



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

April 18, 2022

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN: Ms. Lori Beckwith
NCDOT Coordinator

Subject: **Request for Modification to the Section 404 Individual Permit and Section 401 Water Quality Certification** for the proposed US 221 Widening from US 421 to US 221 Business/NC 88 in Jefferson in Watauga and Ashe Counties. Federal Aid Project No. STP-0221(13), Division 11, TIP No. R-2915. Debit \$570 from WBS 34518.1.FR6.

Reference: USACE Individual Permit Action ID SAW-2012-00882, January 7, 2015.
USACE Individual Permit Modification ID SAW-2012-00882, August 31, 2016
USACE Individual Permit Modification ID SAW-2012-00882, December 7, 2017
USACE Individual Permit Modification ID SAW-2012-00882, December 27, 2019
Request for 404 Modification, September 24, 2021
NCDWR Project No. 20140762, Certification No. 4001, September 8, 2014.
NCDWR Project No. 20140762_v2, Certification No. 4001, August 23, 2016
NCDWR Project No. 20140762_v3, Certification No. 4001, April 28, 2017
NCDWR Project No. 20140762, e-mail authorization, November 27, 2017
NCDWR Project No. 20140762_v4, Certification No. 4001, June 26, 2018
NCDWR Project No. 20140762_v5, Certification No. 4001, May 22, 2019
NCDWR Project No. 20140762_v6, Certification No. 4001, November 4, 2021

Dear Madam:

The purpose of this letter is to request a modification of the United States Army Corps of Engineers (USACE) Section 404 Individual Permit and North Carolina Division of Water Resources Section 401 Certification for the above referenced project. This modification presents a new permit site in the D

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Fax: (919) 250-4224
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

Section, Site 18A, added to address a slope failure adjacent to stream S113 (US to Beaver Creek). To prevent further erosion, the installation of a new pipe to carry a portion of S113 will result in additional permanent and temporary impacts.

All changes in impacts due to the new pipe and the associated temporary dewatering impacts at Site 18A in the D Section are in *red italics*. Please see the enclosed revised DMS acceptance letter and revised permit drawings for Section D.

Summary of R-2915 Jurisdictional Impacts:

Impacts for the overall (Sections A-E) project will include 3.05 acres of permanent wetland impacts, 0.28 acre of temporary wetland impacts, and 0.05 acre of hand clearing in wetlands. There will also be *9,467* linear feet of permanent stream impacts (*7,805* linear feet of fill and 1,662 linear feet of bank stabilization), and *0.46* acre of temporary stream impacts (see Tables 1 and 2 for a breakdown of impacts by Section).

Table 1 – Summary of Wetland Impacts for R-2915 (*no change*)

Section	Design Stage	Wetland Impact Type	Wetland Impact Area (ac)	Wetland Impacts Requiring Mitigation (ac)*
R-2915A	Final	Perm. Wetland Fill	0.48	0.57
		Excavation in Wetlands	0.01	
		Mechanized Clearing in Wetlands	0.08	
		Hand Clearing in Wetlands	0.05 [†]	
R-2915B	Final	Perm. Wetland Fill	0.32	0.43
		Excavation in Wetlands	0.04	
		Mechanized Clearing in Wetlands	0.06	
		Temporary Fill in Wetlands	0.15	
R-2915C	Final	Perm. Wetland Fill	0.22	0.27
		Excavation in Wetlands	--	
		Mechanized Clearing in Wetlands	0.05	
R-2915D	Final	Perm. Wetland Fill	1.01	1.32
		Excavation in Wetlands	0.01	
		Mechanized Clearing in Wetlands	0.30	
R-2915E	Final	Perm. Wetland Fill	0.28	0.46
		Excavation in Wetlands	0.05	
		Mechanized Clearing in Wetlands	0.13	
		Temporary Fill in Wetlands	0.13	
Total			3.05	

[†] Additionally, 0.01 acre of temporary fill in wetlands will occur in the hand clearing areas for erosion control measures

* Values are based on rounding, due to calculating totals with actual numbers to the thousandths

Table 2 – Summary of Stream Impacts for R-2915

Section	Design Stage	Stream Impact Type	Impact Length (lf)	Temporary Impacts (ac)	Stream Impacts Requiring Mitigation (lf)
R-2915A	Final	Permanent Fill	1,119	--	1,119
		Bank Stabilization	402	--	
		Temporary	--	0.05	
R-2915B	Final	Permanent Fill	493	--	493
		Bank Stabilization	431	--	
		Temporary	--	0.15	
R-2915C	Final	Permanent Fill	2,339	--	2,339
		Bank Stabilization	234	--	
		Temporary	--	0.09	
R-2915D	Final	Permanent Fill	2,947	--	2,947
		Bank Stabilization	126	--	
		Temporary	--	0.09	
R-2915E	Final	Permanent Fill	907	--	907
		Bank Stabilization	469	--	
		Temporary	--	0.08	
Total			9,467	0.46	7,805

Tables 3 and 4 summarize the impacts to jurisdictional water resources for the final design of R-2915D. Site numbers correspond with the permit (hydraulic) drawings included in this application. A description of the new impact site 18A will follow the tables.

Table 3 – R-2915D Wetland Impacts* (no change)

Site	Wetland Number	Wetland Size (ac)	Permanent Fill in Wetlands (ac)	Excavation (ac)	Mechanized Clearing (ac)	Impacts Requiring Mitigation (ac)
2	W53	0.02	<0.01	--	--	<0.01
3B	W58	0.05	<0.01	<0.01	0.02	0.03
4	W59**	0.14	0.10	--	0.04	0.14
7	W63	0.39	0.25	--	0.05	0.30
13	W72	0.02	<0.01	<0.01	--	0.01
14	W78	0.74	0.03	<0.01	0.01	0.05
15	W76	0.30	<0.01	--	0.02	0.02
16	W77	1.86	--	--	<0.01	<0.01
17A	W79	0.25	0.06	--	0.01	0.07
19	W81**/W82**	0.01/0.06	0.07	--	<0.01	0.07
20B	W85	0.03	<0.01	--	<0.01	0.01
21	W86**	0.18	0.17	<0.01	--	0.18
22	W88	0.06	<0.01	--	<0.01	<0.01
24	W89	0.09	<0.01	--	0.01	0.02
25	W93	0.54	0.11	--	0.05	0.15
27	W94	0.04	0.04	--	<0.01	0.04
28	W95	0.52	<0.01	--	0.02	0.02
30	W95	0.52	0.04	--	0.06	0.10

Table 3 continued – R-2915D Wetland Impacts* (no change)

Site	Wetland Number	Wetland Size (ac)	Permanent Fill in Wetlands (ac)	Excavation (ac)	Mechanized Clearing (ac)	Impacts Requiring Mitigation (ac)
31	W96	0.3	0.06	--	<0.01	0.07
32	W98	0.07	0.02	--	<0.01	0.02
Total Impacts			1.01	0.01	0.3	1.32***

