



PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

September 9, 2016

North Carolina Department of Environmental Quality
Division of Water Resources
1617 Mail Service Center
Raleigh, North Carolina 27699

ATTN: Mr. Rob Ridings
NCDOT Coordinator

Subject: Application for Section 401 Nationwide Permit 3 and Neuse River Riparian Buffer Authorization for the Proposed Replacement of Bridge No. 277 over Black Creek on SR 1006 (Old Stage Road) in Wake County, North Carolina; TIP No. B-4655; Federal Aid Project No. BRZ-1006(40); Debit \$270 from WBS No. 38455.1.2

Dear Sir,

The North Carolina Department of Transportation (NCDOT) proposes to replace the existing 60-foot, two-span bridge no. 277 with an 85-foot, single-span bridge on existing alignment. Traffic will be maintained on an offsite detour.

Please see enclosed copies of the Pre-Construction Notification (PCN), stormwater management plan, permit drawings, and design plans for the above referenced project. The Programmatic Categorical Exclusion (PCE) was completed in August 2015 and distributed shortly after. Additional copies are available at the NCDOT website: <https://connect.ncdot.gov/resources/Environmental/>.

This project calls for a letting date of March 21, 2017 and a review date of January 31, 2017. The project schedule may be advanced if funding becomes available.

Regulatory Approvals

Section 401 Permit: We anticipate that a 401 Water Quality Certification 3883 and a Neuse River Riparian Buffer Authorization will be authorized for this project. NCDOT is requesting written concurrence from the North Carolina Department of Environmental Quality, Division of Water Resources.

Section 404 Permit: Under the current design, written concurrence is not required by the USACE. NCDOT will adhere to all conditions and descriptions in the attached Permit Drawings and Nationwide Permit 3 General Conditions.



A copy of this permit application and its distribution list will be posted at the NCDOT website at <https://connect.ncdot.gov/resources/Environmental/>. Should you have any questions regarding this information, please contact Deanna Riffey at (919) 707-6151 or driffey@ncdot.gov

Sincerely,

hs

A handwritten signature in black ink, appearing to read 'P. Harris III', with a long horizontal flourish extending to the right.

Philip S. Harris III, P.E., C.P.M.
Natural Environment Section Head

cc: NCDOT Permit Application Standard Distribution List



Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.3 Dec 10 2008

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☐ Section 404 Permit	☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 3 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes	☒ No
1d. Type(s) of approval sought from the DWQ (check all that apply): ☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit ☐ 401 Water Quality Certification – Express ☒ Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No	For the record only for Corps Permit: ☒ Yes ☐ No
1f. 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
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☐ Yes	☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☐ Yes	☒ No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 277 on SR 1006 (Old Stage Rd) over Black Creek
2b. County:	Wake
2c. Nearest municipality / town:	Fuquay Varina
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4655

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6151
3g. Fax no.:	(919) 212-5785
3h. Email address:	driffey@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	<i>not applicable</i>
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	<i>not applicable</i>
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 35.562796 (DD.DDDDDD) Longitude: -78.690015 (-DD.DDDDDD)
1c. Property size:	2 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Black Creek
2b. Water Quality Classification of nearest receiving water:	C; NSW
2c. River basin:	Neuse
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: The land use is mostly forested with a few residential houses	
3b. List the total estimated acreage of all existing wetlands on the property: 1.3	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 227	
3d. Explain the purpose of the proposed project: To replace a functionally obsolete bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a two span, 60-foot bridge with a single span, 85-foot bridge on the existing alignment with an off-site detour. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	☒ Yes ☐ No ☐ Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☒ Preliminary ☐ Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Beth Reed	Agency/Consultant Company: Kimley-Horn Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. PJD package submitted 4/10/12 and PJD package (after field visit) submitted 6/13/12. Field Visit May 30, 2012. JD was not received from USACE.	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes ☒ No ☐ Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	☐ Yes ☒ No
6b. If yes, explain.	

C. Proposed Impacts Inventory						
1. Impacts Summary						
1a. Which sections were completed below for 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.						
2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)	
Site 1 ☒ P ☐ T	Fill	Riparian	☒ Yes ☐ No	☒ Corps ☒ DWQ	0.08	
Site 2 ☒ P ☐ T	Mechanized Clearing	Riparian	☒ Yes ☐ No	☒ Corps ☒ DWQ	0.01	
Site 3 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 5 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 6 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ		
2g. Total wetland impacts					0.9 Permanent 0 Temporary	
2h. Comments: Additional impacts –Duke Energy will be relocating 4 poles and the guy wires for poles. There will be <0.01 acre of permanent fill for poles and <0.01 acre impacts for hand clearing.						
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.						
3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 ☒ P ☐ T	Bank Stabilization	Black Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	30	43
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 5 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 6 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
3h. Total stream and tributary impacts						43
3i. Comments:						

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
4f. Total open water impacts				0 Permanent 0 Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
5f. Total								

5g. Comments:

5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

6a. Project is in which protected basin?			☒ Neuse ☐ Tar-Pamlico ☐ Other: Jordan ☐ Catawba ☐ Randleman		
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 ☒ P ☐ T	Bridge Impact	Black Creek	☐ Yes ☒ No	985	625
B2 ☒ P ☐ T	Bridge Impact	Black Creek	☐ Yes ☒ No	1,709	1,017
B3 ☐ P ☐ T			☐ Yes ☐ No		
6h. Total buffer impacts				2,694	1,642
6i. Comments: Impacts to wetlands in buffers total 782 sq ft. in zone 1 and 353 sq ft in zone 2. Duke Energy will be relocating poles in buffer area. The utility buffer impacts fall in the exempt category, which include 252 sq. ft of impacts in Zone 1 and 284 sq. ft. of impacts in Zone 2.					

D. Impact Justification and Mitigation**1. Avoidance and Minimization**

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.

The proposed bridge is 25 feet longer than the existing bridge; the replacement bridge will be a single span, so no bents in the water; the proposed bridge will be at approximately the same grade and alignment as the existing structure; the new bridge will have no deck drains or direct discharge to Black Creek. An off-site detour will be used during construction. See Stormwater Management Plan for addition information.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.

NCDOT Best Management Practices for Construction and Maintenance Activities will implemented during the removal of the existing bridge and Design Standards in Sensitive Watersheds will be employed.

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

If no, explain: Impacts are minimal.

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

☐ DWQ ☐ Corps

2c. If yes, which mitigation option will be used for this project?

☒ Mitigation bank

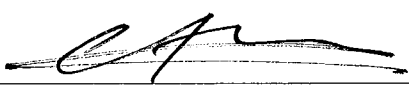
☐ Payment to in-lieu fee program

☐ Permittee Responsible Mitigation

3. Complete if Using a Mitigation Bank				
3a. Name of Mitigation Bank: not applicable				
3b. Credits Purchased (attach receipt and letter)		Type	Quantity	
3c. Comments:				
4. Complete if Making a Payment to In-lieu Fee Program				
4a. Approval letter from in-lieu fee program is attached.		☐ Yes		
4b. Stream mitigation requested:				
4c. If using stream mitigation, stream temperature:		☐ warm ☐ cool ☐ cold		
4d. Buffer mitigation requested (DWQ only):		square feet		
4e. Riparian wetland mitigation requested:				
4f. Non-riparian wetland mitigation requested:		acres		
4g. Coastal (tidal) wetland mitigation requested:		acres		
4h. Comments:				
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. See attached Jeffrey's Warehouse Mitigation Site debit summary				
6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?			☐ Yes ☒ No	
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
6f. Total buffer mitigation required:				
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
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. If yes, then is a diffuse flow plan included? If no, explain why. Comments: See attached permit drawings.	☒ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HWQ ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☐ Yes ☐ No N/A
5b. Have all of the 401 Unit submittal requirements been met?	☐ Yes ☐ No N/A

F. Supplementary Information	
1. Environmental Documentation (DWQ Requirement)	
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.) Comments:	☒ Yes ☐ No
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	☐ Yes ☒ No
2b. Is this an after-the-fact permit application?	☐ Yes ☒ No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
3. Cumulative Impacts (DWQ 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 "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. 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 (DWQ Requirement)	
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable	

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
5c. If yes, indicate the USFWS Field Office you have contacted.	☒ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? N.C. Natural Heritage Program database; USFWS-Raleigh Field Office website; biological surveys for protected species listed for Wake County, which includes red-cockaded woodpecker, Dwarf wedgemussel, and Michaux's sumac. The species received a Biological Conclusions of "No Effect". Habitat for Michaux's sumac is found within the study area. A survey for the species on 10/13/15 resulted in no specimens being found. Northern long-eared bat has been added to the species list for Wake County. A programmatic biological opinion (PBO) has been issued for the species. The PBO covers projects in Divisions 1-8. The programmatic determination for NLEB for this project is "May Affect, Likely to Adversely Affect".		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
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)		
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		
for <u>Philip S. Harris III, P.E., C.P.M.</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	<u>09-09-2016</u> Date



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 2.04; Released November 2015)

WBS Element: TIP No.: B-4655 County(ies): Wake Page 1 of 1

General Project Information

WBS Element:		TIP Number:	B-4655	Project Type:	Bridge Replacement	Date:	3/9/2016
NCDOT Contact:	William Elam			Contractor / Designer:	Brandon Barham, PE - Ecological Engineering		
	Address:	1000 Birch Ridge Drive Raleigh, NC 27610			Address:	1151 SE Cary Parkway Suite 101 Cary, NC 27518	
	Phone:	919-707-6718			Phone:	919-557-0929	
	Email:	belam@ncdot.gov			Email:	bbarham@ecologicaleng.com	
City/Town:	Willow Springs			County(ies):	Wake		
River Basin(s):	Neuse			CAMA County?	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	0.19 Miles	Surrounding Land Use:	Forest, agricultural, and residential					
	Proposed Project		Existing Site					
Project Built-Up Area (ac.)	0.5	ac.	0.5	ac.				
Typical Cross Section Description:	2@ 11 ft lane, 4.3 ft shoulders, with total bridge width of 33.0 ft and total bridge length of 85 ft.		2@ 12 ft lane with total bridge width of 26 ft and total bridge length of 60 ft.					
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	6909	Year:	2037	Existing:	4822	Year:	2017
General Project Narrative: (Description of Minimization of Water Quality Impacts)	State Project B-4655 involves the replacement of the existing NCDOT Bridge #910277 on SR 1006 (Old Stage Rd) over Black Creek. Bridge #910277 consists of 2@30' concrete deck on concrete caps on timber piles with timber abutments. The existing bridge has horizontal deck drains that allow direct runoff into the surface waters. The proposed bridge at #910277 will be a 1@85' 33" box beam with 2'-6" caps and sloping abutments. The proposed bridge is located in Zone AE of FIRM Map number 3720069600J and was studied by "Limited Detailed" methods. The proposed bridge will provide more hydraulic opening than the existing bridge. Two stormwater outfalls are proposed which will be placed at a distance to minimize disturbance to adjacent wetlands. A Rip Rap pad will be utilized to dissipate the energy. No deck drains are required for the proposed bridge.							

