturbed	10.8
Piedmont/Low Mountain Alluvial Forest	1.0
Total	11.8

Jurisdictional Topics

Surface Waters and Wetlands

Three jurisdictional wetlands were identified within the study area. Wetland classification and quality rating data are presented in Table 4. All wetlands in the study area are within the French Broad River basin (USGS Hydrologic Unit 06010105).

Table 4. Jurisdictional characteristics of wetlands in the study area.

Map ID	NCWAM Classification	Hydrologic Classification	NCDWQ Wetland Rating	Area (ac.)
WA	Non-Tidal Freshwater Marsh	Riparian	54	0.1
WB	Non-Tidal Freshwater Marsh	Riparian	28	0.3
WC	Seep	Non-riparian	28	0.1
			Total	0.5

Several measures have been taken to try and avoid the wetland/JS boundaries. The slopes have been tightened to 1.5:1, and the “3-R” Sub-regional Tier Guidelines are being followed. Staged construction will be used to build the new bridge. The plan is to remove 5-feet from the existing structure which is left in place to carry traffic during construction. Then the new bridge will be built about 5-feet south of the existing structure.

Permits

The proposed project has been designated as a Categorical Exclusion (CE) for the purposes of National Environmental Policy Act (NEPA) documentation. As a result, a Nationwide Permit (NWP) 23 will likely be applicable. A NWP No. 33 may also apply for temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge construction or rehabilitation. The USACE holds the final discretion as to what permit will be required to authorize project construction. If a Section 404 permit is required then a Section 401 Water Quality Certification (WQC) from the NCDWQ will be needed.

Federally Protected Species

As of January 14, 2014 the United States Fish and Wildlife (USFWS) lists thirteen federally protected species for Buncombe County (Table 5). A brief description of each species’ habitat requirements follows, along with the Biological Conclusion rendered based on survey results in the study area. Habitat requirements for each species are based on the current best available information from referenced literature and/or USFWS.

Table 5. Federally protected species listed for Buncombe County.

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Alasmidonta raveneliana</i>	Appalachian elktoe*	E	Yes	No Effect
<i>Solidago spithmaea</i>	Blue Ridge goldenrod*	T	No	No Effect
<i>Glyptemys muhlenbergii</i>	Bog turtle	T(S/A)	Yes	Not Required
<i>Sagittaria fasciculata</i>	Bunched arrowhead*	E	Yes	No Effect
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	E	No	No Effect
<i>Myotis grisescens</i>	Gray bat	E	Yes	No Effect
<i>Sarracenia rubra ssp. jonesii</i>	Mountain sweet pitcherplant*	E	Yes	No Effect
<i>Gymnoderma lineare</i>	Rock gnome lichen	E	No	No Effect
<i>Erimonax monachus</i>	Spotfin chub*	T	Yes	No Effect
<i>Geum radiatum</i>	Spreading avens	E	No	No Survey Required
<i>Microhesura montivaga</i>	Spruce-fir moss spider	E	No	No Effect
<i>Epioglasma florentina walkeri</i>	Tan riffleshell**	E	Yes	No Effect

<i>Spiraea virginiana</i>	Virginia spiraea*	T	Yes	No Effect
---------------------------	-------------------	---	-----	-----------

E - Endangered

T - Threatened

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

* - Historic record (the species was last observed in the county more than 50 years ago)

** - Historic and Obscure (the species was last observed in the county more than 50 years ago and the date and/or location of observation is uncertain).

A US Fish and Wildlife Service proposal for listing the Northern Long-eared Bat (*Myotis septentrionalis*) as an Endangered species was published in the Federal Register in October 2013. The listing will become effective on or before April, 2015. Furthermore, this species is included in USFWS's current list of protected species for Buncombe County. NCDOT is working closely with the USFWS to understand how this proposed listing may impact NCDOT projects. NCDOT will continue to coordinate appropriately with USFWS to determine if this project will incur potential effects to the Northern long-eared bat, and how to address these potential effects, if necessary.

Appalachian elktoe

Biological Conclusion: No Effect

A review of the NCNHP database was conducted March 25, 2011 to determine if there were any records of rare aquatic species within the proposed projects study area or receiving waters. This review indicated that there are no known occurrences of the federally protected Appalachian elktoe.

Bog turtle

Biological Conclusion: Not Required

Species listed as threatened due to similarity of appearance do not require Section 7 consultation with the USFWS. Although a survey is not required, potential habitat was determined from project photos and a survey was conducted on May 24, 2011. A review of NCNHP records, updated February 2011, indicates no known bog turtle occurrence within 1.0 mile of the study area.

Bunched arrowhead

Biological Conclusion: No Effect

A review of NCNHP records, updated February 2011, indicates no known bunched arrowhead occurrence within 1.0 mile of the study area. A field survey for bunched arrowhead was conducted on May 24, 2011; no individuals were observed.

Gray bat

Biological Conclusion: No Effect

A review of the NCNHP database on July 27, 2011 indicated that the closest gray bat occurrence is over 12 miles northeast from the project area. No individuals observed.

