

Attachment C: R-5819 & R-5820 State Stormwater Management Plan



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



(Version 3.00: Released August 2021)

FOR NCDOT PROJECTS

WBS Element: 47091.1.1/47092.1.1 **TIP/Proj No:** R-5819/R-5820 **County(ies):** Columbus **Page** 1 **of** 3

General Project Information

WBS Element:	47091.1.1/47092.1.1	TIP Number:	R-5819/R-5820	Project Type:	Roadway Widening	Date:	10/24/2021
NCDOT Contact:	Alex Henderson		Contractor / Designer:		Brandon Barham		
	Address: P.O. Box 1150 558 Gillespie Street Fayetteville, NC 28302				Address: 940 Main Campus Drive, Suite 500 Raleigh, NC 27606		
	Phone: 910-364-0692				Phone: 919-741-5779		
	Email: bahenderson@ncdot.gov				Email: bbarham@vhb.com		
City/Town:	Lake Waccamaw		County(ies):	Columbus			
River Basin(s):	Lumber		CAMA County?	No			
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	2.202 Miles	Surrounding Land Use:	Forest, Rural Residential					
	Proposed Project			Existing Site				
Project Built-Upon Area (ac.)	46.6	ac.	32.4	ac.				
Typical Cross Section Description:	L Line: 4@ 12' lanes with 2@ variable width auxiliary lane and 14' paved shoulder (17' in Guard Rail Sections) and a variable width (88'-114') grass median. Y Line: Varies; see roadway plans			L Line: 2@12' lanes with 3.5' paved shoulder and 80' grassed median. Y Line: Varies; see roadway plans				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	18,000	Year:	2042	Existing:	14,100	Year:	2022

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

Project R-5819/R-5820 involves the widening of US 74/76 from just east of Chauncey Town Rd to just west of Old Lake Rd. Old Lake Rd will be converted from an at-grade intersection to a grade separation. SR 1738 (Georgia Rd) will also be widened and extended from Chauncey Town Rd to Old Lake Rd (SR 1749). There will also be additional widening and roadway improvements (including a roundabout) along both the north and south ends of Chauncey Town Rd and Old Lake Rd. There were multiple jurisdictional stream and wetland features that are being impacted by this project but due to the existing roadway corridor and the extension of Georgia Rd through a predominantly wet area many of the impacts could not be avoided. Existing drainage patterns were maintained to the best extend practical. Multiple detour routes will be utilized to construction this project. Impacts associated with the proposed detours are documented as temporary fill or excavation. Following the completion of construction, Jurisdictional impacts in these areas will be returned to their native state. Rip Rap outlet pads were utilized at all outfalls to dissipate energy and decrease system outlet velocities draining toward wetland and stream features. Erosion and sediment control devices such as silt fence, wattles, rock checks, stilling basins, special stilling basins, temporary silt ditches, and impervious dikes will be revised to minimize sediment leaving the site during and after construction.



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 TIP/Proj No.: R-5819/R-5820
 County(ies): Columbus
 Page 2 **of** 3

General Project Information

Waterbody Information

Surface Water Body (1):	NA		NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Swamp Waters (Sw)		
Other Stream Classification:					
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:			Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	
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):	Creek Branch		NCDWR Stream Index No.:	15-2-6-4-5	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Swamp Waters (Sw)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	Creek Branch		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	
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 Creek Branch		NCDWR Stream Index No.:	15-2-6-4-5	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Swamp Waters (Sw)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SA		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?	No	(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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 Highway Stormwater Program
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TIP No.: R-5819/R-5820
County(ies): Columbus
Page 3 **of** 3

Additional Waterbody Information

Surface Water Body (4):		UT to Creek Branch		NCDWR Stream Index No.:		15-2-6-4-5	
NCDWR Surface Water Classification for Water Body			Primary Classification:		Class C		
			Supplemental Classification:		Swamp Waters (Sw)		
Other Stream Classification:		None					
Impairments:		None					
Aquatic T&E Species?		No		Comments:			
NRTR Stream ID:		SB		Buffer Rules in Effect:		N/A	
Project Includes Bridge Spanning Water Body?		No		Deck Drains Discharge Over Buffer?		N/A	
Deck Drains Discharge Over Water Body?		N/A		(If yes, provide justification in the General Project Narrative)		Dissipator Pads Provided in Buffer?	
(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)	
Surface Water Body (5):				NCDWR Stream Index No.:			
NCDWR Surface Water Classification for Water Body			Primary Classification:				
			Supplemental Classification:				
Other Stream Classification:							
Impairments:							
Aquatic T&E Species?				Comments:			
NRTR Stream ID:				Buffer Rules in Effect:			
Project Includes Bridge Spanning Water Body?				Deck Drains Discharge Over Buffer?			
Deck Drains Discharge Over Water Body?				(If yes, provide justification in the General Project Narrative)		Dissipator Pads Provided in Buffer?	
(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)	

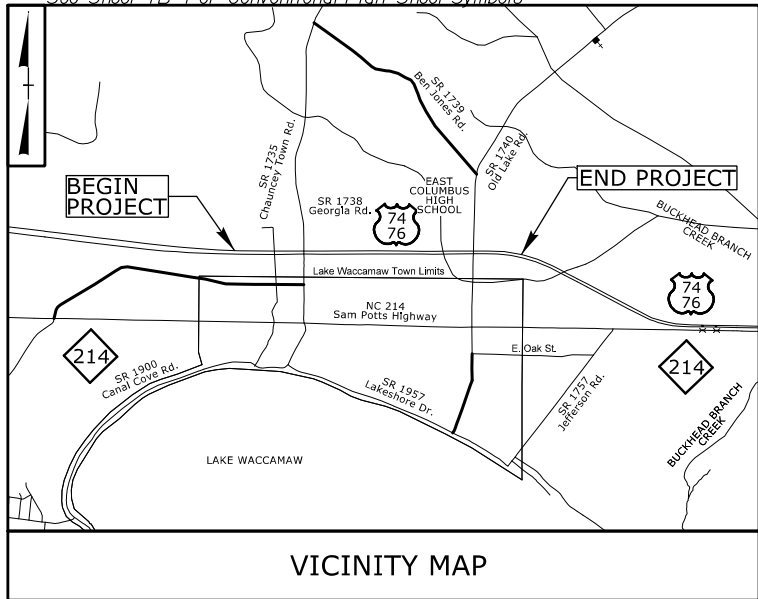
Attachment D: R-5819 & R-5820 Wetland and Surface Water Impacts Permit Drawings and Utility Drawings

09.08/99

TIP PROJECT: R-5819/R-5820

CONTRACT:

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



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
COLUMBUS COUNTY

NOT FOR CONSTRUCTION,
FOR FEMA PERMITTING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5819/R-5820	1	
STATE WBS NO.	F.A. PROJ. NO.	DESCRIPTION	
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47092.2.1		ROW	
47092.2.2		UTIL	
47092.3.1		CONST	

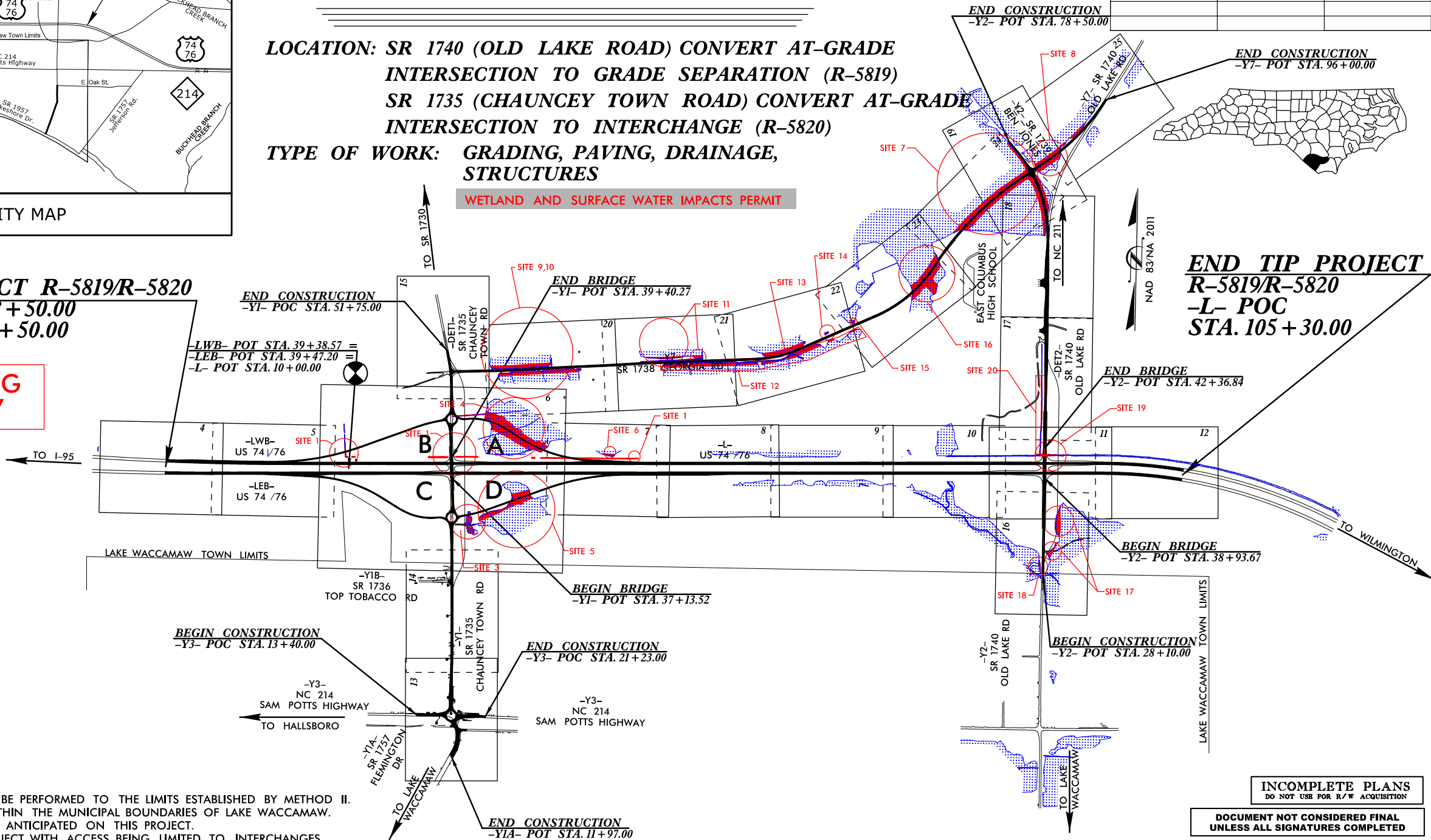
LOCATION: SR 1740 (OLD LAKE ROAD) CONVERT AT-GRADE INTERSECTION TO GRADE SEPARATION (R-5819)
SR 1735 (CHAUNCEY TOWN ROAD) CONVERT AT-GRADE INTERSECTION TO INTERCHANGE (R-5820)
TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES

WETLAND AND SURFACE WATER IMPACTS PERMIT

BEGIN TIP PROJECT R-5819/R-5820
-LWB- POC STA. 18+50.00
-LEB- POC STA. 18+50.00

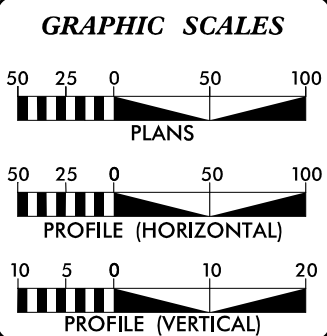
PERMIT DRAWING
SHEET 1 OF 47

11/9/2021



NOTES:

- CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
- A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF LAKE WACCAMAW.
- THERE ARE NO DESIGN EXCEPTIONS ANTICIPATED ON THIS PROJECT.
- THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.



DESIGN DATA

ADT 2022 =	14,400
ADT 2042 =	18,000
K =	8 %
D =	55 %
T =	20 % *
V =	75 MPH
* 16% TTST + 4% DUAL	
FUNC CLASS = INTERSTATE STATEWIDE TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5819/R-5820 =	2.202 MILES
TOTAL LENGTH TIP PROJECT R-5819/R-5820 =	2.202 MILES

Prepared in the Office of:
NIVIS
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MARCH 22, 2021	JOHNNY BANKS PROJECT MANAGER
LETTING DATE: JUNE 21, 2022	STEVE A. DRUM, PE PROJECT DESIGN ENGINEER
NCDOT CONTACT:	JOHN GAUTHIER PROJECT MANAGER

HYDRAULICS ENGINEER

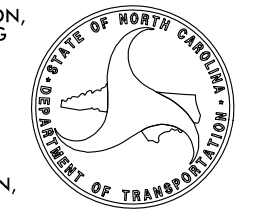
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FOR FEMA PERMITTING

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ROADWAY DESIGN ENGINEER

NOT FOR CONSTRUCTION,
FOR FEMA PERMITTING

SIGNATURE: _____ P.E.

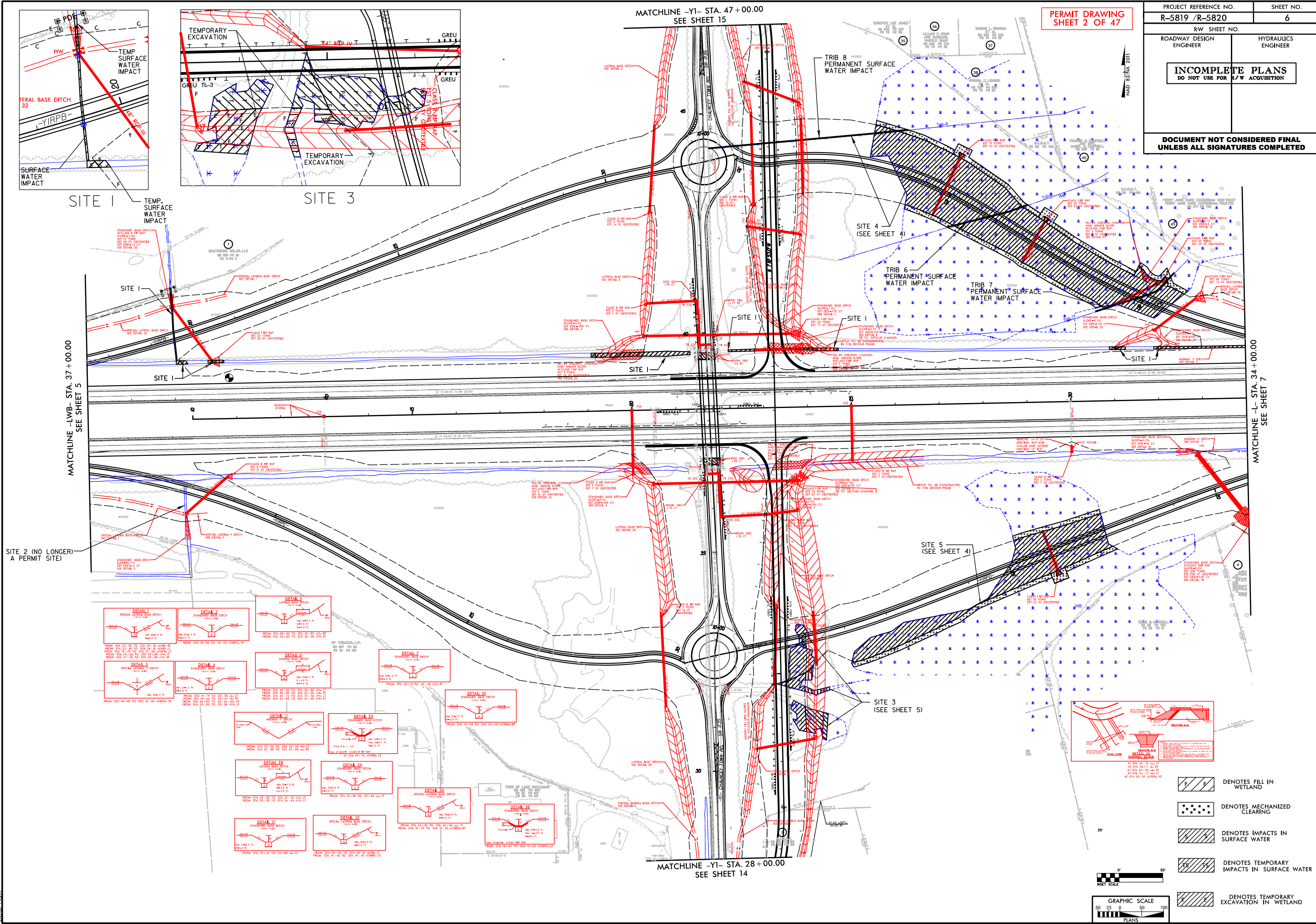


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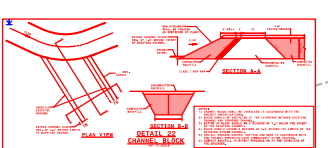
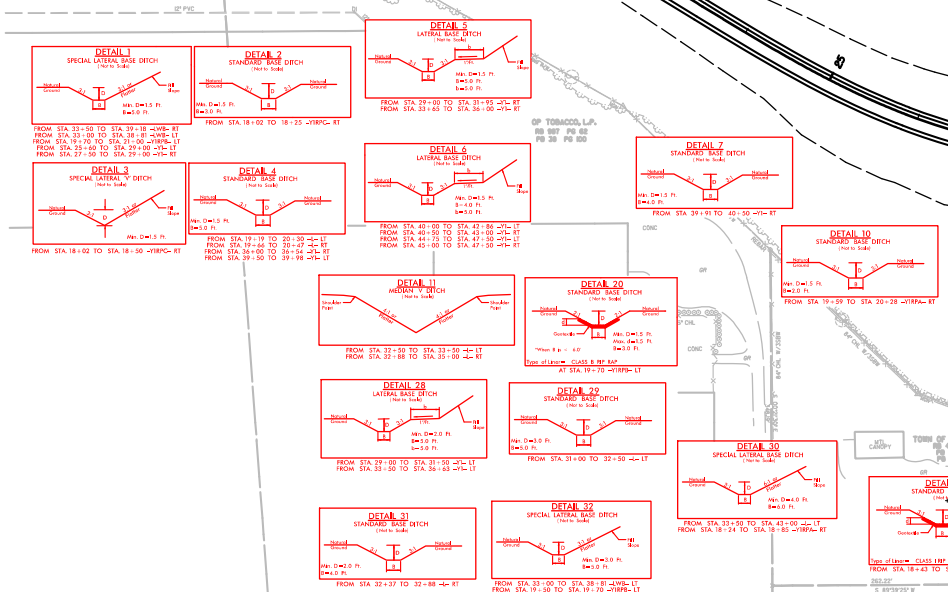
8/17/99

PERMIT DRAWING
SHEET 2 OF 47

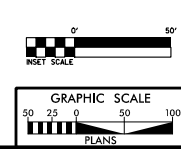
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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



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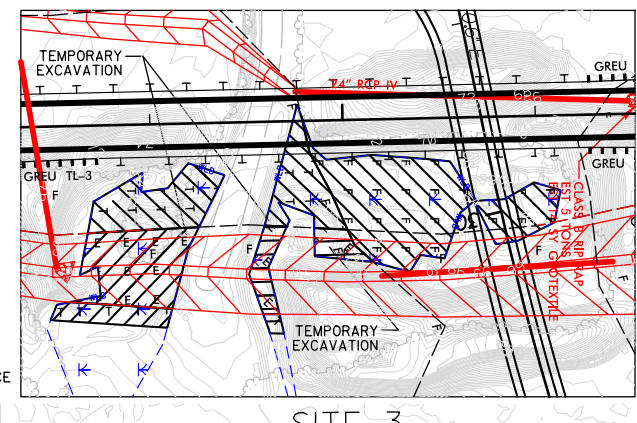
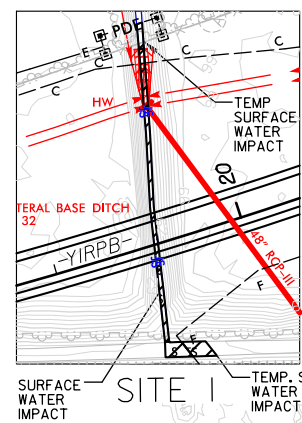


- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY EXCAVATION IN WETLAND



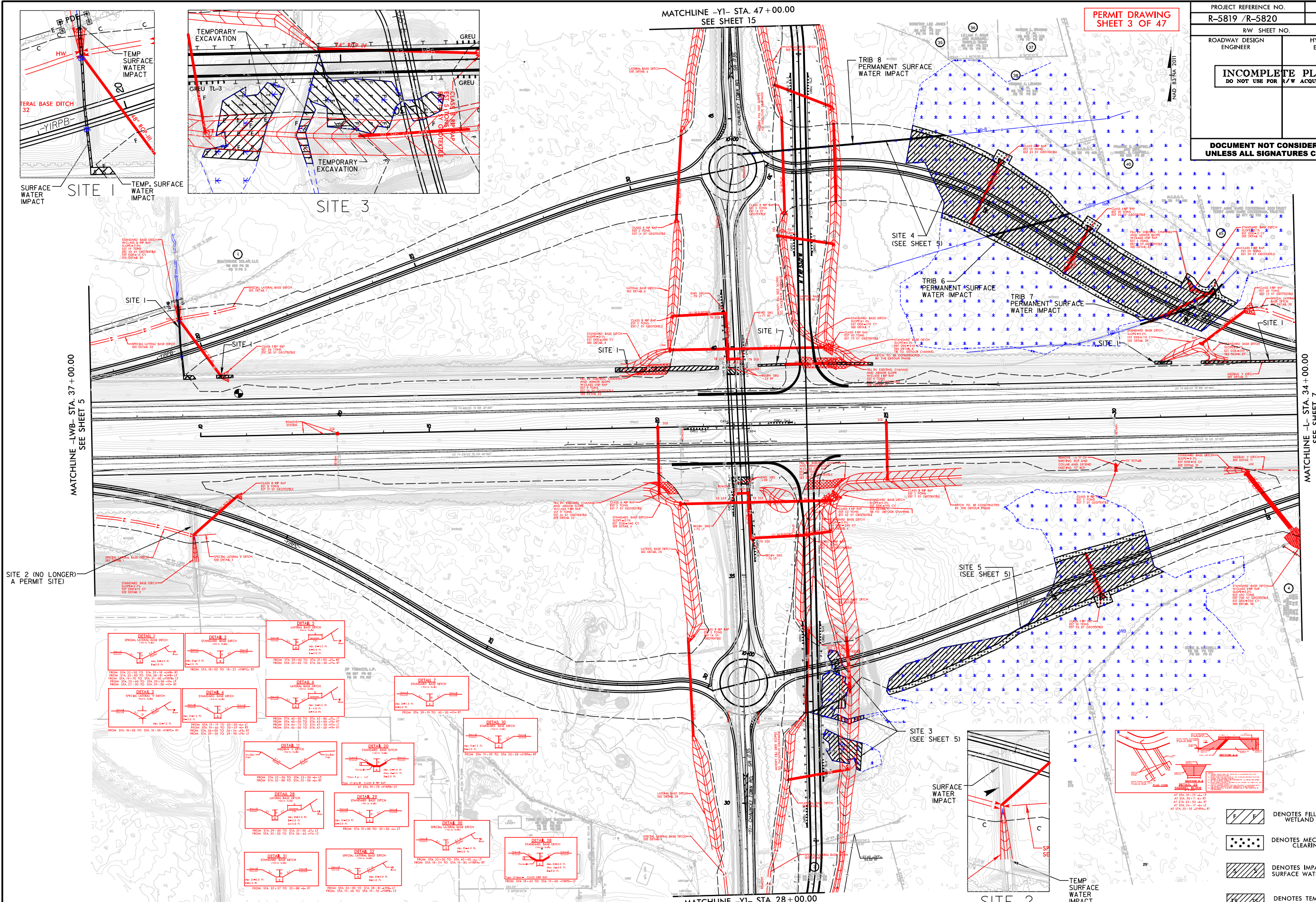
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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



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SEE SHEET 15

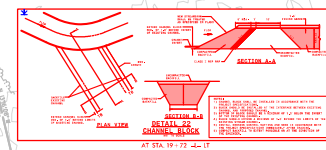
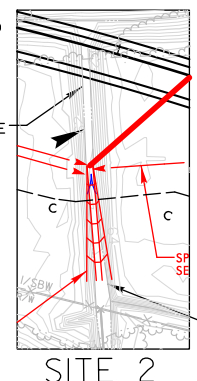
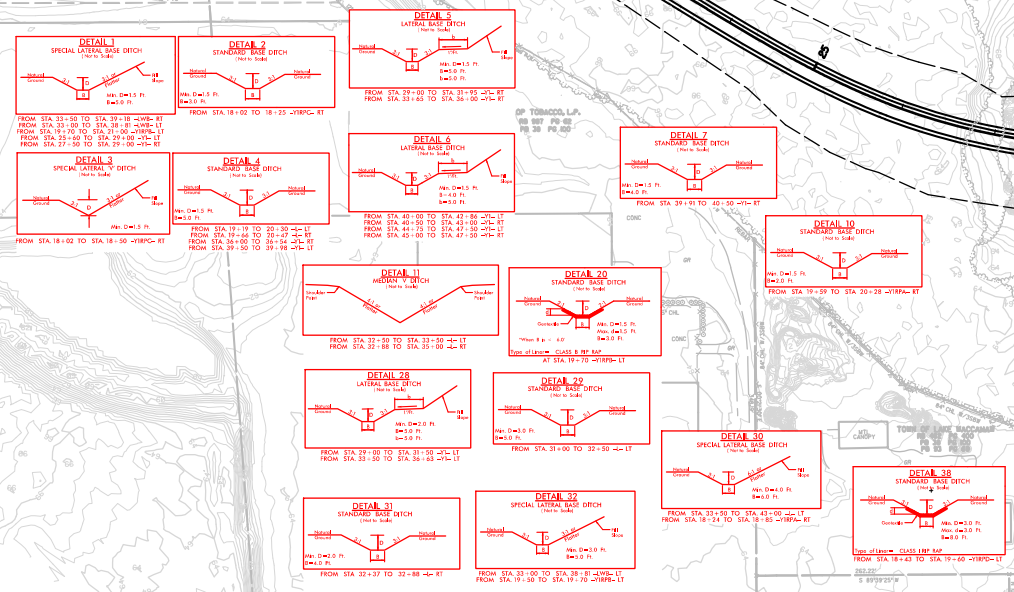
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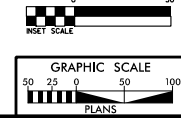
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SEE SHEET 5

