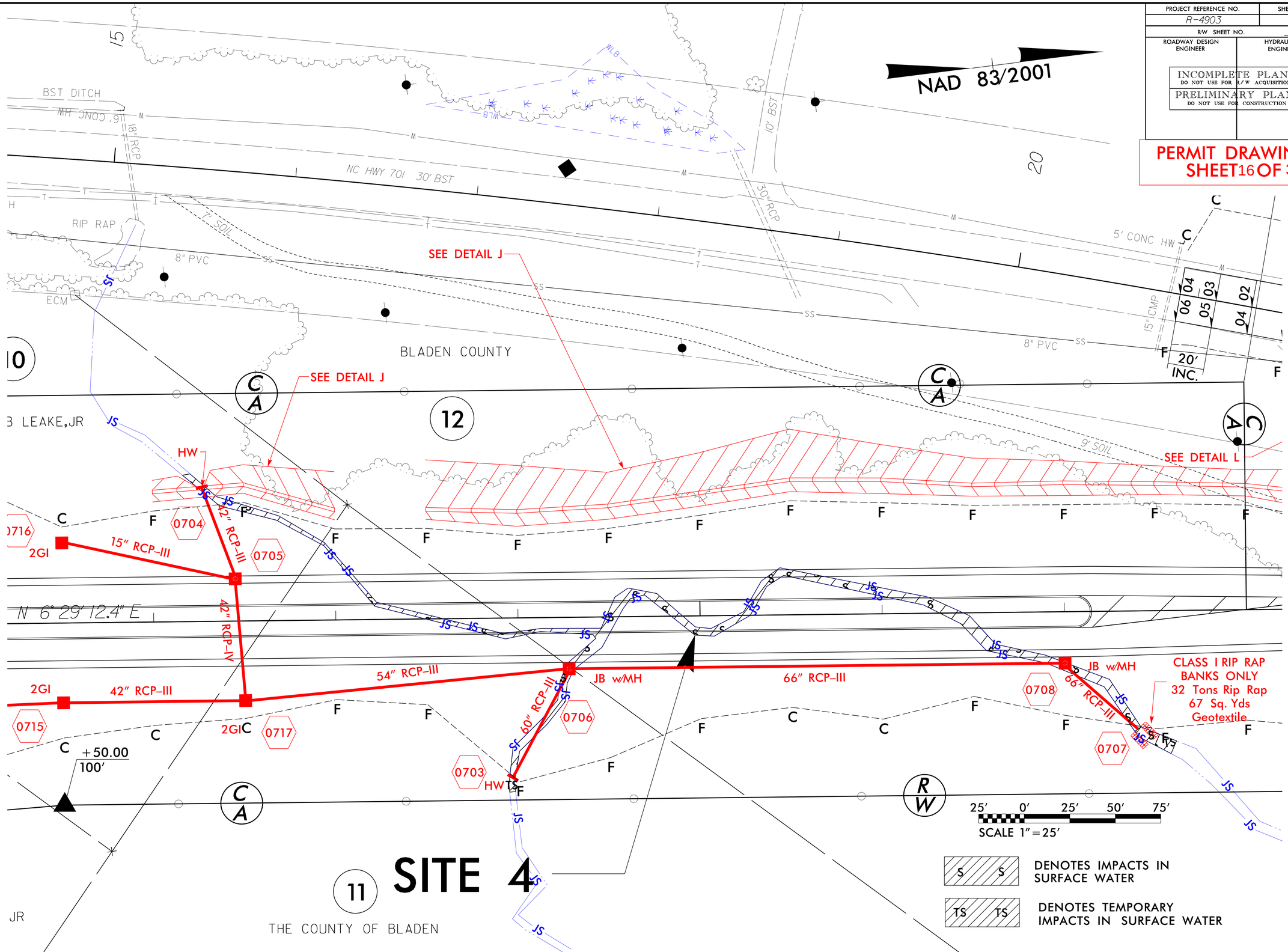
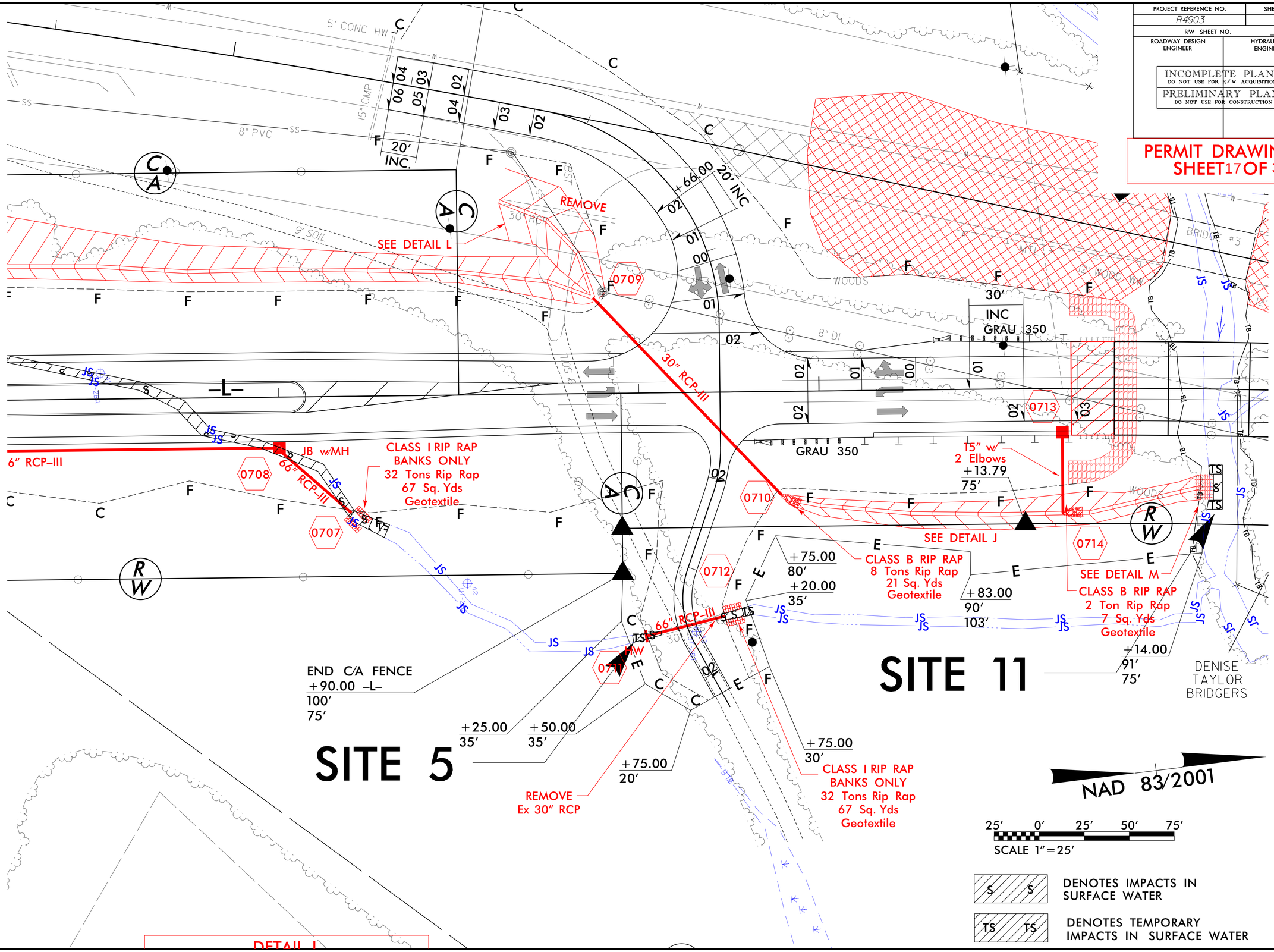


