



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

JAMES H. TROGDON, III  
SECRETARY

January 11, 2018

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

ATTN: Mr. Dave Bailey  
NCDOT Coordinator

Subject: Request for Modification to the Section 404 Individual Permit and Section 401 Water Quality Certification for the proposed Greensboro Western Loop from north of SR 2176 (Bryan Boulevard) to SR 2303 (Lawndale Drive), Guilford County, Division 7. Federal Aid Project No. STP-NHF-124(1), WBS Element No. 34820.3.30, TIP No. U-2524C and D.

Reference: USACE Individual Permit Action ID SAW-2001-21125, August 1, 2013.  
USACE Individual Permit Modification Action ID SAW-2001-21125, March 25, 2014.  
USACE Individual Permit Modification Action ID SAW-2001-21125, June 19, 2015.  
USACE Individual Permit Modification Action ID SAW-2001-21125, October 7, 2015.  
USACE Individual Permit Modification Action ID SAW-2001-21125, July 15, 2016  
NCDWR Project No. 20130223, Certification No. 3965, July 2, 2013.  
NCDWR Project No. 20130223\_v2, Modification to Certification No. 3965, April 15, 2014.  
NCDWR Project No. 20130223\_v3, Modification to Certification No. 3965, June 25, 2015.  
NCDWR Project No. 20130223\_v4, Modification to Certification No. 3965, October 12, 2015.  
NCDWR Project No. 20130223\_v6, Modification to Certification No. 3965, July 14, 2016.

Dear Sir:

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

*Mailing Address:*  
NC DEPARTMENT OF TRANSPORTATION  
NATURAL ENVIRONMENT SECTION  
1598 MAIL SERVICE CENTER  
RALEIGH NC 27699-1598

*Telephone:* (919) 707-6000  
*Customer Service:* 1-877-368-4968  
*Website:* [www.ncdot.gov](http://www.ncdot.gov)

*Location:*  
1000 BIRCH RIDGE DRIVE  
RALEIGH NC 27610

Since construction of the culvert at U-2524D, Permit Site 4, the portion of stream SV upstream of the culvert has experienced channel instability and erosion issues. In order to armor against further bank erosion, the Department is proposing to install an additional 70 linear feet of bank stabilization with Class I riprap and install a series of grade controls (rock steps) in this area.

This would mean that the revised total impacts at U-2524D Permit Site 4 would include 1,581 linear feet (lf) of permanent fill, 70 lf of stream bank stabilization including addition of grade controls, and <0.01 acre of temporary impacts.

Please see the enclosed revised permit sheets 11, 12 and 25 (of 25) as well as the new permit sheet 12a detailing the grade controls. No additional mitigation is required for the modified impacts (confirmed with USACE and NCDWR in December 2018).

Section 404: Application is hereby made for a modification to the USACE Individual 404 Permit as required for the above-described activities.

