

MINIMUM CRITERIA DETERMINATION CHECKLIST

The following questions provide direction in determining when the Department is required to prepare environmental documents for state-funded construction and maintenance activities. Answer questions for Parts A through C by checking either “Yes” or “No”. Complete Part D of the checklist when Minimum Criteria Rule categories #8, 12(i) or #15 are used.

TIP Project No.: B-5893

State Project No.: 48086.1.1

Project Location: Bridge No. 19 on NC 226 over Cub Creek in Mitchell County.

Project Description: The proposed project involves replacing Bridge No. 19 on NC 226 over Cub Creek in Mitchell County (see Figure 1). The replacement structure will be a bridge approximately 40 feet long (see Figure 2). The bridge will have a minimum 39 feet roadway width, with two 11-foot lanes and 4-foot paved shoulders with a minimum of 42-inch-high bicycle safe railing on each side. Six foot shoulders (9 feet with guardrail) will be included on the roadway approaches. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will account for the low chord of the existing structure. Construction will be staged using a signalized one-lane two-way detour with traffic being maintained on the existing bridge in Phase 1.

Project construction will extend approximately 315 feet west and 261 feet east from the bridge. NC 226 will be widened to two 11-foot lanes with 4-foot paved shoulder approaches. The roadway will be designed as a major collector using Sub-Regional Tier Guidelines. The design speed will be 45 mph using Sub-Regional Tier Guidelines.

Purpose and Need: The purpose of this project is to replace a structurally deficient bridge. Bridge No. 19 was built in 1935. The bridge is 22 feet long with approximately 19 feet and 2 inches of clear roadway width. The superstructure of the bridge is reinforced concrete slab. The substructure of the bridge consists of reinforced concrete abutments.

NCDOT Bridge Management Unit records indicate Bridge No. 19 has a sufficiency rating of 58.11 out of 100 for a new structure. The bridge is considered functionally obsolete by Federal Highway Administration (FHWA) standards due to the deck geometry being a 2 out of 4.

Components of the deck have experienced an increasing degree of section loss, deterioration, spalling or scour that can no longer be addressed by maintenance activities. Bridge No. 19 has an Average Annual Daily Traffic (AADT) volume of 2,000 vehicles

per day (vpd) for the year 2016 and future traffic of 2,300 AADT for the year 2040. Replacement of the bridge will improve traffic operations.

Anticipated Permit or Consultation Requirements: Nationwide Permit (NWP) 14 will likely be required for this project. The U.S. Army Corps of Engineers (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 from the N.C. Division of Water Resources will be needed.

Special Project Information:

Alternatives Eliminated from Further Discussion:

No Build Alternative - The No Build alternative would result in eventually closing the road which is unacceptable given the volume of traffic served by NC 226.

Rehabilitation Alternative - The bridge was constructed in 1935 and the reinforced concrete slab structure and abutments of the bridge substructure are reaching the end of their useful life. Rehabilitation would require replacing the reinforced concrete slab and abutments which would constitute effectively replacing the bridge.

Offsite Detour- NC 226 is a primary east-west route through Mitchell County. The Mitchell County EMS base of operation is in the Town of Bakersville approximately two miles east of the project site. A local planning official noted that NC 226 is a primary route for emergency services. The detour length would be approximately 6.2 miles and add an additional 10 minutes of travel time, which would be unacceptable for EMS response times. NCDOT concurs with this concern and believes that an offsite detour is not feasible.

Preferred Alternate:

Staged Construction - Bridge No. 19 will be staged by using a signalized one-lane two-way detour with traffic being maintained on the existing bridge in Phase 1, while a new bridge is constructed. The proposed bridge would be 40 feet long. Staged construction would allow for minimal impacts to local school traffic, residents, and EMS operations. NCDOT concurs that this is the preferred alternative.

Cost:

Construction Cost: \$245,000

Agency Comments: As part of project scoping, comments were requested from state, federal, and local agencies.

The **US Forest Service** stated in an email dated January 27, 2016 that the bridge is not located on or are expected to impact the National Forest System (NFS) lands.

Cultural Resources: No architectural survey is required for this project (see letter dated August 5, 2016). No archeological sites are present within the project area (see letter dated April 13, 2016).

Bike and Pedestrian Division: NC 226 carries State Bicycle Route NC 2 (Mountains to Sea) as well as several regional bicycle routes: Burnsville Metric, Roan Mountain Loop, and Harrill Hill Loop (Mitchell County). The High Country Regional Bicycle Plan (<http://www.regiond.org/Bike-Plan-2014-final.pdf>) indicates that 4 foot paved shoulders are recommended to accommodate bicycle transportation on NC 226 at this location, which is part of Route Segment #3, connecting Burnsville and Bakersville. It is recommended that 4 foot paved shoulders on each side of the replacement bridge, as well as bicycle-safe railing be included in the design. The railing should be at least 42 inches high, with heights of 48 and 54 inches recommended for moderate or serious hazards such as high winds, high traffic and speeds of vehicles, and/or high drop-off to the ground surface.

Public Involvement:

Landowner notification letters were sent out February 16, 2016 to all property owners affected by this project. No comments were received to date.

PART A: MINIMUM CRITERIA

Item 1 to be completed by the Engineer.

1. Is the proposed project listed as a type and class of activity allowed under the Minimum Criteria Rule in which environmental documentation is not required?

YES

NO

If the answer to number 1 is “no”, then the project does not qualify as a minimum criteria project. A state environmental assessment is required.

If yes, under which category? **9**

If either category #8, #12(i) or #15 is used complete Part D of this checklist.

PART B: MINIMUM CRITERIA EXCEPTIONS

Items 2 – 4 to be completed by the Engineer.

2. Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse air quality impacts?
3. Will the proposed activity have secondary impacts or cumulative impacts that may result in a significant adverse impact to human health or the environment?
4. Is the proposed activity of such an unusual nature or does the proposed activity have such widespread implications, that an uncommon concern for its environmental effects has been expressed to the Department?

YES

NO

Item 5-8 to be completed by Division Environmental Officer.

5. Does the proposed activity have a significant adverse effect on wetlands; surface waters such as rivers, streams, and estuaries; parklands; prime or unique agricultural lands; or areas of recognized scenic, recreational, archaeological, or historical value?
6. Will the proposed activity endanger the existence of a species on the Department of Interior's threatened and endangered species list?
7. Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse water quality or ground water impacts?

- | | YES | NO |
|---|--------------------------|-------------------------------------|
| 8. Is the proposed activity expected to have a significant adverse effect on long-term recreational benefits or shellfish, finfish, wildlife, or their natural habitats | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

If any questions 2 through 8 are answered “yes”, the proposed project may not qualify as a Minimum Criteria project. A state environmental assessment (EA) may be required. For assistance, contact:

Manager, Environmental Analysis Unit
 1598 Mail Service Center
 Raleigh, NC 27699-1598
 (919) 707 – 6000
 Fax: (919) 212-5785

PART C: COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

- | <i>Items 9- 12 to be completed by Division Environmental Officer.</i> | YES | NO |
|--|-------------------------------------|-------------------------------------|
| 9. Is a federally protected threatened or endangered species, or its habitat, likely to be impacted by the proposed action? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 10. Does the action require the placement of temporary or permanent fill in waters of the United States? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 11. Does the project require the placement of a significant amount of fill in high quality or relatively rare wetland ecosystems, such as mountain bogs or pine savannahs? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 12. Is the proposed action located in an Area of Environmental Concern, as defined in the coastal Area Management Act? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Items 13 – 15 to be completed by the Engineer.

- | | | |
|--|--------------------------|-------------------------------------|
| 13. Does the project require stream relocation or channel changes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|-------------------------------------|

Cultural Resources

- | | | |
|---|--------------------------|-------------------------------------|
| 14. Will the project have an “effect” on a property or site listed on the National Register of Historic Places? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 15. Will the proposed action require acquisition of additional right of way from publicly owned parkland or recreational areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Questions in Part “C” are designed to assist the Engineer and the Division Environmental Officer in determining whether a permit or consultation with a state or federal resource agency may be required. If any questions in Part “C” are answered “yes”, follow the appropriate permitting procedures prior to beginning project construction.

Response to Question 9:

Northern Long Eared Bat (NLEB)- Since this project is state-funded, the U.S. Army Corps of Engineers (USACE) will act as the lead agency for issues related to the northern long-eared bat (NLEB). Therefore 4(d) does not apply. The USACE has developed a Standard Local Operating Procedure for Endangered Species (SLOPES) to address NLEB when they are the lead agency, which NCDOT will follow for this project. The requirements of the SLOPES for NLEB will be completed prior to Let and will be submitted to USACE.

Appalachian Elktoe- Surveys were conducted by RK&K biologists, with no native freshwater mussel species observed. One live Asian clam (*Corbicula fluminea*) along with gastropods in the genera *Physella* (5 individuals) and *Elimia* (19 individuals) were present at the survey location. The results indicate that the study area is unlikely to support any native freshwater mussel fauna. Appalachian Elktoe was not found during the survey. Previous surveys near the current survey location vicinity have resulted in the discovery of Appalachian Elktoe. Four previous surveys, conducted in the North Toe River, ranged from 1.5 to 2.8 stream miles downstream of the current survey location. These previous surveys occurred on October 16, 1991, October 04, 2005, October 22, 2008, and April 22, 2014. Based on the medium/high gradient habitat, distance to known Appalachian Elktoe records and these survey results, impacts to Appalachian Elktoe are unlikely to occur in the study area and a Biological Conclusion of May Affect, Not Likely to Adversely Affect has been rendered for this species. Any additional coordination needed will be handled by the U.S. Army Corps of Engineers (USACE), who will consult with the U.S. Fish and Wildlife Services (USFWS) on the effect call for the Appalachian Elktoe.

Response to Question 10: Temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge construction and rehabilitation. Potential fill would be associated with a temporary causeway to get equipment to an interior bent which is in the water. The US Army Corps of Engineers hold the final discretion as to what permit will be required.

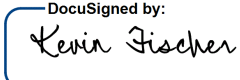
PART D:(To be completed when either category #8, 12(i) or #15 of the rules are used.)

Items 16- 22 to be completed by Division Environmental Officer.

- | | |
|--|------------|
| 16. Project length: | <u>N/A</u> |
| 17. Right of Way width: | <u>N/A</u> |
| 18. Project completion date: | <u>N/A</u> |
| 19. Total acres of newly disturbed ground surface: | <u>N/A</u> |
| 20. Total acres of wetland impacts: | <u>N/A</u> |
| 21. Total linear feet of stream impacts: | <u>N/A</u> |
| 22. Project purpose: | <u>N/A</u> |

If Part D of the checklist is completed, send a copy of the entire checklist document to:

Don G. Lee
State Roadside Environmental Engineer
Mail Service Center 1557
Raleigh, NC 27699-1557
(919) 707-2920
Fax (919) 715-2554
Email: dlee@ncdot.gov

Reviewed by:  Date: 6/14/2018
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SMU Representative

Mitchell County
Bridge No. 19 on NC 226 over Cub Creek
State Project No. 48086.1.1
TIP No. B-5893