PROJECT REFERENCE NO.
R-4903
SHEET NO.
7A
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 16 OF 31
NAD 83/2001
BST DITCH
NC HWY 701 30' BST
RIP RAP
8" PVC
ECM
BLADEN COUNTY
B LEAKE,JR
SEE DETAIL J
SEE DETAIL J
SEE DETAIL L
HW
42" RCP-III
15" RCP-III
42" RCP-IV
54" RCP-III
60" RCP-III
66" RCP-III
JB w/MH
JB w/MH
CLASS I RIP RAP
BANKS ONLY
32 Tons Rip Rap
67 Sq. Yds
Geotextile
N 6° 29' 12.4" E
+50.00
100'
20' INC.
SCALE 1" = 25'
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
SITE 4
THE COUNTY OF BLADEN


PROJECT REFERENCE NO.
R4903
SHEET NO.
7B
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 17 OF 31
5' CONC HW
15" CMP
8" PVC
20' INC.
20' INC
+66.00
REMOVE
SEE DETAIL L
0709
30" RCP-III
30' INC
GRAU 350
GRAU 350
0713
15" w/ 2 Elbows
+13.79
75'
6" RCP-III
JB w/MH
0708
66" RCP-III
CLASS I RIP RAP BANKS ONLY
32 Tons Rip Rap
67 Sq. Yds
Geotextile
0707
0710
SEE DETAIL J
0714
0712
+75.00
80'
+20.00
35'
CLASS B RIP RAP
8 Tons Rip Rap
21 Sq. Yds
Geotextile
+83.00
90'
103'
SEE DETAIL M
CLASS B RIP RAP
2 Ton Rip Rap
7 Sq. Yds
Geotextile
+14.00
91'
75'
66" RCP-III
0711
END C/A FENCE
+90.00 -L-
100'
75'
+25.00
35'
+50.00
35'
+75.00
20'
REMOVE
Ex 30" RCP
+75.00
30'
CLASS I RIP RAP
BANKS ONLY
32 Tons Rip Rap
67 Sq. Yds
Geotextile
SITE 5
SITE 11
DENISE TAYLOR BRIDGERS
NAD 83/2001
25' 0' 25' 50' 75'
SCALE 1"=25'
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
REVISIONS
8/17/99
2/17/2014
amkeeter
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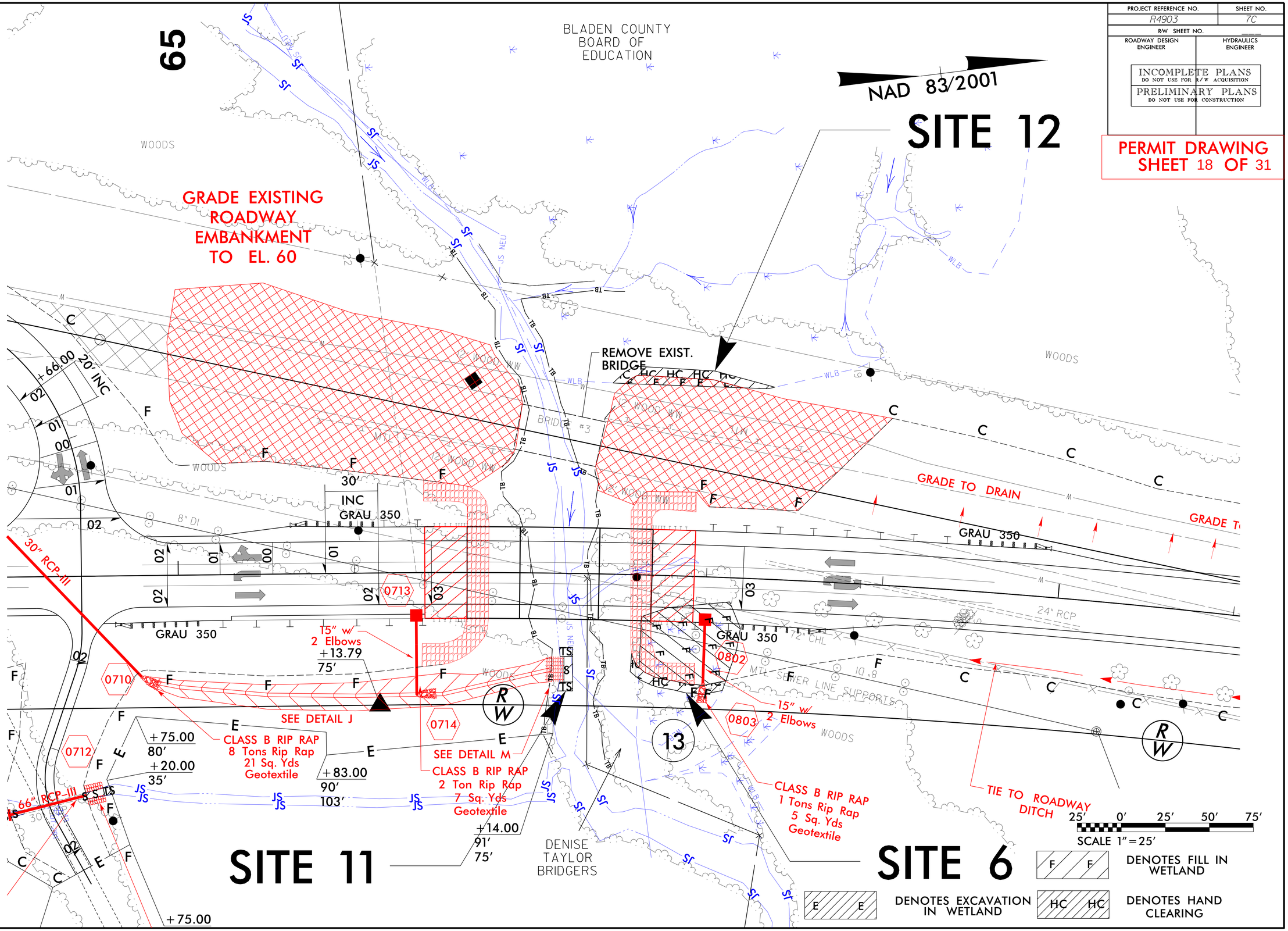

