

7/1/2019
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PROP\IC501\$

TIP PROJECT: I-5507

CONTRACT: C203970

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

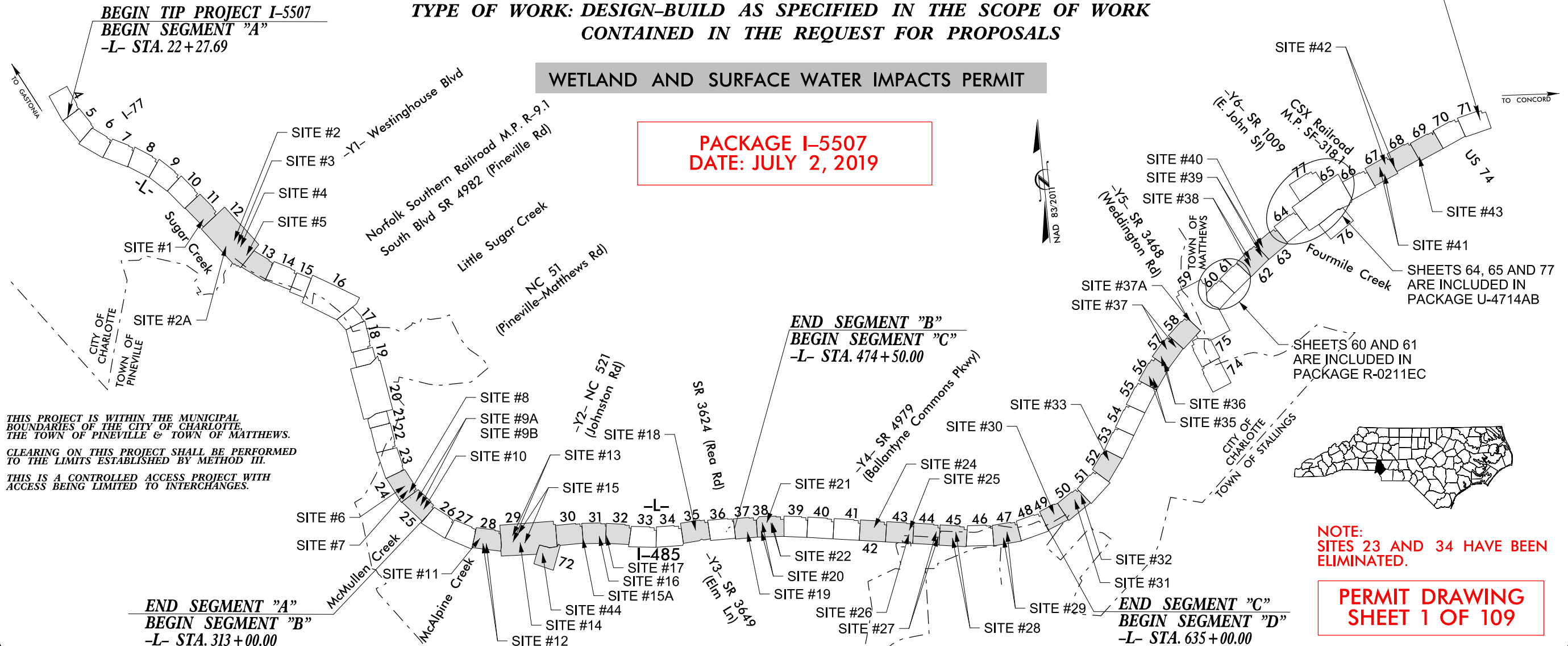
MECKLENBURG COUNTY

LOCATION: I-485 FROM I-77 TO US 74 (INDEPENDENCE BOULEVARD);
I-485 / WEDDINGTON ROAD INTERCHANGE; AND I-485 /
EAST JOHN STREET - OLD MONROE ROAD INTERCHANGE

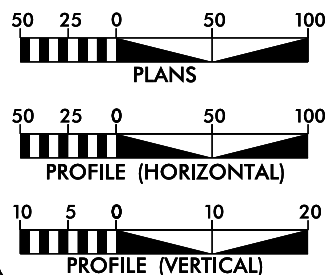
TYPE OF WORK: DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK
CONTAINED IN THE REQUEST FOR PROPOSALS

WETLAND AND SURFACE WATER IMPACTS PERMIT

PACKAGE I-5507
DATE: JULY 2, 2019



GRAPHIC SCALES



DESIGN DATA

ADT 2018 = 118,400
ADT 2040 = 159,200
DHV = 9 %
D = 55 %
T = 9 % *
V = 70/75 MPH
*(TTST 4 + DUAL 5)
FUNCTIONAL CLASSIFICATION:
INTERSTATE
STATEWIDE TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT I-5507 = 17.137 mi
LENGTH OF STRUCTURES TIP PROJECT I-5507 = 0.395 mi
(BASED ON 485 WB BRIDGES)
TOTAL LENGTH OF TIP PROJECT I-5507 = 17.532 mi

NCDOT CONTACT:

TIM MCFADDEN, PE
DESIGN BUILD PROJECT ENGINEER -
TRANSPORTATION PROGRAM MANAGEMENT UNIT

Prepared In the Office of:

wsp

1001 Morehead Square Dr.
Suite 610
Charlotte, NC, 28203
NC LIC NO. F-0165

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY:
SEPTEMBER 18, 2018

LETTING DATE:
SEPTEMBER 18, 2018

DANIEL H. BRIDGES, PE
DESIGN PROJECT MANAGER

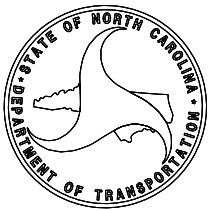
DAVID B. GOURLEY, PE
PROJECT DESIGN ENGINEER

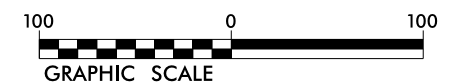
HYDRAULICS ENGINEER

SIGNATURE: P.E.
ROADWAY DESIGN
ENGINEER

SIGNATURE: P.E.

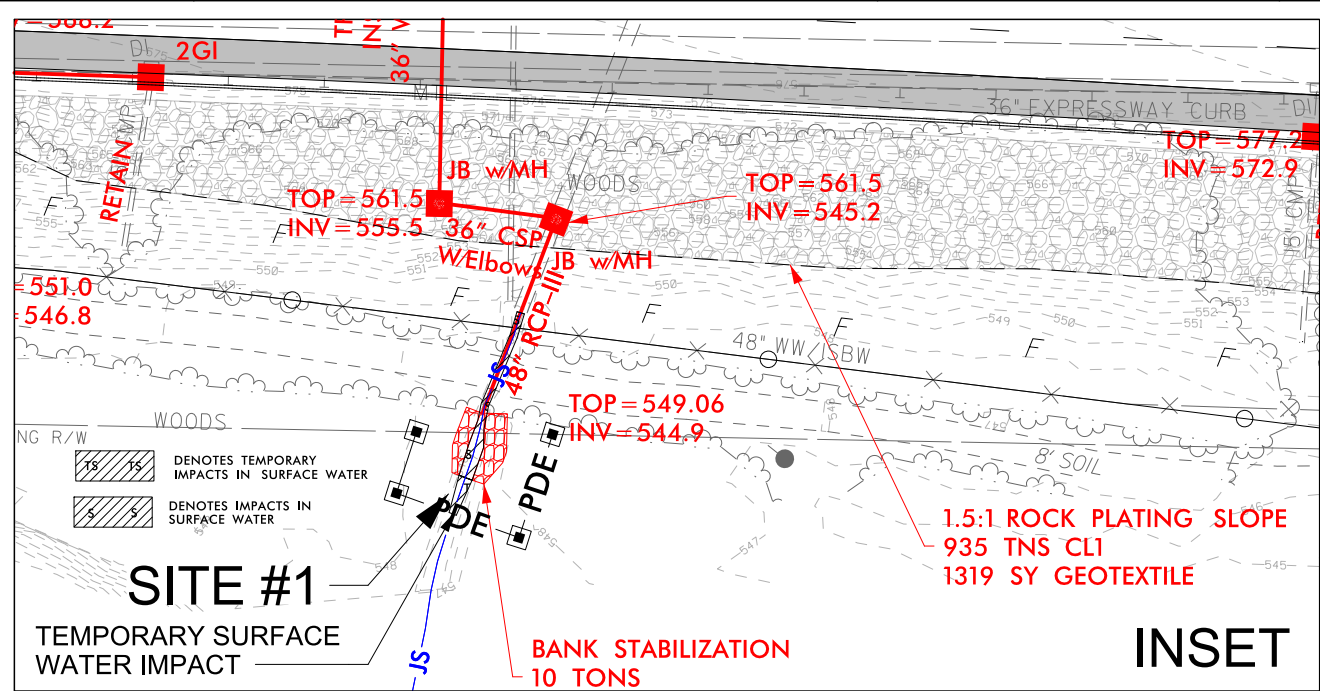
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA






8/17/99

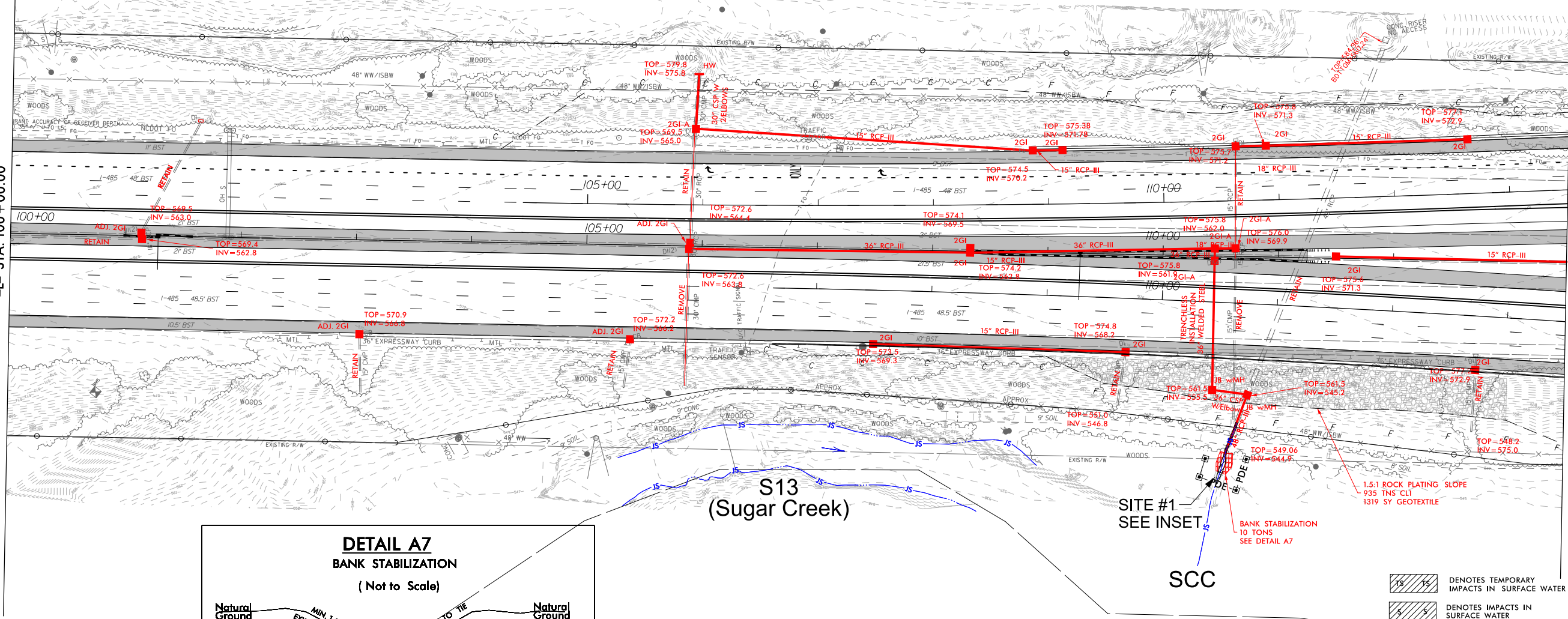
7/1/2019
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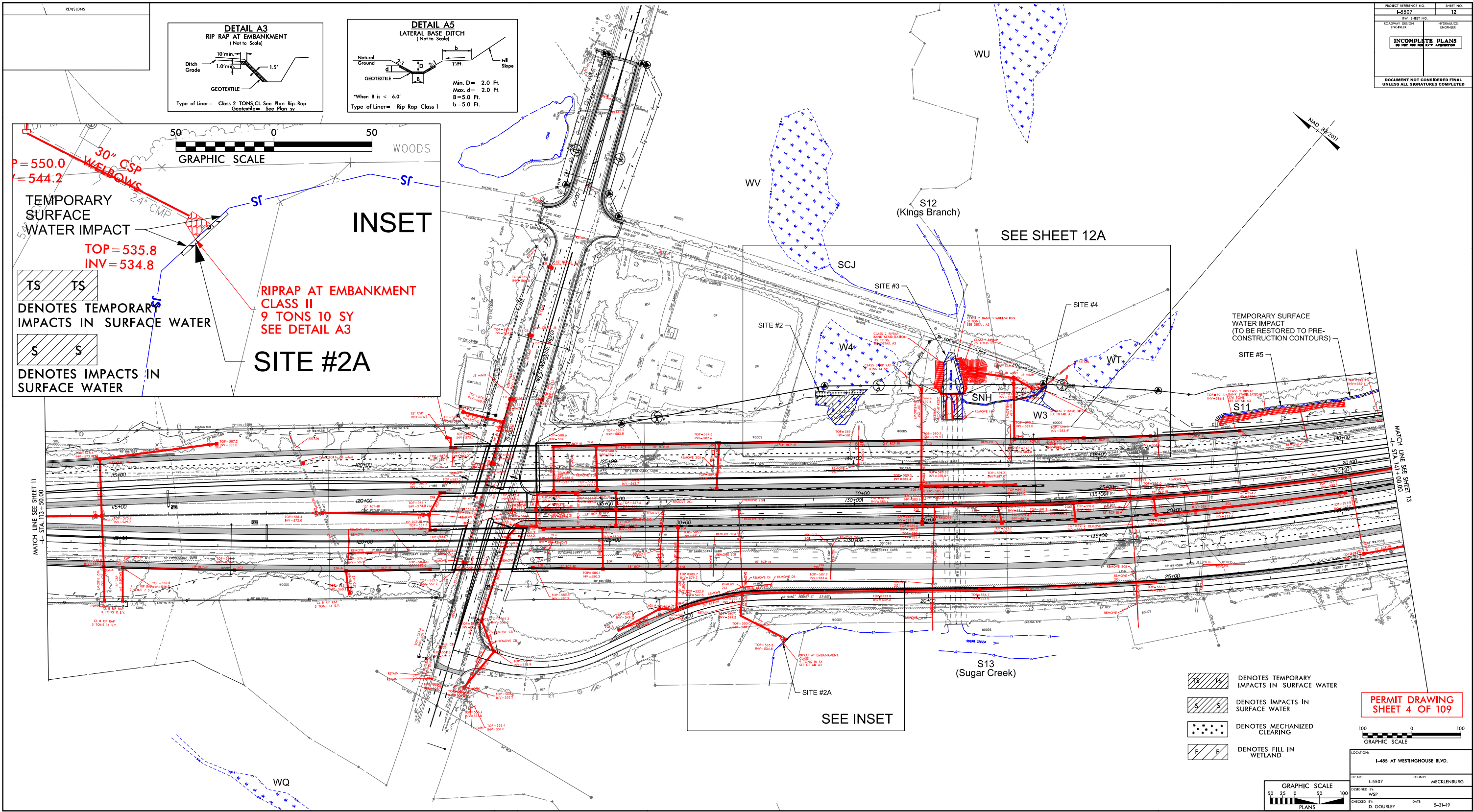


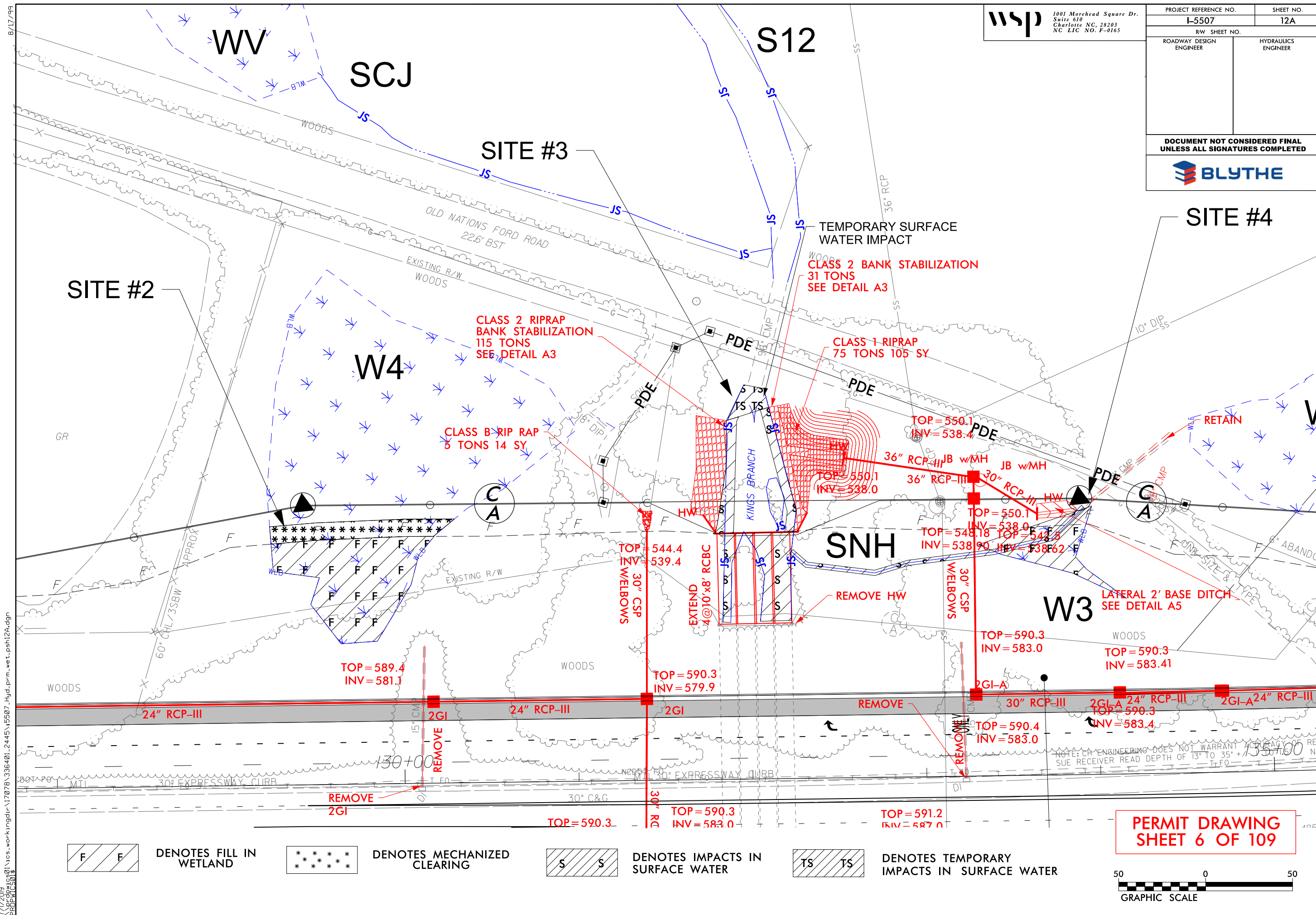
wsp
1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

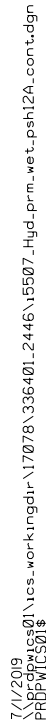
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I-5507		11
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
 BLYTHE		

MATCH LINE SEE SHEET 10
-L- STA. 100 + 00.00



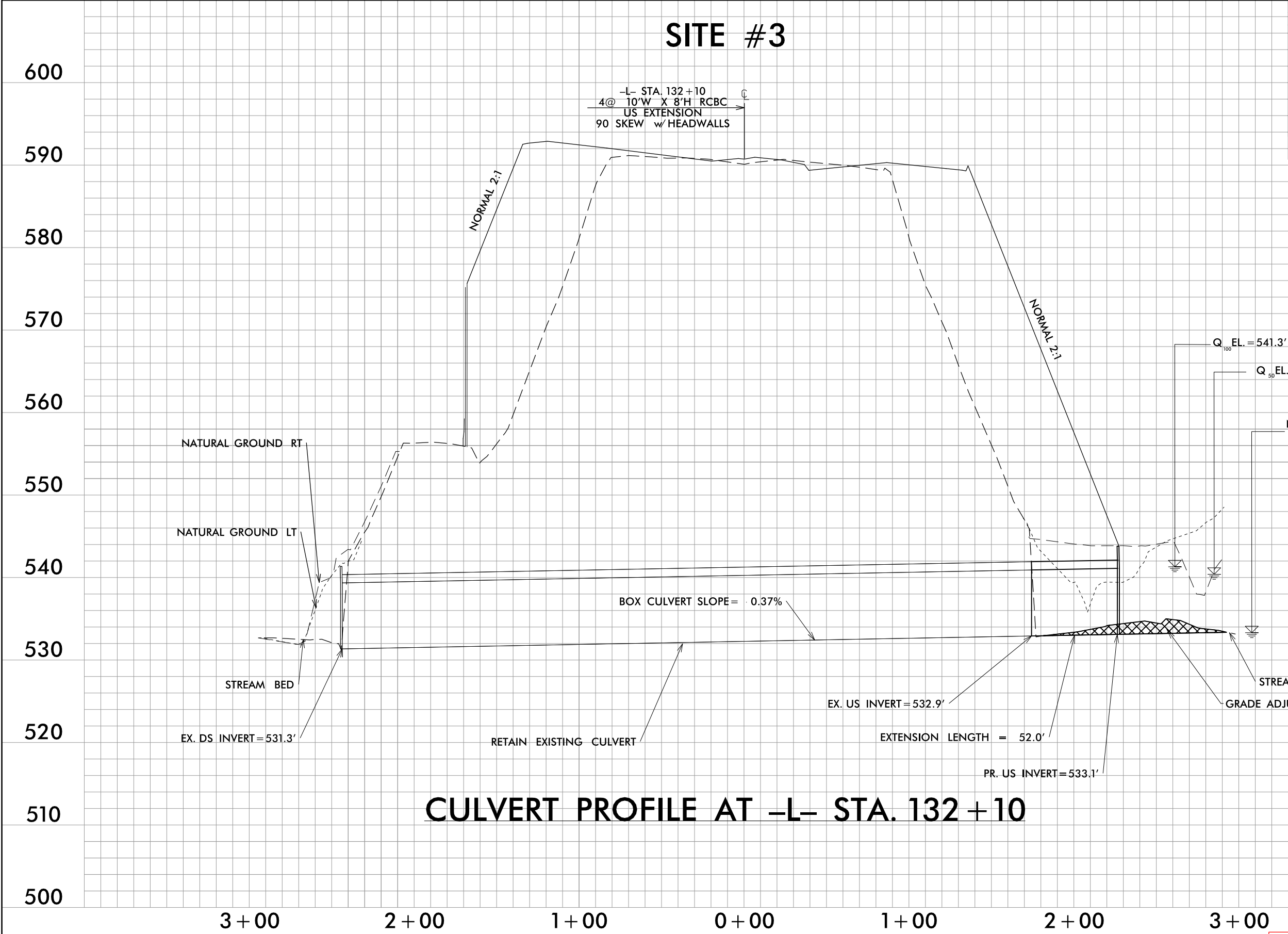






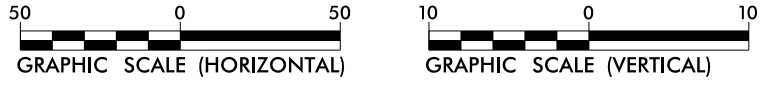
5/28/99

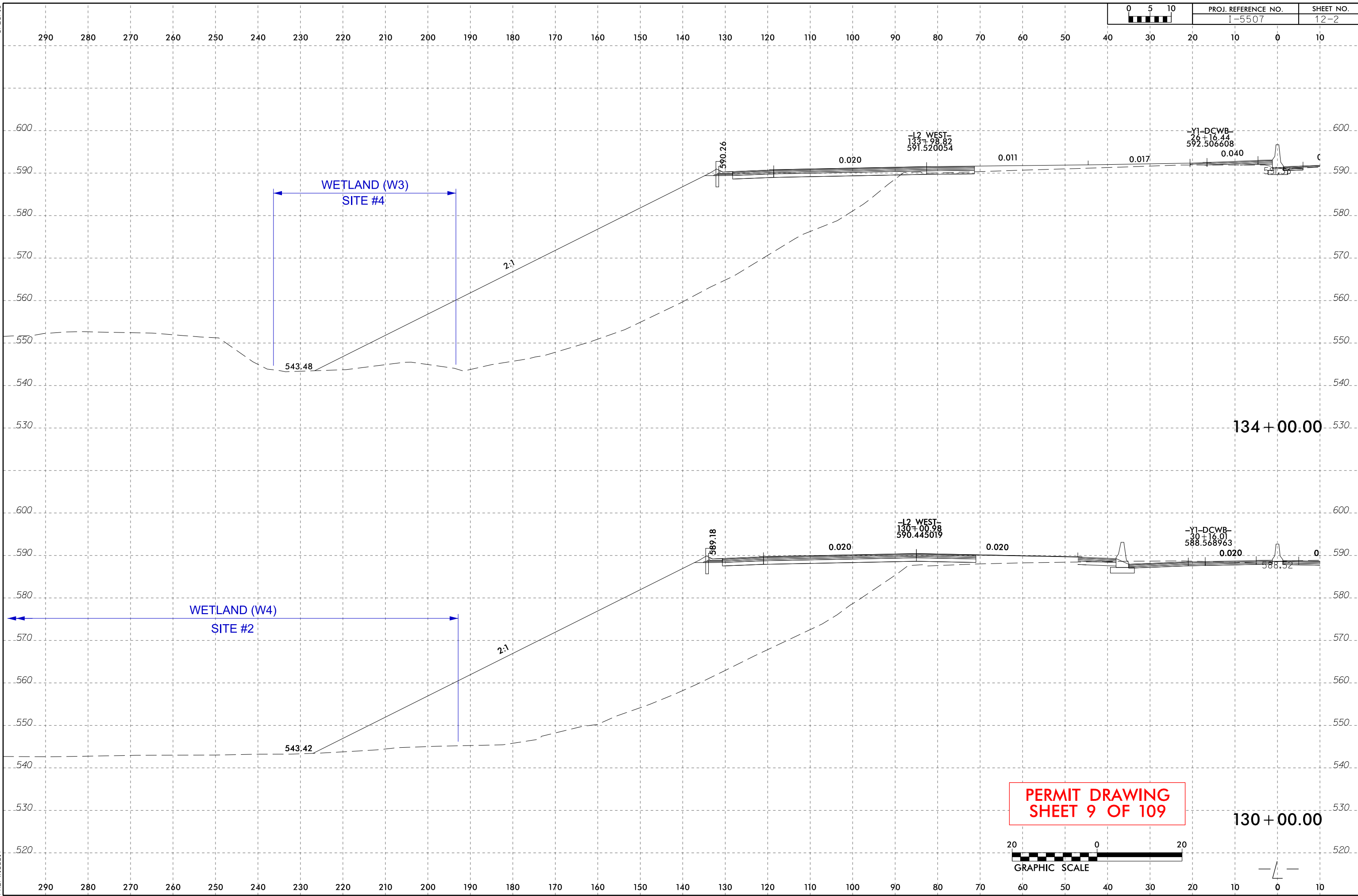
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PDEWICS01



PROJECT REFERENCE NO.		SHEET NO.	
I-5507		12-1	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			


PERMIT DRAWING
SHEET 8 OF 109

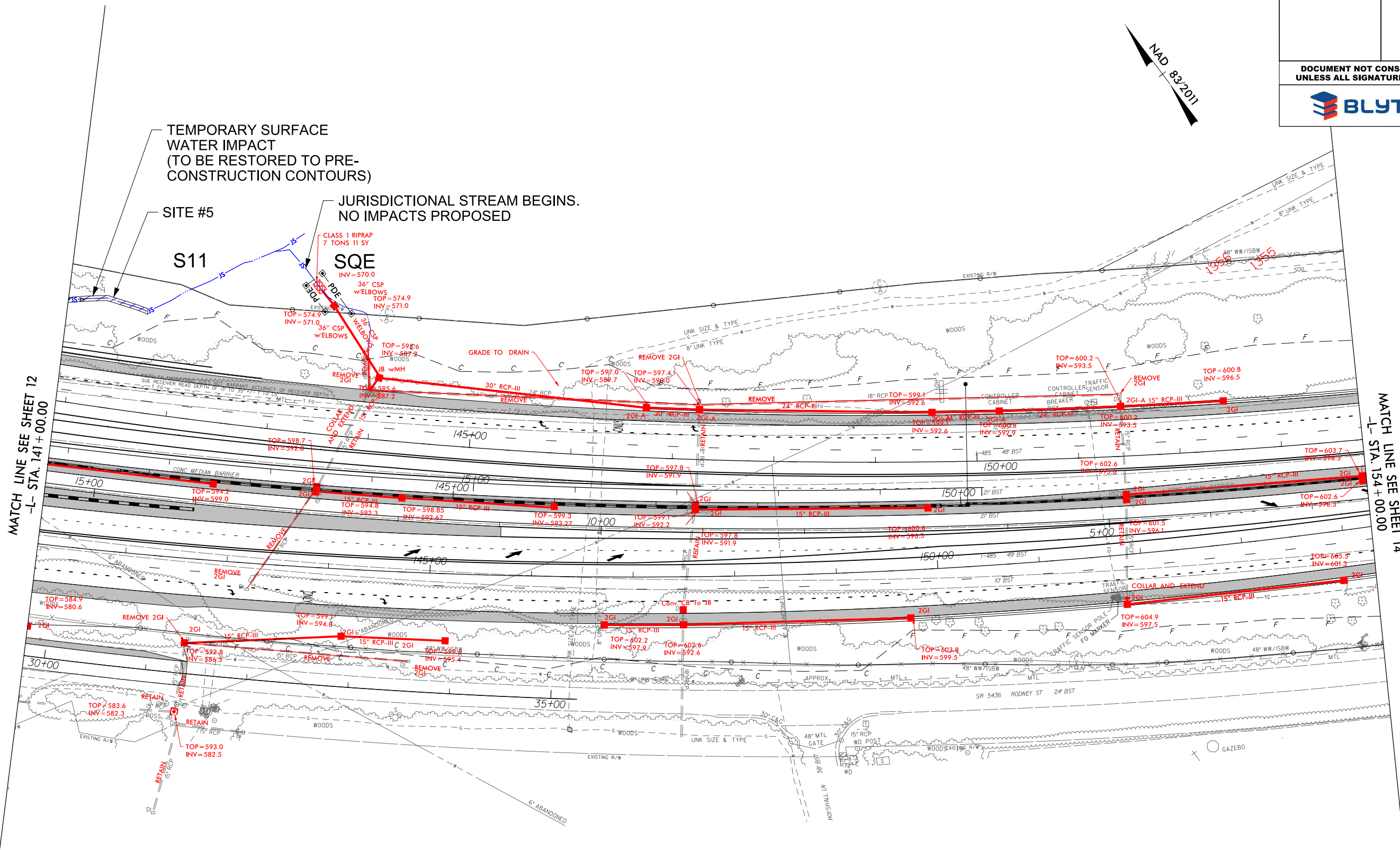




8/17/99

wsp 1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.		SHEET NO.
I-5507		13
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
 BLYTHE		



7/1/2019
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PDPWIC501

15 75 DENOTES TEMPORARY IMPACTS IN SURFACE WATER


PERMIT DRAWING
SHEET 10 OF 109

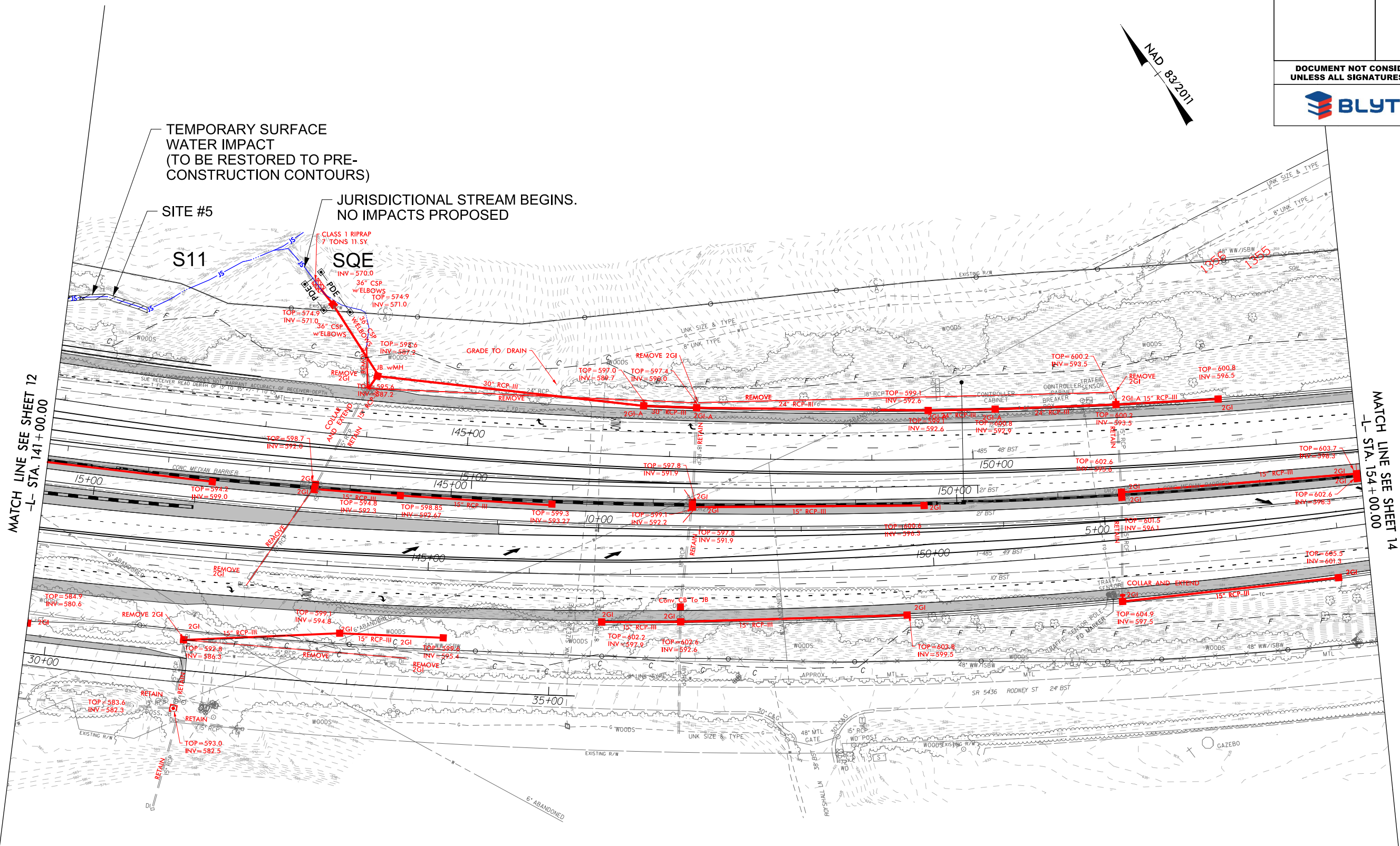


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7/1/2019
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wsp 1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

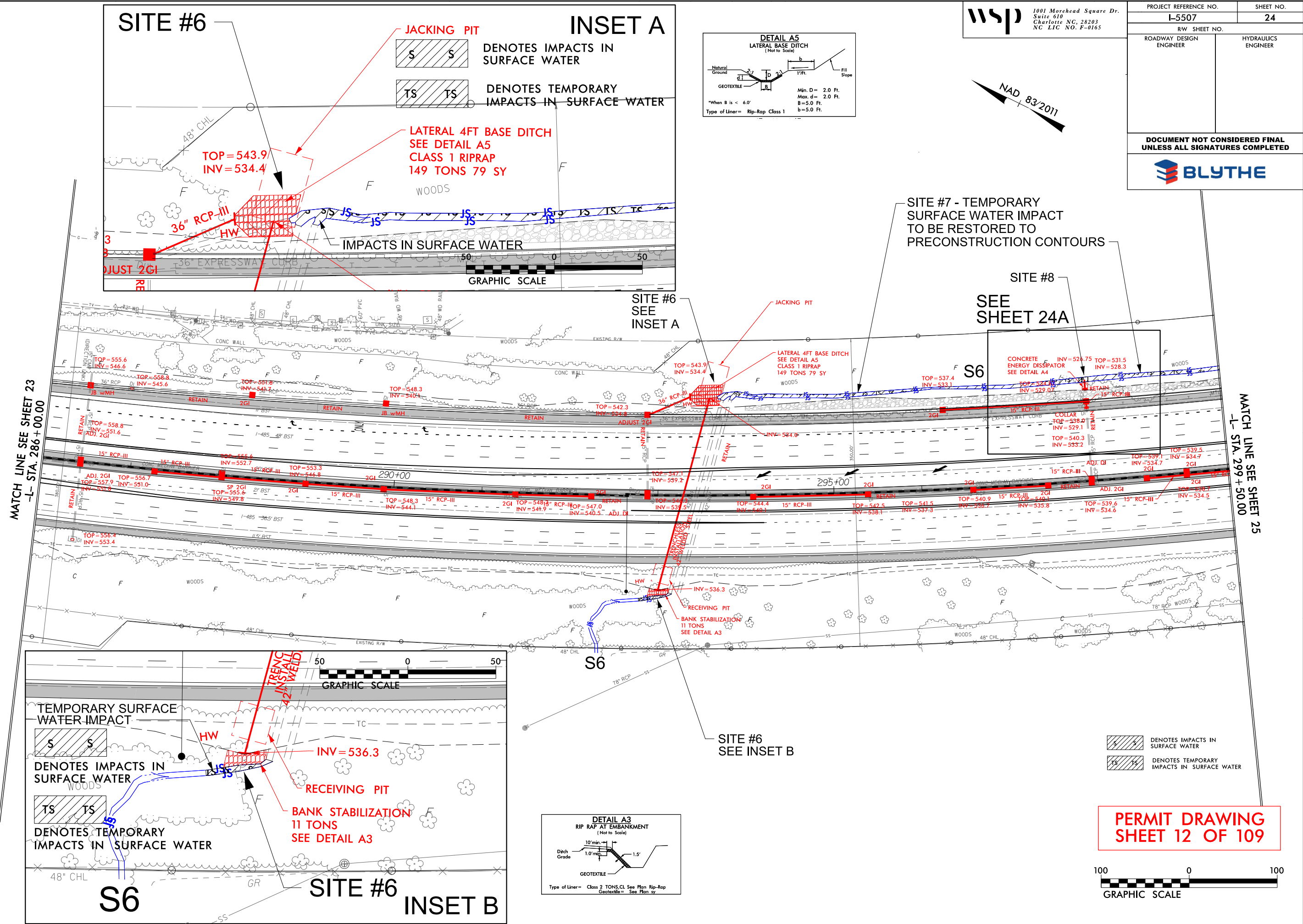
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I-5507		13	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
			

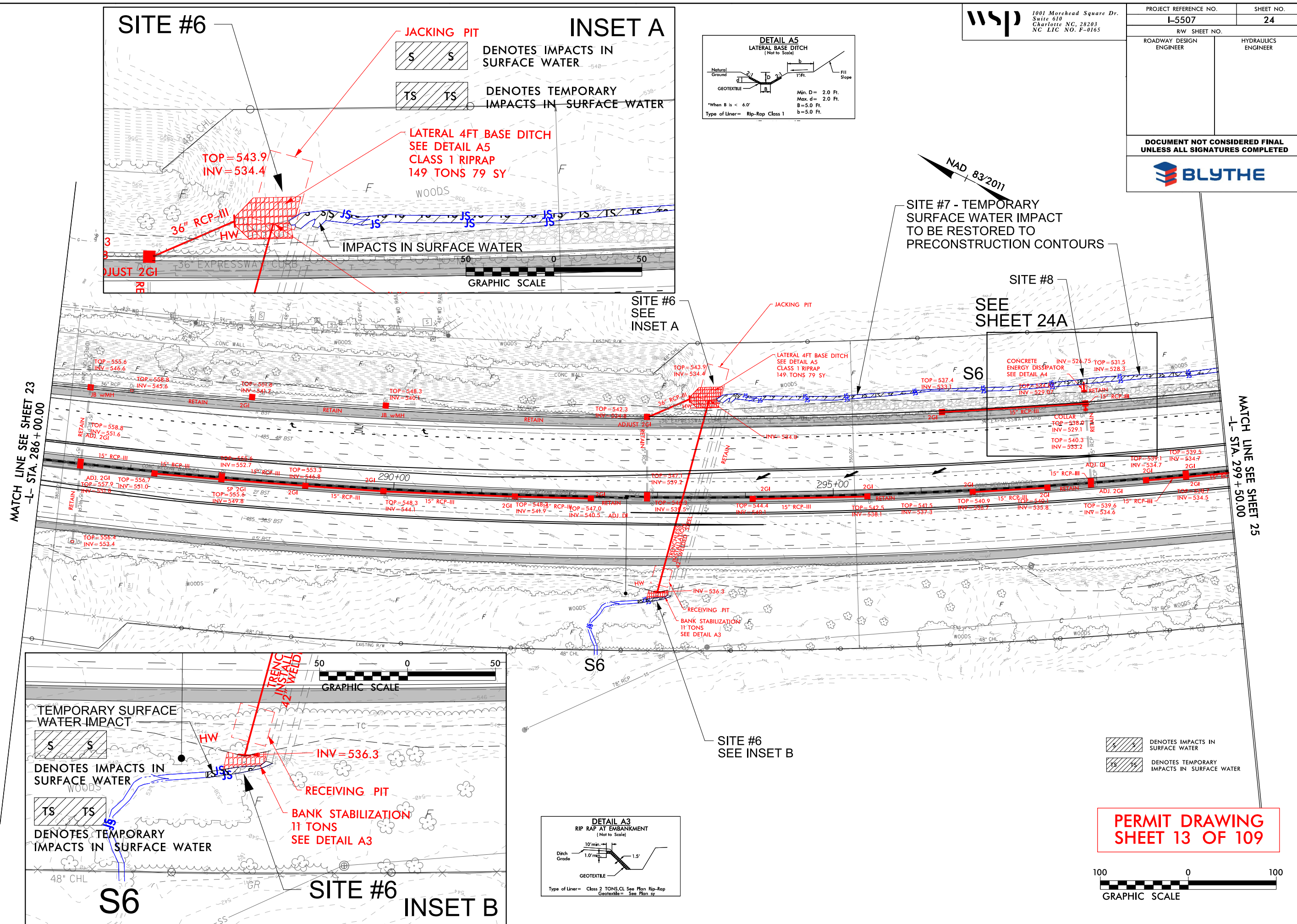


 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

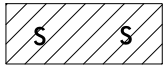
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SHEET 11 OF 109**



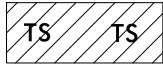




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7/1/2019
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P:\DWG\CS01



DENOTES IMPACTS IN
SURFACE WATER



DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

wsp
1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.

I-5507

SHEET NO.

