

Type I and II Ground Disturbing Categorical Exclusion Action Classification Form

STIP Project No.	B-5389
WBS Element	46104.1.1
Federal Project No.	N/A

- A. **Project Description:** The proposed project will replace the existing two-lane bridge (Bridge No. 105) that carries the U.S. 421 northbound lanes over the Yadkin River overflow, with another two-lane bridge in the same location. The proposed replacement structure will be a multi-span structure that is approximately 0.087 mile (455 feet) in length, with a 38-foot wide clear deck width. The project's total length is 0.343 mile (1,812 feet). The existing northbound lane bridge will be replaced with a new structure at the existing location. Traffic on the northbound lanes will be maintained during construction with an on-site detour located north of the existing bridge location. The project is not included in the 2018-2027 North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP). However, the project is in the NCDOT Structures Management Unit Bridge Program. Refer to Figure 1 (Vicinity Map) and project plan sheets at the end of this form.
- B. **Description of Need and Purpose:** The purpose of the proposed project is to replace a functionally obsolete bridge. Bridge No. 105 was built in 1958. NCDOT Bridge Management Unit records indicate Bridge No. 105 currently has a sufficiency rating of 75.82 out of a possible 100 for a new structure. Maintenance has been performed on Bridge No. 105 to address insufficiencies. Since these repairs are considered temporary, the bridge still requires replacement.
- C. **Categorical Exclusion Action Classification:** (Check one)

- | | |
|--|------------------------------------|
| <input checked="" type="checkbox"/> TYPE I A | <input type="checkbox"/> TYPE II A |
| <input type="checkbox"/> TYPE I B | <input type="checkbox"/> TYPE II B |

- D. **Proposed Improvements** – The proposed improvements fall under Category 28. “Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in 23 CFR 771.117(e) (1-6)”.
- E. **Special Project Information:**

Project Location – Bridge No. 105 on the US 421 northbound lanes over the Yadkin River overflow channel in unincorporated Yadkin County, in NCDOT Division 11.

Costs – The construction estimate for the project \$3,600,000.

Alternative Analysis – One alternative was considered for this project, to replace ‘in- place’ the existing bridge with a temporary on-site detour. The temporary on-site detour would be located to the north of the existing bridge.

Pedestrian and Bicycle Accommodations - Bridge No. 105 is not located on a designated bicycle or pedestrian route nor is there an indication of substantial bike or pedestrian usage. No special considerations for bicyclists or pedestrians are recommended or required for this project.

Environmental Commitments - Project commitments are listed at the end of this checklist.

Public Involvement – Letters were sent to landowners on March 2, 2015 to inform them of the project. No newsletters or other forms of project advisement were sent out and no public comments were received regarding the project.

Northern Long Eared Bat (NLEB) - A review of NCNHP records, updated October 2018, indicates no known occurrences of the NLEB within 1.0 mile of the project study area. The nearest hibernacula record is 72 miles southwest of the project study area. There are no known NLEB roost trees within 150 feet of the project area. 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. NCDOT may presume its determination is informed by best available information and consider Section 7 responsibilities fulfilled for NLEB.

F. Project Impact Criteria Checklists:

<u>Type I & II - Ground Disturbing Actions</u>				
<u>FHWA APPROVAL ACTIVITIES THRESHOLD CRITERIA</u>				
If any of questions 1-7 are marked "yes" then the CE will require FHWA approval.			Yes	No
1	Does the project require formal consultation with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5	Does the project involve a residential or commercial displacement, or a substantial amount of right of way acquisition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6	Does the project require an Individual Section 4(f) approval?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7	Does the project include adverse effects that cannot be resolved with a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act (NHPA) or have an adverse effect on a National Historic Landmark (NHL)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If any of questions 8 through 31 are marked "yes" then additional information will be required for those questions in Section G.				
<u>Other Considerations</u>			Yes	No
8	Does the project result in a finding of "may affect not likely to adversely affect" for listed species, or designated critical habitat under Section 7 of the Endangered Species Act (ESA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9	Is the project located in anadromous fish spawning waters?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11	Does the project impact waters of the United States in any of the designated mountain trout streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
14	Does the project include a Section 106 of the NHPA effects determination other than a no effect, including archaeological remains?	<input type="checkbox"/>	<input type="checkbox"/>	

<u>Other Considerations (continued)</u>		Yes	No
15	Does the project involve hazardous materials and/or landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16	Does the project require work encroaching and adversely affecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18	Does the project require a U.S. Coast Guard (USCG) permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20	Does the project involve Coastal Barrier Resources Act (CBRA) resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	Does the project impact federal lands (e.g. U.S. Forest Service (USFS), USFWS, etc.) or Tribal Lands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Does the project involve any changes in access control?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24	Will maintenance of traffic cause substantial disruption?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25	Is the project inconsistent with the STIP or the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) (where applicable)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28	Does the project include a <i>de minimis</i> or programmatic Section 4(f)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
29	Is the project considered a Type I under the NCDOT's Noise Policy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
31	Are there other issues that arose during the project development process that affected the project decision?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

G. Additional Documentation as Required from Section F

Response to Question 16 – The project does not exist with a regulatory floodway but does exist with a 100-year floodplain. The project will result in a maximum decrease of 0.1-foot, thus it qualifies to be covered by a Type 1 Memorandum of Agreement.

H. Project Commitments

Yadkin County
Bridge No. 105 on US 421 over Yadkin River Overflow Channel
WBS No. 46104.1.1
TIP No. B-5389.

- NCDOT Division 11 Construction
 - In order to avoid potential impacts to cliff swallow nests or birds during the nesting season, demolition of the existing bridge should occur after August 31st and before April 1st of any given year.
- NCDOT Division 11/SMU/Hydraulics Unit
 - 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, but not floodway and were built as shown in the construction plans, both horizontally and vertically.
 - The Division/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).
 - Archaeological Site 31YD1 is eligible for the National Register of Historic Places. All construction and staging efforts will not impact the NRHP eligible archaeological site 31YD1 at the eastern end of the project limits. If archaeological artifacts and/or human remains are located during the ground disturbance phase of this project, NCDOT will notify the Catawba Indian Nation.

I. Categorical Exclusion Approval

STIP Project No.	B-5389
WBS Element	46104.1.1
Federal Project No.	N/A

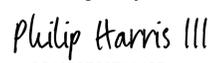
Prepared By:

9/12/19	
Date	Bill Rice, AICP, CEP, North Carolina Environmental Planning Lead A. Morton Thomas And Associates, Inc. (AMT)

Prepared For:

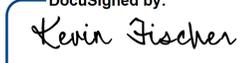
North Carolina Department of Transportation

Reviewed By:

9/17/2019	<small>DocuSigned by:</small>  <small>8C1643F6874A457...</small>
Date	Philip Harris III, PE, Environmental Analysis Unit Head North Carolina Department of Transportation

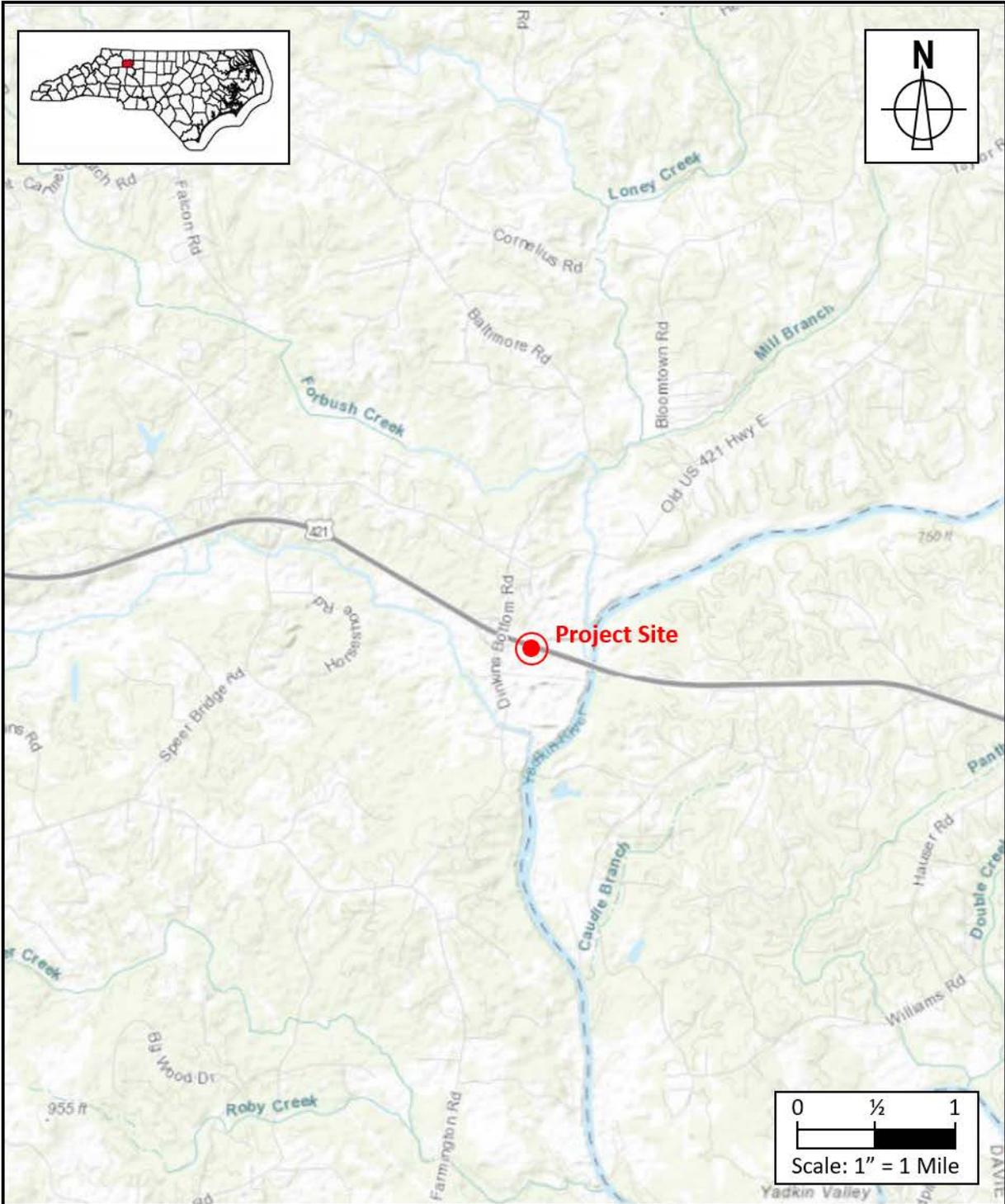
Approved If all of the threshold questions (1 through 7) of Section F are answered "no," NCDOT approves this Categorical Exclusion.