Mountain sweet pitcher plant

Biological Conclusion: No Effect

A review of NCNHP records, updated February 2011, indicates no known mountain sweet pitcher plant occurrence within 1.0 mile of the study area. A field survey for mountain sweet pitcher plant was conducted on May 24, 2011; no individuals were observed.

Spotfin chub (=turquoise shiner)

Biological Conclusion: No Effect

A review of the NCNHP database was conducted March 25, 2011 to determine if there were any records of rare aquatic species within the proposed projects study area or receiving waters. This review indicated that there are no known occurrences of the federally protected Spotfin Chub.

Tan riffleshell

Biological Conclusion: No Effect

A review of the NCNHP database was conducted March 25, 2011 to determine if there were any records of rare aquatic species within the proposed projects study area or receiving waters. This review indicated that there are no known occurrences of the federally protected Tan riffleshell.

Virginia spiraea

Biological Conclusion: No Effect

A review of NCNHP records, updated February 2011, found known populations of Virginia spiraea 0.68 river miles downstream of the project study area. This location is the beginning of a large stretch of streams and tributaries where this species has been documented. A field survey for Virginia spiraea was conducted on May 24, 2011; no individuals were observed.

VI. HUMAN ENVIRONMENT

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.

Historic Architecture

NCDOT – Human Environment Unit, under the provisions of a Programmatic Agreement with FHWA, NCDOT, HPO, OSA and the Advisory Council on Historic Preservation (effective July 1, 2009), reviewed the proposed project and determined

that surveys are required (see form dated January 14, 2011). Fieldwork was completed and a review of mapping determined that there are no historic properties present or affected by this project (see form dated January 31, 2011).

Archaeology

NCDOT – Human Environment Unit, under the provisions of a Programmatic Agreement with FHWA, NCDOT, HPO, OSA and the Advisory Council on Historic Preservation (effective July 1, 2009), reviewed the proposed project and determined that surveys are required (see form dated February 4, 2011). Fieldwork was completed and review of mapping determined that there are no known archeological sites present or affected by this project (see form dated February 22, 2011).

Community Impacts

No adverse impact on families or communities is anticipated. Right-of-way acquisition will be limited. 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 soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project will involve the direct conversion of farmland acreage within these classifications. As is required by the Farmland Protection Policy Act, the Form NRCS-CPA-106 (for corridor projects) has been completed according to FHWA guidelines. Since this project received a total point value of less than 160 points, this site falls below the NRCS minimal criteria and will not be evaluated further for farmland impacts. No other alternatives other than those already discussed in this document will be considered without a re-evaluation of the project's potential impacts upon farmland. This project will not have a significant impact to farmland.

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

Noise & Air Quality

The project is located in Buncombe 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.

This project will not result in any meaningful changes in traffic volume, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts

relative to the no-build alternative. As such FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. Consequently this effort is exempt from analysis for MSAT's.

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 an inadequate bridge will result in safer traffic operations.

The bridge replacement 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.

Buncombe County is a participant in the National Flood Insurance Program. There are no practical alternatives to crossing the floodplain area. Any shift in alignment will result in an impact area of about the same magnitude. The proposed project is not anticipated to increase the level or extent of upstream flood potential.

The Federal Highways Administration has determined that a U.S. Coast Guard Permit is not required for this project.

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, NC Department of Environment & Natural Resources, U.S. Fish & Wildlife Service, N.C Wildlife Resource Commission, US Coast Guard, Tennessee Valley Authority, N.C. Division of Parks & Recreation, North Carolina State Historic Preservation Office, Buncombe County, and the US Environmental Protection Agency.

The **N.C. Wildlife Resource Commission** and **U.S. Fish & Wildlife Service** in standardized letters provided a request that they prefer any replacement structure to be a spanning structure. US Fish and Wildlife Service request that the bridge be inspected for signs of bat roosting.

Response: NCDOT will be replacing the existing structure with a new bridge. The underside of the bridge was inspected for bats and no evidence of bats was observed. No bats or evidence of bats were observed during the site visit.

The **N.C. Division of Water Quality** states that Stony Fork Creek is classified C-Trout Waters. It is recommended that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. NCDOT will be required to observe the NCWRC recommended moratoria for trout.

Response: Stony Fork Creek is identified as trout waters; therefore a mandatory trout moratorium is required from October 15 to April 15. Sediment and erosion control measures should adhere to Design Standards for Sensitive Watersheds and implemented during project construction. NCDOT's Best Management Practices for Protection of Surface Waters will be followed throughout the design and construction of the project. It is anticipated that there will be no State Storm Water Permit required for this project.

The **N.C. Division of Water Quality**, the **Army Corps of Engineers**, the **Tennessee Valley Authority**, **NC Division of Parks & Recreation**, and **Buncombe County** had no special concerns for this project.

