



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



(Version 3.00; Released August 2021)

**WBS Element:** 34178.3.GV3     
 **TIP/Proj No:** I-3306A / W-5707C     
 **County(ies):** Orange     
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**General Project Information**

<b>WBS Element:</b>	34178.3.GV3	<b>TIP Number:</b>	I-3306A / W-5707C	<b>Project Type:</b>	Roadway Widening	<b>Date:</b>	4/20/2022
<b>NCDOT Contact:</b>	Ron McCollum, PE		<b>Contractor / Designer:</b>	HDR Engineering / James Rice, PE			
	<b>Address:</b>	1000 Birch Ridge Drive Raleigh, NC 27610		<b>Address:</b>	555 Fayetteville Street, Suite 900 Raleigh, NC 27601		
	<b>Phone:</b>	(919) 707-6616		<b>Phone:</b>	(919) 232-6621		
	<b>Email:</b>	<a href="mailto:remccollum@ncdot.gov">remccollum@ncdot.gov</a>		<b>Email:</b>	<a href="mailto:james.rice@hdrinc.com">james.rice@hdrinc.com</a>		
<b>City/Town:</b>	Hillsborough		<b>County(ies):</b>	Orange			
<b>River Basin(s):</b>	Neuse	Cape Fear	<b>CAMA County?</b>	No			
<b>Wetlands within Project Limits?</b>	Yes						

**Project Description**

<b>Project Length (lin. miles or feet):</b>	11.55 miles	<b>Surrounding Land Use:</b>	Low density urban				
	<b>Proposed Project</b>			<b>Existing Site</b>			
<b>Project Built-Up Area (ac.)</b>	202.0	ac.	140.0	ac.			
<b>Typical Cross Section Description:</b>	6 lane divided highway with a 22' variable median: (2) 14 foot outside paved shoulders, (6) 12 foot travel lanes, (2) 11 foot paved median shoulders - total width of 122'			4 lane divided highway with a 38 foot grass median: (2) 5 foot outside paved shoulders, (4) 12 foot travel lanes, (2) 4 foot paved median shoulders - total width of 104'			
<b>Annual Avg Daily Traffic (veh/hr/day):</b>	<b>Design/Future:</b>	88400	<b>Year:</b>	2040	<b>Existing:</b>	75030	<b>Year:</b> 2021



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**General Project Narrative:  
(Description of Minimization of Water  
Quality Impacts)**

**Project Description:** The proposed project (I-3306A) widens I-40 from I-85 in Orange County to the Durham County line with interchange modifications, including the I-40 / NC-86 interchange. Neuse River Basin and Jordan Lake buffer rules in effect. Jurisdictional streams, ponds and wetlands have been identified within project limits. Major receiving streams along the project are Rocky Run, Cates Creek, New Hope Creek, Old Field Creek, Mountain Creek, Stony Creek, Cedar Fork, and Unnamed Trib. to Eno River. Box culverts and circular pipe culverts are used to convey all jurisdictional stream crossings through the project.

**Impact Minimization Efforts:** Guardrail with 2:1 slopes were utilized throughout the project to minimize impacts to streams and wetlands. The Team has elected to use rock plated 1.5:1 slopes from Sta 65+00 to Sta 70+00 -YRPD- and headwall extension to minimize impacts to Rocky Run. Ditches and pipes that outlet adjacent to wetlands have been designed to have non-erosive velocities.

**Stormwater BMP Measures:**



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General Project Information

Waterbody Information

Surface Water Body (1):	Rocky Run		NCDWR Stream Index No.:	27-2-6-2-(2)	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Water Supply II (WS-II)		
	Supplemental Classification:		High Quality Waters (HQW) (NSW)		
Other Stream Classification:					
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	Rocky Run		Buffer Rules in Effect:	Neuse	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(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)					
Surface Water Body (2):	Cates Creek		NCDWR Stream Index No.:	27-2-8	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Water Supply V (WS-V) Class C		
	Supplemental Classification:		Nutrient Sensitive Waters (NSW)		
Other Stream Classification:					
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	Cates Creek		Buffer Rules in Effect:	Neuse	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(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)					
Surface Water Body (3):	UT to Eno River		NCDWR Stream Index No.:	27-2-(7)	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Nutrient Sensitive Waters (NSW)		
Other Stream Classification:					
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SA, SB, SC, SXX		Buffer Rules in Effect:	Neuse	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(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)	
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**Additional Waterbody Information**

<b>Surface Water Body (4):</b>	UT to Cates Creek		<b>NCDWR Stream Index No.:</b>	27-2-8	
<b>NCDWR Surface Water Classification for Water Body</b>	<b>Primary Classification:</b>		Class C		
	<b>Supplemental Classification:</b>		Nutrient Sensitive Waters (NSW)		
<b>Other Stream Classification:</b>					
<b>Impairments:</b>	None				
<b>Aquatic T&amp;E Species?</b>	No	<b>Comments:</b>			
<b>NRTR Stream ID:</b>	SD, SE, SF, SG		<b>Buffer Rules in Effect:</b>		Neuse
<b>Project Includes Bridge Spanning Water Body?</b>	No	<b>Deck Drains Discharge Over Buffer?</b>	N/A	<b>Dissipator Pads Provided in Buffer?</b>	
<b>Deck Drains Discharge Over Water Body?</b>	N/A	(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)					
<b>Surface Water Body (5):</b>	UT to Sevenmile Creek		<b>NCDWR Stream Index No.:</b>	27-2-6-(1.5)	
<b>NCDWR Surface Water Classification for Water Body</b>	<b>Primary Classification:</b>		Water Supply II (WS-II)		
	<b>Supplemental Classification:</b>		High Quality Waters (HQW) (NSW)		
<b>Other Stream Classification:</b>					
<b>Impairments:</b>	None				
<b>Aquatic T&amp;E Species?</b>	No	<b>Comments:</b>			
<b>NRTR Stream ID:</b>	SH		<b>Buffer Rules in Effect:</b>		Neuse
<b>Project Includes Bridge Spanning Water Body?</b>	No	<b>Deck Drains Discharge Over Buffer?</b>	N/A	<b>Dissipator Pads Provided in Buffer?</b>	
<b>Deck Drains Discharge Over Water Body?</b>	N/A	(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)					
<b>Surface Water Body (6):</b>	UT to New Hope Creek		<b>NCDWR Stream Index No.:</b>	16-41-1-(0.5)	
<b>NCDWR Surface Water Classification for Water Body</b>	<b>Primary Classification:</b>		Water Supply V (WS-V)		
	<b>Supplemental Classification:</b>		Nutrient Sensitive Waters (NSW)		
<b>Other Stream Classification:</b>					
<b>Impairments:</b>	None				
<b>Aquatic T&amp;E Species?</b>	No	<b>Comments:</b>			
<b>NRTR Stream ID:</b>	SI, SJ, SK, SL, SM, SN, SO, SR, SS, ST, SU, SBB, SEE, SFF, SGG, SHH, SII, SJJ, SKK, SLL, SMM, SNN, SOO, SRR, SYY, SZZ		<b>Buffer Rules in Effect:</b>		Neuse
<b>Project Includes Bridge Spanning Water Body?</b>	No	<b>Deck Drains Discharge Over Buffer?</b>	N/A	<b>Dissipator Pads Provided in Buffer?</b>	
<b>Deck Drains Discharge Over Water Body?</b>	N/A	(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)					
<b>Surface Water Body (7):</b>	New Hope Creek		<b>NCDWR Stream Index No.:</b>	16-41-1-(0.5)	
<b>NCDWR Surface Water Classification for Water Body</b>	<b>Primary Classification:</b>		Water Supply V (WS-V)		
	<b>Supplemental Classification:</b>		Nutrient Sensitive Waters (NSW)		



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<b>Other Stream Classification:</b>						
<b>Impairments:</b>	None					
<b>Aquatic T&amp;E Species?</b>	No	Comments:				
<b>NRTR Stream ID:</b>	New Hope Creek			<b>Buffer Rules in Effect:</b>	Neuse	
<b>Project Includes Bridge Spanning Water Body?</b>	No	<b>Deck Drains Discharge Over Buffer?</b>	N/A	<b>Dissipator Pads Provided in Buffer?</b>	N/A	
<b>Deck Drains Discharge Over Water Body?</b>	N/A	(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)						



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**Additional Waterbody Information**

<b>Surface Water Body (8):</b>	UT to Old Field Creek		<b>NCDWR Stream Index No.:</b>	16-41-1-7	
<b>NCDWR Surface Water Classification for Water Body</b>	<b>Primary Classification:</b>		Water Supply V (WS-V)		
	<b>Supplemental Classification:</b>		Nutrient Sensitive Waters (NSW)		
<b>Other Stream Classification:</b>					
<b>Impairments:</b>	None				
<b>Aquatic T&amp;E Species?</b>	No	Comments:			
<b>NRTR Stream ID:</b>	SV, SW, SX, SY, SZ, SAA, SCC, SDD, STT, SUU		<b>Buffer Rules in Effect:</b>	Neuse	
<b>Project Includes Bridge Spanning Water Body?</b>	No	<b>Deck Drains Discharge Over Buffer?</b>	N/A	<b>Dissipator Pads Provided in Buffer?</b>	N/A
<b>Deck Drains Discharge Over Water Body?</b>	N/A	(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)					
<b>Surface Water Body (9):</b>	Old Field Creek		<b>NCDWR Stream Index No.:</b>	16-41-1-7	
<b>NCDWR Surface Water Classification for Water Body</b>	<b>Primary Classification:</b>		Water Supply V (WS-V)		
	<b>Supplemental Classification:</b>		Nutrient Sensitive Waters (NSW)		
<b>Other Stream Classification:</b>					
<b>Impairments:</b>	None				
<b>Aquatic T&amp;E Species?</b>	No	Comments:			
<b>NRTR Stream ID:</b>	Old Field Creek		<b>Buffer Rules in Effect:</b>	Neuse	
<b>Project Includes Bridge Spanning Water Body?</b>	No	<b>Deck Drains Discharge Over Buffer?</b>	N/A	<b>Dissipator Pads Provided in Buffer?</b>	N/A
<b>Deck Drains Discharge Over Water Body?</b>	N/A	(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)					
<b>Surface Water Body (10):</b>	Sevenmile Creek		<b>NCDWR Stream Index No.:</b>	27-2-6-(1.5)	
<b>NCDWR Surface Water Classification for Water Body</b>	<b>Primary Classification:</b>		Water Supply II (WS-II)		
	<b>Supplemental Classification:</b>		High Quality Waters (HQW) (NSW)		
<b>Other Stream Classification:</b>					
<b>Impairments:</b>	None				
<b>Aquatic T&amp;E Species?</b>	No	Comments:			
<b>NRTR Stream ID:</b>	Sevenmile Creek		<b>Buffer Rules in Effect:</b>	Neuse	
<b>Project Includes Bridge Spanning Water Body?</b>	No	<b>Deck Drains Discharge Over Buffer?</b>	N/A	<b>Dissipator Pads Provided in Buffer?</b>	N/A
<b>Deck Drains Discharge Over Water Body?</b>	N/A	(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)	
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Swale

Sheet No.	Line	Station	Location (LT,RT,CL)	Latitude	Longitude	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
6	YFLYA	30+50	RT	36.05772	-79.12464	(3)UT to Eno River	0.0	6.0	6.0	0.4	38	350	2.80%	0.7	1.8	0.9	1.9		Yes
10	L	41+28	RT	36.04385	-79.11404	(4)UT to Cates Creek	0.0	6.0	4.0	0.1	13	105	2.45%	0.4	1.6	0.5	1.7		Yes
12	-L-	72+00	RT	36.03804	-79.10658	(4)UT to Cates Creek	0.0	6.0	4.0	0.4	36	128	1.55%	0.5	1.4	0.6	1.5		Yes
13	-L-	82+41	RT	36.0376	-79.10335	(4)UT to Cates Creek	0.0	6.0	6.0	0.2	20	141	0.88%	0.6	1.1	0.8	1.2		Yes
15	-L-	115+50	LT	36.0347	-79.09302	(6)UT to New Hope	0.0	6.0	6.0	0.4	37	150	0.31%	0.5	0.7	0.6	0.8		Yes
15	-L-	116+50	LT	36.03433	-79.09261	(6)UT to New Hope	0.0	6.0	6.0	0.5	51	100	0.84%	0.7	1.1	0.9	1.2		Yes
16	-L-	131+22	RT	36.03028	-79.09042	(6)UT to New Hope	0.0	6.0	4.0	0.3	34	128	1.09%	1.0	1.4	1.3	1.5		Yes
20	-L-	184+69	RT	36.0158	-79.08714	(6)UT to New Hope	0.0	6.0	4.0	0.7	69	428	0.82%	0.9	1.3	1.2	1.4		Yes
20	-L-	192+30	RT	36.01425	-79.08668	(6)UT to New Hope	0.0	6.0	4.0	0.5	50	333	0.75%	0.7	1.2	0.9	1.3		Yes
26	-L-	281+75	LT	35.99181	-79.07522	(6)UT to Old Field	0.0	4.0	6.0	1.3	126	225	0.49%	3.6	1.5	4.6	1.5		Yes
26	-L-	284+00	LT	35.99124	-79.07524	(6)UT to Old Field	0.0	4.0	6.0	1.3	126	400	0.65%	3.6	1.6	4.6	1.7		Yes
26	-L-	287+50	RT	35.98979	-79.07584	(6)UT to Old Field	0.0	6.0	4.0	0.6	58	294	0.92%	1.1	1.4	1.4	1.4		Yes
29	-L-	330+86	RT	35.97812	-79.07095	(9)Old Field Creek	0.0	6.0	4.0	1.3	134	884	0.76%	3.9	1.8	5.0	1.9		Yes
29	L	335+02	LT	35.97772	-79.07007	(9)Old Field Creek	0.0	6.0	6.0	1.1	113	579	0.62%	3.6	1.5	4.6	1.6		Yes
30	-L-	347+03	RT	35.97451	-79.06845	(9)Old Field Creek	0.0	6.0	6.0	0.4	35	544	0.84%	0.5	1.0	0.6	1.1		Yes
31	L	368+47	LT	35.97135	-79.06231	(9)UT to Old Field	0.0	6.0	4.0	1.1	113	533	0.70%	2.6	1.5	3.3	1.6		Yes
31	L	373+80	LT	35.97063	-79.06059	(9)UT to Old Field	0.0	6.0	4.0	0.7	68	455	0.65%	1.6	1.3	2.0	1.4		Yes
31	L	363+53	RT	35.97145	-79.06364	(9)UT to Old Field	0.0	6.0	4.0	1.0	95	434	0.93%	1.7	1.5	2.2	1.6		Yes
31	L	374+12	RT	35.9703	-79.06093	(9)UT to Old Field	0.0	6.0	4.0	2.1	209	687	0.59%	3.4	1.5	4.3	1.6		Yes
31	Y9RPB	24+66	LT	35.97472	-79.06573	(9)UT to Old Field	0.0	4.0	6.0	0.6	57	334	1.97%	1.3	1.9	1.7	2.0		Yes
31	Y9A	23+76	RT	35.97216	-79.06159	(9)UT to Old Field	0.0	6.0	4.0	0.4	40	326	0.58%	0.7	1.0	0.9	1.1		Yes
31	Y9RPC	22+37	RT	35.96978	-79.06262	(9)UT to Old Field	0.0	6.0	4.0	0.5	50	316	2.46%	0.7	1.8	0.9	1.9		Yes
31	Y9	26+75	LT	35.97062	-79.06257	(9)UT to Old Field	0.0	6.0	6.0	0.5	51	375	1.85%	0.7	1.5	0.9	1.6		Yes
32	L	378+60	LT	35.9703	-79.05953	(9)UT to Old Field	2.0	4.0	4.0	0.7	66	75	0.49%	1.5	1.0	1.9	1.1		Yes
32	L	379+28	LT	35.97001	-79.05902	(9)UT to Old Field	0.0	6.0	4.0	0.5	52	305	0.69%	1.2	1.3	1.5	1.3		Yes
32	L	385+62	LT	35.96929	-79.05705	(9)UT to Old Field	0.0	6.0	6.0	0.5	48	260	0.66%	1.1	1.2	1.4	1.2		Yes
32	L	388+48	LT	35.96902	-79.05629	(9)UT to Old Field	0.0	6.0	6.0	1.4	135	663	0.65%	3.1	1.5	3.9	1.6		Yes
33	L	395+39	LT	35.96826	-79.05405	(9)UT to Old Field	0.0	6.0	4.0	0.5	49	282	0.66%	1.1	1.2	1.4	1.3		Yes
33	L	397+07	RT	35.96768	-79.05356	(9)UT to Old Field	0.0	6.0	4.0	1.3	128	893	1.03%	1.8	1.6	2.2	1.7		Yes
34	L	406+00	RT	35.9671	-79.0511	(9)UT to Old Field	0.0	6.0	4.0	0.3	30	350	0.66%	0.4	0.9	0.5	1.0		Yes
34	L	409+80	RT	35.96698	-79.04979	(9)UT to Old Field	0.0	6.0	4.0	0.9	91	1040	0.46%	1.3	1.1	1.6	1.2		Yes
35	L	424+30	RT	35.96782	-79.04496	(9)UT to Old Field	0.0	6.0	4.0	0.4	41	410	0.53%	0.6	0.9	0.7	1.0		Yes
35	L	428+50	RT	35.96831	-79.0437	(9)UT to Old Field	0.0	6.0	4.0	0.6	62	420	1.10%	1.7	1.6	2.2	1.7		Yes

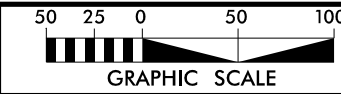
Additional Comments



Steep terrain on the outside limited the number of ditches that met grass swale credit. This rolling steep terrain dictated the roadway profile so many of the proposed roadway grades were too steep to achieve grass swale credit. During design, the velocity was monitored to see if grades could be flattened to meet grass swale criteria. With the loss of the median ditch due to the widening, we looked into a pervious pavement or some other alternative to provide treatment. At this time, additional pavement options are not available.





# NOTES:

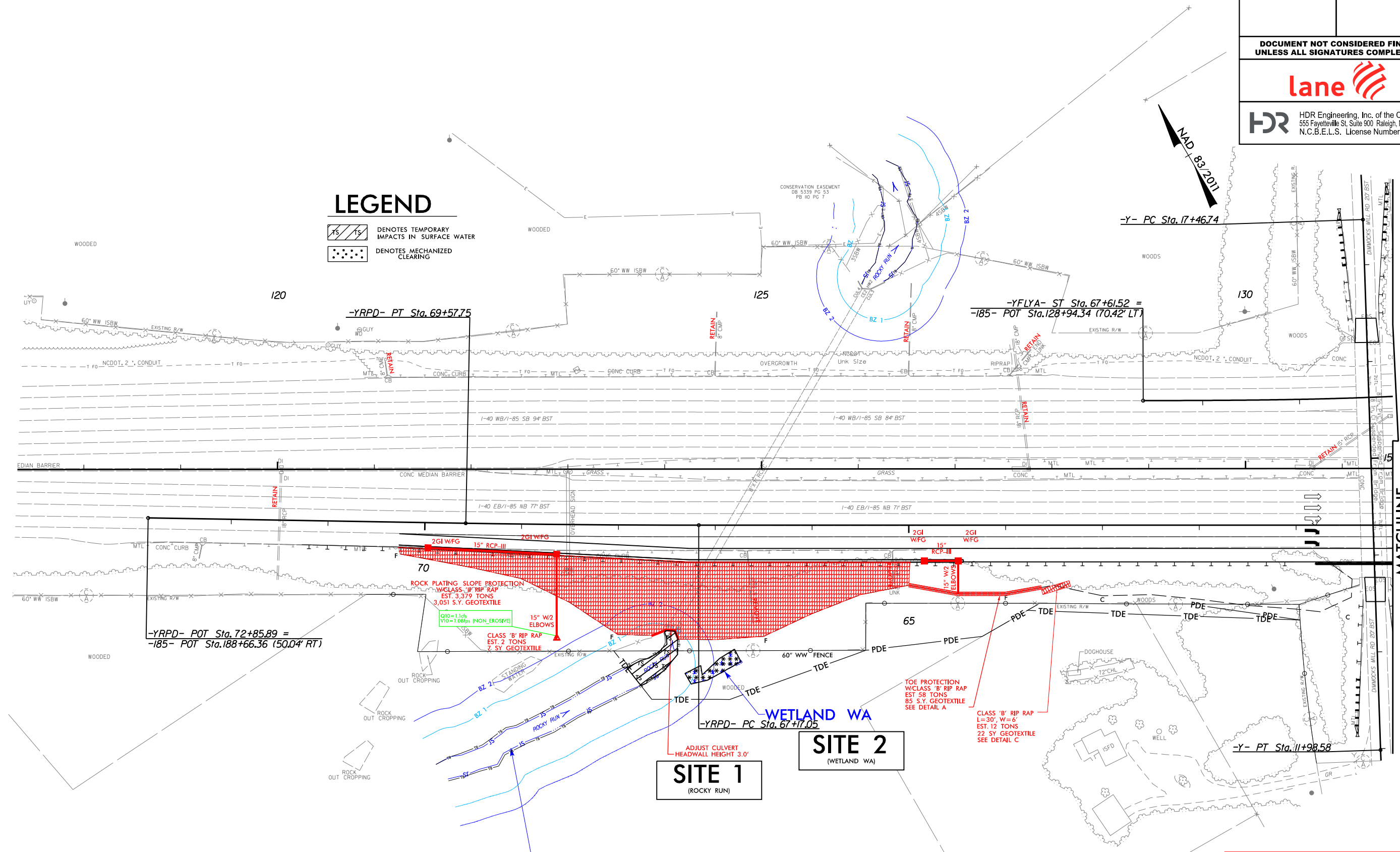
 DENOTES BORE PIT (TYP)



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	
 HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

## LEGEND

-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES MECHANIZED CLEARING



MATCHLINE  
-YRPD- STA. 60+00, SEE SHEET 5

PERMIT DRAWING  
SHEET 2 OF 99

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NMONACK  
 DATE: 4/4/2022  
 FILE: ... \Drawings\13306A.PRM-4C.PSH.dgn  
 PENTABLE: NCDOT\_permits.NCON.tbl  
 TIME: 3:30:57 PM

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NIMOWACK  
 FILE: ... \Drawings\13306A.PRM-4C\_PSH.dgn

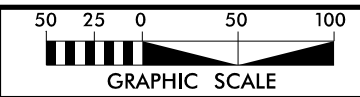
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 TIME: 3:33:04 PM

DATE: 4/4/2022

REVISIONS

**NOTES:**

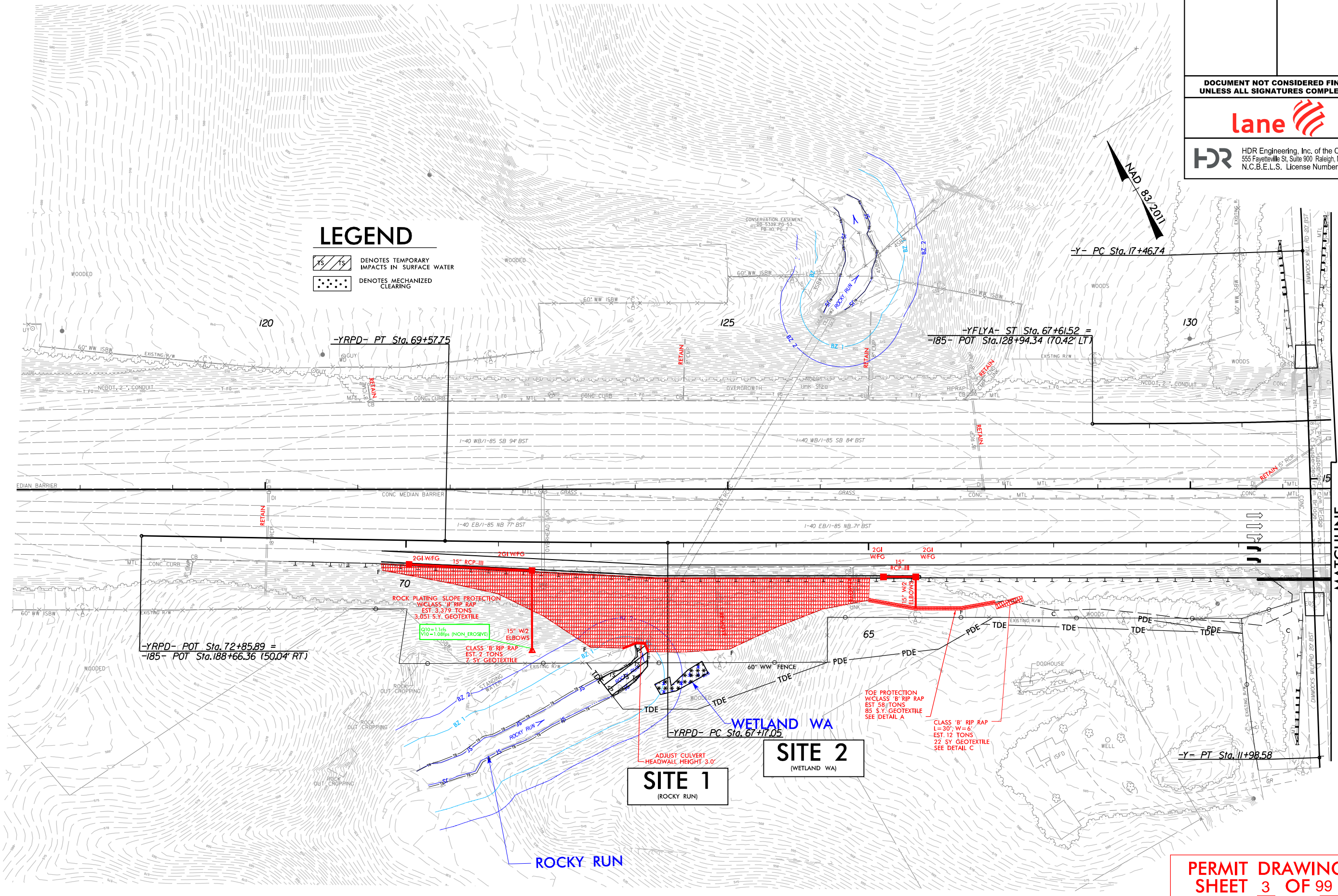
■ DENOTES BORE PIT (TYP)



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

**LEGEND**

- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING



MATCHLINE  
-YRPD- STA. 60+00, SEE SHEET 5

PERMIT DRAWING  
SHEET 3 OF 99

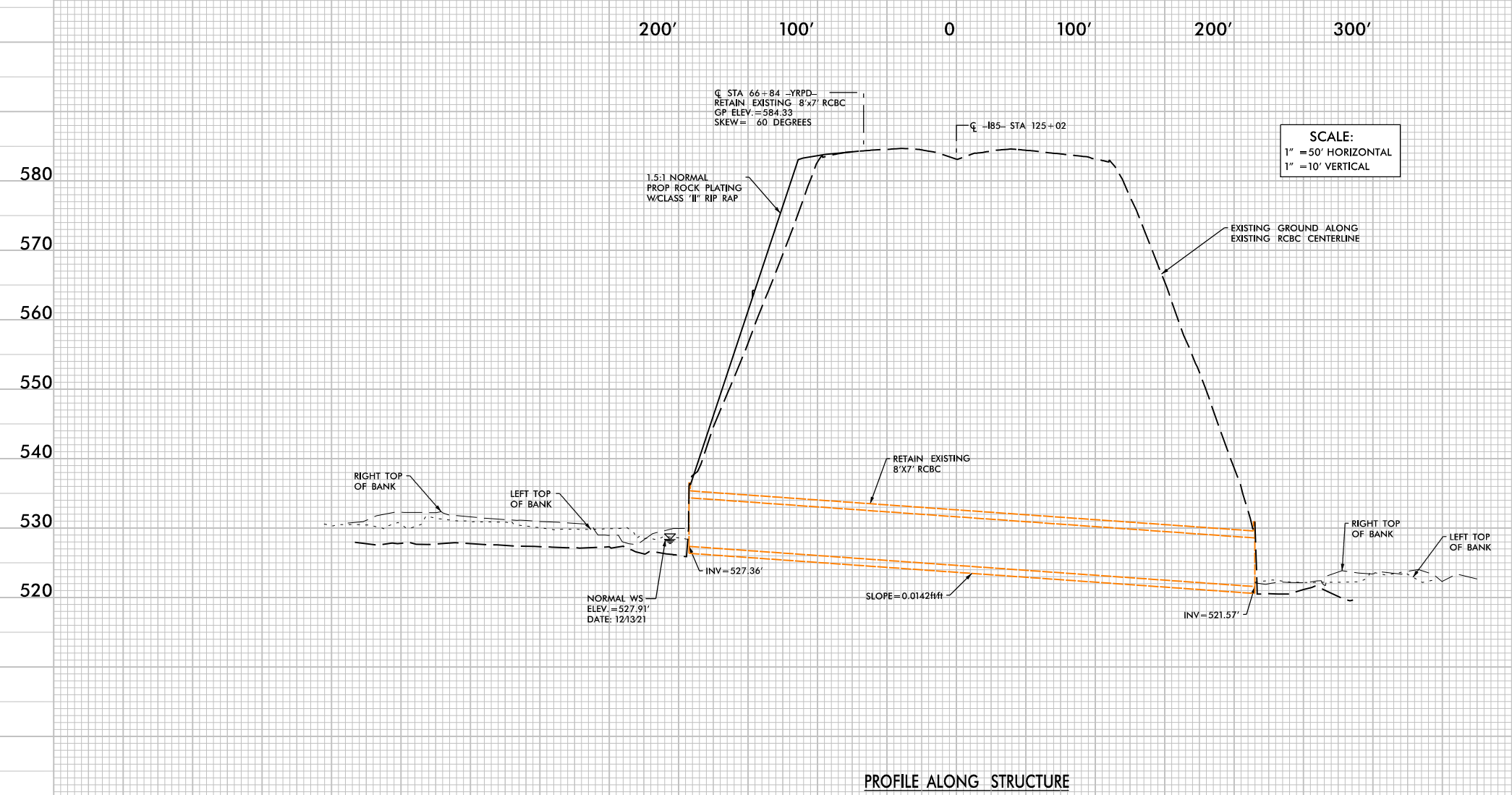
5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

# SITE 1



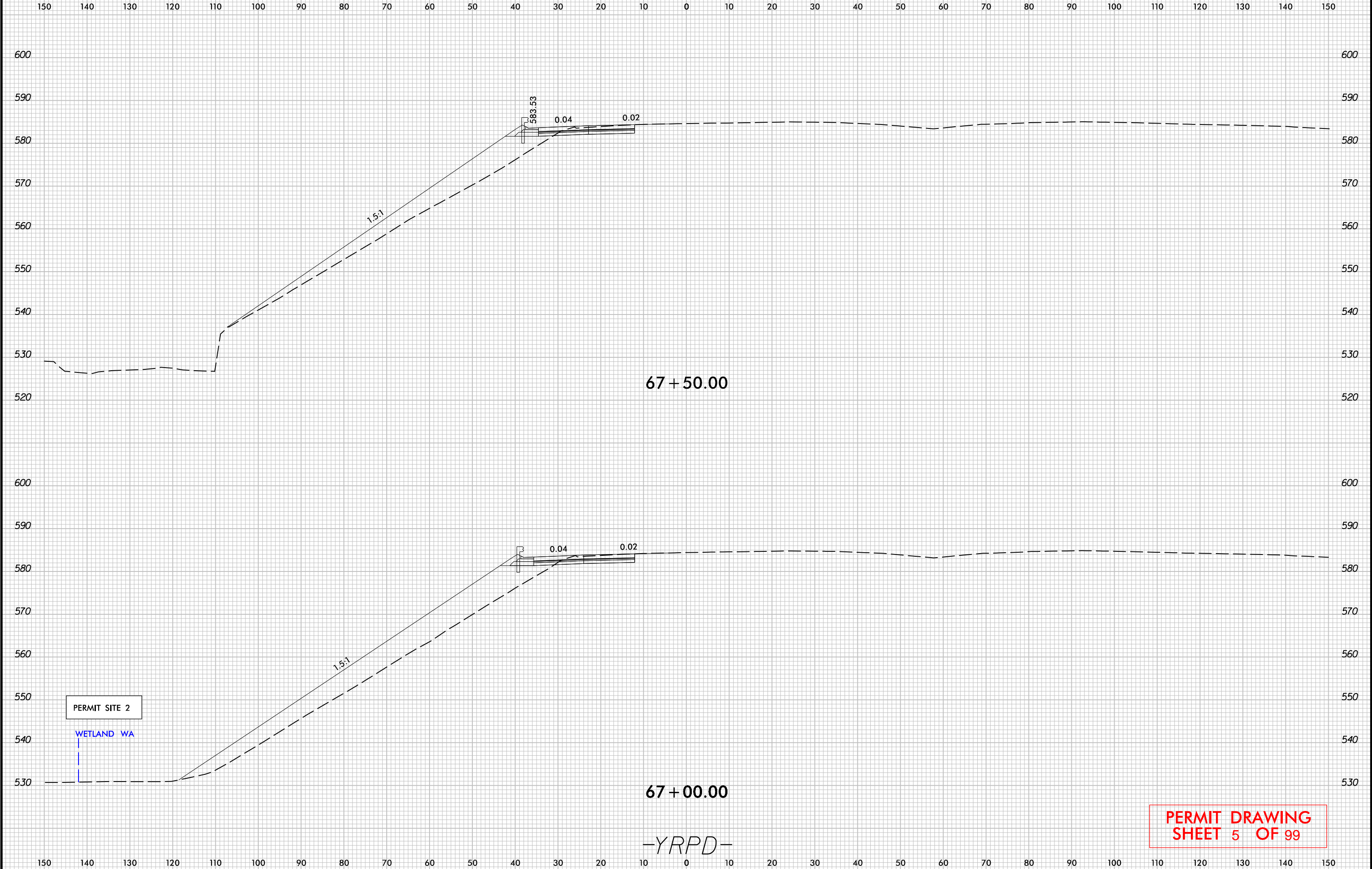
**SCALE:**  
1" = 50' HORIZONTAL  
1" = 10' VERTICAL

PROFILE ALONG STRUCTURE

REVISIONS

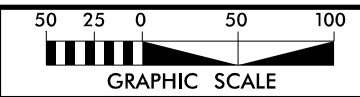
PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: -USERNAME- DATE: 3/29/2022 TIME: 3:59:25 PM  
 FILE: I3306A\_PRM\_4C\_I-85\_12502\_Site 1.dgn

**PERMIT DRAWING  
SHEET 4 OF 99**



-YRPD-

PERMIT DRAWING  
SHEET 5 OF 99



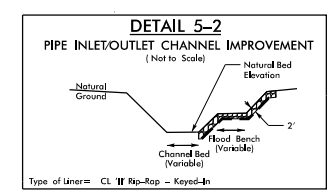
PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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**SITE 3**  
(STREAM SA)

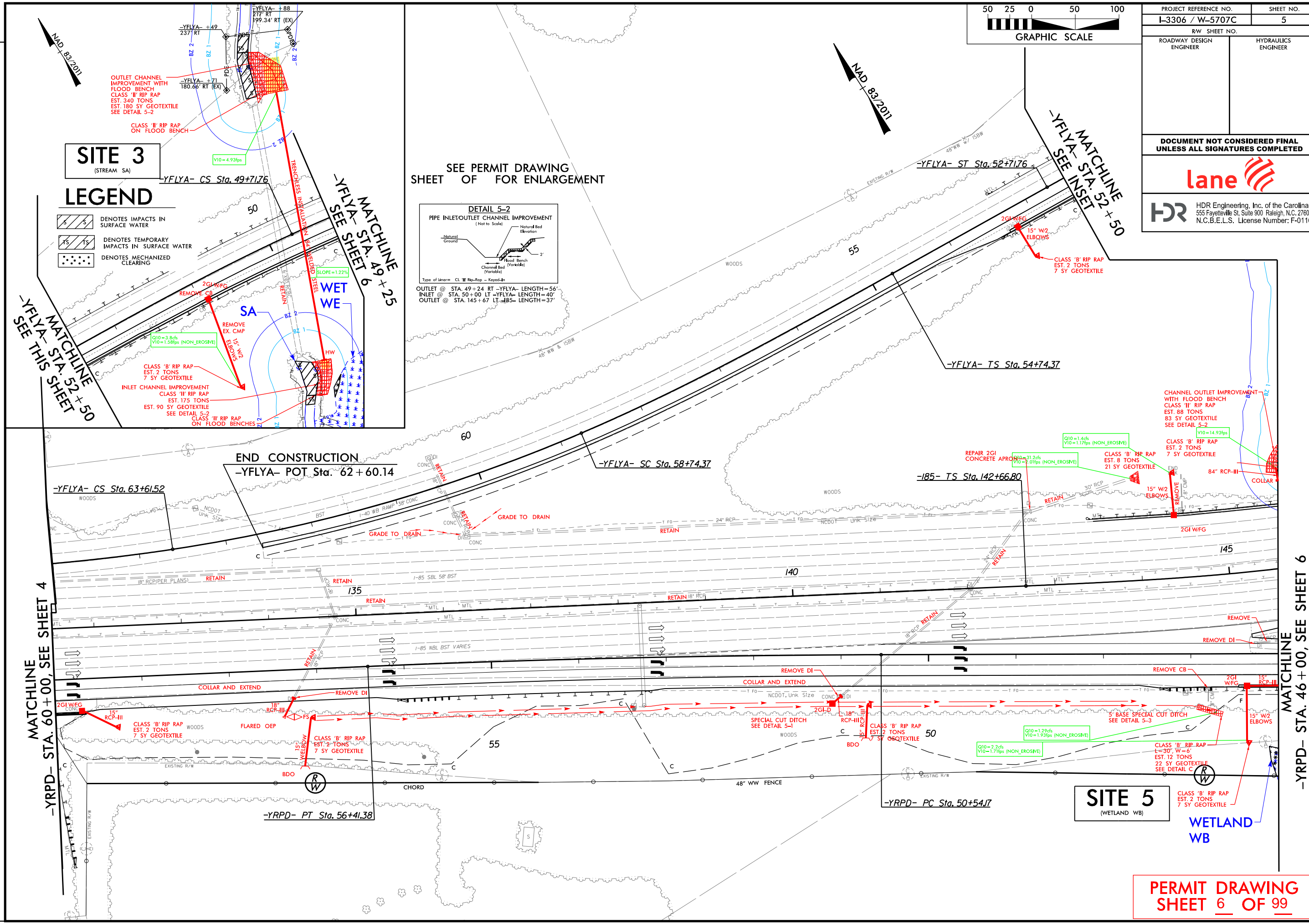
**LEGEND**

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING

SEE PERMIT DRAWING SHEET OF FOR ENLARGEMENT



OUTLET @ STA. 49+24 RT -YFLYA- LENGTH=56'  
INLET @ STA. 50+00 LT -YFLYA- LENGTH=40'  
OUTLET @ STA. 145+67 LT -185- LENGTH=37'



MATCHLINE STA. 52+50  
SEE THIS SHEET

MATCHLINE STA. 52+50  
SEE INSET

MATCHLINE STA. 60+00, SEE SHEET 4

MATCHLINE -YRPD- STA. 46+00, SEE SHEET 6

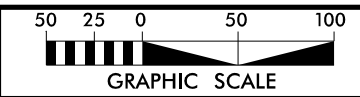
**SITE 5**  
(WETLAND WB)

**PERMIT DRAWING SHEET 6 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: MNOWACK  
DATE: 3/29/2022  
FILE: ... \Drowings\13306A\_PRM-4C\_PSH.dgn

REVISIONS

PENTABLE: NCDOT\_permits.NCON.tbl  
TIME: 12:59:37 PM



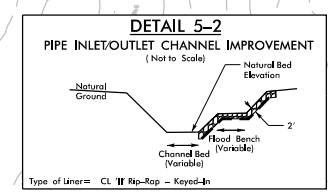
PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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**SITE 3**  
(STREAM SA)

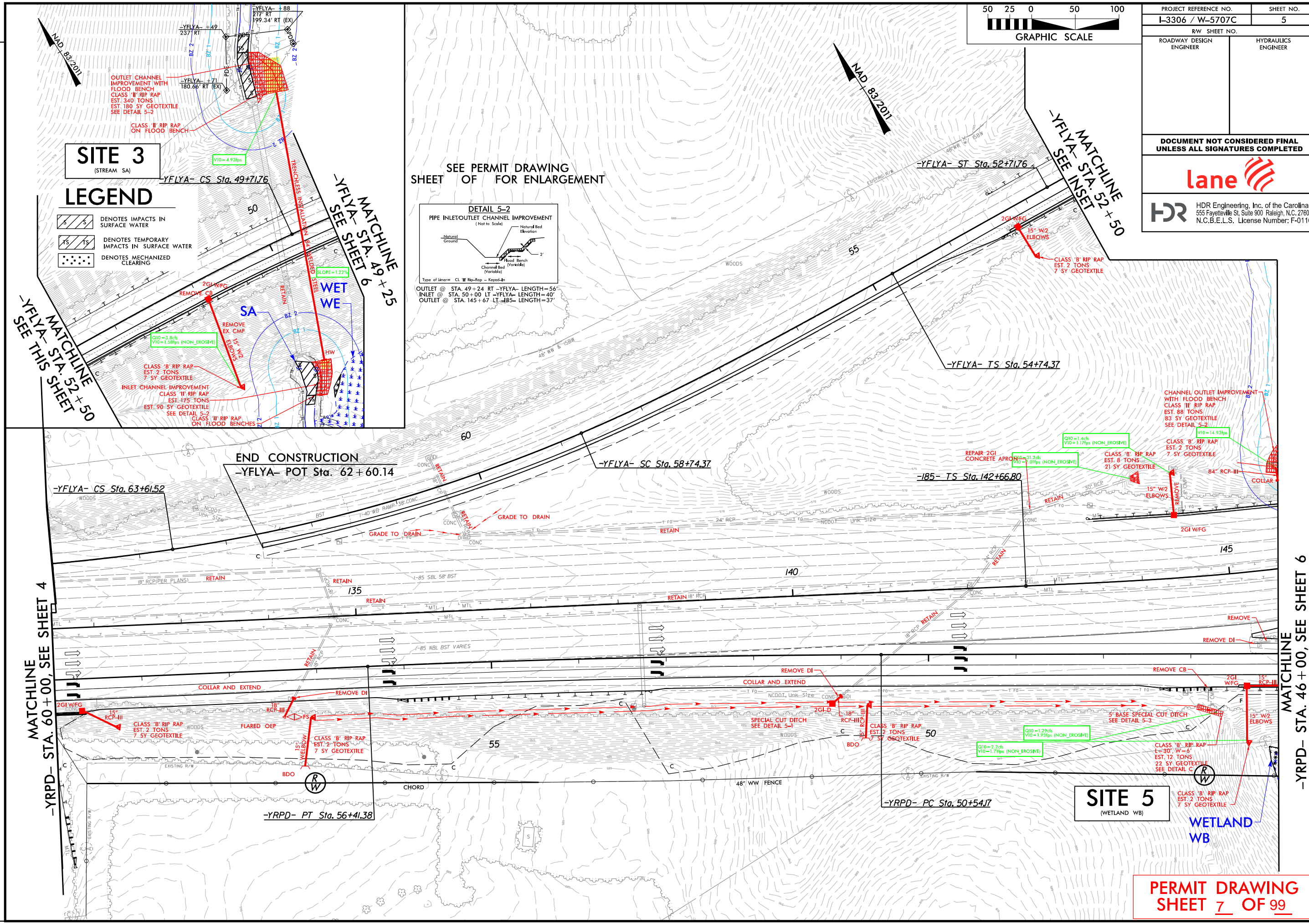
**LEGEND**

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

SEE PERMIT DRAWING SHEET OF FOR ENLARGEMENT



OUTLET @ STA. 49+24 RT -YFLYA- LENGTH=56  
INLET @ STA. 50+00 LT -YFLYA- LENGTH=40  
OUTLET @ STA. 145+67 LT -185- LENGTH=37



MATCHLINE STA. 52+50  
SEE THIS SHEET

MATCHLINE STA. 46+25  
SEE SHEET 9

MATCHLINE STA. 52+50  
SEE INSET

MATCHLINE STA. 60+00, SEE SHEET 4

MATCHLINE -YRPD- STA. 46+00, SEE SHEET 6

-YFLYA- CS Sta. 63+61.52

END CONSTRUCTION  
-YFLYA- POT Sta. 62+60.14

-YFLYA- SC Sta. 58+74.37

-185- TS Sta. 142+66.80

-YRPD- STA. 60+00, SEE SHEET 4

-YRPD- PT Sta. 56+41.38

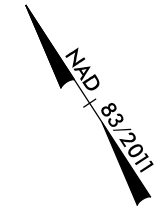
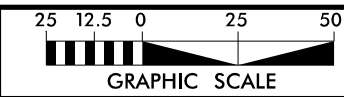
-YRPD- PC Sta. 50+54.17

**SITE 5**  
(WETLAND WB)

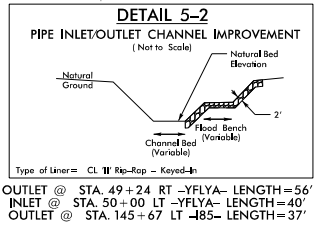
**PERMIT DRAWING SHEET 7 OF 99**

PLOT DRIVER: NCDOT\_permit\_color\_eng\_100.plt  
USER: NCDOT DATE: 3/29/2022  
FILE: ... \D:\projects\13306A\_PRRM\_4C\_PSH.dgn

REVISIONS



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 5A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

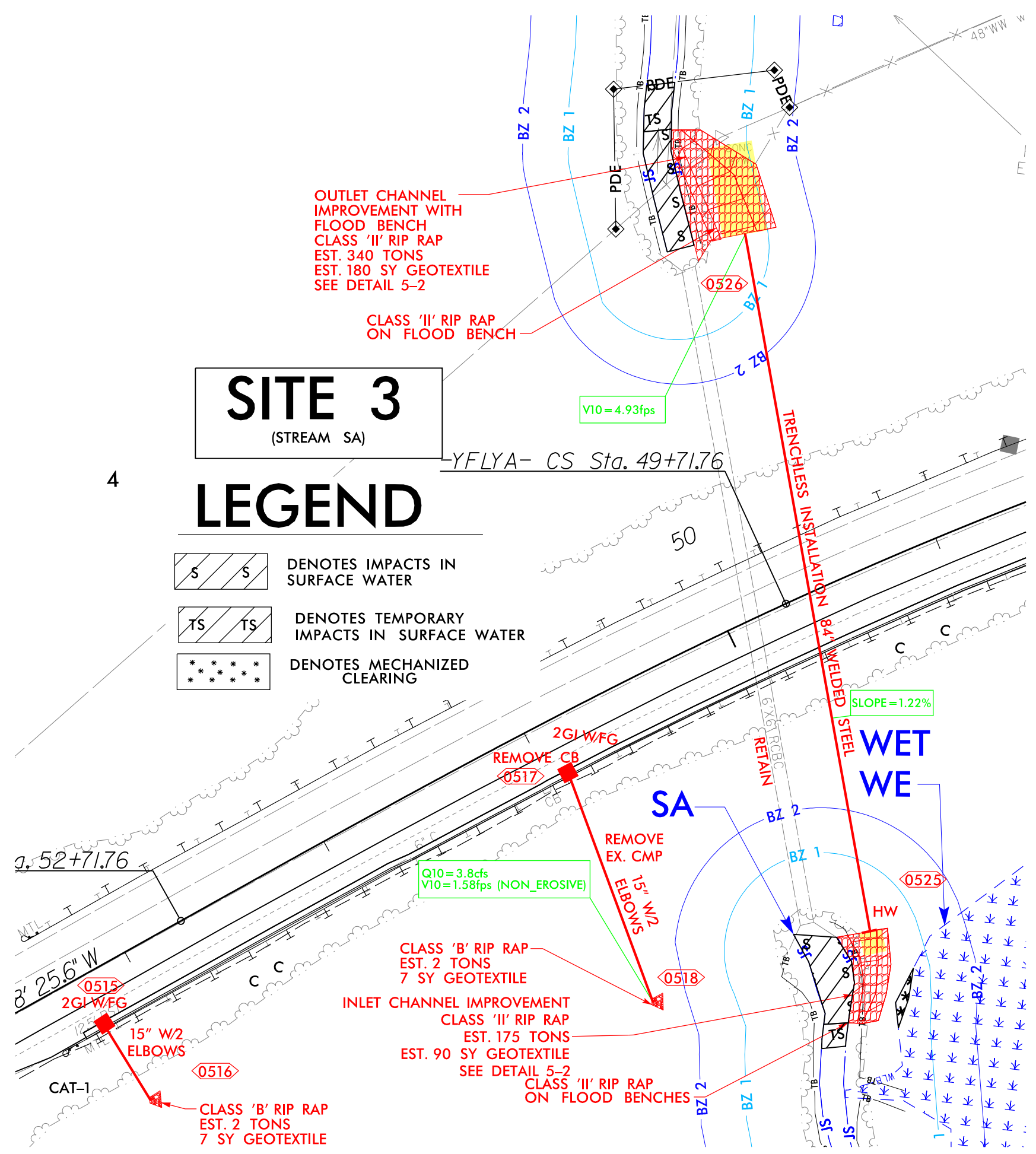


**SITE 3**  
(STREAM SA)

-YFLYA- CS Sta. 49+71.76

# LEGEND

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



PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NMONACK  
 FILE: ... \Drawings\13306A\_PRRM\_4C\_PSH.dgn  
 DATE: 3/29/2022  
 TIME: 12:59:59 PM  
 PENTABLE: NCDOT\_permits.NCON.tbl  
 REVISIONS