24A

R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SITE #7

SITE #8

IMPACTS IN WATER SURFACE

S6

CONCRETE
ENERGY DISSIPATOR
SEE DETAIL A4

INV = 526.75 TOP = 531.5
INV = 528.3

TOP = 534.8
INV = 529.07

RETAIN
15" RCP-III

COLLAR
TOP = 538.0
INV = 529.1

TOP = 540.3
INV = 533.2

ADJ. DI
TOP = 539.1
INV = 534.7
2GI

15" RCP-III

RETAIN

ADJ. 2GI

2GI CONC MEDIAN BARRIER

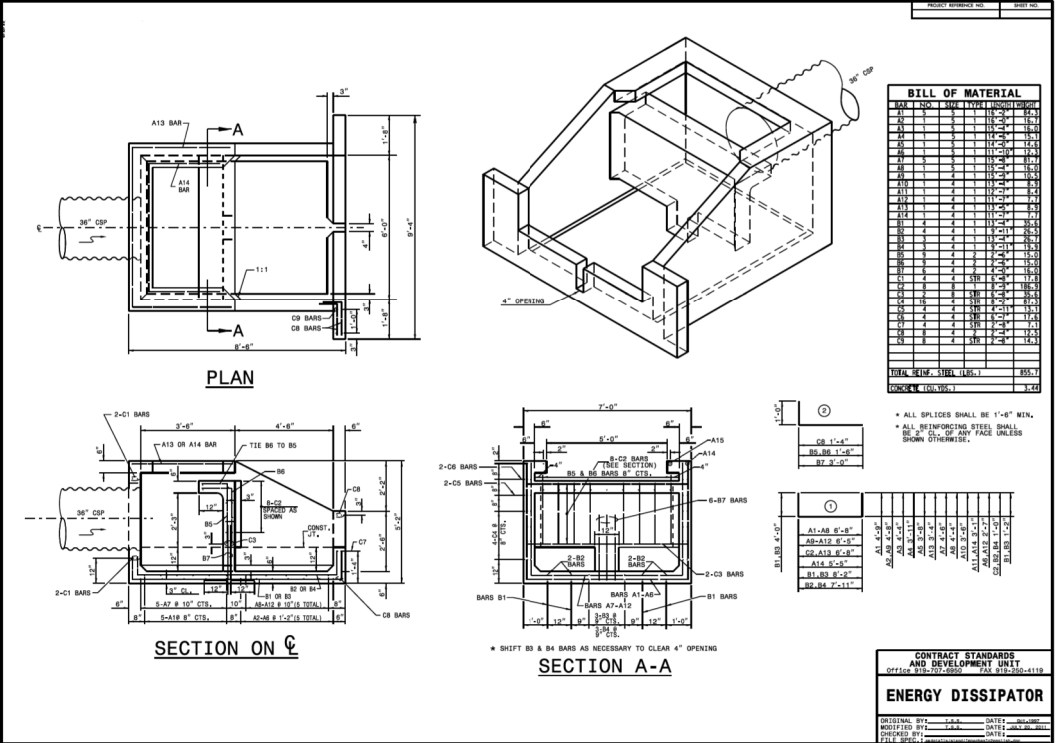
OP = 540.9
INV = 536.7

15" RCP-III
TOP = 540.1
INV = 535.8

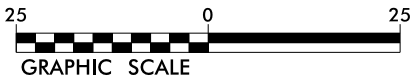
TOP = 539.6
INV = 534.6


15" RCP-III

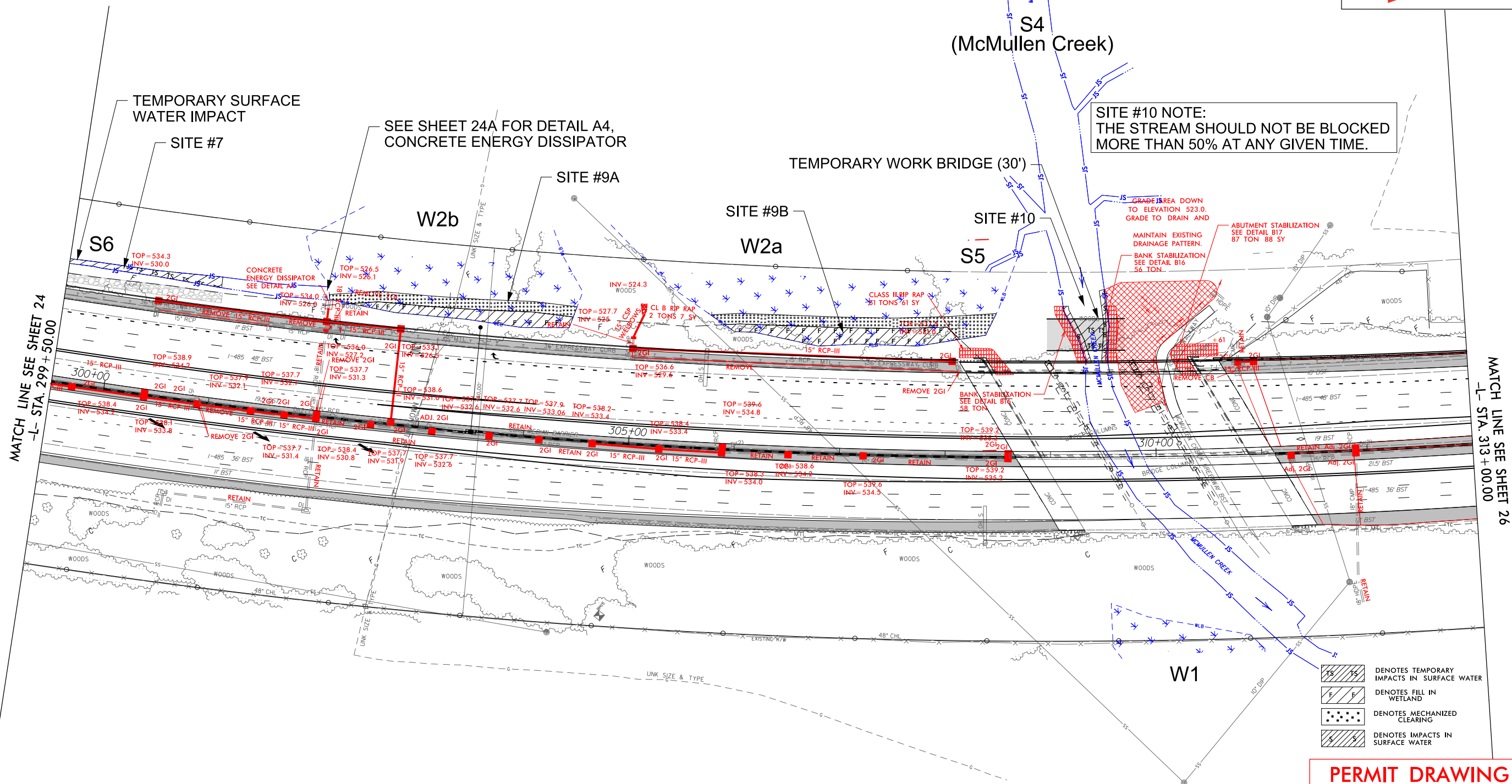
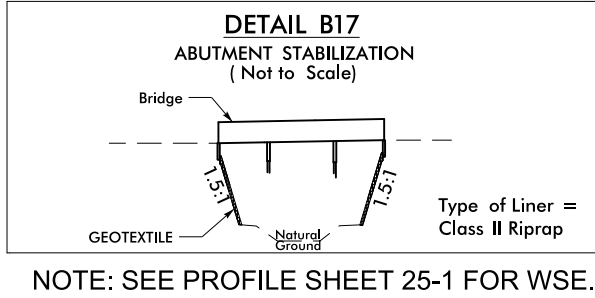
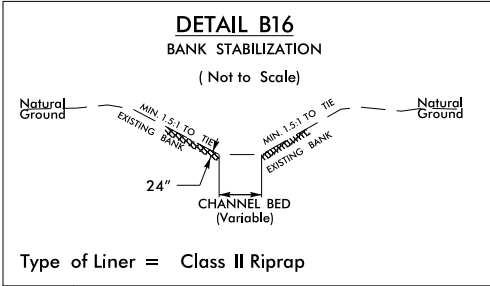
**DETAIL A4
ENERGY DISSIPATOR**



PERMIT DRAWING
SHEET 14 OF 109

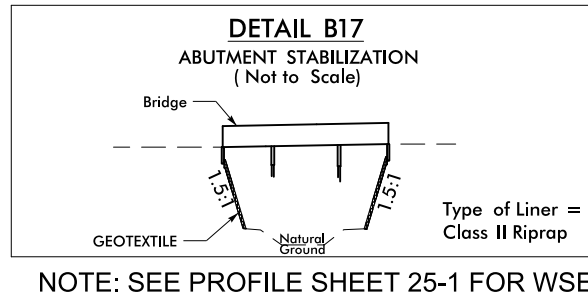


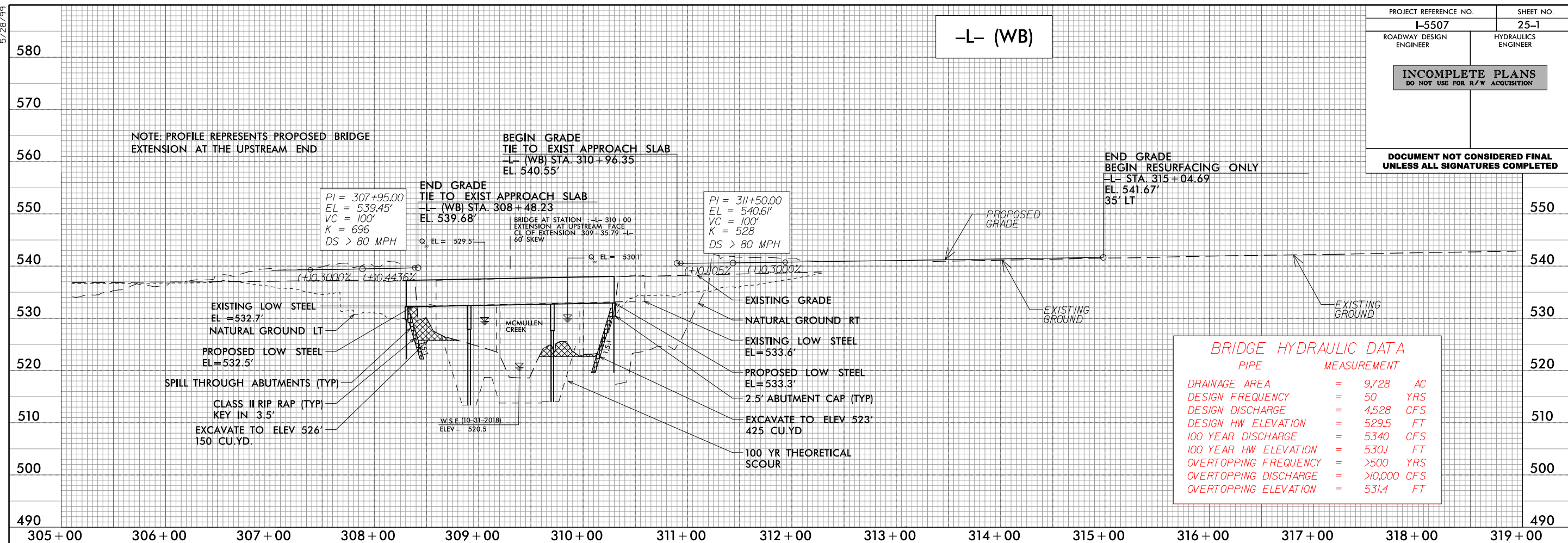
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I-5507		25
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
 BLYTHE		



PERMIT DRAWING
SHEET 16 OF 109

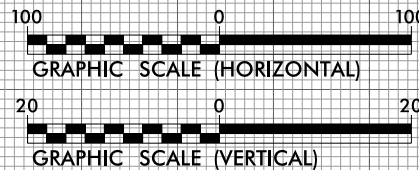




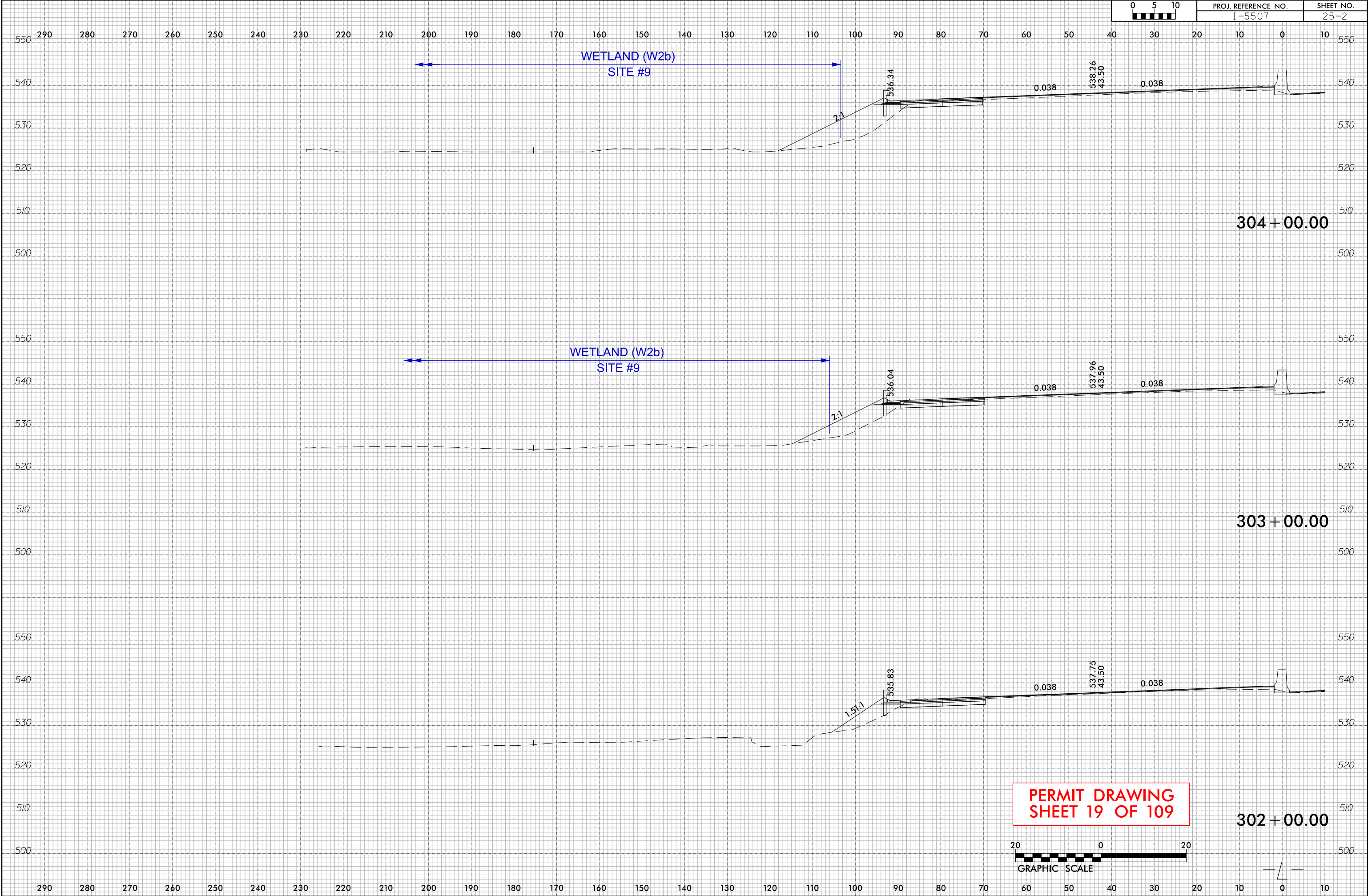


BRIDGE HYDRAULIC DATA			
PIPE		MEASUREMENT	
DRAINAGE AREA	=	9,728	AC
DESIGN FREQUENCY	=	50	YRS
DESIGN DISCHARGE	=	4,528	CFS
DESIGN HW ELEVATION	=	529.5	FT
100 YEAR DISCHARGE	=	5340	CFS
100 YEAR HW ELEVATION	=	530.1	FT
OVERTOPPING FREQUENCY	=	>500	YRS
OVERTOPPING DISCHARGE	=	>10,000	CFS
OVERTOPPING ELEVATION	=	531.4	FT

PERMIT DRAWING
SHEET 18 OF 109



6/23/16



PERMIT DRAWING
SHEET 19 OF 109

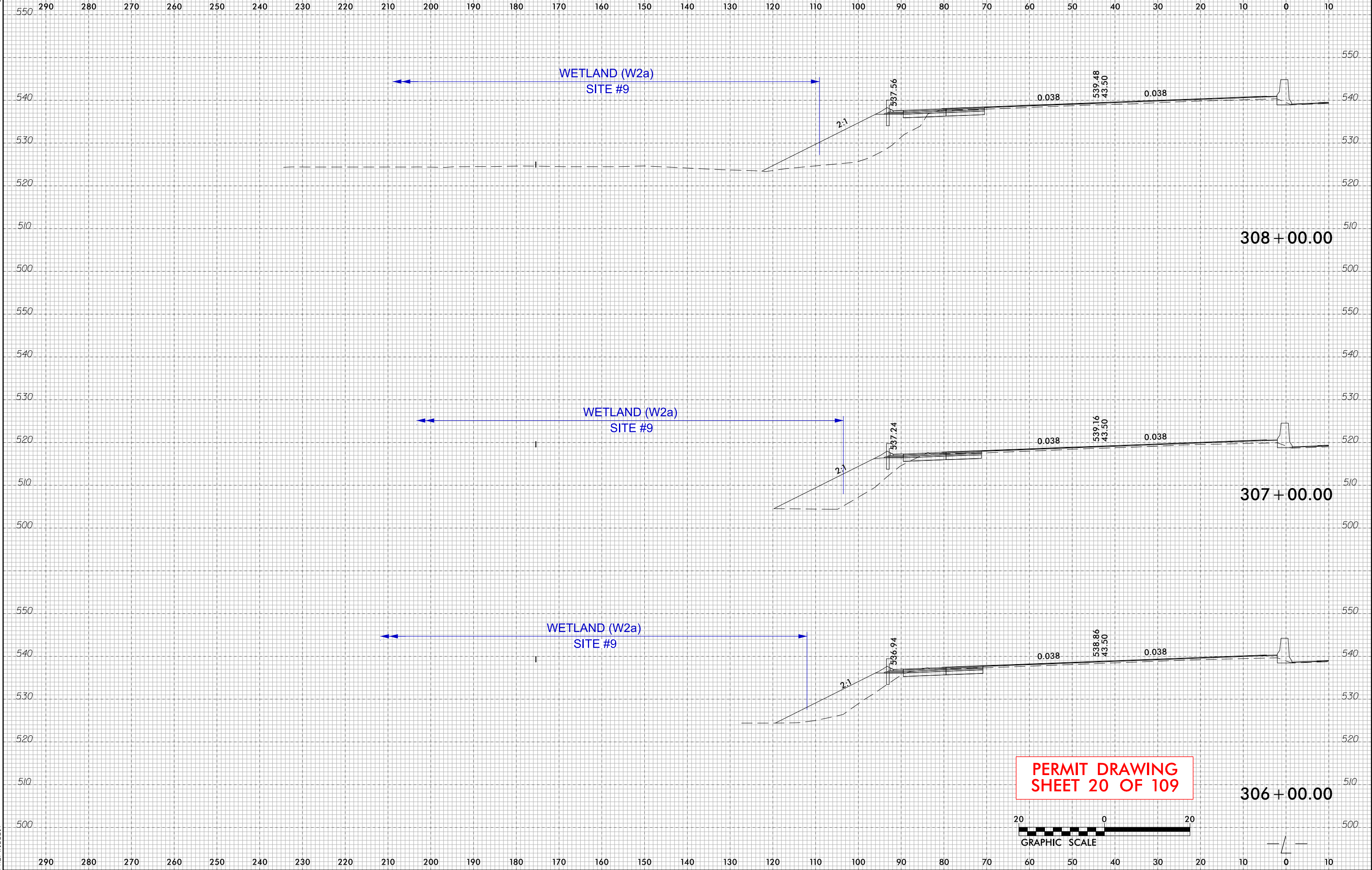
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GRAPHIC SCALE



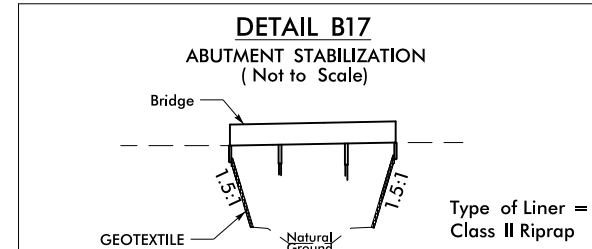
6/23/16



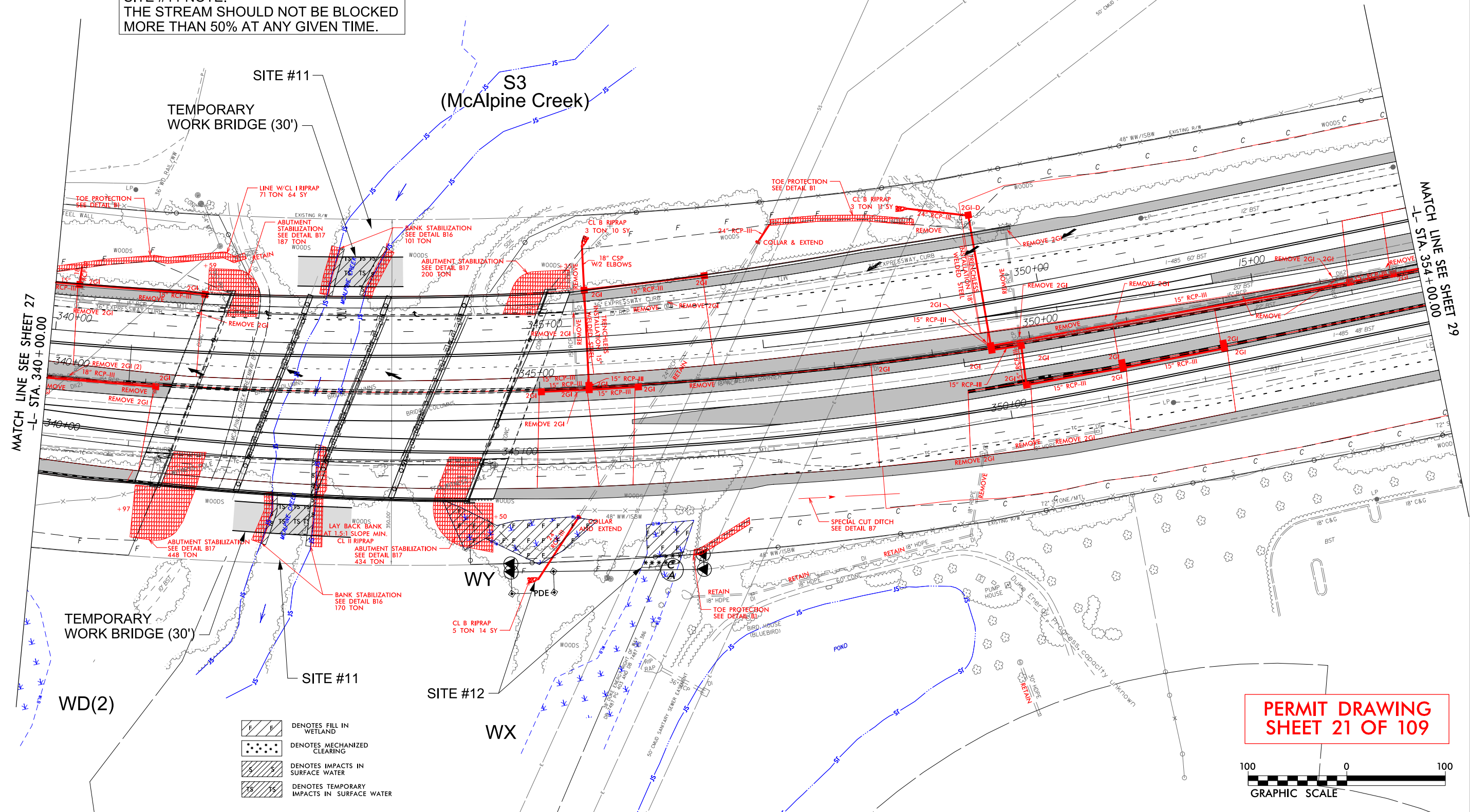
PROJ. REFERENCE NO.	SHEET NO.
I-5507	25-3

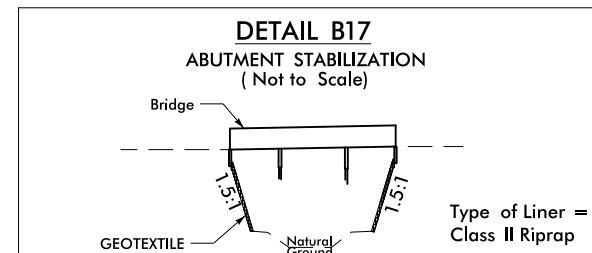


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PRD\WTC01\$




SITE #11 NOTE:
THE STREAM SHOULD NOT BE BLOCKED
MORE THAN 50% AT ANY GIVEN TIME.





NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I-5507	28
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
	

**PERMIT DRAWING
SHEET 22 OF 109**

WD(2)

SITE #11

SITE #12

WX

S3 (McAlpine Creek)

TEMPORARY WORK BRIDGE (30')

TEMPORARY WORK BRIDGE (30')

**MATCH LINE SEE SHEET 27
-L- STA. 340 + 00.00**

**MATCH LINE SEE SHEET 29
-R- STA. 354 + 00.00**

LEGEND:

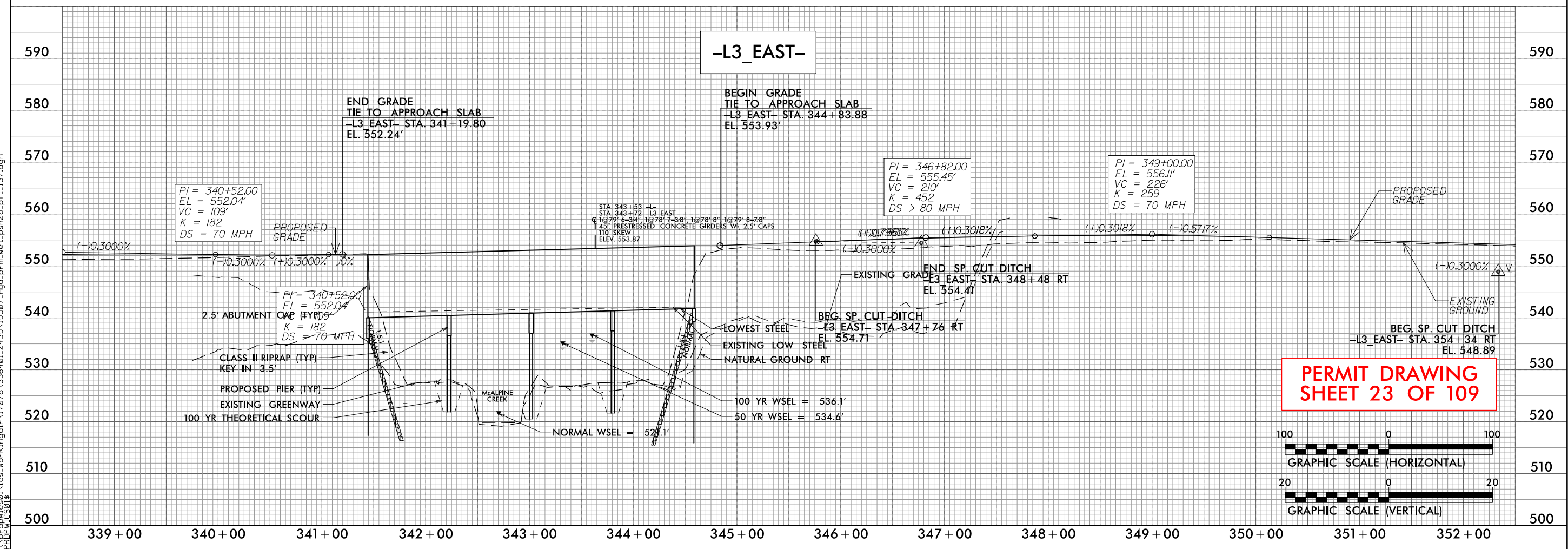
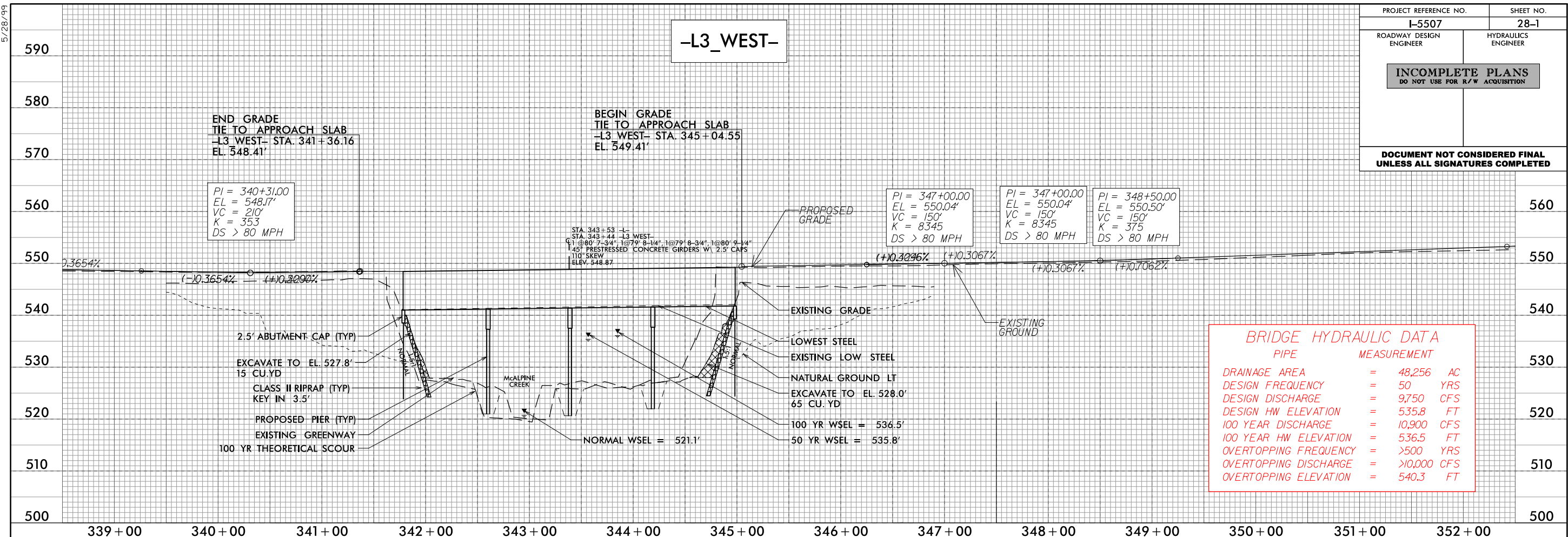
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHIC SCALE

100 0 100

PERMIT DRAWING
SHEET 22 OF 109

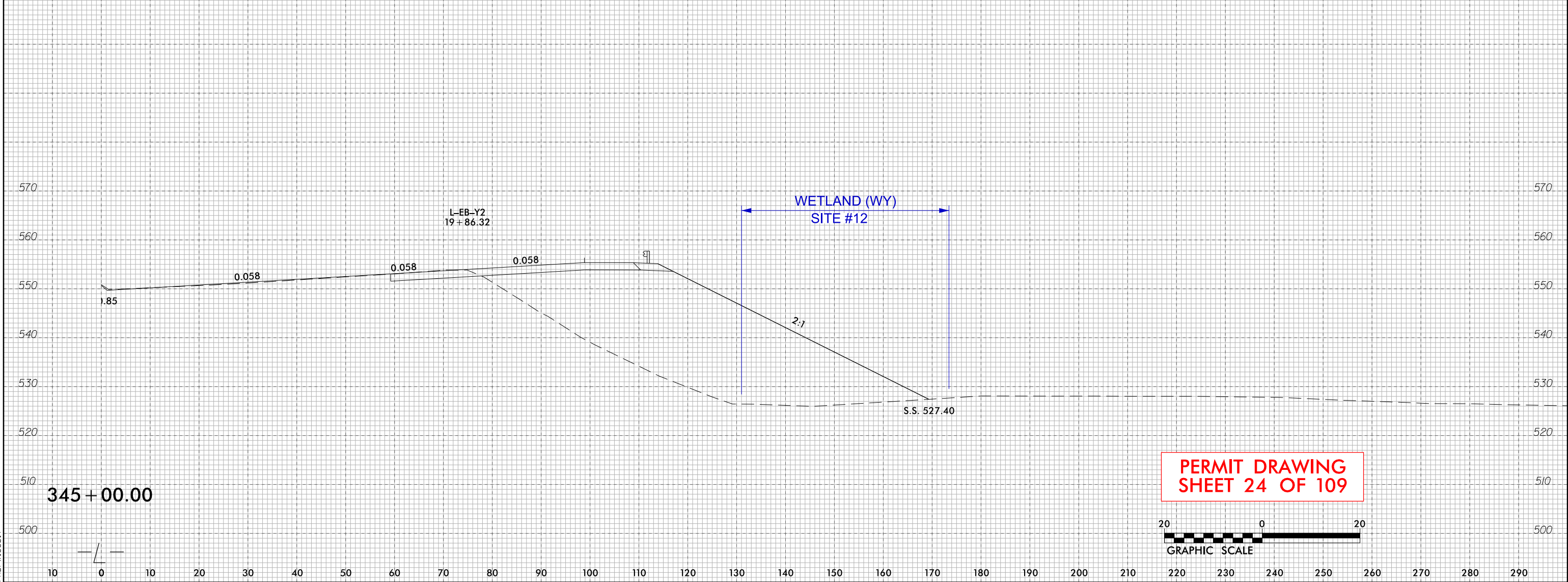
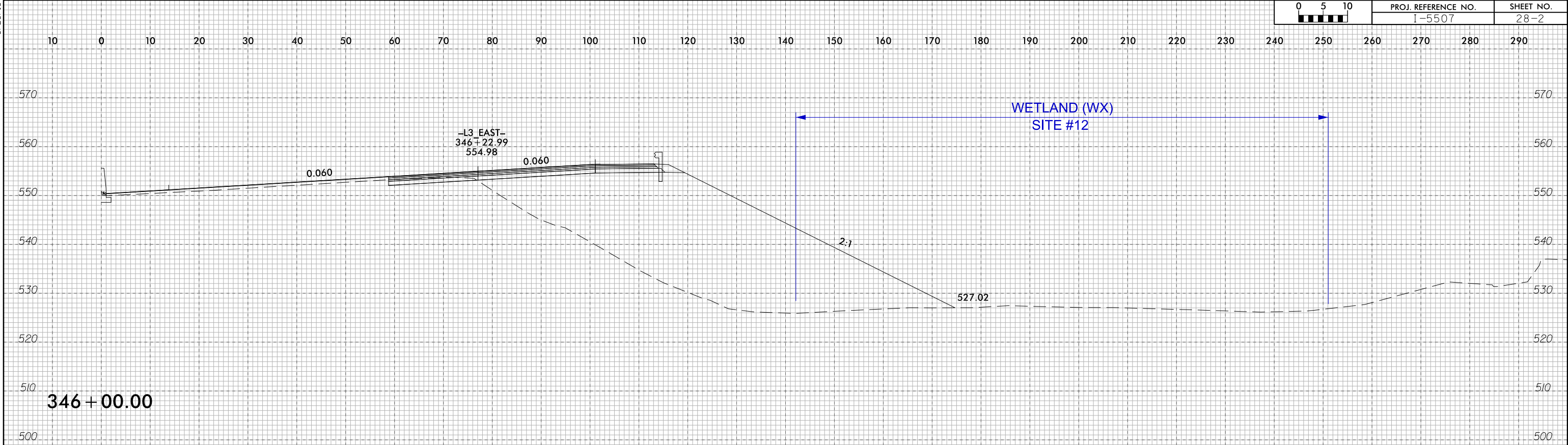




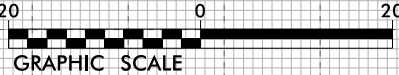
6/23/16



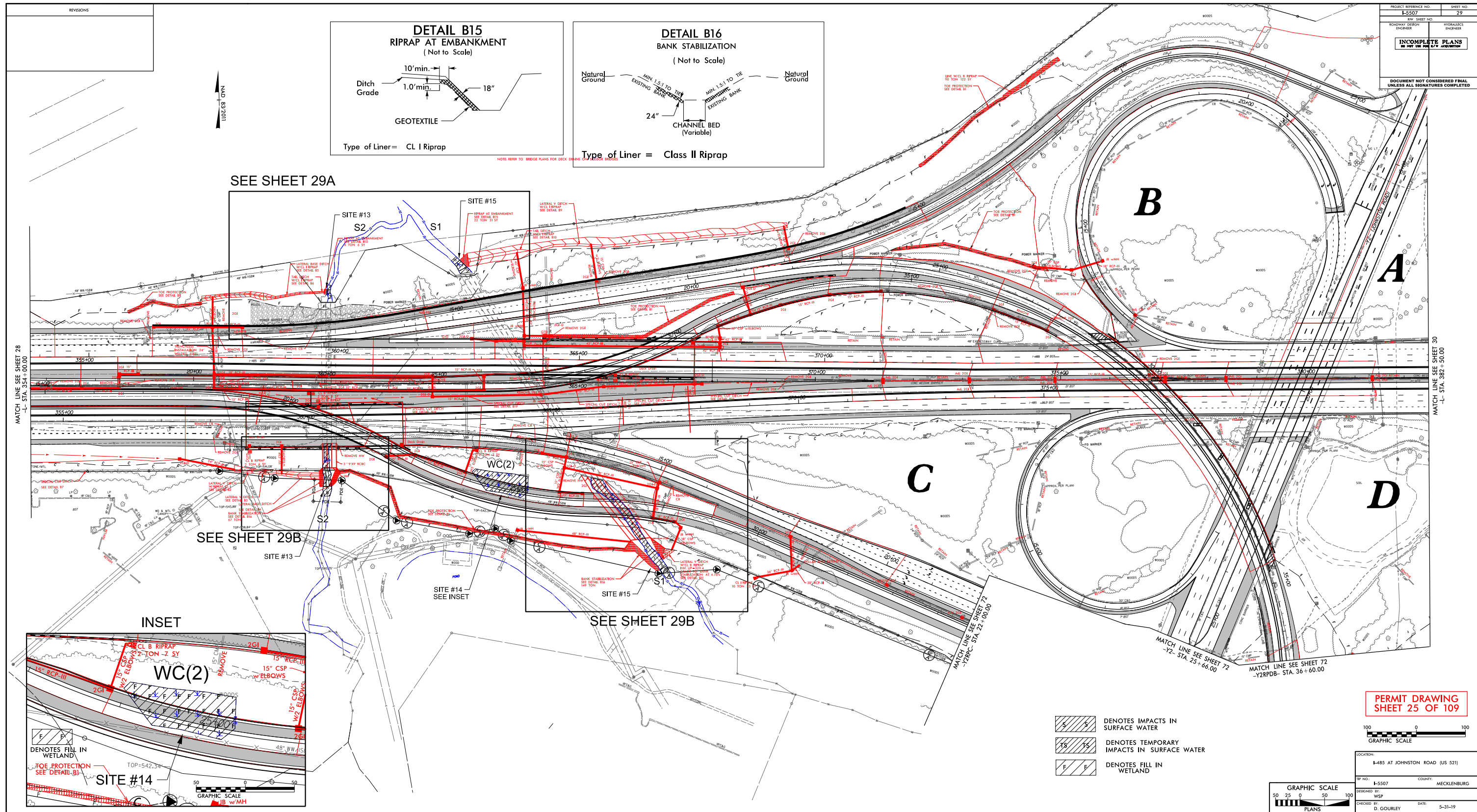
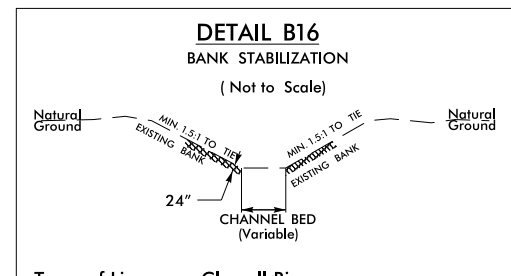
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I-5507	28-2

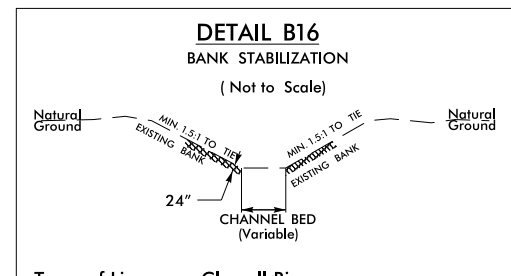


PERMIT DRAWING
SHEET 24 OF 109

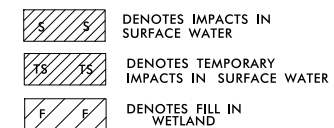


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PRD5WTC501\$



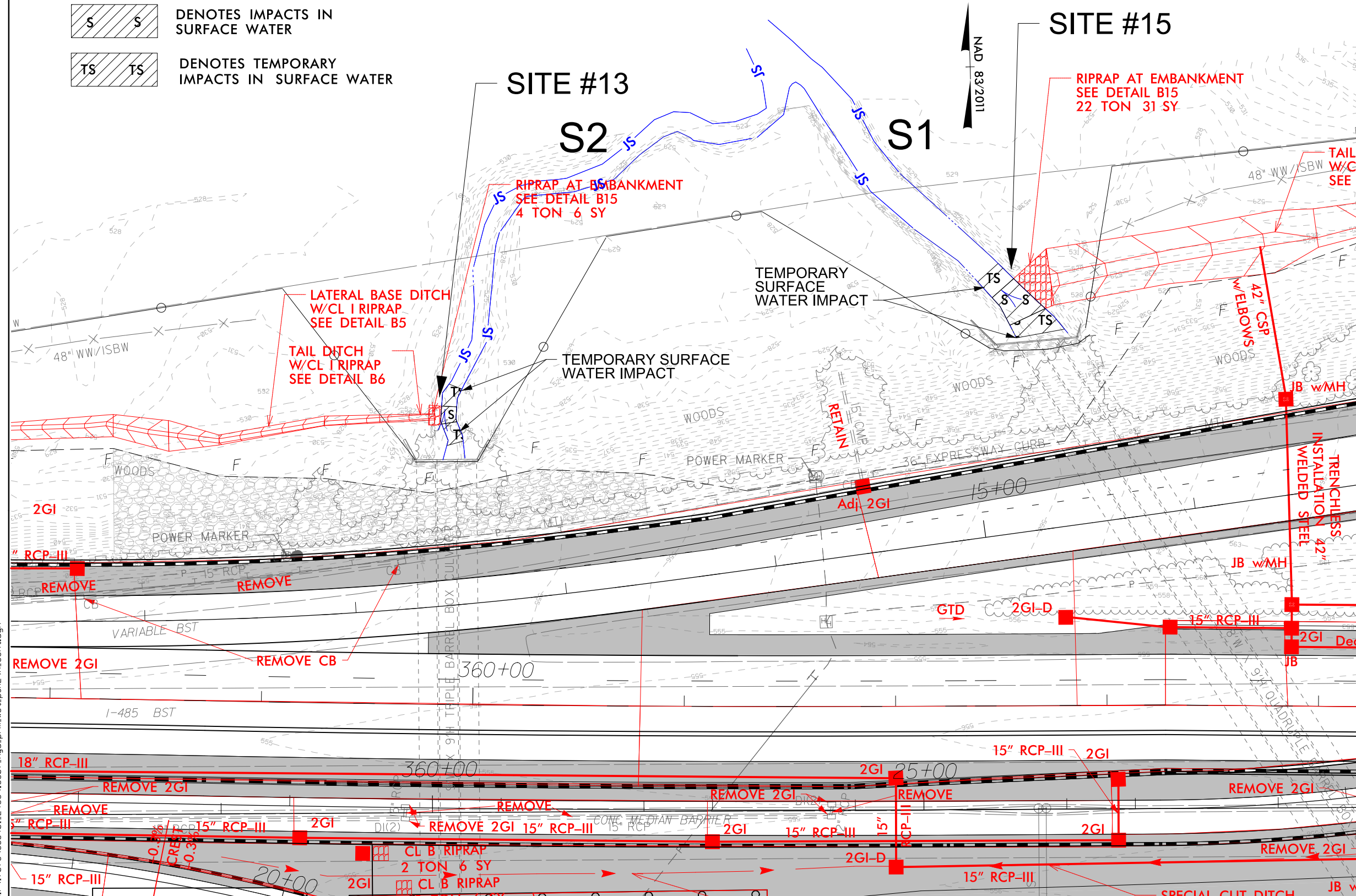


SEE SHEET 29B

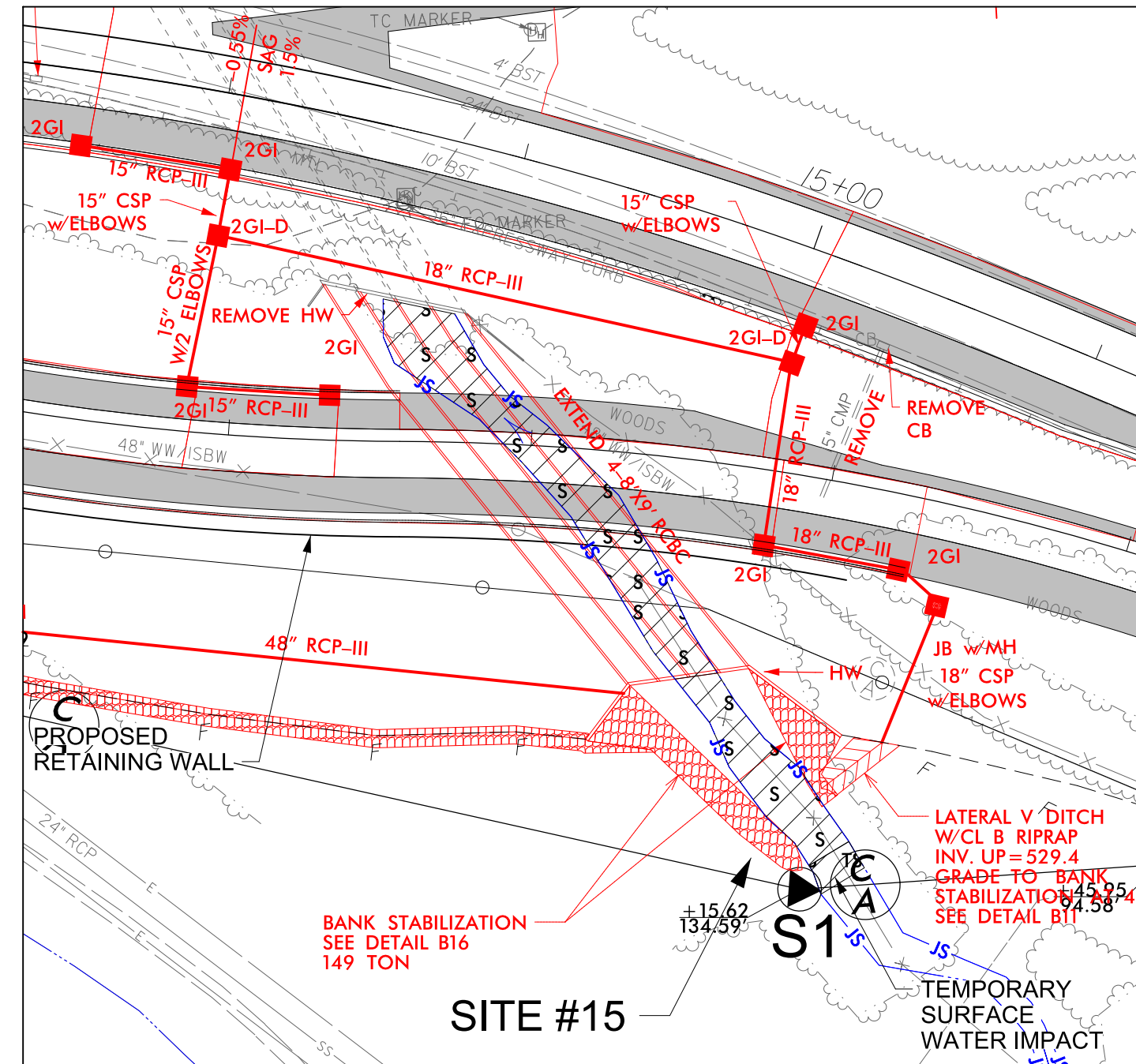
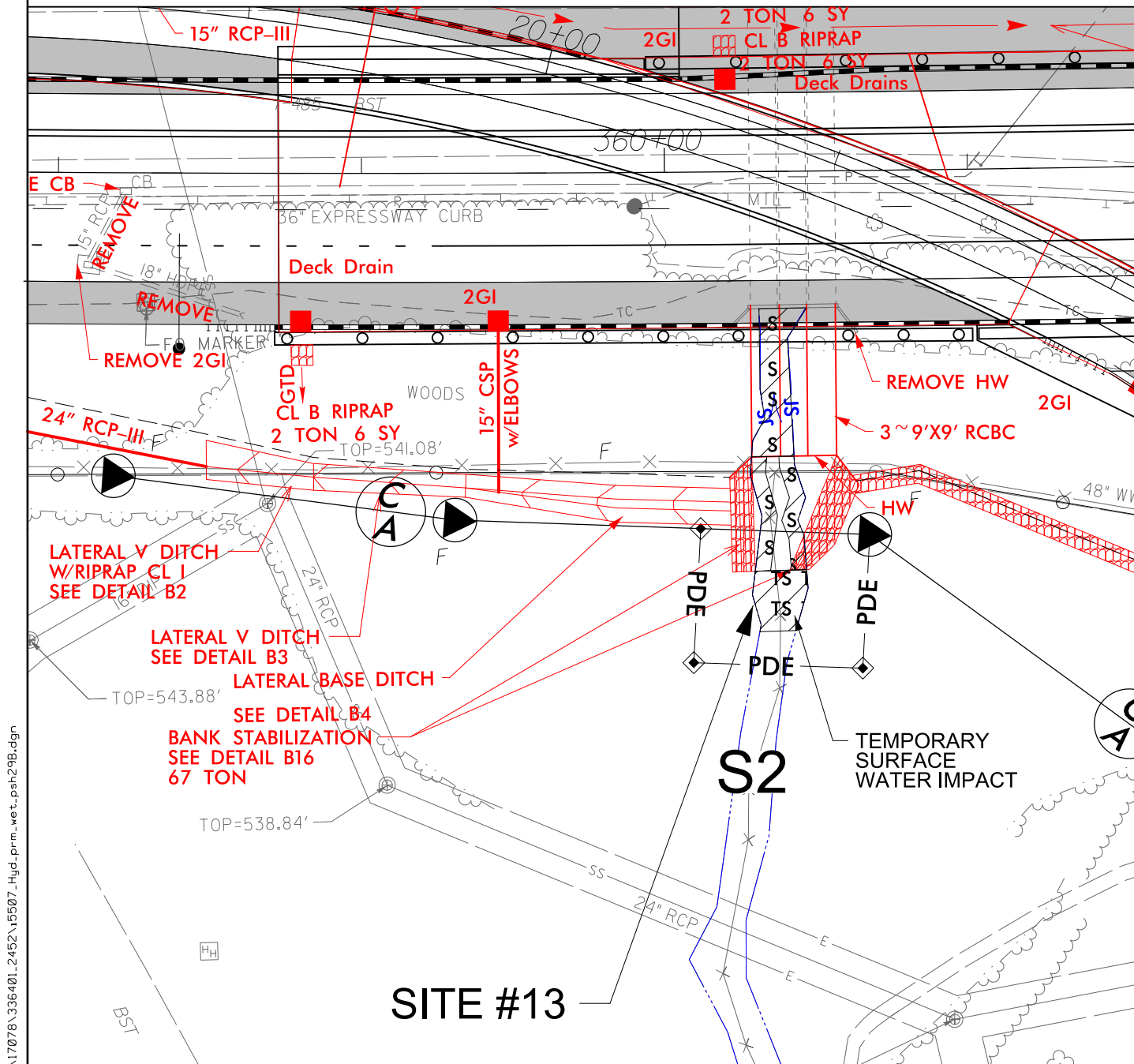
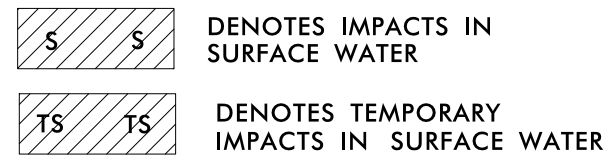
PERMIT DRAWING
SHEET 26 OF 109

485 AT JOHNSTON ROAD (US 521)
COUNTY: MECKLENBURG
BY: WSP
DATE: 5-31-19
D. GOURLEY





7/1/2019
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 PRPW\CS01\$ 8/17/99



PERMIT DRAWING
SHEET 29 OF 109



8/17/99
7/1/2019
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PDE\WCS01



DENOTES IMPACTS IN
SURFACE WATER



DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.

I-5507

SHEET NO.

29B

R/W SHEET NO.