Hydraulics Unit, Division 13 Construction- FEMA

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

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

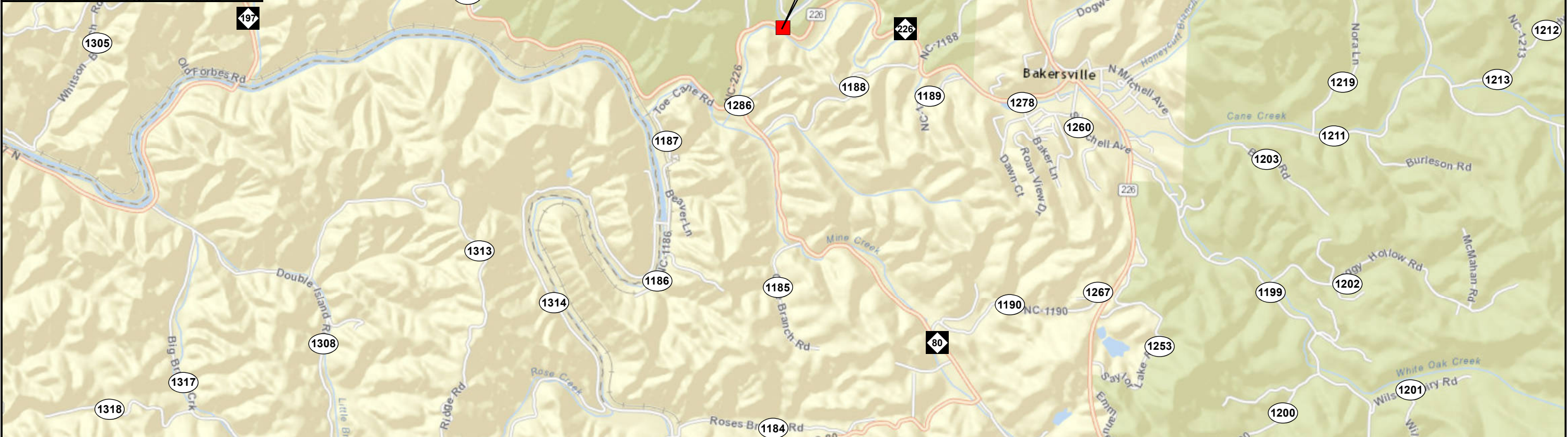
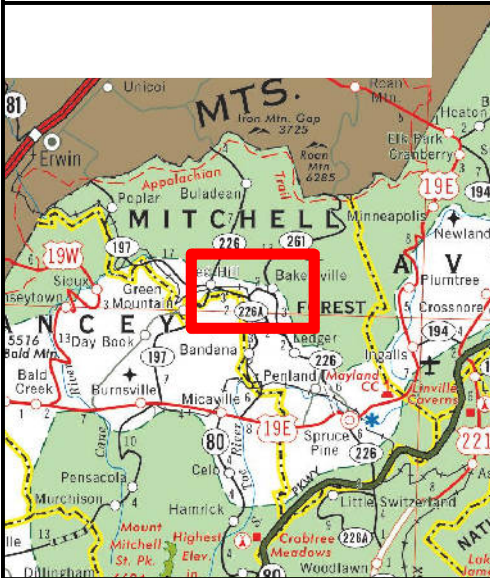
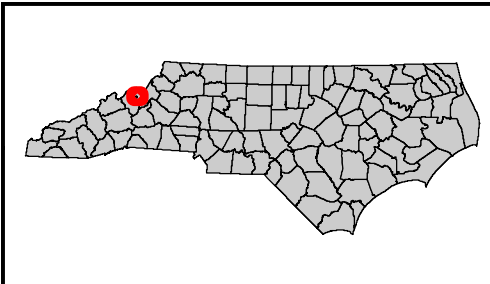
Division 13 Construction- Endangered Species

Northern Long-Eared Bat (NLEB) – Since this project is state-funded, the U.S. Army Corps of Engineers (USACE) will act as the lead agency for issues related to the northern long-eared bat (NLEB). Therefore 4(d) does not apply. The USACE has developed a Standard Local Operating Procedure for Endangered Species (SLOPES) to address NLEB when they are the lead agency, which NCDOT will follow for this project. The requirements of the SLOPES for NLEB will be completed prior to Let and will be submitted to USACE.

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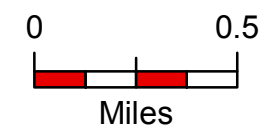
APPENDIX A