* All wetlands impacted are riparian ** Total take of wetland

*** Values are based on rounding, due to calculating totals with actual numbers to the thousandths

Table 4 – R-2915D Stream Impacts

Site	Stream Name & Intermittent (I) or Perennial (P) ¹	Stream Number	Impact Type	Impact Length (linear feet)	Temporary Impacts (acres)	Mitigation Requirement ² (linear feet)
1	UT to Old Field Creek (I)	S87	Perm. fill	312	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. fill	--	<0.01	--
2	N/A (wetland only)	--	--	--	--	--
3A	UT to Old Field Creek (P)	S90	Perm. Fill	60	--	USACE
			Bank Stabilization	--	--	--
			Temp Fill	--	--	--
3B	UT to Old Field Creek (P)	S92a	Perm. Fill	56	--	USACE
			Bank Stabilization	--	--	--
			Temp Fill	--	<0.01	--
4	UT to Old Field Creek (P)	S92a	Perm. Fill	--	--	--
			Bank Stabilization	--	--	--
			Temp Fill	--	<0.01	--
5	UT to Old Field Creek (P)	S92b	Perm. Fill	57	--	USACE
			Bank Stabilization	19	--	--
			Temp Fill	--	--	--
6	Old Field Creek (P)	S56	Perm. Fill	120	--	USACE & DWR
			Bank Stabilization	48	--	DWR
			Temp. Fill	--	<0.01	--
7	N/A (wetland only)	--	--	--	--	--
8	UT to Old Field Creek (P)	S95	Perm. Fill	--	--	--
			Bank Stabilization	15	--	--
			Temp. Fill	--	--	--
9	UT to Old Field Creek (P)	S102	Perm. Fill	126	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
10	UT to Old Field Creek (P)	S104	Perm. Fill	396	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	--	--
11	UT to Old Field Creek (P)	S95	Perm. Fill	--	--	--
			Bank Stabilization	11	--	--
			Temp. Fill	--	--	--

Table 4 continued – R-2915D Stream Impacts

Site	Stream Name & Intermittent (I) or Perennial (P) ¹	Stream Number	Impact Type	Impact Length (linear feet)	Temporary Impacts (acres)	Mitigation Requirement ² (linear feet)
12	UT to Beaver Creek (P)	S106	Perm. Fill	51	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
13	N/A (wetland only)	--	--	--	--	--
14	UT to South Beaver Creek (P)	S111	Perm. Fill	162	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
15	UT to South Beaver Creek (P)	S111	Perm. Fill	12	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	--	--
16	N/A (wetland only)	--	--	--	--	--
17A	UT to South Beaver Creek (P)	S112	Perm. Fill	28	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
17B	UT to South Beaver Creek (P)	S112	Perm. Fill	12	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	--	--
18	UT to Beaver Creek (P)	S115	Perm. Fill	491	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	--	--
18A	UT to Beaver Creek (P)	S113	Perm. Fill	320	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	0.04	--
19	UT to Beaver Creek (P)	S116	Perm. Fill	100	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
20A	UT to Beaver Creek (P)	S117	Perm. Fill	55	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
20B	UT to Beaver Creek (P)	S118	Perm. Fill	57	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
21	UT to Beaver Creek (P)	S119	Perm. Fill	49	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
22	UT to Beaver Creek (P)	S120	Perm. Fill	61	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	--	--
23A	UT to Beaver Creek (P)	S122	Perm. Fill	19	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	--	--

Table 4 continued – R-2915D Stream Impacts

Site	Stream Name & Intermittent (I) or Perennial (P) ¹	Stream Number	Impact Type	Impact Length (linear feet)	Temporary Impacts (acres)	Mitigation Requirement ² (linear feet)
23B	UT to Beaver Creek (P)	S123	Perm. Fill	66	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
24	UT to Beaver Creek (I)	S125	Perm. Fill	22	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
25	UT to Beaver Creek (P)	S127	Perm. Fill	12	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	--	--
26	Beaver Creek	S124	Perm. Fill	75	--	USACE
			Bank Stabilization	33	--	--
			Temp. Fill	--	0.01	--
27	UT to Beaver Creek (P)	S126	Perm. Fill	134	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	--	--
28	N/A (wetland only)	--	--	--	--	--
29	UT to Beaver Creek (P)	S126	Perm. Fill	69	--	USACE & DWR
			Bank Stabilization	--	--	--
			Temp. Fill	--	--	--
30	N/A (wetland only)	--	--	--	--	--
31	N/A (wetland only)	--	--	--	--	--
32	UT to Beaver Creek (P)	S128	Perm. Fill	25	--	USACE
			Bank Stabilization	--	--	--
			Temp. Fill	--	<0.01	--
Total Temporary Impacts:				--	0.09³	--
Total Perm. Impacts (Perm. Fill + Bank Stabilization):				3,073	--	--
Permanent Impacts Requiring DWR Mitigation:				2,064	--	--
Permanent Impacts Requiring USACE Mitigation:				2,947	--	--
Total Impacts Requiring Mitigation:				2,947	--	†

1 – All streams are Class C; Tr+ waters

2 – Mitigation for bank stabilization impacts required by DWR – not required by USACE

3 – Values are based on rounding, due to some of the individual impacts being <0.01 acre

† – Final mitigation requirement will be up to the USACE and DWR

Permit Site 18A:

In 2021, a landowner alerted NCDOT maintenance staff of an issue adjacent/left of approximate Sta. 610+00 within Section D of R-2915 in Ashe County. Maintenance staff visited the site and reported a long section of deeply incised and actively eroding stream bed. In addition, a large “island” of mature trees on the slope was starting to slide because of the eroding stream. If this continues, the road shoulder may collapse and cause a partial loss of the roadway. The area containing the issue is entirely within NCDOT right of way, but is heavily wooded and did not receive any ground disturbance during

construction of the D Section. Furthermore, the area of concern is below the roadway, so is completely out of view to regular NCDOT maintenance activities. As a result, it may have occurred many years ago. In contrast, the upper portion of the stream that is visible beside R-2915D is in good shape.

It was determined that the stream used to flow into a system of 12" corrugated metal pipes (CMPs) that measured 113' in length (date of installation unknown, but pre-R-2519D), that carried the UT down a steep rocky slope into the wooded ravine below, where the stream was once again free flowing. Pieces of this pipe system are now separated and washed downstream, and the stream now flows down the rocky slope. However, the area flowing over the steep hillside is in good shape/stable and has naturalized with mosses, ferns, etc. As a result, NCDOT will leave this previously piped area unpiped, to remain as daylighted stream reach. The erosion issue begins where this stream hits the valley floor. There is a deeply incised stream section (20' deep in some places) that extends for approximately 320'. This reach becomes less incised, and contains less erodible riparian area as you progress downstream. As mentioned, a section of the adjacent hillside including trees is starting to slide.

To address this issue, NCDOT will install a temporary dewatering pipe that will start at the top of the hillside beside R-2915D, and carry the stream along the right of way fence and back into the existing stream channel directly below the proposed reach to be piped. This will result in 450 linear feet of temporary dewatering. The 320' long incised portion of stream channel will then be filled with rock and soil, and a series of four 36" high density polyethylene (HDPE) pipes will be buried near the surface of this new fill. While the proposed pipes are all at a 10% grade, three drop inlets (spaced every 100' along the pipe system) will be installed to reduce velocity, and convey runoff from the wooded hillside along R-2915D and the large grassy field on the other side of the project into the pipe system. Along with the proposed drop inlets, existing instream rock at the proposed outlet of the pipe system will further help reduce the chances of scour. As mentioned, a previous pipe system (estimated to be a 113' x 12" CMP) used to carry water down the steep slope to where this new pipe system will begin. We will leave this area unpiped, and install an open throat catch basin at the start of the new pipe system, which will collect the stream flowing down the steep slope and convey it into the new HDPE pipe. Once complete, the stream will be turned into the new system and the temporary dewatering pipe will be removed. All disturbed ground will be seeded and stabilized.