PROJECT REFERENCE NO.
R4903
SHEET NO.
7C
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 18 OF 31
NAD 83/2001
SITE 12
SITE 11
SITE 6
65
BLADEN COUNTY BOARD OF EDUCATION
WOODS
GRADE EXISTING ROADWAY EMBANKMENT TO EL. 60
REMOVE EXIST. BRIDGE
BRIDGE #3
GRADE TO DRAIN
GRADE TO
30" RCP-III
66" RCP-III
GRAU 350
INC
30'
+66.00
20' INC
15" w/ 2 Elbows
+13.79
75'
SEE DETAIL J
CLASS B RIP RAP
8 Tons Rip Rap
21 Sq. Yds
Geotextile
+75.00
80'
+20.00
35'
+83.00
90'
103'
SEE DETAIL M
CLASS B RIP RAP
2 Ton Rip Rap
7 Sq. Yds
Geotextile
+14.00
91'
75'
+75.00
0710
0712
0713
0714
0802
0803
13
R/W
DENISE TAYLOR BRIDGERS
MTL SEWER LINE SUPPORTS
24" RCP
12" CHL
8" DI
CLASS B RIP RAP
1 Tons Rip Rap
5 Sq. Yds
Geotextile
TIE TO ROADWAY DITCH
25' 0' 25' 50' 75'
SCALE 1"=25'
DENOTES FILL IN WETLAND
DENOTES EXCAVATION IN WETLAND
DENOTES HAND CLEARING
REVISIONS
8/17/99
2/17/2014
amkeeter
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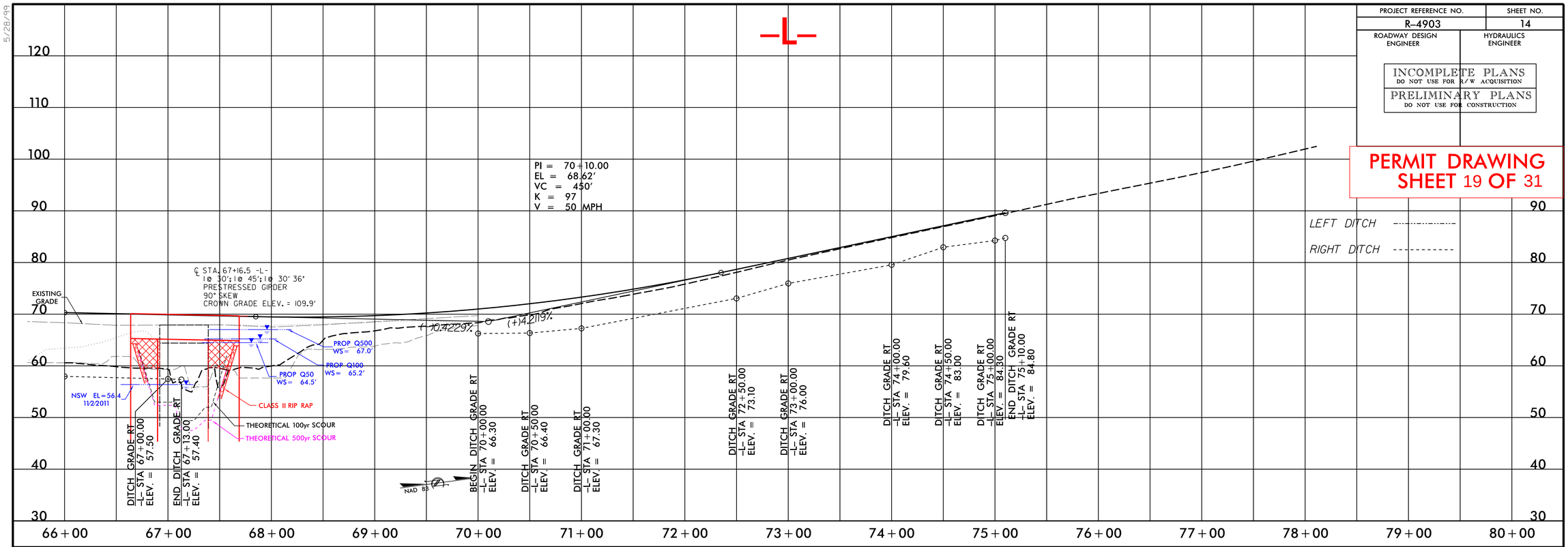
PROJECT REFERENCE NO.	SHEET NO.
R-4903	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 19 OF 31



5/28/99

2/17/2014
amkeeter
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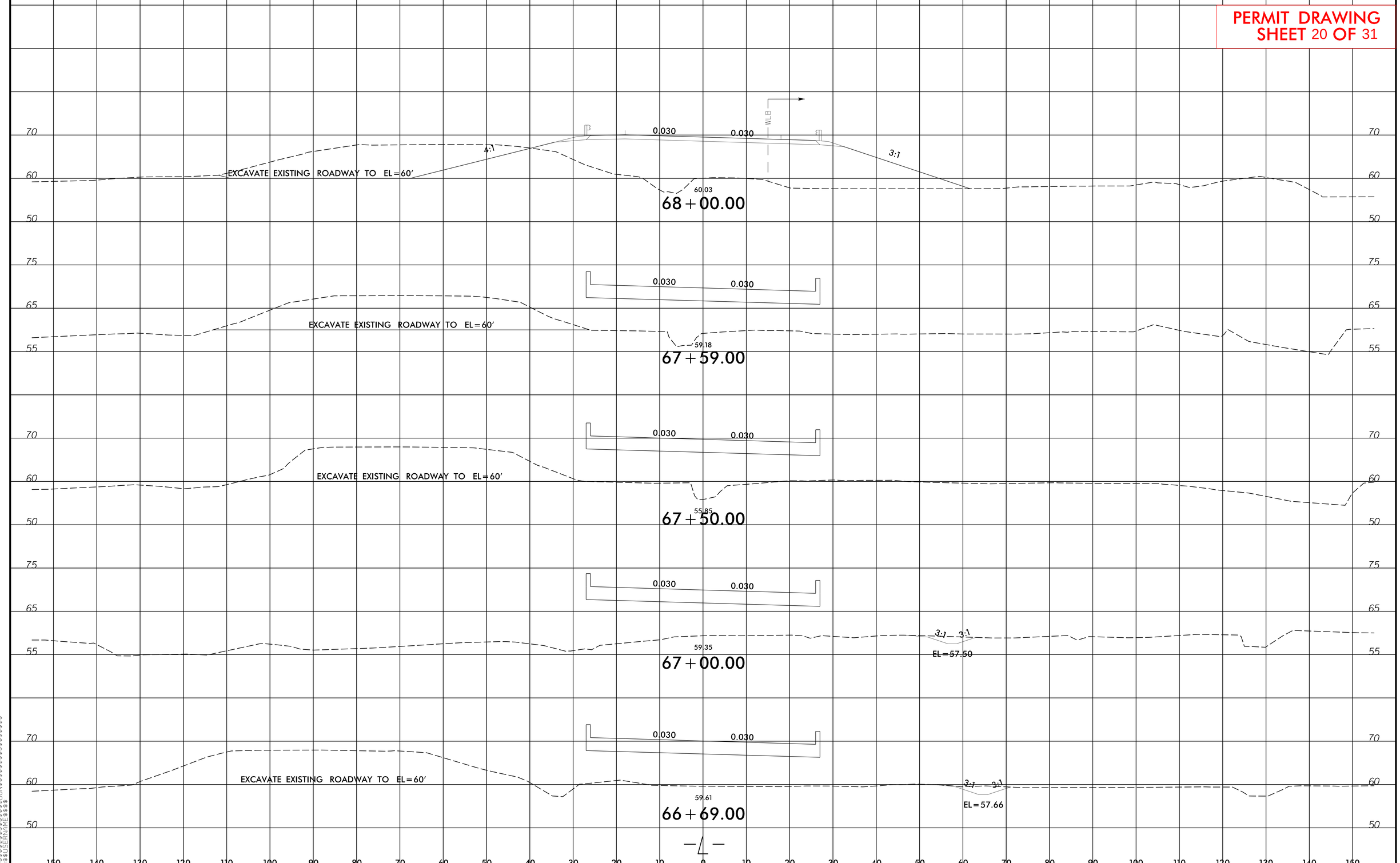
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$

