



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

January 28, 2022

U.S. Army Corps of Engineers
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

ATTN: Mr. David Bailey
NCDOT Regulatory Coordinator

Subject: **Application for Section 404 Regional General Permit 50, and Section 401 Water Quality Certification** for the Proposed Replacement of Bridges 109 and 121 on East Gate City Boulevard / E. Lee Street (SR 4240) over South Buffalo Creek in Guilford County, Division 7, TIP No. B-5717, Debit \$240 from WBS 45673.1.2.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridges 109 and 121 on East Gate City Boulevard / E. Lee Street (SR 4240) over South Buffalo Creek with new bridges in the same locations. The bridges will be replaced-in-place sequentially while maintaining two-way traffic on one bridge during construction.

As a result of replacing the two existing bridges, there will be 0.07 acre (145 linear feet) of reported temporary stream impacts from causeways needed for removal of the existing bridge and construction of the new one. There will be 0.17 acre of wetland impacts (0.03 ac of permanent fill, 0.01 ac. of excavation, and 0.13 ac. of mechanized clearing).

Mitigation for the 0.017ac. of wetland impact will be provided from NCDOT's On-site Debit Ledger for use within HUC 03030002 (NCDOT On-site Debit Ledger letter attached).

There will be a total of 14,342 square feet of allowable impacts (non-mitigable) to the Jordan River Buffer; 8,450 square feet in Zone 1 and 5,605 square feet within Zone 2.

Please see enclosed copies of the Pre-Construction Notification (PCN), which includes the following attachments: a Historic Architecture Form, Archaeological Form, Tribal Letter (Catawba Nation) Pre-Filing Document, an NCDOT On-site Debit Ledger letter, PJD Application, Stormwater Management Plan, Permit (Wetlands) Drawings, and Buffer Drawings.


A Type I or II Categorical Exclusion (CE) Action Classification Form was completed in May 2021 and distributed shortly thereafter.

This project calls for a letting date of May 3, 2022, and a review date of March 15, 2022.

A copy of this permit application and its distribution list will be posted on the NCDOT Website at: <https://xfer.services.ncdot.gov/pdea/PermApps/>. If you have any questions or need additional information, please contact Bill Barrett at wabarrett@ncdot.gov or (919) 707-6103.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael L. Harris", written over the printed name.

 Philip S. Harris III, P.E., C.P.M.
Environmental Analysis Unit Head

ec: NCDOT Permit Application Standard Distribution List



Pre-Construction Notification (PCN) Form

For Nationwide Permits and Regional General Permits
(along with corresponding Water Quality Certifications)

December 6, 2021 Ver 4.2

Please note: fields marked with a red asterisk * below are required. You will not be able to submit the form until all mandatory questions are answered.

Also, if at any point you wish to print a copy of the E-PCN, all you need to do is right-click on the document and you can print a copy of the form.

Below is a link to the online help file.

<https://edocs.deq.nc.gov/WaterResources/0/edoc/624704/PCN%20Help%20File%202018-1-30.pdf>

A. Processing Information

County (or Counties) where the project is located: *

Guilford

Is this a NCDMS Project *

☐ Yes ☒ No

Click Yes, only if NCDMS is the applicant or co-applicant.

Is this project a public transportation project? *

☒ Yes ☐ No

This is any publicly funded by municipal, state or federal funds road, rail, airport transportation project.

Is this a NCDOT Project? *

☒ Yes ☐ No

(NCDOT only) T.I.P. or state project number:

B-5717

WBS # *

45673.1.2

(for NCDOT use only)

1a. Type(s) of approval sought from the Corps: *

- ☒ Section 404 Permit (wetlands, streams and waters, Clean Water Act)
☐ Section 10 Permit (navigable waters, tidal waters, Rivers and Harbors Act)

Has this PCN previously been submitted? *

☐ Yes
☒ No

1b. What type(s) of permit(s) do you wish to seek authorization? *

- ☐ Nationwide Permit (NWP)
☒ Regional General Permit (RGP)
☐ Standard (IP)

1c. Has the NWP or GP number been verified by the Corps? *

☐ Yes ☒ No

Regional General Permit (RGP) Number:

201902350 - Work associated with bridge construction, widening, replacement, and interchanges

RGP Numbers (for multiple RGPs):

List all RGP numbers you are applying for not on the drop down list.

1d. Type(s) of approval sought from the DWR: *

check all that apply

- | | |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <input checked="" type="checkbox"/> 401 Water Quality Certification - Regular | <input type="checkbox"/> 401 Water Quality Certification - Express |
| <input type="checkbox"/> Non-404 Jurisdictional General Permit | <input checked="" type="checkbox"/> Riparian Buffer Authorization |
| <input type="checkbox"/> Individual 401 Water Quality Certification | |

1e. Is this notification solely for the record because written approval is not required?

*

For the record only for DWR 401 Certification:

☐ Yes ☒ No

For the record only for Corps Permit:

☐ Yes ☒ No

1f. Is this an after-the-fact permit application? *

☐ Yes ☒ No

1g. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts?

If so, attach the acceptance letter from mitigation bank or in-lieu fee program.

☒ Yes ☐ No

Acceptance Letter Attachment

Click the upload button or drag and drop files here to attach document

B-5717_SouthBuffaloCreek.pdf

172.32KB

FILE TYPE MUST BE PDF

1h. Is the project located in any of NC's twenty coastal counties? *

☐ Yes ☒ No

1j. Is the project located in a designated trout watershed? *

☐ Yes ☒ No

Link to trout information: <http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout.aspx>

B. Applicant Information

1a. Who is the Primary Contact? *

NCDOT

1b. Primary Contact Email: *

wabarrett@ncdot.gov

1c. Primary Contact Phone: *

(xxx)xxx-xxxx

(919)707-6103

1d. Who is applying for the permit? *

☒ Owner

(Check all that apply)

☐ Applicant (other than owner)

1e. Is there an Agent/Consultant for this project? *

☐ Yes ☒ No

2. Owner Information

2a. Name(s) on recorded deed: *

n/a

2b. Deed book and page no.:

2c. Contact Person:

(for Corporations)

2d. Address *

Street Address

1598 Mail Service Center

Address Line 2

City

Raleigh

Postal / Zip Code

27699

State / Province / Region

NC

Country

US

2e. Telephone Number: *

(xxx)xxx-xxxx

(919)707-6103

2f. Fax Number:

(xxx)xxx-xxxx

2g. Email Address: *

pharris@ncdot.gov

C. Project Information and Prior Project History

1. Project Information

1a. Name of project: *

Replacement of Bridges 109 and 121 on East Gate City Boulevard / E. Lee Street (SR 4240) over South Buffalo Creek.

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town: *

Greensboro

2. Project Identification

2a. Property Identification Number:

(tax PIN or parcel ID)

2b. Property size:

(in acres)

2c. Project Address

Street Address

Address Line 2

City

Postal / Zip Code

State / Province / Region

Country

2d. Site coordinates in decimal degrees

Please collect site coordinates in decimal degrees. Use between 4-6 digits (unless you are using a survey-grade GPS device) after the decimal place as appropriate, based on how the location was determined. (For example, most mobile phones with GPS provide locational precision in decimal degrees to map coordinates to 5 or 6 digits after the decimal place.)

Latitude: *

36.052850

ex: 34.208504

Longitude: *

-79.739360

-77.796371

3. Surface Waters

3a. Name of the nearest body of water to proposed project: *

South Buffalo Creek

3b. Water Resources Classification of nearest receiving water: *

WS-V;NSW

Surface Water Lookup

3c. What river basin(s) is your project located in? *

Cape Fear

3d. Please provide the 12-digit HUC in which the project is located. *

030300020104

River Basin Lookup

4. Project Description and History

4a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: *

wooded, low density commercial.

4b. Have Corps permits or DWR certifications been obtained for this project (including all prior phases) in the past? *

☐ Yes ☒ No ☐ Unknown

4f. List the total estimated acreage of all existing wetlands on the property:

0.92

4g. List the total estimated linear feet of all existing streams on the property:

(intermittent and perennial)

391

4h. Explain the purpose of the proposed project: *

The purpose of the project is to replace Bridge 109 (SR 4240 Eastbound) and Bridge 121 (SR 2420 Westbound). Bridge 109 was built in 1957 and was previously structurally deficient. Maintenance activities have improved the structurally deficient designation, and now the structure is only considered functionally obsolete. Bridge 121 was built in 1964 and is structurally deficient due to a superstructure and substructure rating of 4 out of 9.

4i. Describe the overall project in detail, including indirect impacts and the type of equipment to be used: *

NCDOT proposes to replace Bridges 109 and 121 over East Gate City Boulevard / E. Lee Street (SR 4240) over South Buffalo Creek in Guilford County. Bridge 109 is 200 feet long with a deck width of 32.25 feet. Bridge 121 is 200 feet long with a deck width of 33.3 feet. NCDOT proposes to construct two 215-foot long three-span structures, each with a minimum roadway width of 33 feet. The new structures will include two lanes at 12 feet wide, as well as bike lanes and sidewalks, each at 5.5 feet wide. The bridges will be replaced-in-place sequentially while maintaining two-way traffic on one bridge during construction. Temporary causeways will be utilized to provide the contractor with a working area for the demolition of existing bridges.

5. Jurisdictional Determinations

5a. Have the wetlands or streams been delineated on the property or proposed impact areas? *

☒ Yes ☐ No ☐ Unknown

Comments:

PJD Application attached.

5b. If the Corps made a jurisdictional determination, what type of determination was made? *

☐ Preliminary ☐ Approved ☒ Not Verified ☐ Unknown ☐ N/A

Corps AID Number:

Example: SAW-2017-99999

5c. If 5a is yes, who delineated the jurisdictional areas?

Name (if known): T. Shelton, B. Bill
Agency/Consultant Company: Dewberry Engineers, Inc.
Other:

6. Future Project Plans

6a. Is this a phased project? *

☐ Yes ☒ No

Are any other NWP(s), regional general permit(s), or individual permits(s) used, or intended to be used, to authorize any part of the proposed project or related activity? This includes other separate and distant crossing for linear projects that require Department of the Army authorization but don't require pre-construction notification.

D. Proposed Impacts Inventory

1. Impacts Summary

1a. Where are the impacts associated with your project? (check all that apply):

☒ Wetlands ☒ Streams-tributaries ☒ Buffers
☐ Open Waters ☐ Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

"W." will be used in the table below to represent the word "wetland".

2a. Site # * (?)	2a1 Reason * (?)	2b. Impact type * (?)	2c. Type of W. *	2d. W. name *	2e. Forested *	2f. Type of Jurisdiction * (?)	2g. Impact area *
1	Utility relocation	P	Seep	WF	No	Corps	0.001 (acres)
2	Roadway Fill	P	Non-Tidal Freshwater Marsh	WD	No	Corps	0.087 (acres)
3	Roadway Fill/Utilities	P	Non-Tidal Freshwater Marsh	WG	No	Corps	0.053 (acres)
4	Bridge	P	Bottomland Hardwood Forest	WB	No	Corps	0.004 (acres)
5	Bridge	P	Bottomland Hardwood Forest	WA	No	Corps	0.003 (acres)
7	Bridge	P	Bottomland Hardwood Forest	WC	Yes	Corps	0.018 (acres)
						Corps	(acres)

2g. Total Temporary Wetland Impact

0.000

2g. Total Permanent Wetland Impact

0.166

2g. Total Wetland Impact

0.166

2i. Comments:

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

"S." will be used in the table below to represent the word "stream".

	3a. Reason for impact ^(?)	3b.Impact type [*]	3c. Type of impact [*]	3d. S. name [*]	3e. Stream Type [*] ^(?)	3f. Type of Jurisdiction [*]	3g. S. width [*]	3h. Impact length [*]
S1	Temp. Causeways	Temporary	Workpad/Causeway	South Buffalo Creek	Perennial	Both	55 <i>Average (feet)</i>	145 <i>(linear feet)</i>

** All Perennial or Intermittent streams must be verified by DWR or delegated local government.

3i. Total jurisdictional ditch impact in square feet:

0

3i. Total permanent stream impacts:

0

3i. Total temporary stream impacts:

145

3i. Total stream and ditch impacts:

145

3j. Comments:

The lone stream impact site is listed on the Impact summary Sheet as "Site 7" (not able to edit ePCN).
No more than one temporary causeway will be in place at any give time and will cover no more than half the stream width.

6. Buffer Impacts (for DWR)

If project will impact a protected riparian buffer, then complete the chart below. Individually list all buffer impacts below.

6a. Project is in which protect basin(s)? ^{*}

Check all that apply.

- ☐ Neuse
- ☐ Catawba
- ☐ Goose Creek
- ☐ Other
- ☐ Tar-Pamlico
- ☐ Randleman
- ☒ Jordan Lake

6b. Impact Type ^(?)	6c. Per or Temp ^(?)	6d. Stream name [*]	6e. Buffer mitigation required? [*]	6f. Zone 1 impact [*]	6g. Zone 2 impact [*]
Bridge - Allowable	T	South Buffalo Creek	No	8,450 <i>(square feet)</i>	5,892 <i>(square feet)</i>

6h. Total buffer impacts:

	Zone 1	Zone 2
Total Temporary impacts:	8,450.00	5,892.00
Total Permanent impacts:	0.00	0.00
Total combined buffer impacts:	8,450.00	5,892.00

6i. Comments:

E. Impact Justification and Mitigation

1. Avoidance and Minimization

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing the project: ^{*}

The existing structures are 5-span structures with 2 bent rows in the water. The proposed structures will have 3-spans and will completely span the waterway. The proposed bridge will not contain deck drains. Roadway drainage on the east and west side of the bridge are collected by catch basins along concrete median and shoulders, out-letting at the bottom of the roadway fill slope. Velocities are dissipated by riprap aprons. Temporary causeways will be utilized to provide the contractor with working area for demolition of existing bridges. Existing bridge columns will be cut down one-foot below the current ground elevation. No more than one temporary rock causeway will be in place at any give time and will cover no more than half the stream width. In efforts to reduce wetland impacts, roadway fill slopes in regions near wetlands will be constructed at 1.5:1 slope, reinforced with rock plating.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques: ^{*}

NCDOT standards for ground cover, vegetation, and slope stabilization will be adhered to during the life of this project and will be specified in the NCDOT Erosion and Sediment Control Plan for the project.

2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State

2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?

☒ Yes ☐ No

2c. If yes, mitigation is required by (check all that apply):

☒ DWR ☒ Corps

2d. If yes, which mitigation option(s) will be used for this project?

☐ Mitigation bank ☐ Payment to in-lieu fee program ☒ Permittee Responsible Mitigation

NC Stream Temperature Classification Maps can be found under the Mitigation Concepts tab on the Wilmington District's [RIBITS](#) website.

5. Complete if Using a Permittee Responsible Mitigation Plan

5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan including mitigation credits generated.

See attached information for South Buffalo Creek Mitigation Site.

6. Buffer mitigation (State Regulated Riparian Buffer Rules) - required by DWR

6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation? If yes, you must fill out this entire form - please contact DWR for more information.

☐ Yes ☒ No

F. Stormwater Management and Diffuse Flow Plan (required by DWR)

*** Recent changes to the stormwater rules have required updates to this section .***

1. Diffuse Flow Plan

1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?

☒ Yes ☐ No

1b. All buffer impacts and high ground impacts require diffuse flow or other form of stormwater treatment. If the project is subject to a state implemented riparian buffer protection program, include a plan that fully documents how diffuse flow will be maintained.

All Stormwater Control Measures (SCM)s must be designed in accordance with the [NC Stormwater Design Manual](#). Associated supplement forms and other documentation shall be provided.

What type of SCM are you providing?

☐ Level Spreader
☐ Vegetated Conveyance (lower SHWT)
☐ Wetland Swale (higher SHWT)
☐ Other SCM that removes minimum 30% nitrogen
☒ Proposed project will not create concentrated stormwater flow through the buffer
(check all that apply)

For a list of options to meet the diffuse flow requirements, click [here](#).

2. Stormwater Management Plan

2a. Is this a NCDOT project subject to compliance with NCDOT's Individual NPDES permit NCS000250? *

☒ Yes ☐ No

Comments:

G. Supplementary Information

1. Environmental Documentation

1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? *

☒ Yes ☐ No

1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)? *

☒ Yes ☐ No

1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) *

☒ Yes ☐ No

2. Violations (DWR Requirement)

2a. Is the site in violation of DWR Water Quality Certification Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), or DWR Surface Water or Wetland Standards or Riparian Buffer Rules (15A NCAC 2B .0200)? *

☐ Yes ☒ No

3. Cumulative Impacts (DWR Requirement)

3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? *

☐ Yes ☒ No

3b. If you answered "no," provide a short narrative description.

Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.

4. Sewage Disposal (DWR Requirement)

4a. Is sewage disposal required by DWR for this project? *

☐ Yes ☐ No ☒ N/A

5. Endangered Species and Designated Critical Habitat (Corps Requirement)

5a. Will this project occur in or near an area with federally protected species or habitat? *

☒ Yes ☐ No

5b. Have you checked with the USFWS concerning Endangered Species Act impacts? *

☐ Yes ☒ No

5d. Is another Federal agency involved? *

☐ Yes ☒ No ☐ Unknown

5e. Is this a DOT project located within Division's 1-8? *

☒ Yes ☐ No

5g(1). If yes, have you inspected the bridge for signs of bat use such as staining, guano, bats, etc.? Representative photos of signs of bat use can be found in the NLEB SLOPES, Appendix F, pages 3-7.

☐ Yes ☒ No

If you answered "Yes" to 5g(1), did you discover any signs of bat use? *

☐ Yes ☒ No ☐ Unknown

*** If yes, please show the location of the bridge on the permit drawings/project plans.

5j. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? *

IPaC identifies 2 species within the project area: Schweinitz's sunflower, habitat present, but none found (last survey 10/21/2021) and small whorled pogonia (no habitat present).

6. Essential Fish Habitat (Corps Requirement)

6a. Will this project occur in or near an area designated as an Essential Fish Habitat? *

☐ Yes ☒ No

6b. What data sources did you use to determine whether your site would impact an Essential Fish Habitat? *

NMFS County Index.

7. Historic or Prehistoric Cultural Resources (Corps Requirement)

Link to the State Historic Preservation Office Historic Properties Map (does not include archaeological data: <http://gis.ncdcr.gov/hpweb/>)

7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)? *

☐ Yes ☒ No

7b. What data sources did you use to determine whether your site would impact historic or archeological resources? *

NEPA documentation.

8. Flood Zone Designation (Corps Requirement)

Link to the FEMA Floodplain Maps: <https://msc.fema.gov/portal/search>

8a. Will this project occur in a FEMA-designated 100-year floodplain? *

☒ Yes ☐ No

8b. If yes, explain how project meets FEMA requirements:

NCDOT Hydraulics Unit coordination with FEMA.

8c. What source(s) did you use to make the floodplain determination? *

FEMA Maps: Zone AE.

Miscellaneous

Comments

Attached are the following: Cover Letter, Historic Architecture Form, Archaeological Form, Tribal Letter to Catawba Nation (No response received), NCDOT On-site Debit Ledger letter, PJD Application, a Stormwater Management Plan, Permit Drawings, and Buffer Drawings.

Please use the space below to attach all required documentation or any additional information you feel is helpful for application review. Documents should be combined into one file when possible, with a Cover Letter, Table of Contents, and a Cover Sheet for each Section preferred.

Click the upload button or drag and drop files here to attach document

B-5717 Cover Letter.pdf	299.45KB
B-5717 Hist Properties.pdf	2.81MB
B-5717 PJD Application.pdf	7.7MB
B-5717 No Archaeological Survey Required Form.pdf	2.12MB
B-5717 CE.pdf	6.6MB
B-5717 Buffer Drawings.pdf	1.15MB
B-5717 Permit Drawings.pdf	5.7MB
B-5717 Tribal Coordination.pdf	1.18MB

File must be PDF or KMZ

Signature

*

☒ By checking the box and signing below, I certify that:

- The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief; and
- The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.
- I have given true, accurate, and complete information on this form;
- I agree that submission of this PCN form is a "transaction" subject to Chapter 66, Article 40 of the NC General Statutes (the "Uniform Electronic Transactions Act");
- I agree to conduct this transaction by electronic means pursuant to Chapter 66, Article 40 of the NC General Statutes (the "Uniform Electronic Transactions Act");
- I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature; AND
- I intend to electronically sign and submit the PCN form.

Full Name: *

Michael Turchy

Signature *



Date

1/28/2022

South Buffalo Creek Mitigation Site
ONEID 041-009

The South Buffalo Creek mitigation site is located in Guilford County within the USGS hydrologic unit 03030002 of the Cape Fear River. NCDOT acquired a 31.73 acres parcel to mitigate for unavoidable, jurisdictional impacts associated with TIP I-2402, U-2525 and I-2201F/E. This parcel produced 16.2 acres of Riparian Wetland Preservation and 15.53 acres of Riparian Wetland Restoration. Monitoring requirements were performed from 1999 to 2003 and the site was closed out in 2004. Table 1 shows the final mitigation quantities approved for the site. The site has been placed on the NCDOT On-site Debit Ledger for use within HUC 03030002. Table 2 indicates all mitigation debits that have occurred per regulatory agency approval.

In order to offset 0.17 acres of unavoidable impacts on B-5717, NCDOT will be debiting the South Buffalo Creek Mitigation Site at for 0.17 acres of impact at a 2:1 ratio, totaling 0.34 acres of mitigation.

Table 1. Mitigation Quantities Approved

HUC	Mitigation Type	Starting Amount (AC)	Additional Notes
3030002	Riparian Wetland Preservation	16.2	
3030002	Riparian Wetland Restoration	15.53	

Table 2. Mitigation Debits –

Mitigation Type	Debit Amount (Ac)	Status	SITE TIP	Action ID#	Notes
Riparian Wetland Preservation	3.36	Close Out	I-2201F		
Riparian Wetland Preservation	1.23	Close Out	I-2402D mod	199502886	
Riparian Wetland Preservation	9.4	Close Out	U-2525A & I-2402D	199300243	

TYPE	Debit Amount (Ac)	Status	SITE TIP	Action ID#	Notes
Riparian Wetland Restoration	0.96	Close Out	I-2201F		
Riparian Wetland Restoration	0.35	Close Out	I-2402D mod	199502886	
Riparian Wetland Restoration	0.14	Close Out	Mit Work		
Riparian Wetland Restoration	0.95	Close Out	R-2000AA/AB		
Riparian Wetland Restoration	9.1	Close Out	U-2525A & I-2402D	199300243	
Riparian Wetland Restoration	0.71	Close Out	U-3109A	200220667	Impacts were 0.33 acres with 2:1 ratio and 0.05 acres at 1:1
Riparian Wetland Restoration	0.01	Close Out	U-3109A mod	200220667	Impacts were 0.01 acres with 1:1 ratio
Riparian Wetland Restoration	0.34	Closeout	B-5717		0.17 acres impacts at 2:1 ratio



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

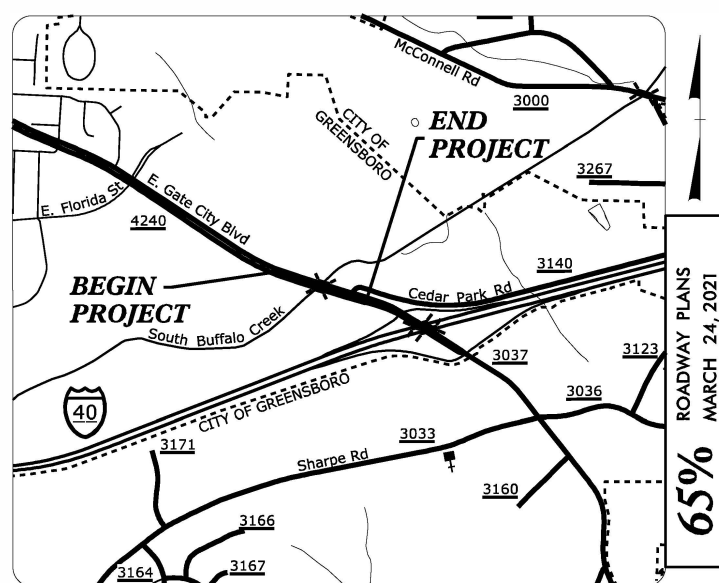
(Version 2.08; Released April 2018)

