New Interchange at I-85 and
SR 1221 (Old Beatty Ford Road Relocation)
Rowan County

WBS Element No. 38708.1.1
STIP Project No. I-3804

April 2017

ADMINISTRATIVE ACTION
CATEGORICAL EXCLUSION
UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Prepared By:

4/25/2017
DATE

Mark L. Reep, PE
Senior Project Engineer, HDR

NORTH CAROLINA PROFESSIONAL SEAL 19818 ENGINEER MARK L. REEP

4/25/2017

Prepared For: North Carolina Department of Transportation

Reviewed By:

4.25.17
DATE

John L. Williams, PE
Project Development Engineer, NCDOT

Certified By:

4/26/17
DATE

Beverly Robinson
Project Development Group Supervisor, NCDOT

Approved By:

4/26/17
DATE

for John F. Sullivan, III, PE
Division Administrator, FHWA

PROJECT COMMITMENTS

NEW INTERCHANGE AT I-85 AND
SR 1221 (OLD BEATTY FORD ROAD RELOCATION)
Rowan County, North Carolina
WBS Element No. 38708.1.1
STIP Project No. I-3804

NCDOT Hydraulics Unit

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).

NCDOT Division 9 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.

NCDOT Project Development & Environmental Analysis

Local emergency service units utilize Old Beatty Ford Road as a primary travel corridor for responses that are located east of I-85. NCDOT will keep the Old Beatty Ford Road bridge operational until the new bridge is open to the public. Prior to opening of the bridge, Rowan County Emergency Service, Bostian Heights Fire Department, and Rowan County Sheriff's Department will be notified of the closure of the old bridge and opening of the new bridge.

Categorical Exclusion Action

STIP Project No.	**I-3804**
WBS Element No.	**38708.1.1**

Project Description: The North Carolina Department of Transportation (NCDOT) proposes to provide a new interchange at I-85 and SR 1221 (Old Beatty Ford Road relocation) in Rowan County (see Figure 1). The project is included in the NCDOT 2016-2025 State Transportation Improvement Program (STIP) as Project No. I-3804. The proposed project would convert the I-85 crossing of the Old Beatty Ford Road relocation project, currently under construction as STIP W-5516, from a grade separation to an interchange.

Description of Purpose and Need The primary purpose of this project is to improve system connectivity to employment centers and access to planned developments in southern Rowan County. The project is needed to support economic prosperity across southern Rowan County, improve access to I-85 for regional, statewide and national markets, and to support long-range planning and land use initiatives.

A 300-acre mixed-use campus is proposed along the Old Beatty Ford Road relocation. The estimated annual employment impact from this campus is expected to exceed 3,500 jobs.[1] A job center of this magnitude would benefit Rowan County; which has lost thousands of manufacturing jobs over the past few years.

The local roadway system currently provides access to I-85 with interchanges two or more miles away from the project area. Without local interstate access, users to the proposed mixed-use campus would be required to travel approximately five miles on local roadways.

Planning documents from Rowan County and the Cabarrus Rowan Metropolitan Planning Organization (CRMPO) include this interchange as an important new access to I-85. The proposed project is ranked as the highest priority in Rowan County's *Land Use Plan, Areas East of I-85* (2012) and in the CRMPO's *2017 Comprehensive Transportation Plan.*

Adjacent Projects: According to the 2016-2025 STIP, two projects have footprints overlapping this project:

- STIP W-5516 is a 3.1 mile project to relocate Old Beatty Ford Road from its intersection with Bostian Road (SR 1221) to Lentz Road (SR 1337) in Rowan County. The project is currently under construction.
- STIP I-3802B is a 6.5 mile design-build project to widen I-85 from Lane Street (Cabarrus County, Exit 63) north to the US 29-601 Connector (Rowan County, Exit 68). The project is currently under construction.

Five other projects nearby are illustrated in Figure 1.

[1] The potential Economic Impact of a Proposed I-85 Interchange on Rowan County, North Carolina, 2013, Dr. John E. Connaughton.

Alternatives: This section discusses alternatives considered for the proposed action. These alternatives include the:

- No-Build Alternative
- Build Alternatives
- Alternatives Eliminated from Further Consideration.

Each alternative was assessed with respect to its ability to meet the project's purpose and need. One of the Build Alternatives is identified as the Preferred Alternative.

No Build Alternative: The No Build Alternative is an alternative for which no improvements to the existing roadway or construction of a new facility are proposed. It would not meet the purpose of the project or satisfy the projected transportation needs, and it is not consistent with NCDOT's 2016-2025 STIP or local planning objectives. While the No-Build Alternative does not meet the purpose or need for the project, it is included in this CE as a baseline for comparing impacts and benefits.

Build Alternatives: The two Build Alternatives function in similar ways and have bicycle and future lane accommodations on the bridge. Table 1 provides a summary of impacts and compares each alternative.

Alternative A (Preferred): Alternative A is a partial cloverleaf configuration with ramps and loops in the northwest and southeast quadrants of the interchange (see Figure 2). Alternative A has less stream impacts and acquires less land from fewer properties than Alternative B.

Alternative B: Alternative B is a half cloverleaf configuration with ramps and loops in the southwest and southeast quadrants of the interchange. Alternative B has more stream impacts, a culvert, and acquires more right of way than Alternative A. Alternative B also would moderately affect active farming operations (see Figure 3).

Table 1. Summary of Impacts – Build Alternatives

Impacts	Alternative A (Preferred)	Alternative B
Costs		
Right of Way	$ 407,000	$ 686,000
Utilities	$ 273,000	$ 240,000
Construction	$25,200,000	$24,000,000
Total	$25,880,000	$24,926,000
Relocations		
Residential	0	0
Business	0	0
Non-Profit	0	0
Farms	0	0
Total	0	0
Right of Way (acres)	30	44
Active Agricultural Operations	No Effect	Moderate Effect
Water Resource Impacts		
Stream Crossings (major structures)	3	3
Stream Crossings (pipes/culverts)	0	1
Stream Impacts (feet)	71	253
Open Water Impacts (acres)	0	0
Wetland Impacts (acres)	0.2	0.2
Floodplain Impacts (acres)	4.31	10.06
Endangered Species		
Northern long-eared bat	May Affect*	May Affect*
Schweinitz's sunflower	No Effect	No Effect
Historic Property Impacts	No Effect	No Effect
Archaeological Sites	No Effect	No Effect
Section 4(f) Resources	0	0
Environmental Justice and Title VI Populations	No Notable Presence	No Notable Presence
Limited English Proficiency Populations	No Notable Presence	No Notable Presence
Indirect and Cumulate Effects- Land Use Scenario	Not Likely Required	Not Likely Required
Noise Impacts	26	26
Hazardous Material Sites	0	0

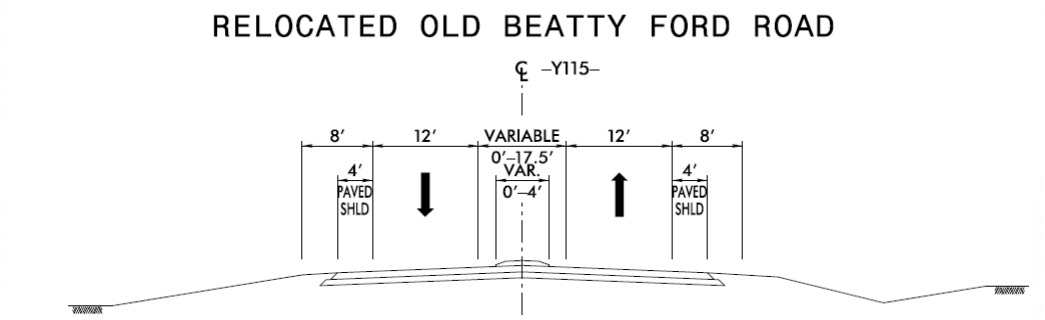
***** Northern long-eared bat is exempt due to consistency with the 4(d) rule.

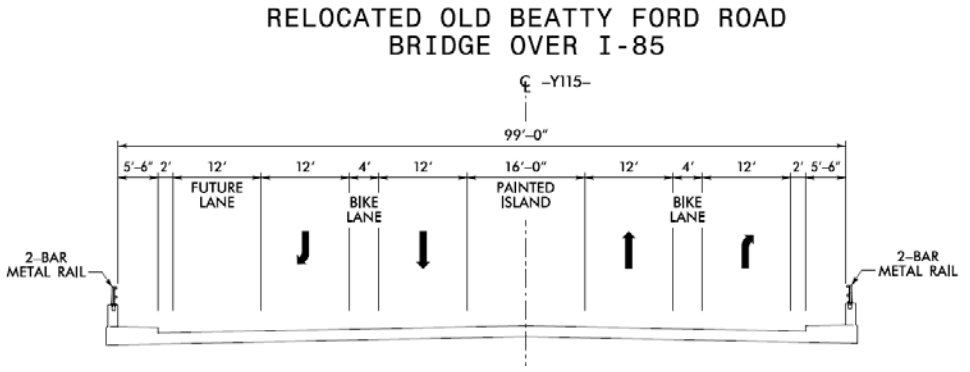
Alternatives Eliminated from Further Consideration: Thirteen alternatives were considered for the project and 11 were eliminated from further consideration. Eliminated alternatives proposed shifting I-85 slightly to the east. Shifting I-85 incurs approximately $2,800,000 in additional costs with stream impacts to Cold Water Creek and impacts to wetlands on the east side of I-85. Due to these reasons, these 11 alternatives were eliminated from further consideration. See the project files at NCDOT Project Development and Environmental Analysis (PDEA) for descriptions and designs of all proposed alternatives.

