



Pre-Construction Notification (PCN) Form

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

September 29, 2018 Ver 3

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: *

Nash

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:

BR-0116

WBS # *

67116.1.1

(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)

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

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

This form may be used to initiate the standard/individual permit process with the Corps. Please contact your Corps representative concerning submittals for standard permits. All required items that are not provided in the E-PCN can be added to the miscellaneous upload area located at the bottom of this form.

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

Yes No

Nationwide Permit (NWP) Number:

03 - Maintenance

NWP Numbers (for multiple NWPS):

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

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

check all that apply

- 401 Water Quality Certification - Regular
 Non-404 Jurisdictional General Permit
 Individual 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 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

BR-0116 - Buffer - TP 01.pdf

71.27KB

FILETYPE 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: *

jldilday@ncdot.gov

1c. Primary Contact Phone: *

(xxx)xxx-xxxx
(919)707-6111

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: *

NCDOT

2b. Deed book and page no.:

2c. Responsible party:

(for Corporations)

2d. Address *

Street Address

1000 Birch Ridge Drive

Address Line 2

City

Raleigh

Postal / Zip Code

27610

State / Province / Region

NC

Country

USA

2e. Telephone Number: *

(xxx)xxx-xxxx

(919)707-6000

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: *

BR-0116 (Bridge 80 over Gideon Swamp on SR 1403)

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town: *

Aventon

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

State / Province / Region

Postal / Zip Code

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: *

36.126952
ex: 34.208504

Longitude: *

-77.955734
-77.796371

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

Gideon Swamp

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

C;NSW:+

[Surface Water Lookup](#)**3c. What river basin(s) is your project located in? ***

Tar-Pamlico

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

030201010706

[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: ***

Land use in the project vicinity is primarily forestland interspersed with agricultural areas and residential development along roadways.

4b. Have Corps permits or DWR certifications been obtained for this project (including all prior phases) in the past? * Yes No Unknown**4d. Attach an 8 1/2 X 11 excerpt from the most recent version of the USGS topographic map indicating the location of the project site. (for DWR)**[Click the upload button or drag and drop files here to attach document](#)

File type must be pdf

4e. Attach an 8 1/2 X 11 excerpt from the most recent version of the published County NRCS Soil Survey map depicting the project site. (for DWR)[Click the upload button or drag and drop files here to attach document](#)

File type must be pdf

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

0.1

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

(intermittent and perennial)

780

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

The purpose of this project is to replace a structurally deficient bridge.

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

This project involves replacing the 86-foot, 5-span bridge with a 106-foot, 3-span bridge on existing alignment using an off-site detour. Standard road building equipment, such as trucks, dozers, and cranes will be used.

4j. Please upload project drawings for the proposed project.[Click the upload button or drag and drop files here to attach document](#)

Br-0116_Permit Drawings.pdf

1.2MB

BR-0116_Buffer Drawings.pdf

859.87KB

BR-0116_Roadway.pdf

1.63MB

File type must be pdf

5. Jurisdictional Determinations**5a. Have the wetlands or streams been delineated on the property or proposed impact areas? *** Yes No Unknown

Comments:

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): James Mason

Agency/Consultant Company: Three Oaks Engineering

Other:

5d. List the dates of the Corp jurisdiction determination or State determination if a determination was made by the Corps or DWR.

Field verification conducted on May 24, 2019 with Eric Alsmeyer (USACE). Written verification not received.

5d1. Jurisdictional determination upload

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

File type must be PDF

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	Handclearing	T	Headwater Forest	WB	Yes	Both	0.003 (acres)

2g. Total Temporary Wetland Impact

0.003

2g. Total Permanent Wetland Impact

0.000

2g. Total Wetland Impact

0.003

2h. Comments:

Handclearing in wetlands totals 110 sq ft.

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	Fill slope/ROW	Temporary	Other	Gideon Swamp	Perennial	Both	15 Average (feet)	35 (linear feet)

** 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:

35

3i. Total stream and ditch impacts:

35

3j. Comments:

Temporary impact to Gideon Swamp due to hand clearing in wetland adjacent to stream.

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 *
Site 1-Road Crossing-Allowable	P	Gideon Swamp	No	211 (square feet)	555 (square feet)
Site 1-Bridge-Allowable	P	Gideon Swamp	No	2,113 (square feet)	367 (square feet)
Site 2-Parallel Impact-Allowable w/ mitigation	P	Gideon Swamp	Yes	1,425 (square feet)	1,162 (square feet)

6h. Total buffer impacts:

	Zone 1	Zone 2
Total Temporary impacts:	0.00	0.00
Total Permanent impacts:	3,749.00	2,084.00
Total combined buffer impacts:	3,749.00	2,084.00

6i. Comments:

There is 110 sq ft of zone 1 buffer impact at Site 1 that occurs within wetlands.

Supporting Documentation - i.e. Impact Maps, Plan Sheet, etc.

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

File must be PDF

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 replacement structure is designed so that internal bents are outside of the the banks of Gideon Swamp. There will be no permanent stream or wetland impacts with the project. See Stormwater Management Plan for more information.

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

NCDOT's Design Standards in Sensitive Watersheds will be employed during construction. NCDOT Best Management Practices for Construction and Maintenance Activities will be implemented. An off-site detour will be used during construction.

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

2b. If this project DOES NOT require Compensatory Mitigation, explain why:

Due to minimal impacts, compensatory mitigation for Waters of the U.S. or Waters of the State is not proposed

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

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 in the table below.

	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1	Fill slope/ROW	1,425	3	4,275

Zone 2	Fill slope/ROW	1,162	1.5	1,743
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6f. Total buffer mitigation required

6018

6g. If buffer mitigation is required, is payment to a mitigation bank or NC Division of Mitigation Services proposed?

Yes No

6h. Attach the acceptance letter from the mitigation bank or NC Division of Mitigation Services.

BR-0116 - Buffer - TP 01.pdf

71.27KB

(PDF only)

6j. Comments:

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](#).

Diffuse Flow Documentation

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

File type must be PDF

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

NEPA or SEPA Final Approval Letter

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

FILETYPE MUST BE PDF

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

5c. If yes, indicate the USFWS Field Office you have contacted.

Raleigh

5d. Is another Federal agency involved? *

Yes No Unknown

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

Yes No

5j. 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 Nash County, which include red-cockaded woodpecker (RCW), dwarf wedgemussel, Tar River spiny mussel, yellow lance and Michaux's sumac. Habitat for RCW and Michaux's sumac exist within the study area, however no specimens were observed during surveys conducted on May 24, 2019. NCDOT proposes to use the Programmatic Biological Opinion for dwarf wedgemussel, Tar River spiny mussel and yellow lance. Habitat for the bald eagle is not present within 1.0 mile of the study area.

Consultation Documentation Upload

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

File type must be PDF

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

7c. Historic or Prehistoric Information Upload

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

File must be PDF

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

Miscellaneous

Comments

Miscellaneous attachments not previously requested.

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

File must be PDF or KMZ

Signature

*

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

- 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: *

Mack Christopher Rivenbark III

Signature

Mack C. Rivenbark, III

Date

10/10/2019



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

TIM BAUMGARTNER
Director

September 24, 2019

Mr. Philip S. Harris, P.E., CPM
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: DMS Mitigation Acceptance Letter:

TIP Number BR-0116 – Replace Bridge 80 over Gideon Swamp on SR 1403, Nash County

The purpose of this letter is to notify you that the NCDEQ Division of Mitigation Services (NCDEQ DMS) will provide the buffer mitigation for the subject project. Based on the information supplied by you on September 23, 2019, the impacts are located in CU 03020101 of the Tar-Pamlico River basin in the Northern Inner Coastal Plain (NICP) Eco-Region, and are as follows:

Tar-Pamlico 03020101 NICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0	0	0	1,425.0	1,162.0

*Some of the stream and wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWR’s Buffer Authorization Certification, NCDEQ DMS will transfer funds from the NCDOT 2984 Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its riparian buffer mitigation responsibility for this project. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

If you have any questions or need additional information, please contact Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill
DMS Asset Management Supervisor

cc: Mr. Monte Matthews, USACE – Raleigh Regulatory Field Office
Ms. Amy Chapman, NCDWR
Ms. Linda Fitzpatrick, NCDOT – PDEA
File: BR-0116





North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
 FOR NCDOT PROJECTS



(Version 2.01; Released December 2014)

WBS Element: **TIP No.:** BR-0116 **County(ies):** Nash **Page** 1 **of** 1

General Project Information

WBS Element:		TIP Number: BR-0116	Project Type: Bridge Replacement	Date: 3/20/2019
NCDOT Contact:	Chad Coggins		Contractor / Designer:	Wetherill Engineering, Inc. / Jim Davis, PE
Address:	Highway Division 4 509 Ward Blvd, PO BOX 3165 Wilson, NC 27895		Address:	1223 Jones Franklin Rd. Raleigh, NC 27606
Phone:	252-237-6164		Phone:	919-851-8077
Email:	ccoggins@ncdot.gov		Email:	jdavis@wetherilleng.com
City/Town:	N/A		County(ies):	Nash
River Basin(s):	Tar-Pamlico		CAMA County?	No
Wetlands within Project Limits?	Yes			

Project Description

Project Length (lin. miles or feet):	0.018 mi.	Surrounding Land Use:	Rural / Agricultural
	Proposed Project		Existing Site
Project Built-Up Area (ac.)	0.316 ac.		0.232 ac.
Typical Cross Section Description:	The proposed section consists of two lanes 10' in width . Full depth paved shoulders 6'-5" to 7'-5" will be constructed at bridge approach guardrail locations. Minimum 3'-0" grassed shoulders will be provided for remaining lengthof roadway improvement.		Existing road consists of two lanes with variable lane widths of 8.3' to 9.2'. Variable width grassed shoulders.
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 310	Year: 2019	Existing: Year:
General Project Narrative: (Description of Minimization of Water Quality Impacts)	Existing drainage flow patterns will be maintained. There will be no deck drains on the bridge. Bridge runoff will be intercepted at the downgrade end by drainage inlets and will be discharged onto a rip rap pad outside of Buffer Zone 2.		