PERMIT DRAWING  
 SHEET 8 OF 99

5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

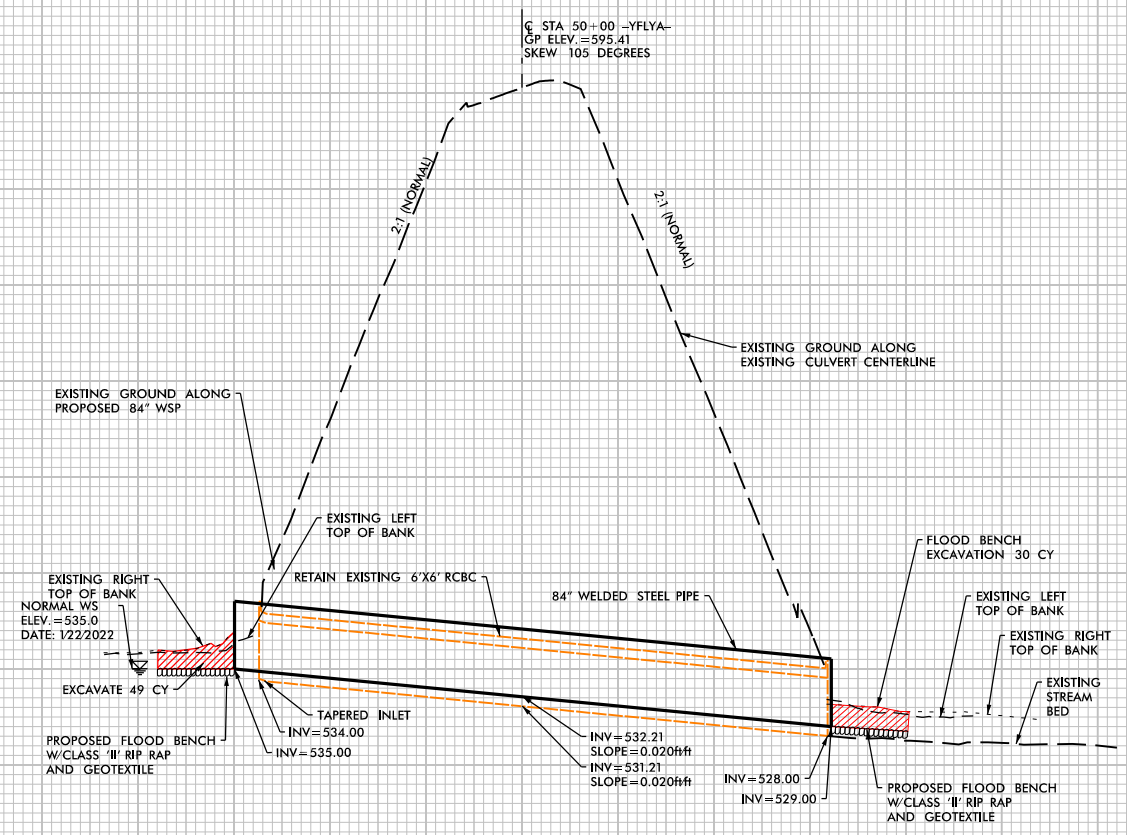
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

### SITE 3

300' 200' 100' 0 100' 200' 300'

SCALE:  
1" = 50' HORIZONTAL  
1" = 10' VERTICAL

595  
585  
575  
565  
555  
545  
535



PROFILE ALONG STRUCTURE

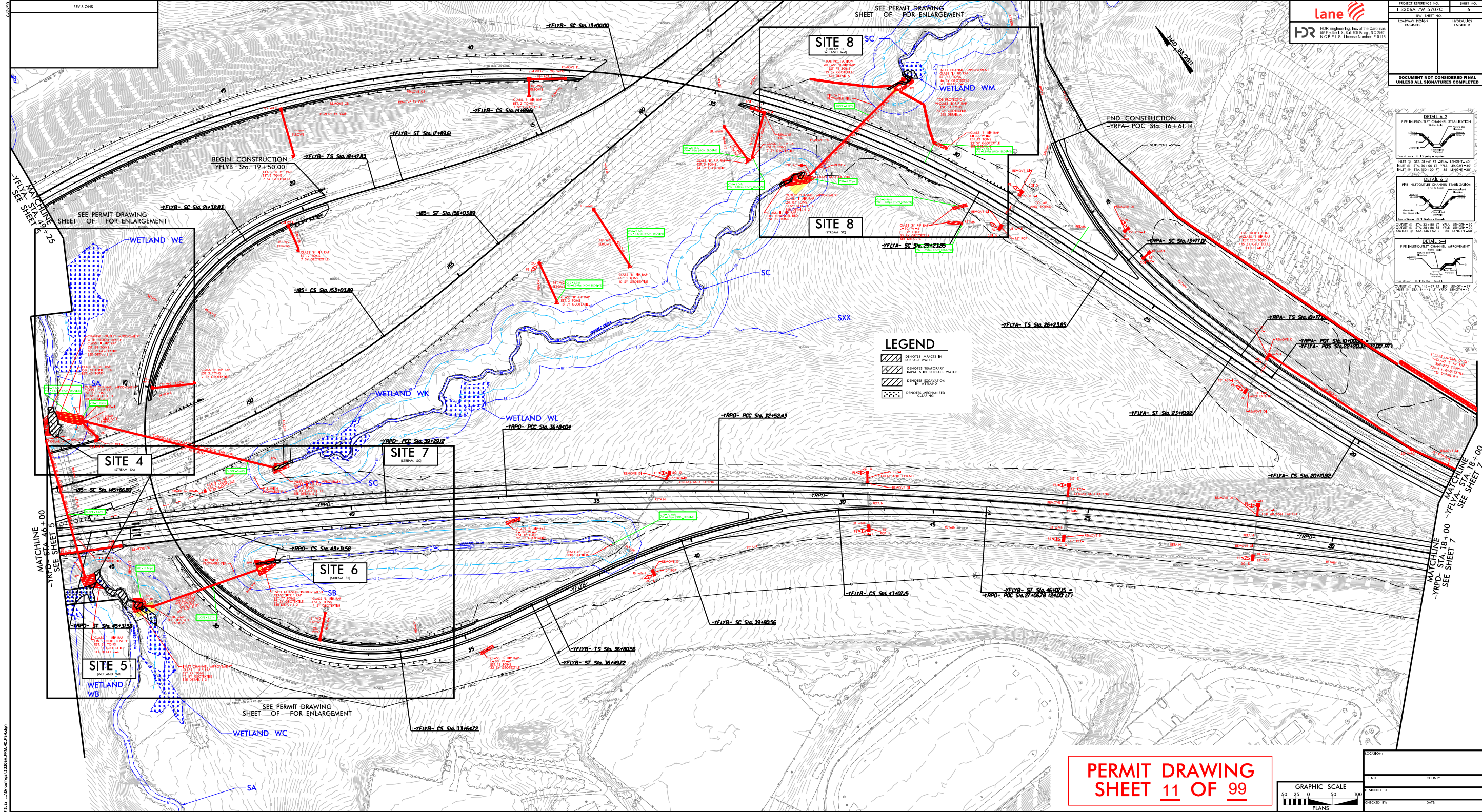
REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: \_USERNAME\_ DATE: 3/29/2022  
FILE: I3306A\_PRM\_4C\_YFLA\_5000\_Site 3.dgn

PENTABLE: NCDOT\_PFL\_XSC.tbl  
TIME: 4:01:37 PM

PERMIT DRAWING  
SHEET 9 OF 99



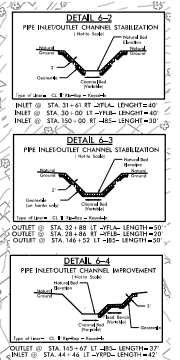


NO.	REVISIONS

**lane**  
**HR**  
 HDR Engineering, Inc. of the Carolinas  
 205 Parkway II, Suite 100, Raleigh, NC 27607  
 N.C.S.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. I-3350A JW-5707C	SHEET NO. 11
ROADWAY DESIGN ENGINEER	REVISIONS ENGINEER

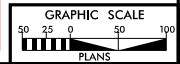
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



**LEGEND**

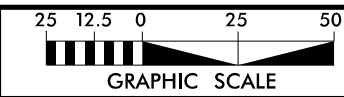
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES DEGRADATION IN WETLAND
- DENOTES MECHANIZED CLEARING

**PERMIT DRAWING  
SHEET 11 OF 99**

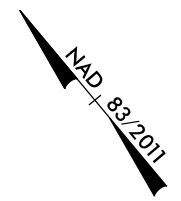


LOCATION:	
TP NO.:	
COUNTY:	
DESIGNED BY:	
CHECKED BY:	
DATE:	

PLOT: D:\PLOT\102071.dwg, 10/27/2022, 11:07:02 AM  
 USER: NIMRACK  
 FILE: I-3350A\_P11.dwg  
 TIME: 11/07/2022 11:07:02 AM

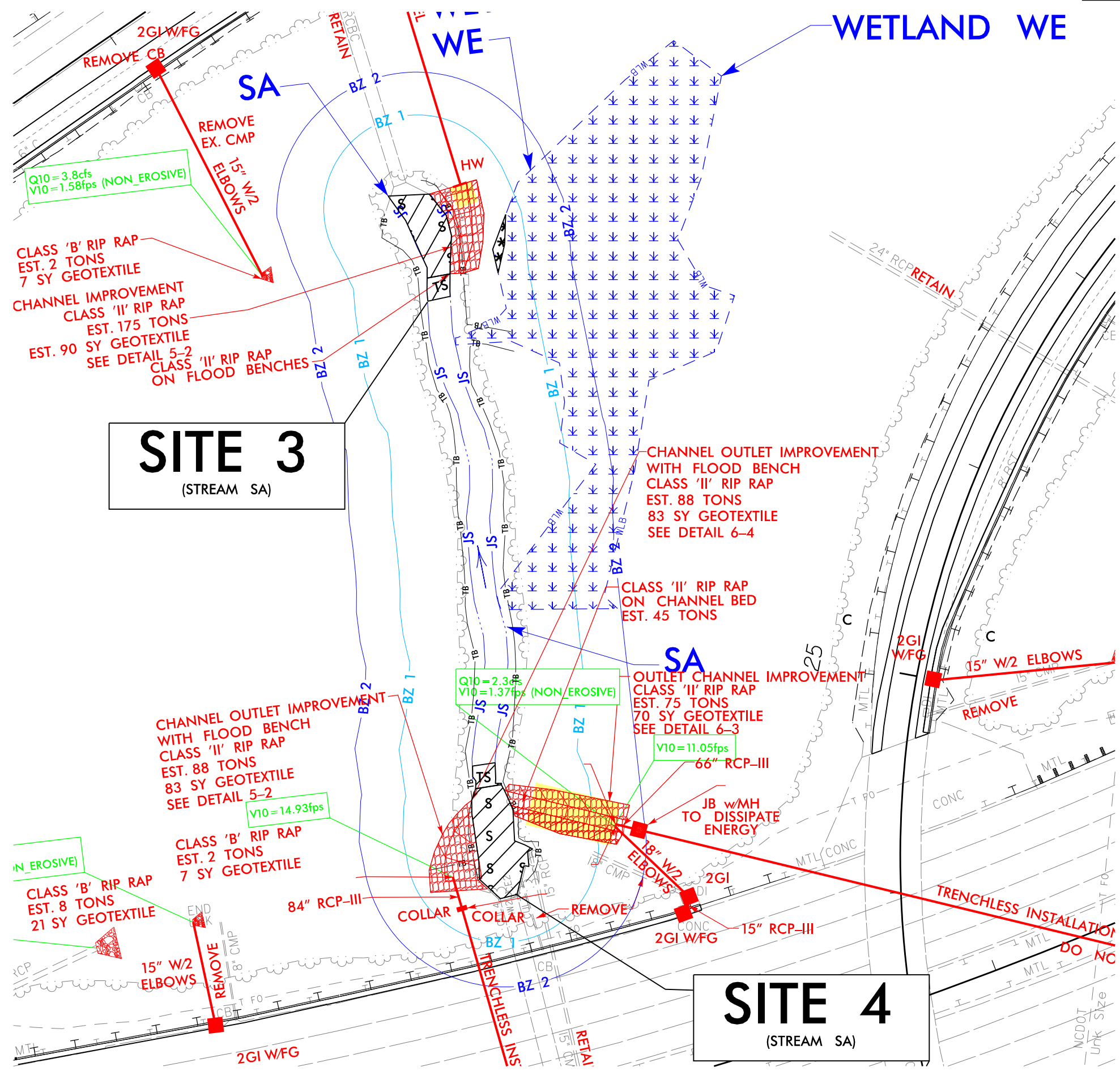
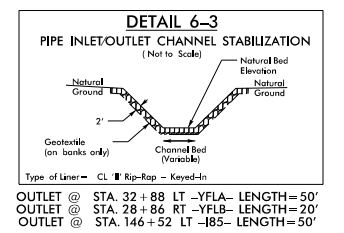
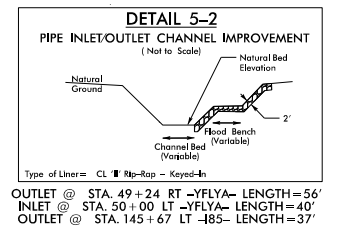


PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 6A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



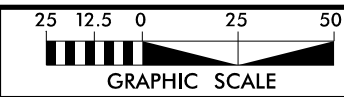
**SITE 3**  
(STREAM SA)

**SITE 4**  
(STREAM SA)

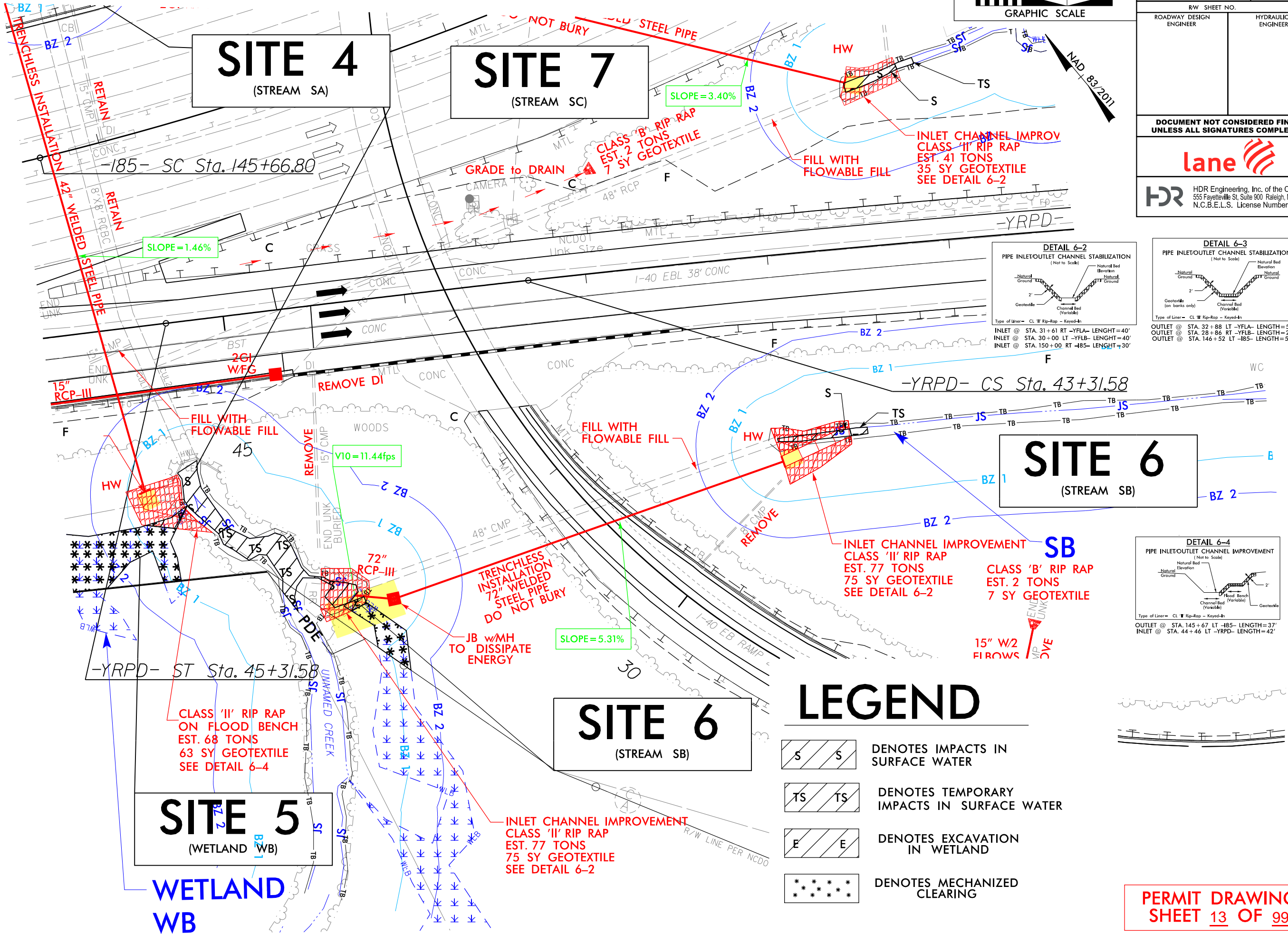
**PERMIT DRAWING**  
**SHEET 12 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NIMOWACK  
DATE: 3/29/2022  
TIME: 1:00:44 PM  
FILE: ... \drowings\13306A.PRM-4C\_PSH.dgn

REVISIONS



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 6B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
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PERMIT DRAWING  
SHEET 13 OF 99

PLOT DRIVER: NCDOT\_permits.nccon.tbi  
 USER: NWMACK  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn  
 DATE: 4/4/2022  
 TIME: 5:01:54 PM

REVISIONS

5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

### SITE 4

300' 200' 100' 0 100' 200' 300'

SCALE:  
1" = 50' HORIZONTAL  
1" = 10' VERTICAL

580

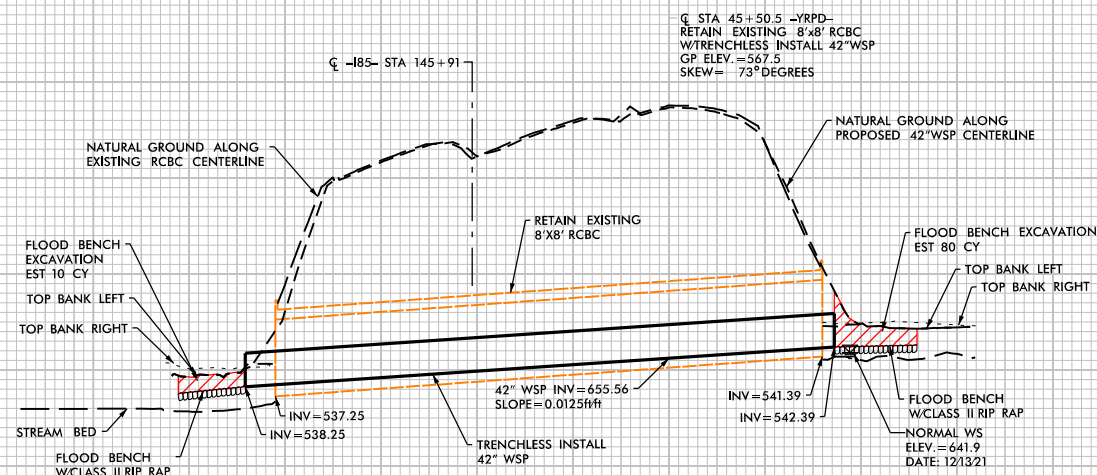
570

560

550

540

530



PROFILE ALONG STRUCTURE

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
PENTABLE: NCDOT\_PFL\_XSC.tbl  
USER: -USERNAME- DATE: 3/29/2022  
TIME: 4:02:20 PM

FILE: I3306A\_PRM\_4C\_YRPD\_4550\_Site\_4.dgn

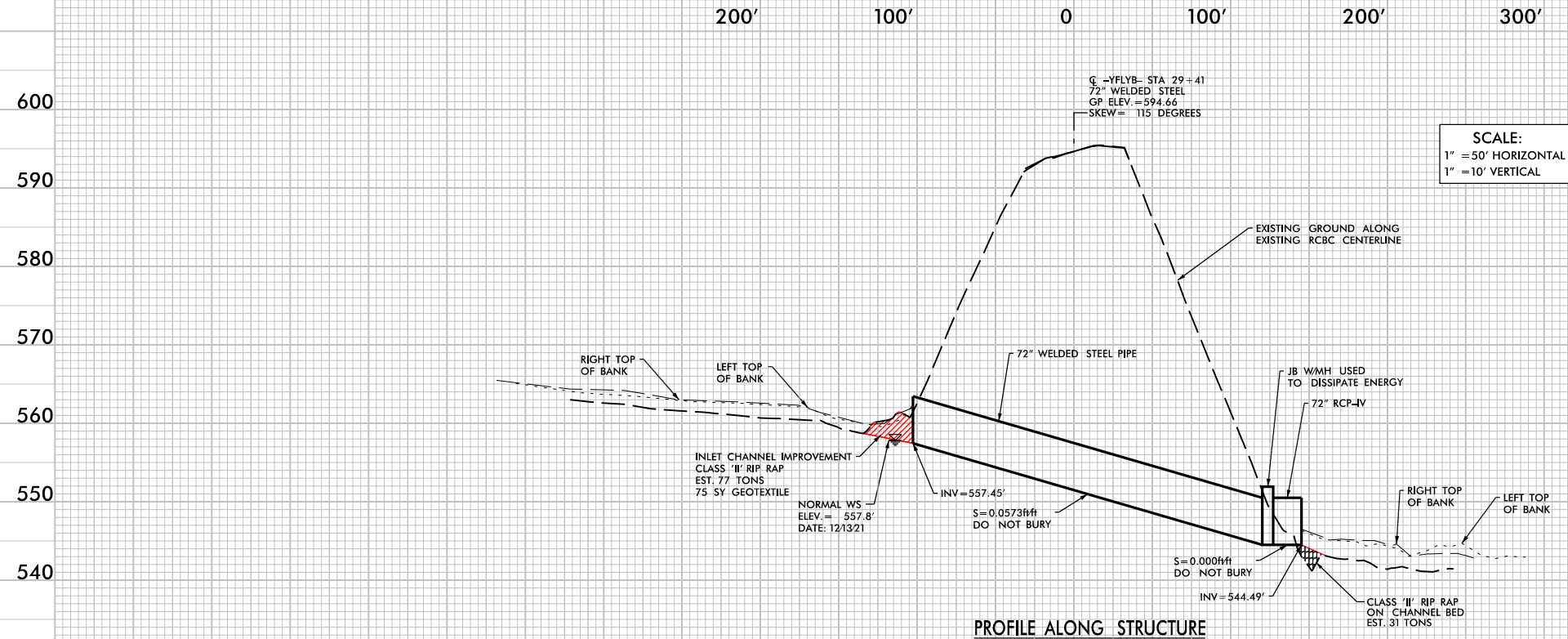
PERMIT DRAWING  
SHEET 14 OF 99

5/14/99



PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

**SITE 6**



REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: -USERNAME-  
 FILE: I3306A\_PRM\_4C\_YFLYB 2941.Site 6.dgn  
 PENTABLE: NCDOT\_PFL\_XSC.tbl  
 DATE: 3/29/2022  
 TIME: 4:02:09 PM

5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



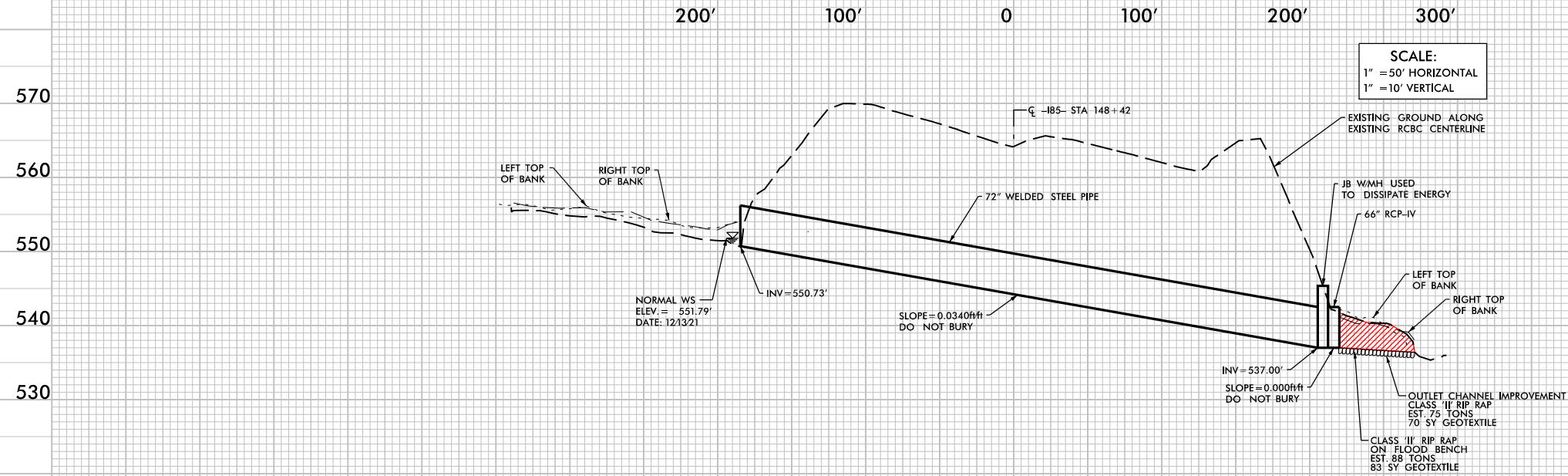
PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

# SITE 7



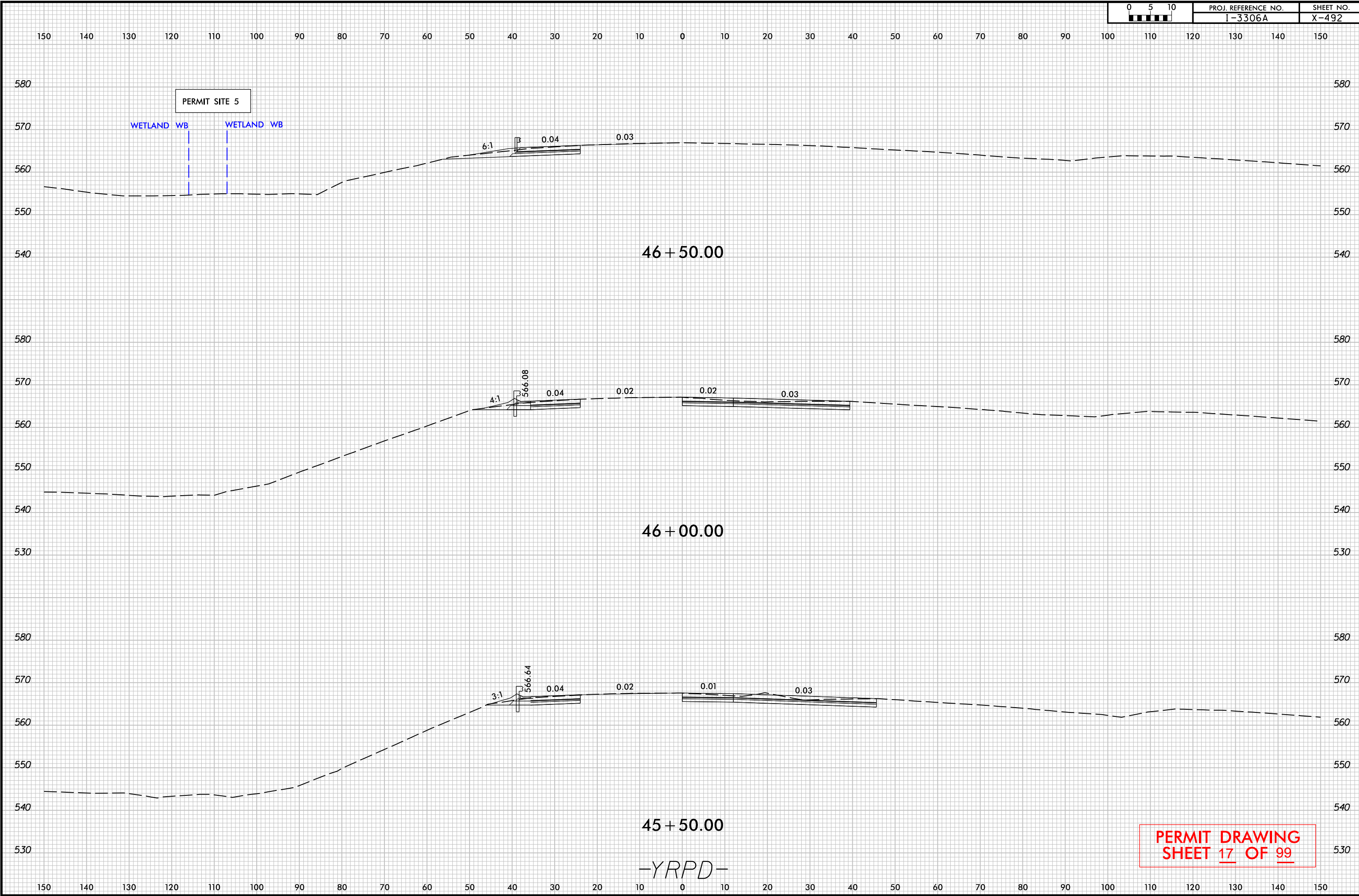
PROFILE ALONG STRUCTURE

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
PENTABLE: NCDOT\_PFL\_XSC.tbl  
USER: -USERNAME- DATE: 3/29/2022 TIME: 3:59:33 PM  
FILE: I3306A\_PRM\_4C\_I-85\_14842.Site 7.dgn

PERMIT DRAWING  
SHEET 16 OF 99

8/23/99

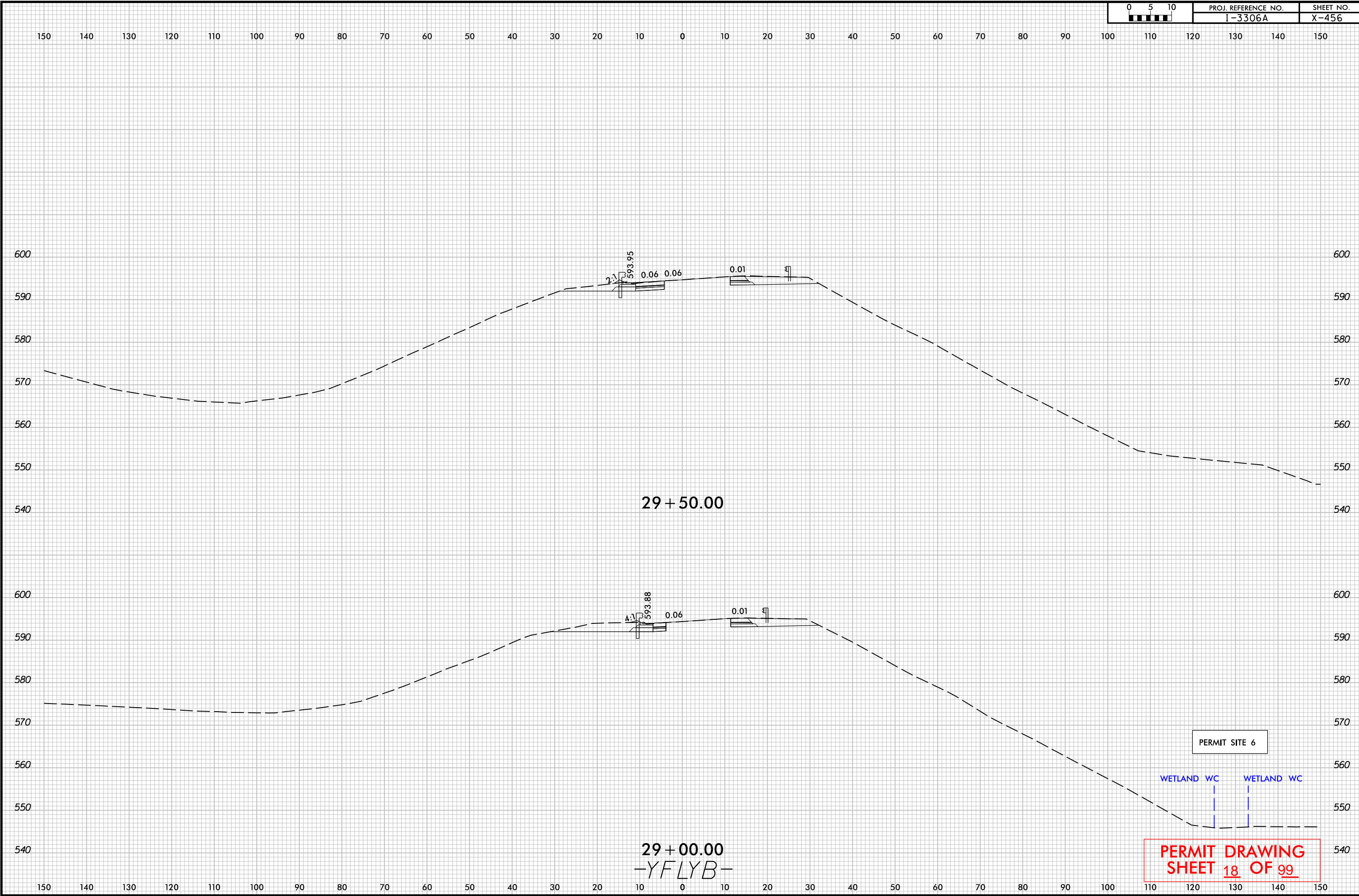


PLOT DRIVER: NCDOT\_ncdot\_color\_eng\_100.plt  
 USER: \_USERNAME\_  
 FILE: \$FILE\$  
 PENTABLE: NCDOT\_PFL\_XSC.tbl  
 DATE: 3/29/2022  
 TIME: 2:13:41 PM

-YRPD-

**PERMIT DRAWING**  
**SHEET 17 OF 99**

8/23/99



PLOT DRIVER: NCDOT\_ncdot\_color\_eng\_100.plt  
 USER: \_USERNAME\_  
 FILE: \$FILE\$  
 PENTABLE: NCDOT\_PFL\_XSC.tbl  
 DATE: 3/29/2022  
 TIME: 2:13:52 PM

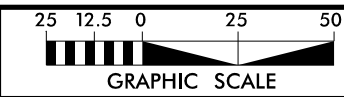
PERMIT SITE 6

WETLAND WC      WETLAND WC

**PERMIT DRAWING**  
**SHEET 18 OF 99**

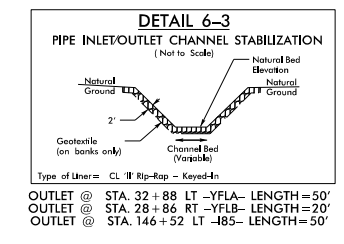
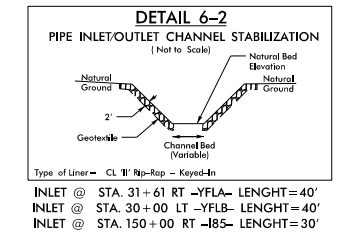
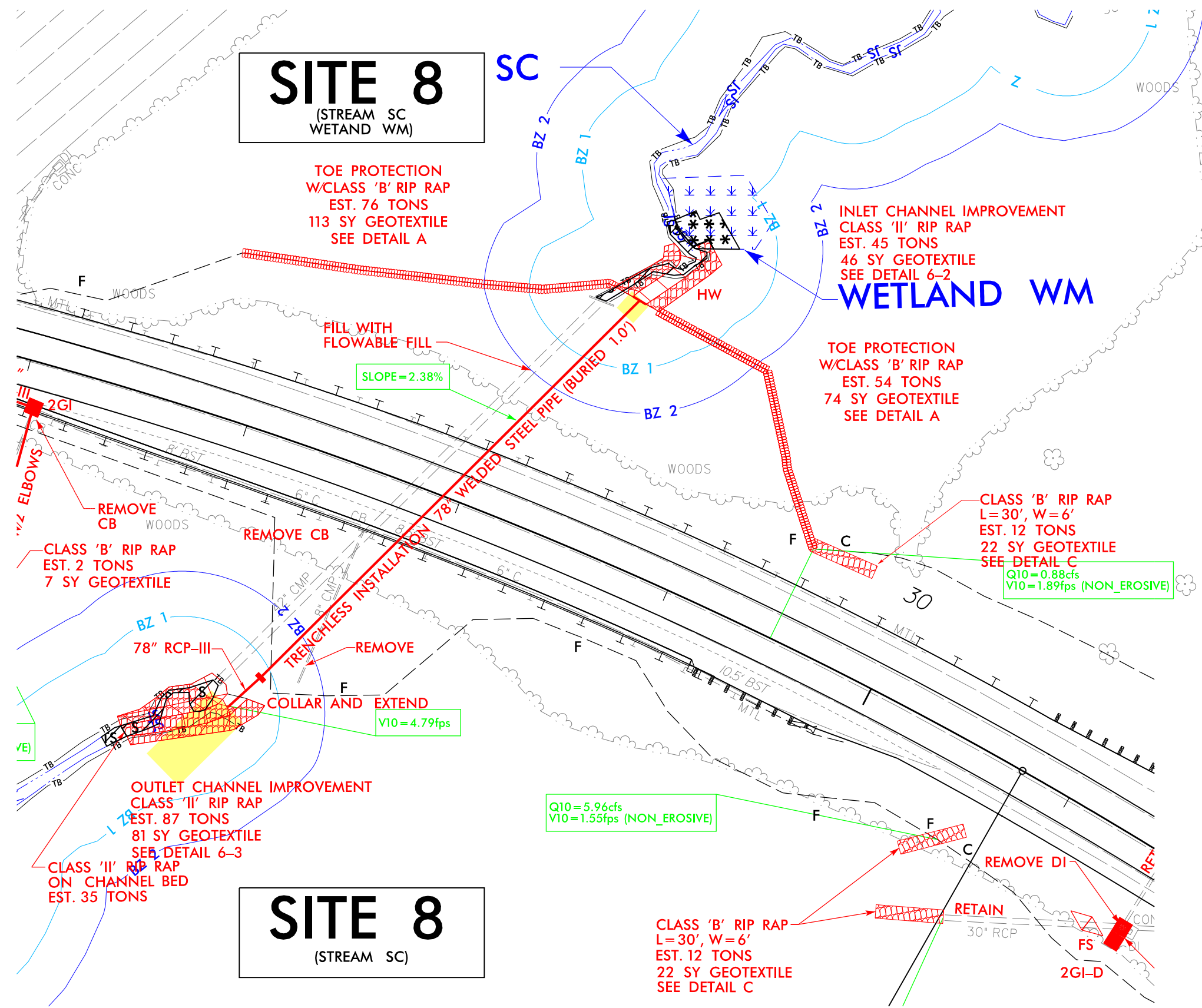
29 + 50.00  
 -YFLYB-

29 + 00.00  
 -YFLYB-



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 6C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St. Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

**SITE 8**  
(STREAM SC  
WETLAND WM)



# LEGEND

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

**PERMIT DRAWING  
SHEET 19 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NMOACK  
 FILE: ... \Drawings\13306A\_PRM\_4C\_PSH.dgn  
 DATE: 3/29/2022  
 TIME: 1:01:28 PM  
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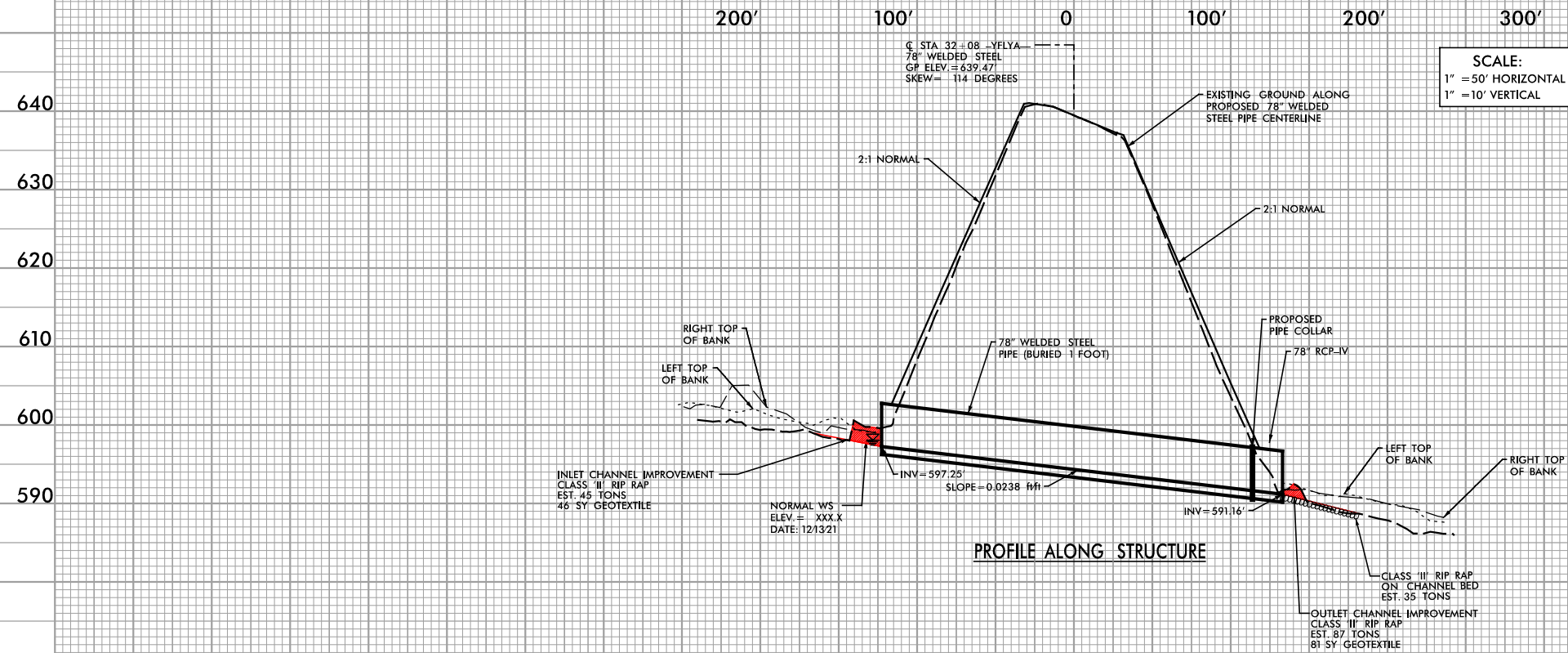
REVISIONS

5/14/99



PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

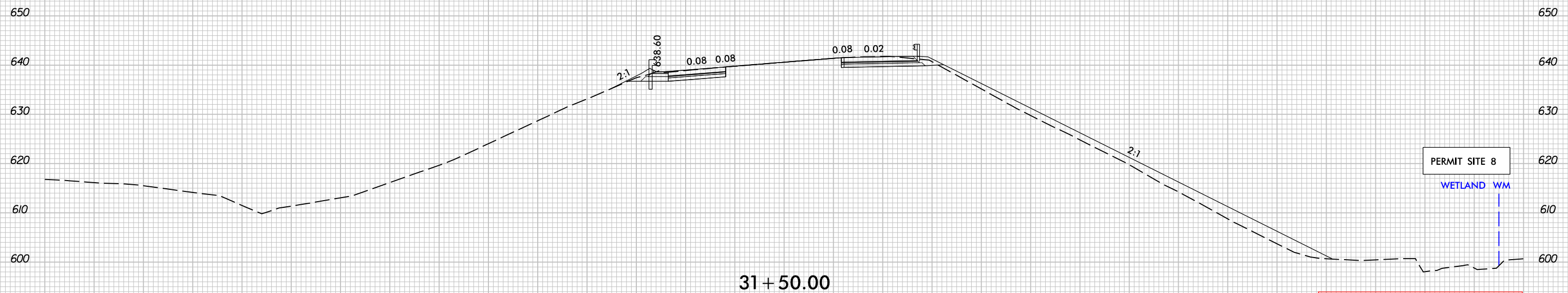
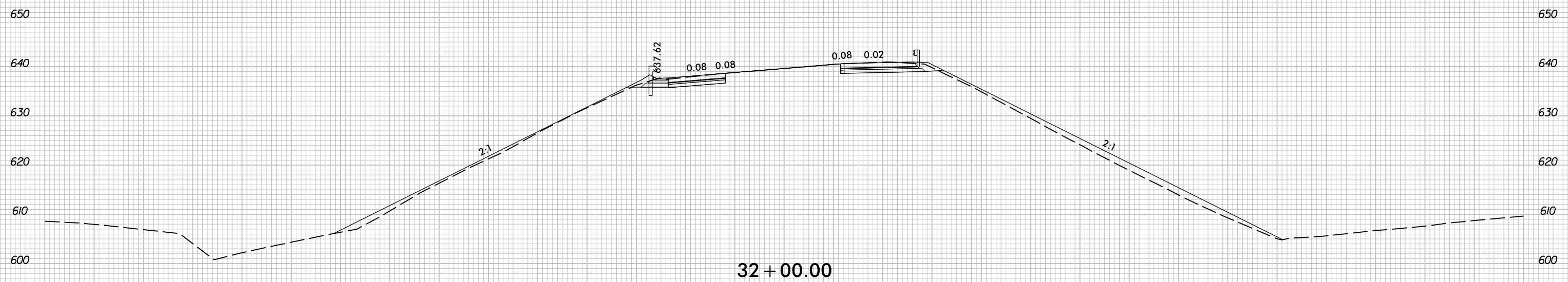
**SITE 8**



REVISIONS

8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



PERMIT SITE 8

WETLAND WM

PERMIT DRAWING SHEET 21 OF 99

-YFLYA-

PLOT DRIVER: NCDOT\_ncdot\_color\_eng\_100.plt  
USER: \_USERNAME\_  
FILE: \$FILE\$  
DATE: 3/29/2022  
TIME: 2:14:04 PM

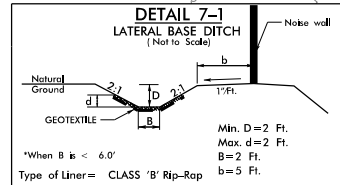
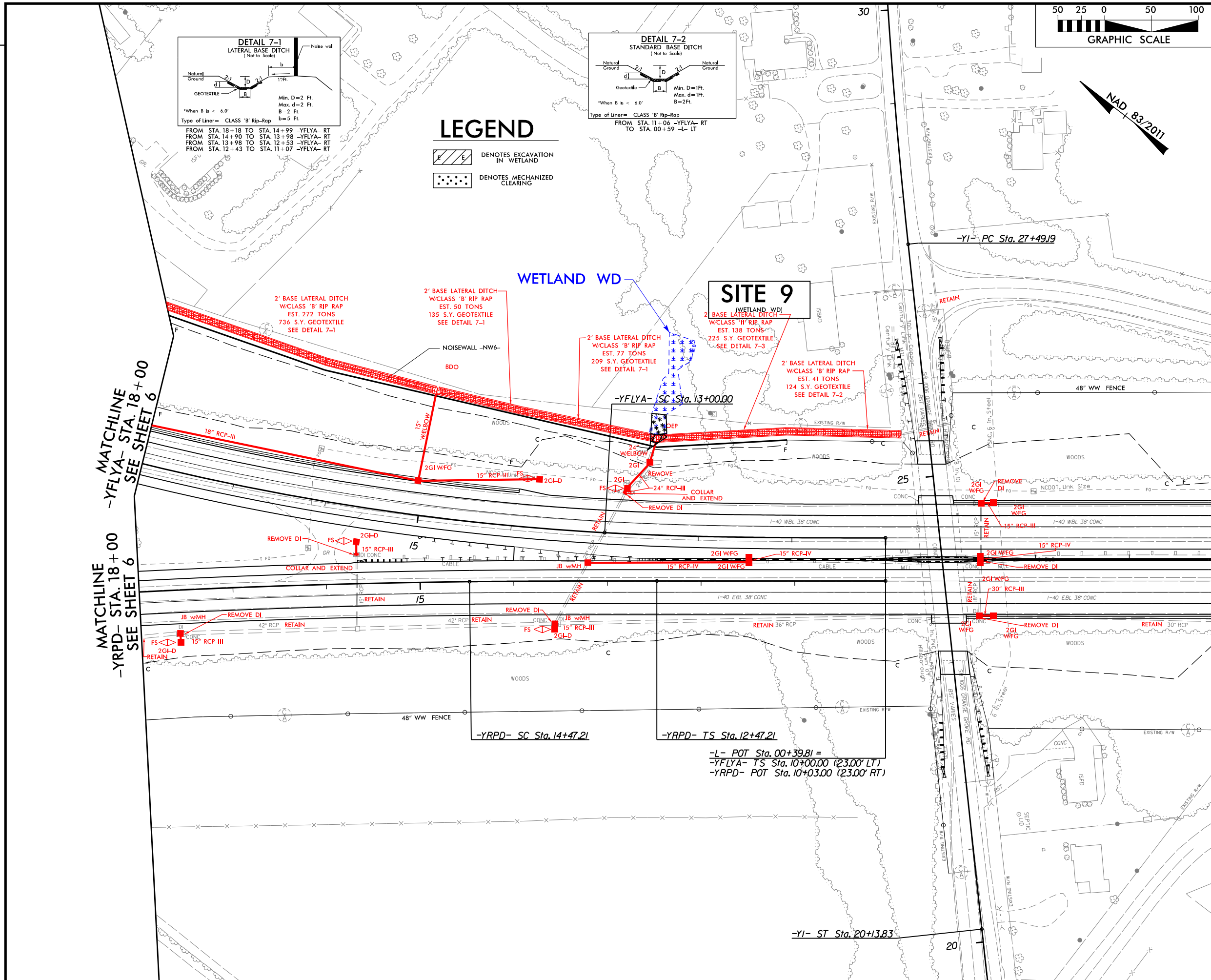
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

REVISIONS

MATCHLINE -YRPD- STA. 18+00  
 SEE SHEET 6

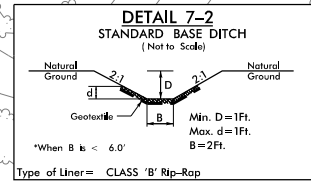
MATCHLINE -YFLYA- STA. 18+00  
 SEE SHEET 6

MATCHLINE -L- STA. 4+00, SEE SHEET 8



Min. D=2 Ft.  
 Max. d=2 Ft.  
 B=2 Ft.  
 b=5 Ft.

Type of Liner= CLASS 'B' Rip-Rap  
 FROM STA. 18+18 TO STA. 14+99 -YFLYA- RT  
 FROM STA. 14+90 TO STA. 13+98 -YFLYA- RT  
 FROM STA. 13+98 TO STA. 12+53 -YFLYA- RT  
 FROM STA. 12+43 TO STA. 11+07 -YFLYA- RT

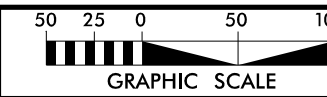


Min. D=1 Ft.  
 Max. d=1 Ft.  
 B=2 Ft.