MATCHLINE -L- STA. 34 + 00.00
SEE SHEET 7

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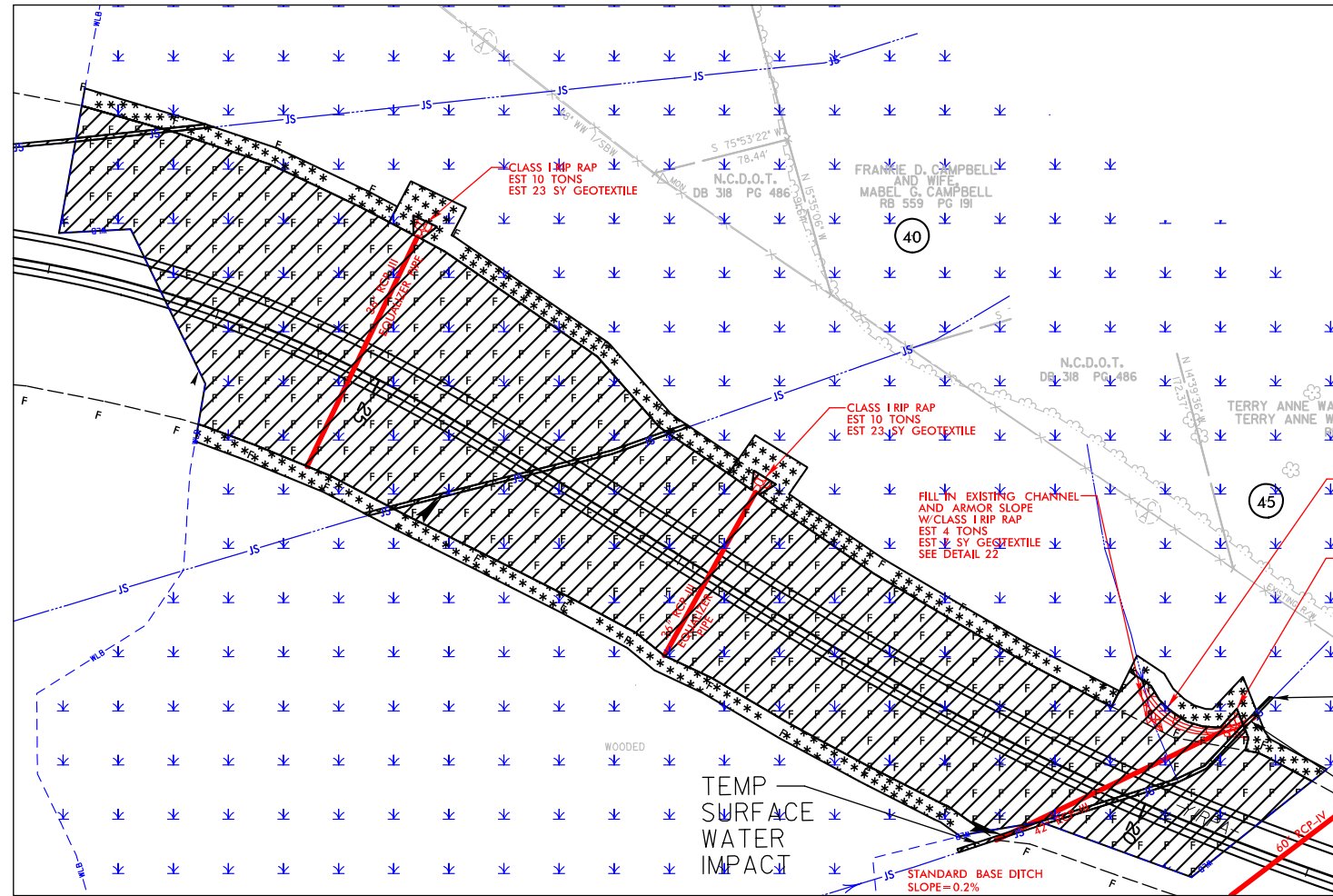
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- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY EXCAVATION IN WETLAND



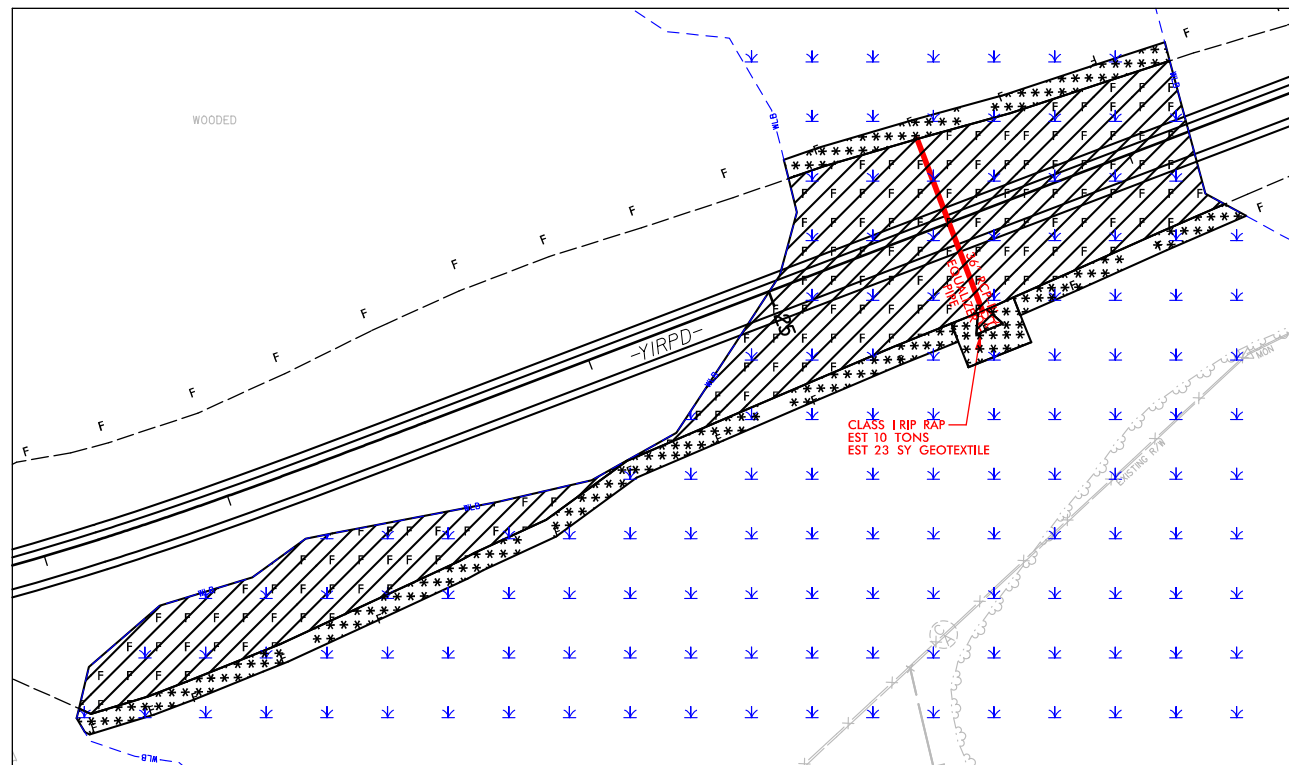
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PERMIT DRAWING
SHEET 4 OF 47





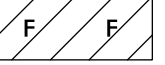
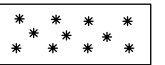
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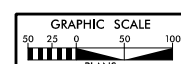
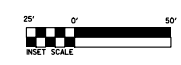


SITE 5

TEMP
SURFACE
WATER
IMPACT

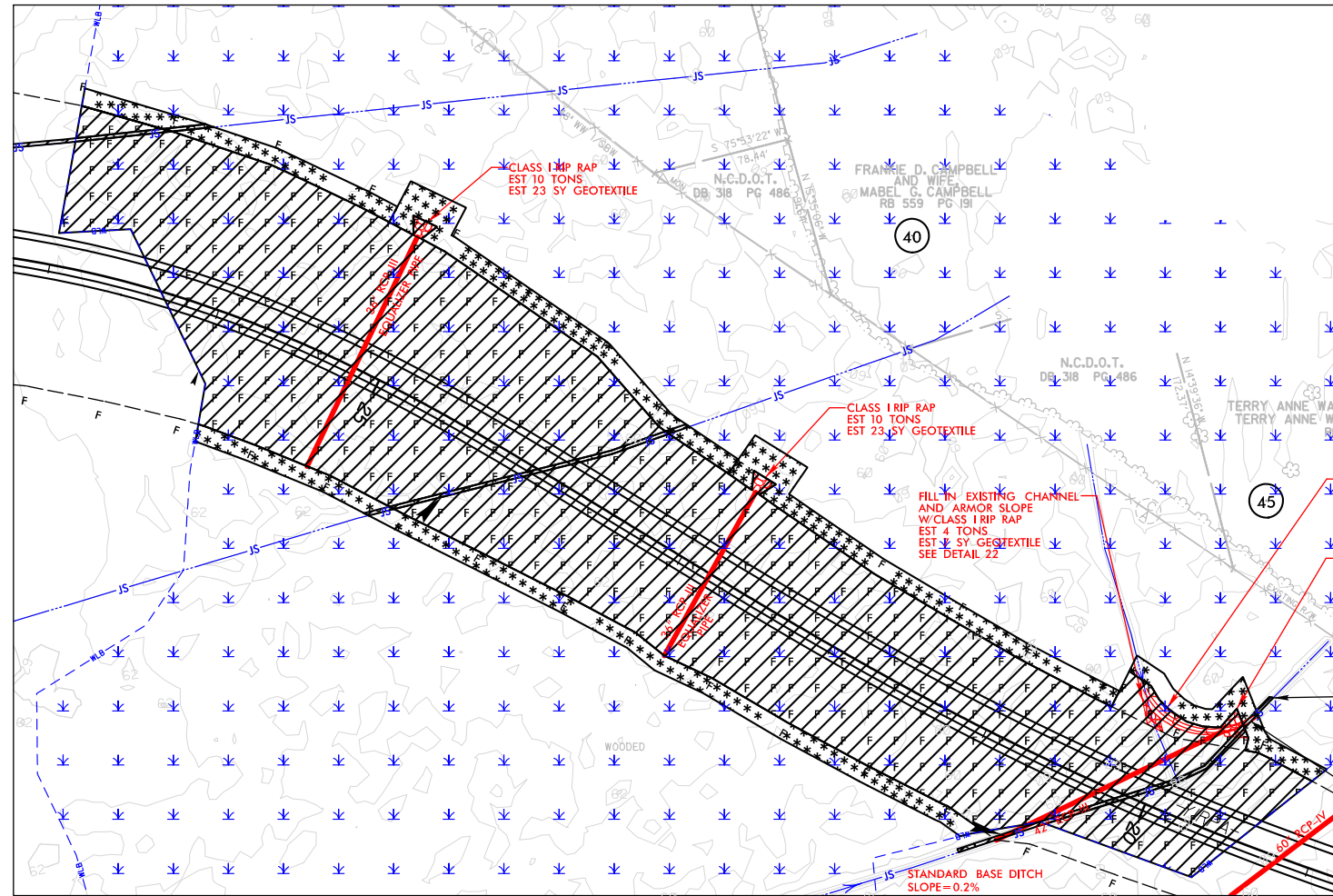
SURFACE
WATER
IMPACT

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



PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO.
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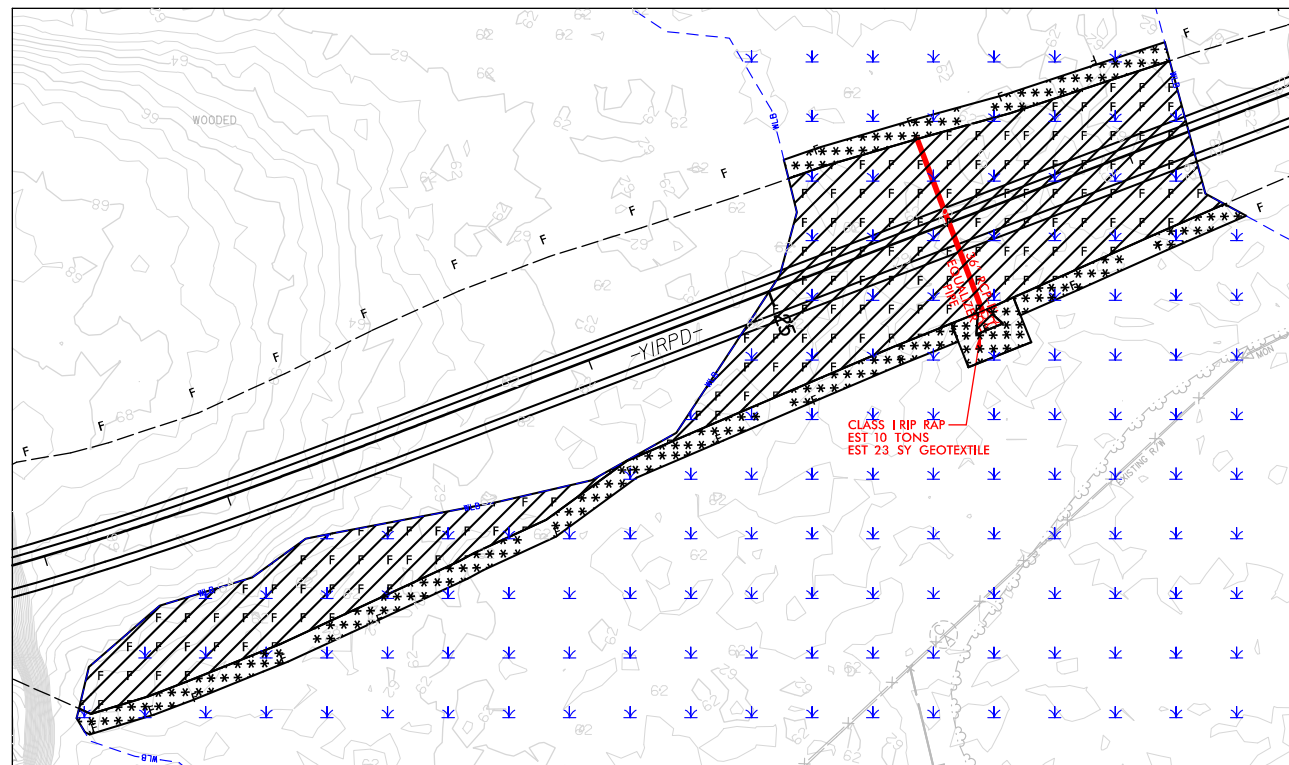
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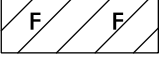

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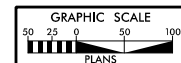
TEMP
SURFACE
WATER
IMPACT

SURFACE
WATER
IMPACT



SITE 5

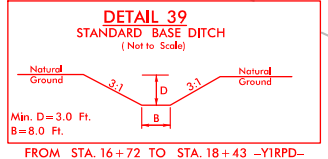
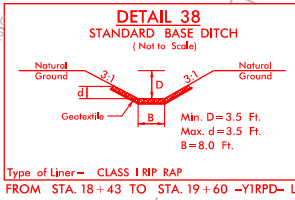
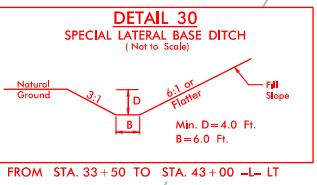
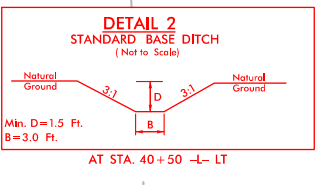
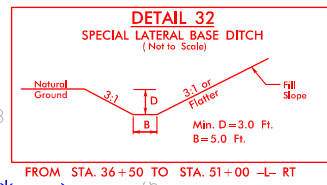
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING



8/17/99

PROJECT REFERENCE NO. R-5819/R-5820	SHEET NO. 7
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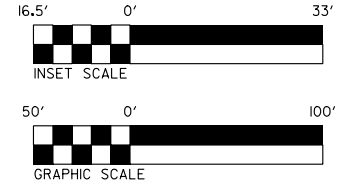
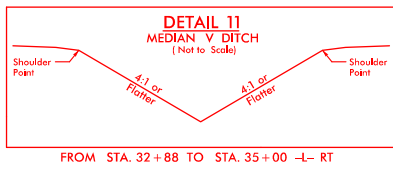
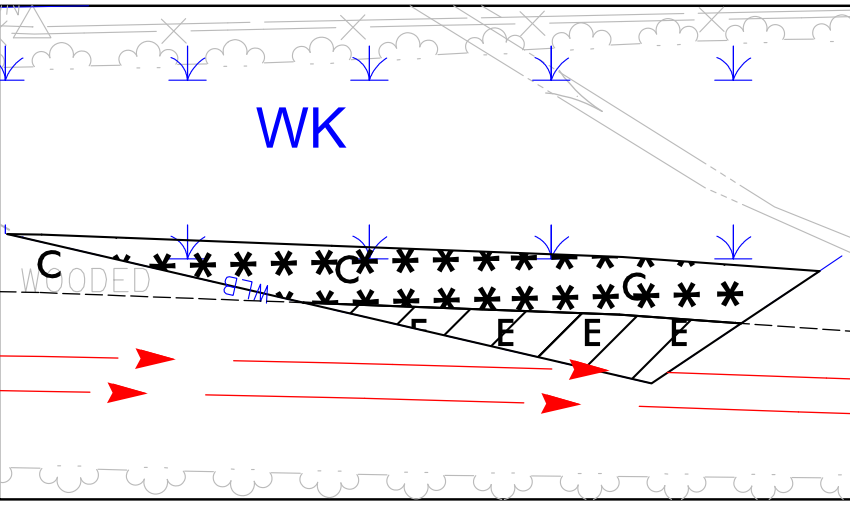
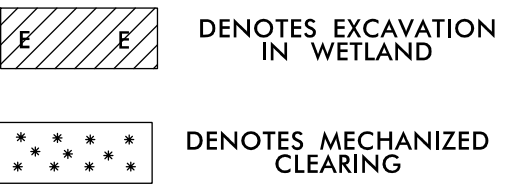
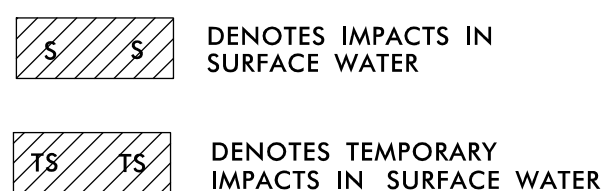
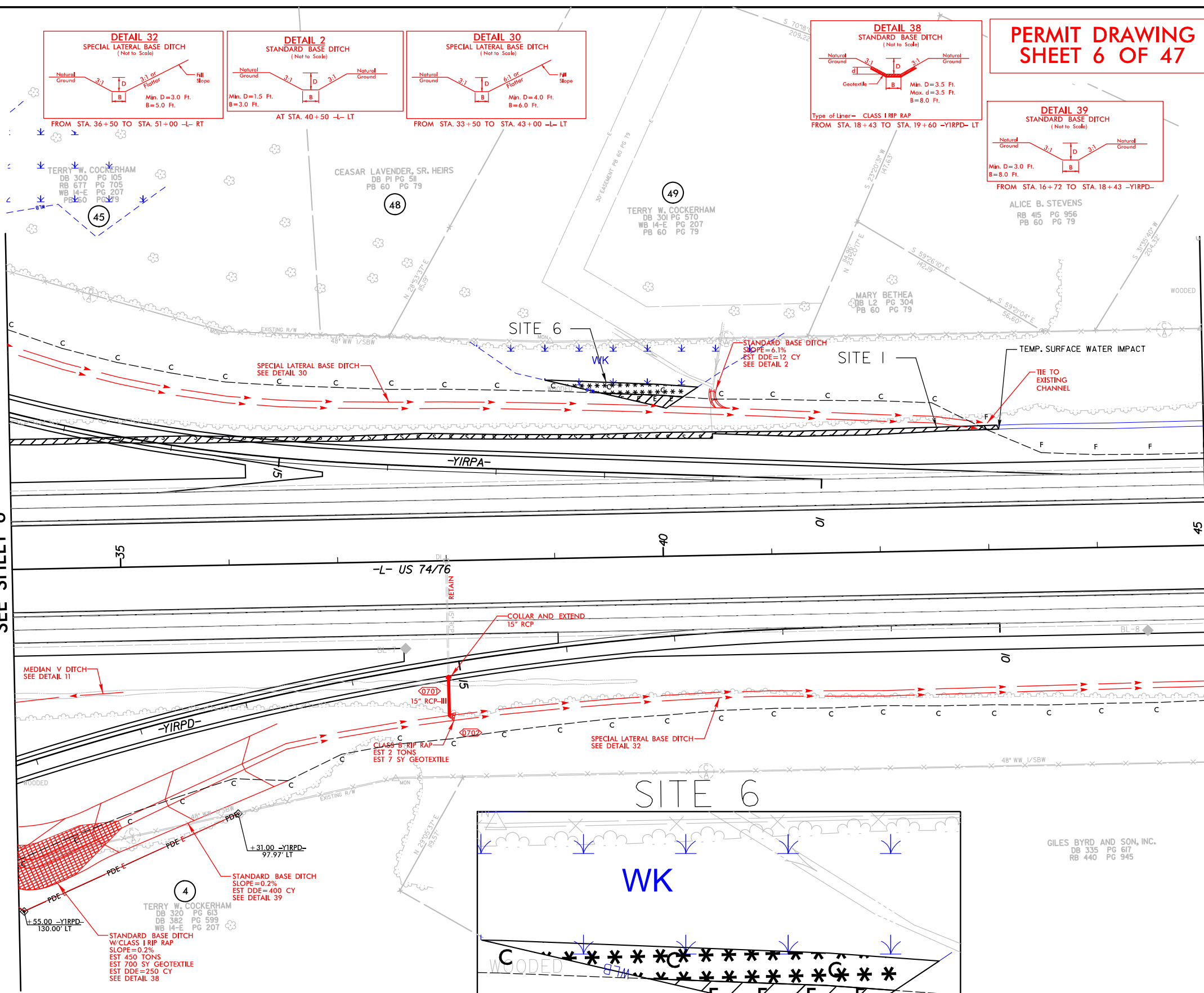
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SHEET 6 OF 47



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MATCHLINE -L- STA. 45 + 00.00
SEE SHEET 8

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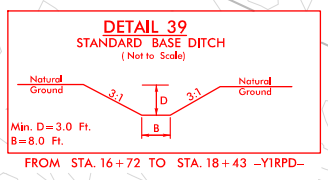
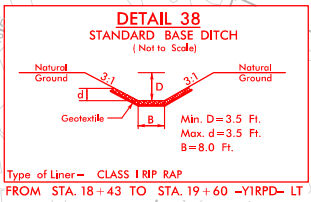
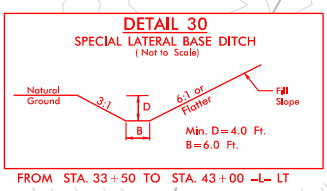
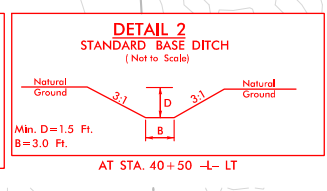
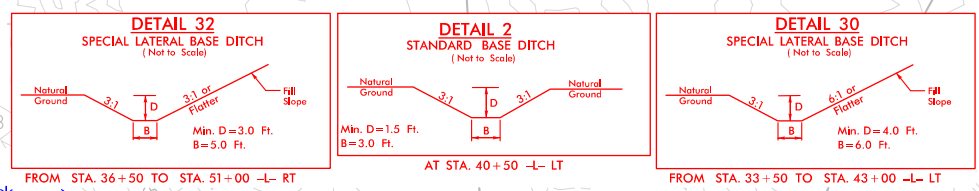


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8/17/99

PROJECT REFERENCE NO. R-5819/R-5820	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

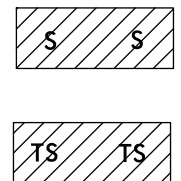
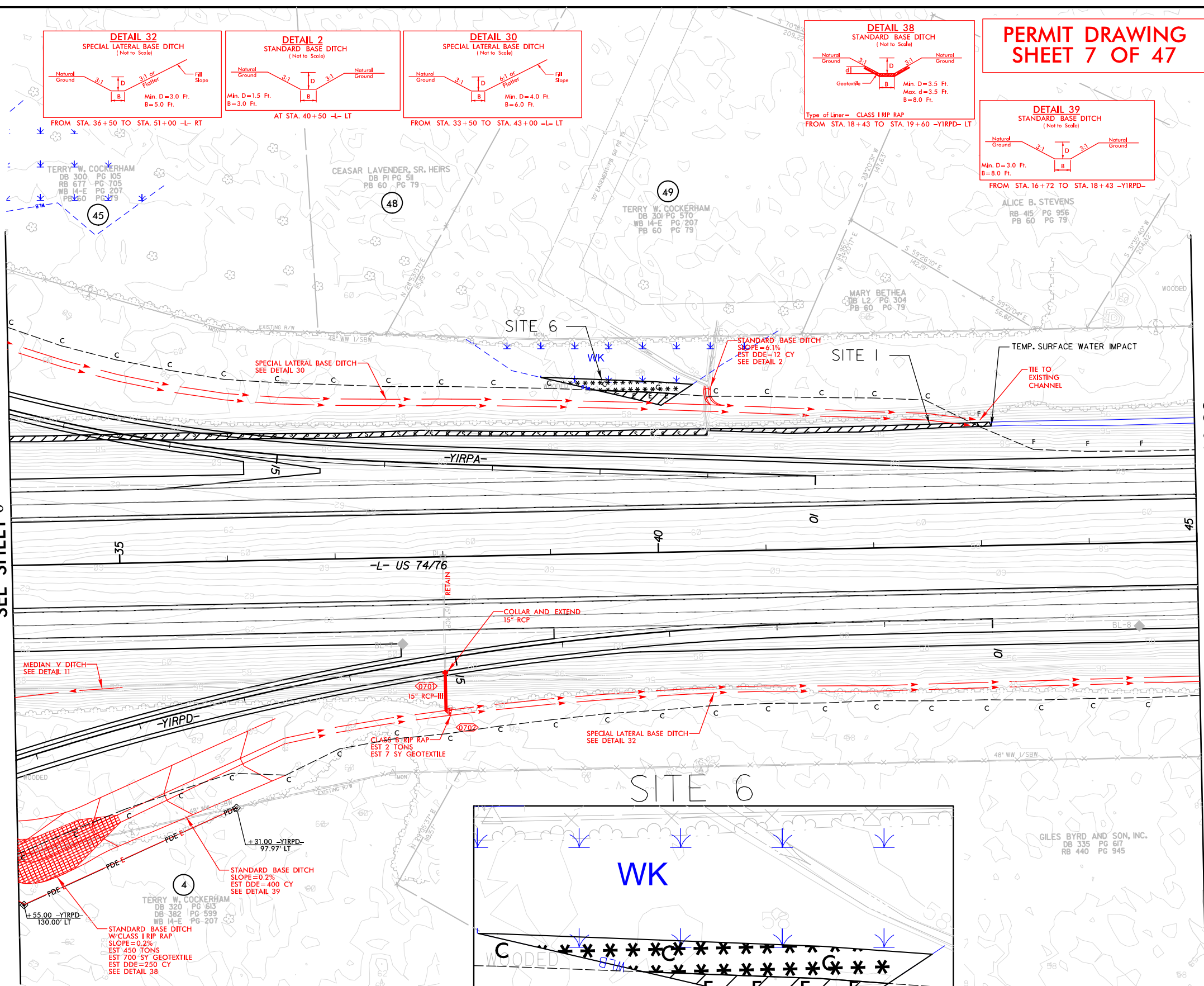
PERMIT DRAWING SHEET 7 OF 47



NAD 83/NA 2011

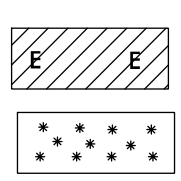
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SEE SHEET 6