WBS Element:	45673.1.2	TIP No.:	B-5717	County(ies):	Guilford	Page	1	of	1
General Project Information									
WBS Element:	45673.1.2	TIP Number:	B-5717	Project Type:	Bridge Replacement	Date:	10/21/2021		
NCDOT Contact:	Kristy Alford, PE			Contractor / Designer:	AECOM / Matt Kemp, PE				
	Address:	NCDOT Century Center 1000 Birch Ridge Dr Raleigh NC 27610				Address:	5438 Wade Park Boulevard Raleigh NC 27607 Suite 200		
	Phone:	919-707-6531				Phone:	919-854-6211		
	Email:	kalford@ncdot.gov				Email:	matthew.kemp@aecom.com		
City/Town:	Greensboro			County(ies):	Guilford				
River Basin(s):	Cape Fear			CAMA County?	No				
Wetlands within Project Limits?	Yes								
Project Description									
Project Length (lin. miles or feet):	0.32	Surrounding Land Use:	Wooded / Low Density Commerical						
	Proposed Project			Existing Site					
Project Built-Up Area (ac.)	3.9	ac.	3.3			ac.			
Typical Cross Section Description:	4 lane 12' wide lanes divided arterial with median ditches, curb and gutter, and storm sewer systems and sidewalks.			4 lane 12' wide lanes divided arterial with median ditches and storm sewer systems. West of South Buffalo Creek contains curb and gutter, east contains paved shoulder					
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	20100	Year:	2040	18184	Year:	2020		
General Project Narrative: (Description of Minimization of Water Quality Impacts)	<p>Existing parallel bridges 0121 / 0109 consist of 5 spans of 40 ft, for total bridge lengths of 200 ft over South Buffalo Creek. Both bridges consist of reinforced concrete cap and column on spread footings, end bents consist of reinforced concrete cap and piles. Bridge 0120 (WB) deck is a reinforced concrete deck with concrete I beams. Bridge 0109 is a reinforced concrete deck with steel I beams.</p> <p>The replacement bridges are 3 span bridges (1@55, 1@100, and 1@60) with 54" prestressed concrete girders and 4 ft end bent caps. The proposed bridges will not contain deck drains. Roadway drainage on the east and west side of the bridge are collected by catch basins along concrete medians and shoulders, outletting at the bottom of the roadway fill slope. Velocities are dissipated by rip rap aprons. Temporary causeways will be utilized to provide the contractor with working area for demolition of existing bridges. Existing bridge columns will be cut down 1 ft below the current ground elevation. No more than 1 temporary rock causeway will be in place at any given time and will cover no more than half the stream width.</p> <p>In an effort to reduce wetland impacts, roadway fill slopes in regions near wetlands will be constructed at a 1.5:1 fill slope, reinforced with rock plating. Permanent impacts to the wetlands mostly occur on the northern westbound fill slope, west of the proposed bridges</p>								
Waterbody Information									
Surface Water Body (1):	South Buffalo Creek			NCDWR Stream Index No.:	16-11_14-2				
NCDWR Surface Water Classification for Water Body	Primary Classification:			Water Supply V (WS-V)					
	Supplemental Classification:			Nutrient Sensitive Waters (NSW)					
Other Stream Classification:									
Impairments:	fecal coliform								
Aquatic T&E Species?	No	Comments:							
NRTR Stream ID:	South Buffalo Creek			Buffer Rules in Effect:	Jordan Lake				
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	No	Dissipator Pads Provided in Buffer?		N/A			
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)				
(If yes, provide justification in the General Project Narrative)									

09/08/99

TIP PROJECT: B-5717

CONTRACT:



VICINITY MAP

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
GUILFORD COUNTY

LOCATION: BRIDGES 109 AND 121 ON SR 4240 (E. GATE CITY BLVD)
OVER SOUTH BUFFALO CREEK

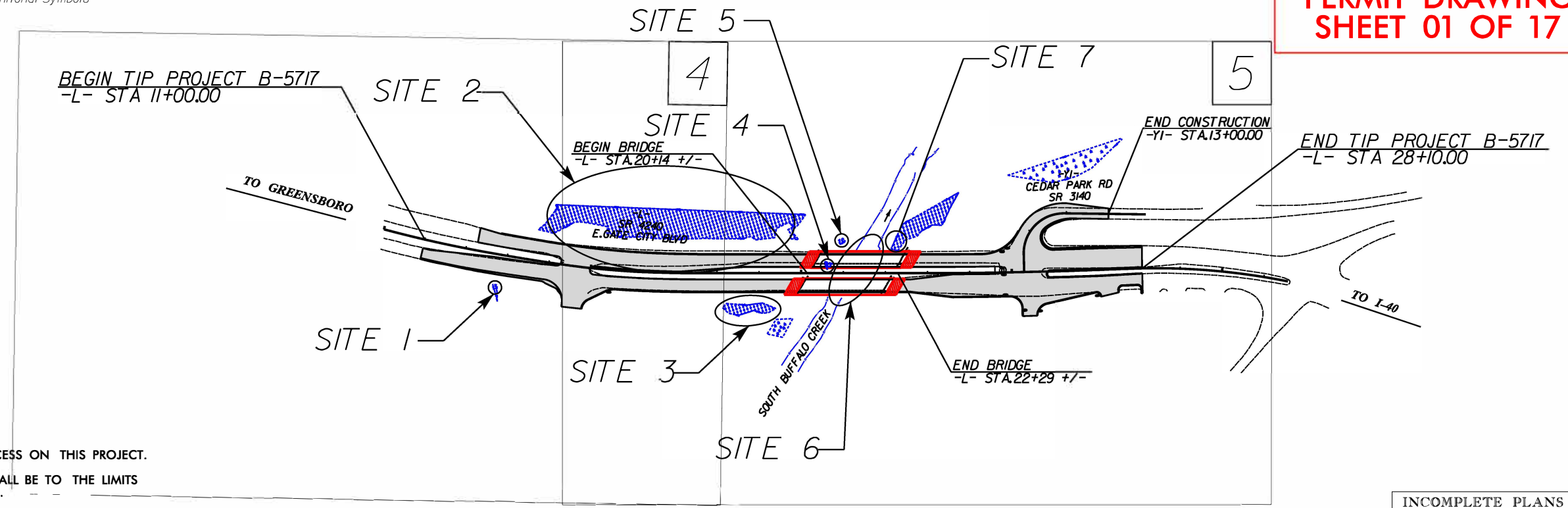
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

**WETLAND AND SURFACE WATER IMPACTS PERMIT
OCTOBER 2021**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5717	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
45673.1.2		PE	



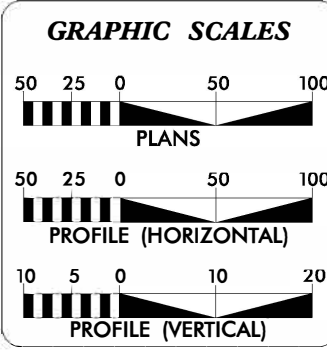
**PERMIT DRAWING
SHEET 01 OF 17**



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
CLEARING ON THE PROJECT SHALL BE TO THE LIMITS
ESTABLISHED USING METHOD II.

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES
OF THE CITY OF GREENSBORO.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA	
ADT 2020 =	18,184
ADT 2040 =	20,100
K =	11 %
D =	65 %
T =	5 % *
V =	50 MPH
* TTST =	1% DUAL 4%
FUNC CLASS =	PRINCIPAL ARTERIAL
REGIONAL TIER	

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT B-5717 =	0.283 MI
LENGTH STRUCTURE TIP PROJECT B-5717 =	0.041 MI
TOTAL LENGTH TIP PROJECT B-5717 =	0.324 MI

Prepared in the Office of:

AECOM

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 26, 2021

LETTING DATE:
MARCH 15, 2022

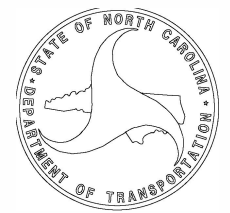
NC FIRM LICENSE No: F-0342
701 Corporate Center Drive, Suite 475
Raleigh, NC 27607
(919) 854-6200 - (919) 854-6259(FAX)

NEIL J. DEAN, P.E.
PROJECT ENGINEER

TIMOTHY KLOTZ, P.E.
PROJECT DESIGN ENGINEER

DAVID STUTTS, P.E.
NCDOT PROJECT ENGINEER

HYDRAULICS ENGINEER	
SIGNATURE:	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE:	P.E.



5/14/99

REVISIONS

PROJECT REFERENCE NO.		SHEET NO.	
B-5717		4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div style="border: 1px solid black; padding: 10px; text-align: center;">INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION</div>			
Prepared in the Office of:		NC FIRM LICENSE No F-0342 701 Corporate Center Drive, Suite 475 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

PERMIT DRAWING
SHEET 02 OF 17

NORTH CAROLINA A & T STATE UNIVERSITY



DENOTES FILL IN WETLAND



DENOTES MECHANIZED CLEARING

110° 2' AN / 38° CAD N

SITE 2

STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA

SITE 1

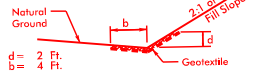
PENSKE TRUCK LEASING CO LP

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DUKE POWER EASEMENT 150' R/W

NOTE:
EXISTING SYSTEM BETWEEN
+L- 10+00 TO 12+40 LT
IS TO BE RETAINED

DETAIL 4
TOE PROTECTION
(Not to Scale)



Type of Liner = CL B Rip-Rap
FROM STA. -L- 16+50 RT TO STA. -L- 17+75 RT



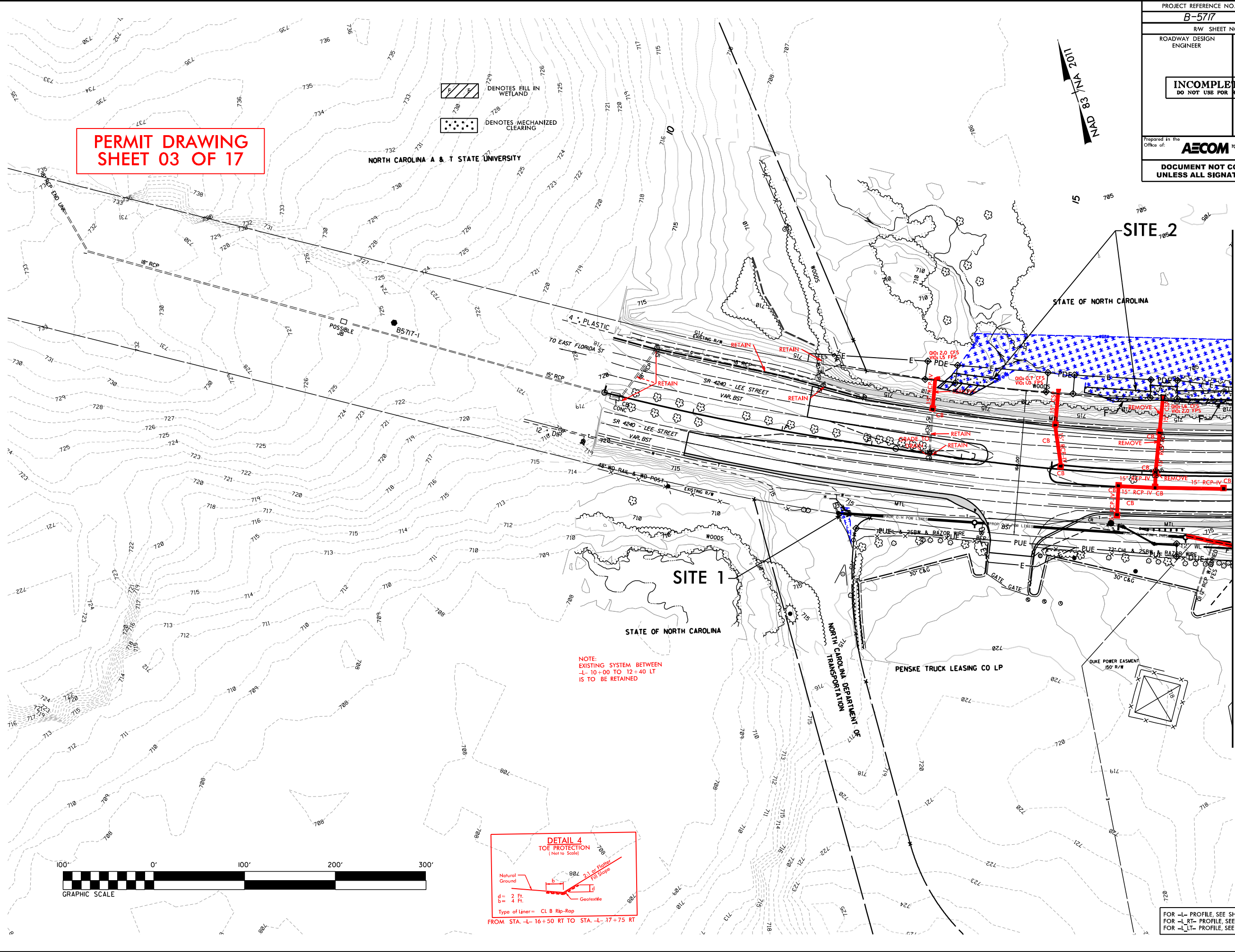
FOR -L- PROFILE, SEE SHEET NO. 6
FOR -L RT- PROFILE, SEE SHEET NO. 6
FOR -L LT- PROFILE, SEE SHEET NO. 6

MATCHLINE -L- 17+00
SEE SHEET 5

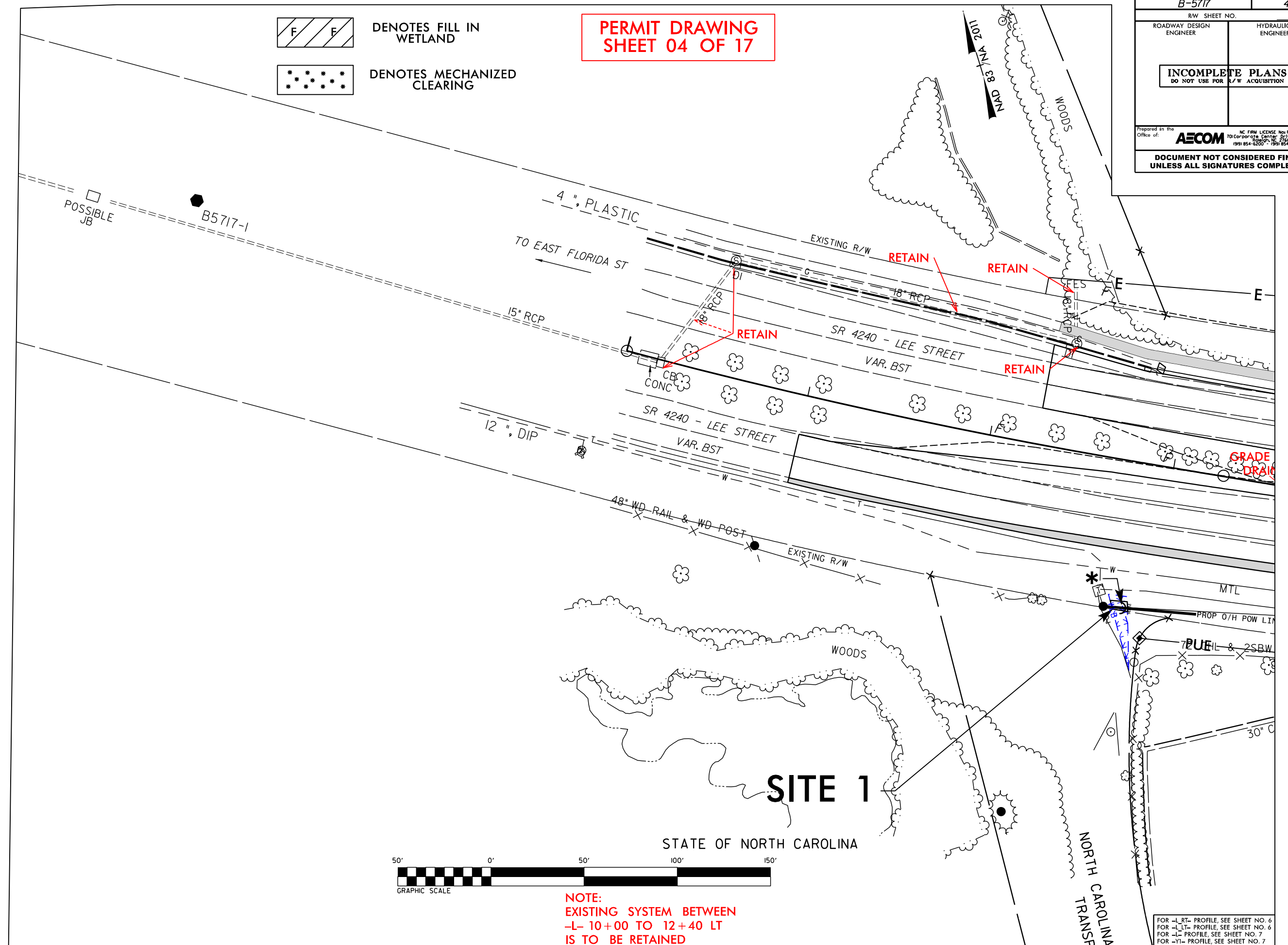
5/14/99

REVISIONS

PROJECT REFERENCE NO.		SHEET NO.	
B-5717		4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div style="border: 1px solid black; padding: 10px; text-align: center;">INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION</div>			
Prepared in the Office of:		NC FIRM LICENSE No. F-0342 701 Corporate Center Drive, Suite 475 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259 (FAX)	
AECOM			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

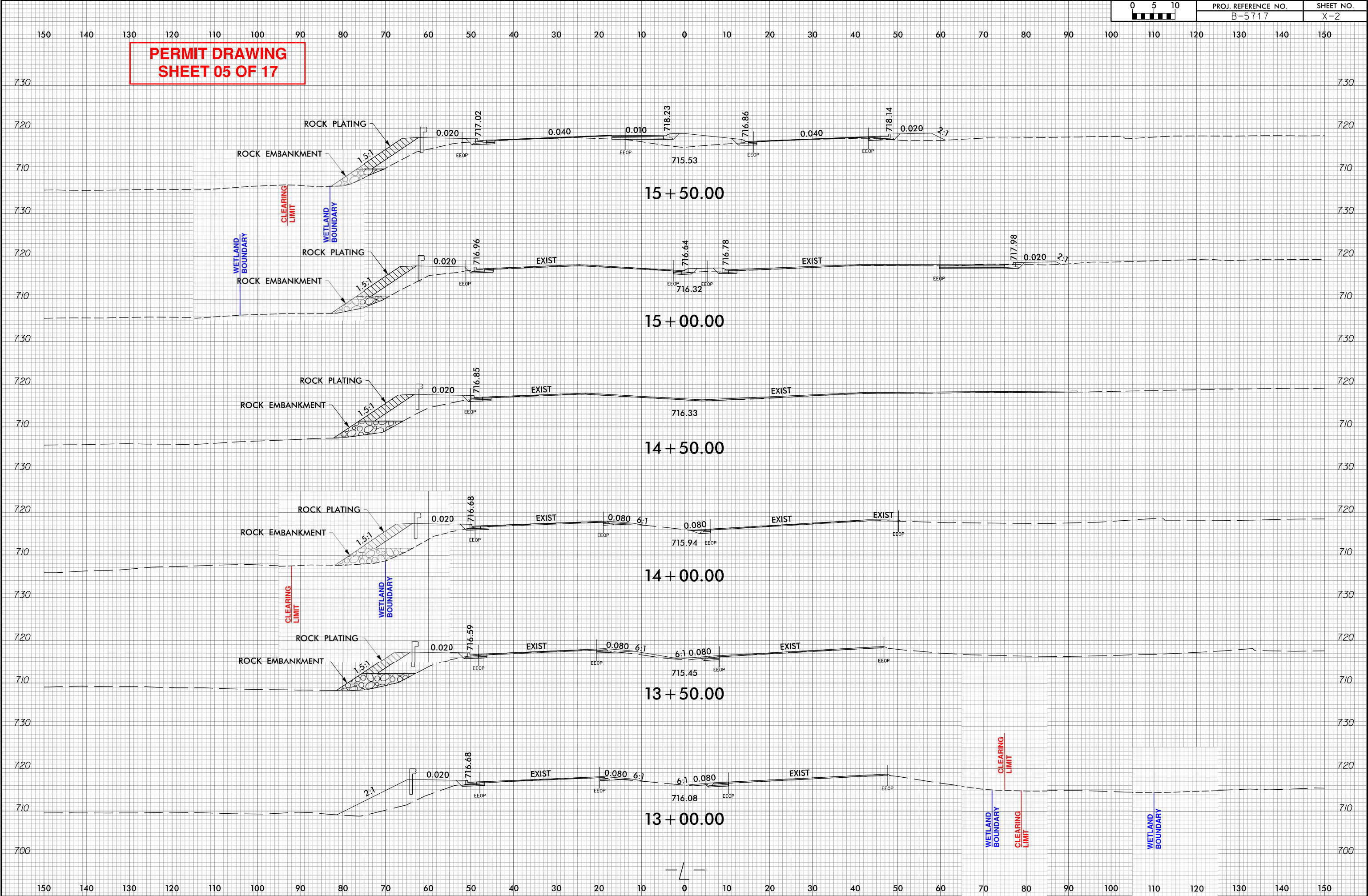


FOR -L- PROFILE, SEE SHEET NO. 6
FOR -L- RT- PROFILE, SEE SHEET NO. 6
FOR -L- LT- PROFILE, SEE SHEET NO. 6



REVISIONS

\$\$\$\$SYTIME\$\$\$\$
 \$\$\$\$DGN\$\$\$\$
 \$\$\$\$USERNAME\$\$\$\$

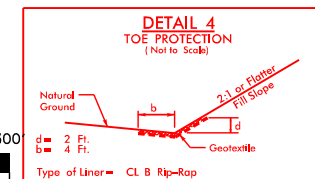
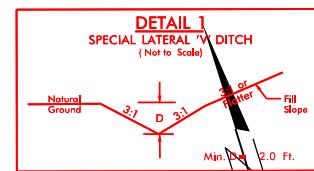
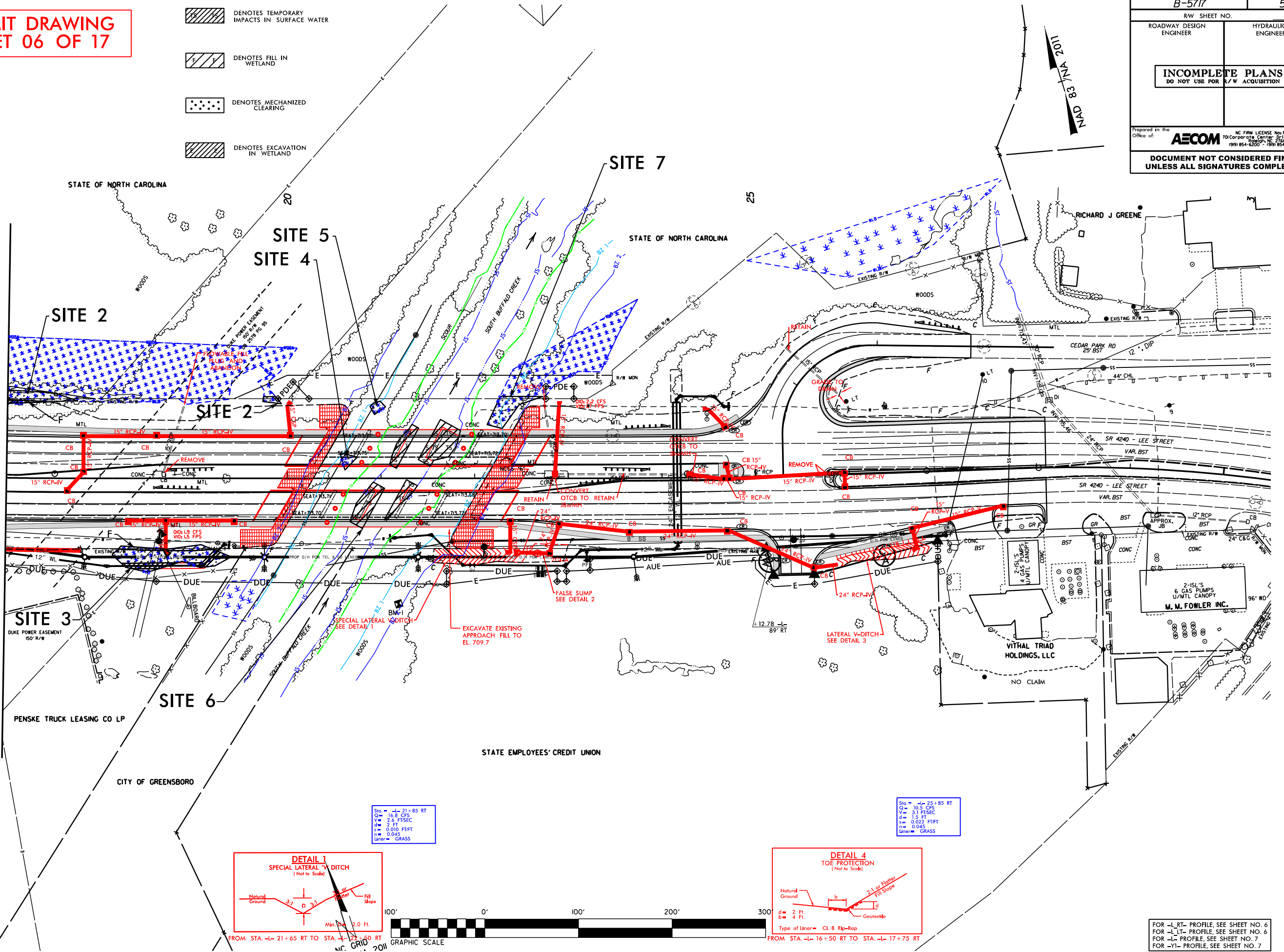


PERMIT DRAWING
SHEET 06 OF 17

- 15' 15' DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- 5' 5' DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- 15' 15' DENOTES EXCAVATION IN WETLAND