Proposed Improvements: Table 2 describes the proposed improvements for Alternative A.

Table 2. Proposed Improvements

Proposed Improvements	Alternative A (Preferred)
Design Speed - miles per hour (mph)	
I-85	70
Interchange Ramps	50 - 60
Interchange Loops	30
Old Beatty Ford Road Relocation	50
Typical Section (Old Beatty Ford Road Relocation)	
Old Beatty Ford Road Relocation	12-foot travel lanes, 8-foot shoulders, and 0 to 17-foot, 6-foot variable width median
Old Beatty Ford Road Relocation Bridge	12-foot travel lanes, future 12-foot lane, 16-foot painted median, 4-foot curb and gutter, 4-foot bike lanes, 5-foot, 6-inch sidewalks
Additional Right of Way Width	
I-85	Varies from 0 to 590 feet
Old Beatty Ford Road Relocation	Varies from 0 to 100 feet
Access Control	Full control of access within the interchange
Greenway, Pedestrian, and Bicycle Considerations	
Greenway Considerations	None
Pedestrian Considerations (On the Bridge)	5-foot, 6-inch sidewalks
Bicycle Considerations (On the Bridge)	4-foot bike lanes
Traffic Volumes	Design Year 2040 vehicles per day (vpd)
I-85	Range from 129,100 to 140,200 vpd
Old Beatty Ford Road Relocation	Range from 12,100 to 24,000 vpd





Environmental Effects: Eleven jurisdictional streams were identified in the project study area. Table 3 describes the streams and anticipated impacts for the Preferred Alternative. US Army Corps of Engineers and NC Division of Water Resources stream delineation forms were provided for these features during the previous Natural Resources Technical Report (NRTR) submissions for the STIP I-3802B and STIP W-5516 projects. All jurisdictional streams in the project study area have been designated as warm water streams for the purposes of stream mitigation. See the project files at NCDOT PDEA for the NRTR.

Table 3. Jurisdictional Water Resources in the Project Study Area

Map ID	Length (ft.)	Classification	Anticipated Impacts (ft.)	Compensatory Mitigation Required*	River Basin Buffer
Cold Water Creek (SI/SJ)	6,162	Perennial		Yes (2:1)	Not Subject
SJA	219	Intermittent	10	Yes (1:1)	Not Subject
SJAA	59	Intermittent		Yes (1:1)	Not Subject
SJB	752	Perennial	61	Yes (2:1)	Not Subject
SJB2	99	Intermittent		Yes (1:1)	Not Subject
SJC	1,399	Perennial		Yes (2:1)	Not Subject
SJE	343	Intermittent		Yes (1:1)	Not Subject
SJF	487	Perennial		Yes (2:1)	Not Subject
SJFA	92	Intermittent		Yes (1:1)	Not Subject
SIE	182	Perennial		Yes (2:1)	Not Subject
SZD	762	Intermittent		Yes (1:1)	Not Subject
Total	**10,556**		**71**		

*Mitigation ratios are based on the Wetland Assessment Method (WAM)/ Stream Assessment Method (SAM) forms which were provided to the USACE. Ratios were assigned by NCDOT. WAM/SAM forms are available upon request.

Eight jurisdictional wetlands were identified within the project study area. Wetland classification, quality rating data and anticipated impacts for the Preferred Alternative are presented in Table 4. All wetlands in the project study area are within the Yadkin-Pee Dee River Basin (USGS Hydrologic Unit 03040105). USACE wetland delineation forms and NCDWQ wetland rating forms for each site were submitted with the previous STIP W-5516 and STIP I-3802 NRTRs. Figure 4 shows the jurisdictional features in the study area.

Table 4. Jurisdictional Wetlands in the Project Study Area

Map ID	NCWAM Classification	Hydrological Classification	Anticipated Impacts (acres)	NCDWQ Wetland Rating	Area (acres)
WAG	Bottomland Hardwood Forest	Riparian	--	58	0.67
WAH	Headwater Forest	Riparian	--	27	0.07
WAN	Bottomland Hardwood Forest	Riparian	--	68	2.86
WAQ*	Headwater Forest	Non-Riparian	.007	24	0.73
WAR	Headwater Forest	Riparian	.21	53	2.45
WAS	Bottomland Hardwood Forest	Riparian	--	34	1.01
WAT	Bottomland Hardwood Forest	Riparian	--	30	1.52
WAV	Headwater Forest	Non-Riparian	--	15	0.37
Total			**0.22**	**--**	**9.68**

*Identified as an isolated wetland.

An Individual Permit is not anticipated for this project.

The following do not apply to this project: Coastal Area Management Act Areas of Environmental Concern, Construction Moratoria, NC River Basin Buffer Rules, Rivers and Harbors Act Section 10 Navigable Waters, or areas of Essential Fish Habitat.

As of April 2, 2015, the United States Fish and Wildlife (USFWS) list two federally protected species for Rowan County (Table 5). Biological Conclusions are rendered based on survey results in the project area. Biological Conclusions for each species are based on the current best available information from referenced literature and USFWS.

Table 5. Federally Protected Species Listed for Rowan County

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Myotis septentrionalis	Northern long-eared bat	T	---	May Affect*
Helianthus schweinitzii	Schweinitz's sunflower	E	Yes	No Effect

T – Threatened E – Endangered

*Northern long-eared bat is exempt due to the consistency with the 4(d) rule.

Northern long-eared bat (NLEB): **Biological Conclusion: May Affect:** NCDOT has determined that the proposed action does not require separate consultation on the grounds that the proposed action is consistent with the final Section 4(d) rule, codified at 50 C.F.R. § 17.40(o) and effective February 16, 2016. NCDOT may presume its determination is informed by best available information and consider Section 7 responsibilities fulfilled for NLEB.

Schweinitz's sunflower: **Biological Conclusion: No Effect:** Potential suitable habitat for Schweinitz's sunflower is present in the project study area along roadsides, residential areas, field edges, maintained utility rights of way, old pastures, and open gap areas in woodlands. Past plant surveys for a portion of the project study area were conducted during the STIP W-5516 field investigation in 2013 and no plants were observed. NCDOT completed a survey for the I-3802B project study area on October 16, 2014 and found no plants. Biologists conducted a plant survey on October 26, 2016 within the suitable habitat identified in the project study area. No Schweinitz's sunflowers were observed. A review of the NCNHP database, updated October 2016, indicated no populations of Schweinitz's sunflower are known to occur within a one mile radius of the project study area. Therefore, the proposed interchange project would have No Effect on the Schweinitz's sunflower.

***Bald Eagle and Golden Eagle Protection Act*:** It has been determined that this project would not affect the bald eagle species due to the lack of habitat, the lack of known occurrences, and based on completed past surveys as detailed in the November 2016 NRTR.

Historic Architecture: There are no historic properties present or affected by this project.

Archaeology: No archaeological survey is required unless the project extends outside of the Area of Potential Effects.

According to local EMS officials, Old Beatty Ford Road is used as a primary travel corridor for responding to emergencies that are located east of I-85, and access to both sides of I-85 must be maintained throughout the construction period. EMS officials want to know in advance of road closures or delays and temporary traffic shifts during construction.

The following is a summary of indirect and cumulative effects (ICE) within the proposed project's Future Land Use Study Area (FLUSA). The ICE analysis is available in the STIP I-3804 *Community Impact Assessment* (January 2017), located in the project file at NCDOT PDEA. Table 6 shows the ranking of the factors that have been shown to influence land development decisions in North Carolina and across the nation. The results of the individual assessments for each category are ranked from a low level of concern to a high level of concern for potential indirect effects.

Table 6. Indirect Land Use Effects Screening Tool

Rating	Scope of Project	Travel Time Savings	Forecasted Population Growth	Forecasted Employment Growth	Available Land	Water/Sewer Availability	Market for Development	Public Policy	Notable Environmental Features	Result
More Concern	Major New Location	> 10 minute travel time savings	> 3% annual population growth	Substantial # of New Jobs Expected	5000+ Acres of Land	All services existing / available	Development activity abundant	Less stringent; no growth management	Targeted or Threatened Resource	
⬆										
↑					X					
↔	X	X		X						
↓			X			X	X			Land Use Scenario Assessment Not Likely
⬇								X	X	
Less Concern	Very Limited Scope	No travel time savings	No population growth or decline	No new Jobs or Job Losses	Limited Land Available	No service available now or in future	Development activity lacking	More stringent; growth management	Features incorporated in local protection	

ICE Summary: Local planners anticipate the recent development trends in the rest of the FLUSA would continue at a rate consistent with past development experience. The Indirect Land Use Effects Screening Tool (Table 6) indicates that a Land Use Scenario Assessment is not likely required for this project.