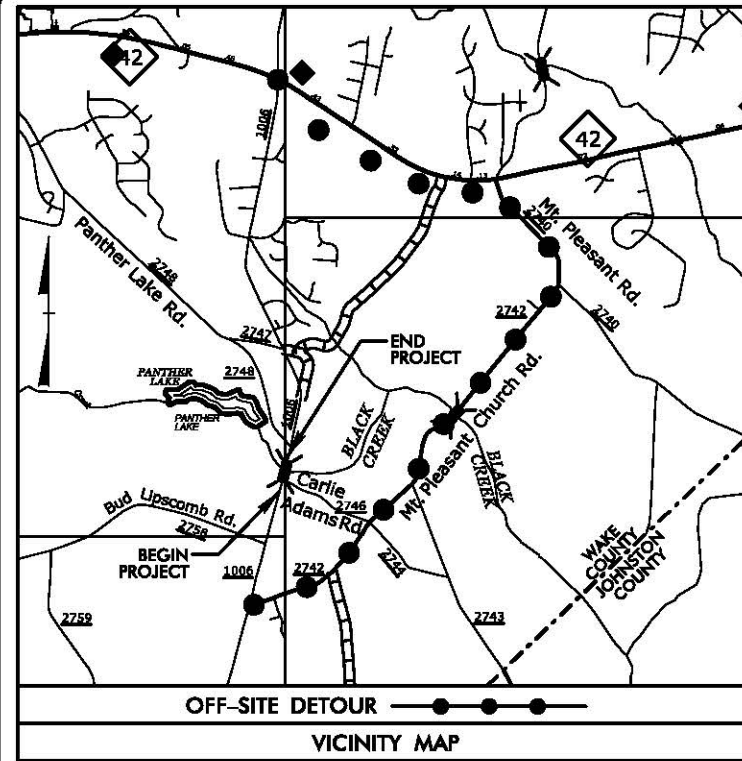
Waterbody Information

Surface Water Body (1):	Black Creek		NCDWR Stream Index No.:	27-45-02			
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C					
	Supplemental Classification:	Nutrient Sensitive Waters (NSW)					
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:				Buffer Rules in Effect:	Neuse		
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
9:09:17 AM
R:\HydroQual\PERMITS-Environmental\Drawings\B4655_p.m._tsh.dgn
brandonbarham

T.I.P. PROJECT: B-4655

CONTRACT:



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

← TO JOHNSTON COUNTY

BEGIN TIP PROJECT B-4655
-L- STA.12+85.00

PROJECT LENGTH
LENGTH ROADWAY TIP PROJECT B-4655 = 0.172 mi.
LENGTH STRUCTURES TIP PROJECT B-4655 = 0.016 mi.
TOTAL LENGTH TIP PROJECT B-4655 = 0.188 mi.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

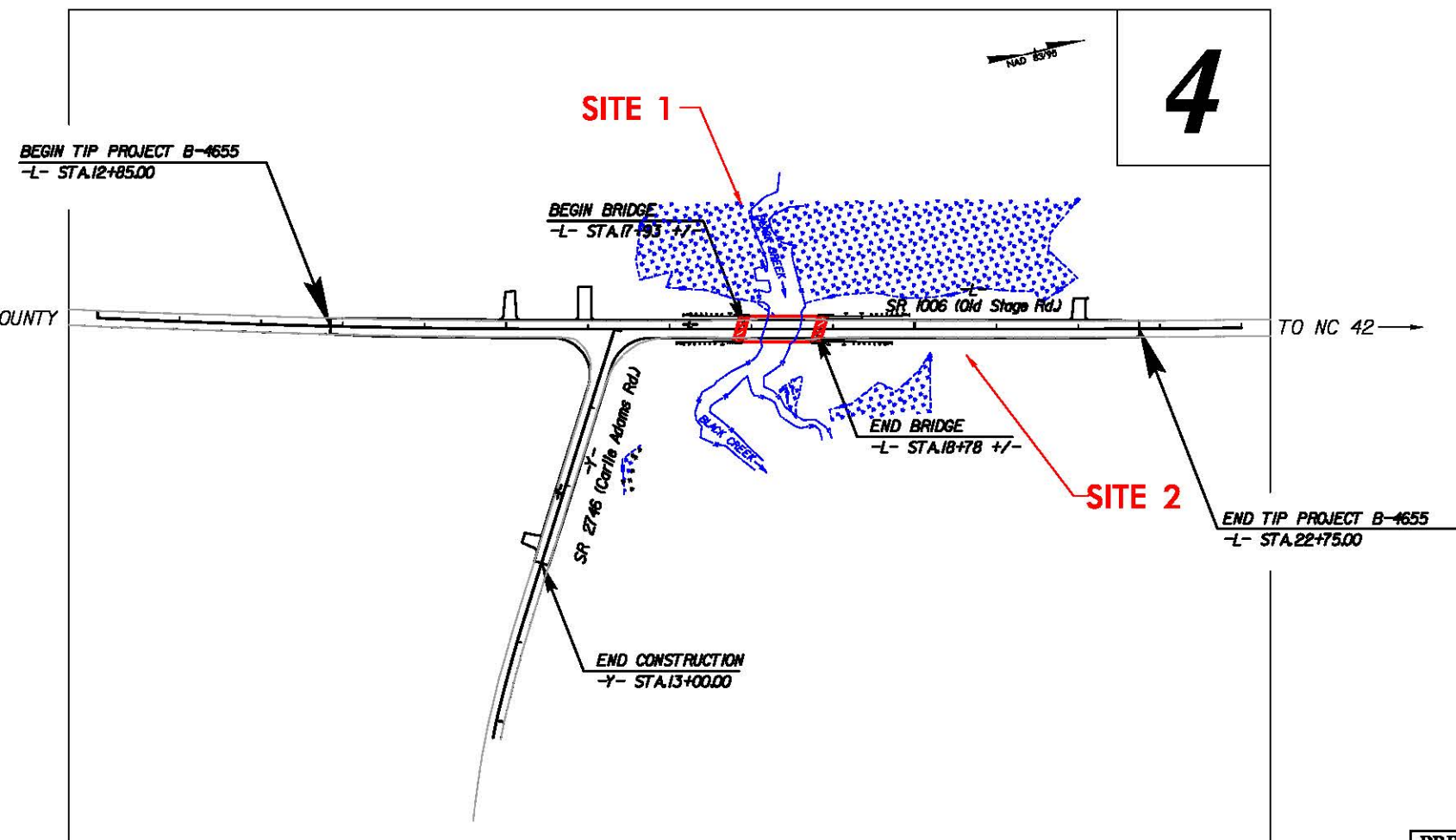
LOCATION: BRIDGE NO. 277 OVER BLACK CREEK
ON SR 1006 (OLD STAGE RD.)

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

WETLAND AND SURFACE WATER IMPACTS PERMIT

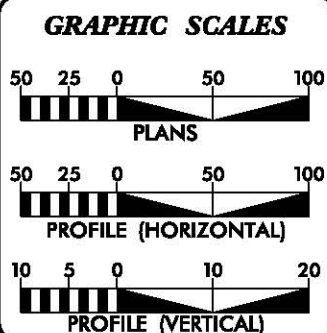
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4655	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38455.1.2	BRZ-1006(40)	PE	

PERMIT DRAWING
SHEET 1 OF 8



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CLEARING ON THIS PROJECT SHALL BE TO LIMITS ESTABLISHED USING METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.



DESIGN DATA
2017 ADT = 4,822 VPD
2037 ADT = 6,909 VPD
DHV = 9%
D = 70%
T = 3% *
V = 60 MPH
* (TTST 1% + DUAL 2%)
FUNC. CLASS. = RURAL MINOR COLLECTOR
SUBREGIONAL TIER

Prepared in the Offices of:

STEWART
421 NORTH WILLOW ST., STE. 400
RALEIGH, NC 27601
TEL: 919.386.6700
FAX: 919.386.6700
Permit License #: C-1081
Professional Engineer
PROJECT #1312002

**ECOLOGICAL
ENGINEERING**
15151 SR Cary Parkway, Suite 101
Cary, NC 27513
(919) 557-0929

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 18, 2016

LETTING DATE:
MARCH 21, 2017

ANDY YOUNG, PE
PROJECT ENGINEER

MICHAEL BURNS, EI
PROJECT DESIGN ENGINEER

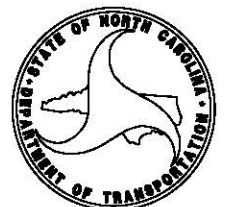
TONY HOUSER, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

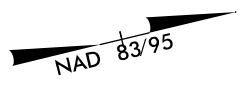
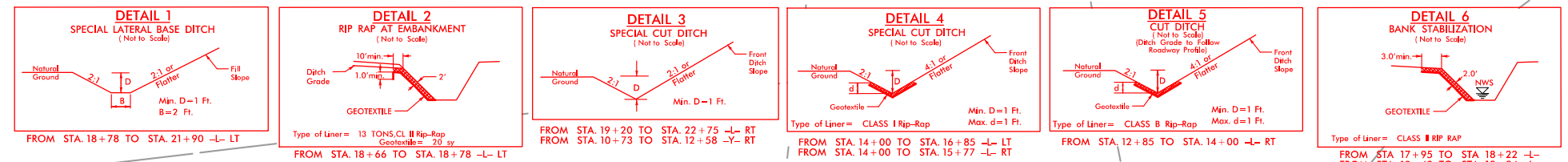
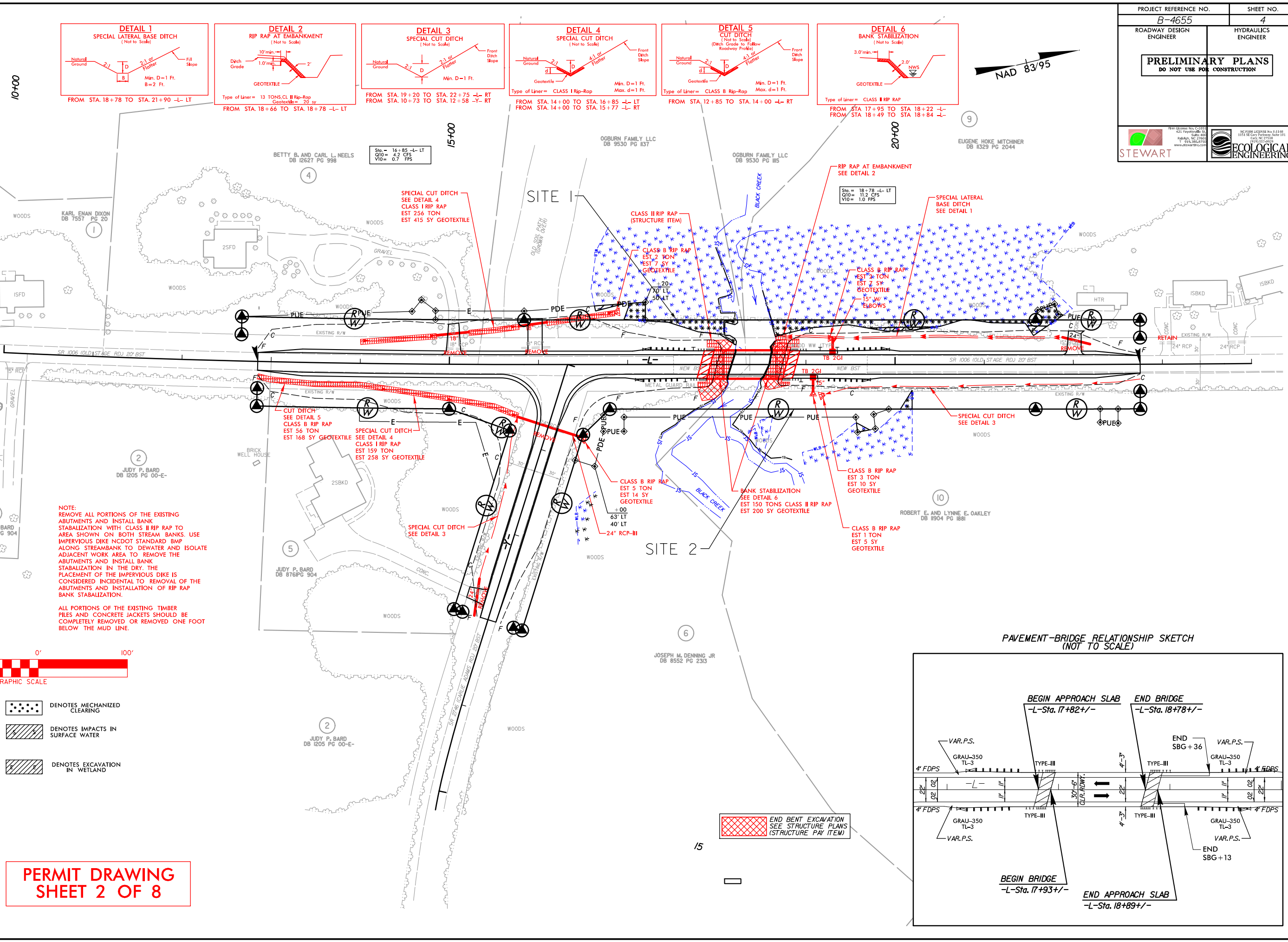
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