MATCHLINE -L- STA. 45+00.00
SEE SHEET 8



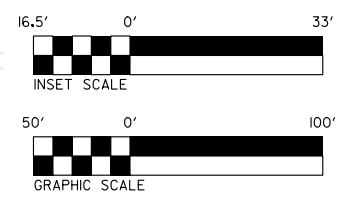
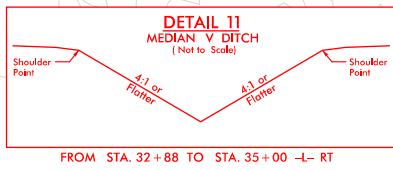
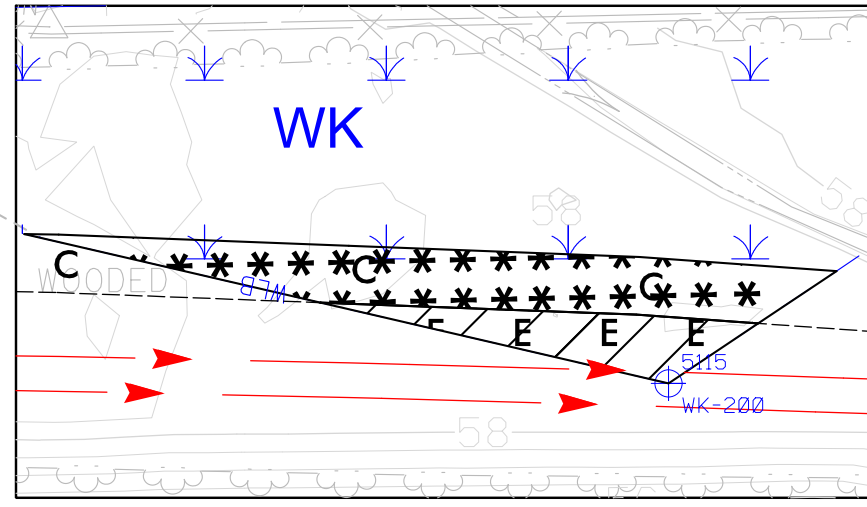
S DENOTES IMPACTS IN SURFACE WATER

TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER



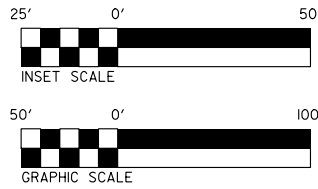
E DENOTES EXCAVATION IN WETLAND

***** DENOTES MECHANIZED CLEARING



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8/17/99



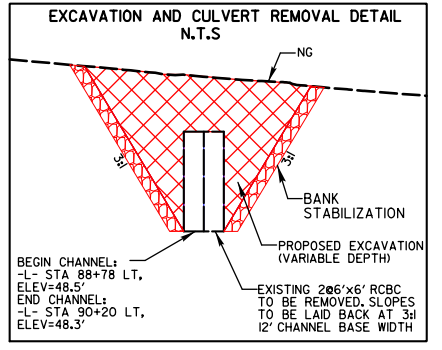
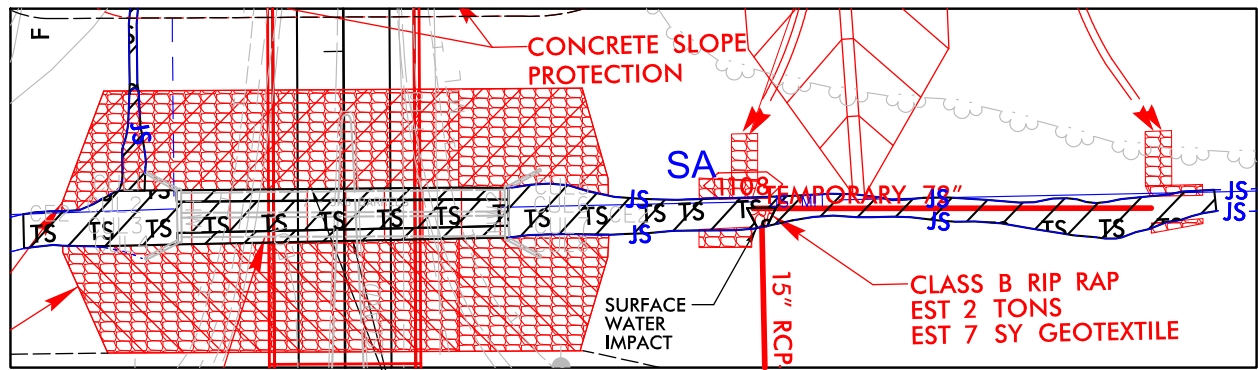
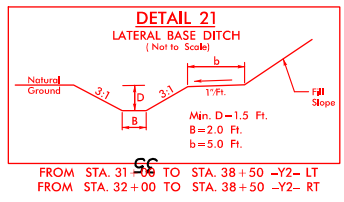
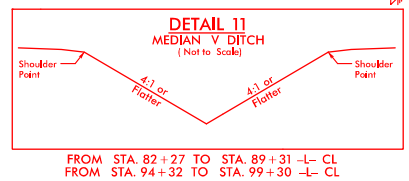
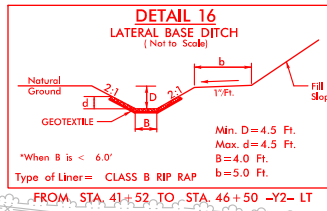
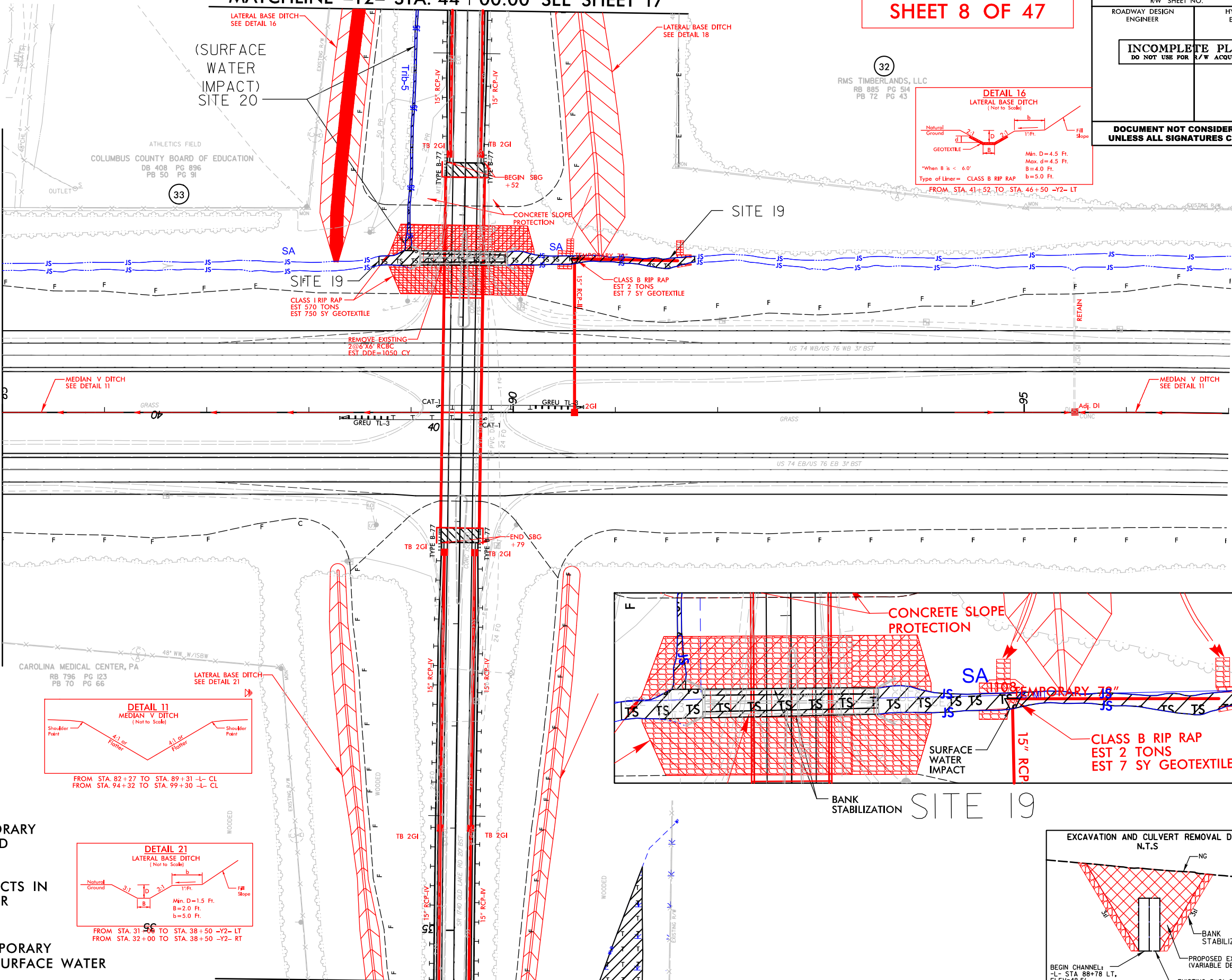
MATCHLINE -Y2- STA. 44+00.00 SEE SHEET 17

PERMIT DRAWING
SHEET 8 OF 47

PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO. 11	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MATCHLINE -L- STA. 85+00.00
SEE SHEET 10

MATCHLINE -L- STA. 97+00.00
SEE SHEET 12



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

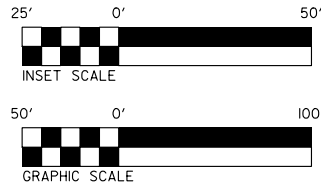
MATCHLINE -Y2- STA. 34+50.00
SEE SHEET 16

SITE 17 (SEE SHEET 38)

NAD 83/NA 2011

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8/17/99



**PERMIT DRAWING
SHEET 9 OF 47**

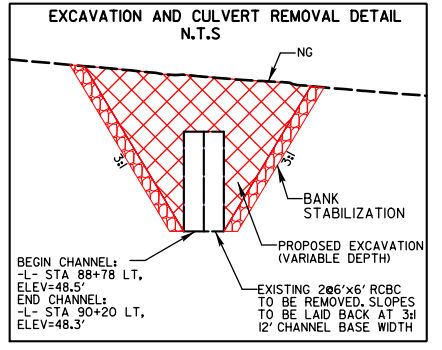
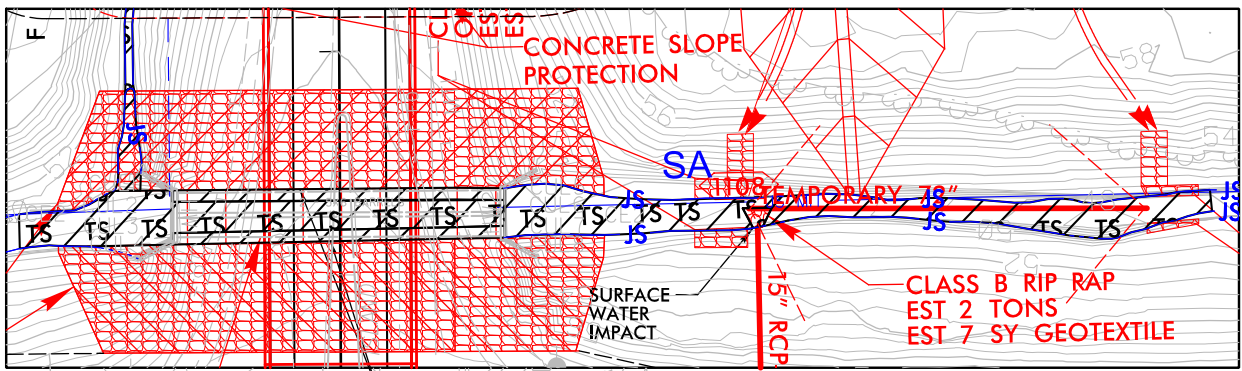
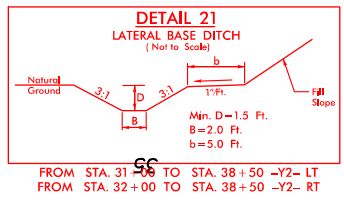
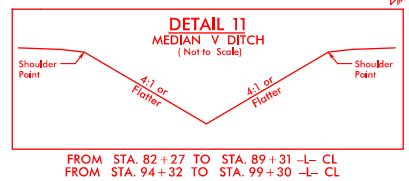
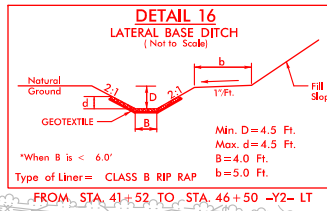
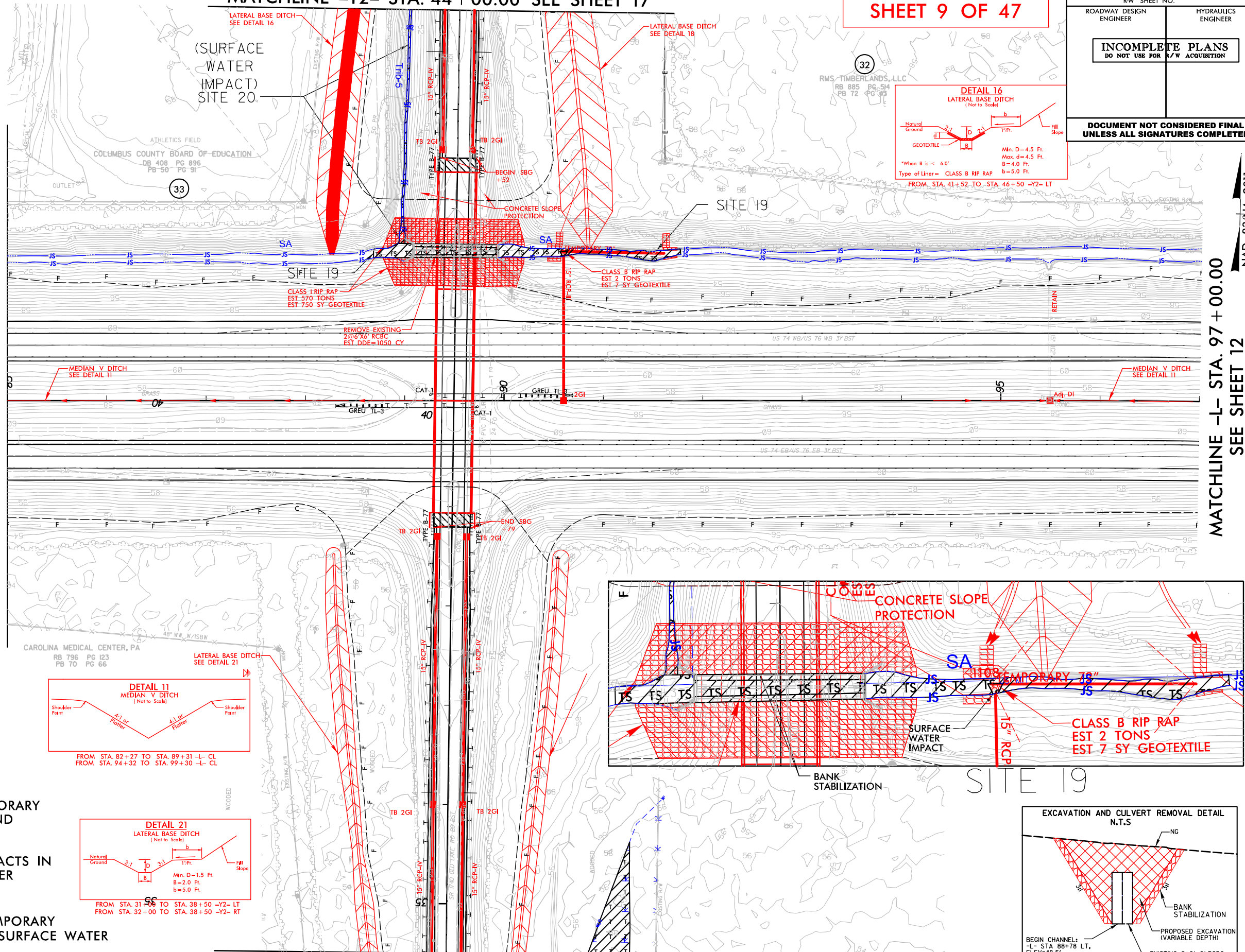
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RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MATCHLINE -L- STA. 85 + 00.00
SEE SHEET 10

MATCHLINE -L- STA. 97 + 00.00
SEE SHEET 12

MATCHLINE -Y2- STA. 44 + 00.00 SEE SHEET 17

MATCHLINE -Y2- STA. 34 + 50.00
SEE SHEET 16



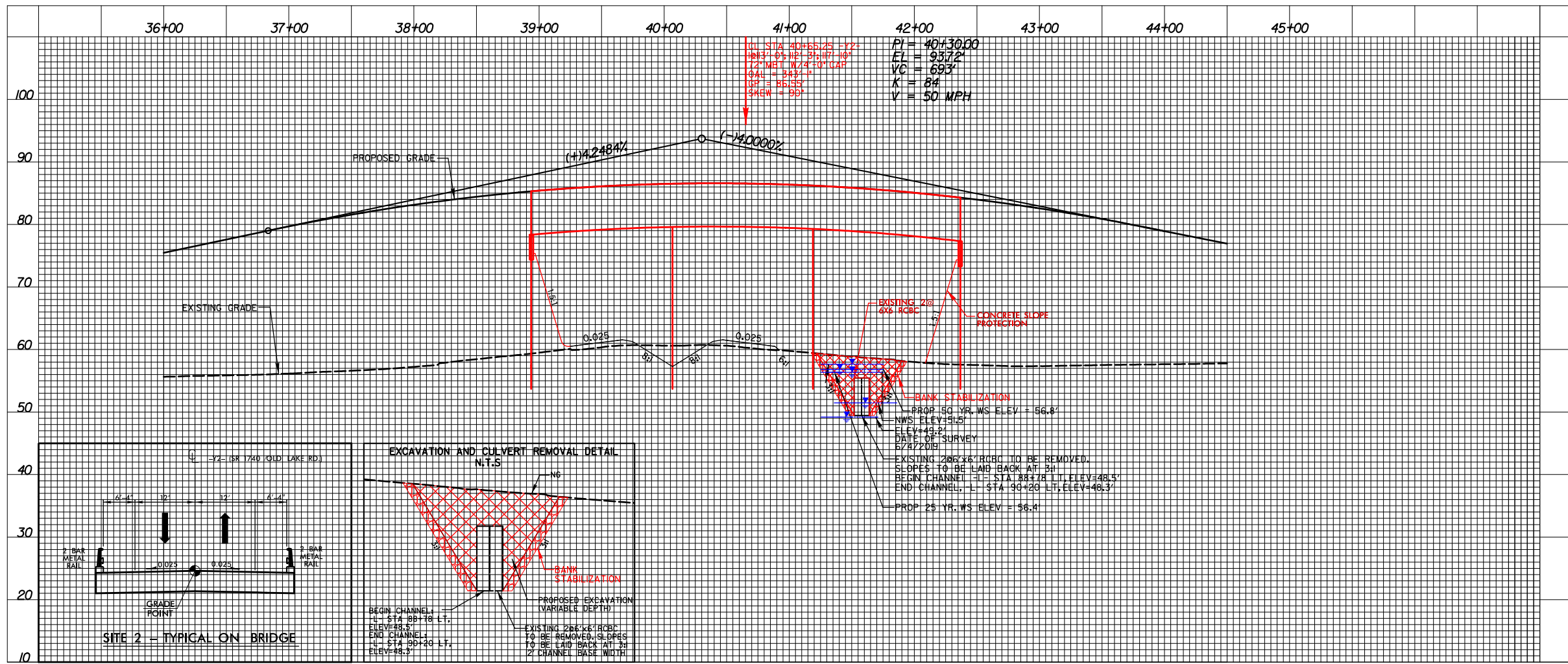
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

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NAD 83/NA 2011

PERMIT DRAWING SHEET 9A OF 47

PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO. 11A	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



8/17/99

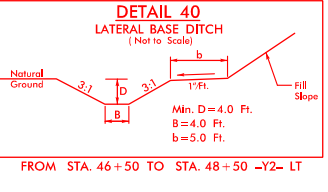
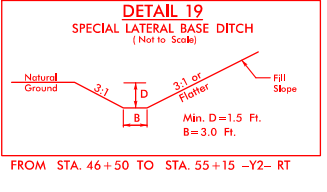
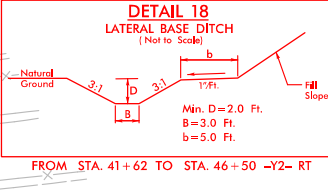
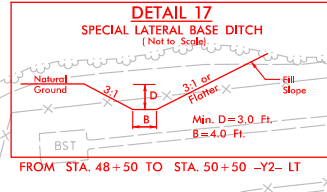
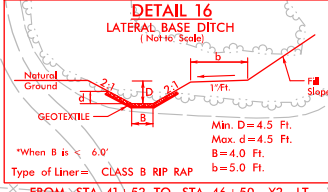
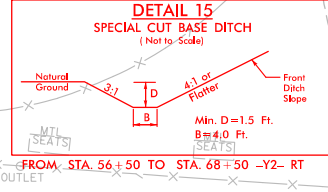
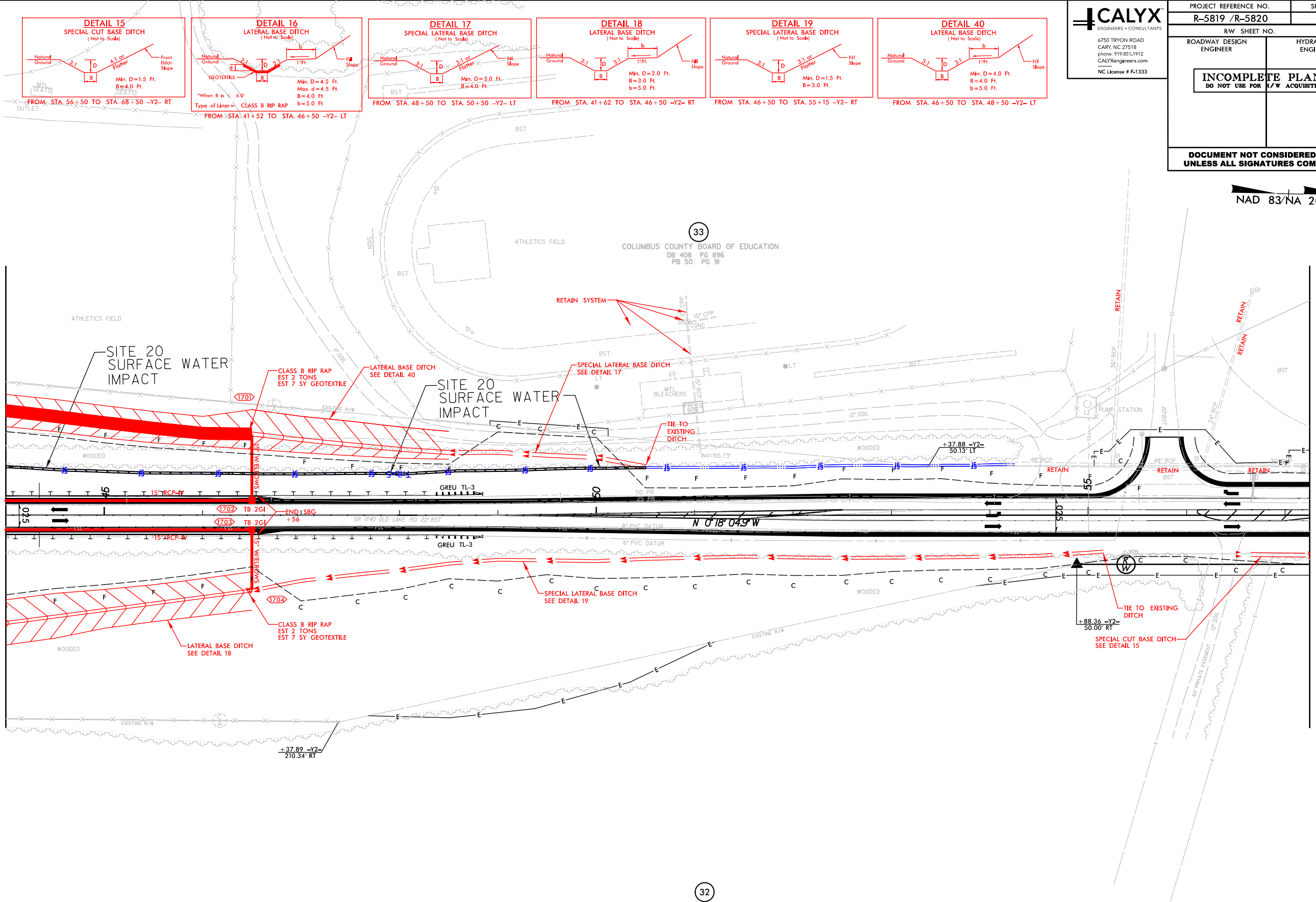
CALYX
ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27518
PHONE: 919.851.1912
CALYXengineers.com
NC License # F-1333

PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NA 2011

MATCHLINE -Y2- STA. 44+00.00
SEE SHEET 11

MATCHLINE -Y2- STA. 57+25.00
SEE SHEET 18



32
RMS TIMBERLANDS, LLC
RB 885 PG 5/4
PB 72 PG 43



DENOTES IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 10 OF 47

NOTES:
■ PROP PAVED SHOULDER FOR -Y2- PROFILE, SEE SHEET 33 & 34

10:42:24 PM
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abachan

8/17/99

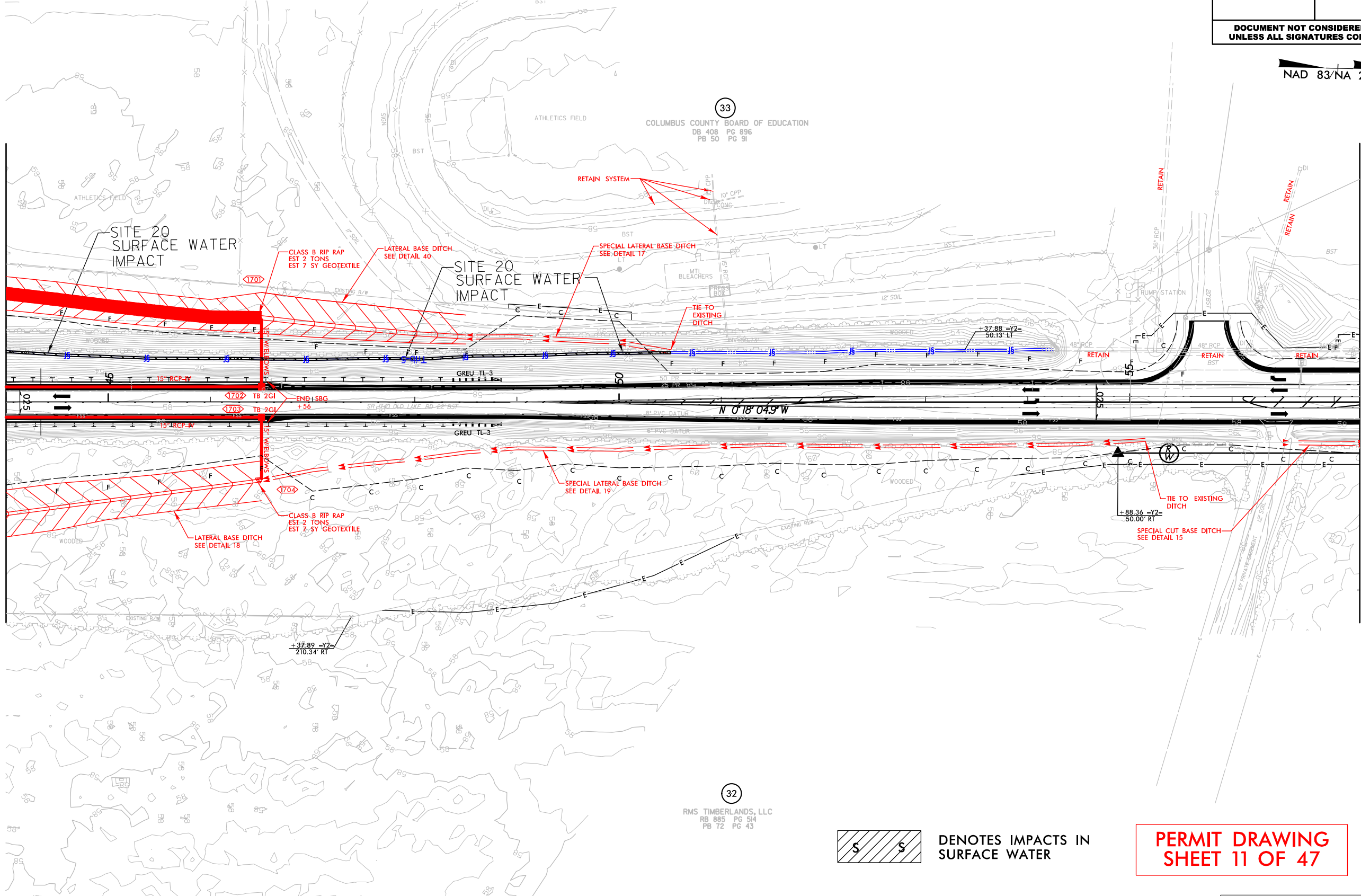
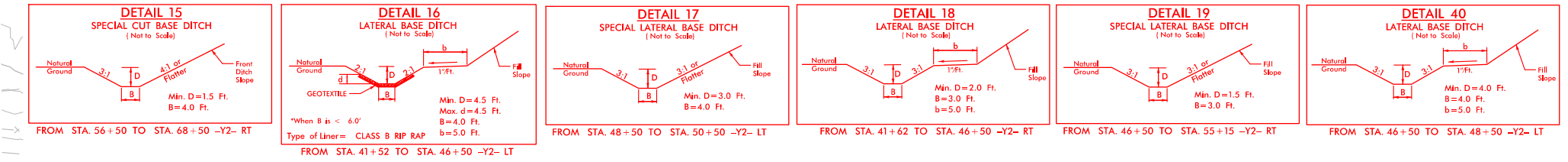
CALYX
ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27518
PHONE: 919.851.1912
CALYXengineers.com
NC License # F-1333

PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NA 2011

MATCHLINE -Y2- STA. 44+00.00
SEE SHEET 11

MATCHLINE -Y2- STA. 57+25.00
SEE SHEET 18



32
RMS TIMBERLANDS, LLC
RB 885 PG 5/4
PB 72 PG 43

DENOTES IMPACTS IN SURFACE WATER

PERMIT DRAWING
SHEET 11 OF 47

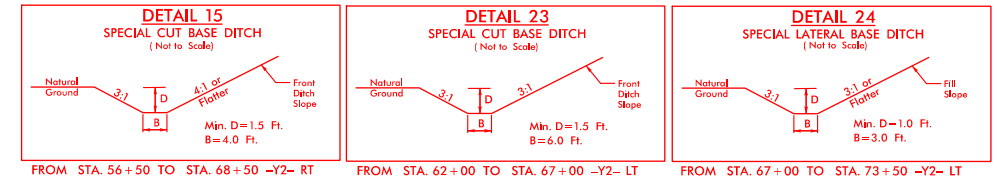
NOTES:
■ PROP PAVED SHOULDER
FOR -Y2- PROFILE, SEE SHEET 33 & 34

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abachan

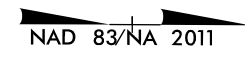
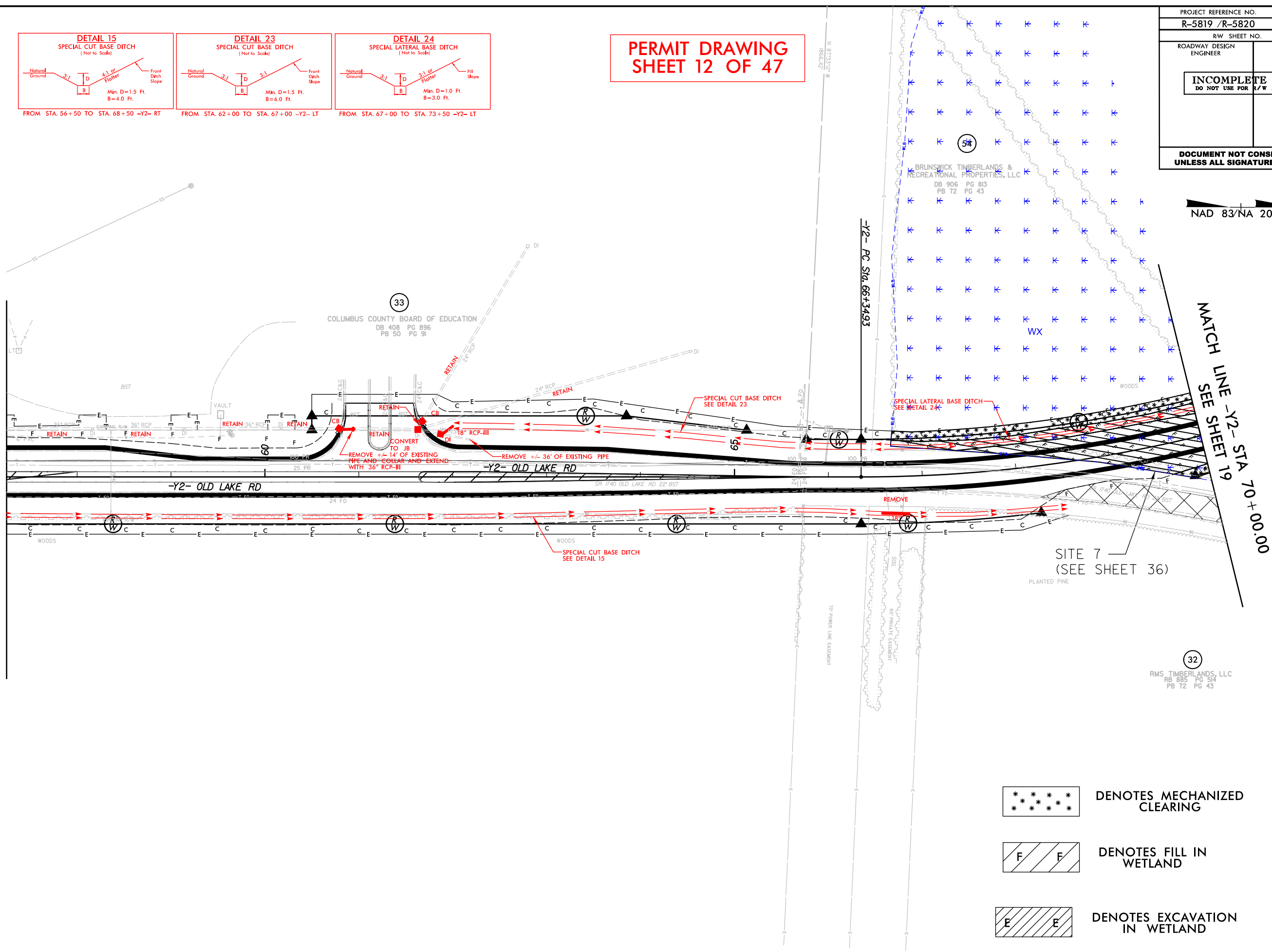
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5819 /R-5820	18
RW SHEET NO.	
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 12 OF 47**



MATCH LINE -Y2- STA 57 + 25.00
SEE SHEET 17



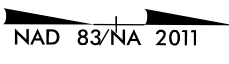
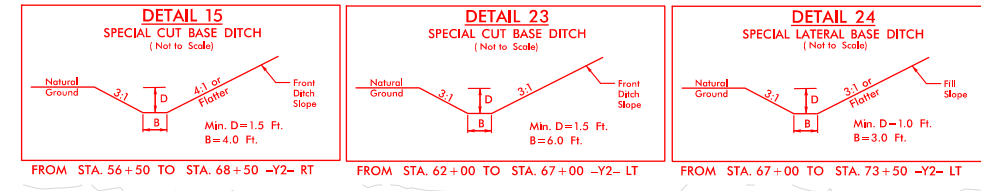
MATCH LINE -Y2- STA 70 + 00.00
SEE SHEET 19

- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND

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abachan

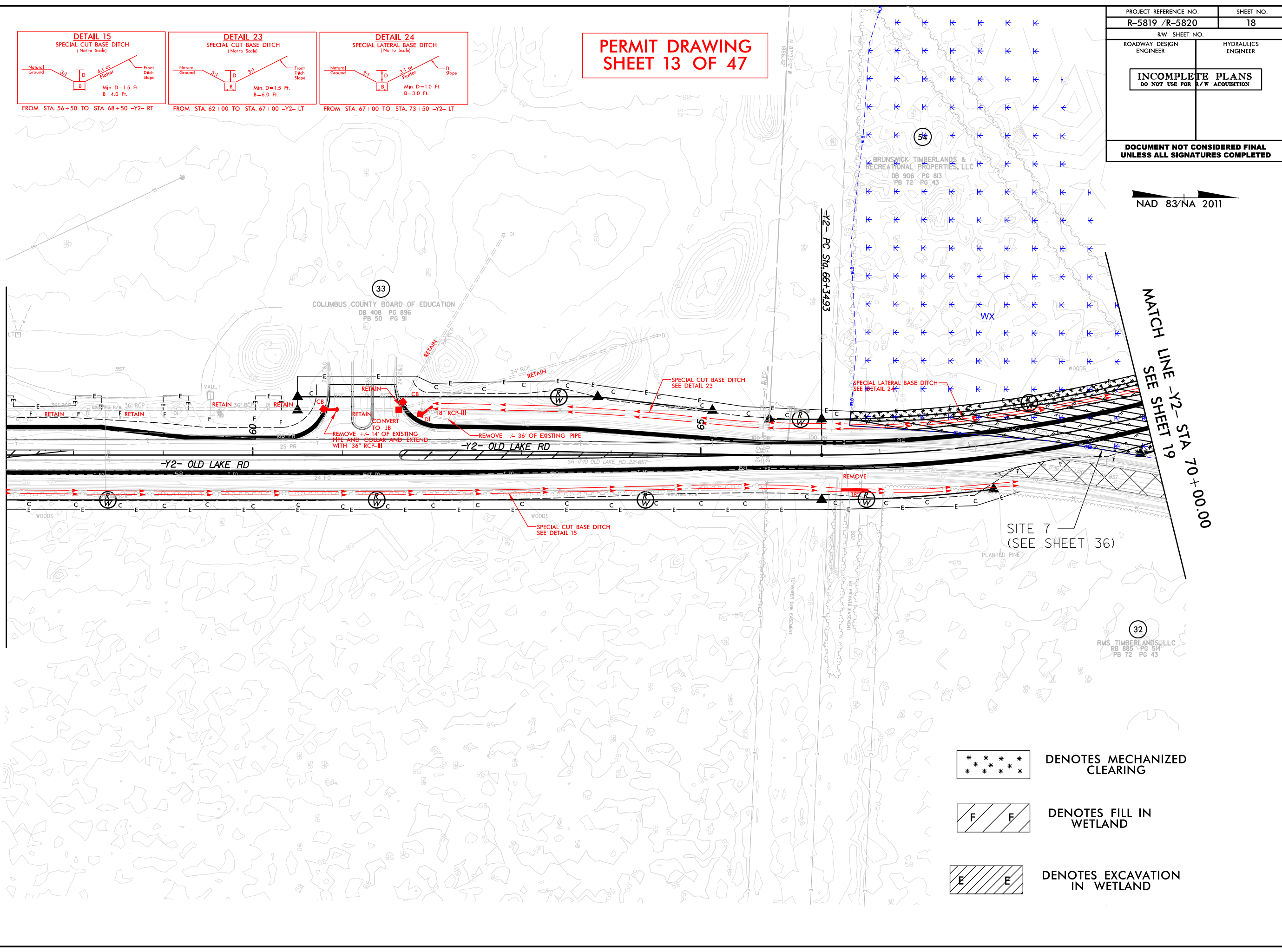
PROJECT REFERENCE NO.	SHEET NO.
R-5819 /R-5820	18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

**PERMIT DRAWING
SHEET 13 OF 47**



MATCH LINE -Y2- STA 57+25.00
SEE SHEET 17

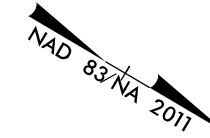
MATCH LINE -Y2- STA 70+00.00
SEE SHEET 19



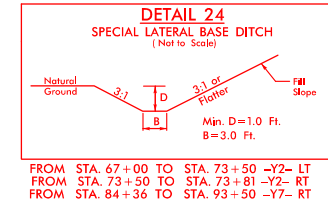
- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND

8/17/99
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abachan

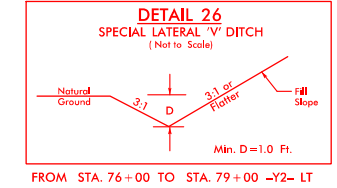
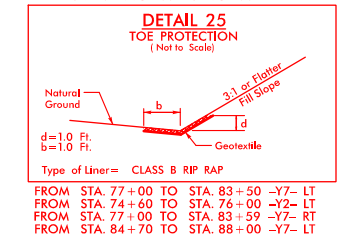
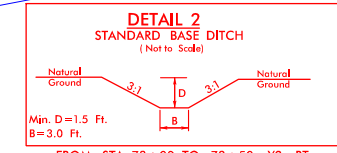
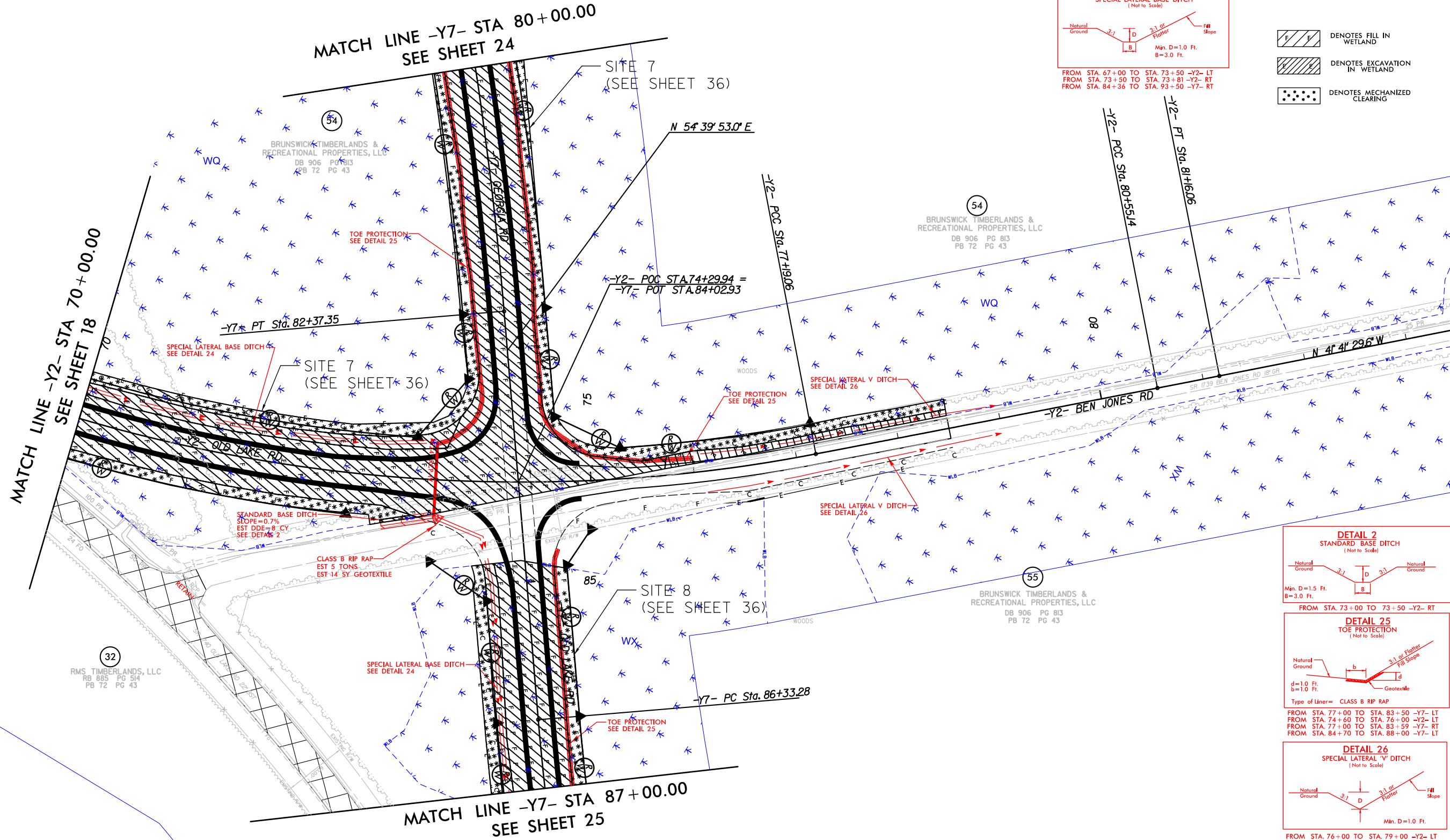
**PERMIT DRAWING
SHEET 14 OF 47**



PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO. 19	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING

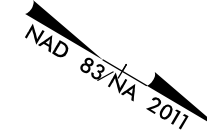


32
RMS TIMBERLANDS, LLC
RB 885 PG 514
PB 72 PG 43

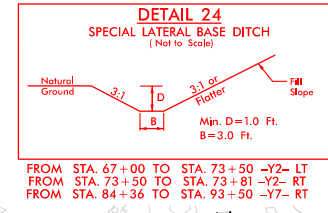
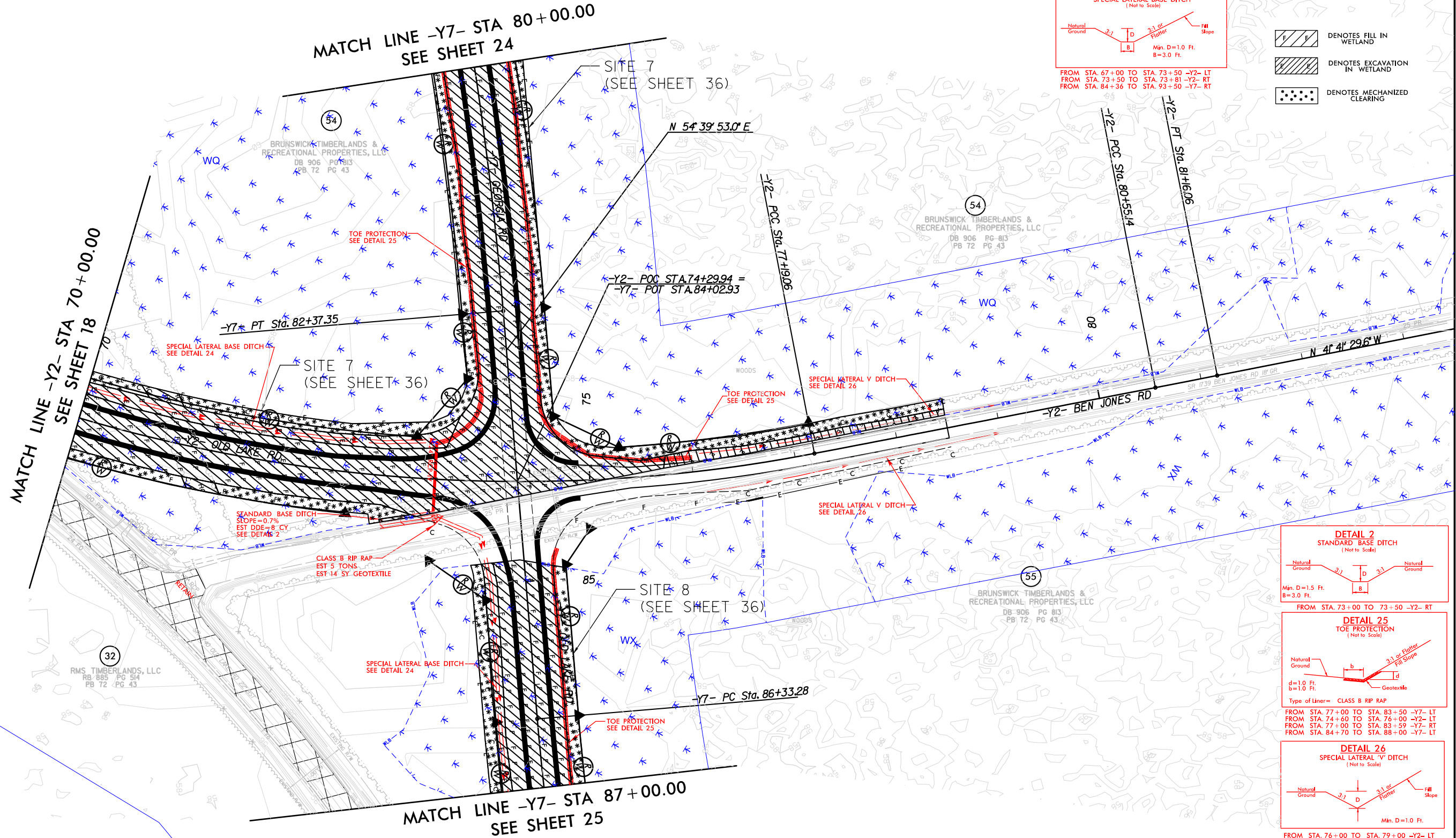
54
BRUNSWICK TIMBERLANDS &
RECREATIONAL PROPERTIES, LLC
DB 906 PG 813
PB 72 PG 43

55
BRUNSWICK TIMBERLANDS &
RECREATIONAL PROPERTIES, LLC
DB 906 PG 813
PB 72 PG 43

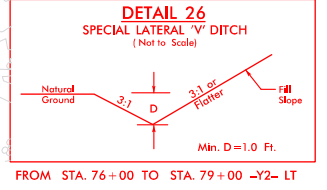
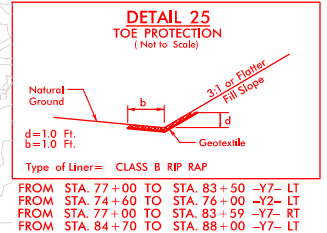
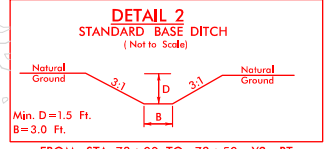
**PERMIT DRAWING
SHEET 15 OF 47**



PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO. 19	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



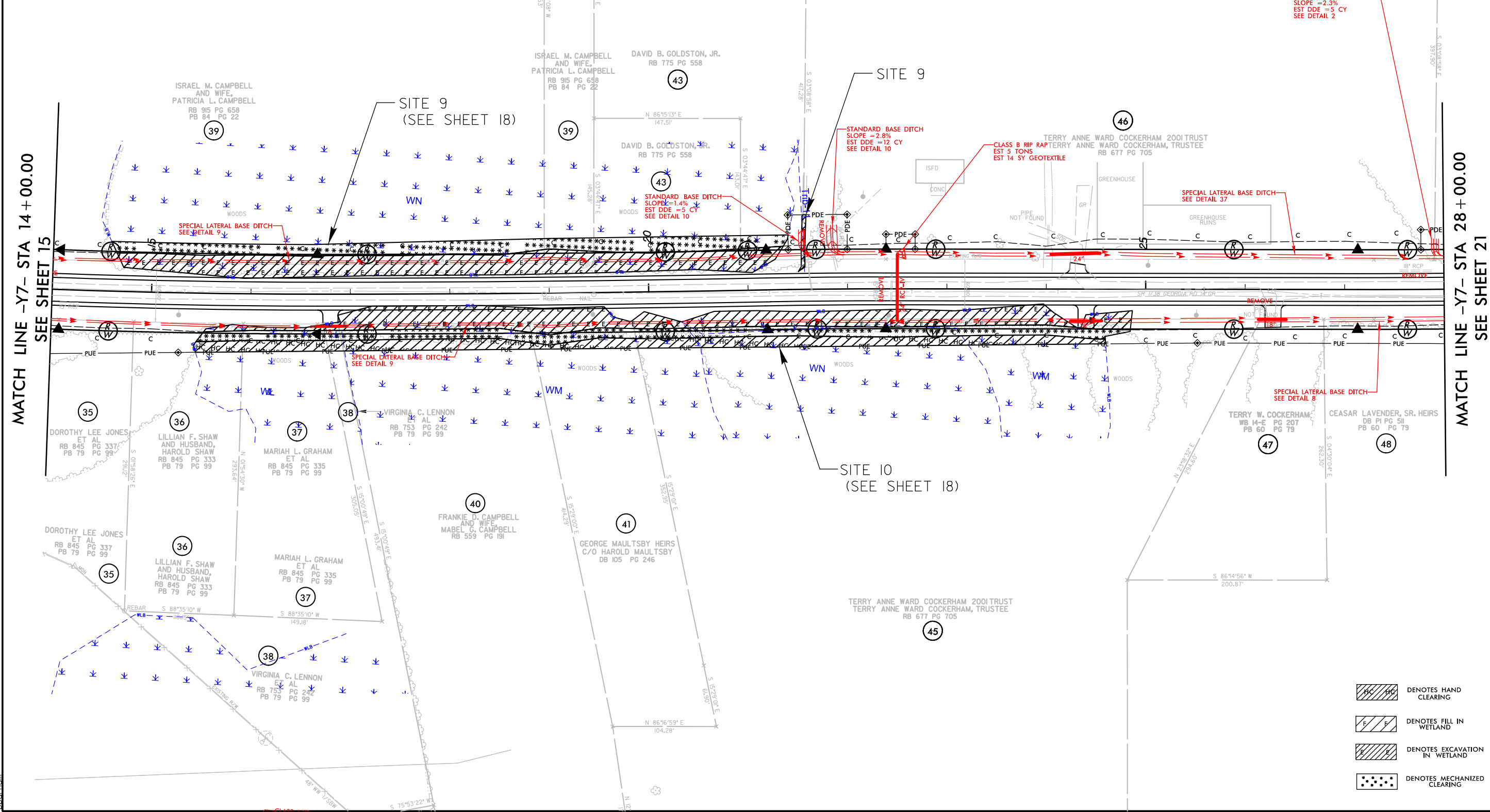
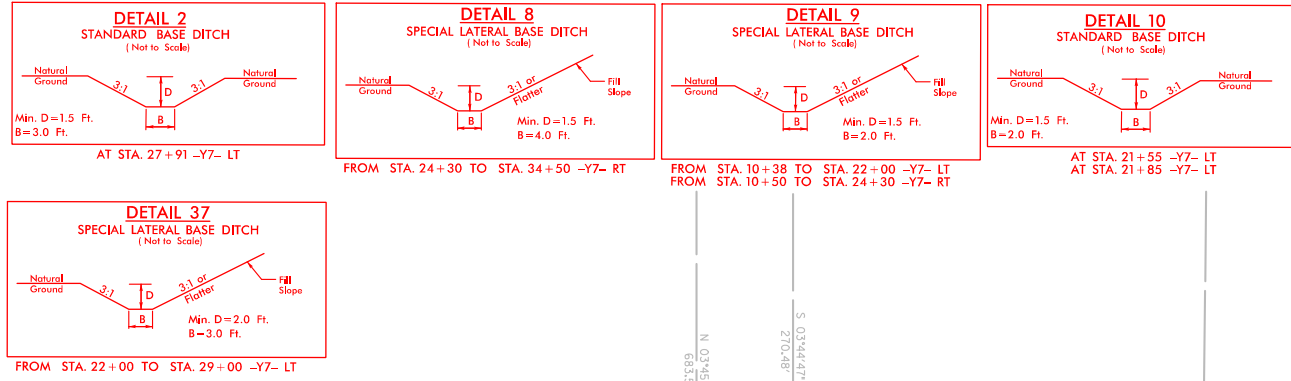
- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING



PERMIT DRAWING SHEET 16 OF 47

NAD 83/NA 2011

PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCH LINE -Y7- STA 14+00.00
SEE SHEET 15

MATCH LINE -Y7- STA 28+00.00
SEE SHEET 21

STANDARD BASE DITCH
SLOPE = 2.3%
EST DDE = 5 CY
SEE DETAIL 2

STANDARD BASE DITCH
SLOPE = 2.8%
EST DDE = 12 CY
SEE DETAIL 10

CLASS B RIP RAP
EST 5 TONS
EST 14 SY GEOTEXTILE

SPECIAL LATERAL BASE DITCH
SEE DETAIL 37

SPECIAL LATERAL BASE DITCH
SEE DETAIL 8

- DENOTES HAND CLEARING
- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING

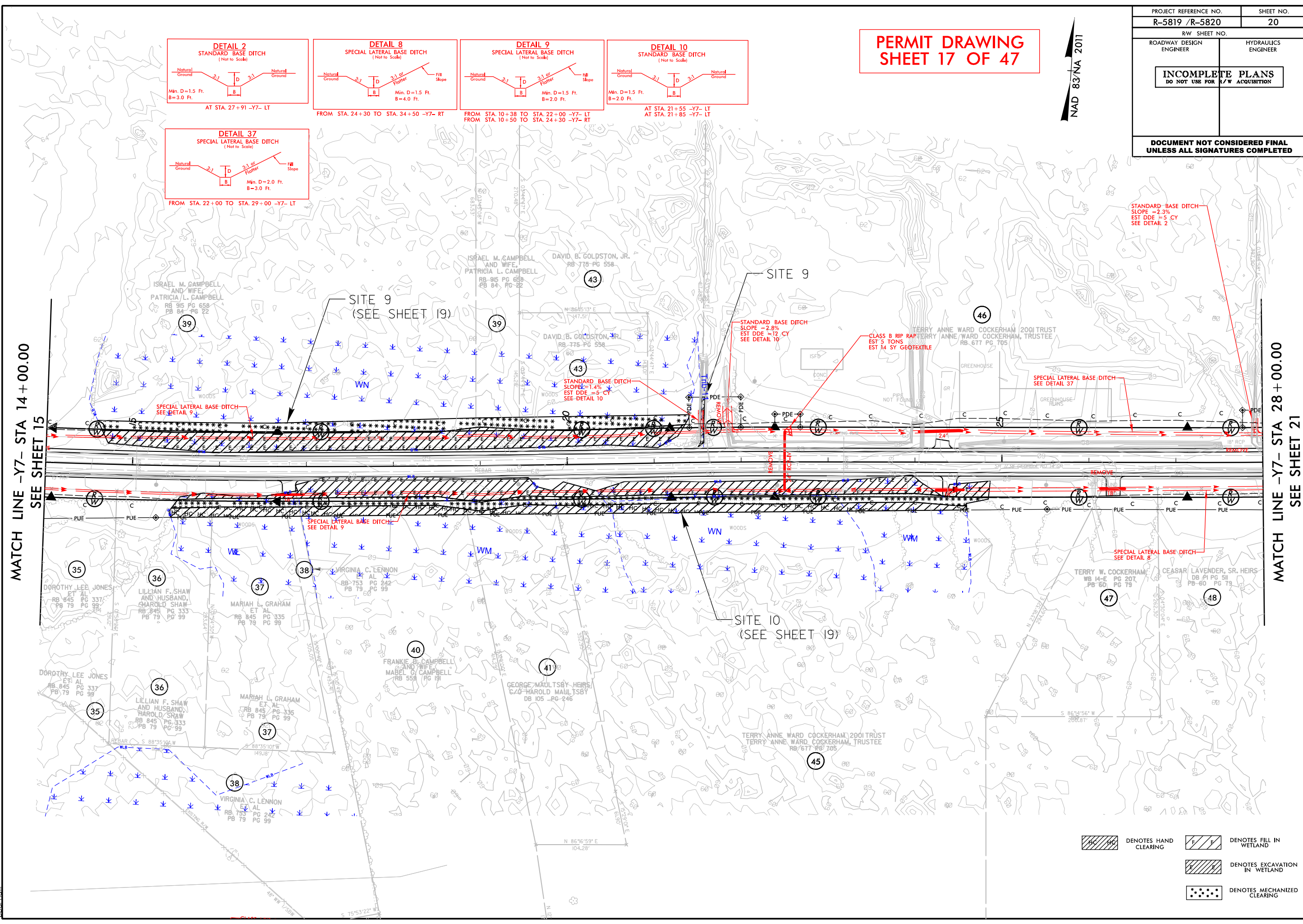
PERMIT DRAWING SHEET 17 OF 47

NAD 83/NA 2011

PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCH LINE -Y7- STA 14+00.00
SEE SHEET 15

MATCH LINE -Y7- STA 28+00.00
SEE SHEET 21

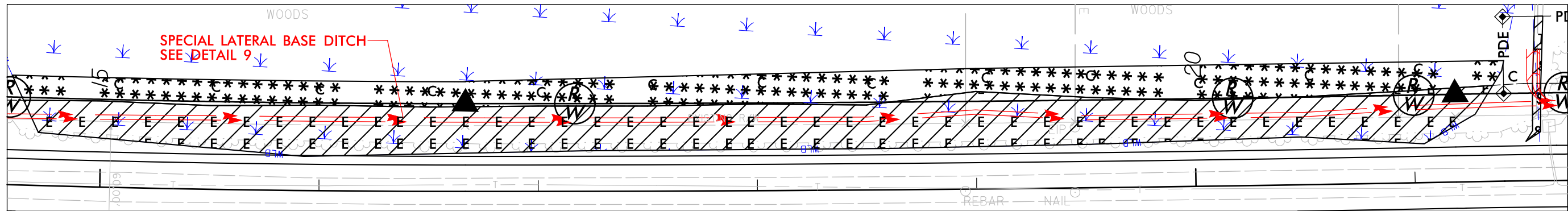


	DENOTES HAND CLEARING		DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND		DENOTES MECHANIZED CLEARING

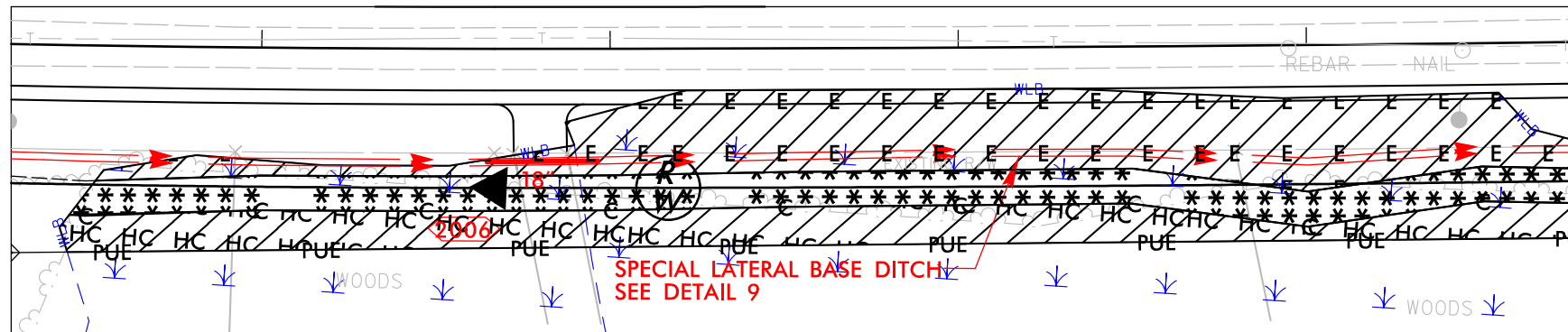
PERMIT DRAWING SHEET 18 OF 47

NAD 83/NA 2011

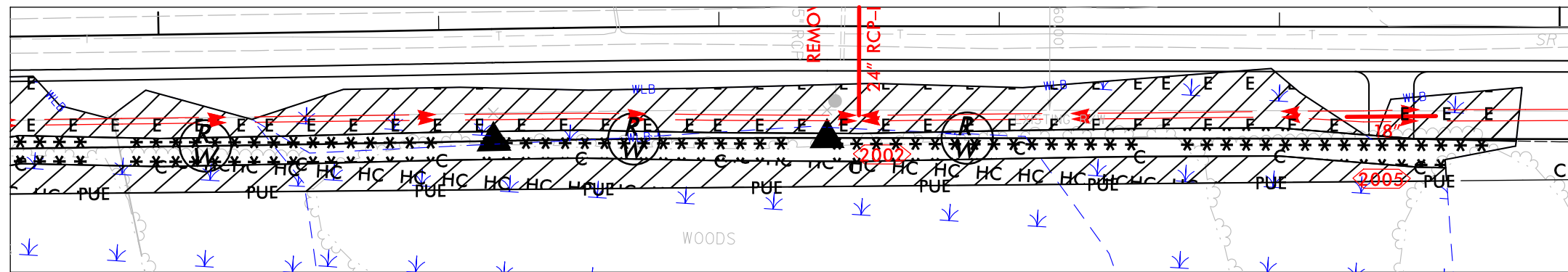
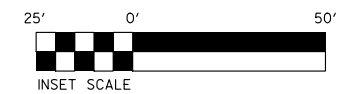
PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO.	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			







SITE 9



SITE 10



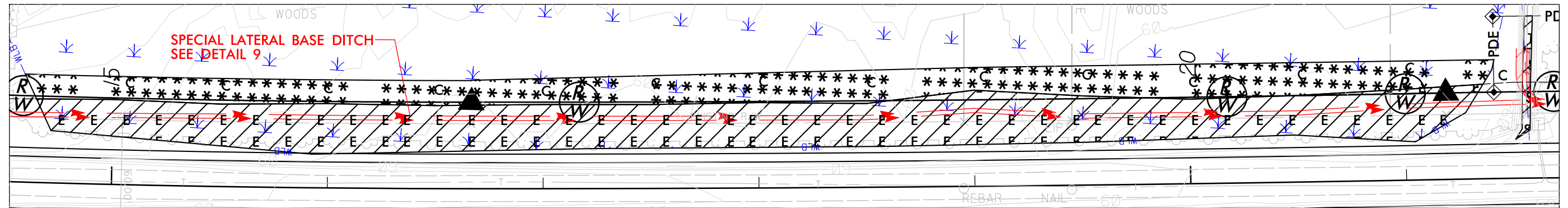
SITE 10 CONT.

-  DENOTES HAND CLEARING
-  DENOTES FILL IN WETLAND
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES MECHANIZED CLEARING

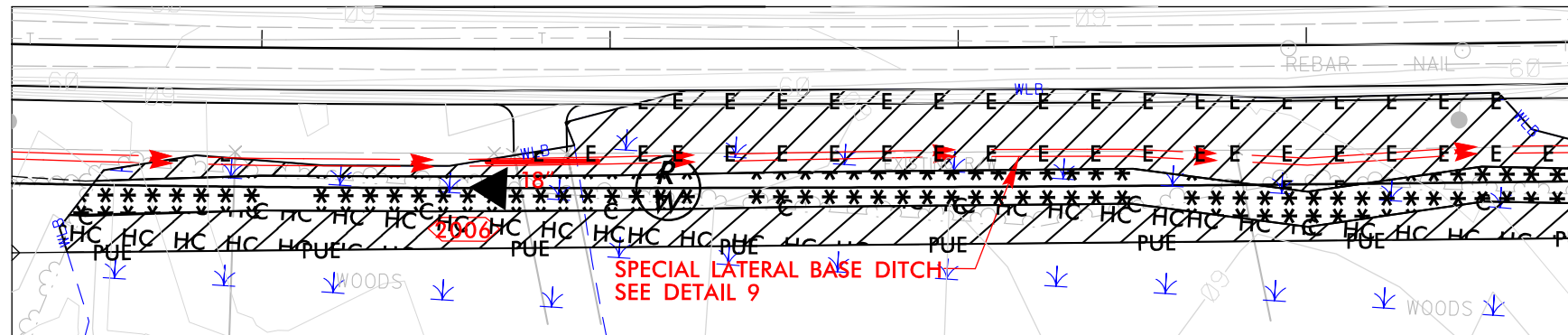
PERMIT DRAWING SHEET 19 OF 47

NAD 83/NA 2011

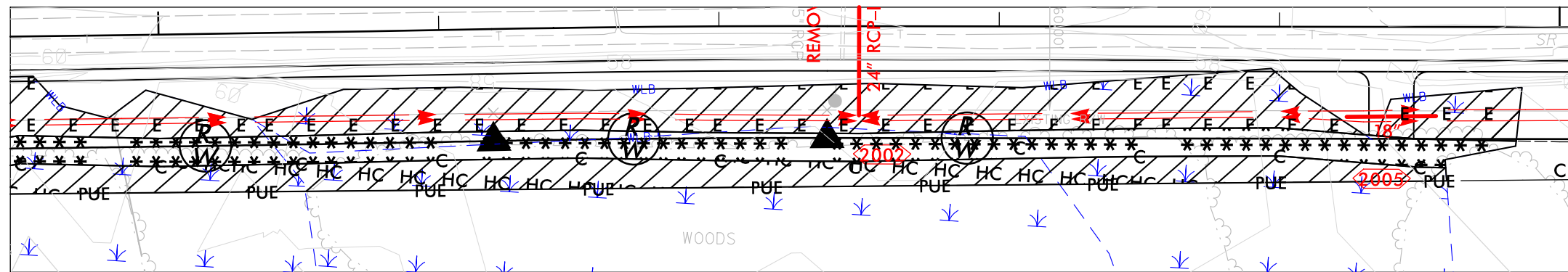
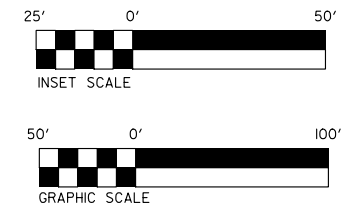
PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO.	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			







SITE 9



SITE 10



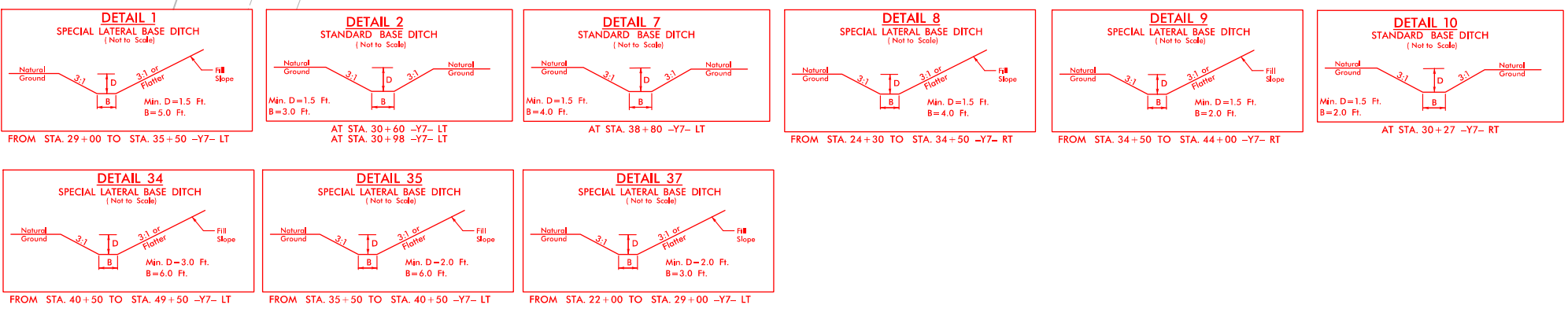
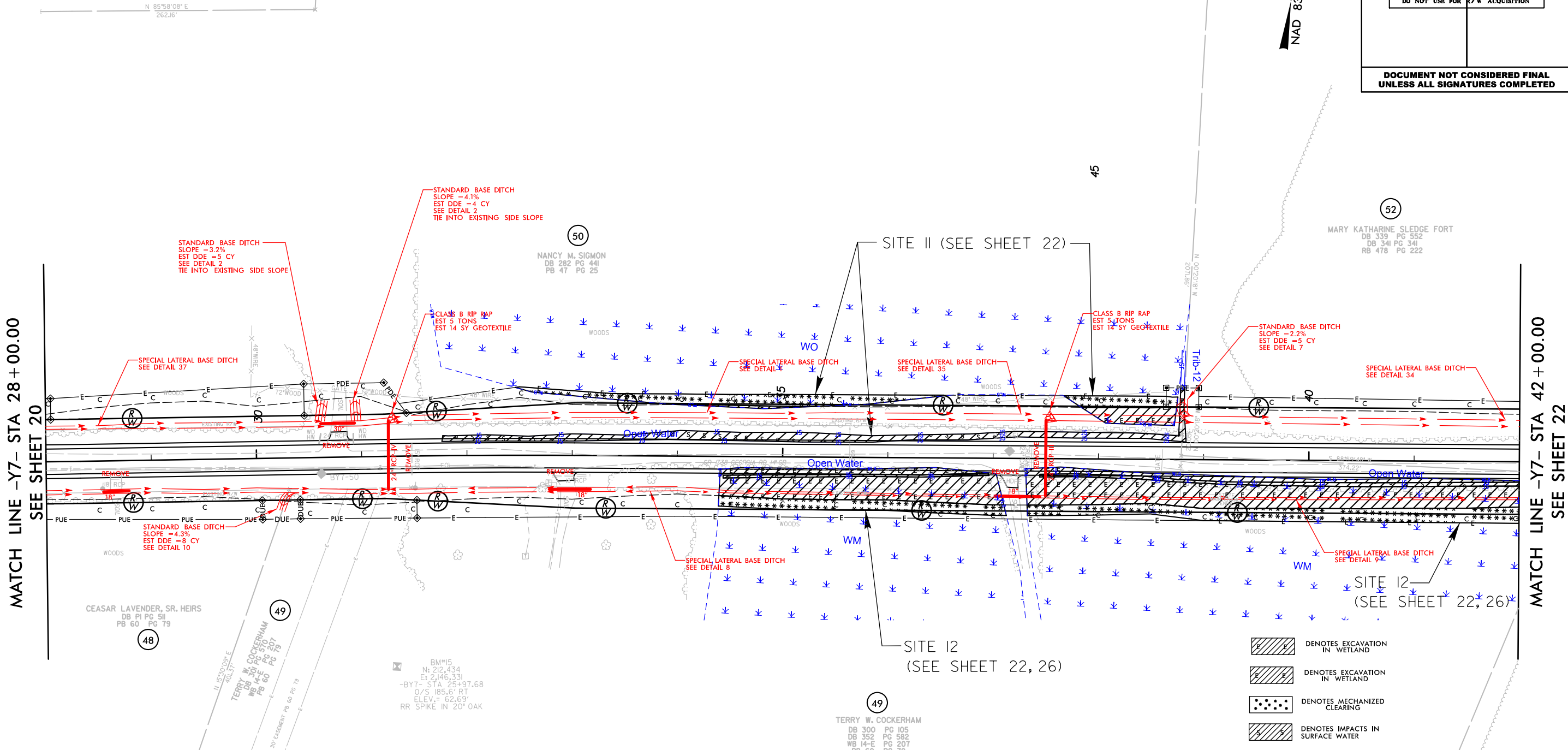
SITE 10 CONT.

-  DENOTES HAND CLEARING
-  DENOTES FILL IN WETLAND
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES MECHANIZED CLEARING

8/17/99

PERMIT DRAWING SHEET 20 OF 47

PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO. 21	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



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8/17/99

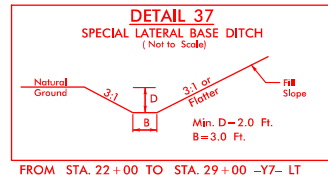
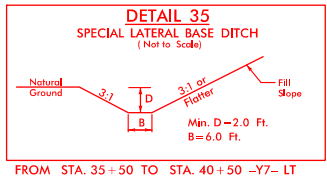
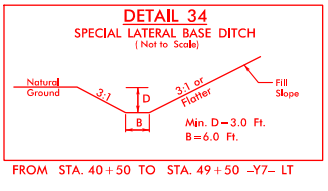
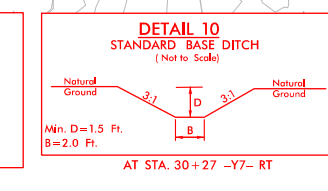
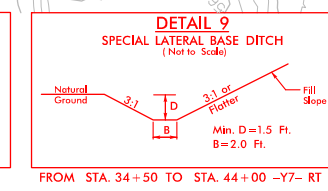
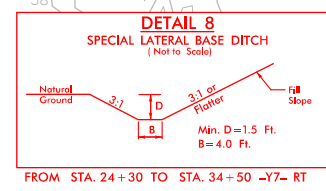
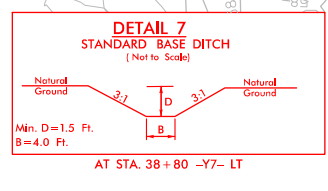
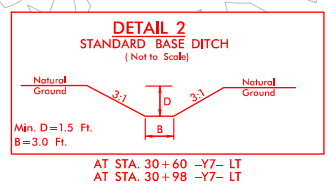
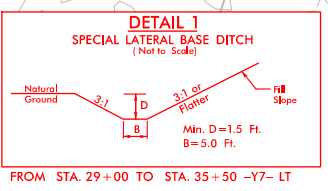
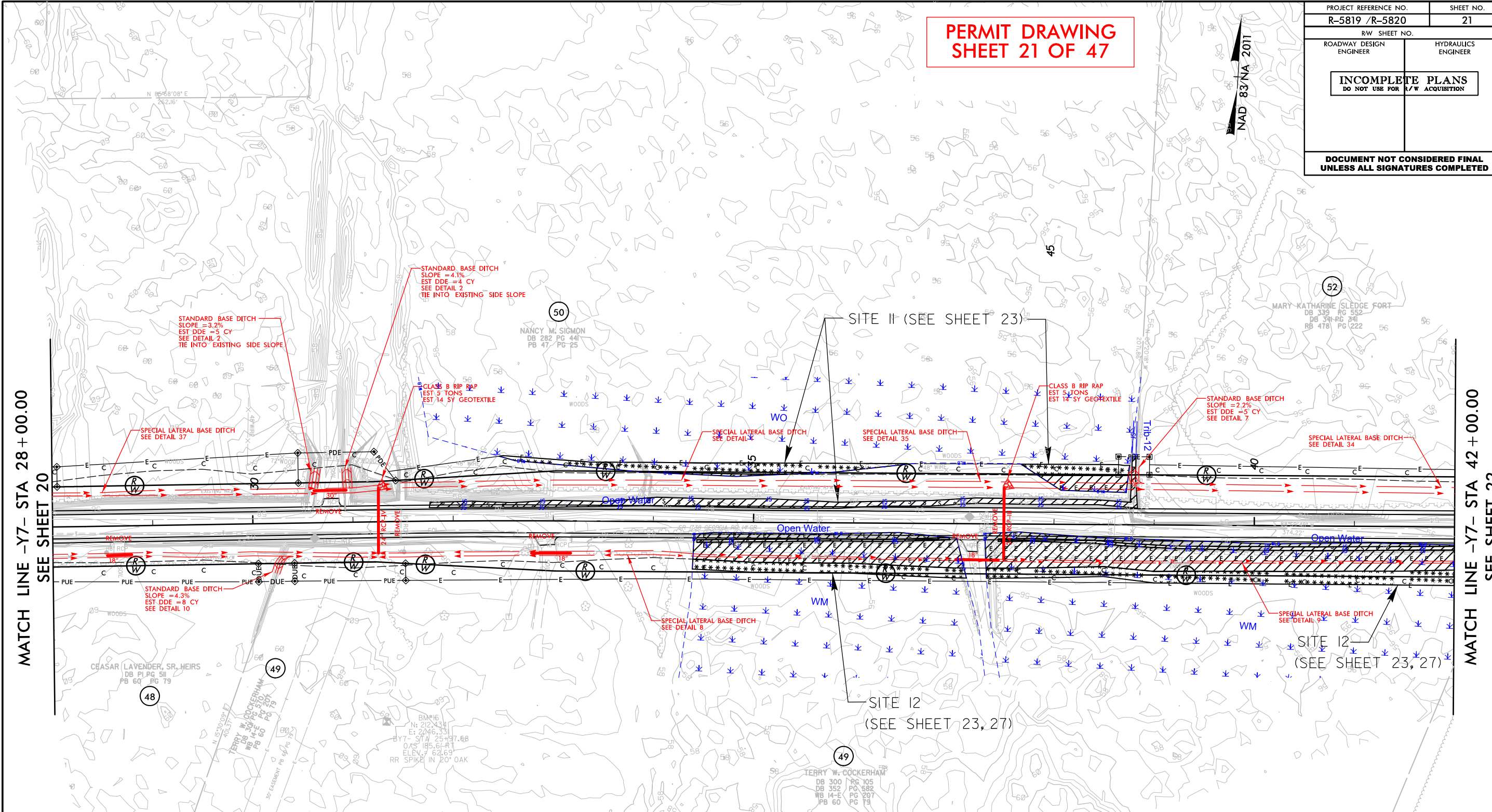
PERMIT DRAWING SHEET 21 OF 47

PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO. 21	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

NAD 83/NA 2011

MATCH LINE -Y7- STA 28+00.00
SEE SHEET 20

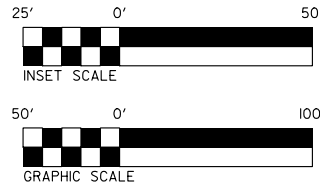
MATCH LINE -Y7- STA 42+00.00
SEE SHEET 22



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

FOR -Y7- PROFILE, SEE SHEET 36

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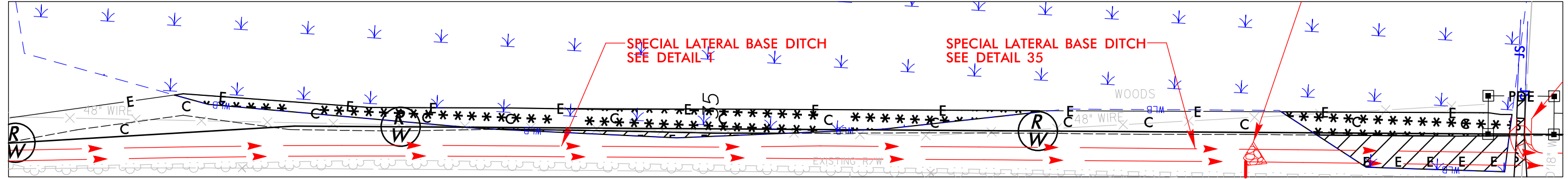


- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

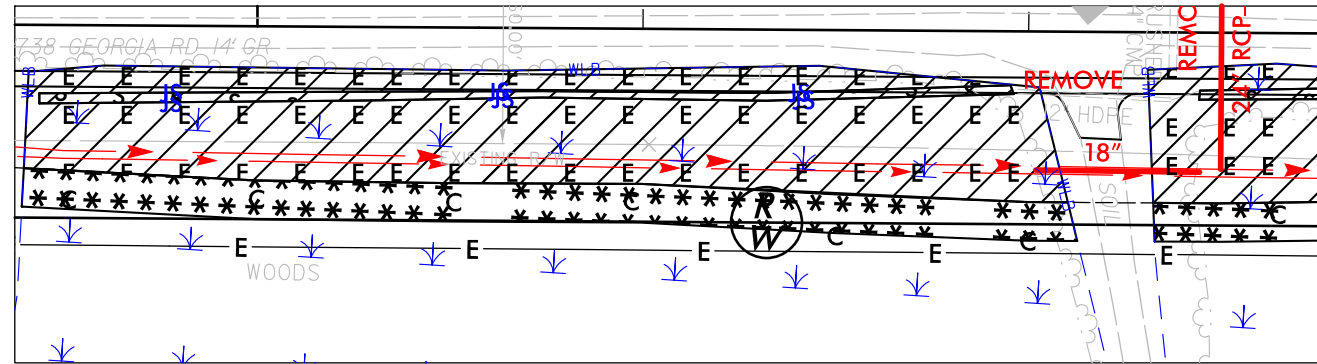
**PERMIT DRAWING
SHEET 22 OF 47**

NAD 83/NA 2011

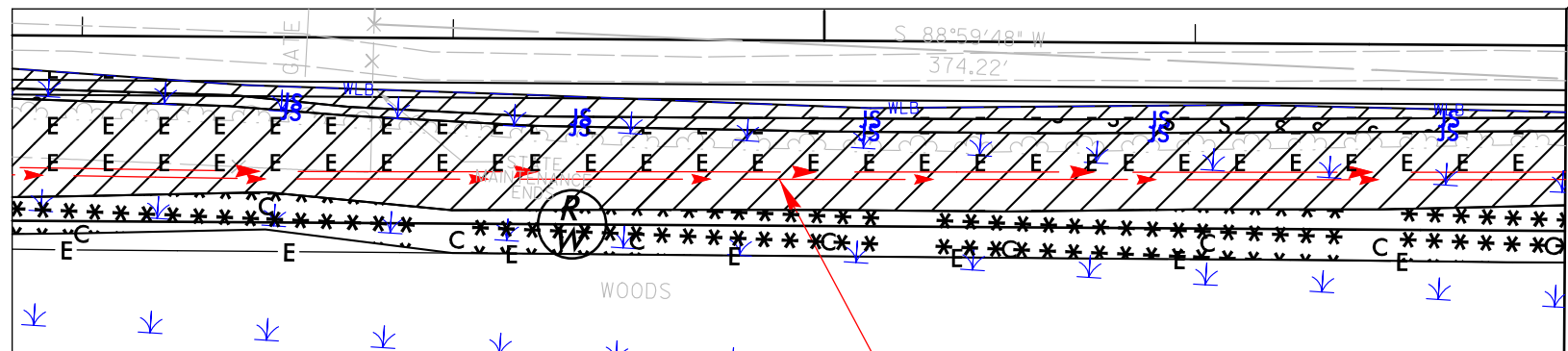
PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SITE II

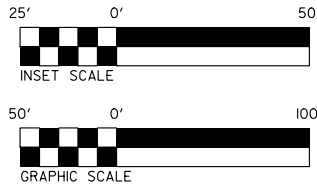


SITE 12



SITE 12 CONT.