Water Quality: Qualitative analyses of the probable development patterns in the FLUSA, based on the information and data available at the time of this report, suggest that future development resulting from STIP I-3804 would have a minimal effect on the watershed. It is anticipated that the project would not notably contribute to cumulative impacts to environmental resources in the FLUSA. Any direct natural environmental impacts by NCDOT projects would be addressed by avoidance and minimization consistent with programmatic agreements with the natural resource agencies and the implementation of best management practices.

Cumulative Effects Statement: Local officials and private developers anticipate a 300 to 400 acre residential, commercial, and medical mixed-use campus will be built in the project area. Local planners think this type of development would be confined to the area around the new interchange and do not feel that the proposed project would affect current development patterns in other areas of the FLUSA.

The cumulative effect of this project when considered in the context of other past, present, and future actions, and the resulting impact on the notable human and natural features, would not notably contribute to cumulative impacts to environmental resources in the FLUSA.

Noise: Under the Preferred Alternative, 26 single-family homes scattered along both sides of I-85 would be impacted out of a total of 38 residential receptors. Four noise barriers were evaluated for their ability to reduce noise levels at impacted receptors and meet NCDOT's criteria for feasibility and reasonableness. None of the noise barriers were found to be reasonable; therefore, it is unlikely that noise abatement measures would be implemented for the project. The Traffic Noise Report is available in the project files at NCDOT PDEA.

Air Quality:
Because there are limited, non-significant human and natural environment impacts, FHWA believes that a Categorical Exclusion is appropriate for this project and therefore no additional MSAT analysis is required. The Air Quality Report is available in the project files at NCDOT PDEA.

Comments and Coordination:

Agency Coordination: Input from the appropriate federal, state, and local agencies concerning effects of the proposed project on the environment was requested in a scoping letter (dated October 13, 2016) in preparation for the environmental document. Comments received from agencies are included as an attachment to this CE.

Public Involvement: A Local Officials Information Meeting (LOIM) and a Public Meeting were both held on October 20, 2016 at the Moose Family Center, 990 Old Beatty Ford Road in China Grove.

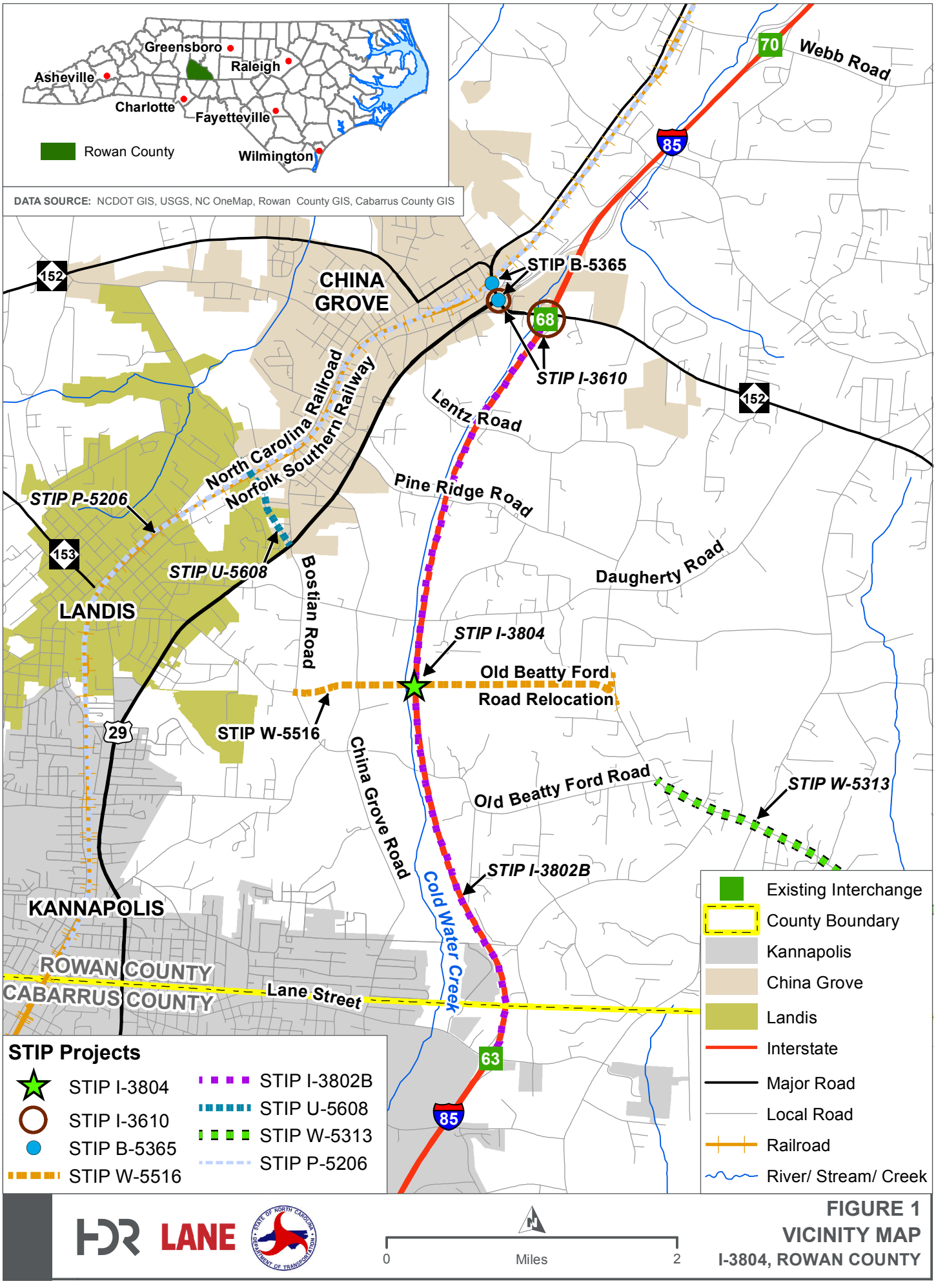
Three representatives from China Grove and Landis attended the LOIM. No written comments were received from the LOIM attendees. Approximately 98 participants attended the Public Meeting later that day.

Fifteen participants submitted comment forms at the Public Meeting. Additional comments were submitted by email after the meeting. Twelve of the 18 submitted comments favoring Alternative A and three comments favored Alternative B. Some comments requested that the bridge consist of five lanes to accommodate future planned growth. Other comments were about the location of the interchange and its impact on safety and the community's character.

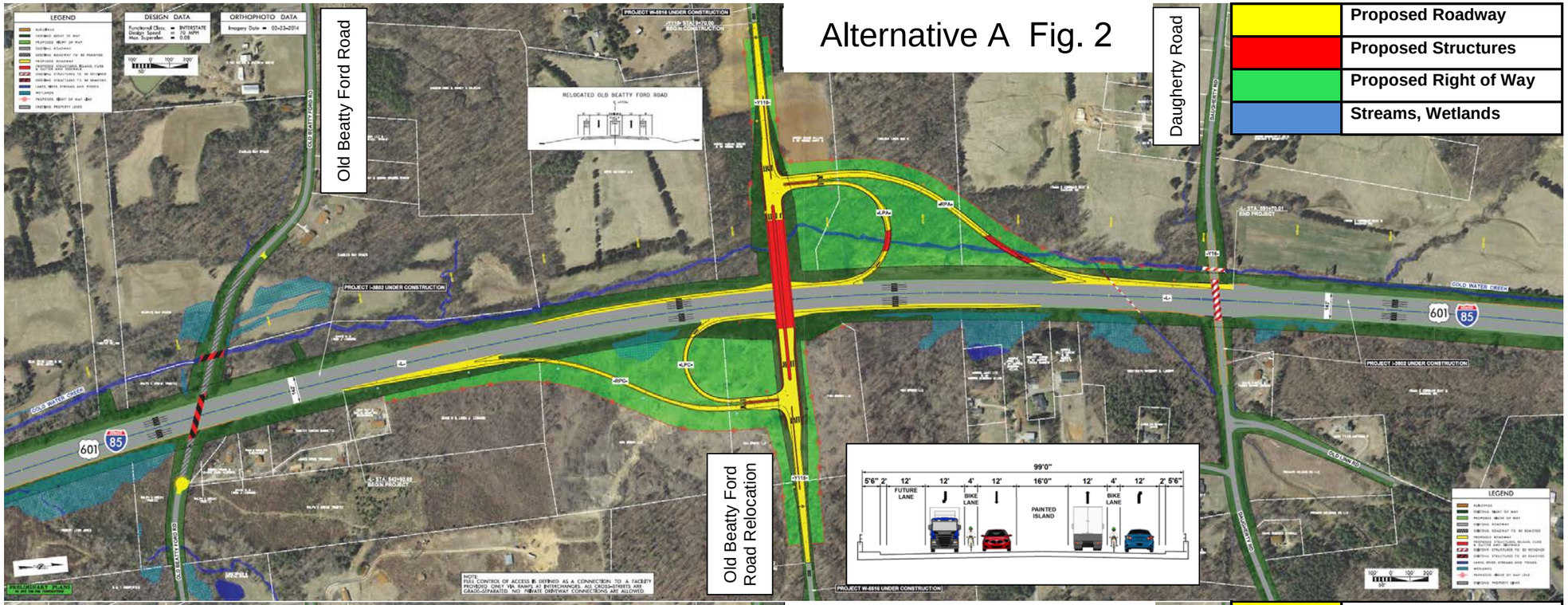
A project newsletter was mailed on January 6, 2017 to property owners in the vicinity of the project. The newsletter summarized the public comments that were received during and after the Public Meeting on October 20, 2016. The newsletter provided updates on a wider bridge being proposed on Old Beatty Ford Road relocation over I-85. The update explained that the wider bridge is due to revised 2040 traffic volumes that account for additional traffic from a proposed multi-use development near the interchange. NCDOT's selection of Alternative A as the Preferred Alternative was also indicated in the newsletter, noting differences between Alternative A and Alternative B. The project file, available at NCDOT PDEA, includes public involvement comments and a copy of the newsletter.