8/17/99
8/25/25 AM
R:\HYDRA\PERMITS\Environmental\Drawings\B4655.prm-wet.psh04.dgn
brandonbham



PROJECT REFERENCE NO. B-4655		SHEET NO. 4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

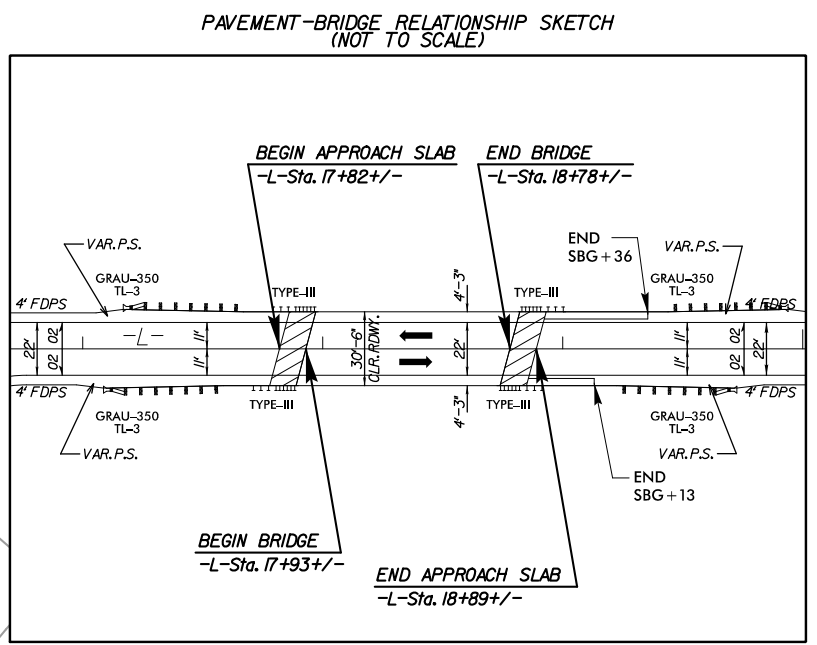
NOTE:
REMOVE ALL PORTIONS OF THE EXISTING
ABUTMENTS AND INSTALL BANK
STABILIZATION WITH CLASS II RIP RAP TO
AREA SHOWN ON BOTH STREAM BANKS. USE
IMPERVIOUS DIKE NCDOT STANDARD BMP
ALONG STREAMBANK TO DEWATER AND ISOLATE
ADJACENT WORK AREA TO REMOVE THE
ABUTMENTS AND INSTALL BANK
STABILIZATION IN THE DRY. THE
PLACEMENT OF THE IMPERVIOUS DIKE IS
CONSIDERED INCIDENTAL TO REMOVAL OF THE
ABUTMENTS AND INSTALLATION OF RIP RAP
BANK STABILIZATION.

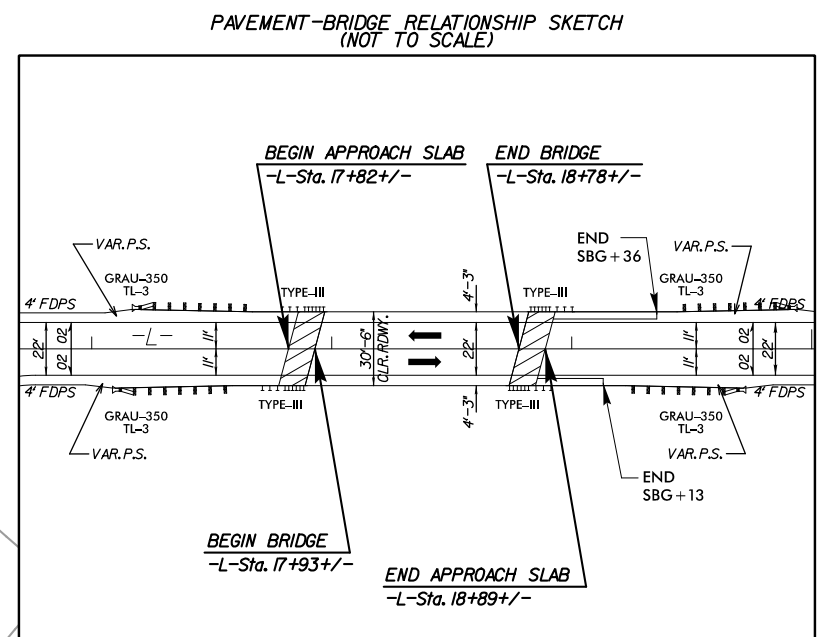
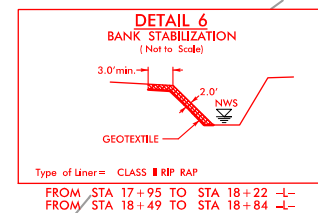
ALL PORTIONS OF THE EXISTING TIMBER
PILES AND CONCRETE JACKETS SHOULD BE
COMPLETELY REMOVED OR REMOVED ONE FOOT
BELOW THE MUD LINE.

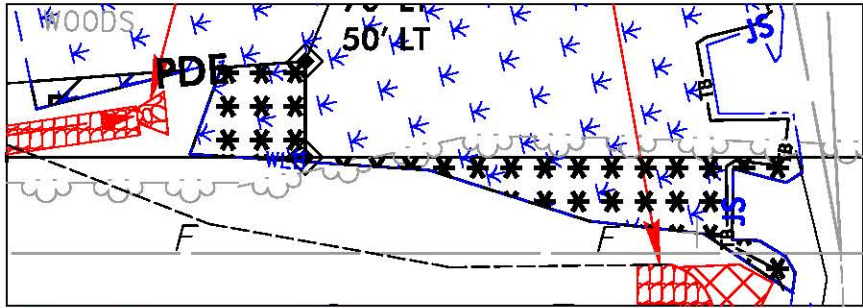


- DENOTES MECHANIZED
CLEARING
- DENOTES IMPACTS IN
SURFACE WATER
- DENOTES EXCAVATION
IN WETLAND

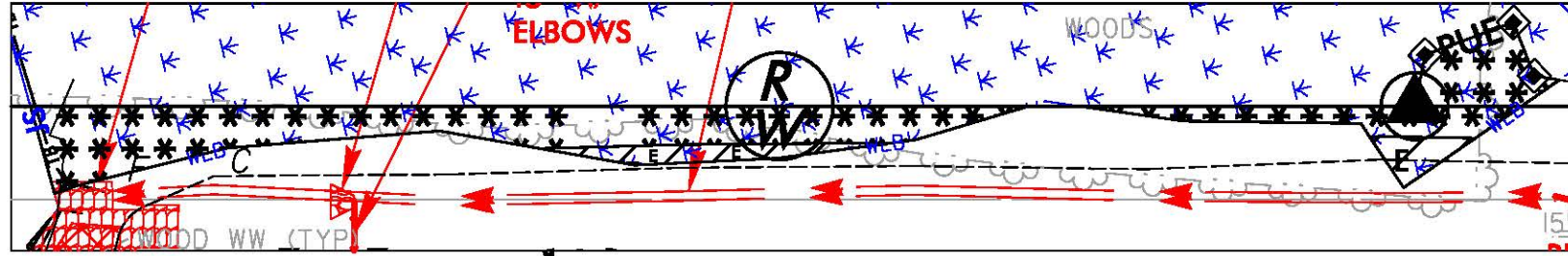
**PERMIT DRAWING
SHEET 2 OF 8**



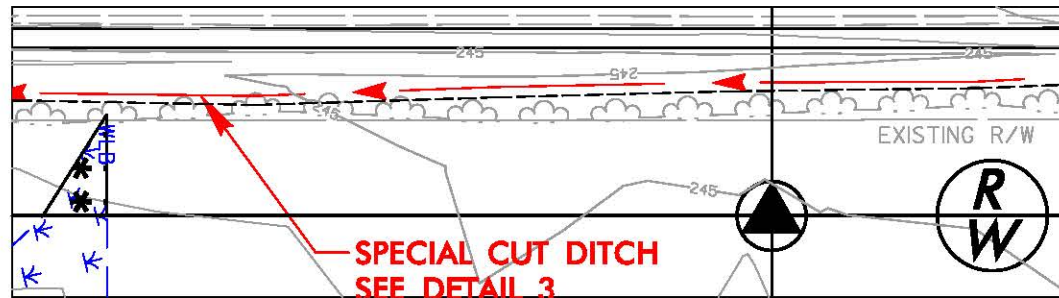




SITE 1 (16+96 TO 18+23 -L- LT)

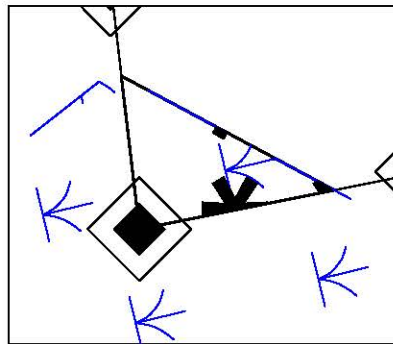


SITE 1 (18+60 TO 21+89 -L- LT)