Waterbody Information

Surface Water Body (1):	Gideon Swamp		NCDWR Stream Index No.:	28-78-2	
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C			
	Supplemental Classification:	Nutrient Sensitive Waters (NSW)	Waters (ORW)		
Other Stream Classification:	None				
Impairments:	None				
Threatened/Endangered Species?	No	Comments:			
NRTR Stream ID:	N/A		Buffer Rules in Effect:	Tar-Pamlico	
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)				

See Sheet 1-A For Index of Sheets
 See Sheet 1-B For Conventional Symbols
 See Sheet 1C-1 TO 1C-2 For Survey Control Sheets

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

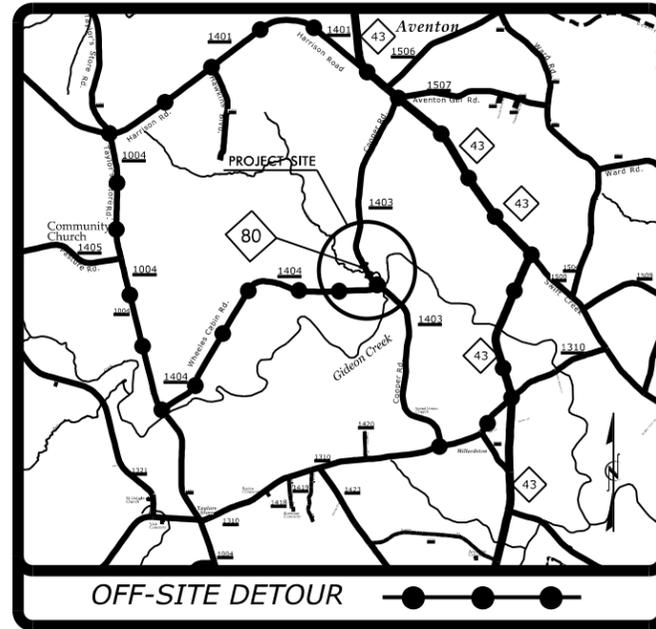
NASH COUNTY

**LOCATION: BRIDGE NO. 630080 OVER GIDEON SWAMP
 ON SR 1403 (COOPER RD.)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

**WETLAND AND SURFACE WATER
 IMPACTS PERMIT**

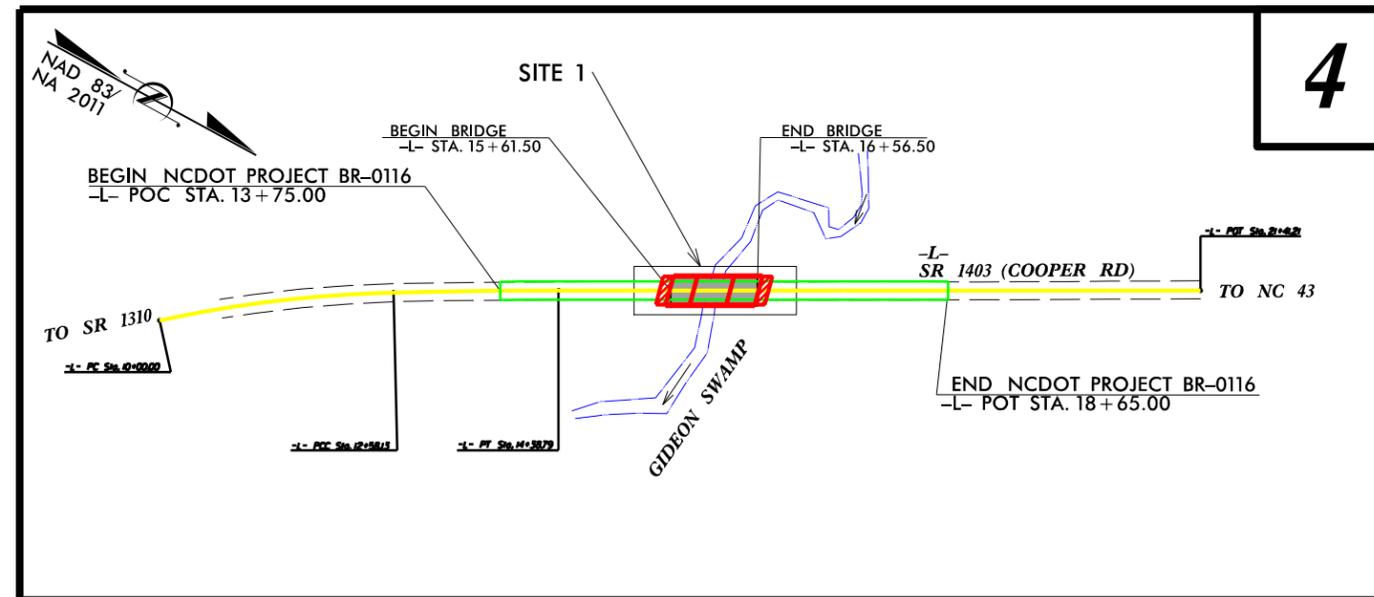
PROJECT: BR-0116



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0116	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
67116.1.1		PE	
1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. F-0377 Bus: 919 851 8077 Fax: 919 851 8107			
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION			

BRIDGE #630080

**PERMIT DRAWING
 SHEET 1 OF 4**

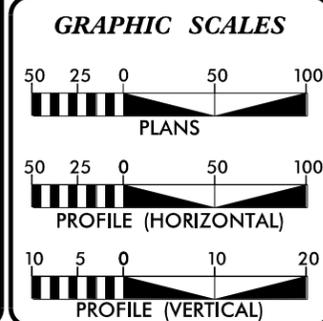


4

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.
 THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

CONTRACT:



DESIGN DATA
 ADT 2019 = 310

T = 6 % *
 V = 55 MPH

* (TTST = 3% +
 DUAL = 3%)
 FUNC CLASS =
 RURAL LOCAL
 SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT BR-0116 =	0.079 MILES
LENGTH STRUCTURE PROJECT BR-0116 =	0.020 MILES
TOTAL LENGTH PROJECT BR-0116 =	0.099 MILES

NCDOT CONTACT: DAVID STUTTS, PE
 PROJECT ENGINEER - PEE/PROGRAM MGT.

Prepared for:
**DIVISION OF HIGHWAYS
 STRUCTURES MANAGEMENT UNIT**
 1000 BIRCH RIDGE DRIVE RALEIGH NC, 27610

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: EDWARD G. WETHERILL, PE
 PROJECT ENGINEER
 APRIL 3, 2019

LETTING DATE: GREG S. PURVIS, PE
 PROJECT DESIGN ENGINEER
 OCTOBER 3, 2019

HYDRAULICS ENGINEER

 P.E.

ROADWAY DESIGN ENGINEER

 P.E.