the Preferred Alternative was also indicated in the newsletter, noting differences between Alternative A and Alternative B. The project file, available at NCDOT PDEA, includes public involvement comments and a copy of the newsletter.

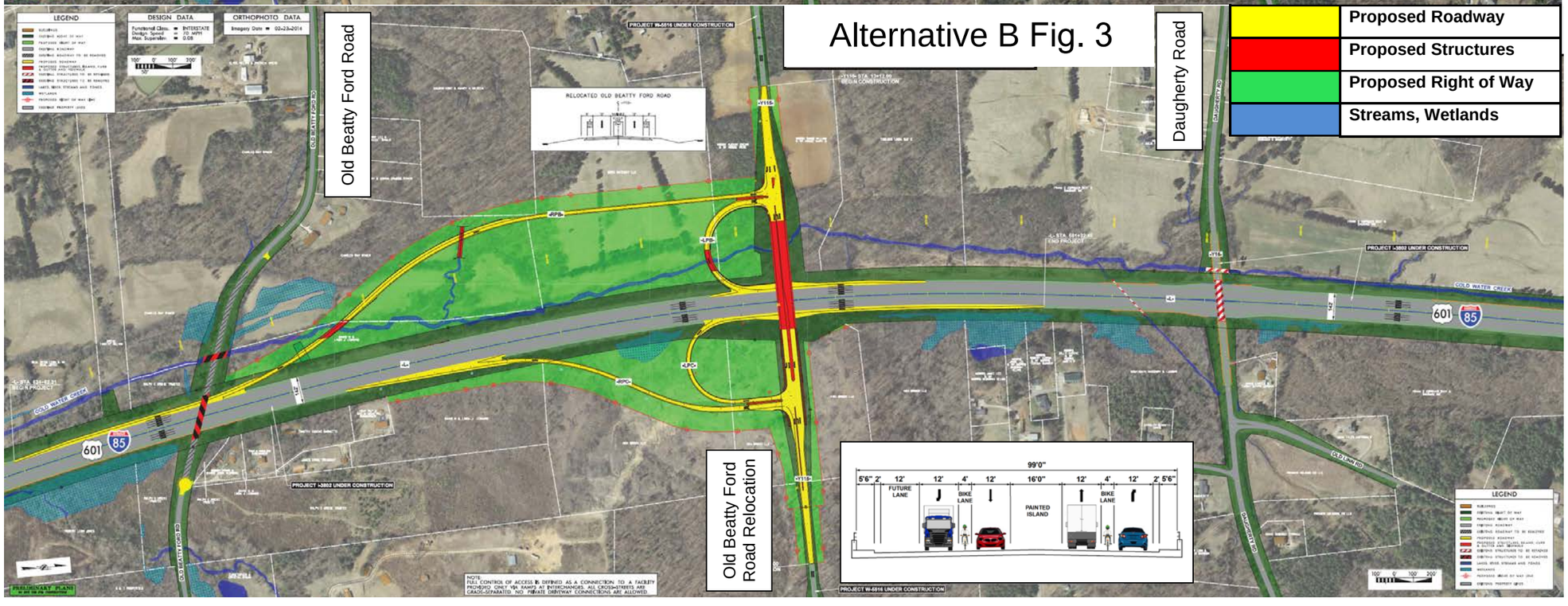
Basis for Categorical Exclusion: Based on the studies performed for the proposed project, it is concluded that the project would not result in significant social, economic, or environmental impacts, and that the categorical exclusion classification, as defined in 40 CFR 1508.4 and 23 CFR 771.117, is appropriate.

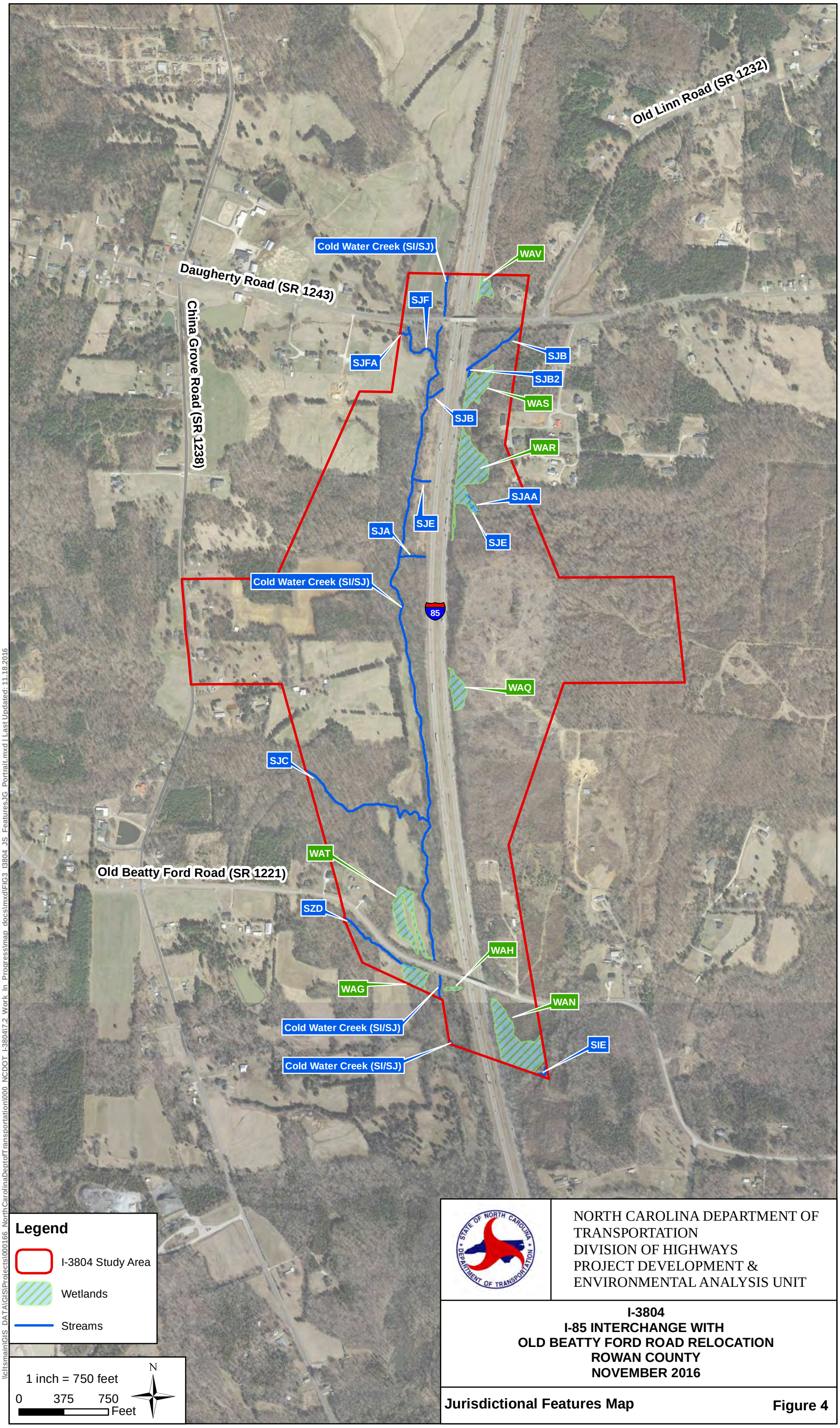

Greensboro
Raleigh
Asheville
Charlotte
Fayetteville
Wilmington
Rowan County
DATA SOURCE: NCDOT GIS, USGS, NC OneMap, Rowan County GIS, Cabarrus County GIS
70
Webb Road
85
152
CHINA GROVE
STIP B-5365
68
STIP I-3610
Lentz Road
North Carolina Railroad
Norfolk Southern Railway
Pine Ridge Road
STIP P-5206
153
STIP U-5608
Bostian Road
Daugherty Road
LANDIS
STIP I-3804
Old Beatty Ford Road Relocation
29
STIP W-5516
China Grove Road
Old Beatty Ford Road
STIP W-5313
STIP I-3802B
Cold Water Creek
KANNAPOLIS
ROWAN COUNTY
CABARRUS COUNTY
Lane Street
63
85
STIP Projects
STIP I-3804
STIP I-3610
STIP B-5365
STIP W-5516
STIP I-3802B
STIP U-5608
STIP W-5313
STIP P-5206
Existing Interchange
County Boundary
Kannapolis
China Grove
Landis
Interstate
Major Road
Local Road
Railroad
River/ Stream/ Creek
HDR
LANE
0
Miles
2
FIGURE 1
VICINITY MAP
I-3804, ROWAN COUNTY