PROJECT REFERENCE NO. B-5717		SHEET NO. 5	
RW SHEET NO.		HYDRAULICS	
ROADWAY DESIGN ENGINEER		ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
Prepared in the Office of: AECOM NC FIRM LICENSE No. F-0342 701 Corporate Center Drive, Suite 475 Durham, NC 27601 (919) 854-6200 • (919) 854-6259 (FAX)			
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MATCHLINE -L- 17+00
SEE SHEET 4




FOR -L- RT- PROFILE, SEE SHEET NO. 6
FOR -L- LT- PROFILE, SEE SHEET NO. 6
FOR -L- PROFILE, SEE SHEET NO. 7
FOR -YI- PROFILE, SEE SHEET NO. 7

PERMIT DRAWING
SHEET 07 OF 17

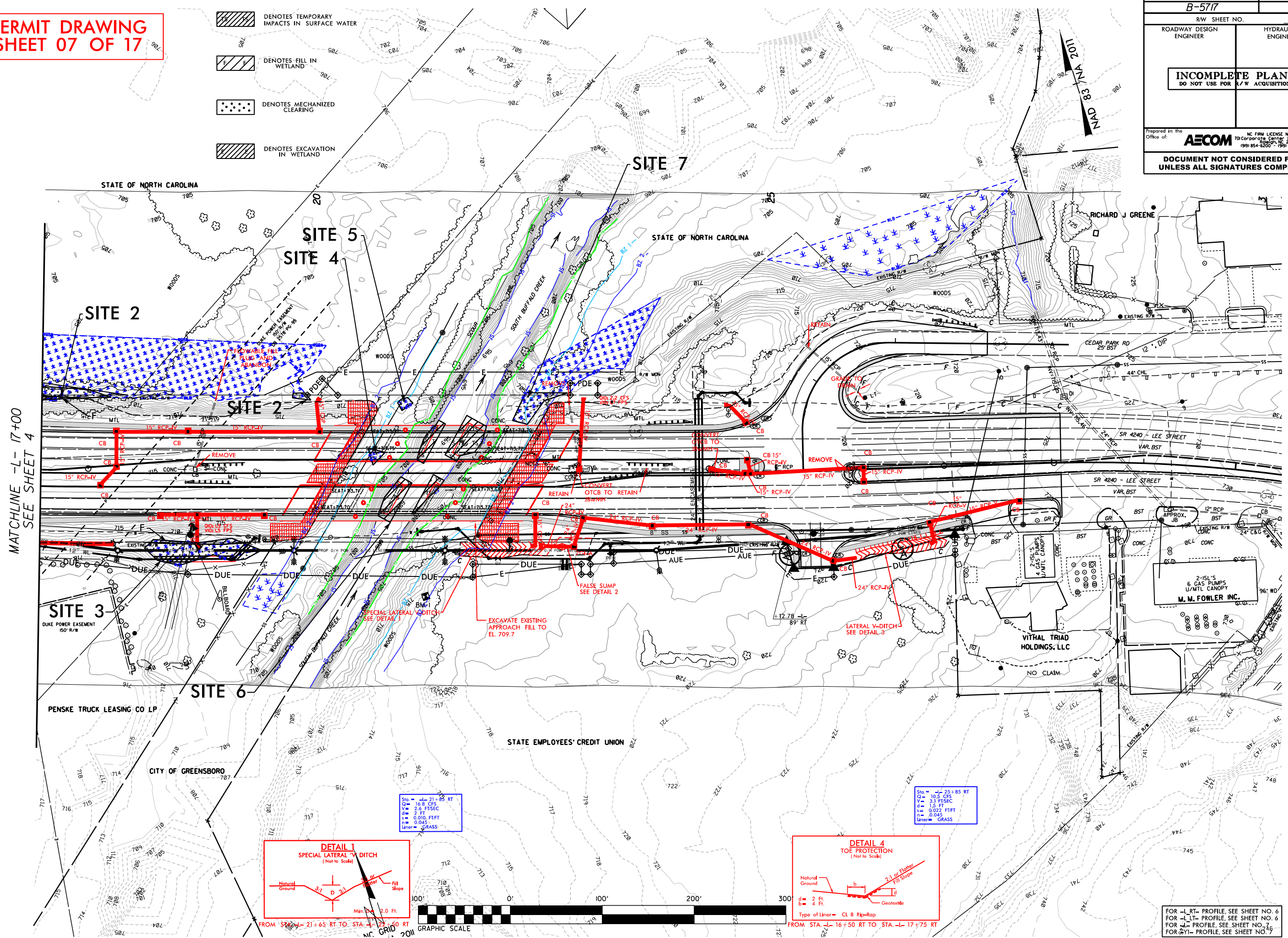
PROJECT REFERENCE NO.		SHEET NO.	
B-577		5	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div style="border: 1px solid black; padding: 10px; text-align: center;"> INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION </div>			

Prepared in the Office of:



NC FIRM LICENSE NO.F-0542
 701 Corporate Center, Suite 475
 Charlotte, NC 28202
 (919) 854-6200 - (919) 854-6259 FAX1

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

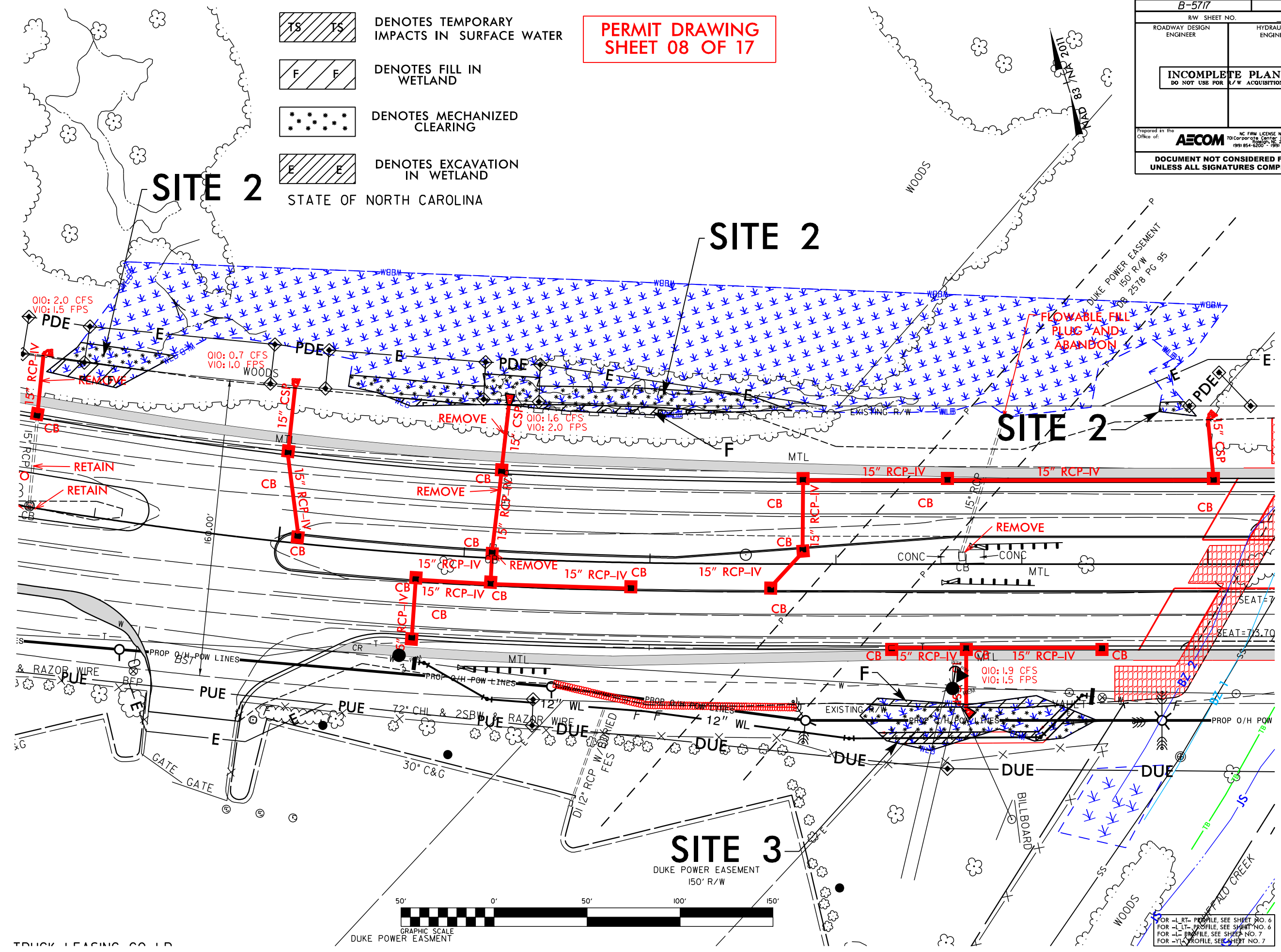


5/14/99

REVISIONS

5/14/99

PROJECT REFERENCE NO. <i>B-5717</i>		SHEET NO. <i>5</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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Prepared in the Office of: AECOM		NC FIRM LICENSE No. F-0542 701 Corporate Center Drive, Suite 475 Durham, NC 27601 (919) 854-6200 • (919) 854-6259(FAX)	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



FOR -L RT- PROFILE, SEE SHEET NO. 6
FOR -L LT- PROFILE, SEE SHEET NO. 6
FOR -L P- PROFILE, SEE SHEET NO. 7
FOR -L V- PROFILE, SEE SHEET NO. 7

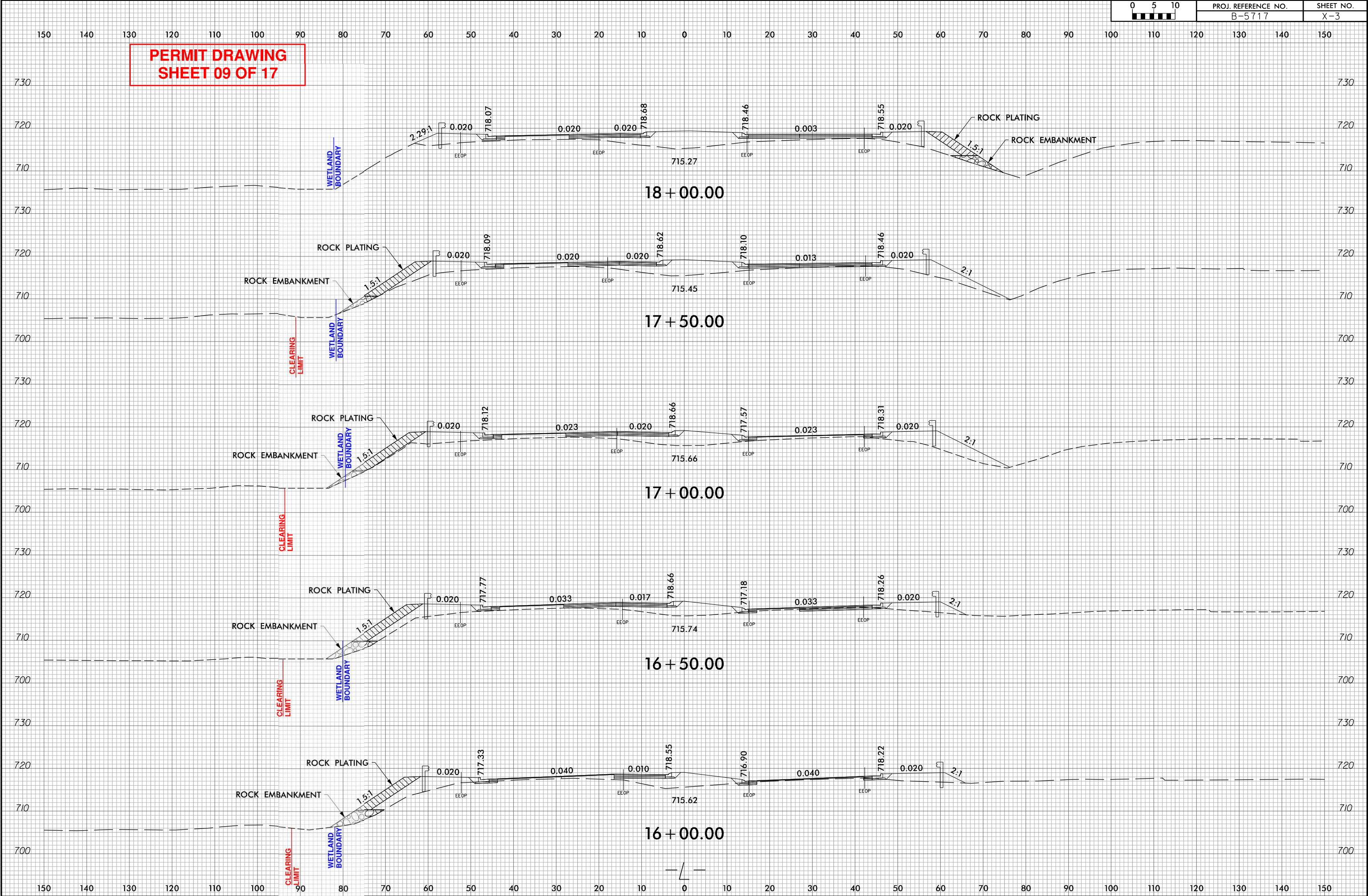
6/23/16

5/26/2021
pwt\jdecornar-pw.bentley.com\AECOM_DS21_NA_2020\Documents\60592827-NCDDT_SMU_B-5717\900-CAD_GIS\910-CAD\70-NCDDT_TIP_Roadway\CorridorModeling\B5717_Rdy_xpl_L.dgn
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PERMIT DRAWING
SHEET 09 OF 17

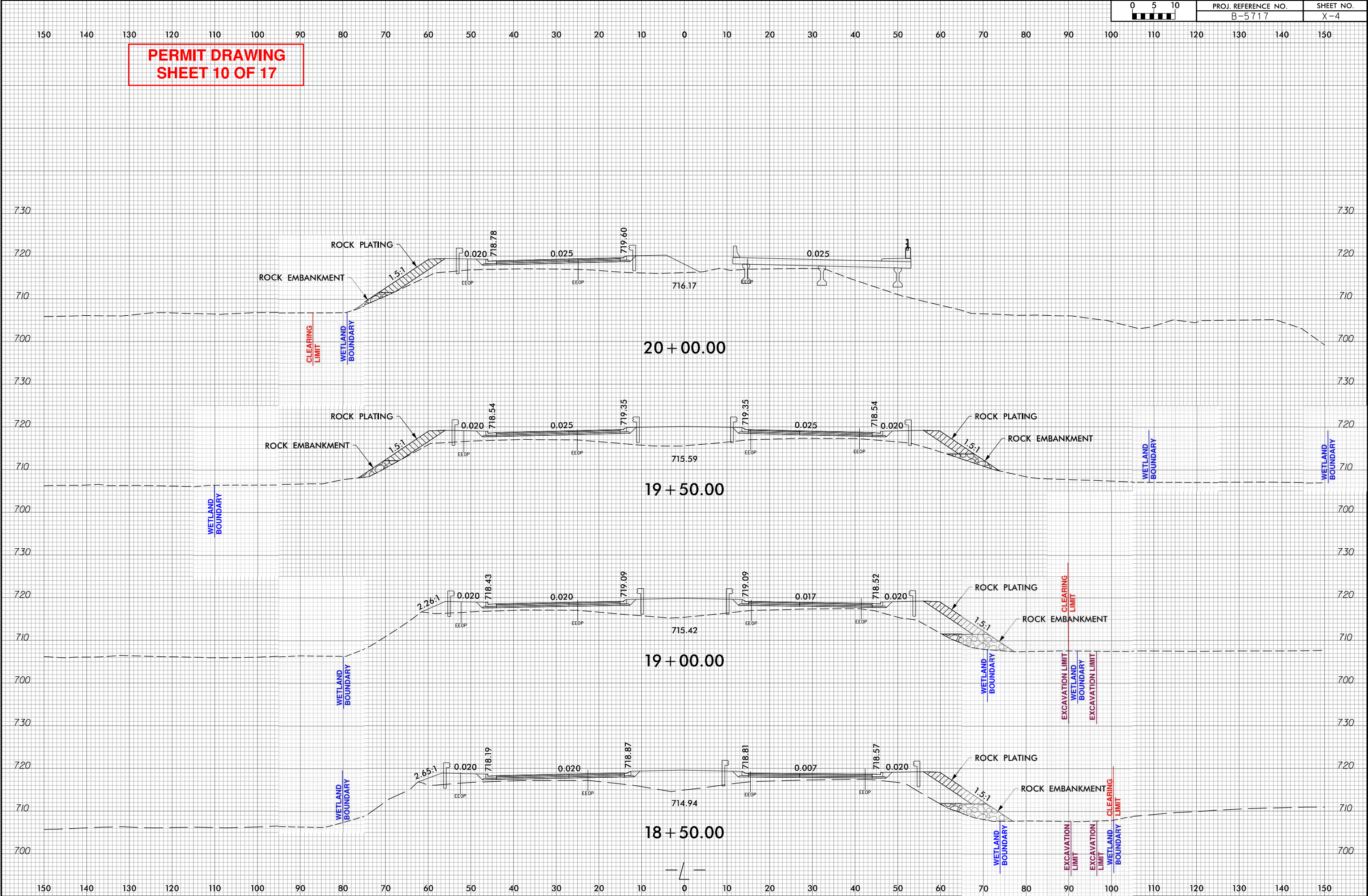


PROJ. REFERENCE NO.	SHEET NO.
B-5717	X-3



PERMIT DRAWING
SHEET 10 OF 17

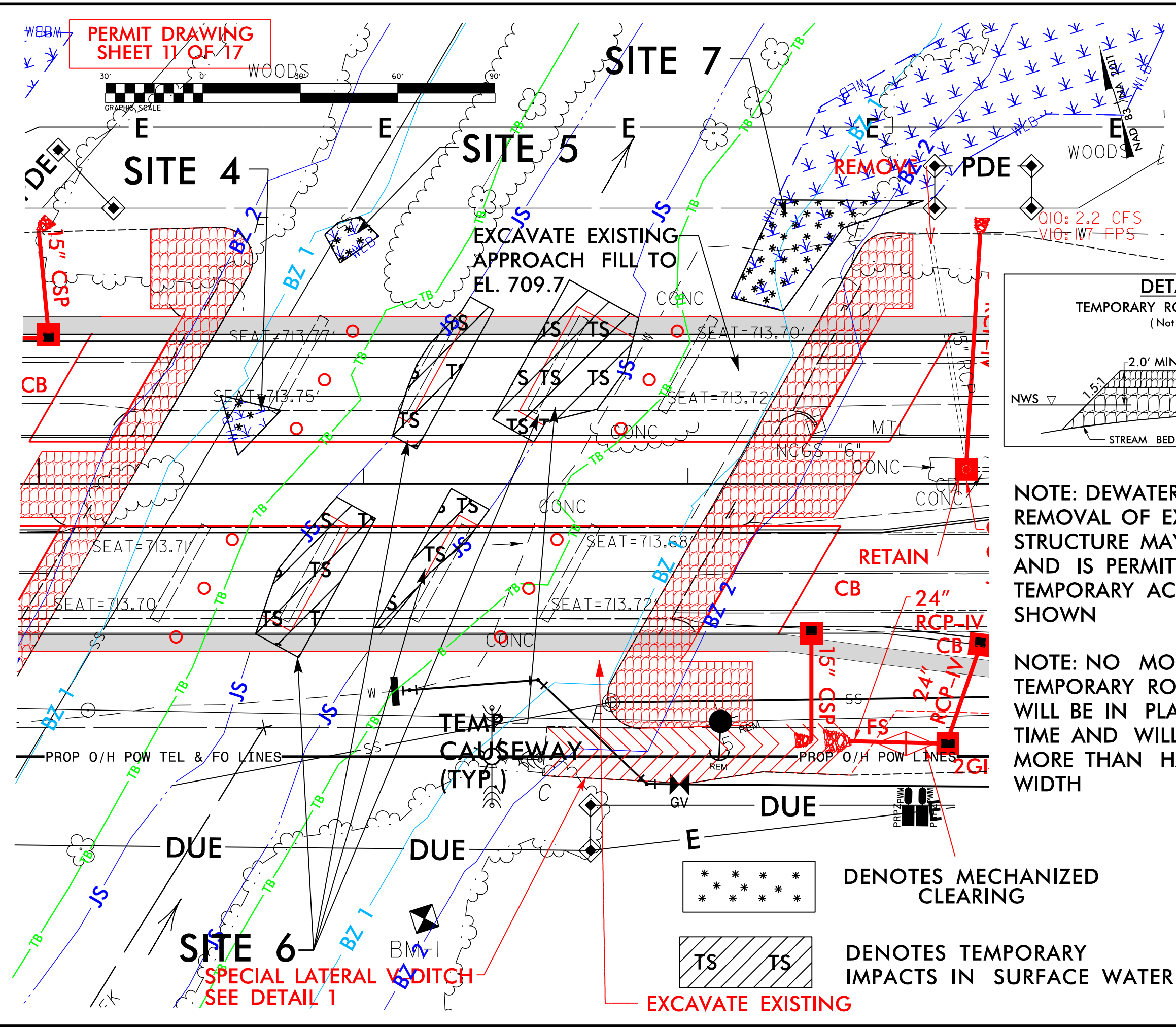
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	B-5717	X-4



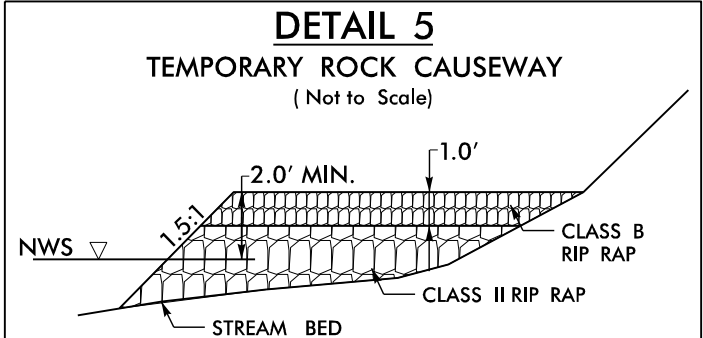
5/14/99

REVISIONS

5/14/99

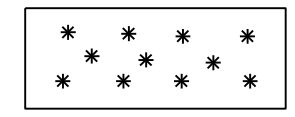


PROJECT REFERENCE NO. <i>B-5717</i>		SHEET NO. <i>5</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div style="border: 1px solid black; padding: 10px; text-align: center;">INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION</div>			
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



NOTE: DEWATERING FOR REMOVAL OF EXISTING STRUCTURE MAY BE REQUIRED AND IS PERMITTED WITHIN THE TEMPORARY ACCESS LIMITS SHOWN

NOTE: NO MORE THAN 1 TEMPORARY ROCK CAUSEWAY WILL BE IN PLACE AT ANY GIVEN TIME AND WILL COVER NO MORE THAN HALF THE STREAM WIDTH



DENOTES MECHANIZED CLEARING

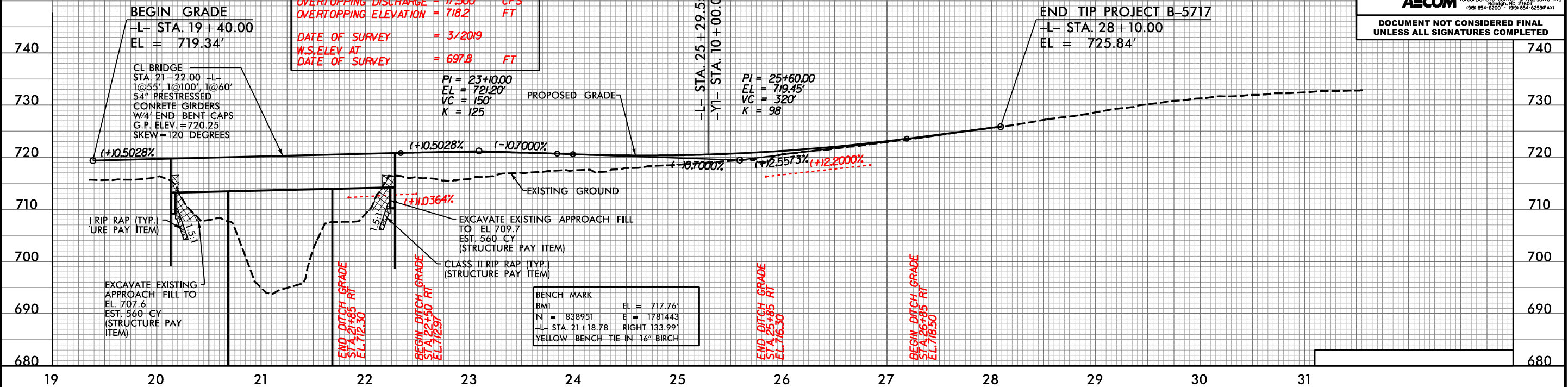


DENOTES TEMPORARY IMPACTS IN SURFACE WATER

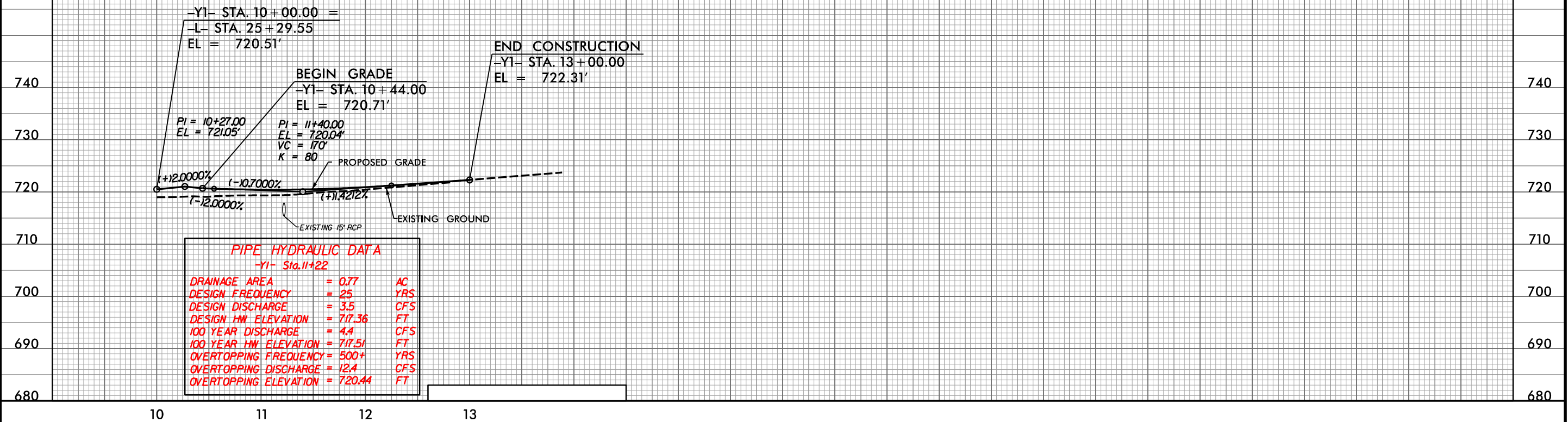
FOR -L RT- PROFILE, SEE SHEET NO. 6
FOR -L LT- PROFILE, SEE SHEET NO. 6
FOR -L- PROFILE, SEE SHEET NO. 7
FOR -YI- PROFILE, SEE SHEET NO. 7