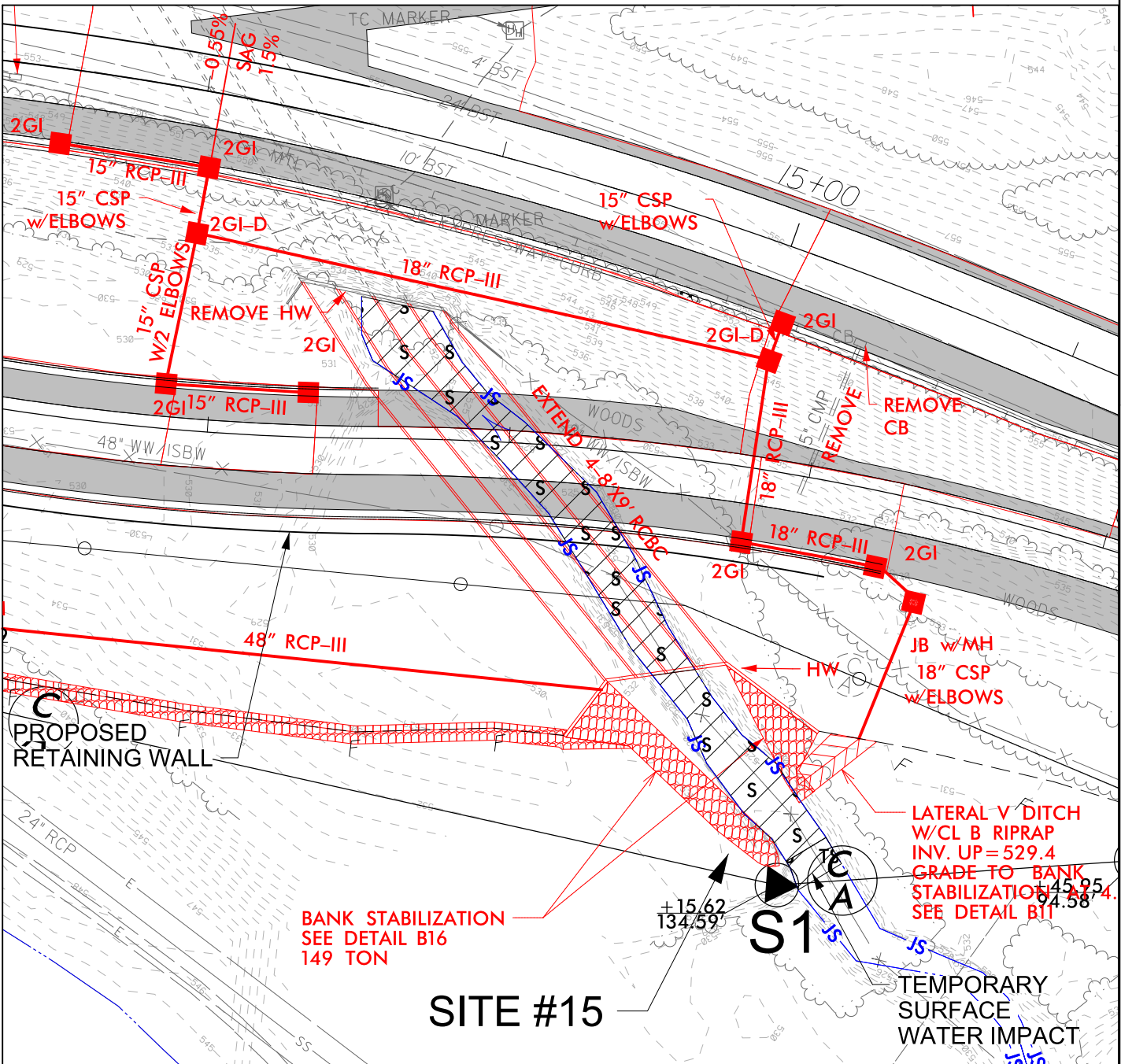
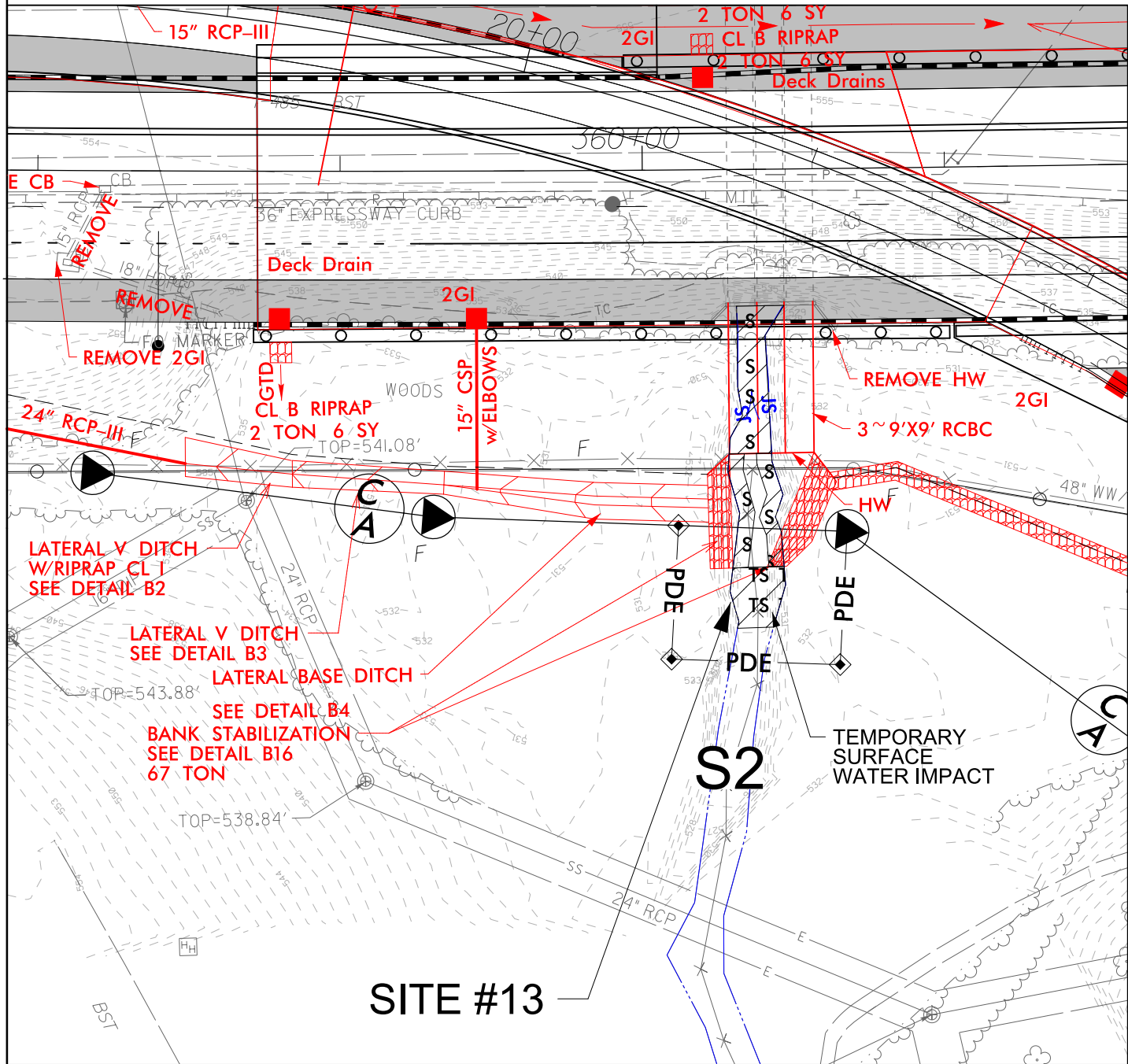
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



NAD 83/2011



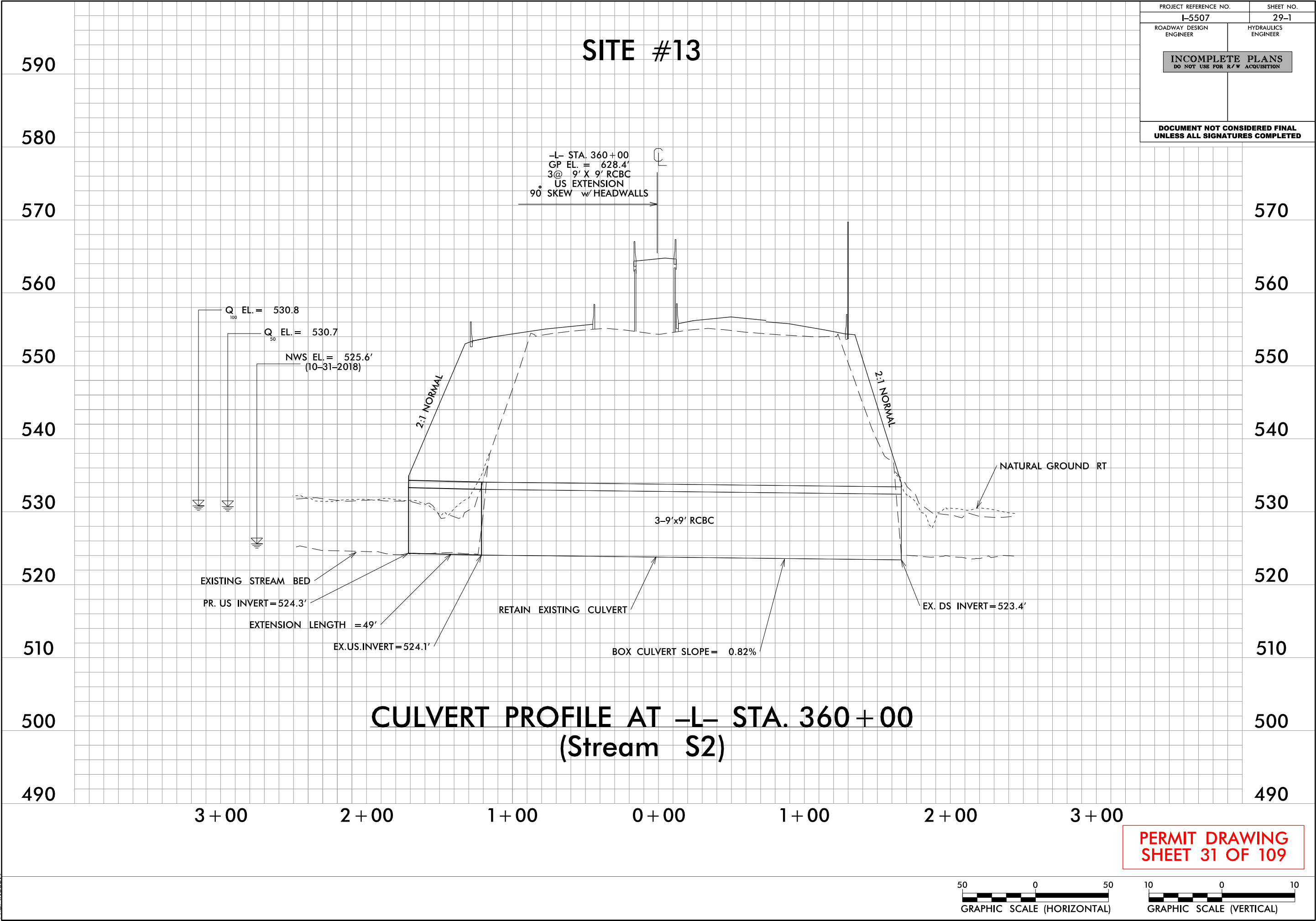
PERMIT DRAWING
SHEET 30 OF 109



5/28/99

7/1/2019
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PDEWICS01

PROJECT REFERENCE NO.		SHEET NO.	
I-5507		29-1	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



6/23/16



PROJ. REFERENCE NO.
I-5507

SHEET NO.
29-3

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290



ICD-
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2.15
0.021

-L3 EAST-
363+83.71
556.69

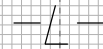
-Y2RPC-
11+57.69
555.50

554.25
S.P.
554.75

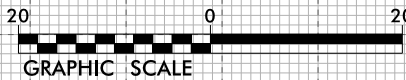
SEE -Y2DCC- CROSS SECTIONS
FOR DESIGN

WETLAND (WC(2))
SITE #14

363+50.00



PERMIT DRAWING
SHEET 33 OF 109



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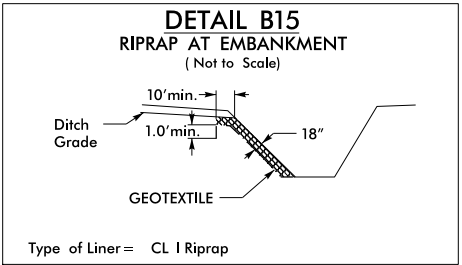
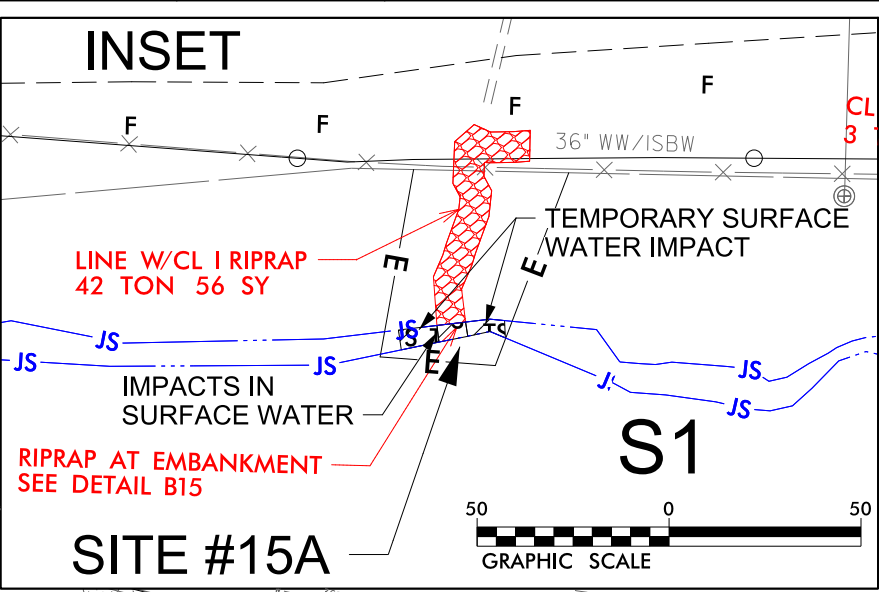
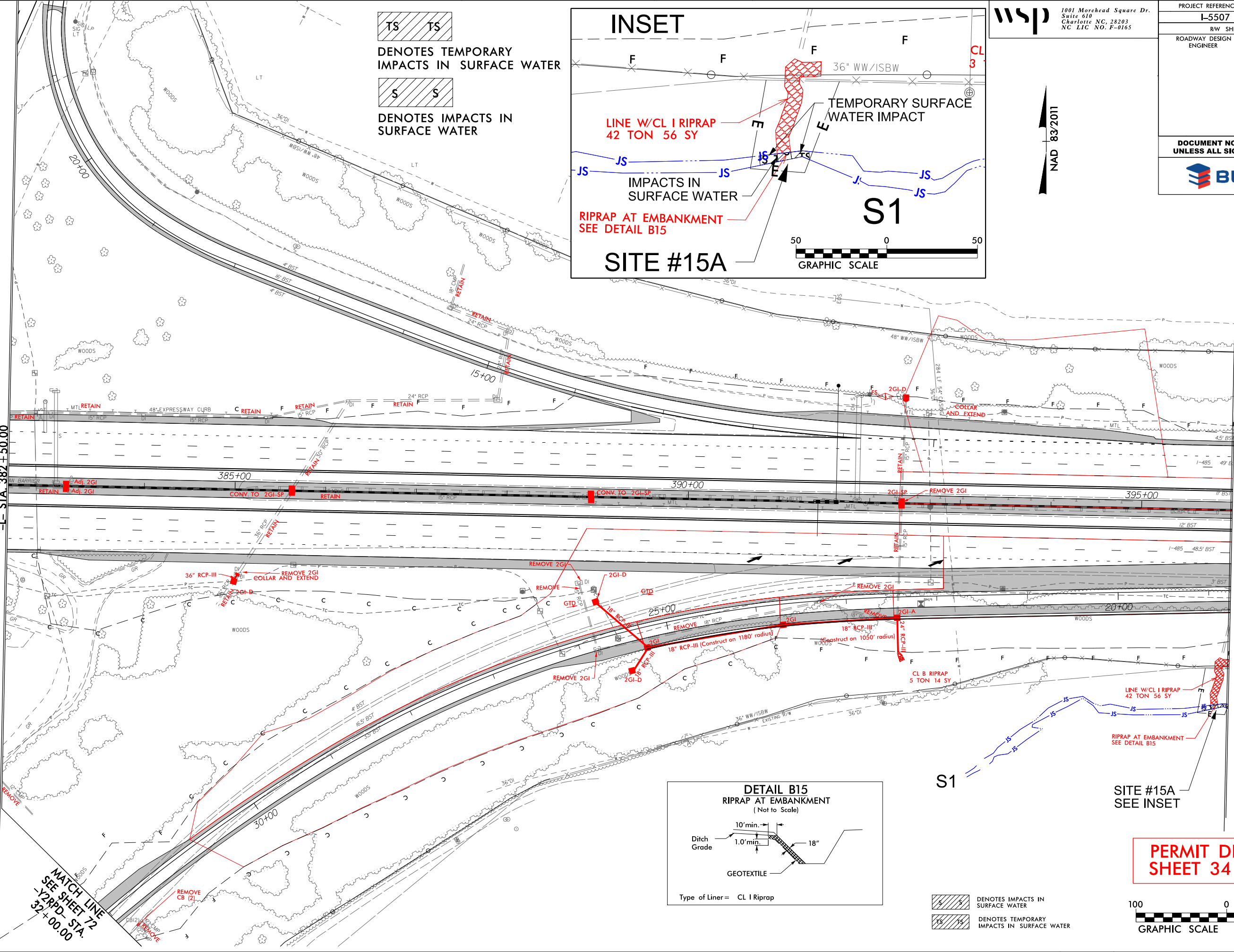
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PRDW\WC(2)

8/17/99

7/1/2019
C:\p\dwg\15507\15507.dgn
P:\DWG\15507\15507.dgn

MATCH LINE SEE SHEET 29
-L- STA. 382+50.00

MATCH LINE
SEE SHEET 72
-Y2RFD- STA.
32+00.00



100 0 100
GRAPHIC SCALE

100 0 100
GRAPHIC SCALE

PERMIT DRAWING
SHEET 34 OF 109

wsp
1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.		SHEET NO.
I-5507		30
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

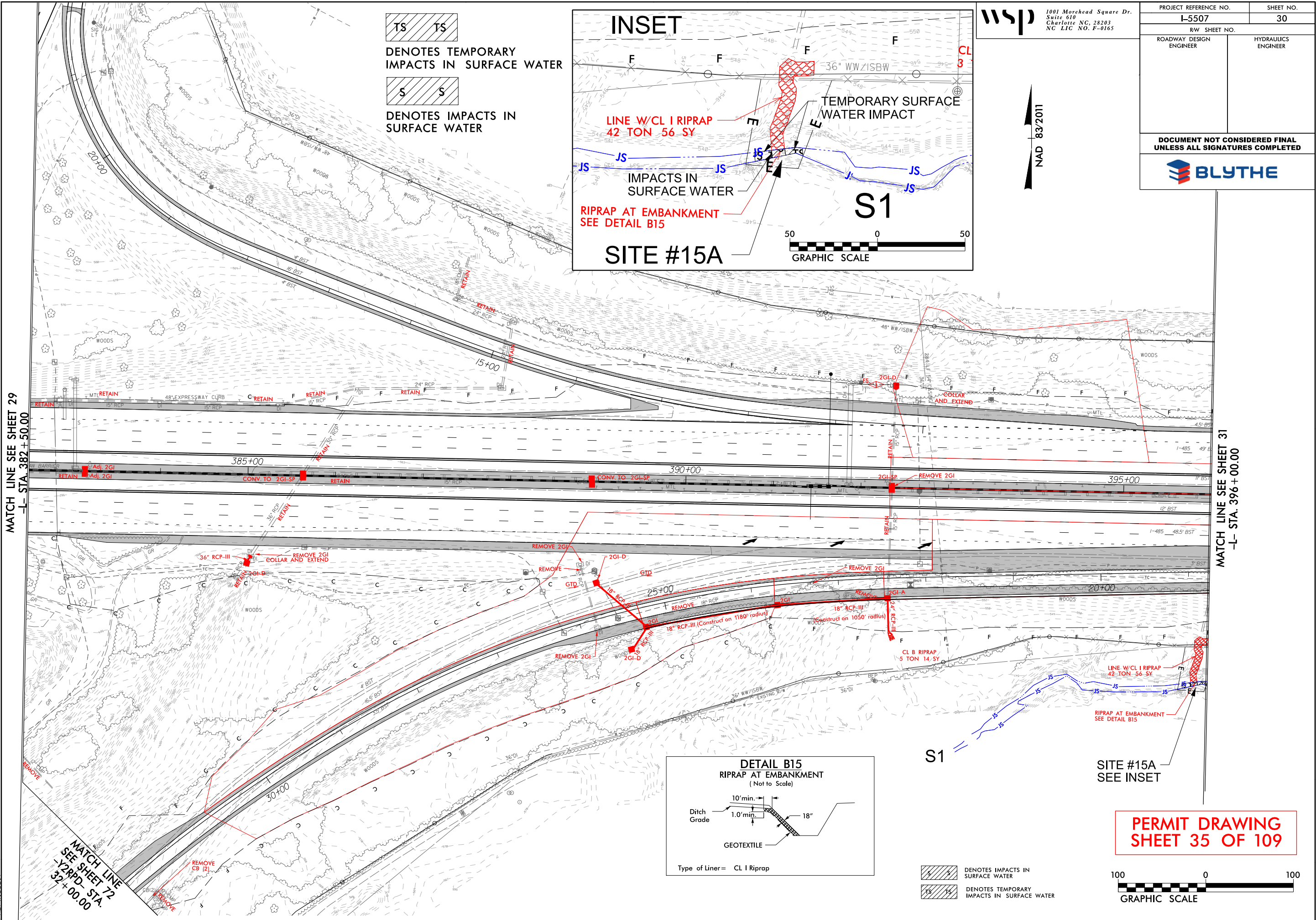
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

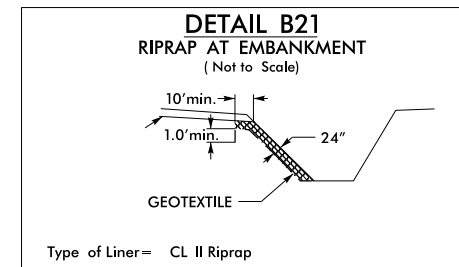
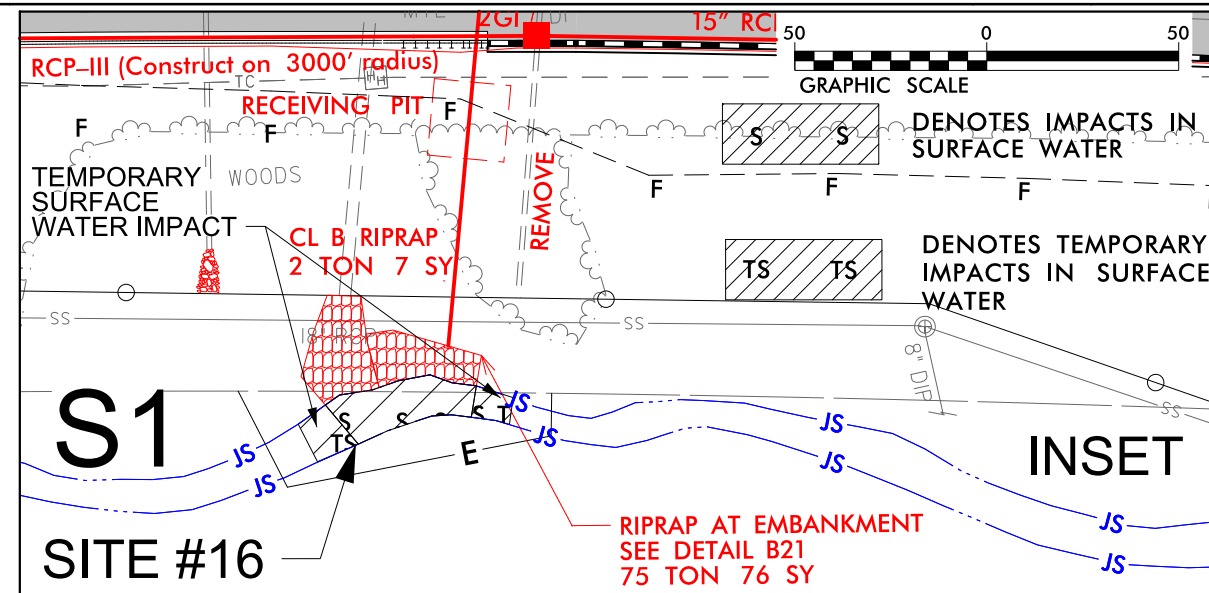
BLYTHE

SITE #15A
SEE INSET


S1

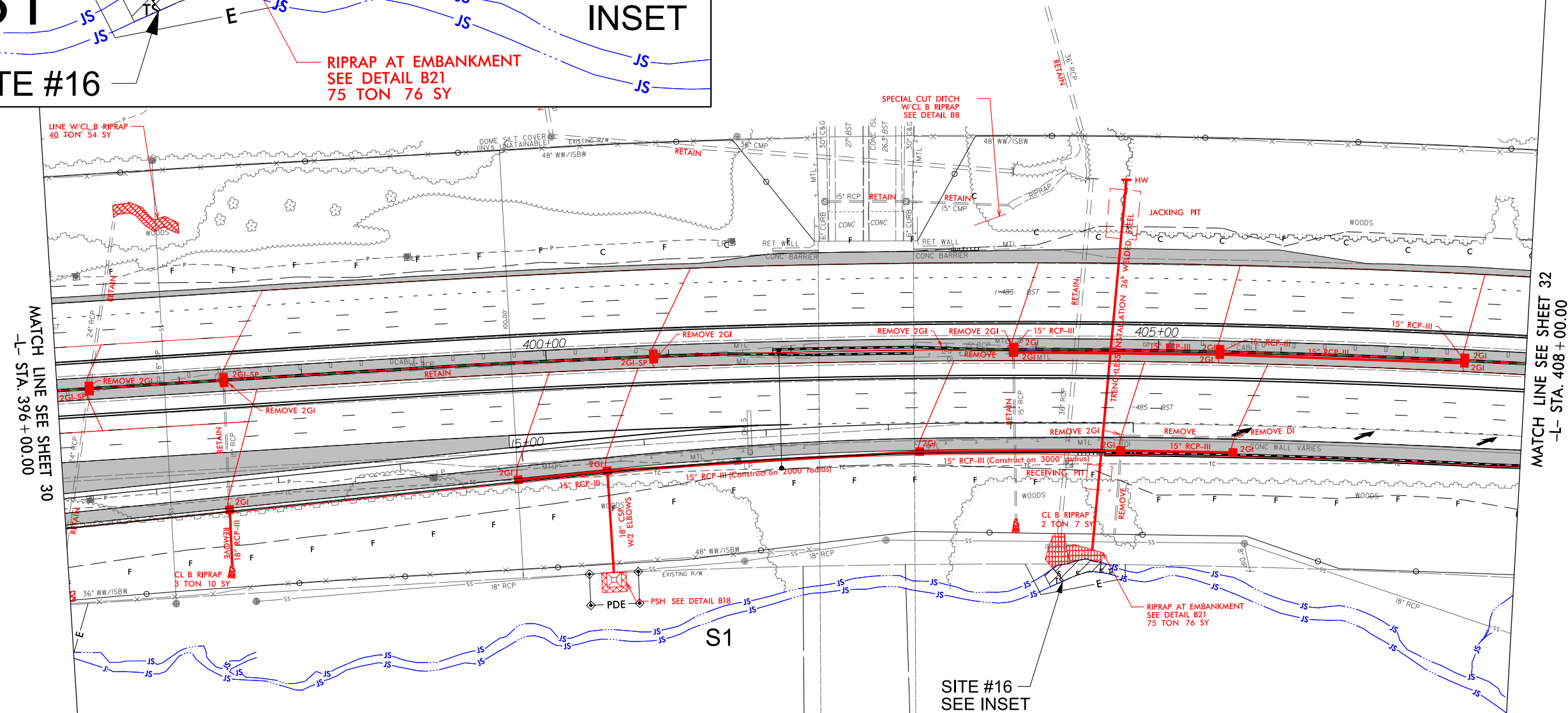
MATCH LINE SEE SHEET 31
-L- STA. 396+00.00






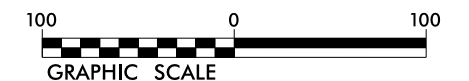
WSP 1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.	SHEET NO.
I-5507	31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
 BLYTE	



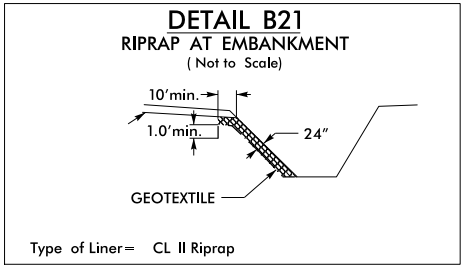
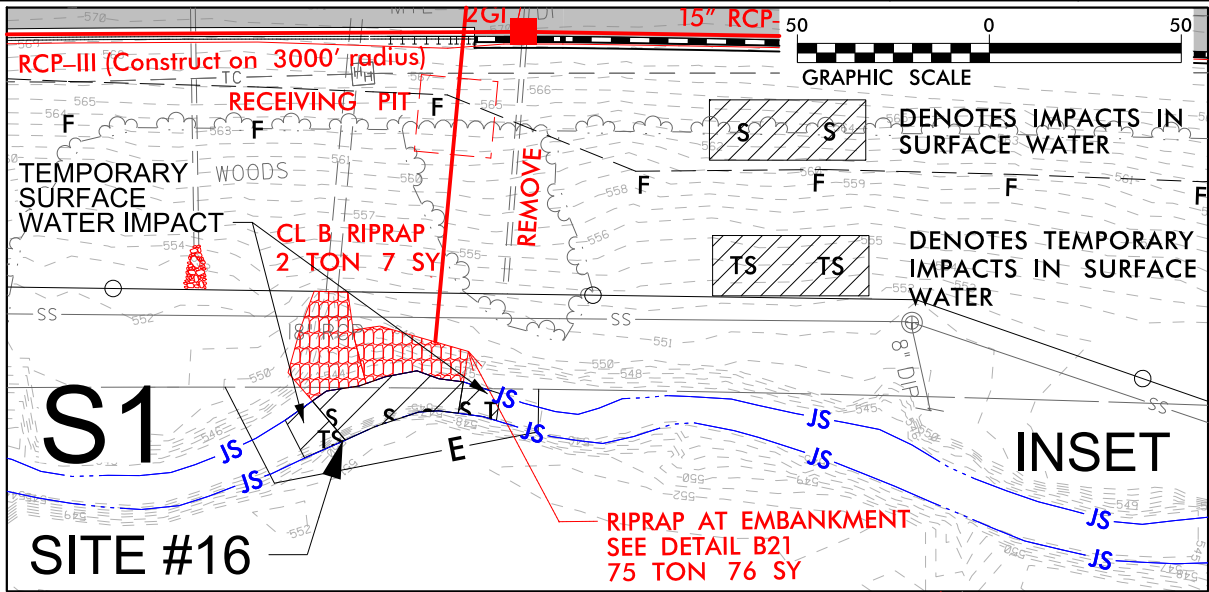

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER


PERMIT DRAWING
SHEET 36 OF 109




7/1/2019
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PDE\WCS01

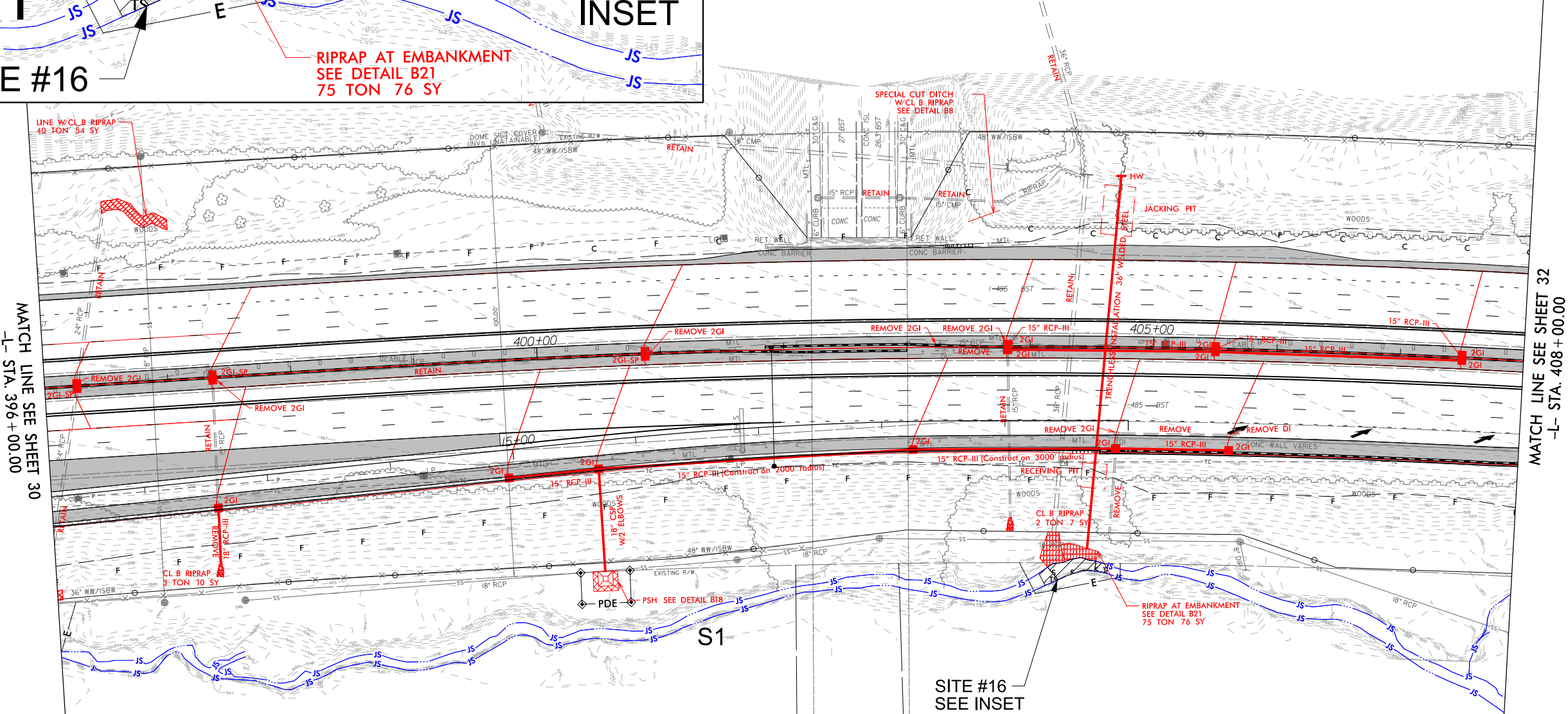
8/17/99



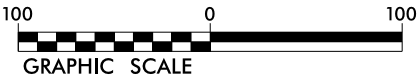


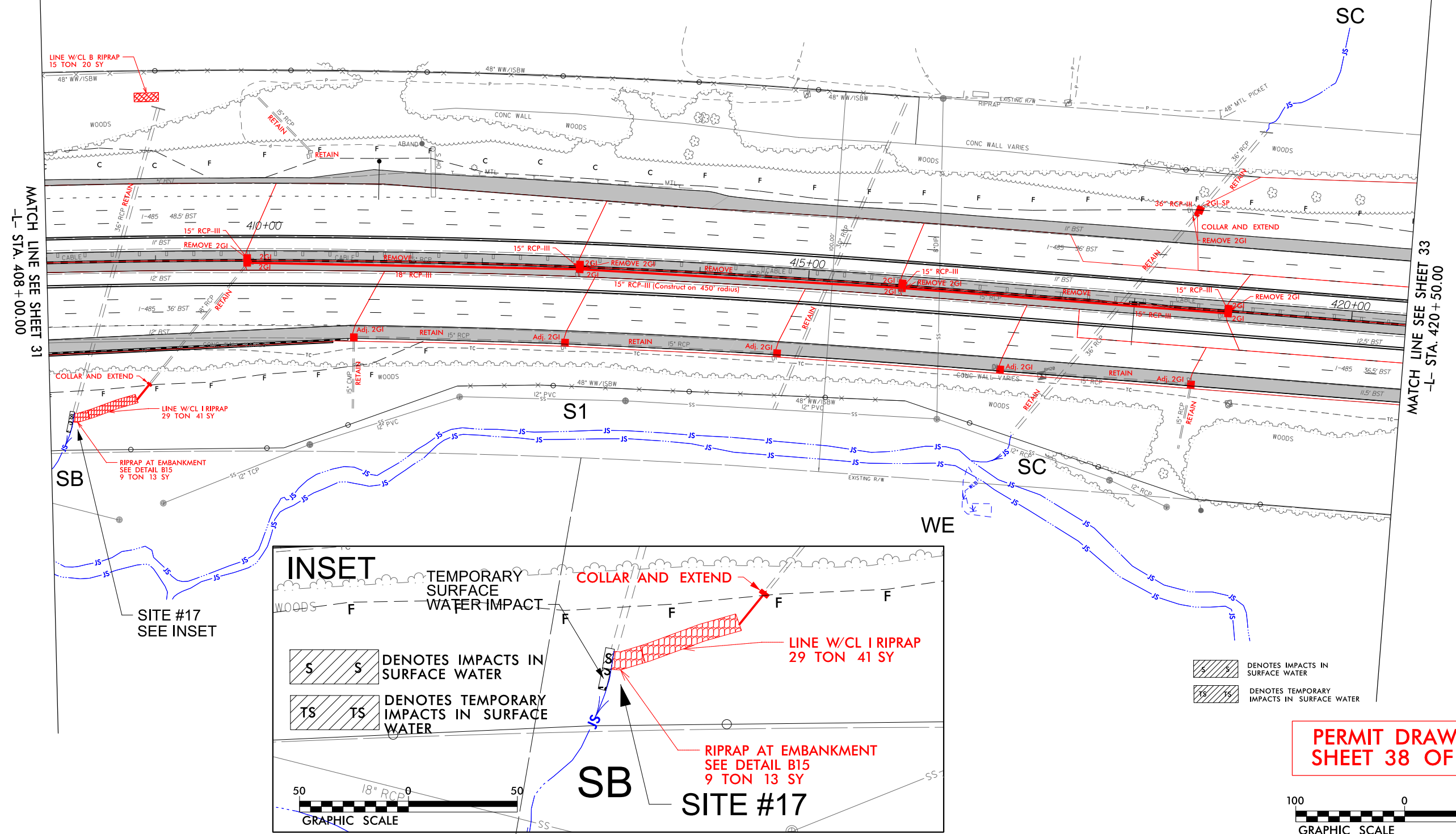
1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165


PROJECT REFERENCE NO. I-5507		SHEET NO. 31
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
		

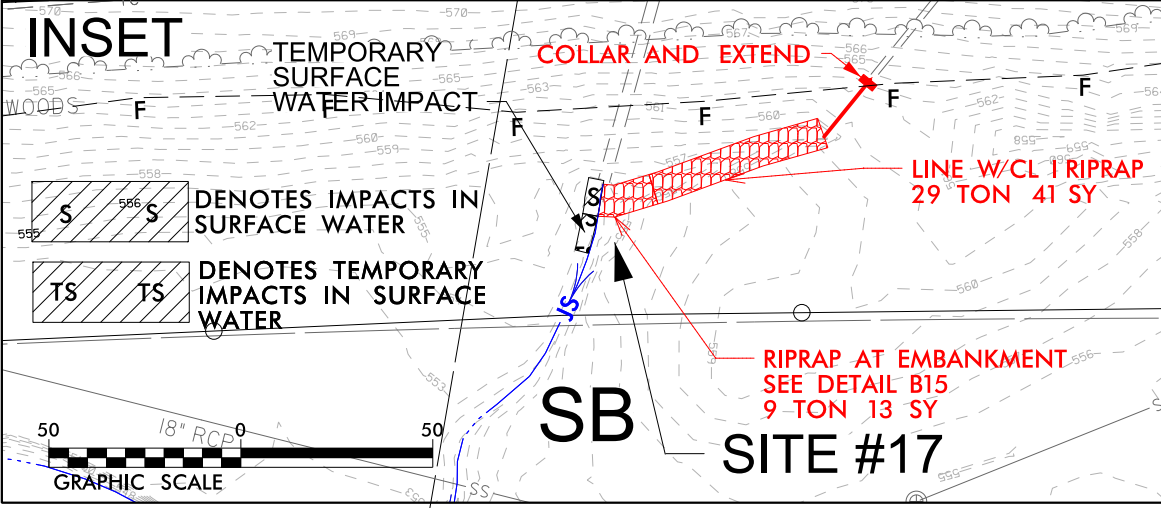
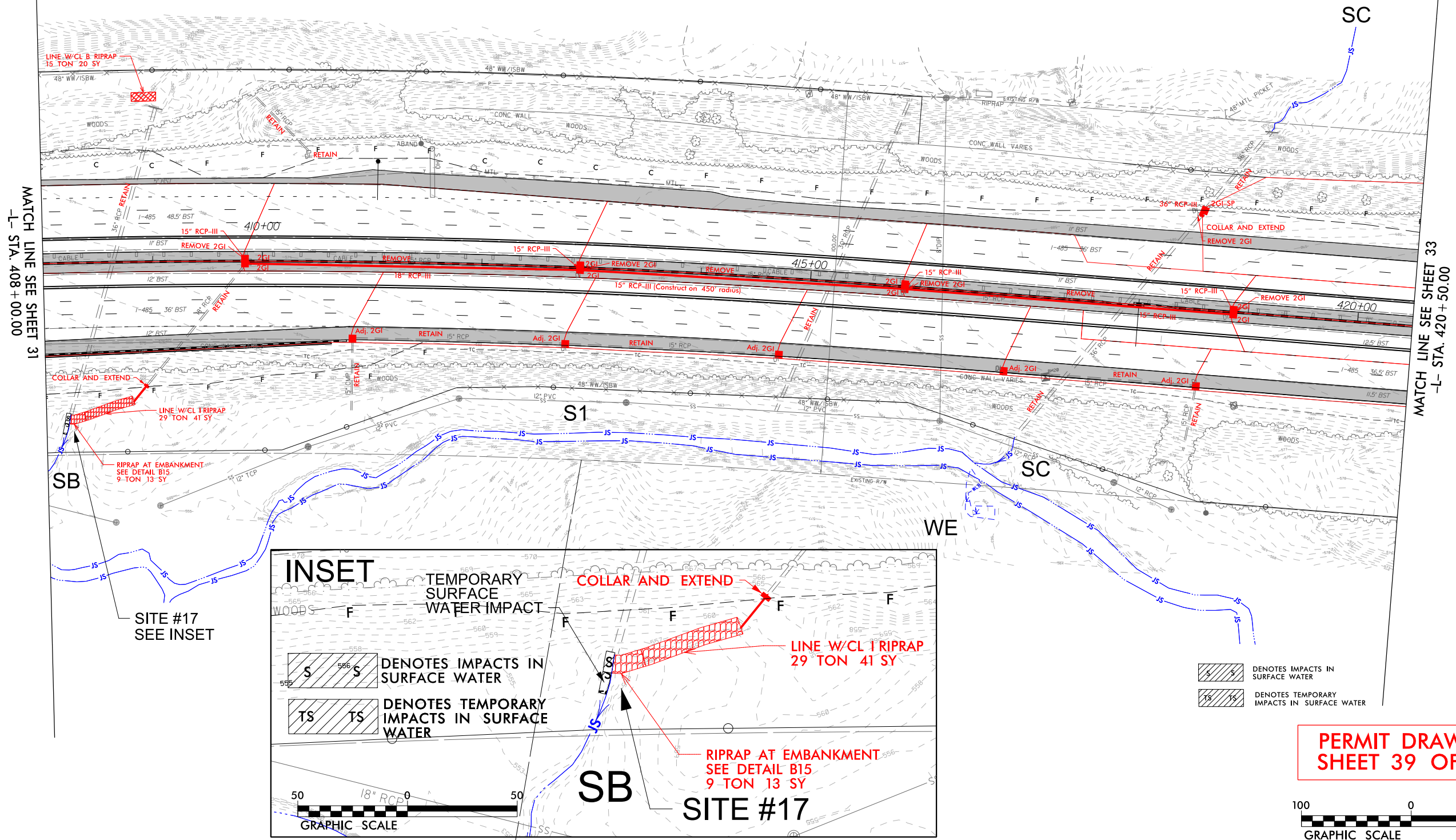
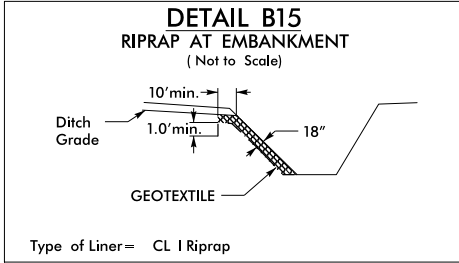


PERMIT DRAWING
SHEET 37 OF 109

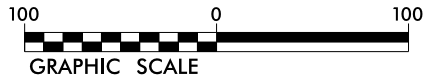




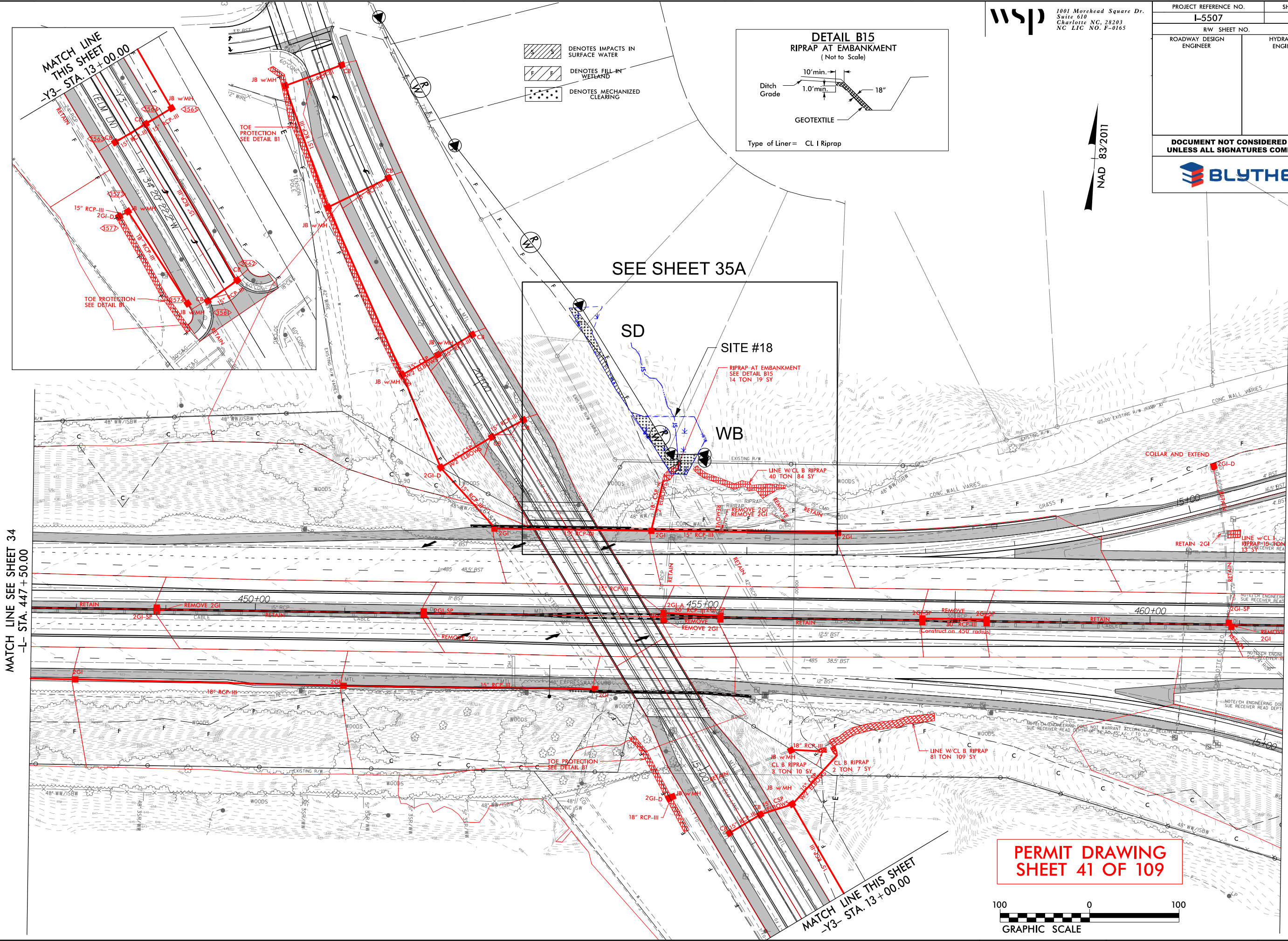
PROJECT REFERENCE NO.		SHEET NO.
I-5507		32
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
		



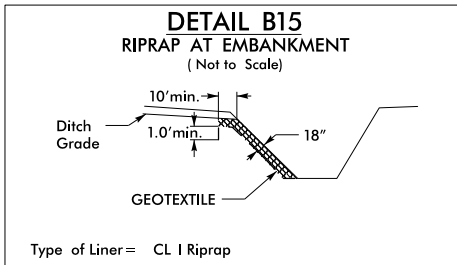
PERMIT DRAWING
SHEET 39 OF 109




8/17/99
7/1/2019
C:\p\cwg\101\cs\workingdir\17083\336401.2464\5507_Hyd_prm_wet_psh35_cont.dgn
P:\P\W\CS\501



- Denotes IMPACTS IN SURFACE WATER
- Denotes FILL-IN WETLAND
- Denotes MECHANIZED CLEARING



wsp 1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.		SHEET NO.
I-5507		35
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
 BLYTHE		

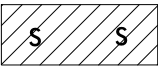
NAD 83/2011

PERMIT DRAWING
SHEET 41 OF 109



8/17/99

7/1/2019
p:\p\proj\101\1cs_workingdir\17083\336401_2470_15507_Hyd_prm_wet_psh35a.dgn
PDR\WCS\03



DENOTES IMPACTS IN
SURFACE WATER



DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING



1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.

I-5507

SHEET NO.