8/17/99

RICHARD JOURNIGAN

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

WETHERILL
ENGINEERING

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

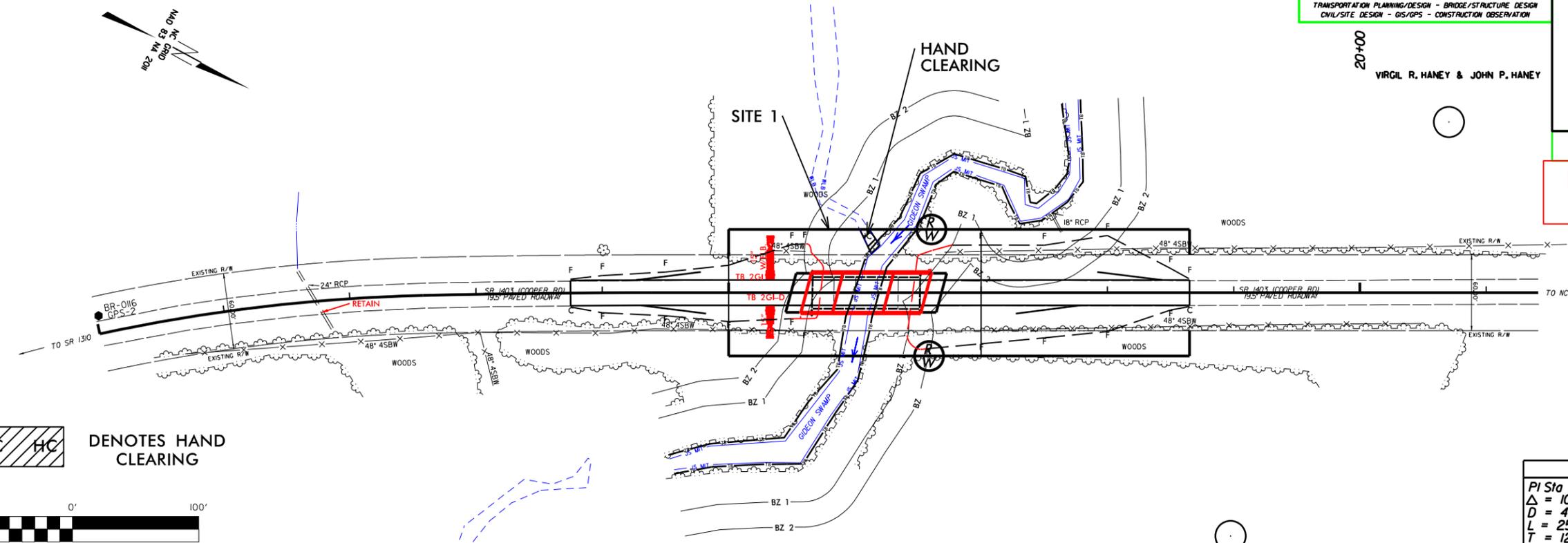
PROJECT REFERENCE NO. BR-0116	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	

20+00

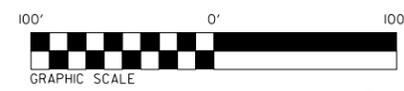
VIRGIL R. HANEY & JOHN P. HANEY

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**PERMIT DRAWING
SHEET 2 OF 4**



HC HC DENOTES HAND CLEARING



PHYLLIS CAMPBELL & VICKIE PITTMAN

-L-	
PI Sta 11+29.45 Δ = 10° 50' 25.7" (RT) D = 4' 11" 58.8" L = 258.13' T = 129.45' R = 1,364.29' SE = EXIST.	PI Sta 13+48.46 Δ = 1° 21' 09.9" (RT) D = 0' 44" 55.6" L = 180.66' T = 90.34' R = 7,651.96' SE = EXIST. RO = SEE PLANS DS = 55MPH

SEE SHEETS S-1 THRU S-2 FOR STRUCTURE PLANS



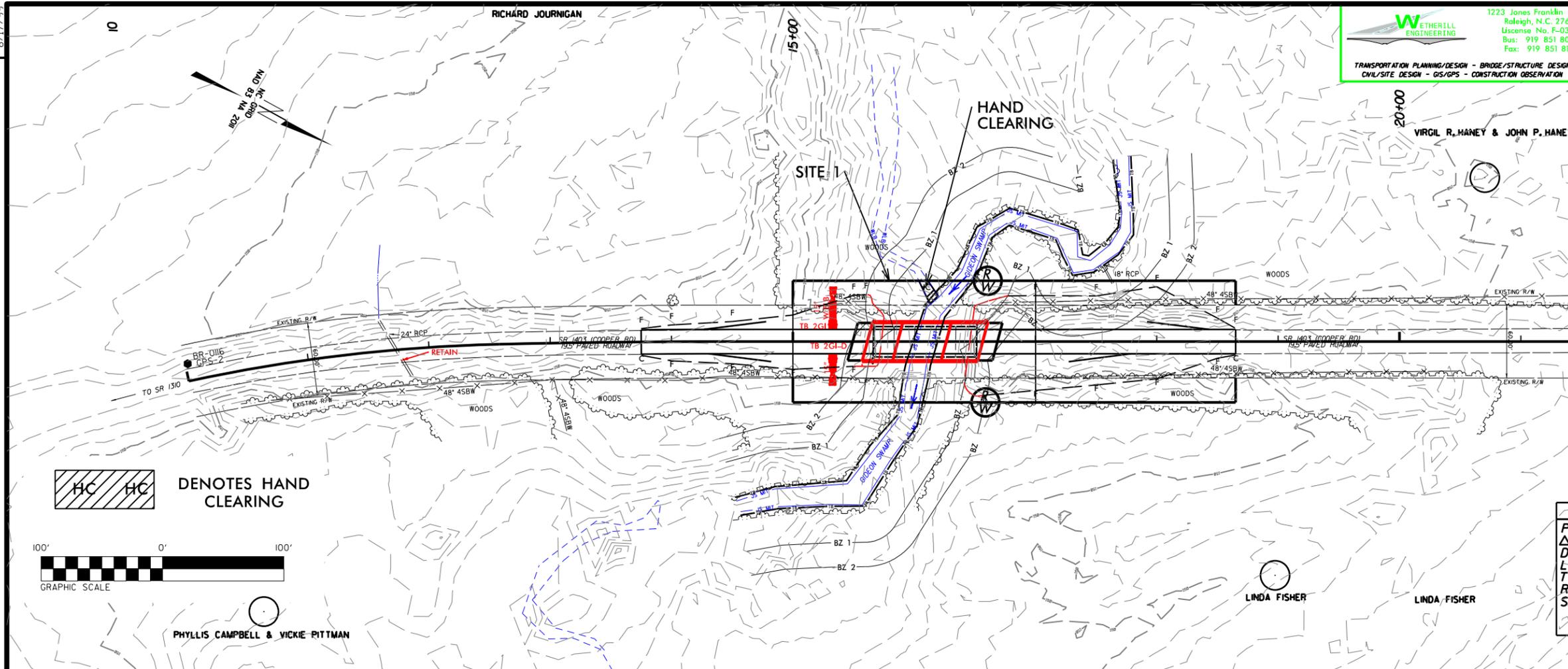
BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 1988 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 149.3 FT
BASE DISCHARGE	= 1700 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 150.7 FT
OVERTOPPING DISCHARGE	= 5800 CFS
OVERTOPPING FREQUENCY	= 2000 YRS
OVERTOPPING ELEVATION	= 152.8 FT
DATE OF SURVEY	= 02-01-2010
WS ELEVATION AT DATE OF SURVEY	= 141.1 FT

B.M. ELEVATION = 148.95	B.M. ELEVATION = 153.67
N 86°12' E 238.96'	N 87°12' E 238.11'
L STATION 15+23.32 41.68' LEFT	L STATION 21+25.41 36.78' LEFT
BENCHM. MARK SET IN 22' PINE	BENCHM. MARK SET IN 32' PINE

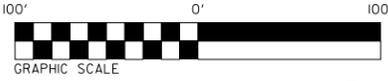
REVISIONS

8/14/2019
HSingh
P. 2010.19107.01 BR-0116-Hydraulics/PERMITS-Environmental Drawings/br0116_nam_psf.dwg

8/17/99
8/14/2019
H.Singh
P.20100.19107.01.BR-0116-Hydraulics PERMITS Environmental Drawings br0116.dwg RSH/Jan



HC HC DENOTES HAND CLEARING



PHYLLIS CAMPBELL & VICKIE PITTMAN

WETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

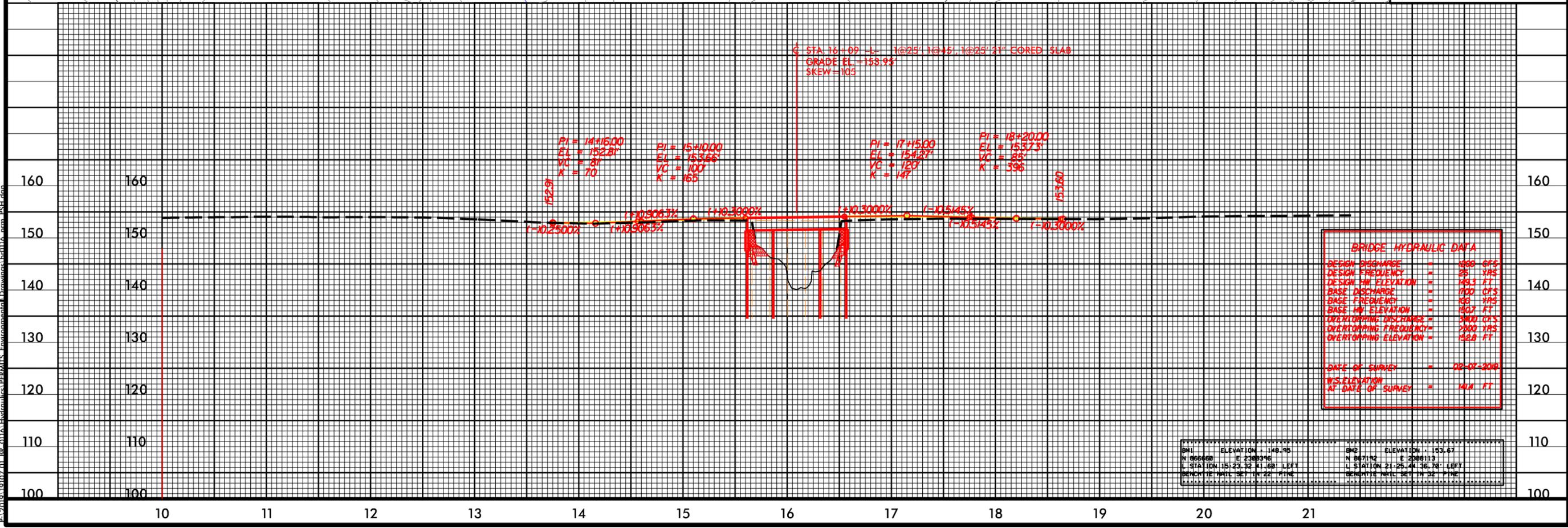
PROJECT REFERENCE NO. BR-0116	SHEET NO. 4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 3 OF 4