While piping a stream is not typically environmentally favorable, the existing stream condition is in very poor shape (with a low NCSAM rating) and actively eroding. Furthermore, while we can't say the R-2915D project, or historical work on HWY 221, didn't in some way cause all or part of this issue, discussions with past staff have suggested that this stream section has been in poor shape for > 20 years. As mentioned, one entire side of the UT is a large pasture with a couple houses and little to no riparian area, and washouts on that side of the stream suggest high levels of runoff into the stream from that direction. As such, it is plausible that historical issues (logging/clearing/development) not entirely related to NCDOT may have in some ways resulted in the current situation.

The proposed work should drastically improve downstream conditions by removing additional sediment from the stream, and should fix a hazardous situation regarding the potential loss of the roadway to a future storm event. Furthermore, given the limitations within our right of way and possible solutions, a better fix to the problem is not readily available.

Total impacts at this new site due to this modification are 320 linear feet of permanent stream impacts due to the new pipe and 0.04 acre (450 lf) of temporary impacts to stream S113 (UT to Beaver Creek Creek). *Of note, 320 linear feet of the temporary impacts to S113 overlap with the permanent impacts, meaning that the dewatering activities only add 130 linear feet of impacts to the cumulative total.

MITIGATION

At this time, DMS is providing compensatory mitigation for all impacts. *An additional 320 linear feet of mitigation within the D Section is required due to the new pipe installation at Site 18A (described above). Please see the revised DMS acceptance letter for the D Section dated April 7, 2022.* Table 5 summarizes the total mitigation needs as 3.05 acres of wetland impacts and **7,805** linear feet of stream impacts.

Table 5 – Summary of Mitigation Requested from DMS

Section	Design Stage	Wetland Impacts Requiring Mitigation (ac)	Stream Impacts Requiring Mitigation (ac)
R-2915A	Final	0.57	1,119
R-2915B	Final	0.43	493
R-2915C	Final	0.27	2,339
R-2915D	Final	1.32	2,947
R-2915E	Final	0.46	907
Total		3.05	7,805

REGULATORY APPROVALS

Section 404: Application is hereby made for a modification to the USACE Individual 404 Permit as required for the above-described activities, in addition to the activities described in the modification request sent September 24, 2021 (identified in the reference list in this application).

Section 401: We are hereby requesting a modification to the 401 Water Quality Certification from the N. C. Division of Water Resources for the above-described activities.

A copy of this application and distribution list will also be posted on the NCDOT website at: <http://connect.ncdot.gov/resources/Environmental>. If you have any questions or need additional information, please contact Erin Cheely at ekcheely@ncdot.gov or (919) 707-6108.

Sincerely,


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

ec:
NCDOT Permit Application Standard Distribution List

Project Submittal Interim Form



Updated September 4, 2020

*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.*

- Project Type: ***
- For the Record Only (Courtesy Copy)
 - New Project
 - Modification/New Project with Existing ID
 - More Information Response
 - Other Agency Comments
 - Pre-Application Submittal
 - Re-Issuance\Renewal Request
 - Stream or Buffer Appeal

Pre-Filing Meeting Date Request was submitted on:

Project Contact Information

Name: Erin Cheely
Who is submitting the information?

Email Address: * ekcheely@ncdot.gov

Project Information

Existing ID #: *

20140762
20170001 (no dashes)

Existing Version: *

6
1

Project Name: * R-2915: US 221 Widening from US 421 to US 221 Business/NC 88 in Jefferson in Watauga and Ashe Counties

Is this a public transportation project? *

- Yes
- No

Is this a DOT project? *

- Yes
- No

Is the project located within a NC DCM Area of Environmental Concern (AEC)? *

- Yes
- No
- Unknown

TIP#:

R-2915

WBS#:

34518.1.FR6

(Applies to DOT projects only)

County (ies) *

Ashe

Watauga

Please upload all files that need to be submitted.

[Click the upload button or drag and drop files here to attach document](#)

R-2915 Modification Ashe-Watauga April 18 2022.pdf 3.25MB

[Only pdf or kmz files are accepted.](#)

Describe the attachments or add comments:

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

- I, the project proponent, hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief.
- I, the project proponent, hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.
- I agree that submission of this online 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 online form.

Signature: *

A rectangular box containing a handwritten signature in black ink that reads "Michael Turchy".

Submittal Date:

[Is filled in automatically once submitted.](#)

ROY COOPER
 Governor
 ELIZABETH S. BISER
 Secretary
 MARC RECKTENWALD
 Director



April 7, 2022

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:
R-2915D, US 221 Widening from South of NC 194 to US 211 Bypass, Ashe County

References: USACE 404 Individual Permit issued January 7, 2015 (USACE Action ID 2012-00882)
 NCDWR 401 Water Quality Certification issued September 8, 2014 (NCDWR ID 2014-0762)

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the additional compensatory wetland mitigation for the subject project. Based on the information supplied by you on April 6, 2022, the impacts are located in CU 05050001 of the New River basin in the Northern Mountains (NM) Eco-Region, and are as follows:

Table 1 – Additional Impacts (feet / acres)

New 05050001 NM	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	320.000	0	0	0	0	0	0	0

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

This additional impact and associated mitigation needs were not projected by the NCDOT in the 2022 impact data. DMS is currently providing stream and wetland mitigation for the impacts associated with this project located in cataloging unit 05050001 of the New River basin as required by the 404 and 401 permits issued in January 2015 and September 2014, as shown in the below table (in mitigation credits)



North Carolina Department of Environmental Quality | Division of Mitigation Services
 217 West Jones Street | 1652 Mail Service Center | Raleigh, North Carolina 27699-1652
 919.707.8976

Table 2 – Current Permitted Impacts and Associated Mitigation Requirements provided by DMS (based on issued permits) and Revised Anticipated Impacts (based on mitigation request)

Impact Type	Total Permitted Impacts (feet / acre / sq ft)	Mitigation Provided by DMS per Issued Permits (Credits)	Additional Impact (for approval)	Revised Total Impacts*
Stream (cold)	2,627.000	5,254.000	320.000	2,947.000
Riparian Wetland	1.320	2.640	0	1.320

*Some of the additional stream impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details. DMS will provide the amount of mitigation as determined by the regulatory agencies.

DMS commits to implementing additional sufficient compensatory stream mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the In-Lieu Fee Instrument dated July 28, 2010. 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 Ms. Beth Harmon at 919-707-8420.

Sincerely,



for James B. Stanfill
Asset Management Supervisor

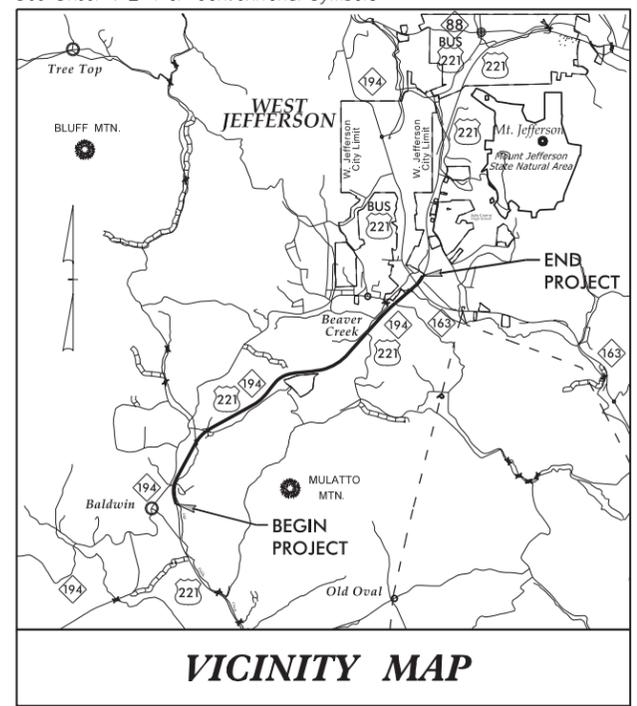
cc: Mr. Monte Matthews, USACE – Raleigh Regulatory Field Office
Ms. Amy Chapman, Division of Water Resources, Wetlands/401 Unit
File: R-2915D