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

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

Sincerely,



for

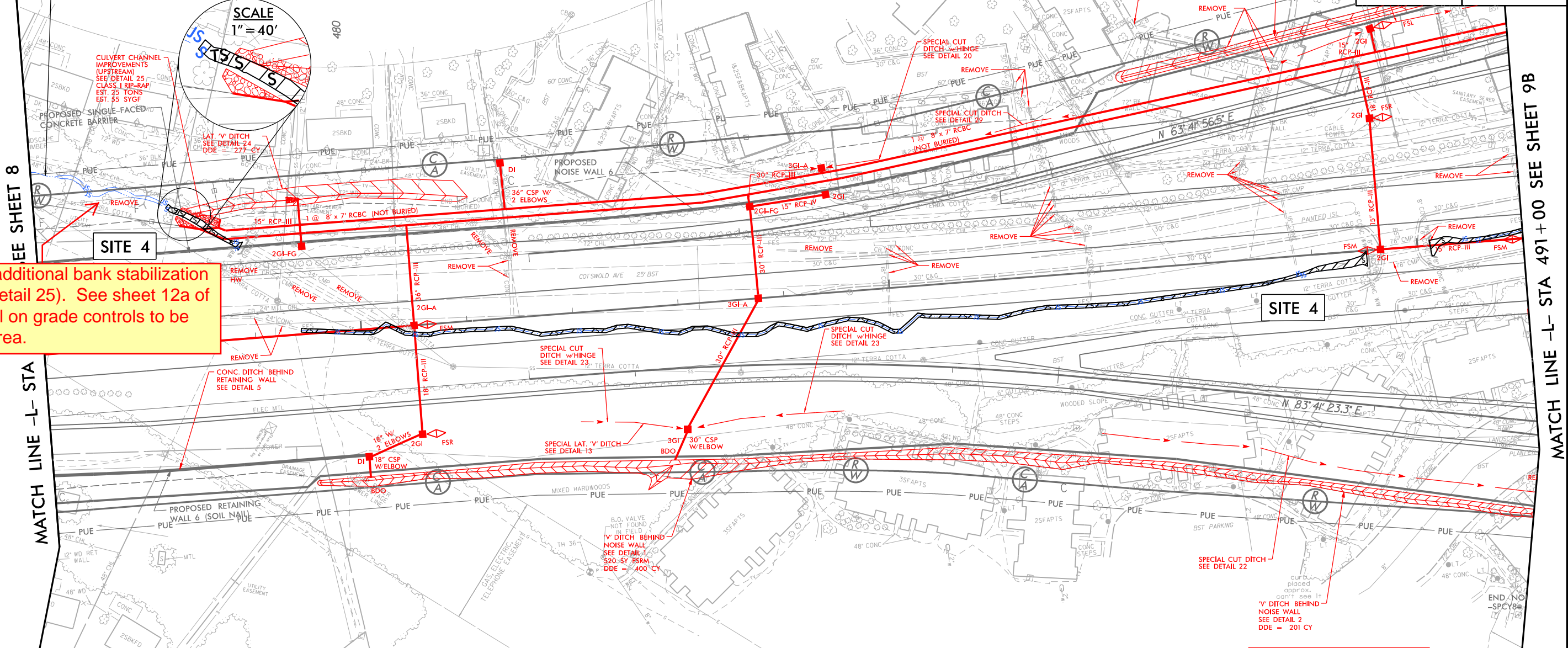
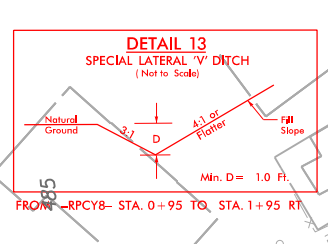
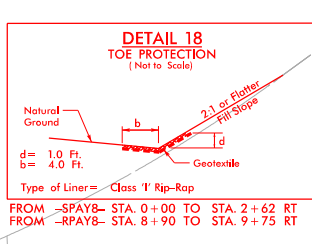
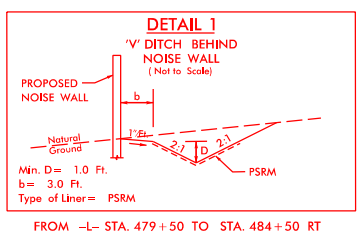
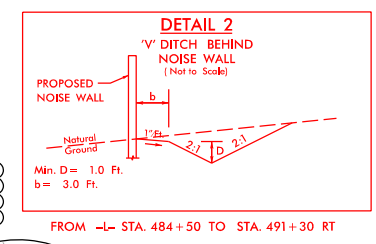
Philip S. Harris III, P.E., C.P.M.  
Environmental Analysis Unit Head