PERMIT DRAWING
SHEET 12 OF 17

BRIDGE HYDRAULIC DATA			
-L- Sta. 21+22			
DRAINAGE AREA	= 31.7	SQ MI	
DESIGN FREQUENCY	= 50	YRS	
DESIGN DISCHARGE	= 4400	CFS	
DESIGN HW ELEVATION	= 710.0	FT	
BASE DISCHARGE	= 4700	CFS	
BASE FREQUENCY	= 100	YRS	
BASE HW ELEVATION	= 710.3	FT	
OVERTOPPING FREQUENCY	= 500+	YRS	
OVERTOPPING DISCHARGE	= 17,500	CFS	
OVERTOPPING ELEVATION	= 718.2	FT	
DATE OF SURVEY	= 3/2019		
W.S. ELEV AT			
DATE OF SURVEY	= 697.8	FT	



-L-

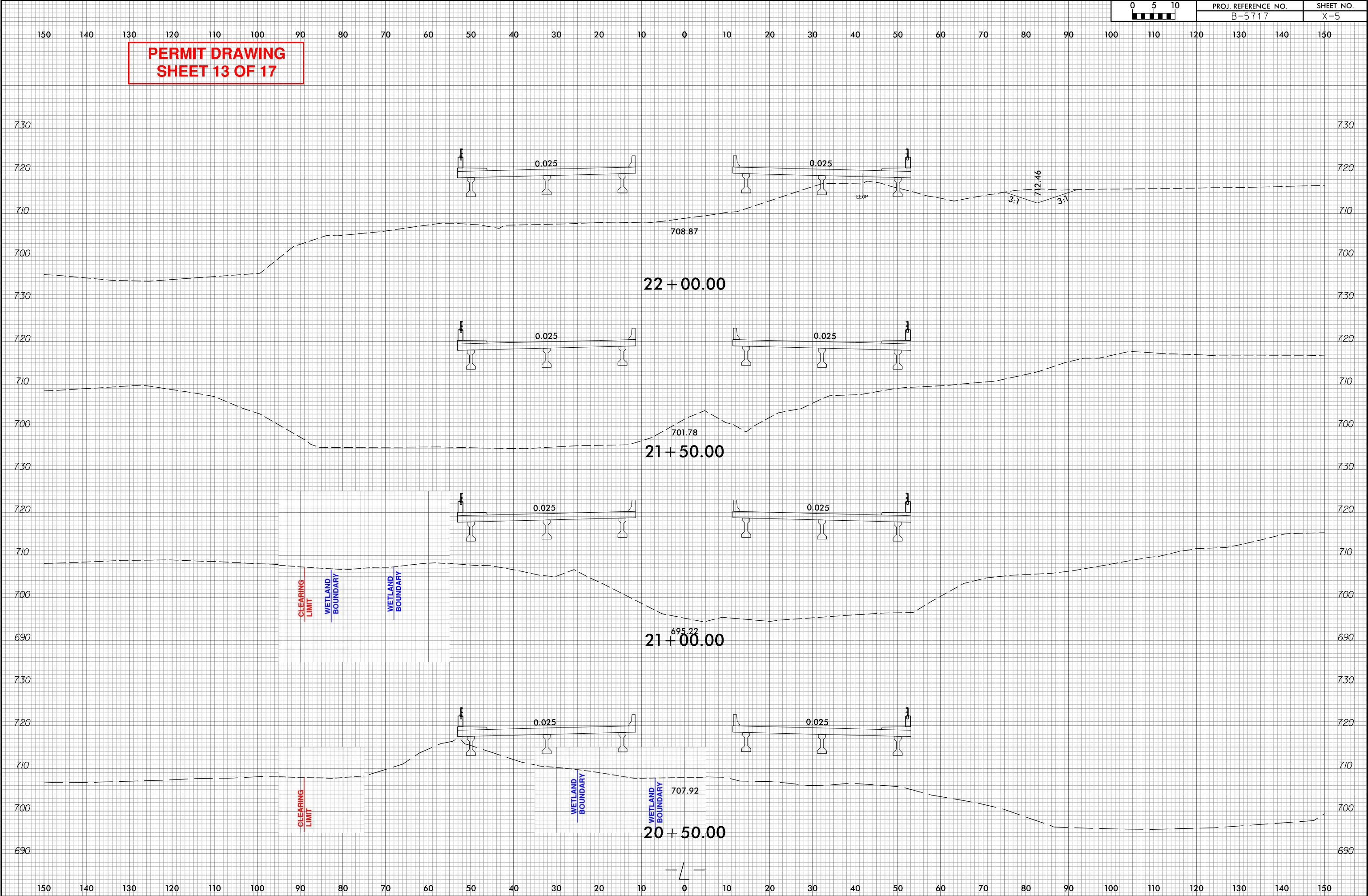


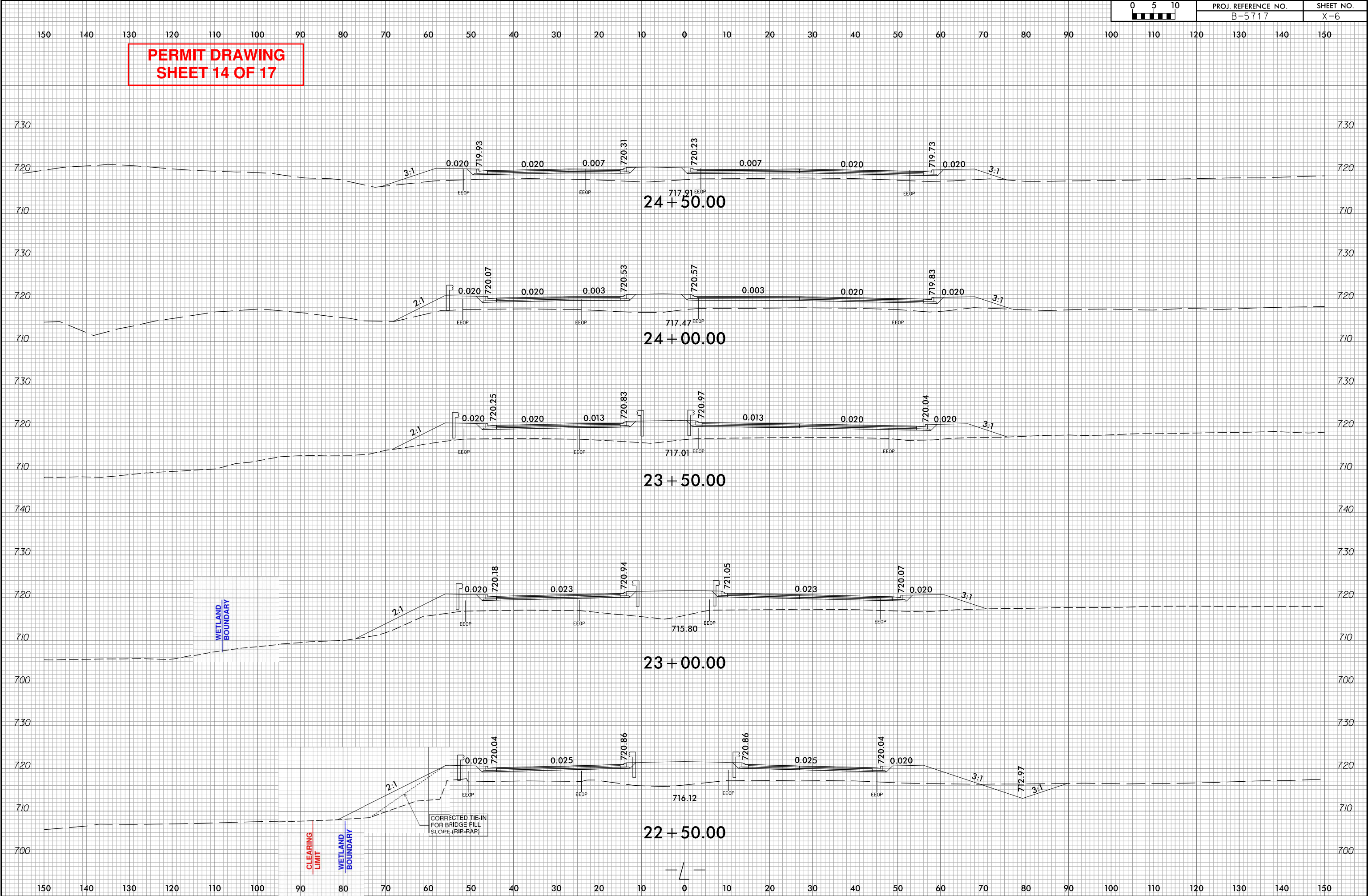
PIPE HYDRAULIC DATA			
-Y1- Sta. 11+22			
DRAINAGE AREA	= 0.77	AC	
DESIGN FREQUENCY	= 25	YRS	
DESIGN DISCHARGE	= 3.5	CFS	
DESIGN HW ELEVATION	= 717.36	FT	
100 YEAR DISCHARGE	= 4.4	CFS	
100 YEAR HW ELEVATION	= 717.51	FT	
OVERTOPPING FREQUENCY	= 500+	YRS	
OVERTOPPING DISCHARGE	= 12.4	CFS	
OVERTOPPING ELEVATION	= 720.44	FT	

PROJECT REFERENCE NO. B-5717	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
Prepared in the Office of: AECOM NC FIRM LICENSE No. F-0542 70 Corporate Center Drive, Suite 475 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259 (FAX)	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 13 OF 17

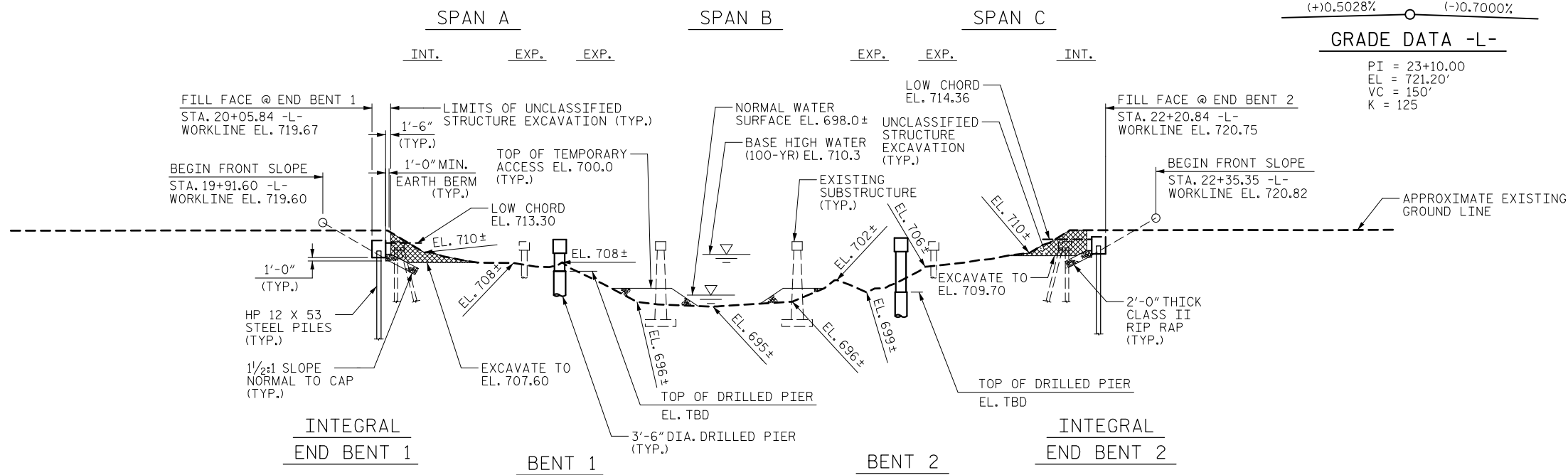
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5717	X-5





PERMIT DRAWING
SHEET 15 OF 17

I HEREBY CERTIFY THESE PLANS
ARE THE AS-BUILT PLANS



SECTION ALONG RIGHT WORKLINE

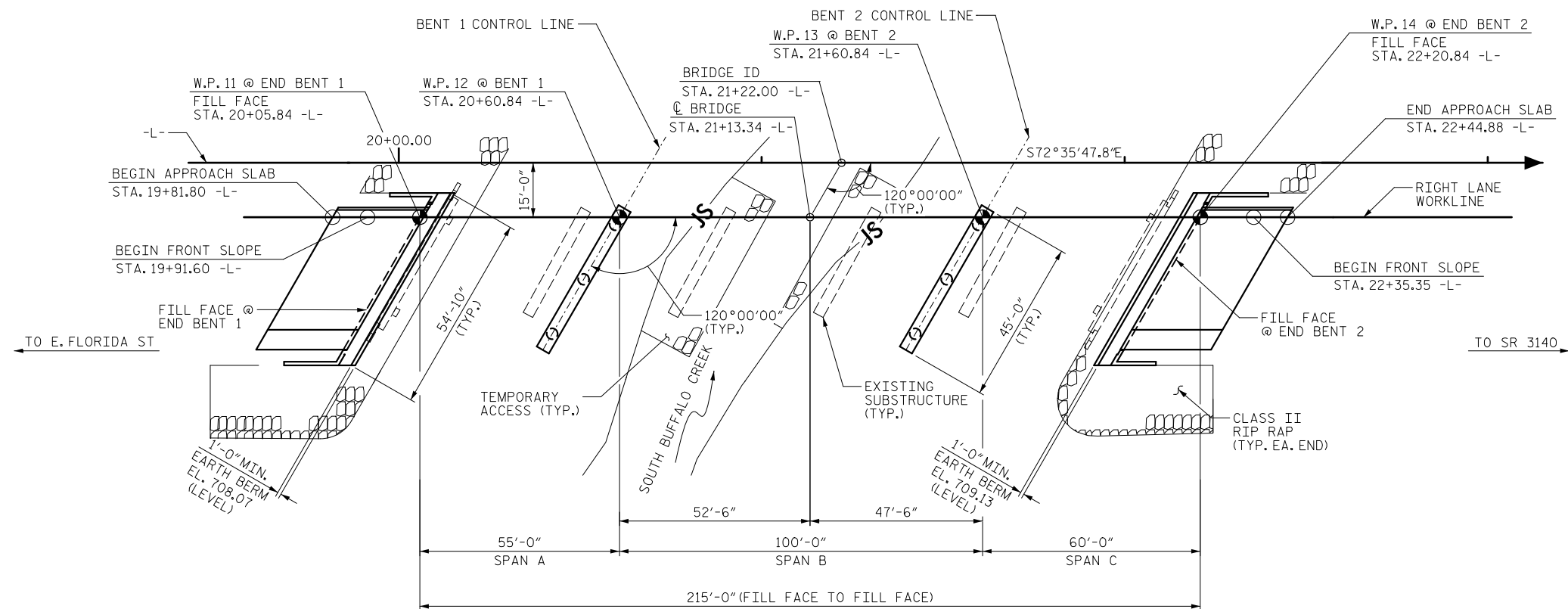
(SECTIONS AT END BENTS AND BENTS ARE AT RIGHT ANGLES)

HYDROGRAPHIC DATA

DESIGN DISCHARGE = 4,400 CFS
FREQUENCY OF DESIGN FLOOD = 50 YRS.
DESIGN HIGH WATER ELEVATION = 710.0 FT.
DRAINAGE AREA = 31.7 SQ. MI.
BASE DISCHARGE (Q100) = 4,700 CFS
BASE HIGH WATER ELEVATION = 710.3 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 17,500 CFS
FREQUENCY OF OVERTOPPING FLOOD = 500± YRS.
OVERTOPPING FLOOD ELEVATION
AT SAG 530' WEST OF END BENT 1
STA. 14+85 +/- -L- = 718.2 FT.



PLAN

(DRILLED PIERS AND PILES NOT SHOWN FOR CLARITY)

PROJECT NO. B-5717
GUILFORD COUNTY
STATION: 21+22.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE NO. 109

AECOM
AECOM TECHNICAL SERVICES OF NC, INC.
751 CORPORATE CENTER DRIVE, SUITE 475
RALEIGH, NC 27607
(919) 854-4200 www.aecom.com
AECOM License No. F-0342

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRELIMINARY
GENERAL DRAWING
FOR BRIDGE ON SR 4240 OVER
S. BUFFALO CREEK BETWEEN
E. FLORIDA ST. AND SR 3140
(RIGHT LANE)

REVISIONS						SHEET NO. S1-01
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

DRAWN BY : M.L. CATER DATE : 03/2021
CHECKED BY : D.R. DRUM/G.R. COLS DATE : 03/2021
DESIGNED BY : G.L. HAMILTON DATE : 03/2021
DESIGN CHECKED BY : D.R. DRUM DATE : 03/2021

DATE: 5/13/2021
TIME: 5:45:03 PM

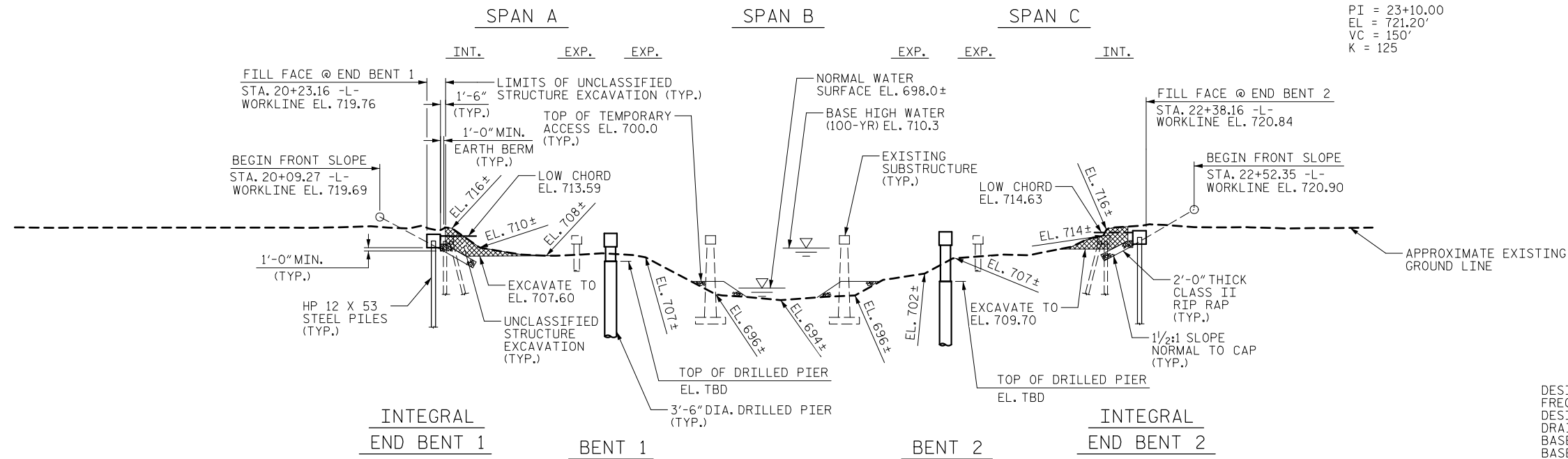
USER: gregory.cole
DGN: P:\N\com-nc-pw\berlin\com\AECOM_DS2\IA_2020\Documents\60592827-NCDDT_SMU_B-5717\900-CAD_GIS\910-CAD\TO_NCDDT_TIP\Structures\04_Drawings\01_00_LB-5717_SML\01-S1-01_40000.dgn

PERMIT DRAWING
SHEET 16 OF 17

GRADE DATA -L-
PI = 23+10.00
EL = 721.20'
VC = 150'
K = 125

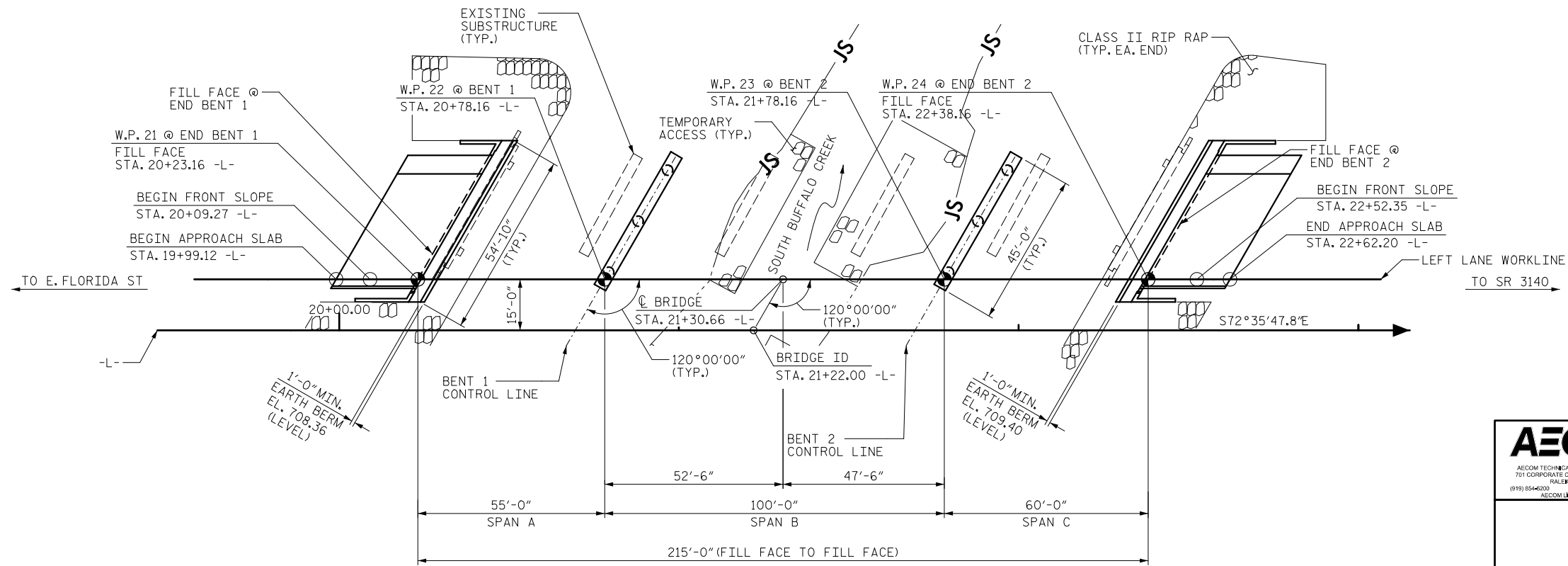
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TIME: 5:40:23 PM

USER: gregory.celis
DGN: P:\N\uscom-nr-pw\berlin\com\AECOM_DS2\IA_2020\Documents\60592827-NCDDT_SMU_B-5717\900-CAD_615910_0ADVTG_NCCDDT_TIP\Structures\04 Drawings\02_L01_B-5717_SMU_00_SF-O_40010.dgn



HYDROGRAPHIC DATA
DESIGN DISCHARGE = 4,400 CFS
FREQUENCY OF DESIGN FLOOD = 50 YRS.
DESIGN HIGH WATER ELEVATION = 710.0 FT.
DRAINAGE AREA = 31.7 SQ. MI.
BASE DISCHARGE (Q100) = 4,700 CFS
BASE HIGH WATER ELEVATION = 710.3 FT.