SHEET 22 MATCHLINE
SITE 12 BLOW UP CONTINUES
ON SHEET 26

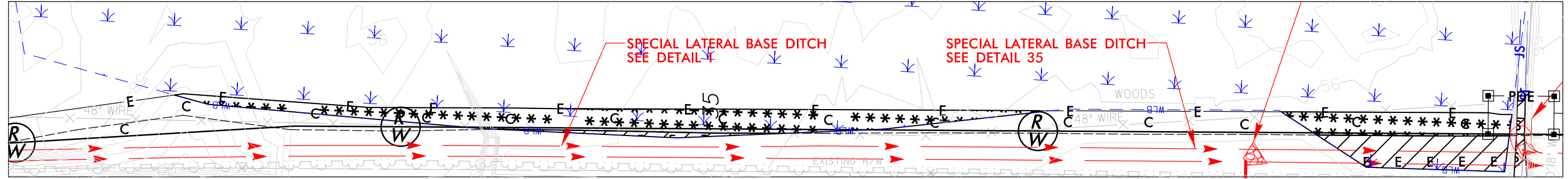


- DENOTES EXCAVATION IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

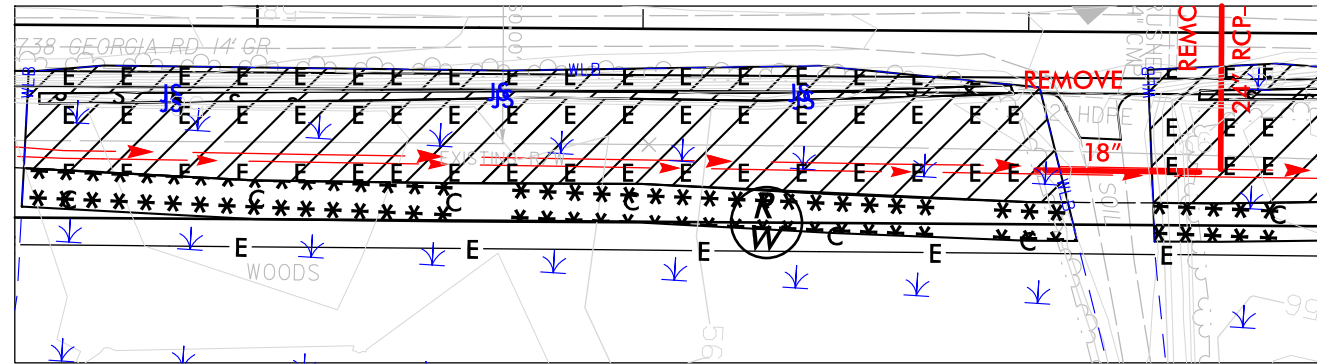
**PERMIT DRAWING
SHEET 23 OF 47**

NAD 83/NA 2011

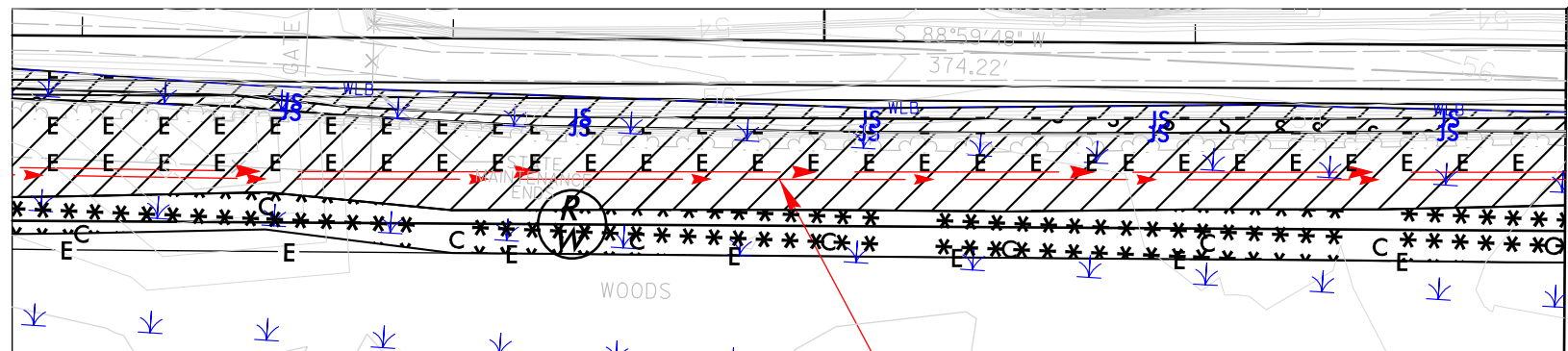
PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SITE II



SITE 12



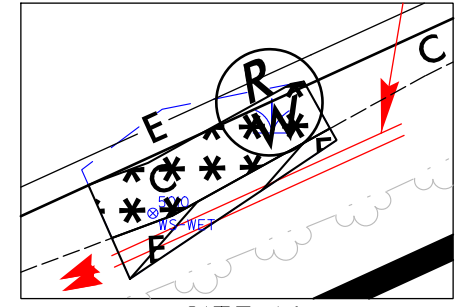
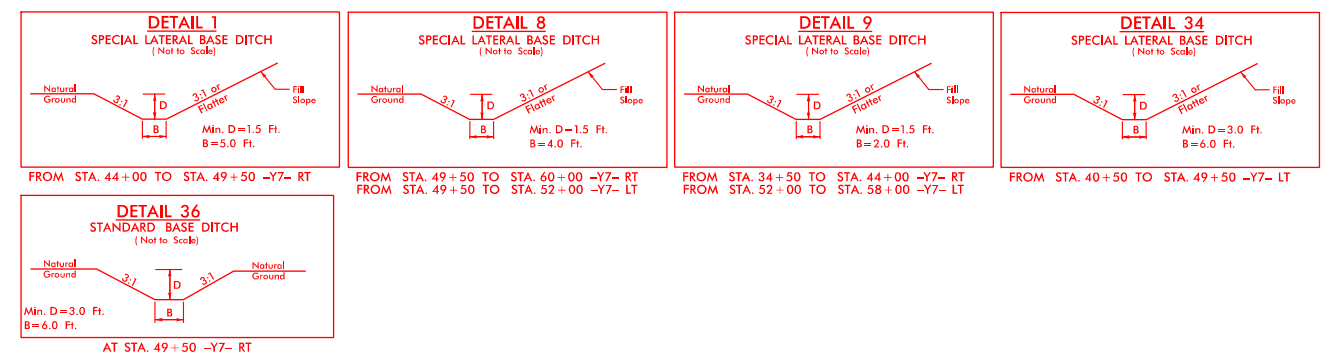
SITE 12 CONT.

SHEET 23 MATCHLINE
SITE 12 BLOW UP CONTINUES
ON SHEET 27

8/17/99

PERMIT DRAWING SHEET 24 OF 47

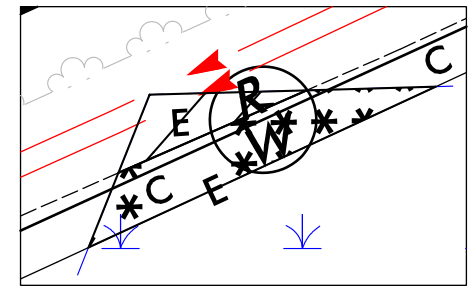
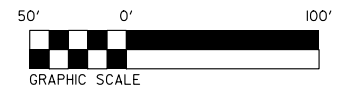
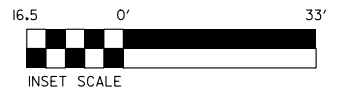
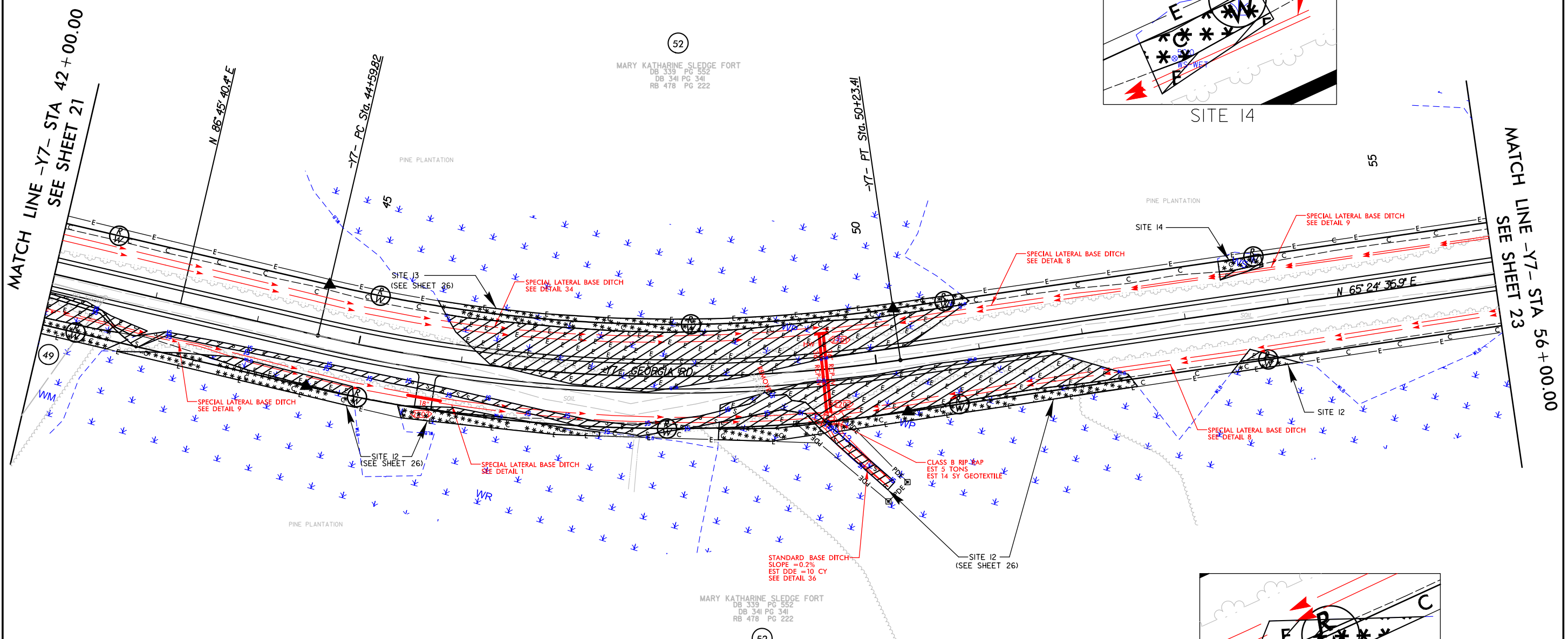
PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SITE 14

MATCH LINE -Y7- STA 42+00.00
SEE SHEET 21

MATCH LINE -Y7- STA 56+00.00
SEE SHEET 23



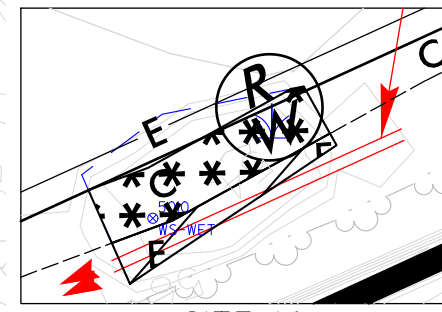
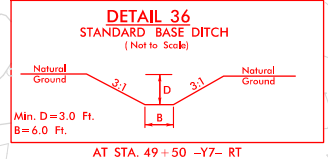
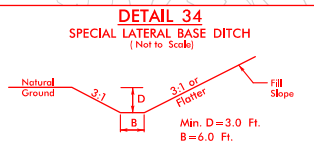
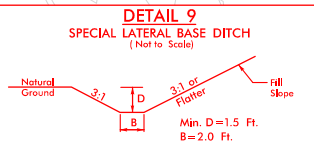
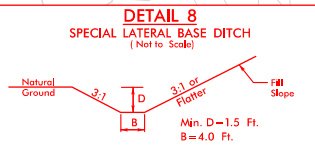
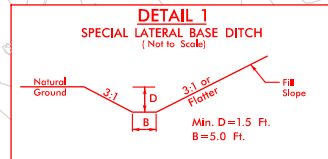
SITE 12

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8/17/99

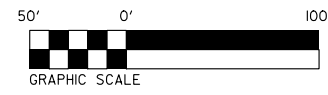
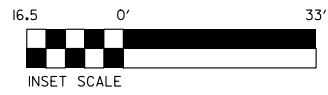
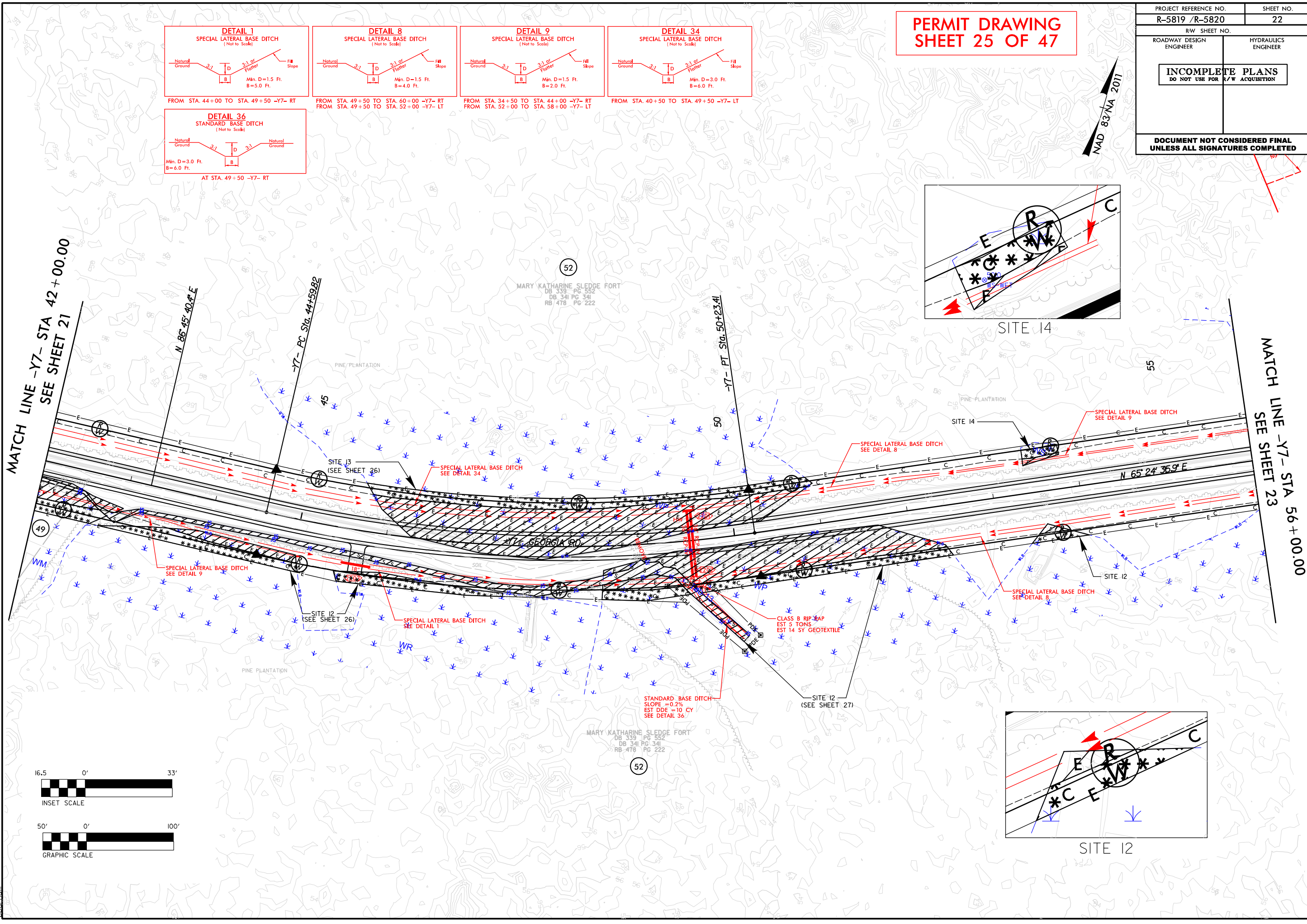
PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 25 OF 47



MATCH LINE -Y7- STA 42+00.00
SEE SHEET 21

MATCH LINE -Y7- STA 56+00.00
SEE SHEET 23



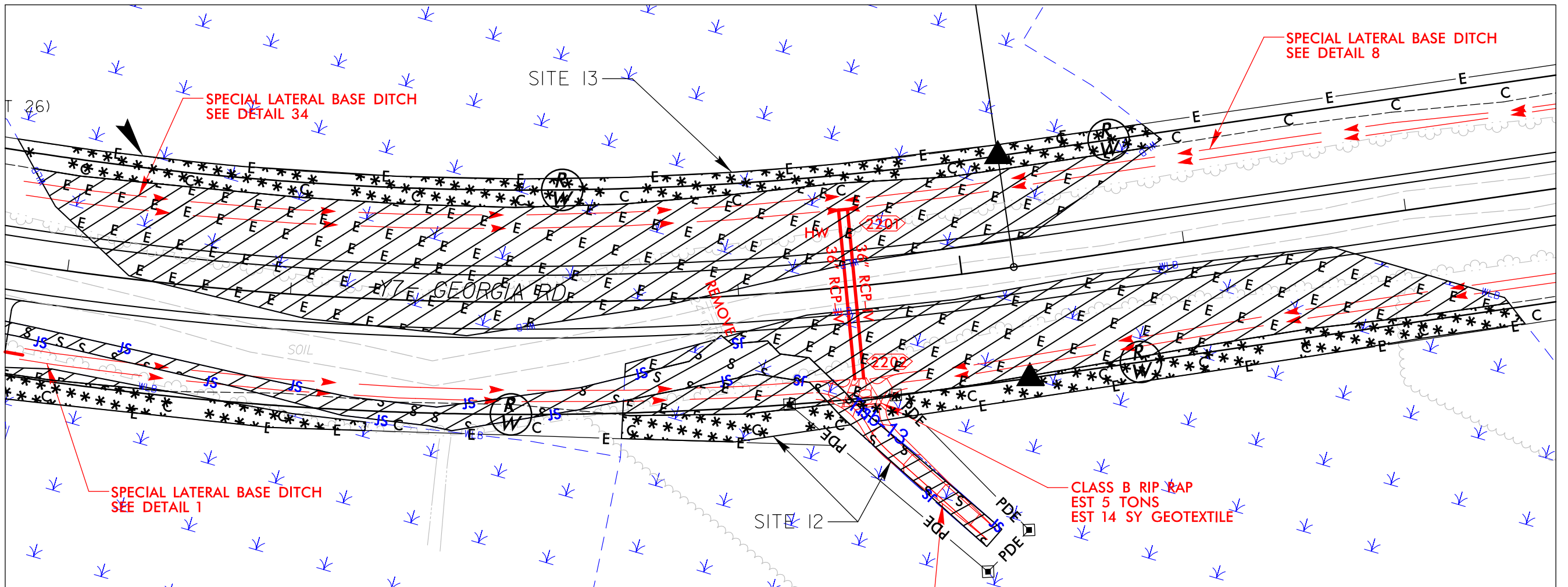
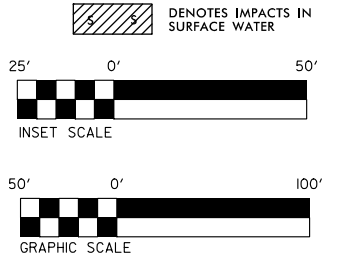
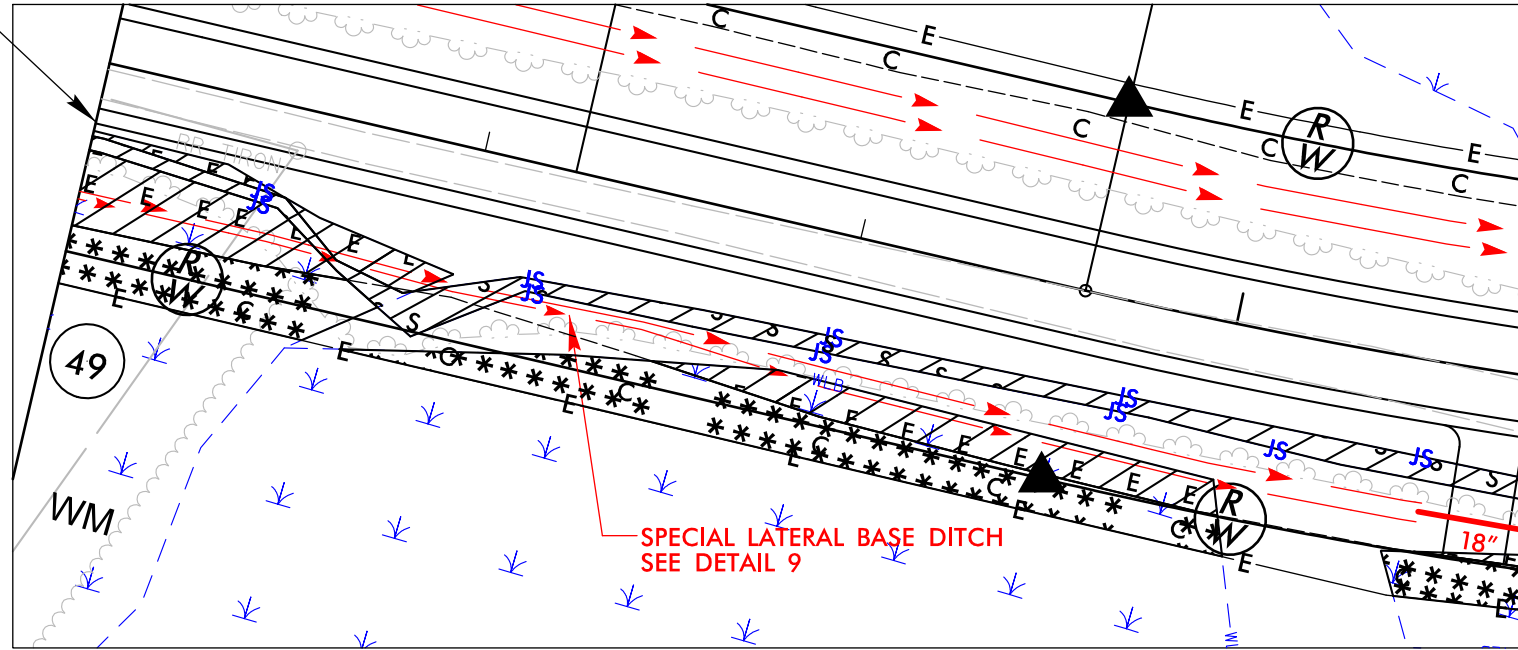
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 8/17/99

**PERMIT DRAWING
SHEET 26 OF 47**

PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PSH 21MATCH LINE

SITE 12 CONT.