cc:  
NCDOT Permit Application Standard Distribution List

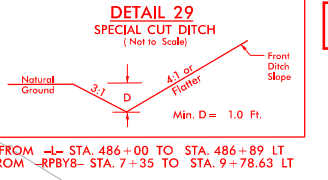
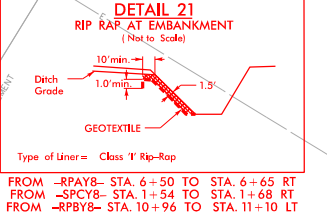
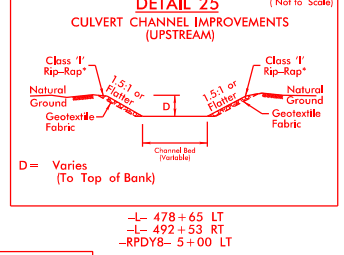
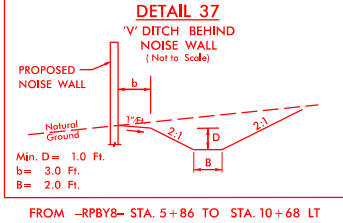
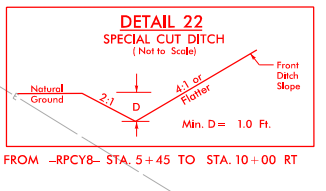
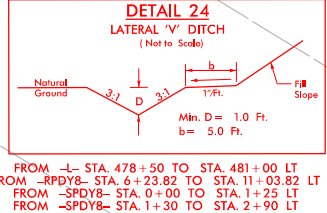
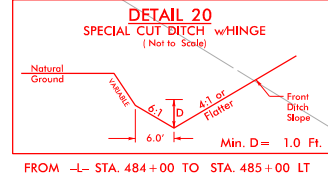
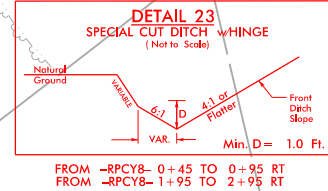
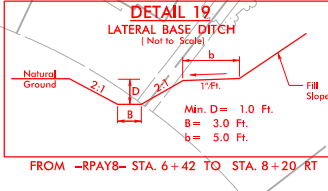
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION  
**HNTB**  
343 E. SIX FORKS ROAD, SUITE 200 RALEIGH, NC 27609  
NC License Number C-1554

**INCOMPLETE PLANS**  
DO NOT USE FOR A/CQUISITION  
**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

THIS PORTION OF STREAM WILL REQUIRE 0.5 : 1 MITIGATION DUE TO INDIRECT PROJECT IMPACTS & LOSS OF FUNCTION.



70 linear feet of additional bank stabilization in this location (detail 25). See sheet 12a of 25 for more detail on grade controls to be installed in this area.



-L- 477+95 to -L- 478+65 LT

PERMIT DRAWINGS  
SHEET 11 OF 25

**LEGEND**

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

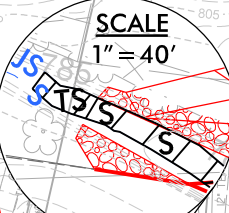
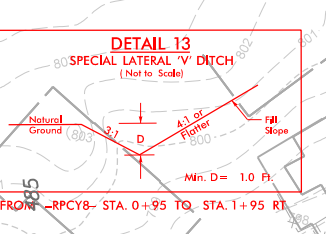
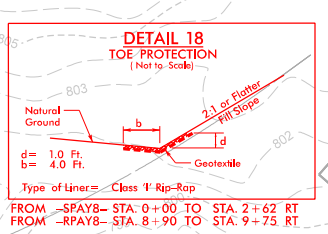
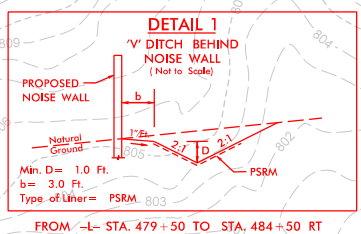
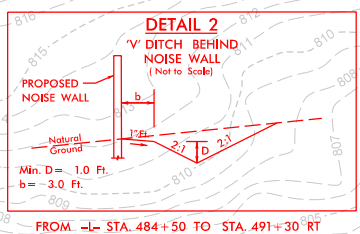
Revised December 2018

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**INCOMPLETE PLANS**  
DO NOT USE FOR A/W ACQUISITION  
**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

THIS PORTION OF STREAM WILL REQUIRE 0.5 : 1 MITIGATION DUE TO INDIRECT PROJECT IMPACTS & LOSS OF FUNCTION.