09/08/99
 1/15/2014 R2915D_Hyd_prm_wet_psh_01(tsh) jharvey

CONTRACT: TIP PROJECT: R-2915D

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



ROW PLANS

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

ASHE COUNTY

LOCATION: US 221 FROM SOUTH OF NC 194 TO US 221 BYPASS

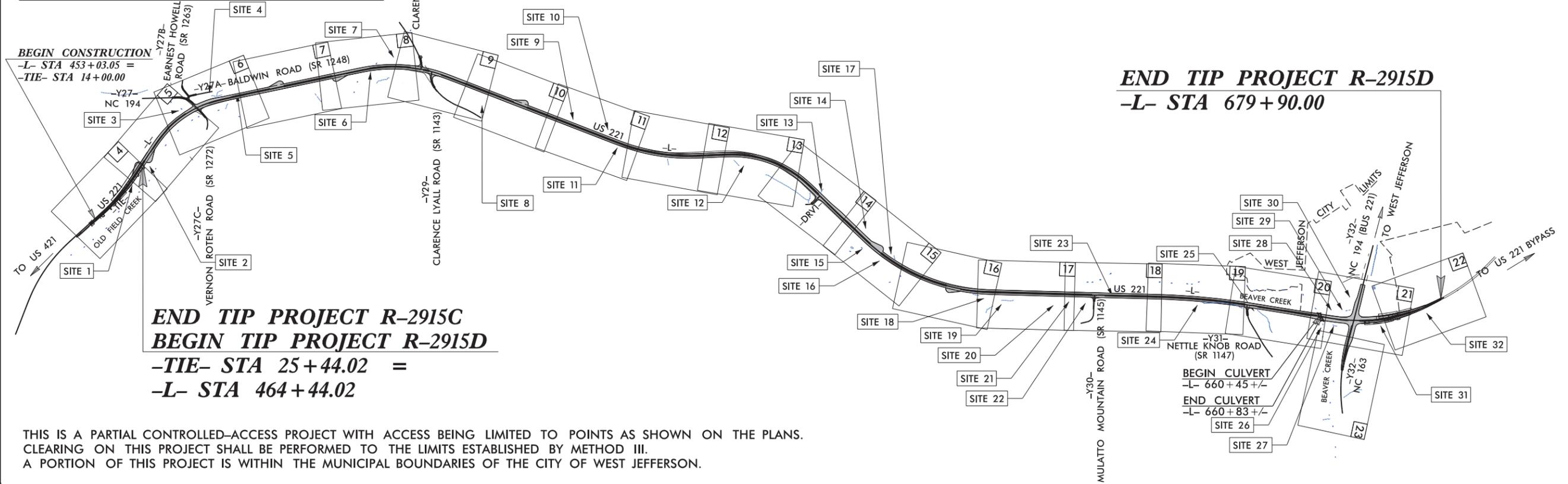
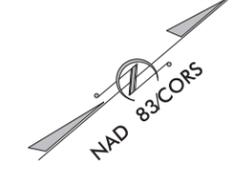
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, CURB AND GUTTER,
SIGNALS, AND CULVERT**

WETLAND AND SURFACE WATER IMPACTS PERMIT

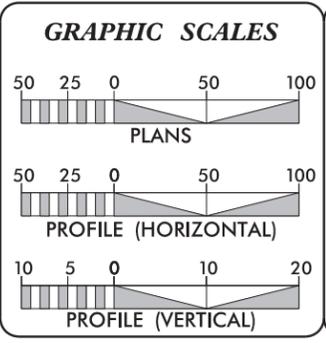
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2915D	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34518.1.1	STP-0221(42)	P.E.	
34518.2.4	STP-0221(42)	R/W, UTIL.	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 1 OF 52



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF WEST JEFFERSON.



DESIGN DATA

ADT 2015 =	14715
ADT 2035 =	25000
DHV =	9 %
D =	55 %
T =	9 % *
V =	60 MPH
* TTST =	2 DUAL 7
FUNC CLASS =	Major Collector
	Statewide Tier

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT R-2915D	= 4.290 MI
LENGTH OF STRUCTURE PROJECT R-2915D	= 0.007 MI
TOTAL LENGTH OF PROJECT R-2915D	= 4.297 MI

Prepared in the Office of:
 KCI Associates of N.C., P.A.
 4601 Six Forks Road
 Landmark Center II, Suite 220
 Raleigh, NC 27609
 Phone (919) 783-9214
 Fax (919) 783-9266

Plans Prepared For:
DIVISION OF HIGHWAYS
 1000 Birch Ridge Dr.
 Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 30, 2013

LETTING DATE:
FEBRUARY 17, 2015

NCDOT CONTACT: **BRENDA MOORE, PE**
PROJECT ENGINEER - ROADWAY DESIGN

CHARLES L. FLOWE, P.E.
PROJECT ENGINEER

BARRY C. SMITH, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.

SIGNATURE: _____

ROADWAY DESIGN ENGINEER

P.E.

SIGNATURE: _____



PROJECT REFERENCE NO. <i>R-2915D</i>	SHEET NO. 16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