Certified If any of the threshold questions (1 through 7) of Section F are answered "yes," NCDOT certifies this Categorical Exclusion.

9/17/2019	<small>DocuSigned by:</small>  <small>ED19A18D98EC496...</small>
Date	Kevin Fischer, PE, Assistant State Structures Engineer North Carolina Department of Transportation

FHWA Approved: For Projects Certified by NCDOT (above), FHWA signature required.

Date	John F. Sullivan, III, PE, Division Administrator Federal Highway Administration
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VICINITY MAP
Bridge No. 105 over Yadkin River Overflow
On US 421 Northbound Lanes

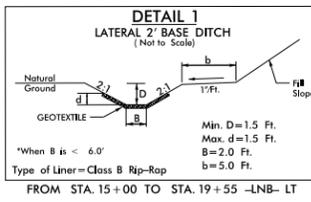
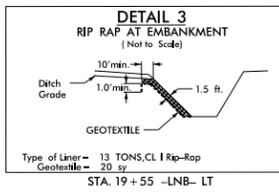
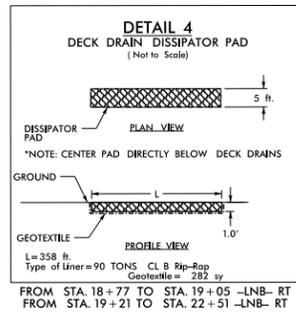
YADKIN COUNTY
TIP PROJECT B-5389

County:	YADKIN	
Div:	11	TIP#B-5389
WBS:	46104.1.1	
Date:	FEBRUARY 2015	

Figure
1

8/17/99

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-LNB-
 PI Sta 10+37.97 PIs Sta 13+88.33
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 $D = 1'00'' 18.7''$ $Ls = 300.00'$
 $L = 501.03'$ $LT = 200.01'$
 $T = 250.68'$ $ST = 100.01'$
 $R = 5,700.00'$
 SE = SEE PLANS

SEE SHEETS S-1 THRU S-37
 FOR STRUCTURE PLANS

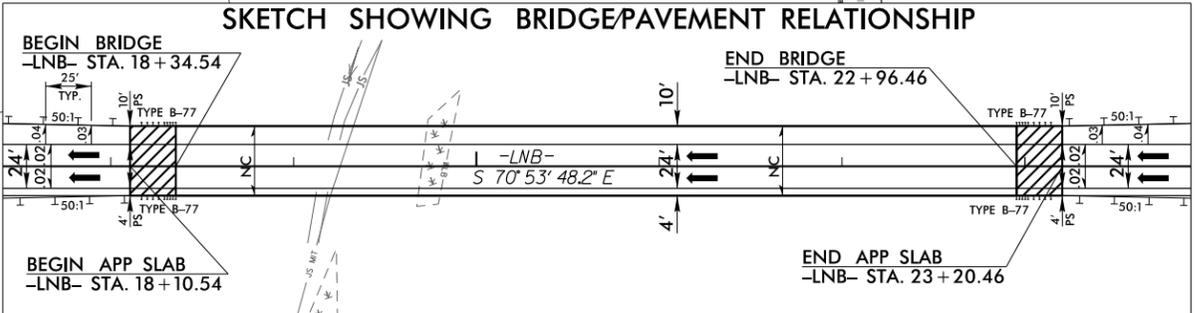
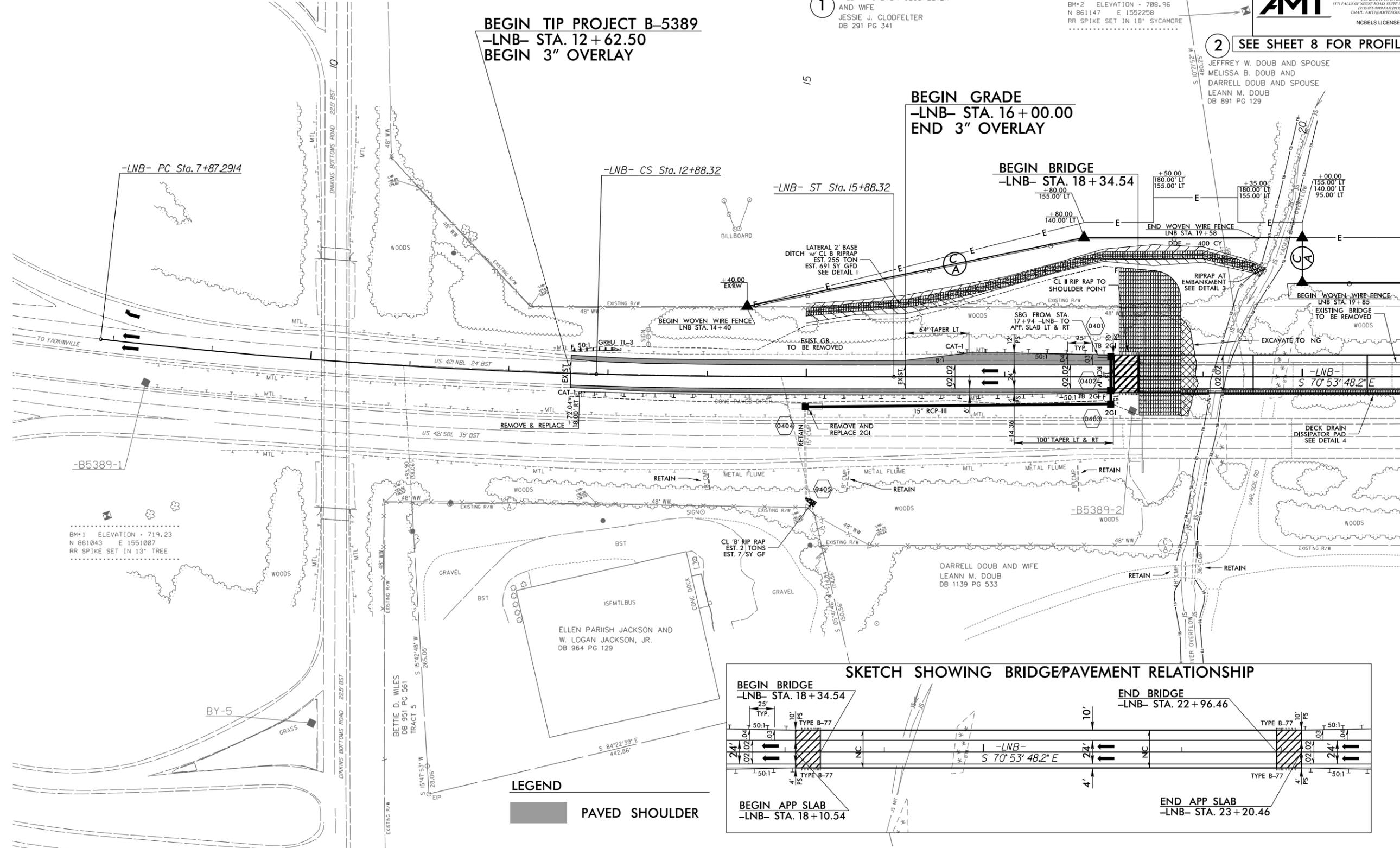
PROJECT REFERENCE NO. B-5389	SHEET NO. 4
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 40655 WICK RAMIREZ	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 2697 JOSHUA G. DALON
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

AMT
 A. MORTON THOMAS AND ASSOCIATES, INC.
 CONSULTING ENGINEERS
 6131 FALLS OF NEUSE ROAD, SUITE 106, RALEIGH, NC 27609
 (919) 876-8888 FAX (919) 876-8889
 EMAIL: AMT@AMTENGINEERING.COM
 NCBELS LICENSE # F-1049

1 WILLIAM STEVEN CLODFELTER
 AND WIFE
 JESSIE J. CLODFELTER
 DB 291 PG 341

BM*2 ELEVATION = 708.96
 N 861147 E 1552258
 RR SPIKE SET IN 18' SYCAMORE

2 SEE SHEET 8 FOR PROFILE VIEW
 JEFFREY W. DOUB AND SPOUSE
 MELISSA B. DOUB AND
 DARRELL DOUB AND SPOUSE
 LEANN M. DOUB
 DB 891 PG 129