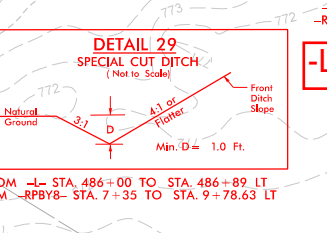
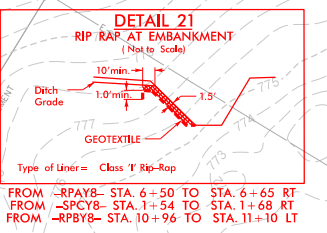
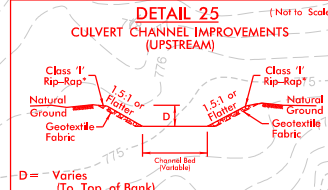
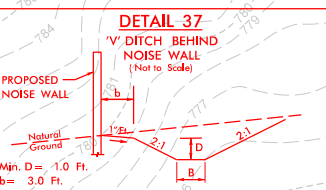
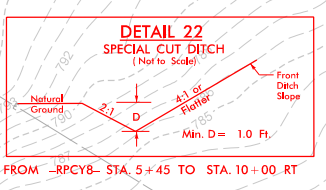
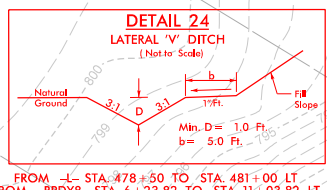
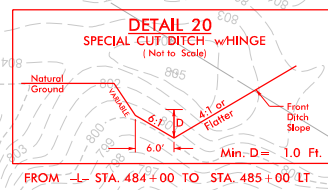
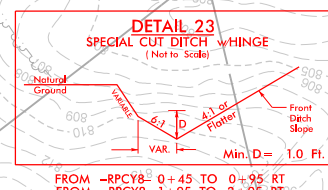
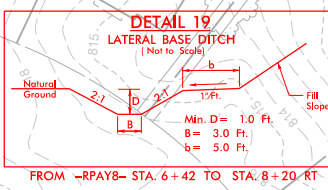
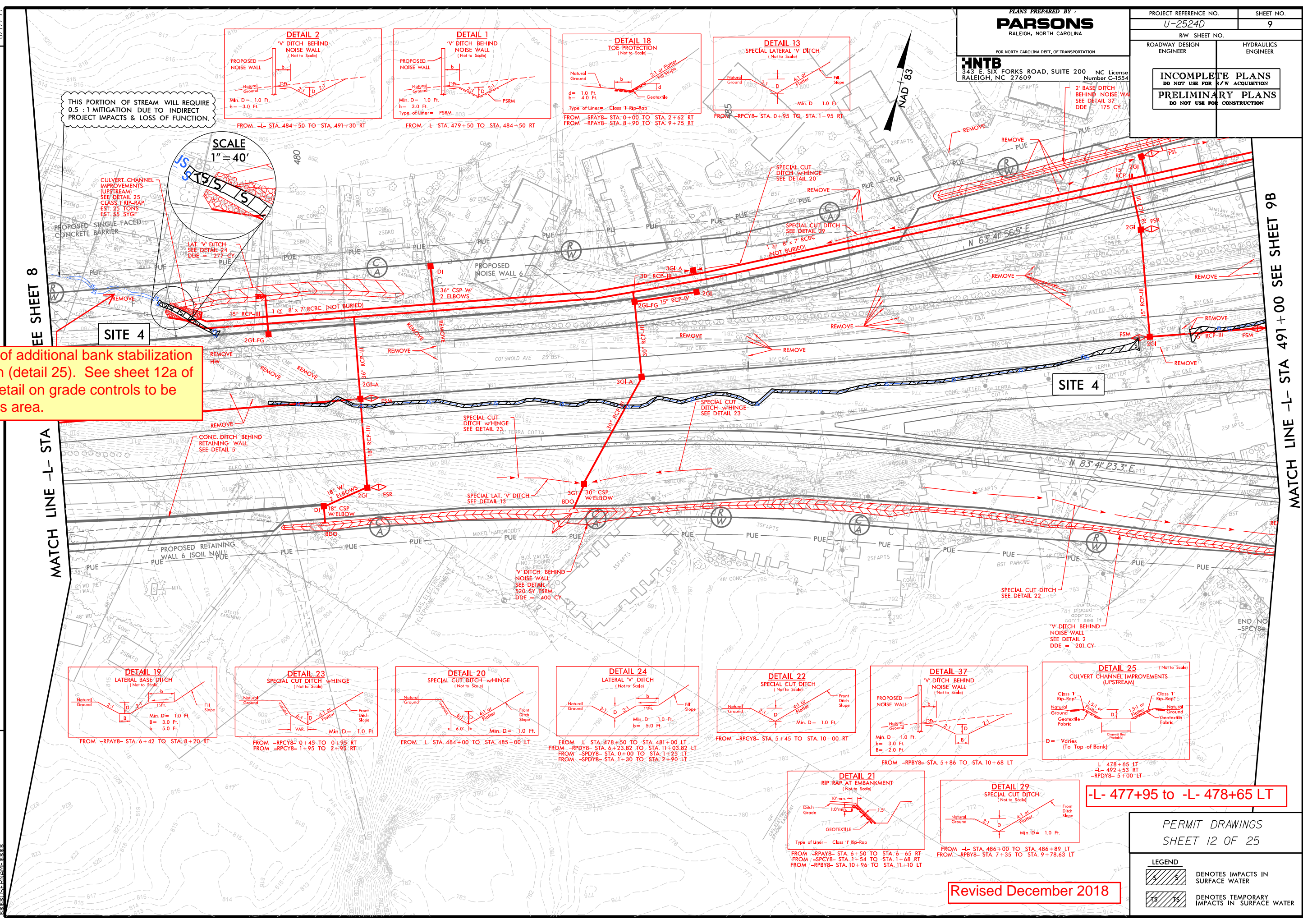