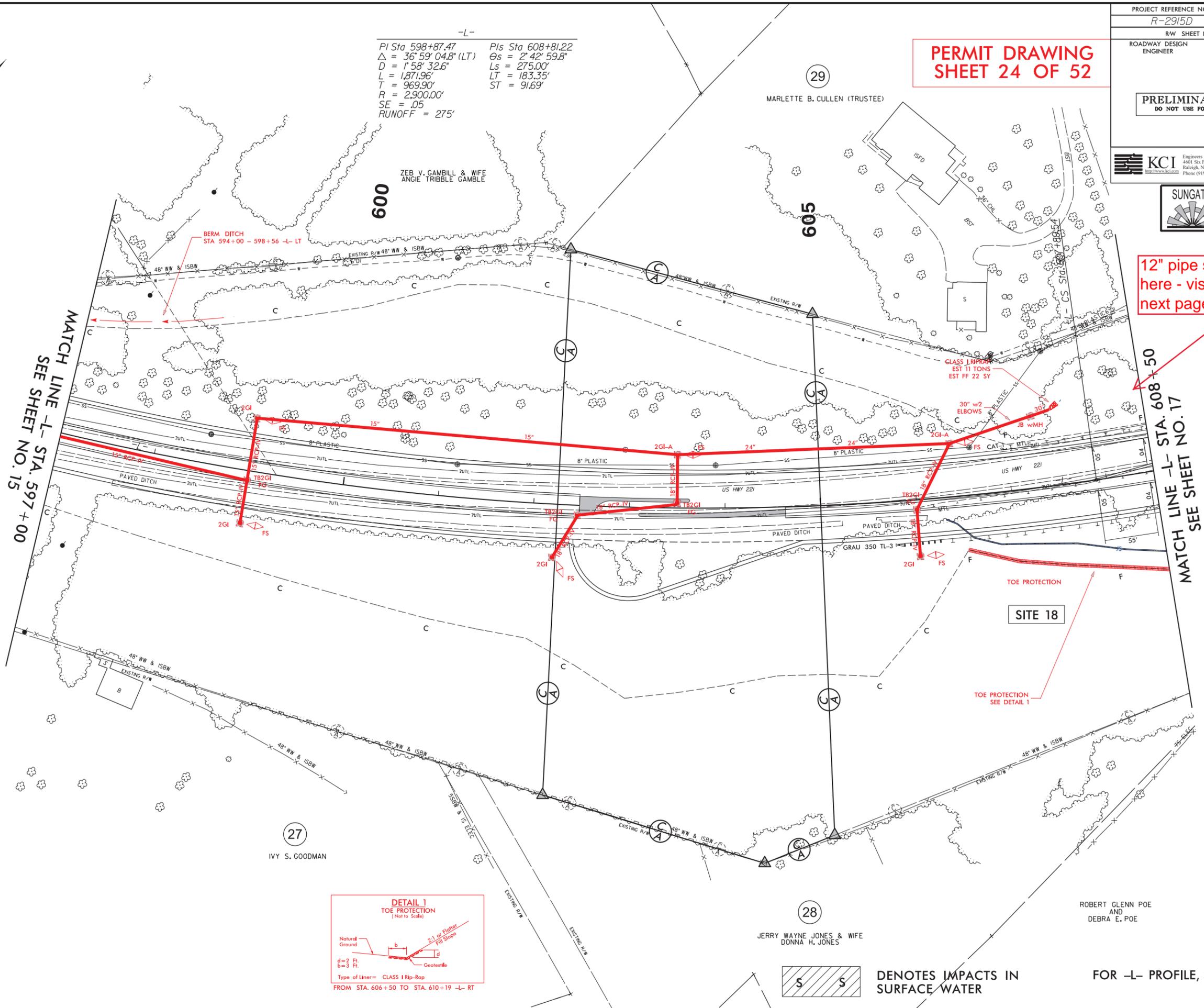
KCI Engineers • Planners • Scientists • Construction Managers
4601 Six Forks Road, Landmark Center II, Suite 220
Raleigh, NC 27609-5210
TEL (919) 896-2343 • FAX (919) 896-2344
Phone (919) 783-9214 • Fax (919) 783-9266

SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 896-2343 • FAX (919) 896-2344
ENG FRM LICENSE NO. C-880

**PERMIT DRAWING
SHEET 24 OF 52**

-L-

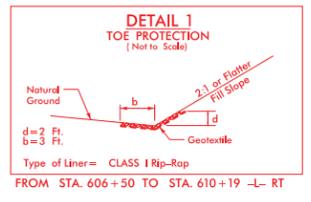
PIs Sta 598+87.47 Δ = 36° 59' 04.8" (LT) D = 1' 58" 32.6" L = 1,871.96' T = 969.90' R = 2,900.00' SE = .05 RUNOFF = 275'	PIs Sta 608+81.22 θs = 2° 42' 59.8" Ls = 275.00' LT = 183.35' ST = 91.69'
---	---



12" pipe started here - visible on next page

MATCH LINE -L- STA. 597 + 00
SEE SHEET NO. 15

MATCH LINE -L- STA. 608 + 50
SEE SHEET NO. 17



**DENOTES IMPACTS IN
SURFACE WATER**

ROBERT GLENN POE
AND
DEBRA E. POE

FOR -L- PROFILE, SEE SHEET 30

REVISIONS

8/17/99

K:\2915D_Hyd.prm_wet_psh_16

8/17/99

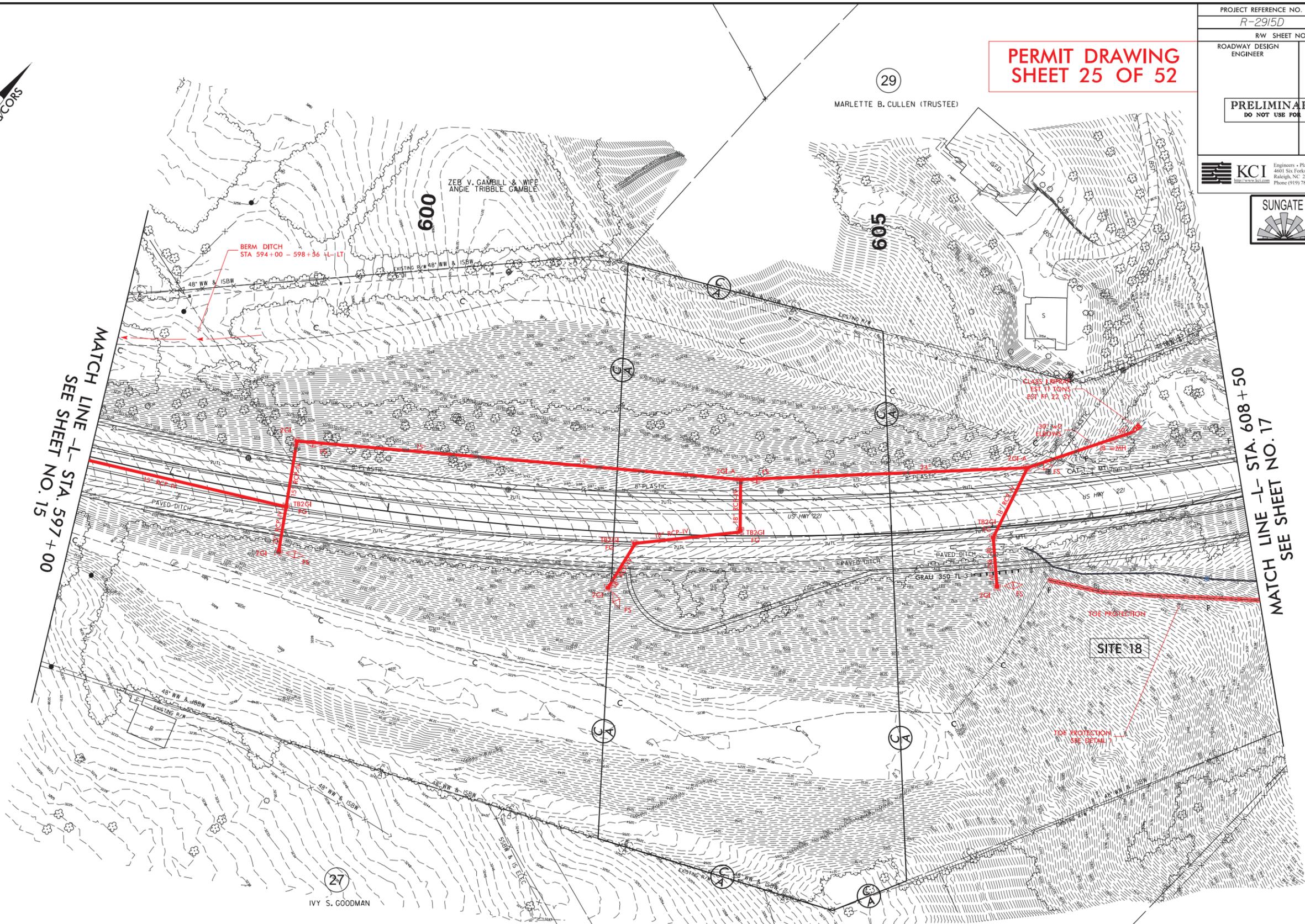


PROJECT REFERENCE NO. <i>R-2915D</i>	SHEET NO. 16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

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4601 Six Forks Road, Landmark Center II, Suite 220
Raleigh, NC 27609-5210
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Phone: (919) 783-9214 • Fax: (919) 783-9266