Figures



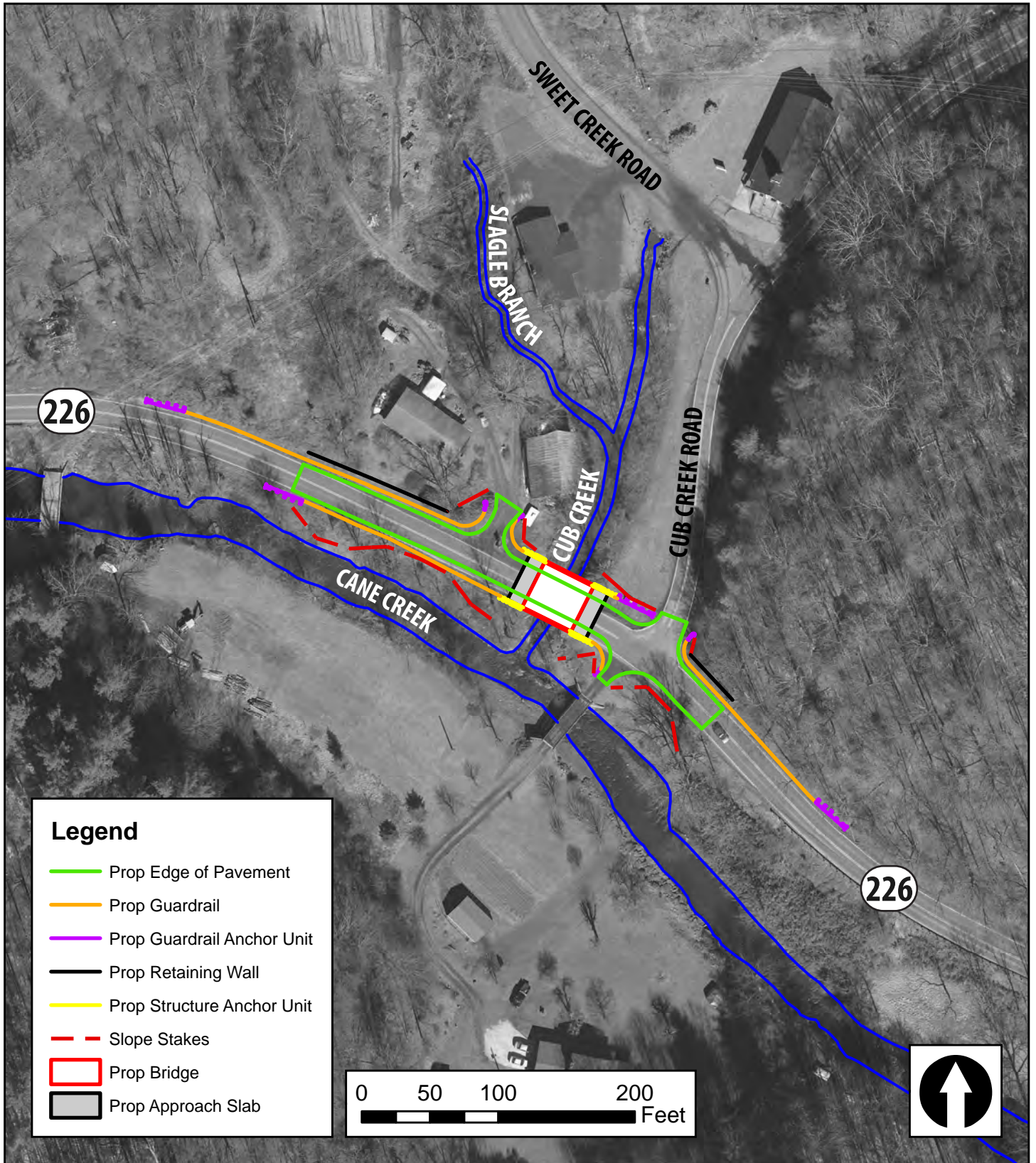
NORTH CAROLINA DEPARTMENT
 OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT DEVELOPMENT AND
 ENVIRONMENTAL ANALYSIS UNIT

VICINITY MAP
 Replace Bridge No. 19 on NC 226
 over Cub Creek in Mitchell County
 TIP Project B-5893