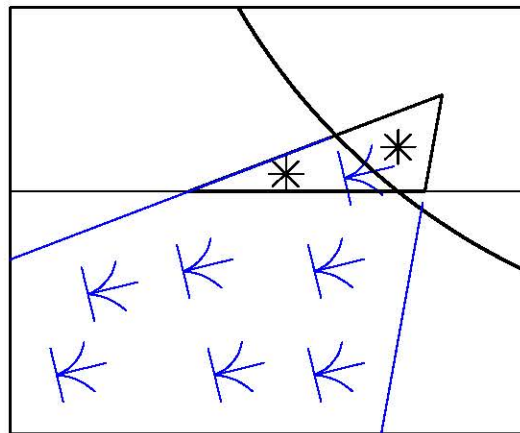


SITE 2 (20+06 TO 21+99 -L- RT)

SITE 2 (19+57 TO 19+72 -L- RT)



SITE 2 (18+58 TO 18+63 -L- RT)

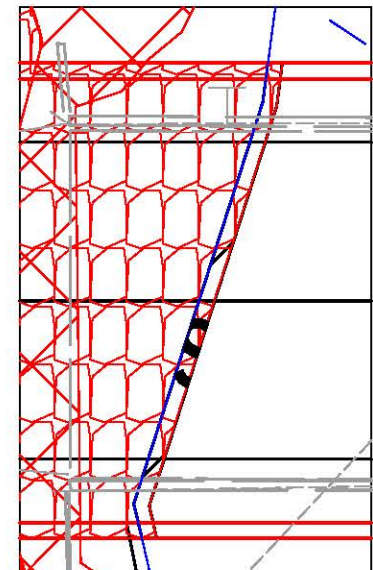


PERMIT DRAWING
SHEET 4 OF 8

SITE 1 (18+49 TO 18+65 -L-)

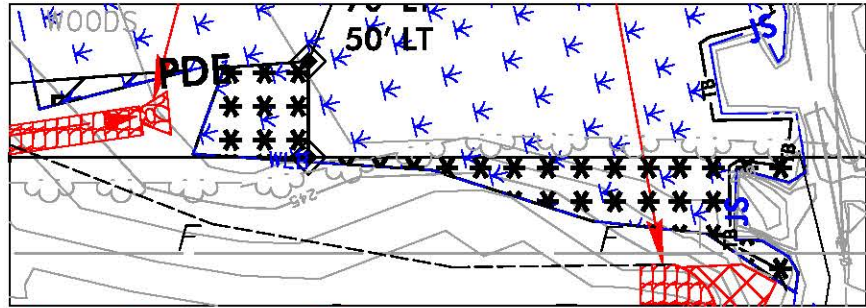


SITE 1 (18+12 TO 18+22 -L-)

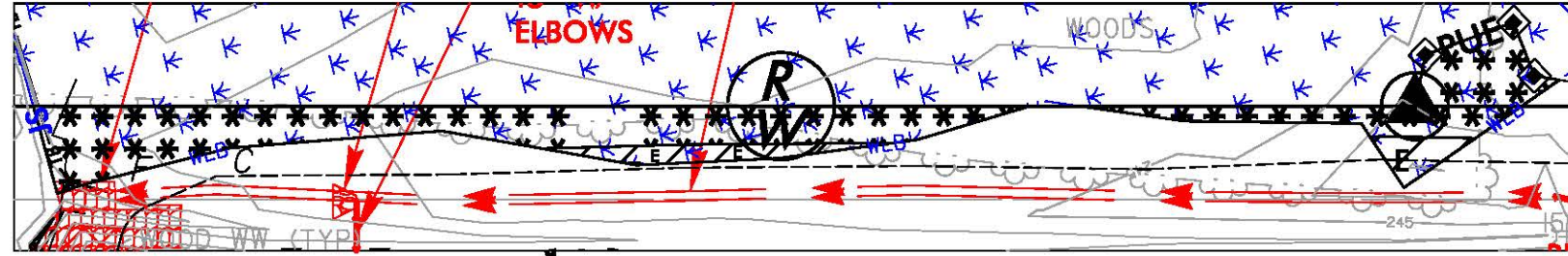


PROJECT REFERENCE NO.	SHEET NO.
B-4655	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
STEWART	ECOLOGICAL ENGINEERING

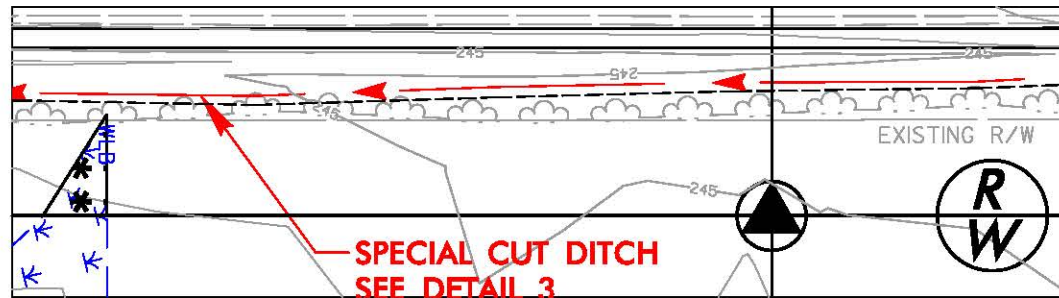
- DENOTES MECHANIZED CLEARING
- SSSSSS DENOTES IMPACTS IN SURFACE WATER
- EEEE DENOTES EXCAVATION IN WETLAND



SITE 1 (16+96 TO 18+23 -L- LT)

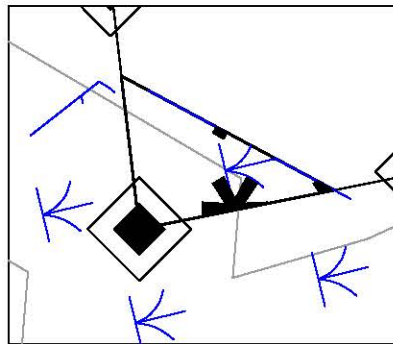


SITE 1 (18+60 TO 21+89 -L- LT)

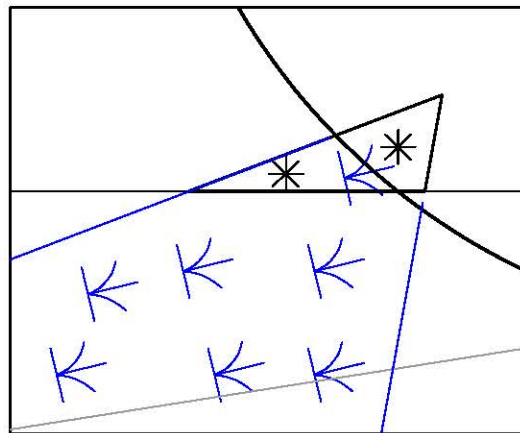


SITE 2 (20+06 TO 21+99 -L- RT)

SITE 2 (19+57 TO 19+72 -L- RT)

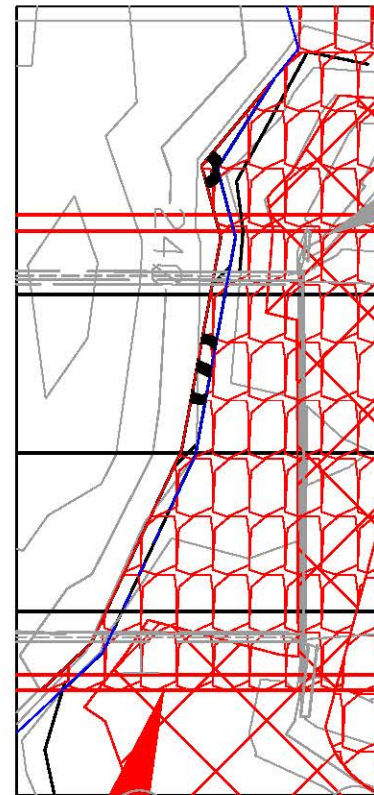


SITE 2 (18+58 TO 18+63 -L- RT)

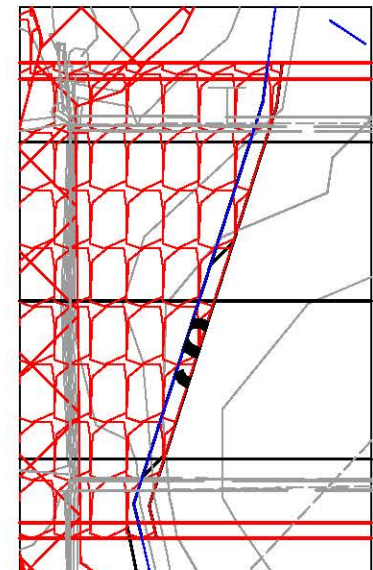


PERMIT DRAWING
SHEET 5 OF 8

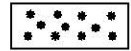
SITE 1 (18+49 TO 18+65 -L-)



SITE 1 (18+12 TO 18+22 -L-)



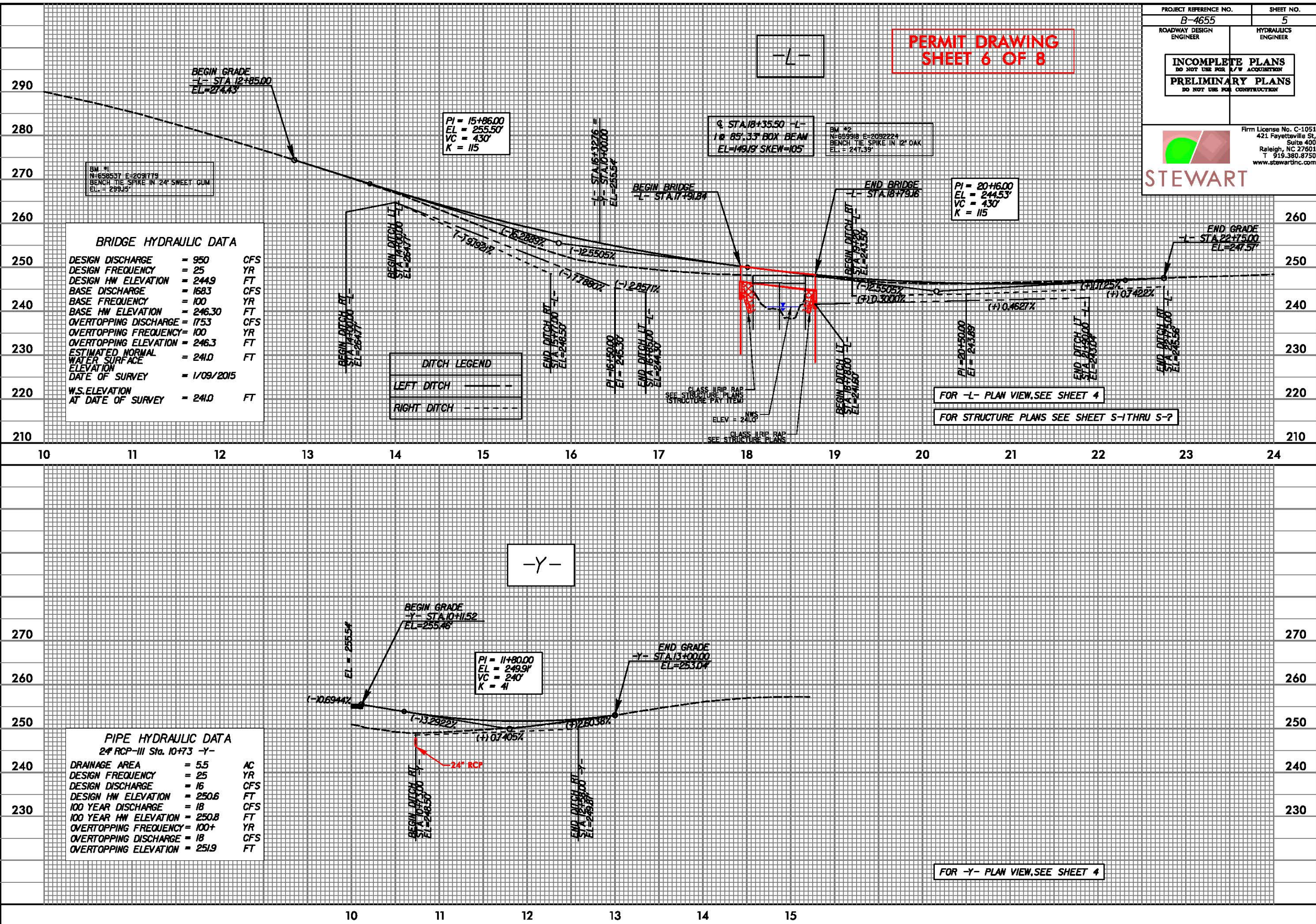
PROJECT REFERENCE NO.	SHEET NO.
B-4655	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
 STEWART	 ECOLOGICAL ENGINEERING