Type of Liner= CLASS 'B' Rip-Rap  
 FROM STA. 11+06 -YFLYA- RT  
 TO STA. 00+59 -L- LT

### LEGEND

- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED



HDR Engineering, Inc. of the Carolinas  
 555 Fayetteville St. Suite 900 Raleigh, N.C. 27601  
 N.C.B.E.L.S. License Number: F-0116

PERMIT DRAWING  
 SHEET 22 OF 99

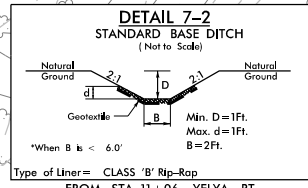
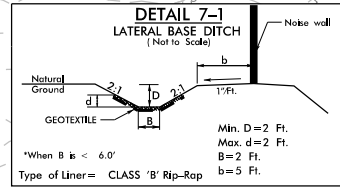
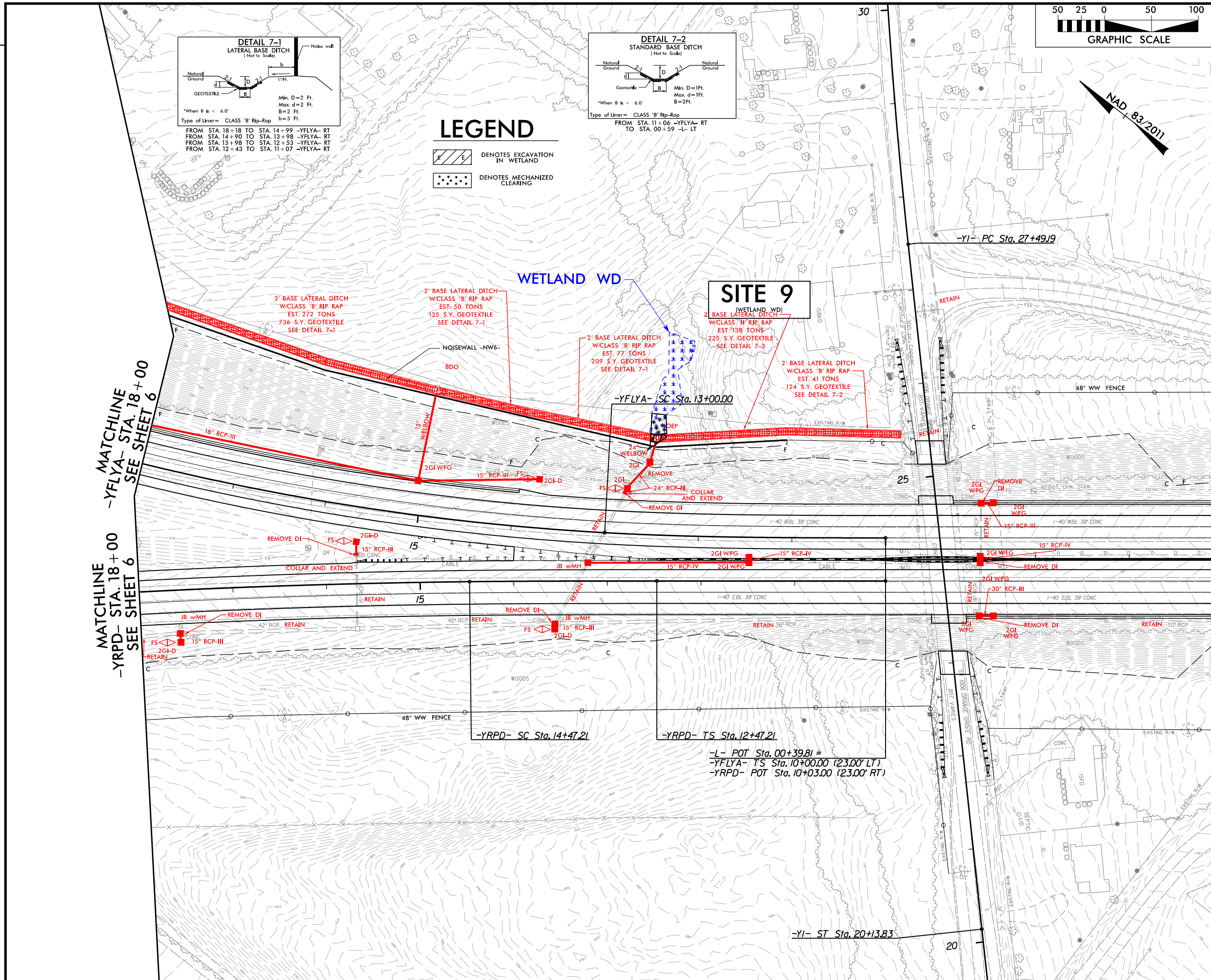
REVISIONS

MATCHLINE -YRPD- STA. 18+00  
 SEE SHEET 6

MATCHLINE -YFLYA- STA. 18+00  
 SEE SHEET 6

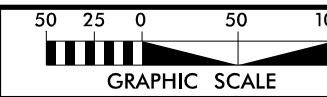
MATCHLINE -YRPD- STA. 18+00  
 SEE SHEET 6

MATCHLINE -L- STA. 4+00, SEE SHEET 8



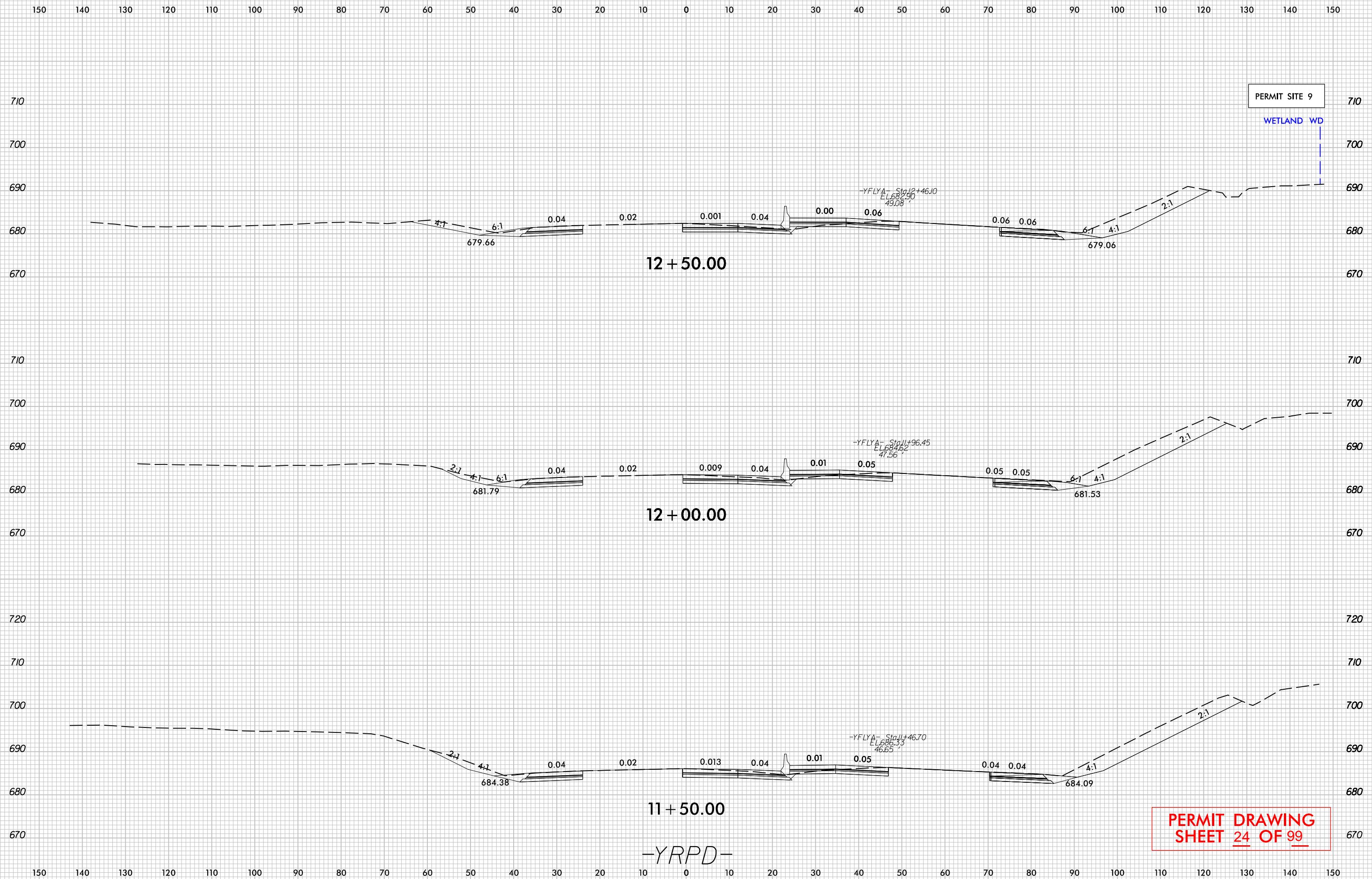
**LEGEND**

- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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8/23/99



PERMIT SITE 9

WETLAND WD

12 + 50.00

12 + 00.00

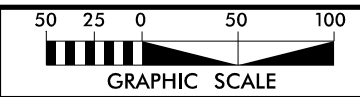
11 + 50.00

-YRPD-

PERMIT DRAWING SHEET 24 OF 99

PLOT DRIVER: NCD01.pdf\_color\_eng\_100.plt  
USER: \_USERNAME\_  
FILE: \$FILES\$  
DATE: 3/15/2022  
TIME: 5:55:10 PM

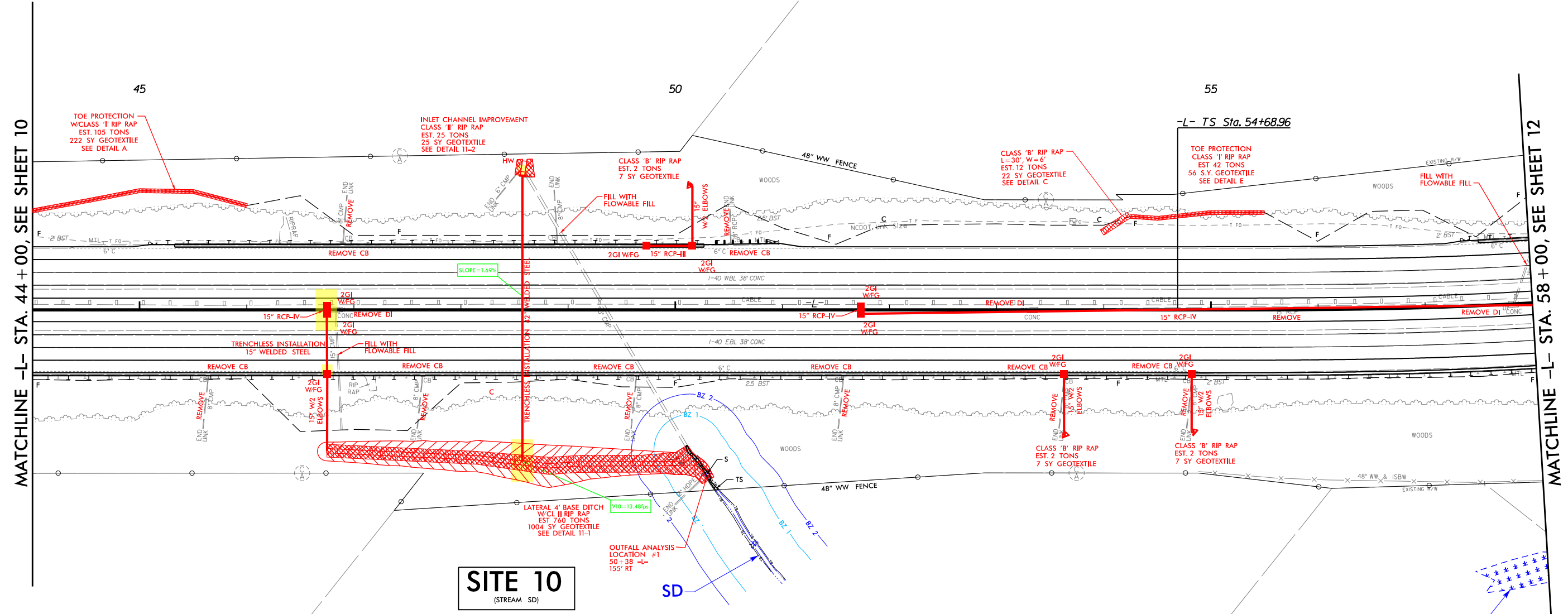
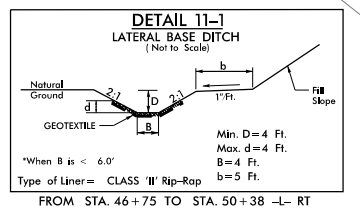
8/23/99



PROJECT REFERENCE NO. <b>L-3306 / W-5707C</b>	SHEET NO. <b>11</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
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### LEGEND

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER



**SITE 10**  
(STREAM SD)

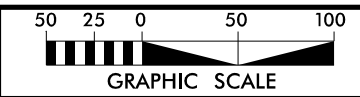
OUTFALL ANALYSIS  
LOCATION #1  
50+38 -L-  
155' RT

WETLAND WALL

**PERMIT DRAWING  
SHEET 25 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NWMACK  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn  
 PENTABLE: NCDOT\_permits.NCON.tbl  
 DATE: 3/29/2022  
 TIME: 1:02:10 PM

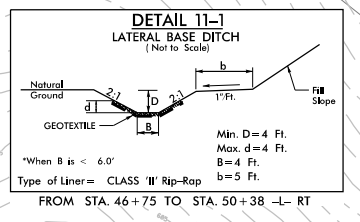
REVISIONS



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

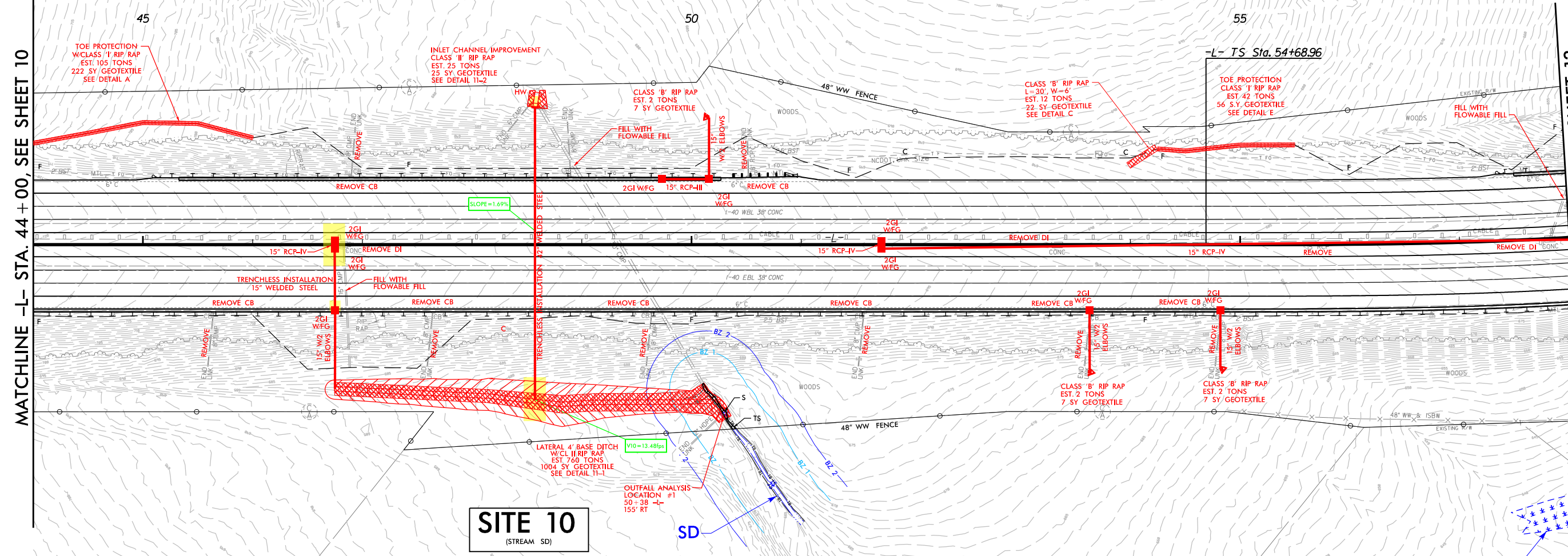
### LEGEND

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER



MATCHLINE -L- STA. 44 + 00, SEE SHEET 10

MATCHLINE -L- STA. 58 + 00, SEE SHEET 12



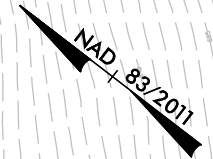
**SITE 10**  
(STREAM SD)

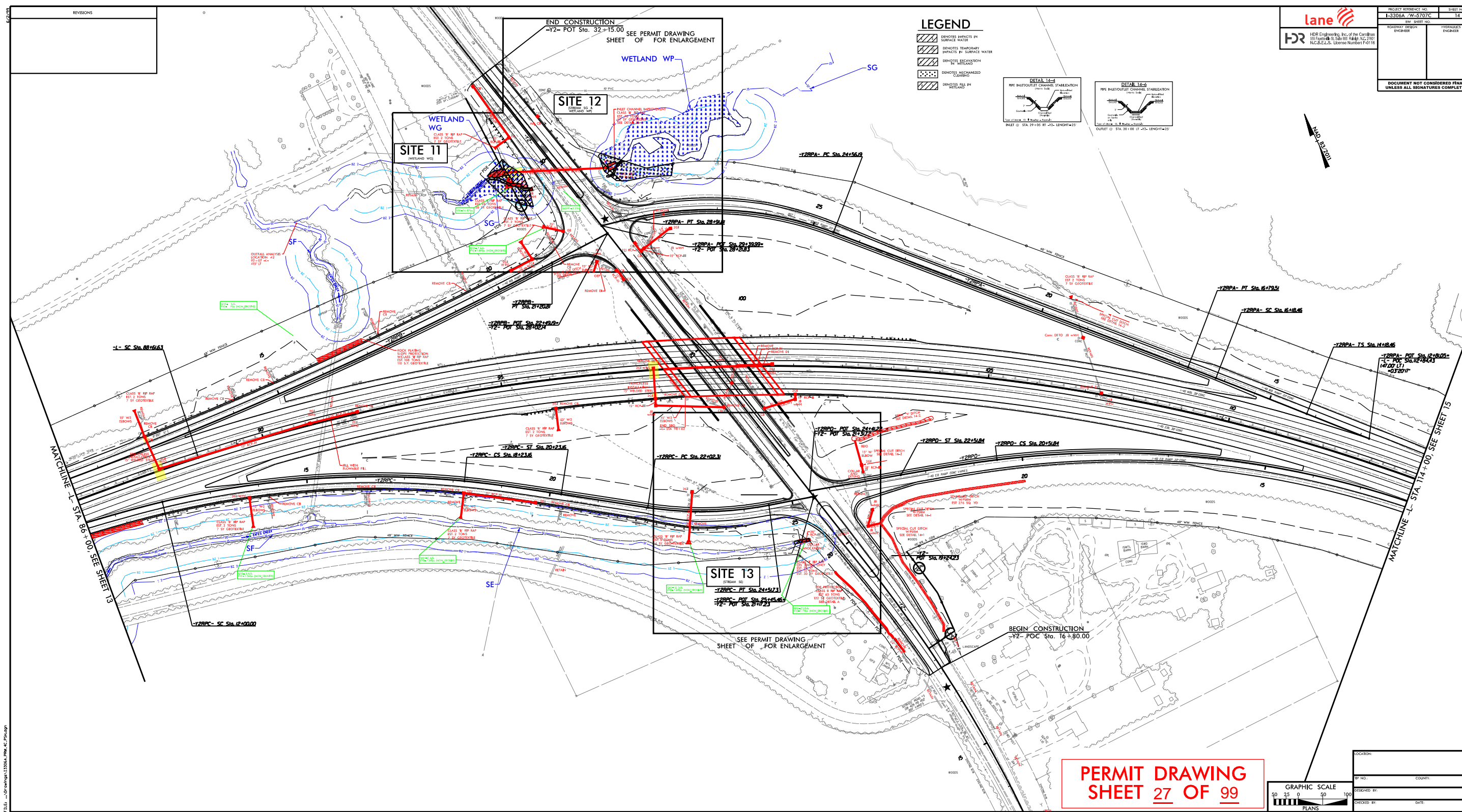
WETLAND WLL

**PERMIT DRAWING  
SHEET 26 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NMONACK  
 DATE: 3/29/2022  
 TIME: 11:13:43 AM  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

REVISIONS



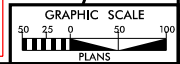


**lane**  
 HDR Engineering, Inc. of the Carolinas  
 655 Parkway Dr., Suite 100, Raleigh, NC 27607  
 N.C.S.E.L.S. License Number F-0116

PROJECT REFERENCE NO. I-3350A-W-5707C	SHEET NO. 14
ROADWAY DESIGN ENGINEER	PRODUCTION ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED

**PERMIT DRAWING SHEET 27 OF 99**



LOCATION:	
TP NO.:	COUNTY:
DESIGNED BY:	CHECKED BY:
DATE:	DATE:

PLOT: D:\PLOT\140207\_1.dwg (2007-09-14 10:00:04)  
 USER: HIRSHACK  
 FILE: 6/14/2002  
 PLOT: D:\PLOT\140207\_1.dwg (2007-09-14 10:00:04)

NO.	REVISIONS

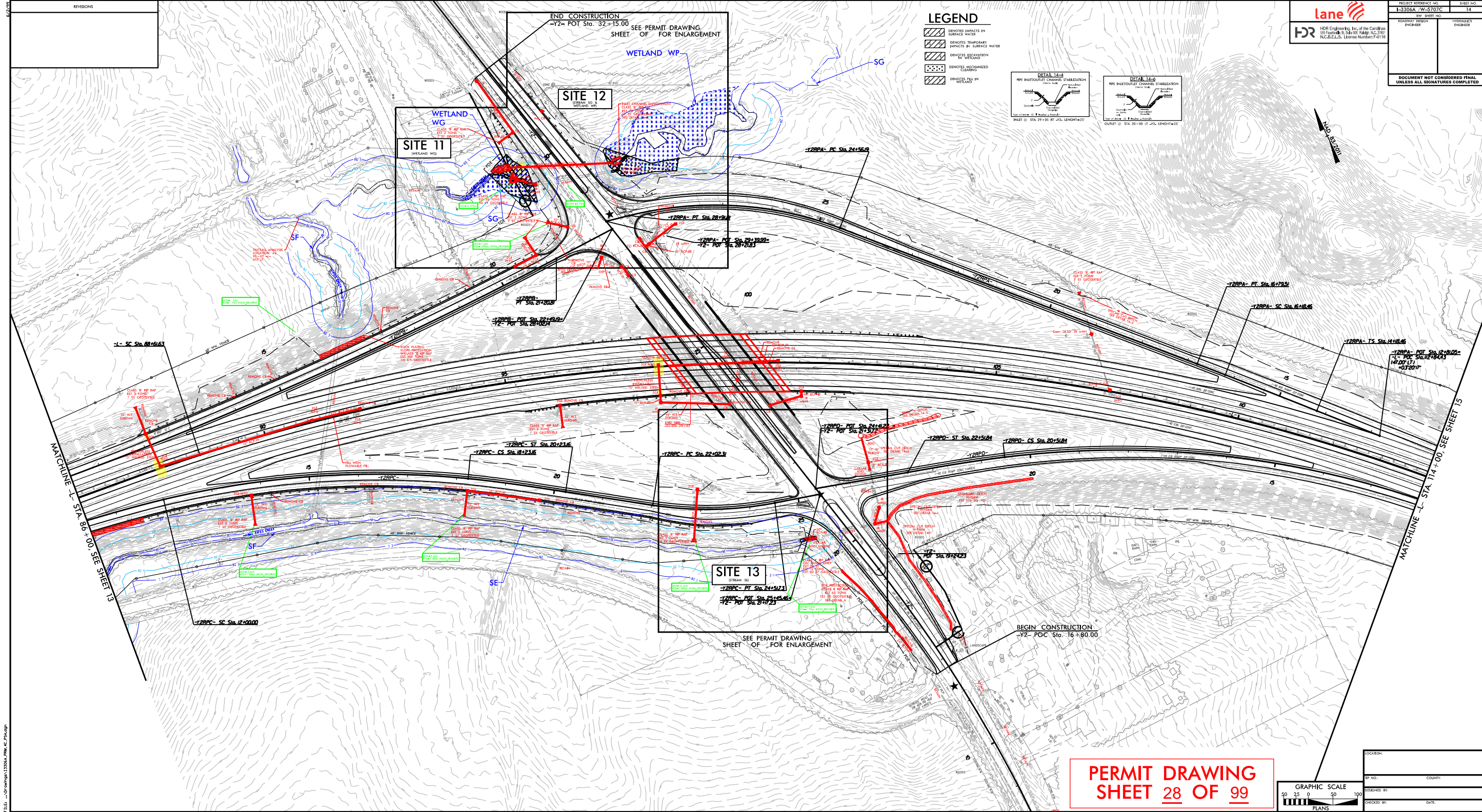
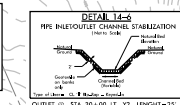
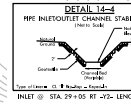
**lane**  
KBR Engineers, Inc. of the Carolinas  
555 Fayetteville St., Suite 1000 Raleigh, NC 27601  
N.C. S.E.L.S. License Number F-3116

PROJECT REFERENCE NO. I-3350A-W-5707C	SHEET NO. 14
ROADWAY DESIGN ENGINEER	PRODUCTION ENGINEER

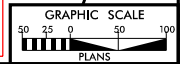
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**LEGEND**

- DENOTES IMPACTS BY SURFACE WATER
- DENOTES TEMPORARY IMPACTS BY SURFACE WATER
- DENOTES RECONSTRUCTION IN WETLANDS
- DENOTES MECHANIZED CLEARING
- DENOTES P&B BY WETLANDS



**PERMIT DRAWING  
SHEET 28 OF 99**



LOCATION:	
TP NO.:	COUNTY:
DRAWN BY:	CHECKED BY:
DATE:	DATE:

PLOT: D:\PLOT\12021\_1.dwg (12021\_1.dwg) 11/14/2022 11:14:11 AM  
 USER: NIMBAC  
 PLOT: D:\PLOT\12021\_1.dwg (12021\_1.dwg) 11/14/2022 11:14:11 AM



5/14/99

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



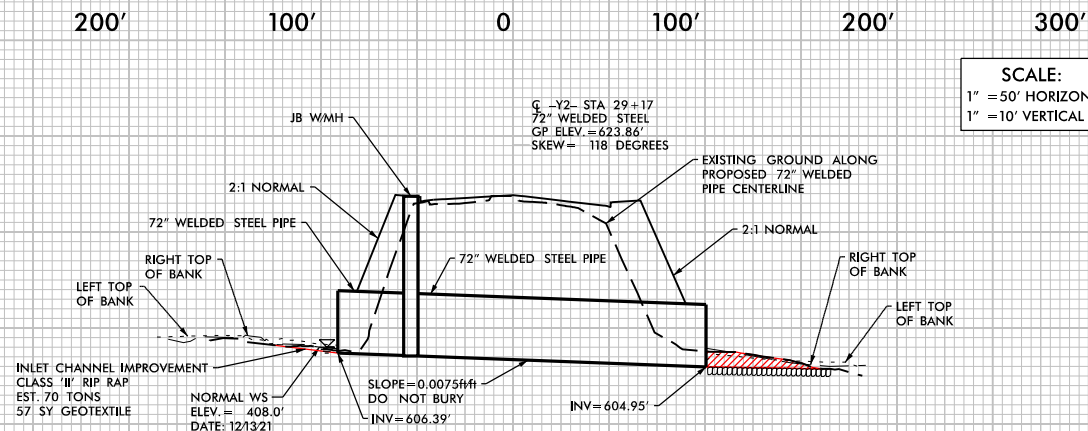
PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

# SITE 12



PROFILE ALONG STRUCTURE

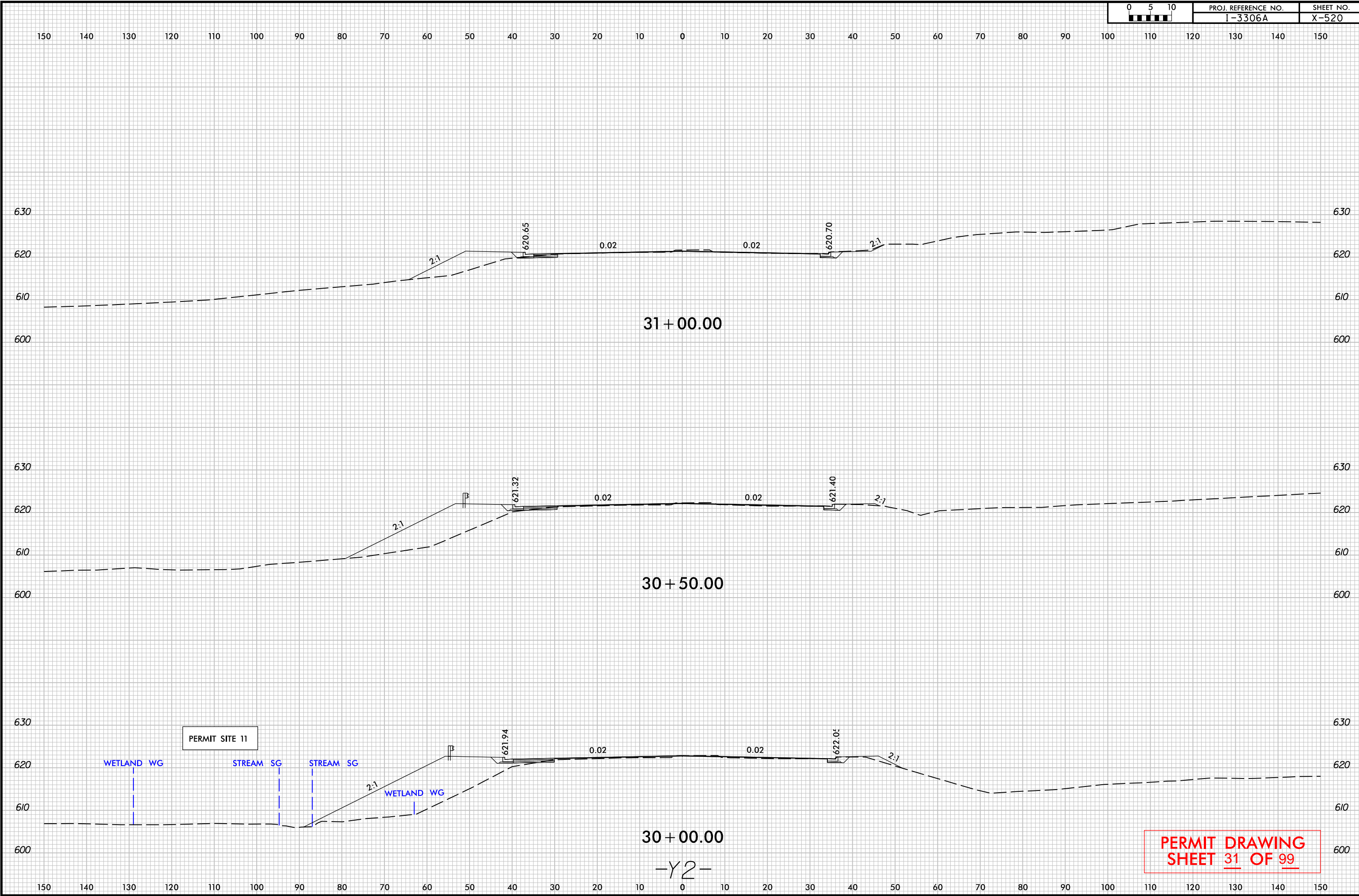
REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
PENTABLE: NCDOT\_PFL\_XSC.tbl  
USER: -USERNAME- DATE: 3/29/2022 TIME: 4:01:27 PM

FILE: I3306A\_PRM\_4C\_Y2 2917\_Site 12.dgn

PERMIT DRAWING  
SHEET 30 OF 99

8/23/99



PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: \_USERNAME\_  
 FILE: \$FILE\$  
 DATE: 3/29/2022  
 TIME: 2:14:15 PM

**PERMIT DRAWING**  
**SHEET 31 OF 99**

30+00.00  
 -Y2-

30+50.00

31+00.00

PERMIT SITE 11

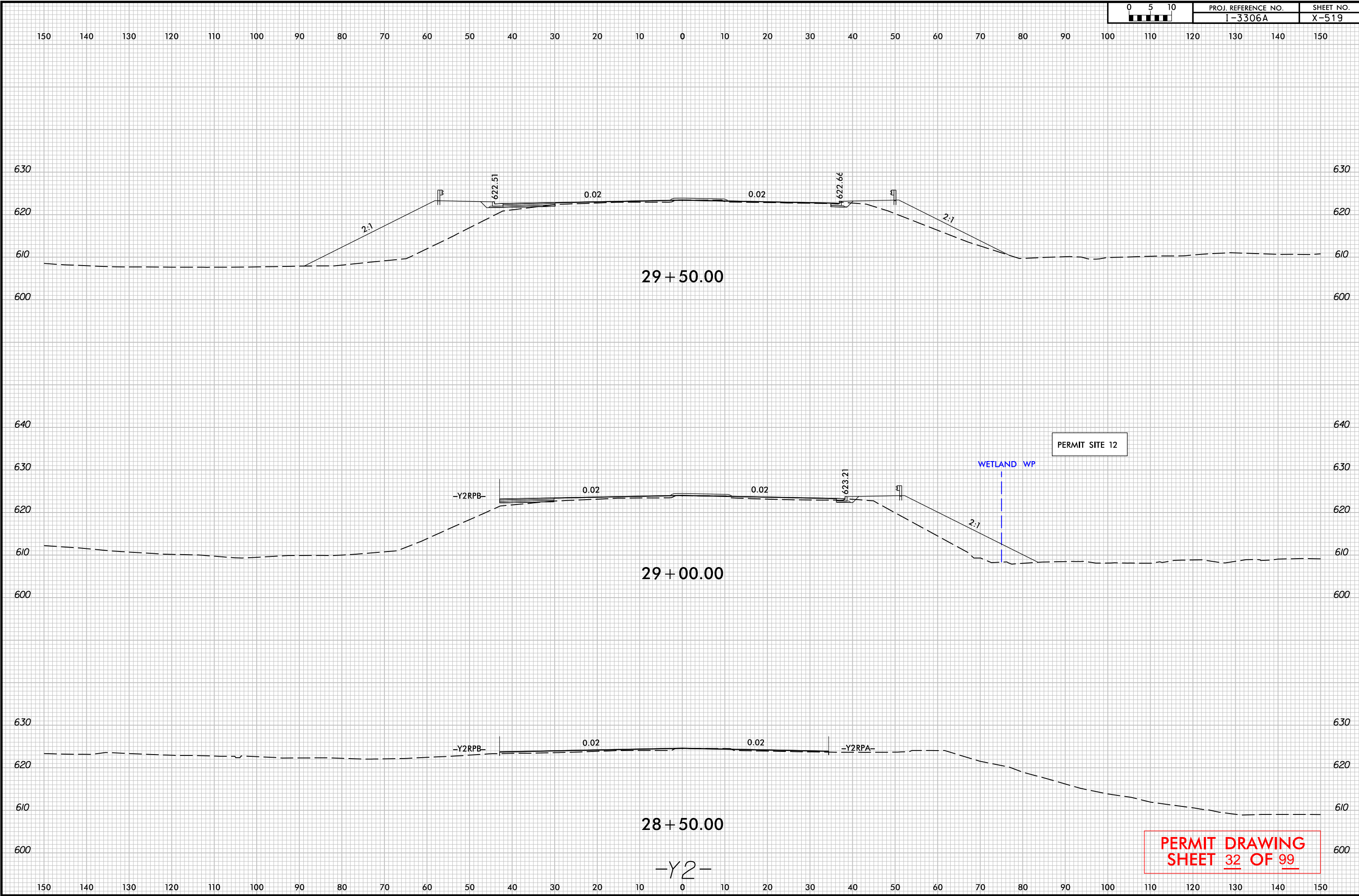
WETLAND WG

STREAM SG

STREAM SG

WETLAND WG

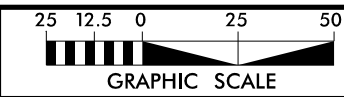
8/23/99



PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: \_USERNAME\_  
 FILE: \$FILE\$  
 PENTABLE: NCDOT\_PFL\_XSC.tbl  
 DATE: 3/31/2022  
 TIME: 11:02:10 AM

**PERMIT DRAWING**  
**SHEET 32 OF 99**

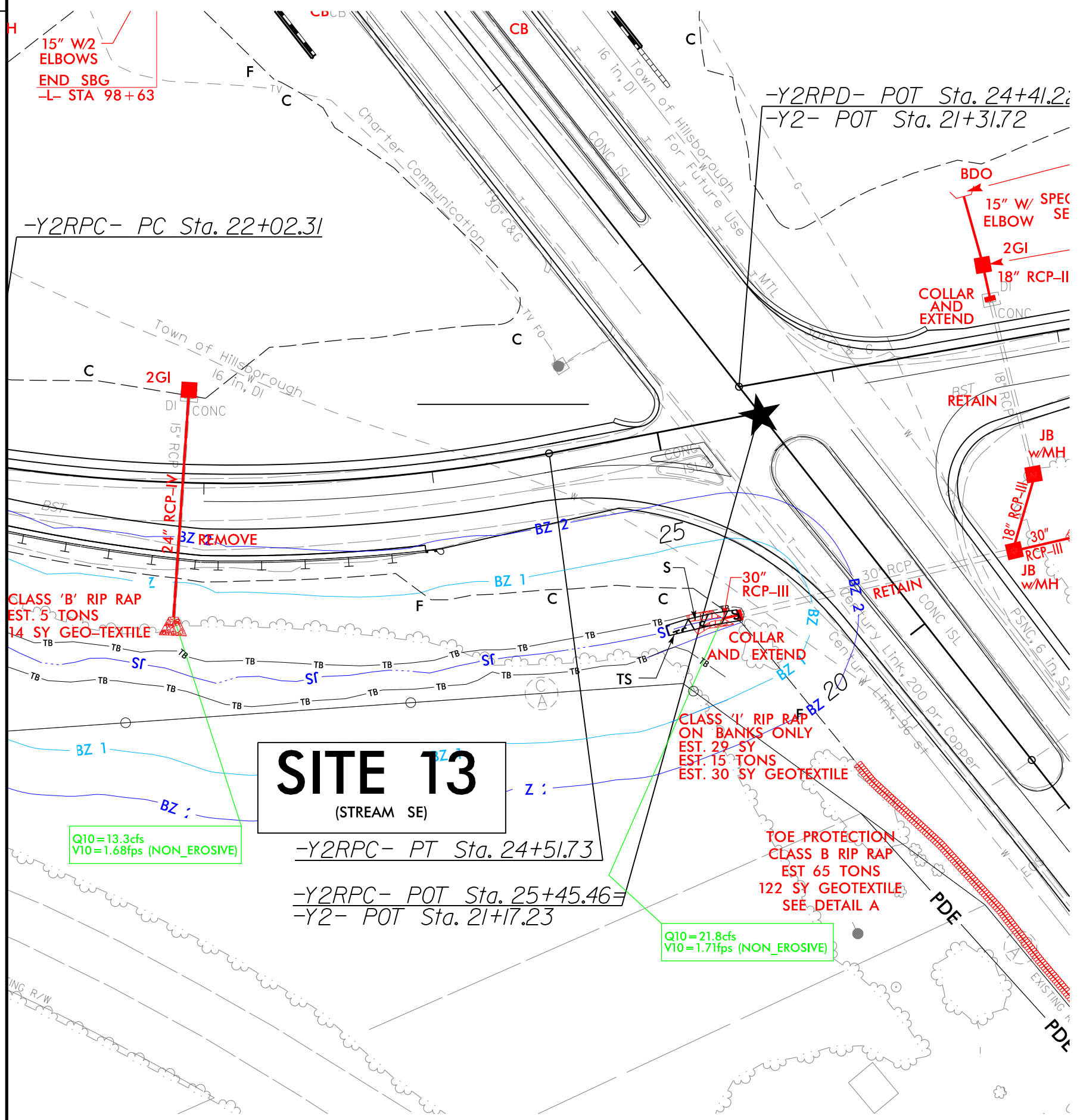
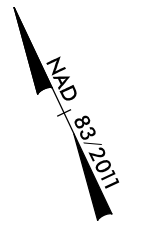
-Y2-



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 14B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER





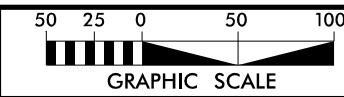
PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NIMOWACK  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn  
 DATE: 3/29/2022  
 TIME: 1:03:37 PM


REVISIONS

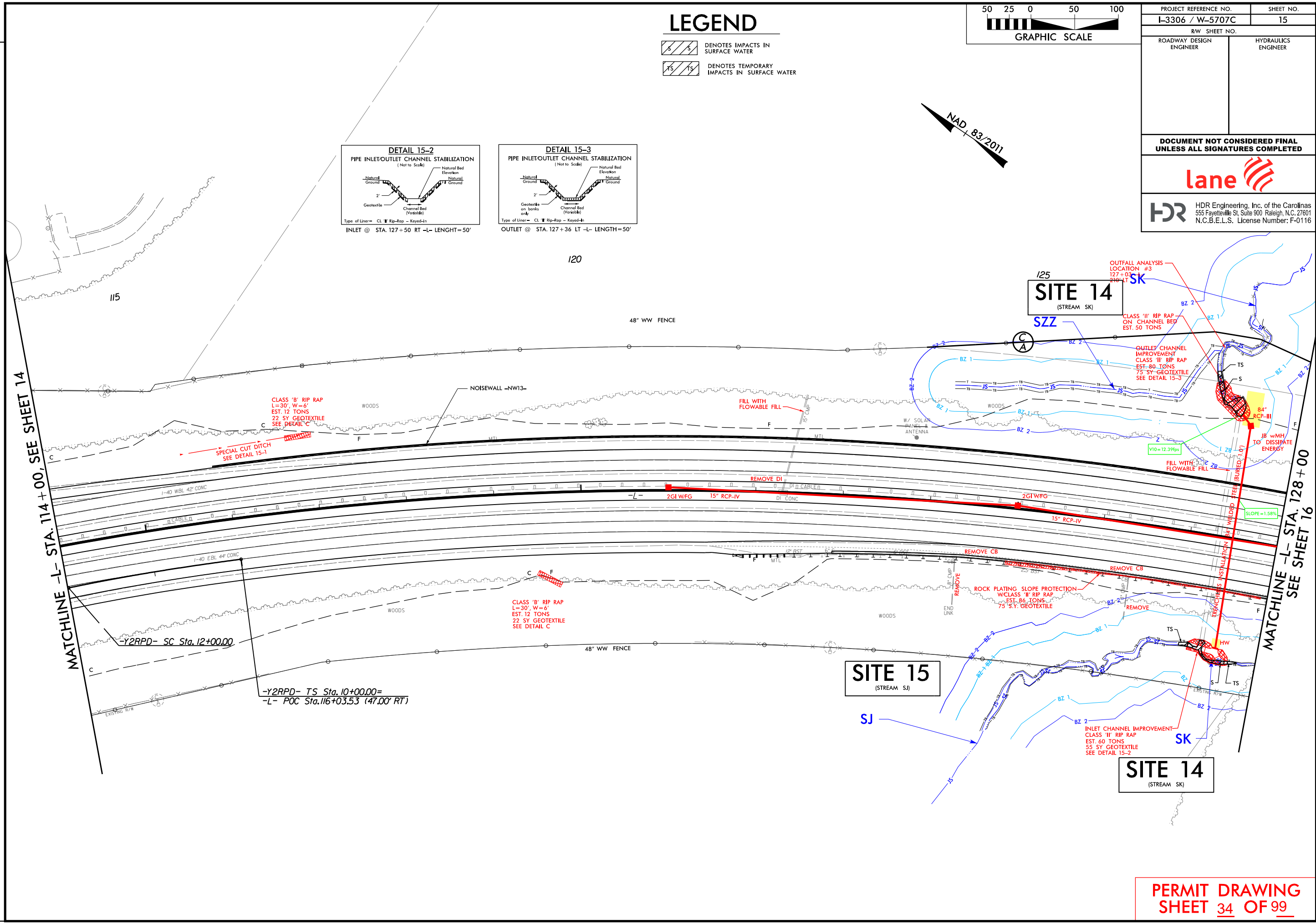
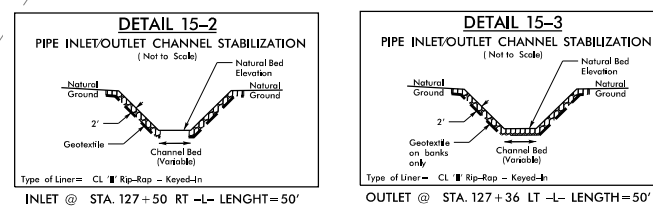
REVISIONS

# LEGEND

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	
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MATCHLINE -L- STA. 114 + 00, SEE SHEET 14

MATCHLINE -L- STA. 128 + 00  
SEE SHEET 16

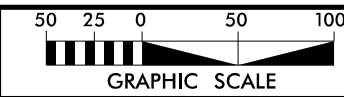
REVISIONS

MATCHLINE -L- STA. 114 + 00, SEE SHEET 14

MATCHLINE -L- STA. 128 + 00  
 SEE SHEET 16

# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

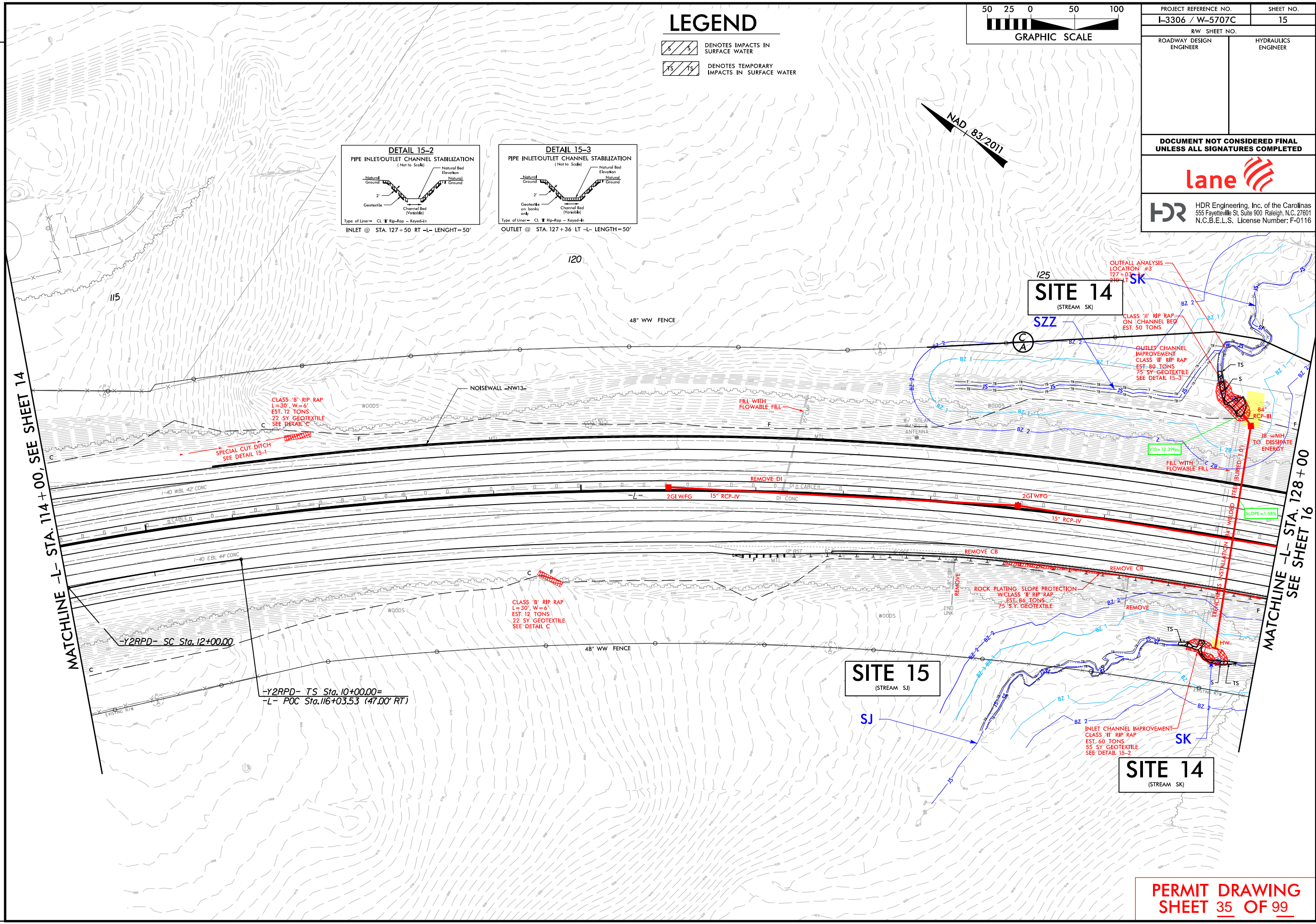


PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



HDR HDR Engineering, Inc. of the Carolinas  
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 N.C.B.E.L.S. License Number: F-0116