Div: 13	TIP# B-5893
Date: DECEMBER 2015	

Figure
1



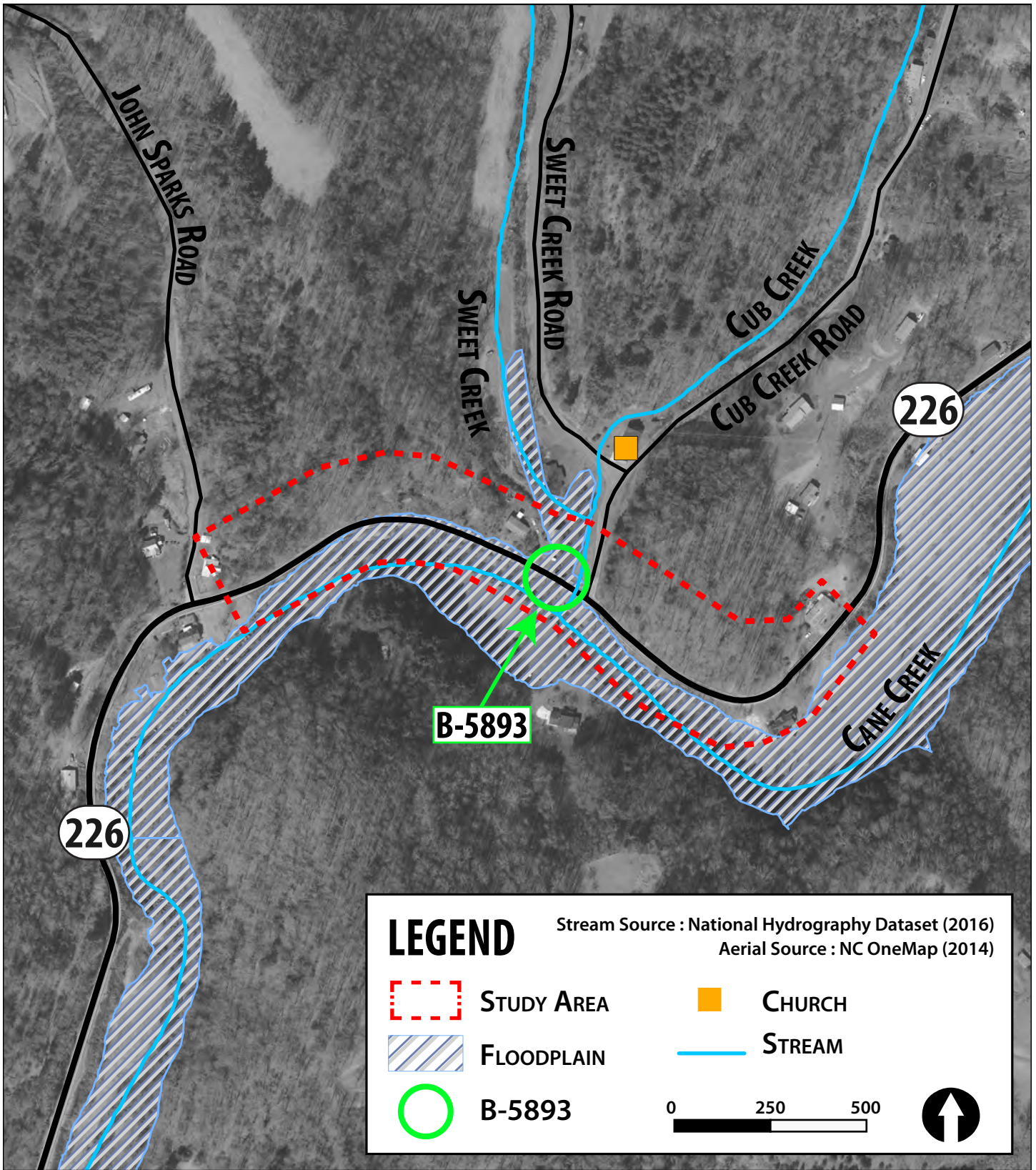
Proposed Improvements

Replace Bridge No. 19 on NC 226
over Cub Creek with Staged Construction

Mitchell County

B-5893

Figure 2



Environmental Constraints Map
 Replace Bridge No. 19 on NC 226
 over Cub Creek with Staged Construction
Mitchell County
 B-5893

Figure 3



Bridge No. 19 Upstream Bridge Face



Bridge No. 19 West Approach



Photos
Replace Bridge No. 19 on NC 226
over Cub Creek with Staged Construction
Mitchell County
B-5893

Figure 4

APPENDIX B

Reference Letters



NO ARCHAEOLOGICAL SURVEY REQUIRED FORM

This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.



PROJECT INFORMATION

Project No: B-5893 County: Mitchell
 WBS No: 48086.1.1 Document: Categorical Exclusion
 Federal Aid No: Funding: State Federal
 Federal Permit Required? Yes No Permit Type: **Nationwide**

Project Description: Replace Bridge 19 on NC 226 over Cub Creek. Area of Potential Effects (A.P.E.) is approximately 549 meters (1,800 ft.) long and 92 meters (300 ft..) wide. No design plans provided.

SUMMARY OF CULTURAL RESOURCES REVIEW

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

The review included an examination of a topographic map, an aerial photograph, and listings of previously recorded sites, previous archaeological surveys, and previous environmental reviews at the Office of State Archaeology (O.S.A.). Also, a visual reconnaissance of the project area was conducted on 2/25/2016. The bridge is oriented at 130° (approximately east-west).

The topographic map (Bakersville, N.C.) shows the A.P.E. is located in a narrow creek valley with steep walls. Sweet Creek joins Cub Creek a short distance to the north of the bridge. Cub Creek joins Cane Creek a short distance to the south of the bridge. NC 226 runs approximately east-west along the north side of Cane Creek. The landform in the northwest quadrant appears to be level land along the north side of Cane Creek, in the valley where Sweet Creek and Cub Creek join it. The landform in the southwest and southeast quadrants appears to be a narrow strip of land between NC 226 and Cane Creek. The landform in the northeast quadrant appears to be the base of a steep slope.

The aerial photograph shows that most of the A.P.E. is wooded. There are three structures in the northwest quadrant, one in the northeast quadrant, and one in the southeast quadrant.

A review of information at the O.S.A. shows there are no previously recorded sites within or adjacent to the A.P.E. The A.P.E. has not been previously surveyed for archaeological sites. The A.P.E. is not within any areas that have been reviewed by the State Historic Preservation Office (HPO).

A visual reconnaissance of the project area was conducted by NCDOT archaeologists Scott Halvorsen and Caleb Smith on 2/25/2016. The reconnaissance found that the landforms within the A.P.E. have a low potential for archaeological sites. The A.P.E. in the northwest quadrant is occupied by a parking area, a residential yard, and then a sloped hillside. There is a collapsed structure on the north side of NC 226 approximately 120 meters (394 ft.) west of the bridge. The southwest quadrant is a narrow strip of land between NC 226 and Cane Creek. The

southeast quadrant is a driveway next to the bridge, and then a narrow strip between NC 226 and Cane Creek. The northeast quadrant is a level, elevated terrace from the creek east for approximately 20 meters (66 ft.), then Cub Creek Rd. (SR 1300), and then a steep hillside. The level terrace is too narrow to have much archaeological potential, and may be disturbed by roadside uses. There is a sign for the Cub Creek Baptist Church there now.

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

Visual examination of the landforms within the A.P.E. indicate they have low potential for archaeological sites.

SUPPORT DOCUMENTATION

See attached: Map(s) Previous Survey Info Photos Correspondence
 Photocopy of County Survey Notes Other:

FINDING BY NCDOT ARCHAEOLOGIST

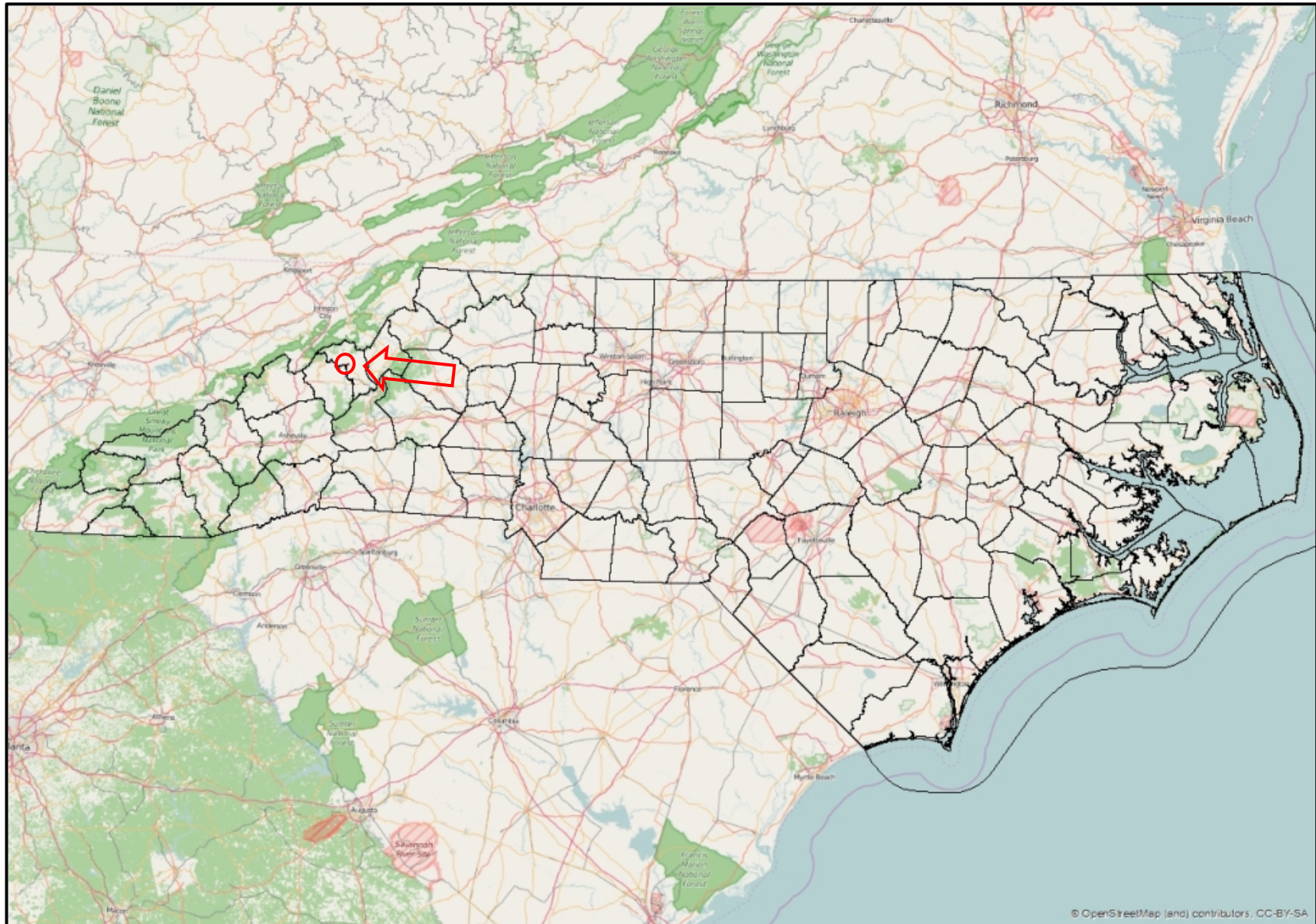
NO ARCHAEOLOGY SURVEY REQUIRED

Caleb Smith

4/13/2016

NCDOT ARCHAEOLOGIST II

Date



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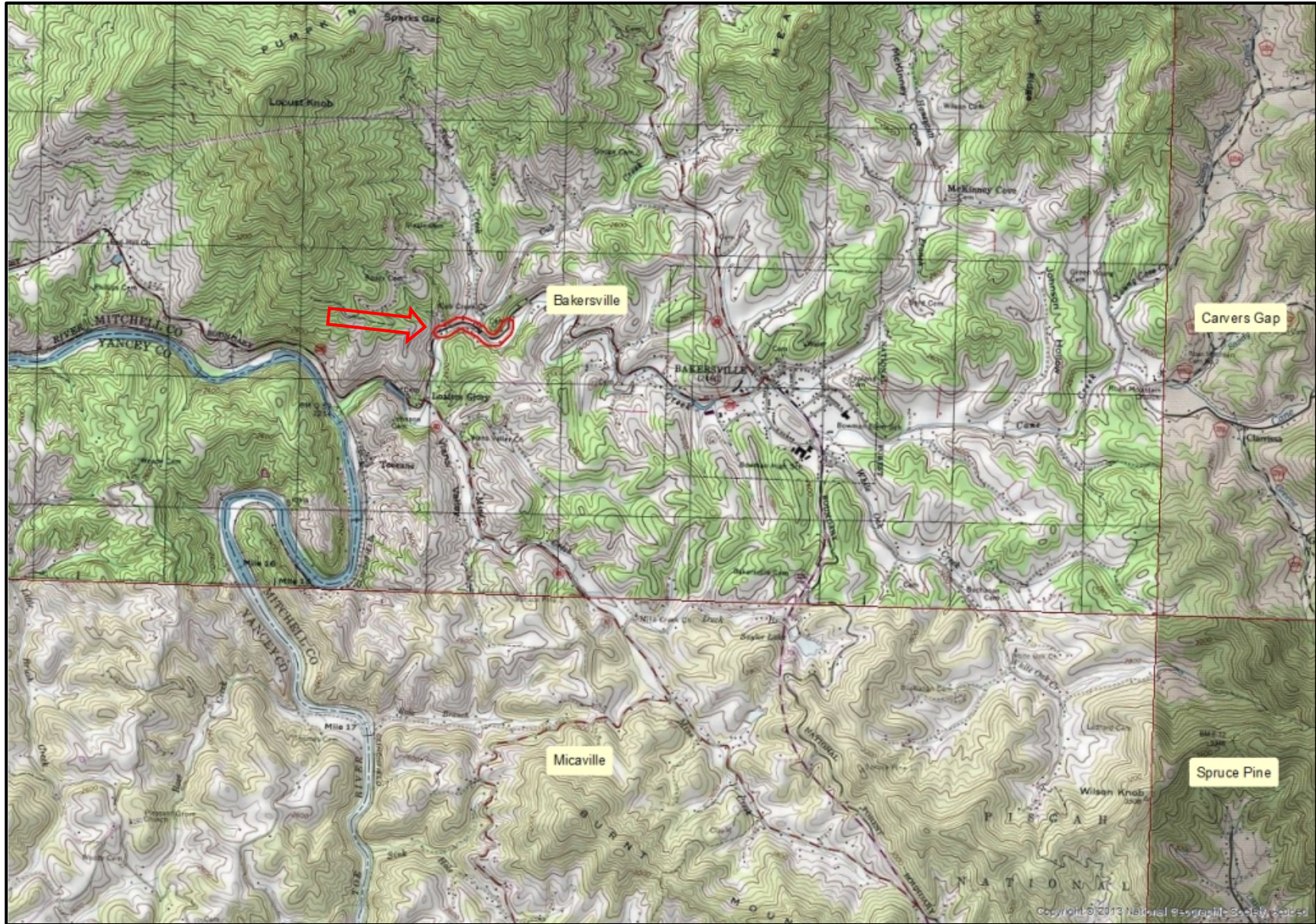