Alternative A Fig. 2



Alternative B Fig. 3





\\cltsmain\GIS_DATA\GIS\Projects\000166_NorthCarolinaDeptofTransportation\000_NCDOT_I-3804\7.2_Work_In_Progress\map_docs\mxd\FIG3_I3804_JS_FeaturesJG_Portrait.mxd | Last Updated: 11.18.2016

HISTORIC ARCHICTECTURE 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:	I-3802	***County***:	Rowan
WBS No.:	36780.1.2	***Document Type***:	CE
Fed. Aid No:	NHIMF-85-2(61)55	***Funding***:	☐ State ☒ Federal
Federal Permit(s):	☒ Yes ☐ No	***Permit Type(s)***:	GP 13
Project Description: Interchange added to I-85 at Old Betty Ford Relocation.			

SUMMARY OF HISTORIC ARCHICTECTURE 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: n/a

Description of review activities, results, and conclusions:
Review of HPO quad maps, relevant background reports, historic designations roster, and indexes was undertaken on March 16, 2017. Based on this review there are no NR, DE, LL, or SL in the project area. There are three houses (RW1863, 1863, & 1866) within the study area which have been evaluated and found to be not eligible for National Register listing. No other structures in the study area are greater than 50 years of age. No historic properties will be affected by this project.

SUPPORT DOCUMENTATION

☒Map(s) ☐Previous Survey Info. ☒Photos ☐Correspondence ☒Design Plans

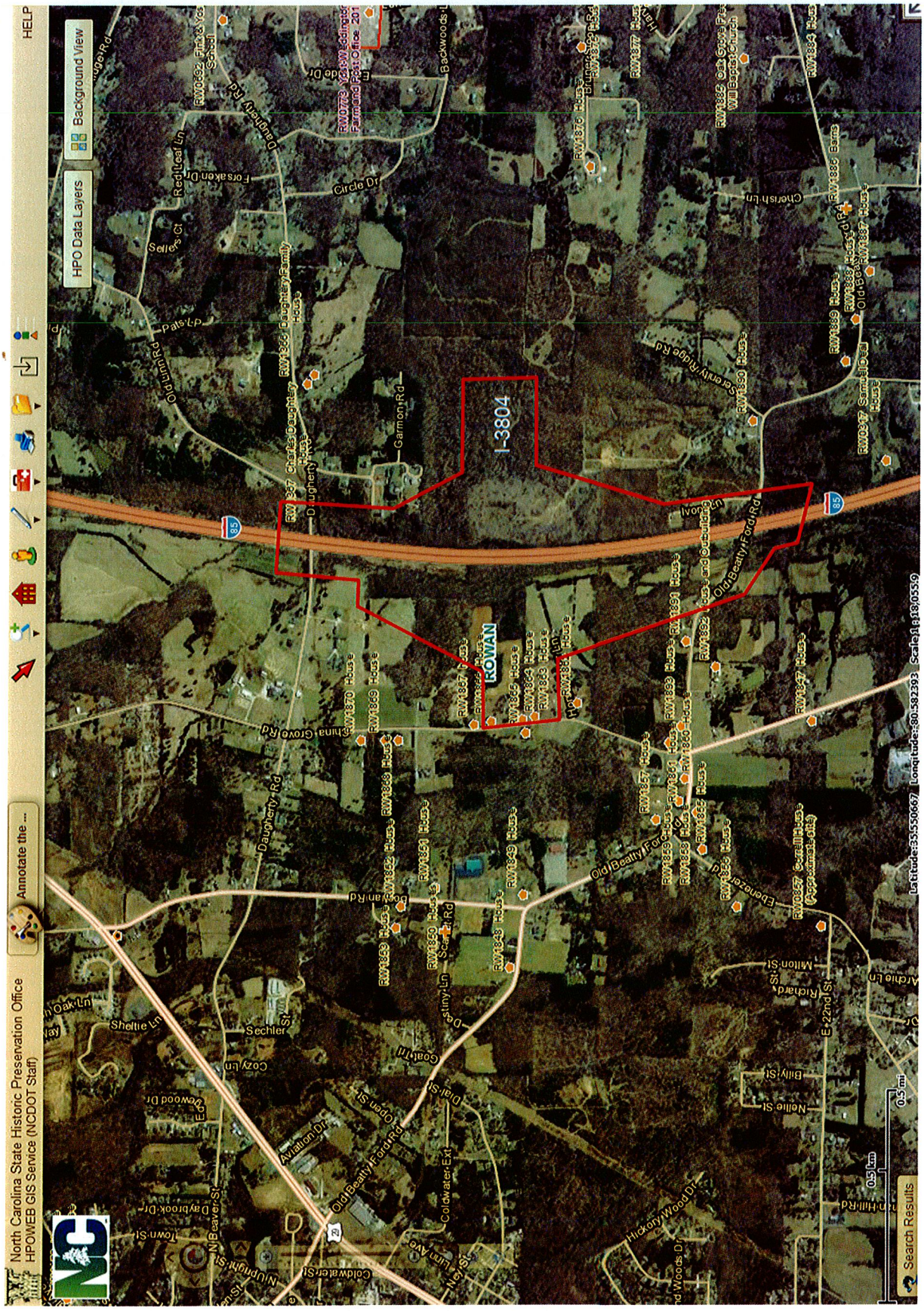
FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes – **NO HISTORIC PROPERTIES PRESENT OF AFFECTED**

Shelby Reap — Mar. 16, 2017

NCDOT Architectural Historian — Date

RW1866



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

RW 1864

RW1863

Project Tracking No.:

13-05-0015
Addendum II

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:	**I-3804 (I-3802 Funding)**	*County:*	**Rowan**
WBS No:	**36780.1.2**	*Document:*	**CE**
F.A. No:	**NHIMF-85-2(61)55**	*Funding:*	☐ State ☒ Federal

Federal Permit Required? ☒ Yes ☐ No *Permit Type:* **GP 31**

Project Description:
*The original **PA 13-05-0015** called for a new alignment for Winecoff School Road (SR 1790) and its adjoining roads in Cabarrus County. This work was done in association with the widening of I-85 (TIP I-3802). A "No National Register of Historic Places Eligible or Listed Archaeological Sites Present or Affected" form was submitted on July 9, 2013 and a subsequently revised form on April 29, 2014. A later **PA 13-05-0015 Addendum** called for the milling, resurfacing, and a new messaging sign for US 29 and the addition of a left turn land on East Church Street (NC 152) in Rowan County. This work was done with funds for I-3802B. A "No Archaeological Survey Required" form was submitted on October 12, 2015.*

*The current project is for a proposed interchange on I-85 at the new alignment of Old Beatty Ford Road (TIP W-5516). This project is identified as I-3804, but funds are provided under I-3802B. It is non-contiguous with the previous projects. The current **PA 13-05-0015 Addendum II** is only for the defined APE along I-85 and the new location of Old Beatty Ford Road and not for the other previous projects.*

This archaeological Area of Potential Effects (APE) for I-3804 is defined as an approximately 5,000-foot (1,524.00 m) long corridor extending north from existing SR 1221 (Old Beatty Road Road) along I-85. The APE includes three proposed alternatives for ramp designs at the new location for Old Beatty Ford Road. The APE width varies from 325 feet (99.06 m) at the northern and southern ends to 2,300 feet (701.04 m) at the center. A total of 107 acres are encompassed by the project. This will include all right-of-way and easements within the project area.

SUMMARY OF CULTURAL RESOURCES REVIEW

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

The I-85 interchange at the realigned Old Beatty Ford Road project or I-3804 is just east of North Kannapolis and south of China Grove in southeastern Rowan County, North Carolina. The project area is plotted in the southern half of the China Grove USGS 7.5' topographic quadrangle (Figure 1).