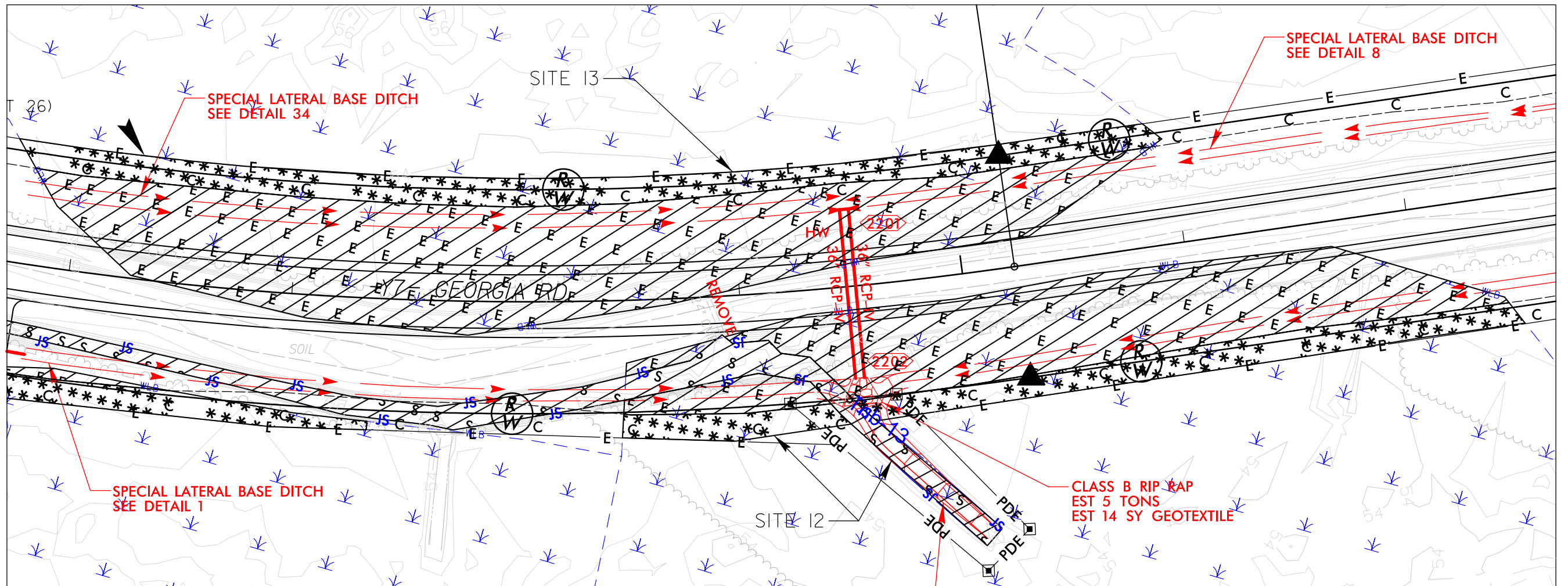
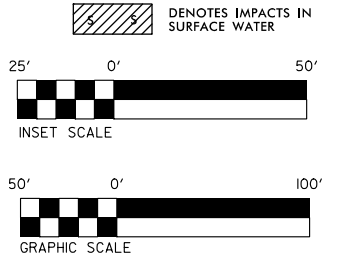
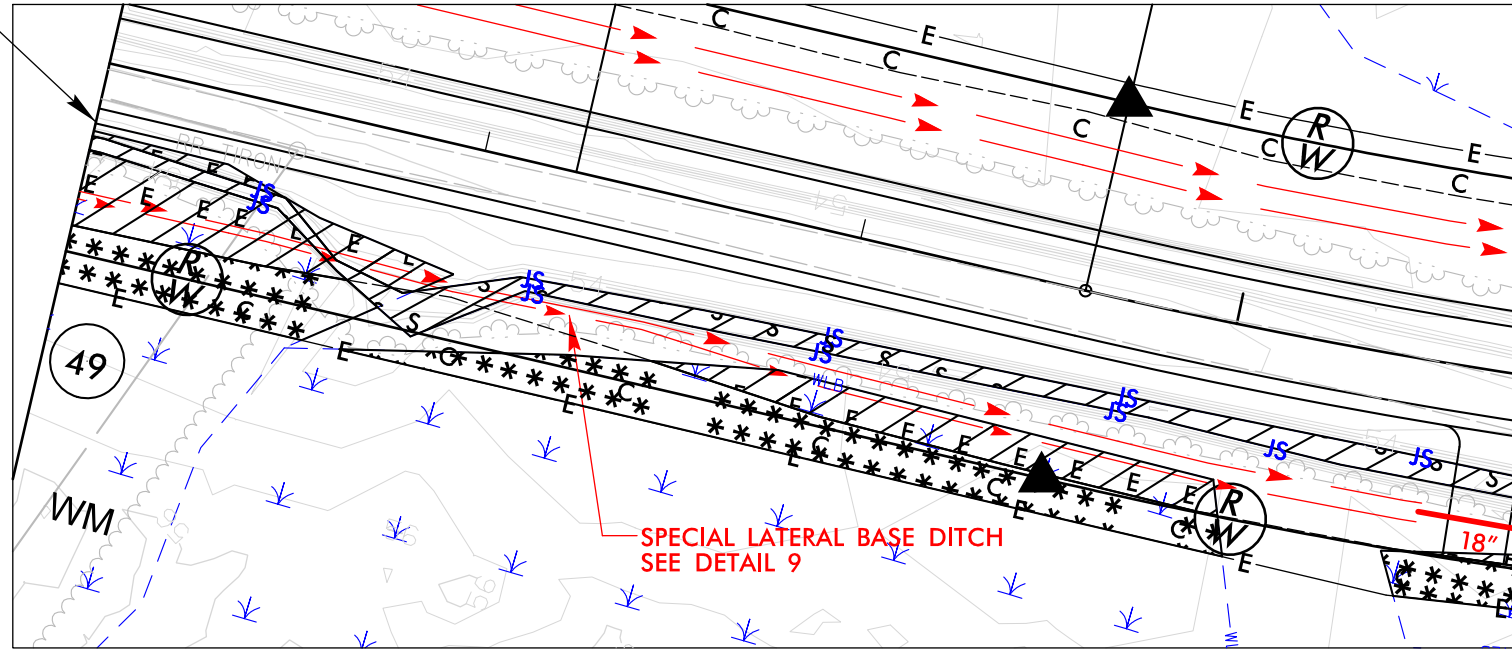
SITE 11 CONT. AND SITE 13

**PERMIT DRAWING
SHEET 27 OF 47**

PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	





PSH 22 MATCH LINE

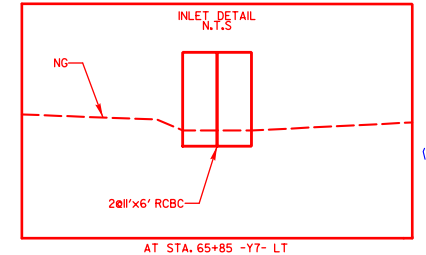
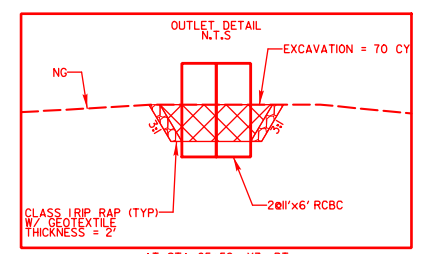
SITE 12 CONT.



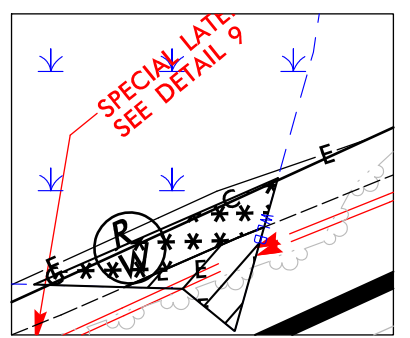
SITE 12 CONT. AND SITE 13

PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

-  DENOTES FILL IN WETLAND
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES MECHANIZED CLEARING
-  DENOTES HAND CLEARING



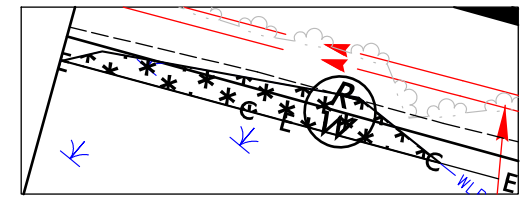
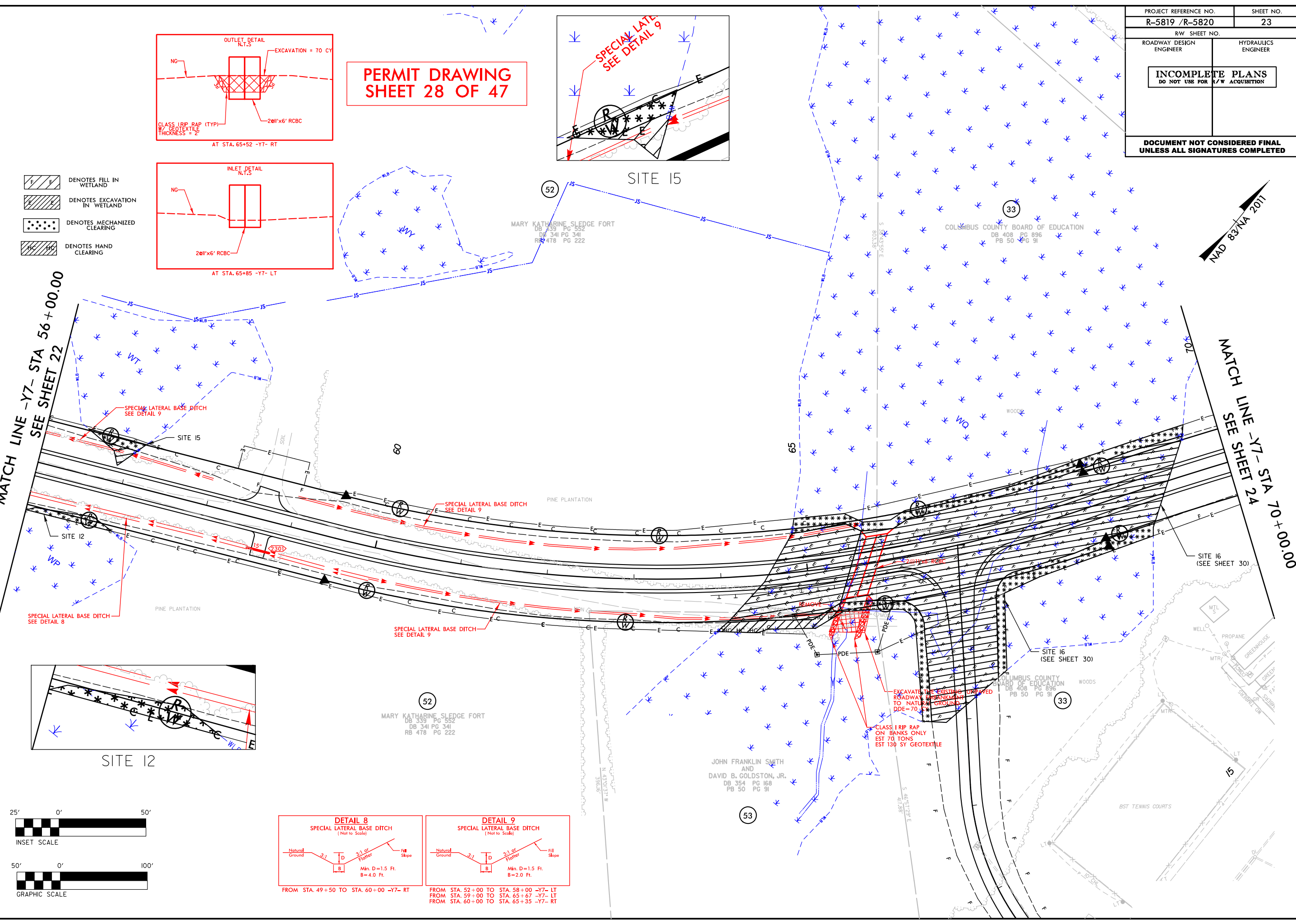
PERMIT DRAWING
SHEET 28 OF 47



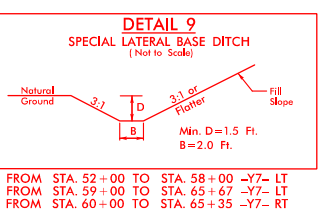
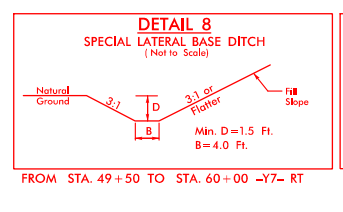
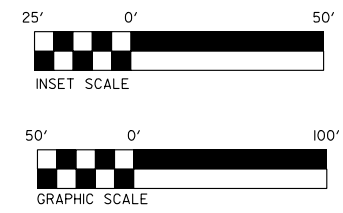
MATCH LINE -Y7- STA 56+00.00
SEE SHEET 22

MATCH LINE -Y7- STA 70+00.00
SEE SHEET 24





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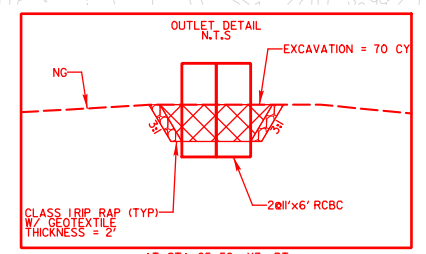


SITE 12

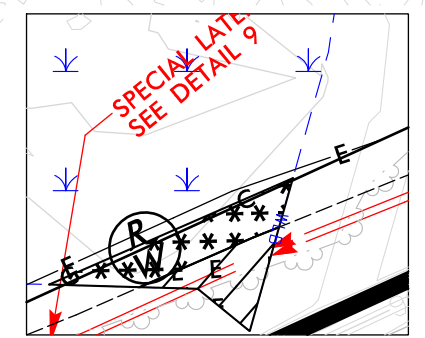
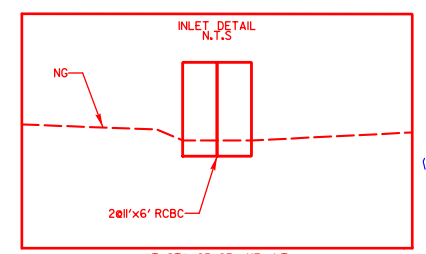


PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

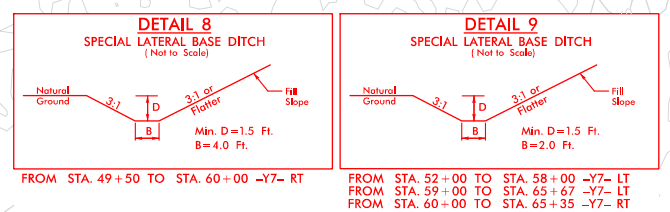
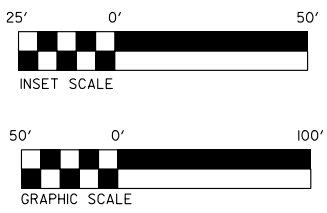
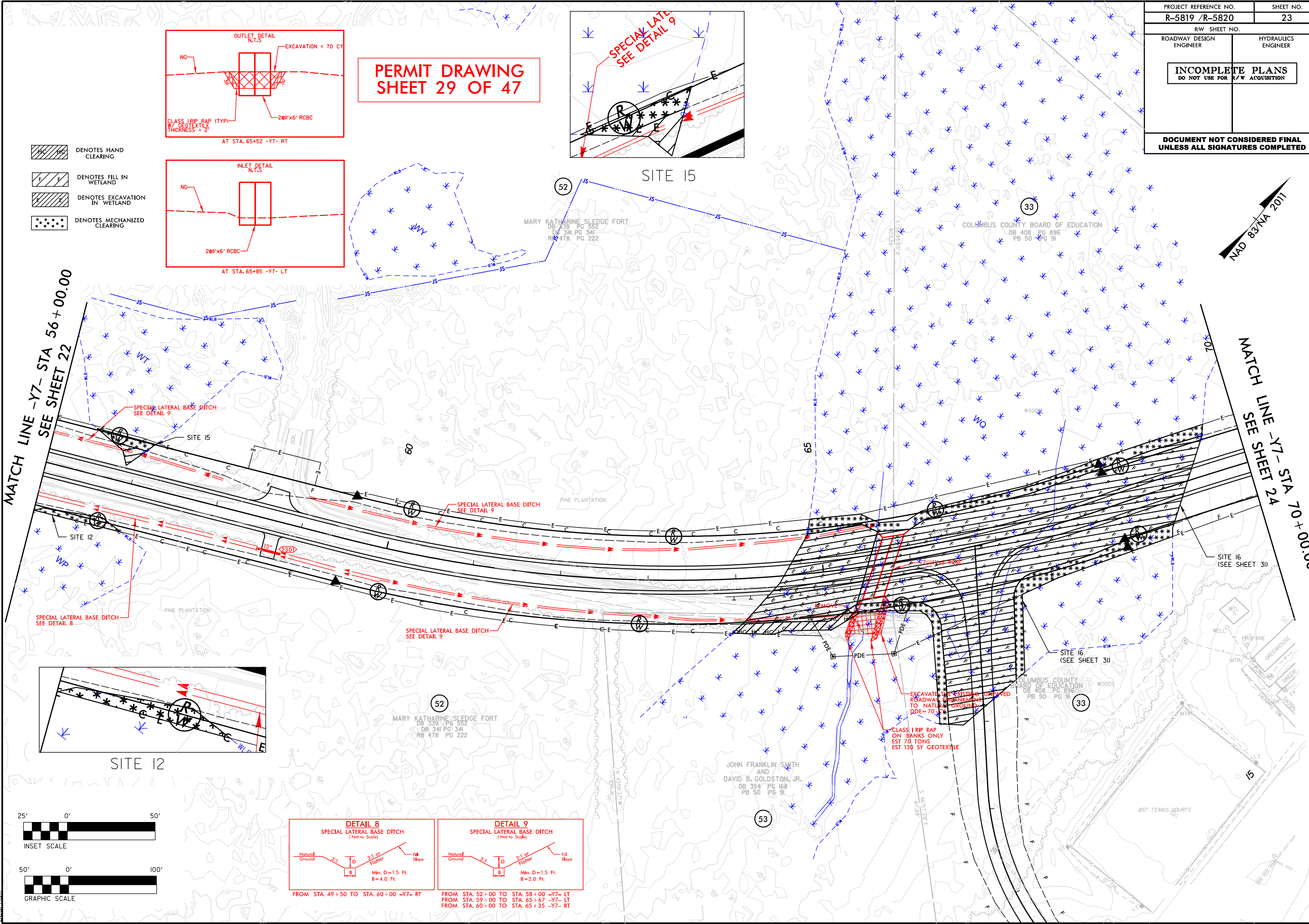
-  DENOTES HAND CLEARING
-  DENOTES FILL IN WETLAND
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES MECHANIZED CLEARING



PERMIT DRAWING SHEET 29 OF 47



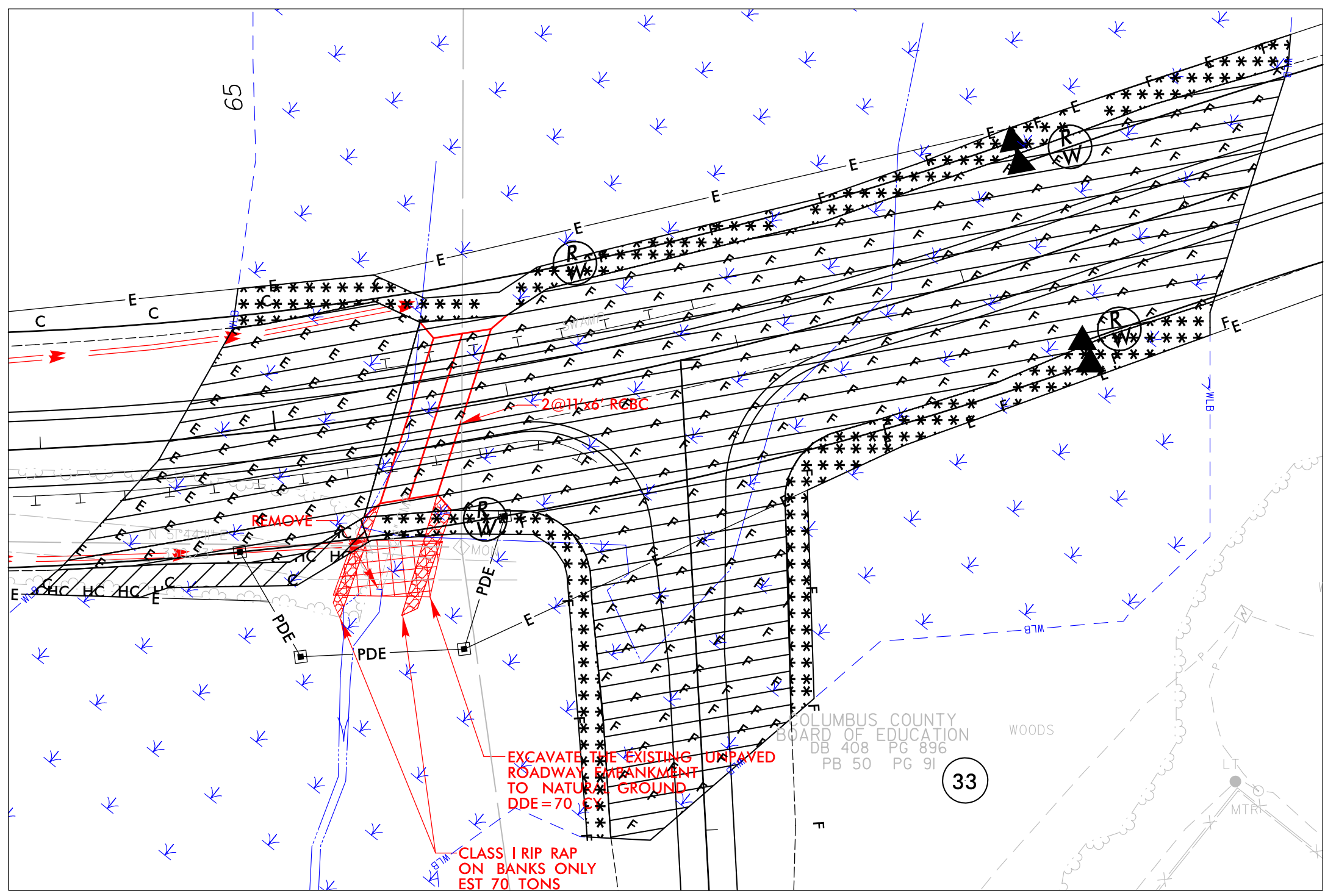
8/17/99
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NAD 83/NA 2011





**PERMIT DRAWING
SHEET 30 OF 47**

PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO.	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



SITE 16

NAD 83/NA 2011

-  DENOTES HAND CLEARING
-  DENOTES FILL IN WETLAND
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES MECHANIZED CLEARING

25' 0' 50'
INSET SCALE

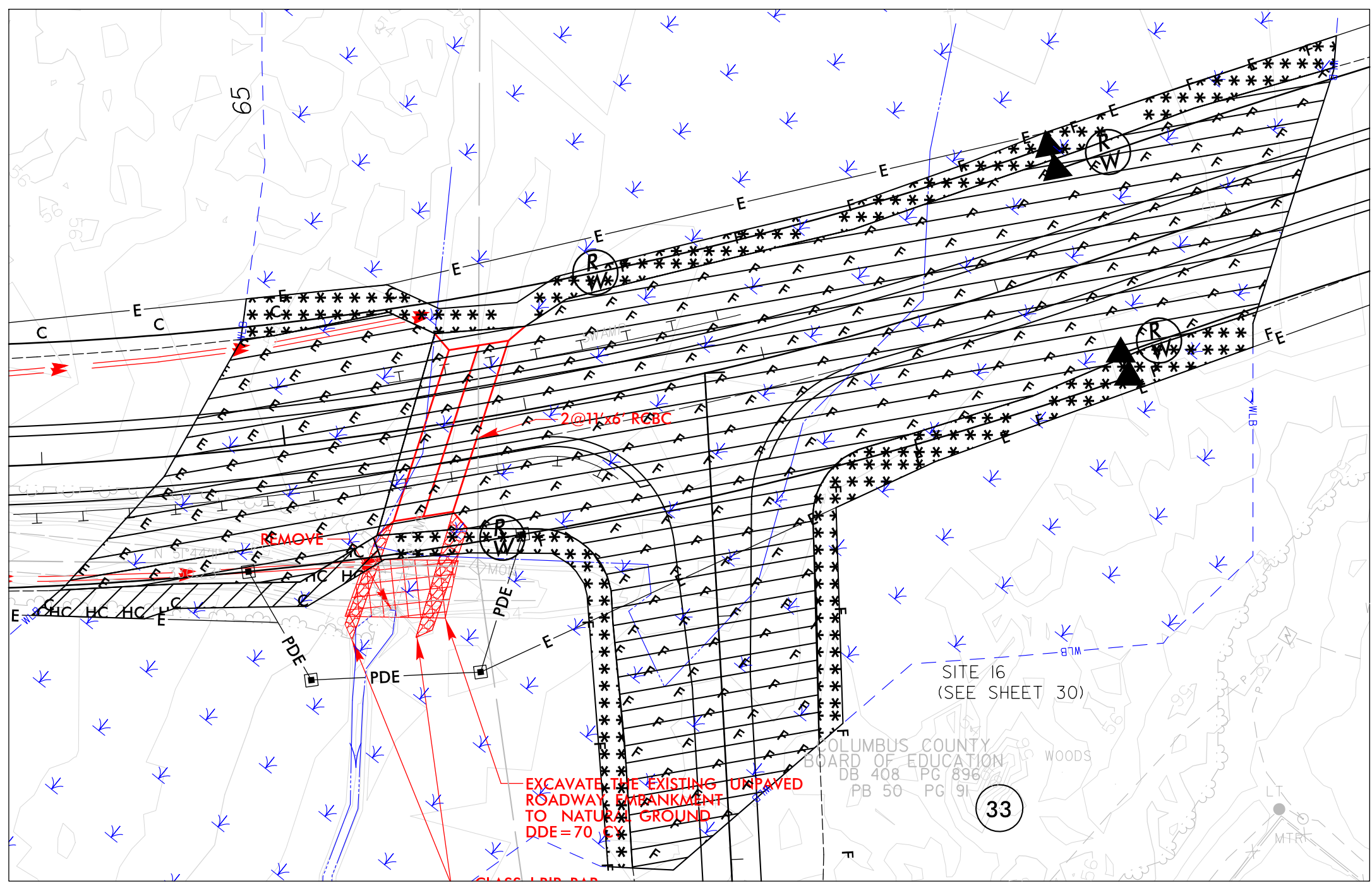
50' 0' 100'
GRAPHIC SCALE

COLUMBUS COUNTY
BOARD OF EDUCATION
DB 408 PG 896
PB 50 PG 91

33

**PERMIT DRAWING
SHEET 31 OF 47**

PROJECT REFERENCE NO. R-5819 /R-5820		SHEET NO.	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



SITE 16

NAD 83/NA 2011

- DENOTES HAND CLEARING
- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING

25' 0' 50'
INSET SCALE

50' 0' 100'
GRAPHIC SCALE

PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 23A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

150' 100' 50' 0 50' 100' 150' 200'

CL STA 65+70.00 -Y7-
2@11'x6' RCBC (BURIED 1.0')
W/ 6" BEVELED HW
GP = 6.33
SKEW = 117°

**PERMIT DRAWING
SHEET 31A OF 47**

70

60

50

NOTE: NO FLOW OR WATER IN
CHANNEL AT DATE OF SURVEY
6/5/2019

TOP OF EXISTING UNPAVED
ROADWAY EMBANKMENT

TB II
TB RT

EXISTING BED

3.37:1 (3:1 NORMAL)
3.27:1 (3:1 NORMAL)

SLOPE = 0.02%
ELEV. = 51.73'

PROPOSED 100 YR
WSEL=58.1'
PROPOSED 25 YR
WSEL=57.0'