PI Sta 11+29.45 $\Delta = 10' 50' 25.7" (RT)$ $D = 4' 11' 58.8"$ $L = 258.13'$ $T = 129.45'$ $R = 1,364.29'$ $SE = EXIST.$	PI Sta 13+48.46 $\Delta = 1' 21' 09.9" (RT)$ $D = 0' 44' 55.6"$ $L = 180.66'$ $T = 90.34'$ $R = 7,651.96'$ $SE = EXIST.$ $RO = SEE PLANS$ $DS = 55MPH$
---	---

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



BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 1888 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 148.3 FT
BASE DISCHARGE	= 1700 CFS
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BASE HW ELEVATION	= 150.7 FT
OVERTOPPING DISCHARGE	= 5800 CFS
OVERTOPPING FREQUENCY	= 2000 YRS
OVERTOPPING ELEVATION	= 158.8 FT
DATE OF SURVEY	= 02-01-2010
W/ELEVATION AT DATE OF SURVEY	= 141.1 FT

B.M. ELEVATION = 148.95	B.M. ELEVATION = 153.67
N 86°58'0" E 230.83' = 1	N 86°11'0" E 208.11' = 1
U. STATION 15+23.32 41.68' LEFT	U. STATION 21+25.41 36.78' LEFT
BENCHM. MARK SET IN 22' PINE	BENCHM. MARK SET IN 32' PINE

WETLAND PERMIT IMPACT 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	'-L- 15+00 to 17+00	Fill slope/ROW					< 0.01				35	
TOTALS*:							< 0.01			0	35	0

*Rounded totals are sum of actual impacts

NOTES: Hand Clearing = 110 sq ft

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 8/6/2019
 NASH COUNTY
 BR-0116
 SHEET 4 OF 4

09/28/19

See Sheet 1-A For Index of Sheets
 See Sheet 1-B For Conventional Symbols
 See Sheet 1C-1 TO 1C-2 For Survey Control Sheets

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

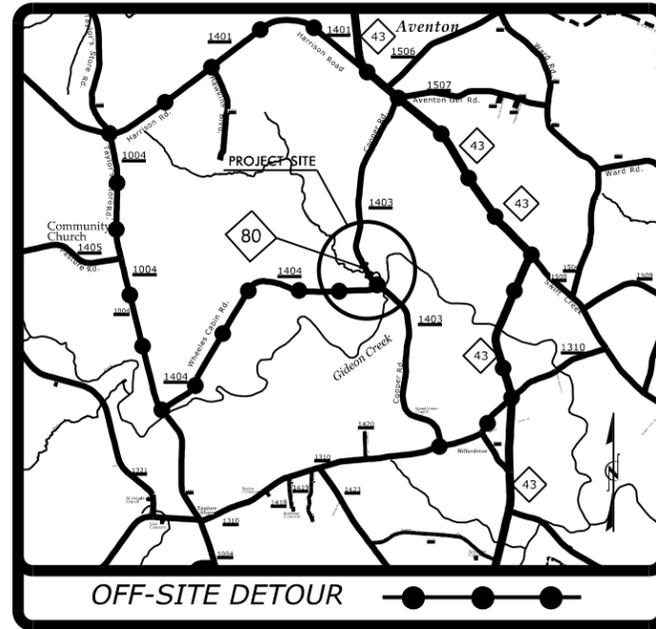
NASH COUNTY

**LOCATION: BRIDGE NO. 630080 OVER GIDEON SWAMP
 ON SR 1403 (COOPER RD.)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

BUFFER IMPACTS PERMIT

PROJECT: BR-0116



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0116	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
67116.1.1		PE	

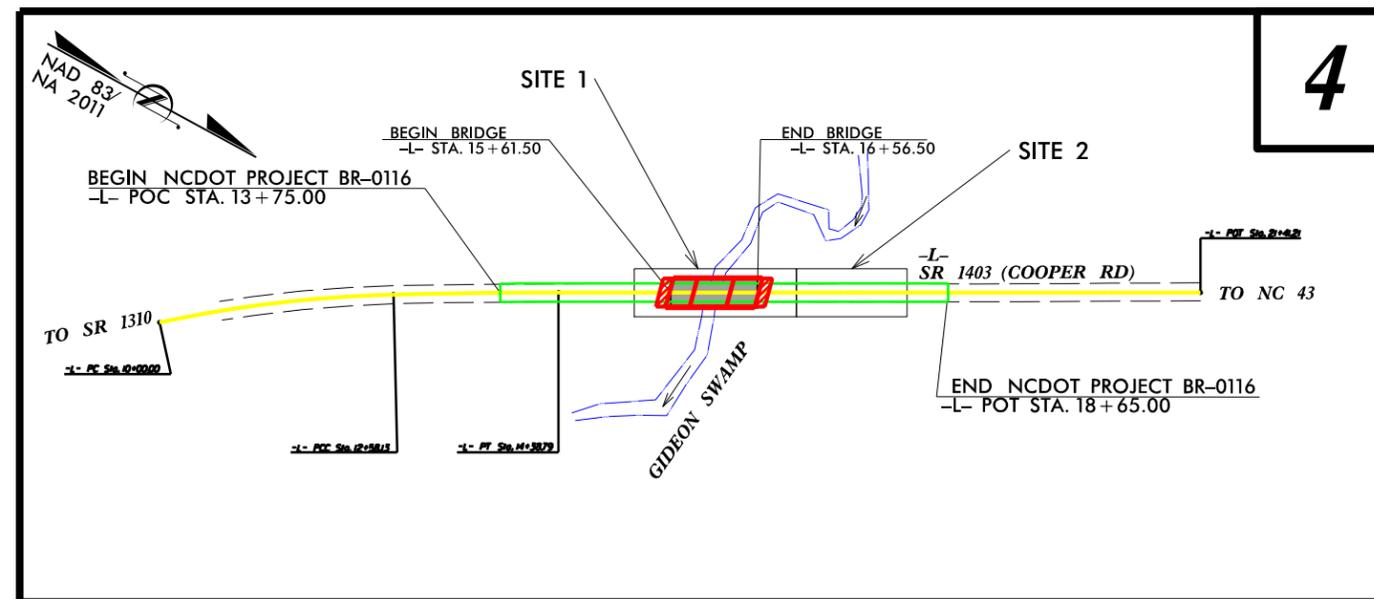
1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 License No. F-0377
 Bus: 919 851 8077
 Fax: 919 851 8107

WETHERILL ENGINEERING

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

BRIDGE #630080

**BUFFER DRAWING
 SHEET 1 OF 4**



4

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.
 THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

CONTRACT:

<p>GRAPHIC SCALES</p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p>DESIGN DATA ADT 2019 = 310</p> <p>T = 6 % * V = 55 MPH</p> <p>* (TTST = 3% + DUAL = 3%) FUNC CLASS = RURAL LOCAL SUBREGIONAL TIER</p>	<p>PROJECT LENGTH</p> <p>LENGTH ROADWAY PROJECT BR-0116 = 0.079 MILES LENGTH STRUCTURE PROJECT BR-0116 = 0.020 MILES TOTAL LENGTH PROJECT BR-0116 = 0.099 MILES</p>		<p>Prepared for: DIVISION OF HIGHWAYS STRUCTURES MANAGEMENT UNIT 1000 BIRCH RIDGE DRIVE RALEIGH NC, 27610</p> <p>2018 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: EDWARD G. WETHERILL, PE APRIL 3, 2019 PROJECT ENGINEER</p> <p>LETTING DATE: GREG S. PURVIS, PE OCTOBER 3, 2019 PROJECT DESIGN ENGINEER</p>		<p>HYDRAULICS ENGINEER</p> <p>_____ SIGNATURE: P.E.</p>	
		<p>NCDOT CONTACT: DAVID STUTTS, PE PROJECT ENGINEER - PEP/PROGRAM MGT.</p>		<p>ROADWAY DESIGN ENGINEER</p> <p>_____ SIGNATURE: P.E.</p>			

8/14/2019
 H.Singh
 F:\2019\19107.01 BR-0116\Hydraulics\PERMITS Environmental\Drawings\BR-0116_buffer_TSH.dgn

8.17.99

RICHARD JOURNIGAN

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

ETHERILL
ENGINEERING

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. BR-0116	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

20+00

VIRGIL R. HANEY & JOHN P. HANEY

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

**PERMIT DRAWING
SHEET 2 OF 4**

 MITIGABLE IMPACTS ZONE 1

 MITIGABLE IMPACTS ZONE 2

 ALLOWABLE IMPACTS ZONE 1 (BRIDGE)