35A

R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SD

SITE #18

RIPRAP AT EMBANKMENT
SEE DETAIL B15
14 TON 19 SY

WB

EXISTING R/W VARIES

EXISTING R/W

WOODS

LINE W/CL B RIPRAP
40 TON 84 SY

18" CSP W/
2 ELBOWS

PERMIT DRAWING
SHEET 42 OF 109



GRAPHIC SCALE

REMOVE 2GI
REMOVE 2GI

REMOVE

REMO

F

F

F

48" WW/ISBW

ELM CLANE

COVE

CB

R/W

MLB/L

JS

JS

F

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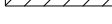

F

F

F



BLYTHE

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

SD

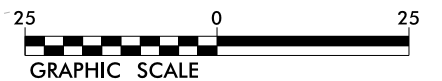
SITE #18

**RIPRAP AT EMBANKMENT
SEE DETAIL B15
14 TON 19 SY**

WB

LINE W/CL B RIPRAP
40 TON 84 SY

PERMIT DRAWING
SHEET 43 OF 109



~~18" CSP w/
2 ELBOWS~~

REMO

REMOVE 2G
REMOVE 2G

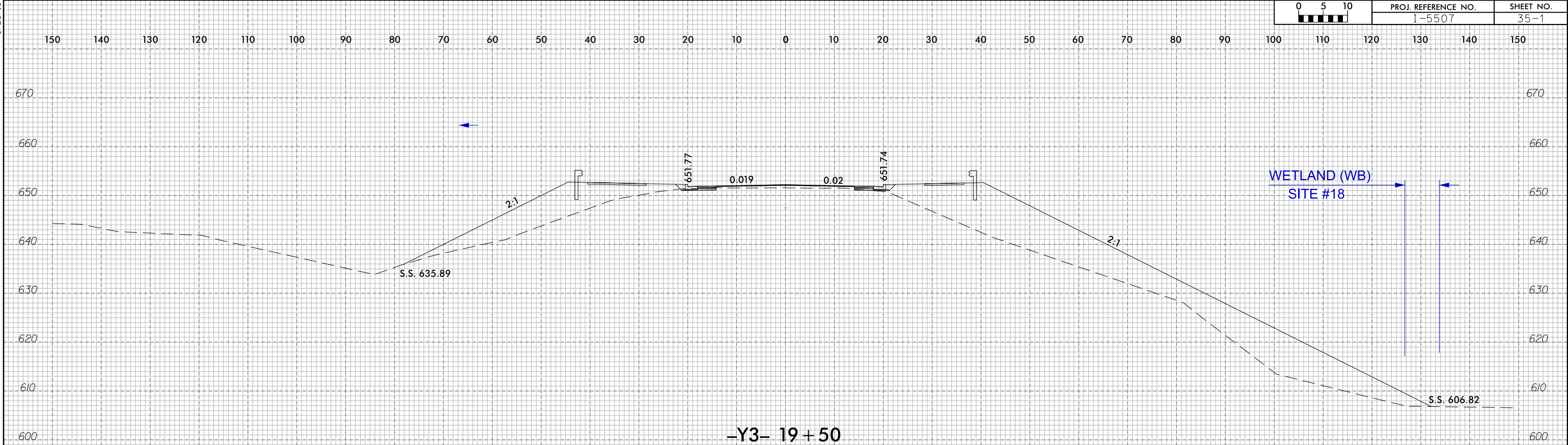
REMOVE

7/1/2019
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PRPWIC01\$ 8/17/99

6/23/16



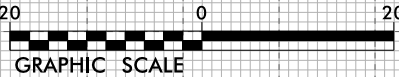
PROJ. REFERENCE NO.	SHEET NO.
I-5507	35-1



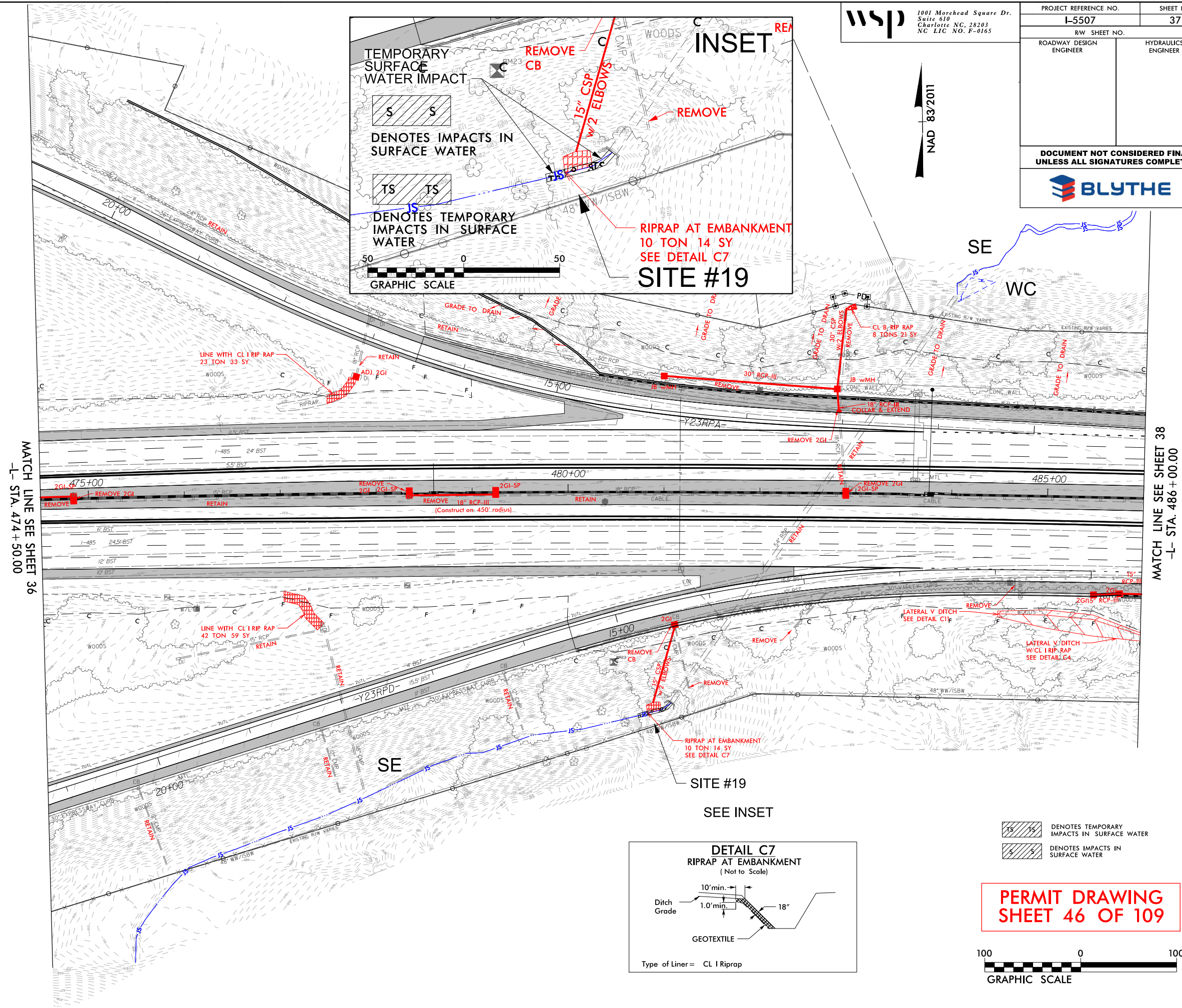
-Y3- 19+50

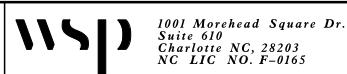
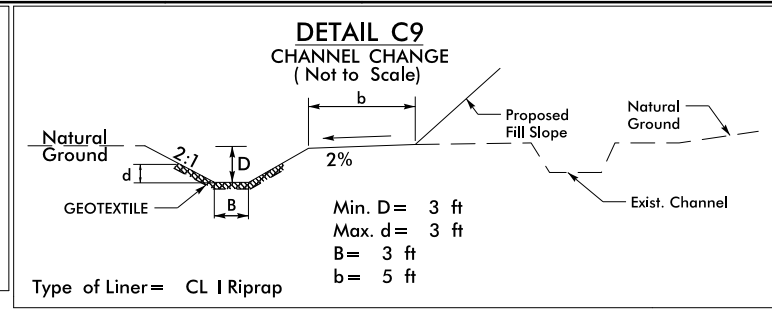
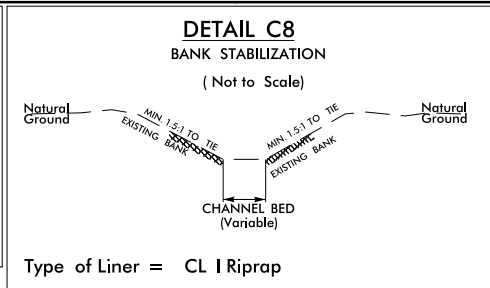
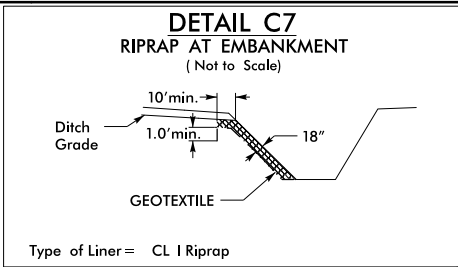
WETLAND (WB)
SITE #18

PERMIT DRAWING
SHEET 44 OF 109

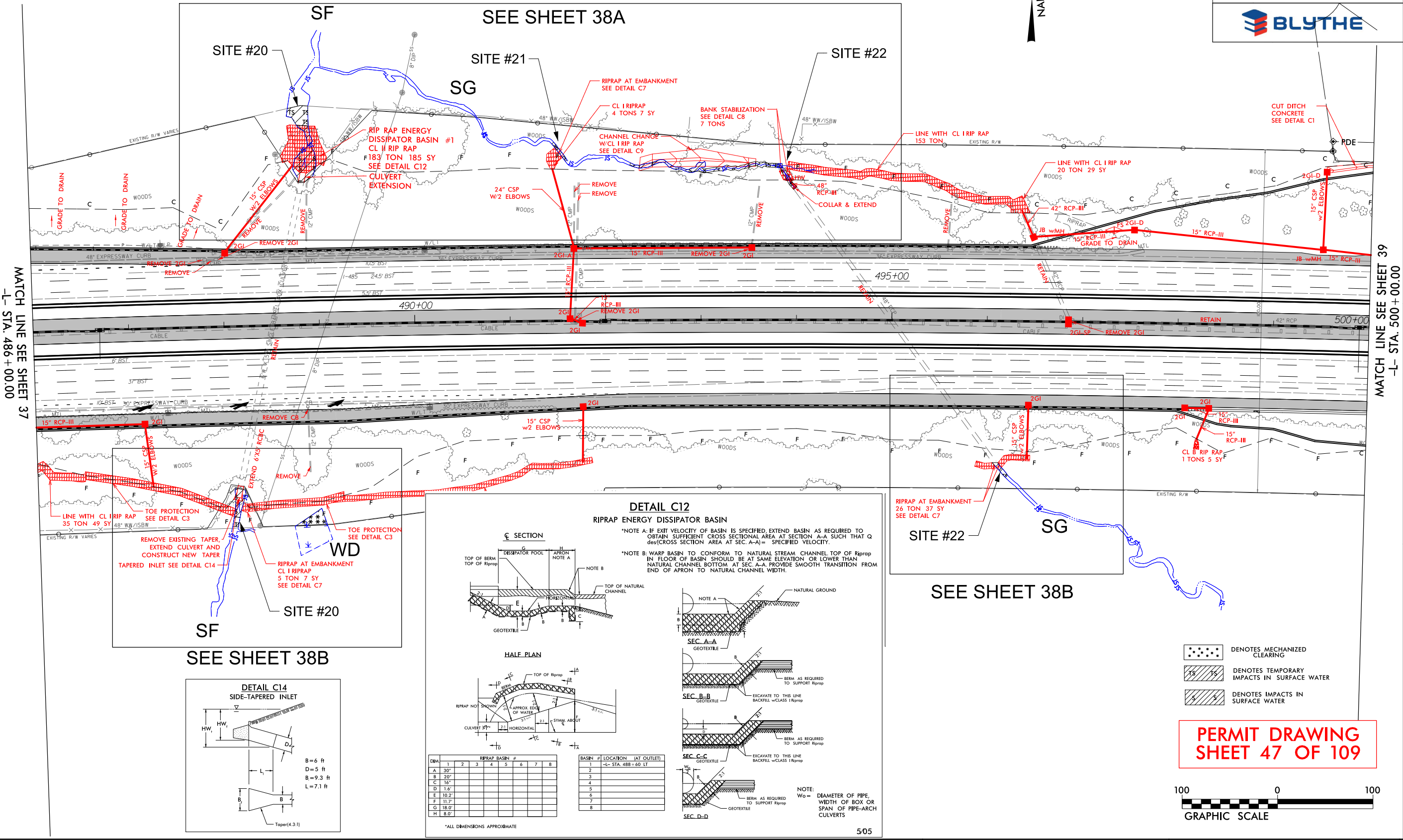








PROJECT REFERENCE NO. I-5507		SHEET NO. 38
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



DETAIL C12
RIPRAP ENERGY DISSIPATOR BASIN

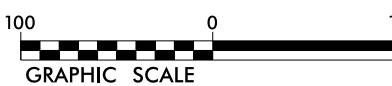
NOTE A: IF EXIT VELOCITY OF BASIN IS SPECIFIED, EXTEND BASIN AS REQUIRED TO OBTAIN SUFFICIENT CROSS SECTIONAL AREA AT SECTION A-A SUCH THAT Q_{des} (CROSS SECTION AREA AT SEC. A-A) = SPECIFIED VELOCITY.

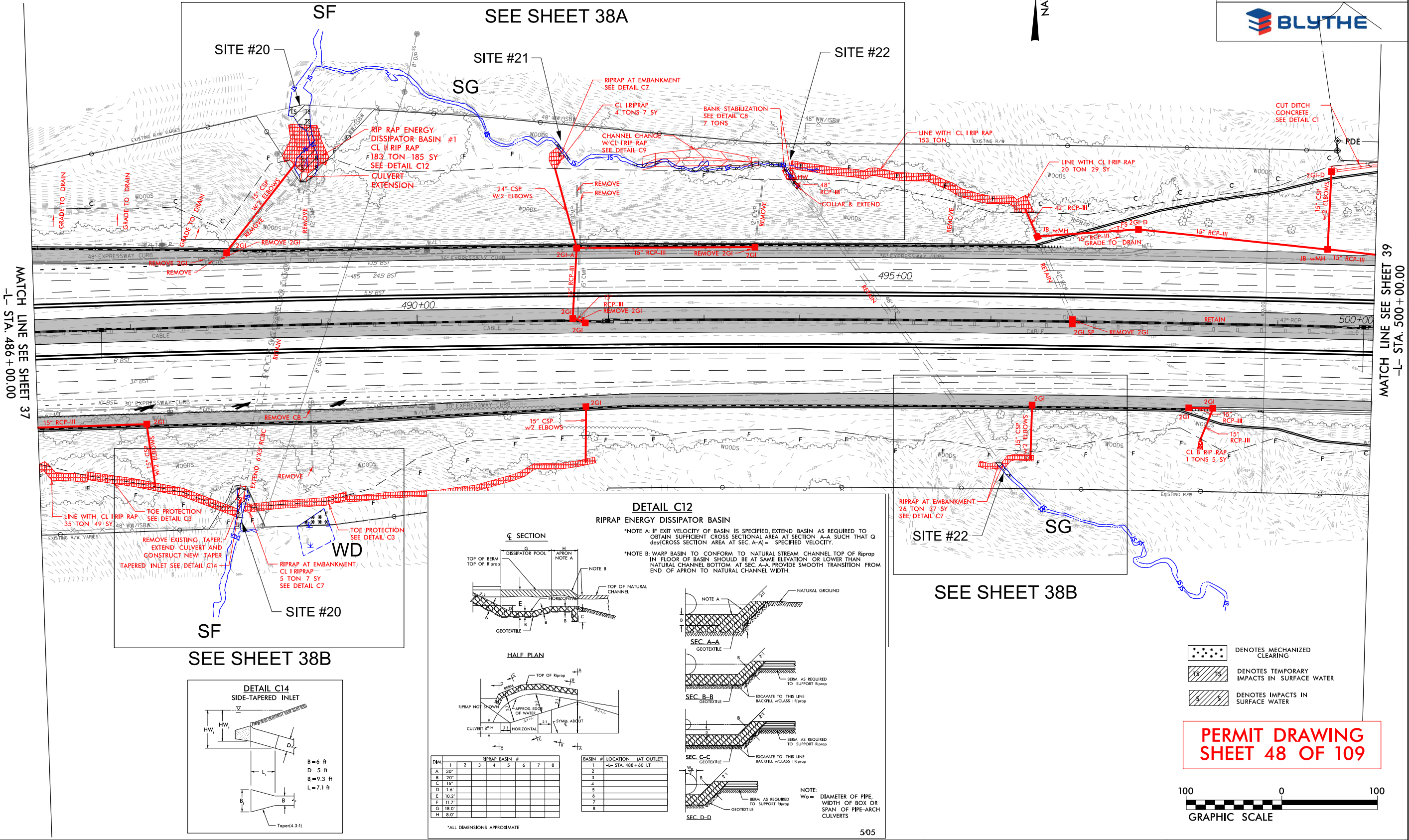
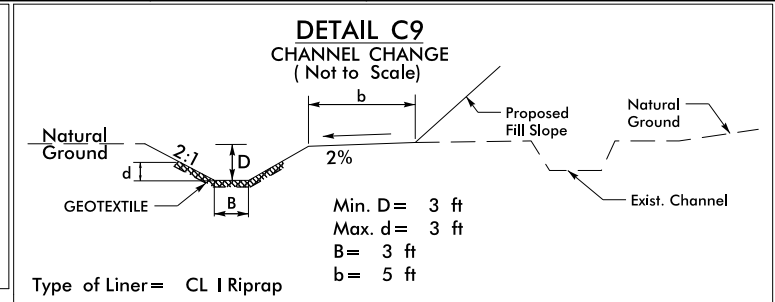
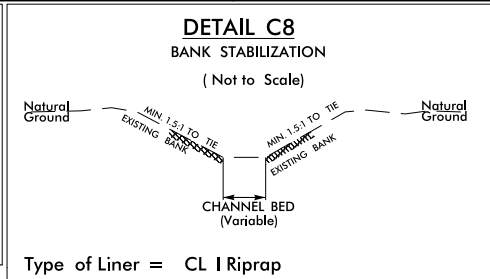
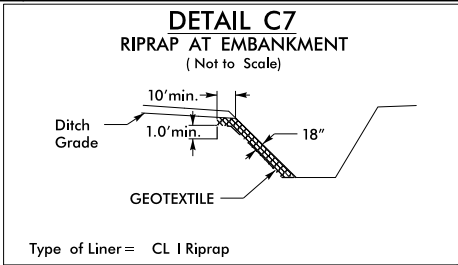
NOTE B: WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL TOP OF RIPRAP IN FLOOR OF BASIN SHOULD BE AT SAME ELEVATION OR LOWER THAN NATURAL CHANNEL BOTTOM. AT SEC. A-A, PROVIDE SMOOTH TRANSITION FROM END OF APRON TO NATURAL CHANNEL WIDTH.

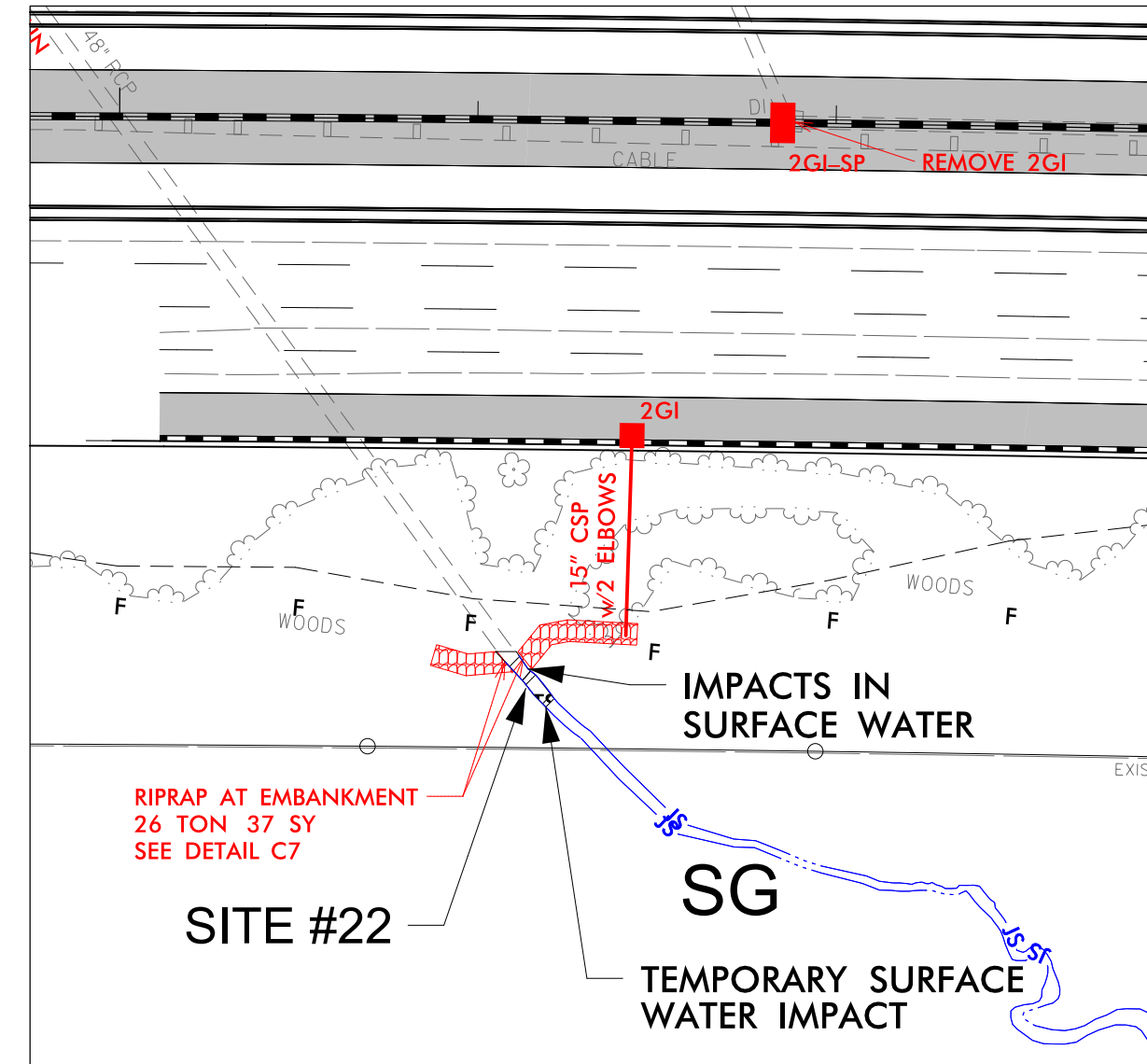
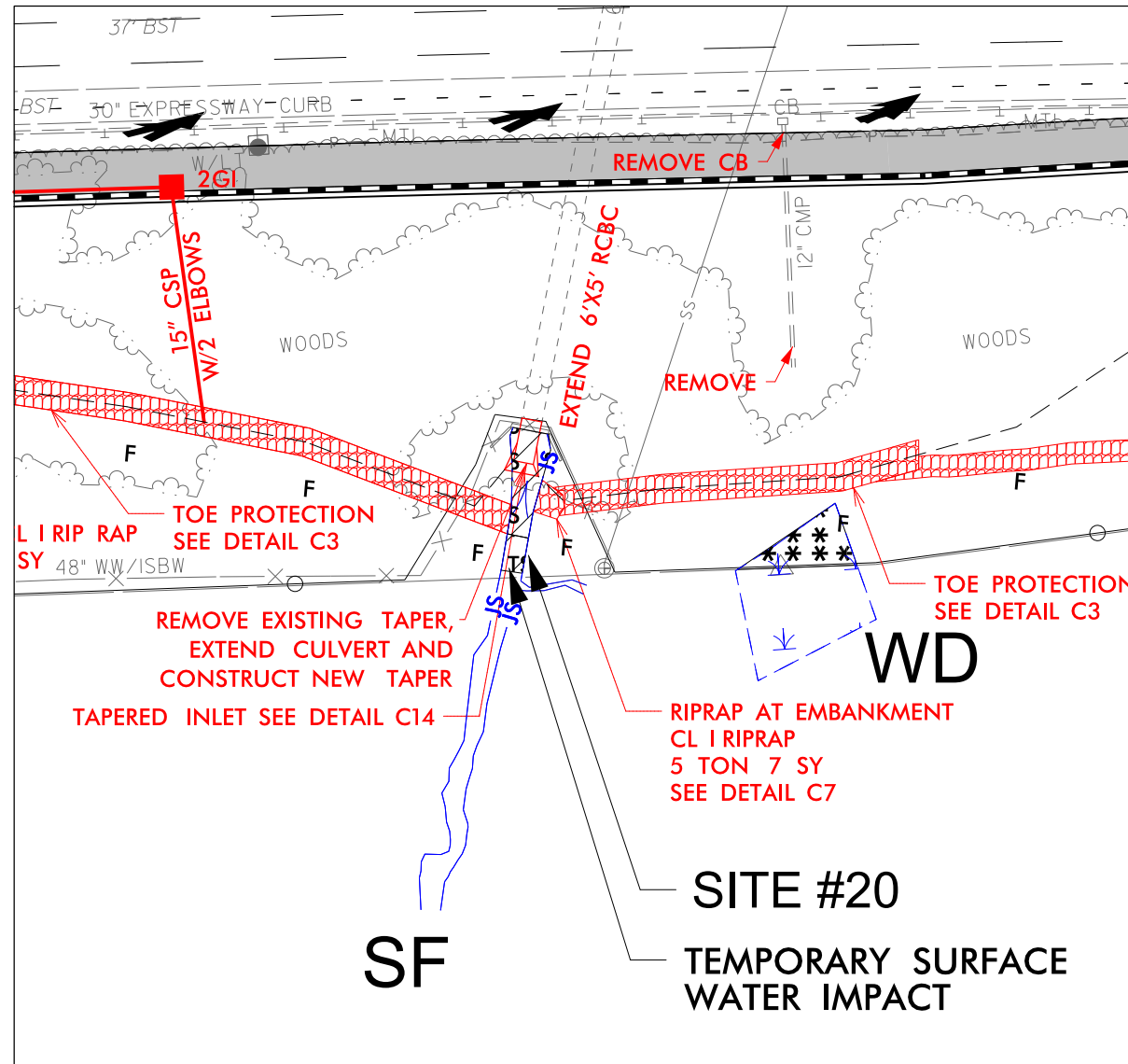
SECTION

- DENOTES MECHANIZED CLEARING
- 15 15 DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- 5 5 DENOTES IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 47 OF 109





DENOTES IMPACTS IN
SURFACE WATER

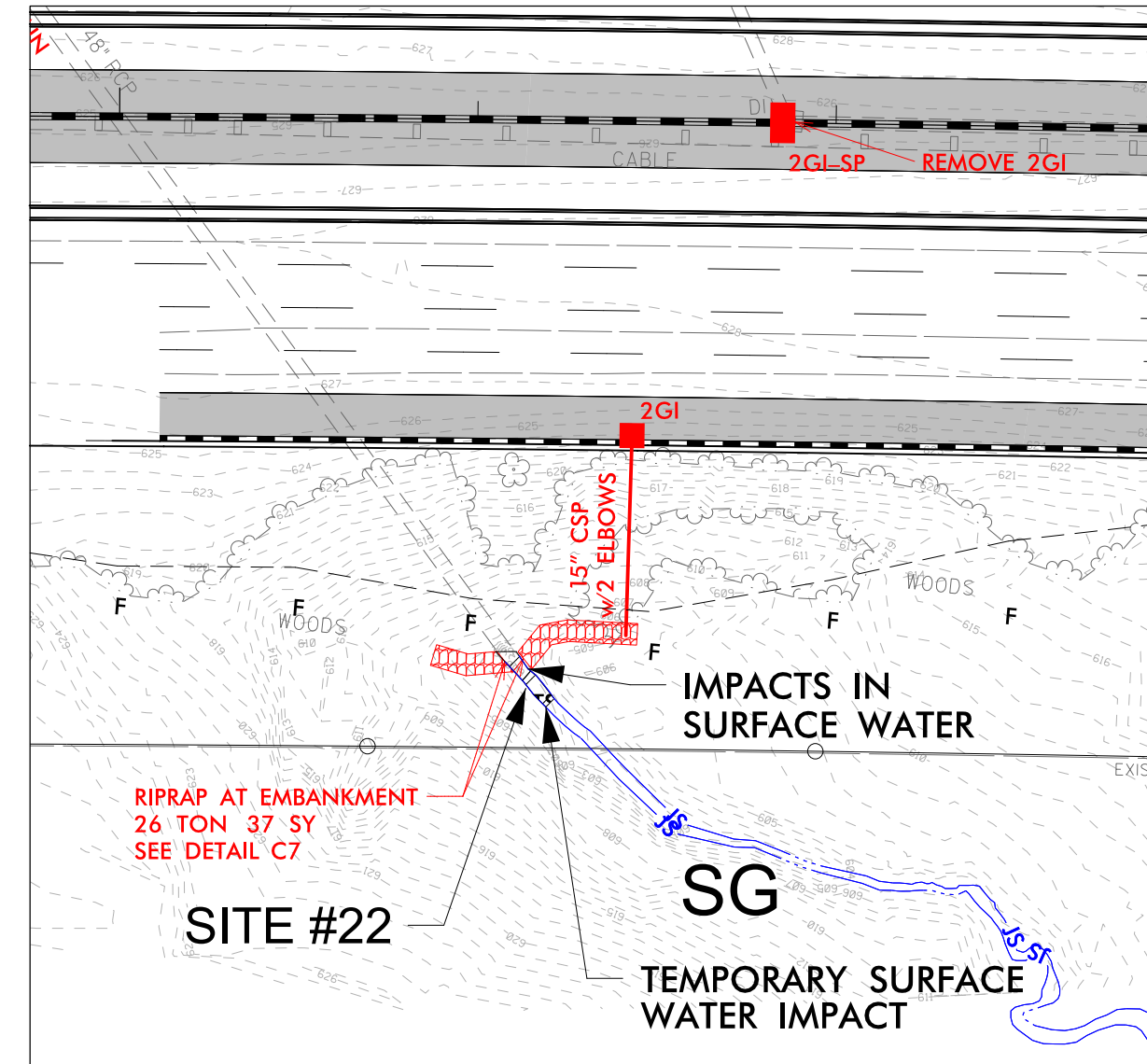
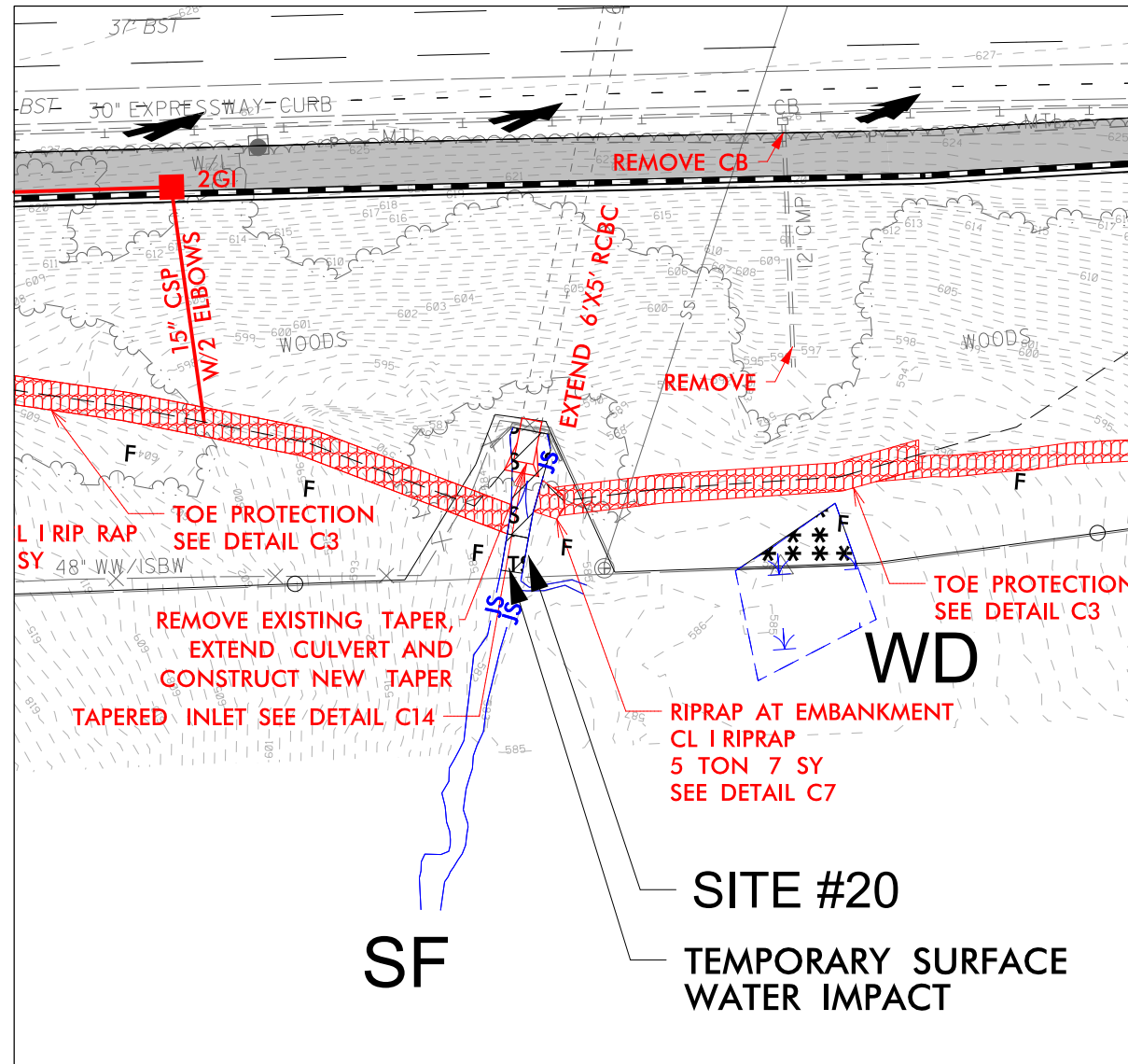
A rectangular block with diagonal hatching. Inside the block, the letters 'TS' are written twice, separated by a space.

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

DENOTES MECHANIZED
CLEARING

PERMIT DRAWING
SHEET 51 OF 109






A rectangular area with diagonal hatching (lines from top-left to bottom-right) containing two 'S' symbols.

DENOTES IMPACTS IN
SURFACE WATER

TS TS

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



DENOTES MECHANIZED
CLEARING

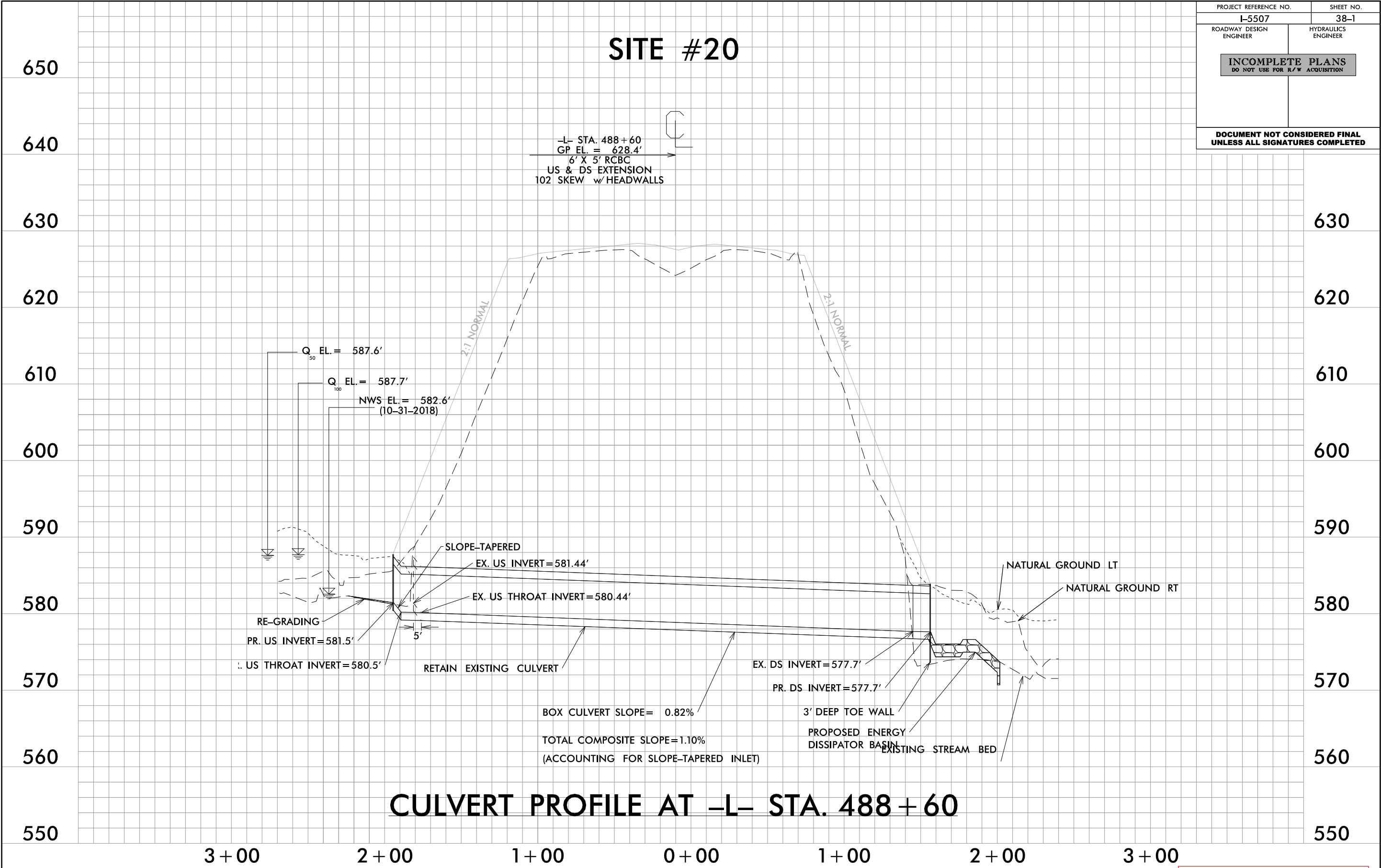
PERMIT DRAWING
SHEET 52 OF 109



5/28/99


7/1/2019
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PDEWICS01

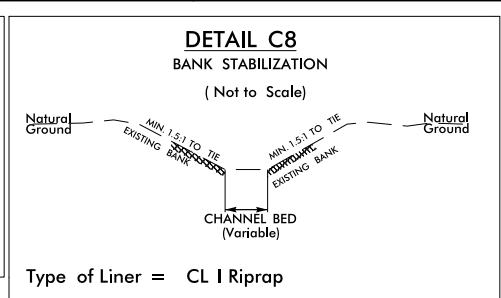
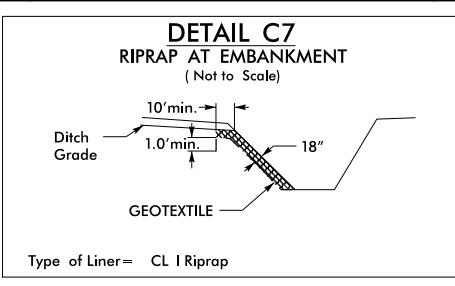
PROJECT REFERENCE NO.		SHEET NO.	
I-5507		38-1	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



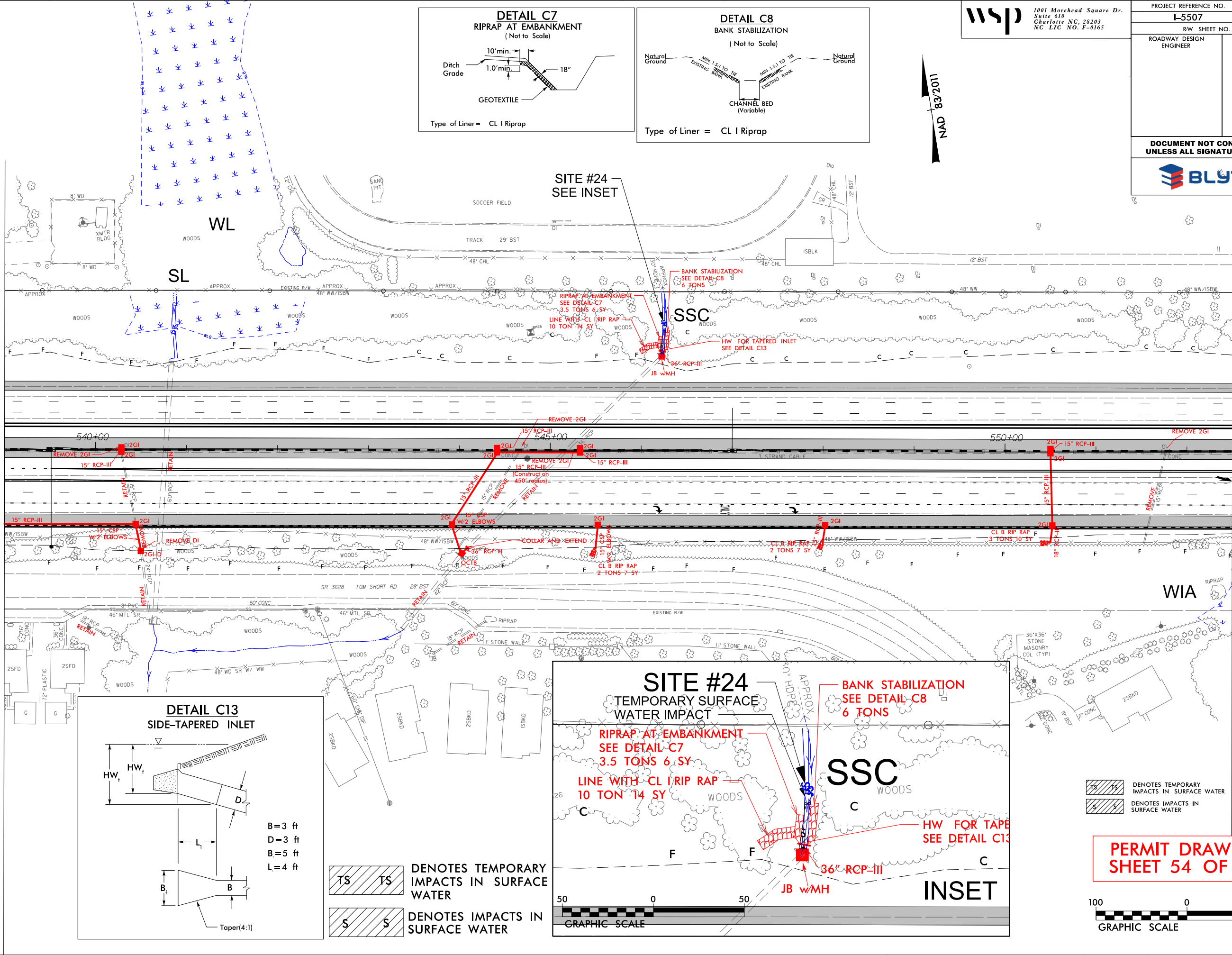
**PERMIT DRAWING
SHEET 53 OF 109**



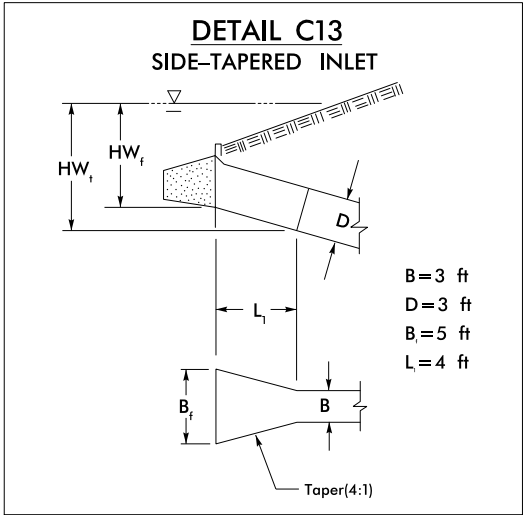
PROJECT REFERENCE NO.		SHEET NO.	
I-5507		42	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</div>			
<div> BLYTHE</div>			





MATCH LINE SEE SHEET 41
-L- STA. 539+00.00

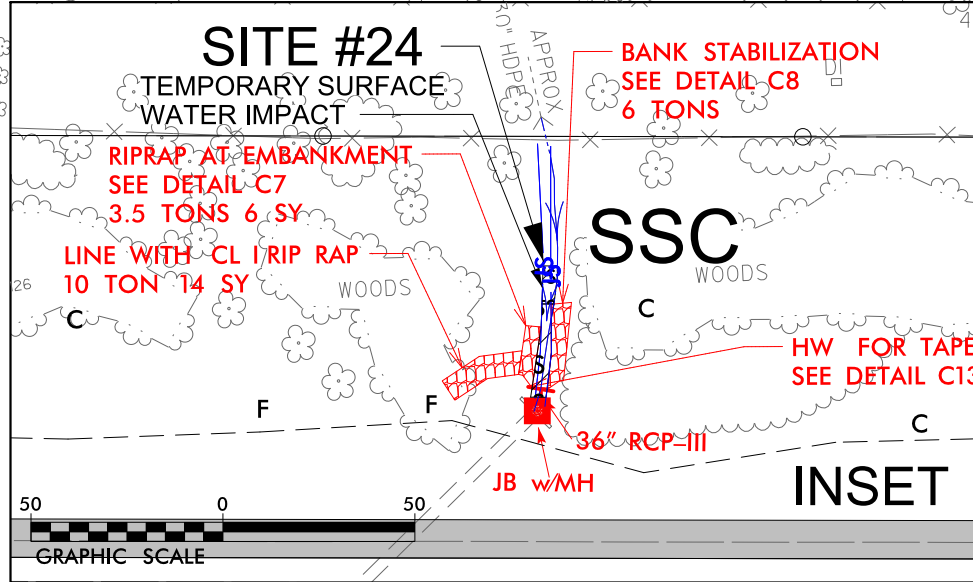



MATCH LINE SEE SHEET 43
-L- STA. 552+50.00




 TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

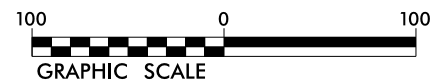
 S S DENOTES IMPACTS IN SURFACE WATER

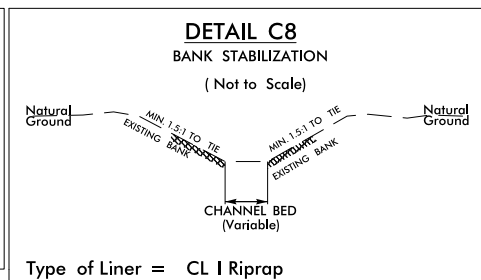


 TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

 S S DENOTES IMPACTS IN SURFACE WATER

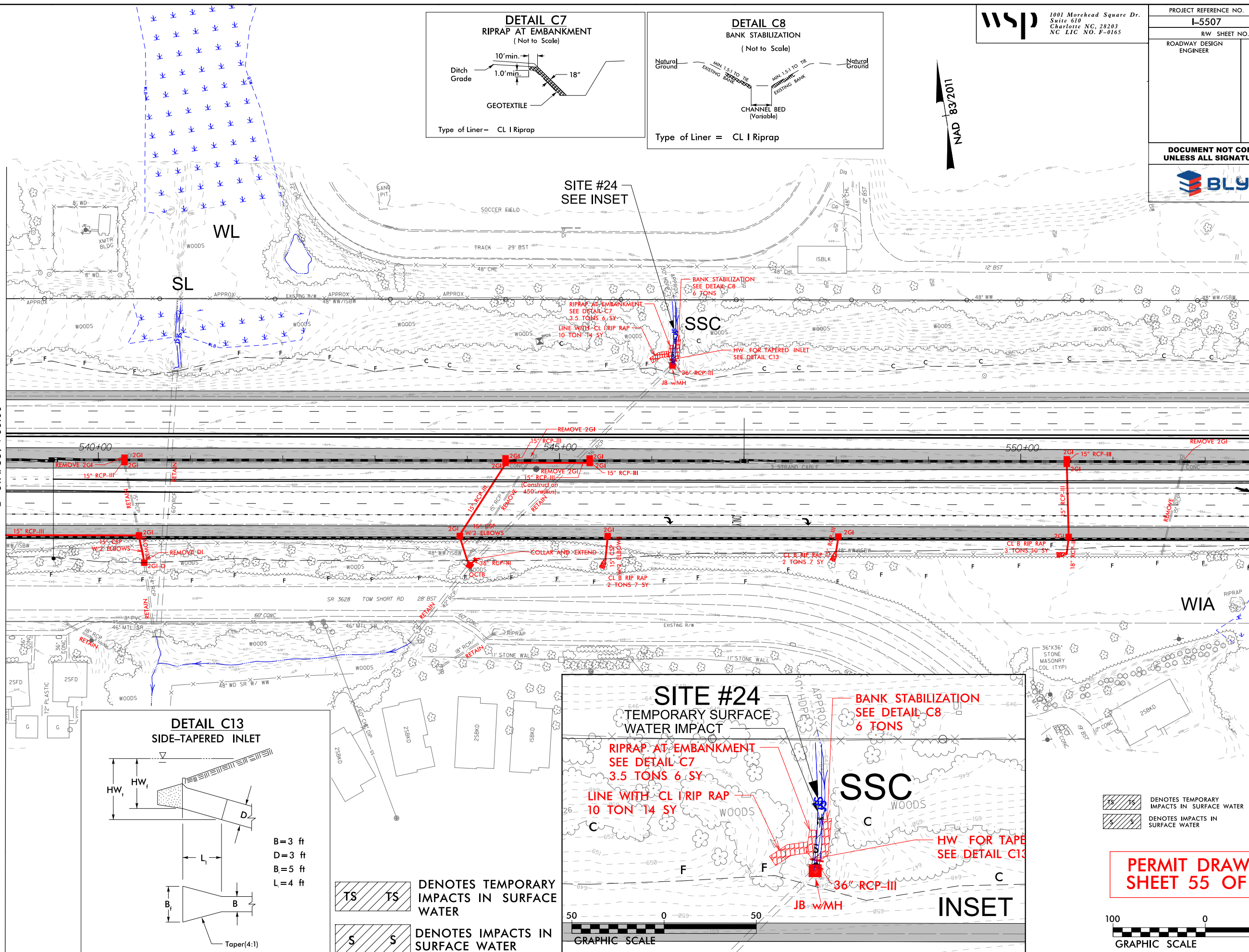
PERMIT DRAWING
SHEET 54 OF 109





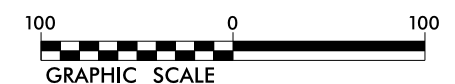
PROJECT REFERENCE NO.		SHEET NO.	
I-5507		42	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