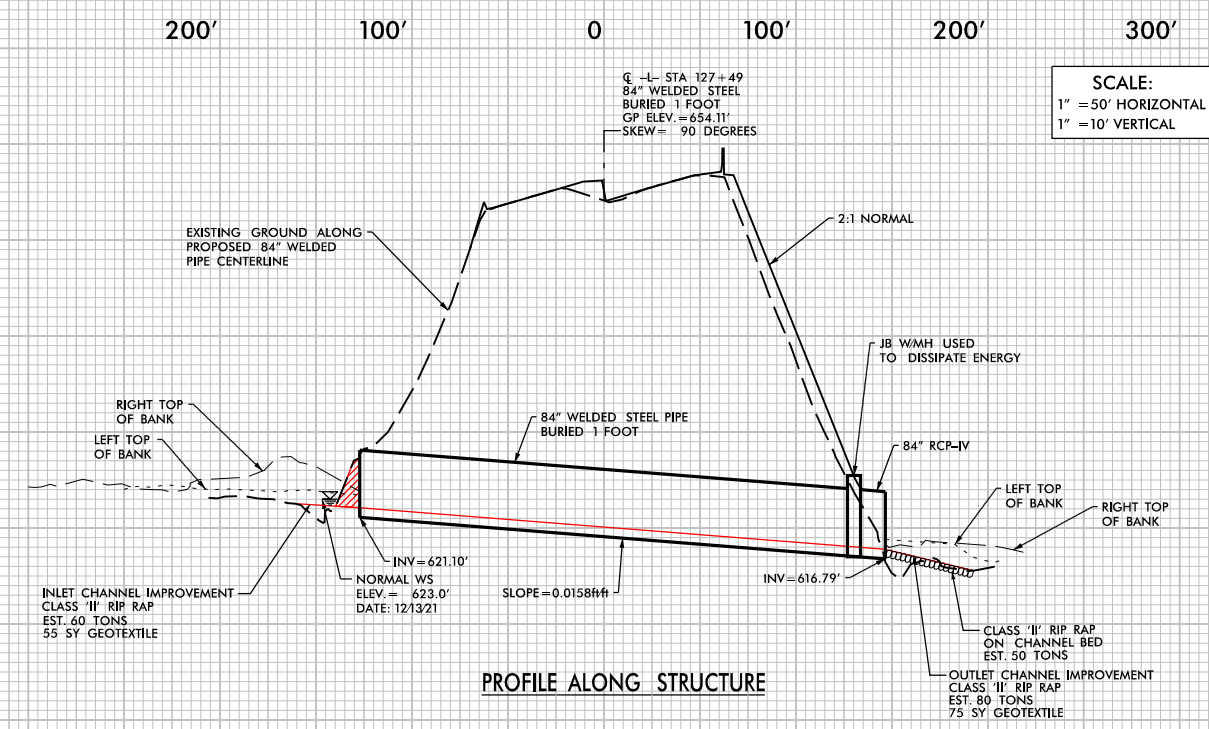
PERMIT DRAWING  
 SHEET 35 OF 99

5/14/99



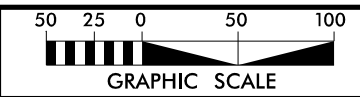
PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

**SITE 14 - US & DS  
SITE 15 - US**



REVISIONS

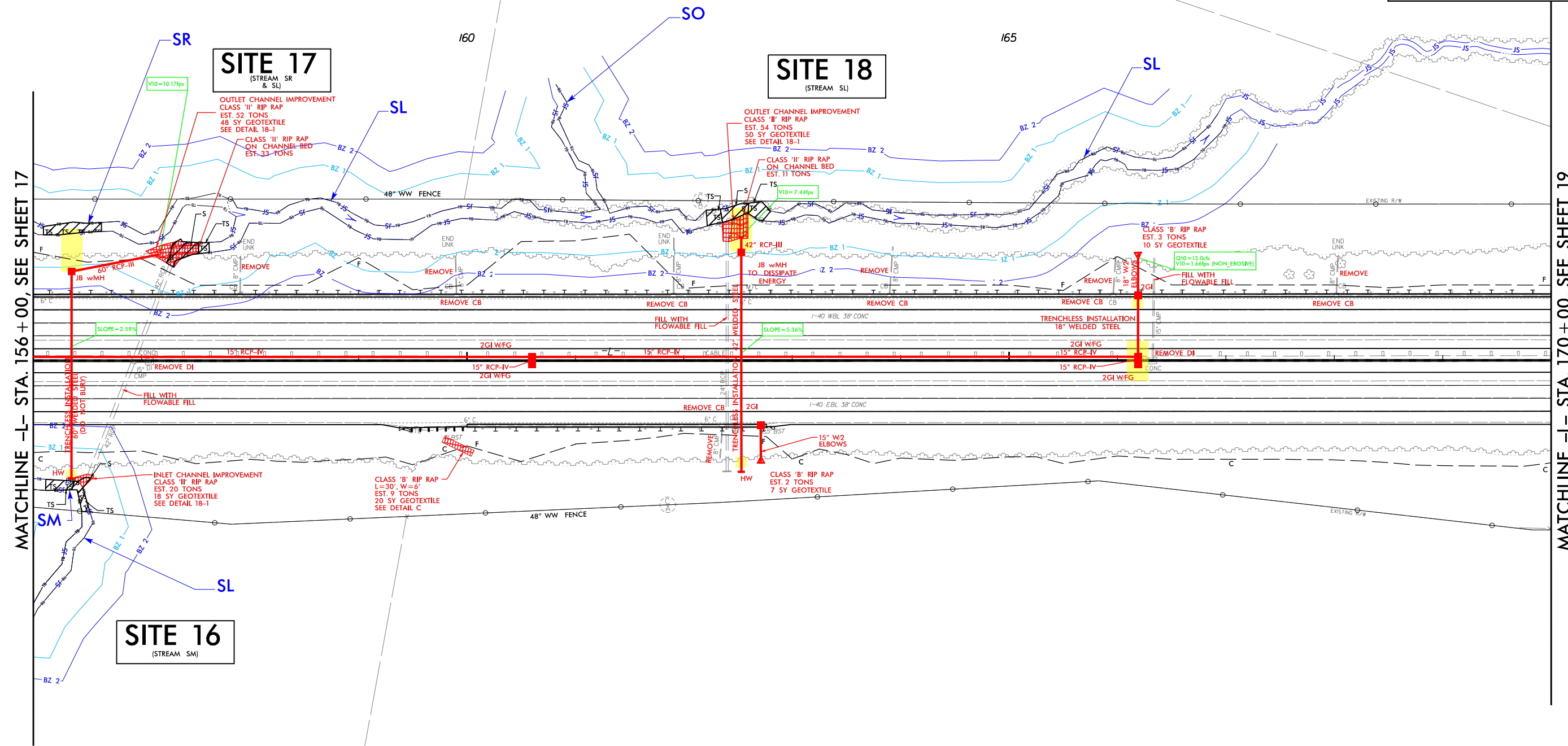
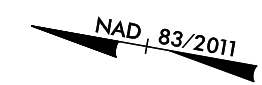
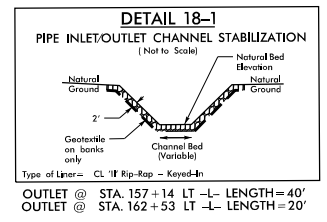
PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: -USERNAME-  
FILE: I3306A\_PRM\_4C-L 12749\_Site 14-15.dgn  
PENTABLE: NCDOT\_PFL\_XSC.tbl  
DATE: 3/29/2022  
TIME: 3:59:42 PM



PROJECT REFERENCE NO. <b>L-3306 / W-5707C</b>	SHEET NO. <b>18</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
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# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



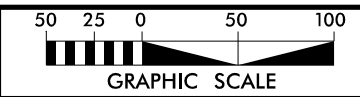
MATCHLINE -L- STA. 156 + 00, SEE SHEET 17

MATCHLINE -L- STA. 170 + 00, SEE SHEET 19

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NMOACK  
 DATE: 3/29/2022  
 TIME: 1:04:22 PM  
 FILE: ... \Drawings\13306A\_PRRM\_4C\_PSH.dgn

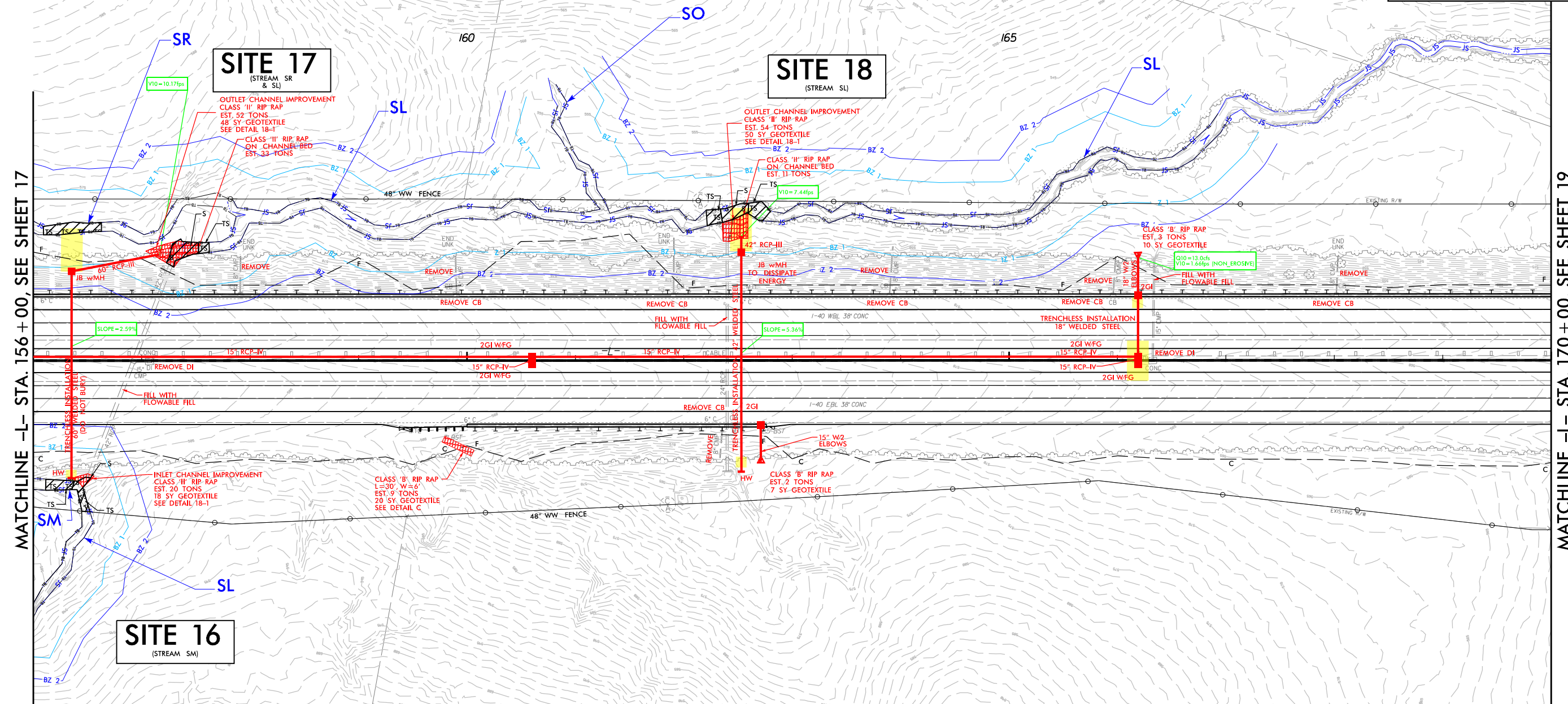
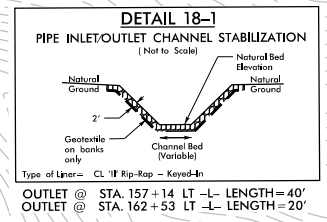
PERMIT DRAWING  
SHEET 37 OF 99



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



MATCHLINE -L- STA. 156 + 00, SEE SHEET 17

MATCHLINE -L- STA. 170 + 00, SEE SHEET 19

**SITE 16**  
(STREAM SM)

**SITE 17**  
(STREAM SR & SL)

**SITE 18**  
(STREAM SL)



PERMIT DRAWING  
SHEET 38 OF 99

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NCMACK  
 DATE: 3/29/2022  
 TIME: 11:15:34 AM  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

REVISIONS

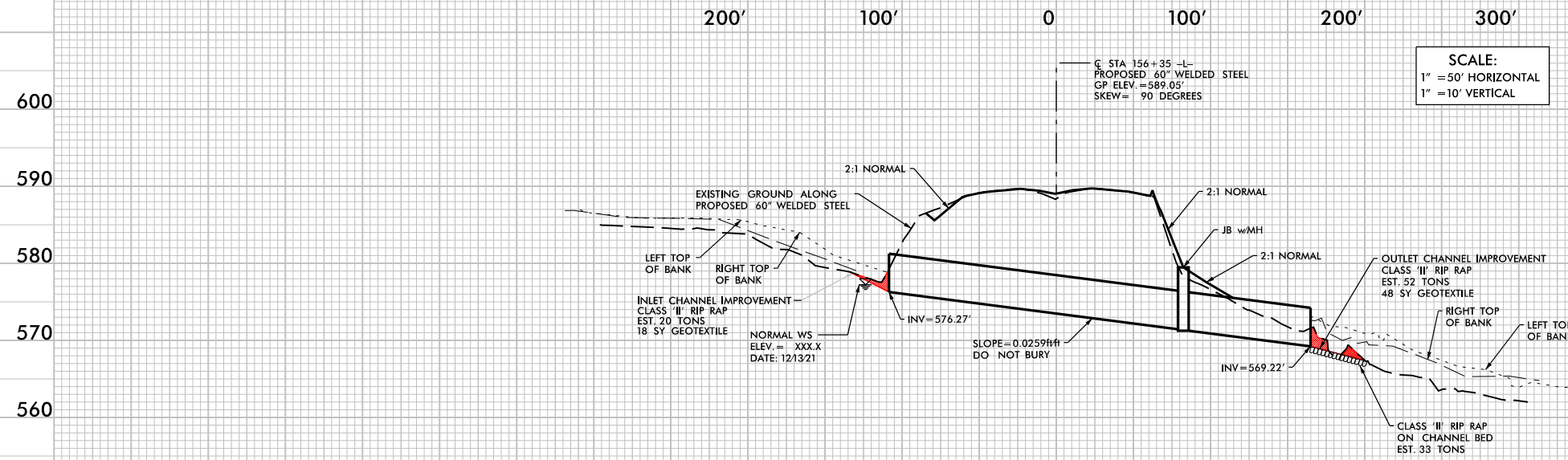
5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

**SITE 16 US  
SITE 17 DS**



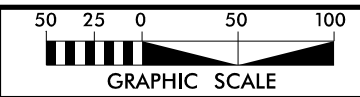
**SCALE:**  
1" = 50' HORIZONTAL  
1" = 10' VERTICAL

PROFILE ALONG STRUCTURE

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: -USERNAME- DATE: 3/29/2022 TIME: 3:59:51 PM  
FILE: I3306A\_PRM\_4C-L 15635.Site 16-17.dgn

**PERMIT DRAWING  
SHEET 39 OF 99**



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

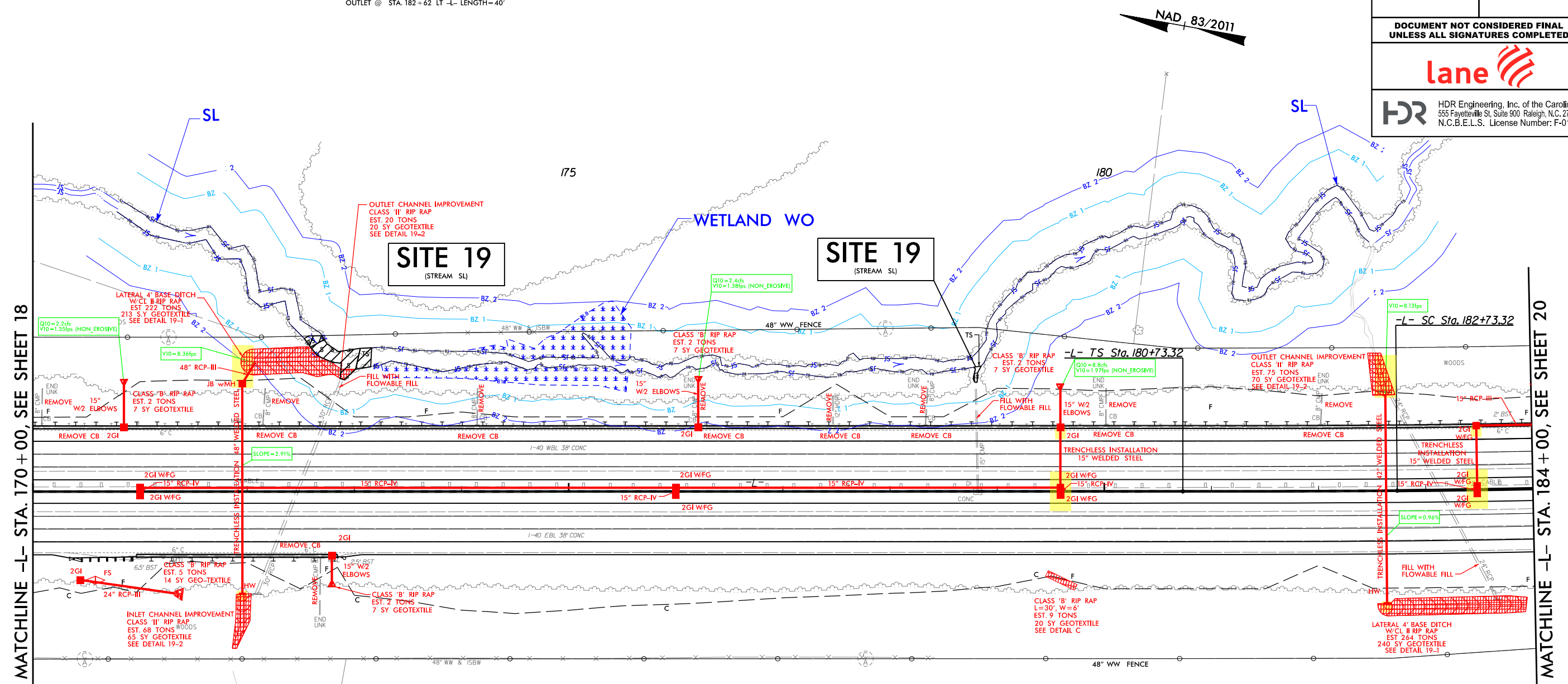
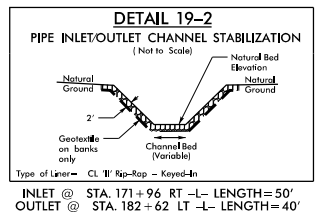
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

**lane**

**HDR** HDR Engineering, Inc. of the Carolinas  
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N.C.B.E.L.S. License Number: F-01116

# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



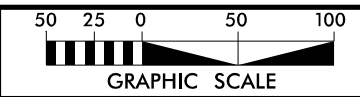
MATCHLINE -L- STA. 170+00, SEE SHEET 18

MATCHLINE -L- STA. 184+00, SEE SHEET 20

**PERMIT DRAWING  
SHEET 40 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NWMACK  
DATE: 3/29/2022  
TIME: 1:04:44 PM  
FILE: ... \Drawings\13306A\_PRRM\_4C\_PSH.dgn

REVISIONS



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

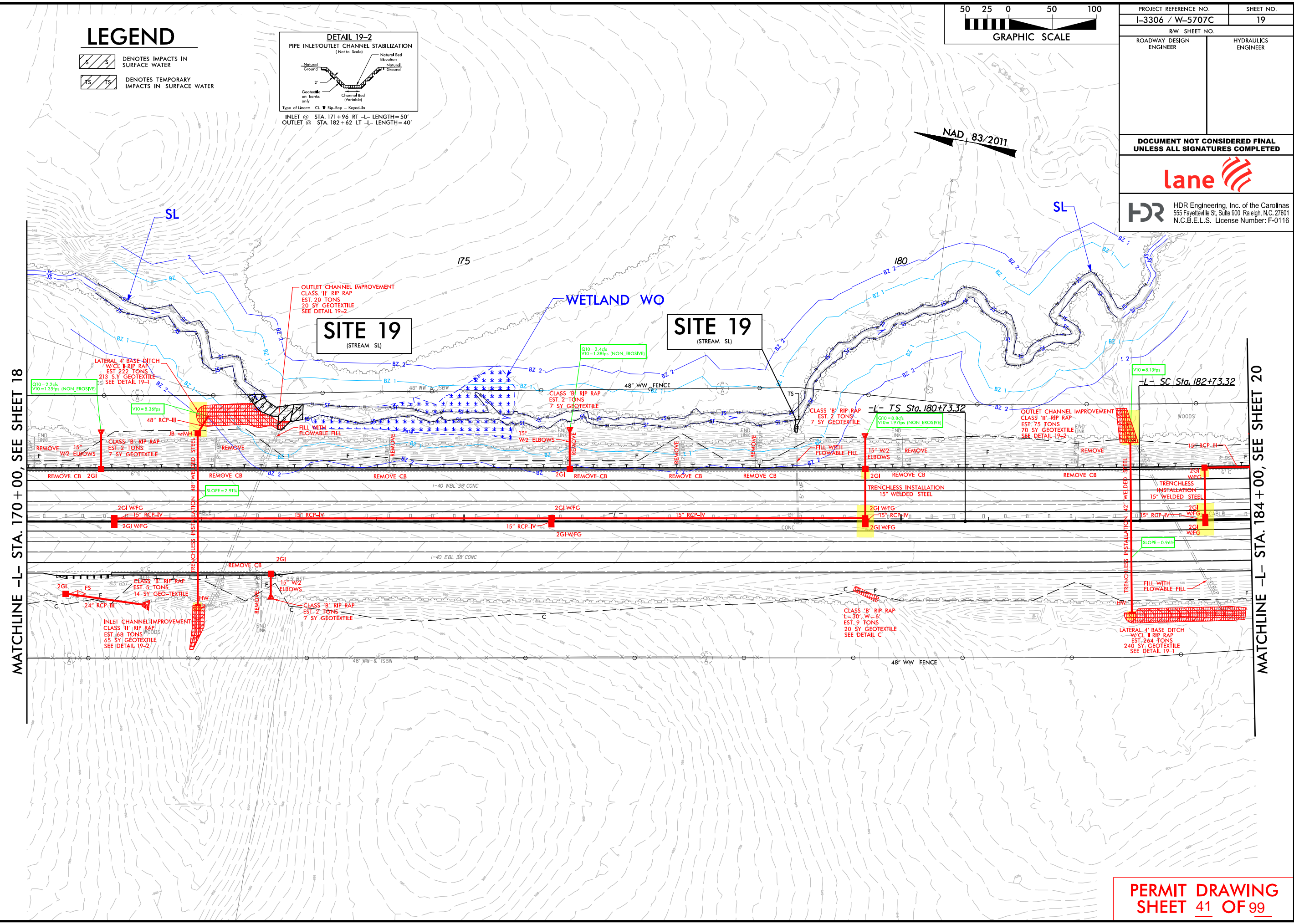
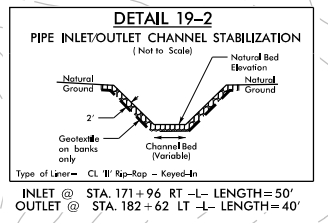
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



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N.C.B.E.L.S. License Number: F-0116

# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



MATCHLINE -L- STA. 170+00, SEE SHEET 18

MATCHLINE -L- STA. 184+00, SEE SHEET 20

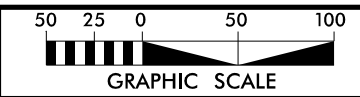
**SITE 19**  
(STREAM SL)

**SITE 19**  
(STREAM SL)

**PERMIT DRAWING**  
**SHEET 41 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NCMOWACK  
DATE: 3/29/2022  
TIME: 11:15:40 AM  
FILE: ... \Drawings\13306A\_PRRM\_4C\_PSH.dgn

REVISIONS



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

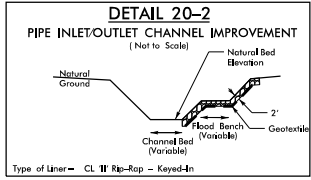
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



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N.C.B.E.L.S. License Number: F-0116

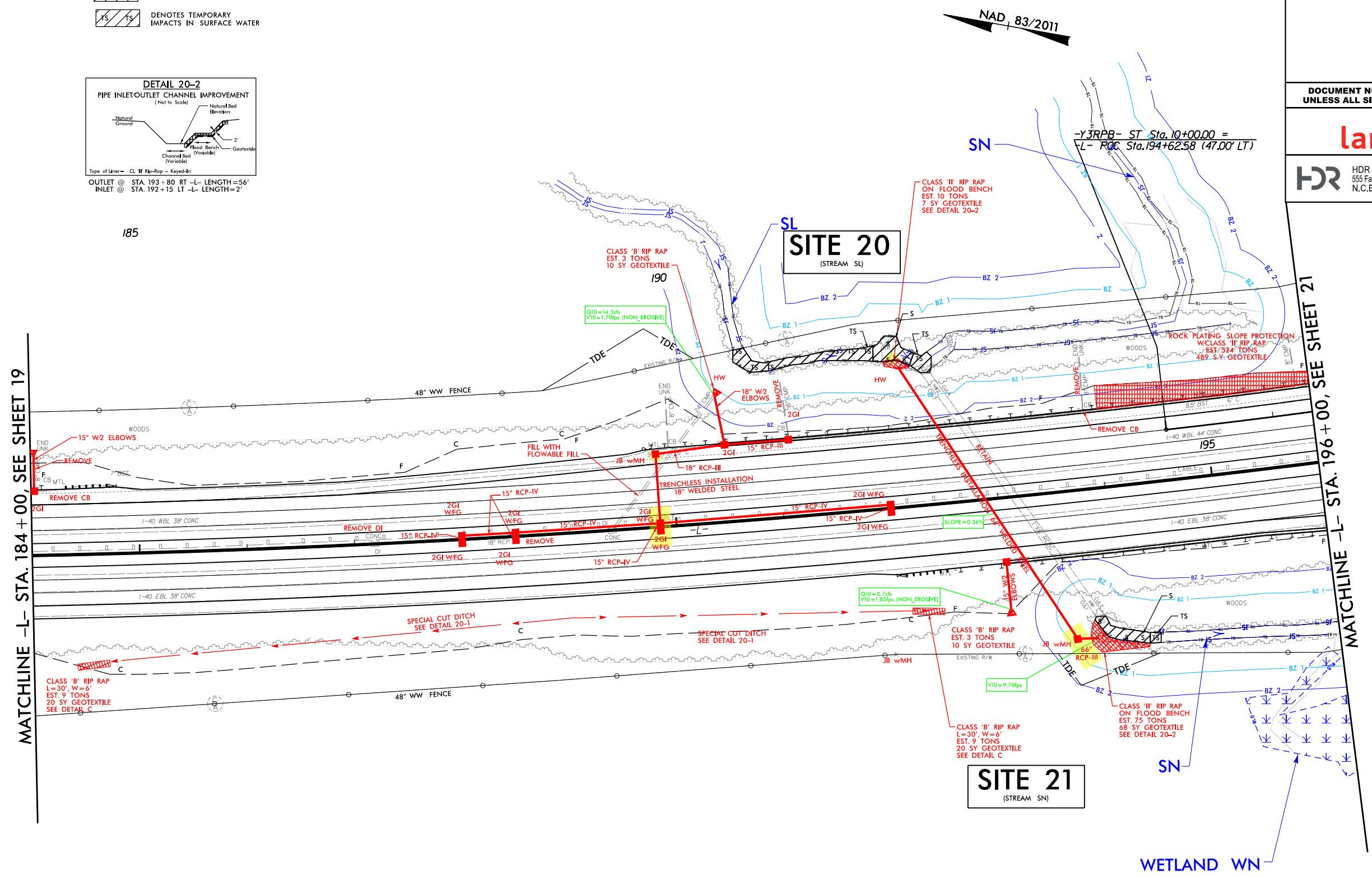
# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



Type of Liner - CL 11' Rip-Rap - Keyed-In  
OUTLET @ STA. 193+80 RT -L- LENGTH=56'  
INLET @ STA. 192+15 LT -L- LENGTH=2'

185



MATCHLINE -L- STA. 184 + 00, SEE SHEET 19

MATCHLINE -L- STA. 196 + 00, SEE SHEET 21

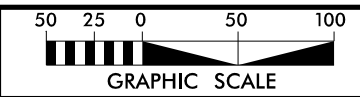
**SITE 21**  
(STREAM SN)

**SITE 20**  
(STREAM SL)

**PERMIT DRAWING**  
**SHEET 42 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NLOWACK  
FILE: ... \Drawings\13306A.PRM-4C\_PSH.dgn  
PENTABLE: NCDOT\_permits.NCON.tbl  
DATE: 3/29/2022  
TIME: 14:05:09 PM

REVISIONS



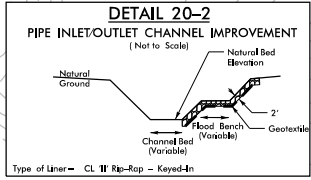
PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

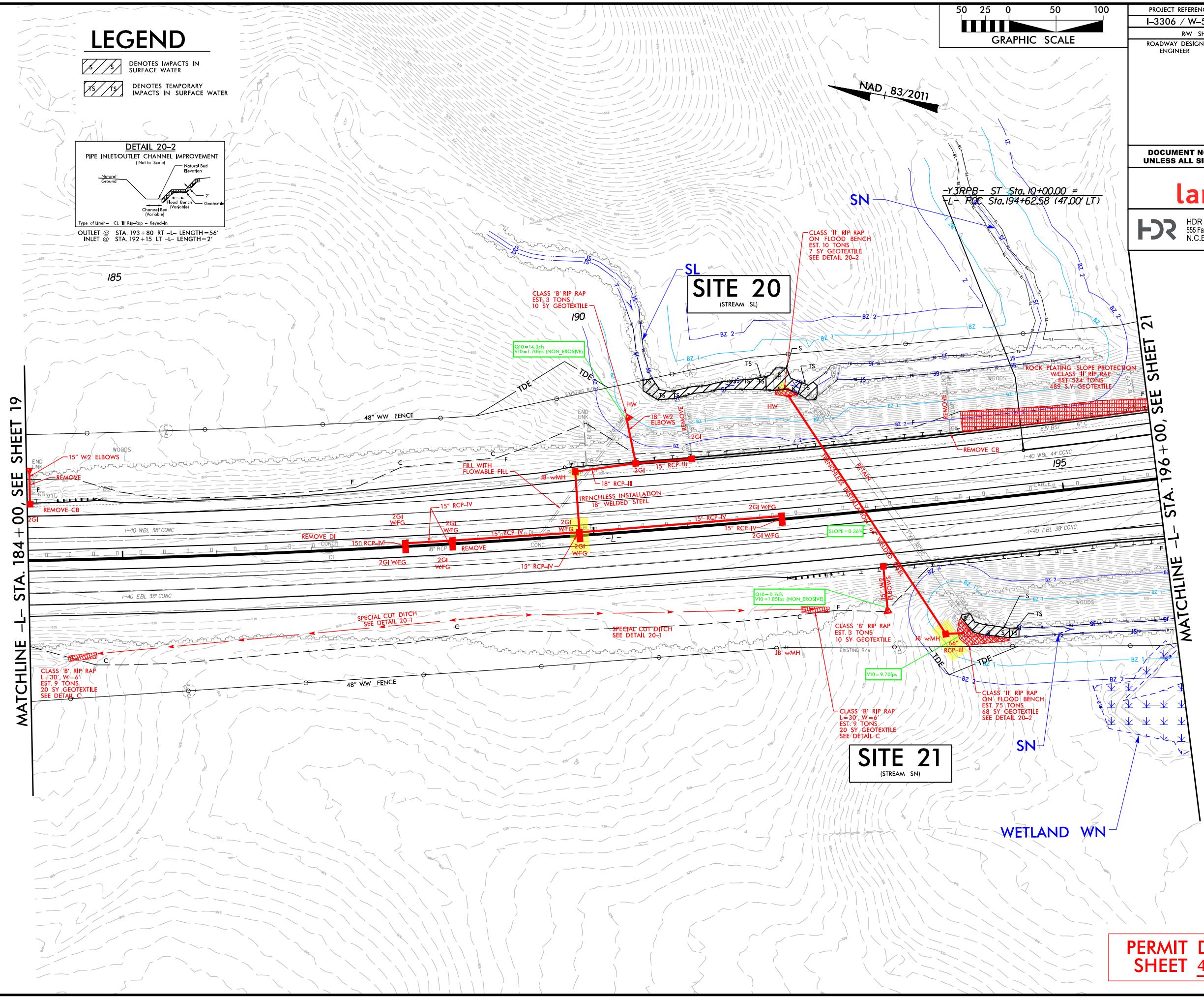
HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116

# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



Type of Liner = CL 11 Rip-Rap - Keyed-In  
OUTLET @ STA. 193+80 RT -L- LENGTH=56'  
INLET @ STA. 192+15 LT -L- LENGTH=2'



MATCHLINE -L- STA. 184 + 00, SEE SHEET 19

MATCHLINE -L- STA. 196 + 00, SEE SHEET 21

**SITE 21**  
(STREAM SN)

**SITE 20**  
(STREAM SL)

**PERMIT DRAWING**  
**SHEET 43 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NLOWACK  
DATE: 3/29/2022  
FILE: ... \Drawings\13306A\_PRRM\_4C\_PSH.dgn

REVISIONS

5/14/99

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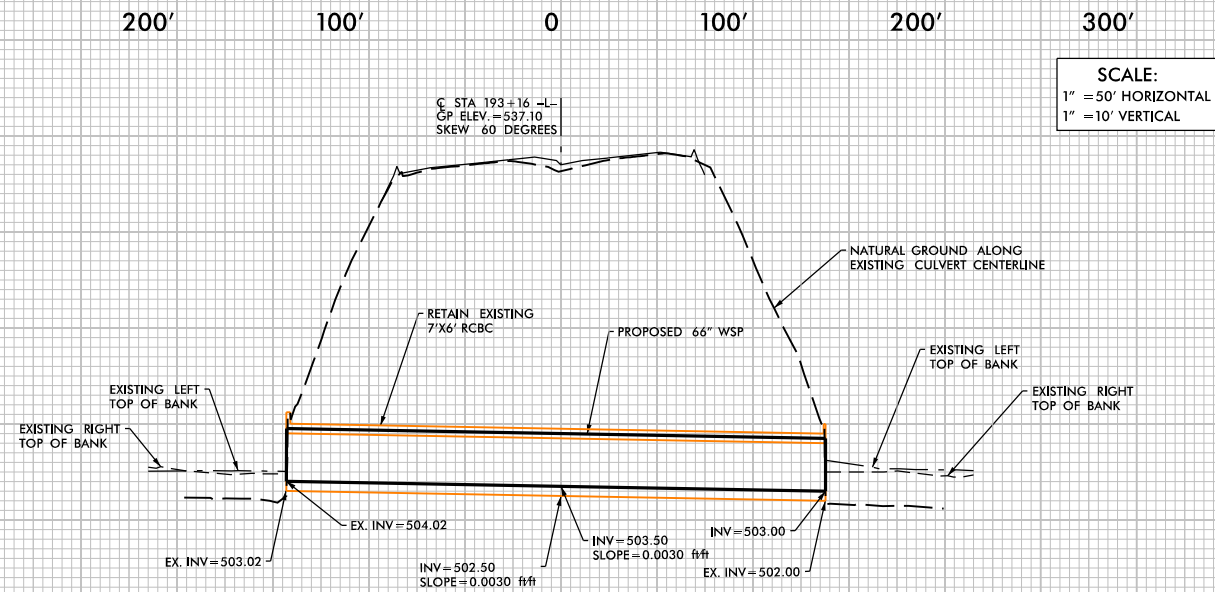
PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**SITE 20 - US  
SITE 21 - DS**



PROFILE ALONG STRUCTURE

REVISIONS



PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
PENTABLE: NCDOT\_PFL\_XSC.tbl  
USER: -USERNAME- DATE: 3/29/2022 TIME: 4:00:02 PM

FILE: I3306A\_PRM\_4C-L 19316\_Site 20-21.dgn



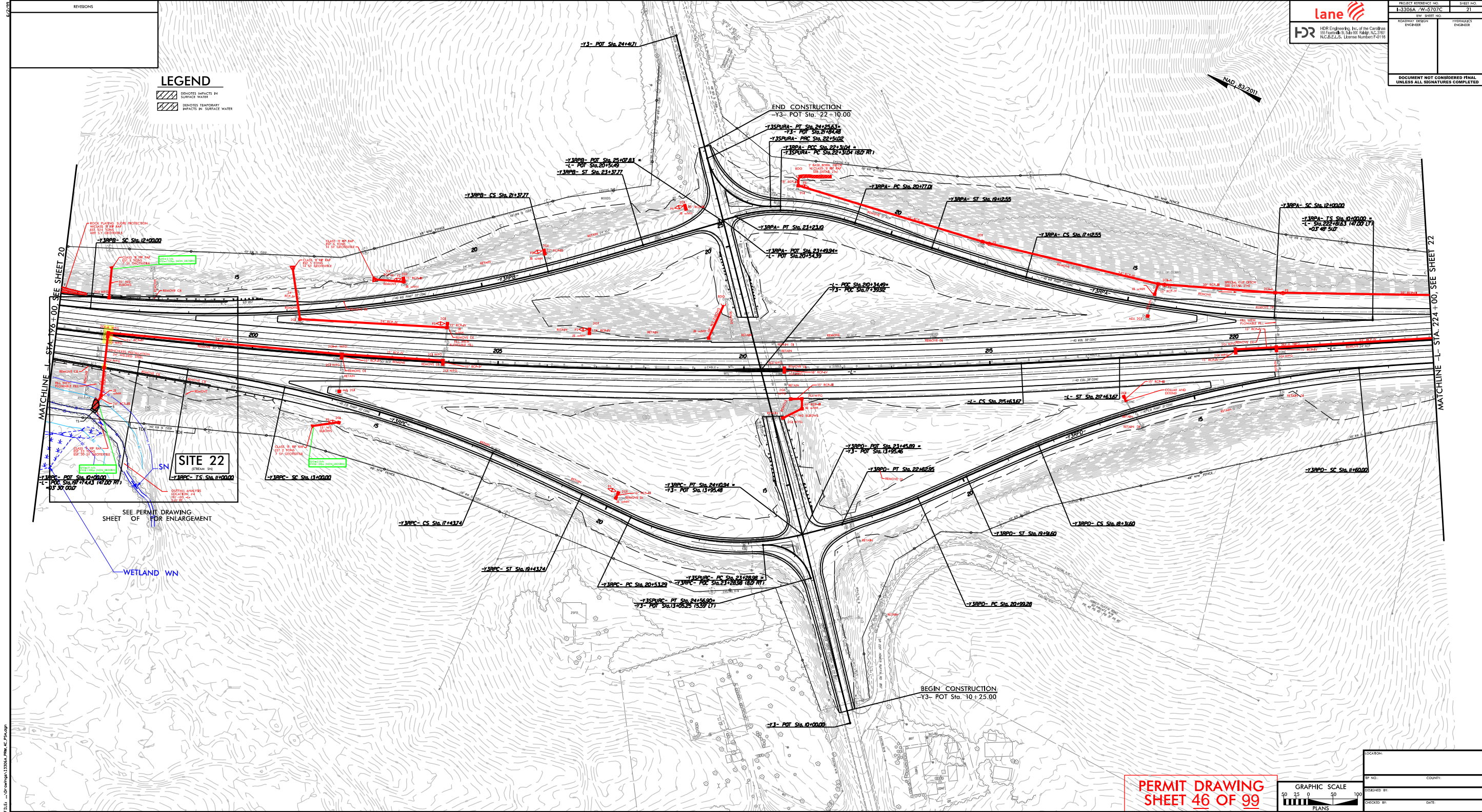
NO.	DATE	DESCRIPTION

**LEGEND**

 DENOTES IMPACTS IN SURFACE WATER  
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. I-3350A-W-5707C	SHEET NO. 21
ROADWAY DESIGN ENGINEER	PRODUCTION ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

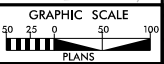


**SITE 22**  
(STREAM SW)

SEE PERMIT DRAWING SHEET OF FOR ENLARGEMENT

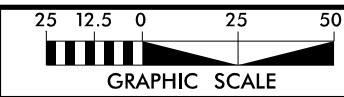
WETLAND WN

**PERMIT DRAWING SHEET 46 OF 99**



LOCATION:	
DATE:	
CHECKED BY:	
DATE:	

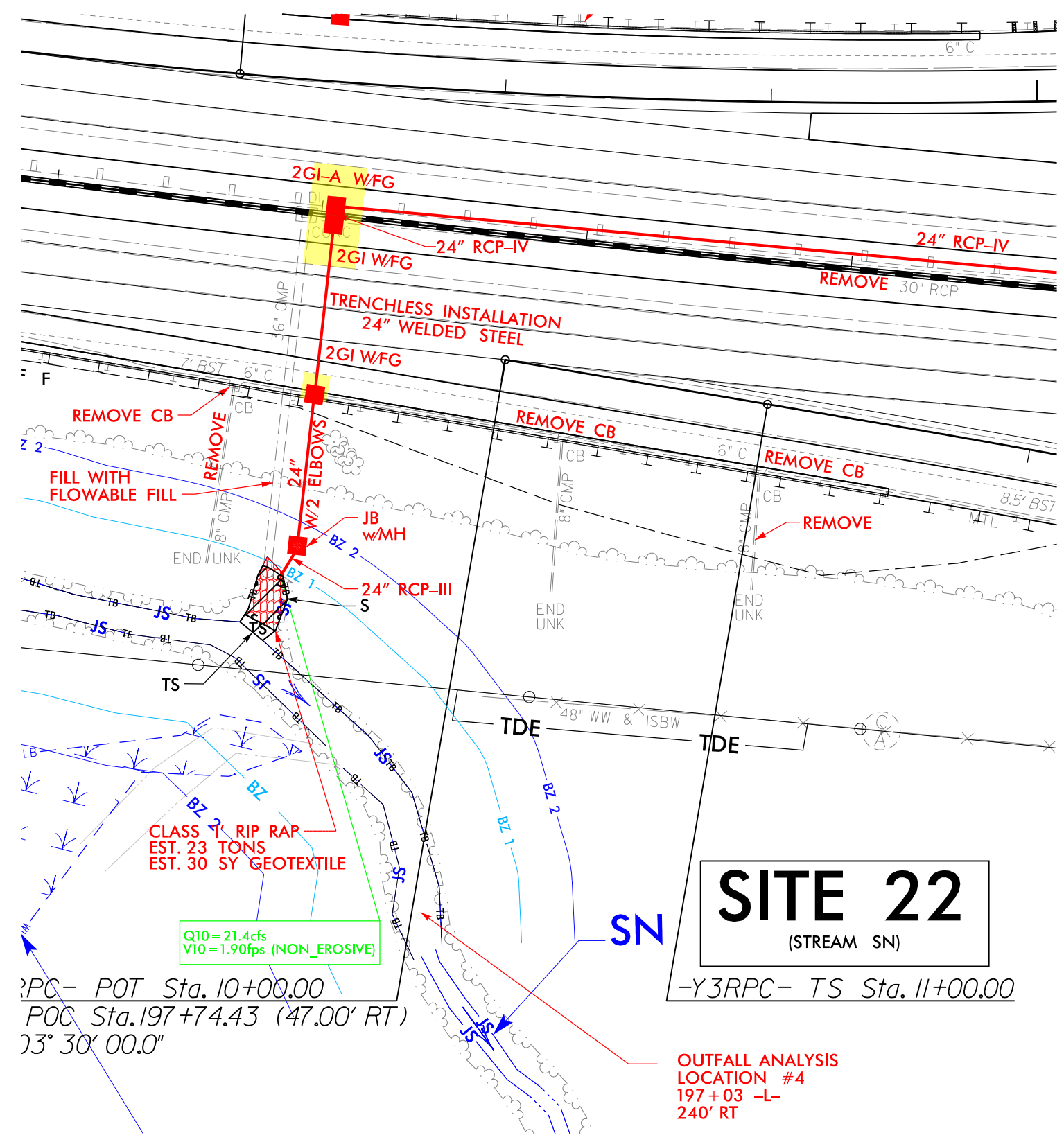
PLOT: D:\PLOT\2022\21.dwg  
 USER: H:\ADMIN\...  
 TIME: 10:30:15 PM  
 DATE: 3/20/2022



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 21A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SITE 22

(STREAM SN)

-Y3RPC- TS Sta. 11+00.00

CLASS 1 RIP RAP  
EST. 23 TONS  
EST. 30 SY GEOTEXTILE

Q10 = 21.4cfs  
V10 = 1.90fps (NON\_EROSIVE)

PC - POT Sta. 10+00.00  
POC Sta. 197+74.43 (47.00' RT)  
13° 30' 00.0"

OUTFALL ANALYSIS  
LOCATION #4  
197+03 -L-  
240' RT

REVISIONS

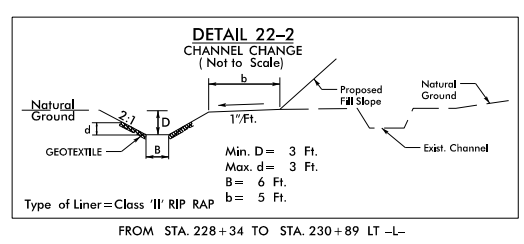
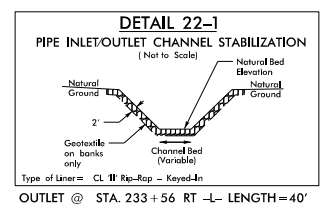
PENTABLE: NCDOT\_permits.NCON.tbi  
USER: NMOACK DATE: 3/29/2022  
TIME: 1:05:54 PM

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NMOACK  
FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
HDR HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

# LEGEND

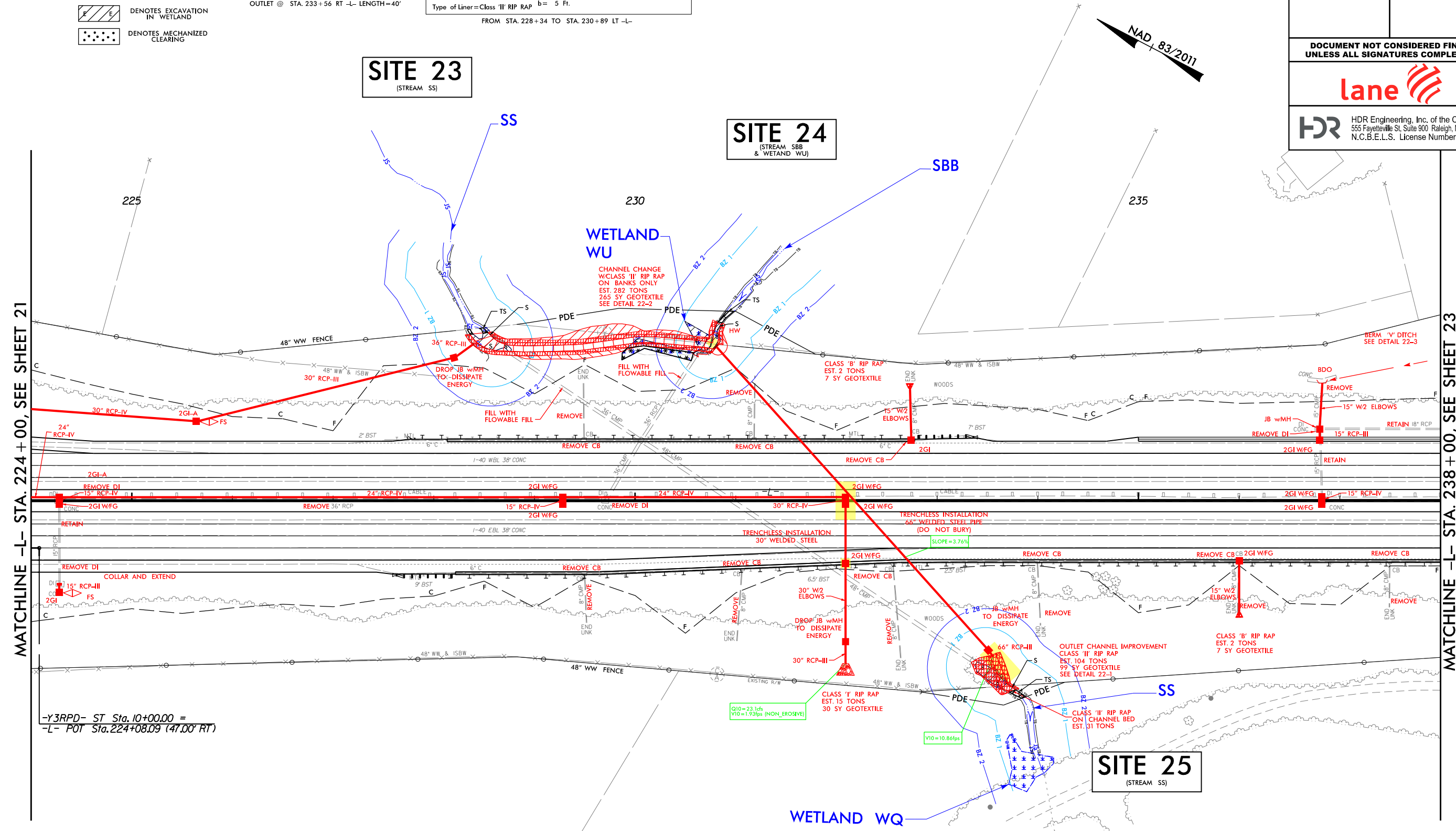
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING



**SITE 23**  
(STREAM SS)

**SITE 24**  
(STREAM SBB & WETLAND WU)

**SITE 25**  
(STREAM SS)



MATCHLINE -L- STA. 224+00, SEE SHEET 21

MATCHLINE -L- STA. 238+00, SEE SHEET 23

-Y3RPD- ST Sta. 10+00.00 =  
-L- POT Sta. 224+08.09 (47.00' RT)

Q10=23.1cfs  
V10=1.93fps (NON-EROSIVE)