-  DENOTES MECHANIZED CLEARING
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES EXCAVATION IN WETLAND

5/28/99

REVISIONS

8/10/07 AM
 R:\projects\PERMITS\Environmental\Drawings\B4655_prm_vet_pah_06.dgn
 draudb@stewartinc.com



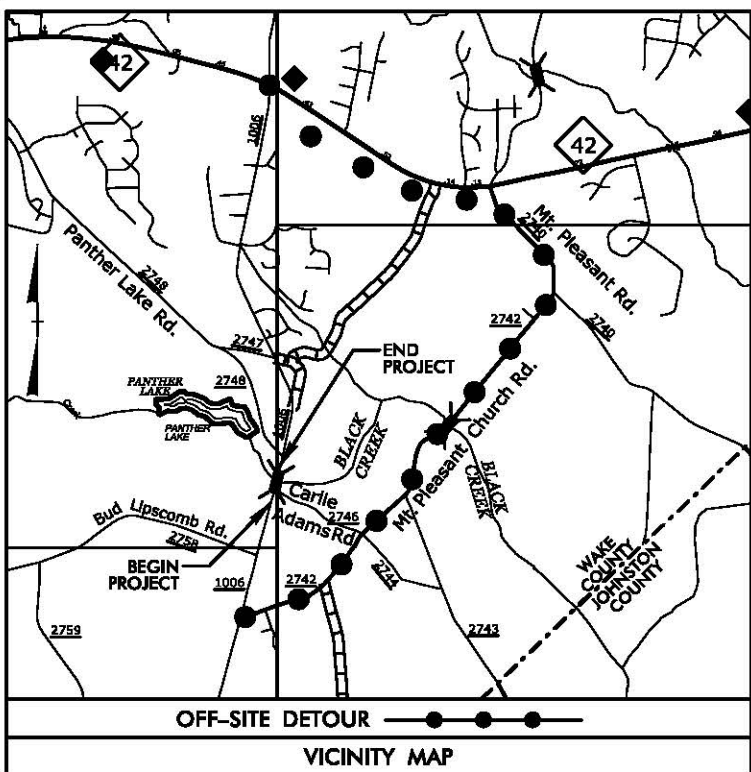
WETLAND PERMIT IMPACT SUMMARY												
Surface and Wetland Package:			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing 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	16+96 to 21+89 -L- LT	1@ 85' 33" Box Beam w/ 2'-6" Caps			<0.01	0.08						
1	18+20 to 18+60- L-	Bank Stabilization						<0.01		43		
2	18+58 to 21+99 -L- RT	1@ 85' 33" Box Beam w/ 2'-6" Caps				<0.01						
TOTALS:					<0.01	0.09		<0.01		43.00		

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 06/06/2016
 Wake County
 B4655
 38455.1.2
 SHEET 8 OF 8

05/08/99
4:05:50 PM
R:\Hydro\Permits\Environmental\Drawings\B4655_Hyd_BUF_tsh.dgn
brandonbarham

T.I.P PROJECT: B-4655

CONTRACT:



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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

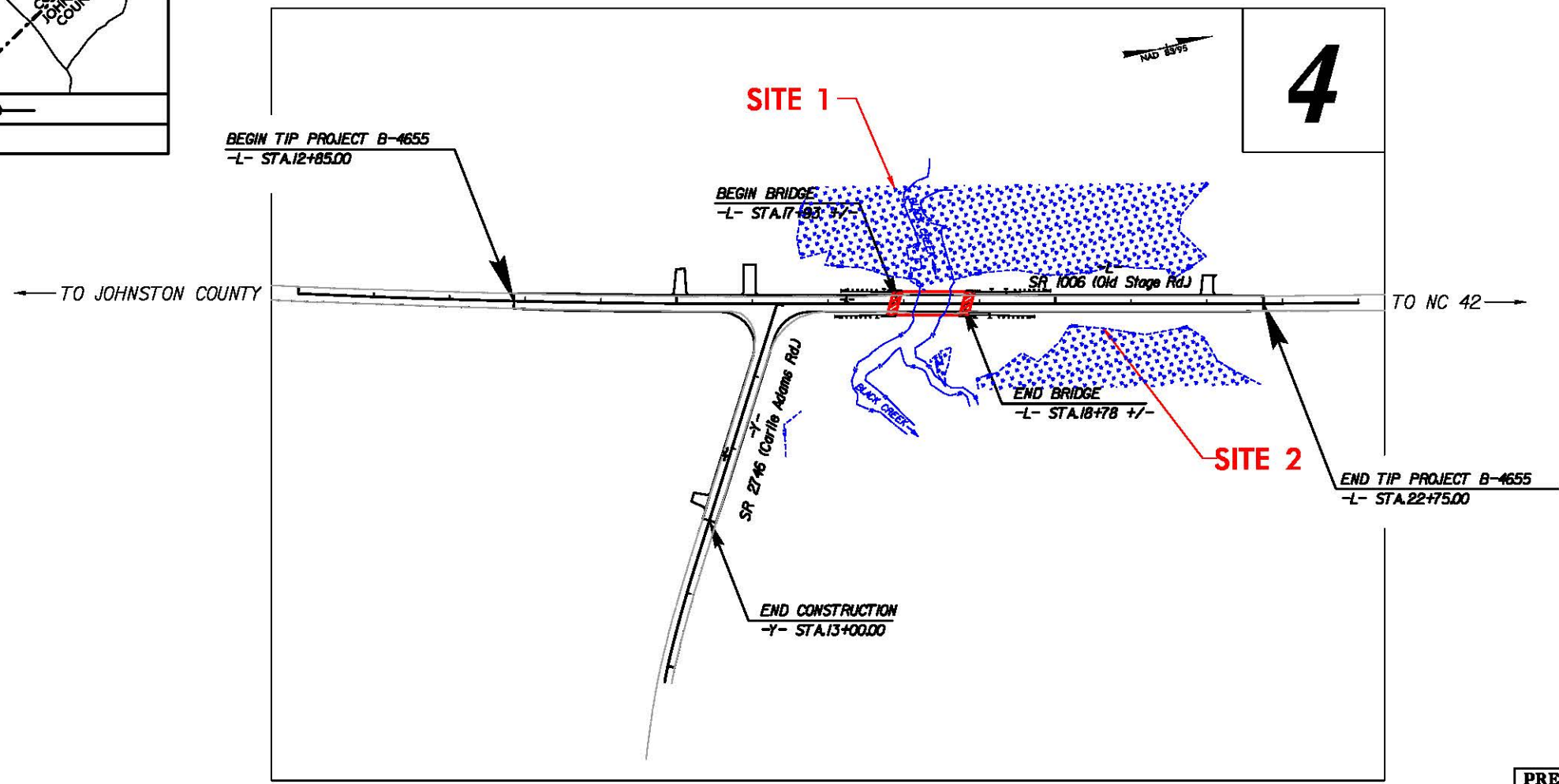
LOCATION: BRIDGE NO. 277 OVER BLACK CREEK
ON SR 1006 (OLD STAGE RD.)

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

BUFFER IMPACTS PERMIT

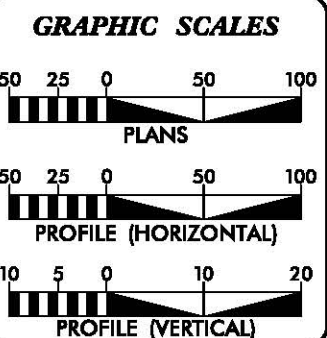
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4655	1	
STATE PROJECT NO.	F.A. PROJECT NO.	DESCRIPTION	
38455.1.2	BRZ-1006(40)	PE	

BUFFER DRAWING
SHEET 1 OF 4



CLEARING ON THIS PROJECT SHALL BE TO LIMITS ESTABLISHED USING METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA
2017 ADT = 4,822 VPD
2037 ADT = 6,909 VPD
DHV = 9%
D = 70%
T = 3% *
V = 60 MPH
* (TTST 1% + DUAL 2%)
FUNC. CLASS. = RURAL MINOR COLLECTOR
SUBREGIONAL TIER

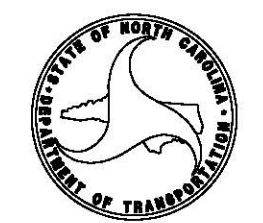
PROJECT LENGTH
LENGTH ROADWAY TIP PROJECT B-4655 = 0.172 mi.
LENGTH STRUCTURES TIP PROJECT B-4655 = 0.016 mi.
TOTAL LENGTH TIP PROJECT B-4655 = 0.188 mi.