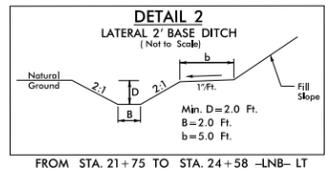


LEGEND
 PAVED SHOULDER

MATCHLINE SEE SHEET 5 -LNB- 21+00.00

8/17/99

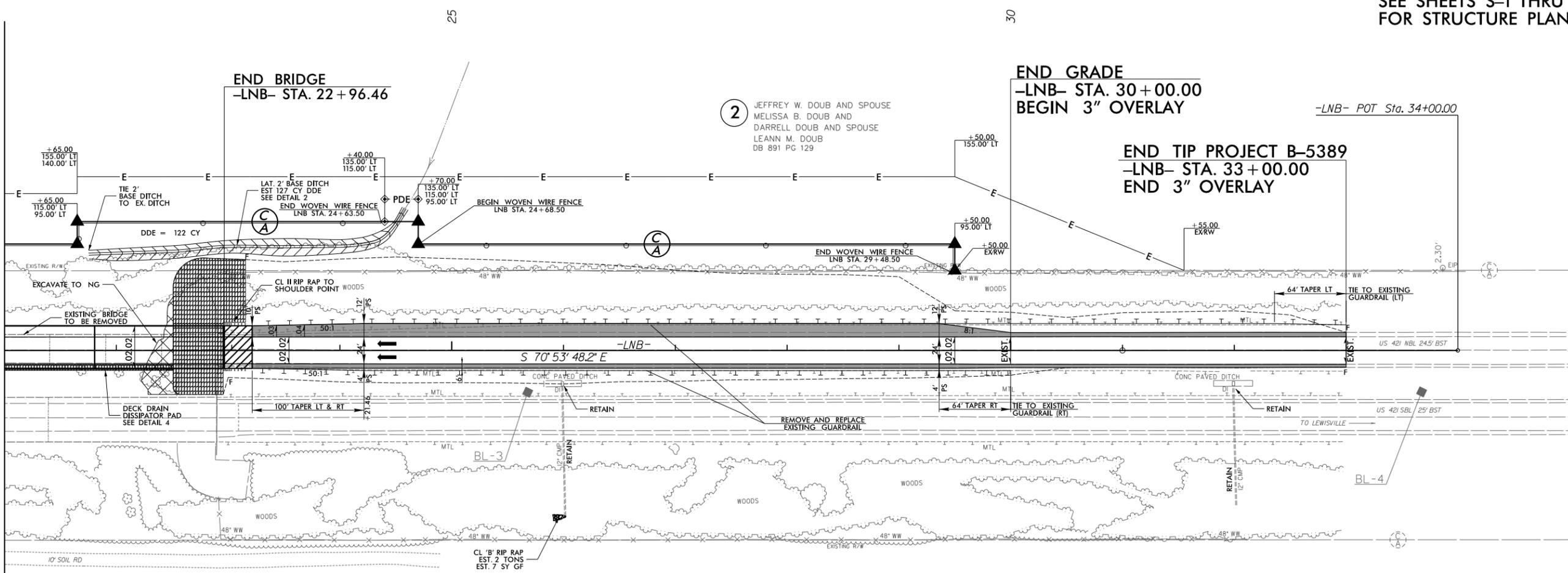
PROJECT REFERENCE NO. B-5389	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 40655 JACK RAMMEL	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 26971 JOSHUA G. DALTON
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS 611 FALLS OF NEUSE ROAD, SUITE 106, RALEIGH, NC 27609 (919) 877-1100 FAX (919) 877-1101 EMAIL: AMT@AMTENGINEERING.COM NCBELS LICENSE # F-1049	



N4DB3 / N42011

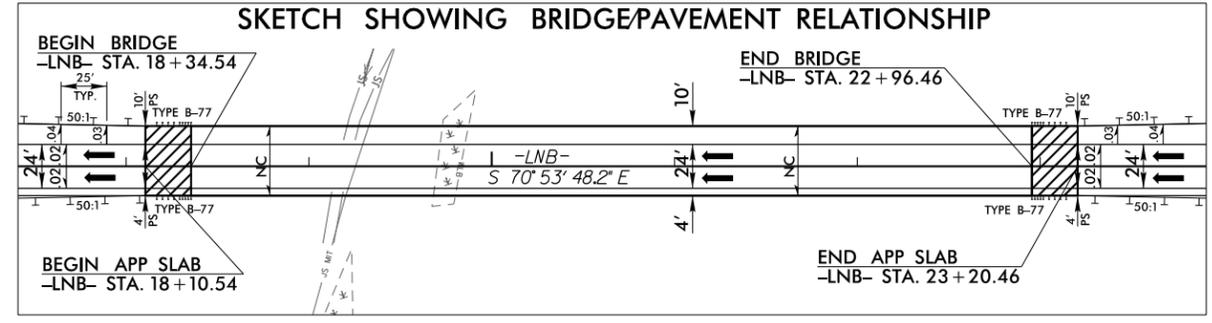
SEE SHEET 8 FOR PROFILE VIEW
SEE SHEETS S-1 THRU S-37 FOR STRUCTURE PLANS

MATCHLINE SEE SHEET 4 -LNB- 21+00.00



2 JEFFREY W. DOUB AND SPOUSE
MELISSA B. DOUB AND
DARRELL DOUB AND SPOUSE
LEANN M. DOUB
DB 891 PG 129

DARRELL DOUB AND WIFE
LEANN M. DOUB
DB 1139 PG 533



LEGEND
PAVED SHOULDER

REVISIONS

6/6/2016
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beauchamp



**NO NATIONAL REGISTER OF HISTORIC PLACES
ELIGIBLE OR LISTED ARCHAEOLOGICAL SITES
AFFECTED 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-5389**

County: **Yadkin**

WBS No: **46104.1.1**

Document: **CE**

F.A. No:

Funding: State Federal

Federal Permit Required?

Yes No *Permit Type:* **USACE**

Project Description:

The project calls for the replacement of Bridge 105 on the northbound lane of US 421 over the Yadkin River Overflow in Yadkin County, North Carolina. The archaeological Area of Potential Effects (APE) for the project is defined as a 2,500-foot (762m) long corridor running 1,250 feet (381m) from each bridge end-point. The corridor is approximately 400 feet (121.92m) wide. An on-site detour will be utilized during construction.

SUMMARY OF ARCHAEOLOGICAL FINDINGS

Previously documented archaeological site 31YD1 was identified prior to field survey while conducting project background research at the Office of State Archaeology (OSA). The resource constitutes a large prehistoric site dating to the Woodland period. The site had produced a high number of human burials and features in the sections that were previously excavated in 1957 during the initial construction of US 421. An archaeological survey was conducted by New South Associates (NSA) in order to determine if any unknown archaeological sites or if any portions of 31YD1 extend into the currently defined APE.

NSA did not identify any new resources but did confirm that 31YD1 advances into the very eastern portion of the project APE. Two artifact concentrations were identified through shovel testing and surface collecting and were located on opposite sides of the roadway. Locus 2, on the northern side of the road, produced 113 lithic artifacts and 122 prehistoric ceramics. Two test units were excavated within Locus 2 with one of the units producing 606 artifacts including 423 lithics, 130 ceramic sherds and 17 non-human bone fragments. The second test unit recovered 467 artifacts including 239 lithics, 184 ceramic sherds and four non-human bone fragments. All subsurface testing indicates that the site contains a high density of prehistoric lithic, ceramic, and faunal remains from the second, undisturbed stratum. Artifact diversity, frequency, and depth all indicate substantial intact deposits. It is likely that additional burials and cultural features are present in the newly identified portions of the site. Past research has already yielded significant information. The site has the potential to yield important information about late prehistoric village lifeways in the Piedmont. For these reasons, site 31YD1 is recommended eligible for the National Register of Historic Places (NRHP) under Criterion D.

Since 31YD1 is considered eligible for NRHP listing, the project report/Programmatic Agreement form was sent to the State Historic Preservation Office (SHPO) for review. In a letter dated 12/10/2015, SHPO concurs with the recommendation that 31YD1 is eligible for the NRHP and recommends that if the resource cannot be avoided that measures to minimize or mitigate the potential adverse effect of the bridge replacement project should occur.

Following receipt of the SHPO letter confirming that 31YD1 is eligible for NRHP listing, the NCDOT Archaeology Team took the site boundaries to the Project Manager and project engineers in hopes of avoidance or minimization. Because only a small portion of 31YD1 lay in the very eastern APE, the Project Manager and engineers decided that avoidance was the best alternative. The 31YD1 site boundaries were given to the Project Manager in order to make slight alterations in the bridge replacement engineering design plans to avoid the cultural resource. Attached at the end of this form are three maps detailing archaeological site 31YD1 and its location on the engineering design plan. These maps illustrate clearly that no construction impacts are to occur within the site boundaries of 31YD1.

This project falls within a North Carolina County in which the Catawba Indian Nation has expressed an interest: Yadkin County. It is recommended that you contact each federal agency involved with your project to determine their Section 106 Tribal consultation requirements.

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

- There are no National Register listed ARCHAEOLOGICAL SITES within the project's area of potential effects. (Attach any notes or documents as needed)
- No subsurface archaeological investigations were 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.

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

The project's APE along Bridge No. 105 on the northbound lane of U.S. 421 over the Yadkin River Overflow in Yadkin County was subjected to an intensive archaeological survey (Figure 1). In August 2015, New South Associates, Inc. completed shovel testing within the project APE at 30-meter intervals to survey for potential archaeological resources. The purpose of the fieldwork was to investigate the possibility of unknown archaeological resources that might be impacted by the proposed undertaking. The APE for this study measured approximately 2,500 feet (762 m) long running 1,250 feet (381 m) from each bridge end point. The corridor is 400 feet (121.92 m) wide and extends 200 feet (60.96 m) on either side of the U.S. 52 north bound centerline. The project area covers 109,935 square meters or 27 acres in size and is characterized by agricultural fields, pasture, and heavily disturbed areas associated with the highway, exit ramps, and overpass construction. Figures 2-4 show the general landscape within the project area.

The USDA soil survey map shows 11 soil types within the APE. The soils east of the bridge consist of Dan River and Comus soils (DmA), which is well-drained with 0-4 percent slopes, Ronda loamy sand (RnB), which is occasionally flooded, and Codorus loam (CrA), which is somewhat poorly drained. The soils to the west of the bridge were eroded and shallower. The main types were Tomlin clay loam (ToB3), which is severely eroded and features 2-10 percent slopes, Clifford sandy loam (CcB2), which features 2-6 percent slopes and is moderately eroded, Danripple fine sandy loam (DaC2), which features 8-10 percent slopes and is moderately eroded, and Fairview clay loam (FeC3), which features 6-10 percent slopes and is severely eroded (Soil Survey Staff 2015).