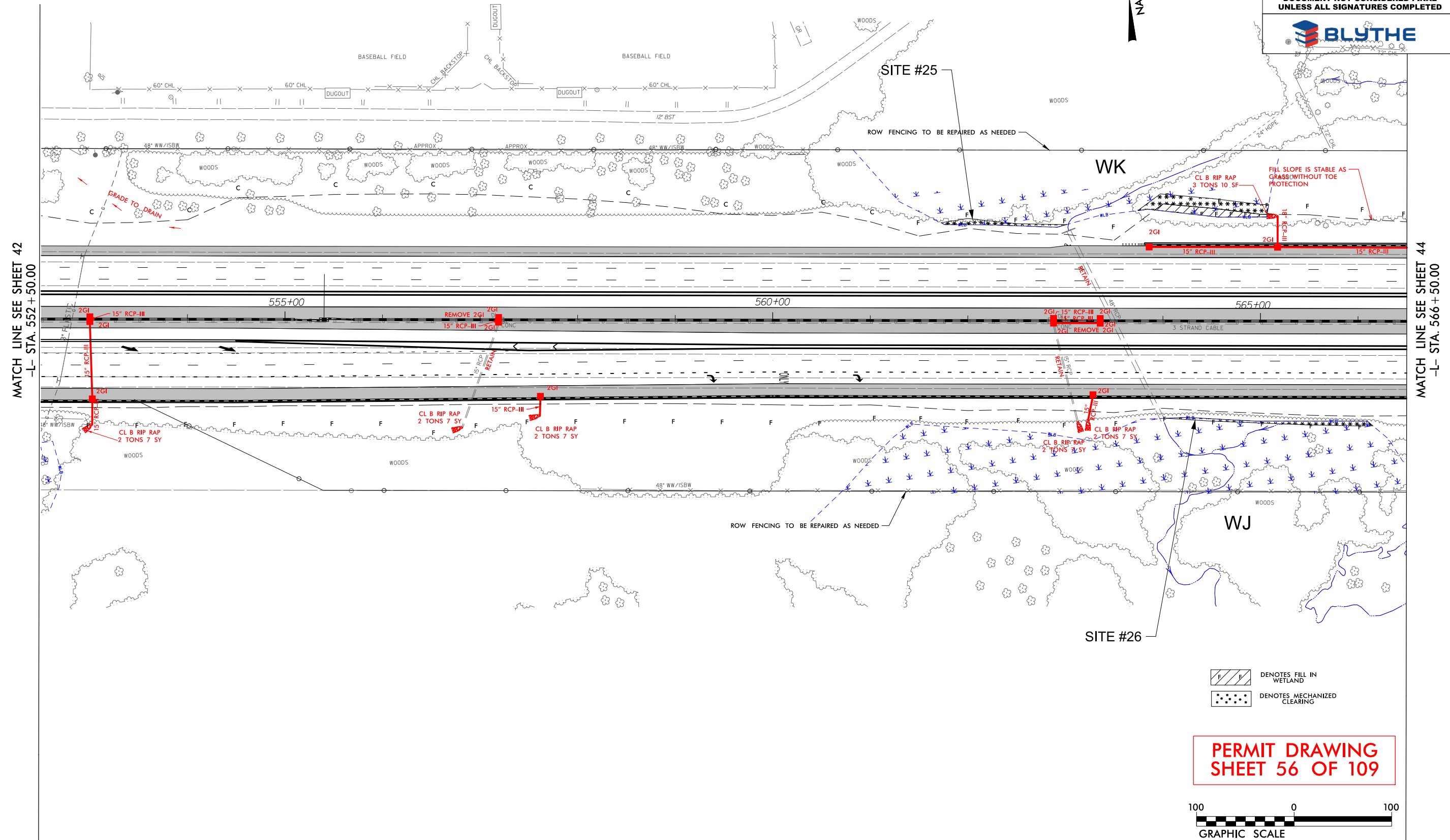
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

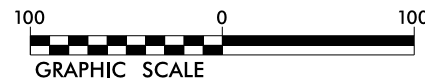


MATCH LINE SEE SHEET 43
-L- STA. 552 + 50.00

PERMIT DRAWING
SHEET 55 OF 109



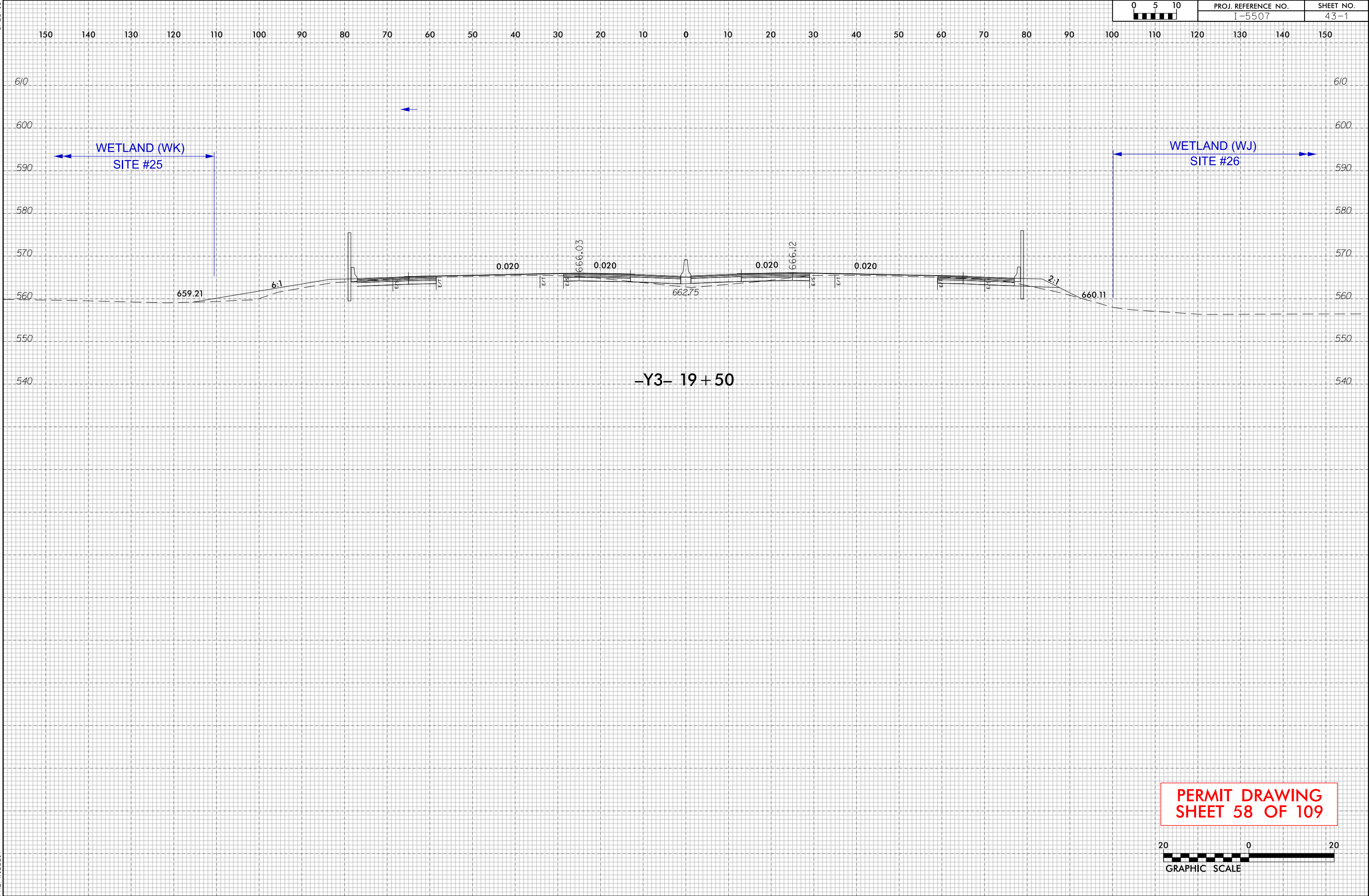




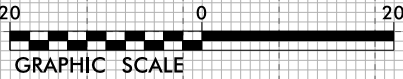
6/23/16



PROJ. REFERENCE NO.	SHEET NO.
I-5507	43-1



PERMIT DRAWING
SHEET 58 OF 109




7/1/2019
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8/17/99

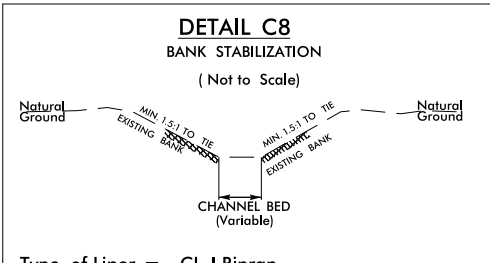
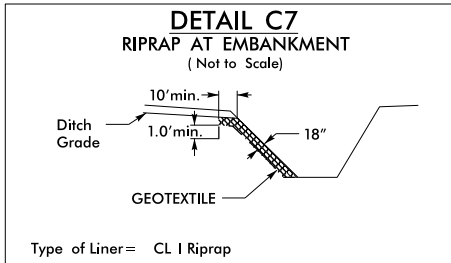
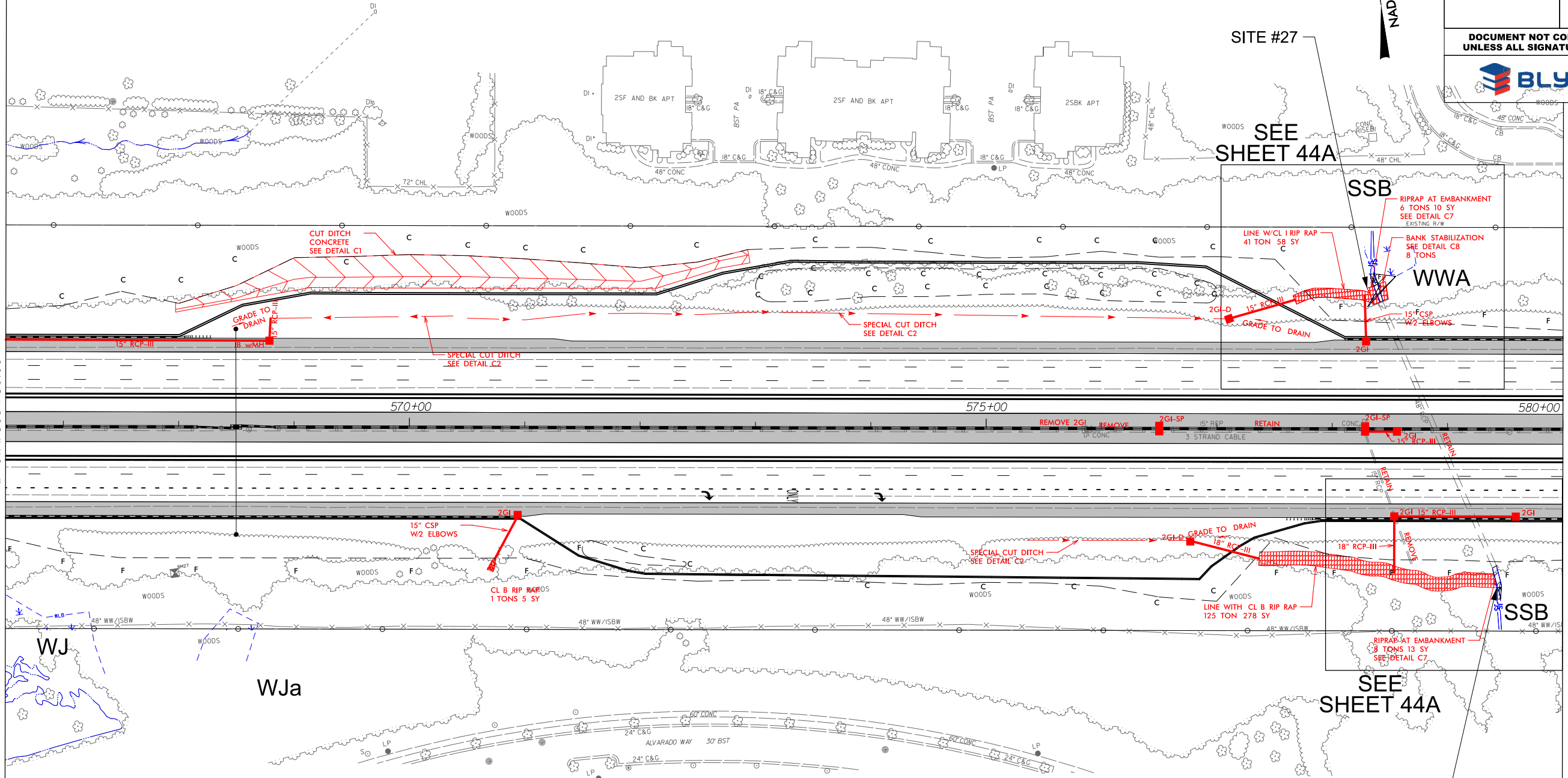
7/1/2019
S:\projects\15507\15507.dgn
15507.dgn




wsp
1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.		SHEET NO.
I-5507		44
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
		

MATCH LINE SEE SHEET 43
-L- STA. 566 + 50.00

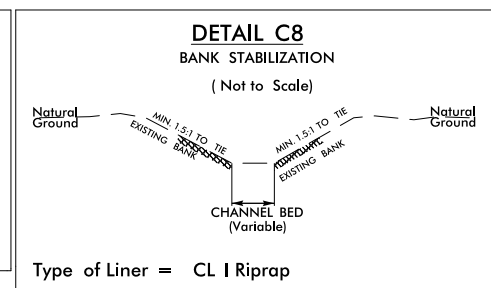
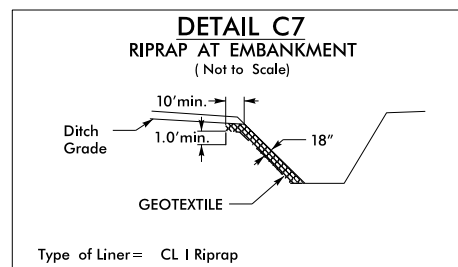
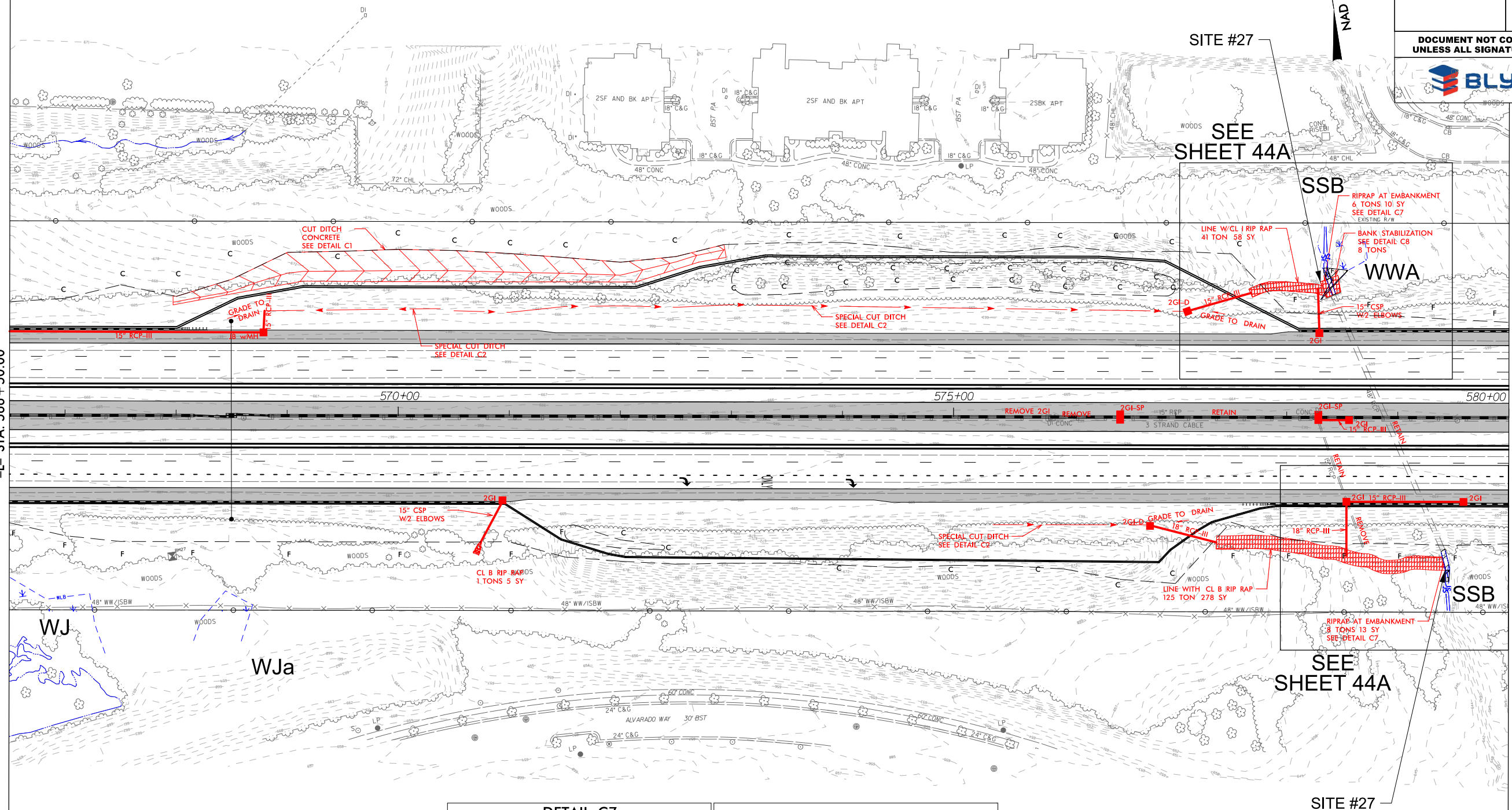
MATCH LINE SEE SHEET 45
-L- STA. 580 + 00.00





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


PERMIT DRAWING
SHEET 59 OF 109





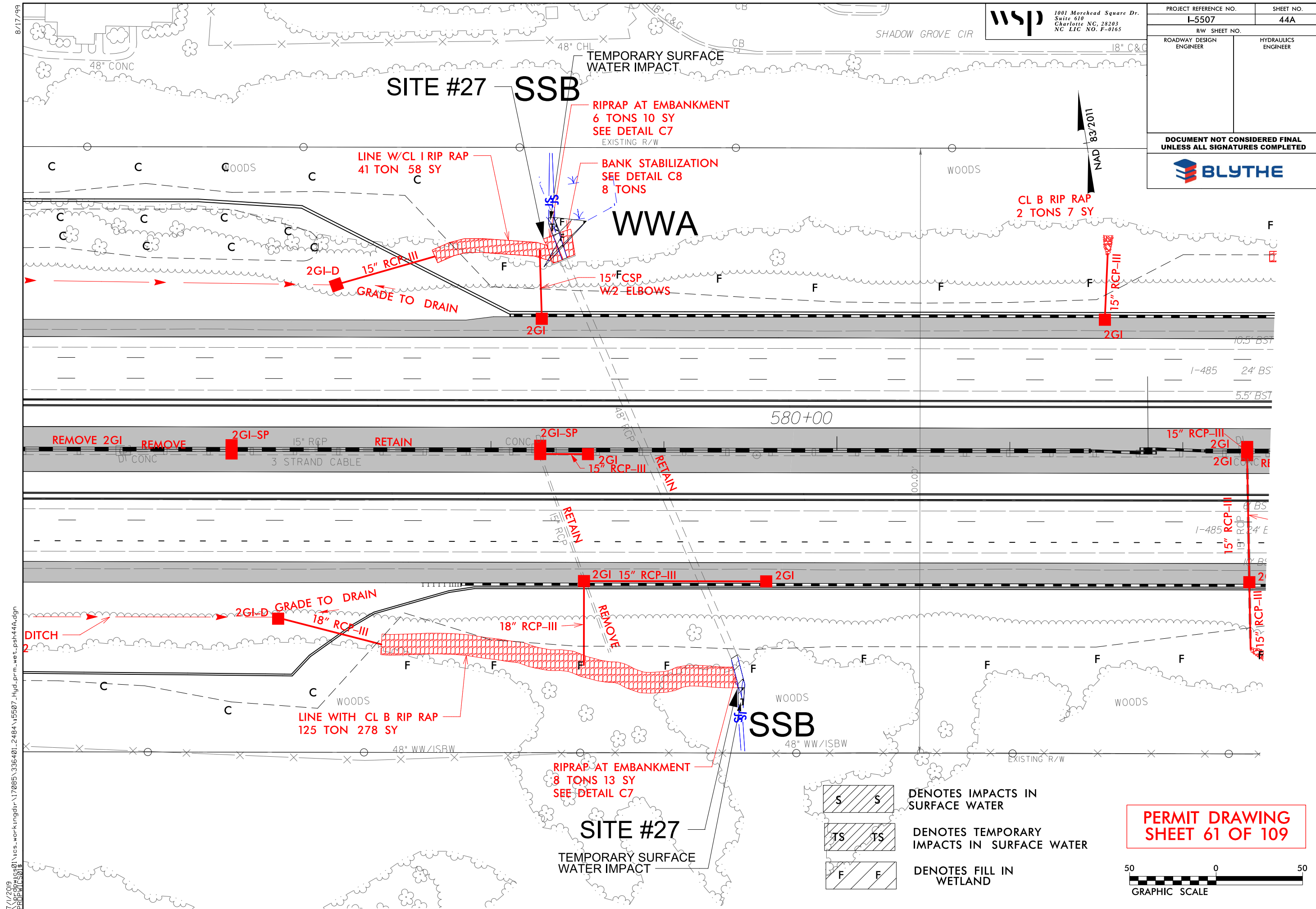
 DENOTES IMPACTS IN SURFACE WATER

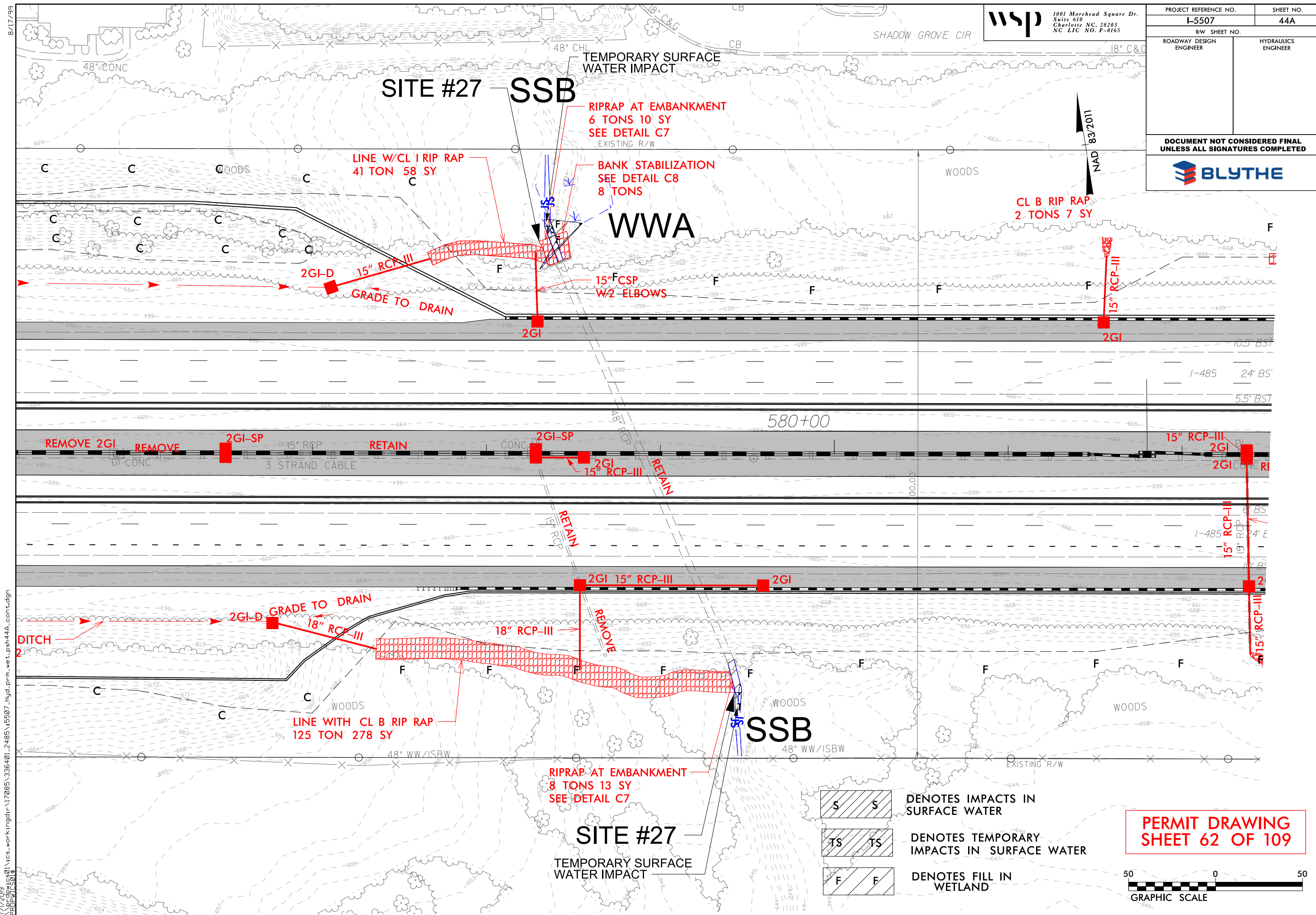
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

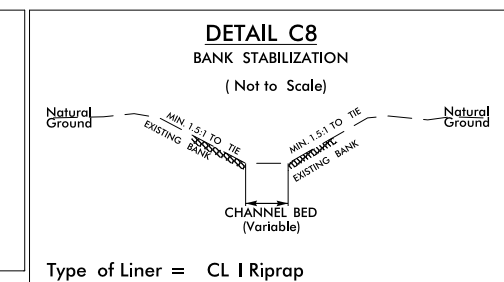
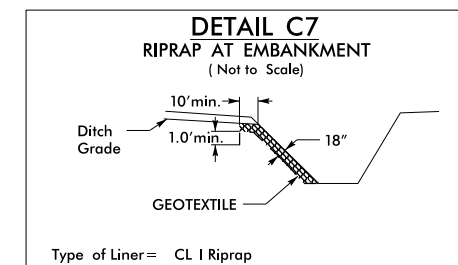
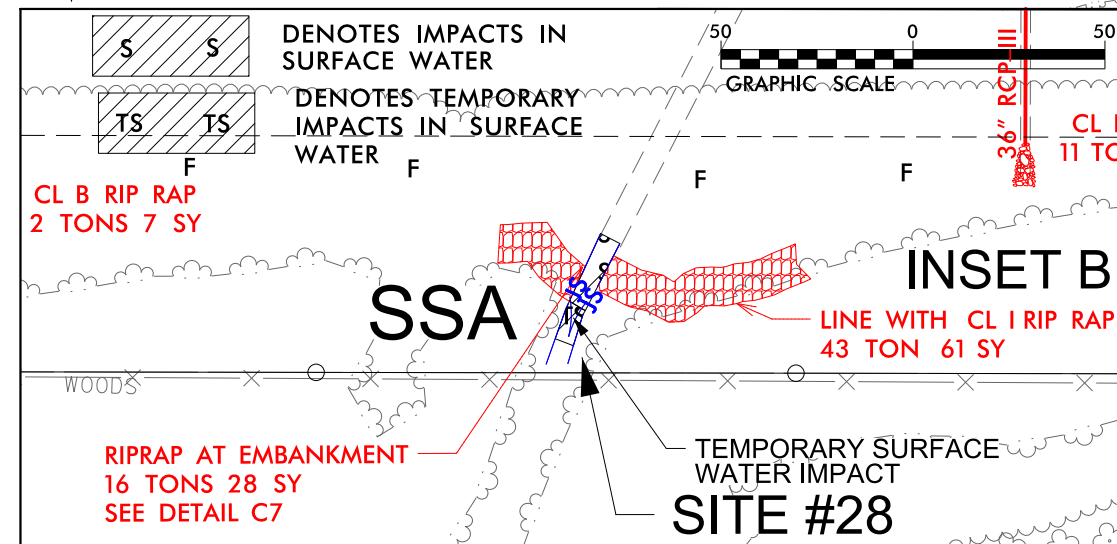
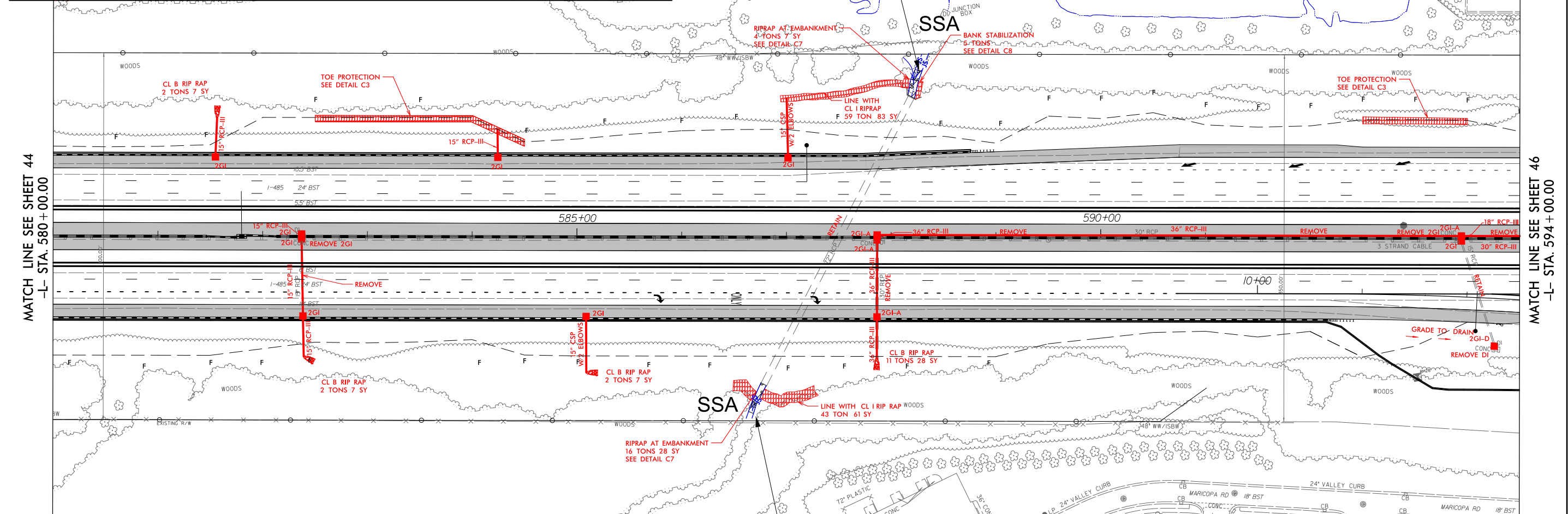
 DENOTES FILL IN WETLAND.

PERMIT DRAWING
SHEET 60 OF 109

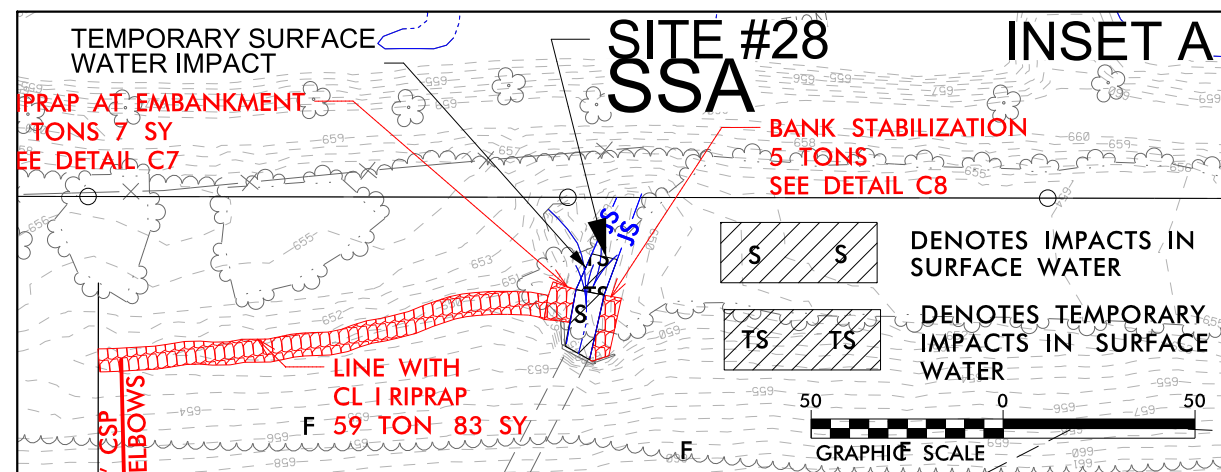




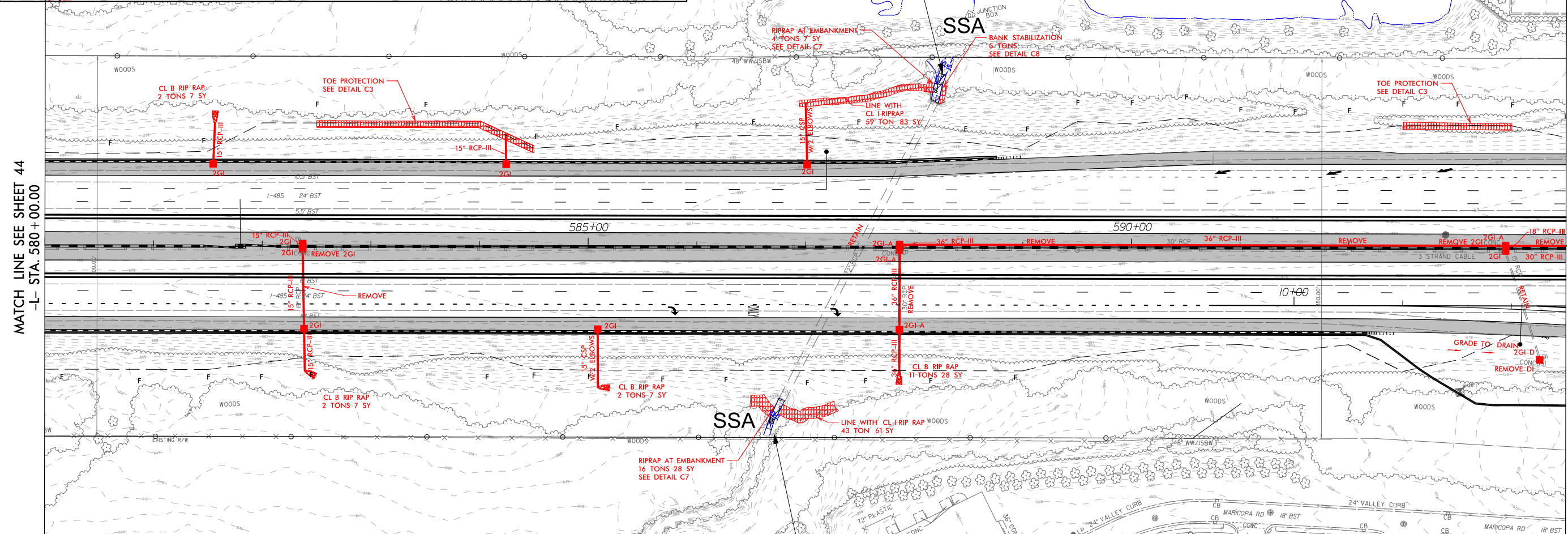


PERMIT DRAWING
SHEET 63 OF 109

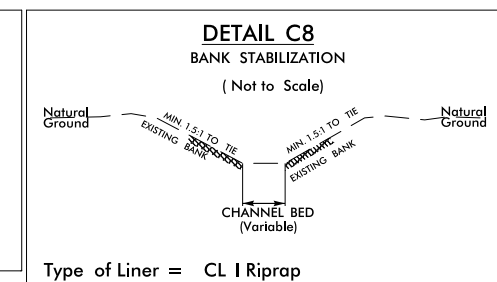
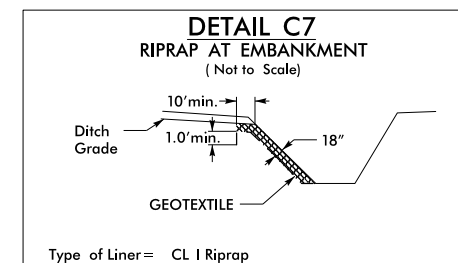
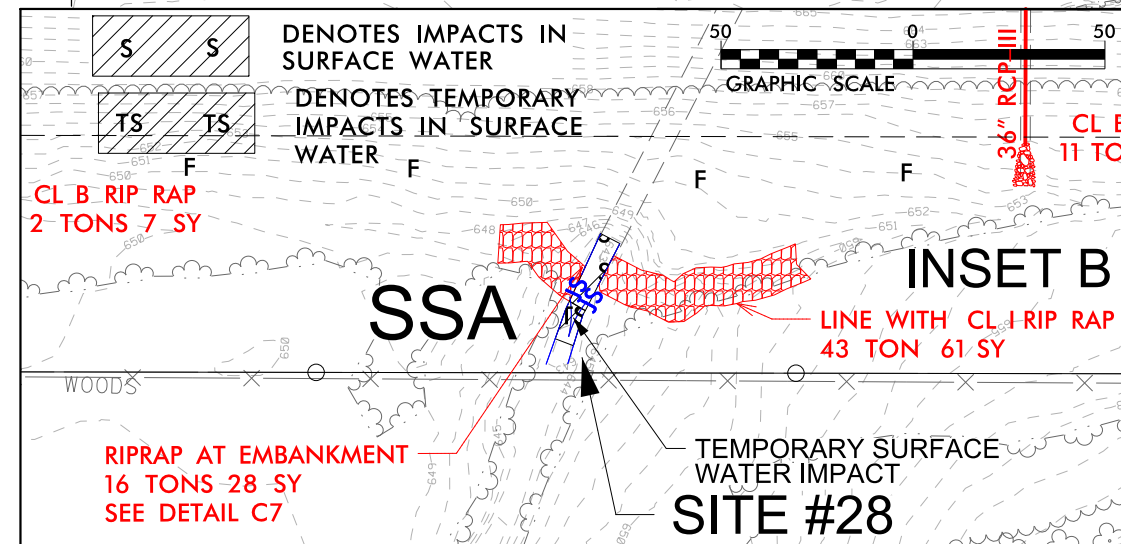
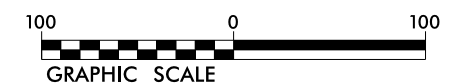
7/1/2019
\\prodwics01\ics_workingdir\17085\336401_2480\5507_Hyd_prm_wet_psh45.dgn
PROD\WICS01\$

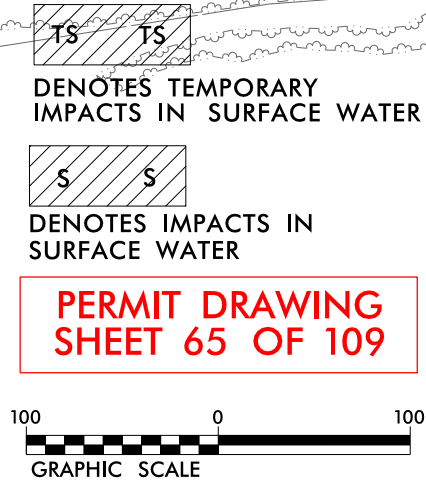
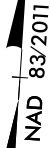


MATCH LINE SEE SHEET 44
-L- STA. 580+00.00



MATCH LINE SEE SHEET 46
-L- STA. 594+00.00

PERMIT DRAWING
SHEET 64 OF 109



8/17/99

7/1/2019
p:\cadd\17085\17085_336401_2489\15507_Hyd-prm-wet_psh47_cont.dgn
P:\CADD\17085\17085_336401_2489\15507_Hyd-prm-wet_psh47_cont.dgn

MATCH LINE SEE SHEET 46
-L- STA. 607 + 50.00

MATCH LINE SEE SHEET 48
-L- STA. 621 + 00.00

INSET A

SITE #29

S

S

DENOTES IMPACTS IN SURFACE WATER

TS

TS

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SAO

TEMPORARY SURFACE WATER IMPACT

RIPRAP AT EMBANKMENT
17 TON 24 SY
SEE DETAIL D18

50

0

50

GRAPHIC SCALE

wsp

1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

DETAIL D18

RIPRAP AT EMBANKMENT
(Not to Scale)

10' min.


1.0' min.

18"

Ditch Grade

GEOTEXTILE

Type of Liner = CL I Riprap

PROJECT REFERENCE NO.	SHEET NO.
L-5507	47
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	

INSET B

SITE #29

TS

TS

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S

S

DENOTES IMPACTS IN SURFACE WATER

SAO

TEMPORARY SURFACE WATER IMPACT

RIPRAP AT EMBANKMENT
7 TON 10 SY
SEE DETAIL D18

50

0

50

GRAPHIC SCALE

INSET C

SITE #29

TS

TS

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S

S

DENOTES IMPACTS IN SURFACE WATER

SAO

TEMPORARY SURFACE WATER IMPACT

SIDE TAPERED INLET WHW
SEE DETAIL D25

50

0

50

GRAPHIC SCALE

TS

TS

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S

S

DENOTES IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 66 OF 109

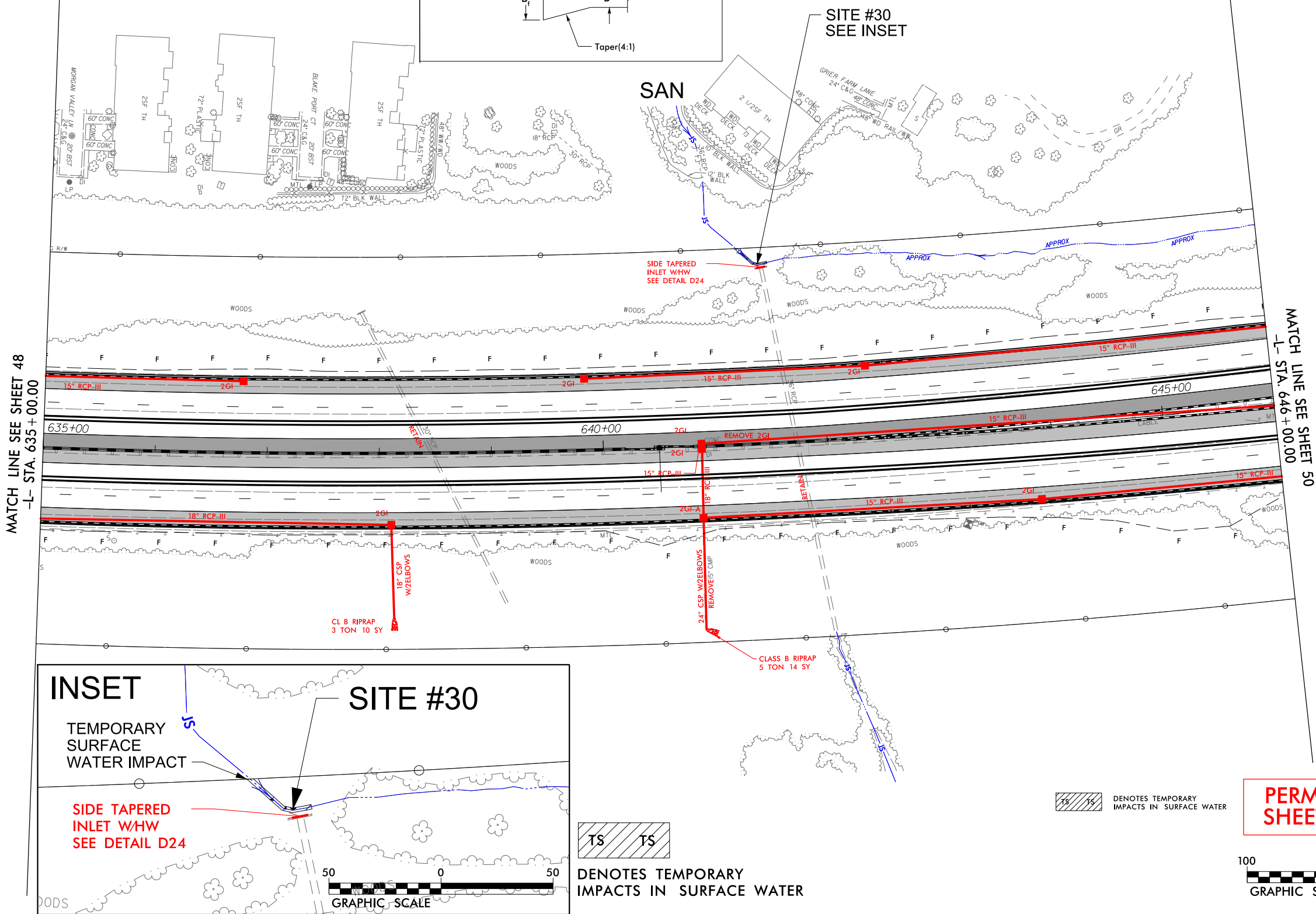
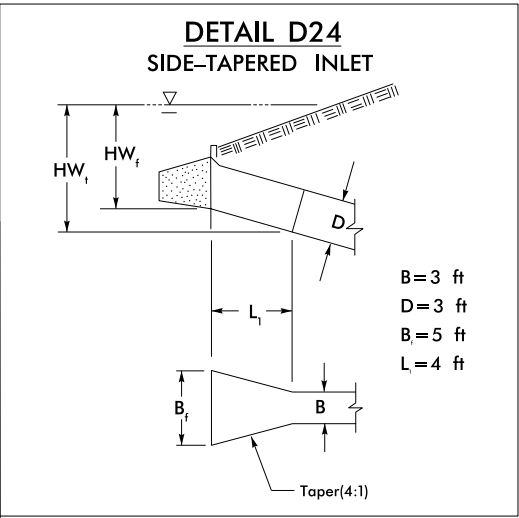
100