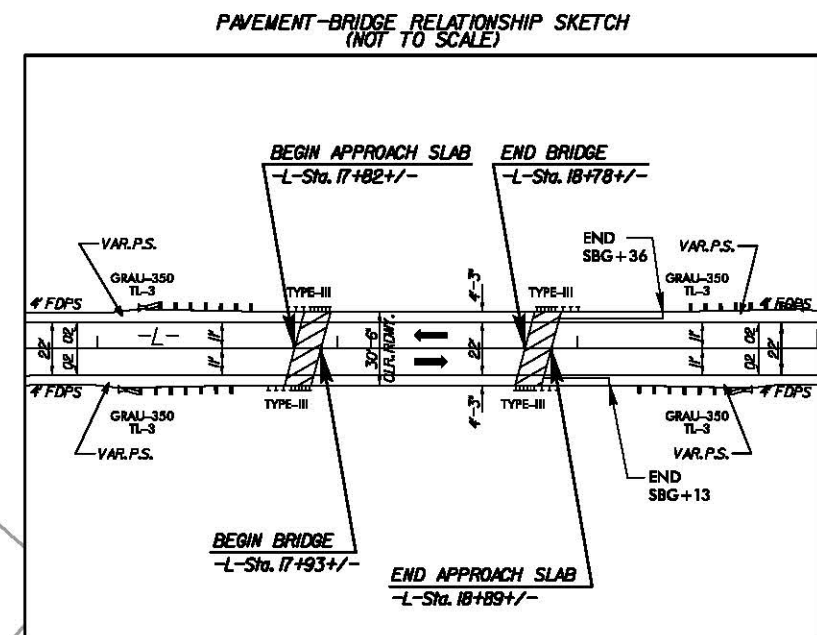
Prepared in the Offices of:

STEWART
2012 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: MARCH 18, 2016
LETTING DATE: MARCH 21, 2017

ECOLOGICAL ENGINEERING
ANDY YOUNG, PE
PROJECT ENGINEER
MICHAEL BURNS, EI
PROJECT DESIGN ENGINEER
TONY HOUSER, P.E.
NCDOT CONTACT

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





BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	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	1@85' 33" Box Beam w/ 2'-6" Caps	17+55 TO 19+21 -L- LT	X			528.0	625.0						
1	1@85' 33" Box Beam w/ 2'-6" Caps	17+77 TO 18+82 -L- LT		X		457.0							
2	1@85' 33" Box Beam w/ 2'-6" Caps	16+94 TO 19+03 -L- RT	X			980.0	1014.0						
2	1@85' 33" Box Beam w/ 2'-6" Caps	14+35 TO 18+74 -L- RT		X		729.0	3.0						

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: B4655 (38455.1.2)
BRIDGE #277 OVER BLACK CREEK

6/2/2016
SHEET 3 OF 4

Rev. May 2006

WETLANDS IN BUFFER IMPACTS SUMMARY

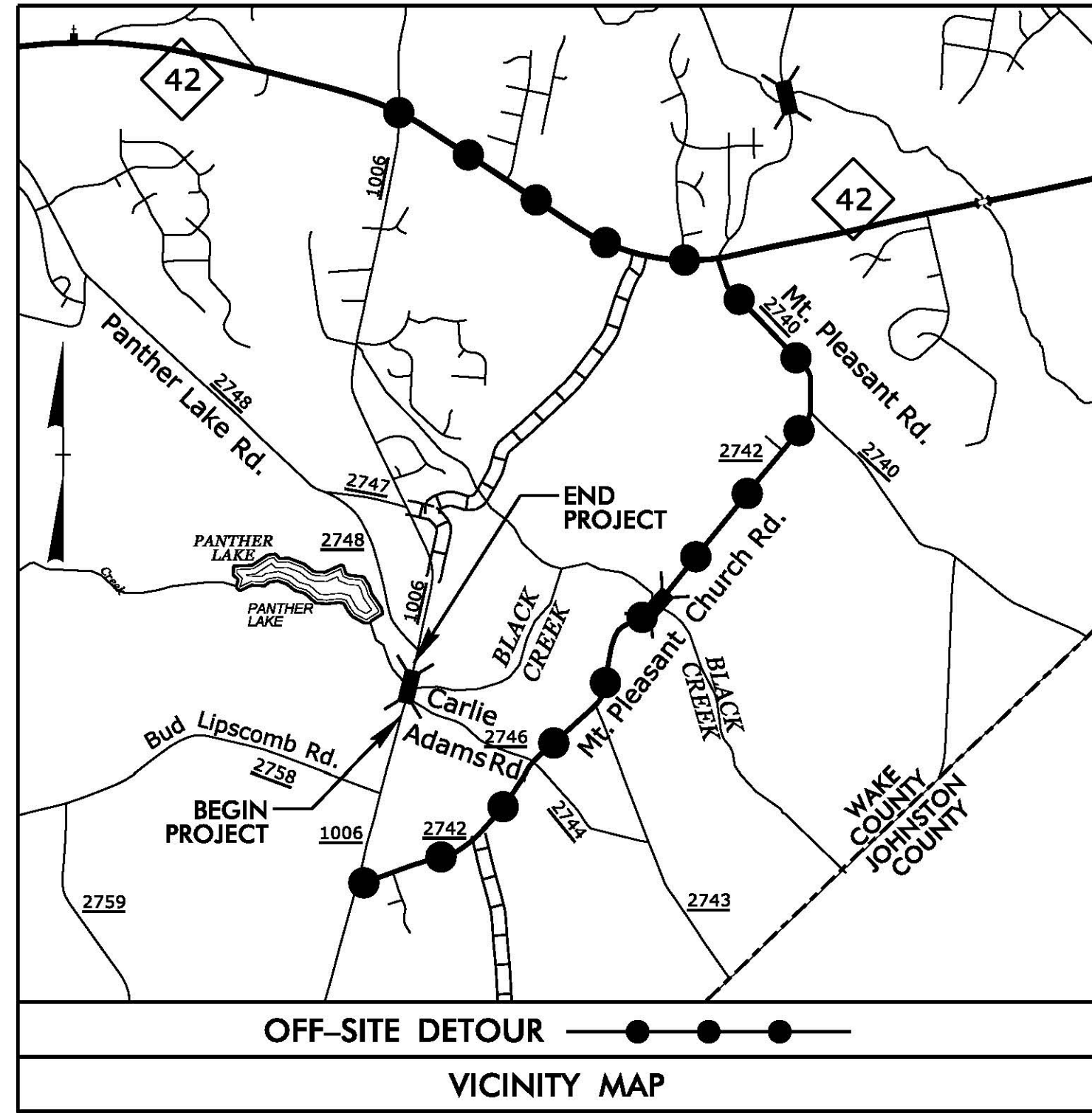
SITE NO.	STATION (FROM/TO)		WETLANDS IN BUFFERS	
			ZONE 1 (ft ²)	ZONE 2 (ft ²)
1	17+55 TO 19+21 -L- LT		782	353
TOTAL:			782	353

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: B4655 (38455.1.2)
BRIDGE #277 OVER BLACK CREEK

6/2/2016
SHEET 4 OF 4

T.I.P PROJECT: B-4655



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-4655	1

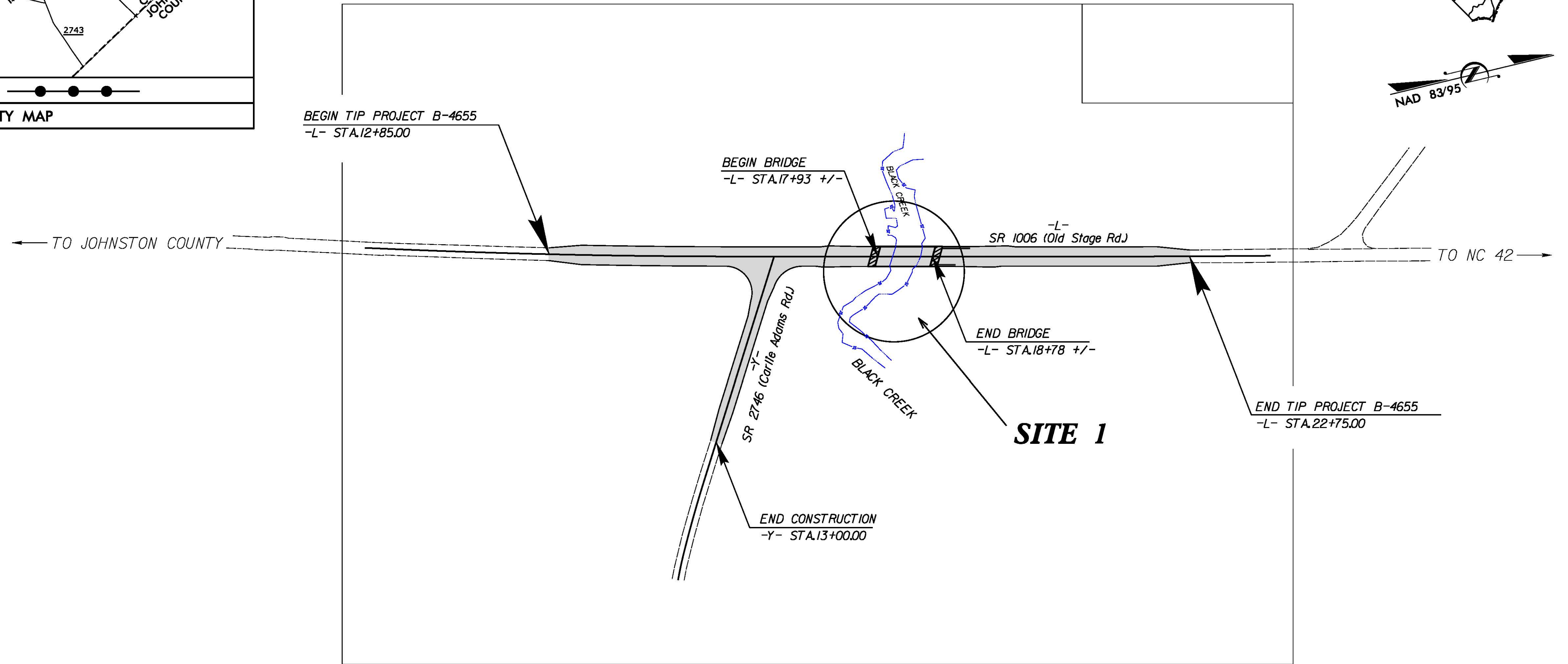
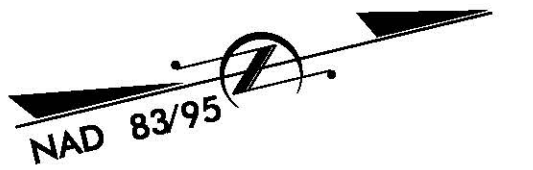
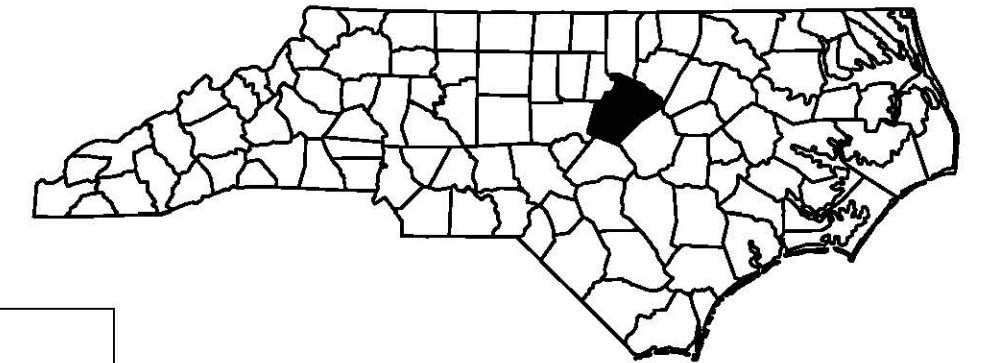
UTILITY JURISDICTIONAL IMPACTS WAKE COUNTY

WETLAND AND SURFACE WATER IMPACTS PERMIT

LOCATION: BRIDGE NO. 277 OVER BLACK CREEK
ON SR 1006 (OLD STAGE RD.)