The examination of NRHP, State Study Listed (SL), Locally Designated (LD), Determined Eligible (DE), and Surveyed Site (SS) properties employing resources available on the North Carolina State Historic Preservation Office (NC SHPO) website determined that no historic structural resources with potential archaeological deposits were situated within the boundaries of the APE or proximal. Historic maps of Surry County showed no structures or historic features in the APE. An archaeological background search found one site, 31YD1, had the potential to be relocated in the eastern end of the project area. The site was truncated by the U.S. 421 right-of-way. The Research Laboratories of Anthropology at the University of North Carolina at Chapel Hill excavated it in November and December 1957. The site contained 28 human burials, two dog burials, and 42 subsurface features from areas now covered by the northbound lane of U.S. 421.

The intensive archaeological survey consisted of 112 shovel test locations placed at 30-meter intervals (98.43 ft) along eight transects, located on either side of the existing northbound lane working east and west from the bridge within the APE. Two transects were placed along each side of the U.S. 421 northbound centerline. The transect that was closest to the road was placed approximately 15-20 meters from the centerline. A second transect was placed parallel approximately 30 meters over to cover the APE. A total of 53 shovel tests were not excavated due to heavy ground disturbance (Figures 4 and 5). Most of the unexcavated shovel tests fell on the U.S. 421 southbound and northbound lanes road berm or within the greatly disturbed area to the west around the interchange. All shovel tests measured 40 centimeters (12 in) in diameter and were excavated to at least 10 centimeters (4 in) into sterile subsoil. All excavated soils and sediments were screened through mesh screen (0.64-cm, 0.25-in) and all shovel tests were backfilled. A visual inspection of the surface was also done in conjunction with subsurface testing.

Transects 1 and 2 were placed in the northwestern quadrant of the APE. There were 26 shovel tests placed. Of those, 10 on the western end were not excavated because they were located in the disturbed exit ramp and U.S. 421 berms (see Figure 2a). Transects 3 and 4 were placed in the southwestern quadrant. Transect 3 was placed approximately 15-20 meters from the U.S. 421 northbound lane and was located within the southbound lane and berm for the whole transect. No shovel tests were excavated on Transect 3. Transect 4 was primarily located along the edge of an agricultural field. Of the 13 shovel tests that comprised Transect 4, nine were not excavated due to ground disturbance such as drainage ditches, a paved parking lot, and overpass and entrance ramp berms (see Figures 2b, 3a, 3b, and 4a). Transects 5 and 6 were excavated in the southeastern quadrant. Because of the length of the bridge from the actual bank, these transects were extended by three additional shovel tests to ensure adequate coverage of the floodplain. Transect 5 was unable to be excavated because of the U.S. 421 southbound lane and associated berm. Transect 6 was placed along the edge of an agricultural field. Of the 15 shovel tests for Transect 6, three were not excavated due to ground disturbance. Transects 7 and 8 were excavated in the northeast quadrant of the APE. Like those in the southeastern quadrant, transects were extended by three additional shovel tests to ensure adequate coverage between the bank and the edge of the bridge structure. Transects 7 and 8 were started approximately 35 meters from the bank edge due to hydric ground and an overburden of reed covering the ground surface (see Figure 4b). Thirty shovel tests were placed for Transects 7 and 8. Of those, three were not excavated due to ground disturbance (see Figure 4b). Figure 5 shows all of the survey shovel tests recorded during this investigation.

Two shovel tests (6-14 and 6-15) were found to contain prehistoric artifacts in Transect 6. During delineation this site was denoted as FS-1. On Transects 7 and 8, four shovel tests were found to contain prehistoric artifacts (7-14, 7-15, 8-14, and 8-15). During delineation, this artifact concentration was denoted as FS-2. Both field sites are part of previously recorded site 31YD1. They are discussed later in more detail.

The soils varied within the project area. On the west side of the bridge soils were generally shallow and consisted of two strata. Stratum I was strong brown (7.5YR 5/8) clay loam up to 15 centimeters

below surface (cmbs). The second stratum was brownish-yellow (10YR 6/8) clay. The eastern side of the bridge saw shovel tests reaching up to one meter deep towards the eastern end of the project APE. These soils typically had up to three strata including brown (10YR 5/3) to dark brown (10YR 3/4) silty loam ranging in depth anywhere from 25-100 cmbs. When present, Stratum II was pale brown (10YR 6/3) to yellowish-brown (10YR 5/8) silty loam ranging from 25-100 cmbs.

An auger was used to inspect soil down to 200 cmbs in two shovel tests on the eastern side of the project APE. Shovel Test 6-14 had a soil profile of two strata. The first was brown (10YR 5/3) silty loam to 50 cmbs. This was followed by yellowish-brown (10YR 6/3) silty loam to 200 cmbs. Shovel Test 7-14 had a soil profile of brown (10YR 5/3) silty loam to 100 cmbs. This was followed by pale brown (10YR 6/3) silty loam to 170 cmbs. Stratum III consisted of strong brown (7.5YR 5/8) silty loam to 200 cmbs.

Archaeological investigation of the APE included both pedestrian walkover and systematic shovel testing. Surface visibility was zero percent in the western half of the project APE. Due to the agricultural field, surface visibility was near 100 percent along Transects 6, 7, and 8.

31YD1 Relocated

The newly identified portions of 31YD1 were given the field names FS-1 and FS-2 (Figure 6), which for the purposes of this report, are referred to as Locus 1 and Locus 2, respectively. The first to be identified was Locus 1, which is located just south of the southbound lane of U.S. 421 in a tobacco field (Figure 7a). Two shovel tests along Transect 6 (6-14 and 6-15) were positive for prehistoric artifacts. This shovel test was delineated to the east and west on a 15-meter grid. The northern delineations were shortened to 10-meters because the road berm was in the way. Further delineation was prohibited because of the edge of the project APE. One additional shovel test (500N/545E) was found to contain prehistoric artifacts. The soils at FS-1 were deep and consisted of brown (10YR 5/3) to dark brown (10YR 3/3) silty loam up to 50 cmbs followed by yellowish-brown (10YR 6/3) to brown (10YR 5/3) silt to at least 100 cmbs. An auger was used on Shovel Test 6-14, which showed a continuation of yellowish-brown (10YR 6/3) to at least 200 cmbs.

Artifacts recovered from Locus 1 (FS-1) include one rhyolite biface, one rhyolite flake fragment, one Dan River Cord Marked sherd with a scraped interior, one Haw River Plain sherd with cord-marked and smoothed exterior treatments, one untyped sand-tempered net-impressed sherd with a scraped interior surface, one sand-tempered eroded decorated sherd, and one residual sherd (Figure 8). All of the artifacts were recovered in Stratum II between 35-60 cmbs.

The second artifact concentration identified was FS-2 (Locus 2), which is located north of U.S. 421 and consists of 14 positive shovel tests and two 1x1-meter test units. The site setting consists of a tobacco field and a narrow grassy strip between the tobacco field and road berm. During the initial survey, four shovel tests were found to contain prehistoric artifacts (7-14, 7-15, 8-14, and 8-15). Delineation on a 15-meter grid identified an additional ten positive shovel tests. A general site view can be seen in Figure 7b.

Soils within this portion (FS-2) were similar to those in FS-1. Shovel Test 7-14 had a soil profile of brown (10YR 5/3) silty loam to 100 cmbs. This was followed by pale brown (10YR 6/3) silty loam to 170 cmbs. Stratum III consisted of strong brown (7.5YR 5/8) silty loam to 200 cmbs. In shovel tests N515/E500 and N515/E530, a possible buried A horizon was identified beneath Stratum II. In these shovel tests, it was approximately 30 cmbs and 10 centimeters in thickness. This possible buried A horizon saw an increase in artifacts while shovel testing within Locus 2.

Artifacts recovered during shovel testing and surface collecting in Locus 2 include 113 lithics, two pieces of fire-cracked rock, and 122 sherds. Three unidentified faunal remains were recovered from

the ground surface (n=2) and between 70-90 cmbs in Stratum II (n=1). Lithics include angular debris (n=5), rhyolite biface fragments (n=2) and complete bifaces (n=1), flake fragments (n=12), flakes (n=90), one retouched rhyolite flake, one rhyolite Yadkin Triangular Projectile Point/Knife (PPK), and one indeterminate rhyolite PPK fragment (Figure 9). Lithic raw materials consisted of rhyolite (n=101), quartz (n=7), unidentified chert (n=3), and unidentified metavolcanic (n=2). Artifacts were recovered from the ground surface (n=62), Stratum I (n=28), and Stratum II (n=25).

Shovel testing and surface collecting in Locus 2 produced 122 sherds. Diagnostic sherds included Badin Cord Marked (n=1), Dan River Cord Marked (n=7), Dan River Net Impressed (n=4), Dan River Plain (n=1), Haw River Brushed (n=6), Haw River Net Impressed (n=8), Haw River Plain (n=1), Pee Dee Curvilinear Complicated Stamped (n=1), Uwharrie Cord Marked (n=1), and Uwharrie Net Impressed (n=1). Non-diagnostic sand-tempered sherds include brushed (n=2), eroded and eroded decorated (n=21), incised (n=3), incised and impressed (n=1), plain (n=14), punctated (n=1), scraped (n=7), rectilinear complicated stamped (n=1), and unidentified decorated (n=6). Other pottery found was six cord marked sherds with quartz granule temper and 29 residual sherds. Sherds were found on the ground surface (n=47), Stratum I (n=35), and Stratum II (n=40).

Test Unit 1

Two test units were excavated within Locus 2 (see Figure 6). Test Unit 1 was excavated just northeast of Shovel Test N500/E515 because of the presence of deeply buried faunal remains from that shovel test. Test Unit 1 measured 1x1-meter in size. The southwestern corner served as datum, which was set at 10 centimeters above ground surface (cmags). Ten (10) levels were excavated within this test unit, which reached a depth of 100 cmbs in the southwestern corner. Each level was approximately 10 centimeters in thickness. Excavation ceased at one sterile level and one meter below surface, for safety reasons.