OVERTOPPING FLOOD DATA
OVERTOPPING DISCHARGE = 17,500 CFS
FREQUENCY OF OVERTOPPING FLOOD = 500± YRS.
OVERTOPPING FLOOD ELEVATION
AT SAG 530' WEST OF END BENT 1
STA. 14+85+/- -L- = 718.2 FT.



PROJECT NO. B-5717
GUILFORD COUNTY
STATION: 21+22.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE NO. 121

AECOM
AECOM TECHNICAL SERVICES OF NC, INC.
751 CORPORATE CENTER DRIVE, SUITE 475
RALEIGH, NC 27607
(919) 854-4200
www.aecom.com
AECOM License No. F-0342

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**PRELIMINARY
GENERAL DRAWING**
FOR BRIDGE ON SR 4240 OVER
S. BUFFALO CREEK BETWEEN
E. FLORIDA ST. AND SR 3140
(LEFT LANE)

REVISIONS						SHEET NO. S2-01
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.L. CATER
CHECKED BY : D.R. DRUM / G.R. COLS
DESIGNED BY : G.L. HAMILTON
DESIGN CHECKED BY : D.R. DRUM
DATE : 03/2021
DATE : 03/2021
DATE : 03/2021
DATE : 03/2021

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1**	12+77 - 12+88 -L-RT	Utility Reloc.***			< 0.01	< 0.01						
2	13+62 - 19+94 -L-LT	Roadway Fill	0.02			0.07						
3**	19+40 - 19+80 -L- RT	Roadway Fill / Util Reloc.	< 0.01		0.01	0.04						
4**	20+56 - 20+75 -L- LT	Bridge				< 0.01						
5**	20+88 - 21+05 -L- LT	Bridge				< 0.01						
6	20+67 - 21+81 -L- R/L	Temp. Causeways							0.07		145	
7	22+13 - 22+73 -L- LT	Bridge				0.02						
TOTALS*:			0.03		0.01	0.13			0.07	0	145	0

*Rounded totals are sum of actual impacts

NOTES:

** Isolated Wetlands

*** Guy wire removal

Roadway Fill includes Dissipator Pad quantities where applicable

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

10/20/2021

Guilford County

B-5717

45673.1.2

SHEET

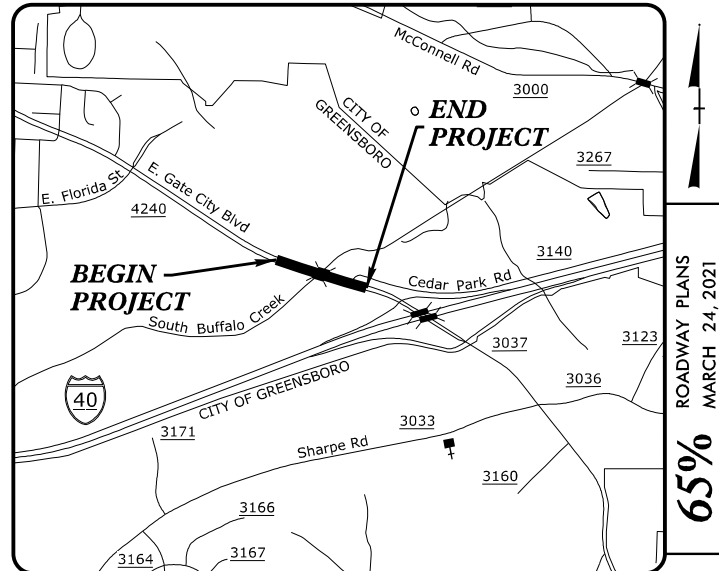
17

OF

17

09/08/99

TIP PROJECT: B-5717



See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

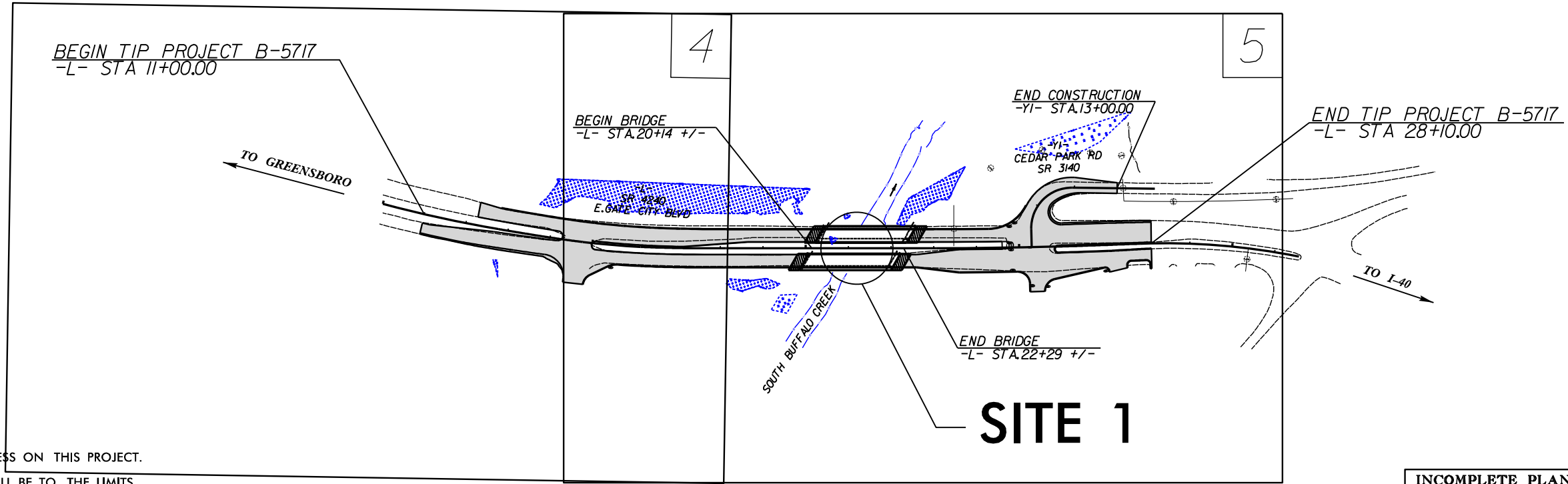
LOCATION: **BRIDGES 109 AND 121 ON SR 4240 (E. GATE CITY BLVD)
OVER SOUTH BUFFALO CREEK**

TYPE OF WORK: **GRADING, DRAINAGE, PAVING, AND STRUCTURES**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5717	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
45673.1.2		PE	

**BUFFER IMPACTS PERMIT
OCTOBER 2021**

**PERMIT DRAWING
SHEET 01 OF 05**



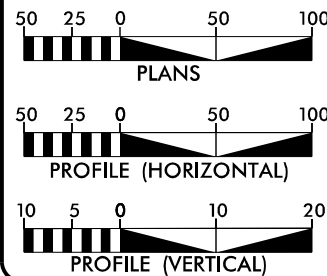
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

CLEARING ON THE PROJECT SHALL BE TO THE LIMITS
ESTABLISHED USING METHOD II.

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES
OF THE CITY OF GREENSBORO.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2020 = 18,184
ADT 2040 = 20,100
K = 11 %
D = 65 %
T = 5 % *
V = 50 MPH
* TTST = 1% DUAL 4%
FUNC CLASS =
PRINCIPAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5717 = 0.283 MI
LENGTH STRUCTURE TIP PROJECT B-5717 = 0.041 MI
TOTAL LENGTH TIP PROJECT B-5717 = 0.324 MI

Prepared in the Office of:
AECOM
NC FIRM LICENSE No: F-0342
701 Corporate Center Drive, Suite 475
Raleigh, NC 27607
(919) 854-6200 - (919) 854-6259(FAX)

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 26, 2021

LETTING DATE:
MARCH 15, 2022

NEIL J. DEAN, P.E.
PROJECT ENGINEER

TIMOTHY KLOTZ, P.E.
PROJECT DESIGN ENGINEER

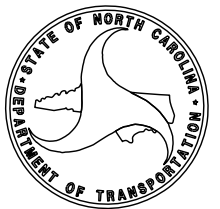
DAVID STUTTS, P.E.
NCDOT PROJECT ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
ENGINEER

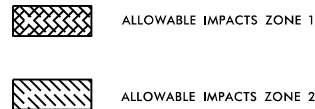
SIGNATURE: _____ P.E.



CONTRACT:

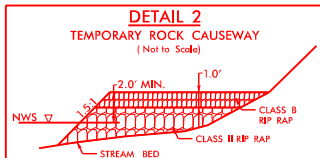
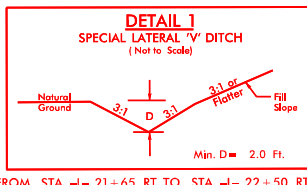
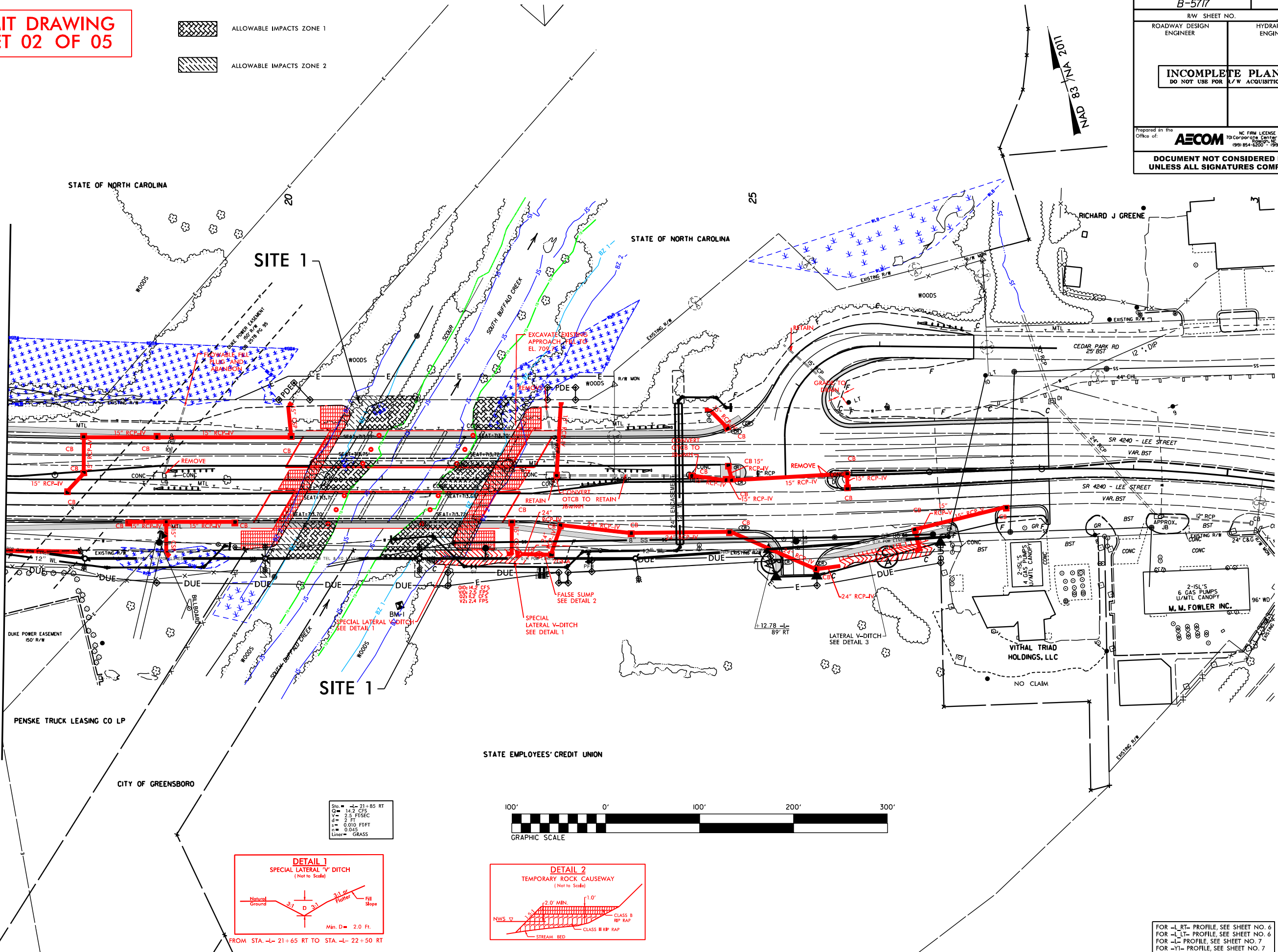
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DON\$\$\$\$\$
\$\$\$\$\$SERNAME\$\$\$\$\$

PERMIT DRAWING
SHEET 02 OF 05

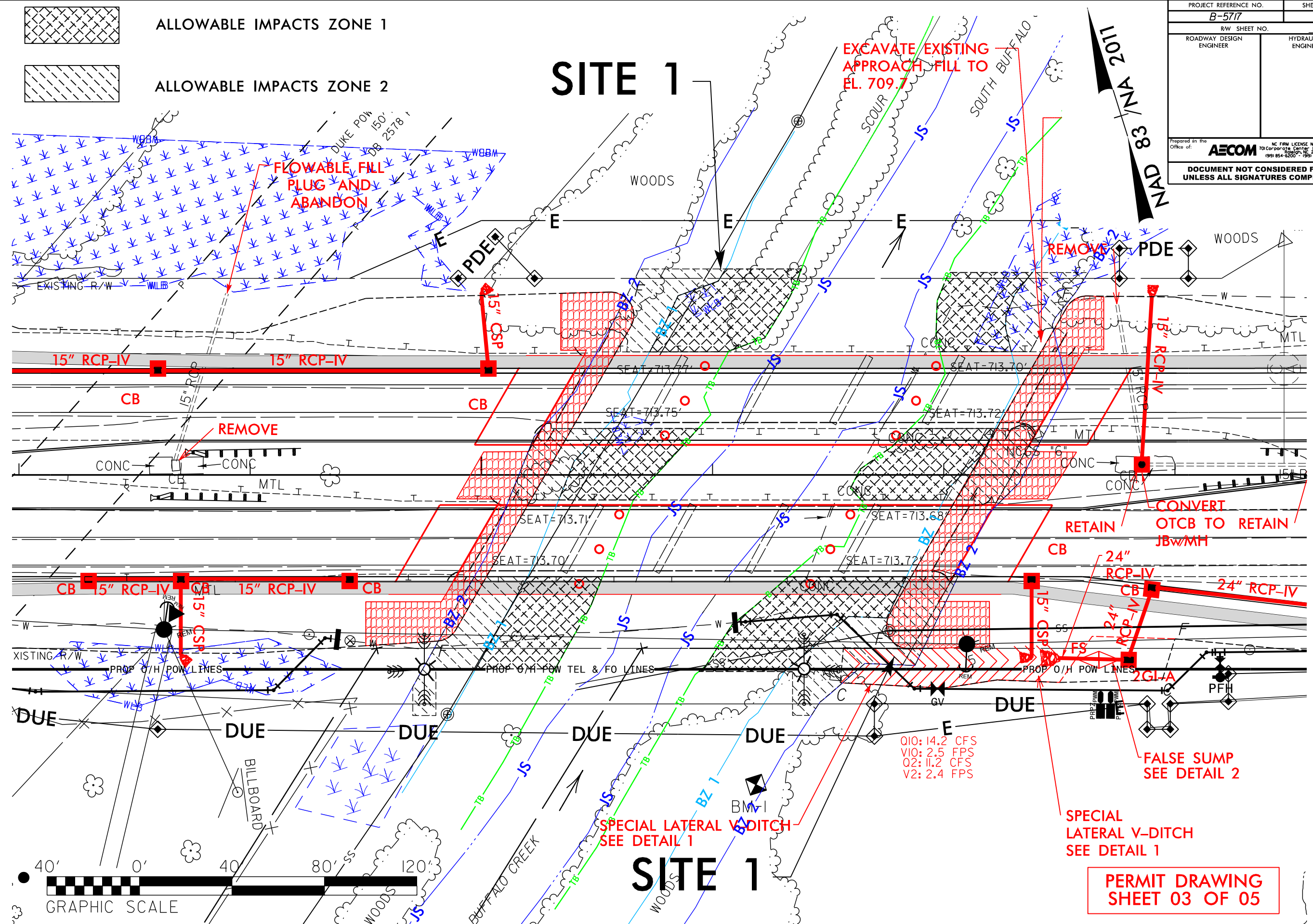


PROJECT REFERENCE NO. B-5717		SHEET NO. 5	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
Prepared in the Office of: AECOM NC FIRM LICENSE No. F-0342 701 Corporate Center Drive, Suite 475 Durham, NC 27601 (919) 854-6200 • (919) 854-6259 (FAX)			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MATCHLINE -L- 17+00
SEE SHEET 4



FOR -L RT- PROFILE, SEE SHEET NO. 6
FOR -L LT- PROFILE, SEE SHEET NO. 6
FOR -L- PROFILE, SEE SHEET NO. 7
FOR -YI- PROFILE, SEE SHEET NO. 7



RIPARIAN BUFFER IMPACTS SUMMARY													
			IMPACTS									BUFFER REPLACEMENT	
Site No.	Station (From/To)	Structure Size / Type	TYPE			ALLOWABLE			MITIGABLE				
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft²)	ZONE 2 (ft²)	TOTAL (ft²)	ZONE 1 (ft²)	ZONE 2 (ft²)	TOTAL (ft²)	ZONE 1 (ft²)	ZONE 2 (ft²)
1	19+70 - 22+42 -L	Bridge		X		8450	5605	14055					
1	21+82 - 22+46 -L	Roadway	X				287	287					
TOTALS*:						8450	5892	14342	0	0	0	0	0

Zone 1 - Permanent Pier Impacts: 192 SF due to 20 - 3.5' diameter piers

SHEET 4 OF 5

WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)		WETLANDS IN BUFFERS	
			ZONE 1 (ft ²)	ZONE 2 (ft ²)
1	20+58 -L-	20+72 -L-	79	
1	20+88 -L-	21+04 -L-	128	5
1	22+13 -L-	22+63 -L-	321	462
TOTAL:			527	467

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

10/20/2021
Guilford County
B-5717
45673.1.2

SHEET 5 OF 5

16-01-0126**Revised**

HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

This form supercedes that dated 24 February 2016

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

PROJECT INFORMATION

Project No:	B-5717	County:	Guilford
WBS No.:	45673.1.2	Document Type:	
Fed. Aid No:		Funding:	X State Federal
Federal Permit(s):	X Yes No	Permit Type(s):	USACE
Project Description: Replace Bridge Nos. 109 and 121 on SR 4240 (E. Gate City Boulevard) over South Buffalo Creek (no off-site detour specified in review request). Expanded study area received March 2019.			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

DESCRIPTION OF REVIEW ACTIVITIES, RESULTS, AND CONCLUSIONS: HPOWeb reviewed on 23 February 2016/8 April 2019 and yielded no NR, SL, LD, DE, or SS properties in the Area of Potential Effects (APE). Guilford County current GIS mapping, aerial photography, and tax information indicated a partly developed, partly wooded APE with residential and commercial resources dating from the 1930s to the 2010s (viewed 23 February 2016/8 April 2019). The three, mid-twentieth-century resources are unexceptional examples of their types. Bridge No. 109, built in 1957, and Bridge No. 121, built in 1964, are not eligible for the National Register according to the NCDOT Historic Bridge Survey as they are neither aesthetically nor technologically significant. Google Maps "Street View" confirmed the absence of critical architectural and landscape resources in the APE (viewed 23 February 2016/8 April 2019). The project is reviewed under both GS 121-12(a) and Section 106.

No architectural survey is required for the project as currently defined.

WHY THE AVAILABLE INFORMATION PROVIDES A RELIABLE BASIS FOR REASONABLY PREDICTING THAT THERE ARE NO UNIDENTIFIED SIGNIFICANT HISTORIC ARCHITECTURAL OR LANDSCAPE RESOURCES IN THE PROJECT AREA: APE equates with the study area received in March 2019 (see attached map). Comprehensive historic architectural survey of Guilford County (1995-6), later architectural studies, and county GIS/tax materials and other visuals illustrate the absence of significant architectural and landscape resources in the APE. No National Register-listed properties are located within the APE.

Should the design of the project change, please notify NCDOT Historic Architecture as additional review may be necessary.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

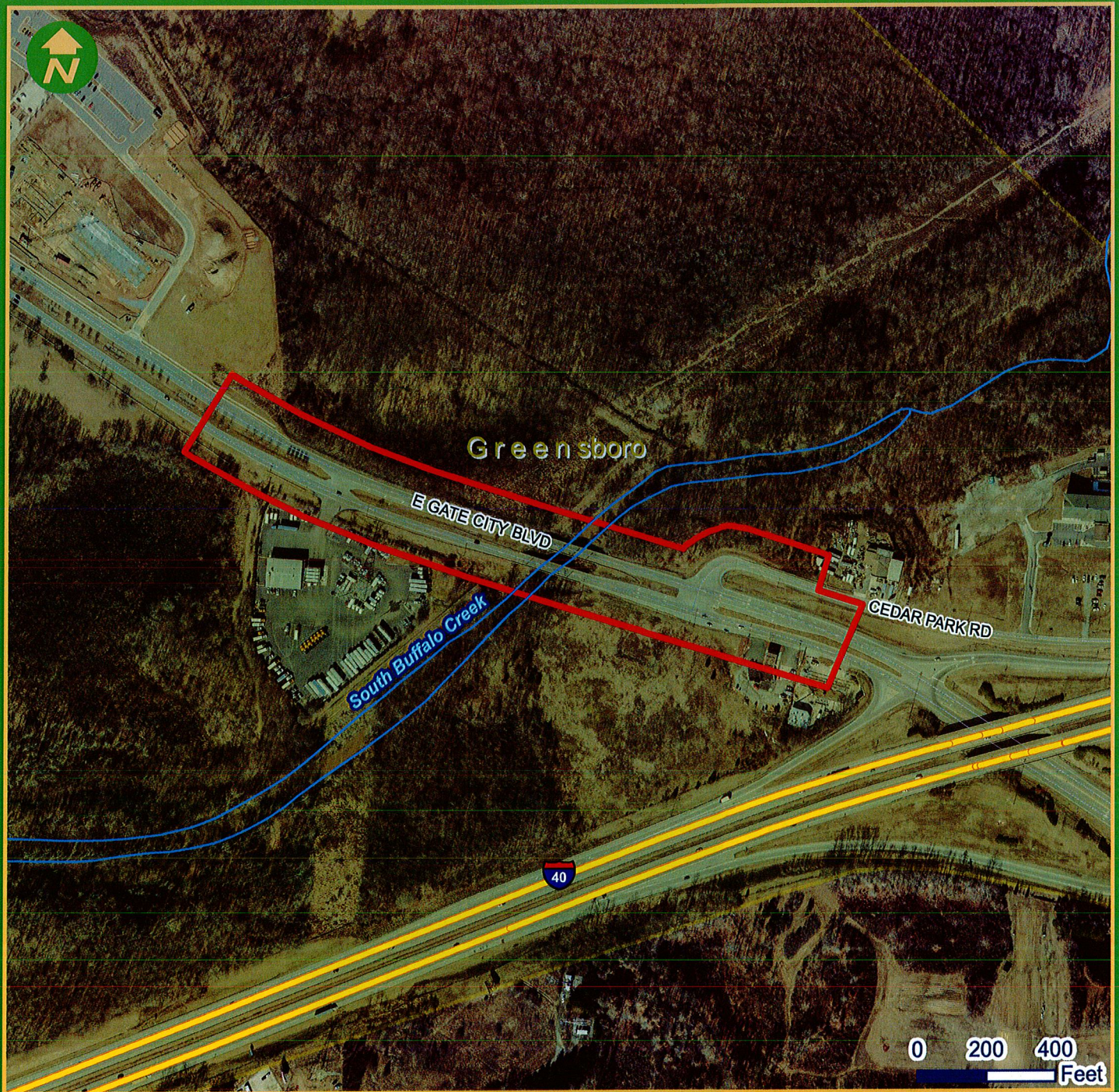
Historic Architecture and Landscapes - NO SURVEY REQUIRED

Vanessa C. Patrick

NCDOT Architectural Historian

8 April 2019

Date



B-5717
Replace Bridges 109 and 121
On E Gate City Blvd
Over South Buffalo Creek
Guilford County



Figure 1
Study Area Map
 February 2019

Legend

- Streams
- Interstate
- Local Route
- Project Study Area
- Municipal Boundary



This map is for reference only.
 Sources: Data was received by
 NC Department of Transportation,
 ESRI, NCOonemap

16-01-0126

**NO ARCHAEOLOGICAL SURVEY REQUIRED FORM**

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

**PROJECT INFORMATION**

Project No: **B-5717 (UPDATE)** County: **Guilford**
 WBS No: **45673.1.2** Document: **MCC**
 F.A. No: **N/A** Funding: ☒ State ☐ Federal

Federal Permit Required? ☒ Yes ☐ No Permit Type: **USACE (not specified)**

Project Description: The NCDOT proposes to replace Bridge No. 121 on SR 4240 (Westbound Lane) (E. Lee Street) over South Buffalo Creek in the City of Greensboro, Guilford County. Bridge No. 121 was built in 1964 and is considered to be structurally deficient and functionally obsolete. This project now includes the replacement of Bridge No. 109 on SR 4240 (Eastbound Lane) (E. Lee Street) over South Buffalo Creek. The Proposed Study Area for the project will be centered on both bridges and now measures about 1,938 feet in length and about 250 feet in width with a bump-out along SR 3140 (Cedar Park Road). Overall, the new Study Area will encompass about 12.06 acres, inclusive of the existing roadways and structures to be replaced. An updated Study Area has been submitted for review. This PA form shall serve as an addendum to the original PA forms completed in February 2016 and August 2016.