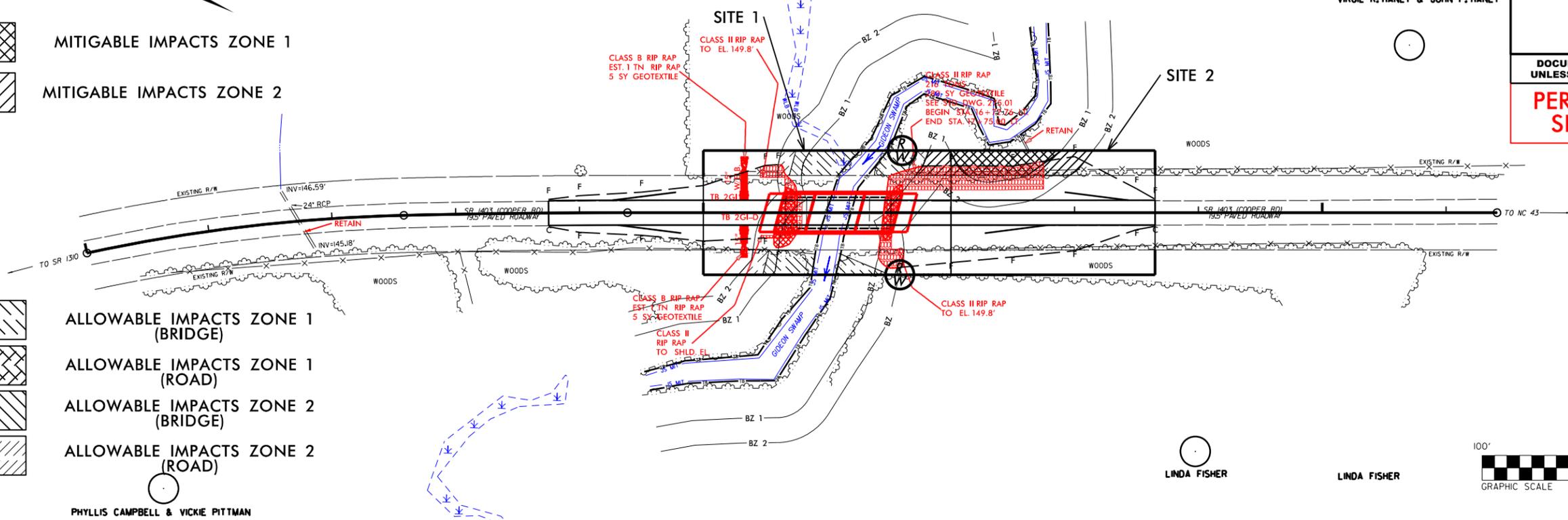
 ALLOWABLE IMPACTS ZONE 1 (ROAD)

 ALLOWABLE IMPACTS ZONE 2 (BRIDGE)

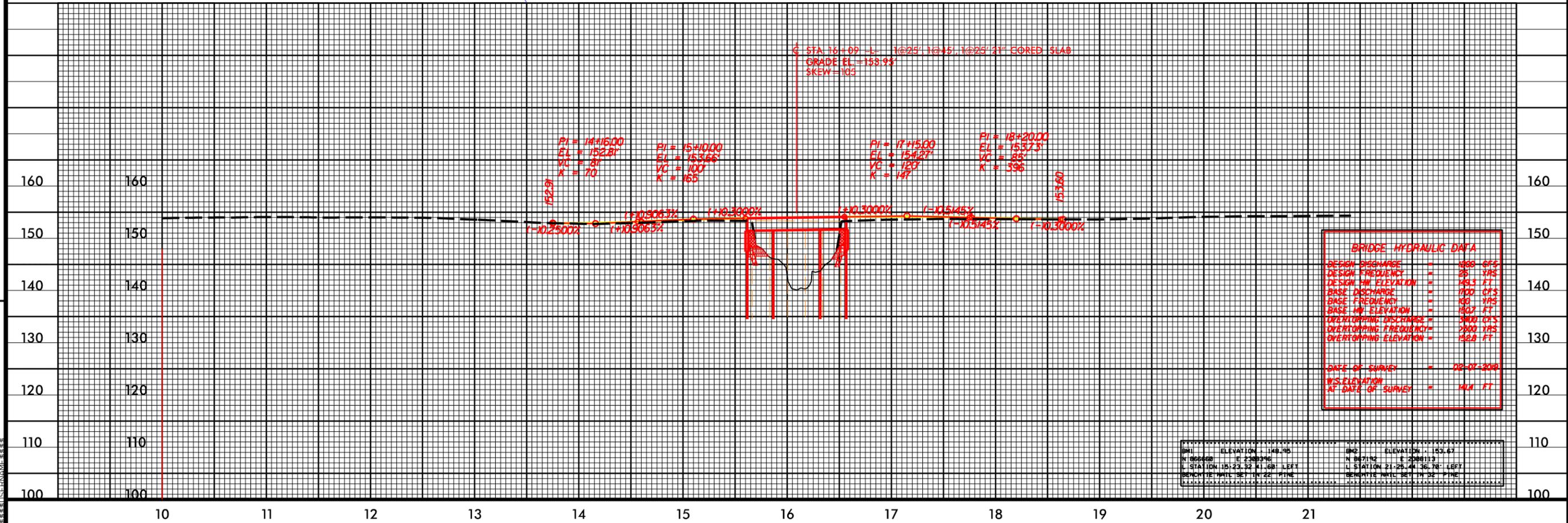
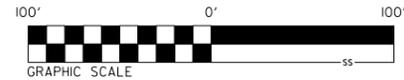
 ALLOWABLE IMPACTS ZONE 2 (ROAD)

PHYLIS CAMPBELL & VICKIE PITTMAN

NOTE:
BEGIN SBG STA. 15+29.00 LT. END STA. 15+53.51 LT.
BEGIN SBG STA. 15+29.00 RT. END STA. 15+45.25 RT.



REVISIONS



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1888 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 148.3 FT
BASE DISCHARGE	= 1700 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 150.7 FT
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OVERTOPPING FREQUENCY	= 2000 YRS
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DATE OF SURVEY	= 02-01-2000
WS ELEVATION AT DATE OF SURVEY	= 141.1 FT

BENCH MARK ELEVATION = 149.95	BENCH MARK ELEVATION = 153.67
N 868960 E 2308396	N 867192 E 2088113
U STATION 15+23.32 41.68' LEFT	U STATION 21+25.41 36.78' LEFT
BENCHMARK NAIL SET IN 2" PINE	BENCHMARK NAIL SET IN 2" PINE

BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	95' Bridge	-L- 15+30 to 16+85	x			211	555	766					
1	95' Bridge	-L- 15+60 to 16+55		x		2113	367	2480					
2	Roadway	-L- 17+00 to 18+15			x				1425.0	1162.0	2587		
TOTAL:						2324	922	3246	1425	1162	2587	0	0

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH CO.
BR-0116
Bridge #630080
on SR 1430 (Cooper Rd.)

SHEET 3 of 4 8/2/2019

WETLANDS IN BUFFER IMPACTS SUMMARY

			WETLANDS IN BUFFERS	
SITE NO.	STATION (FROM/TO)		ZONE 1 (ft ²)	ZONE 2 (ft ²)
1	-L- 16+04 to 16+20		110	
TOTAL:			110	0

N.C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS

NASH CO.
BR-0116
 Bridge #630080
 on SR 1430 (Cooper Rd.)
 8/2/2019
 SHEET 4 OF 4

09/28/19

See Sheet 1-A For Index of Sheets
 See Sheet 1-B For Conventional Symbols
 See Sheet RW02C-1 TO RW02C-2 For Survey Control Sheets

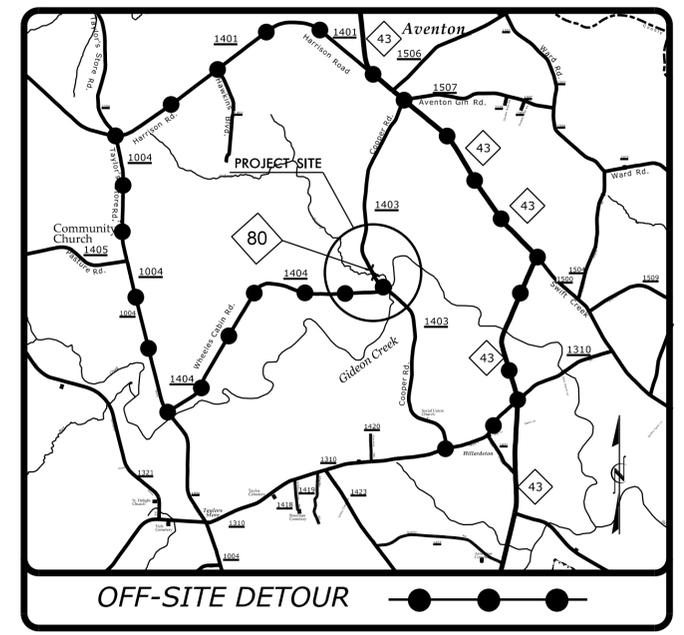
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