0

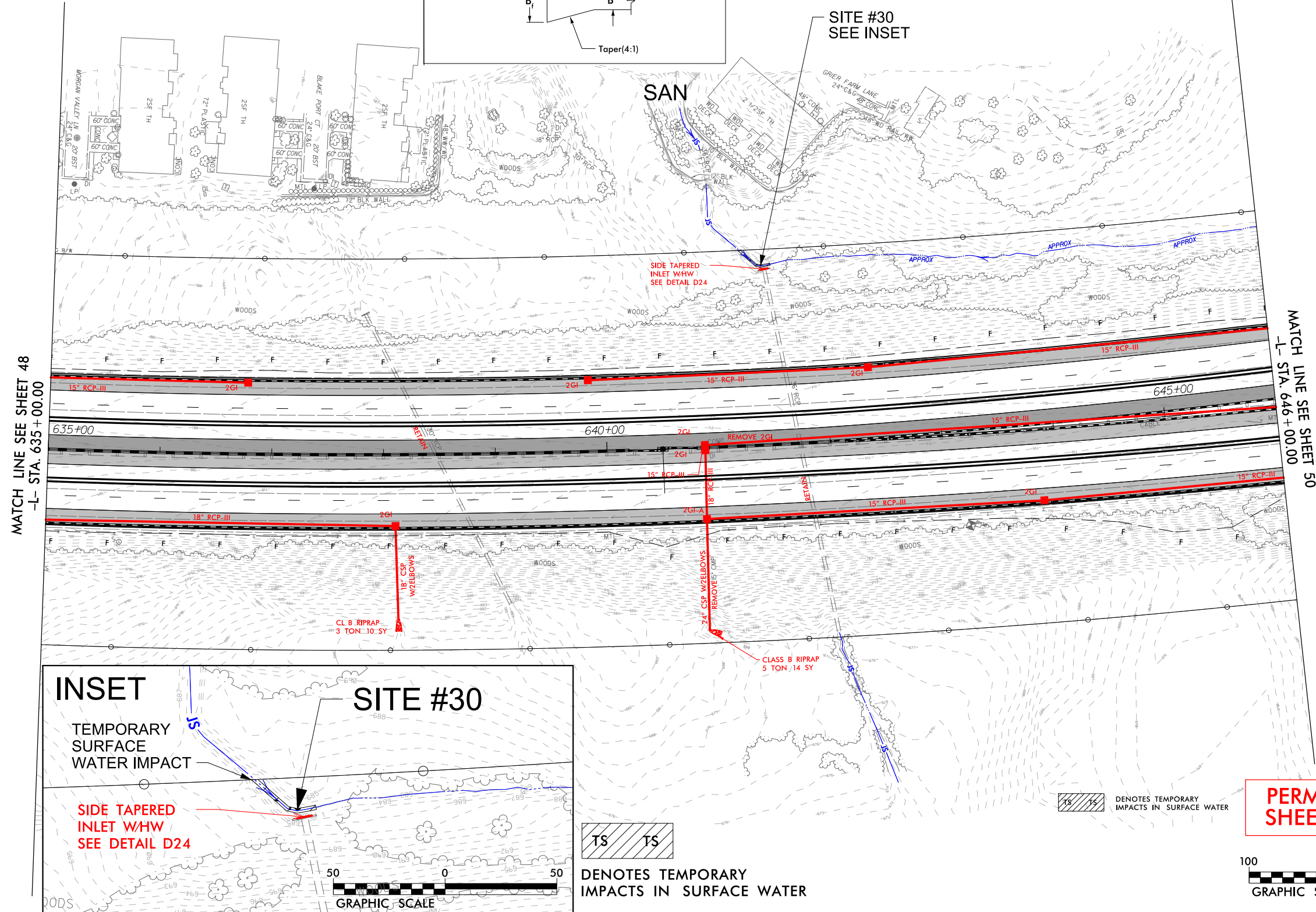
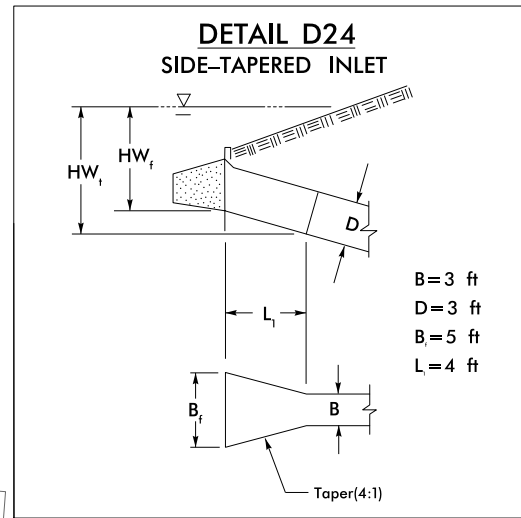
100

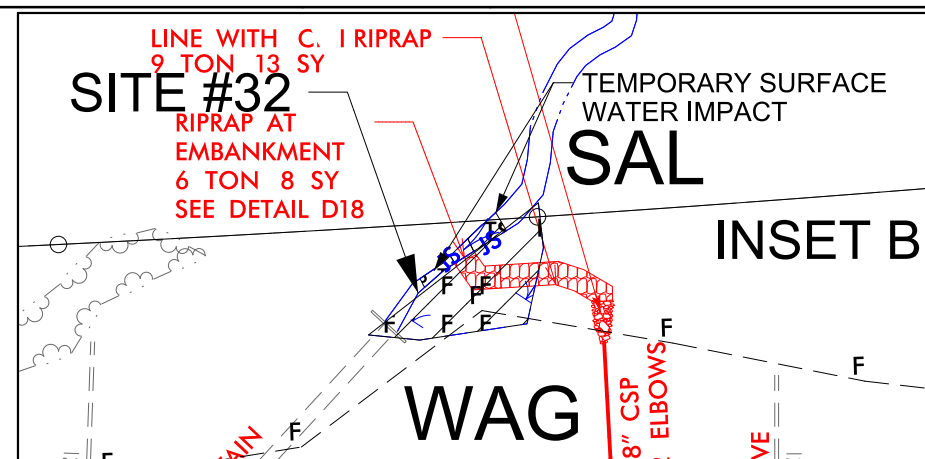
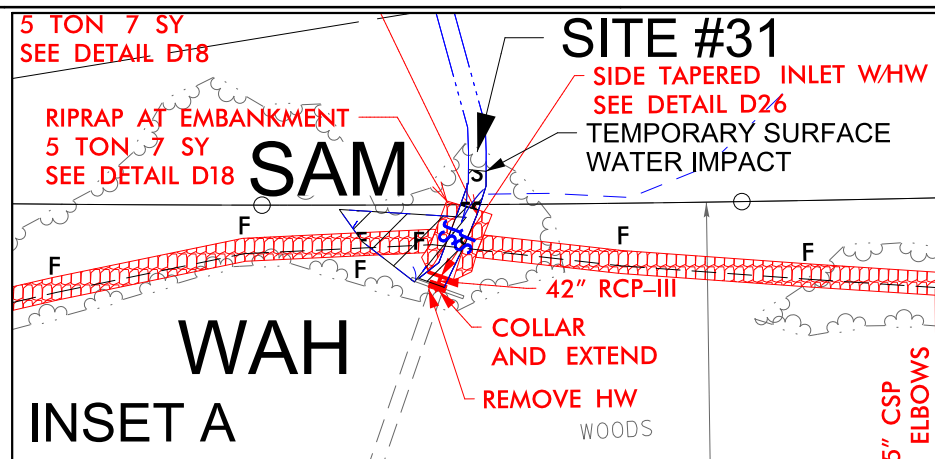
GRAPHIC SCALE

PROJECT REFERENCE NO.		SHEET NO.	
I-5507		49	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	




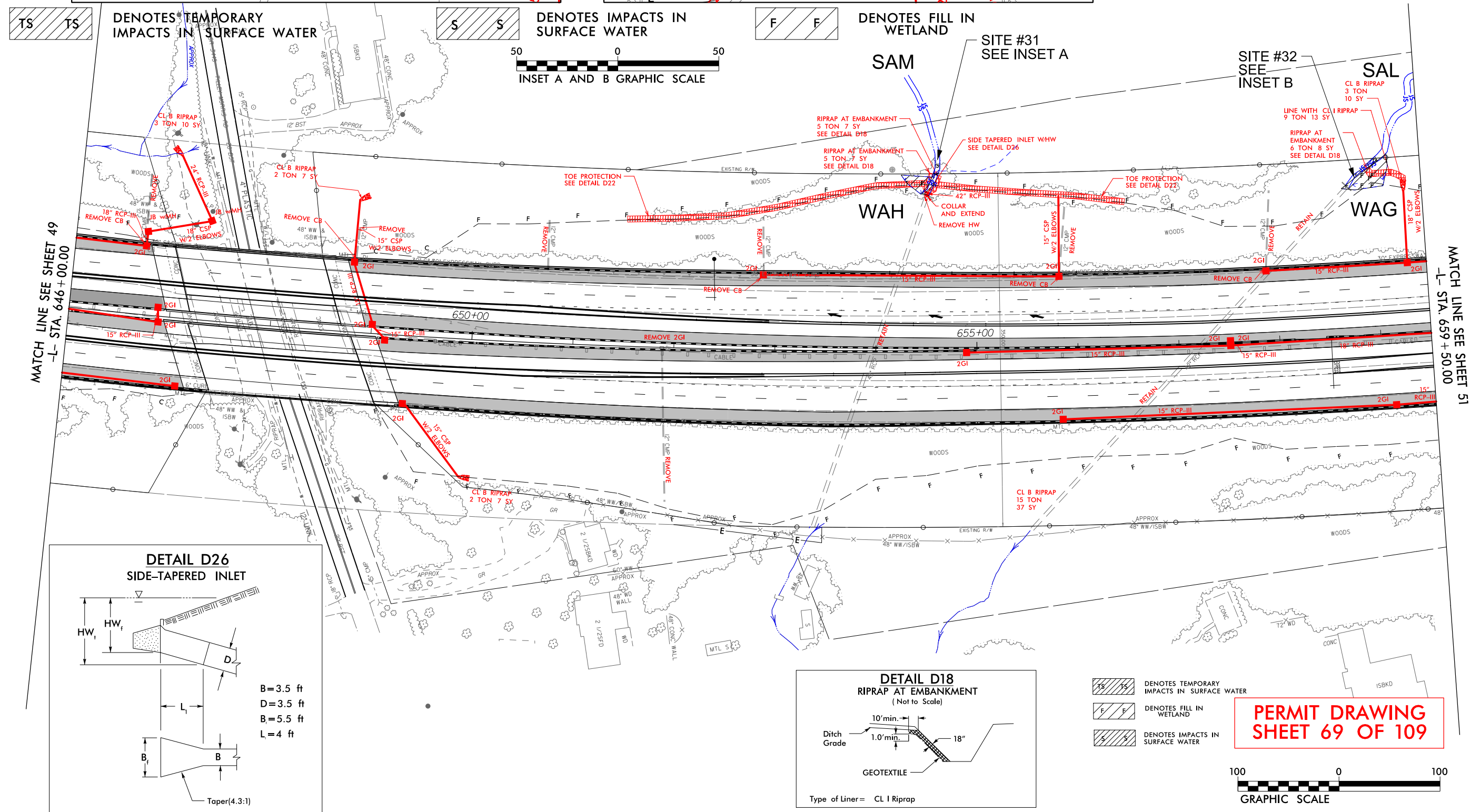
PROJECT REFERENCE NO.	SHEET NO.
I-5507	49
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
	

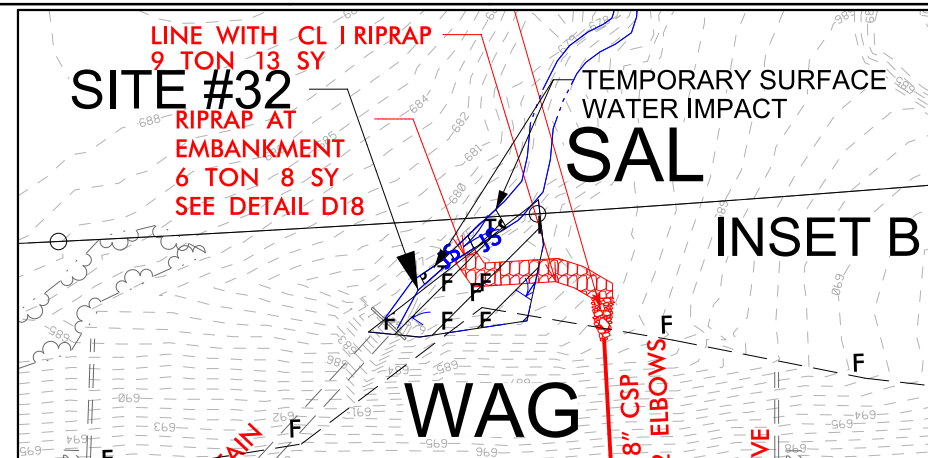
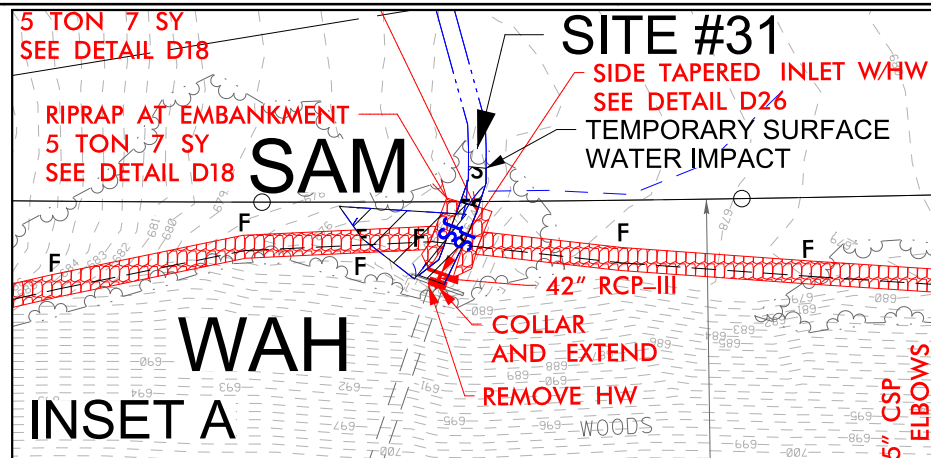





wsp 1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

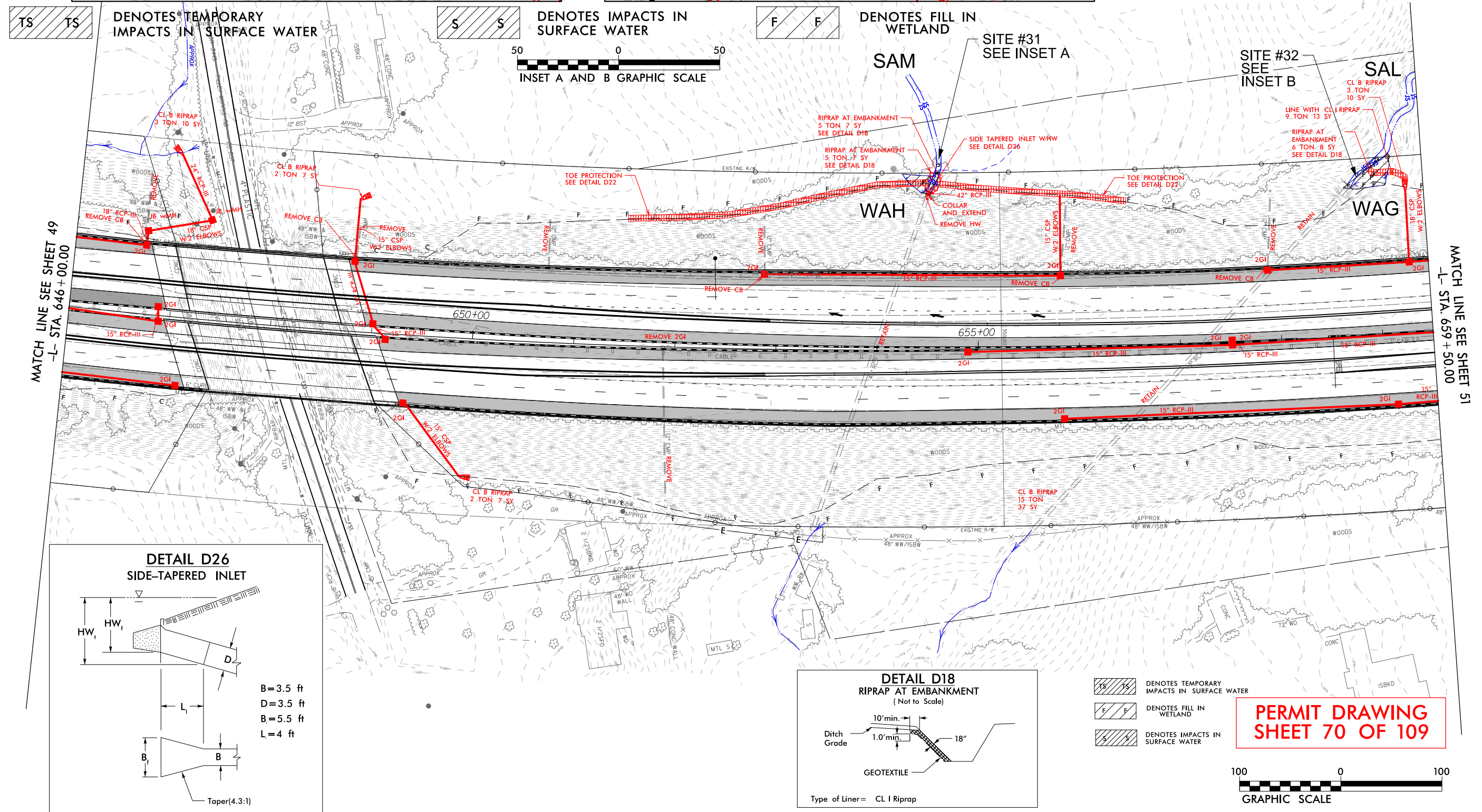
PROJECT REFERENCE NO.	SHEET NO.
I-5507	50
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>PROJECT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
 BLYTHE	





WSP 1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

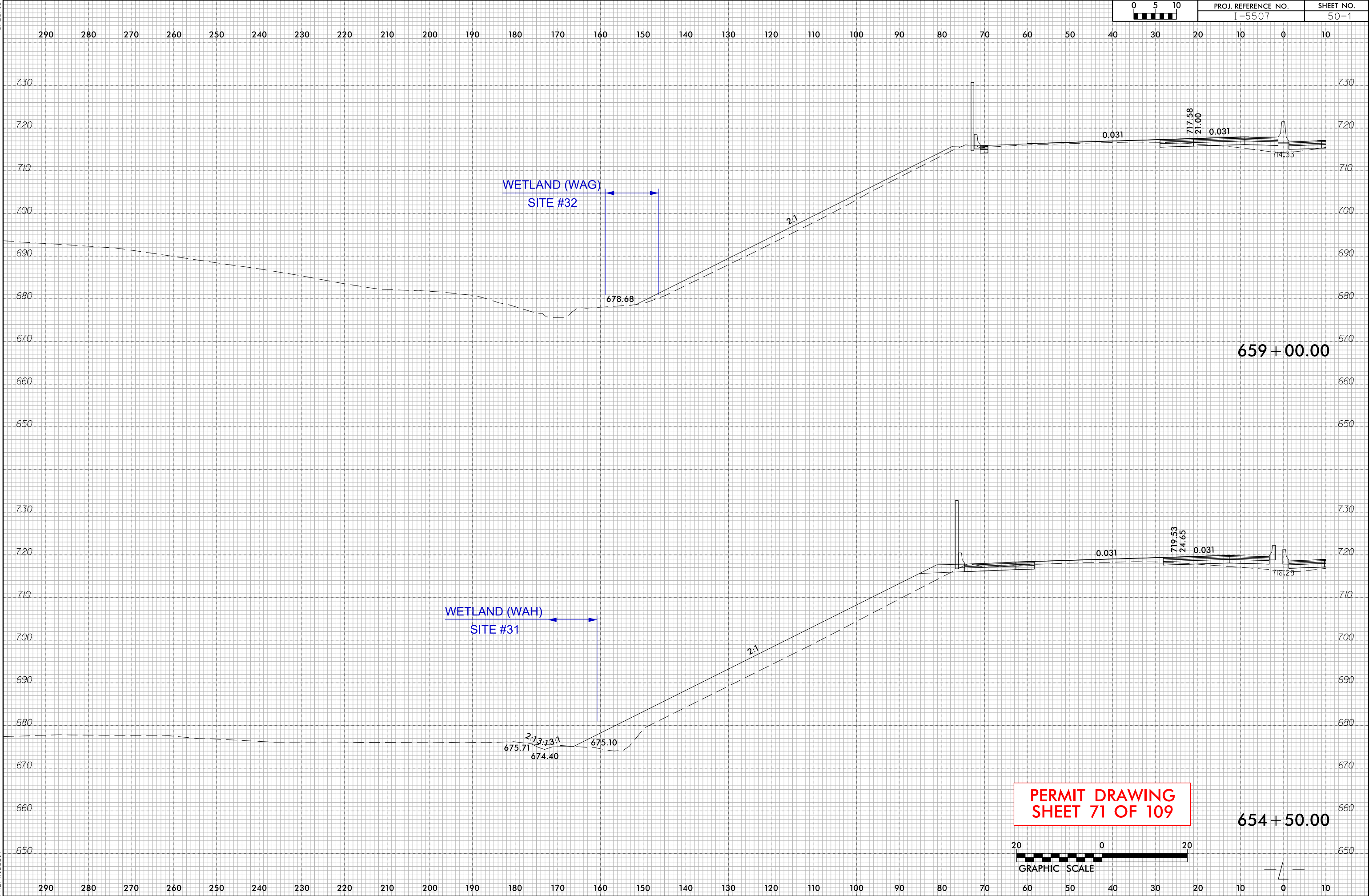
PROJECT REFERENCE NO.	SHEET NO.
L-5507	50
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
	



6/23/16



PROJ. REFERENCE NO.	SHEET NO.
I-5507	50-1



WETLAND (WAG)
SITE #32

678.68

2:1

0.031

717.58
21.00

0.031

714.33

659 + 00.00

WETLAND (WAH)
SITE #31

675.71

2:13:13.1

674.40

675.10

2:1

0.031

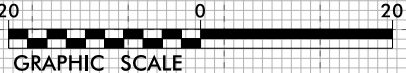
719.53
24.65

0.031

716.29

654 + 50.00

PERMIT DRAWING
SHEET 71 OF 109



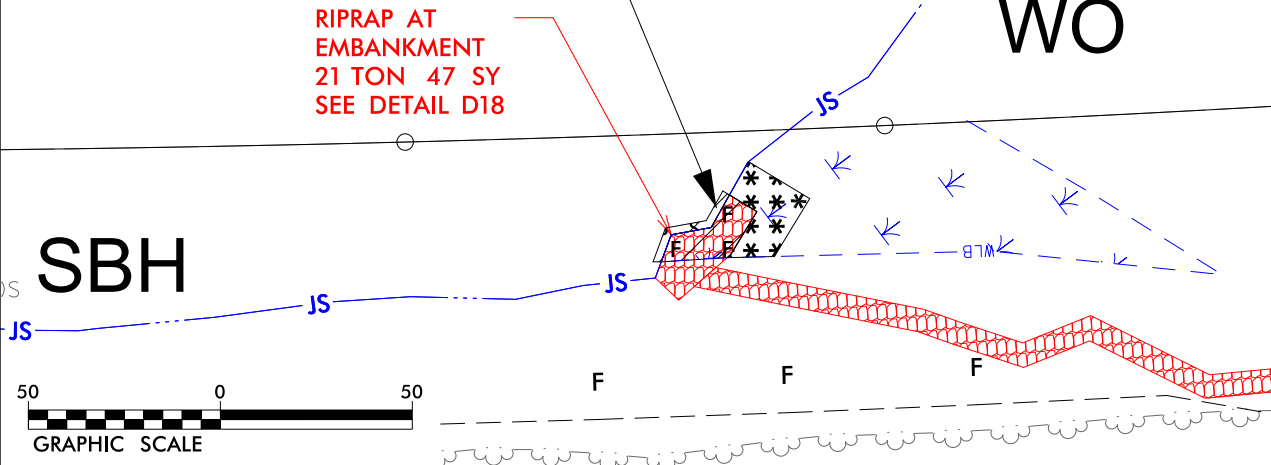
7/1/2019
\\pdcw\csa01\pics_workingdir\17097\336401_2497\15507_hyd_prm_wet.psh50.XS.dgn
PRD5WTC501\$

8/17/99

7/1/2019
S:\p\dw\lgs01\ics\workingdir\17097\336401_2493\5507_Hyd_prm_wet_pst52.dgn
PDP\WCS01

INSET A

SITE #33



DENOTES FILL IN WETLAND



DENOTES IMPACTS IN SURFACE WATER



DENOTES MECHANIZED CLEARING



1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.

I-5507

SHEET NO.

52

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

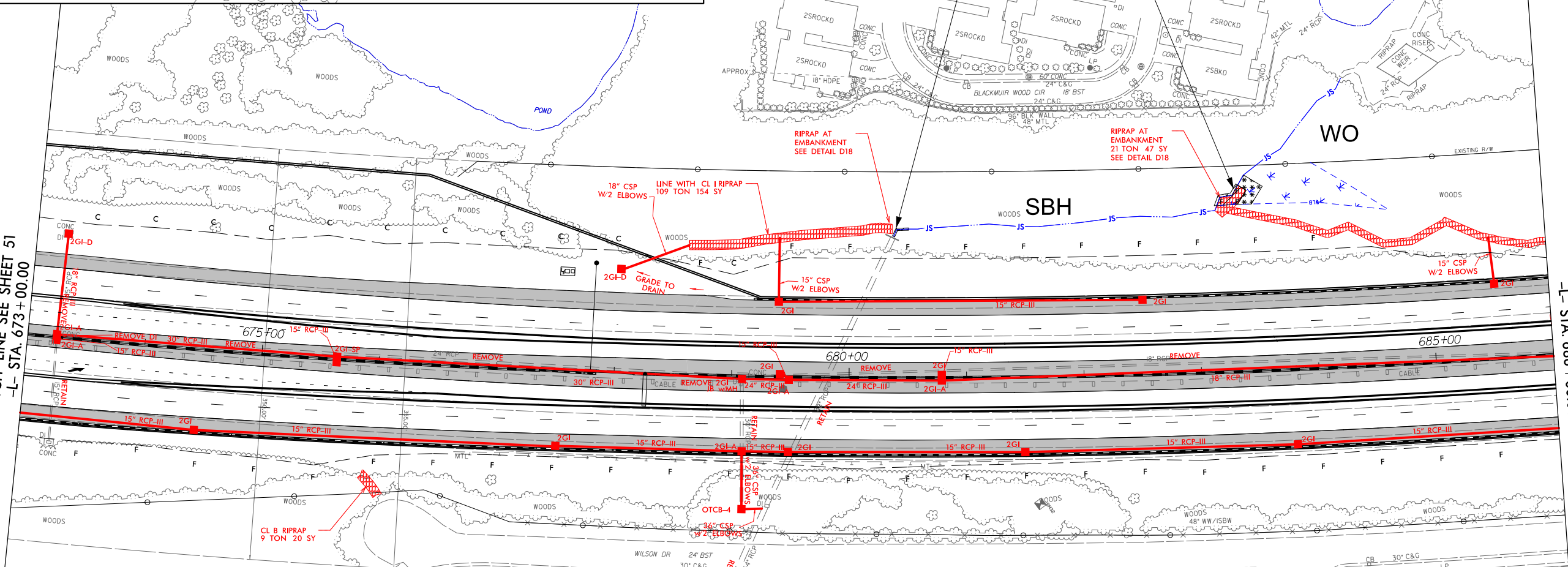
HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



MATCH LINE SEE SHEET 51
-L- STA. 673+00.00

MATCH LINE SEE SHEET 53
-L- STA. 686+00.00



DENOTES IMPACTS IN SURFACE WATER

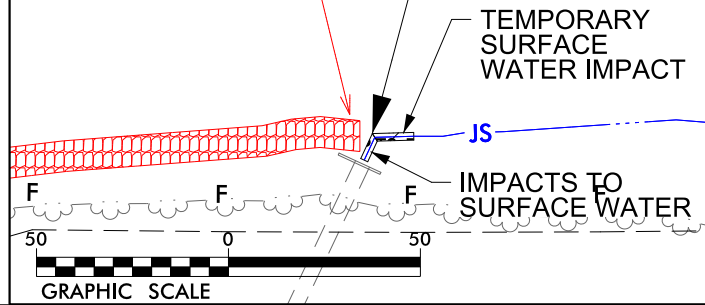


DENOTES TEMPORARY IMPACTS IN SURFACE WATER

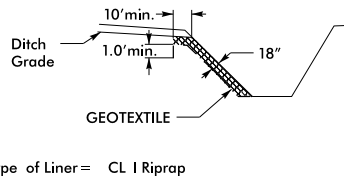
RIPRAP AT EMBANKMENT
SEE DETAIL D18

INSET B

SITE #33



DETAIL D18
RIPRAP AT EMBANKMENT
(Not to Scale)



Type of Liner = CL I Riprap



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



DENOTES FILL IN WETLAND



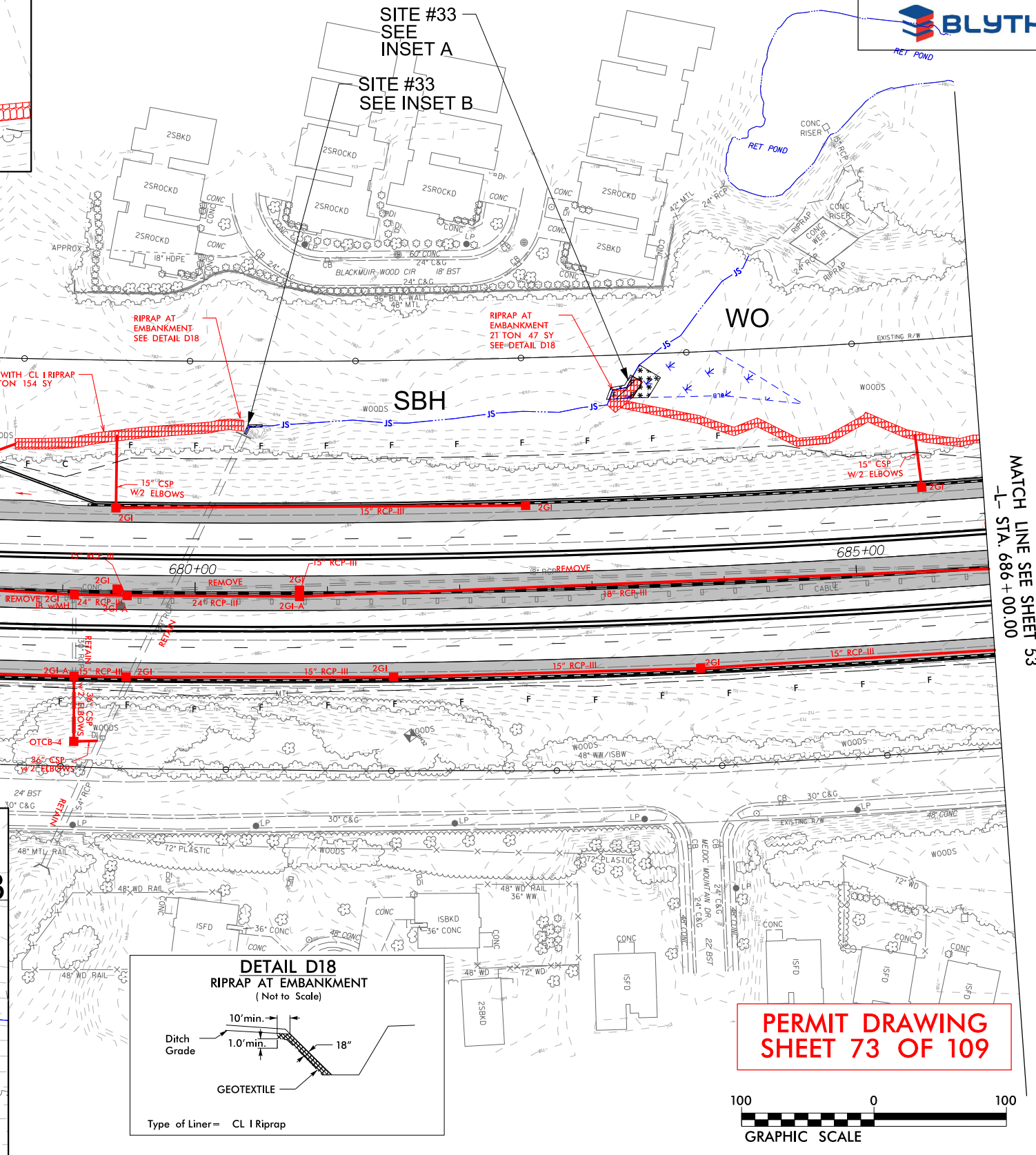
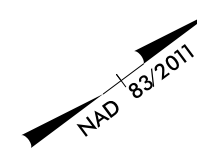
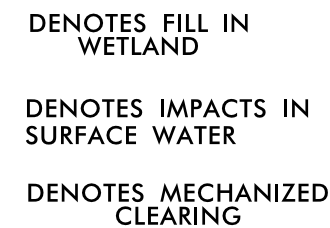
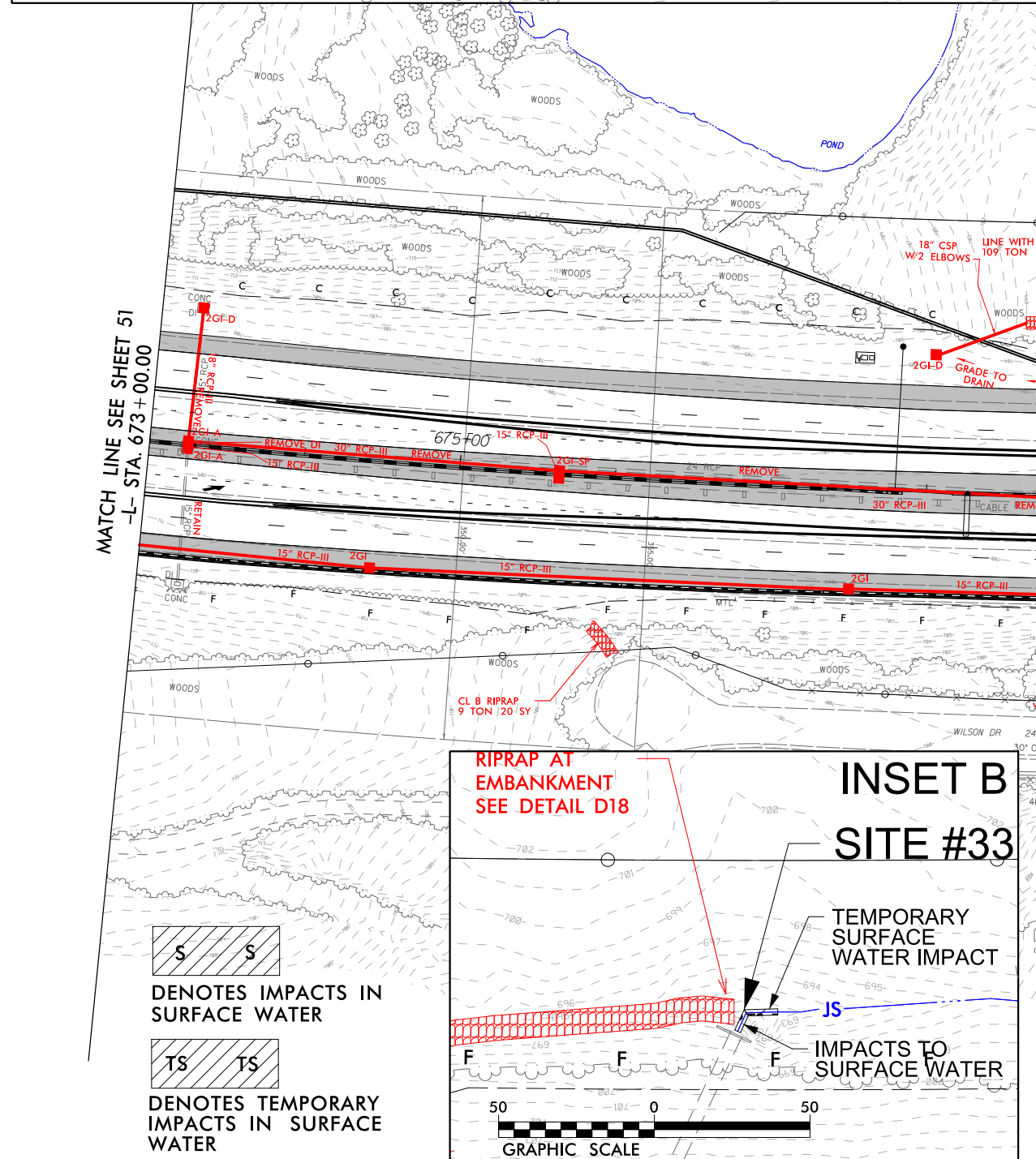
DENOTES IMPACTS IN SURFACE WATER



DENOTES MECHANIZED CLEARING

PERMIT DRAWING
SHEET 72 OF 109





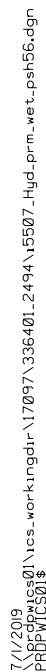


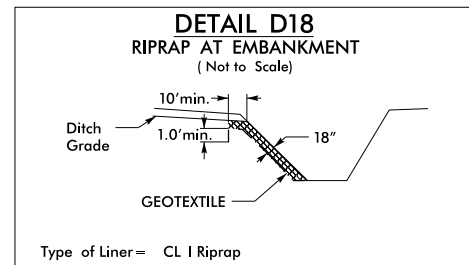
BLYTHE



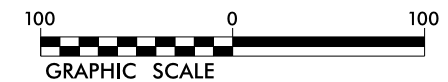
Type of Liner= CL I Riprap

- PERMIT DRAWING
SHEET 74 OF 109



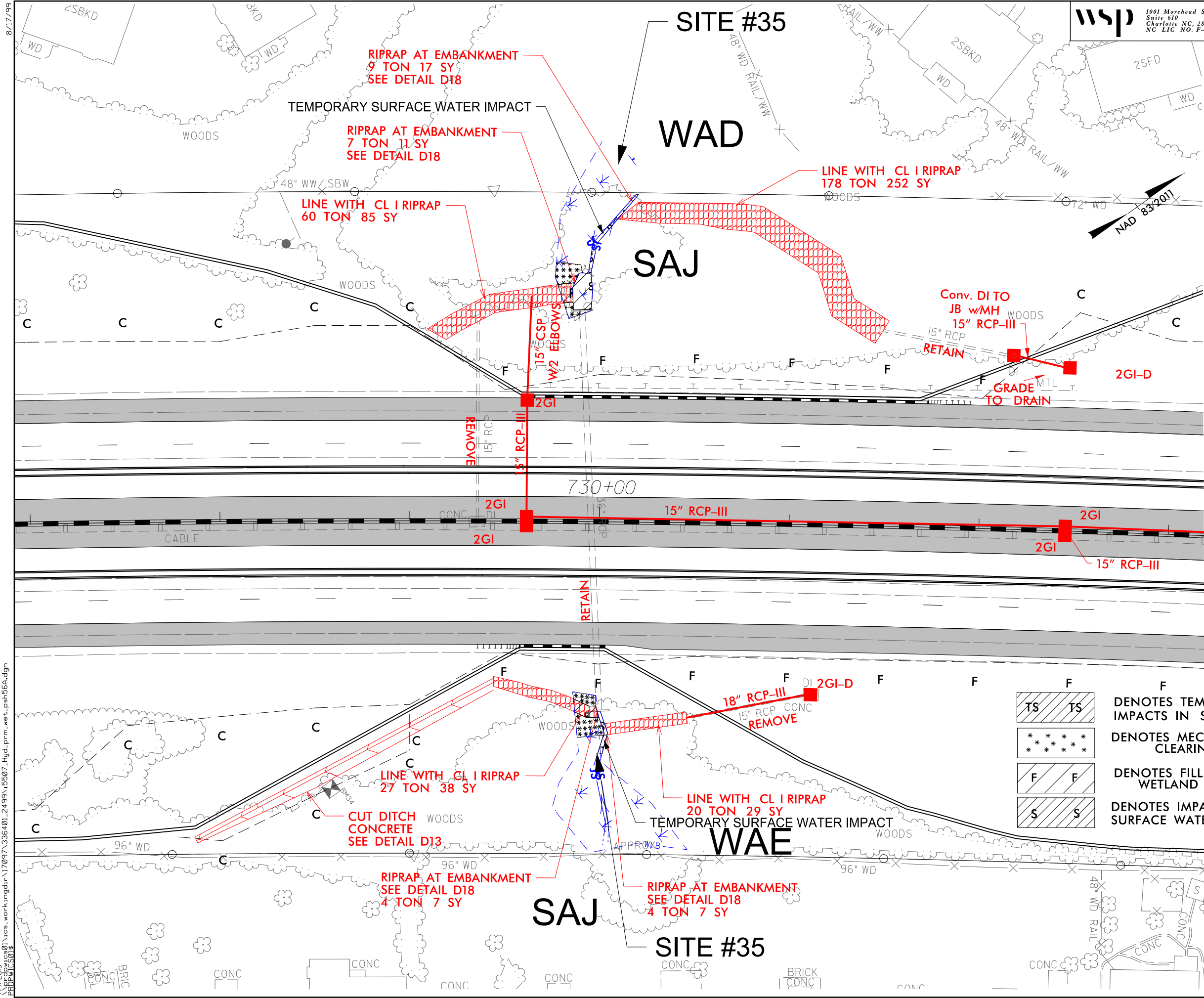


**PERMIT DRAWING
SHEET 75 OF 109**




8/17/99

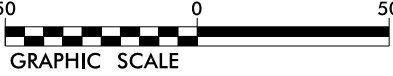
7/1/2019
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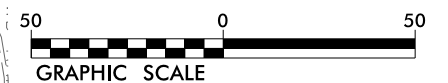



wsp
1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

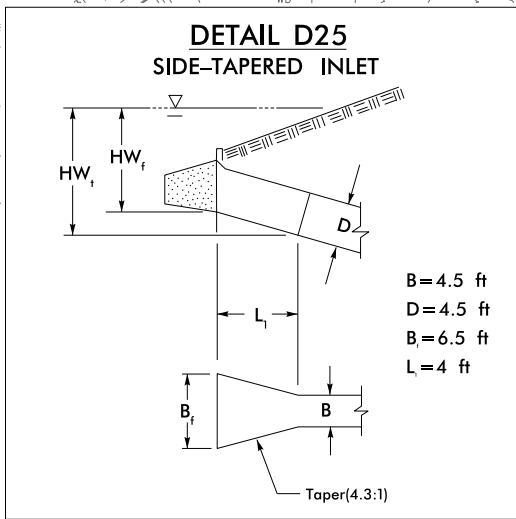
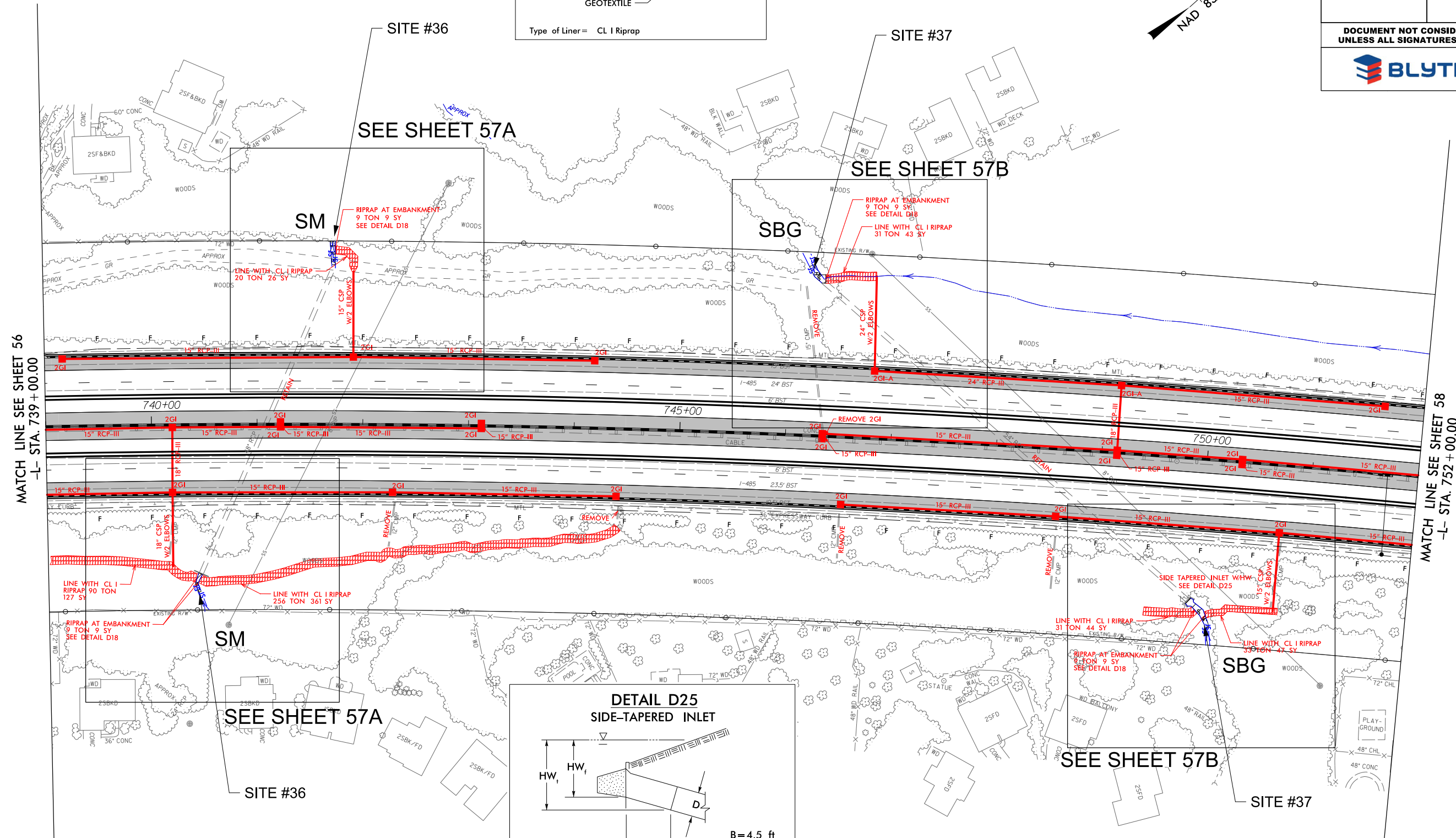
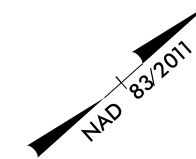
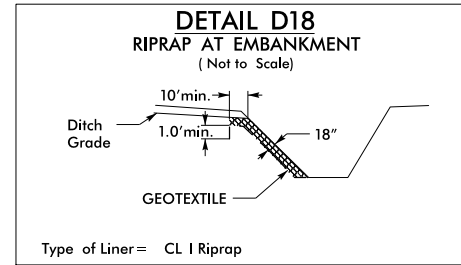
PROJECT REFERENCE NO.		SHEET NO.	
I-5507		56A	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
 BLYTHE			


PERMIT DRAWING
SHEET 76 OF 109






PROJECT REFERENCE NO.	SHEET NO.
I-5507	57
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
	

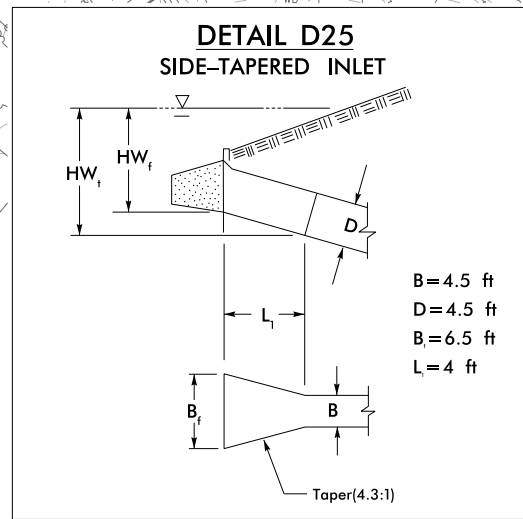
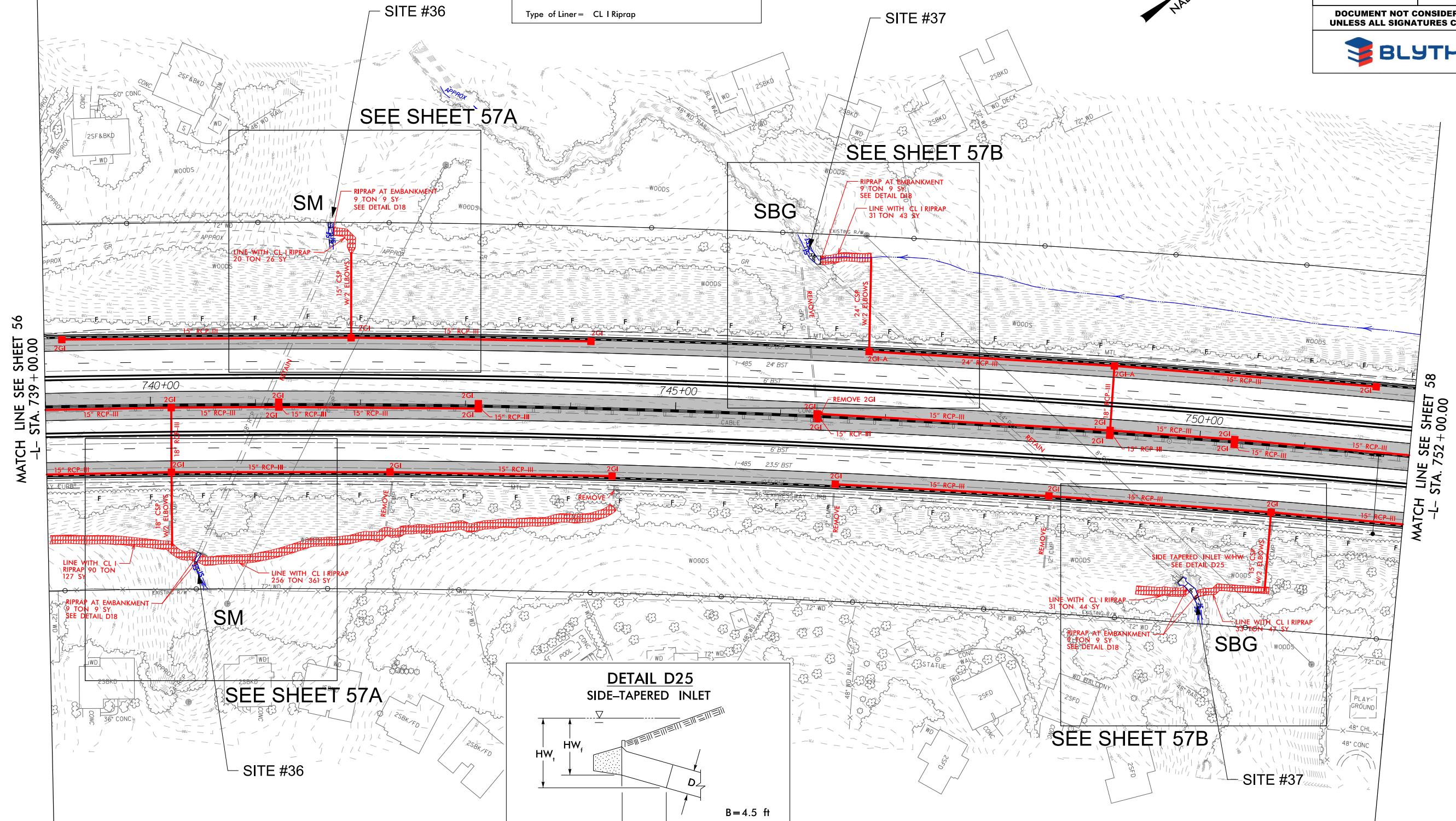
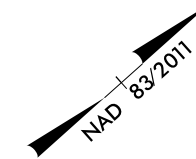
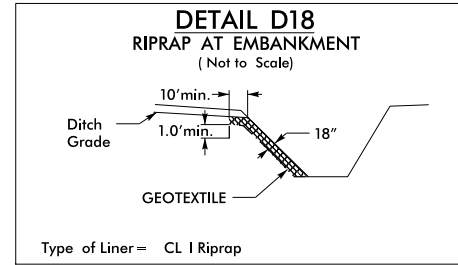




 DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 78 OF 109



PROJECT REFERENCE NO.	SHEET NO.
I-5507	57
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
	




 DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 79 OF 109



PROJECT REFERENCE NO.
I-5507


SHEET NO.
57A

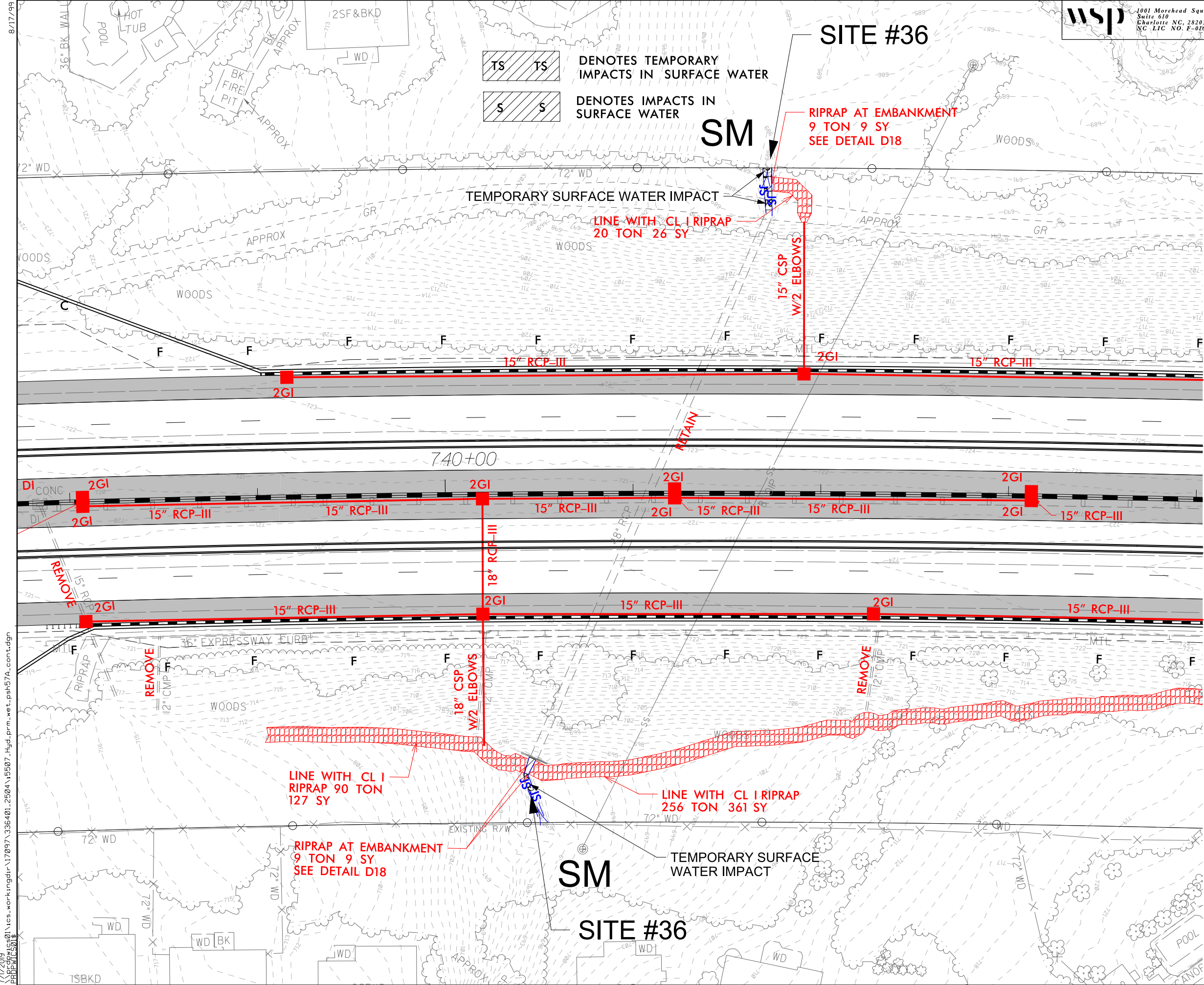
R/W SHEET NO.