Figure 1: West view of Bridge 19.



Figure 2: West view of the northwest quadrant.



Figure 3: West view of the southwest quadrant.



Figure 4: Southeast view of the southeast quadrant.



Figure 5: North view of the level terrace in the northeast quadrant.



Figure 6: Southeast view of the northeast quadrant.

16-01-0093



HISTORIC ARCHITECTURE AND LANDSCAPES NO HISTORIC PROPERTIES PRESENT OR AFFECTED FORM

This form only pertains to Historic Architecture and Landscapes for this project. It is not valid for Archaeological Resources. You must consult separately with the Archaeology Group.

PROJECT INFORMATION

Project No:	B-5893	County:	Mitchell
WBS No.:	48086.1.1	Document Type:	CE
Fed. Aid No:	N/A	Funding:	<input checked="" type="checkbox"/> State <input type="checkbox"/> Federal
Federal Permit(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Permit Type(s):	NWP
<u>Project Description:</u> Replace Bridge No. 19 on NC226 over Cub Creek.			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

- 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.
- There are no historic properties present or affected by this project. (Attach any notes or documents as needed.)

Date of field visit: April 14, 2016

Description of review activities, results, and conclusions:

Review of HPO quad maps, HPO GIS information, historic designations roster, and indexes was undertaken on January 25, 2016. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects, which defined on the following maps. Several properties are within the APE, and a survey was required to assess these structures and performed in April 2016. A one-story frame house and barn is situated directly northwest of Bridge No. 19. The plain house and barn appear to date to the mid-20th century; they are unremarkable and are no eligible for National Register listing. A one-story brick church, also c. mid-20th century, is northeast of the bridge. This property falls outside of the APE and will not be affected by this project. All other properties are under fifty years of age. There are no National Register listed or eligible properties within the APE. If design plans change, additional review will be required.