NASH COUNTY

**LOCATION: BRIDGE NO. 630080 OVER GIDEON SWAMP
 ON SR 1403 (COOPER RD.)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

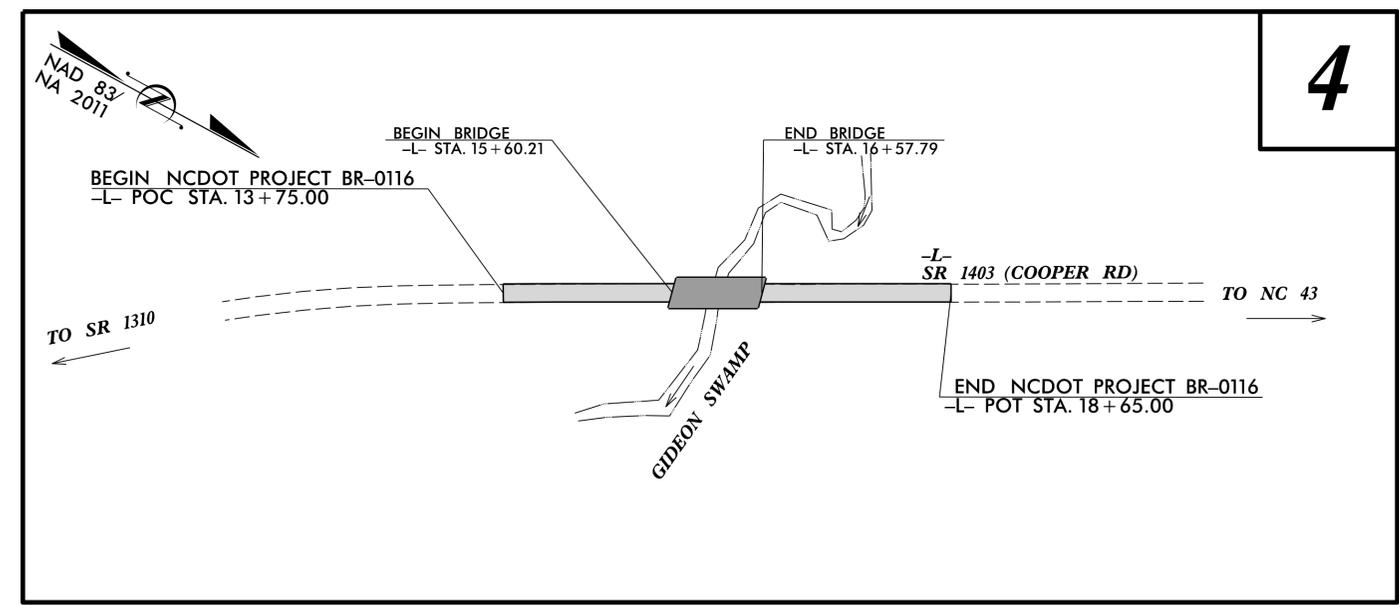
PROJECT: BR-0116



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0116	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
48825.1.1		PE	
48825.2.1		ROW/UTIL.	
48825.3.1		CONST.	
1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. F-0377 Bus: 919 851 8077 Fax: 919 851 8107			
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION			

BRIDGE #630080

ROW PLANS

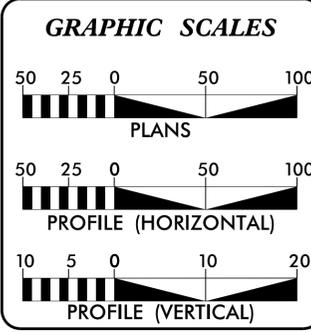


4

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

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

CONTRACT:



DESIGN DATA
 ADT 2019 = 310

T = 6 % *
 V = 55 MPH

* (TTST = 3% +
 DUAL = 3%)
 FUNC CLASS =
 RURAL LOCAL
 SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT BR-0116 =	0.075 MILES
LENGTH STRUCTURE PROJECT BR-0116 =	0.018 MILES
TOTAL LENGTH PROJECT BR-0116 =	0.093 MILES

NCDOT CONTACT: **DAVID STUTTS, PE**
 PROJECT ENGINEER - PEP/PROGRAM MGT.

Prepared for:
DIVISION OF HIGHWAYS
 STRUCTURES MANAGEMENT UNIT
 1000 BIRCH RIDGE DRIVE RALEIGH NC, 27610

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: **JULY 24, 2019**

LETTING DATE: **JUNE 16, 2020**

EDWARD G. WETHERILL, PE
 PROJECT ENGINEER

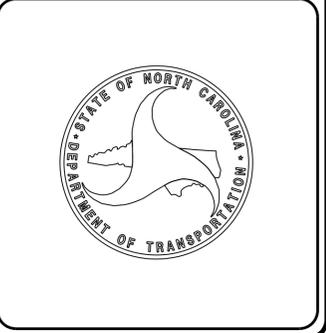
GREG S. PURVIS, PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



7/23/2019
 U:\Projects\BR-0116_rdy_TSH.dgn
 USER:G.PURVIS

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

12/2/2016

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Computed Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	①23
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	--- WLB ---
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	--- EAB ---
Existing Endangered Plant Boundary	--- EPB ---
Existing Historic Property Boundary	--- HPB ---
Known Contamination Area: Soil	☠ S ☠
Potential Contamination Area: Soil	☠ S ☠
Known Contamination Area: Water	☠ W ☠
Potential Contamination Area: Water	☠ W ☠
Contaminated Site: Known or Potential	☠ ?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	▬

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	--- JS ---
Buffer Zone 1	--- BZ 1 ---
Buffer Zone 2	--- BZ 2 ---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	▽
Proposed Lateral, Tail, Head Ditch	▬
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	⊠
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	○ R W
New Right of Way Line with Pin and Cap	○ R W ◆
New Right of Way Line with Concrete or Granite R/W Marker	○ R W ◆
New Control of Access Line with Concrete C/A Marker	○ C/A
Existing Control of Access	○ C/A
New Control of Access	○ C/A
Existing Easement Line	--- E ---
New Temporary Construction Easement	--- E ---
New Temporary Drainage Easement	--- TDE ---
New Permanent Drainage Easement	--- PDE ---
New Permanent Drainage / Utility Easement	--- DUE ---
New Permanent Utility Easement	--- PUE ---
New Temporary Utility Easement	--- TUE ---
New Aerial Utility Easement	--- AUE ---

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	--- C ---
Proposed Slope Stakes Fill	--- F ---
Proposed Curb Ramp	--- CR ---
Existing Metal Guardrail	--- T ---
Proposed Guardrail	--- T ---
Existing Cable Guiderail	--- T ---
Proposed Cable Guiderail	--- T ---
Equality Symbol	⊕
Pavement Removal	▨

VEGETATION:

Single Tree	○
Single Shrub	○

Note: Not to Scale *S.U.E. = *Subsurface Utility Engineering*

Hedge	-----
Woods Line	-----
Orchard	○
Vineyard	□ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
Storm Sewer	--- S ---

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	○ P
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	○
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	--- P ---
U/G Power Line LOS C (S.U.E.*)	--- P ---
U/G Power Line LOS D (S.U.E.*)	--- P ---

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○ T
Telephone Pedestal	□
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	○
U/G Telephone Cable LOS B (S.U.E.*)	--- T ---
U/G Telephone Cable LOS C (S.U.E.*)	--- T ---
U/G Telephone Cable LOS D (S.U.E.*)	--- T ---
U/G Telephone Conduit LOS B (S.U.E.*)	--- TC ---
U/G Telephone Conduit LOS C (S.U.E.*)	--- TC ---
U/G Telephone Conduit LOS D (S.U.E.*)	--- TC ---
U/G Fiber Optics Cable LOS B (S.U.E.*)	--- T FO ---
U/G Fiber Optics Cable LOS C (S.U.E.*)	--- T FO ---
U/G Fiber Optics Cable LOS D (S.U.E.*)	--- T FO ---

WATER:

Water Manhole	○ W
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	--- W ---
U/G Water Line LOS C (S.U.E.*)	--- W ---
U/G Water Line LOS D (S.U.E.*)	--- W ---
Above Ground Water Line	--- A/G Water ---

TV:

TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	○
U/G TV Cable LOS B (S.U.E.*)	--- TV ---
U/G TV Cable LOS C (S.U.E.*)	--- TV ---
U/G TV Cable LOS D (S.U.E.*)	--- TV ---
U/G Fiber Optic Cable LOS B (S.U.E.*)	--- TV FO ---
U/G Fiber Optic Cable LOS C (S.U.E.*)	--- TV FO ---
U/G Fiber Optic Cable LOS D (S.U.E.*)	--- TV FO ---

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	--- G ---
U/G Gas Line LOS C (S.U.E.*)	--- G ---
U/G Gas Line LOS D (S.U.E.*)	--- G ---
Above Ground Gas Line	--- A/G Gas ---

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	--- SS ---
Above Ground Sanitary Sewer	--- A/G Sanitary Sewer ---
SS Forced Main Line LOS B (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS C (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS D (S.U.E.*)	--- FSS ---