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915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL: (919) 859-2343 FAX: (919) 859-4251
ENG FIRM LICENSE NO. C-890

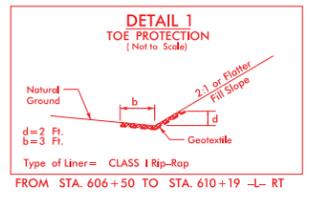
**PERMIT DRAWING
SHEET 25 OF 52**



MATCH LINE -L- STA. 597+00
SEE SHEET NO. 15

MATCH LINE -L- STA. 608+50
SEE SHEET NO. 17

REVISIONS



**DENOTES IMPACTS IN
SURFACE WATER**

ROBERT GLENN POE
AND
DEBRA E. POE

FOR -L- PROFILE, SEE SHEET 30

K:\2915D_Hyd.prm_wet_psh_16.con

PROJECT REFERENCE NO. R-2915D	SHEET NO. 17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
 KCI <small>Engineers • Planners • Scientists • Construction Managers 4601 Six Forks Road, Landmark Center II, Suite 220 Raleigh, NC 27609-5210 TEL (919) 882-2343 FAX (919) 882-2344 Phone (919) 783-9214 • Fax (919) 783-9266</small>	
 SUNGATE DESIGN GROUP, P.A. <small>115 JONES FRANKLIN ROAD RALEIGH, NORTH CAROLINA 27608 TEL (919) 882-2343 FAX (919) 882-2344 ENG FIRM LICENSE NO. C-880</small>	

PERMIT DRAWING
SHEET 26 OF 52

-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES FILL IN WETLAND
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES MECHANIZED CLEARING

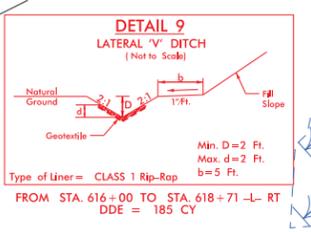
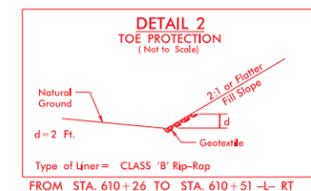
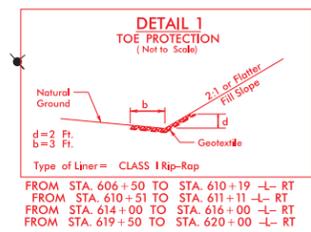
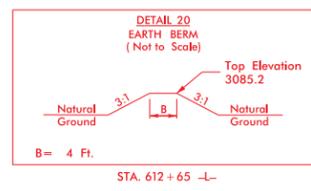
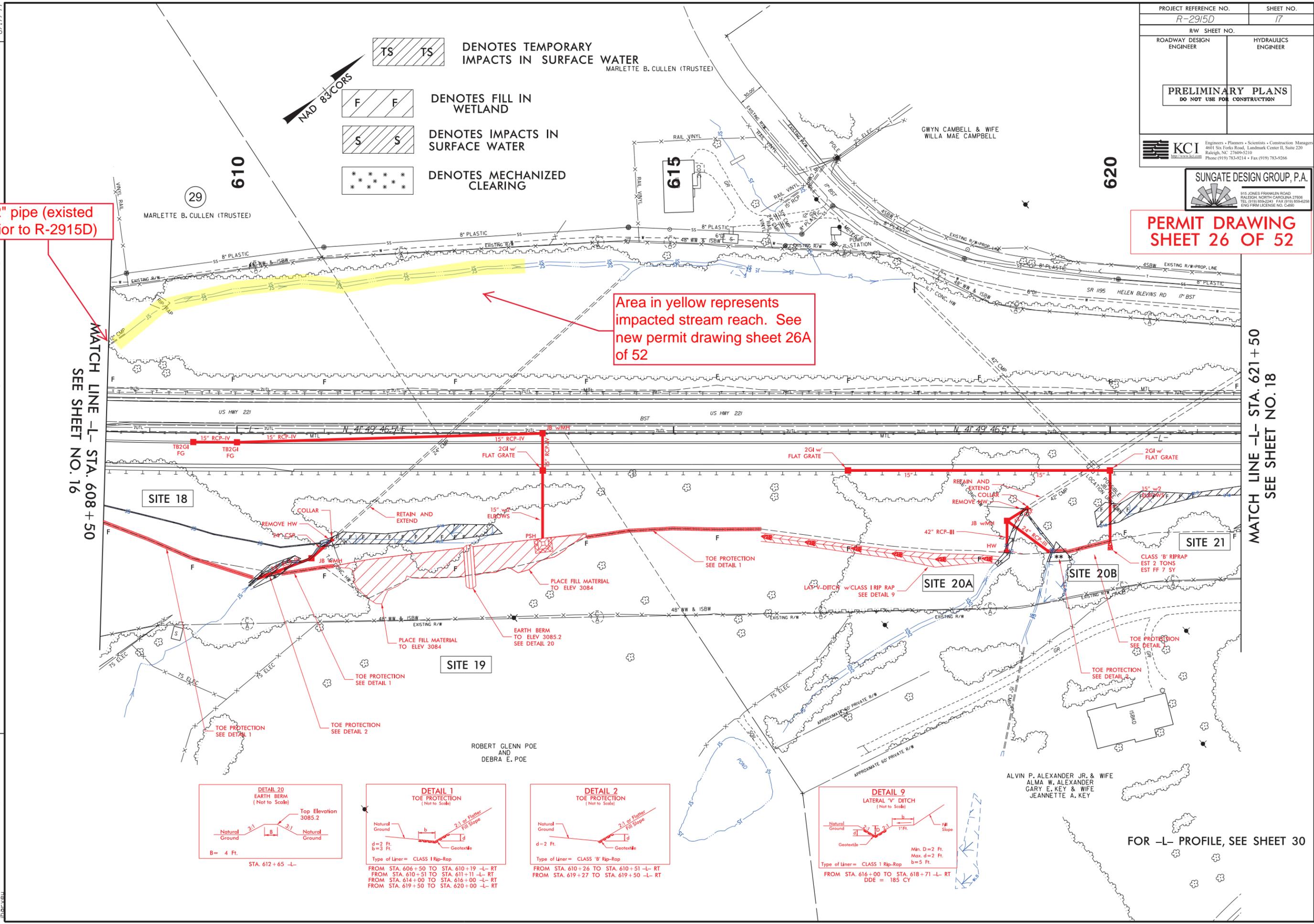
12" pipe (existed prior to R-2915D)

Area in yellow represents impacted stream reach. See new permit drawing sheet 26A of 52