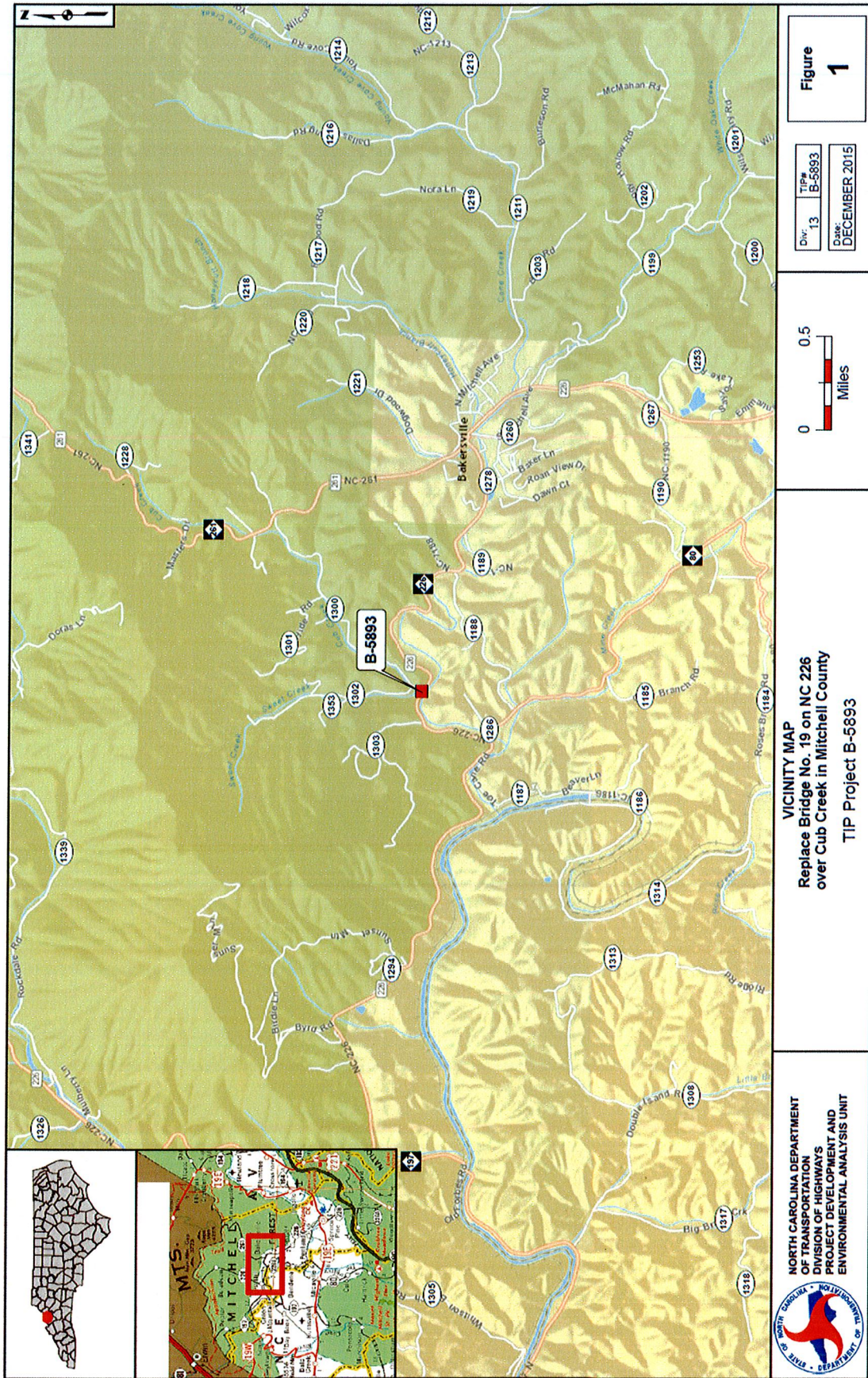



Figure 1

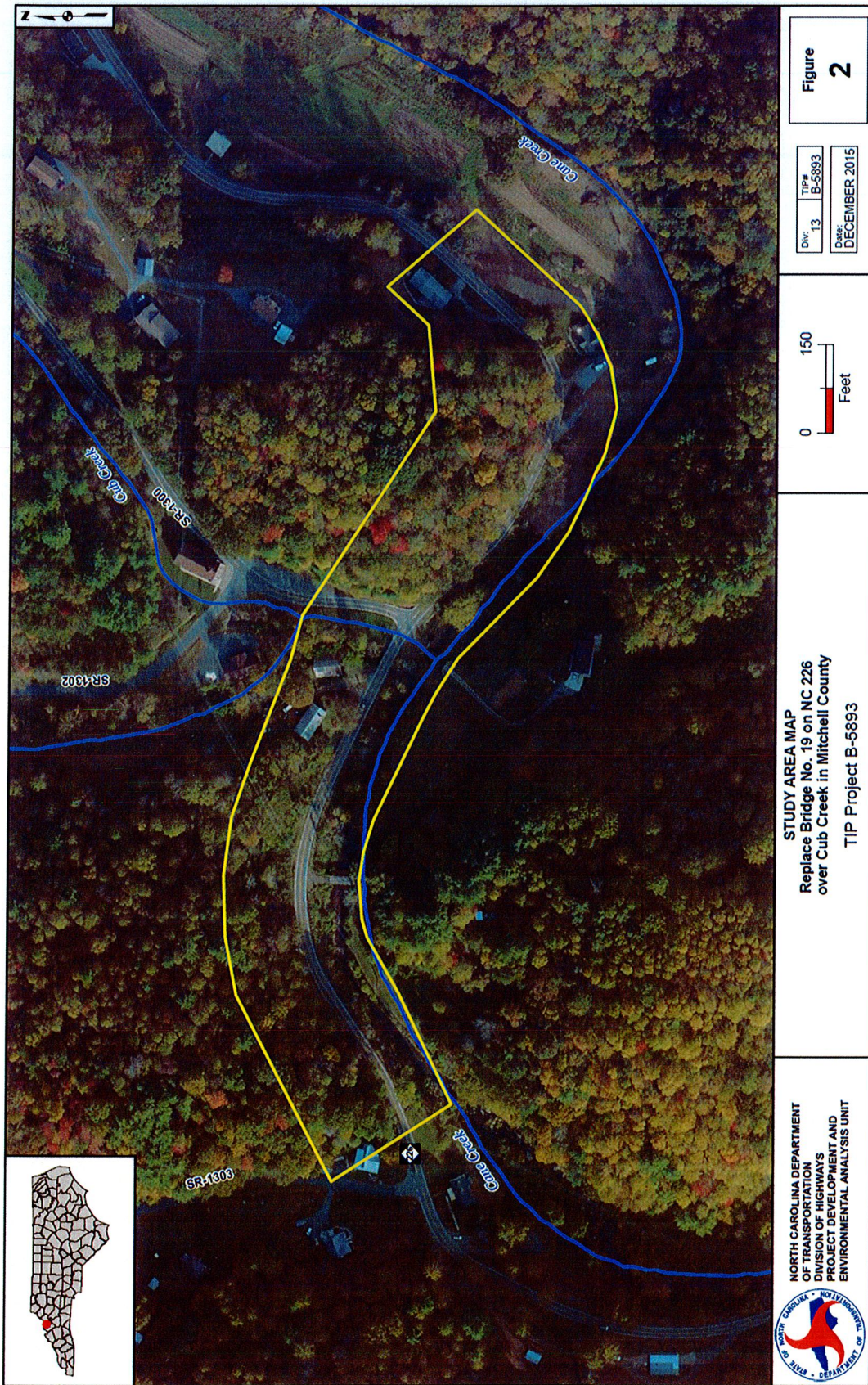
Div: 13 TIP#: B-5893
 Date: DECEMBER 2015

0 0.5 Miles

VICINITY MAP
 Replace Bridge No. 19 on NC 226
 over Cub Creek in Mitchell County
 TIP Project B-5893

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





Historic Architecture and Landscapes NO HISTORIC PROPERTIES PRESENT OR AFFECTED form for Minor Transportation Projects as Qualified in the 2007 Programmatic Agreement.



House and barn directly northwest of bridge. Not eligible for NR listing.



Church northeast of bridge. Will not be affected by this project.