V10=10.86fps

**PERMIT DRAWING**  
**SHEET 48 OF 99**

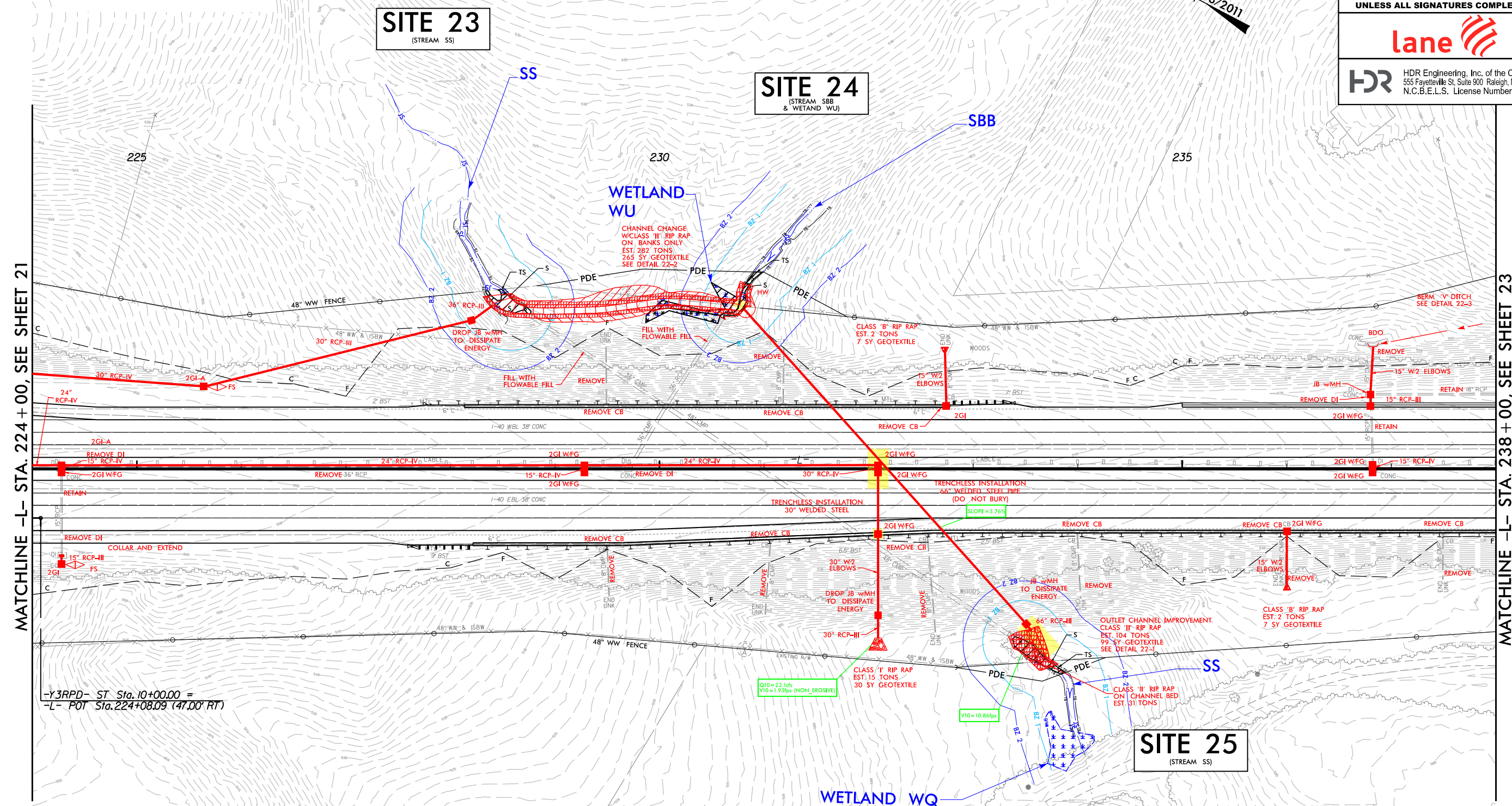
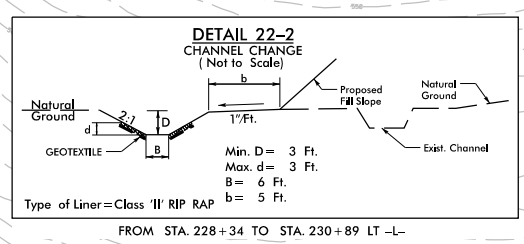
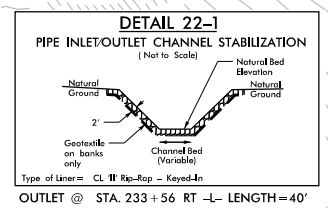
PLOT DRIVER: NCDOT\_permit\_eng\_100.plt  
USER: CMYERS  
DATE: 4/5/2022  
TIME: 9:59:36 AM  
FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

REVISIONS

PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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# LEGEND

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



MATCHLINE -L- STA. 224+00, SEE SHEET 21

MATCHLINE -L- STA. 238+00, SEE SHEET 23

-Y3RPD- ST Sta. 10+00.00 =  
-L- POT Sta. 224+08.09 (47.00 RT)

**SITE 25**  
(STREAM SS)

**PERMIT DRAWING**  
**SHEET 49 OF 99**

PLOT DRIVER: NCDOT\_permits\_color\_eng\_100.plt  
 USER: CMYERS  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn  
 DATE: 4/5/2022  
 TIME: 9:54:53 AM

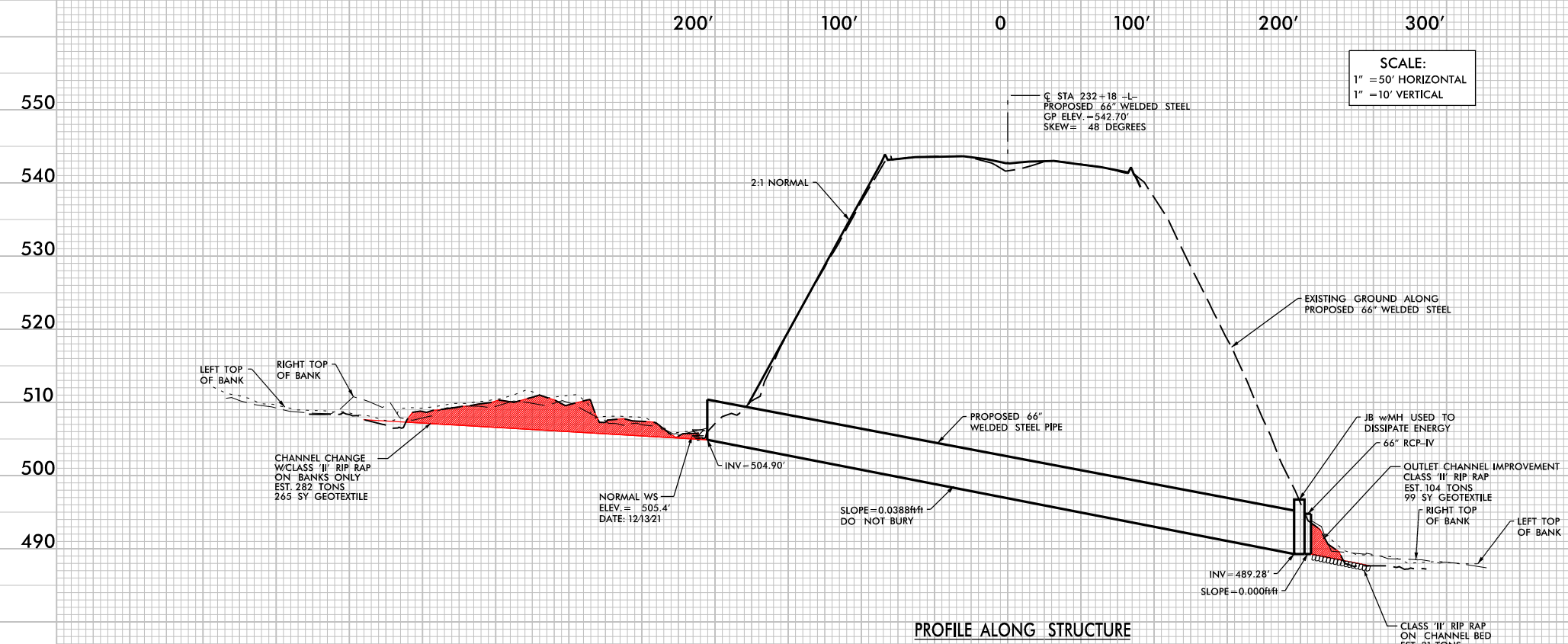
REVISIONS

5/14/99



PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

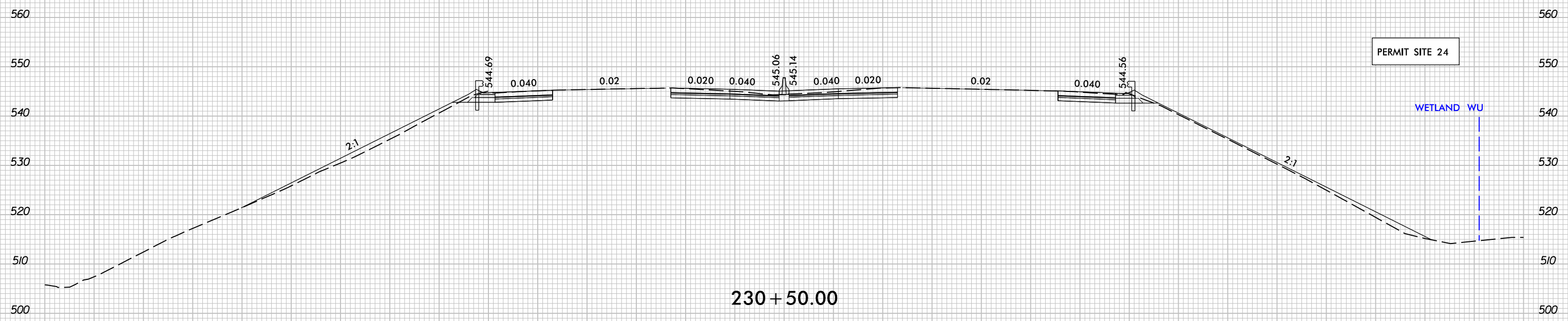
**SITE 23 & 24 US  
SITE 25 DS**



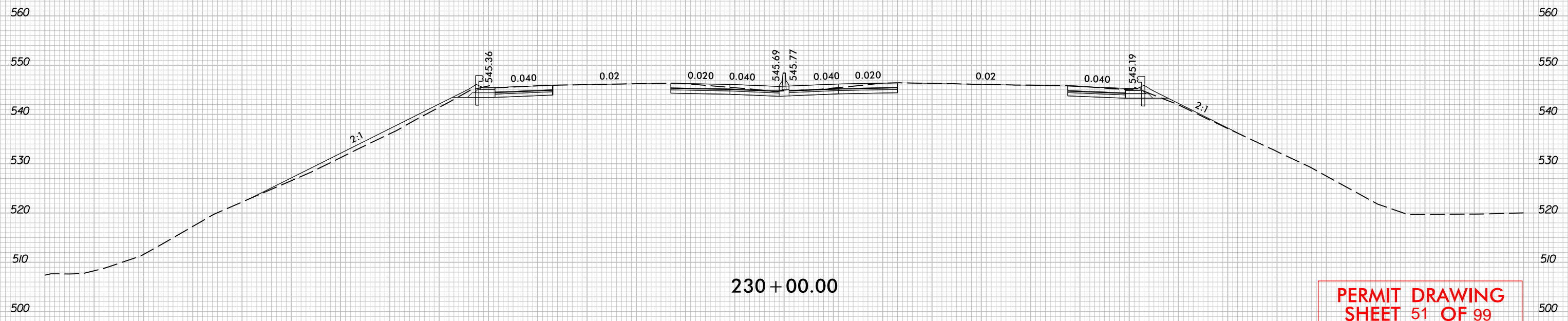
REVISIONS

8/23/99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



230 + 50.00

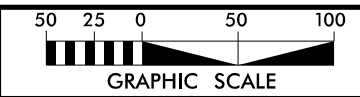


230 + 00.00

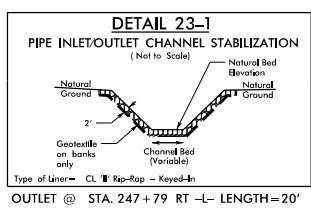
PERMIT DRAWING SHEET 51 OF 99

PLOT DRIVER: NCDOT\_ncdot\_color\_eng\_100.plt  
USER: \_USERNAME\_  
FILE: \$FILE\$  
DATE: 3/29/2022  
TIME: 2:14:25 PM

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



PROJECT REFERENCE NO. <b>I-3306 / W-5707C</b>	SHEET NO. <b>23</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
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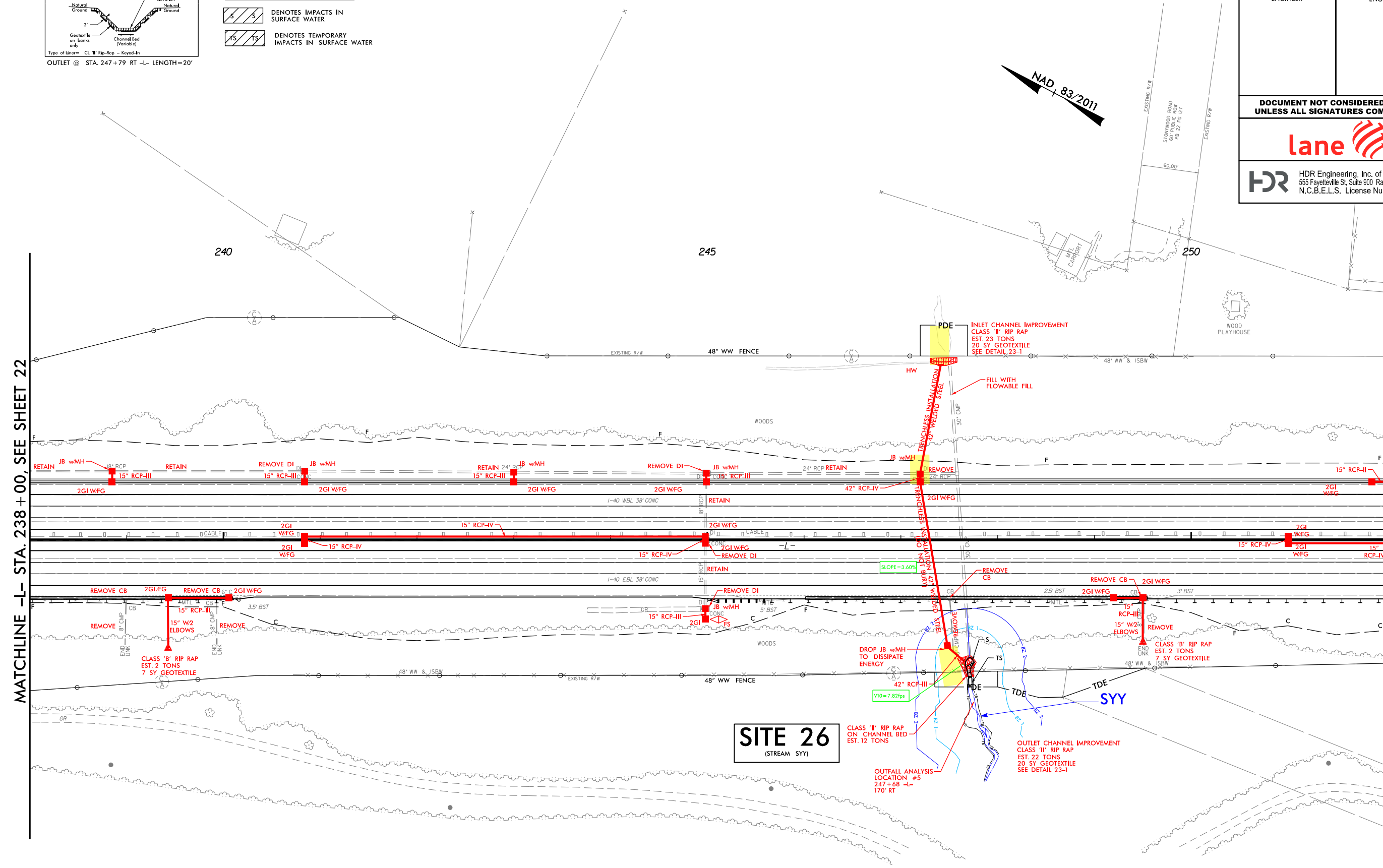
**LEGEND**

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCHLINE -L- STA. 238 + 00, SEE SHEET 22

MATCHLINE -L- STA. 252 + 00, SEE SHEET 24

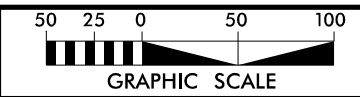


**SITE 26**  
(STREAM SY)

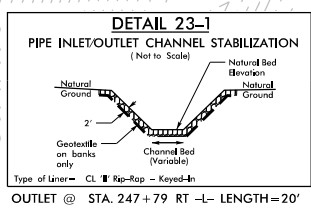
**PERMIT DRAWING  
SHEET 52 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NLOWACK  
 DATE: 3/29/2022  
 TIME: 1:06:39 PM  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

REVISIONS



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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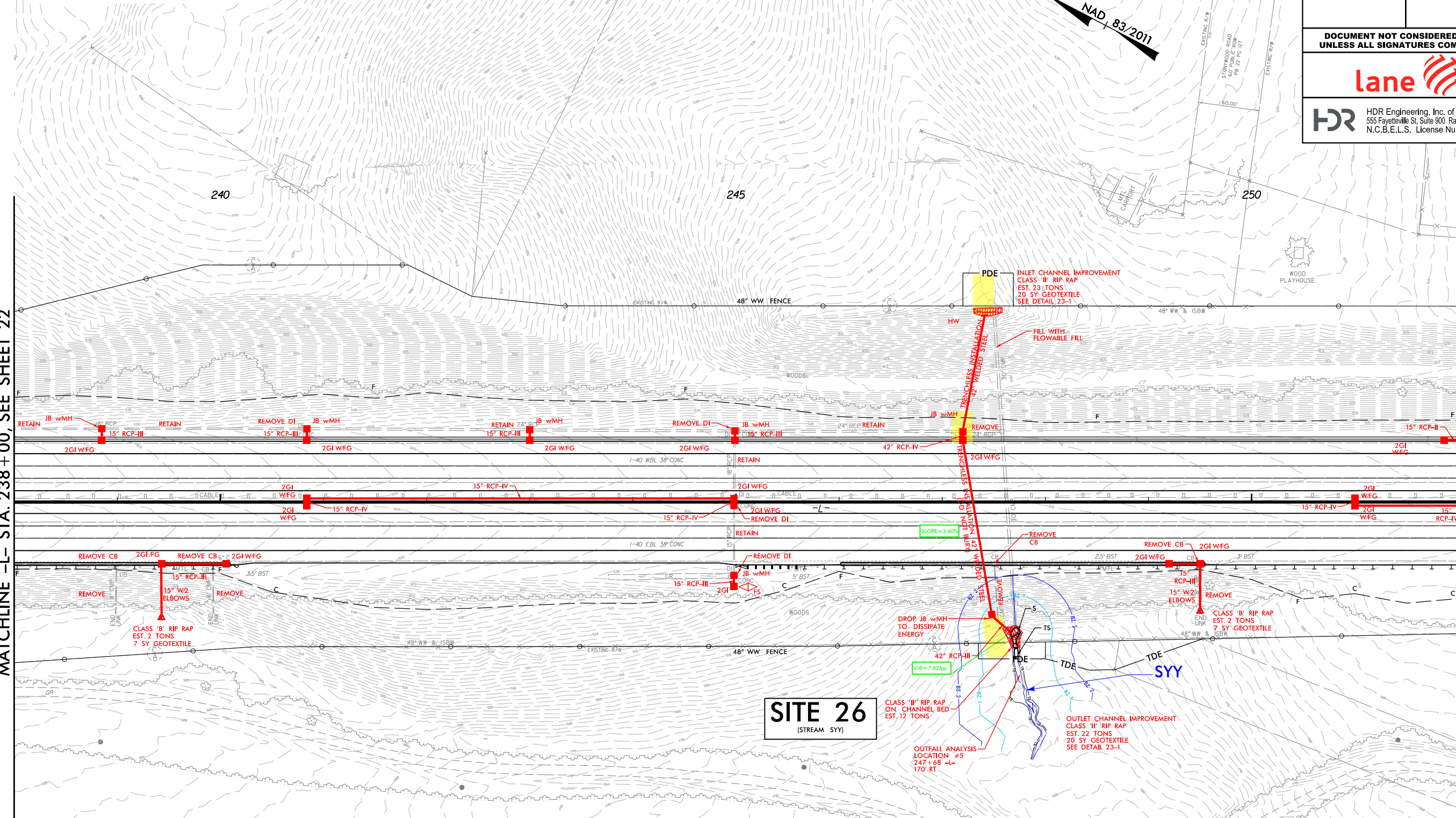
**LEGEND**

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCHLINE -L- STA. 238 + 00, SEE SHEET 22

MATCHLINE -L- STA. 252 + 00, SEE SHEET 24





**SITE 26**  
(STREAM SY)

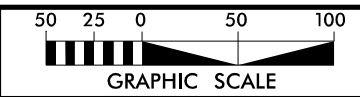
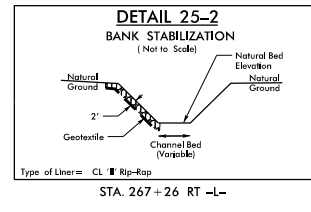
**PERMIT DRAWING**  
**SHEET 53 OF 99**



PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NWMACK  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn  
 PENTABLE: NCDOT\_permits.CON.tbl  
 TIME: 11:16:05 AM  
 DATE: 3/29/2022

REVISIONS

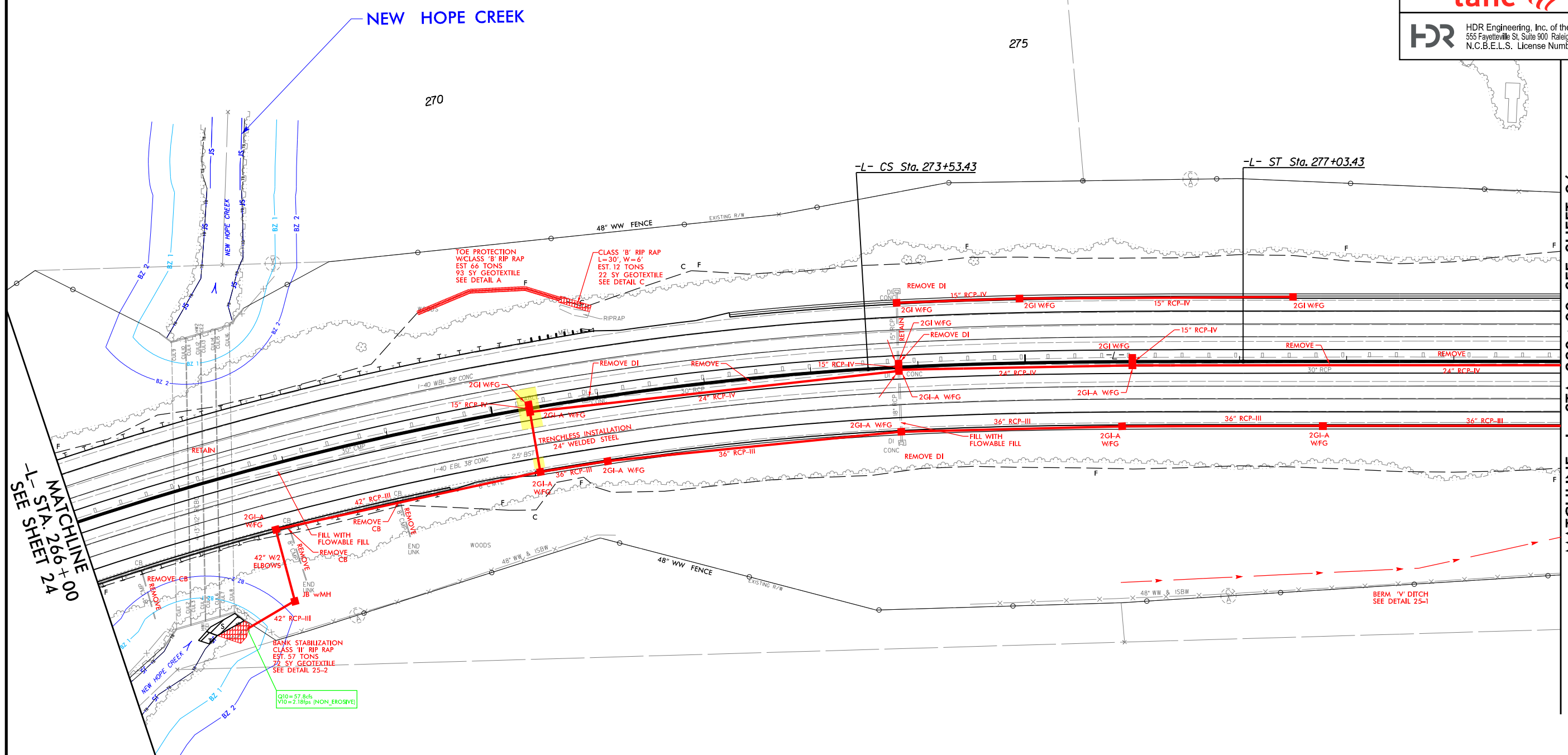
# LEGEND

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. <b>L-3306 / W-5707C</b>	SHEET NO. <b>25</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
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NAD 83/2011



MATCHLINE -L- STA. 266+00  
SEE SHEET 24

MATCHLINE -L- STA. 280+00, SEE SHEET 26



**SITE 27**  
(NEW HOPE CREEK)

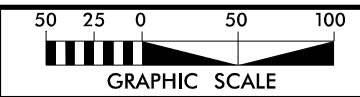
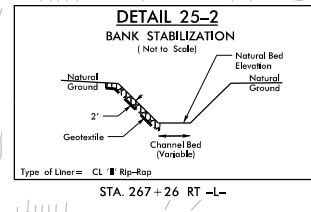
PERMIT DRAWING  
SHEET 54 OF 99

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NMOUACK  
DATE: 3/29/2022  
TIME: 1:07:02 PM  
FILE: ... \Drawings\13306A\_PRRM\_4C\_PSH.dgn



REVISIONS

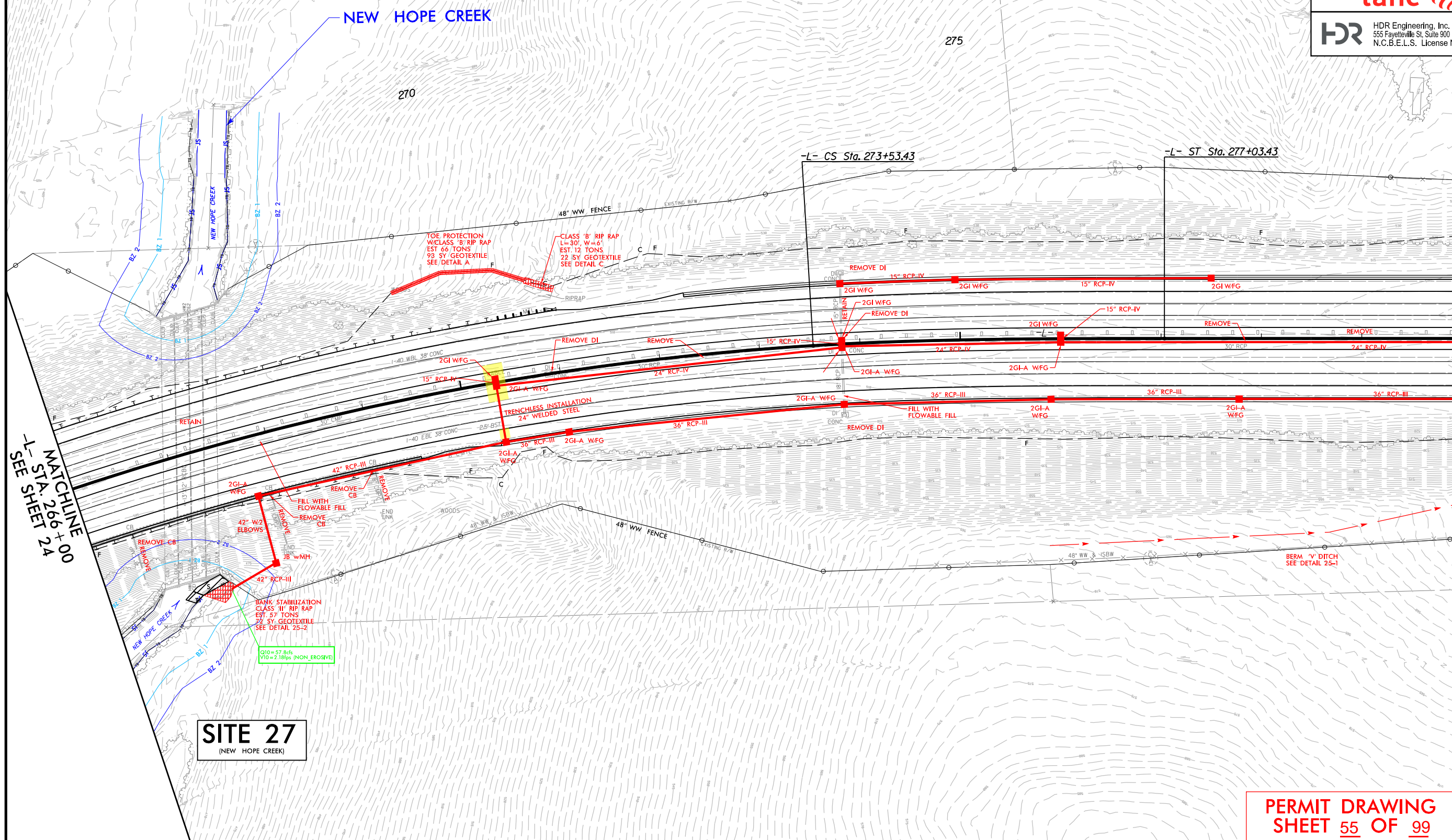
# LEGEND

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER



NAD 83/2011

PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 25
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	
 HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	



MATCHLINE -L- STA. 266+00  
SEE SHEET 24

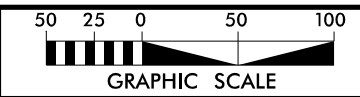
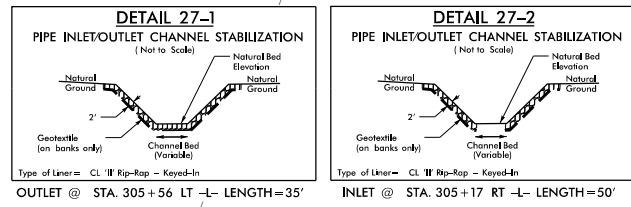
MATCHLINE -L- STA. 280+00, SEE SHEET 26

**SITE 27**  
(NEW HOPE CREEK)

PERMIT DRAWING  
SHEET 55 OF 99

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NMOACK  
DATE: 3/29/2022  
FILE: ... \Drawings\13306A\_PRM\_4C\_PSH.dgn

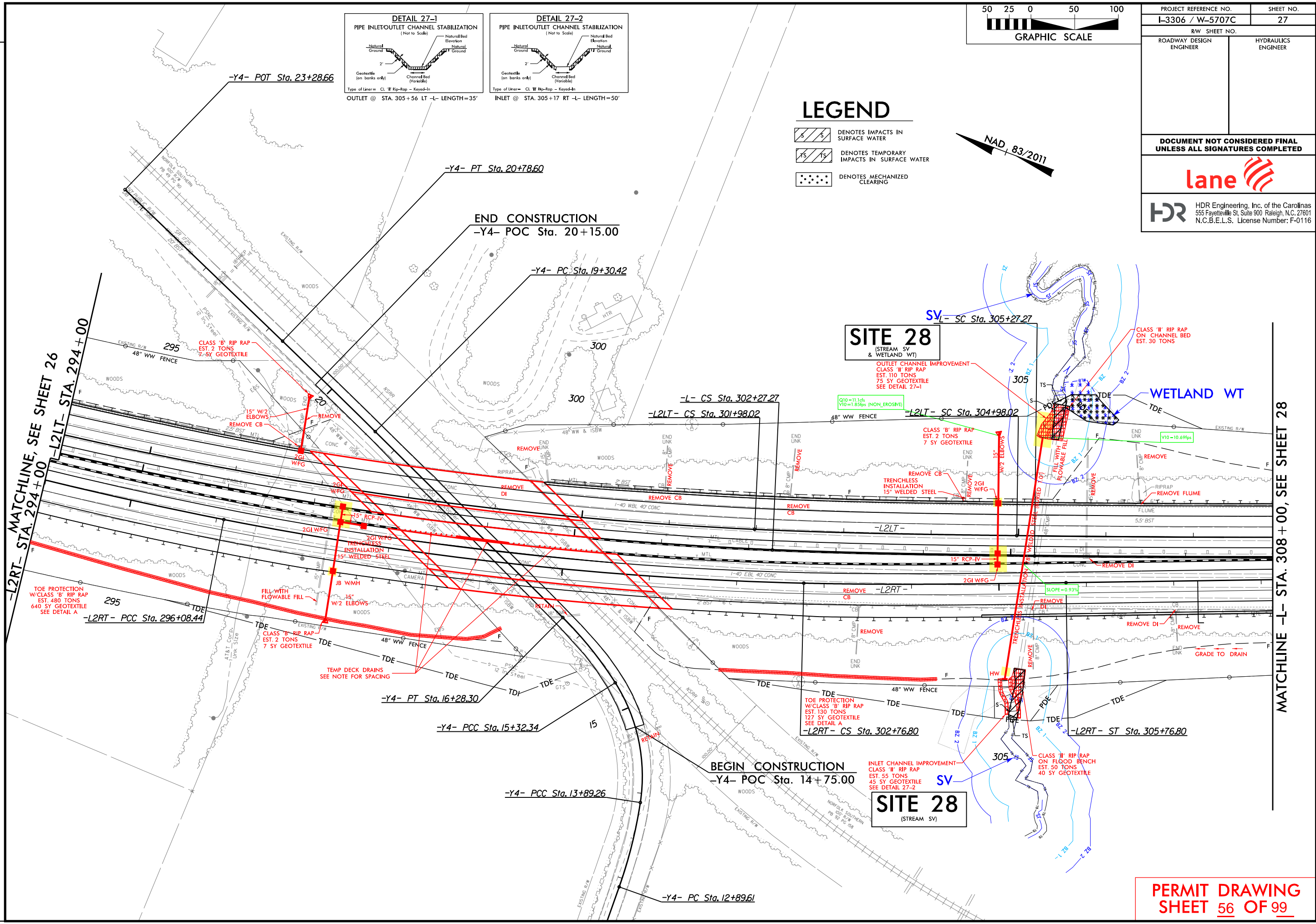
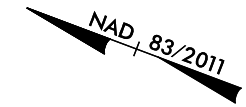
REVISIONS



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 27
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

### LEGEND

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



MATCHLINE - SEE SHEET 26  
-L2RT - STA. 294+00

MATCHLINE -L- STA. 308+00, SEE SHEET 28

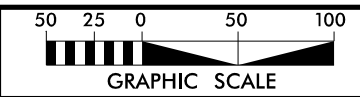
**SITE 28**  
(STREAM SV & WETLAND WT)

**SITE 28**  
(STREAM SV)

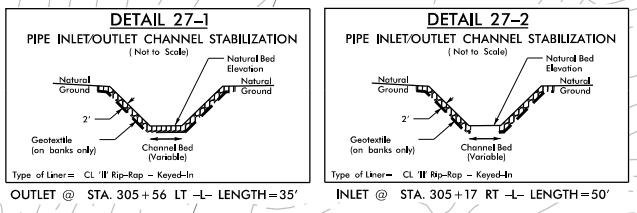
**PERMIT DRAWING  
SHEET 56 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NLOWACK  
 FILE: ... \Drawings\13306A.PRM-4C\_PSH.dgn  
 PENTABLE: NCDOT\_permits.NCON.tbl  
 DATE: 3/29/2022  
 TIME: 1:07:24 PM

REVISIONS

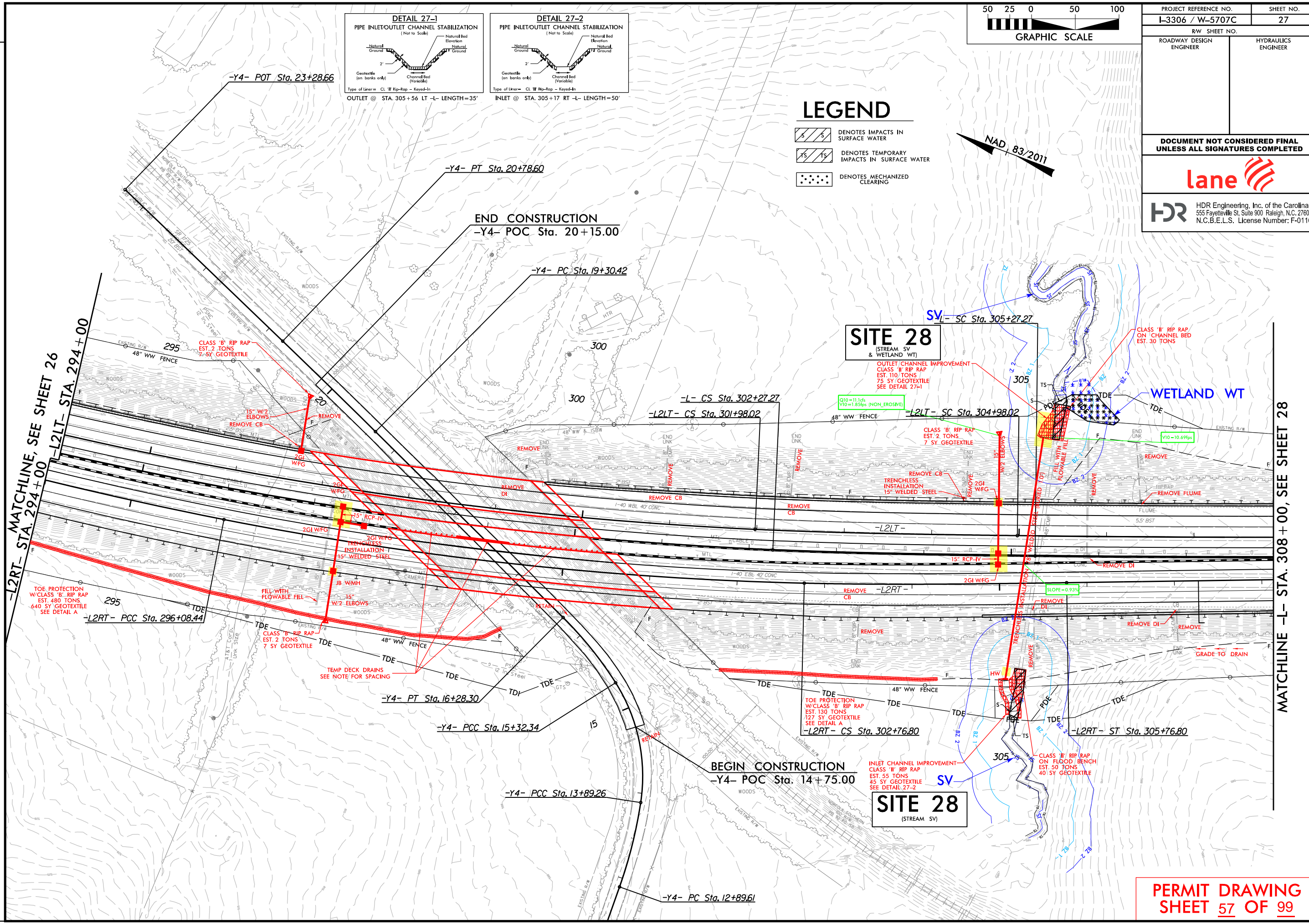


PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 27
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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### LEGEND

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



MATCHLINE - SEE SHEET 26  
-L2RT- STA. 294+00

MATCHLINE -L- STA. 308+00, SEE SHEET 28

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NLOWACK  
 DATE: 3/29/2022  
 TIME: 11:16:17 AM  
 FILE: ... \D:\rowings\13306A.PRM\_4C\_PSH.dgn

5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

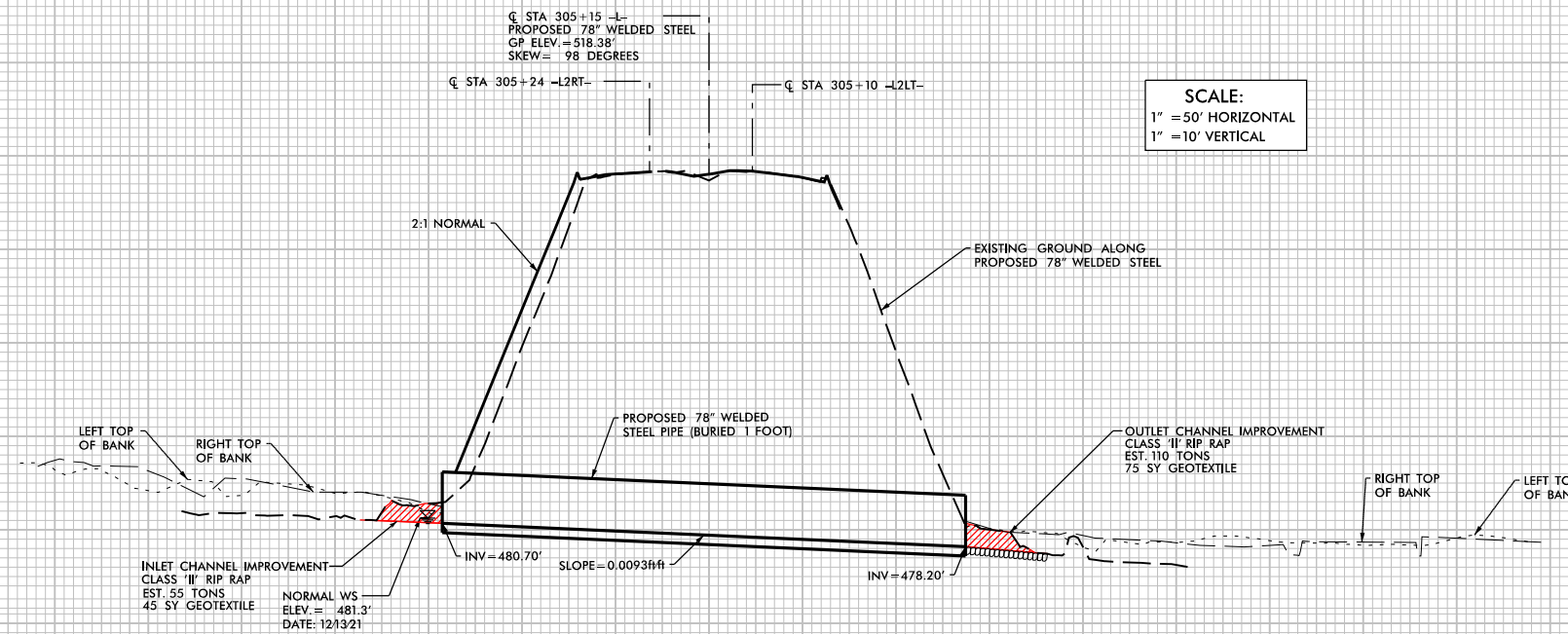
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

# SITE 28

200' 100' 0 100' 200' 300'

520  
510  
500  
490  
480

SCALE:  
1" = 50' HORIZONTAL  
1" = 10' VERTICAL



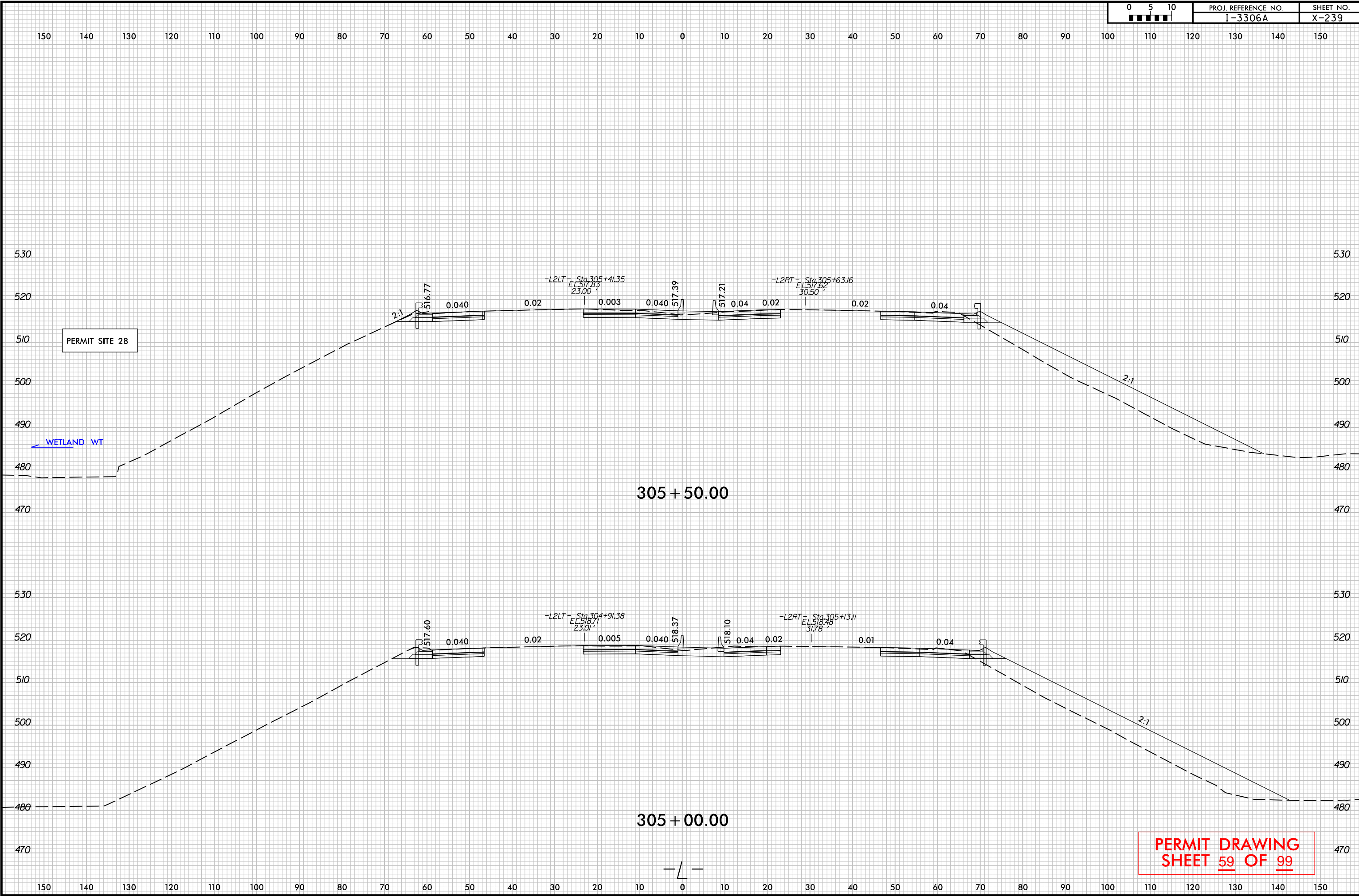
PROFILE ALONG STRUCTURE

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
PENTABLE: NCDOT\_PFL\_XSC.tbl  
USER: \_USERNAME\_ DATE: 3/29/2022 TIME: 4:00:19 PM  
FILE: I3306A\_PRM\_4C-L\_30515\_Site 28.dgn

PERMIT DRAWING  
SHEET 58 OF 99

8/23/99

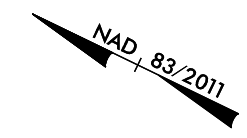
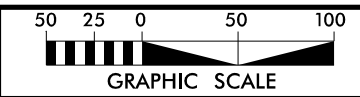
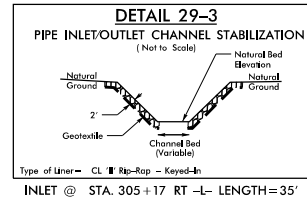
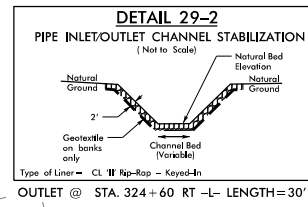
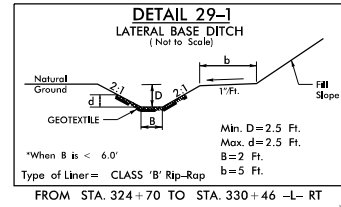


PLOT DRIVER: NCDOT\_pdf\_color\_eng\_100.plt  
 USER: \_USERNAME\_  
 FILE: \$FILE\$  
 PENTABLE: NCDOT\_PFL\_XSC.tbl  
 DATE: 3/30/2022  
 TIME: 1:43:51 PM