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

A map review and site file search were originally conducted at the Office of State Archaeology (OSA) on Tuesday, February 2, 2016. Based on the information compiled at that time, an additional review and file search at OSA was not necessary. As a result of the original review, an archaeological survey was recommended and conducted for this project. Although one (1) unassessed archaeological site (31GF24) had been recorded in the Northwest Quadrant of the proposed project, no evidence of that particular site was recorded during the course of the archaeological survey. No additional archaeological sites have been recorded within one (1) mile of the proposed project since the initial review and survey. Digital copies of HPO's maps (McLeansville Quadrangle) as well as the HPOWEB GIS Service (<http://gis.ncdcr.gov/hpoweb/>) were reviewed once more on Monday, April 8, 2019. There are no known historic architectural resources located within the expanded Study Area for which intact archaeological deposits would be anticipated within the footprint of the proposed project. In addition, topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected to gauge environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, slope, agricultural, hydrological, and other erosive-type disturbances within and surrounding the new Study Area.

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

This is now a State-funded project that will require a Federal permit; it was initially a federally-funded project. Temporary and/or permanent easements should not be needed, but the need for additional ROW was not conveyed as part of the new request for review. However, the dimensions of the new Study Area

16-01-0126

will capture any ground-disturbing activities beyond NCDOT's existing ROW. At this time, we are in compliance with NC GS 121-12a, since there are no eligible (i.e. National Register-listed) archaeological resources located within the project's new Study Area that would require our attention. From an environmental perspective, the new Study Area is still located in an industrial section of Greensboro off of I-85 Business, straddles the floodplain of South Buffalo Creek, and is composed of Wehadkee silt loam (Wh) and Pits (Pt), a classification for areas where the original soil material has been removed or altered beyond recognition. In addition to the highly disturbed quality of the Pits (Pt) soil type, the poorly drained conditions of Wehadkee silt loam (Wh) would not be considered favorable for containing intact archaeological materials. A portion of the expanded Study Area now consists of Enon fine sandy loam, 6-10% slopes (EnC); however, a reconnaissance of the project area during the survey two years revealed a significant amount of disturbance and erosion within this area, as a result of the construction of Gateway Research Park. The entire Study Area still consists of poorly drained and highly disturbed soils.

Preservation of archaeological materials within such soil types is likely to be poor. As noted in the August 2016 PA form, no artifactual evidence or stratigraphic evidence of Site 31GF24 was recovered or observed in the field. The Office of State Archaeology (OSA) has reviewed several projects within the vicinity of new Study Area for environmental compliance, including cell tower locations (CTs 01-0599 and 01-0600), residential development (ER 02-11141), improvements at the NC A&T State Farm (ER 02-9014), and transportation improvements (ER 03-2900). Citing a low probability for intact archaeological resources to be impacted by the proposed projects, OSA did not recommend an archaeological survey for any of these projects. Within five (5) miles of the Study Area, NCDOT's Archaeology Group has reviewed at least twenty (20) transportation-related projects for environmental compliance under the Programmatic Agreement (PA) with the State Historic Preservation Office (NC-HPO), including this very project. An archaeological survey was recommended and conducted for only one (1) of these projects, based on the presence of favorable topography and soil conditions crossed by various new location corridors. Only one (1) historic cemetery was documented as a result of that survey. Based on the nature of the proposed project, current soil conditions, and previous survey and review work, it is believed that the newly expanded Study Area, as depicted, is unlikely to contain intact and significant archaeological resources. No archaeological survey is required for this project. If design plans change or are made available prior to construction, then additional consultation regarding archaeology will be required. At this time, no further archaeological work is recommended. If archaeological materials are uncovered during project activities, then such resources will be dealt with according to the procedures set forth for "unanticipated discoveries," to include notification of NCDOT's Archaeology Group.

****This project falls within a North Carolina County in which the following federally recognized Tribe(s) has expressed an interest: Catawba Indian Nation. It is recommended that you contact each federal agency involved with your project to determine their Section 106 Tribal consultation requirements. Please know that the Occaneechi Band of the Saponi Nation, a State-recognized tribe, has also expressed interest in activities within this county.**

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHAEOLOGIST

NO ARCHAEOLOGY SURVEY REQUIRED

Paul J. Mohler
NCDOT ARCHAEOLOGIST

April 8, 2019

Date

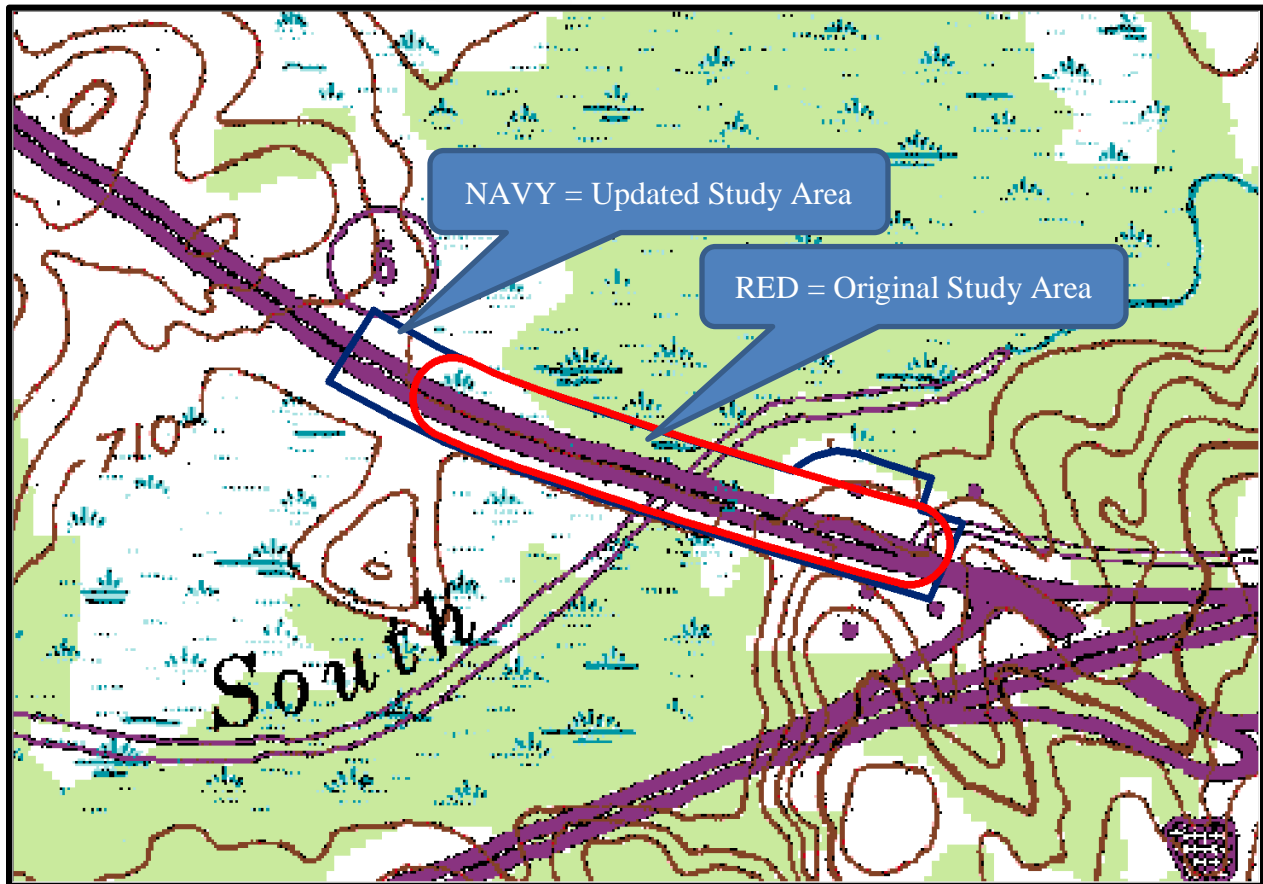
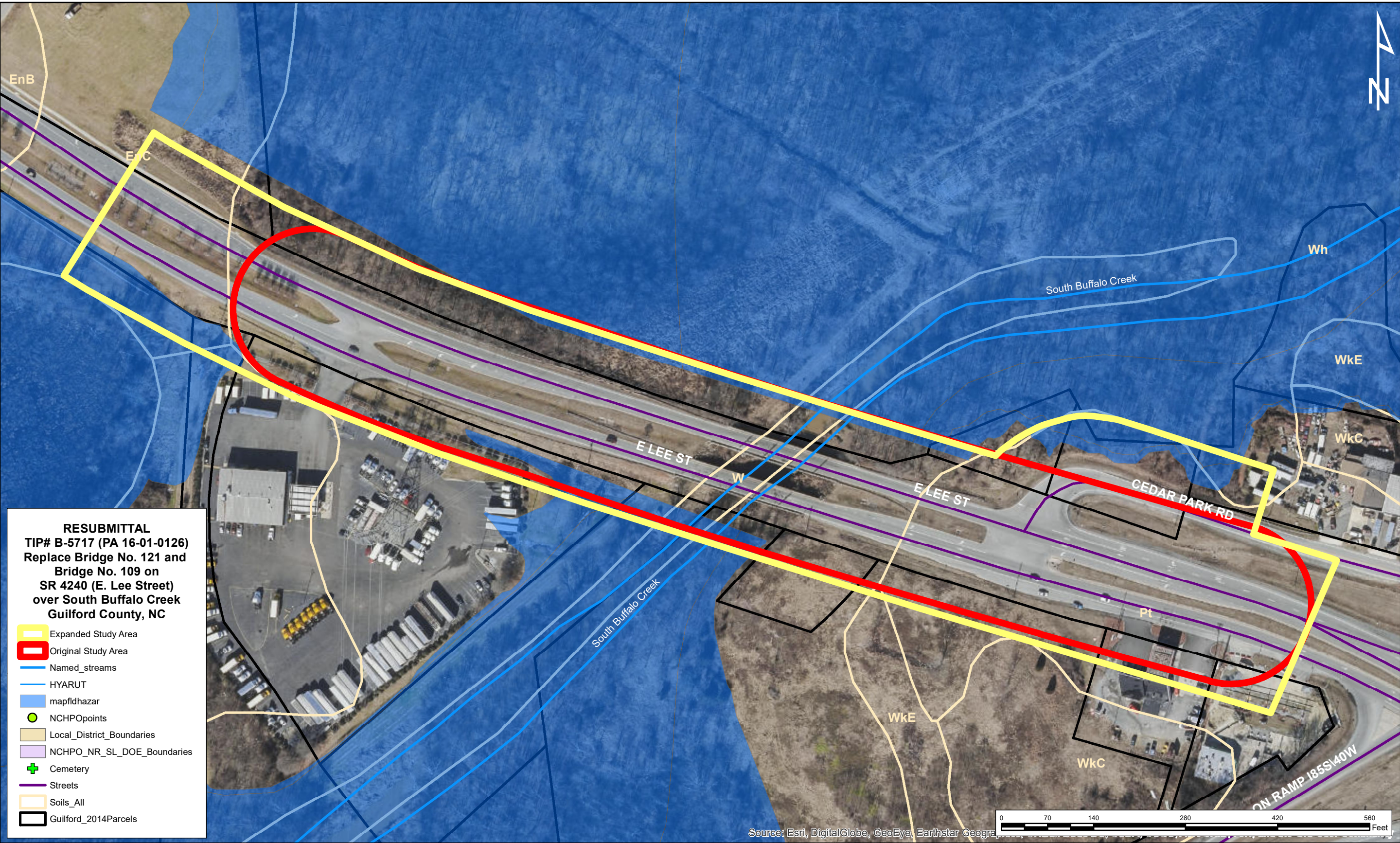


Figure 1: McLeansville, NC (USGS 1952 [PR68]).





STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

December 20, 2019

Dr. Wenonah Haire
Catawba Indian Nation, Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, SC 29730

Dear Dr. Haire,

The North Carolina Department of Transportation has started the project development, environmental, and engineering work for the replacement of Bridge Nos. 109 and 121 on S.R. 4240 (East Lee Street) over South Buffalo Creek in Guilford County as project B-5717.

The Federal Highway Administration (FHWA) is the lead federal agency and a permit is anticipated under the Section 404 process with the FHWA.

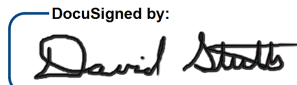
A project vicinity map is attached. The coordinates of this project are approximately 36.053280, -79.739123.

This project was reviewed/surveyed for cultural resources by NCDOT under the terms of the 2015 Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation and the North Carolina State Historic Preservation Office for Minor Transportation Projects in North Carolina (PA). The results of that review/survey are attached.

Please find attached Archaeology Survey Reports. No Archaeological Survey was required for this project.

Please respond by January 20, 2020 so that your comments can be used in the scoping of this project. If you have any questions concerning this project, or would like any additional information, please contact me at dstutts@ncdot.gov or (919) 707-6442.

Thank you,

DocuSigned by:

A4A2999A8BC64F2
David Stutts, P.E.

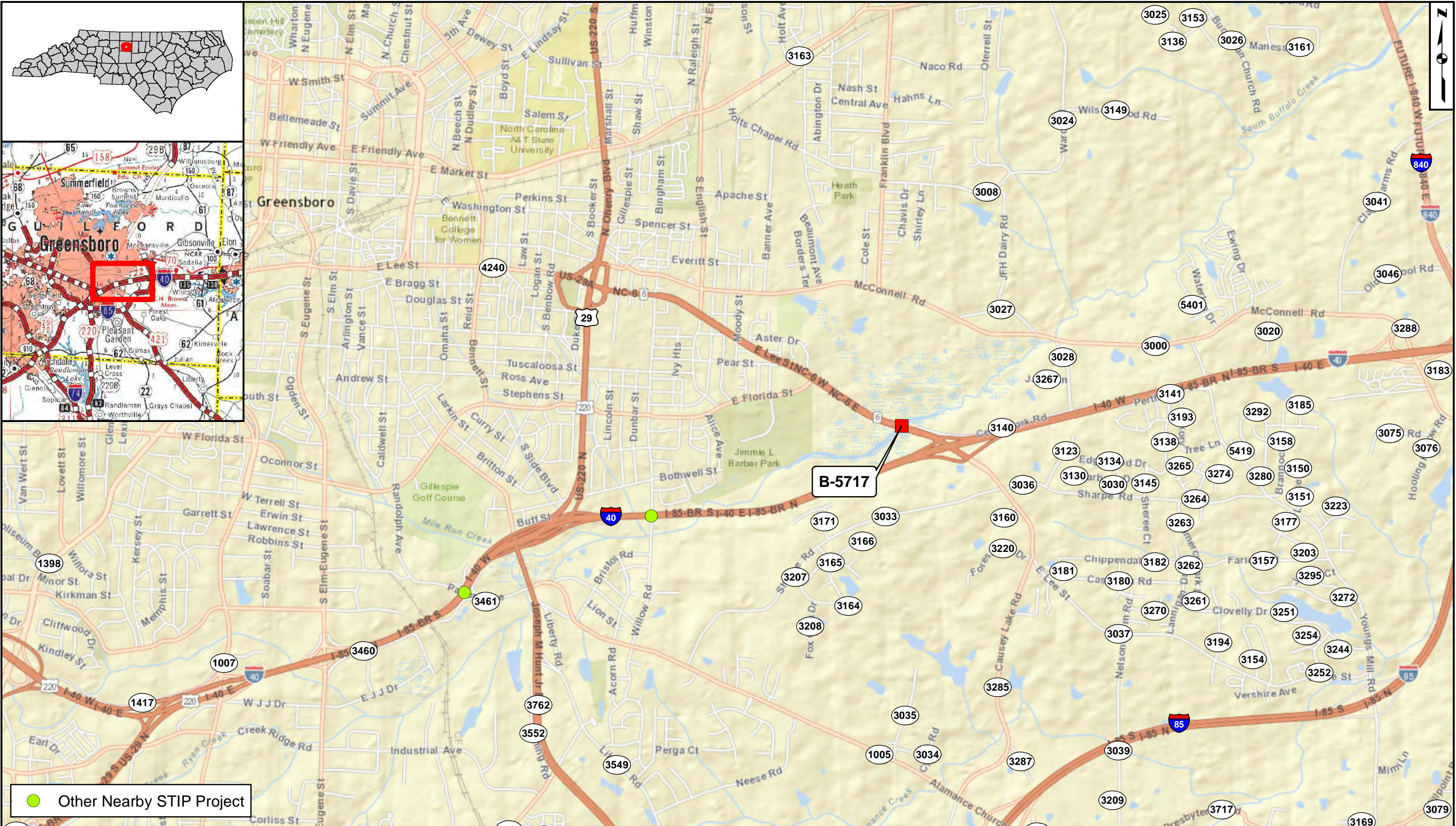
NCDOT Project Engineer – PEF/Program Management


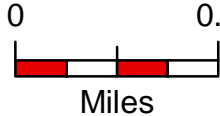
cc: Matt Wilkerson, NCDOT Archaeology Team Leader
Joe Geigle, PE, Div 5, 7 & 9 - FHWA

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
STRUCTURES MANAGEMENT UNIT
1581 MAIL SERVICE CENTER
RALEIGH NC 27699

Telephone: (919) 707-6400
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610



 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT	VICINITY MAP Replace Bridge No. 121 on SR 4240 WBL over South Buffalo Creek in Guilford County TIP Project B-5717			<table border="1"><tr><td>Div: 7</td><td>TIP# B-5717</td></tr><tr><td colspan="2">Date: DECEMBER 2015</td></tr></table>	Div: 7	TIP# B-5717	Date: DECEMBER 2015		Figure 1
	Div: 7	TIP# B-5717							
Date: DECEMBER 2015									

16-01-0126**NO ARCHAEOLOGICAL SURVEY REQUIRED FORM**

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**PROJECT INFORMATION**

Project No: **B-5717 (UPDATE)** County: **Guilford**
 WBS No: **45673.1.2** Document: **MCC**
 F.A. No: **N/A** Funding: ☒ State ☐ Federal

Federal Permit Required? ☒ Yes ☐ No Permit Type: **USACE (not specified)**

Project Description: The NCDOT proposes to replace Bridge No. 121 on SR 4240 (Westbound Lane) (E. Lee Street) over South Buffalo Creek in the City of Greensboro, Guilford County. Bridge No. 121 was built in 1964 and is considered to be structurally deficient and functionally obsolete. This project now includes the replacement of Bridge No. 109 on SR 4240 (Eastbound Lane) (E. Lee Street) over South Buffalo Creek. The Proposed Study Area for the project will be centered on both bridges and now measures about 1,938 feet in length and about 250 feet in width with a bump-out along SR 3140 (Cedar Park Road). Overall, the new Study Area will encompass about 12.06 acres, inclusive of the existing roadways and structures to be replaced. An updated Study Area has been submitted for review. This PA form shall serve as an addendum to the original PA forms completed in February 2016 and August 2016.

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SUPPORT DOCUMENTATION

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

16-01-0126

FINDING BY NCDOT ARCHAEOLOGIST

NO ARCHAEOLOGY SURVEY REQUIRED

Paul J. Mohler
NCDOT ARCHAEOLOGIST

April 8, 2019

Date

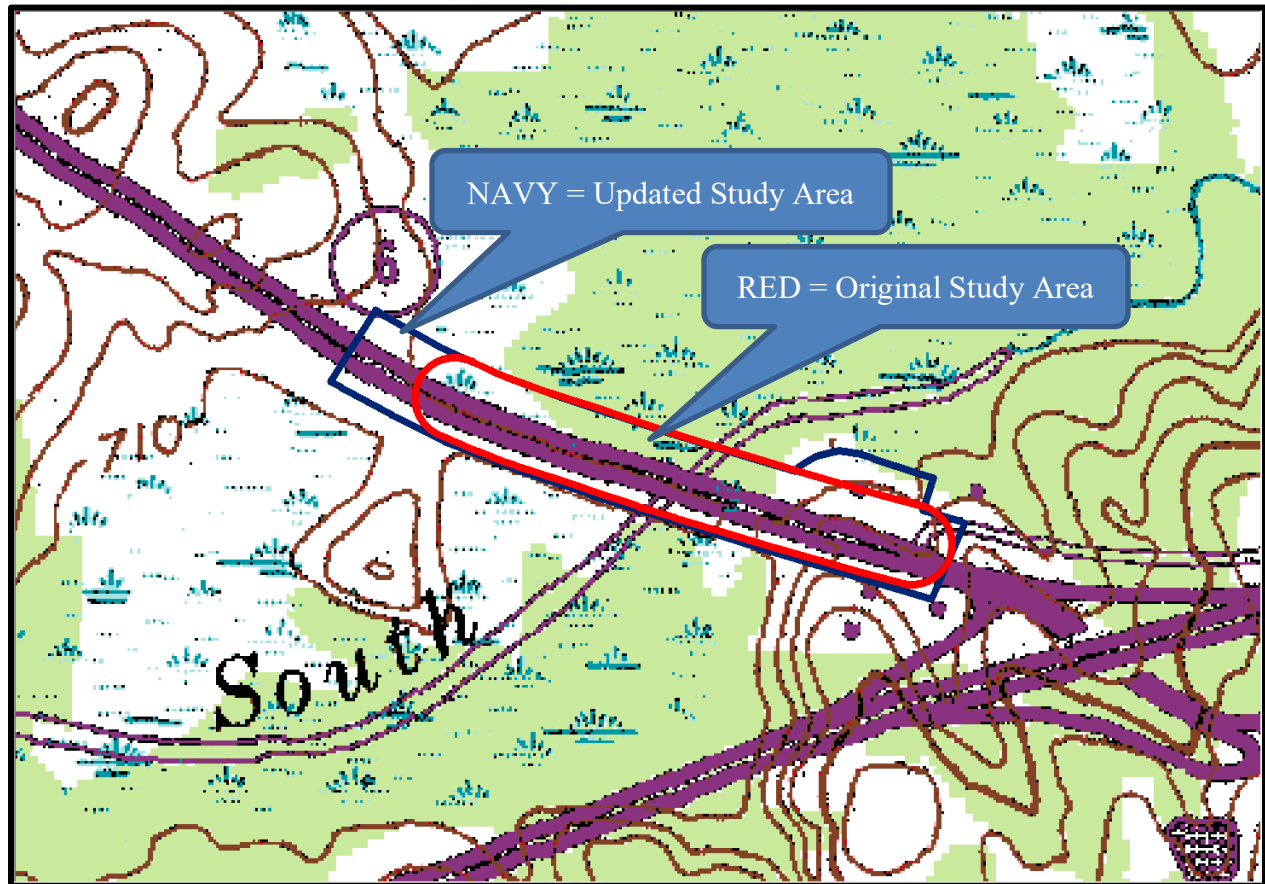
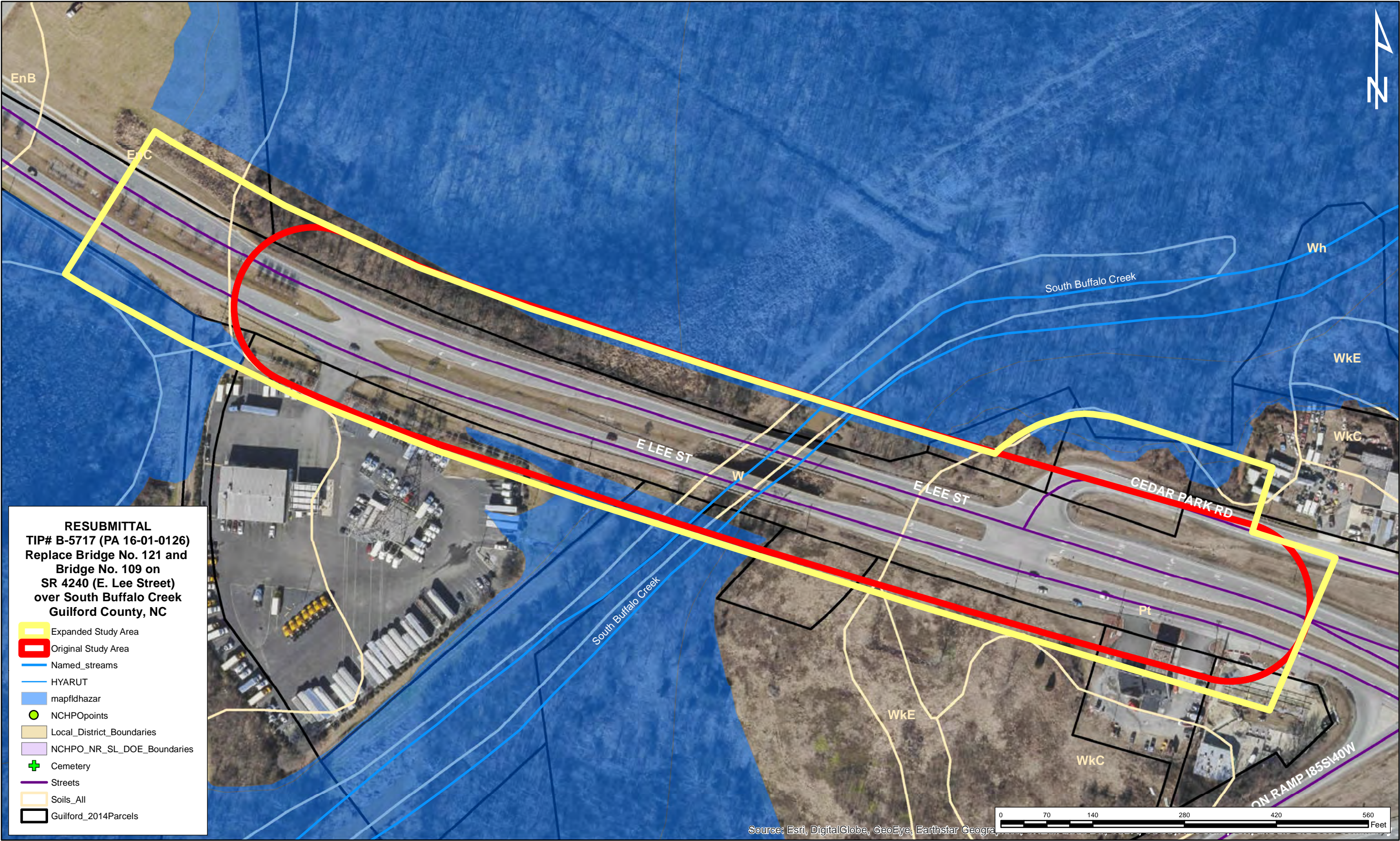


Figure 1: McLeansville, NC (USGS 1952 [PR68]).