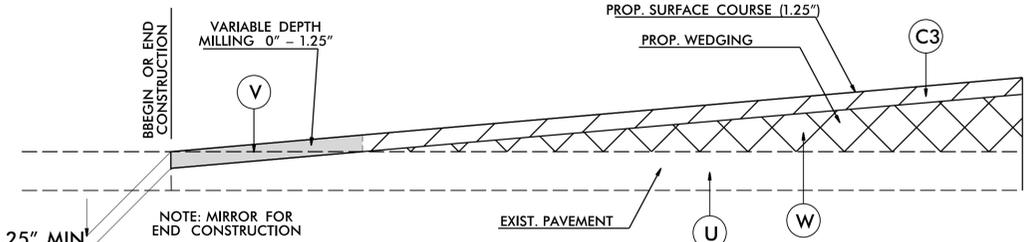
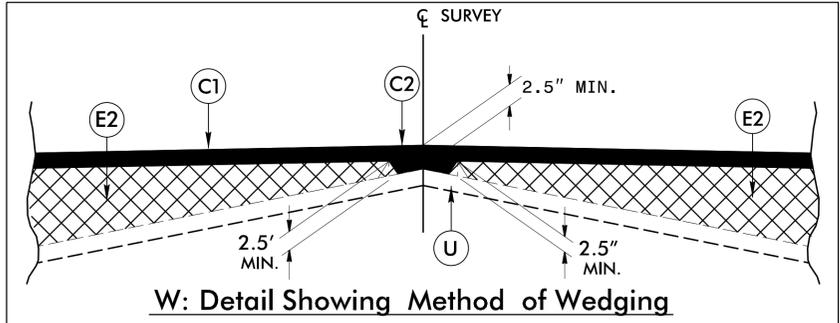
MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line LOS B (S.U.E.*)	--- UTL ---
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	○
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

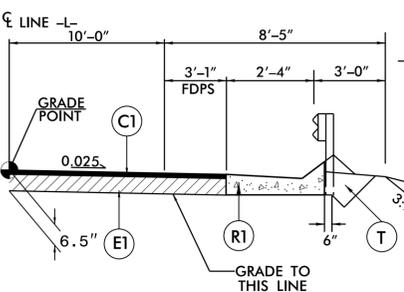
6/2/2016 6:22:49 AM 6/27/2016 BR-0116.Rcd - t-up.dgn

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
C3	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. (SEE MILLING DETAIL)
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

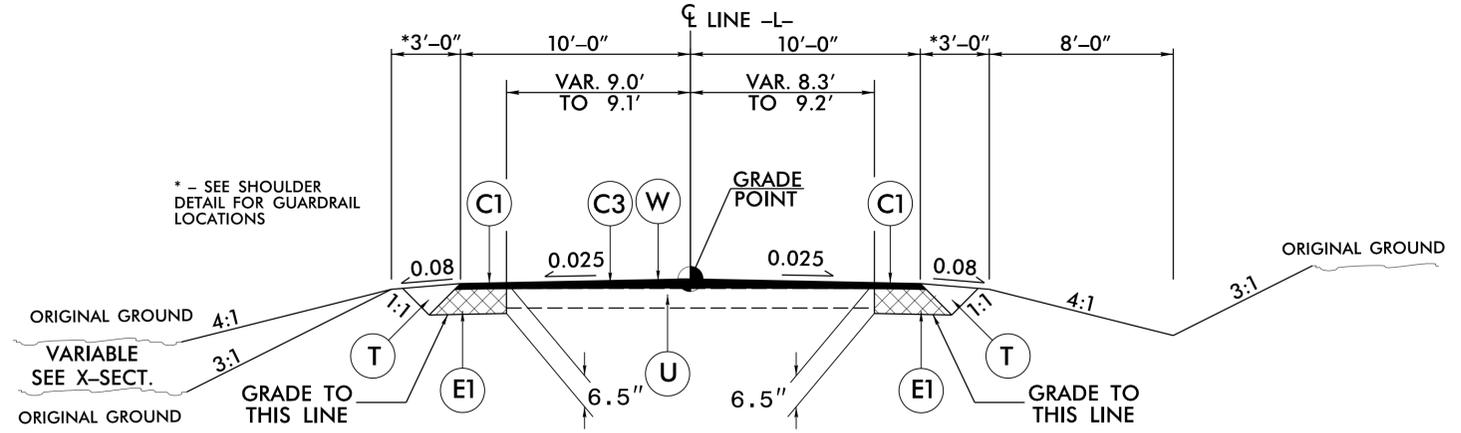
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



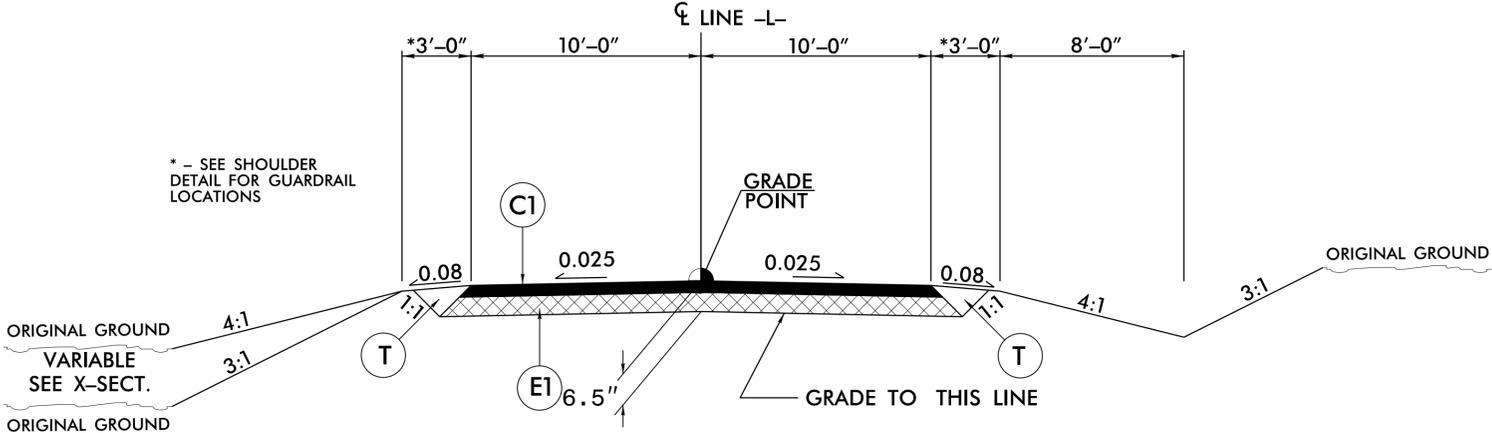
MILLING DETAIL
 -L- STA. 13+75.00 TO -L- STA. 14+06.25
 -L- STA. 18+33.75 TO -L- STA. 18+65.00



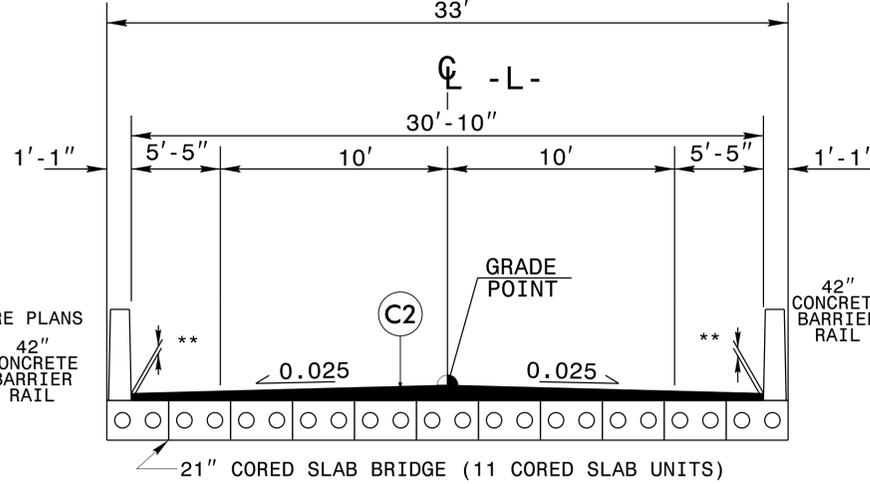
SHOULDER BERM GUTTER DETAIL
 USE SHOULDER BERM GUTTER DETAIL IN CONJUNCTION WITH TYPICAL SECTION NO. 2:
 -L- STA. 15+29.00 TO -L- STA. 15+53.51 LT.
 -L- STA. 15+29.00 TO -L- STA. 15+45.25 RT.