PROJ. REFERENCE NO.	SHEET NO.
R-4903	X-24

PERMIT DRAWING
SHEET 20 OF 31



8/23/99

2/18/2014
amkeeler
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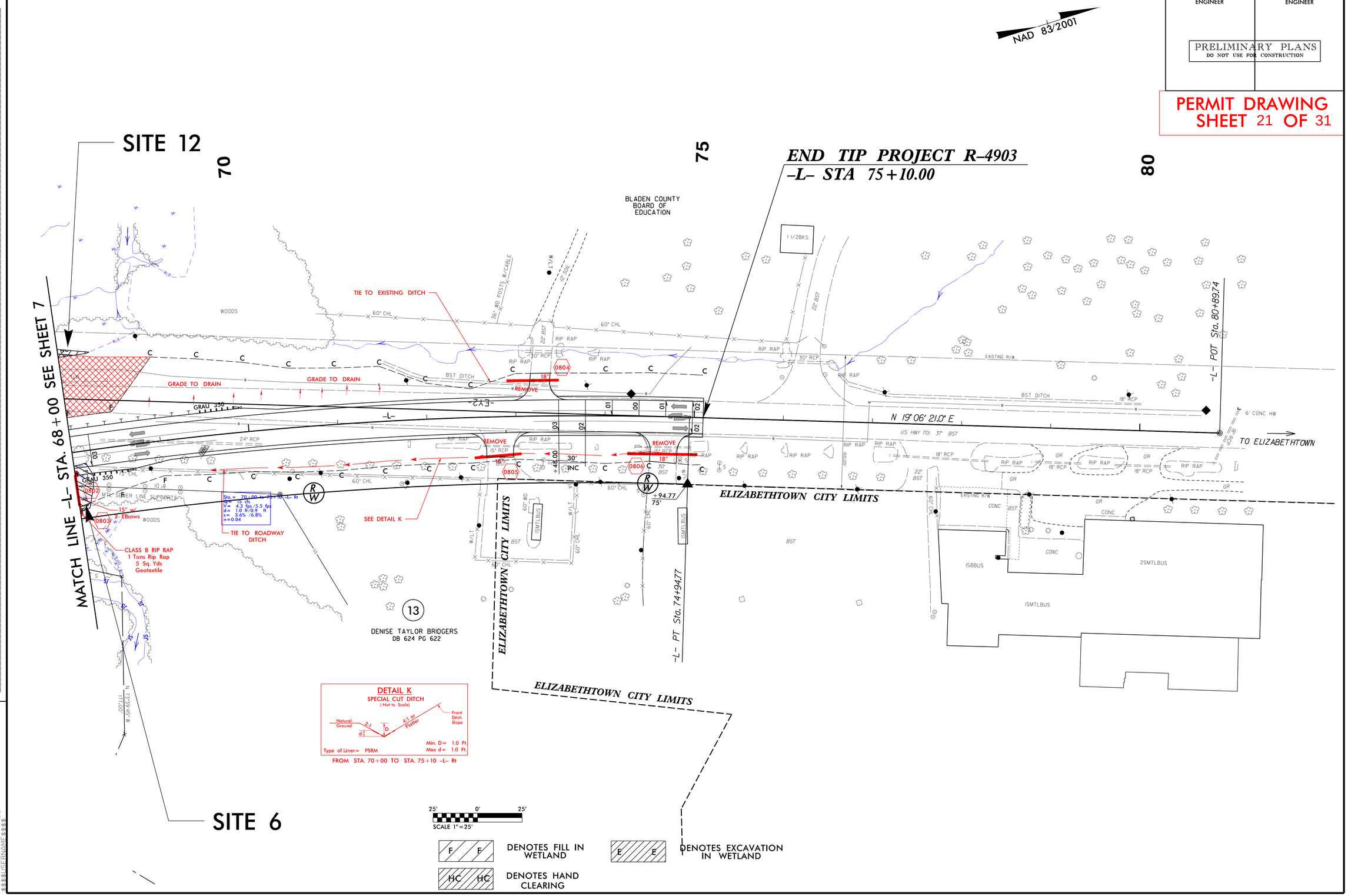
$$$$DGN$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-4903	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 21 OF 31



REVISIONS

8/17/99

2/17/2014
amkeller
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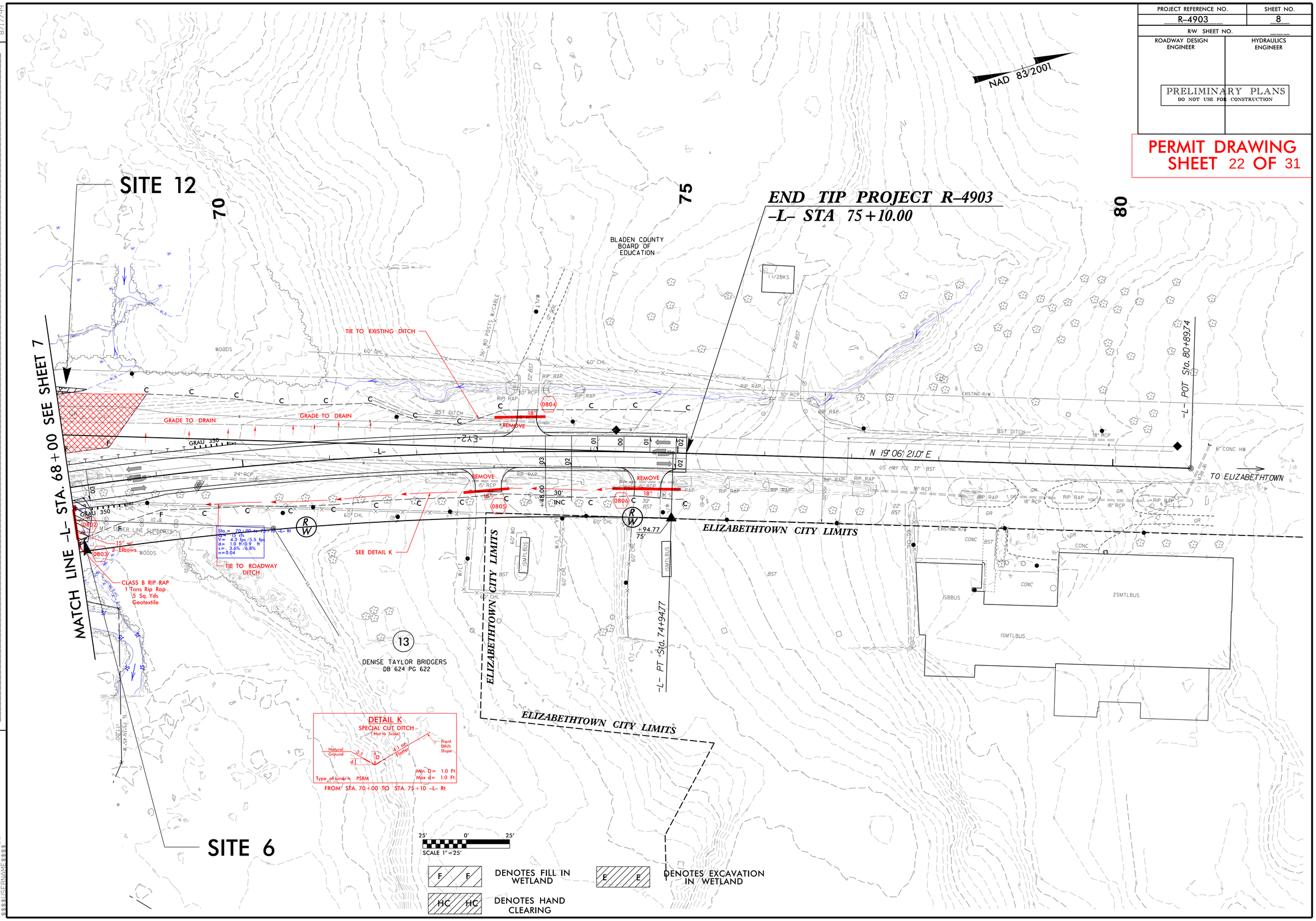
$$$$USERNAME$$$$
$$$$SYSTEM$$$$
$$$$TIME$$$$
$$$$DGN$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-4903	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 22 OF 31