Type I or II Categorical Exclusion Action Classification Form

STIP Project No.	B-5717
WBS Element	45673.1.2
Federal Project No.	N/A

A. Project Description:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridges 400109 and 400121 on East Gate City Boulevard/ E. Lee Street (SR 4240) over South Buffalo Creek in Guilford County. Refer to Figure 1, Project Vicinity Map.

Bridge Number 400109 is 200 feet long with a deck width of 32.25 feet. The structure is reinforced concrete deck girders with cast-in-place concrete substructure and steel piles. Bridge Number 400121 is 200 feet long with a deck width of 33.3 feet. The structure is steel beams with precast concrete piles and cast-in-place concrete substructure.

The NCDOT proposes to construct two 215-foot-long three span structures, each with a minimum roadway width of 33 feet. The new structures will include two lanes at 12 feet wide, as well as bike lanes and sidewalks, each at 5.5 feet wide. The bridges will be replaced-in-place sequentially while maintaining two-way traffic on one bridge during construction.

B. Description of Need and Purpose:

The purpose of the project is to replace Bridge 400109 (SR 4240 EB) and Bridge 400121 (SR 4240 WB). Bridge 400109 was built in 1957 and was previously structurally deficient. It has had maintenance performed and is now considered functionally obsolete. Bridge 400121 (SR 4240 WB) was built in 1964 and is structurally deficient due to a superstructure and substructure rating of 4 out of 9. The bridge replacements will improve active transportation system linkages.

C. Categorical Exclusion Action Classification:

Type I(A) - No Ground Disturbance or Limited Disturbance within the Operational ROW

D. Proposed Improvements:

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).

*NOTE: The following Type I(C) Actions (NCDOT-FHWA 2019 CE Agreement, Appendix A) only require completion of Sections A through D to substantiate and document the CE classification: 1, 5, 8 (signs and pavement markings only), 11, 13, 14, 15, 16, 17, 19, and 20; or several other Type I Action subcategories identified in past NCDOT-FHWA CE Programmatic Agreements (see Appendix D). **Pre-approval as a CE does not exempt activities from compliance with other federal environmental laws.***

Special Project Information:

Alternative Analysis: In addition to the No Build Alternative, two build alternatives were considered.

No Build Alternative: No changes to the existing bridges and the need would not be addressed.

Alternative 1: The proposed replacement bridges would include two lanes, a 12-foot inner lane and 14-foot outer lane. A five-foot wide sidewalk is proposed along the outer lane of Bridge 400109. The bridges would be replaced-in-place with median crossovers to maintain traffic on-site throughout construction.

Alternative 2: Alternative 2 would replace the bridges in-place with median crossovers to maintain traffic on-site throughout construction. To accommodate the proposed South Buffalo Greenway under the bridge, an increased grade is proposed. The City would be responsible for a cost-share that increases the cost of this alternative. The City indicated that they do not have funding for the cost-share at this time. The replacement bridges would include two 12-foot lanes with a five-foot bike lane and a five-foot sidewalk. The hydraulic analysis indicated the increased grade proposed in Alternative 2 may result in adverse flooding effects.

Selected Preferred Hybrid Alternative: The selected alternate provides two lanes, a five-foot bicycle lane, and five-foot sidewalks in each direction. It does not raise the roadway grade to accommodate future greenway trail access under the bridge.

The Selected Alternative was chosen because it best fulfills the purpose and need for the proposed project. The Selected Alternative minimizes environmental and property impacts by maintaining the existing vertical alignment.

Estimated Costs:

	Alternative 1	Alternative 2	Preferred Hybrid Alternative
Roadway Construction Cost ₁	\$6,400,000	\$7,400,000	\$7,100,000
ROW Cost ₂	\$99,736	\$99,961	\$99,961
Utility Relocation and Construction Cost ₁	\$344,768	\$344,768	\$344,768
Alternate Total	\$6,844,504	\$7,844,729	\$7,544,729

¹ Data is based on cost estimate completed February 2021.

² Data is from July 2019.

Estimated Traffic:

Current Year (2020): 18,184 vpd

Design Year (2040): 20,100 vpd

Duals: (4,1)

Summary of Impacts:

Summary of Impacts			
	Alternative 1	Alternative 2	Preferred Hybrid Alternative
Length (ft)	1,299	1,299	1,711
Streams (lf)	25.7	26.8	0.0
Wetlands (ac)	0.70	0.75	0.52
100-year, excluding floodway (ac)	2.04	2.14	1.87
Floodway	0.40	0.45	0.35
500-year	0.76	0.78	0.71
Biotic Communities (Unclassified-existing road) (ac)	3.59	3.74	3.84
Biotic Communities (Maintained Disturbed) (ac)	3.32	3.62	3.62
Biotic Communities (Piedmont Levee Forest) (ac)	1.25	1.33	1.07
Parcels	6	5	5
Relocations	0	0	0

Detour Route: Replace-in-place construction. Traffic will be maintained on site during construction.

Route Information:

Route	Federal Functional Classification	Road Characteristics	
		Current - 2021	MTP Proposed – by 2040
Gate City Blvd	Other Principal Arterial	4-lane divided	4-lane divided
Cedar Park Rd	Local	2-lane undivided	2-lane undivided

Public Involvement: No public meetings were held. The property owner contact database on file for this project indicates the following individuals/organizations were each sent a design survey letter by Stantec who performed the surveys for NCDOT in mid-November 2016:

Contacts		
RICHARDGREENE	M M FOWLER INC	NORTH CAROLINA STUDENT HOUSING LLC
BUILDING SOLUTIONS DEVELOPMENT INC	NC DEPT OF TRANSPORTATION	PENSKE TRUCK LEASING CO LP
CITY OF GREENSBORO	NORTH CAROLINA A & T STATE UNIVERSITY	STATE OF NORTH CAROLINA

Other Agency Comments: A start of study letter was sent to state and local agencies on February 28, 2019. The following comments were received:

Water Resources Department City of Greensboro (March 12, 2019): Permits for wetlands may need to be acquired. City-owned water and sanitary sewer utilities would need to be evaluated closer to the letting of the project in order to repair, replace, or relocate.

Response: Comment has been noted.

North Carolina Department of Environment and Natural Resource (April 4, 2019): South Buffalo Creek is listed for impaired use for aquatic life so there is concern with sediment and erosion impacts that could result from the project. Road design plans must provide treatment of stormwater runoff through best management practices. The project falls within the Jordan Lake Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0267.

Response: Comment has been noted.

North Carolina Wildlife Resources Commission (April 3, 2019): Design considerations for a future greenway should be taken into consideration.

Response: The City confirmed that plans for a greenway are not being considered during this time. Therefore, the bridges will not be raised to accommodate the greenway; raising the bridge (increasing the approach grade) would also lead to adverse hydraulic effects.

North Carolina Wildlife Resources Commission (April 3, 2019): Mitigation site is missing from the environmental features map.

Response: Impacts to the mitigation site will be avoided.

United States Environmental Protection Agency (April 15, 2019): South Buffalo Creek is impaired, and wetlands are nearby.

Response: Comment has been noted.

E. Project Impact Criteria Checklists:

F2. Ground Disturbing Actions – Type I (Appendix A) & Type II (Appendix B)				
<p>Proposed improvement(s) that fit Type I Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix A) including 2, 3, 6, 7, 9, 12, 18, 21, 22 (ground disturbing), 23, 24, 25, 26, 27, 28, &/or 30; &/or Type II Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix B) answer the project impact threshold questions (below) and questions 8 – 31.</p> <ul style="list-style-type: none"> <i>If any question 1-7 is checked "Yes" then NCDOT certification for FHWA approval is required.</i> <i>If any question 8-31 is checked "Yes" then additional information will be required for those questions in Section G.</i> 				
<u>PROJECT IMPACT THRESHOLDS</u> (FHWA signature required if any of the questions 1-7 are marked "Yes".)			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 (BGEPA)?	<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 question 8-31 is checked "Yes" then additional information will be required for those questions in Section F.				
<u>Other Considerations</u>			Yes	No
8	Is an Endangered Species Act (ESA) determination unresolved or is the project covered by a Programmatic Agreement under Section 7?	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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"/>	

Other Considerations for Type I and II Ground Disturbing Actions (continued)		Yes	No
14	Does the project include a Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a No Effect, including archaeological remains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15	Does the project involve GeoEnvironmental Sites of Concerns such as gas stations, dry cleaners, landfills, etc.?	<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 or the modification or construction of an interchange on an interstate?	<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, and where applicable, the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP)?	<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), Tribal Lands, 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 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"/>

F. Additional Documentation as Required from Section E (ONLY for questions marked 'Yes'):

Question 8: According to the NRTR, Schweinitz's sunflower has a Biological Conclusion of Unresolved. Habitat for Schweinitz's sunflower is present within the study area along the maintained road shoulders and utility corridors. No occurrences of Schweinitz's sunflower were found during surveys conducted outside of the recommended survey window. A review of NHP records on December 27, 2019, indicates no known occurrences within 1.0 mile of the study area. The Schweinitz's sunflower was added to the list of protected species after the completion of the original NRTR, and outside the survey window for the NRTR Addendum. Surveys for Schweinitz's sunflower will be conducted during the flowering season of 2021.

The US Fish and Wildlife Service has revised the previous programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. Although this programmatic covers Divisions 1-8, NLEBs are currently only known in 19 counties, but may potentially occur in 11 additional counties within Divisions 1-8. Since Guilford County is not included as one of these 30 counties, the Biological conclusion is May Affect, Not Likely to Adversely Affect, and the two conservation measures found in the PBO will not apply to this project. The PBO will ensure compliance with Section 7 of the Endangered Species Act for ten years (effective through December 31, 2030).

Question 10: South Buffalo Creek is class WS-V; NSW; waters of the State. South Buffalo Creek is on the North Carolina 2018 Final 303(d) list for impaired use for fish community and for benthos exceeding criteria. The project falls within the Jordan Lake Basin and the Jordan Lake Water Supply Watershed Riparian Buffer Rules apply. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC.02B.0295.

Question 16: 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).

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.

G. Project Commitments (attach as Green Sheet to CE Form):

NCDOT PROJECT COMMITMENTS

STIP Project No. B-5717

Replace Bridges 400109 and 400121 on East Gate City Boulevard/ E. Lee Street (SR 4240) over South Buffalo Creek

Guilford County

Federal Aid Project No. N/A

WBS Element 45673.1.2

NCDOT Environmental Analysis Unit (EAU) / Biological Surveys Group –

Schweinitz's Sunflower

According to the NRTR, Schweinitz's sunflower (federally endangered) has a Biological Conclusion of Unresolved. Habitat for Schweinitz's sunflower is present within the study area along the maintained road shoulders and utility corridors. No occurrences of Schweinitz's sunflower were found during surveys conducted outside of the recommended survey window. A review of NHP records on December 27, 2019, indicates no known occurrences within 1.0 mile of the study area. The Schweinitz's sunflower was added to the list of protected species after the completion of the original NRTR, and outside the survey window for the NRTR Addendum. Surveys for Schweinitz's sunflower will be conducted during the flowering season of 2021.

NCDOT Division 7 – Continued Coordination with Local Officials

NCDOT should coordinate with City of Greensboro Emergency Services (Katie Buckner, GIS Analyst | 336-574-4089) at least one month prior to construction.

NCDOT should coordinate with City of Greensboro Public Schools (Beatrice Cheely, TMIS Coordinator, Guilford County Schools | 336-370-8920) at least one month prior to construction.

NCDOT Hydraulics – Buffer Rules

The Jordan Lake Water Supply Watershed Buffer Rule applies to this project.

NCDOT Hydraulics & Division 7 – FEMA Coordination

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

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 Division 7 – Geodetic Markers

There is a Geodetic survey marker on the northeast corner of the existing bridge that will be impacted by this project. The NC Geodetic Survey will be contacted one month prior to the start of construction.

NCDOT Division 7 – Mitigation Site

On April 3, 2019, the North Carolina Wildlife Resources Commission provided a comment related to the absence of a mitigation site in the environmental features map. Impacts to the mitigation site will be avoided.

H. Categorical Exclusion Approval:


STIP Project No.	B-5717
WBS Element	45673.1.2
Federal Project No.	N/A

Prepared By:

5/18/2021

Date

DocuSigned by:



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Kory Wilmot, Senior Urban Planner
AECOM**Prepared For:**

NCDOT Structures Management Unit

Reviewed By:

5/17/2021

Date

DocuSigned by:



314FFDB31996479...

Phil Harris, Environmental Analysis Unit Head
NCDOT**Approved**

- If NO grey boxes are checked in Section F (pages 2 and 3), NCDOT approves the Type I or Type II Categorical Exclusion.

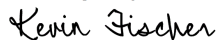
**Certified**

- If ANY grey boxes are checked in Section F (pages 2 and 3), NCDOT certifies the Type I or Type II Categorical Exclusion for FHWA approval.
- If classified as Type III Categorical Exclusion.

5/17/2021

Date

DocuSigned by:



ED19A18D98EC496...

Kevin Fischer, Assistant State Structures Engineer
NCDOTFHWA Approved: For Projects Certified by NCDOT (above), FHWA signature required.

Date

N/A

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

Note: Prior to ROW or Construction authorization, a consultation may be required (please see Section VII of the NCDOT-FHWA CE Programmatic Agreement for more details).

Appendix:

Vicinity Map



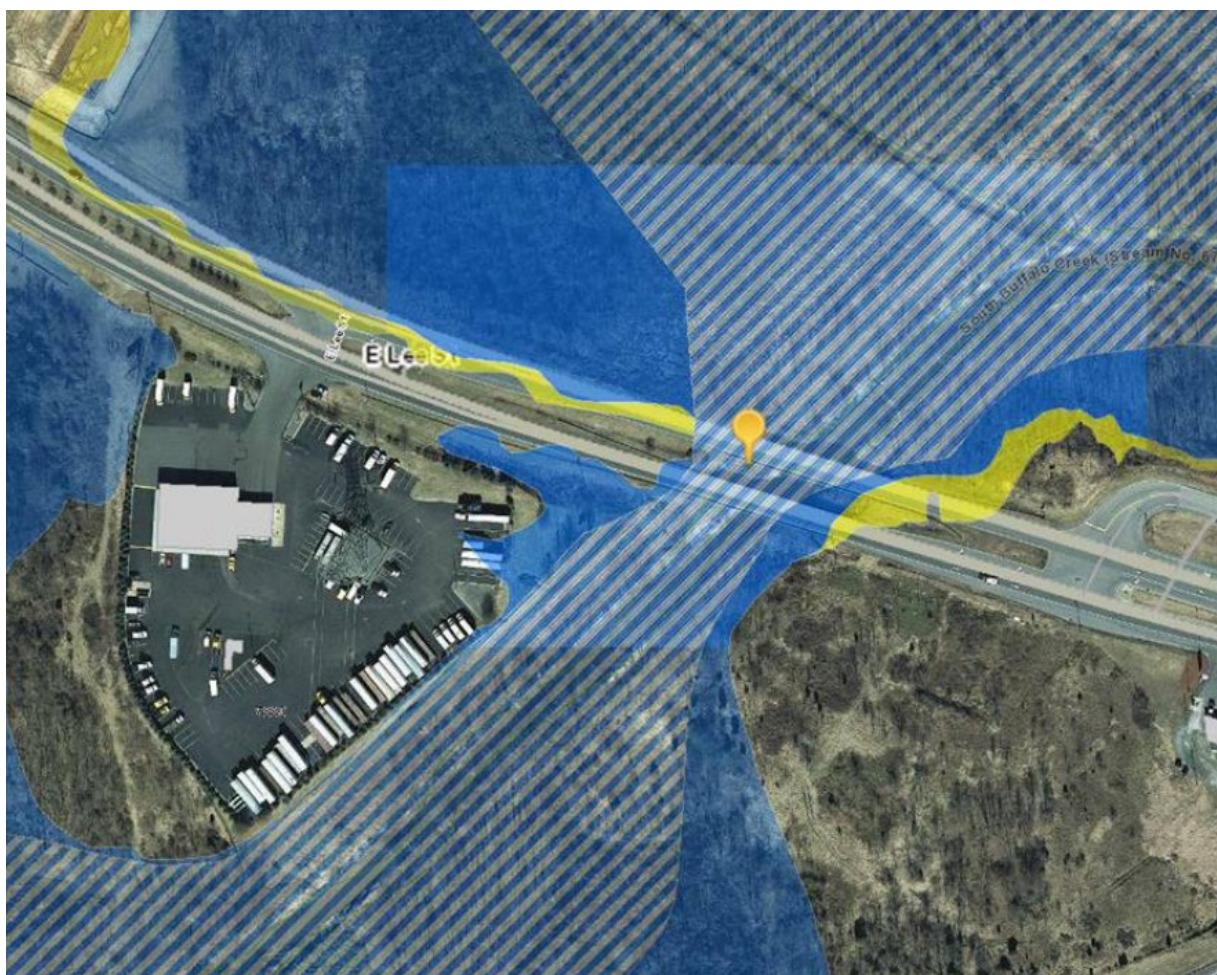
Mitigation Site



Agency Comments

Water Resources Department City of Greensboro (March 12, 2019)

The environmental issues that we note include adhering to section 30-12-3.9 of the LDO regarding stream buffers for South Buffalo Creek, wetland mitigation as delineated in the attached project data sheet, floodplain development permits for any work in the designated floodplain, and a potential no-rise certification for any fill or structures installed in the designated floodway. Considering this is an NCDOT project, I believe these permits would need to be acquired from the State, but I am not fully certain on that. There is also city owned water and sanitary sewer utilities within the project limit that we would evaluate in order to repair/replace or relocate that would be handled closer to the letting of the project.

**North Carolina Department of Environment and Natural Resources (April 4, 2019)**

Further investigations at a higher resolution should be undertaken to verify the presence of additional streams and/or jurisdictional wetlands in the area. If any jurisdictional areas are identified, the Division of Water Resources requests that the following environmental issues for the proposed project are considered:

Project Specific Comments:

1. South Buffalo Creek are class WS-V; NSW waters of the State. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDWR recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to South Buffalo Creek. Additionally, to meet the requirements of NCDOT's NPDES permit NCS0000250, the NCDWR requests that road design plans provide treatment of the stormwater runoff through best management practices as detailed in the most

recent version of the North Carolina Department of Transportation Stormwater Best Management Practices Toolbox manual.

2. South Buffalo Creek are class WS-V; NSW; 303(d) waters of the State. South Buffalo Creek is on the 303(d) list for impaired use for aquatic life. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDWR recommends that the most protective sediment and erosion control BMPs be implemented in accordance with *Design Standards in Sensitive Watersheds* (15A NCAC 04B.0124) to reduce the risk of further impairment to South Buffalo Creek. Additionally, to meet the requirements of NCDOT's NPDES permit NCS0000250, the NCDWR requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual.

3. This project is within the Jordan Lake Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0267. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC.02B.0295. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, coordinated with the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification.

General Project Comments:

1. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.
2. Environmental impact statement alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Tool box* manual, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.
3. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts of greater than 1 acre to wetlands. If mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. North Carolina Division of Mitigation Services may be available for assistance with wetland mitigation.
4. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts of greater than 300 linear feet to any perennial stream. If mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The North Carolina Division of Mitigation Services may be available for assistance with stream mitigation.

5. Future documentation, including the 401 Water Quality Certification Application, shall continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.
6. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
7. An analysis of any anticipated cumulative and secondary impacts due to this project is required. The type and detail of analysis shall conform to the NC Division of Water Resource Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.
8. The NCDOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.
9. Where streams must be crossed, the NCDWR prefers that bridges are used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove to be preferable. When applicable, the NCDOT should not install the bridge bents in the creek, to the maximum extent practicable.
10. Whenever possible, the NCDWR prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.
11. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. To meet the requirements of NCDOT's NPDES permit NCS0000250, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures.
12. Sediment and erosion control measures should not be placed in wetlands or streams.
13. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.
14. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.
15. Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require an application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met, and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the NCDOT and written concurrence from the NCDWR. Please be aware that any approval will be contingent on appropriate avoidance and minimization of wetland and stream impacts to the maximum extent practical, the development of an acceptable stormwater management plan, and the inclusion of appropriate mitigation plans where appropriate.
16. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

17. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures, the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
18. Unless otherwise authorized, placement of culverts and other structures in waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether a permit modification will be required.
19. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
20. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3883/Nationwide Permit No. 6 for Survey Activities.
21. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.
22. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of the NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
23. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.
24. Heavy equipment should be operated from the bank rather than in stream channels to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
25. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.
26. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

North Carolina Division of Parks and Recreation (March 7, 2019)

The North Carolina Division of Parks and Recreation (DPR) has no objections or comments.

North Carolina Natural Heritage Program (March 5, 2019)

The NCNHP would like to provide what information we have on natural heritage resources in or near this project; however, as of October 2018, the NCNHP moved to a fee structure for this analysis and these are normally processed by the NCNHP at \$65/hour if the request is

submitted directly to the NCNHP. AECOM has a paid subscription to our Data Explorer (ncnhde.natureserve.org) which allows the subscribed user to perform proximity analysis at their convenience. The automated analysis functionality is included in AECOM's paid subscription and it appears Charles Benton in your office is the subscribed member and has access.

North Carolina Wildlife Resources Commission (April 3, 2019)

There is a mitigation site not identified in the Environmental features map. The site is located south of SR 4240 along South Buffalo Creek and an unnamed tributary. Impacts to this area should be avoided. Also, any design consideration for future greenway trails should also take into consideration the site boundary of the mitigation site as to not direct future greenway impacts into the mitigation site.

United States Environmental Protection Agency (April 15, 2019)

Waters of the United States: A review of the proposed project area shows the presence of one impaired waterbody, South Buffalo Creek. Based on GIS analysis of the National Wetlands Inventory, there are several acres of Freshwater Emergent wetlands located in the proposed project area as well. The EPA recommends that any contractor working on-site should use best management practices and should address any potential impacts to off-site streams and waterways. The EPA also recommends that site grading, excavation, and construction plans should include implementable measures to prevent erosion and sediment runoff from the project site during and after construction.

Consistent with Section 404 of the Clean Water Act, the project should avoid and minimize, to the maximum extent practicable, placement of fill into jurisdictional waters of the United States, which include wetlands and streams. Any fill material in waters of the United States will potentially require a permit authorization from the U.S. Army Corps of Engineers (COE). Any wetland or stream losses allowed under a COE Section 404 permit should be mitigated by the applicant. This mitigation can be designed and implemented by the applicant or procured by the purchase of wetland and/or stream mitigation credits from a commercial wetland mitigation bank. Wetland and stream mitigation can add considerable expense to any project, which is a good reason to avoid and minimize those impacts during the project planning phase.

North Carolina Department of Transportation (2019 and 2021)

NCDOT sent a tribal coordination letter to the Catawba Indian Nation concerning this project on December 20, 2019.

A tribal letter was sent to the Occaneechi Band of the Saponi Nation tribe on April 28, 2021.

16-01-0126**NO ARCHAEOLOGICAL SURVEY REQUIRED FORM**

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

**PROJECT INFORMATION**

Project No: **B-5717 (UPDATE)** County: **Guilford**
 WBS No: **45673.1.2** Document: **MCC**
 F.A. No: **N/A** Funding: ☒ State ☐ Federal

Federal Permit Required? ☒ Yes ☐ No Permit Type: **USACE (not specified)**

Project Description: The NCDOT proposes to replace Bridge No. 121 on SR 4240 (Westbound Lane) (E. Lee Street) over South Buffalo Creek in the City of Greensboro, Guilford County. Bridge No. 121 was built in 1964 and is considered to be structurally deficient and functionally obsolete. This project now includes the replacement of Bridge No. 109 on SR 4240 (Eastbound Lane) (E. Lee Street) over South Buffalo Creek. The Proposed Study Area for the project will be centered on both bridges and now measures about 1,938 feet in length and about 250 feet in width with a bump-out along SR 3140 (Cedar Park Road). Overall, the new Study Area will encompass about 12.06 acres, inclusive of the existing roadways and structures to be replaced. An updated Study Area has been submitted for review. This PA form shall serve as an addendum to the original PA forms completed in February 2016 and August 2016.