ROADWAY DESIGN ENGINEER

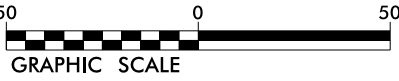
HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

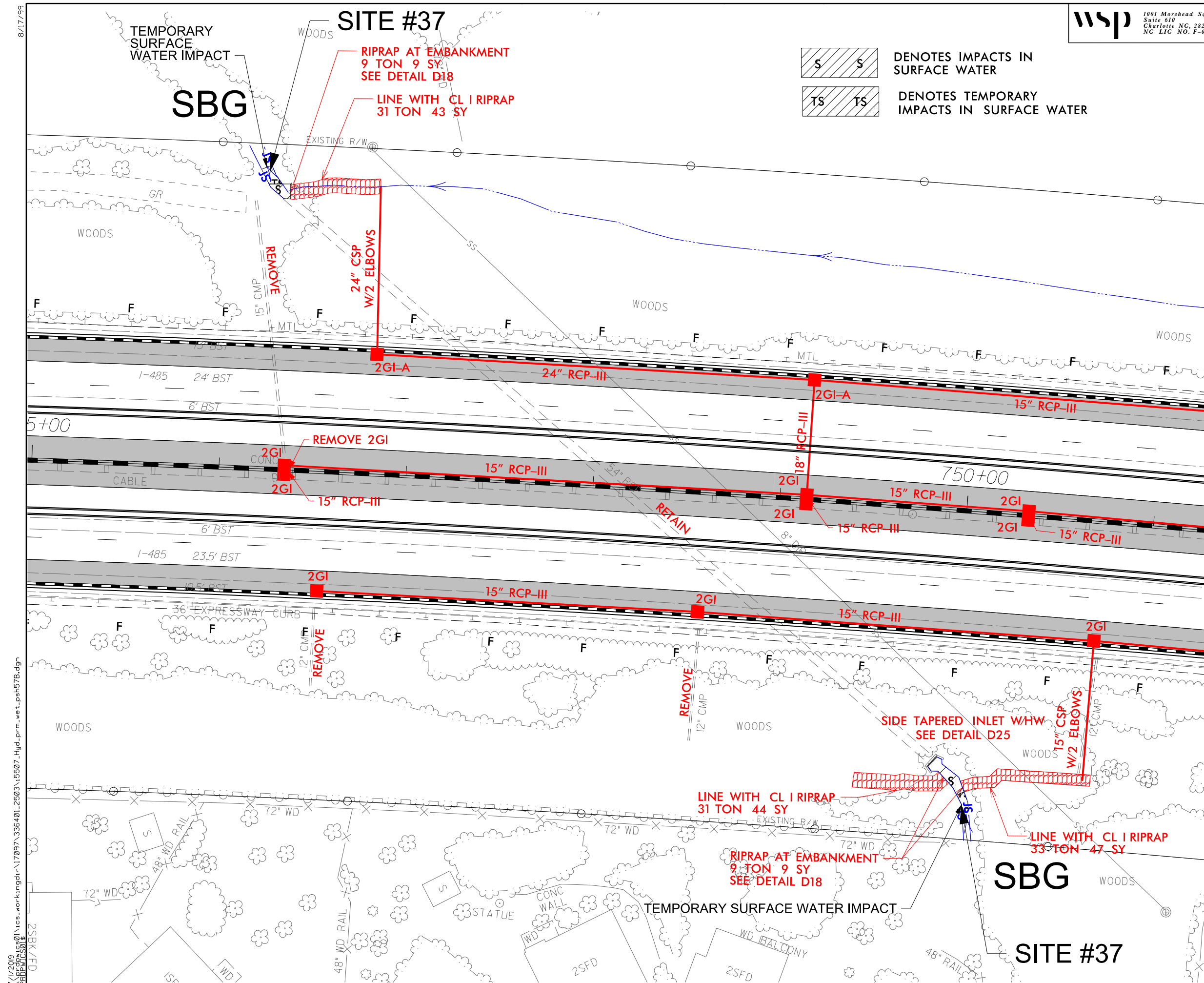
BLYTHE



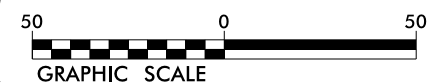
PERMIT DRAWING
SHEET 81 OF 109

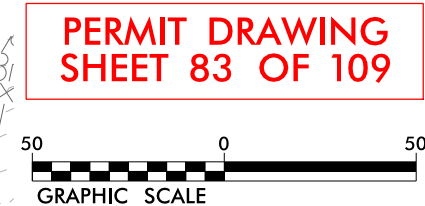


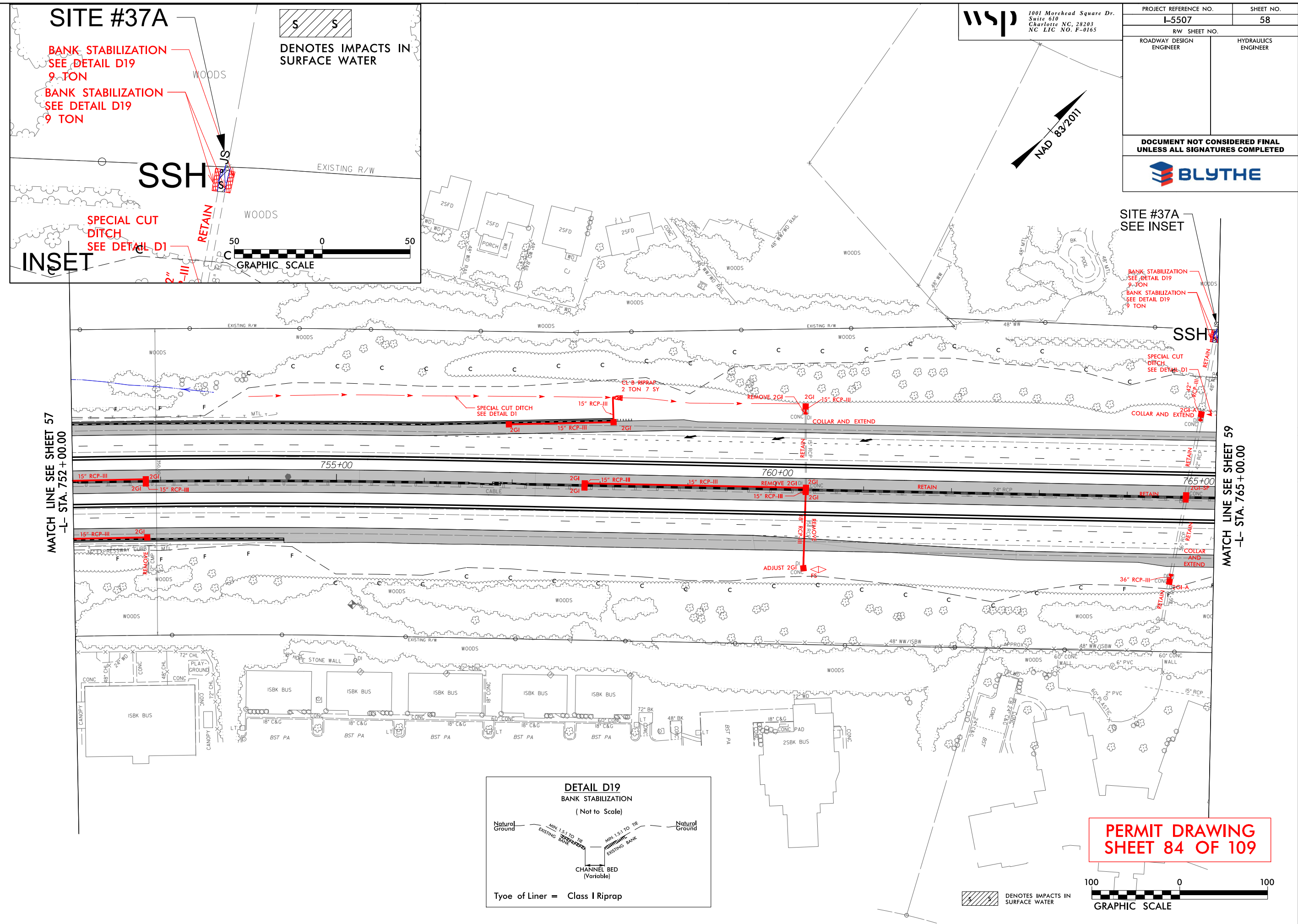
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



PERMIT DRAWING
SHEET 82 OF 109









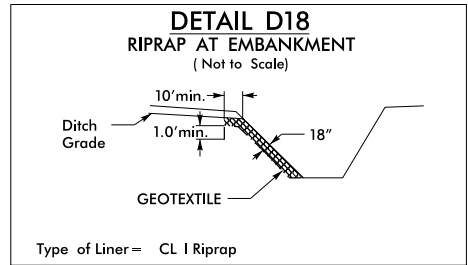
8/17/99



DENOTES IMPACTS IN SURFACE WATER

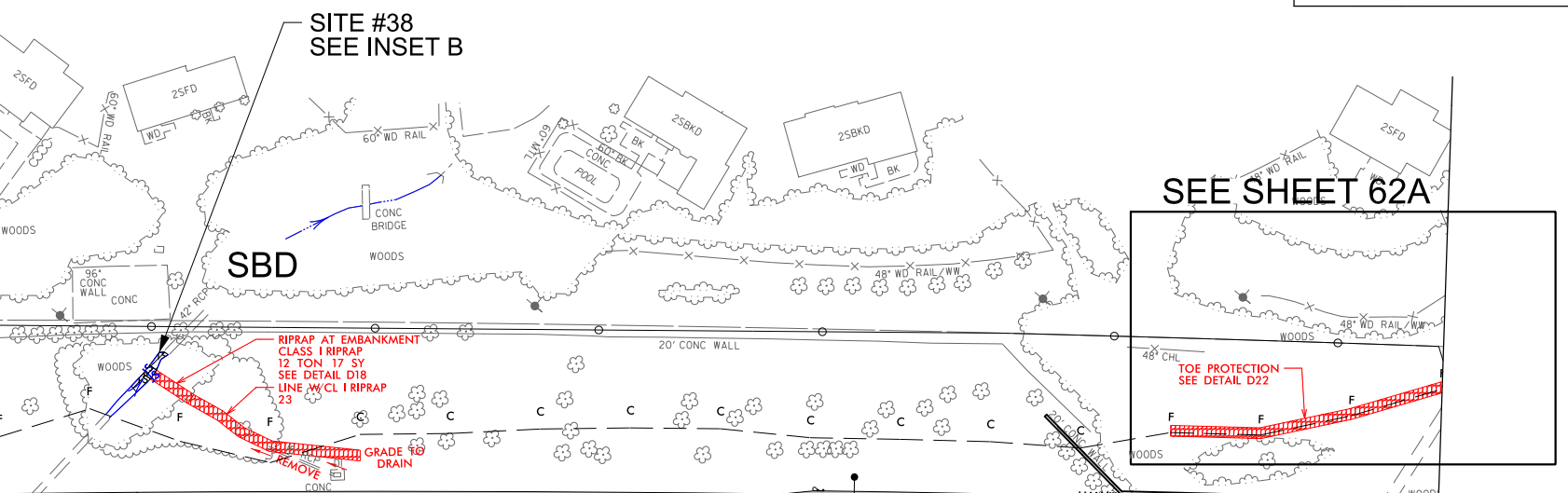
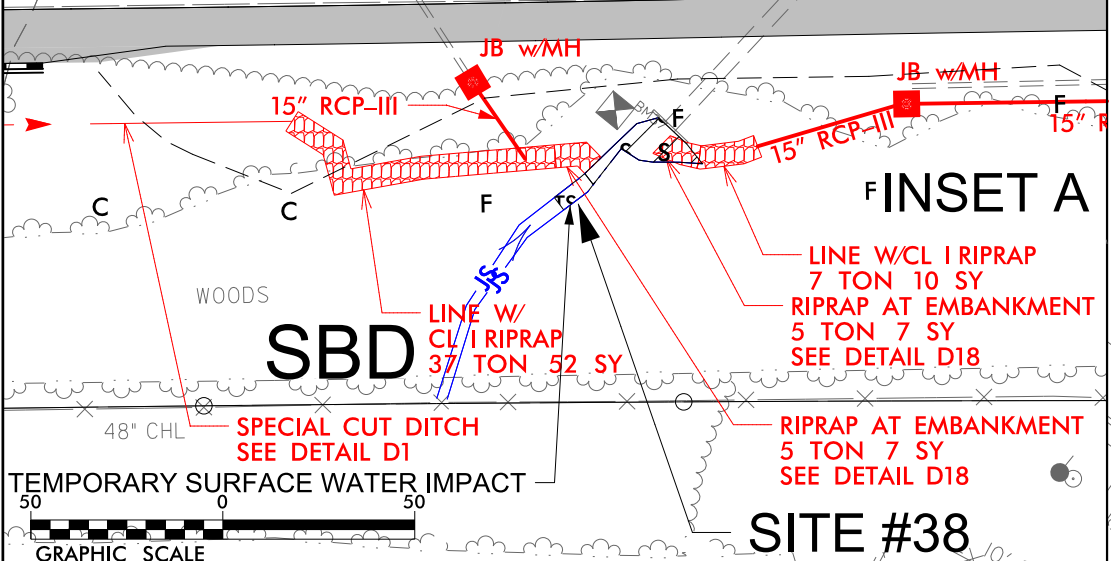


DENOTES TEMPORARY IMPACTS IN SURFACE WATER

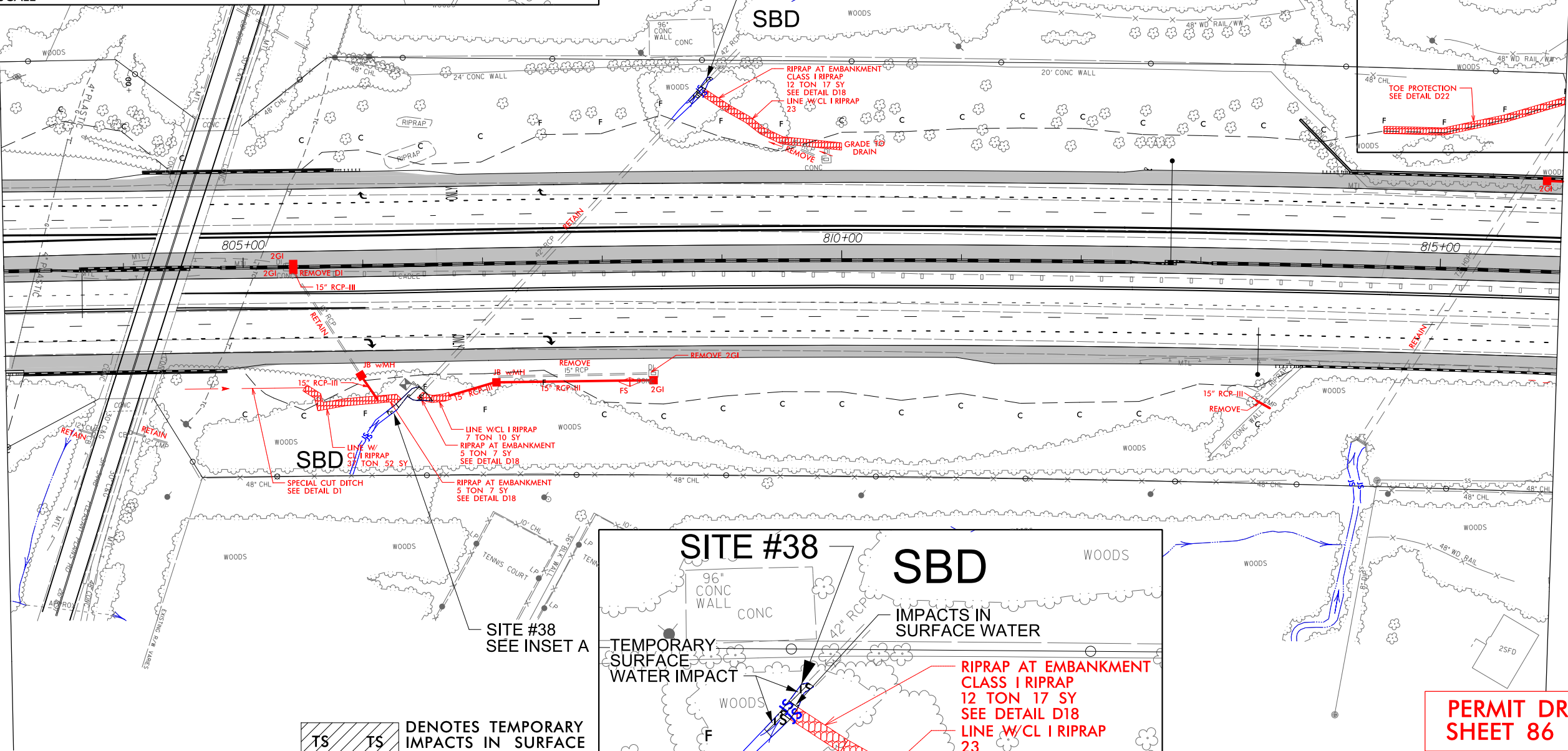


wsp 1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.		SHEET NO.	
I-5507		62	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



MATCH LINE SEE SHEET 61
-L- STA. 803 + 00.00

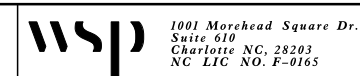
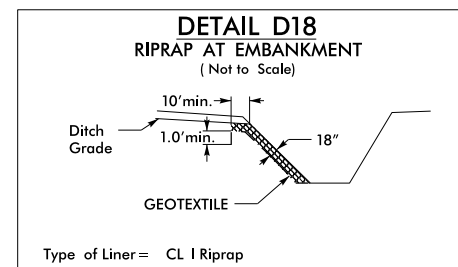
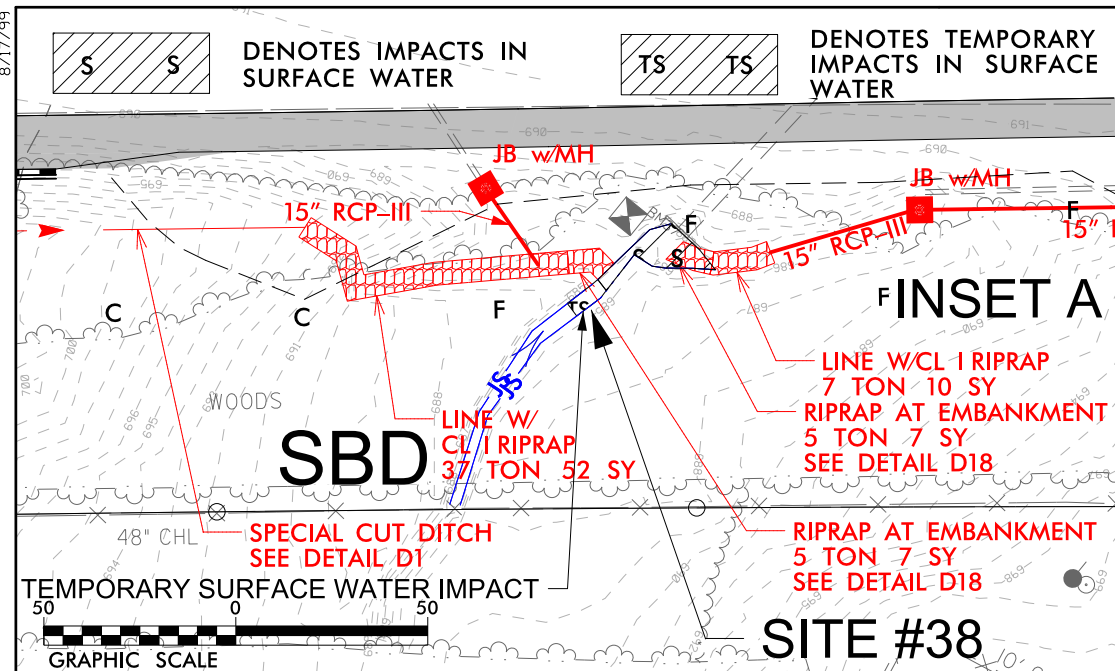



MATCH LINE SEE SHEET 63
-L- STA. 816 + 00.00

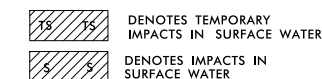
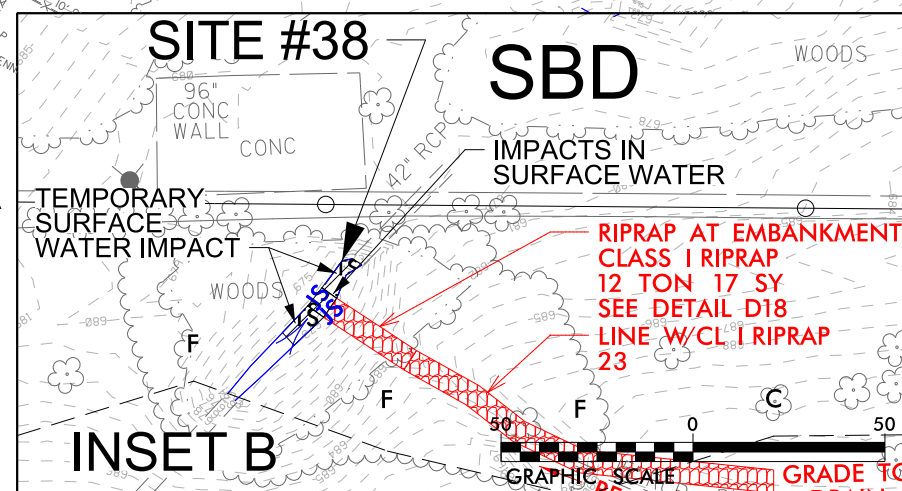
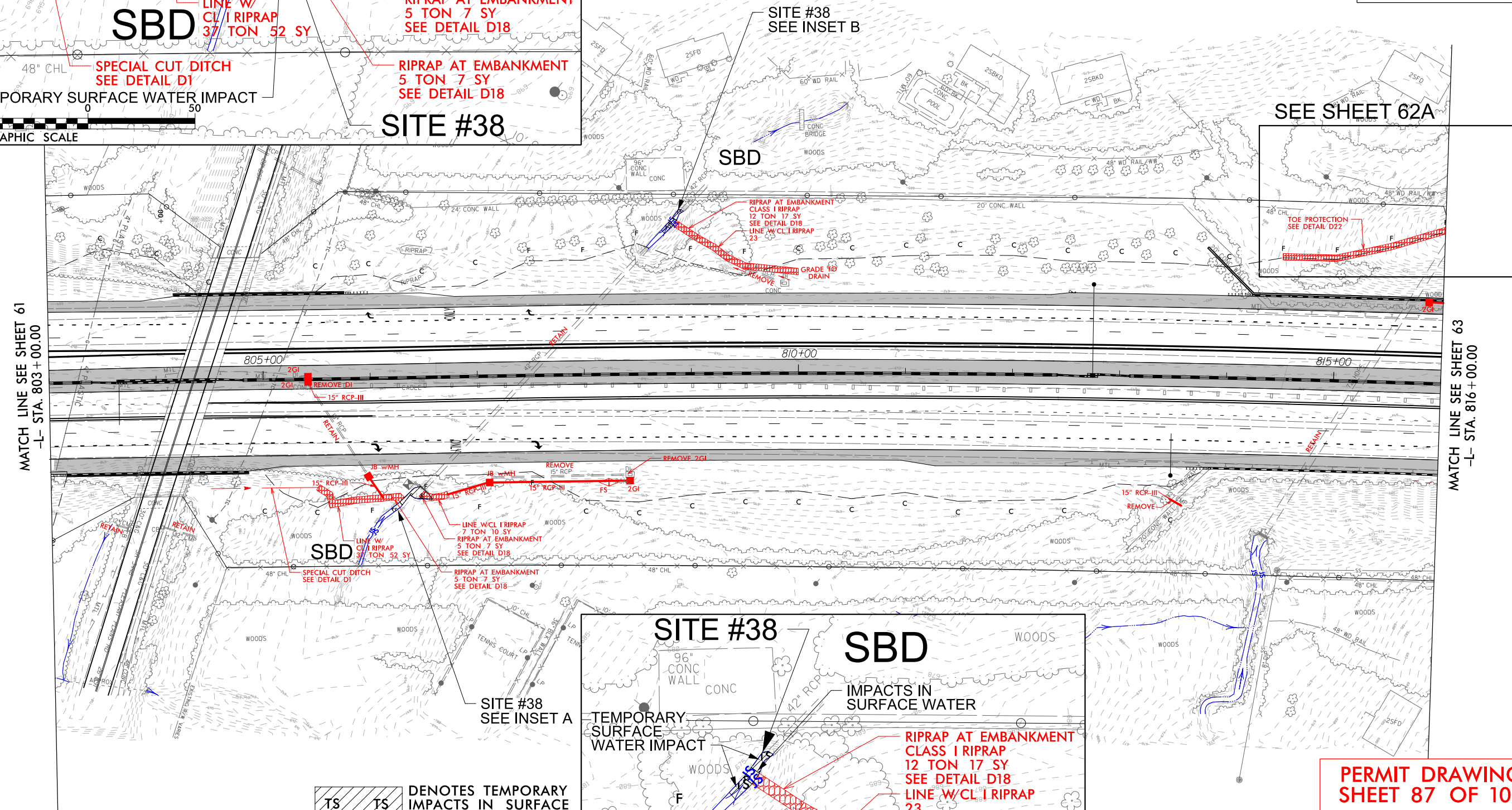
PERMIT DRAWING
SHEET 86 OF 109



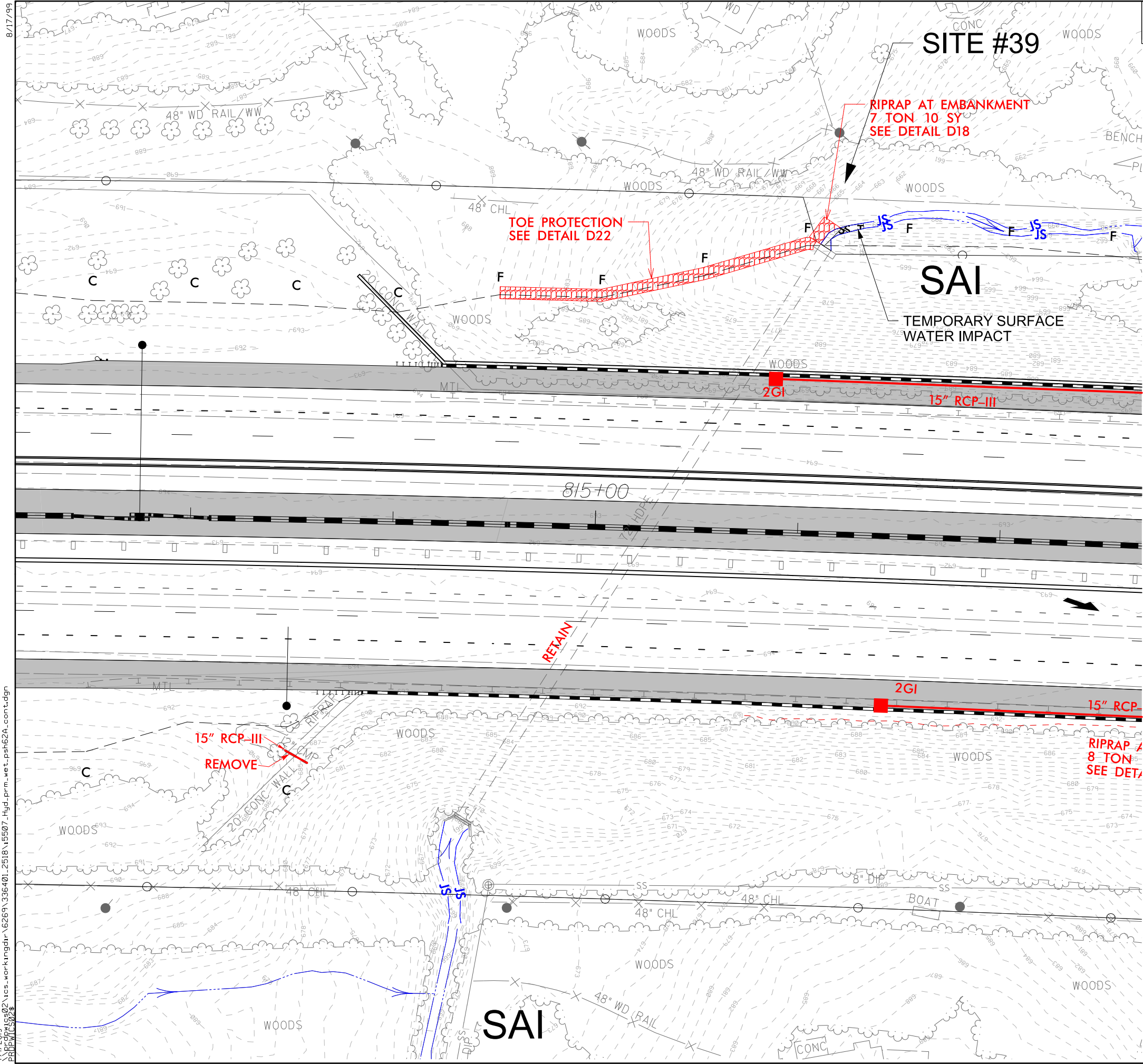
7/1/2019
S:\projects\2019\I-5507\6269\336401\2509\I5507_Hyd_prm_wet.pst62.dgn
P:\C\5025




PROJECT REFERENCE NO.	SHEET NO.
I-5507	62
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
 BLYTHE	







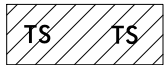




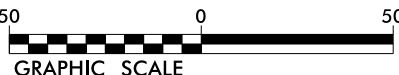
1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO. I-5507		SHEET NO. 62A
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
		



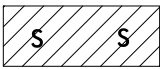
-  DENOTES IMPACTS IN
SURFACE WATER
-  DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 89 OF 109



7/1/2019
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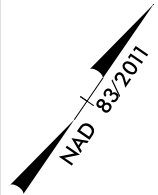
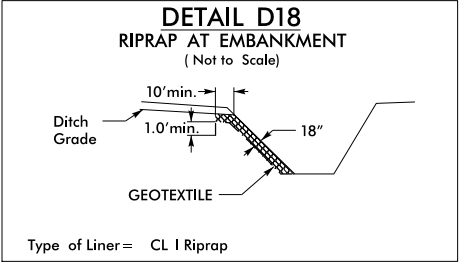
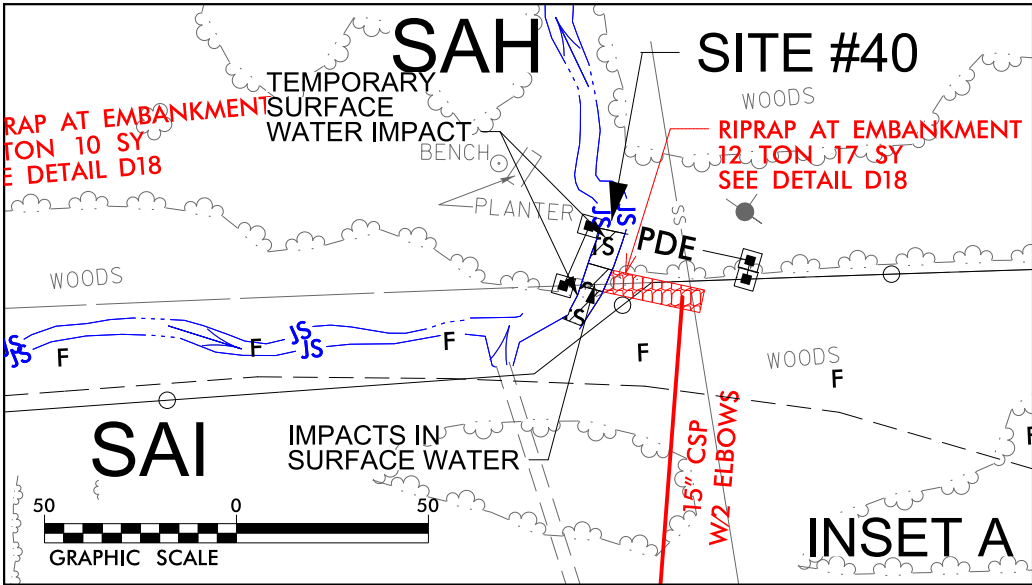
8/17/99



DENOTES IMPACTS IN
SURFACE WATER

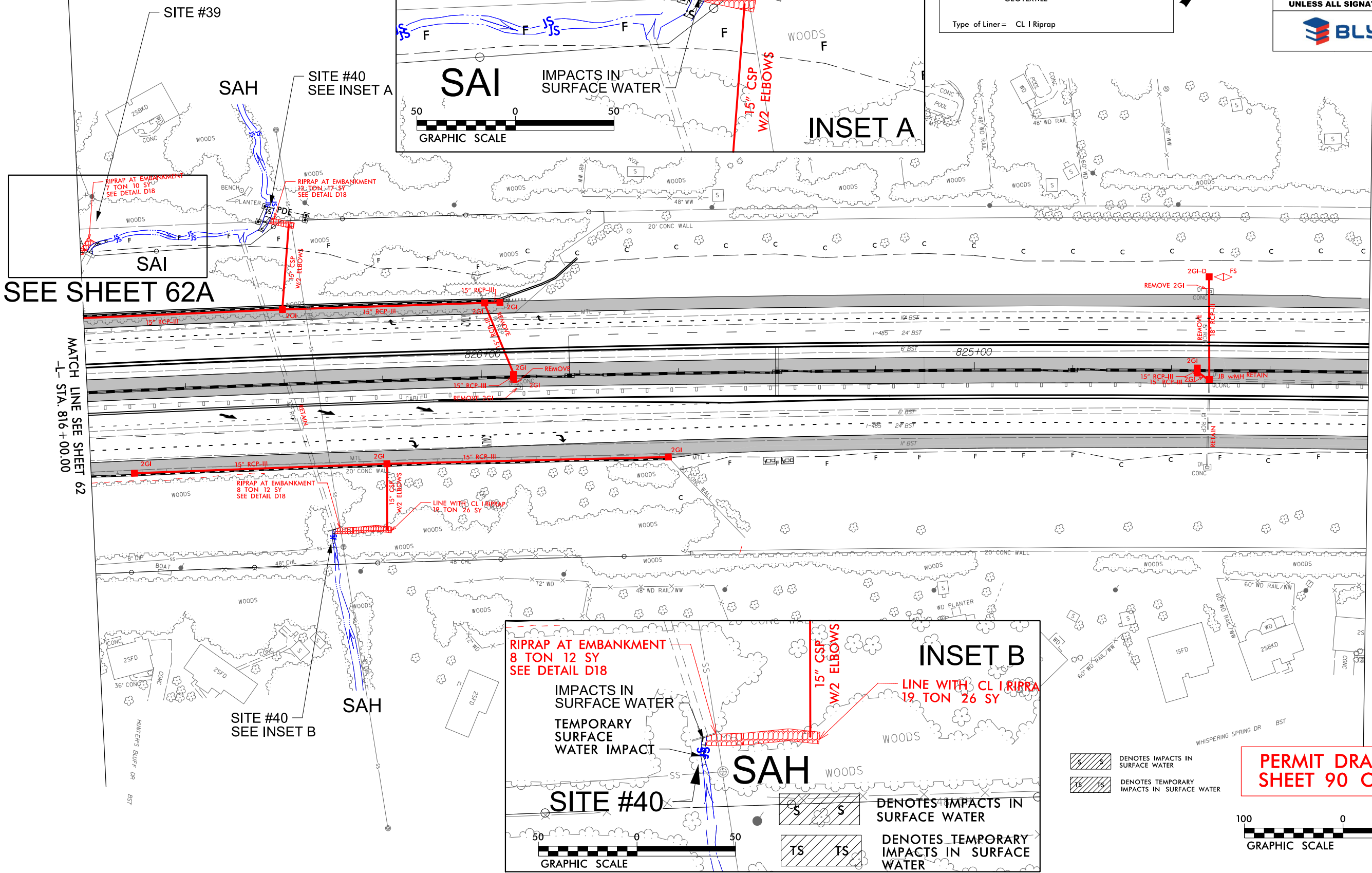


DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

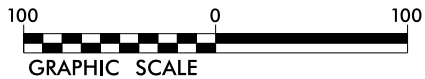


1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.		SHEET NO.
I-5507		63
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

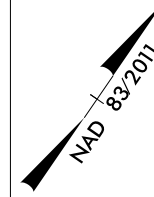
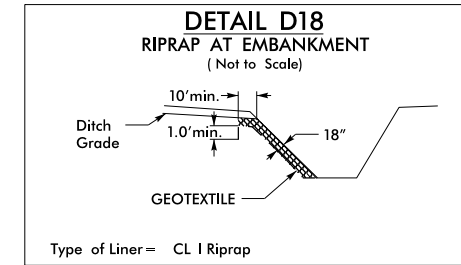
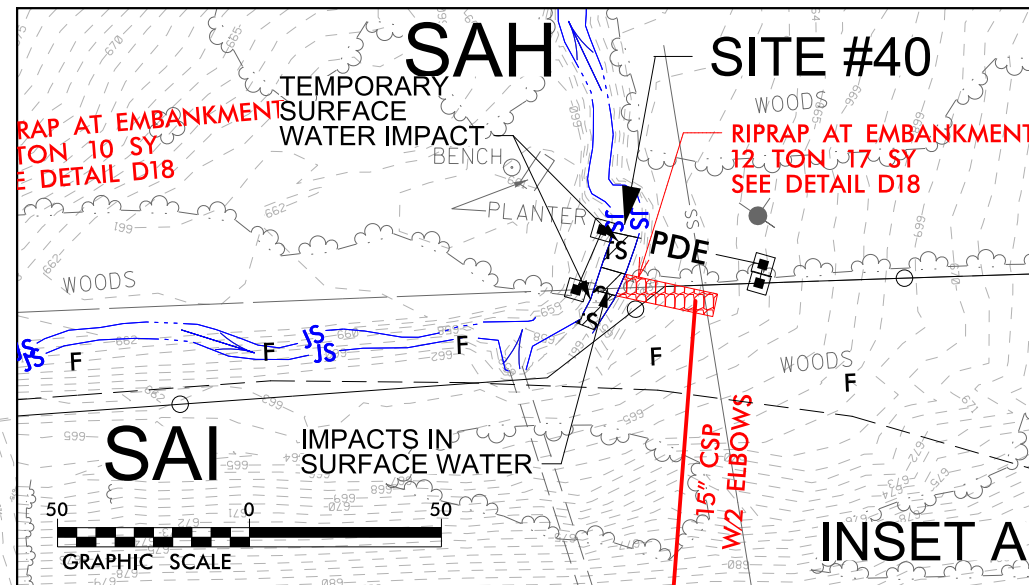