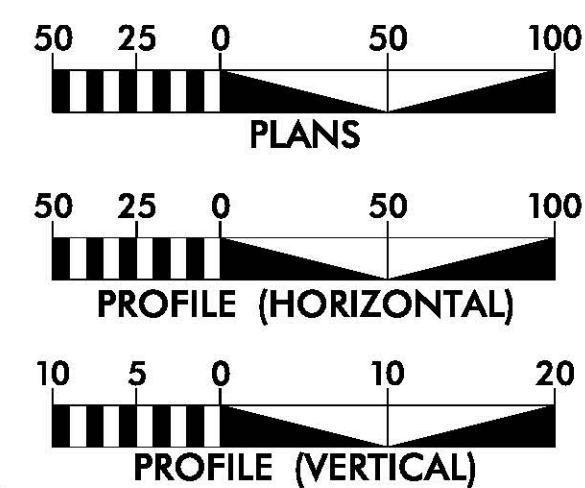
TYPE OF WORK: POWER DISTRIBUTION, TELEPHONE
AND CABLE TELEVISION RELOCATION

PERMIT DRAWING
SHEET 1 OF 3



CLEARING ON THIS PROJECT SHALL BE TO LIMITS ESTABLISHED USING METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

GRAPHIC SCALES



UTILITY OWNERS ON PROJECT

- (A) DUKE ENERGY (POWER DISTRIBUTION)
- (B) CENTURYLINK (COMMUNICATIONS)
- (C) TIME WARNER CABLE (CABLE TELEVISION)

Michael Baker INTERNATIONAL

Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
919-463-5488

UTILITIES COORDINATION
CONSULTANT

Brandy Creech



PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4119

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Carl Barclay, P.E. UTILITIES PROJECT DESIGNER

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

PERMIT DRAWING
SHEET 2 OF 3

NAD 83/95

9 6
EUGENE HOKE MITCHNER
DB 1329 PG 2044

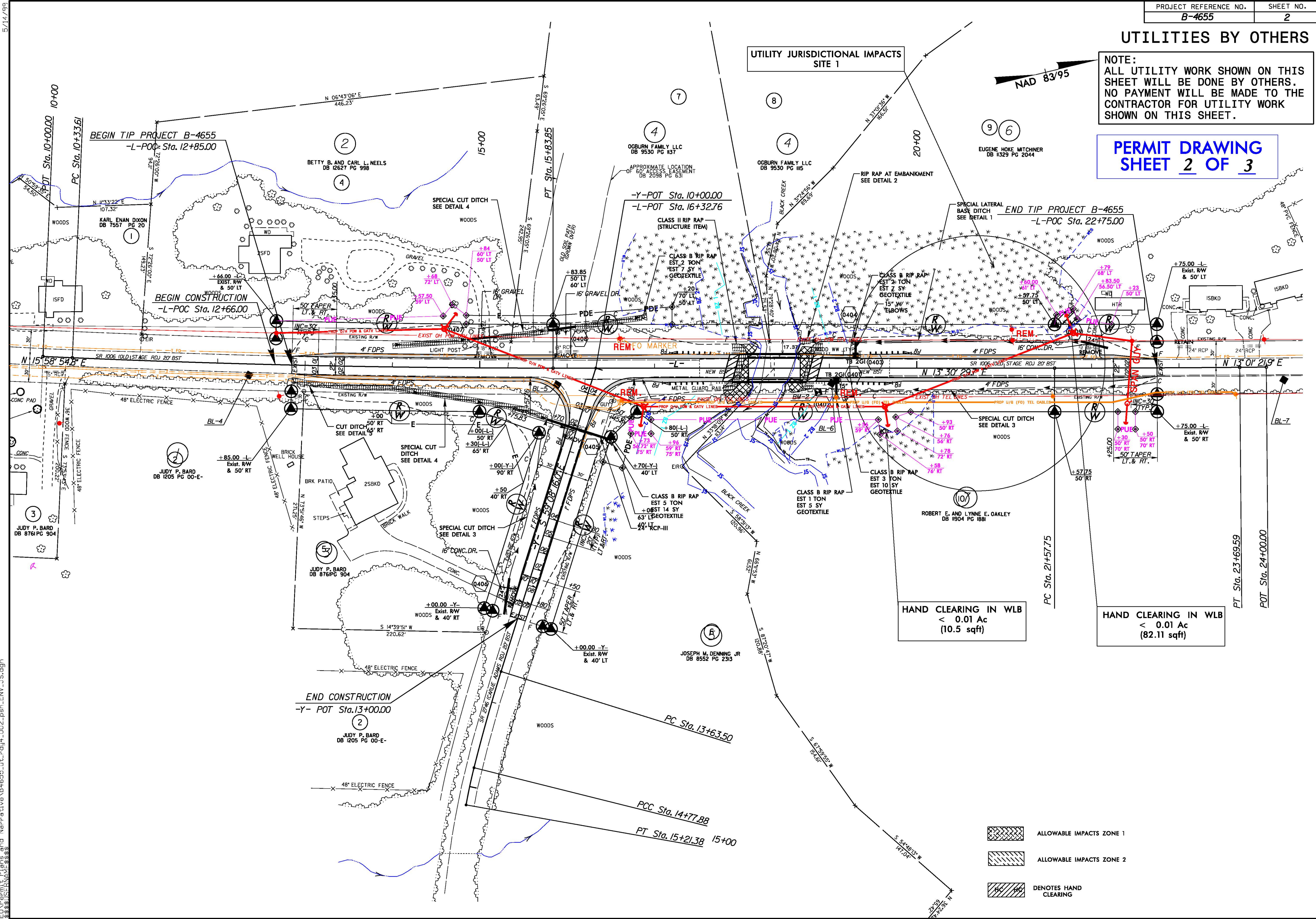
UTILITY JURISDICTIONAL IMPACTS
SITE 1

END TIP PROJECT B-4655
-L-POC Sta. 22+75.00

HAND CLEARING IN WLB
< 0.01 Ac
(10.5 sqft)

HAND CLEARING IN WLB
< 0.01 Ac
(82.11 sqft)

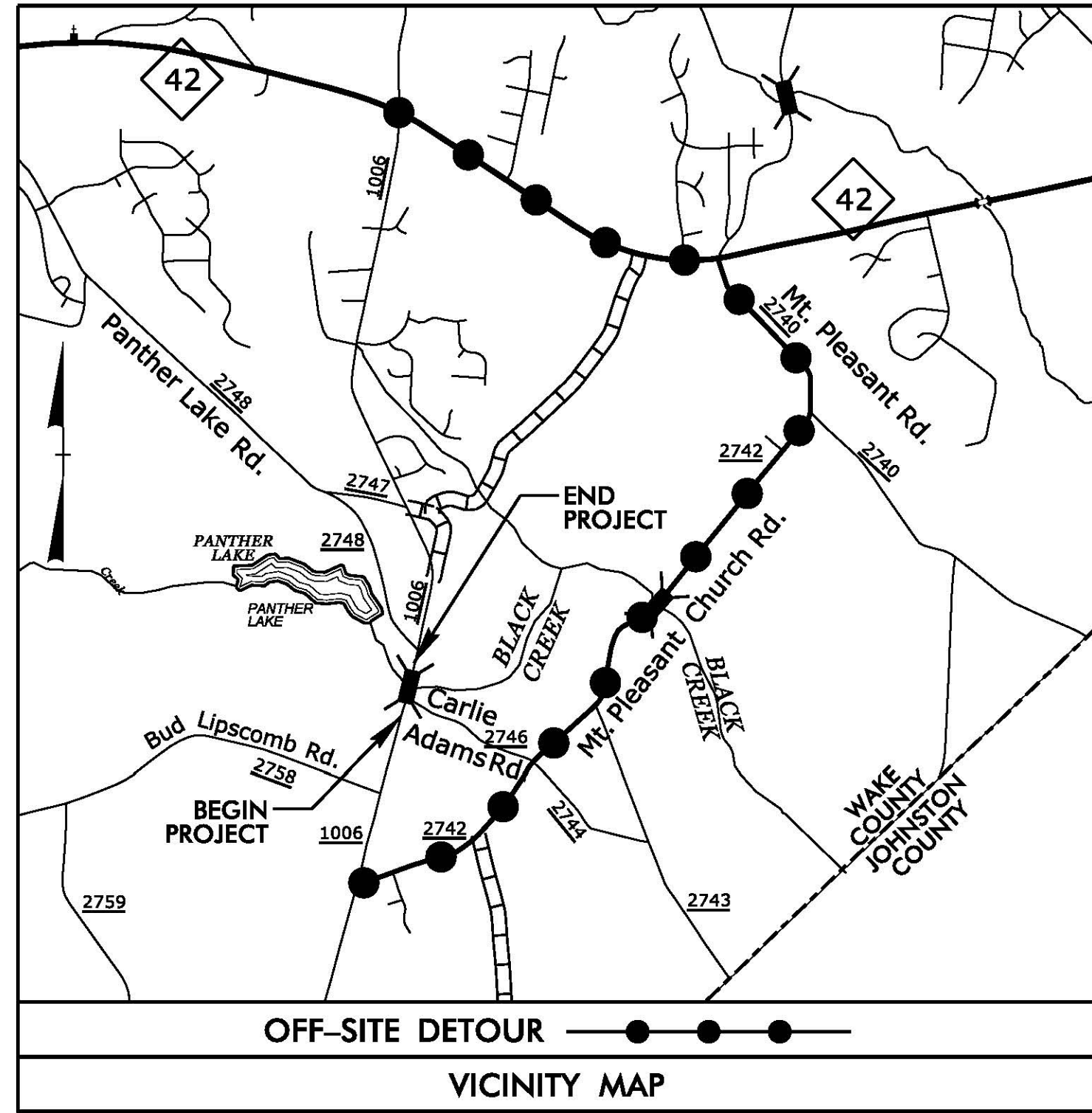
- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2
- DENOTES HAND CLEARING



5/14/99

8-AUG-2016 13:43
C:\Users\jbarde\OneDrive\Documents\B4655\B4655.dgn
jbarde

T.I.P. PROJECT: B-4655



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITY BUFFER IMPACTS PLAN
WAKE COUNTY**