REVISIONS

8/17/99

2/17/2014
amkeeter
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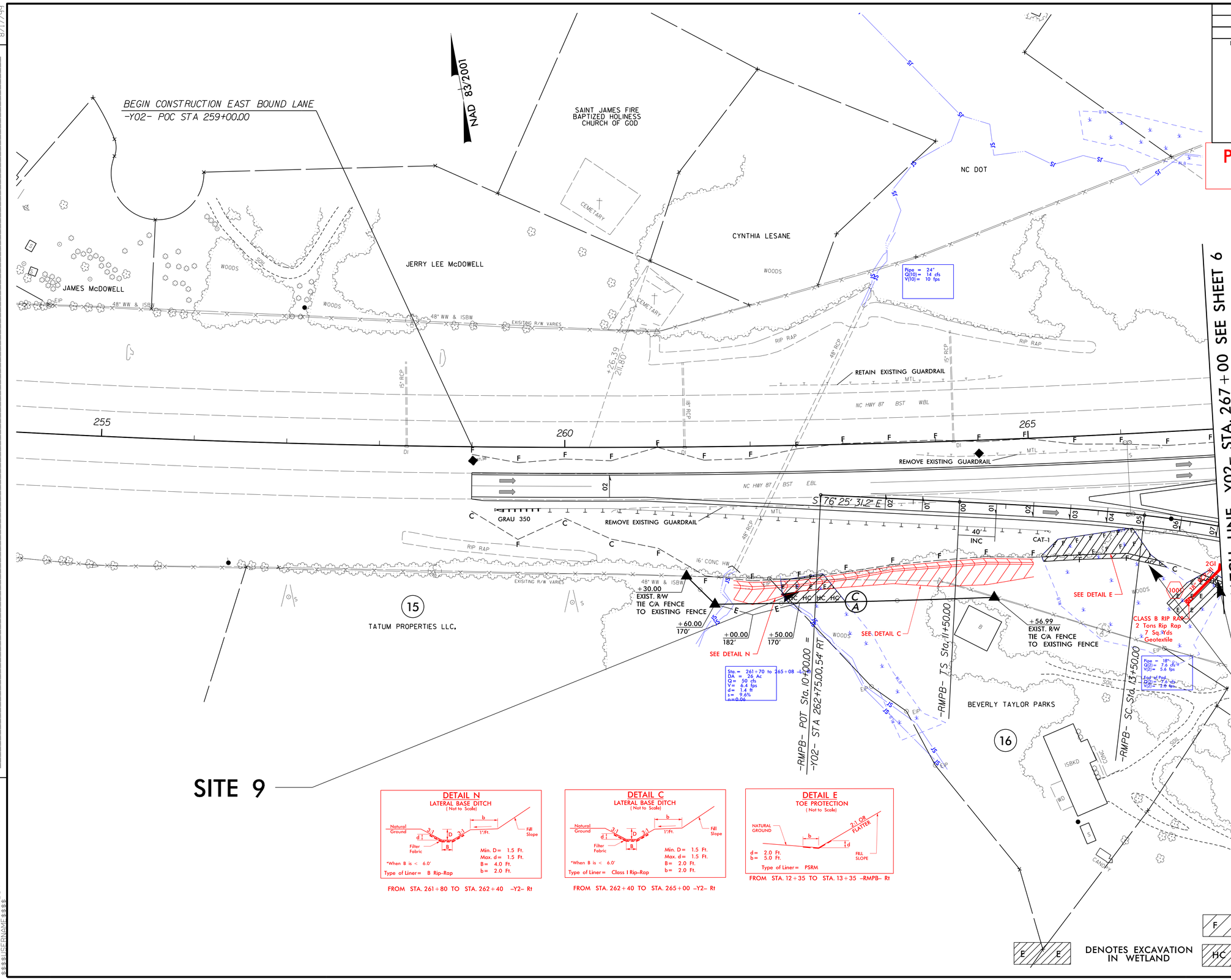
PROJECT REFERENCE NO.	SHEET NO.
R-4903	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 23 OF 31



REVISIONS

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2/17/2014
amkeeter
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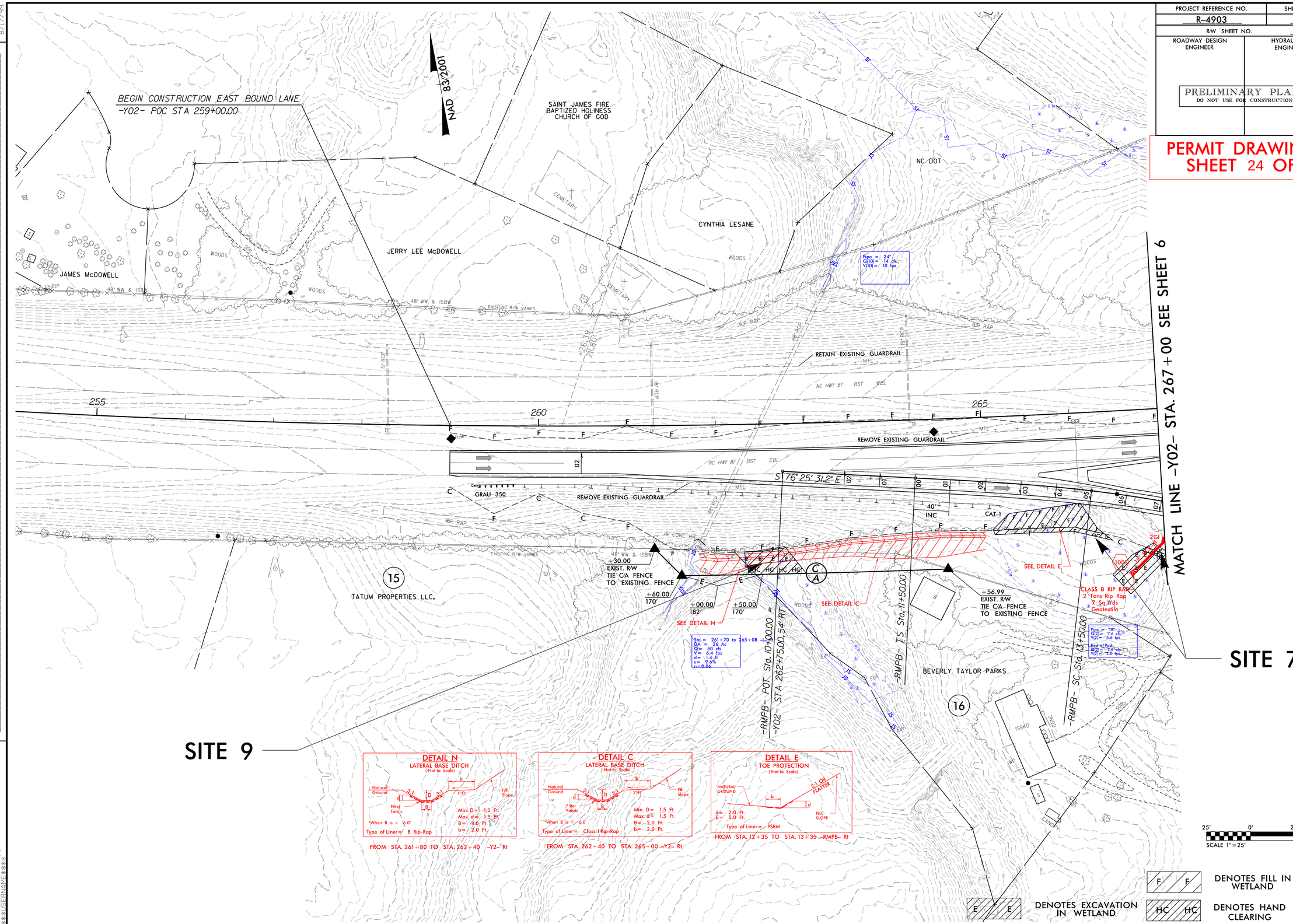
PROJECT REFERENCE NO.	SHEET NO.
R-4903	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 24 OF 31