70 linear feet of additional bank stabilization in this location (detail 25). See sheet 12a of 25 for more detail on grade controls to be installed in this area.

SEE SHEET 8

MATCH LINE -L- STA

MATCH LINE -L- STA 491+00 SEE SHEET 9B



-L- 477+95 to -L- 478+65 LT

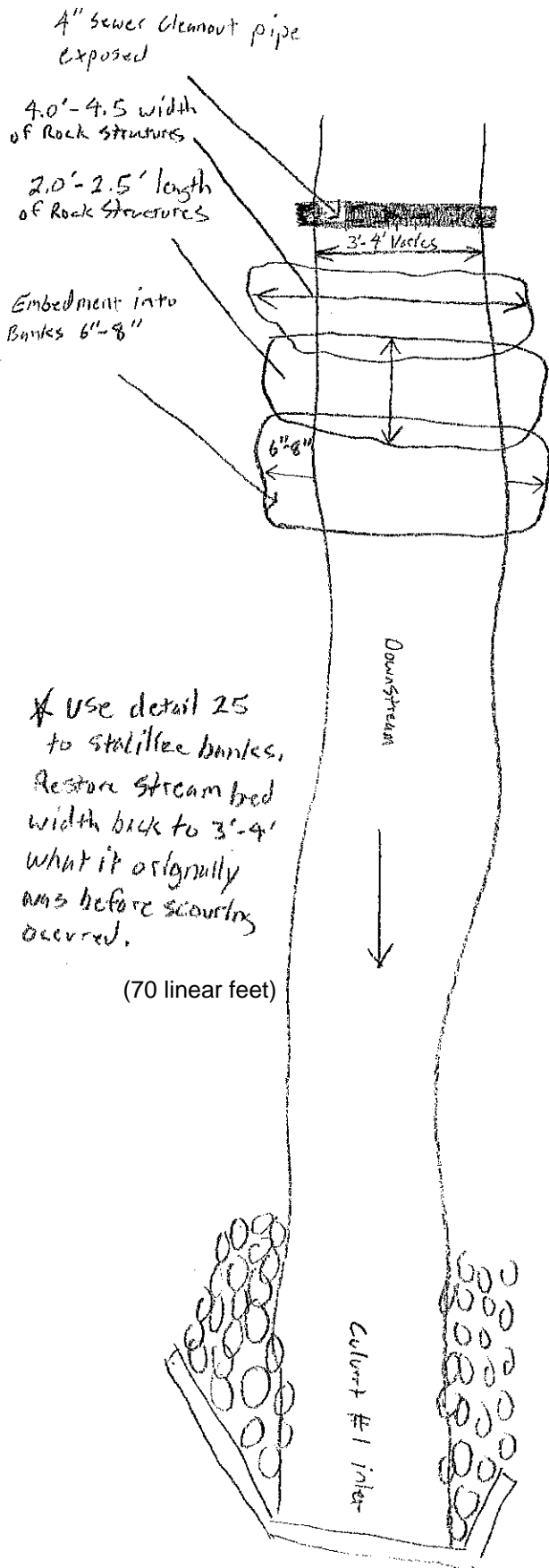
PERMIT DRAWINGS  
SHEET 12 OF 25

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

Revised December 2018

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Plan View



4" sewer cleanout pipe exposed

4.0'-4.5' width of Rock Structures

2.0'-2.5' length of Rock Structures

Embedment into Banks 6"-8"

3'-4' Voles

6"-8"