A map review and site file search was conducted at the Office of State Archaeology (OSA) on March 10, 2017. No previously recorded archaeological sites have been identified within the APE, but 11 archaeological resources (31RW250–31RW260) are in the nearby vicinity. According to the North Carolina State Historic Preservation Office online data base (HPOWEB 2017), there are no known historic architectural resources within the APE that may yield intact archaeological deposits. Topographic maps, USDA soil survey maps, aerial photographs (NC One Map), and historic maps (North Carolina maps website) were examined for information on environmental and cultural variables that may

have contributed to prehistoric or historic settlement within the project limits and to assess the level of ground disturbance.

The I-3804 project is situated mostly along the Cold Water Creek drainage with hillside slopes to east and west sides (Figure 2). High ridges are present at the center of the project area on either side of I-85, where the new alignment for Old Beatty Ford Road will run. Cold Water Creek flows south into the Rocky River. These waterways are part of the Yadkin-Pee Dee drainage basin. The project area is rural with agricultural properties to the southwest and forested lots elsewhere. Timber harvesting has been carried out along the ridge and side slopes east of I-85. Soil erosion is also reported as higher than expected in areas were the ground surface is exposed.

According to the USDA soil survey report, the project area consists of nine soil types (Figure 3). These include Appling sandy loam (ApB), Chewacla loam (ChA), Enon fine sandy loam (EnB; EnC), Mecklenburg clay loam (MeB2), Pacolet sandy loam (PaD), the Poindexter-Rowan complex (PxC), Sedgefield fine sandy loam (SeB), Udorthents loam (Ud), and Vance sandy loam (VaC). Chewacla loam covers most of the APE and is found along the Cold Water Creek drainageway along with Sedgefield fine sandy loam. The Chewacla series is nearly level, somewhat poorly drained, and frequently flooded, while Sedgefield is moderately to somewhat poorly drained with a slope of 1 to 6 percent. Due to persistent wetness, it is unlikely for evidence of significant early settlement activities to be found on these series. The adjacent side slopes are composed of well drained Enon, Pacolet, Poindexter-Rowan, and Vance soils. Slope ranges from 2 to 25 percent, but the range of 8 to 15 percent is more common. A slope of 15 percent or more is not usually tested, since it is unlikely to yield significant results. Lastly, the ridges are made up of Appling, Mecklenburg, and Udorthents soils. These series are also well drained with gentler slopes of less than 8 percent. Soil erosion is moderate, but a previous survey suggests it is more severe due to pervious clear cutting and farming activities which have exposed the surface. The Udorthents series is also highly disturbed from earth moving activities (cut/fill) that have altered the natural characteristics of the soil.

A review of the site files at OSA shows that portions of the project area were previously investigated during the *Archaeological Survey and Evaluation of the Proposed Relocation of Old Beatty Ford Road* (TIP W-5516) in 2014 (see Figure 2). This project covered two alternatives for Old Beatty Ford Road with a new alignment that runs through the center of the current APE and improvements to the original road at the southern end of the APE. This investigation identified eight archaeological sites (31RW250, 31RW253, 31RW254, 31RW255, 31RW256, 31RW257, 31RW258, and 31RW259) and three isolated finds (31RW251, 31RW252 and 31RW260). All are considered ineligible for the National Register and none all within the current project area. As previously mentioned, the report describes the soils along the ridges and side slopes as eroded. All archaeological material was found on these landform types mostly along the surface or within the upper soil layer. No evidence of buried intact deposits was encountered. Soils in the Cold Water Creek floodplain were reported as wet and were not tested. OSA also reviewed a 34 acre Waste Pit for Bridge 516 just southeast of the APE and partially within the W-5516 corridor in December 2016 (ER 16-2245; Appendix 1). This area fell along a ridge and side slope. OSA stated "Although the soils and topographic setting have potential for archaeological remains, there is a low probability for intact, significant archaeological resources, especially given that the other nearby site(s) was (were) a light scatter with no temporal diagnostics and was (were) determined not eligible." No archaeological survey was recommended for this project. Based upon the results of the previous investigation and OSA comments for the Waste Pit, the current project area could yield archaeological sites, but they are very unlikely to be significant.

The historic map review also displays no significant historic features within the project area. The earliest map in which an accurate project location could be determined was on the 1893 USGS Statesville topographic map (Figure 4). Although structures are not plotted on this map, it shows no road or any landmarks other than Cold Water Creek within the vicinity of the proposed intersection. The later soil

map from 1914 depicts the same results (Figure 5). The 1938 *North Carolina State Highway Map for Rowan County* illustrates a more modern layout for the surrounding roads, but again no historic features are shown within or near the project area (Figure 6). Therefore, it seems very unlikely of any significant historic feature to be encountered.

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 defined archaeological APE for the proposed I-85 interchange at the realigned Old Beatty Ford Road in Rowan County is unlikely to impact significant archaeological deposits. Previous work within the APE and surrounding area suggest that archaeological sites are possible, but they are likely to be surface scatter with no intact deposits due to soil erosion and logging activities. This is supported by OSA in their decision to recommend no survey for the neighboring Waste Pit project for Bridge 516. Furthermore, the wet and poor soils within the drainageway and on side slopes of 15 percent or more are not likely to yield significant results, since these soils and landforms are unsuited for early settlement activities. Finally, the map review identified no significant historic features within the APE. As long as impacts to the subsurface occur within the defined APE, no further archaeological work is recommended for I-3804 in Rowan County. If work should affect subsurface areas beyond the defined APE, further archaeological consultation might be necessary.

SUPPORT DOCUMENTATION

See attached: ☒ Map(s) ☒ Previous Survey Info ☐ Photos ☐ Correspondence
☐ Photocopy of County Survey Notes Other: **images of historic map**

FINDING BY NCDOT ARCHAEOLOGIST

NO ARCHAEOLOGY SURVEY REQUIRED

C. Damon Jones **3/14/17**

C. Damon Jones Date
NCDOT ARCHAEOLOGIST

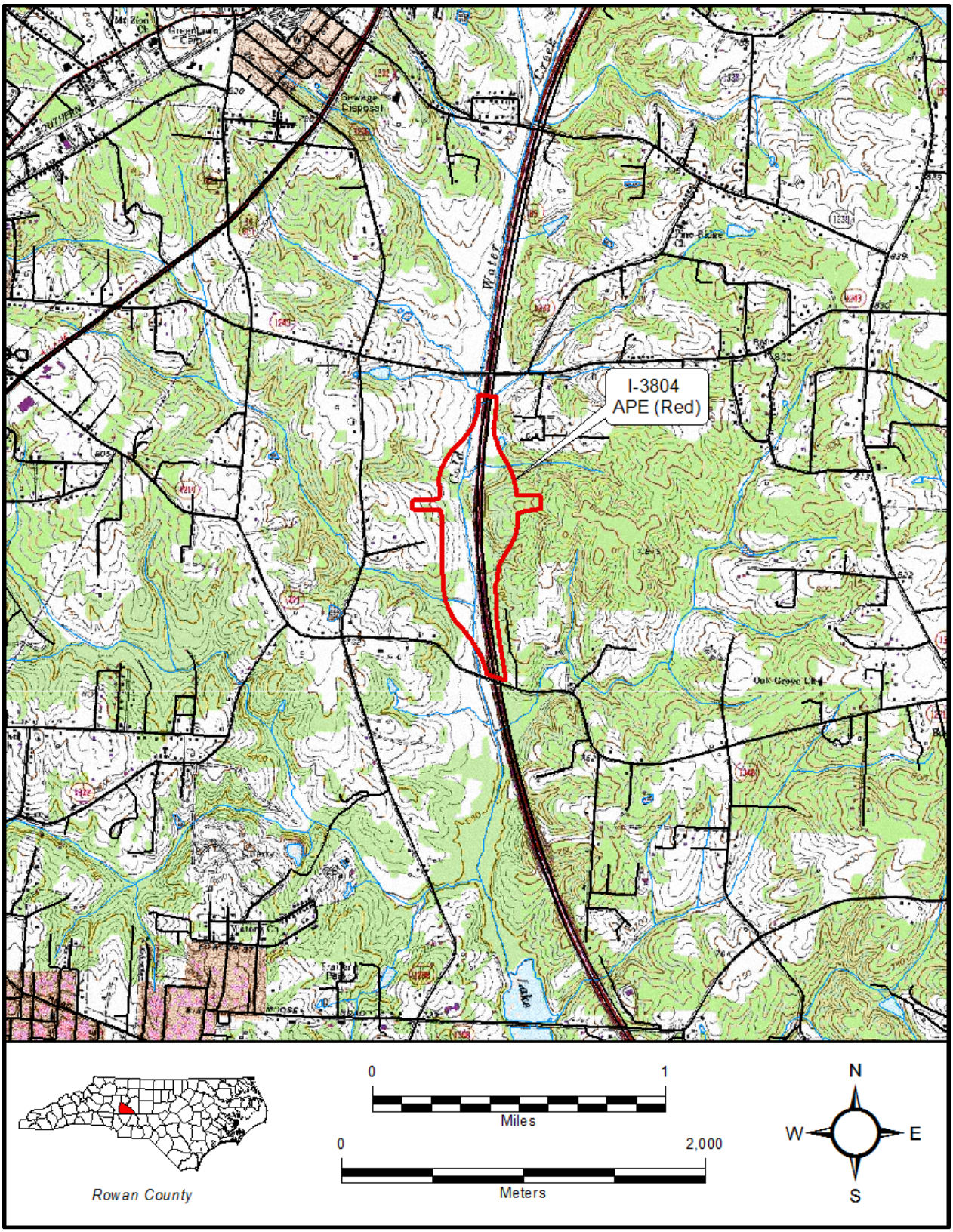


Figure 1. Topographic Setting of the Project Area, China Grove (1970; photorevised 1987), NC USGS 7′5 Topographic Quadrangle.