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2/17/2014
amkeeter
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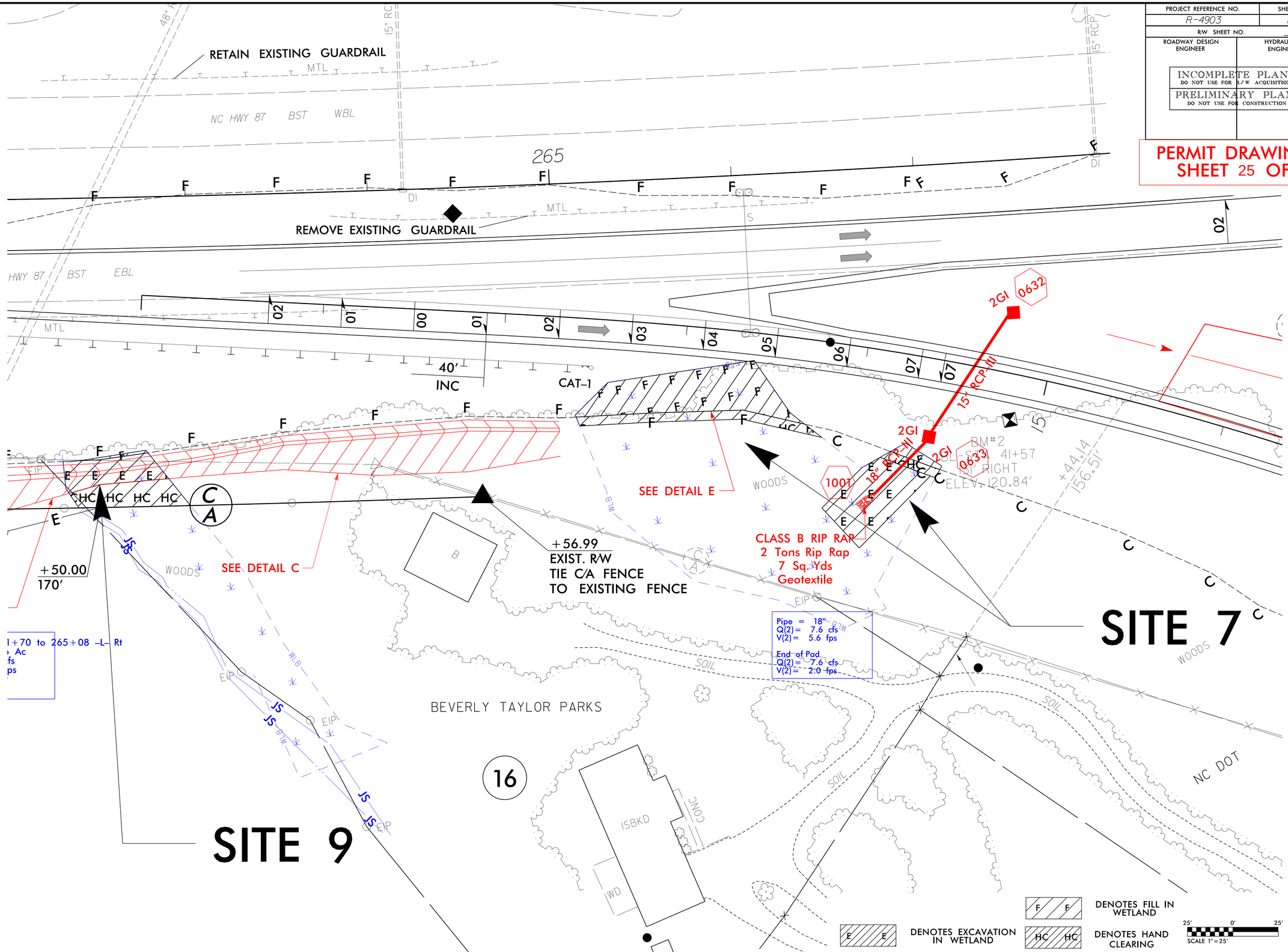
PROJECT REFERENCE NO.	SHEET NO.
R-4903	10A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 25 OF 31



REVISIONS

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2/17/2014
amkeeter
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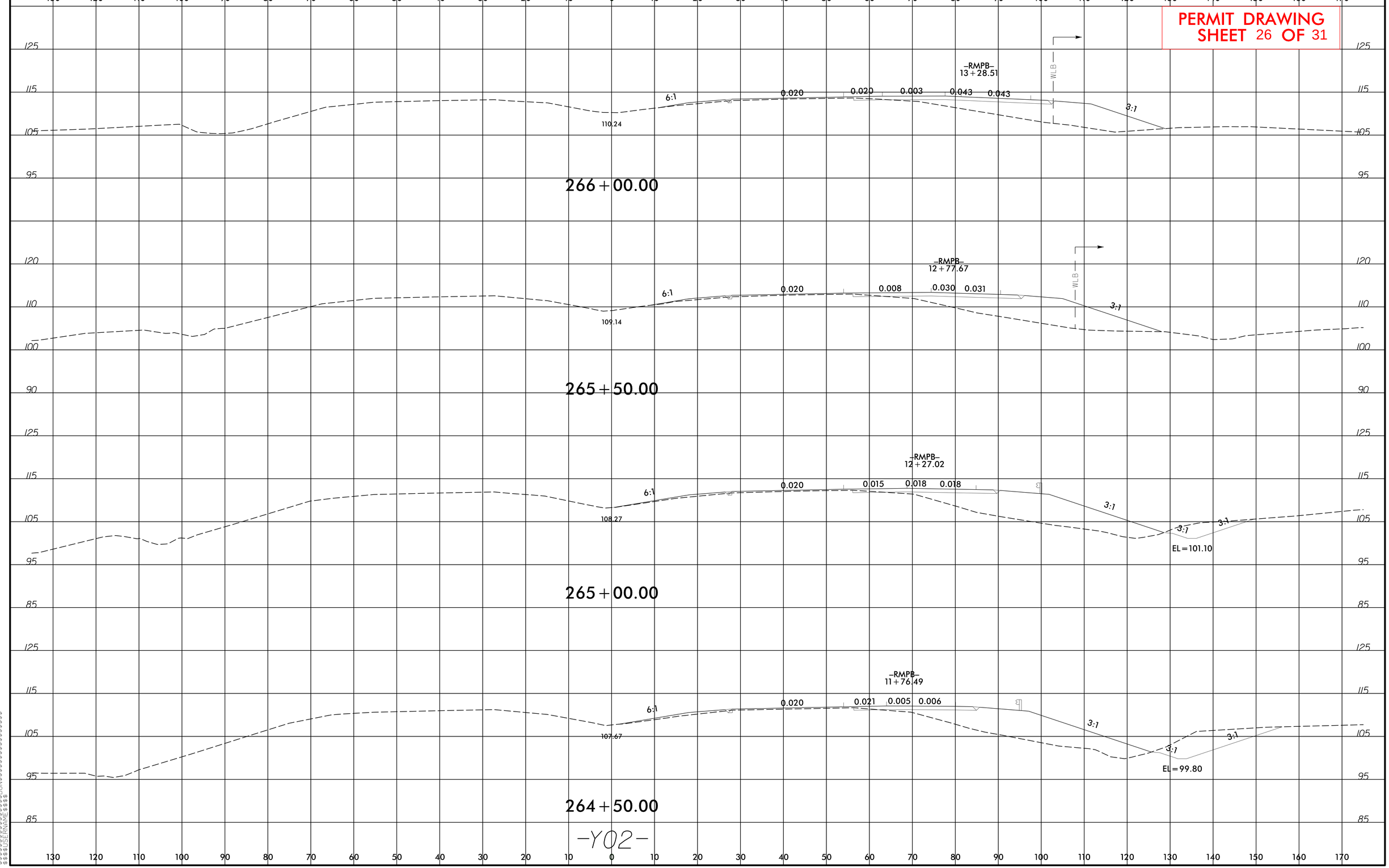
PROJ. REFERENCE NO.	SHEET NO.
R-4903	X-38