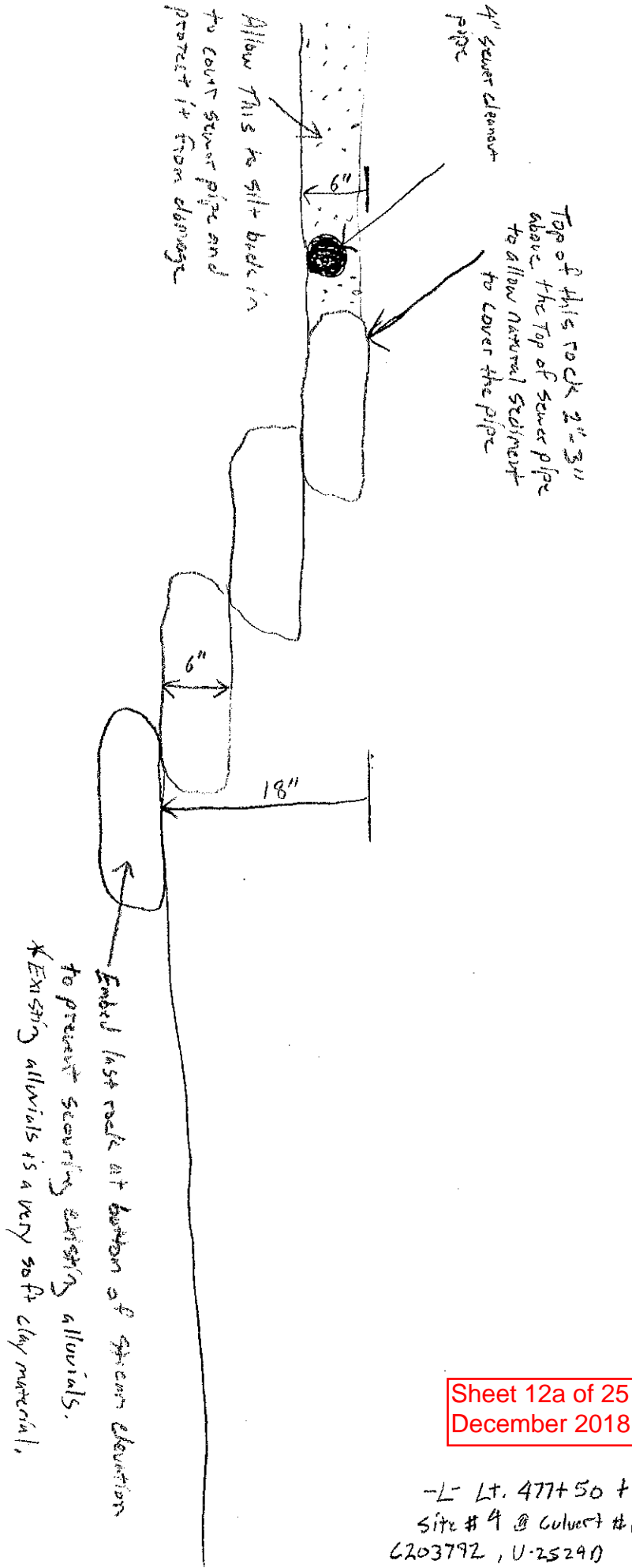
Downstream

Culvert #1 Inlet

\* Use detail 25 to stabilize banks. Restore stream bed width back to 3'-4' what it originally was before scouring occurred.

(70 linear feet)

Profile View



Allow this to silt back in to cover sewer pipe and protect it from damage

4" sewer cleanout pipe

6"

Top of this rock 2'-3'' above the top of sewer pipe to allow natural sediment to cover the pipe

6"

18"

Embed last rock at bottom of stream elevation to prevent scouring existing alluvials. Existing alluvials is a very soft clay material.

Sheet 12a of 25  
December 2018

-L- Lt. 477+50 +-  
Site # 4 @ Culvert #1 Inlet  
6203792, U-25290

Chris D. Noon 12-14-18



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- 434+26 - 434+49	Bank Stabilization						< 0.01	< 0.01	15	15	
2	-L- 440+16 - 443+31	48" / 30" RCP						0.05	< 0.01	414	10	
3A	-L- 458+38 - 458+84	4' Base Ditch						< 0.01		96		
3	-L- 462+49 - 471+23	4' Base Ditch / 60" RCP						0.09		996		
		Bank Stabilization						< 0.01	< 0.01	24	10	
4	-L- 478+25 - 494+65	1 @ 8' X 7' RCBC						0.15	< 0.01	1581	12	