MATCH LINE -L- STA. 608 + 50
SEE SHEET NO. 16

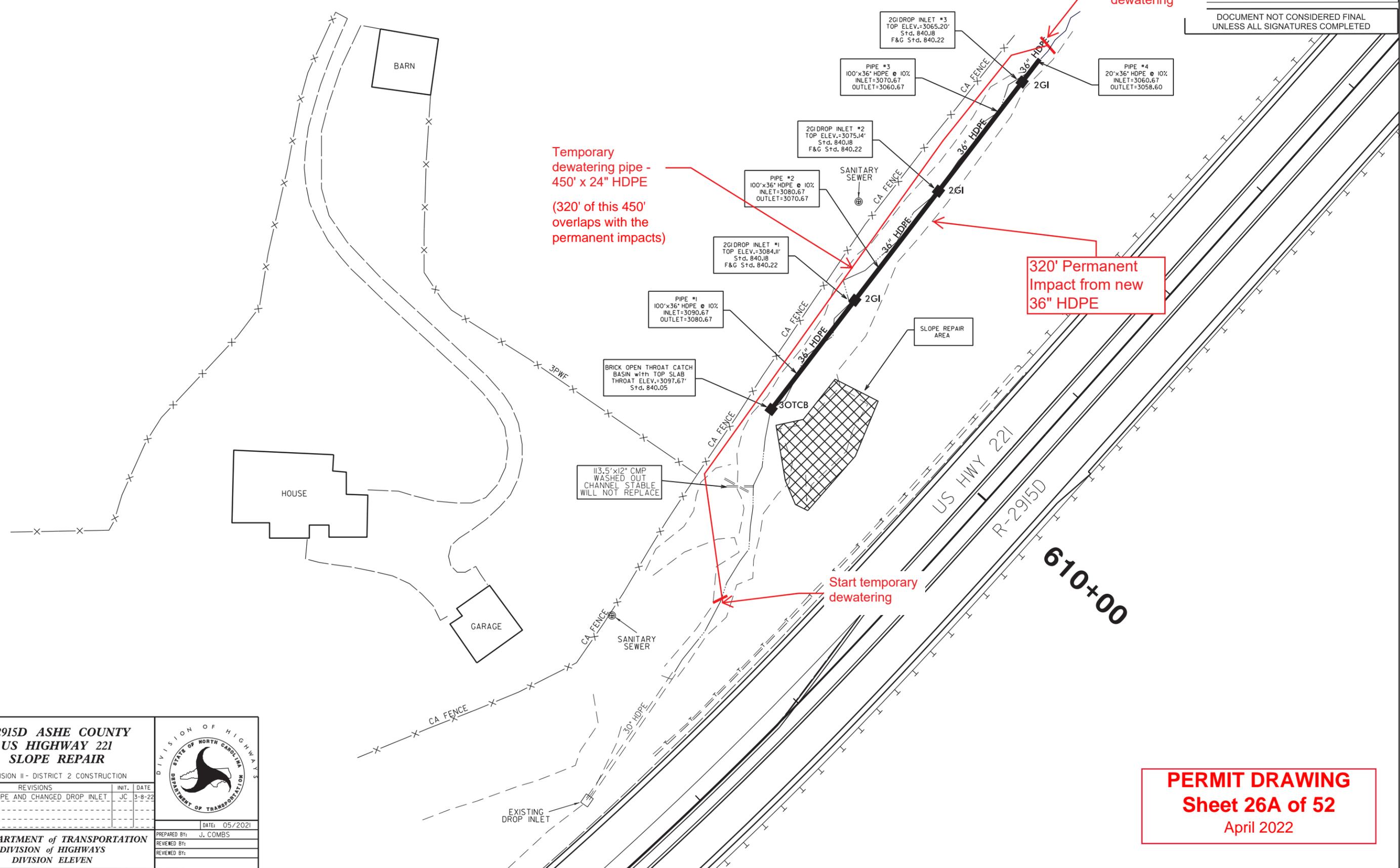
MATCH LINE -L- STA. 621 + 50
SEE SHEET NO. 18

REVISIONS
3/28/2014 SUNGATE ESRV02\NewData\Project\1220\11015 - R-2915D - Ashe_City\Design_Files - Permit\Hydraulics\PERMITS_Environmental\Drawings\R2915D_Hyd_prm_wet_psh_17.dgn



FOR -L- PROFILE, SEE SHEET 30

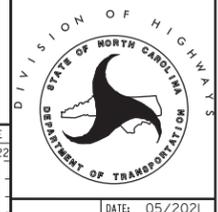
STATE	STATE PROJECT	REFERENCE NO.	SHEET	TOTAL
N.C.			1	1
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED				



**R-2915D ASHE COUNTY
US HIGHWAY 221
SLOPE REPAIR**

DIVISION II - DISTRICT 2 CONSTRUCTION

REVISIONS	INIT.	DATE
REMOVED PIPE AND CHANGED DROP INLET	JC	3-9-22



N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
DIVISION ELEVEN

DATE: 05/2021
PREPARED BY: J. COMBS
REVIEWED BY:

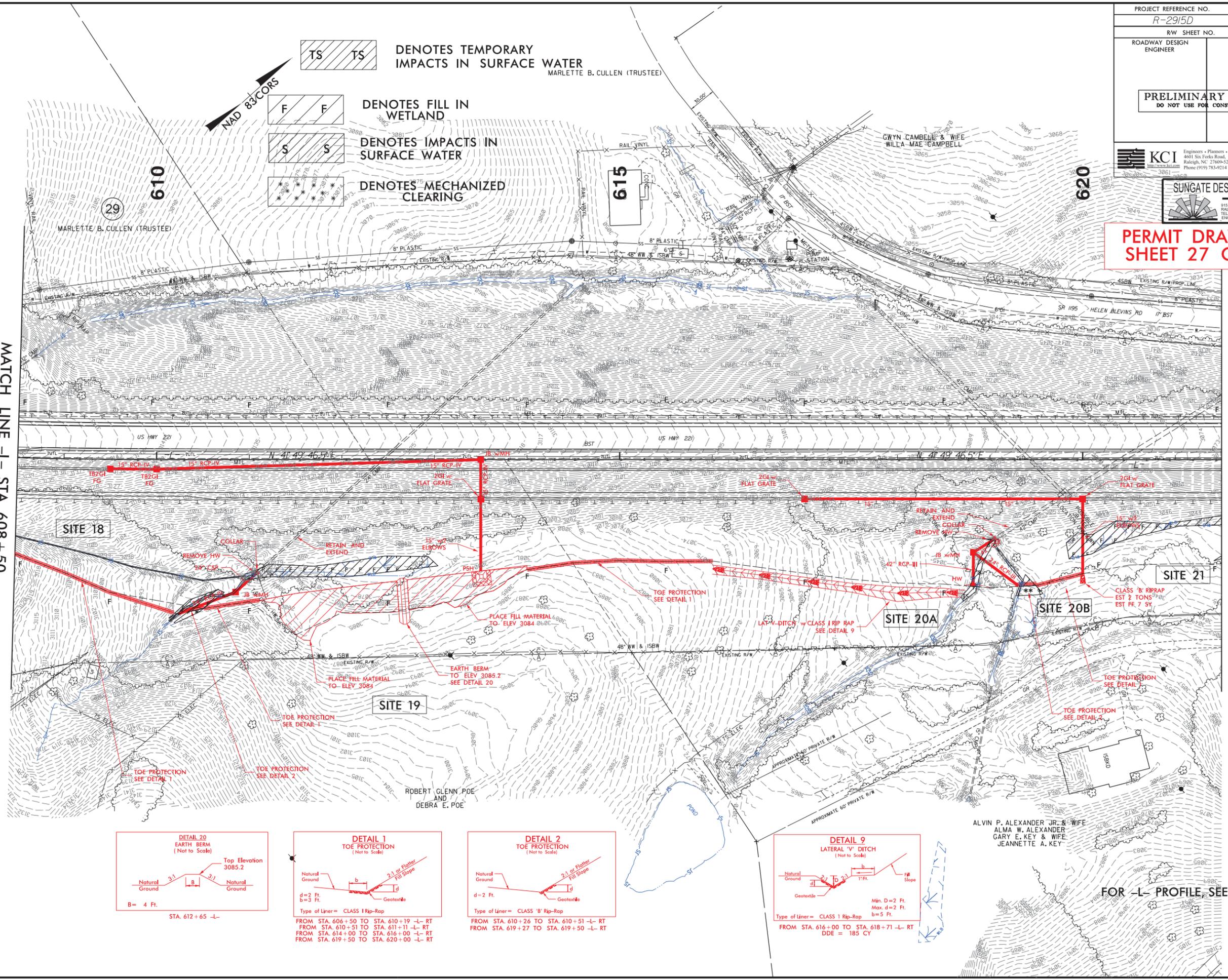
PERMIT DRAWING
Sheet 26A of 52
April 2022