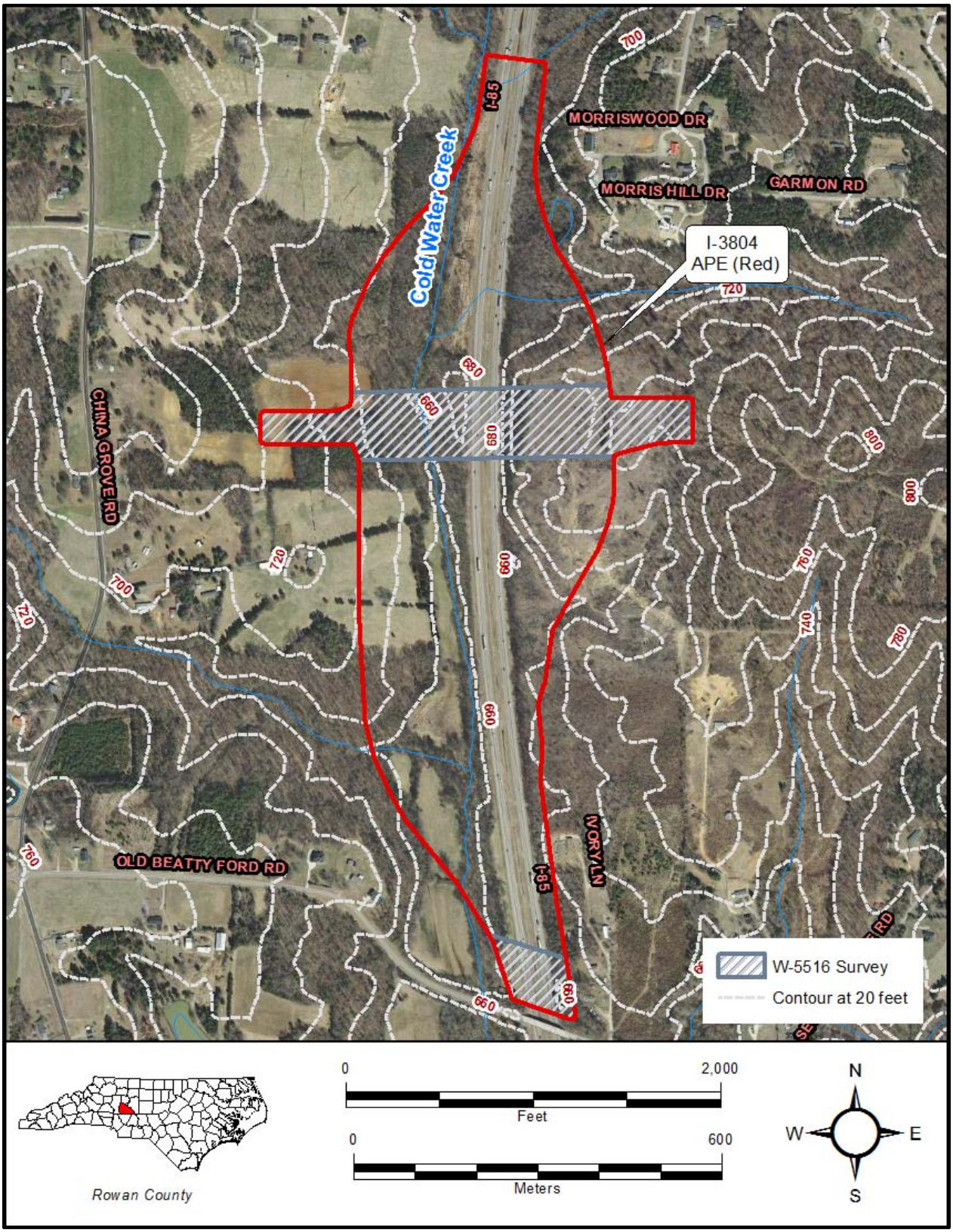


Figure 2. Aerial photograph of the APE showing development, contours, and the previously surveyed W-5516 within and near the current project area.

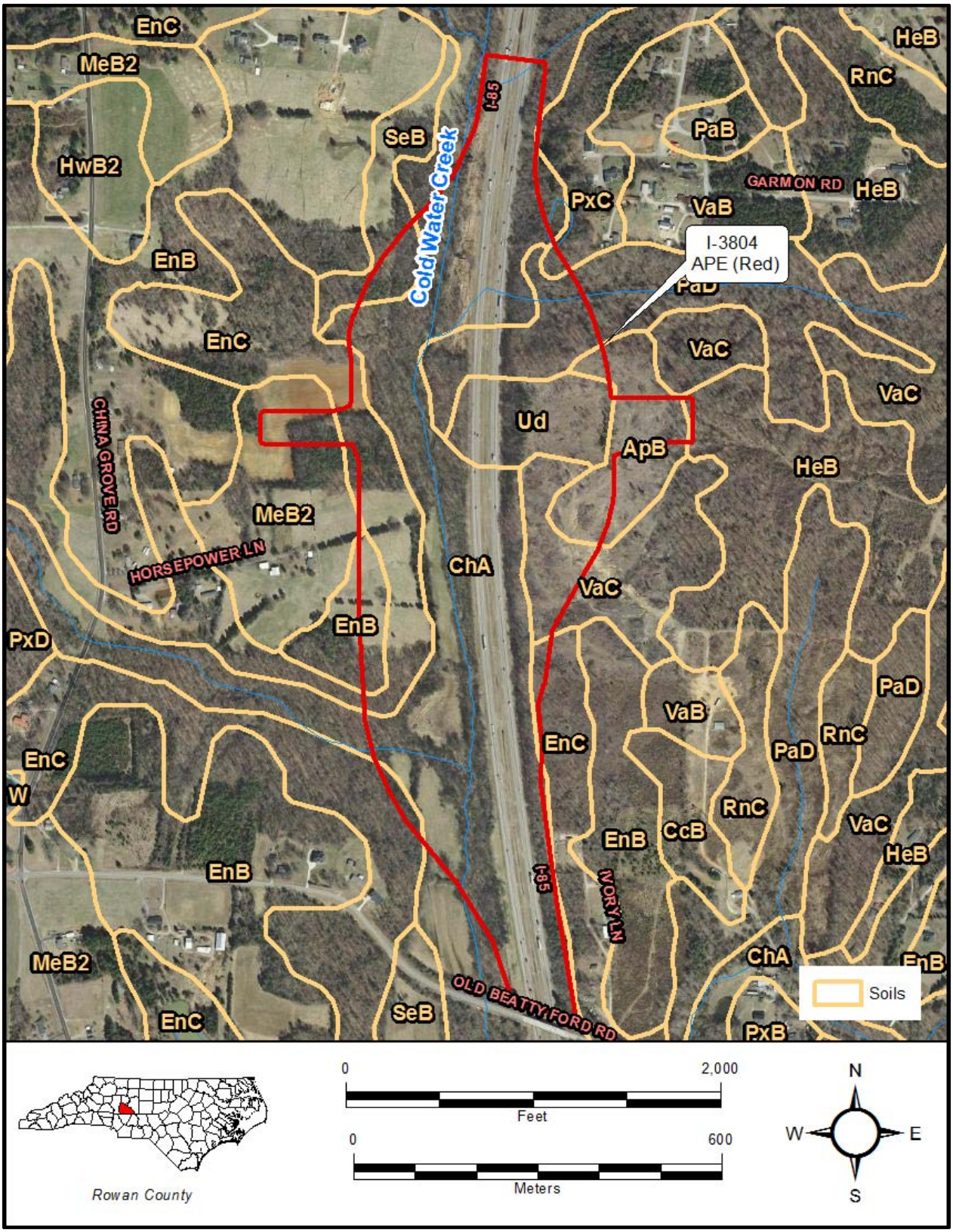


Figure 3. Aerial photographs of the APE showing the USDA soil map.