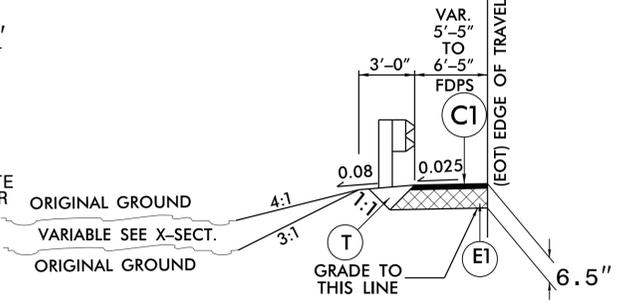
TYPICAL SECTION NO. 1
 USE TYPICAL SECTION NO. 1 AS FOLLOWS:
 -L- STA. 13+75.00 TO -L- STA. 15+10.21
 -L- STA. 17+07.79 TO -L- STA. 18+65.00



TYPICAL SECTION NO. 2
 USE TYPICAL SECTION NO. 2 AS FOLLOWS:
 -L- STA. 15+10.21 TO -L- STA. 15+60.21 (BEGIN BRIDGE)
 -L- STA. 16+57.79 (END BRIDGE) TO -L- STA. 17+07.79



TYPICAL SECTION NO. 3
 USE TYPICAL SECTION NO. 3 AS FOLLOWS:
 -L- STA. 15+60.21 (BEGIN BRIDGE) TO -L- STA. 16+57.79 (END BRIDGE)



SHOULDER DETAIL
 USE SHOULDER DETAIL IN CONJUNCTION WITH TYPICAL SECTIONS NO. 1 & 2:
 -L- STA. 14+76.84 TO -L- STA. 15+64.34 LT.
 -L- STA. 14+81.08 TO -L- STA. 15+56.08 RT.
 -L- STA. 16+61.92 TO -L- STA. 17+93.17 LT.
 -L- STA. 16+53.66 TO -L- STA. 17+28.66 RT.

PROJECT REFERENCE NO. BR-0116	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
<small>1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. F-0377 Bus: 919 851 8077 Fax: 919 851 8107</small>	
<small>TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION</small>	

BRIDGE #630080

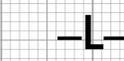
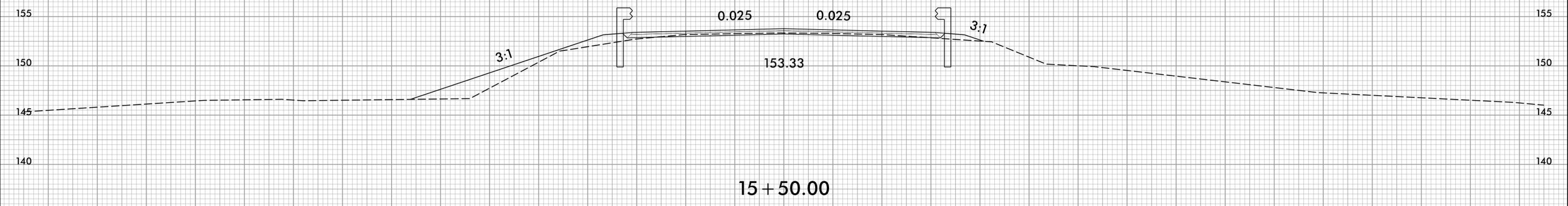
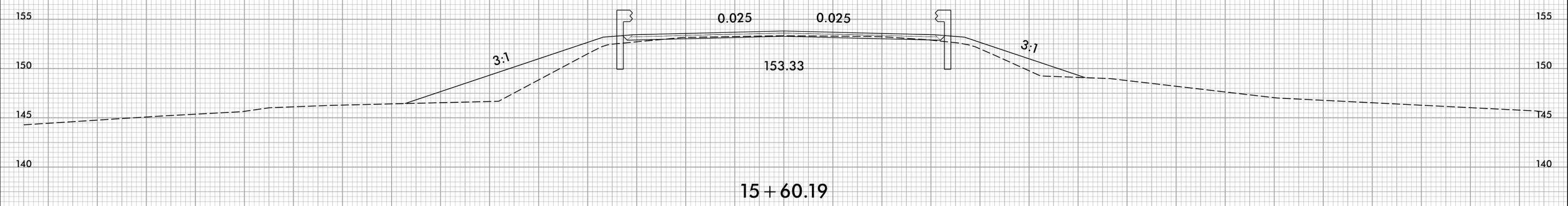
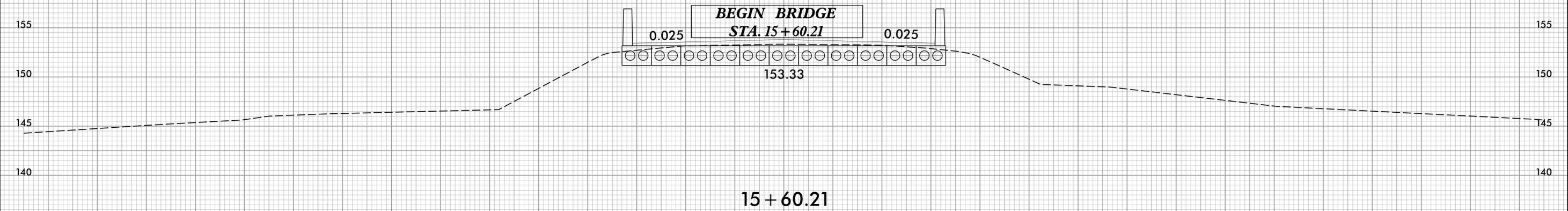
8/23/99



PROJ. REFERENCE NO.	SHEET NO.
BR-0116	X-2

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BRIDGE #630080



75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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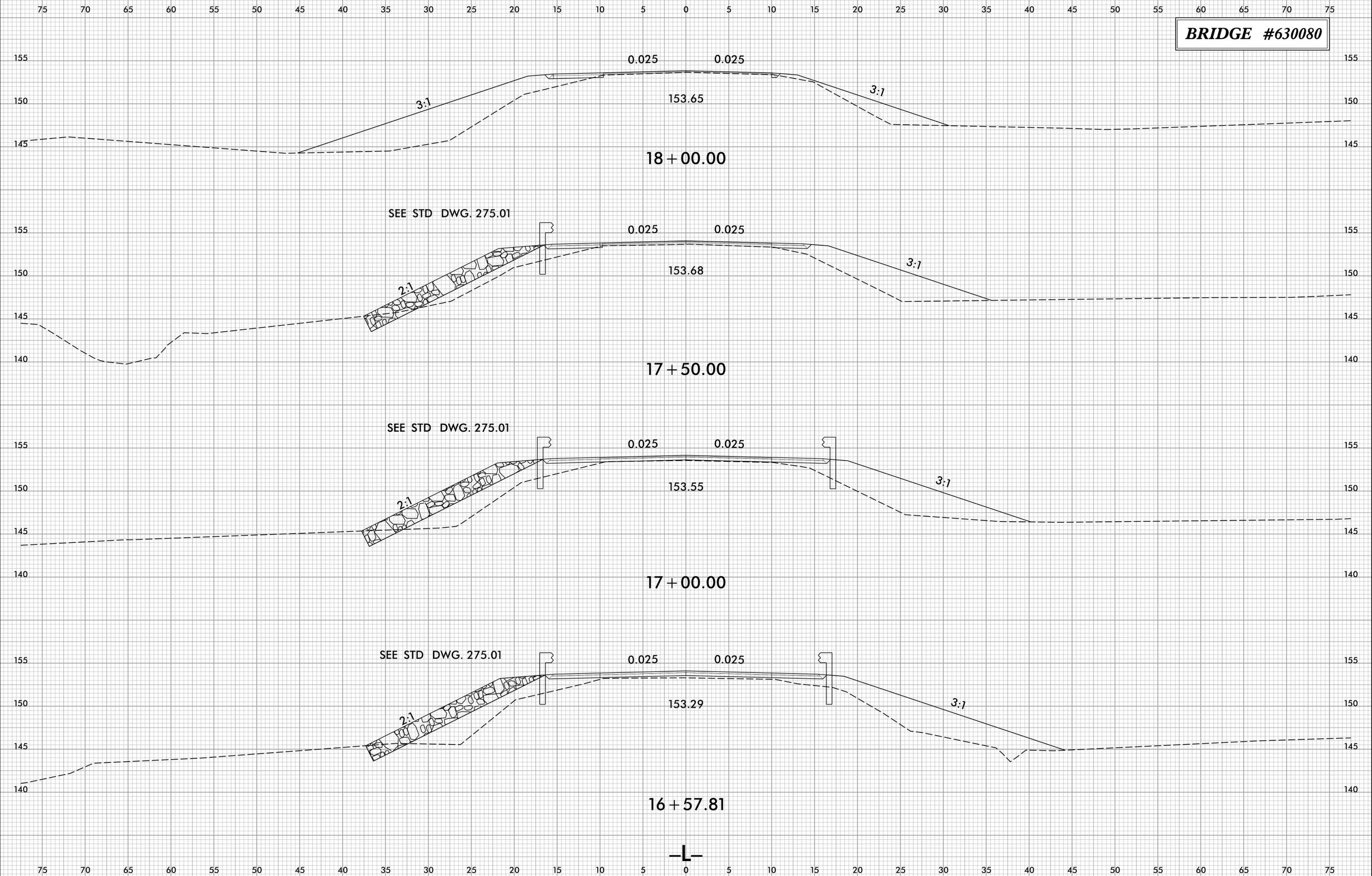
8/23/99



PROJ. REFERENCE NO.
BR-0116

SHEET NO.
X-4

BRIDGE #630080



6/27/2009
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