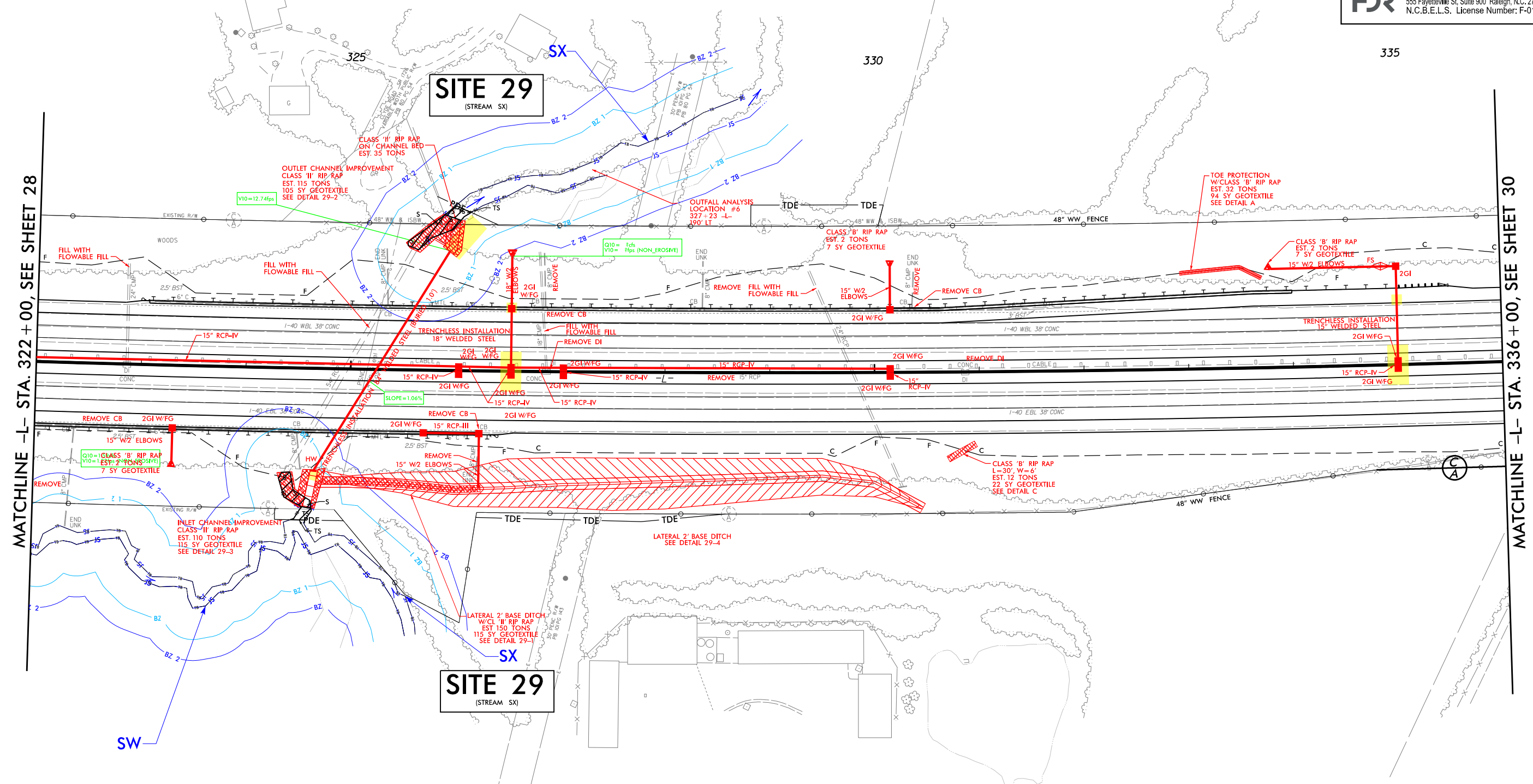
**PERMIT DRAWING**  
**SHEET 59 OF 99**

# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	



MATCHLINE -L- STA. 322 + 00, SEE SHEET 28

MATCHLINE -L- STA. 336 + 00, SEE SHEET 30

**SITE 29**  
(STREAM SX)

**SITE 29**  
(STREAM SX)

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NIMOWACK  
DATE: 3/29/2022  
TIME: 1:07:44 PM  
FILE: ... \ndrawing\13306A.PRM\_4C\_PSH.dgn

PERMIT DRAWING  
SHEET 60 OF 99



5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116

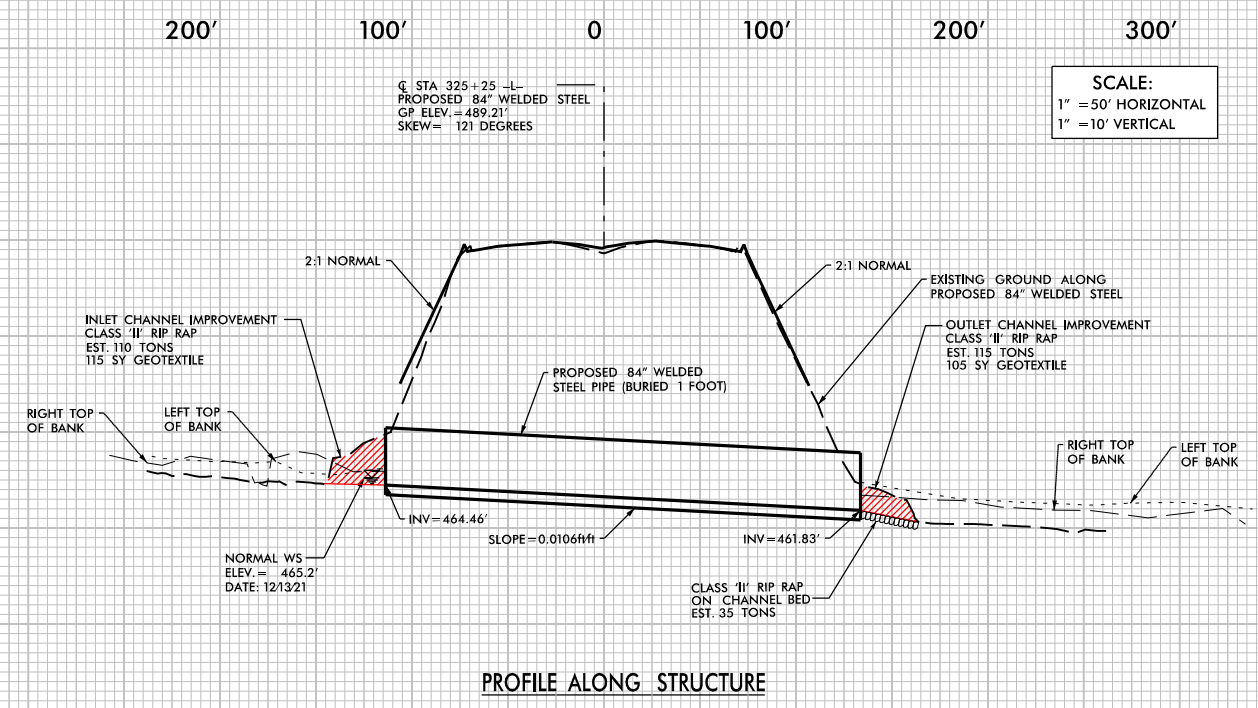


PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER  
HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

# SITE 29

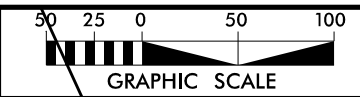


PROFILE ALONG STRUCTURE

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: -USERNAME-  
FILE: I3306A\_PRM\_4C-L\_32525\_Site 29.dgn  
DATE: 3/29/2022  
TIME: 4:00:28 PM

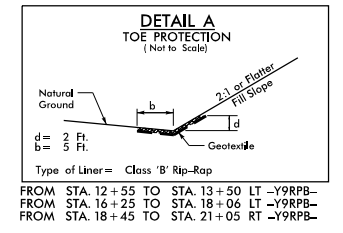
PERMIT DRAWING  
SHEET 62 OF 99



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 30
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

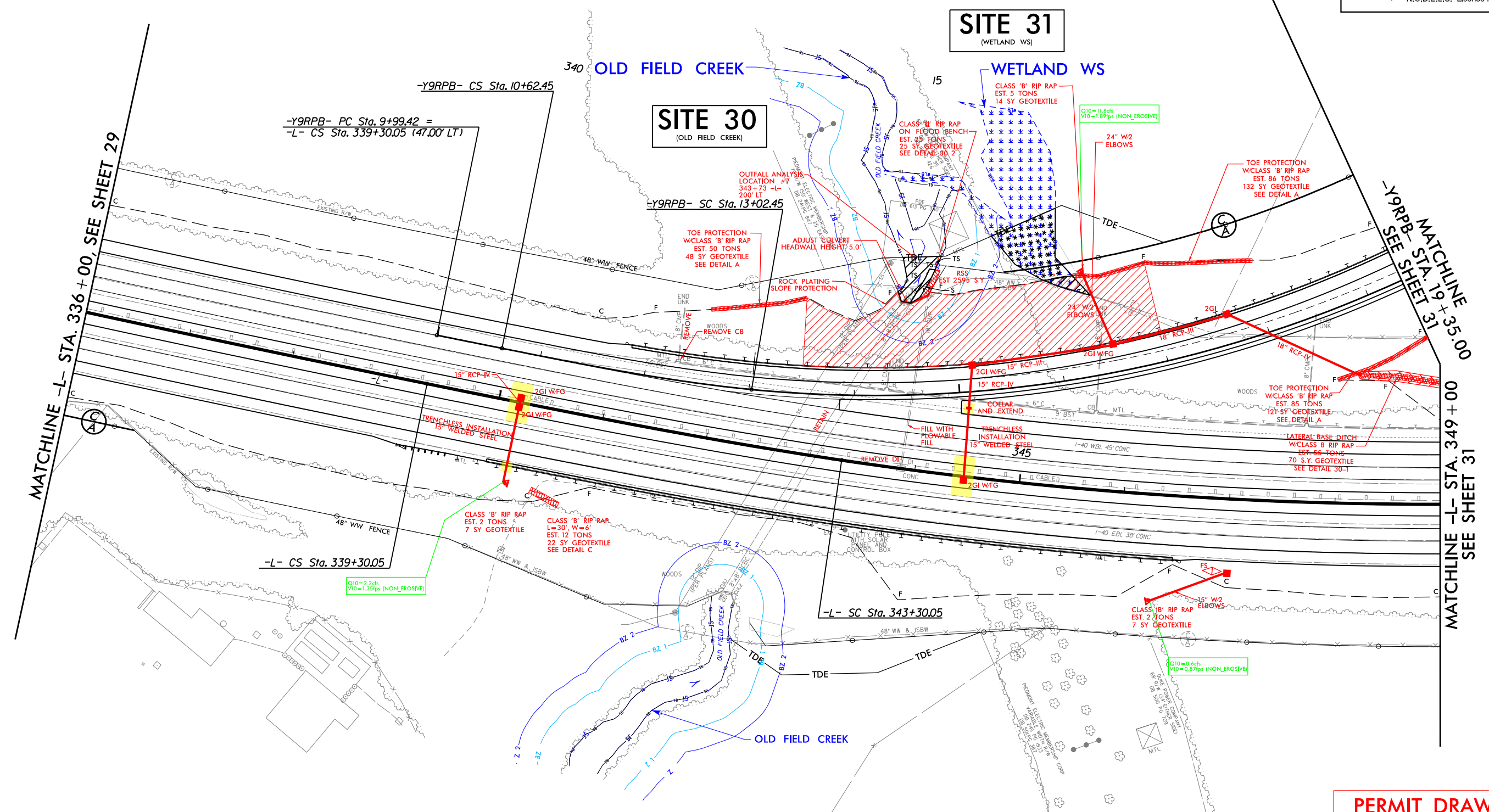
# LEGEND

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



**SITE 31**  
(WETLAND WS)

**SITE 30**  
(OLD FIELD CREEK)



**PERMIT DRAWING  
SHEET 63 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NLOWACK  
 DATE: 3/29/2022  
 TIME: 1:07:50 PM  
 FILE: ... \Drawings\13306A.PRM-4C.PSH.dgn

REVISIONS



5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



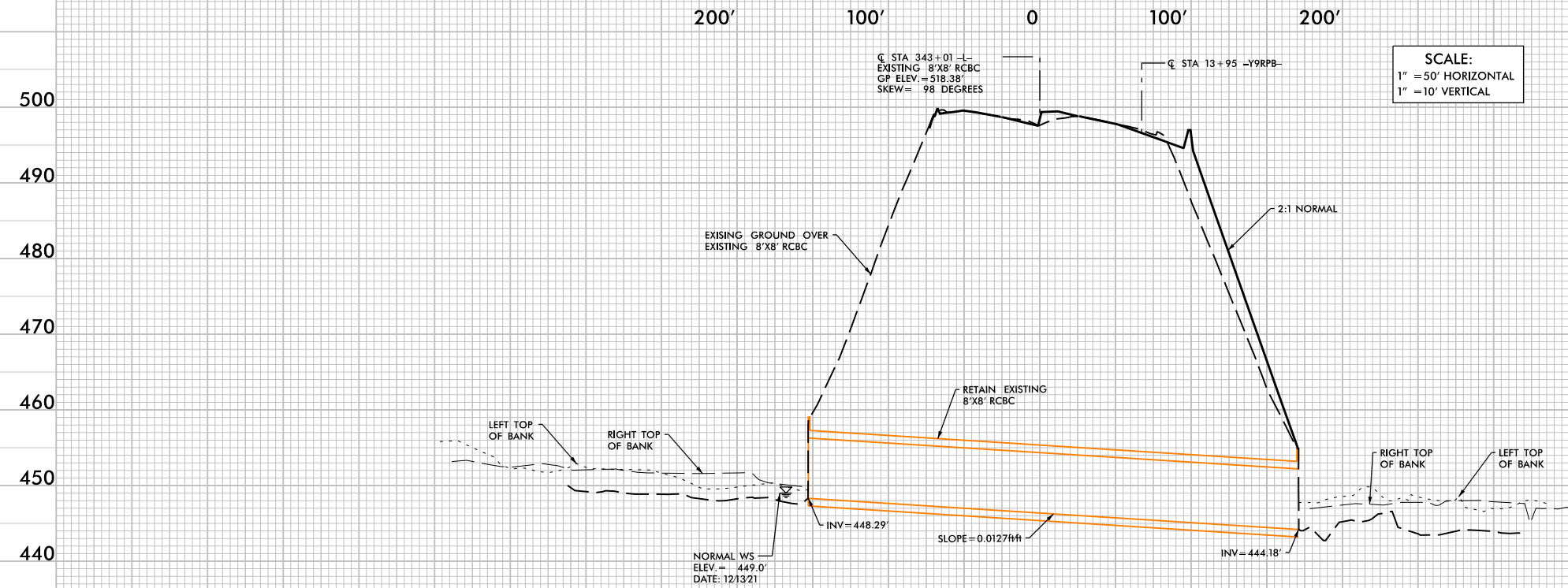
PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

### SITE 30



PROFILE ALONG STRUCTURE

PERMIT DRAWING  
SHEET 65 OF 99

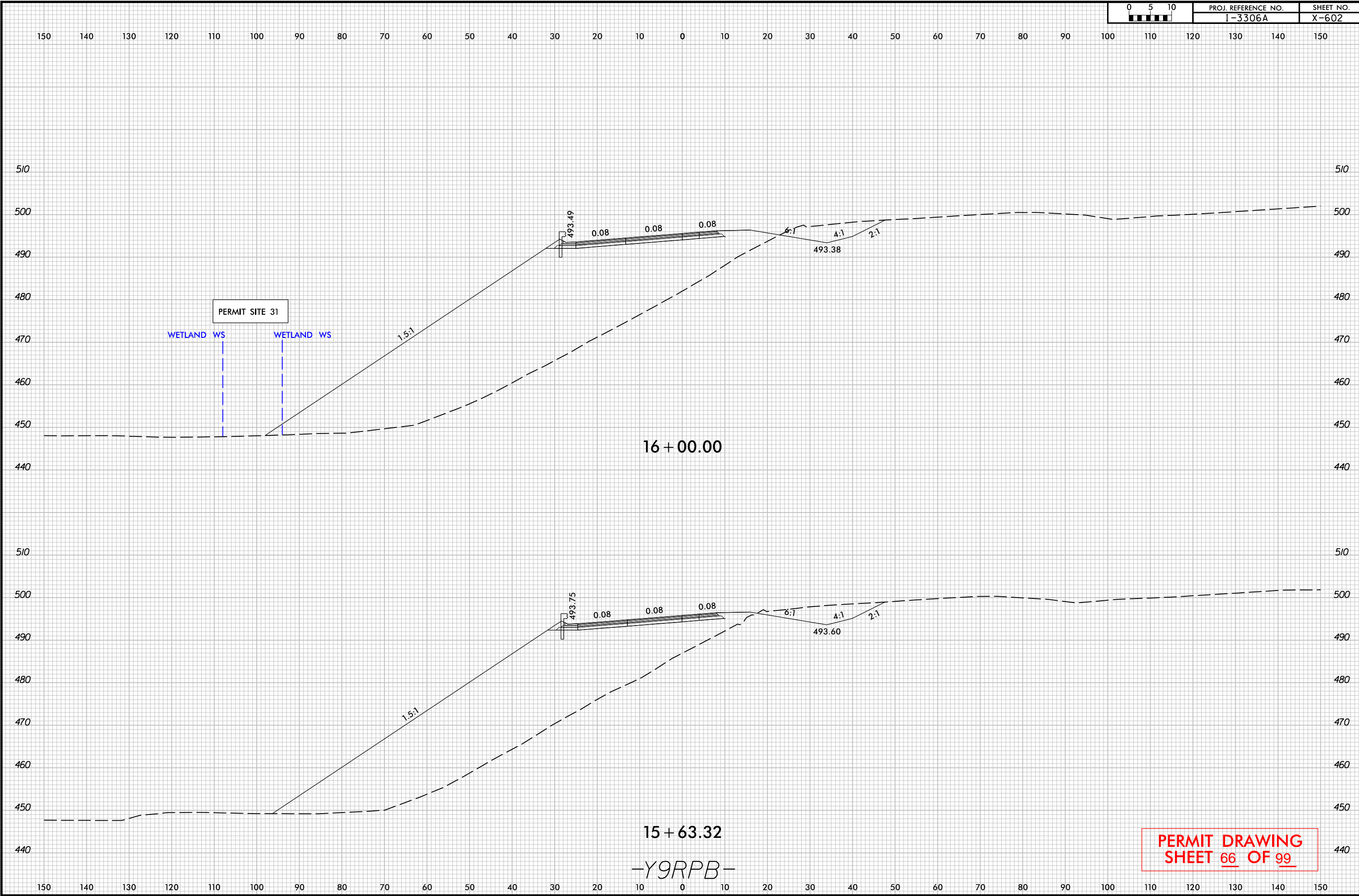
REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
PENTABLE: NCDOT\_PFL\_XSC.tbl  
USER: -USERNAME- DATE: 3/29/2022 TIME: 4:00:37 PM  
FILE: I3306A\_PRM\_4C-L\_34301\_Site\_30.dgn

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
I-3306A	X-602



PERMIT SITE 31

WETLAND WS

WETLAND WS

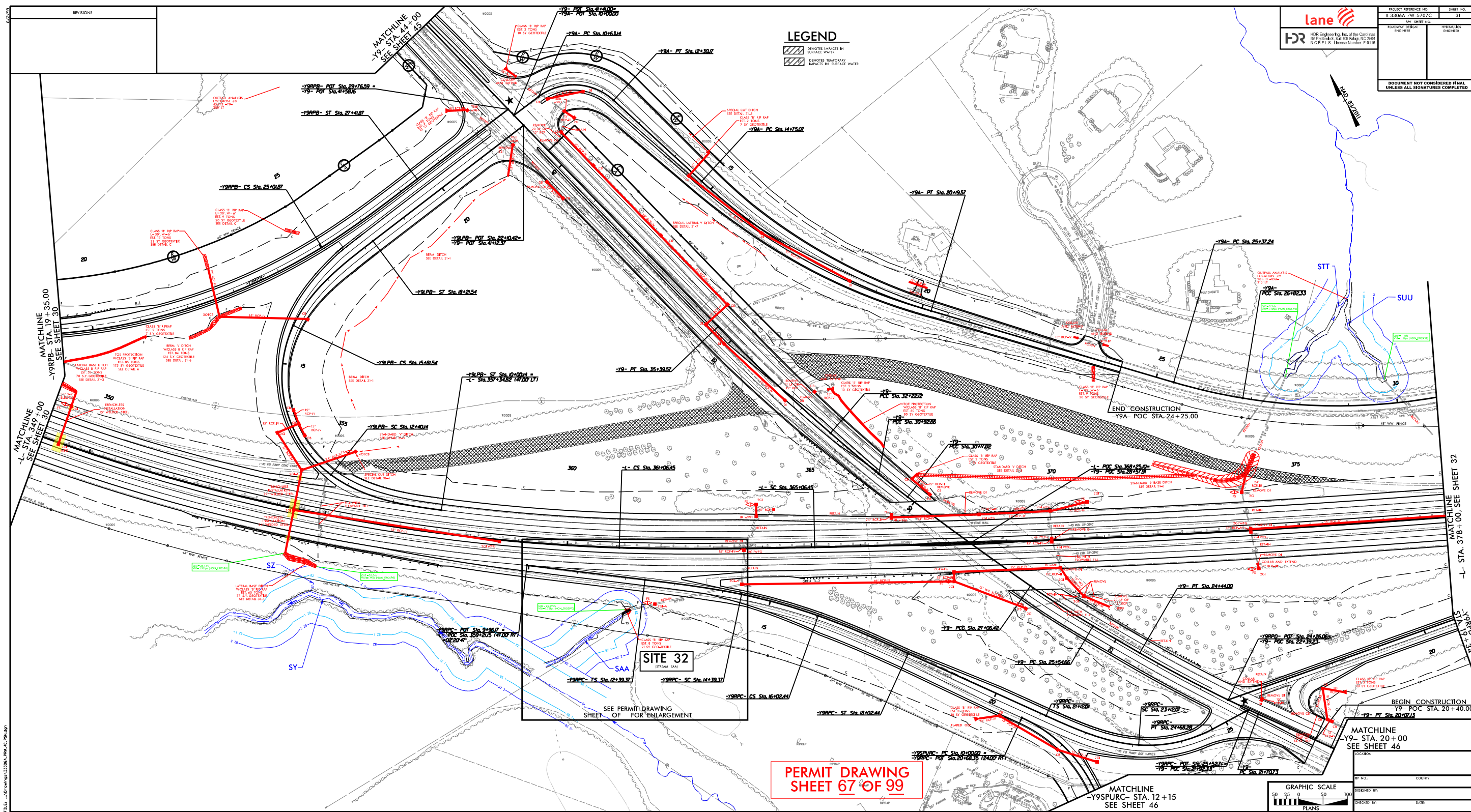
16 + 00.00

15 + 63.32

-Y9RPB-

**PERMIT DRAWING**  
**SHEET 66 OF 99**

PLOT DRIVER: NCDOT\_ncdot\_color\_eng\_100.plt  
 USER: \_USERNAME\_  
 FILE: \$FILE\$  
 PENTABLE: NCDOT\_PFL\_XSC.tbl  
 DATE: 3/29/2022  
 TIME: 2:14:35 PM



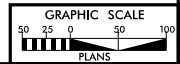
**LEGEND**

- DENOTES IMPACTS IN SURFACE WATER
- REMOVES TEMPORARY IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. I-3350A JW-5707C	SHEET NO. 31
ROADWAY DESIGN ENGINEER	MECHANICAL ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PLOT: D:\PLOT\12021.DWG (12/20/2022) 11:45:11 AM  
 USER: H2R\H2R  
 PLOT: D:\PLOT\12021.DWG (12/20/2022) 11:45:11 AM



BEGIN CONSTRUCTION  
 -Y9- POC STA. 20+40.00  
 MATCHLINE  
 -Y9- STA. 20+00  
 SEE SHEET 46  
 LOCATION:

MATCHLINE  
 -Y9SPURC- STA. 12+15  
 SEE SHEET 46

MATCHLINE  
 -L- STA. 378+00 SEE SHEET 32

MATCHLINE  
 -L- STA. 249+00 SEE SHEET 30

REVISIONS

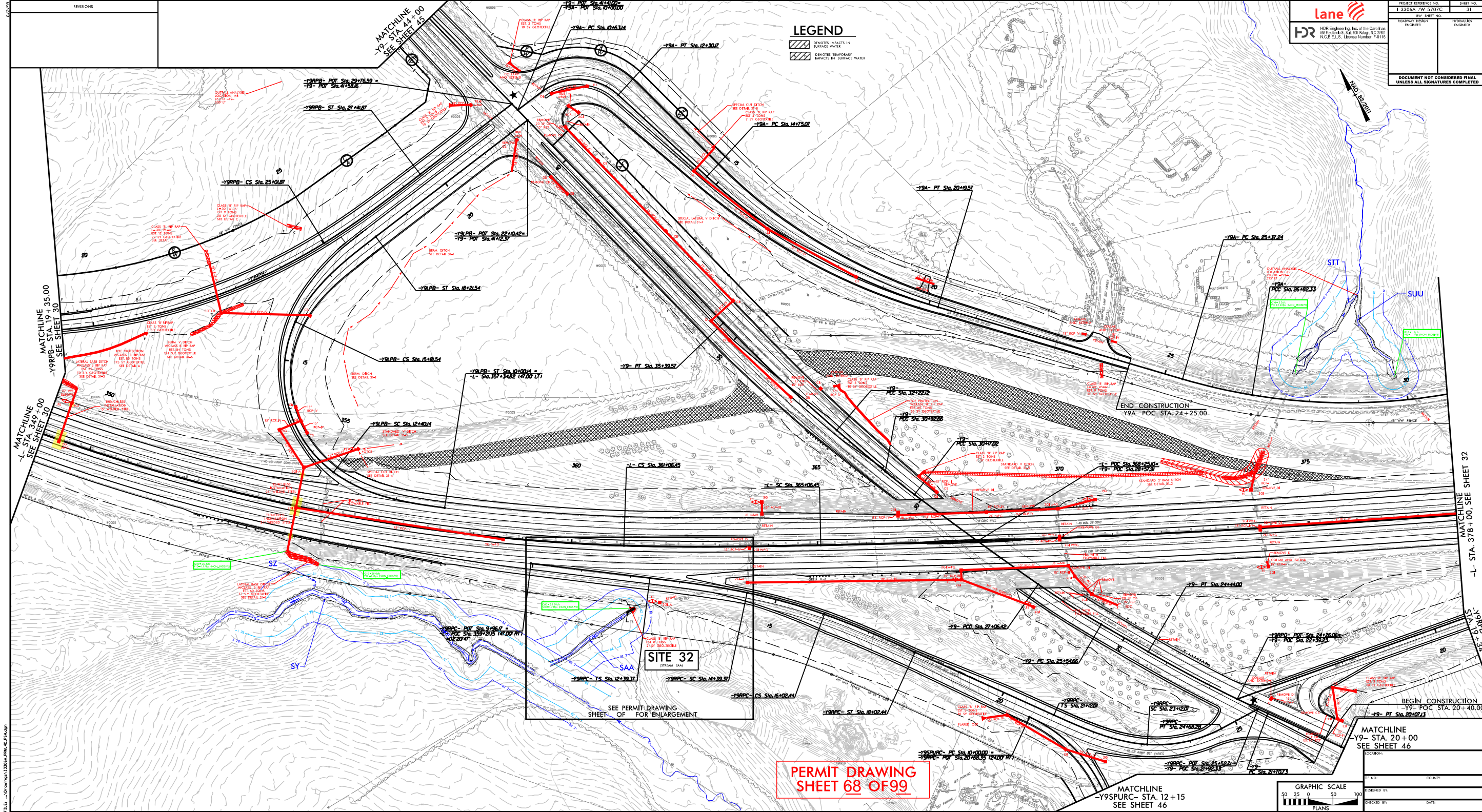
NO.	REVISIONS

**lane**  
**HDR**  
 HDR Engineering, Inc. of the Carolinas  
 555 Fayetteville St., Suite 100 Raleigh, NC 27601  
 N.C.S.E.L.S. License Number: F-0116

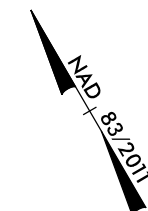
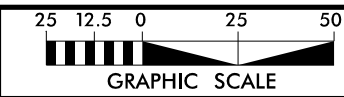
PROJECT REFERENCE NO. I-3350A JW-5707C	SHEET NO. 31
ROADWAY DESIGN ENGINEER	ROADWAY ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

**LEGEND**

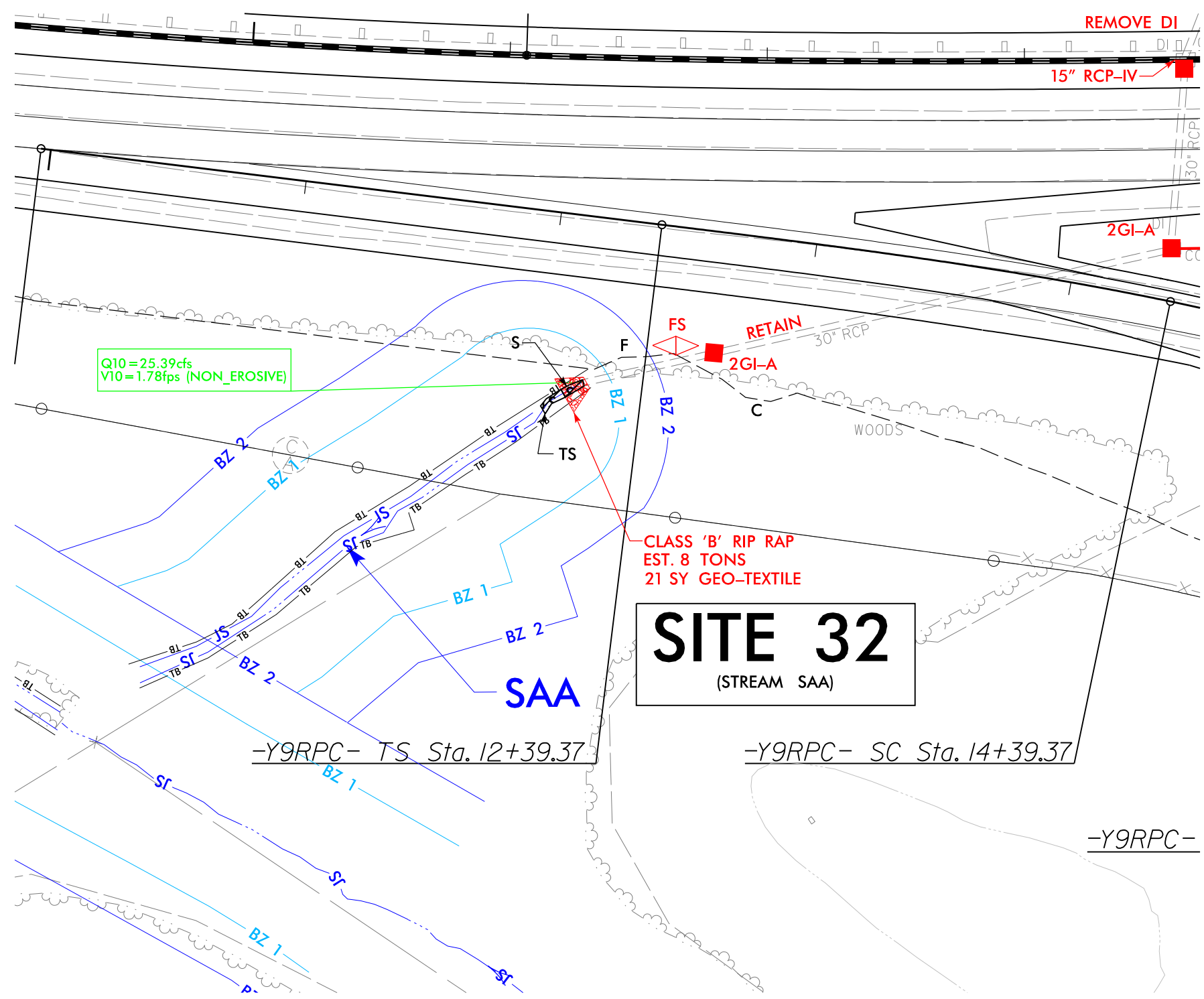
- DEMOTES IMPACTS IN SURFACE WATER
- REMOVES TEMPORARY IMPACTS IN SURFACE WATER



PLOT: D:\PLOT\12001\_PLOT\_00000.dwg, 11/14/2024, 11:45:00 AM  
 USER: NIMRACK  
 PLOT DEVICE: HP DesignJet 3600PS  
 PLOT SCALE: 1/8" = 1'-0"



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 31A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

**SITE 32**  
(STREAM SAA)

Q10 = 25.39cfs  
V10 = 1.78fps (NON\_EROSIVE)

**PERMIT DRAWING  
SHEET 69 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NLOWACK  
 FILE: ... \drawings\13306A\_PRM\_4C\_PSH.dgn  
 PENTABLE: NCDOT\_permits.NCON.tbl  
 DATE: 3/29/2022  
 TIME: 1:08:01 PM

REVISIONS

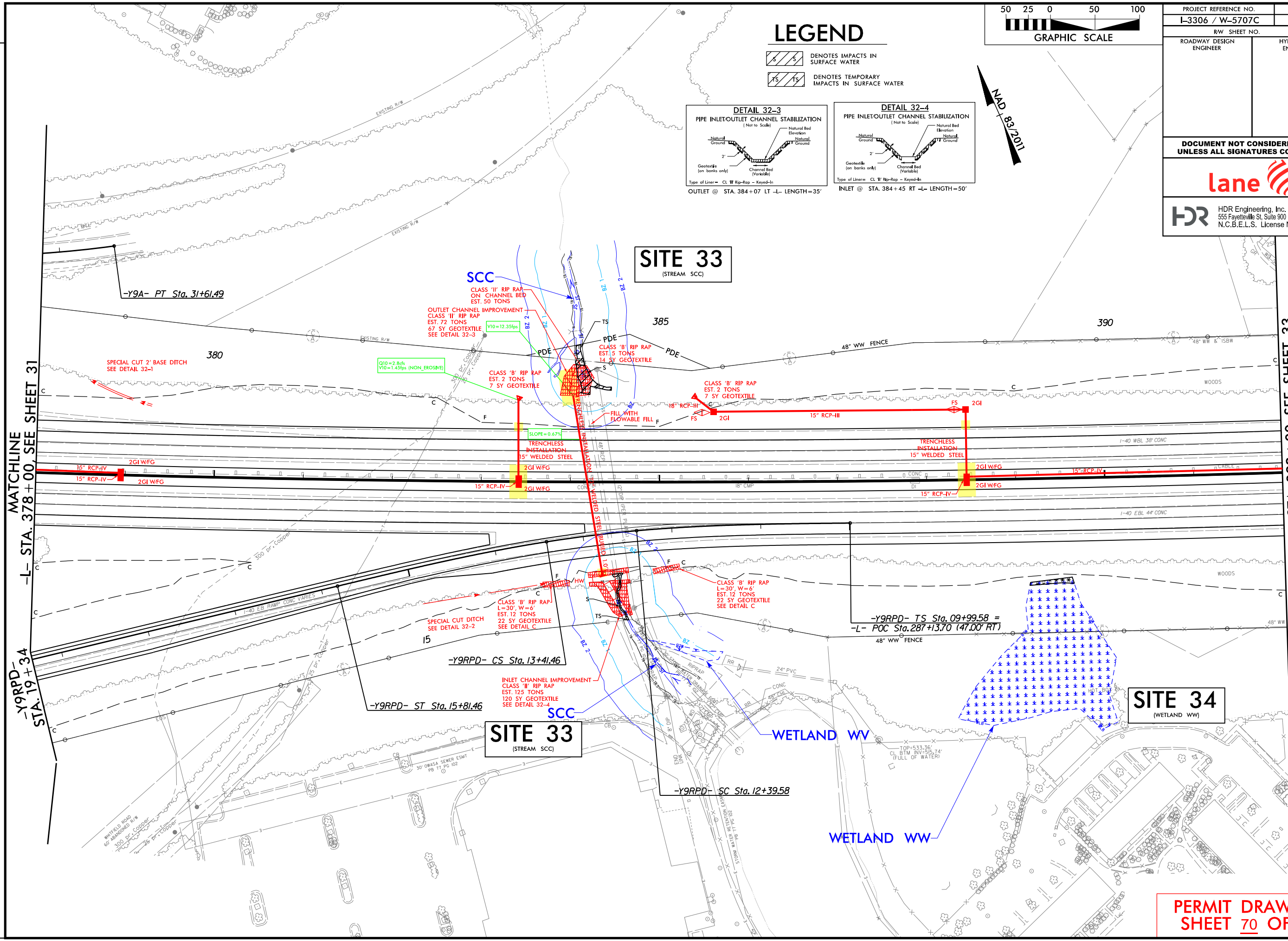
PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NLOWACK  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

PENTABLE: NCDOT\_permits.NCON.tbl  
 DATE: 3/29/2022  
 TIME: 1:08:06 PM

REVISIONS

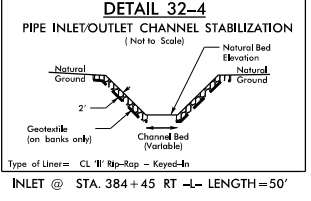
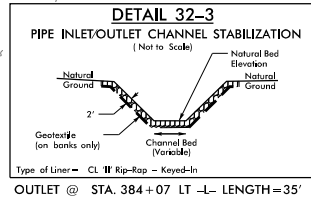
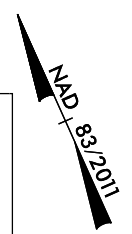
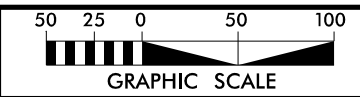
MATCHLINE -L- STA. 378+00, SEE SHEET 31  
 -Y9RPD- STA. 19+34

MATCHLINE -L- STA. 392+00, SEE SHEET 33



### LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



**SITE 33**  
(STREAM SCC)

**SITE 34**  
(WETLAND WW)

**PERMIT DRAWING**  
**SHEET 70 OF 99**

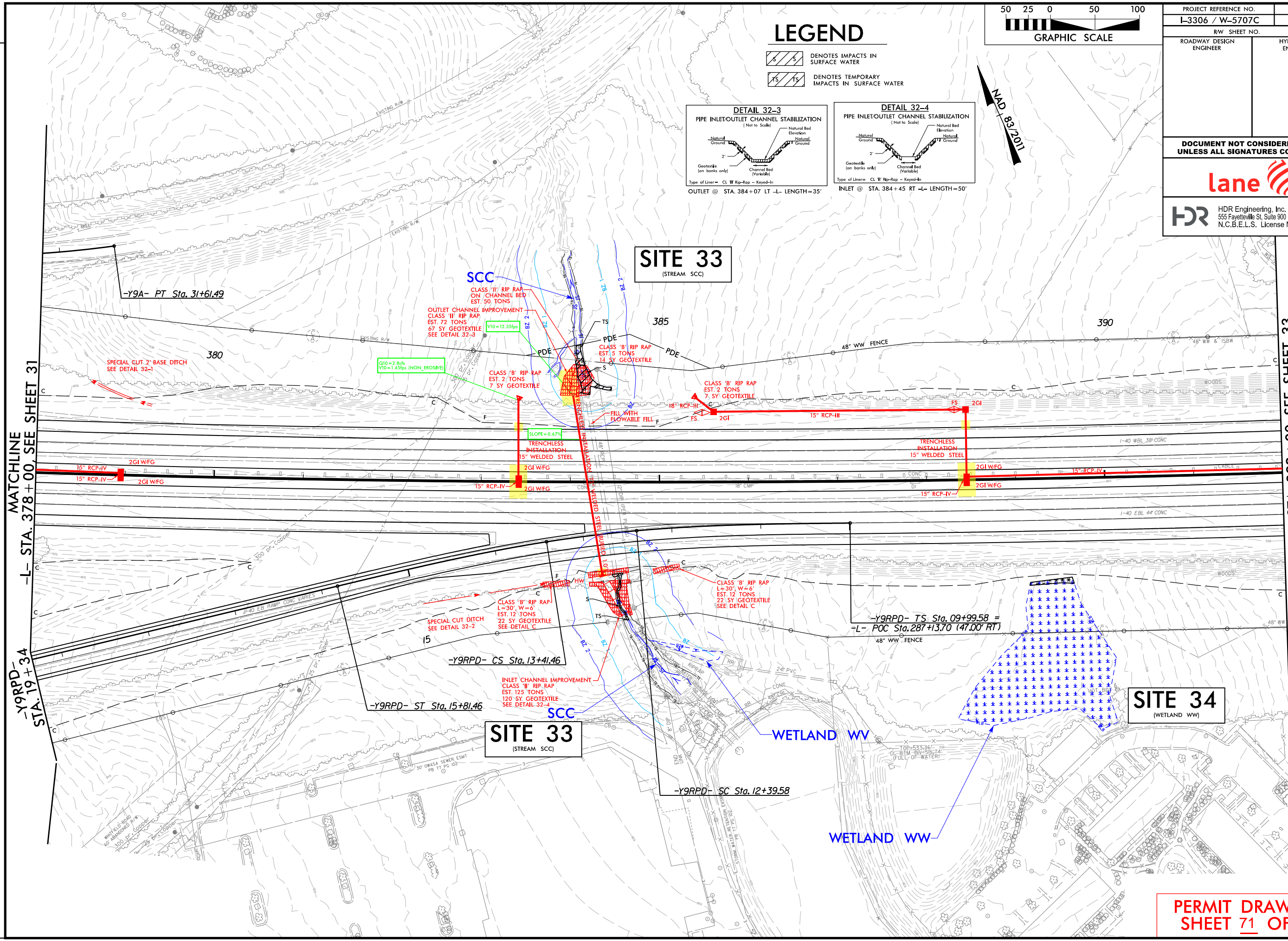
PLOT DRIVER: NCDOT\_pdf\_color\_eng\_100.plt  
 USER: NLOWACK  
 FILE: ... \Drawings\13306A.PRM-4C.PSH.dgn

PENTABLE: NCDOT\_permits.CON.tbl  
 TIME: 11:16:49 AM  
 DATE: 3/29/2022

REVISIONS

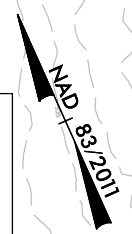
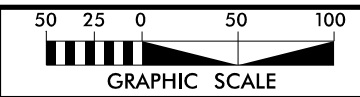
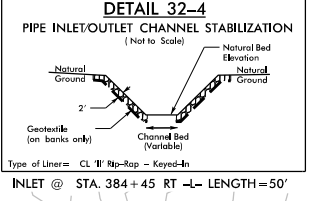
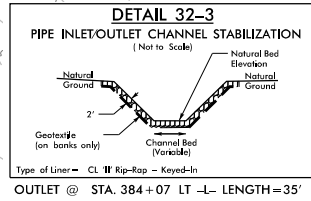
MATCHLINE -L- STA. 378+00, SEE SHEET 31  
 -Y9RPD- STA. 19+34

MATCHLINE -L- STA. 392+00, SEE SHEET 33



**LEGEND**

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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**PERMIT DRAWING**  
**SHEET 71 OF 99**

5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



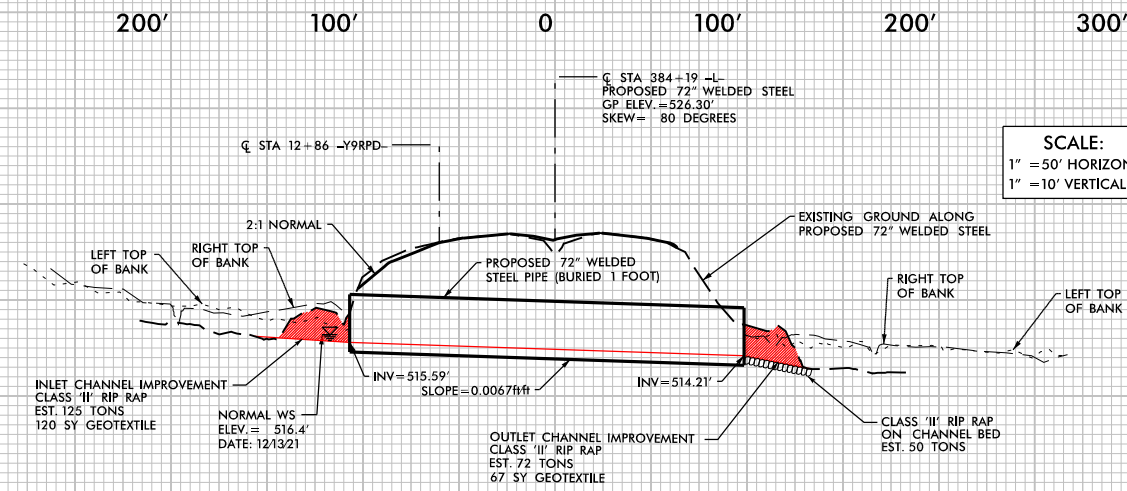
PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

### SITE 33

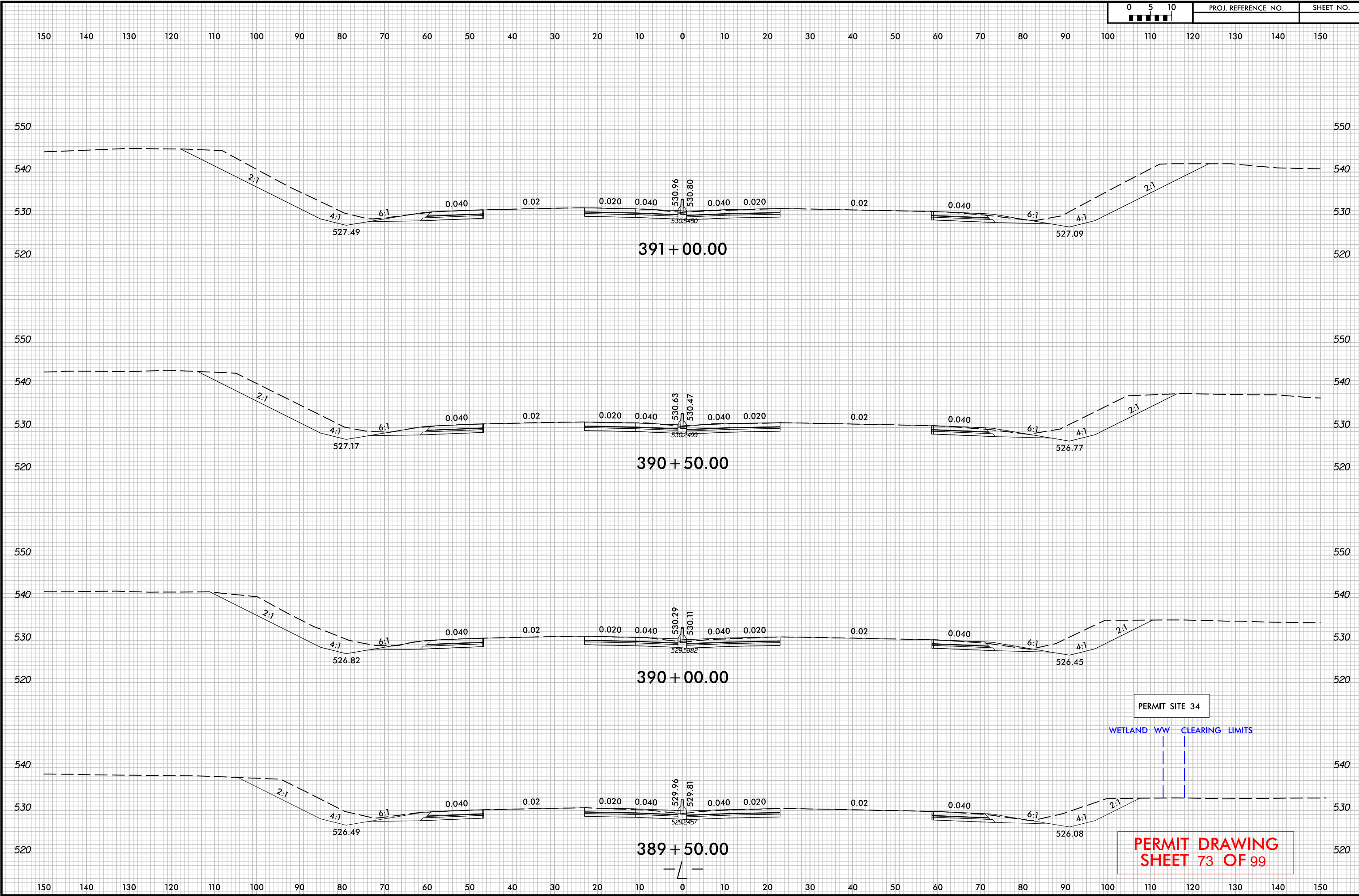


PROFILE ALONG STRUCTURE




REVISIONS

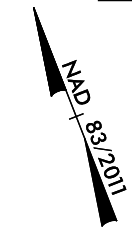
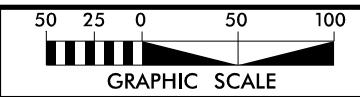
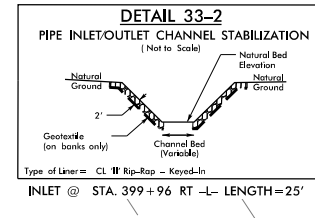
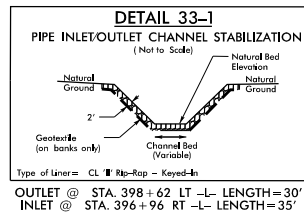
PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
PENTABLE: NCDOT\_PFL\_XSC.tbl  
USER: -USERNAME- DATE: 3/29/2022 TIME: 4:00:47 PM  
FILE: I3306A\_PRM\_4C-L\_38419\_Site\_33.dgn



PERMIT DRAWING  
SHEET 72 OF 99



# LEGEND

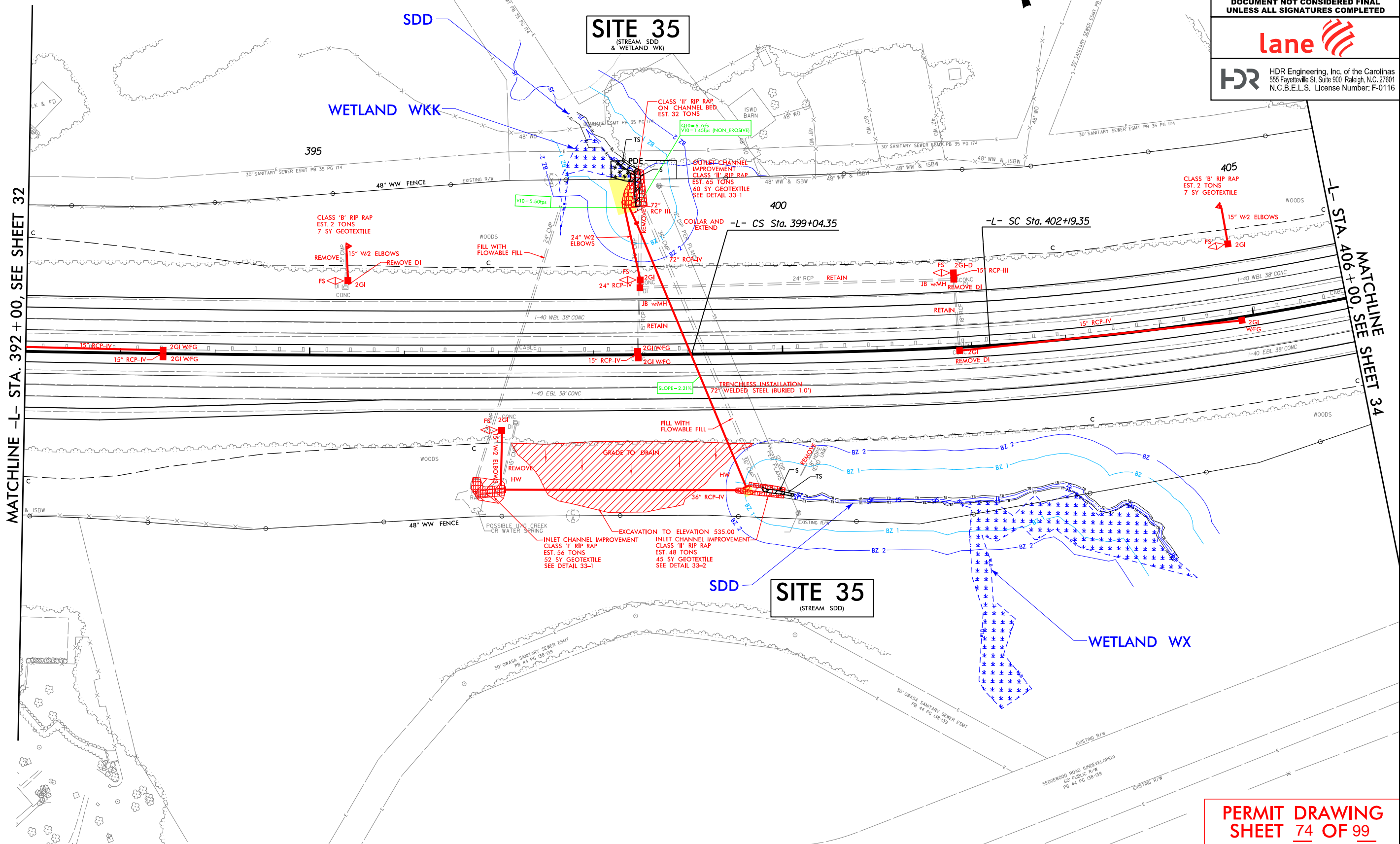
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES MECHANIZED CLEARING