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

A map review and site file search were originally conducted at the Office of State Archaeology (OSA) on Tuesday, February 2, 2016. Based on the information compiled at that time, an additional review and file search at OSA was not necessary. As a result of the original review, an archaeological survey was recommended and conducted for this project. Although one (1) unassessed archaeological site (31GF24) had been recorded in the Northwest Quadrant of the proposed project, no evidence of that particular site was recorded during the course of the archaeological survey. No additional archaeological sites have been recorded within one (1) mile of the proposed project since the initial review and survey. Digital copies of HPO's maps (McLeansville Quadrangle) as well as the HPOWEB GIS Service (<http://gis.ncdcr.gov/hpoweb/>) were reviewed once more on Monday, April 8, 2019. There are no known historic architectural resources located within the expanded Study Area for which intact archaeological deposits would be anticipated within the footprint of the proposed project. In addition, topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected to gauge environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, slope, agricultural, hydrological, and other erosive-type disturbances within and surrounding the new Study Area.

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

This is now a State-funded project that will require a Federal permit; it was initially a federally-funded project. Temporary and/or permanent easements should not be needed, but the need for additional ROW was not conveyed as part of the new request for review. However, the dimensions of the new Study Area

16-01-0126

will capture any ground-disturbing activities beyond NCDOT's existing ROW. At this time, we are in compliance with NC GS 121-12a, since there are no eligible (i.e. National Register-listed) archaeological resources located within the project's new Study Area that would require our attention. From an environmental perspective, the new Study Area is still located in an industrial section of Greensboro off of I-85 Business, straddles the floodplain of South Buffalo Creek, and is composed of Wehadkee silt loam (Wh) and Pits (Pt), a classification for areas where the original soil material has been removed or altered beyond recognition. In addition to the highly disturbed quality of the Pits (Pt) soil type, the poorly drained conditions of Wehadkee silt loam (Wh) would not be considered favorable for containing intact archaeological materials. A portion of the expanded Study Area now consists of Enon fine sandy loam, 6-10% slopes (EnC); however, a reconnaissance of the project area during the survey two years revealed a significant amount of disturbance and erosion within this area, as a result of the construction of Gateway Research Park. The entire Study Area still consists of poorly drained and highly disturbed soils.

Preservation of archaeological materials within such soil types is likely to be poor. As noted in the August 2016 PA form, no artifactual evidence or stratigraphic evidence of Site 31GF24 was recovered or observed in the field. The Office of State Archaeology (OSA) has reviewed several projects within the vicinity of new Study Area for environmental compliance, including cell tower locations (CTs 01-0599 and 01-0600), residential development (ER 02-11141), improvements at the NC A&T State Farm (ER 02-9014), and transportation improvements (ER 03-2900). Citing a low probability for intact archaeological resources to be impacted by the proposed projects, OSA did not recommend an archaeological survey for any of these projects. Within five (5) miles of the Study Area, NCDOT's Archaeology Group has reviewed at least twenty (20) transportation-related projects for environmental compliance under the Programmatic Agreement (PA) with the State Historic Preservation Office (NC-HPO), including this very project. An archaeological survey was recommended and conducted for only one (1) of these projects, based on the presence of favorable topography and soil conditions crossed by various new location corridors. Only one (1) historic cemetery was documented as a result of that survey. Based on the nature of the proposed project, current soil conditions, and previous survey and review work, it is believed that the newly expanded Study Area, as depicted, is unlikely to contain intact and significant archaeological resources. No archaeological survey is required for this project. If design plans change or are made available prior to construction, then additional consultation regarding archaeology will be required. At this time, no further archaeological work is recommended. If archaeological materials are uncovered during project activities, then such resources will be dealt with according to the procedures set forth for "unanticipated discoveries," to include notification of NCDOT's Archaeology Group.

****This project falls within a North Carolina County in which the following federally recognized Tribe(s) has expressed an interest: Catawba Indian Nation. It is recommended that you contact each federal agency involved with your project to determine their Section 106 Tribal consultation requirements. Please know that the Occaneechi Band of the Saponi Nation, a State-recognized tribe, has also expressed interest in activities within this county.**

SUPPORT DOCUMENTATION

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

16-01-0126**FINDING BY NCDOT ARCHAEOLOGIST****NO ARCHAEOLOGY SURVEY REQUIRED**

Paul J. Mohler
NCDOT ARCHAEOLOGIST

April 8, 2019

Date

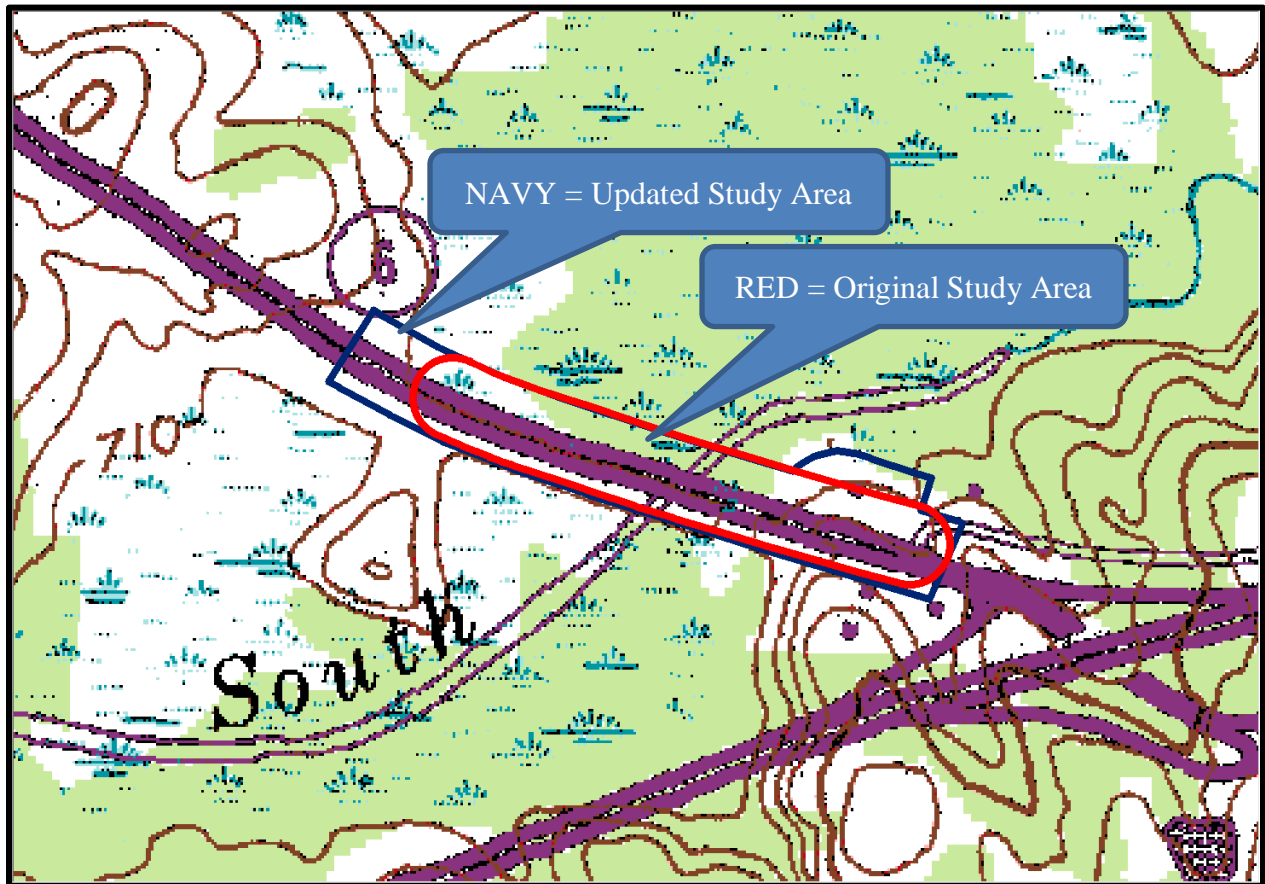
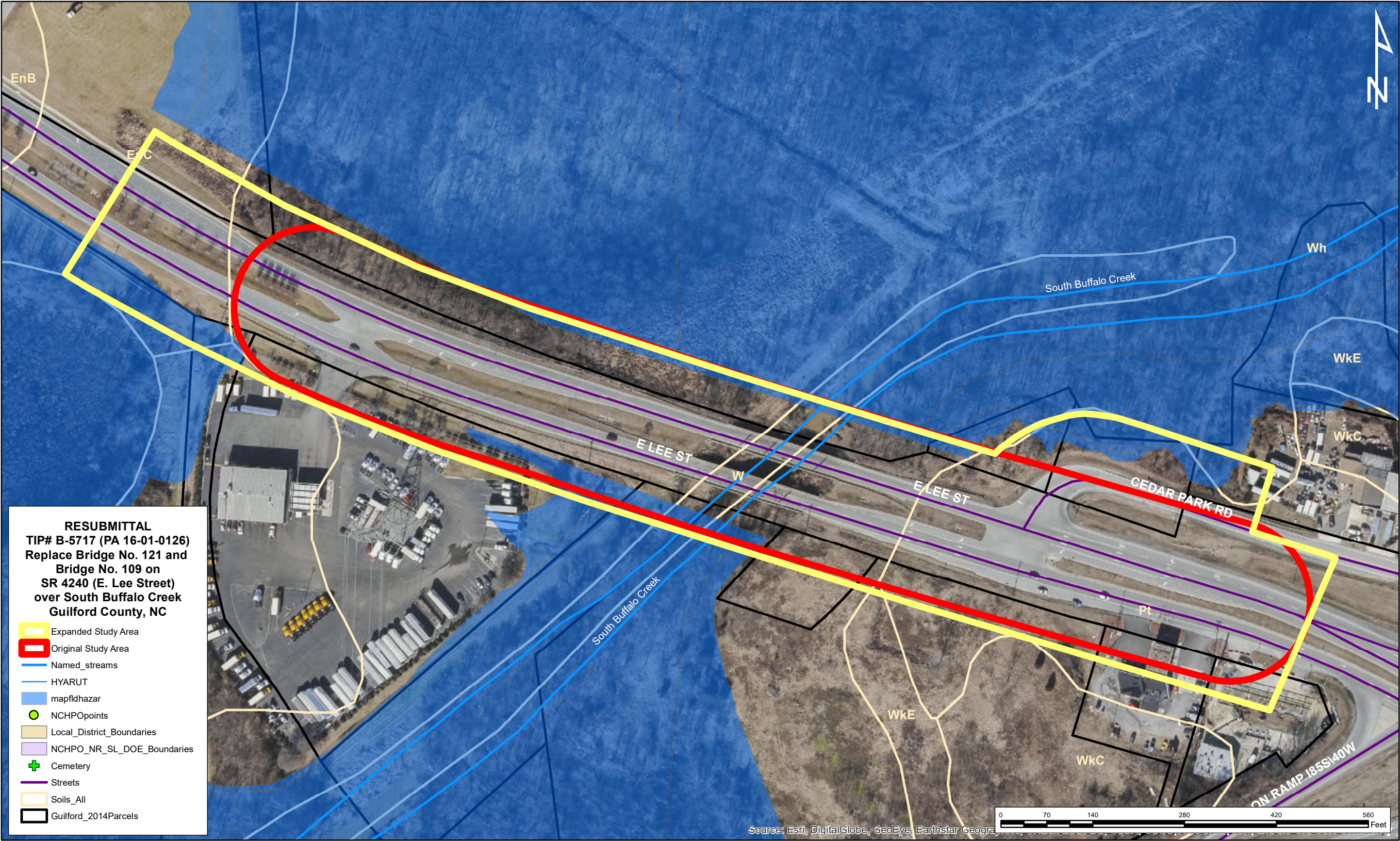


Figure 1: McLeansville, NC (USGS 1952 [PR68]).



16-01-0126**Revised**

HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

This form supercedes that dated 24 February 2016

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

PROJECT INFORMATION

Project No:	B-5717	County:	Guilford
WBS No.:	45673.1.2	Document Type:	
Fed. Aid No:		Funding:	X State Federal
Federal Permit(s):	X Yes No	Permit Type(s):	USACE

Project Description: Replace Bridge Nos. 109 and 121 on SR 4240 (E. Gate City Boulevard) over South Buffalo Creek (no off-site detour specified in review request).
Expanded study area received March 2019.

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

DESCRIPTION OF REVIEW ACTIVITIES, RESULTS, AND CONCLUSIONS: HPOWeb reviewed on 23 February 2016/8 April 2019 and yielded no NR, SL, LD, DE, or SS properties in the Area of Potential Effects (APE). Guilford County current GIS mapping, aerial photography, and tax information indicated a partly developed, partly wooded APE with residential and commercial resources dating from the 1930s to the 2010s (viewed 23 February 2016/8 April 2019). The three, mid-twentieth-century resources are unexceptional examples of their types. Bridge No. 109, built in 1957, and Bridge No. 121, built in 1964, are not eligible for the National Register according to the NCDOT Historic Bridge Survey as they are neither aesthetically nor technologically significant. Google Maps "Street View" confirmed the absence of critical architectural and landscape resources in the APE (viewed 23 February 2016/8 April 2019). The project is reviewed under both GS 121-12(a) and Section 106.

No architectural survey is required for the project as currently defined.

WHY THE AVAILABLE INFORMATION PROVIDES A RELIABLE BASIS FOR REASONABLY PREDICTING THAT THERE ARE NO UNIDENTIFIED SIGNIFICANT HISTORIC ARCHITECTURAL OR LANDSCAPE RESOURCES IN THE PROJECT AREA: APE equates with the study area received in March 2019 (see attached map). Comprehensive historic architectural survey of Guilford County (1995-6), later architectural studies, and county GIS/tax materials and other visuals illustrate the absence of significant architectural and landscape resources in the APE. No National Register-listed properties are located within the APE.

Should the design of the project change, please notify NCDOT Historic Architecture as additional review may be necessary.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

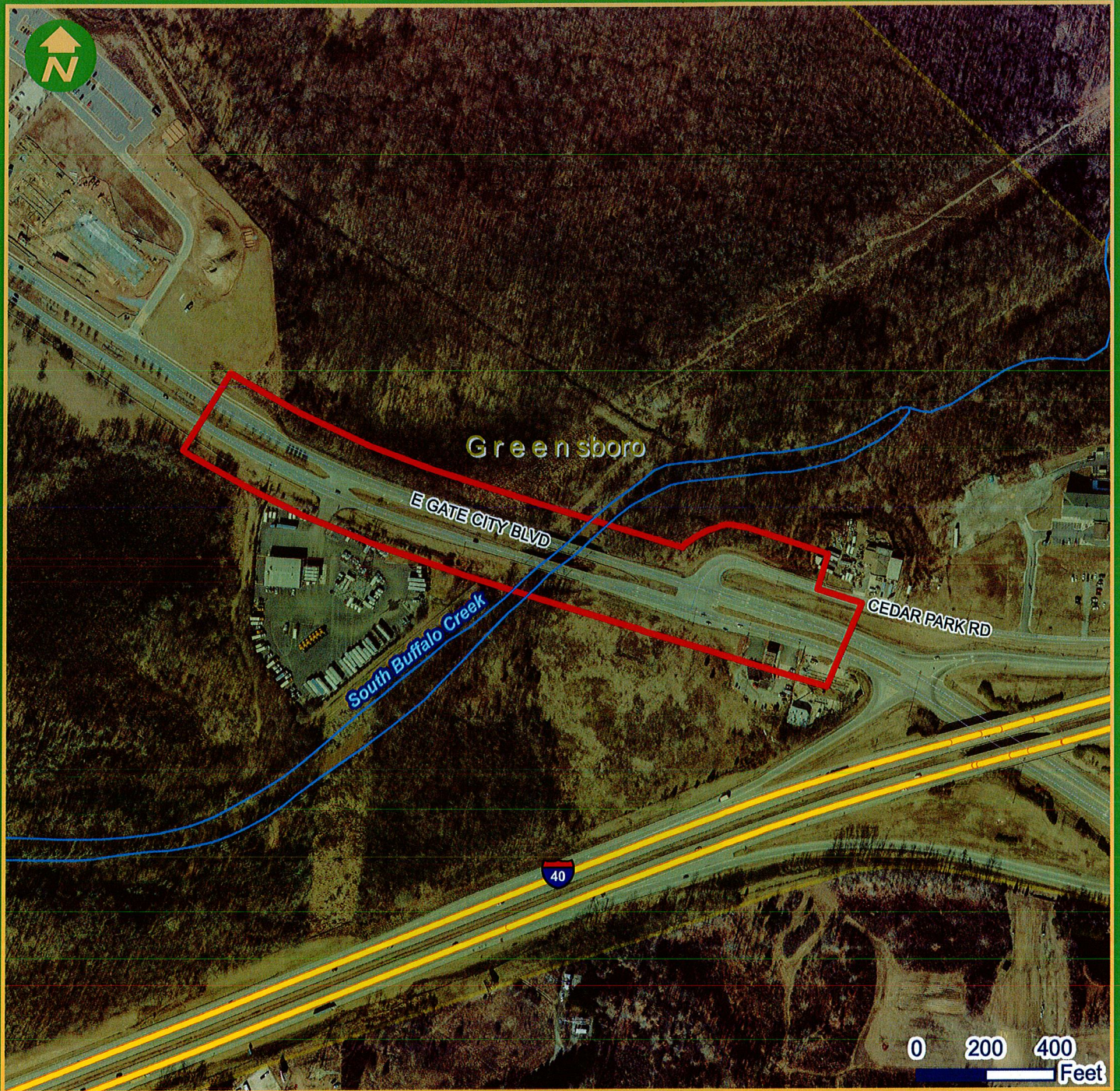
Historic Architecture and Landscapes - NO SURVEY REQUIRED

Vanessa C. Patrick

NCDOT Architectural Historian

8 April 2019

Date



B-5717
Replace Bridges 109 and 121
On E Gate City Blvd
Over South Buffalo Creek
Guilford County



Figure 1
Study Area Map
 February 2019

Legend

- Streams
- Interstate
- Local Route
- Project Study Area
- Municipal Boundary



This map is for reference only.
 Sources: Data was received by
 NC Department of Transportation,
 ESRI, NCOonemap

TRACKING NO. 16-01-0126 Revised



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

December 20, 2019

Dr. Wenonah Haire
Catawba Indian Nation, Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, SC 29730

Dear Dr. Haire,

The North Carolina Department of Transportation has started the project development, environmental, and engineering work for the replacement of Bridge Nos. 109 and 121 on S.R. 4240 (East Lee Street) over South Buffalo Creek in Guilford County as project B-5717.

The Federal Highway Administration (FHWA) is the lead federal agency and a permit is anticipated under the Section 404 process with the FHWA.

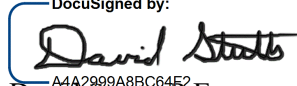
A project vicinity map is attached. The coordinates of this project are approximately 36.053280, -79.739123.

This project was reviewed/surveyed for cultural resources by NCDOT under the terms of the 2015 Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation and the North Carolina State Historic Preservation Office for Minor Transportation Projects in North Carolina (PA). The results of that review/survey are attached.

Please find attached Archaeology Survey Reports. No Archaeological Survey was required for this project.

Please respond by January 20, 2020 so that your comments can be used in the scoping of this project. If you have any questions concerning this project, or would like any additional information, please contact me at dstutts@ncdot.gov or (919) 707-6442.

Thank you,

DocuSigned by:

A4A2999A8BC64F2
David Stutts, P.E.

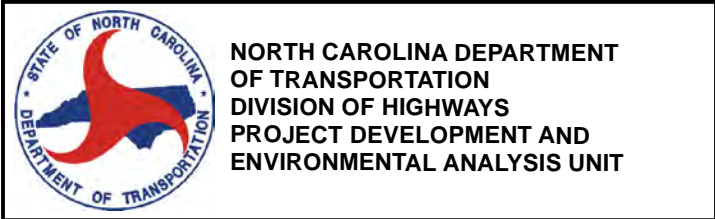
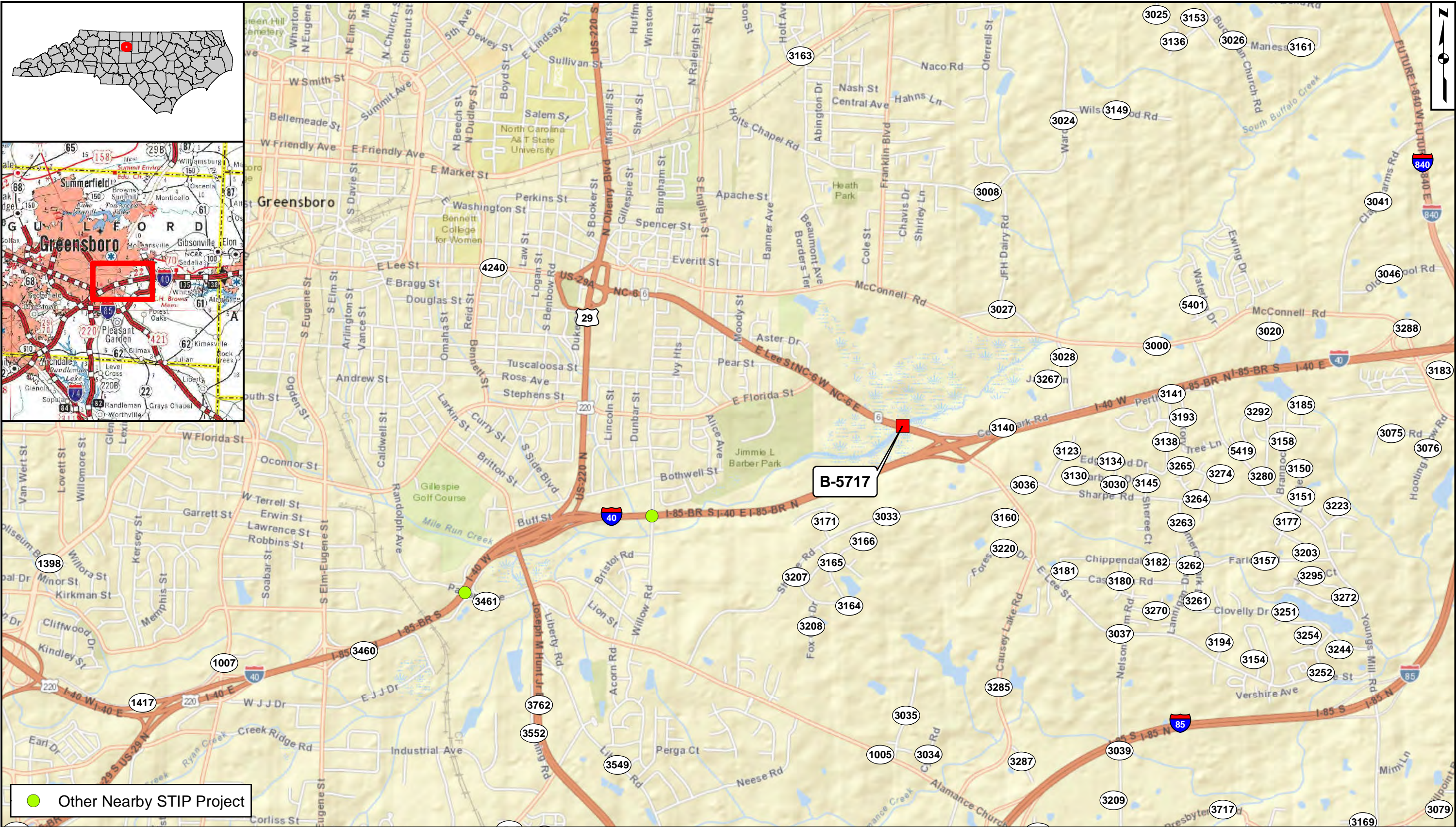
NCDOT Project Engineer – PEF/Program Management

cc: Matt Wilkerson, NCDOT Archaeology Team Leader
Joe Geigle, PE, Div 5, 7 & 9 - FHWA

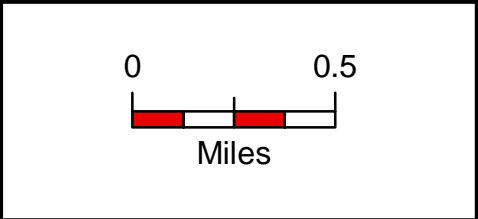
Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
STRUCTURES MANAGEMENT UNIT
1581 MAIL SERVICE CENTER
RALEIGH NC 27699

Telephone: (919) 707-6400
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610



VICINITY MAP
Replace Bridge No. 121 on SR 4240 WBL
over South Buffalo Creek in Guilford County
TIP Project B-5717



Div: 7	TIP# B-5717
Date: DECEMBER 2015	

Figure
1