PERMIT DRAWING
SHEET 26 OF 31



8/23/99

2/18/2014
amkeeter
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$$$$USERNAME$$$$ $$$$SYSTIME$$$$ $$$$DGNS$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-4903	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 27 OF 31

SITE 8

NAD 83/2001

THE COUNTY OF BLADEN

THE COUNTY OF BLADEN

LANDFILL BOUNDARY

-RMPD- ST Sta. 10+00.00 =
-Y02- STA 293+00.00, 54' LT

BLADEN COUNTY

WOODS

48" WW & ISBW

Pipe = 24"
Q(10) = 12 cfs
V(10) = 5.8 fps

Pipe = 15"
Q(10) = 3 cfs
V(10) = 7 fps

CLASS B RIP RAP
8 Tons Rip Rap
21 Sq. Yds
Geotextile

SEE DETAIL C

CLASS B RIP RAP
BANKS ONLY
2 Tons Rip Rap
7 Sq. Yds
Geotextile

EXISITING R/W VARIES

-Y02- CS Sta. 301+19.00

-Y02- ST Sta. 304+19.00

1101 2GI 15" RCP-III

1102 2GI 15" RCP-III

1103 COLLAR

24" RCP-III

1105 2GI 30" RCP-III

1106

1107 15" RCP-III

RIP RAP

-RMPD-

02

NC HWY 87 23'BST WBL

295 300 305

-Y02-

1104 Adjust 2GI

NC HWY 87 23'BST EBL

TO ELIZABETHTOWN

MATCH LINE -Y02- STA. 292+00 SEE SHEET 6

6" PVC

EXISITING R/W VARIES

EXISTING R/W

DELMAR POLLERT

BLADEN COUNTY

BLADEN COUNTY

BLADEN COUNTY

THE COUNTY OF BLADEN

GARRICK PURDIE

END CONSTRUCTION WEST BOUND LANES
-Y02- POS STA 304+00.00

DETAIL C
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
Filter Fabric
Fill Slope
3:1
d
D
B
b
1:Ft.

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2.0 Ft.
b = 2.0 Ft.

*When B is < 6.0'

Type of Liner = Class I Rip-Rap

FROM STA. 299+00 TO STA. 299+80 -Y2- Lt

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

25' 0' 25'
SCALE 1" = 25'

REVISIONS

8/17/99

2/17/2014
mcdowell
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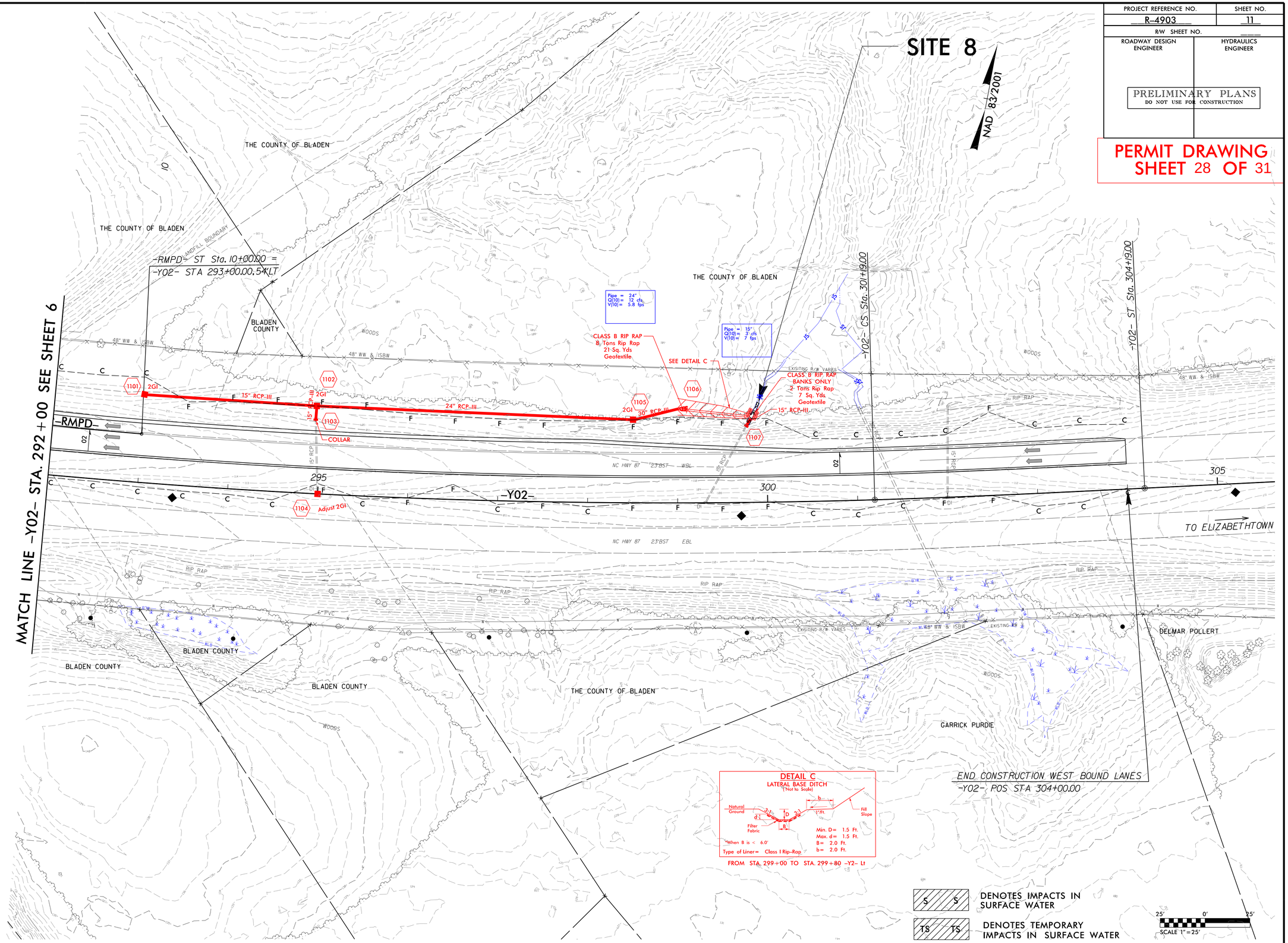
$$$$SYSTIME$$$$
$$$$USERNAME$$$$
$$$$DGNSPEC$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-4903	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