IX. PUBLIC INVOLVEMENT

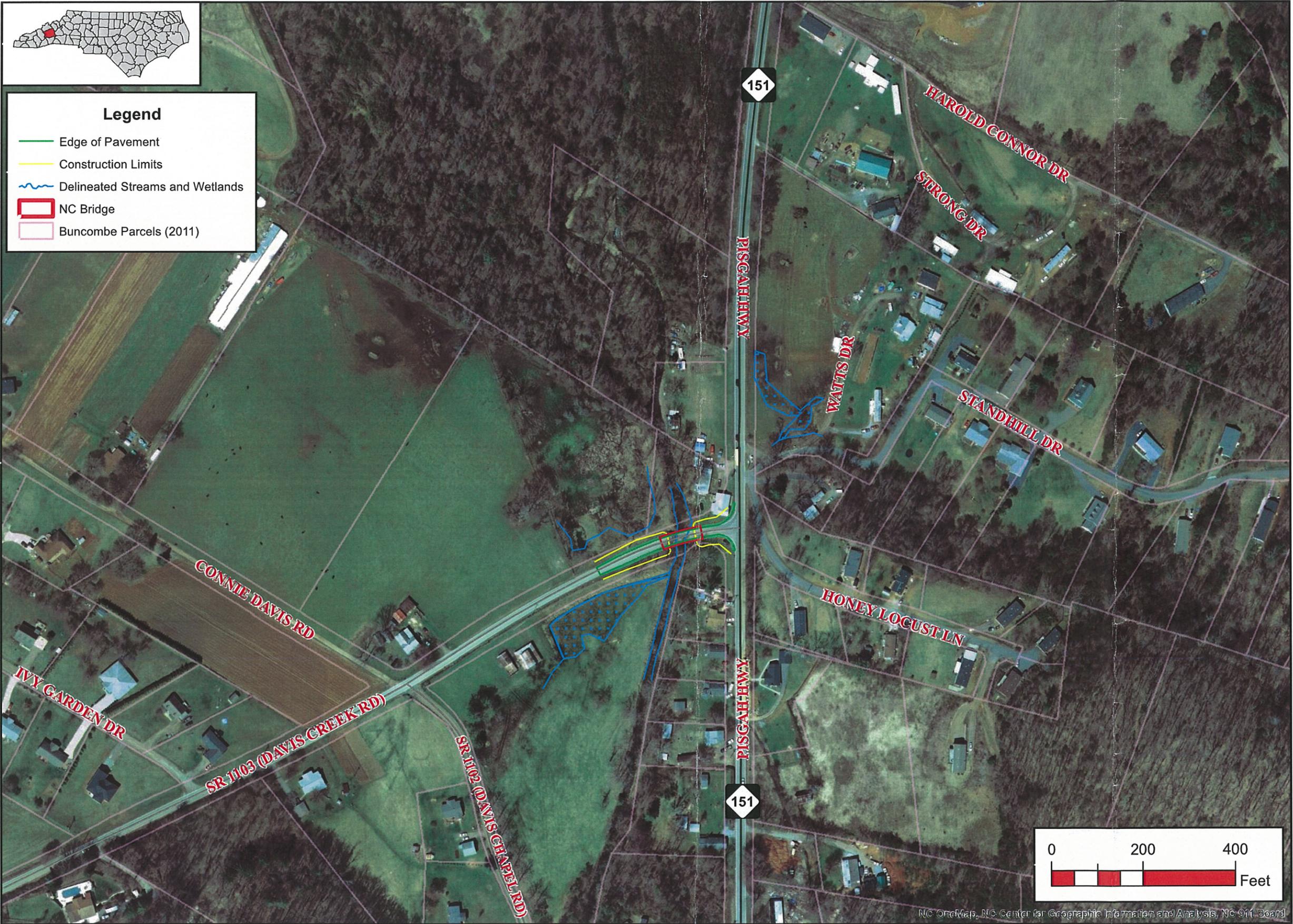
A newsletter has been sent to all those living along SR 1103 and NC 15 Pisgah Highway. No comments have been received to date.

Based on the lack of responses to the newsletter, a Public Meeting was determined unnecessary.

There is not substantial controversy on social, economic, or environmental grounds concerning the project.

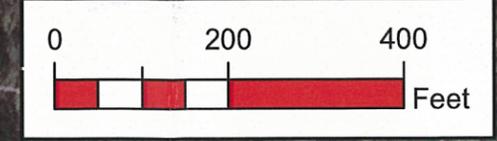
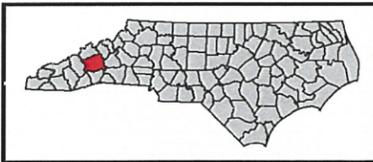
X. CONCLUSION

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.