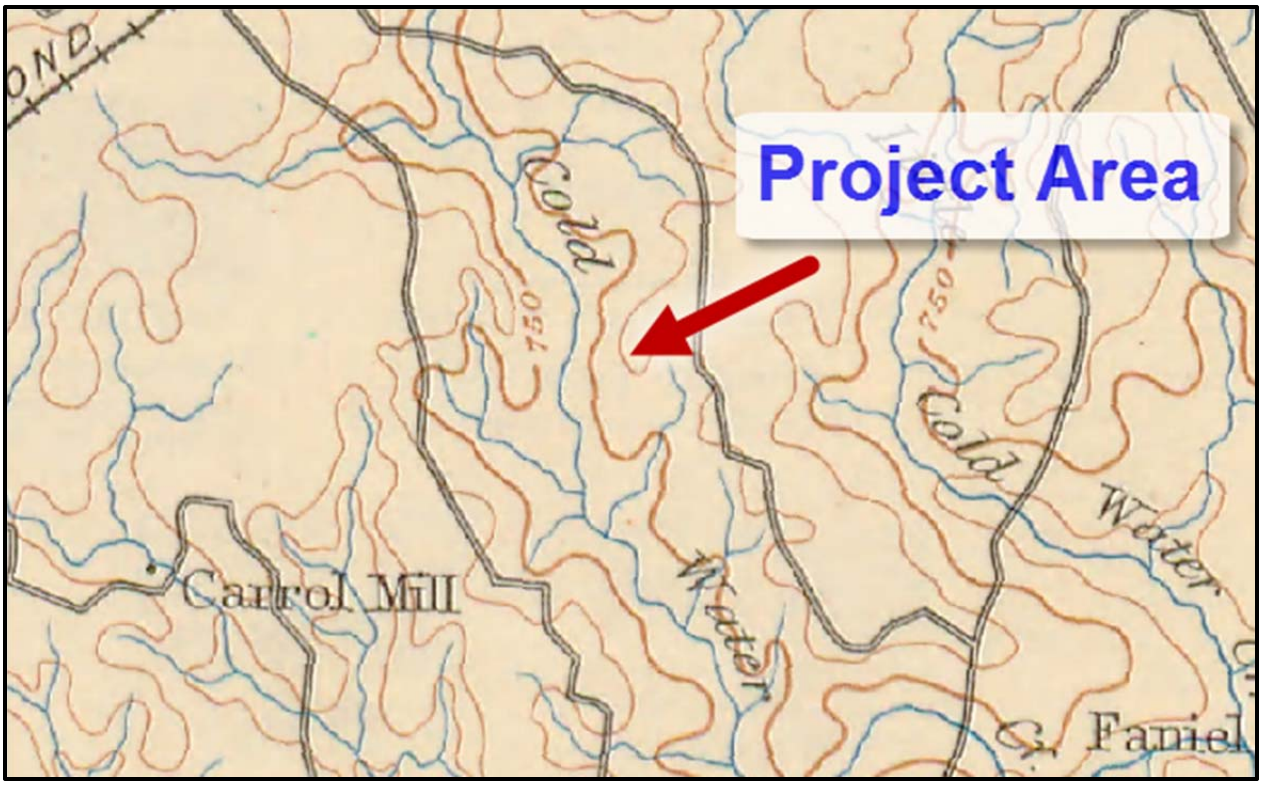


Figure 4. The 1893 USGS Statesville topographic map showing the location of the project area.

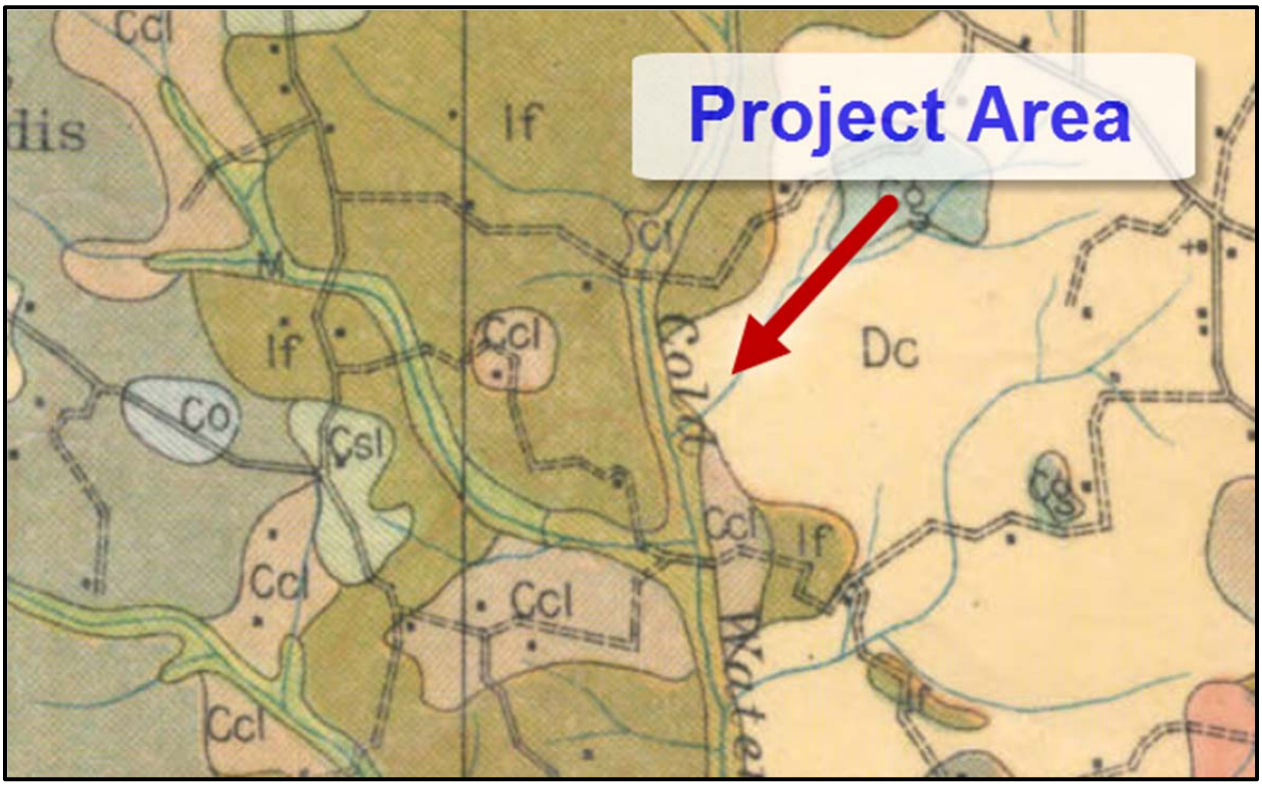


Figure 5. The 1914 *Soil Map of Rowan County* showing the location of the project area.

Figure 6. The 1938 *The North Carolina State Highway Map for Rowan County* showing the location of the project area.

Tracking #: **ER 16-2245** *Other #'s*

County: Rowan

Applicant: Smith Rowe *Status:* I

Project: **Rowan Bridge 516 Waste Pit**

Initial IN: 12/6/2016 *Current IN:* 12/6/2016 *Client:* 12/5/2016 *DUE:* **12/14/2016** *OUT:* 12/28/2016

Program: BORROW *To:* A/S

Info. Req.:	*By:*	*Info Type:*	*Received:*

FLAG INFO		*Archaeology*	*Survey/Rest.*	
Survey Req:	*By:*	*Report:*	*Report:*	☐ *DoE*
Testing Req:	*By:*	*Report:*	*Report:*	NP *Effect*
Mitigation:	*By:*	*Report:*	*Report:*	

Bib #: *Sites:* 0 *Forms IN:*

Quads: China Grove *Acres:* 34.33 *Miles:*

Notes:

☑ *Project Area Map* ☐ *DoE NR Map* *Cleared Archaeology:* **12/14/2016**

☐ *Survey Area Map* ☐ *Microfiched* *Cleared Survey:* **12/6/2016**

Reviewer(s): LNF/CRS

Comments

Arch Comments: 12/07/16: Rec'd request for project review. To LNF. LFF

12/14/16: One previously recorded site (31RW257) partially in the project area. This site, which consists of a lithic scatter, was determined not eligible for the NRHP. Some of the soils in the project area are classified as sloped, but those soils in the project area classified as less than 6 percent slope are classified as moderately well drained. There is a landform in the project area with the potential for an archaeological site. The area is wooded but has almost certainly been cleared/logged in the past. Although the soils and topographic setting have potential for archaeological remains, there is a low probability for intact, significant archaeological resources, especially given that the other nearby site was a light scatter with no temporal diagnostics and was determined not eligible. No comment/no archaeological survey recommended. LNF Survey Comments: 12/06/16: No historic properties affected. No comment. CRSHPO Comments:

Appendix 1. Copy of ER 16-2245 (Waste Pit for Bridge 516).