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 33
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	
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MATCHLINE -L- STA. 392 + 00, SEE SHEET 32

MATCHLINE SHEET 34  
-L- STA. 406 + 00, SEE SHEET 34






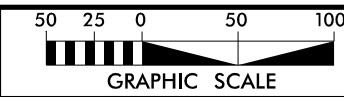
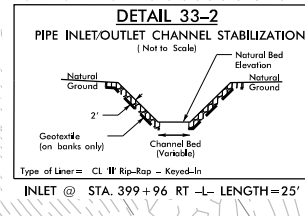
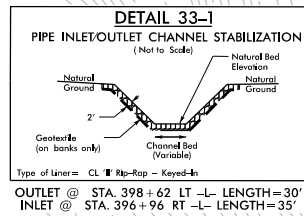
PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NIMOWACK  
 FILE: ... \Drawings\13306A\_PRM\_4C\_PSH.dgn  
 PENTABLE: NCDOT\_permits.NCON.tbl  
 DATE: 3/29/2022  
 TIME: 1:08:12 PM



REVISIONS

PERMIT DRAWING  
SHEET 74 OF 99

# LEGEND

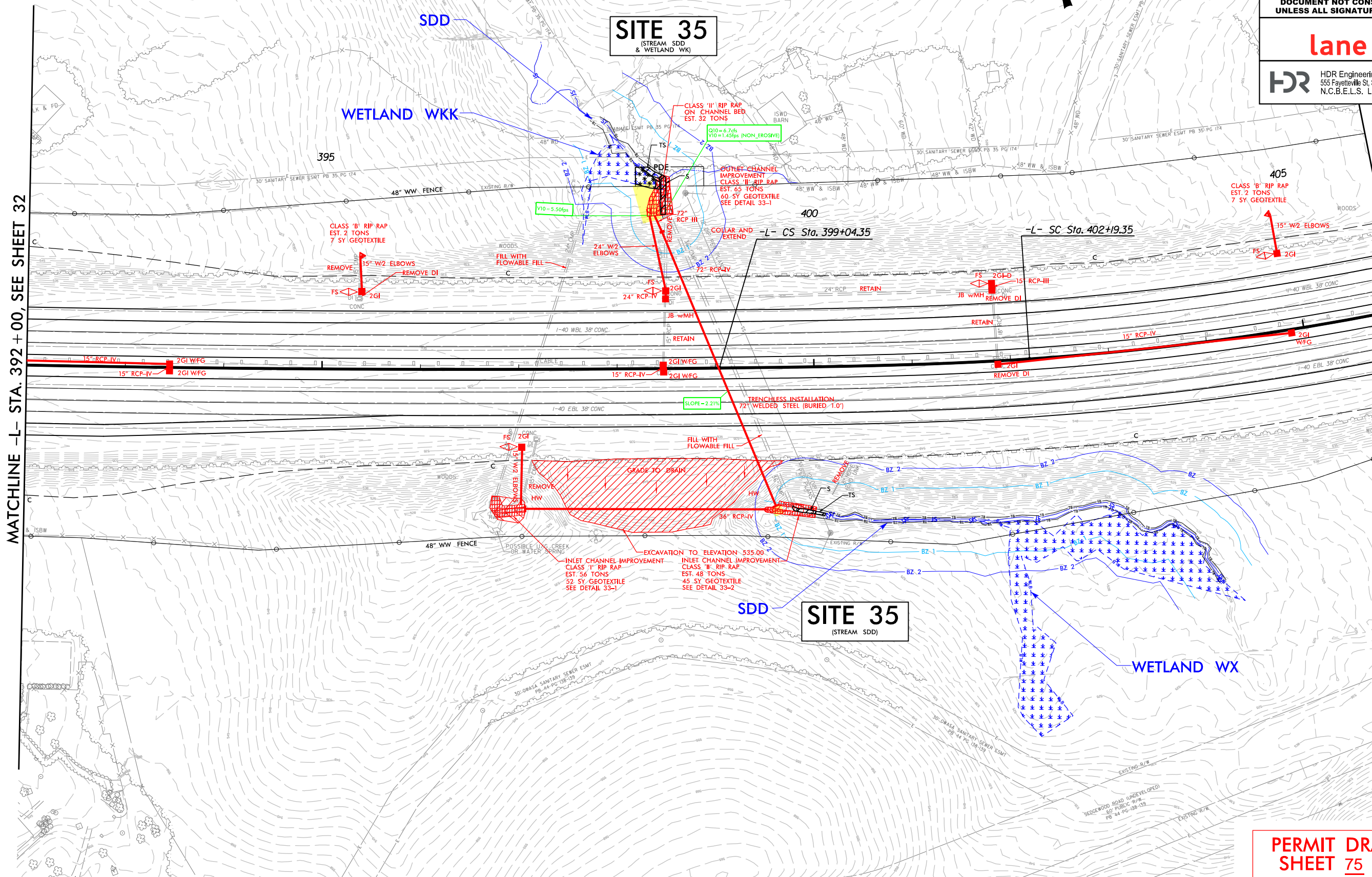
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES MECHANIZED CLEARING



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 33
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	
 HDR Engineering, Inc. of the Carolinas 555 Fayetteville St. Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

MATCHLINE -L- STA. 392+00, SEE SHEET 32

MATCHLINE STA. 406+00, SEE SHEET 34



**SITE 35**  
(STREAM SDD & WETLAND WK)

**SITE 35**  
(STREAM SDD)

**PERMIT DRAWING  
SHEET 75 OF 99**

PLOT DRIVER: NCDOT\_permit\_color\_eng\_100.plt  
 USER: NCDOT  
 DATE: 3/29/2022  
 TIME: 11:16:56 AM  
 FILE: ... \Drawings\13306A\_PRM\_4C\_PSH.dgn

REVISIONS

5/14/99

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER



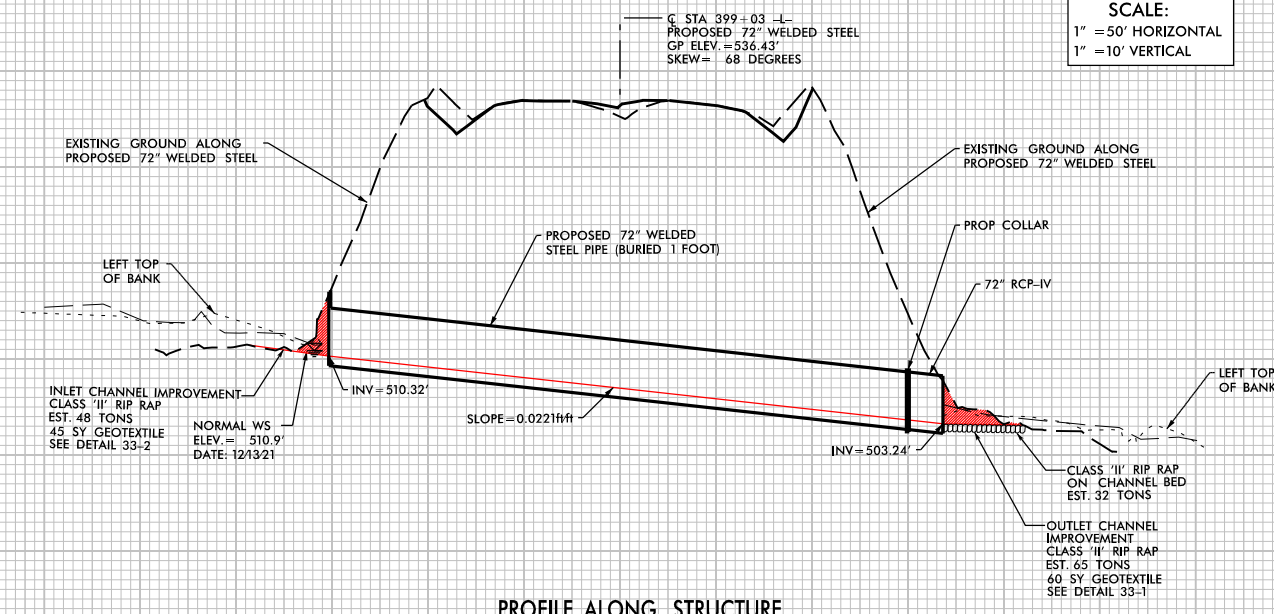
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

# SITE 35

200' 100' 0 100' 200' 300'

SCALE:  
1" = 50' HORIZONTAL  
1" = 10' VERTICAL

540  
530  
520  
510  
500





PROFILE ALONG STRUCTURE

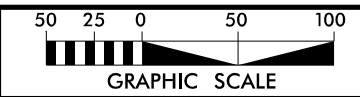
REVISIONS



PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: -USERNAME-  
FILE: I3306A\_PRM\_4C-L\_39903\_Site\_35.dgn  
DATE: 3/29/2022  
TIME: 4:00:56 PM

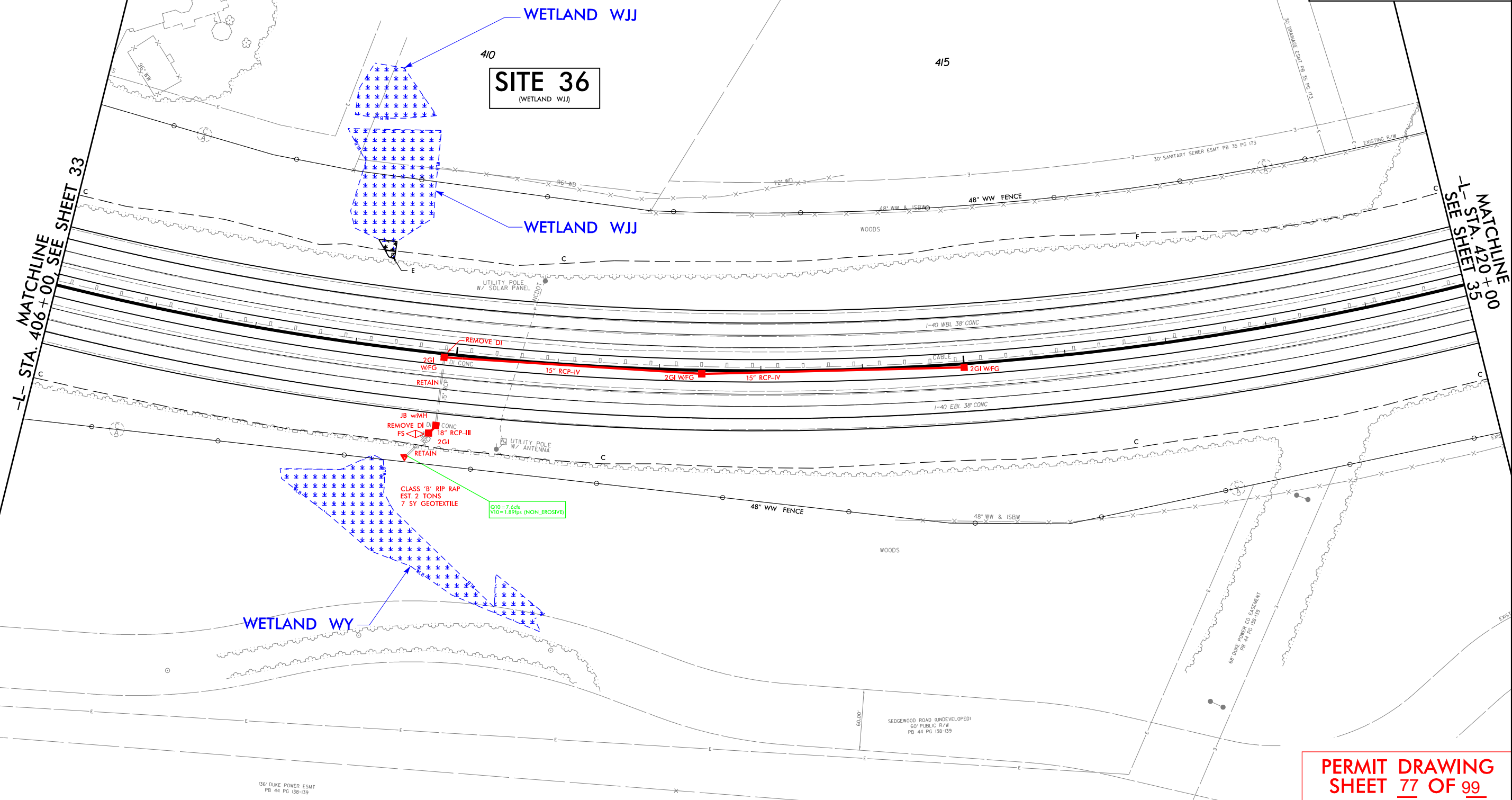
PERMIT DRAWING  
SHEET 76 OF 99

# LEGEND

-  DENOTES EXCAVATION IN WETLAND
-  DENOTES MECHANIZED CLEARING



PROJECT REFERENCE NO. <b>L-3306 / W-5707C</b>	SHEET NO. <b>34</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
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-L- STA. 406+00, SEE SHEET 33

MATCHLINE  
-L- STA. 420+00  
SEE SHEET 35

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: NLOWACK  
DATE: 3/29/2022  
TIME: 1:08:17 PM  
FILE: ... \Drawings\13306A\_PRM\_4C\_PSH.dgn



PERMIT DRAWING  
SHEET 77 OF 99

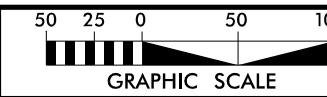
PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NMOACK  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

PENTABLE: NCDOT\_permits.CON.tbl  
 DATE: 3/29/2022  
 TIME: 11:17:03 AM



REVISIONS

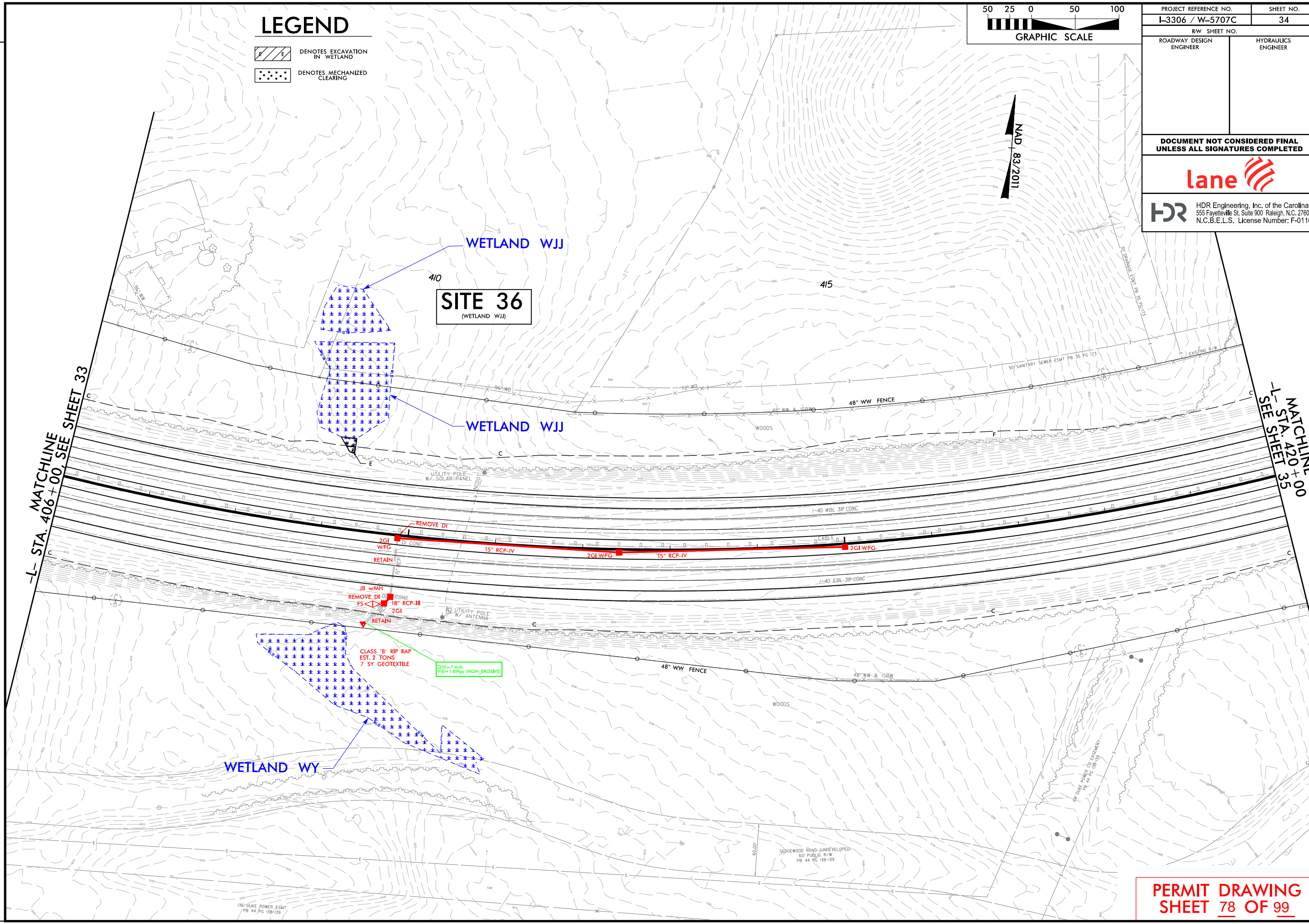
# LEGEND

-  DENOTES EXCAVATION IN WETLAND
-  DENOTES MECHANIZED CLEARING

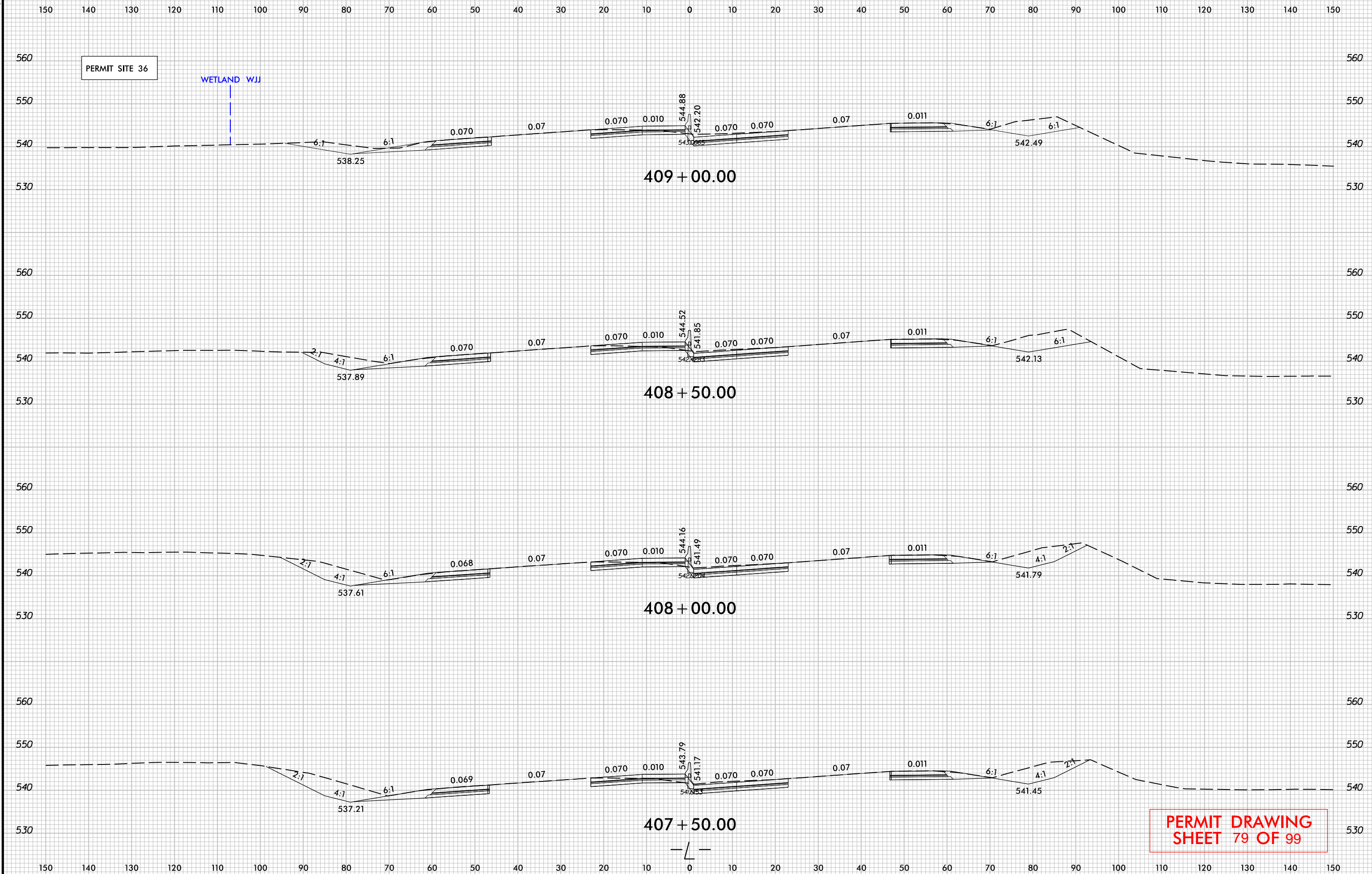


NAD 83/2011

PROJECT REFERENCE NO. <b>L-3306 / W-5707C</b>	SHEET NO. <b>34</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
 HDR Engineering, Inc. of the Carolinas 555 Fayetteville St. Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	



**PERMIT DRAWING SHEET 78 OF 99**



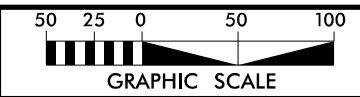
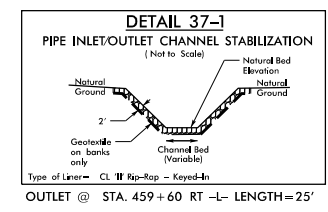
PERMIT SITE 36

WETLAND WJI

PERMIT DRAWING SHEET 79 OF 99

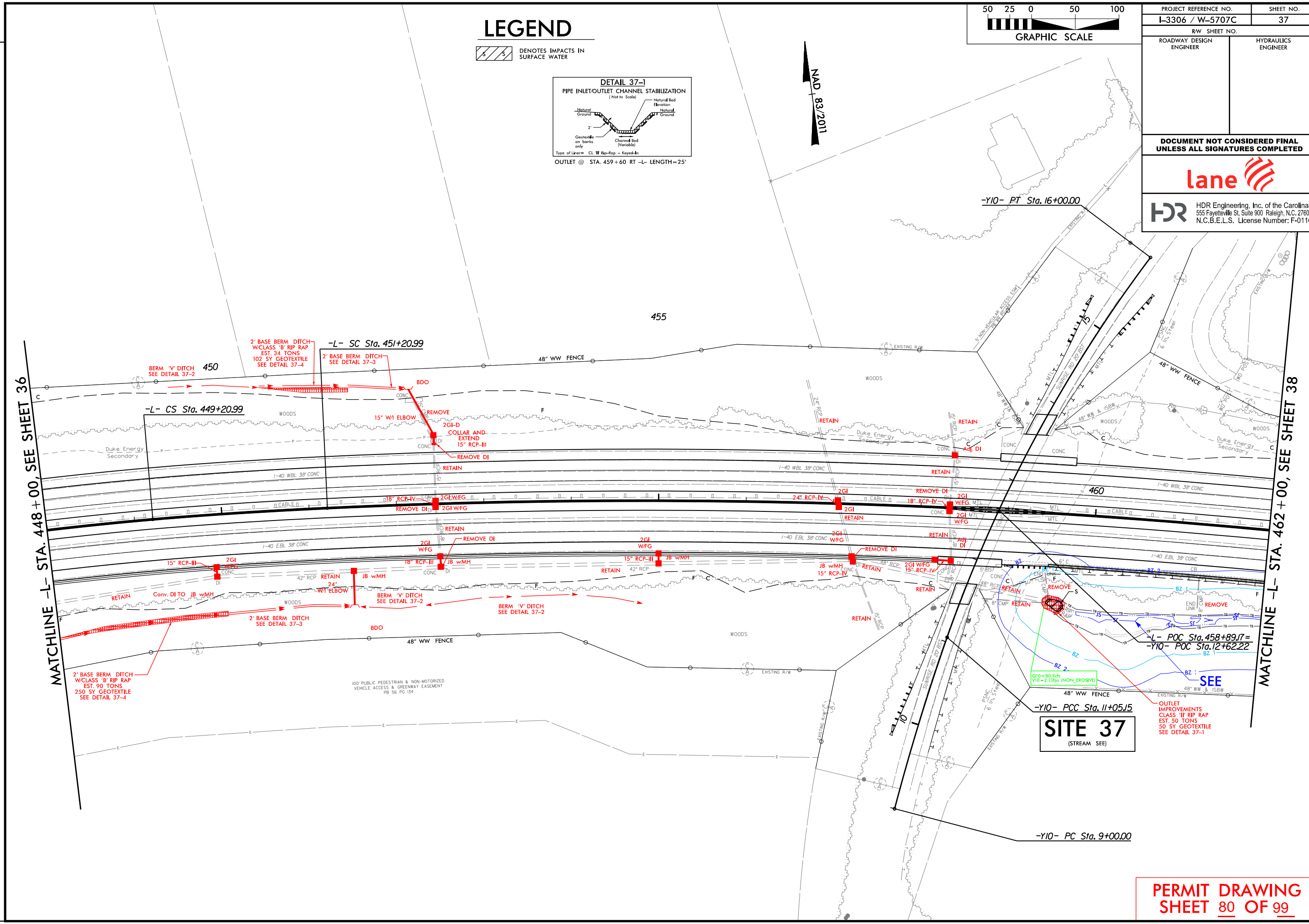
# LEGEND

DENOTES IMPACTS IN SURFACE WATER



NAD 83/2011

PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 37
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
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MATCHLINE -L- STA. 448+00, SEE SHEET 36

MATCHLINE -L- STA. 462+00, SEE SHEET 38

**SITE 37**  
(STREAM SEE)

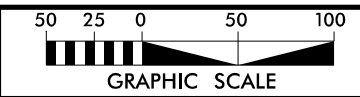
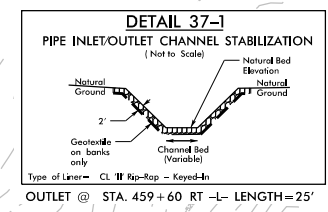
**PERMIT DRAWING  
SHEET 80 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NLOWACK  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn  
 PENTABLE: NCDOT\_permits.NCON.tbl  
 DATE: 3/29/2022  
 TIME: 1:08:23 PM

REVISIONS

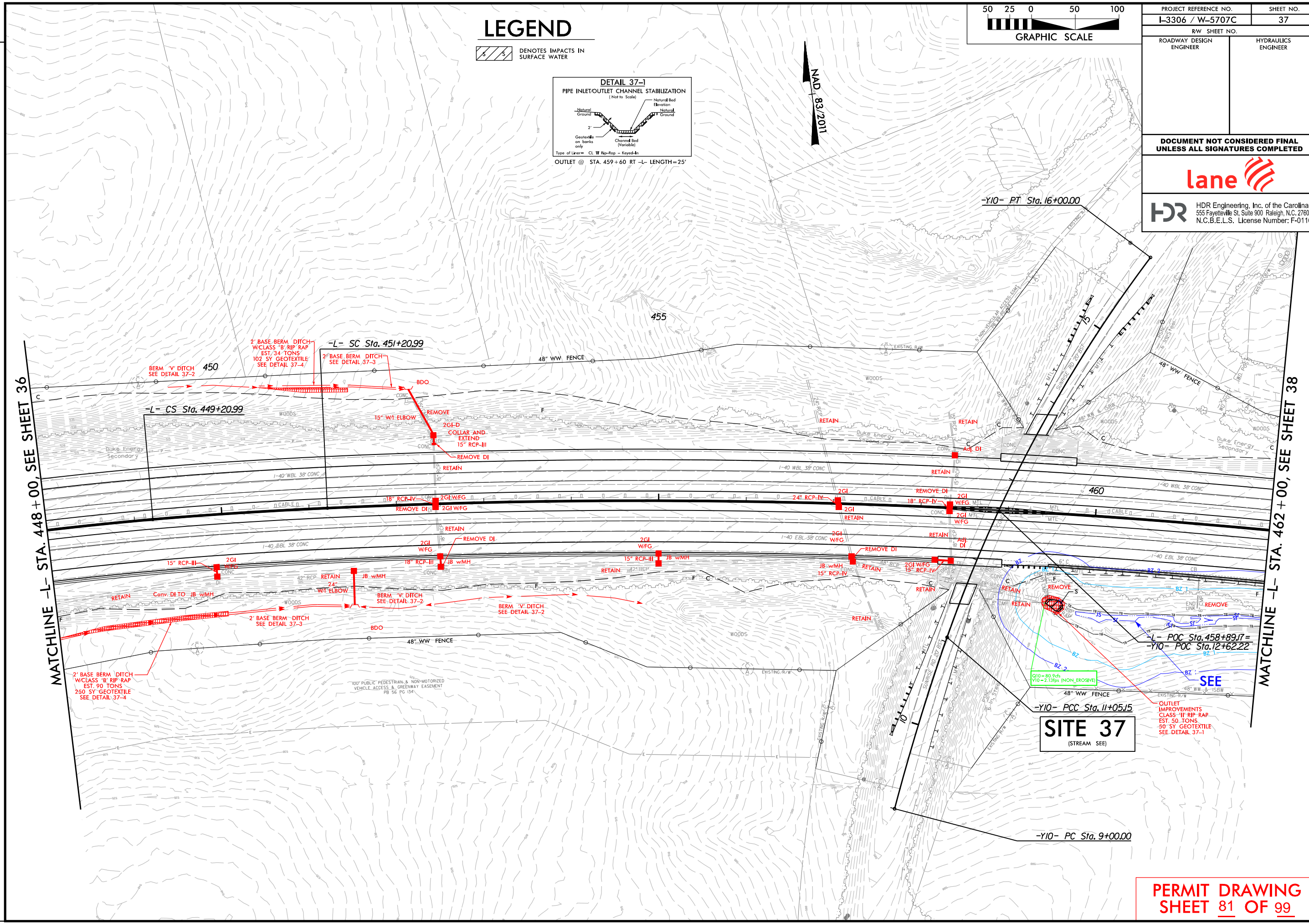
# LEGEND

DENOTES IMPACTS IN SURFACE WATER



NAD 83/2011

PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 37
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St. Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	



MATCHLINE -L- STA. 448+00, SEE SHEET 36

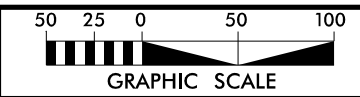
MATCHLINE -L- STA. 462+00, SEE SHEET 38

**SITE 37**  
(STREAM SEE)

**PERMIT DRAWING SHEET 81 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NLOWACK  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn  
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 TIME: 11:17:10 AM  
 DATE: 3/29/2022

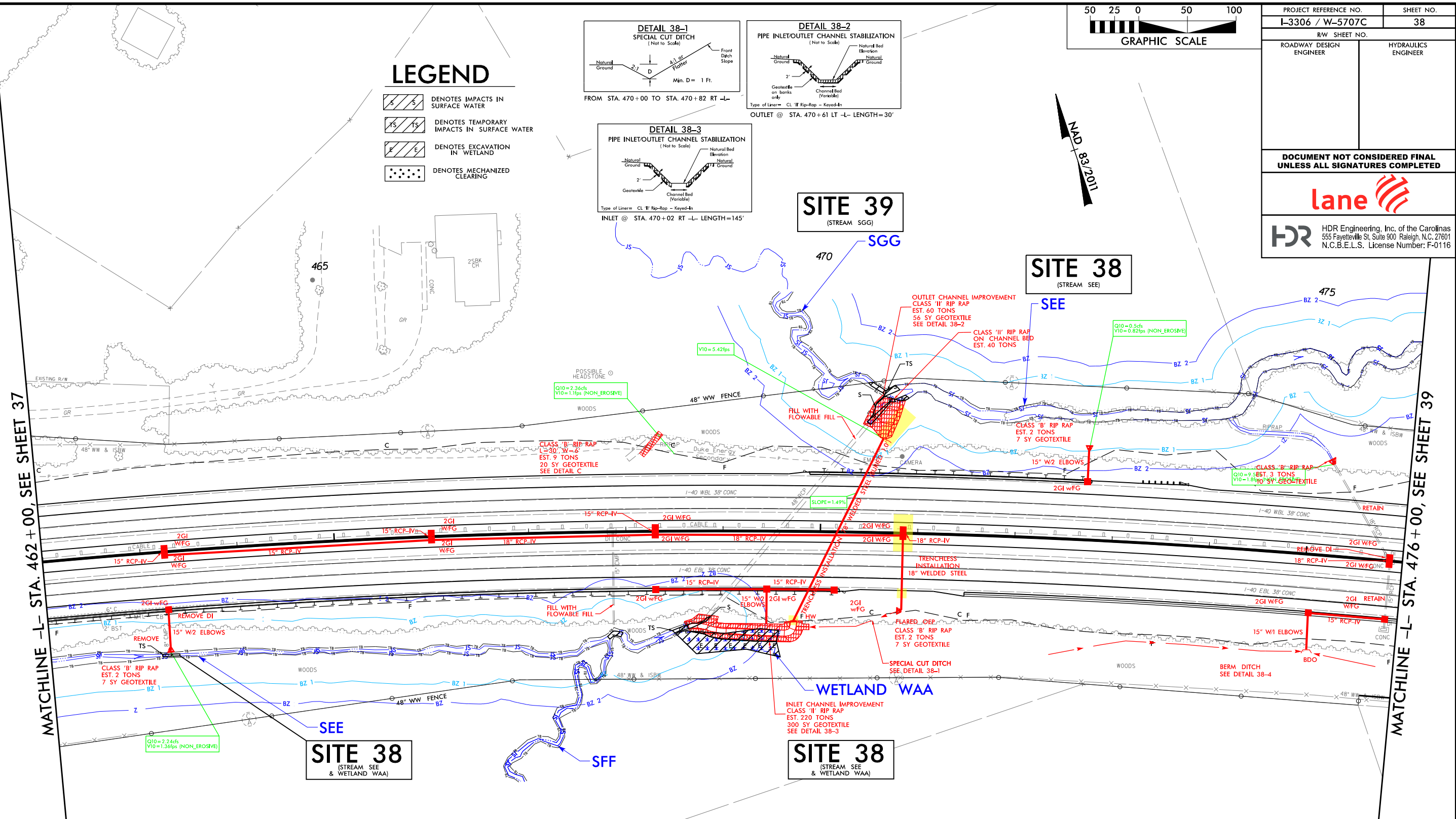
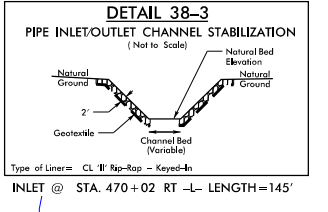
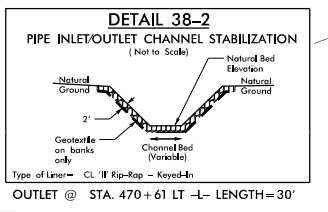
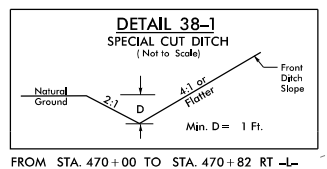
REVISIONS



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 38
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

### LEGEND

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



MATCHLINE -L- STA. 462+00, SEE SHEET 37

MATCHLINE -L- STA. 476+00, SEE SHEET 39

**SITE 38**  
(STREAM SEE & WETLAND WAA)

**SITE 38**  
(STREAM SEE & WETLAND WAA)

**SITE 39**  
(STREAM SGG)

**SITE 38**  
(STREAM SEE)

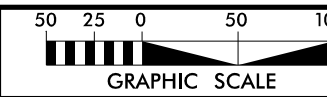
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 USER: NIMOWACK  
 DATE: 3/29/2022  
 TIME: 1:08:28 PM  
 FILE: ... \Drawings\13306A\_PRRM\_4C\_PSH.dgn

REVISIONS

REVISIONS

MATCHLINE -L- STA. 462+00, SEE SHEET 37

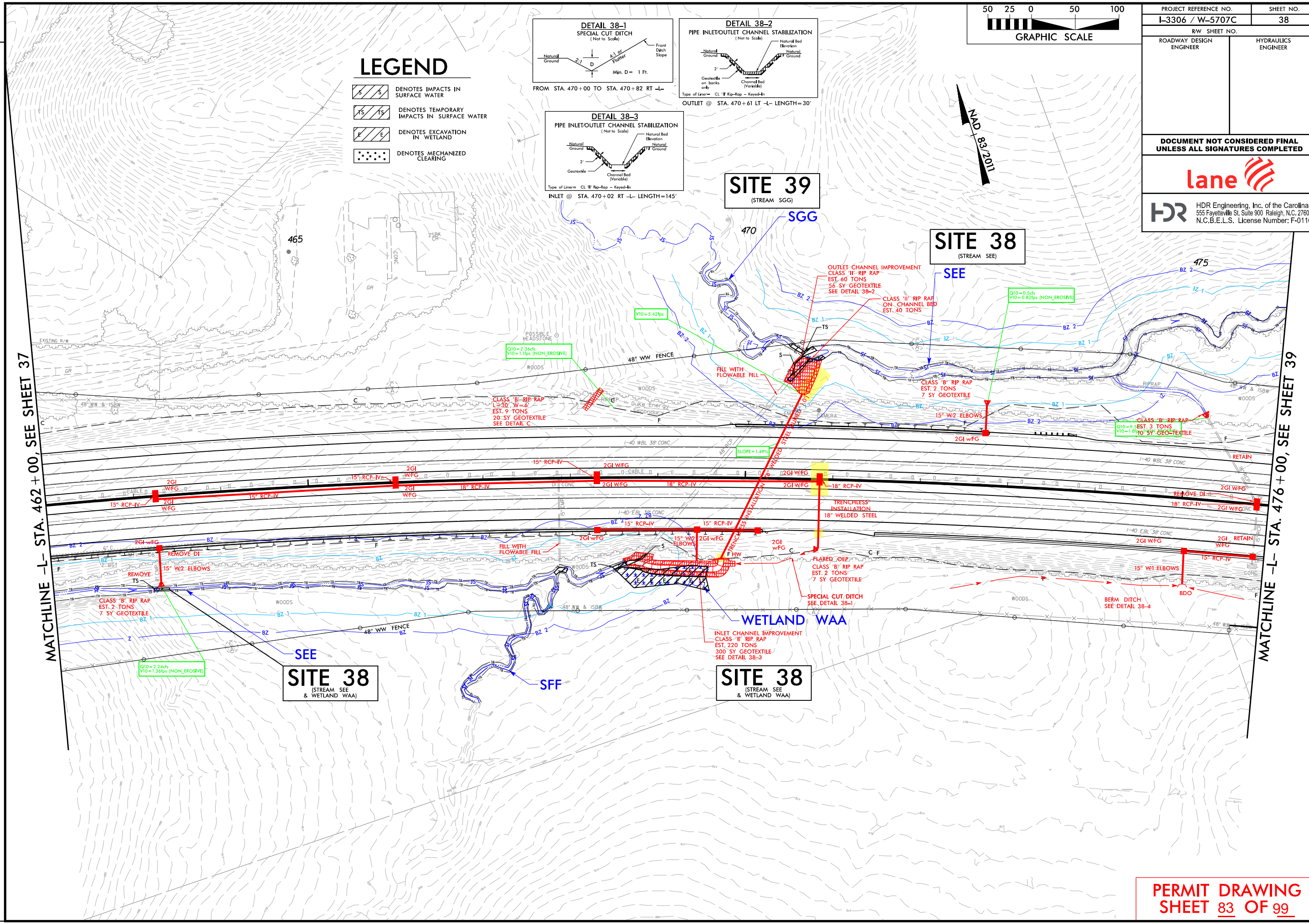
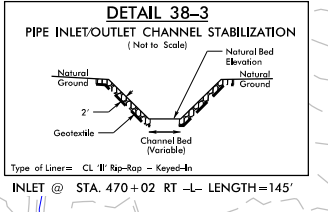
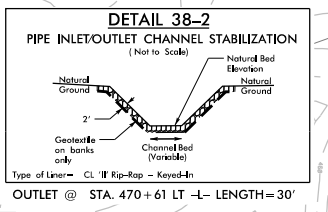
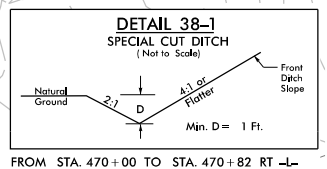
MATCHLINE -L- STA. 476+00, SEE SHEET 39



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 38
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

### LEGEND

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



**SITE 39**  
(STREAM SGG)

**SITE 38**  
(STREAM SEE)

**SITE 38**  
(STREAM SEE & WETLAND WAA)

**SITE 38**  
(STREAM SEE & WETLAND WAA)

5/14/99

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N.C.B.E.L.S. License Number: F-0116



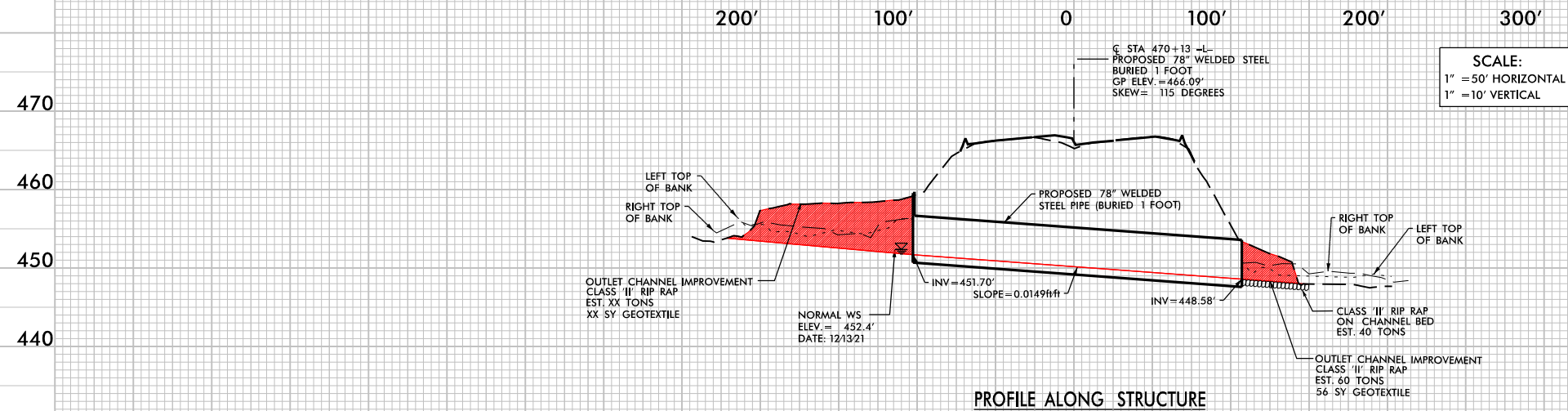
PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**SITE 38 US  
SITE 38 & 39 DS**



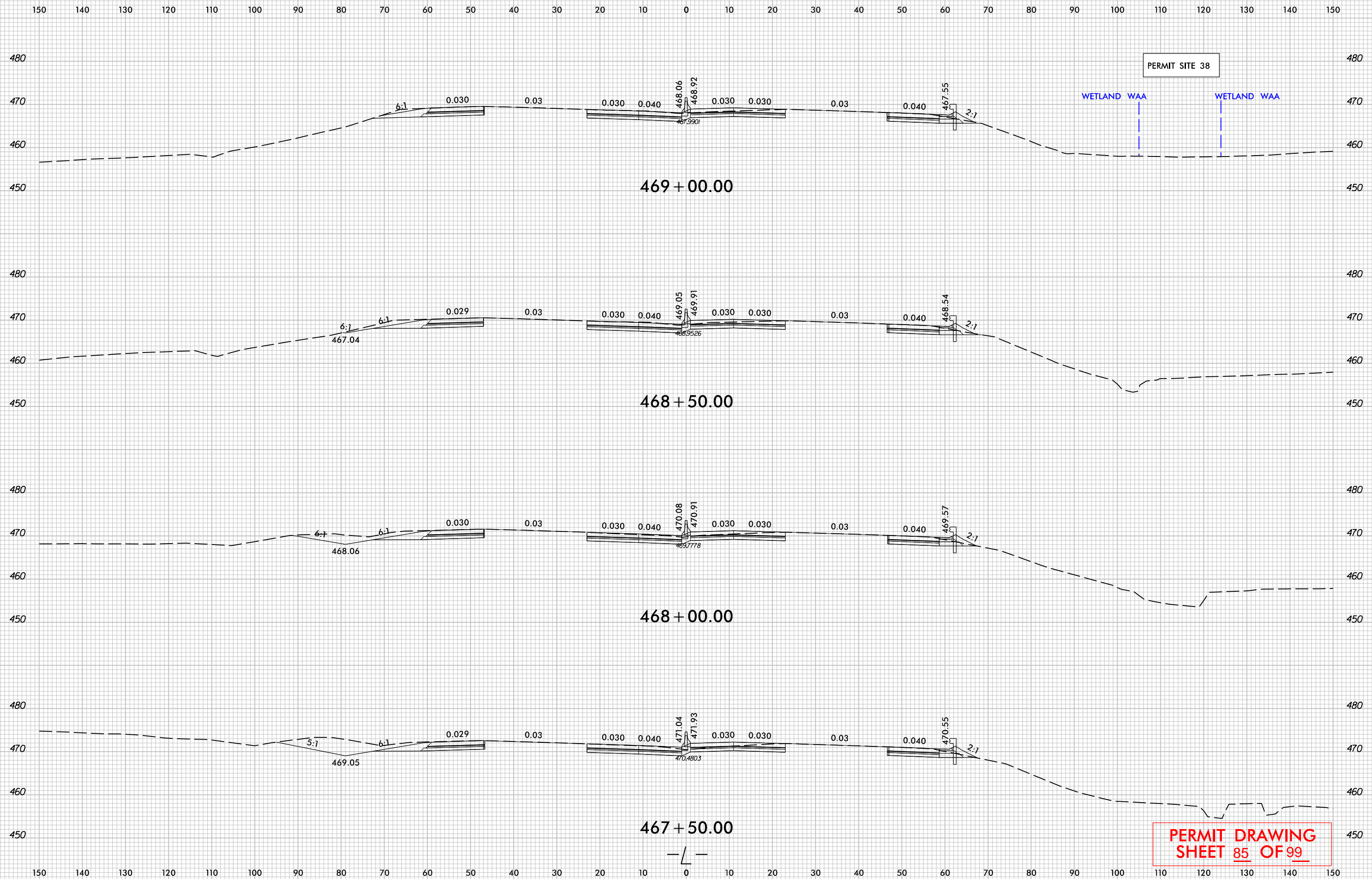
PROFILE ALONG STRUCTURE

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
USER: -USERNAME-  
FILE: I3306A\_PRM\_4C-L\_47013\_Site\_38-39.dgn  
PENTABLE: NCDOT\_PFL\_XSC.tbl  
DATE: 3/29/2022  
TIME: 4:01:05 PM

**PERMIT DRAWING  
SHEET 84 OF 99**

8/23/99





**PERMIT DRAWING**  
**SHEET 85 OF 99**

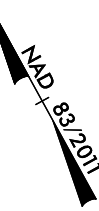
PLOT DRIVER: NCDOT\_pdf\_color\_eng\_100.plt  
 USER: \_USERNAME\_  
 FILE: \$FILE\$  
 PENTABLE: NCDOT\_PFL\_XSC.tbl  
 DATE: 3/29/2022  
 TIME: 2:14:47 PM



PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NWMACK DATE: 3/29/2022 TIME: 1:08:34 PM  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