Legend

- Edge of Pavement
- Construction Limits
- Delineated Streams and Wetlands
- NC Bridge
- Buncombe Parcels (2011)



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT

**ALTERNATIVE 1 : REPLACE IN PLACE
BRIDGE No. 416 ON SR 1103
OVER STONY FORK CREEK**
BUNCOMBE COUNTY
TIP PROJECT B-5396



County:
BUNCOMBE

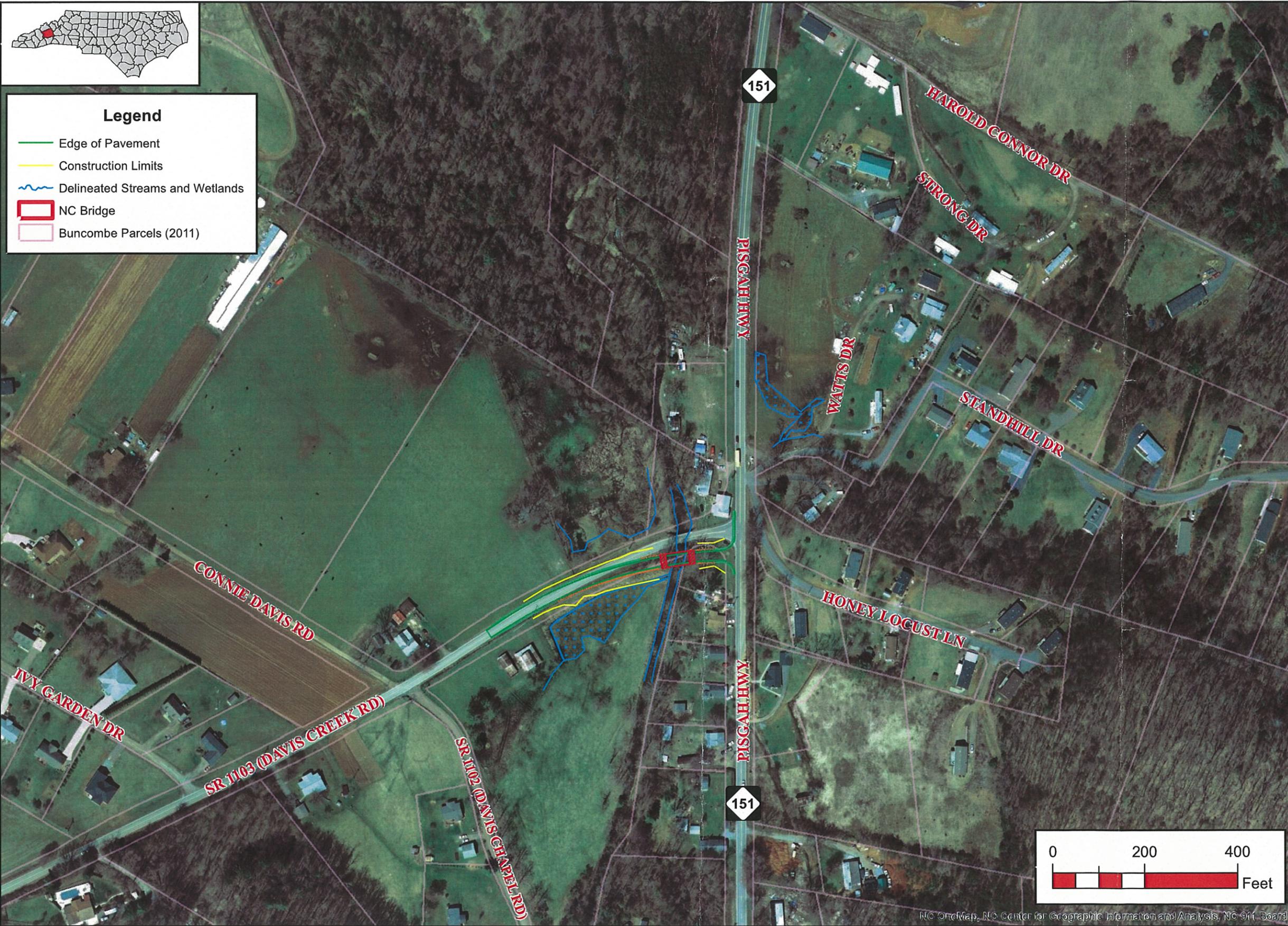
Div: 3 TIP# B-5396

WBS:
46111.1.1

Date:
July 2014

**Figure
2a**

By: J.TORTORELLA



By: J.TORTORELLA

NC OneMap, NC Center for Geographic Information and Analysis, NC 911 Board



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS UNIT

ALTERNATIVE 1 : REPLACE IN PLACE
BRIDGE No. 416 ON SR 1103
OVER STONY FORK CREEK
BUNCOMBE COUNTY
TIP PROJECT B-5396



County:
BUNCOMBE

Div: 3	TIP# B-5396
-----------	----------------

WBS:
46111.1.1

Date:
July 2014

**Figure
2b**

11-01-0006

SURVEY REQUIRED FORM

PROJECT INFORMATION

Project No: B-5396 County: Buncombe
 WBS No: 46111.1.1 Document: PCE
 F.A. No: Funding: State Federal
 Federal (USACE) Permit Required? Yes No Permit Type:

Project Description: Bridge No. 416 over Stony Fork Creek on SR 1103 (Davis Creek Rd) in Buncombe County.