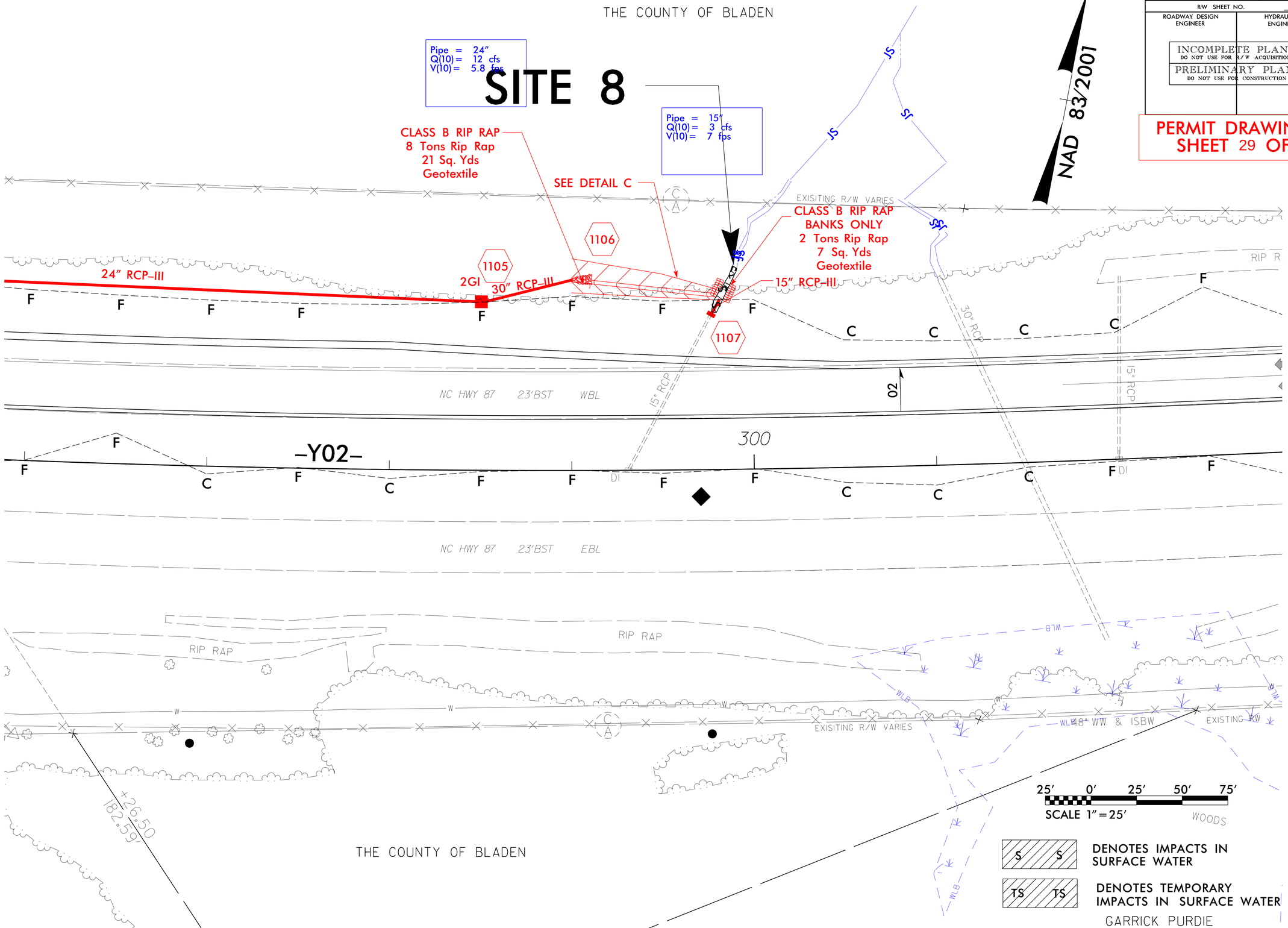
PERMIT DRAWING
SHEET 28 OF 31



REVISIONS

8/17/99

2/17/2014
amkeeter
R:\Hydraulics\PERMITS_Environmental\Drawings\R4903_Hyd_prm_wet_PSH11.dgn



PROJECT REFERENCE NO.
R4903
SHEET NO.
11A
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 29 OF 31
THE COUNTY OF BLADEN
SITE 8
Pipe = 24"
Q(10) = 12 cfs
V(10) = 5.8 fps
Pipe = 15"
Q(10) = 3 cfs
V(10) = 7 fps
CLASS B RIP RAP
8 Tons Rip Rap
21 Sq. Yds
Geotextile
SEE DETAIL C
CLASS B RIP RAP
BANKS ONLY
2 Tons Rip Rap
7 Sq. Yds
Geotextile
NAD 83/2001
EXISITING R/W VARIES
1106
1105
1107
2GI
24" RCP-III
30" RCP-III
15" RCP-III
RIP R
30" RCP
15" RCP
NC HWY 87 23'BST WBL
02
300
-Y02-
NC HWY 87 23'BST EBL
RIP RAP
RIP RAP
EXISITING R/W VARIES
48" WW & ISBW
EXISTING RW
+26.50
182.59'
THE COUNTY OF BLADEN
25' 0' 25' 50' 75'
SCALE 1"=25'
WOODS
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
GARRICK PURDIE
REVISIONS
8/17/99
2/17/2014
amkeeter
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WETLAND PERMIT IMPACT 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	20+61 to 23+57-L-RT	FILL	0.11				0.04					
3	18+00-RMPD	FILL	0.32				<0.01					
	20+61 to 23+57-L-RT	36" RCP						0.02		279		
	20+61 to 23+57-L-RT	BANK STABLIZATION						<0.01	<0.01	12	10	
4	57+20 to 62+51-L-	RCP						0.06	<0.01	709	10	
		BANK STABLIZATION						<0.01	<0.01	12	10	
5	11+40-DRV1	66" RCP						<0.01	<0.01	10	8	
		BANK STABLIZATION						<0.01	<0.01	10	5	
6	67+63 to 68+83 -L-RT	FILL	0.05				0.01					
7	12+41 to 13+24-RMPB	FILL	0.05		0.03		0.02					
8	299+77 to 299+91-Y02-LT	15" RCP						<0.01		7		
		BANK STABLIZATION						<0.01	<0.01	10	10	
9	10+00-RMPB-RT	FILL	<0.01		0.02		0.02					
10	41+35 TO 41+50-Y01-RT	FILL					0.01					
			0.54		0.05		0.10	0.08	<0.01	1049	53	

SITE 2 HAS BEEN REMOVED FROM PLANS

0.03 acres of Temporary Fill in Wetlands in the Hand Clearing areas for erosion control measures.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

BLADEN COUNTY
WBS - 40226.1.1 (R-4903)

WETLAND PERMIT IMPACT 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)
11	67+16 to 67+23-L-RT	BANK STABLIZATION						<0.01	<0.01	5	15	
12	67+46 TO 68+35-L-LT	FILL			0.01		0.01					
					0.01		0.01	0.00	<0.01	5	15	
GRAND TOTAL			0.54		0.06		0.11	0.08	<0.01	1054	68	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

BLADEN COUNTY
WBS - 40226.1.1 (R-4903)

ATN Revised 3/31/05

SHEET 31 of 31 2/17/2014