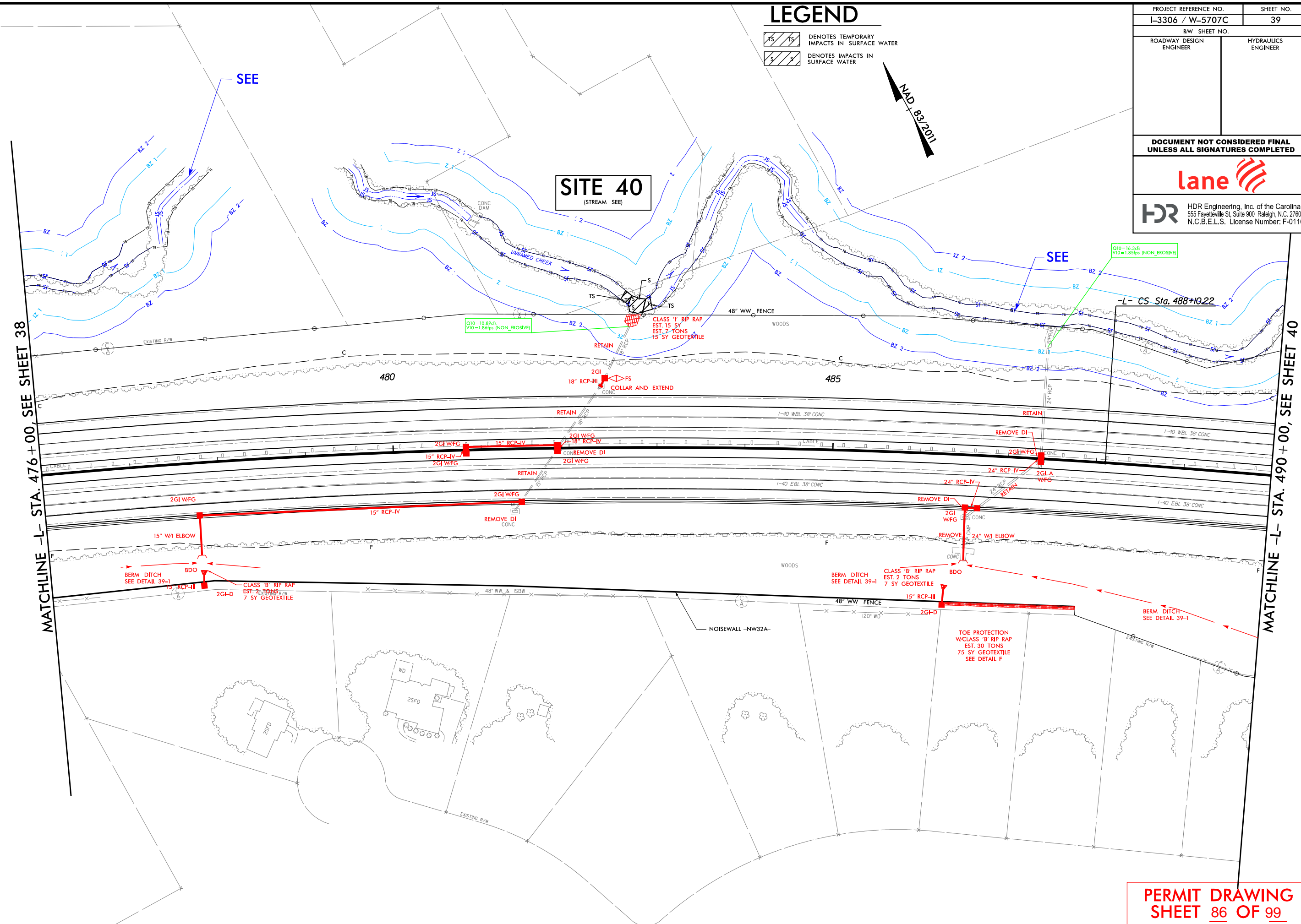
REVISIONS

# LEGEND

-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 39
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	
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

**PERMIT DRAWING**  
**SHEET 86 OF 99**

REVISIONS


MATCHLINE -L- STA. 476 + 00, SEE SHEET 38

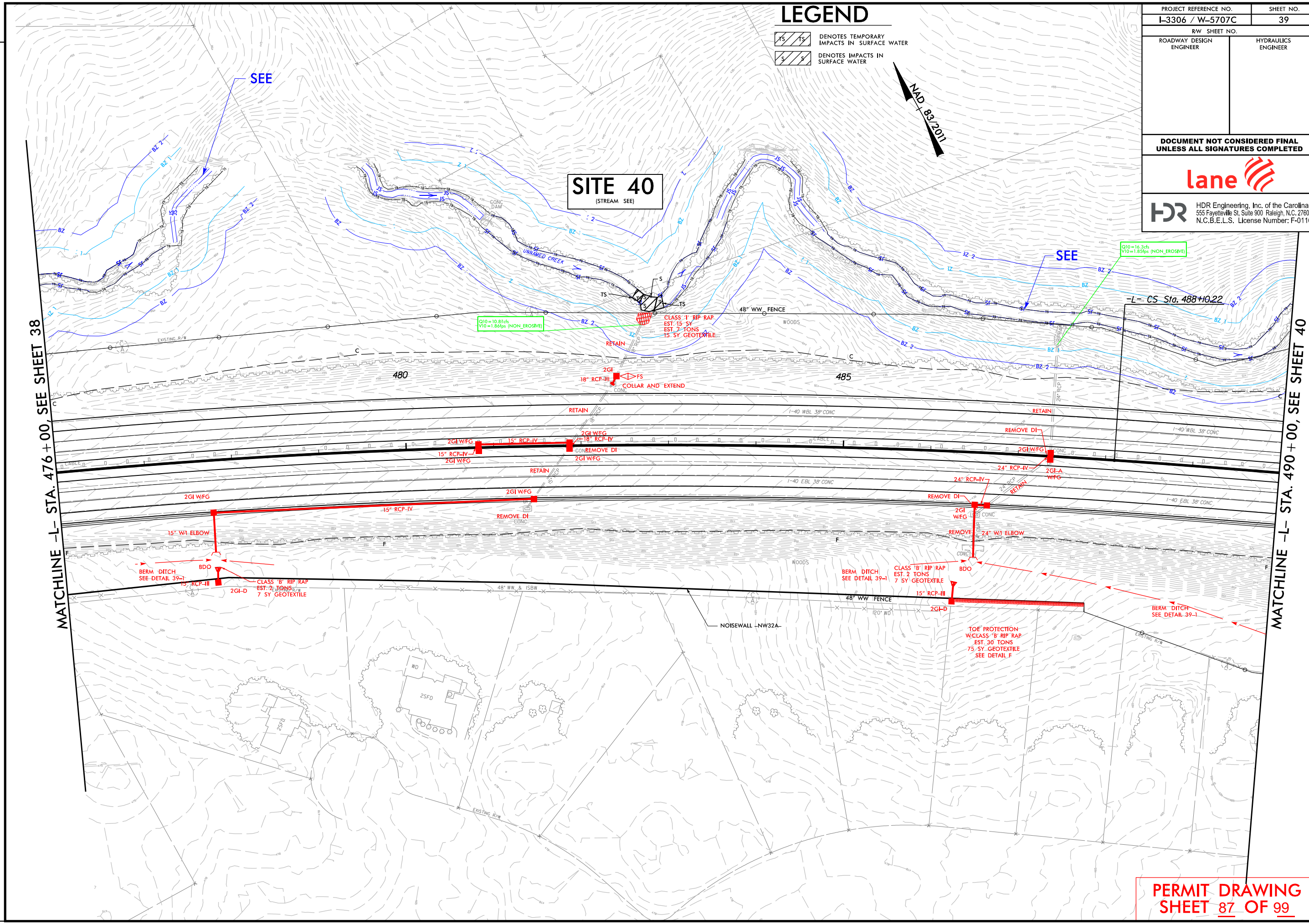
MATCHLINE -L- STA. 490 + 00, SEE SHEET 40

LEGEND

-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 39
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St. Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	



**SITE 40**  
(STREAM SEE)

Q10=10.81cfs  
V10=1.86fps (NON-EROSIVE)

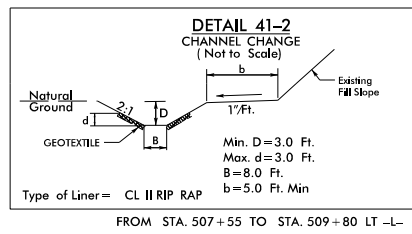
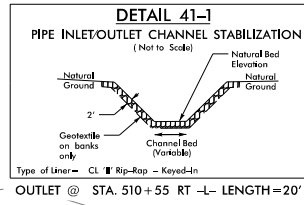
Q10=16.3cfs  
V10=1.85fps (NON-EROSIVE)

CLASS '1' RIP RAP  
EST. 15 TONS  
EST. 7 SY GEOTEXTILE

CLASS 'B' RIP RAP  
EST. 2 TONS  
7 SY GEOTEXTILE

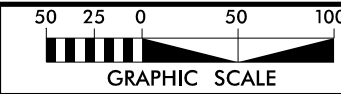
TOE PROTECTION  
W/CLASS 'B' RIP RAP  
EST. 30 TONS  
75 SY GEOTEXTILE  
SEE DETAIL F

**PERMIT DRAWING**  
**SHEET 87 OF 99**



# LEGEND

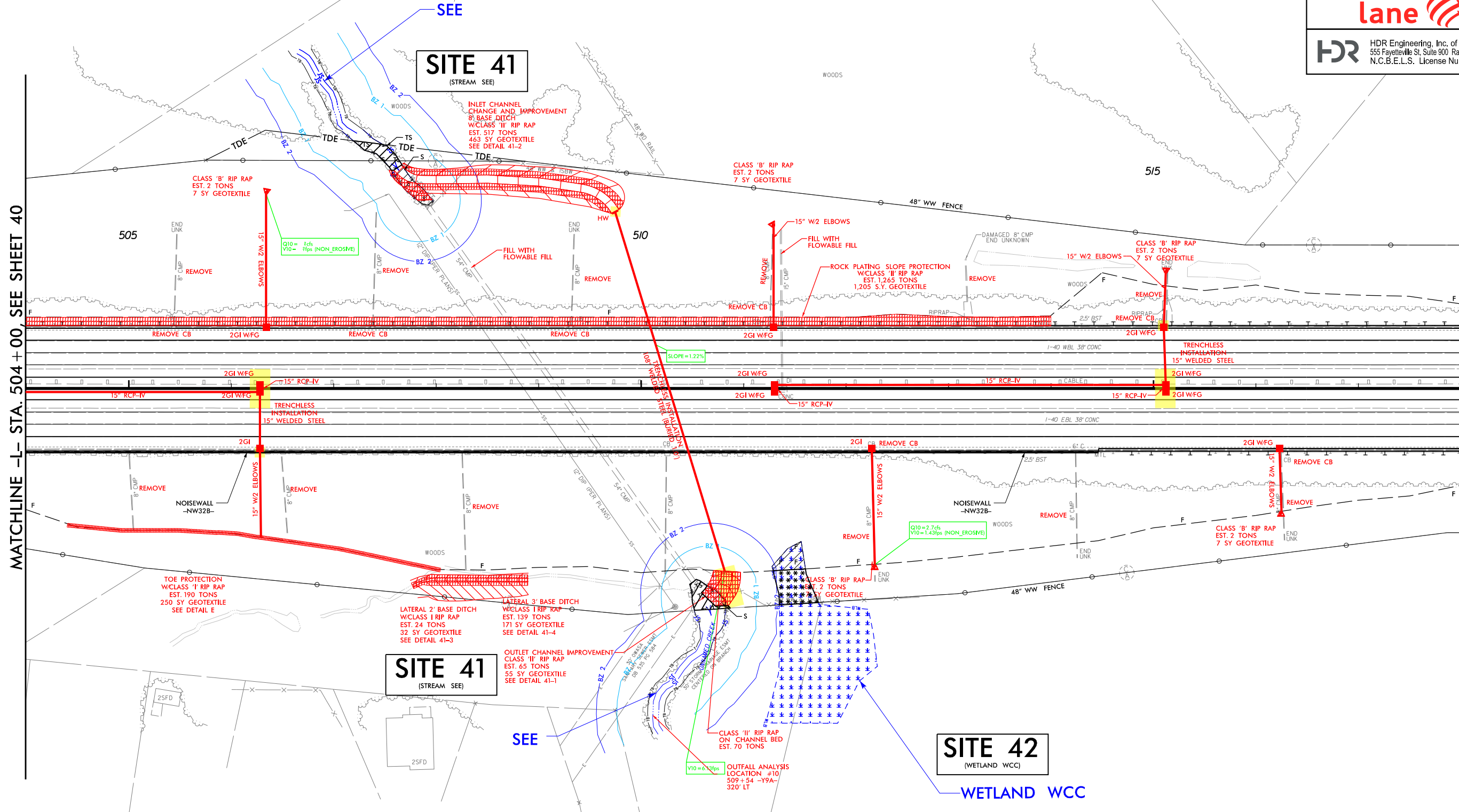
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND



PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 41
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

MATCHLINE -L- STA. 504+00 SEE SHEET 40

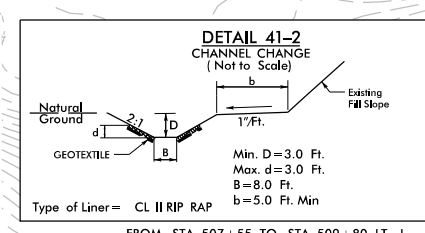
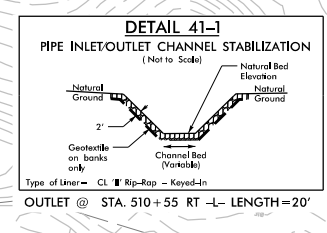
MATCHLINE -L- STA. 518+00, SEE SHEET 42



PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: CMYERS  
 FILE: ... \Drawings\13306A\_PRM\_4C\_PSH.dgn  
 DATE: 4/5/2022  
 TIME: 10:16:28 AM  
 PENTABLE: NCDOT\_permits.NCON.tbl

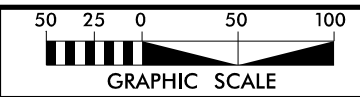
REVISIONS

PERMIT DRAWING  
SHEET 88 OF 99



# LEGEND

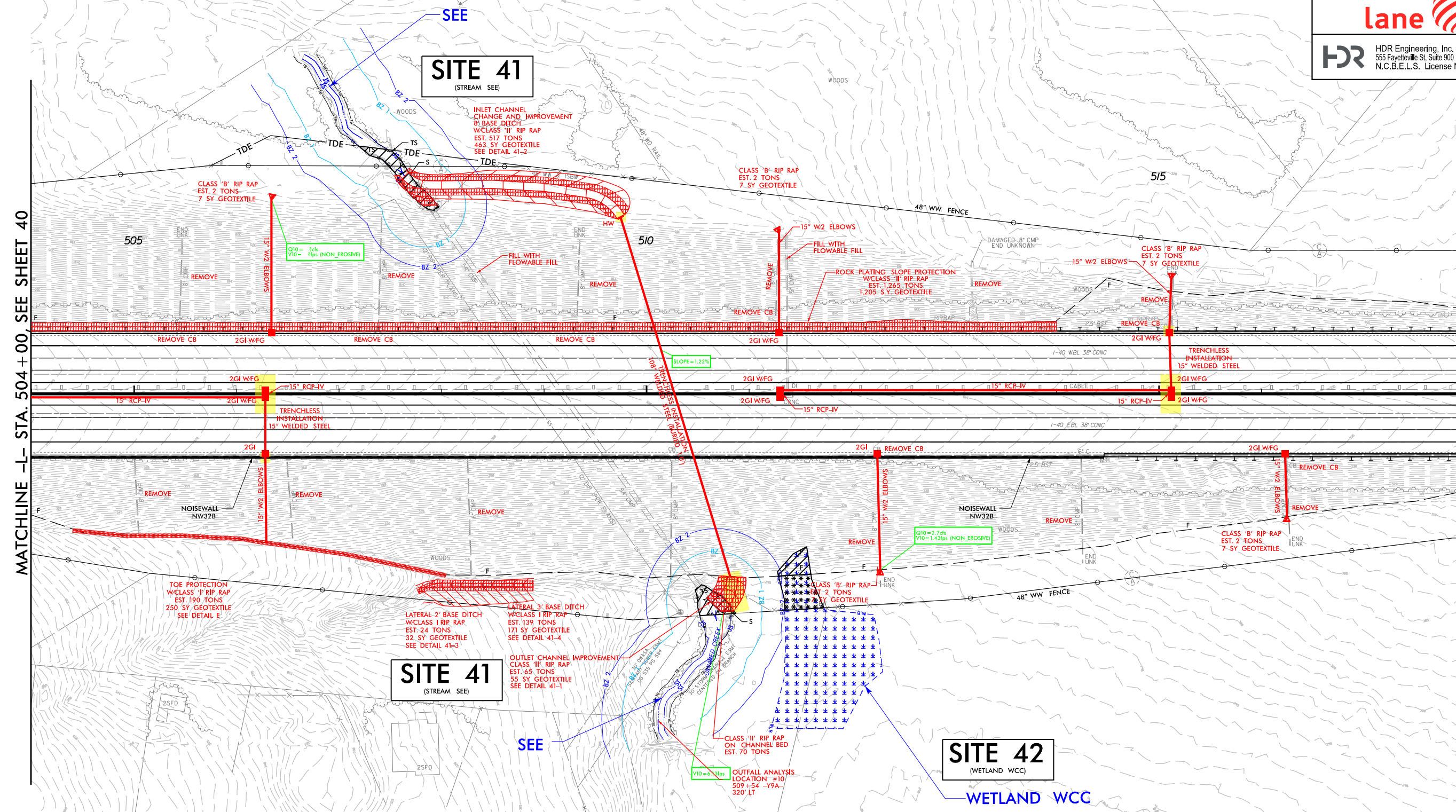
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND



PROJECT REFERENCE NO. <b>L-3306 / W-5707C</b>	SHEET NO. <b>41</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St. Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

MATCHLINE -L- STA. 504+00 SEE SHEET 40

MATCHLINE -L- STA. 518+00 SEE SHEET 42



PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: CMYERS  
 FILE: ... \Drawings\13306A\_PRRM\_4C\_PSH.dgn  
 DATE: 4/5/2022  
 TIME: 10:15:55 AM

REVISIONS

PERMIT DRAWING  
SHEET 89 OF 99

5/14/99

HDR Engineering, Inc. of the Carolinas  
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
N.C.B.E.L.S. License Number: F-0116



PROJECT REFERENCE NO. SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

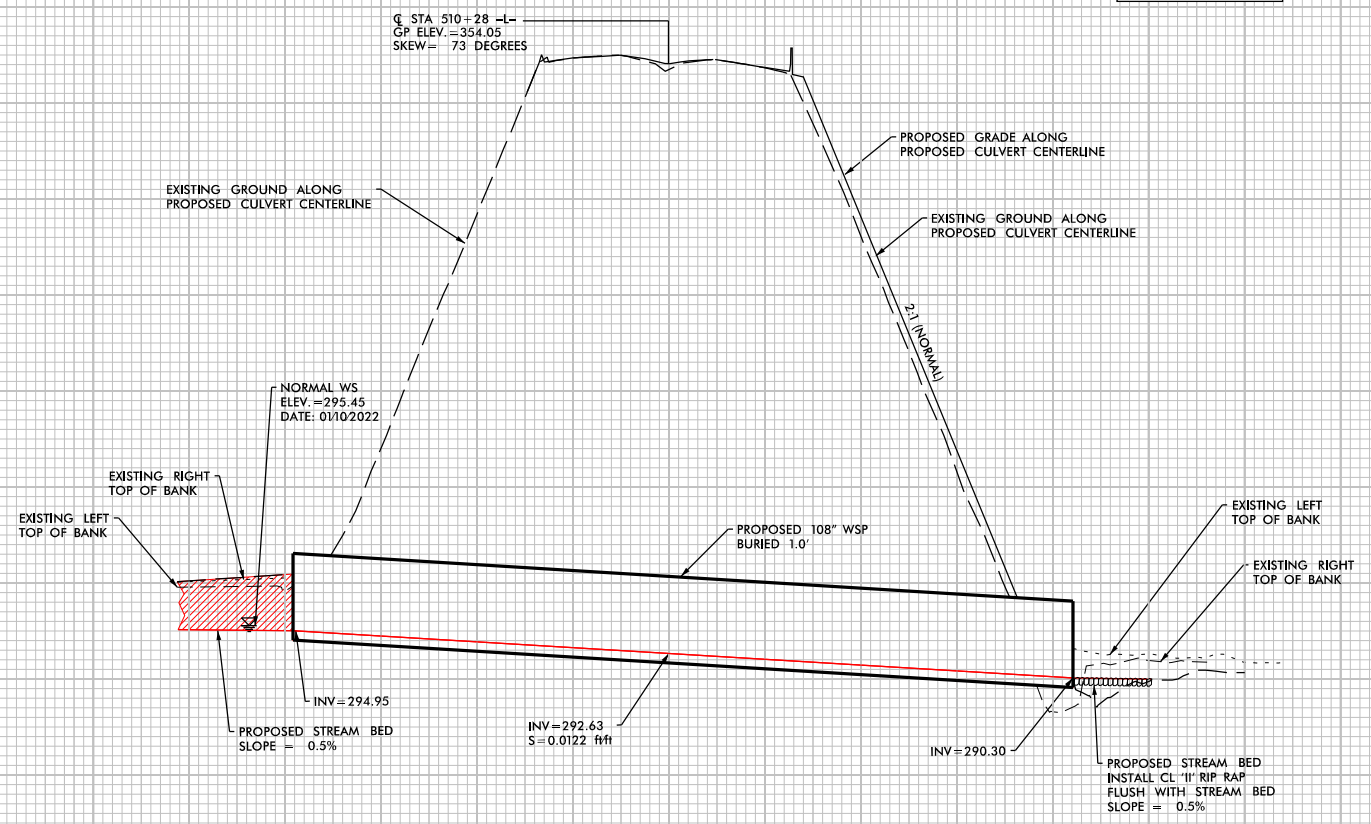
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

# SITE 41

200' 100' 0 100' 200' 300'

SCALE:  
1" = 50' HORIZONTAL  
1" = 10' VERTICAL

360  
350  
340  
330  
320  
310  
300  
290



PROFILE ALONG STRUCTURE

REVISIONS

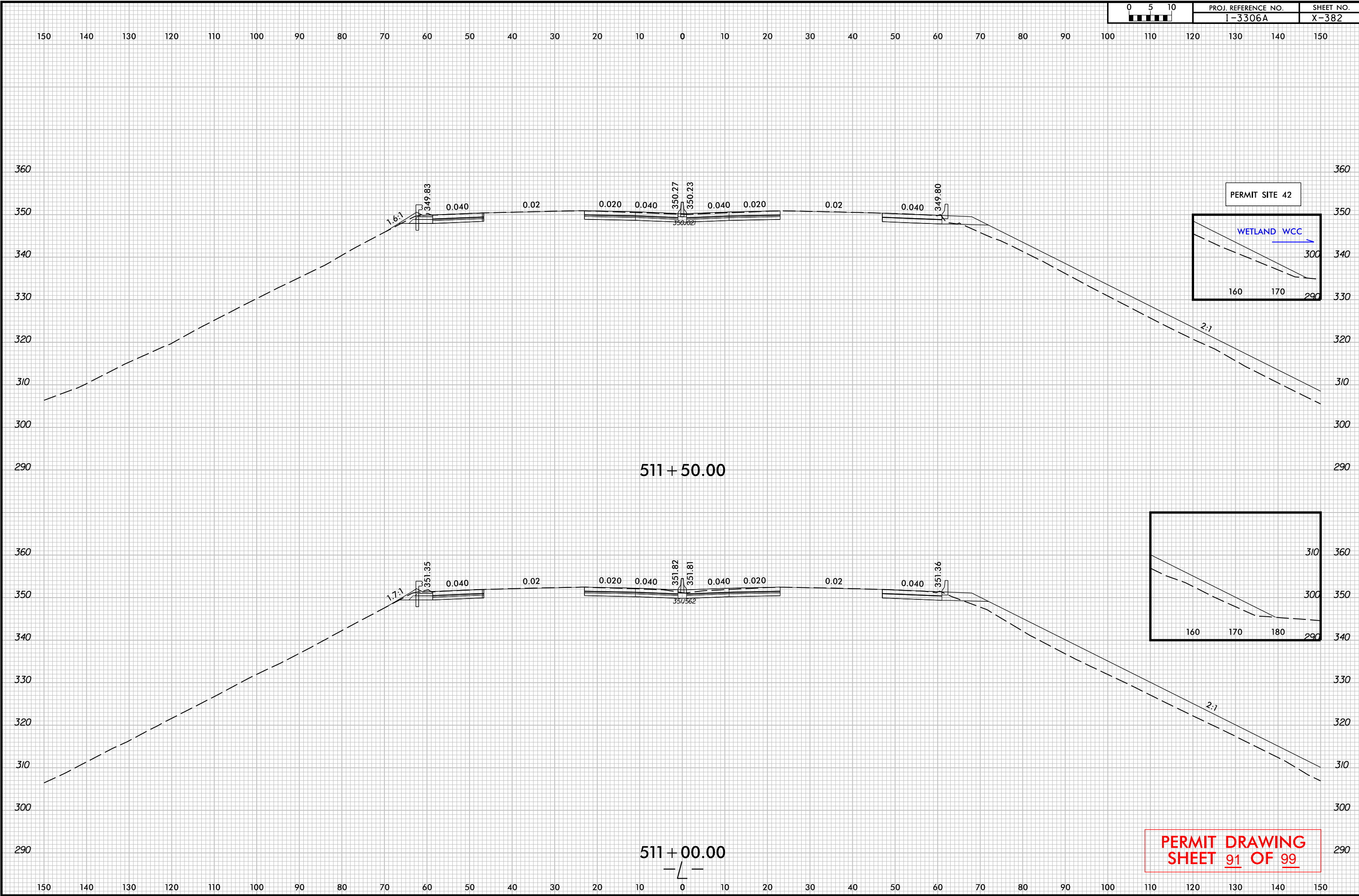
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PENTABLE: NCDOT\_PFL\_XSC.tbl  
USER: -USERNAME- DATE: 3/29/2022 TIME: 4:01:16 PM  
FILE: I3306A\_PRM\_4C-L\_50918\_Site 41.dgn

PERMIT DRAWING  
SHEET 90 OF 99

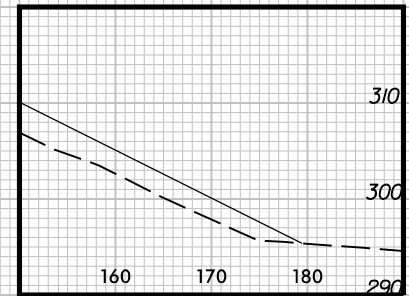
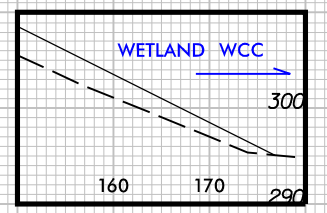
8/23/99



PROJ. REFERENCE NO.	SHEET NO.
I-3306A	X-382



PERMIT SITE 42



**PERMIT DRAWING**  
**SHEET 91 OF 99**

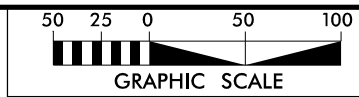
PLOT DRIVER: NCD01\_.pdf\_color\_eng\_100.plt  
USER: \_USERNAME\_  
FILE: \$FILE\$  
DATE: 3/15/2022  
TIME: 5:53:14 PM

511 + 50.00

511 + 00.00

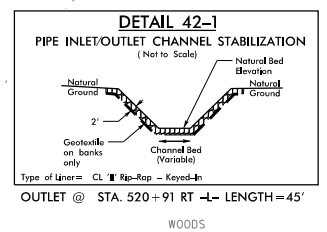
# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



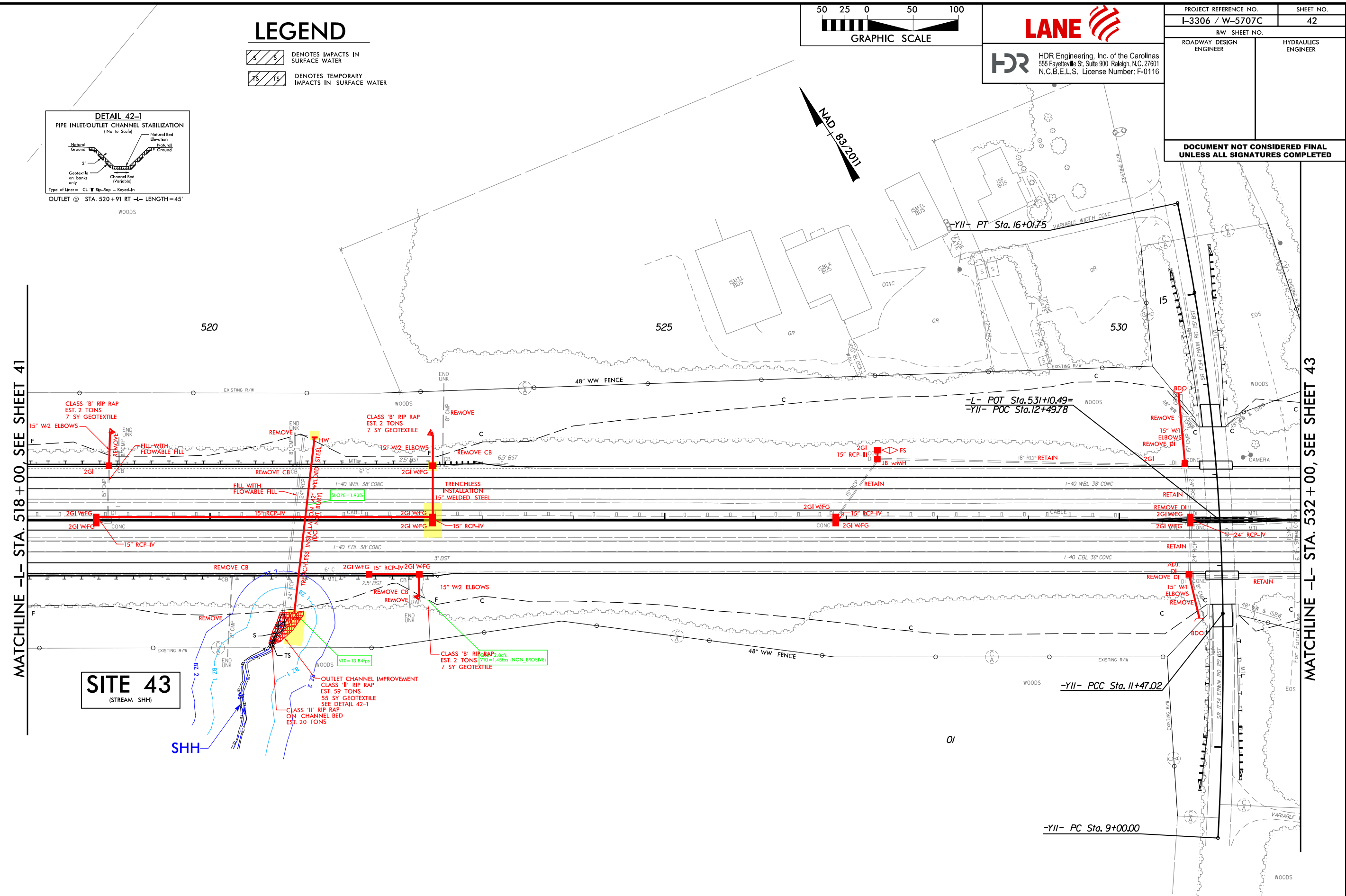
**LANE**  
  
**HDR** HDR Engineering, Inc. of the Carolinas  
 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
 N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. <b>L-3306 / W-5707C</b>	SHEET NO. <b>42</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



MATCHLINE -L- STA. 518 + 00 SEE SHEET 41

MATCHLINE -L- STA. 532 + 00, SEE SHEET 43



**SITE 43**  
(STREAM SHH)

**PERMIT DRAWING SHEET 92 OF 99**

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NLOWACK  
 FILE: ... \Drawings\13306A.PRM-4C\_PSH.dgn  
 PENTABLE: NCDOT\_permits.NCON.tbl  
 DATE: 3/29/2022  
 TIME: 1:08:45 PM

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NIMOWACK  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

PENTABLE: NCDOT\_permits.CON.tbl  
 DATE: 3/29/2022  
 TIME: 11:17:37 AM

REVISIONS

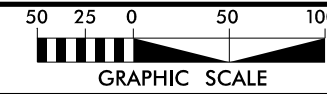
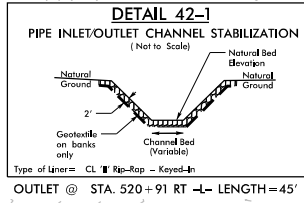
MATCHLINE -L- STA. 518 + 00 SEE SHEET 41

MATCHLINE -L- STA. 532 + 00, SEE SHEET 43

**SITE 43**  
(STREAM SHH)

# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

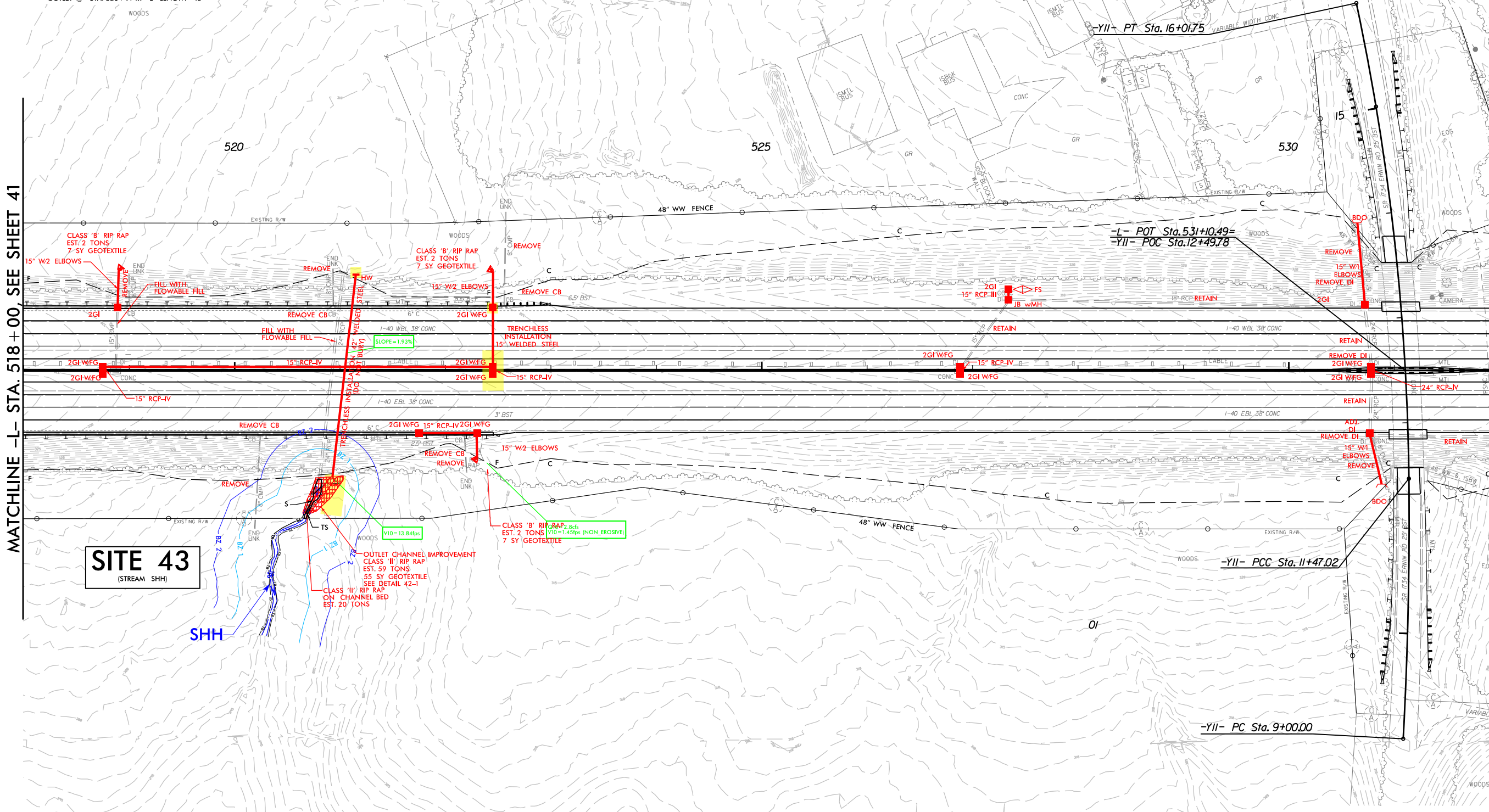


NAD 83-2011



**LANE**  
  
**HDR** HDR Engineering, Inc. of the Carolinas  
 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
 N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 42
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



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

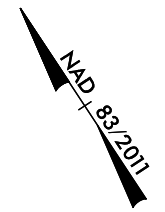


**PERMIT DRAWING SHEET 93 OF 99**

PROJECT REFERENCE NO. I-3306 / W-5707C	SHEET NO. 43
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
 HDR Engineering, Inc. of the Carolinas 555 Fayetteville St. Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

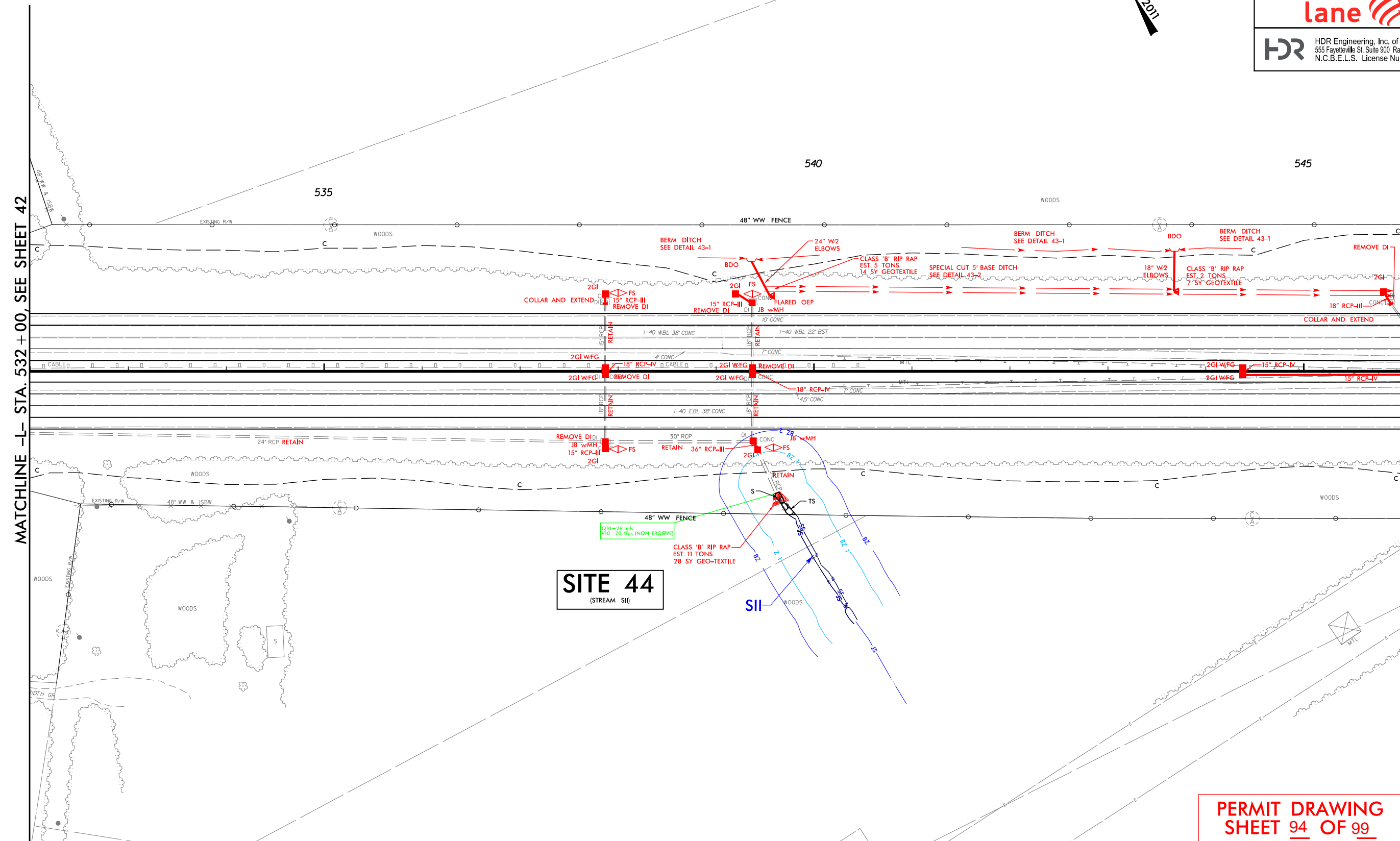
# LEGEND

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER



MATCHLINE -L- STA. 532 + 00, SEE SHEET 42

MATCHLINE -L- STA. 546 + 00, SEE SHEET 44



**SITE 44**  
(STREAM SII)

**PERMIT DRAWING  
SHEET 94 OF 99**

REVISIONS

PLOT DRIVER: NCDOT\_color\_eng\_100.plt  
 USER: NIMOWACK  
 FILE: ... \Drawings\13306A.PRM-4C.PSH.dgn  
 PENTABLE: NCDOT\_permits.NCON.tbl  
 DATE: 3/30/2022  
 TIME: 2:57:58 PM

PROJECT REFERENCE NO. L-3306 / W-5707C	SHEET NO. 43
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	

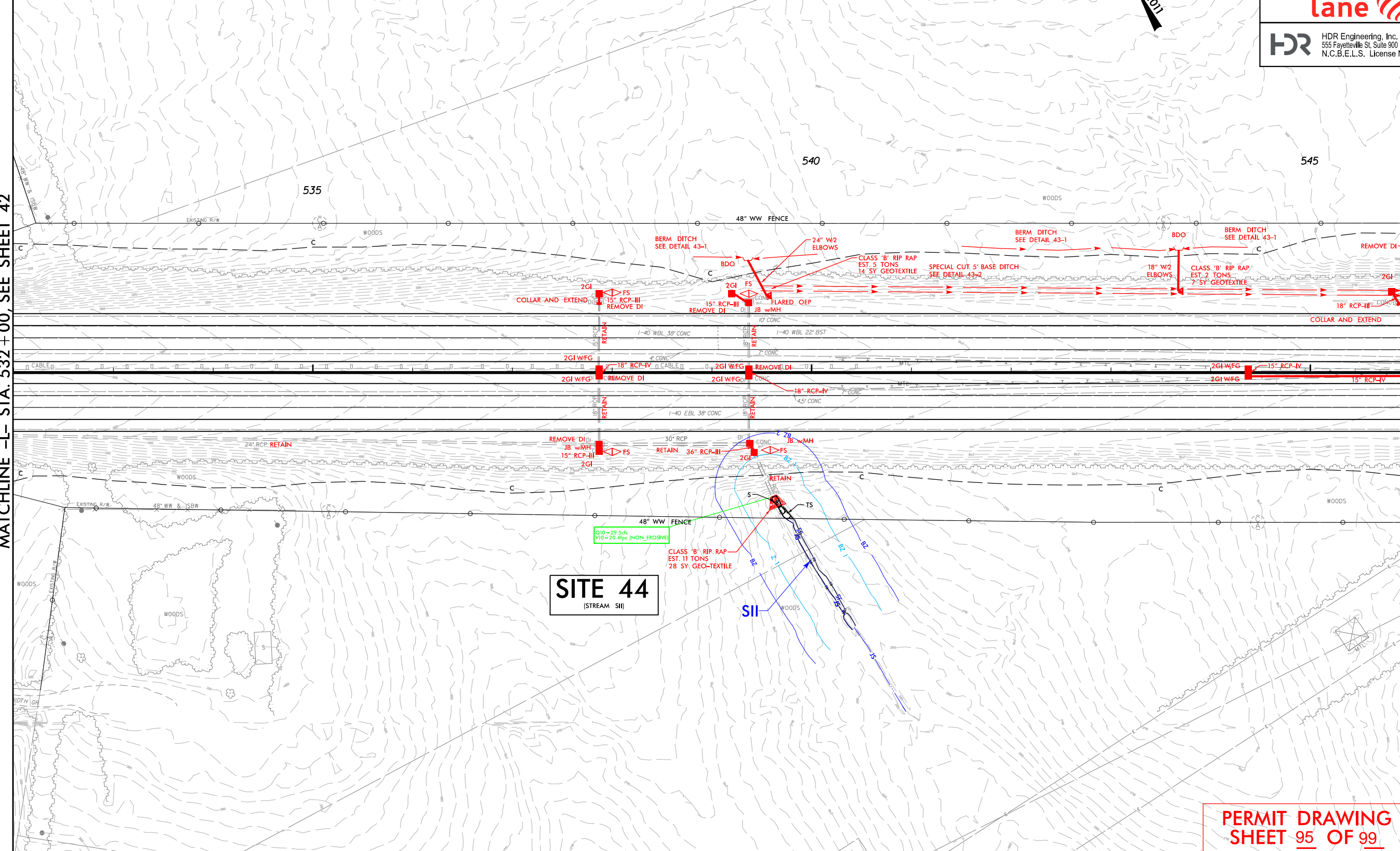
# LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



MATCHLINE -L- STA. 532 + 00, SEE SHEET 42

MATCHLINE -L- STA. 546 + 00, SEE SHEET 44



**SITE 44**  
(STREAM SII)

PERMIT DRAWING  
SHEET 95 OF 99

REVISIONS

PLOT DRIVER: NCDOT\_eng\_100.plt  
 USER: NMONACK  
 DATE: 3/30/2022  
 TIME: 2:57:29 PM  
 FILE: ... \Drawings\13306A.PRM\_4C\_PSH.dgn

**WETLAND AND SURFACE WATER IMPACTS SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (Pond) (ac)	Permanent SW impacts (Stream) (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	125+00 -I85- RT	8' X 7' RCBC								0.03			
2	125+00 -I85- RT	8' X 7' RCBC				0.02							
3	50+00 -YFLYA	6' X 6' RCBC				0.04				< 0.01		30	
		BANK STABILIZATION								0.03		92	
4	146+00 -I85-	8' X 8' RCBC								0.03	0.02	95	74
5	45+50 -YRPD- LT	42" PIPE			< 0.01	0.04							
6	29+50 -YFLYB-	72" PIPE			< 0.01	0.01				< 0.01	< 0.01	60	25
7	150+00 -I85- RT	66" PIPE								< 0.01	< 0.01	31	10
8	32+00 -YFLA-	78" PIPE				0.02				0.01	< 0.01	110	20
9	12+50 -YFLYA- RT	24" PIPE			< 0.01	< 0.01							
10	50+00 -L- RT	LATERAL DITCH								< 0.01	< 0.01	40	12
11	30+00 -Y2- LT	78" PIPE	0.04		0.01	0.06							
12	29+50 -Y2-	78" PIPE	< 0.01		< 0.01	0.08				< 0.01	< 0.01	94	37
		BANK STABILIZATION								< 0.01		16	
13	20+24 -Y2- LT	30" PIPE								< 0.01	< 0.01	21	11
14	127+50 -L-	84" PIPE								0.01	< 0.01	100	22
15	127+50 -L- RT	84" PIPE								< 0.01	< 0.01	15	10
16	126+36 -L- RT	60" PIPE								< 0.01			25
17	126+36 -L-	60" PIPE								0.01	0.03	51	30
18	162+53 -L- LT	42" PIPE								0.01			33
		BANK STABILIZATION								< 0.01		26	
19	173+00 -L- LT	48" PIPE								< 0.01			35
		BANK STABILIZATION								0.02		42	
TOTALS* THIS SHEET:			0.05		0.02	0.27				0.14	0.12	793	441

\*Rounded totals are sum of actual impacts.

NOTES:

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 MARCH 2022  
 ORANGE COUNTY  
 TIP I-3306A  
 STATE PROJ. # 34178.3.GV3  
 SHEET **96** OF **99**

**WETLAND AND SURFACE WATER IMPACTS SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (Pond) (ac)	Permanent SW impacts (Stream) (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
20	197+00 -L- RT	66" PIPE						0.02	0.04	38			
21	192+00 -L-	66" PIPE							< 0.01		28		
		BANK STABILIZATION						0.12		54			
22	197+00 -L- RT	24" PIPE						< 0.01	< 0.01	20	5		
23	228+50 -L- LT	36" PIPE							< 0.01		10		
		BANK STABILIZATION						< 0.01		43			
24	231+00 -L- LT	66" PIPE			0.01	< 0.01		< 0.01	< 0.01	50	15		
25	233+50 -L- RT	66" PIPE						< 0.01	< 0.01	46	13		
26	247+50 -L- RT	42" PIPE						< 0.01	< 0.01	20	10		
27	267+00 -L- RT	4 - 13'x12' RCBC							< 0.01		10		
		BANK STABILIZATION						< 0.01		30			
28	305+00 -L-	78" PIPE			< 0.01	0.30		0.02	< 0.01	95	10		
29	325+00 -L-	84" PIPE						0.02	< 0.01	89	25		
30	343+30 -L- LT	8' x 8' RCBC							0.02		45		
		BANK STABILIZATION						< 0.01		34			
31	16+50 -Y9RPB- LT	24" PIPE	< 0.01			0.61							
32	12+00 -Y9RPC- RT	30" PIPE						< 0.01	< 0.01	10	10		
33	384+00 -L-	72" PIPE						0.01	< 0.01	90	50		
34	389+50 -L- RT	ROADWAY CUT				< 0.01							
<b>TOTALS* THIS SHEET:</b>			< 0.01		0.01	0.93			0.23	0.09	619	397	

\*Rounded totals are sum of actual impacts.

NOTES:

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 MARCH 2022  
 ORANGE COUNTY  
 TIP I-3306A  
 STATE PROJ. # 34178.3.GV3  
 SHEET **97** OF **99**

**WETLAND AND SURFACE WATER IMPACTS SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (Pond) (ac)	Permanent SW impacts (Stream) (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
35	399+00 -L-	72" PIPE			< 0.01	< 0.01			< 0.01	< 0.01	64	28	
36	409+00 -L- LT	ROADWAY CUT			< 0.01	< 0.01							
37	11+70 -Y10- RT	48" PIPE							< 0.01		20		
38	470+00 -L-	78" PIPE			0.05				< 0.01	< 0.01	57	65	
39	470+00 -L- RT	78" PIPE								< 0.01		18	
40	482+50 -L- LT	18" PIPE							< 0.01	< 0.01	17	20	
41	509+00 -L-	54" PIPE							0.01	0.02	46	65	
		BANK STABILIZATION							< 0.01		24		
42	511+50 -L- RT	108" PIPE	0.01			0.03							
43	521+00 -L- RT	42" PIPE							< 0.01	< 0.01	34	5	
44	539+50 -L- RT	36" PIPE							< 0.01	< 0.01	12	15	
TOTALS* THIS SHEET:			0.01	0	0.05	0.04	0	0	0.05	0.04	274	216	

\*Rounded totals are sum of actual impacts.

NOTES:

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 MARCH 2022  
 ORANGE COUNTY  
 TIP I-3306A  
 STATE PROJ. # 341783.3.GV3  
 SHEET **98** OF **99**