		Bank Stabilization						<0.01		70		
5	-L- 491+99 - 503+80	1 @ 10' X 7' / 2 @ 10' X 7' RCBC						0.27	0.01	1192	43	
6	-L- 492+63 - 493+02	1 @ 10' X 7' RCBC						0.02	< 0.01	158	16	
7	-L- 497+58 - 499+12	48" RCP						0.04		291		
		Bank Stabilization						< 0.01	< 0.01	23	10	
8	-L- 502+83 - 503+29	Bank Stabilization						0.01	< 0.01	46	18	
9	-L- 504+11 - 505+91	1 @ 7' X 8' RCBC						0.07	< 0.01	388	20	
10	-L- 505+41 - 505+96	Bank Stabilization						0.01	< 0.01	34	20	
11	-L- 508+61 - 510+08	Roadway Fill	0.05			0.03						
12	-L- 521+16 - 521+61	72"RCP						0.05	< 0.01	284	10	
		Bank Stabilization						< 0.01	< 0.01	24	5	
										5636		
TOTALS*:			0.05			0.03		0.77	0.04	5566	189	0

(5566+70 = 5636)

\*Rounded totals are sum of actual impacts

NOTES:

- 780 LF OF STREAM BETWEEN SITES 3 & 4 WILL REQUIRE 0.5 : 1 MITIGATION DUE TO INDIRECT PROJECT IMPACTS & LOSS OF FUNCTION.

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 11/13/15  
 Guilford  
 U-2524D  
 34820.1.2

Revised December 2018

SHEET

25

OF

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