SUMMARY OF CULTURAL RESOURCES REVIEW – SURVEY REQUIRED

Brief description of review activities, results of review, and conclusions:

Review of HPO quad maps, historic designations roster, and indexes was undertaken on 14 January 2011. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects (APE). The Buncombe County Survey was conducted in 1980 and there are several properties over fifty years of age within the APE. Because of the age of the county survey and the age of the structures within the APE, a survey is required.

SUPPORT DOCUMENTATION

See attached: Maps, Tax Cards

FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL -- SURVEY REQUIRED

Archaeology Historic Architecture (circle one)

Katherine L. Husband January 19, 2011
 NCDOT Cultural Resources Specialist Date

January 21, 2011
Proposed fieldwork completion date

11-01-0006

NO PREHISTORIC OR HISTORIC PROPERTIES PRESENT/AFFECTED FORM

PROJECT INFORMATION

Project No: B-5396 County: Buncombe
 WBS No: 46111.1.1 Document: PCE
 F.A. No: Funding: State Federal
 Federal (USACE) Permit Required? Yes No Permit Type:

Project Description: Bridge No. 416 over Stoney Fork Creek on SR 1103 (Davis Creek Road) in Buncombe County.

SUMMARY OF FINDINGS

The North Carolina Department of Transportation (NCDOT) reviewed the subject project and determined:

Historic Architecture/Landscapes

- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- There are no properties within the project's area of potential effects.
- There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.
- All properties greater than 50 years of age located in the APE have been considered and all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- There are no historic properties present or affected by this project. (*Attach any notes or documents as needed*)

11-01-0006

SURVEY REQUIRED FORM**PROJECT INFORMATION**

Project No: **B-5396** County: Buncombe
 WBS No: 46111.1.1 Document: Minimum Criteria Sheet
 F.A. No: n/a Funding: State Federal

Federal (USACE) Permit Required? Yes No Permit Type: Information not known as of yet

Project Description:

The project calls for the replacement of Bridge No. 416 over Stony Fork Creek on SR 1103 (Davis Creek Road). The archaeological Area of Potential Effects (APE) for the project is defined as a 1,100-foot (335.28 m) long corridor running southwest along SR 1103 from its junction with NC 151 (Pisgah Highway). The APE also includes a 1,500-foot (457.20 m) long corridor running north-south along NC 151. This corridor extends 750 feet (228.60 m) north and 750 feet (228.60 m) south from its junction with SR 1103. Both corridors are approximately 200 feet (60.96 m) wide, which extends 100 feet (30.48 m) on either side of SR 1103 and NC 151.

SUMMARY OF CULTURAL RESOURCES REVIEW – SURVEY REQUIRED*Brief description of review activities, results of review, and conclusions:*

The project area is situated southwest of Asheville, southeast of Canton, and west of the French Broad River in the southwestern corner of Buncombe County, North Carolina, on the Dunsmore Mountain quad (Figure 1).

A map review and site file search was conducted at the Office of State Archaeology (OSA) on January 24, 2011. No previously recorded archaeological sites have been identified within the presently defined APE or adjacent to the APE, but nine sites (31BN116–31BN119 and 31BN952–31BN956) have been recorded within a mile radius of the project area. In addition, there are no existing National Register (NR), State Study List (SL), Locally Designated (LD), Determined Eligible (DE), or Surveyed Site (SS) properties within or adjacent to the APE. Topographic maps, USDA soil survey maps, aerial photographs (Google and NCDOT), historic maps (North Carolina maps website) and Google street view map application were utilized/inspected to gage environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, residential, hydrological, and other erosive type disturbances within the surrounding archaeological APE.

SR 1103 and Bridge 416 run northeast to southwest and are situated in the Stony Fork/South Hominy Creek floodplain and along terraces above the creek (Figure 2). NC 151 runs north to south and is also situated in the floodplain and along terraces. Bridge 416 crosses Stony Fork, which is a tributary of South Hominy Creek to the north. These streams are part of the French Broad drainage basin. According to aerial photos and Google street view application, development in the project area varies from light to moderate with homes primarily along the southern half of NC 151 and at the southwestern end of SR 1103. Most of the floodplain and terraces within the APE is in open fields and pastures with some forested areas.

A review of the USDA soil survey map indicates four types of soils and a borrow pit for gravel within the APE (Figure 3). The borrow pit (Pg) is identified on either side of the bridge along SR 1103. If this is