Three strata were present in the soil profile for Test Unit 1 (Figure 10). Stratum I was dark brown (10YR 3/4) silty loam extending to a depth of up to 50 cmbs. This was followed by a second stratum of very dark grayish-brown (10YR 3/2) silty sand, which has been interpreted as a possible buried A soil horizon due to it having a high artifact density. This layer was approximately 20 centimeters in thickness and may also represent a dense midden deposit. Following that was a transitional zone of mottled dark grayish-brown (10YR 3/2) and dark yellowish-brown (10YR 4/4) sand extending to approximately 80 cmbs. This transitional zone was about 10 centimeters in thickness and was in between the potential buried A horizon and Stratum III, which was yellowish-brown (10YR 5/4) sand extending to at least 100 cmbs. After completion of this test unit, an auger was used to investigate the underlying soils. Soils were consistent with the final stratum of yellowish-brown (10YR 5/4) to about 190 cmbs. At this point, their consistency became slightly clayey but with the same color. The only noted disturbance to the test unit was in Level 5, Stratum I, and consisted of plow scars. The plow scars were running east to west and were the same color as the potential buried A horizon that lay below Stratum I.

A total of 606 artifacts were recovered from Test Unit 1. These included 423 lithics, 130 ceramic sherds, one steatite sherd, one historic clear glass fragment, 17 bone fragments, one piece of charcoal, and 33 unmodified stones (Tables 1 and 2). Artifacts were primarily found in levels 6 and 7, which corresponded to the potential buried A horizon found between approximately 50 and 70 cmbs. This test unit was found to contain good vertical and horizontal integrity. The potential buried A horizon showed a marked increase in artifacts followed by a dramatic decrease in the artifact count.

Lithics consisted of angular debris (n=9), bifaces (n=3), fire-cracked rock (n=2), flakes and flake fragments (n=405), one Pee Dee PPK, one Pee Dee/Caraway PPK, and two PPK fragments (see Figure 9). All of the projectile points were made of rhyolite. A table showing lithic totals and types by

level and depth can be seen in Table 1. Raw materials consisted of unidentified chert (n=24), crystal quartz (n=4), quartz (n=5), quartzite (n=12), and rhyolite (n=421). The two pieces of fire-cracked rock were not typed.

Table 1. Lithic Types and Totals by Level and Depth in Test Unit 1

Level (cmbd SW corner TU1)	Lithic Types							Level Total
	Angular Debris	Biface	FCR	Flakes/Flake Fragments	Pee Dee PPK	Pee Dee/Caraway PPK	PPK Fragment	
1 (7-17)				2				2
2 (17-27)	1			14				15
3 (27-37)	3			20				23
4 (37-47)	2	1		18				21
5 (47-57)				35			1	36
6 (57-67)	3			137			1	141
7 (67-77)		2	2	135	1			140
8 (77-87)				42		1		43
9 (87-97)				2				2
Type Total	9	3	2	405	1	1	2	423

Table 2 shows the diagnostic and non-diagnostic sherds found in Test Unit 1. Diagnostic sherds consisted of Badin (n=1), Dan River Cord Marked (n=9), Haw River Brushed (n=11), Haw River Net Impressed (n=5), Uwharrie Plain (n=1), and Yadkin Fabric Impressed (n=1). Other sherds with

Table 2. Diagnostic and Non-Diagnostic Sherds by Level and Depth in Test Unit 1

Level (cmbd SW corner TU1)	Diagnostic Sherds						Non-Diagnostic Sherds								Level Total
	Badin Fabric Impressed	Dan River Cord Marked	Haw River Brushed	Haw River Net Impressed	Uwharrie Plain	Yadkin Fabric Impressed	Brushed	Incised	Plain	Scraped	Smoothed	Eroded/Weathered/UID	Residuals	Steatite Sherd	
1 (7-17)									1				1		2
2 (17-27)				3					3	1					7
3 (27-37)			1						1	1		2	2	1	8
4 (37-47)									1			5			6
5 (47-57)				1	1			1	3			6	5		17
6 (57-67)		4	10			1			4			15	20		54
7 (67-77)	1	4		1			1		1	3	1	10	7		29
8 (77-87)		1											7		8
Type Total	1	9	11	5	1	1	1	1	13	6	1	38	42	1	131

various surface treatments were not able to be typed including brushed (n=1), incised (n=1), plain (n=13), scraped (n=6), smoothed (n=1), and one steatite sherd. The remaining sherds were unable to be typed and included those that were too eroded or weathered (n=38) as well as residuals (n=42).

Faunal remains recovered from Test Unit 1 included 17 unidentified non-human bone fragments.

Levels 6 and 7 produced the most (n=6 and n=7, respectively). Three bone fragments were found in Level 8, and one in Level 5. One charcoal piece (0.08 g) was found in Level 2.

Test Unit 2

Test Unit 2 was excavated between Shovel Tests N515/E530 and N515/E545 because those two tests contained the possible buried A horizon. Test Unit 2 measured 1x1-meter in size. The southwestern corner served as datum, which was set at 10 cmags. Ten levels were excavated within this test unit, which reached a depth of 99 cmbs in the southwestern corner. Each level was approximately 10 centimeters in thickness. This test unit was located inside the tobacco field, which contained furrows. One furrow cut across the unit at a height of about 25 centimeters and a width of about 55 centimeters. The furrow was excavated in one level since it contained artifacts out of context. This unit was dug well past the occupation levels in order to examine the deeper stratigraphy. Excavation ceased after five sterile levels.

Four strata were present in the soil profile for Test Unit 2 (Figure 11). Stratum I was dark brown (7.5 YR 3/2) silty loam extending to a depth of up to 29 cmbs. This was followed by a second stratum of very dark grayish-brown (10YR 3/2) silty sand, which is consistent with the possible buried A soil horizon found in Test Unit 1. This layer was approximately 10-15 centimeters in thickness. The third stratum consisted of dark yellowish-brown (10YR 4/4) silty loam extending up to 70 cmbs. The first level in this stratum was a mottled transitional soil layer between the above potential buried A horizon and the dark yellowish-brown. Stratum IV was dark yellowish-brown (10YR 4/6) slightly clayey silty loam with thin lamella of dark brown (10YR 4/4) silt. After completion of this test unit, an auger was used to investigate the underlying soils. Soils were consistent with the final stratum of dark yellowish-brown (10YR 4/6) to about 200 cmbs. The only noted disturbance to the test unit was in Stratum I, Level 3, and consisted of plow scars. The plow scars were running east to west and were the same color as the potential buried A horizon that lay below Stratum I.

A total of 467 resources were recovered from Test Unit 2. These included 239 lithics, 184 sherds, four bone fragments, one piece of charcoal, and 39 unmodified stones (Tables 3 and 4). Artifacts were primarily found in Levels 4 and 5, which corresponded to the potential buried A horizon found between approximately 29 and 39 cmbs. A high concentration of artifacts was also found in Level 2, which showed a slight increase after Level 1 then a slight decrease before the potential buried A. Nine fragments of fire-cracked rock (FCR) were found in the southwest corner of Level 4 and may have been part of a feature, which was not recognized as such until the stone had already been removed from the test unit. The largest sherds and FCR recovered from Level 4 were found in that corner. No artifacts were recovered after 64 cmbs.

Table 3. Lithic Types and Totals by Level and Depth in Test Unit 2

Level (cmbd SW corner TU2)	Lithic Types								Level Total
	Angular Debris	Biface	Core	FCR	Flakes/Flake Fragments	Hammerstone	Pee Dee PPK	UID Ground Tool	
furrow	4	1			53				58
1 (10-19)	1				27	1		1	30
2 (19-29)	4				44				48

3 (29-39)		1			29				30
4 (39-49)			1	9	47		1		58
5 (49-64)					15				15
Type Total	9	2	1	9	215	1	1	1	239

A total of 239 lithics were found in Test Units 2 (Table 3). Lithic types consisted of angular debris (n=9), bifaces (n=2), one core, FCR (n=9), flakes and flake fragments (n=215), one hammerstone, one unidentified ground tool, and one Pee Dee triangular PPK. A table showing lithic totals and types by level and depth can be seen in Table 1. Raw materials consisted of unidentified chert (n=14), crystal quartz (n=2), diabase (n=1), quartz (n=18), quartzite (n=7), and rhyolite (n=197). The nine pieces of FCR were not typed.

Table 4 shows the diagnostic and non-diagnostic sherds found in Test Unit 2. Diagnostic sherds consisted of Dan River Cord Marked (n=11), Dan River Net Impressed (n=1), and Dan River Brushed (n=14). Other sherds with various surface treatments could not be typed including brushed (n=1), cord marked (n=1), cord marked with oblique overlap (n=1), fabric impressed (n=3), incised (n=4), plain (n=54), punctated (n=1), simple stamped with oblique overlap (n=1), parallel simple stamped (n=2), and one piece of fired clay. The remaining sherds were unable to be typed and included those that were too eroded or weathered (n=68) and residuals (n=21).

Table 4. Diagnostic and Non-Diagnostic Sherds by Level and Depth in Test Unit 2.

Level (cmbd SW corner TU1)	Diagnostic Sherds			Non-Diagnostic Sherds												Level Total
	Dan River Cord Marked	Dan River Net Impressed	Haw River Brushed	Brushed	Cord Marked	Cord Marked with Oblique Overlap	Fabric Impressed	Incised	Plain	Punctated	Simple Stamped with Oblique Overlap	Parallel Simple Stamped	Eroded/ Weathered/ UJD	Residuals	Fired Clay	
Furrow		1	1						18		1		17	5		43
1 (10-19)	1					1	1	1	9			2	6			21
2 (19-29)	1		5					1	12				15	3		37
3 (29-39)							1		11				8	5		25
4 (39-49)	9		7	1			1	2	2	1			22	8	1	54
5 (49-64)			1		1				2							4
Type Total	11	1	14	1	1	1	3	4	54	1	1	2	68	21	1	184

Faunal remains recovered from Test Unit 2 included four unidentified non-human bone fragments from Level 4. One charcoal piece (0.05 g) was found in Level 4.