PERMIT DRAWING
SHEET 90 OF 109

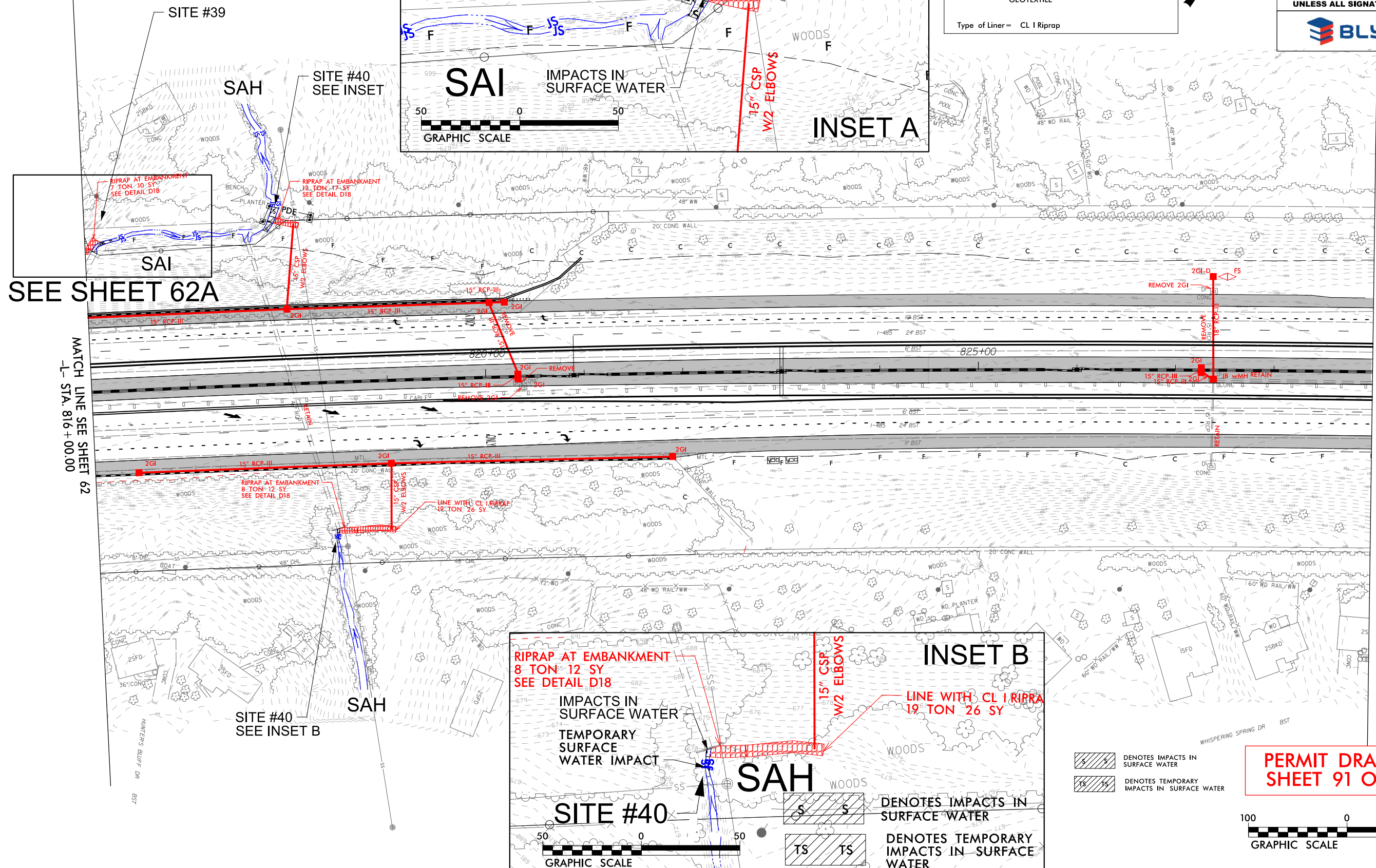


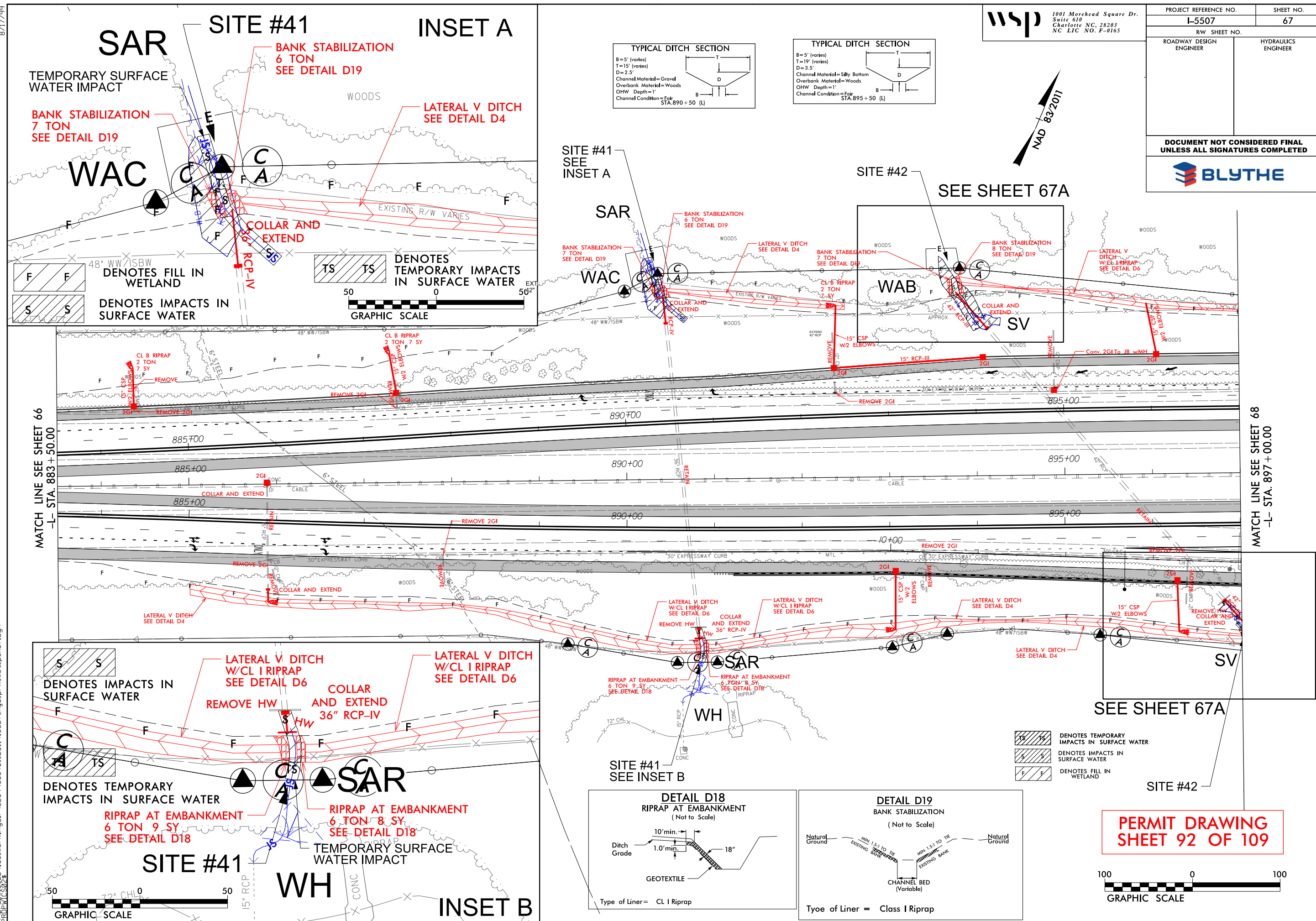
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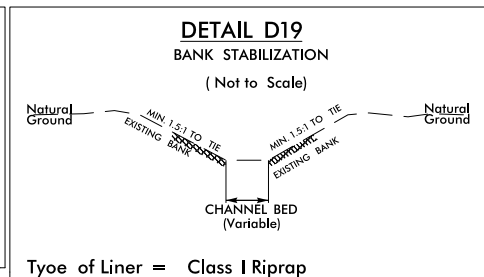
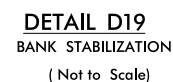
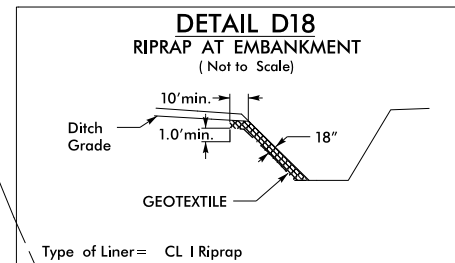
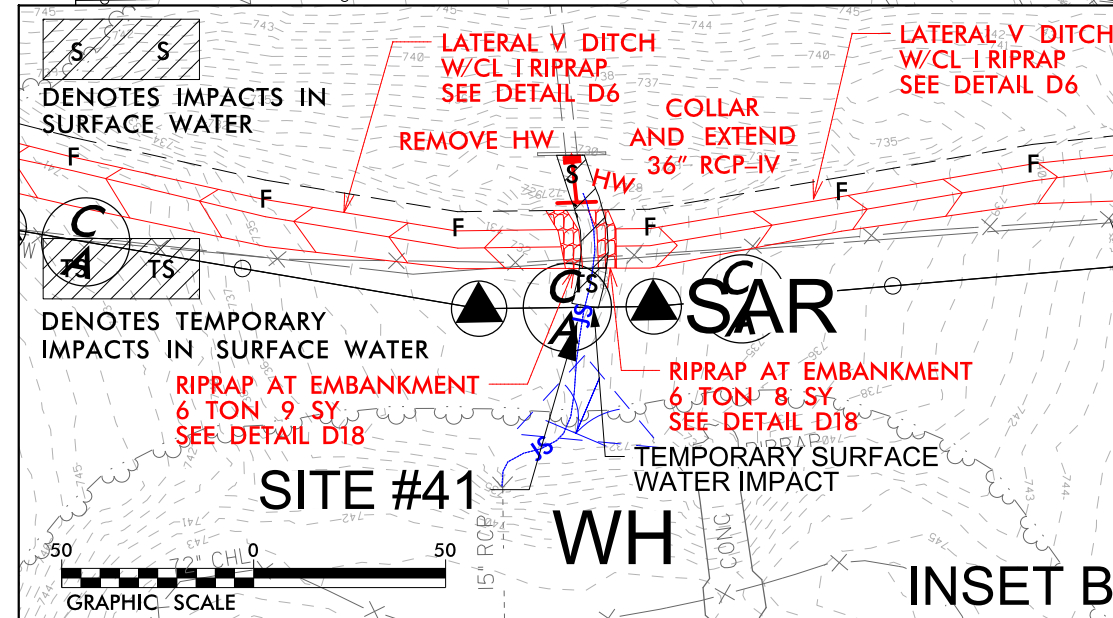
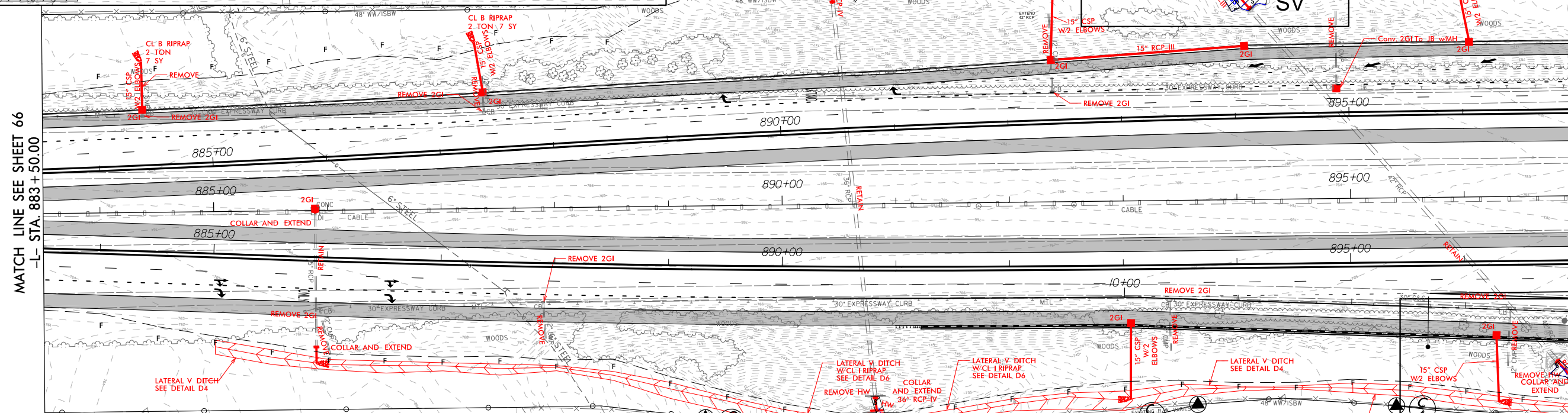
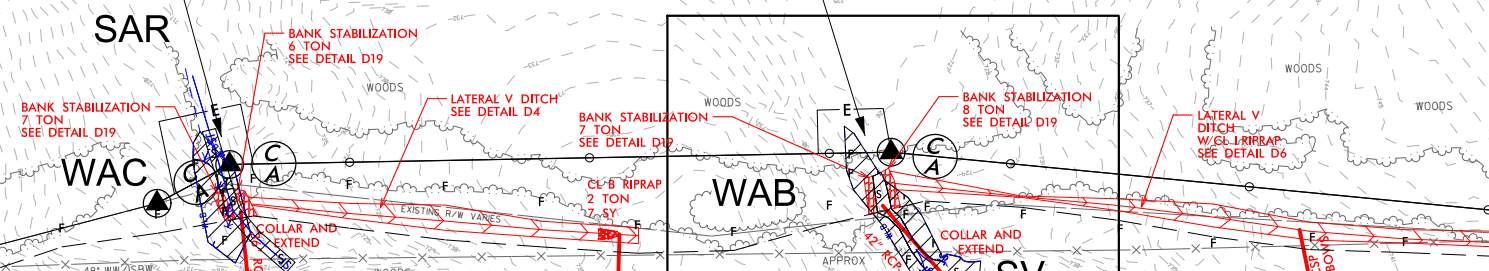
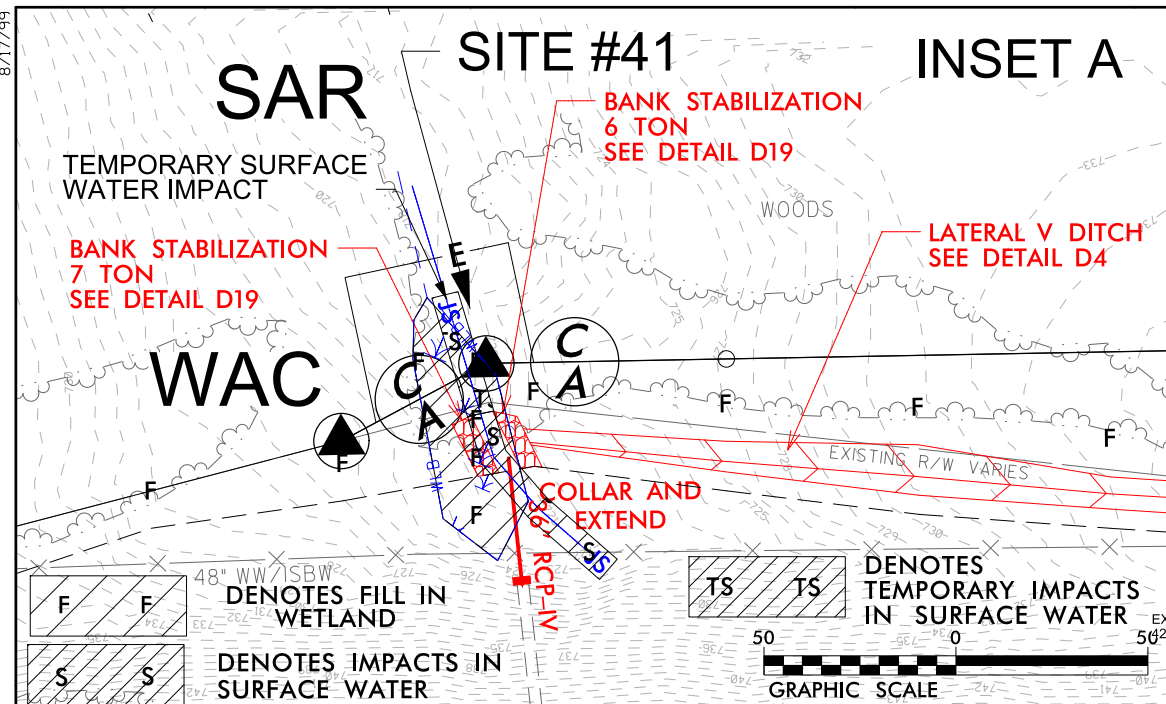
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DENOTES IMPACTS IN
SURFACE WATERDENOTES TEMPORARY
IMPACTS IN SURFACE
WATER

PROJECT REFERENCE NO.	SHEET NO.
I-5507	63
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
 BLYTHE	





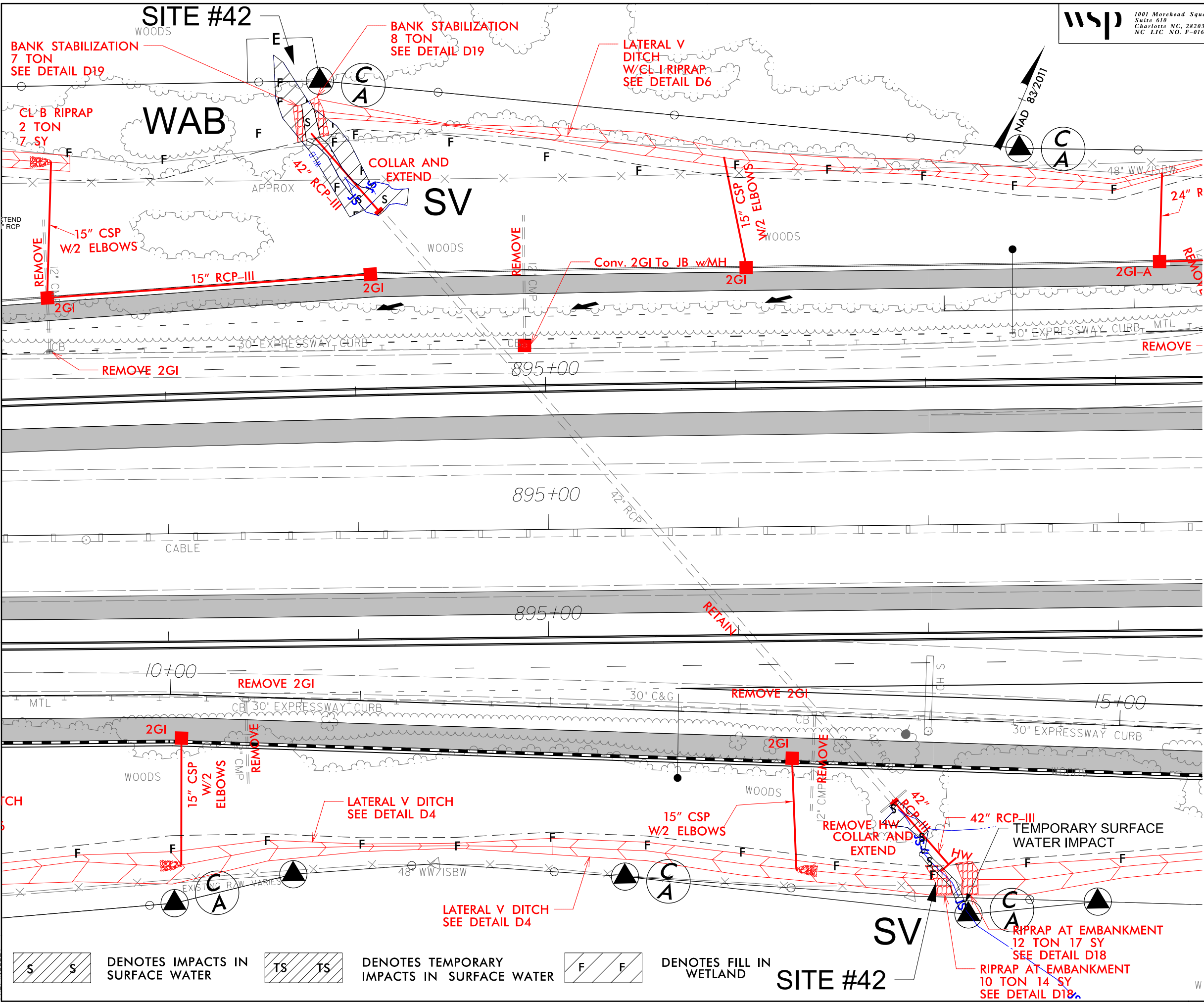


PERMIT DRAWING
SHEET 93 OF 109




8/17/99

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1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

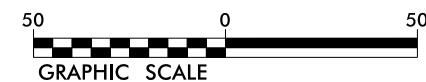
PROJECT REFERENCE NO.		SHEET NO.
I-5507		67A
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
 BLYTHE		

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

SITE #42

**PERMIT DRAWING
SHEET 94 OF 109**



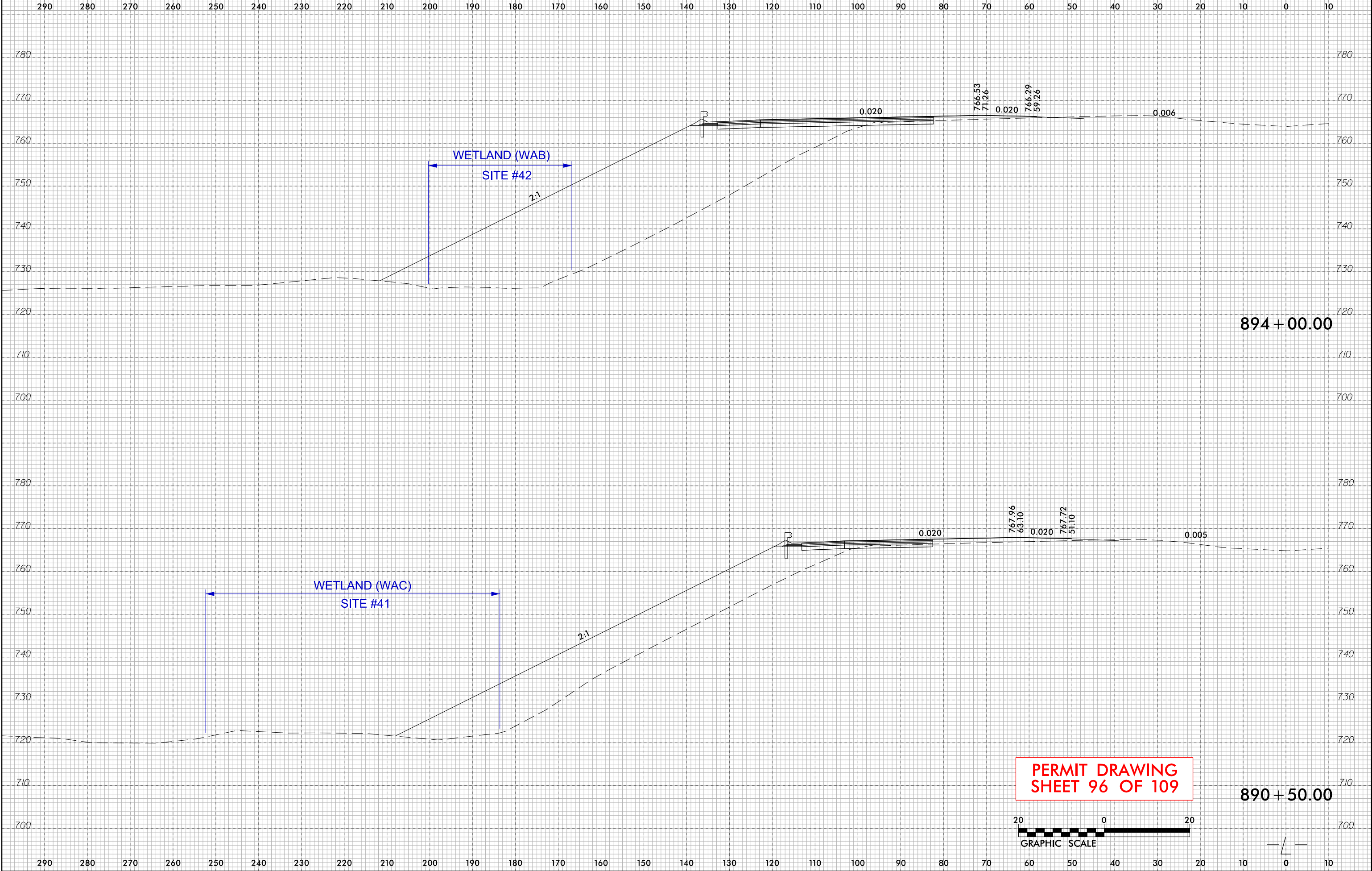


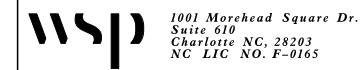
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PROJ. REFERENCE NO.
I-5507

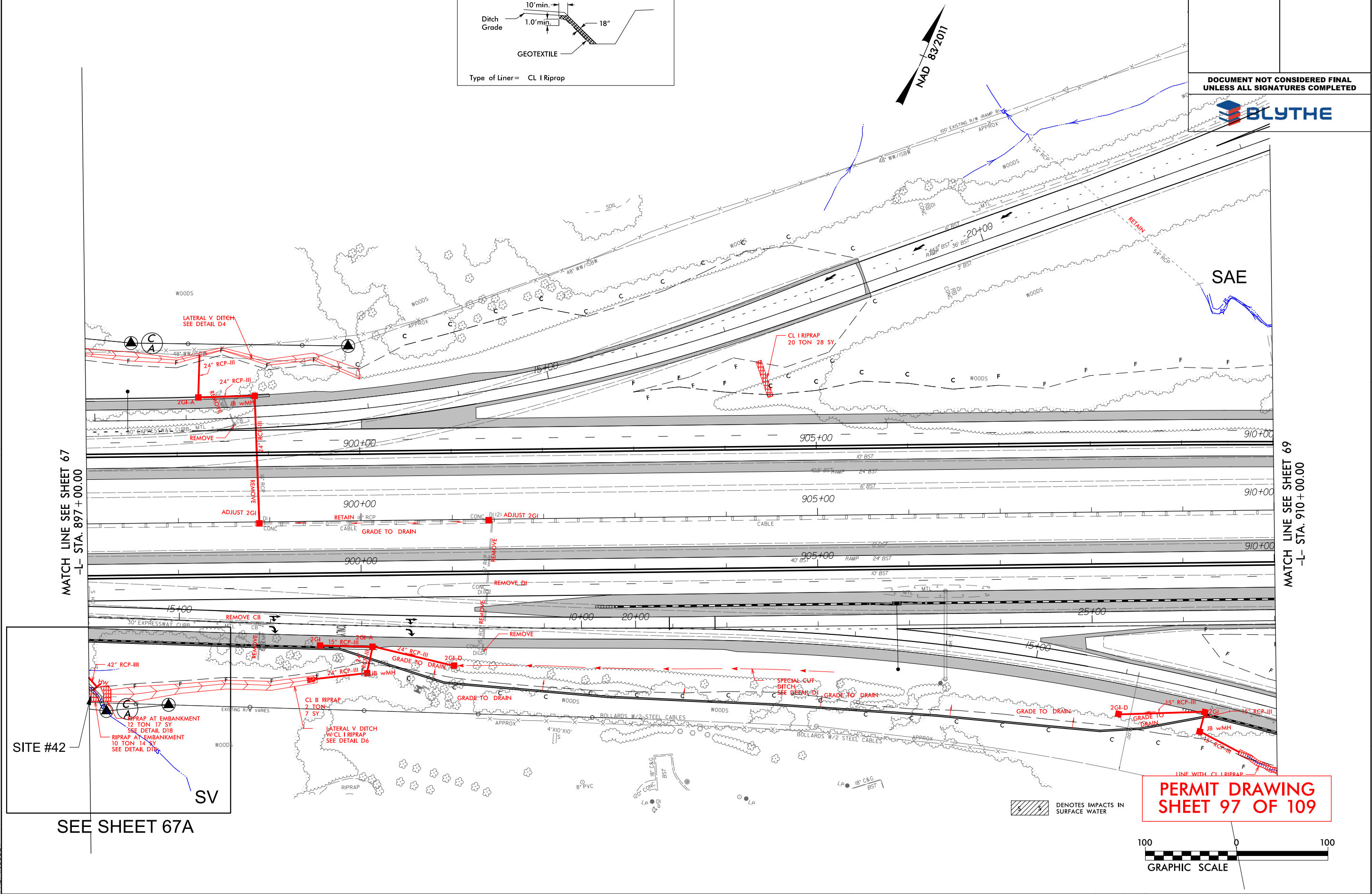
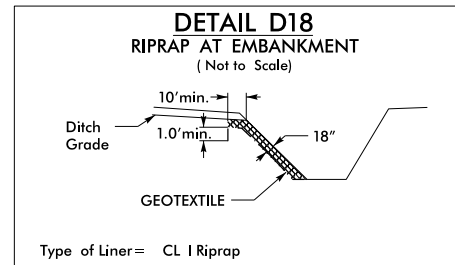
SHEET NO.
67-1





PROJECT REFERENCE NO.	SHEET NO.
I-5507	68
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



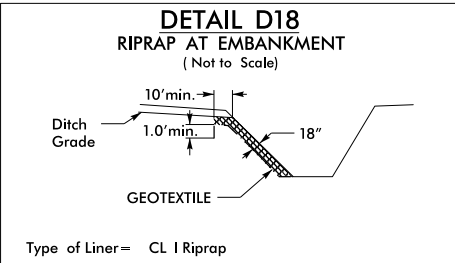
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8/17/99

wsp 1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC NO. F-0165

PROJECT REFERENCE NO.		SHEET NO.
I-5507		68
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

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UNLESS ALL SIGNATURES COMPLETED



SITE #42

SEE SHEET 67A

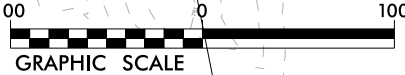
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MATCH LINE SEE SHEET 67
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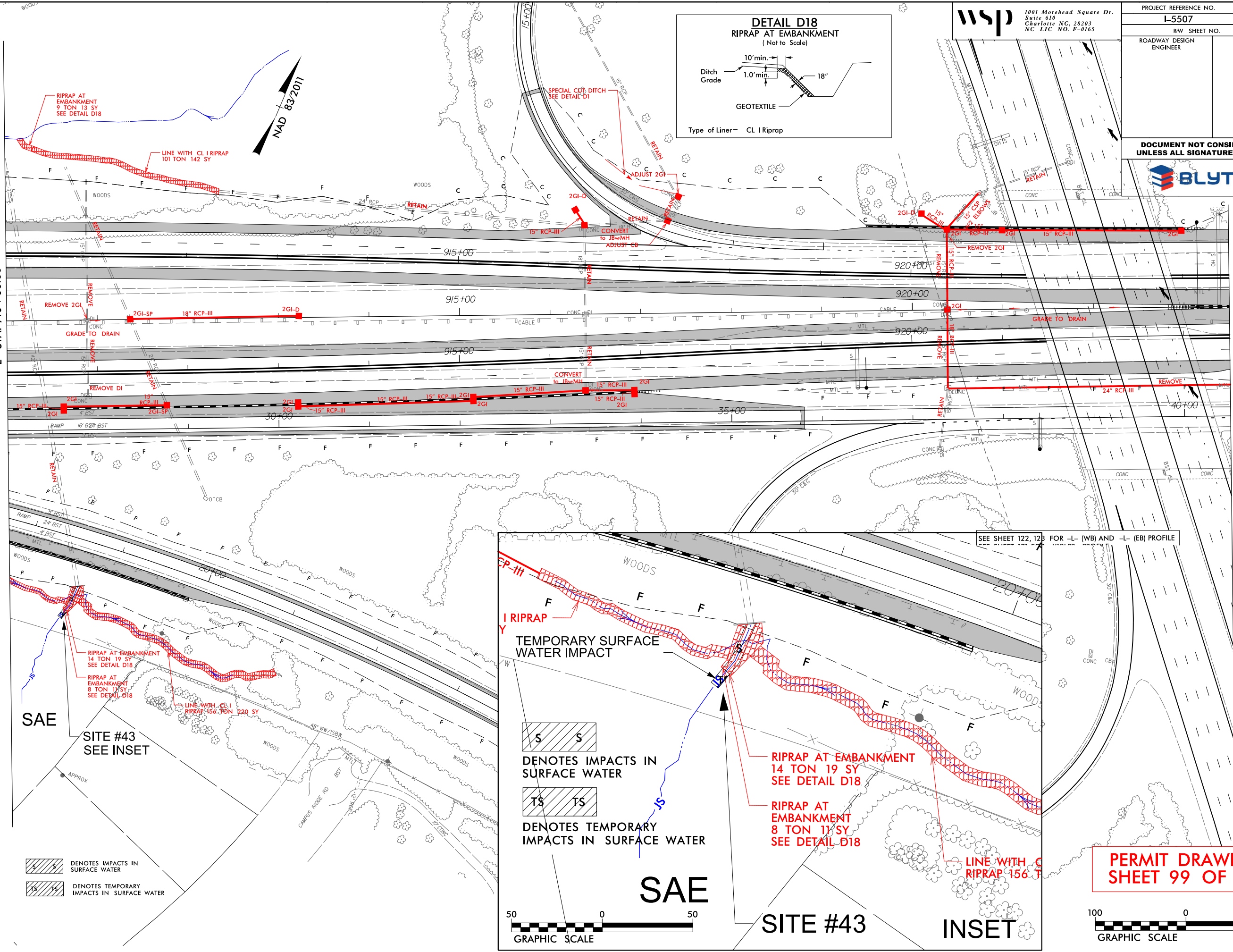
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-L- STA. 910+00.00

PERMIT DRAWING
SHEET 98 OF 109

DENOTES IMPACTS IN
SURFACE WATER

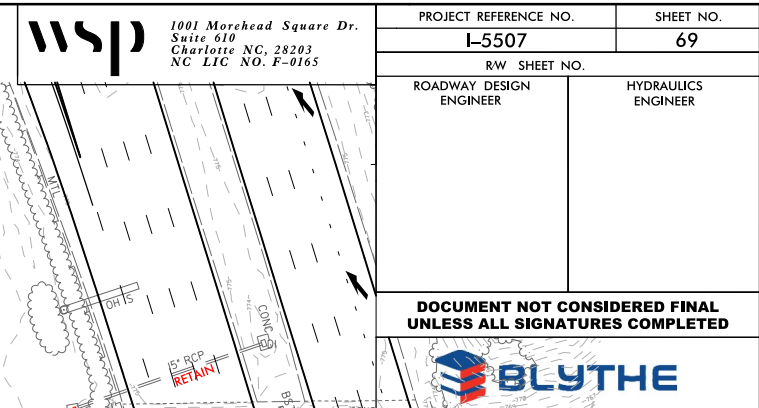


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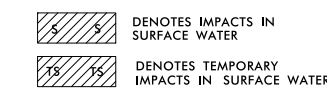


MATCH LINE SEE SHEET 70
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PERMIT DRAWING
SHEET 99 OF 109



PERMIT DRAWING
SHEET 100 OF 109



PERMIT DRAWING
SHEET 101 OF 109

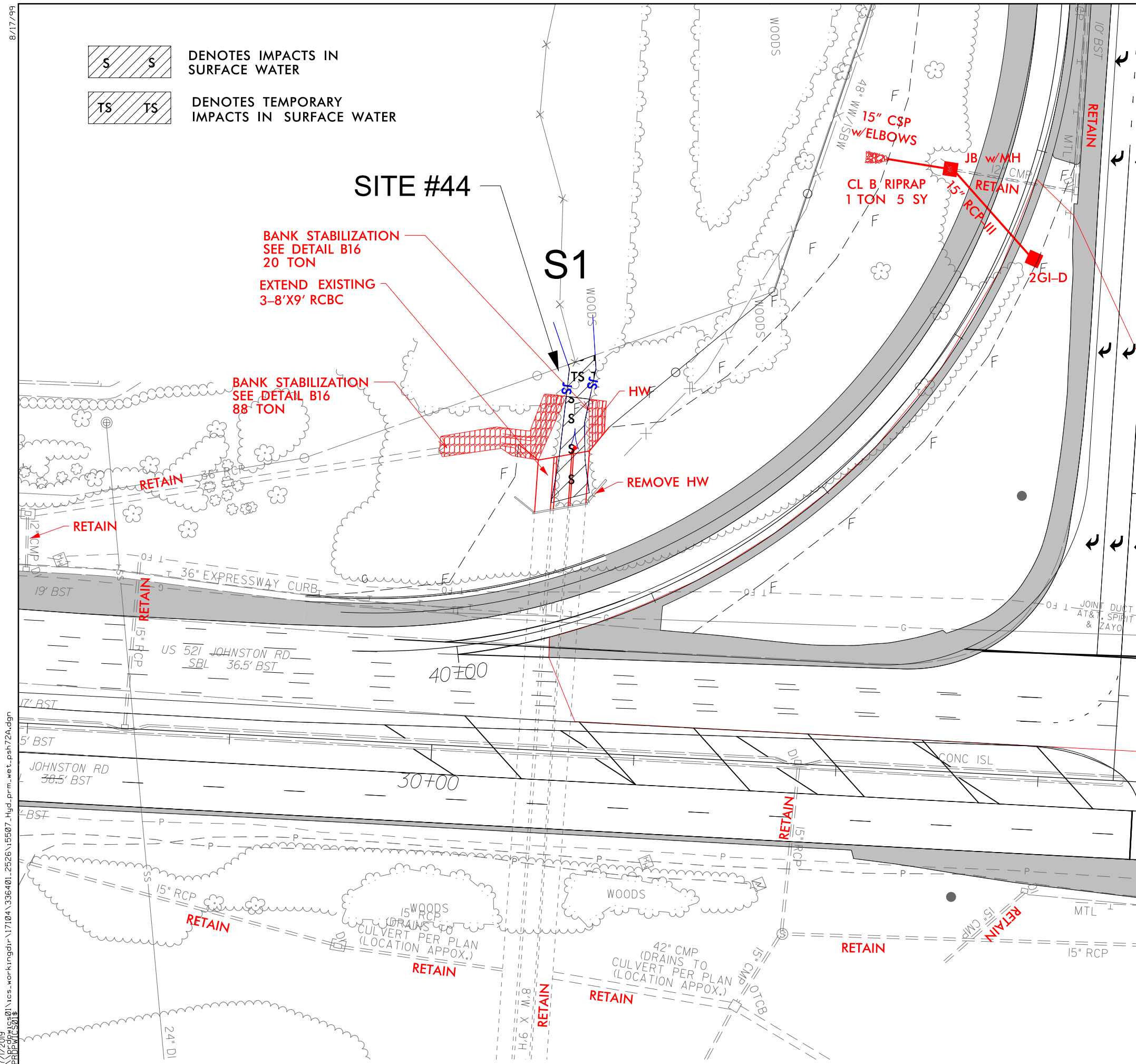


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SEE SHEET 30
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**DOCUMENT NOT CONSIDERED FINAL
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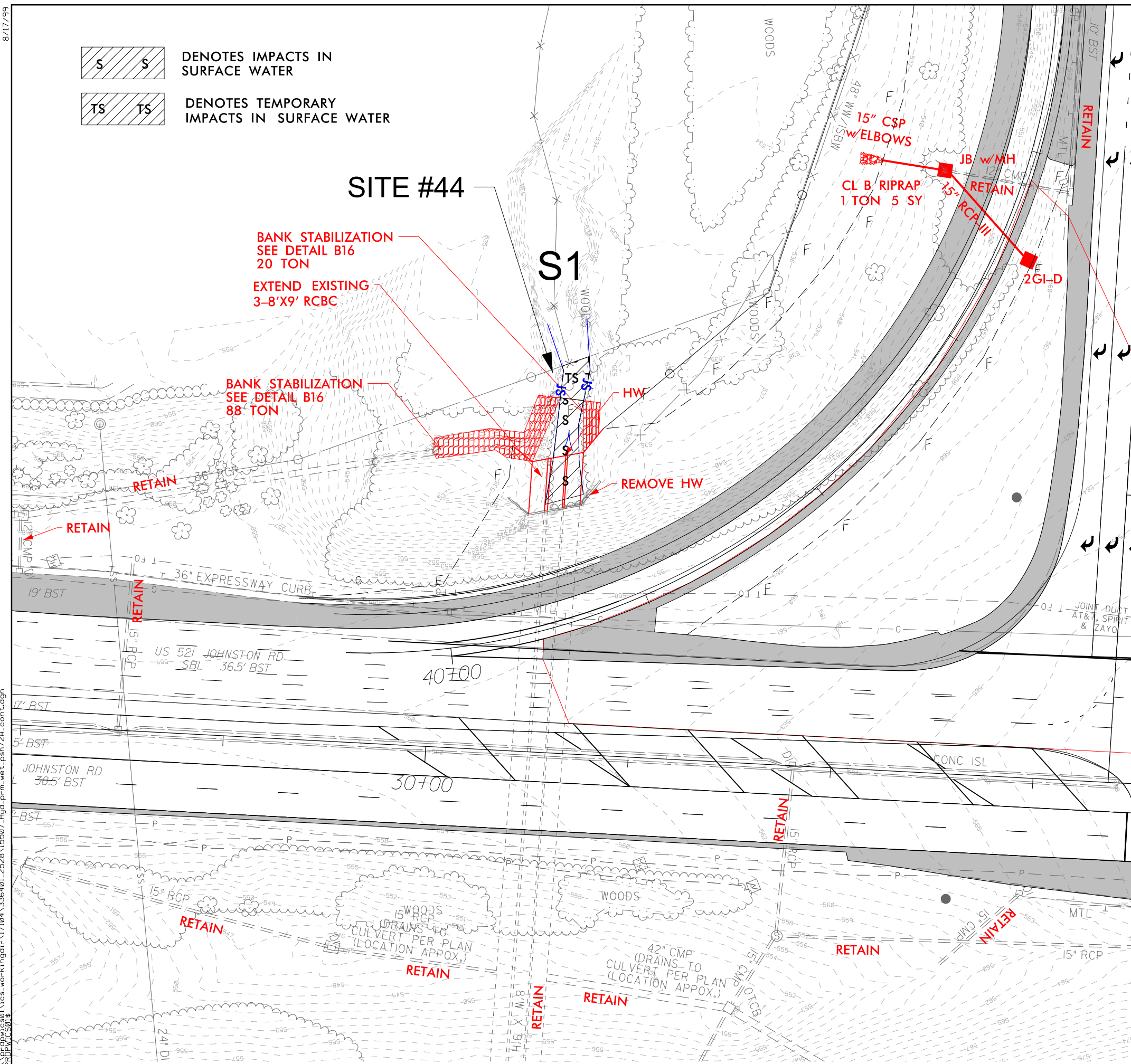


PERMIT DRAWING
SHEET 103 OF 109



7/1/2019
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PROJECT REFERENCE NO.	SHEET NO.
H-55607	72A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
	



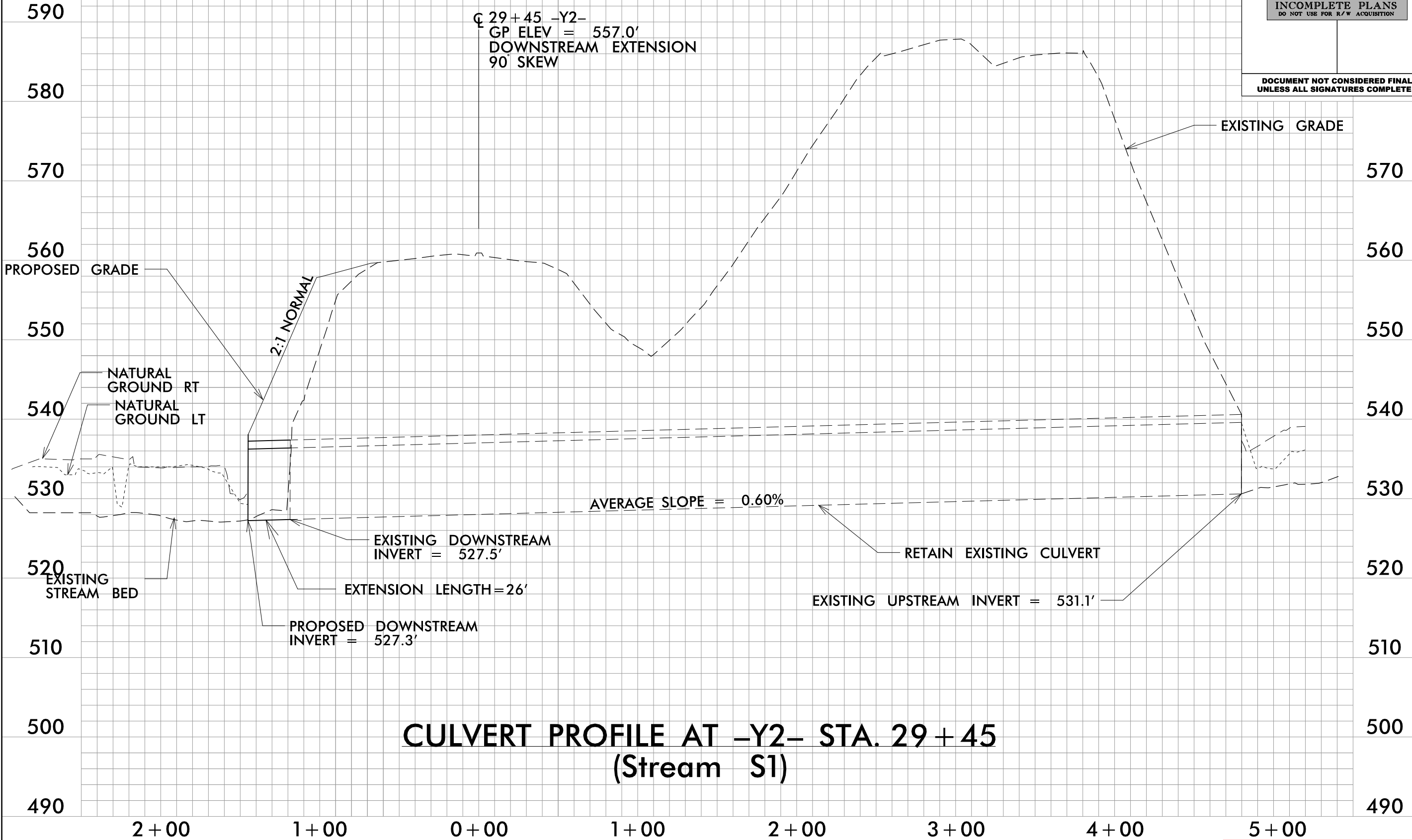
PERMIT DRAWING
SHEET 104 OF 109



5/28/99
7/1/2019
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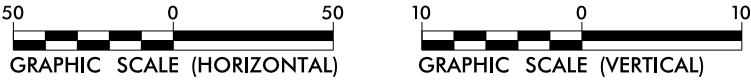
SITE #44

PROJECT REFERENCE NO.		SHEET NO.	
I-5507		72-1	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



CULVERT PROFILE AT -Y2- STA. 29 + 45
(Stream S1)

PERMIT DRAWING
SHEET 105 OF 109



WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	110+50 -L- RT	Extend Existing 48" RCP						< 0.01		28		
1	110+50 -L- RT	Bank Stabilization						< 0.01	< 0.01	18	13	
2	129+00 - 130+00 -L- LT	Roadway Fill	0.08			0.02						
2A	128+50 -L- RT	Bank Stabilization						< 0.01	< 0.01	11	20	
3	132+00 -L- LT	Extend 4 @ 10'x8' RCBC						0.03		52		
3	132+00 LT	Bank Stabilization						0.02	< 0.01	70	16	
4	132+00 - 134+00 -L- LT	Roadway Fill	0.03					0.01		181		
5	137+50 - 142+30 -L- LT	Bank Stabilization						0.03	0.02	267	154	
6	293+50 -L-	Bank Stabilization						< 0.01	< 0.01	48	10	
7	294+00 - 301+00 -L- LT	Rock Plating							0.07		690	
8	298+00 -L- LT	Concrete Energy Dissipator						< 0.01		7		
9A	302+00 - 308+50 LT	Roadway Fill	0.05			0.05						
9B	309+50 -L- LT	Roadway Fill	0.07			0.07						
10	309+50 -L- LT	Bank Stabilization						0.01	0.01	65	30	
11	343+00 -L-	Bank Stabilization						0.03	0.05	157	60	
12	344+50 - 346+50 -L- RT	Roadway Fill	0.13			< 0.01						
13	360+00 -L- LT	Bank Stabilization						< 0.01	< 0.01	8	20	
13	360+00 -L- RT	Extend 3@ 9'x9' RCBC						0.01		49		
13	360+50 -L- RT	Bank Stabilization						< 0.01	< 0.01	38	20	
14	363+50 -L- RT	Roadway Fill	0.10									
15	363+00 -L- LT	Bank Stabilization						< 0.01	< 0.01	18	20	
15	365+00 -L- RT	Extend 4@ 8'x9' RCBC						0.06		155		
15	365+00 -L- RT	Bank Stabilization						0.02	< 0.01	73	10	
TOTALS*:			0.46			0.15		0.26	0.18	1245	1063	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
07/2/2019
MECKLENBURG
TIP NO. I-5507
WBS NO. 43609.3.2
SHEET 106 OF 109

WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
15A	395+80 -L- RT	Bank Stabilization						< 0.01	< 0.01	8	20	
16	404+50 -L- RT	Bank Stabilization						< 0.01	< 0.01	36	20	
17	408+50 -L- RT	Bank Stabilization						< 0.01	< 0.01	10	10	
18	454+50 -L- LT	Roadway Fill	< 0.01			0.04						
18	454+50 -L- LT	Riprap Outfall	< 0.01									
18	454+50 -L- LT	Bank Stabilization						< 0.01		13		
19	15+00 -Y23RPD- RT	Bank Stabilization						< 0.01	< 0.01	15	10	
20	488+30 -L-	Extend 6' x 5' RCBC						< 0.01		22		
20	488+30 -L- RT	Bank Stabilization				< 0.01		< 0.01	< 0.01	18	10	
20	488+80 -L- LT	Energy Dissipator Basin						0.01	< 0.01	51	23	
21	491+50 -L- LT	Bank Stabilization						< 0.01	< 0.01	13	10	
22	492+50 - 493+70 -L- LT	Channel Change						0.01	< 0.01	129	39	
22	494+00 -L- LT	Extend 48" RCP						< 0.01		11		
22	494+00 -L- LT	Bank Stabilization						< 0.01		15		
22	496+00 RT	Bank Stabilization						< 0.01	< 0.01	9	10	
24	545+30 -L- LT	JB and 36" RCP						< 0.01		6		
24	545+30 -L- LT	Bank Stabilization						< 0.01	< 0.01	22	10	
25	561+80 - 565+00 -L- LT	Roadway Fill	0.02			0.04						
26	564+00 - 566+20 -L- RT	Roadway Fill				0.01						
27	578+50/579+30 -L-	Bank Stabilization	< 0.01					< 0.01	< 0.01	33	20	
28	586+70/588+00 -L-	Bank Stabilization						< 0.01	< 0.01	37	20	
29	612+00/615+00 -L-	Bank Stabilization						< 0.01	< 0.01	25	30	
30	641+50 -L- LT	Headwall							< 0.01		33	
TOTALS*:			0.03			0.10		0.06	0.03	473	265	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
07/2/2019
MECKLENBURG
TIP NO. I-5507
WBS NO. 43609.3.2

SHEET 107 OF 109

WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
31	654+50 -L- LT	Extend 42" RCP						< 0.01		3		
31	654+50 -L- LT	Lateral Ditch/Stabilization	< 0.01					< 0.01	< 0.01	20	10	
32	658+70 -L- LT	Roadway Fill	0.02									
32	658+70 -L- LT	Bank Stabilization						< 0.01	< 0.01	6	20	
33	680+20 -L- LT	Bank Stabilization						< 0.01	< 0.01	7	10	
33	683+40 -L- LT	Bank Stabilization	< 0.01			< 0.01		< 0.01		28		
35	729+90 -L-	Bank Stabilization						< 0.01	< 0.01	50	42	
35	729+90 -L- LT	Class I Riprap	< 0.01			< 0.01						
36	740+50/741+50 -L-	Bank Stabilization						< 0.01	< 0.01	17	25	
37	746+30/750+00 -L-	Bank Stabilization						< 0.01	< 0.01	35	20	
37A	765+00 -L- LT	Bank Stabilization						< 0.01		13		
38	806+50 -L- RT	Bank Stabilization						< 0.01	< 0.01	26	10	
38	808+50 -L- LT	Bank Stabilization						< 0.01	< 0.01	6	20	
39	814+50/816+00 -L- LT	Bank Stabilization						< 0.01	< 0.01	8	10	
40	818+00 -L-	Bank Stabilization						< 0.01	< 0.01	10	30	
41	890+50 -L-	Roadway Fill	0.03									
41	890+50 -L-	Extend 36" RCP						< 0.01		52		
41	890+50 -L-	Bank Stabilization						< 0.01	< 0.01	33	42	
42	894+00/895+70 -L-	Roadway Fill	0.03									
42	894+00/895+70 -L- RT	Extend 42" RCP						0.02		105		
42	894+00/895+70 -L- RT	Channel Change						< 0.01	< 0.01	20	10	
42	894+00/895+70 -L- LT	Bank Stabilization						< 0.01		20		
43	18+60 -Y19RPC- RT	Bank Stabilization						< 0.01		30		
TOTALS*:			0.09			0.01		0.06	0.03	489	249	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
07/2/2019
MECKLENBURG
TIP NO. I-5507
WBS NO. 43609.3.2
SHEET 108 OF 109

WETLAND AND SURFACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
44	28+50 -Y2-	Extend 3 @ 8'x9' RCBC						< 0.01		26		
44	28+50 -Y2-	Bank Stabiization						< 0.01	0.06	28	19	
	SHEET 1 SUBTOTALS*		0.46			0.15		0.26	0.18	1245	1063	
	SHEET 2 SUBTOTALS*		0.03			0.10		0.06	0.03	473	265	
	SHEET 3 SUBTOTALS*		0.09			0.01		0.06	0.03	489	249	
TOTALS*:			0.58			0.26		0.40	0.30	2261	1596	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
07/2/2019
MECKLENBURG
TIP NO. I-5507
WBS NO. 43609.3.2