correct, then it is very unlikely any cultural material will be present in this portion of the APE. Further to the southwest along SR 1103 is Unison loam (UnC). This soil series consists of well-drained and moderately eroded soil on 2 to 8 percent slope. The surface layer or A horizon is typically dark yellowish brown (10YR 4/4) loam that is about 6 in (15 cm) thick. It is generally followed by an A2 horizon, which is dark yellowish brown (10YR 4/6) loam approximately 5 in (13 cm) thick. Cultural material could be present in these layers. The sterile subsoil is strong brown (7.5YR 5/6) clay. The next soil series along SR 1103 is Braddock clay loam (BkB2 and BkD2). This series is composed of well-drained and moderately eroded soil on 2 to 30 percent slope. The surface layer is dark brown (7.5YR 3/4) clay loam about 3 in (8 cm) thick. The second layer is an A2 horizon, which is brown (7.5YR 4/4) clay loam that extends about 9 in (23 cm) below the surface. Again, cultural material might be recovered from these two layers as long as slope is less than 15 percent. The third layer, a sterile subsoil, is yellowish red (5YR 5/6) clay. The soil series along NC 151 is primarily Statler loam (StB). This soil series is described as well-drained on 1 to 5 percent slope. The upper layer is usually dark brown (10YR 3/3) loam approximately 8 in (20 cm) thick. The second layer is generally dark yellowish brown (10YR 4/4) silt loam that extends 12 in (30 cm) below the surface. It is likely any cultural deposits in this soil series will be found within these layers. The subsoil is strong brown (7.5YR 5/6) sandy clay loam. The final soil series is the Evard-Cowee complex (Eve2), which is found just along the eastern edge of the APE. This soil series is well drained and has a slope of 30 to 50 percent. Due to the steep slope, it is very unlikely any cultural material will be identified in this series. Thus, this area will not be tested.

The site file search revealed nine previously recorded sites within a mile of the APE. All are located along South Hominy Creek and Sams Creek to the north, west, and southwest. Four of the previously recorded sites (31BN116–31BN119) were identified by Harold T. Johnson during 1941–1942 for the Works Progress Administration (WPA) and later revisited by the University of North Carolina at Chapel Hill (UNC-CH) for their work in the Appalachian Summit region from 1964 to 1971. The site forms on file at the OSA are incomplete for these sites. They contain no site descriptions or evaluations, but do record that each site yielded prehistoric lithic and ceramic artifacts. Their eligibility for the National Register of Historic Places (NRHP) has not been assessed. One of the sites, 31BN116, was further investigated by NCDOT archaeologist in 1991 for the widening of NC 151 (TIP R-2116). This site yielded several prehistoric artifacts along the surface dating from the Archaic and Woodland periods. The site was recommended for further work. The five remaining sites (31BN952–31BN956) were recorded in 2010 by TRC Environmental for the proposed Upper South Hominy Creek Ecosystem Enhancement Project. All five sites are prehistoric isolated finds and are considered ineligible for the NRHP. More importantly, all nine sites are situated landforms and soils similar to those found in the APE. This suggests that additional sites might be located within the project area.

Early maps of the region from the 19th and 20th centuries were consulted to determine if potential historic structure locations were once situated within the APE. Most early maps show few details of the project area. Hominy Creek, also known as Hormony Creek on some early maps, along with South Hominy Creek appear as early as 1808 on Price and Strother's map of North Carolina. The 1896 Post Route map of North Carolina shows the community of Dunsmore that was located at the current junction of SR 1103 and NC 151 within the project area. Unfortunately, nothing more is depicted on this map other than the community's location. The earliest maps showing any great details within the project area are the 1892 and 1905 Pisgah USGS topographic maps. The 1892 map shows the location of SR 1103 and road to become NC 151, but does not depict any structures (Figure 4). In addition, NC 151 is aligned on the westside of Stoney Fork instead of its present location on the eastside. The 1905 map shows a similar road configuration to the 1892 map and records at least one structure within the project area and a second structure that appears just outside the APE (Figure 5). The structure within the APE is plotted just south of SR 1103. The 1920 soil map of Buncombe is also similar to the 1892 and 1905 maps, but at least one more structure is plotted within the project area to the north of SR 1103 (Figure 6). By 1938, the North Carolina Highway and Public Works Commission map shows the current layout of roads (Figure 7). It appears to plot the 1920 structure, but the 1905 structure within the APE is missing. An

additional structure to the north of the bridge is plotted as well on this map. A comparison with the aerial photograph shows current houses at the locations identified on the historic maps (see Figure 2). Further work is needed to determine if any undisturbed historic archaeological deposits associated with the structures are still present within the APE.

Overall, the background check on previously recorded sites within a mile of the project area revealed five ineligible sites, three unassessed sites, and one site requiring further work. All these sites are located on a similar geological setting found within the current project area. This suggests the possibility that other sites could be in the area. Although a borrow pit is reported by the USDA at the bridge location, this needs to be confirmed. Finally, the review of historic maps indicates that at least three historic structures are located within the APE. Further work is necessary to determine if these structures are still standing or if any archaeological deposits associated with them remain. An intensive archaeological survey consisting of shovel test pits (STPs) at regular intervals is recommended to evaluate the project area

SUPPORT DOCUMENTATION

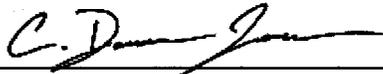
See attached: Map(s), Previous Survey Info, Photos, Correspondence, Photocopy of notes from county survey.

FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL -- SURVEY REQUIRED

Archaeology

Historic Architecture

(circle one)



February 4, 2011

NCDOT Cultural Resources Specialist

Date

March 11, 2011

Proposed fieldwork completion date

NO PREHISTORIC OR HISTORIC PROPERTIES PRESENT/AFFECTED FORM

PROJECT INFORMATION

Project No: **B-5396** County: Buncombe
 WBS No: 46111.1.1 Document: Minimum Criteria Sheet
 F.A. No: n/a Funding: State Federal
 Federal (USACE) Permit Required? Yes No Permit Type: Information not known as of yet

Project Description:

The project calls for the replacement of Bridge No. 416 over Stony Fork Creek on SR 1103 (Davis Creek Road). The archaeological Area of Potential Effects (APE) for the project is defined as a 1,100-foot (335.28 m) long corridor running southwest along SR 1103 from its junction with NC 151 (Pisgah Highway). The APE also includes a 1,500-foot (457.20 m) long corridor running north-south along NC 151. This corridor extends 750 feet (228.60 m) north and 750 feet (228.60 m) south from its junction with SR 1103. Both corridors are approximately 200 feet (60.96 m) wide, which extends 100 feet (30.48 m) on either side of SR 1103 and NC 151.

SUMMARY OF FINDINGS

The North Carolina Department of Transportation (NCDOT) reviewed the subject project and determined:

Archaeology

- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- No subsurface archaeological investigations are required for this project.
- Subsurface investigations did not reveal the presence of any archaeological resources.
- Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.
- All identified Archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- There are no historic properties present or affected by this project. (Attach any notes or documents as needed)

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:

The project area is situated southwest of Asheville, southeast of Canton, and west of the French Broad River in the southwestern corner of Buncombe County, North Carolina, on the Dunsmore Mountain quad (Figure 1).

A map review and site file search was conducted at the Office of State Archaeology (OSA) on January 24, 2011. Topographic maps, USDA soil survey maps, aerial photographs (Google and NC DOT archives), historic maps (North Carolina maps website) and Google street view map application were utilized/inspected to gage environmental factors that may have contributed to historic or prehistoric settlement within the project area, and to assess the level of modern, residential, hydrological, and other erosive type disturbances within the surrounding archaeological APE. No previously recorded archaeological sites have been identified within the presently defined APE or adjacent to the APE, but nine sites (31BN116–31BN119 and 31BN952–31BN956) have been recorded within a mile radius of the project area. In addition, no existing National Register of Historic Places (NRHP), State Study List (SL), Locally Designated (LD), Determined Eligible (DE), or Surveyed Site (SS) properties are within or adjacent to the APE. An archaeological reconnaissance and field survey of the project area was conducted on February 16, 2011, to assess the project area.

The APE includes Bridge No. 416 and small sections of SR 1103 and NC 151 (Figure 2). SR 1103 and Bridge No. 416 run northeast to southwest and are situated in the Stony Fork/South Hominy Creek floodplain and along terraces above the creek (Figure 3). NC 151 travels north to south and is also situated in the floodplain and along terraces. Prior to the 1960s, the floodplain was extensively used as a gravel pit (Figure 4 and 5). This information was provided by the farmer that manages the property. The stream, Stony Fork, is a tributary of South Hominy Creek to the north. These streams are part of the French Broad drainage basin. Most of the floodplain and terraces within the APE are in open fields and pastures. Ground disturbance within the floodplain near Stony Creek is severe and any possible archaeological sites have been destroyed. No field work was carried out in the old gravel pit. The only forested area is found along the northern section of NC 151. Investigations in the forest revealed heavy disturbance from mechanized grading with evidence of large push piles to the west of the APE. Modern development in the project area varies from light to moderate with homes primarily along the southern half of NC 151. Ground disturbance from the houses varies, but most all seem to be situated on fill or land that has been graded. Field work was not carried near houses where ground disturbance appeared harsh.

The site file search revealed nine previously recorded sites within a mile of the APE. All are located along South Hominy Creek and Sams Creek to the north, west, and southwest. Four of the previously recorded sites (31BN116–31BN119) were identified by Harold T. Johnson during 1941–1942 for the Works Progress Administration (WPA) and later revisited by the University of North Carolina at Chapel Hill (UNC-CH) for their work in the Appalachian Summit region from 1964 to 1971. The site forms on file at the OSA are incomplete for these sites. They contain no site descriptions or evaluations, but do record that each site yielded prehistoric lithic and ceramic artifacts. Their eligibility for the NRHP has not been assessed. One of the sites, 31BN116, was further investigated by NCDOT archaeologist in 1991 for the widening of NC 151 (TIP R-2116). This site yielded several prehistoric artifacts along the surface dating from the Archaic and Woodland periods. The site was recommended for further work. The five remaining sites (31BN952–31BN956) were recorded in 2010 by TRC Environmental for the proposed Upper South Hominy Creek Ecosystem Enhancement Project. All five sites are prehistoric isolated finds and are considered ineligible for the NRHP.