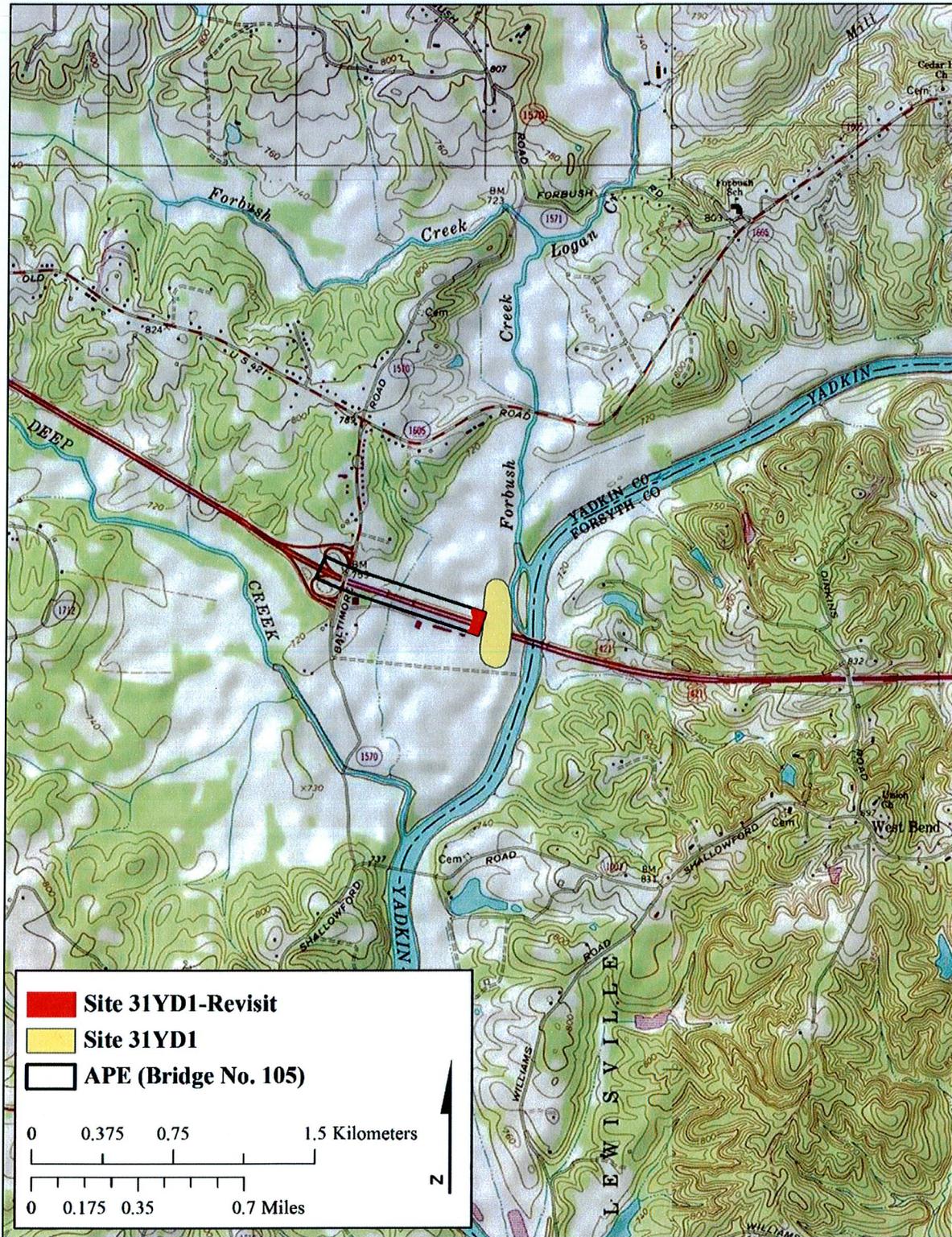
Several diagnostic artifacts were recovered during the shovel testing, surface collecting, and test unit excavation at these two loci. The earliest component was the two Badin sherds, which date to approximately 500 B.C. (Early Woodland). The Yadkin sherds and PPK date from 300 B.C.-A.D. 800 (Early Woodland/Middle Woodland). Artifacts from the Late Woodland Period include the Pee Dee and Pee Dee/Caraway PPKs, the Uwharrie ceramics date to approximately A.D. 800-1200, the Haw River ceramic series dates to A.D. 1000-1400, and the Dan River series dates to A.D. 1000-1450. The Late Woodland Pee Dee Curvilinear Complicated Stamped type dates to approximately A.D. 1200-

1450. This series is normally confined to the Town Creek area, which was part of the South Appalachian Mississippian culture. Its presence may suggest contact between the two regions.

Site 31YD1 is a large prehistoric site dating to the Woodland period. The current extension of the site is bisected by the current berm and right-of-way for U.S. 421. The two sections were delineated as separate field sites but should both be considered part of 31YD1. All subsurface testing indicates the site contains a high density of prehistoric lithics, ceramics, and faunal remains within the first stratum and within the undisturbed second stratum. The site has previously produced a high number of human burials and features in the sections that were previously excavated in 1957 during the initial construction of U.S. 421 and during the construction of the southbound lane in the early 1970s. Artifact diversity, frequency, and depth all indicate substantial intact deposits. It is likely that additional burials and features are present in these newly identified portions of the site. Past research has already yielded significant information. The site has the potential to yield important information about late prehistoric village lifeways in the Piedmont. For these reasons, site 31YD1 is recommended eligible for the NRHP under Criterion D. Measures to avoid, minimize, or mitigate potential adverse effects will need to be considered.

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FIGURE 1. TOPOGRAPHIC MAP SHOWING THE PROJECT APE AND THE ORIGINAL SITE 31YD1 BOUNDARY



Source: USGS Farmington, North Carolina 7.5' Quadrangle

FIGURE 2A. VIEW OF PROJECT APE FACING WEST FROM SHOVEL TEST 2-1.



FIGURE 2B. VIEW OF PROJECT APE FACING EAST FROM SHOVEL TEST 4-8.

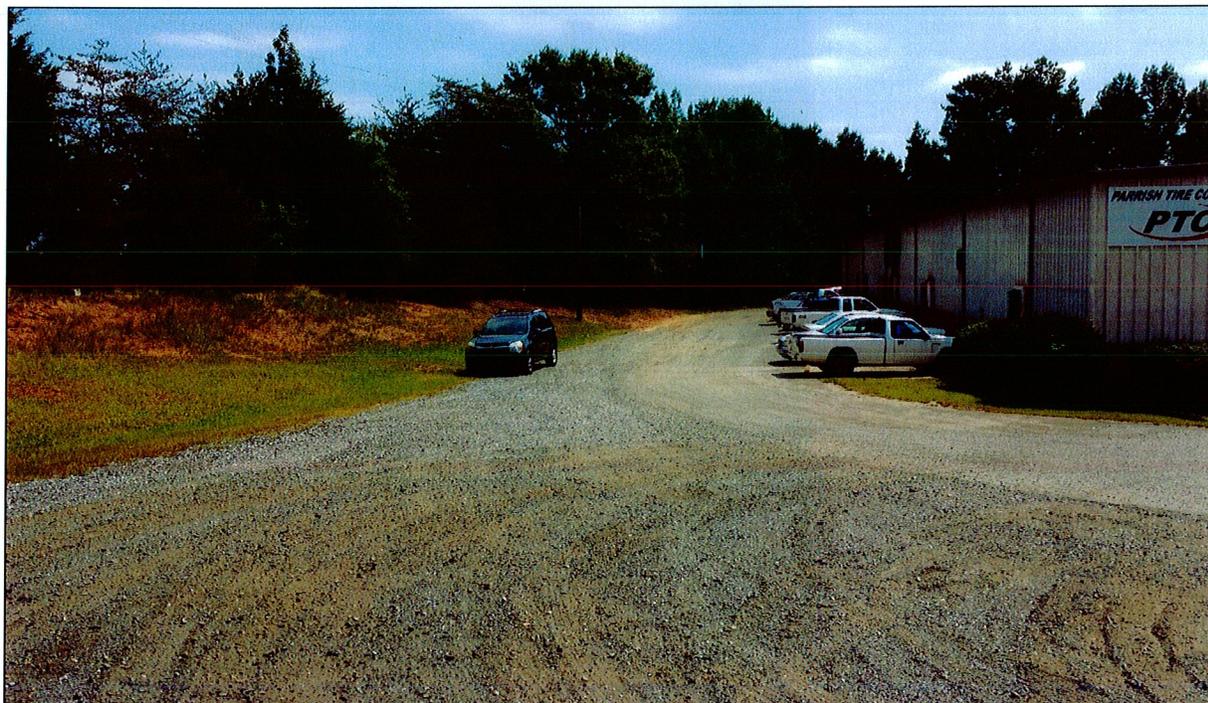


FIGURE 3A. VIEW OF PROJECT APE SHOWING OVERPASS AND ROAD BERM.



FIGURE 3B. VIEW OF PROJECT APE SHOWING ROAD BERM AT SHOVEL TEST 4-11.