PROJECT REFERENCE NO. R-2915D	SHEET NO. 17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

KCI Engineers • Planners • Scientists • Construction Managers
 6401 Six Forks Road, Landmark Center II, Suite 220
 Raleigh, NC 27609-5210
 TEL (919) 882-2343 FAX (919) 884-2039
 ENG FIRM LICENSE NO. C-880

SUNGATE DESIGN GROUP, P.A.
 115 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27608
 TEL (919) 882-2343 FAX (919) 884-2039
 ENG FIRM LICENSE NO. C-880

PERMIT DRAWING
SHEET 27 OF 52



TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
MARLETTE B. CULLEN (TRUSTEE)

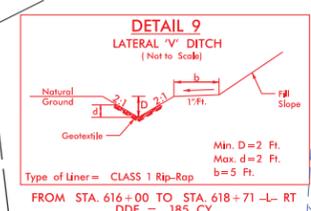
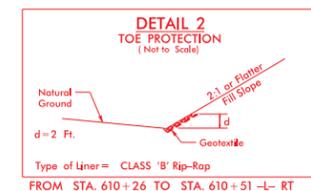
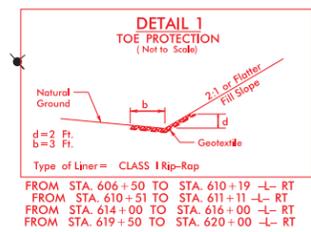
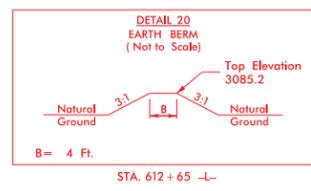
F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

***** DENOTES MECHANIZED CLEARING

MATCH LINE -L- STA. 608 + 50
SEE SHEET NO. 16

MATCH LINE -L- STA. 621 + 50
SEE SHEET NO. 18



FOR -L- PROFILE, SEE SHEET 30

REVISIONS
 8/17/99
 3/28/2014
 SUNGATE\ESR02\NewData\Project\List\1220\11016 - R-2915D - Ashe_City\Design_Files - Permit\Hydraulics\PERMITS_Environmental\Drawings\R2915D_Hyd_prm_wet_psh_17_con.dgn

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	21+40-23+21-TIE-L-R	ROAD FILL						0.02	< 0.01	312	46	
2	25+56 -TIE- R	ROAD FILL	< 0.01									
3A	474+48-474+65 -L- L	ROAD FILL						< 0.01		60		
3B	474+65-475+42 -L- L	ROAD FILL	< 0.01		< 0.01	0.02		< 0.01	< 0.01	56	73	
4	477+62-480+95 -L- L	ROAD FILL	0.10			0.04			< 0.01		19	
5	482+68-483+36 -L- L	ROAD FILL						0.01		57		
		STREAMBANK STABILIZATION						< 0.01		19		
6	504+48 -L-	ROAD FILL						0.05		120		
		STREAMBANK STABILIZATION						< 0.01	< 0.01	48	25	
7	505+57-508+66 -L- L	ROAD FILL	0.25			0.05						
8	522+90-L- R	STREAMBANK STABILIZATION						< 0.01		15		
9	536+74-538+06 -L- L	ROAD FILL						0.03	< 0.01	126	22	
10	540+58-544+48 -L- L	ROAD FILL						0.18		396		
11	544+82 -L- R	STREAMBANK STABILIZATION						< 0.01		11		
12	564+82 -L- R	ROAD FILL						< 0.01	< 0.01	51	11	
13	577+76 -L- L	ROAD FILL	< 0.01		< 0.01							
14	587+50 -L-	ROAD FILL	0.03		< 0.01	0.01		< 0.01	< 0.01	162	14	
15	588+39-589+14 -L- R	ROAD FILL	< 0.01			0.02		< 0.01		12		
16	591+57 -L- R	ROAD FILL				< 0.01						
17A	591+38-594+35 -L- L	ROAD FILL	0.06			0.01		< 0.01	< 0.01	28	23	
17B	594+07 -L- R	RIP RAP						< 0.01		12		
18	606+30-610+13 -L- R	ROAD FILL						0.01		491		
18A	610+00 -L-	FILL (36" HDPE)						0.03	0.04	320	130	
19	610+14-613+04 -L- R	ROAD FILL	0.07			< 0.01		< 0.01	< 0.01	100	12	
SUBTOTALS*:			0.55		< 0.01	0.15		0.38	0.06	2396	375	

*Rounded totals are sum of actual impacts

NOTES:

- * SITE 4 - ADDITIONAL 0.04 ACRE ACCOUNTED FOR AS FILL IS ADDED DUE TO TOTAL TAKE OF WETLAND
- * SITE 18A - Temporary impacts total 450 linear feet, but 320 linear feet overlap with the permanent impacts

Revised April 2022

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 5-6-2014
 R-2915D ASHE COUNTY
 ON US 221 FROM SOUTH OF NC 194
 TO US 221 BYPASS

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)
20A	618+68-619+57 -L- R	ROAD FILL						< 0.01	< 0.01	55	18	
20B	618+68-619+57 -L- R	ROAD FILL	< 0.01			< 0.01		< 0.01	< 0.01	57	11	
21	619+82-622+86 -L- R	ROAD FILL	0.17		< 0.01			< 0.01	< 0.01	49	17	
22	624+24 -L- R	ROAD FILL	< 0.01			< 0.01		< 0.01		61		
23A	628+44-628+98 -L-	ROAD FILL						< 0.01		19		
23B	628+44-628+98 -L-	ROAD FILL						< 0.01	< 0.01	66	15	
24	641+42-642+18-L- R	ROAD FILL	< 0.01			0.01		< 0.01	< 0.01	22	10	
25	650+46-652+40-L- R	ROAD FILL	0.11			0.05		< 0.01		12		
26	659+63-661+42 -L-	CULVERT						0.03	0.01	75	22	
		STREAMBANK STABILIZATION						< 0.01	< 0.01	33	26	
27	651+61-653+98 -L- R	ROAD FILL	0.04			< 0.01		0.01		134		
28	652+08-653+11-L- L	ROAD FILL	< 0.01			0.02						
29	653+75-654+35-L- L	CHANNEL						0.01		69		
30	17+86-2085-Y32- R	ROAD FILL	0.04			0.06						
31	667+52-670+07-L- R	ROAD FILL	0.06			< 0.01						
32	676+39-676+92-L- R	ROAD FILL	0.02			< 0.01		< 0.01	< 0.01	25	19	
SUBTOTALS*:			0.46		< 0.01	0.15		0.08	0.03	677	138	
SUBTOTALS FROM PAGE 1*:			0.55		< 0.01	0.15		0.38	0.06	2396	375	
TOTALS*:			1.01		< 0.01	0.30		0.46	0.09	3073	513	

*Rounded totals are sum of actual impacts

NOTES:

* SITE 21 TOTAL TAKE OF WETLAND = 0.18 Acre

Revised April 2022

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 5-6-2014
 R-2915D ASHE COUNTY
 ON US 221 FROM SOUTH OF NC 194
 TO US 221 BYPASS