The archaeological survey consisted of 21 shovel test pits (STPs), which were plotted when possible at 30-m intervals on either side of the road (see Figure 2). STPs were not plotted in areas where ground disturbance appeared heavy or where slope was greater than 15 percent. To the west of Stony Fork, four STPs were excavated on the northside of SR 1103 (Transect 1) and five STPs were excavated on the southside (Transect 2). These shovel tests were placed along the terrace and the small undisturbed portion of the floodplain. The soils were fairly consistent, but did not compare with the descriptions of the Unison loam (UnC) and Braddock clay loam (BkB2 and BkD2) soil series found in the USDA county soil survey. The upper layer or A horizon is dark brown (10YR 3/3) loam and typically 20 to 40 cm (8 to 16 in) thick. It is followed by a layer of dark yellowish brown (10YR 4/6) clay loam, strong brown (7.5YR 5/6) clay loam, or rocks that prevented any further excavations of the STP. No cultural material was identified in these shovel tests. To the east of Stony Fork, five STPs were excavated on the westside of NC 151 at its northern end (Transect 3), and another five were dug on the eastside (Transect 4). These shovel tests were placed along the terrace on Statler loam (StB). Again, the soils did not match the description found in the county soil survey. Those soils to the west of the road and in the forest were disturbed. The surface layer is generally dark grayish brown (10YR 4/2) loam about 30 cm (12 in) thick and mixed with modern trash. It is followed by a layer of yellow brown (10YR 5/6) loamy clay or very dark gray (10YR 3/1) clay loam. The five STPs to the east are located in a pasture. The surface layer is dark brown (10YR 3/3) loam that is 10 to 30 cm (4 to 12 in) thick. It is followed by a stratum of strong brown (7.5YR 5/6) clay loam mottled with dark brown (10YR 3/3). This layer extends about 40 cm (16 in) below surface. Beneath this is a layer of very dark gray (10YR 3/1) loam with a heavy concentration of rocks, which extends at least 50 cm (20 in) below the surface. Due to the rock concentration, excavation could not continue in these STPs. The final two STPs were excavated at the southern end of NC 151 and on the eastside of the road (Transect 5). The top stratum is dark brown (10YR 3/3) loam about 30 cm (12 in) thick. The bottom layer is strong brown (7.5YR 5/6) clay loam. No STPs along NC 151 yielded any cultural material.

Early maps of the region from the 19th and 20th centuries were consulted to determine if potential historic structure were once situated within the APE. Most early maps show few details of the project area. Hominy Creek, also known as Hormony Creek on some early maps, along with South Hominy Creek appear as early as 1808 on Price and Strother's map of North Carolina. The 1896 Post Route map of North Carolina shows the community of Dunsmore that was located at the current junction of SR 1103 and NC 151. Unfortunately, nothing more is depicted on this map other than the community's location. The earliest maps showing any great details within the project area are the 1892 and 1905 Pisgah USGS topographic maps. The 1892 map shows the location of SR 1103 and road to become NC 151, but does not depict any structures (Figure 6). In addition, NC 151 is aligned on the westside of Stoney Fork instead of its present location on the eastside. The 1905 map shows a similar road configuration to the 1892 map and records at least one structure within the project area and a second structure just outside the APE (see Figure 2; Figure 7). The structure within the APE is plotted south of SR 1103. According to the farmer, this is most likely the smaller of two current barns (Figure 8). Inspection of the area suggests no archaeological deposits associated with this structure are present. No attempts were made to relocate the 1905 structure outside of the APE. The 1920 soil map of Buncombe is also similar to the 1892 and 1905 maps, but at least one additional structure is plotted within the project area to the north of SR 1103 (see Figure 2; Figure 9). This is a house which was built by the Davis family (Figure 10). All out-buildings and possible archaeological features are most likely behind house and outside of the APE. This is based upon information provided by the farmer. By 1938, the North Carolina Highway and Public Works Commission map shows the current layout of roads with an additional structure to the northeast of the bridge (see Figure 2; Figure 11). It is not known if this structure is still standing, but it appears that the current house at this location is situated upon fill. Based upon surrounding ground disturbances, it appears unlikely any significant archaeological deposits associated with the structure are present.

The archaeological investigations along SR 1103 and NC 151 for the replacement of Bridge No. 416 over Stony Fork consisted of a total of 21 STPs excavated when possible at 30-m intervals. No cultural material was recovered from any of the STPs. A review of the previously identified sites in the area show no known archaeological sites within or adjacent to the APE. Although historic maps for the regions identified three structures, at least two are still standing with no significant archaeological deposits within the project area. It also appears unlikely that any archaeological remains are present for the third structure due to heavy disturbance. Overall, ground disturbance from the removal of gravel and mechanized grading has adversely affected any potential archaeological sites that might have once been situated near Stony Fork. It is unlikely any archaeological sites that are potentially eligible for the NRHP are present within the project area. No further archaeological work is recommended within the APE for the replacement of Bridge No. 416 and subsequent improvement to SR 1103 and NC 151. If the project expands and impacts subsurface areas beyond the defined APE, further archaeological consultations might be necessary.

SUPPORT DOCUMENTATION

See attached: Map(s), Previous Survey Info, Photos, Correspondence, Photocopy of notes from survey.

Signed:



Cultural Resources Specialist, NCDOT

02/22/11

Date