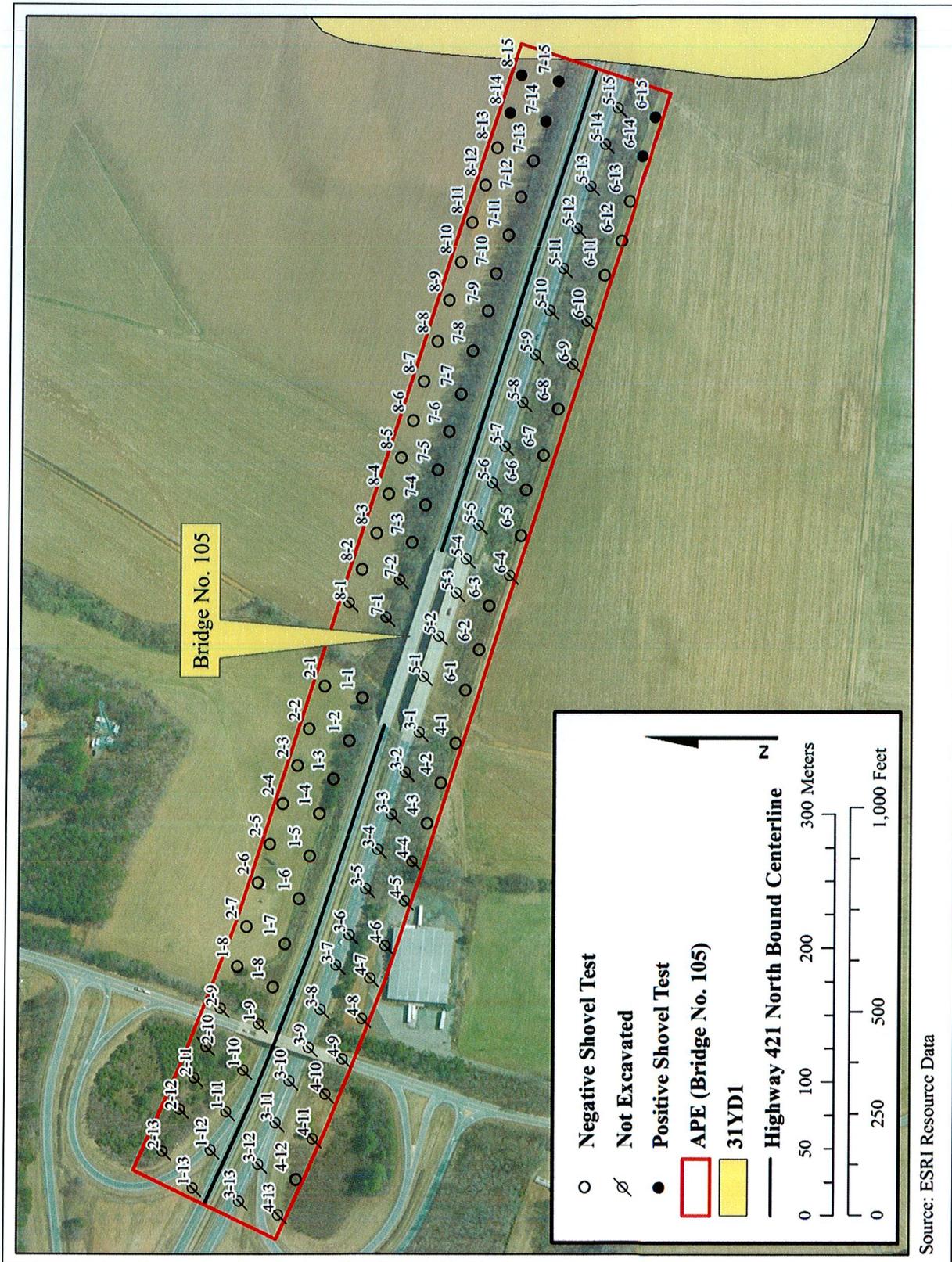
FIGURE 4A. VIEW OF PROJECT APE SHOWING ROAD BERM AT SHOVEL TEST 4-12.



FIGURE 4B. VIEW OF PROJECT APE AROUND SHOVEL TEST 7-1.

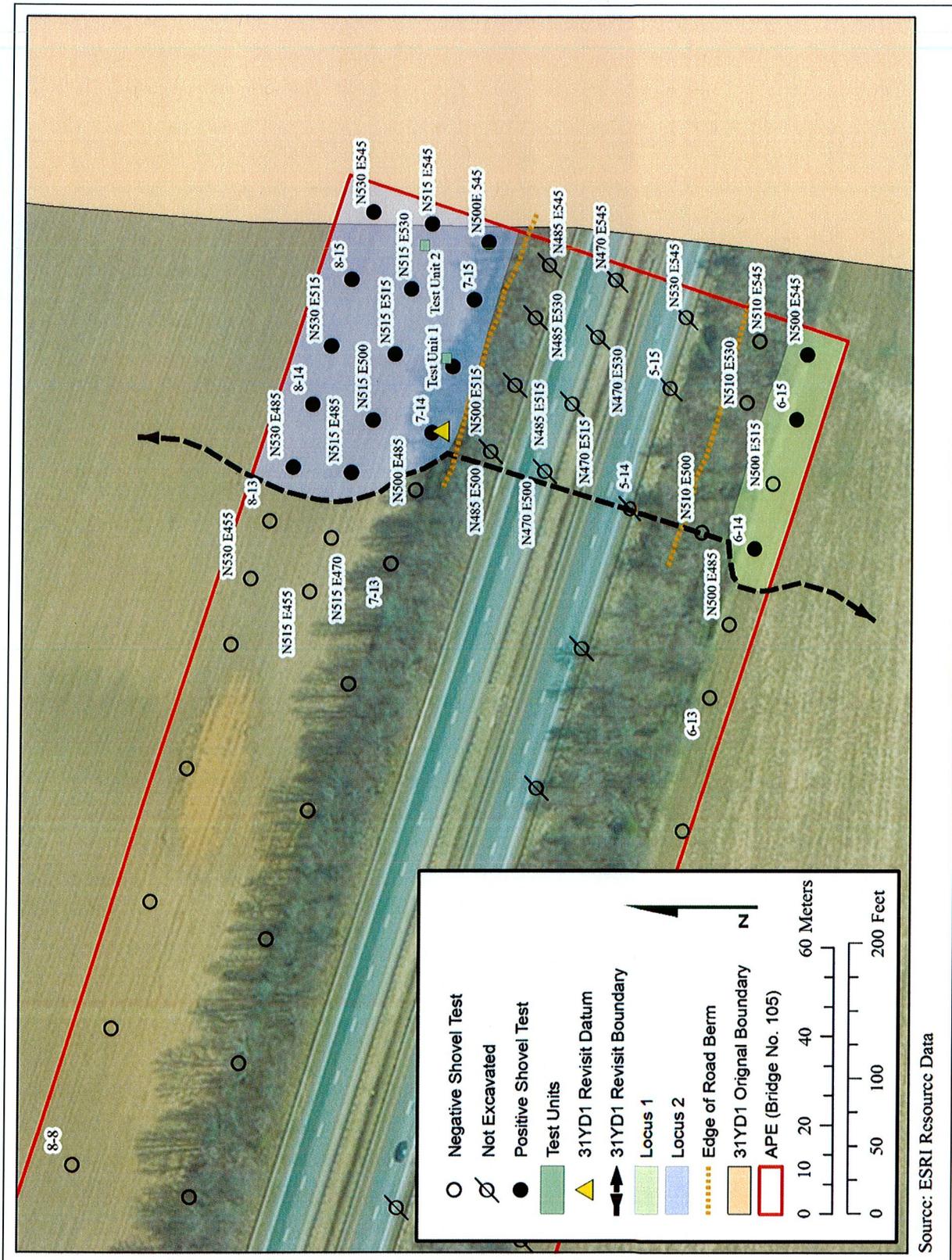


FIGURE 5. AERIAL VIEW OF THE PROJECT AREA SHOWING SHOVEL TEST RESULTS.



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Figure 6. Site Map Showing Relocated 31YD1 Site Boundary.



Source: ESRI Rcsourcc Data

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FIGURE 7A. VIEW OF LOCUS 1 LOOKING WEST FROM SHOVEL TEST 6-14.



FIGURE 7B. VIEW OF LOCUS 2 FACING EAST FROM SHOVEL TEST 7-14.





A. Badin Cord Marked



B. Badin Fabric Impressed



C. Yadkin Fabric Impressed



D. Uwharrie Cord Marked



E. Uwharrie Net Impressed



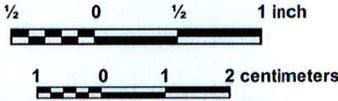
F. Haw River Brushed



G. Haw River Net Impressed



H. Haw River Net Impressed



I. Dan River Net Impressed



J. Dan River Cord Marked



K. Dan River Cord Marked



L. Pee Dee Curvilinear Complicated Stamped

A. Yadkin Triangular, Rhyolite



B. Pee Dee, Rhyolite



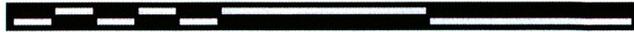
C. Pee Dee, Rhyolite



D. Pee Dee Caraway, Rhyolite



1/2 0 1/2 1 inch



1 0 1 2 centimeters



Figure 10. Test Unit 1, North Wall Profile and Drawing.