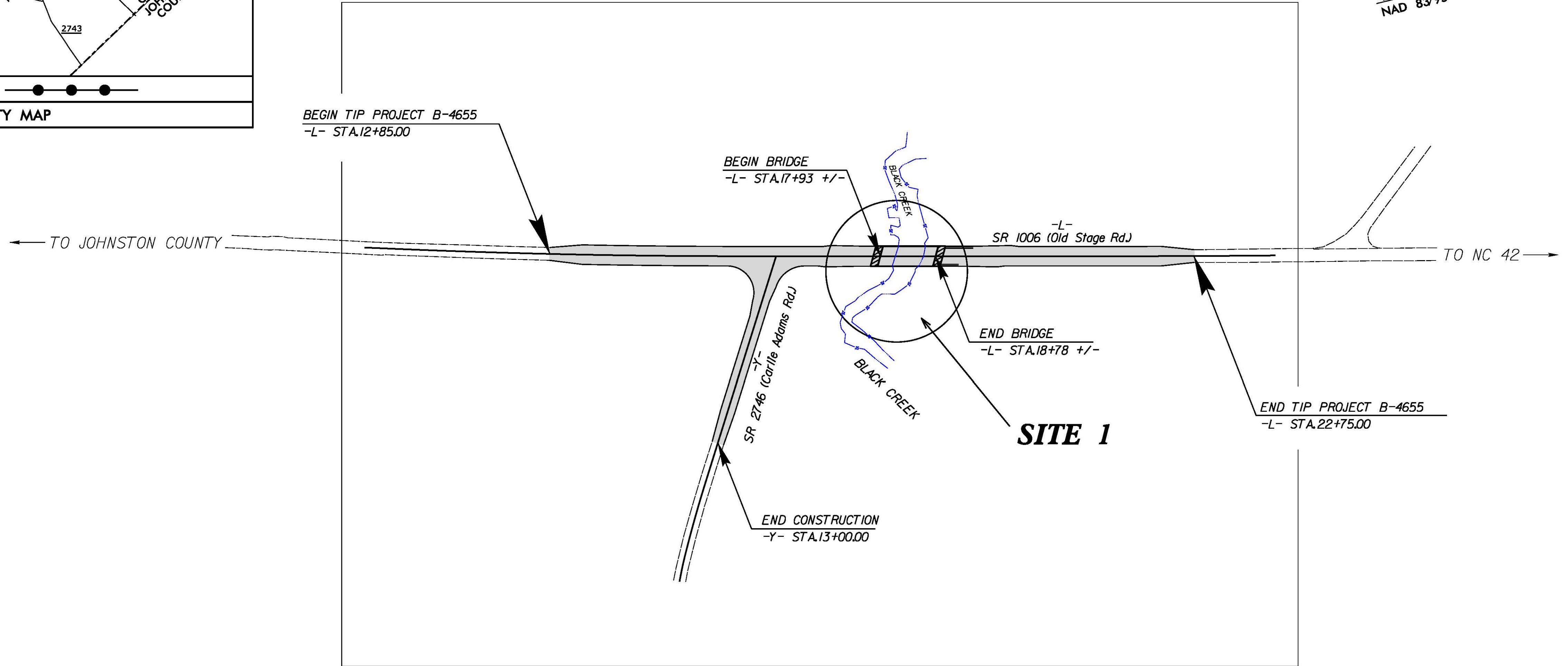
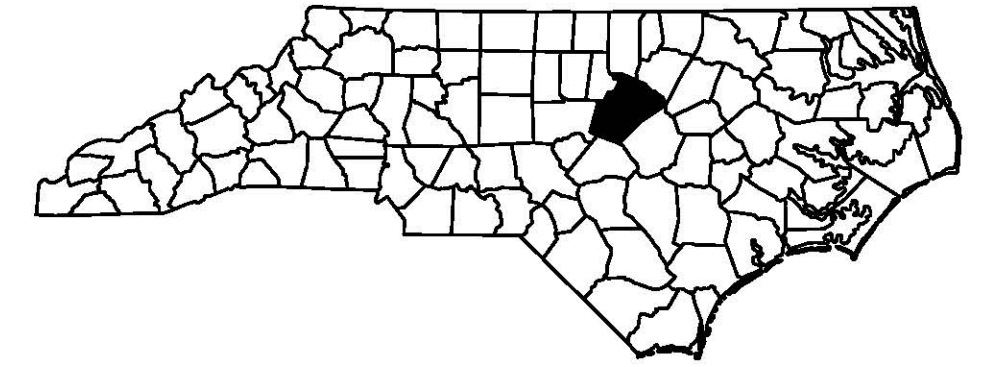
BUFFER IMPACTS PERMIT

**LOCATION: BRIDGE NO. 277 OVER BLACK CREEK
ON SR 1006 (OLD STAGE RD.)**

**TYPE OF WORK: POWER DISTRIBUTION, TELEPHONE
AND CABLE TELEVISION RELOCATION**

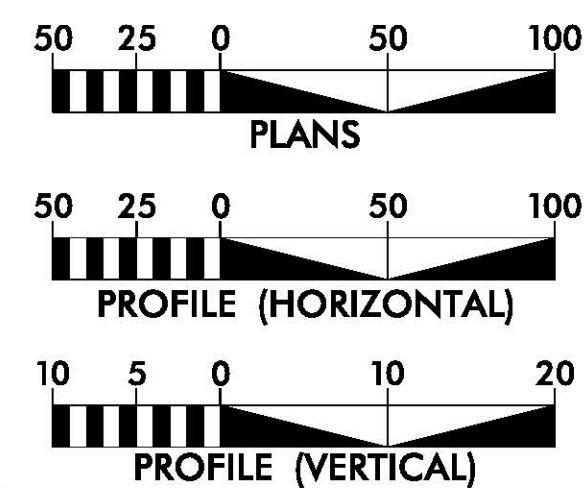
STATE PROJECT REFERENCE NO.	SHEET NO.
B-4655	1

**BUFFER DRAWING
SHEET 1 OF 3**



CLEARING ON THIS PROJECT SHALL BE TO LIMITS ESTABLISHED USING METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

GRAPHIC SCALES



UTILITY OWNERS ON PROJECT

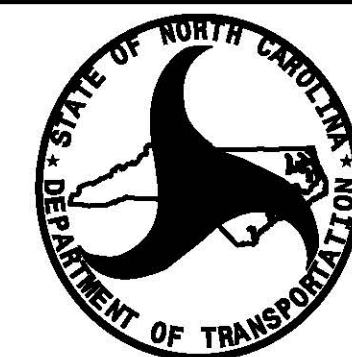
- (A) DUKE ENERGY (POWER DISTRIBUTION)
- (B) CENTURYLINK (COMMUNICATIONS)
- (C) TIME WARNER CABLE (CABLE TELEVISION)

**Michael Baker
INTERNATIONAL**

Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
919-463-5488

**UTILITIES COORDINATION
CONSULTANT**

Brandy Creech



PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING**

1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4119

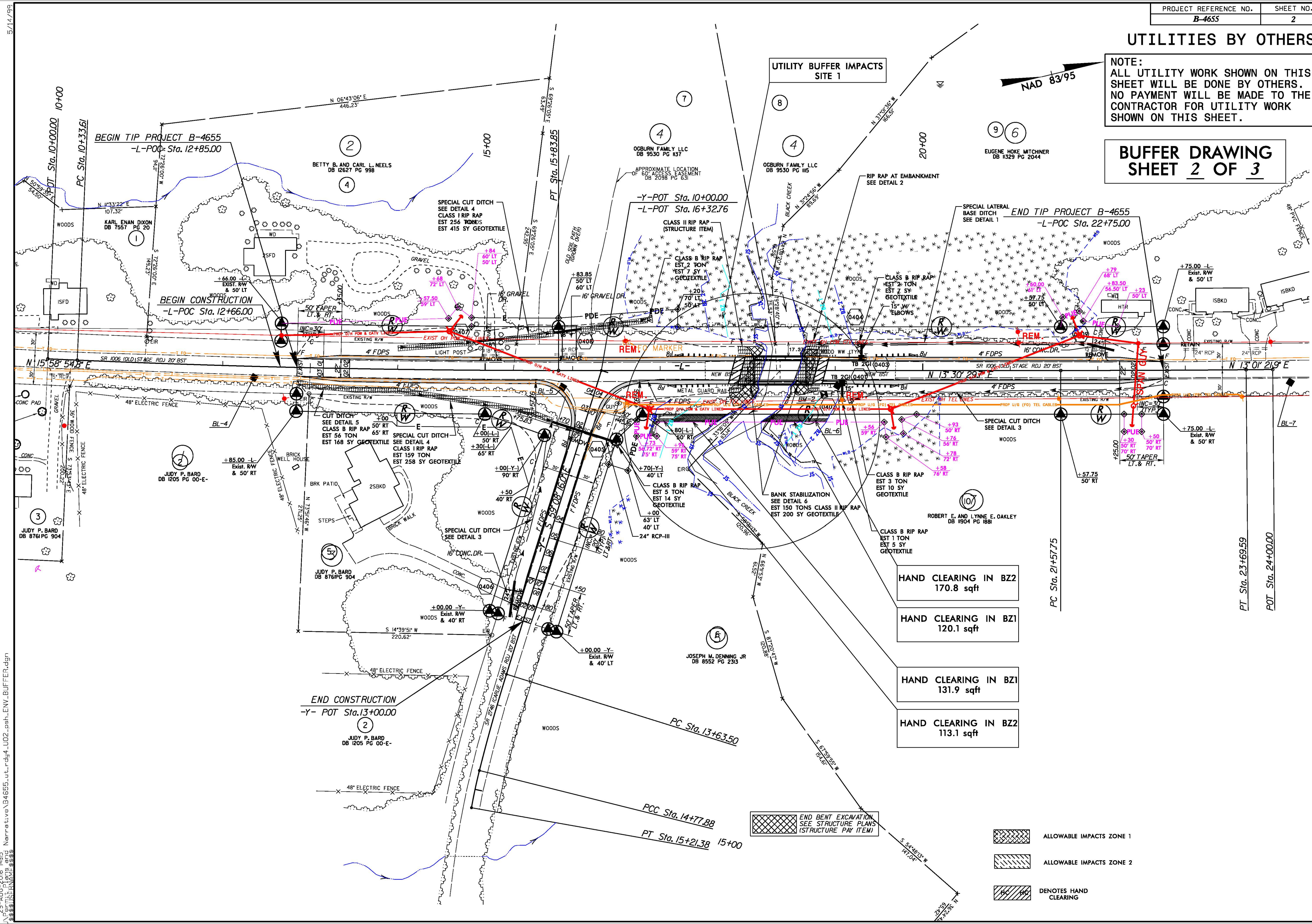
Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Carl Barclay, P.E. UTILITIES PROJECT DESIGNER

UTILITIES BY OTHERS

NOTE:
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NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

BUFFER DRAWING SHEET 2 OF 3

NAD 83/95



5/14/99
29-AUG-2016 14:45
Narrative\B4655-ut.rdy4_u02_psh ENV_BUFFER.dgn

BUFFER IMPACTS SUMMARY	
------------------------	--

[illegible]

Buffer impacts on this project fall under the exeption status per Neuse Riparian Buffer Rules

Site 1	Exempt	Zone 1 = 131.9 sqft	Zone 2 = 113.1 sqft
Site 1	Exempt	Zone 1 = 120.1 sqft	Zone 2 = 170.8 sqft

Totals Zone 1 = 252.0 sqft Zone 2 = 283.9 sqft

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY

PROJECT: 38455.2.1 (B-4655)

BRIDGE #277 SR 1006 (OLD STAGE ROAD)
OVER BLACK CREEK

6/14/2016

Sheet 3 of 3

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY

PROJECT: 38455.2.1 (B-4655)

BRIDGE #277 SR 1006 (OLD STAGE ROAD)
OVER BLACK CREEK

6/14/2016

Sheet 3 of 3