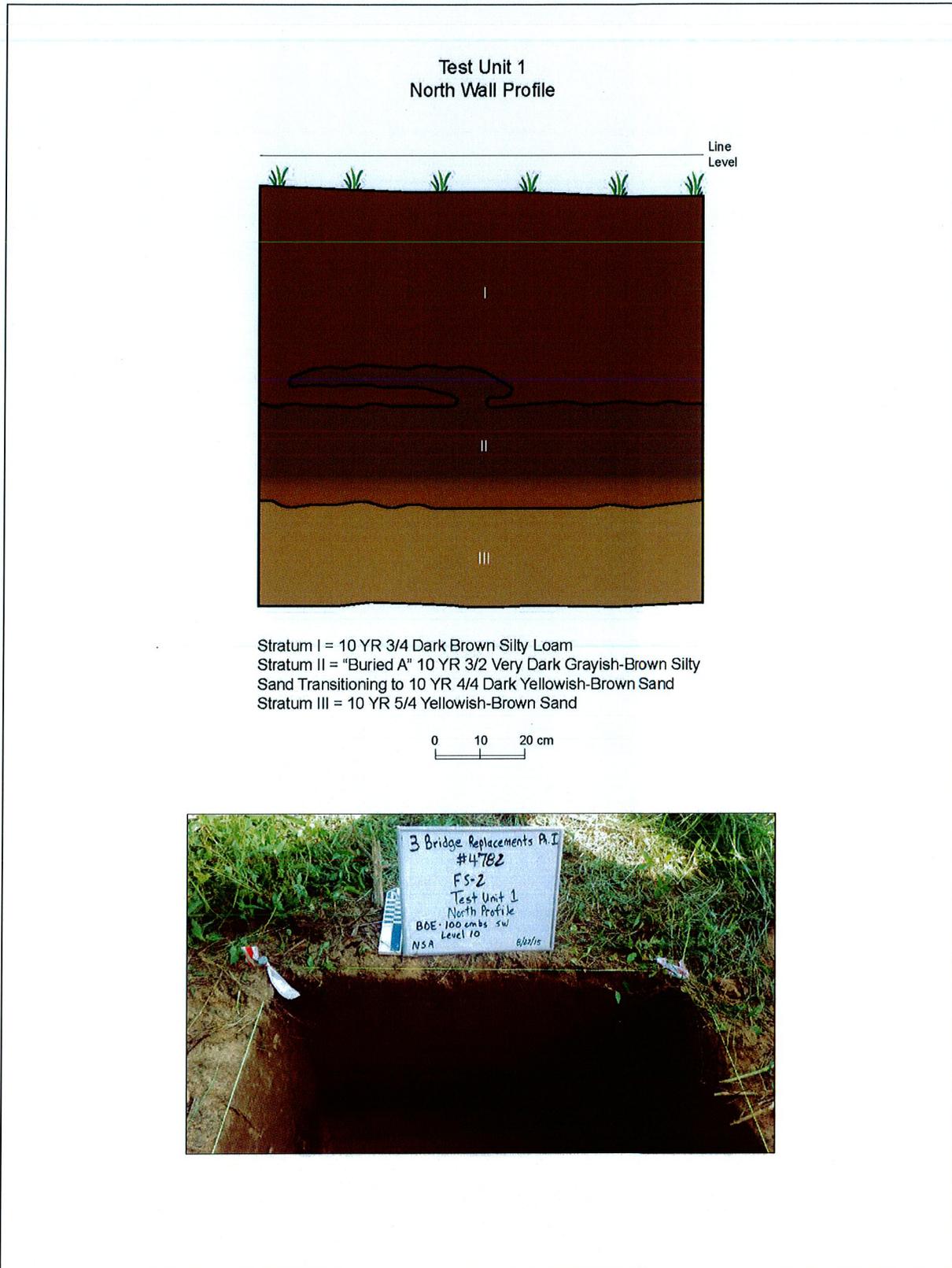
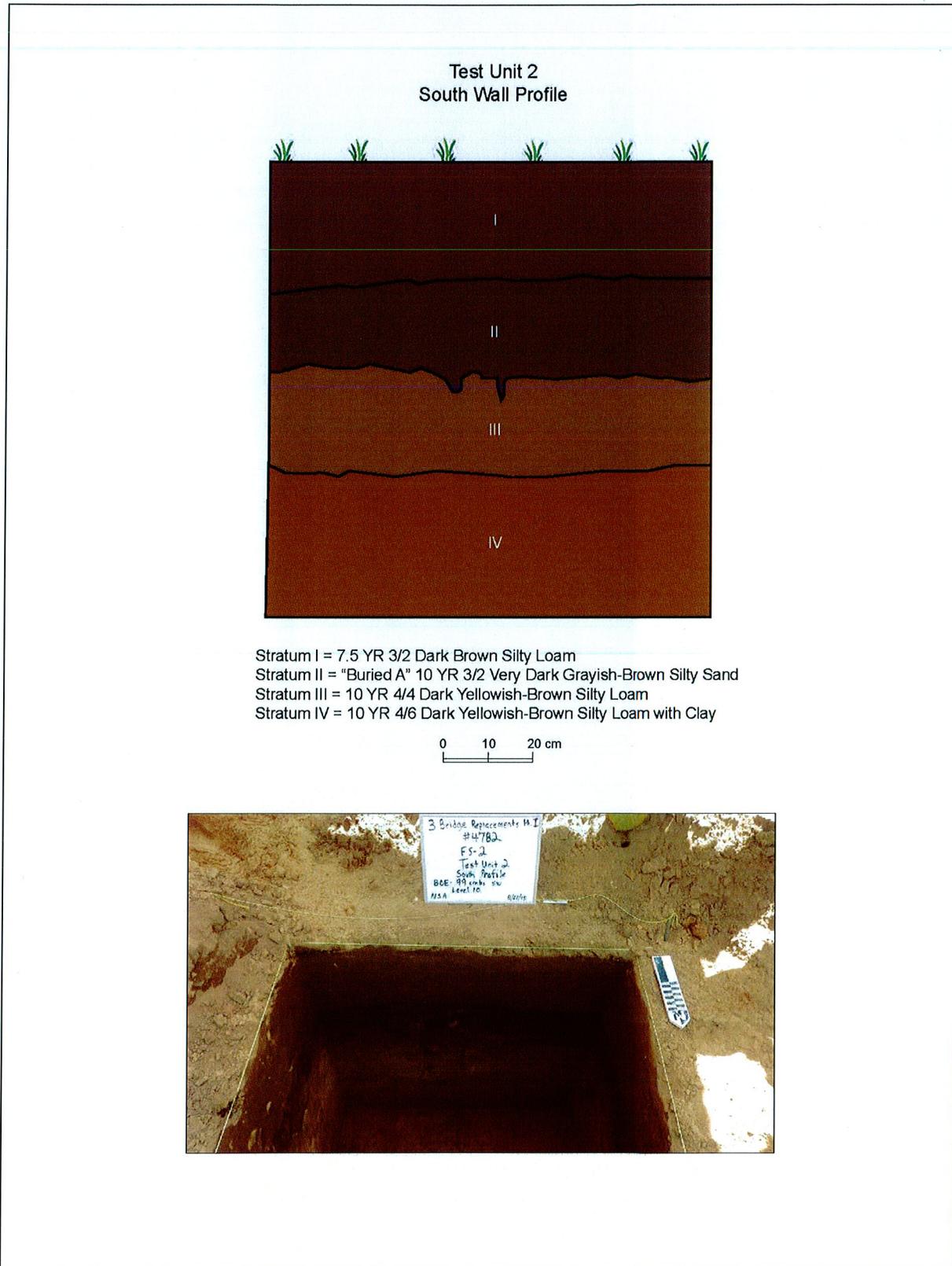
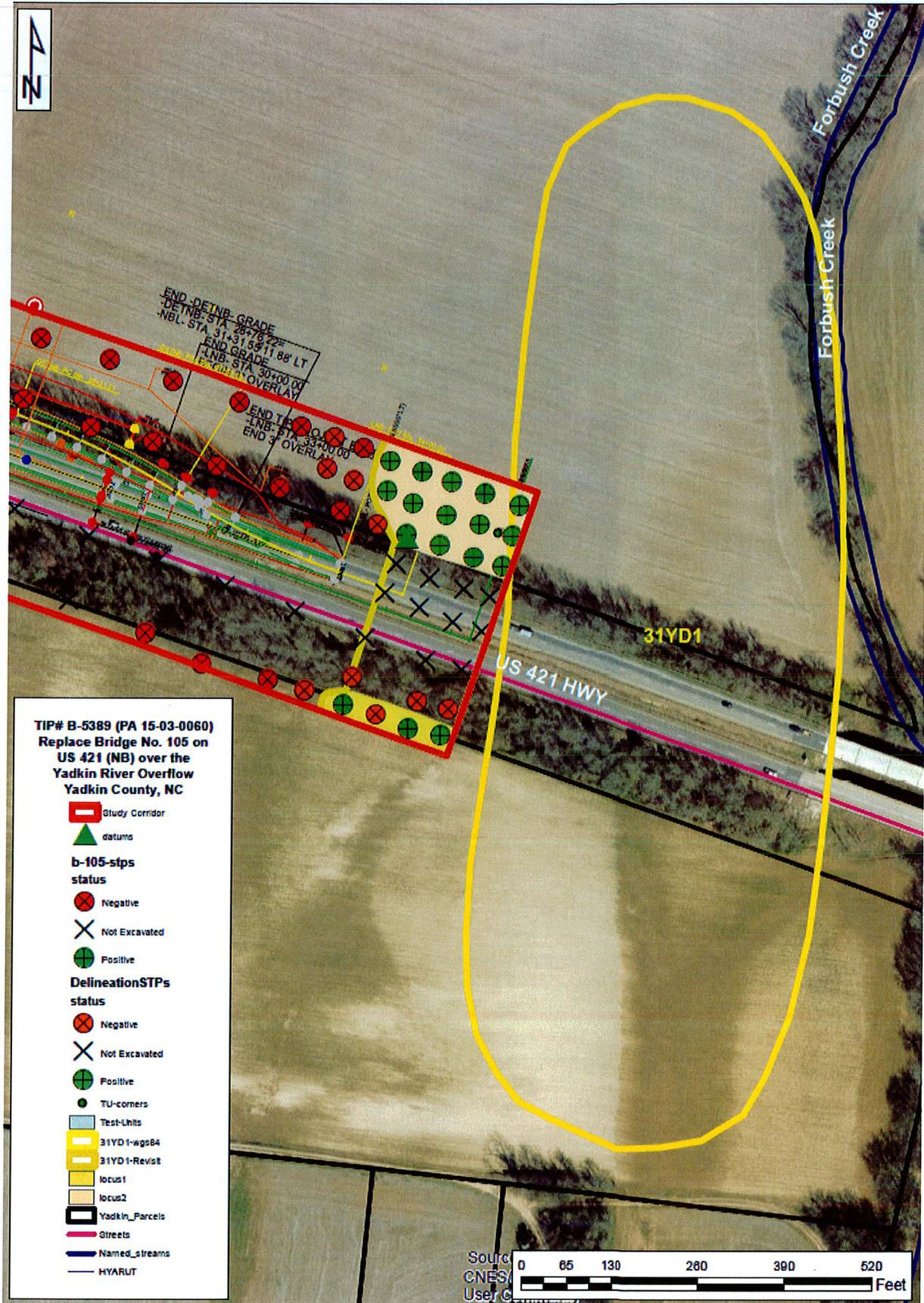


Figure 11. Test Unit 2, South Wall Profile and Drawing.





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