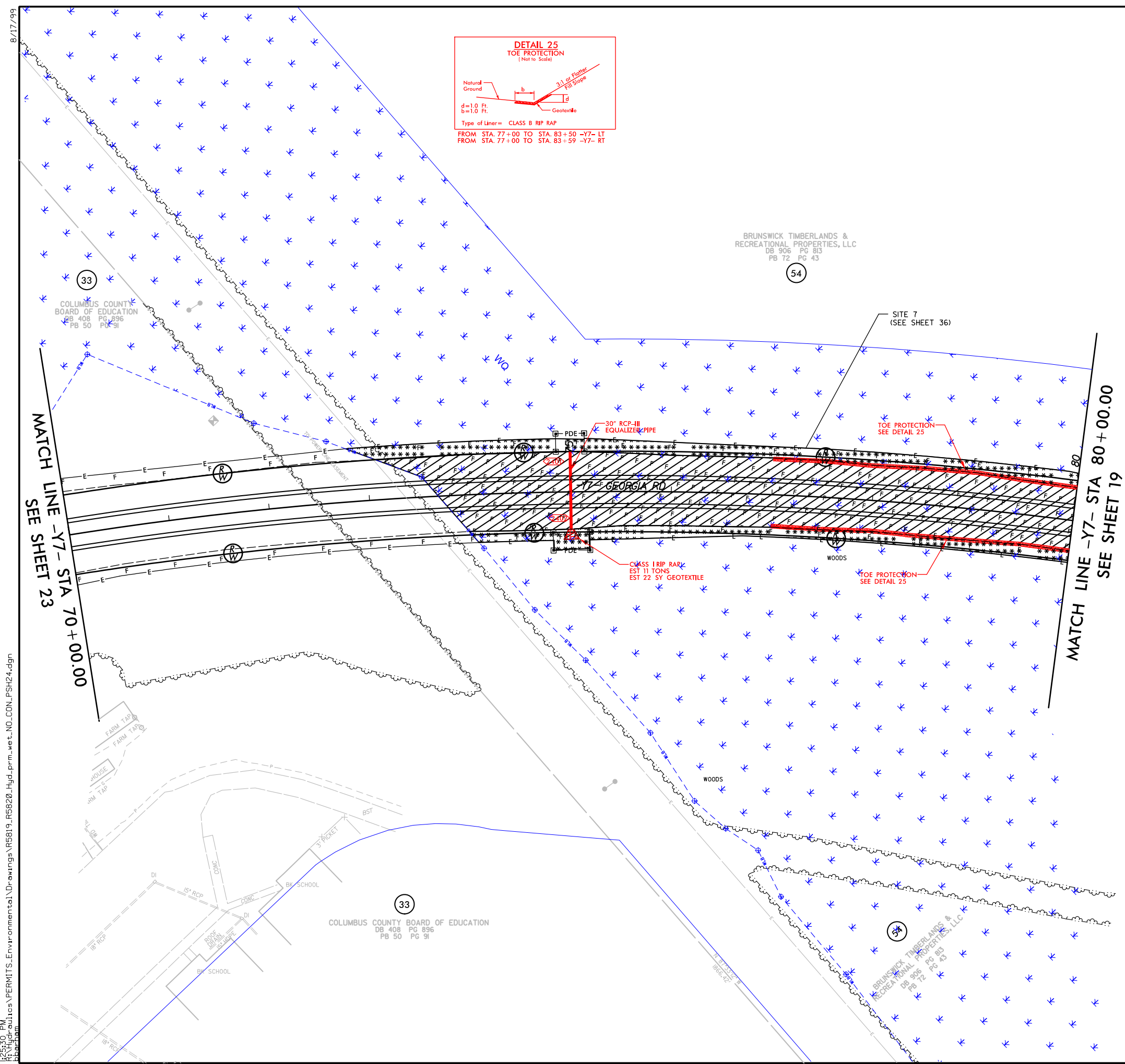
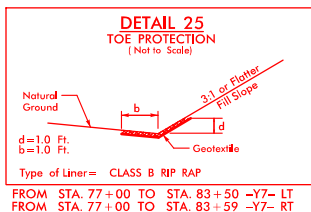
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PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 24
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



PERMIT DRAWING
SHEET 32 OF 47



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MATCH LINE -Y7- STA 70+00.00
SEE SHEET 23

MATCH LINE -Y7- STA 80+00.00
SEE SHEET 19

33
COLUMBUS COUNTY BOARD OF EDUCATION
DB 408 PG 896
PB 50 PG 91

BRUNSWICK TIMBERLANDS & RECREATIONAL PROPERTIES, LLC
DB 906 PG 813
PB 72 PG 43

54
SITE 7
(SEE SHEET 36)

33
COLUMBUS COUNTY BOARD OF EDUCATION
DB 408 PG 896
PB 50 PG 91

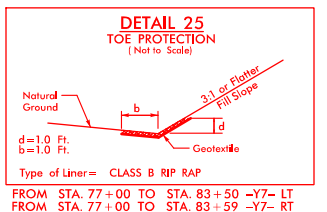
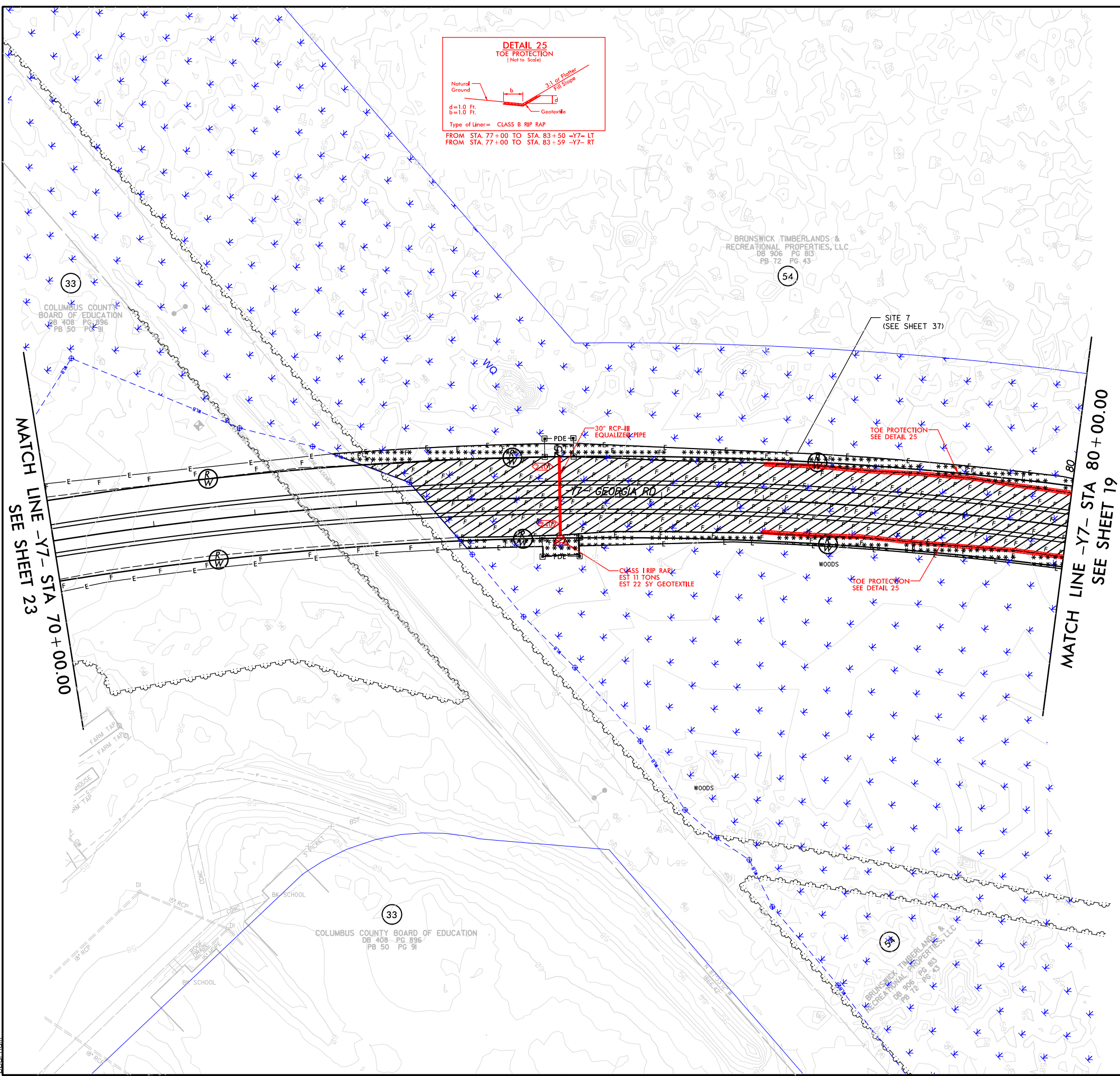
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BRUNSWICK TIMBERLANDS & RECREATIONAL PROPERTIES, LLC
DB 906 PG 813
PB 72 PG 43

PROJECT REFERENCE NO. R-5819 /R-5820	SHEET NO. 24
RW SHEET NO.	
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 33 OF 47

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abachan



MATCH LINE -Y7- STA 70+00.00
SEE SHEET 23

MATCH LINE -Y7- STA 80+00.00
SEE SHEET 19

33
COLUMBUS COUNTY BOARD OF EDUCATION
DB 408 PG 896
PB 50 PG 91

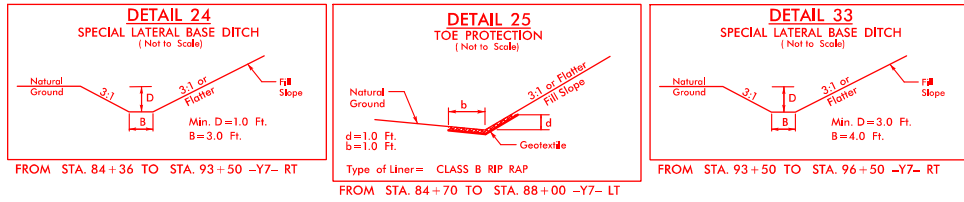
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BRUNSWICK TIMBERLANDS & RECREATIONAL PROPERTIES, LLC
DB 906 PG 813
PB 72 PG 43

33
COLUMBUS COUNTY BOARD OF EDUCATION
DB 408 PG 896
PB 50 PG 91

54
BRUNSWICK TIMBERLANDS & RECREATIONAL PROPERTIES, LLC
DB 906 PG 813
PB 72 PG 43

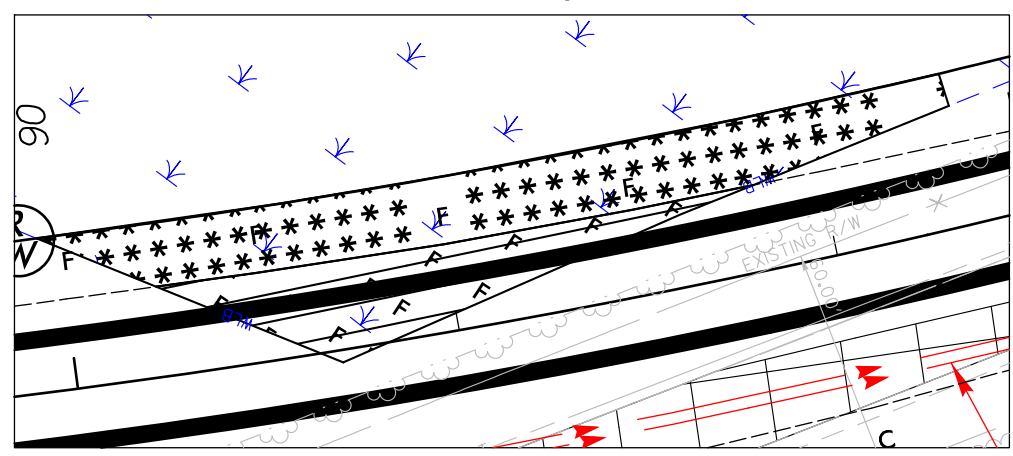
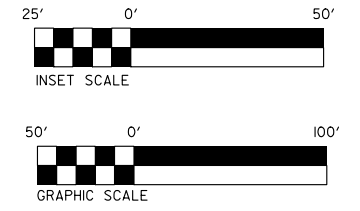
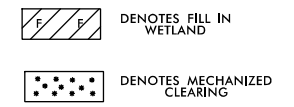
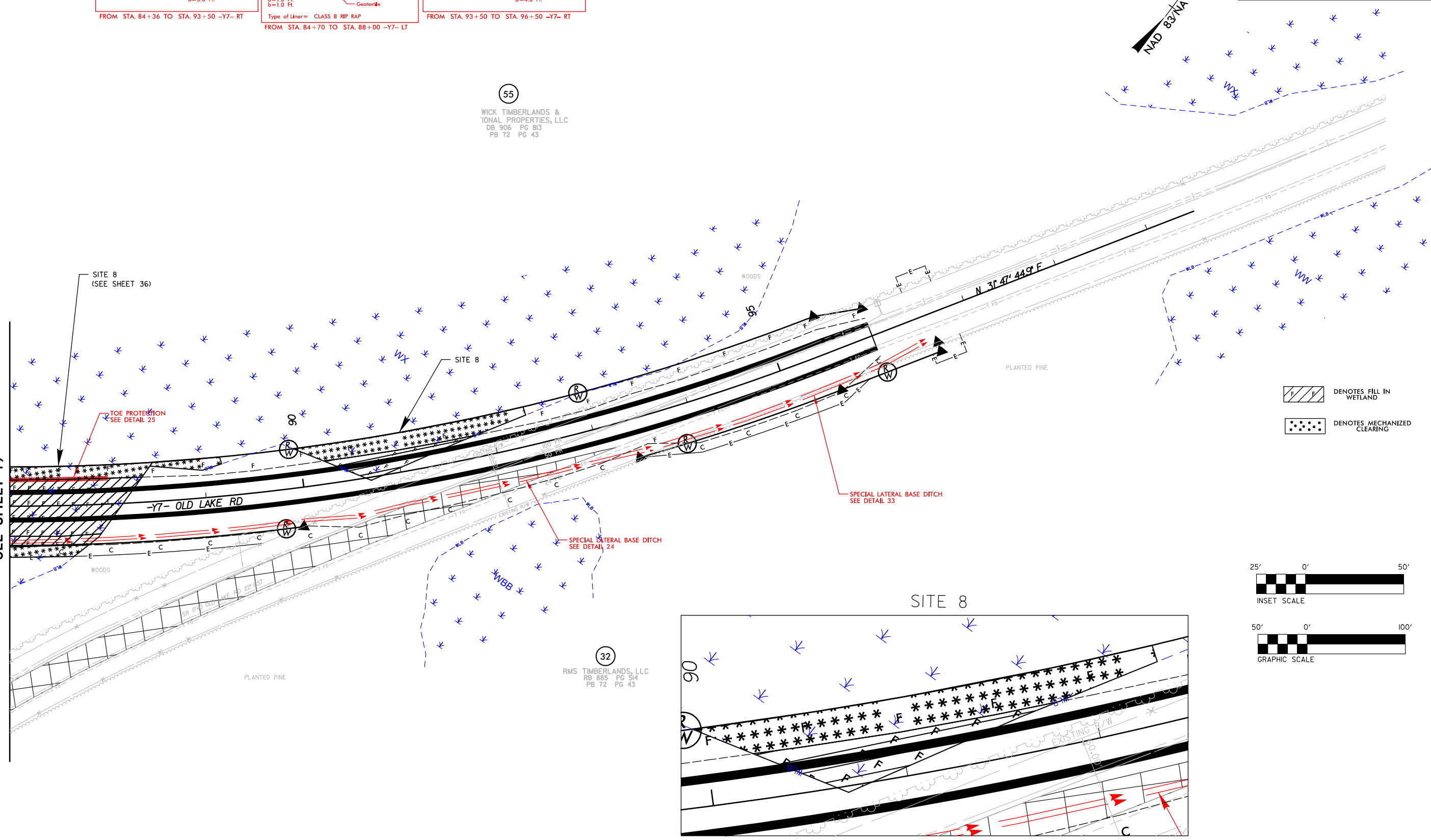
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R-5819 /R-5820		25	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

**PERMIT DRAWING
SHEET 34 OF 47**



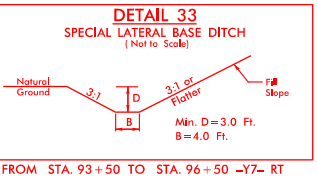
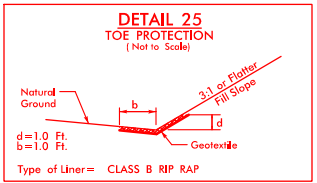
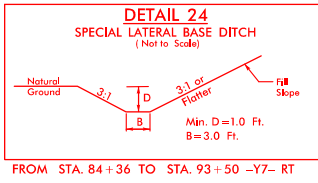
(55)
WICK TIMBERLANDS &
IONAL PROPERTIES, LLC
DB 906 PG 813
PB 72 PG 43

MATCH LINE -Y7- STA 87+00.00
SEE SHEET 19

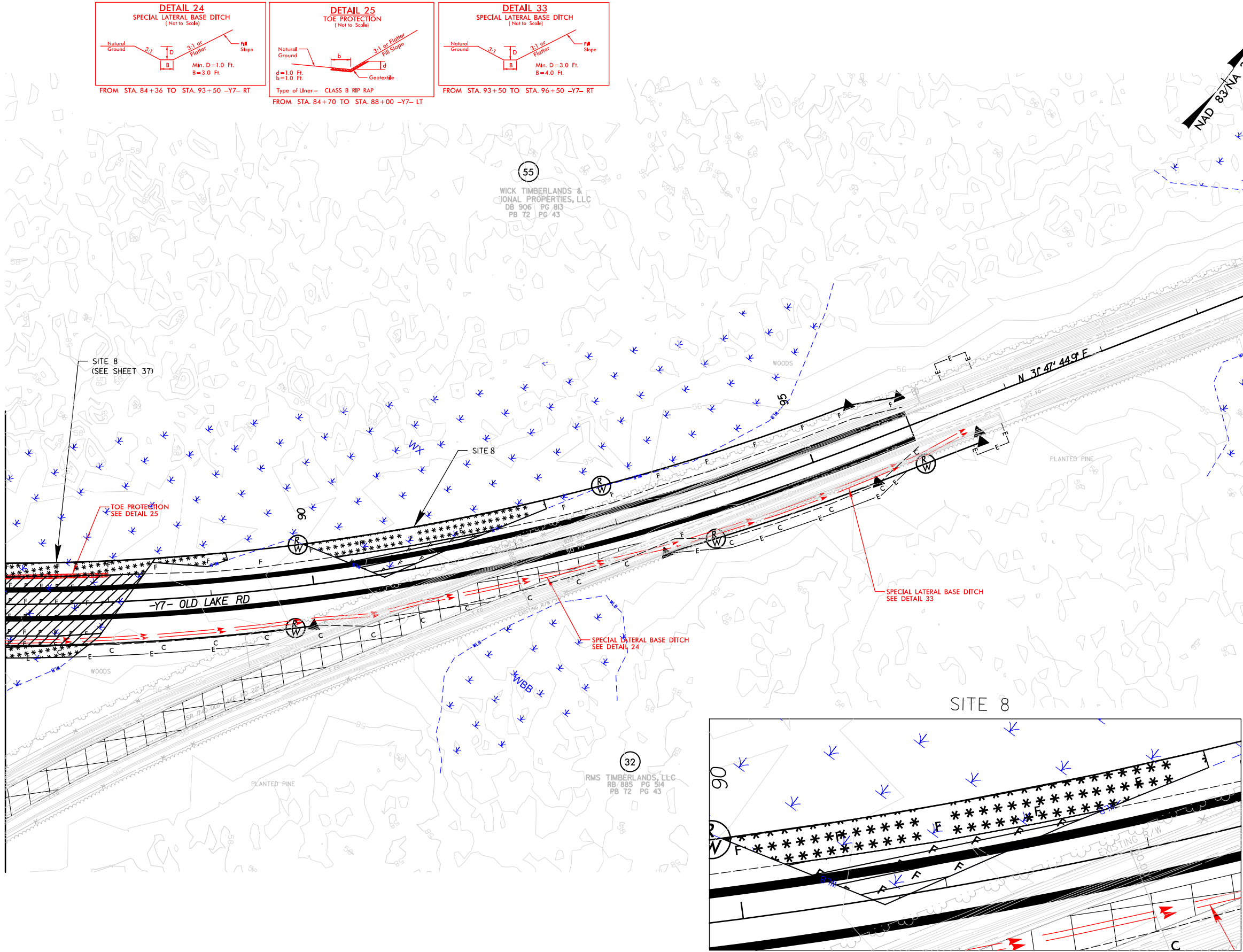


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RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

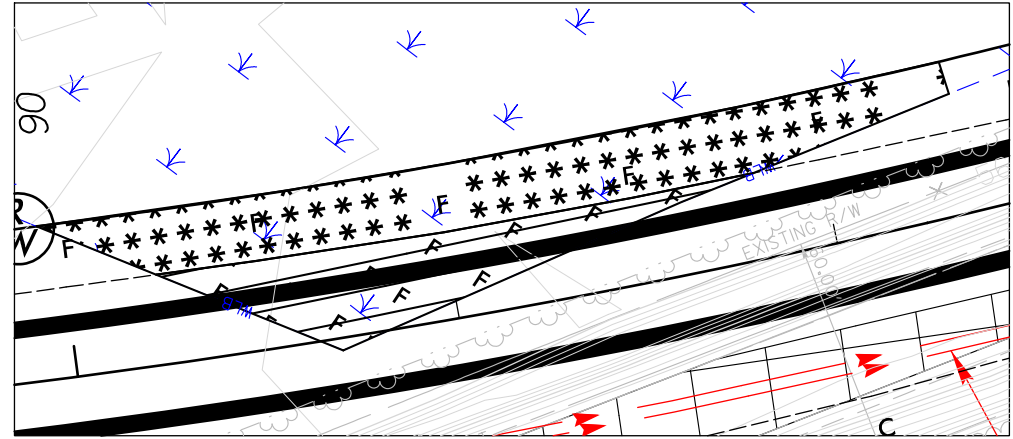
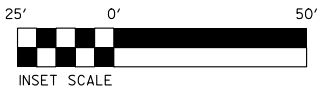
**PERMIT DRAWING
SHEET 35 OF 47**



MATCH LINE -Y7- STA 87+00.00
SEE SHEET 19



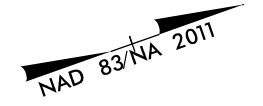
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING

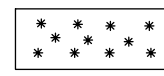
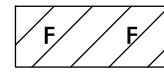
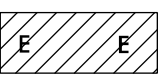


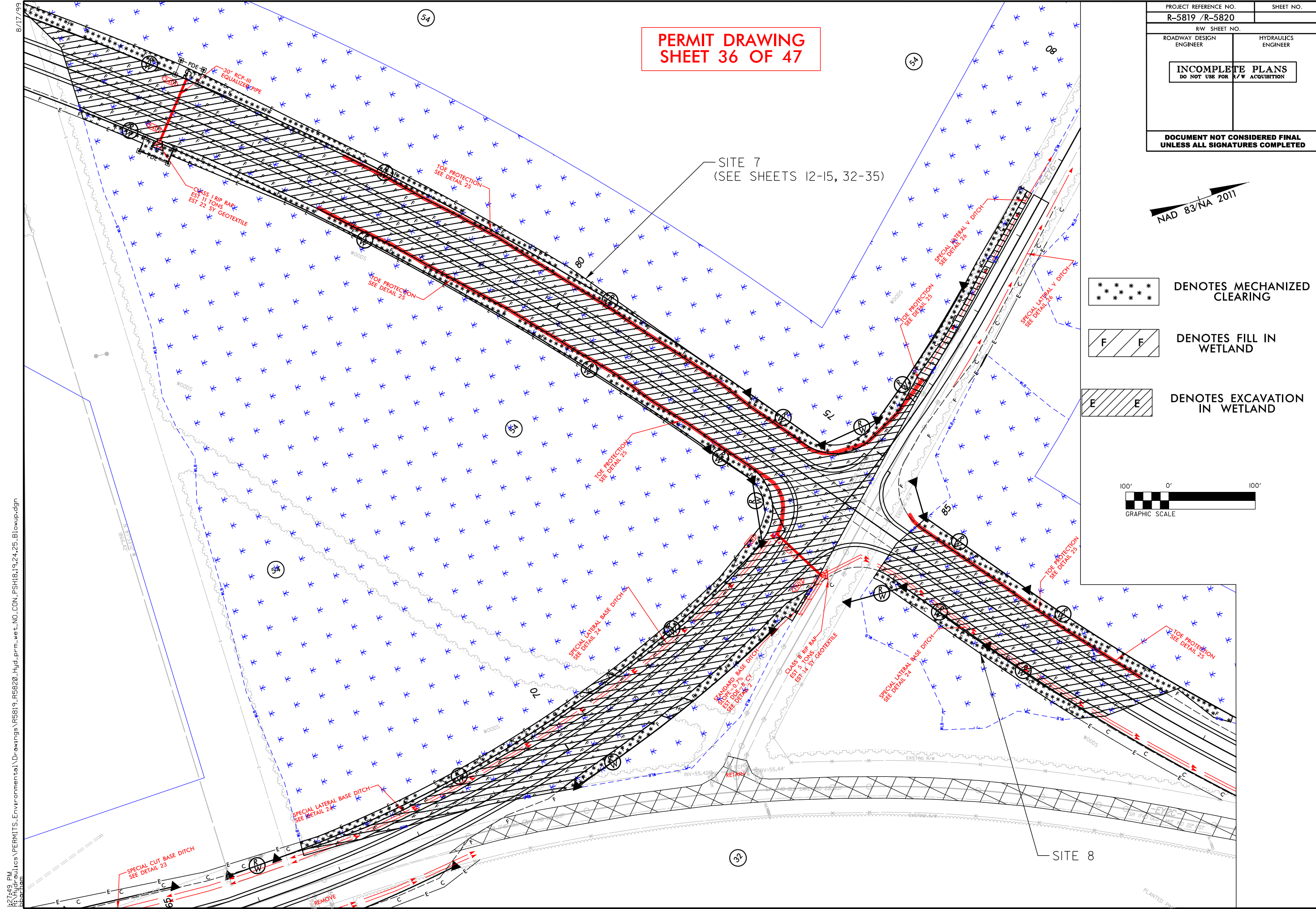
PROJECT REFERENCE NO.	SHEET NO.
R-5819 /R-5820	
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

**PERMIT DRAWING
SHEET 36 OF 47**

SITE 7
(SEE SHEETS 12-15, 32-35)



-  DENOTES MECHANIZED CLEARING
-  DENOTES FILL IN WETLAND
-  DENOTES EXCAVATION IN WETLAND



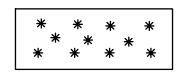
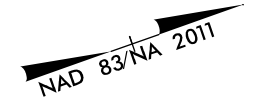
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 abraham

PROJECT REFERENCE NO.	SHEET NO.
R-5819 /R-5820	
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

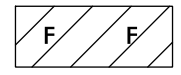
**PERMIT DRAWING
SHEET 37 OF 47**

SITE 7
(SEE SHEETS 13-16, 33-36)

SITE 8



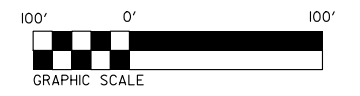
DENOTES MECHANIZED CLEARING



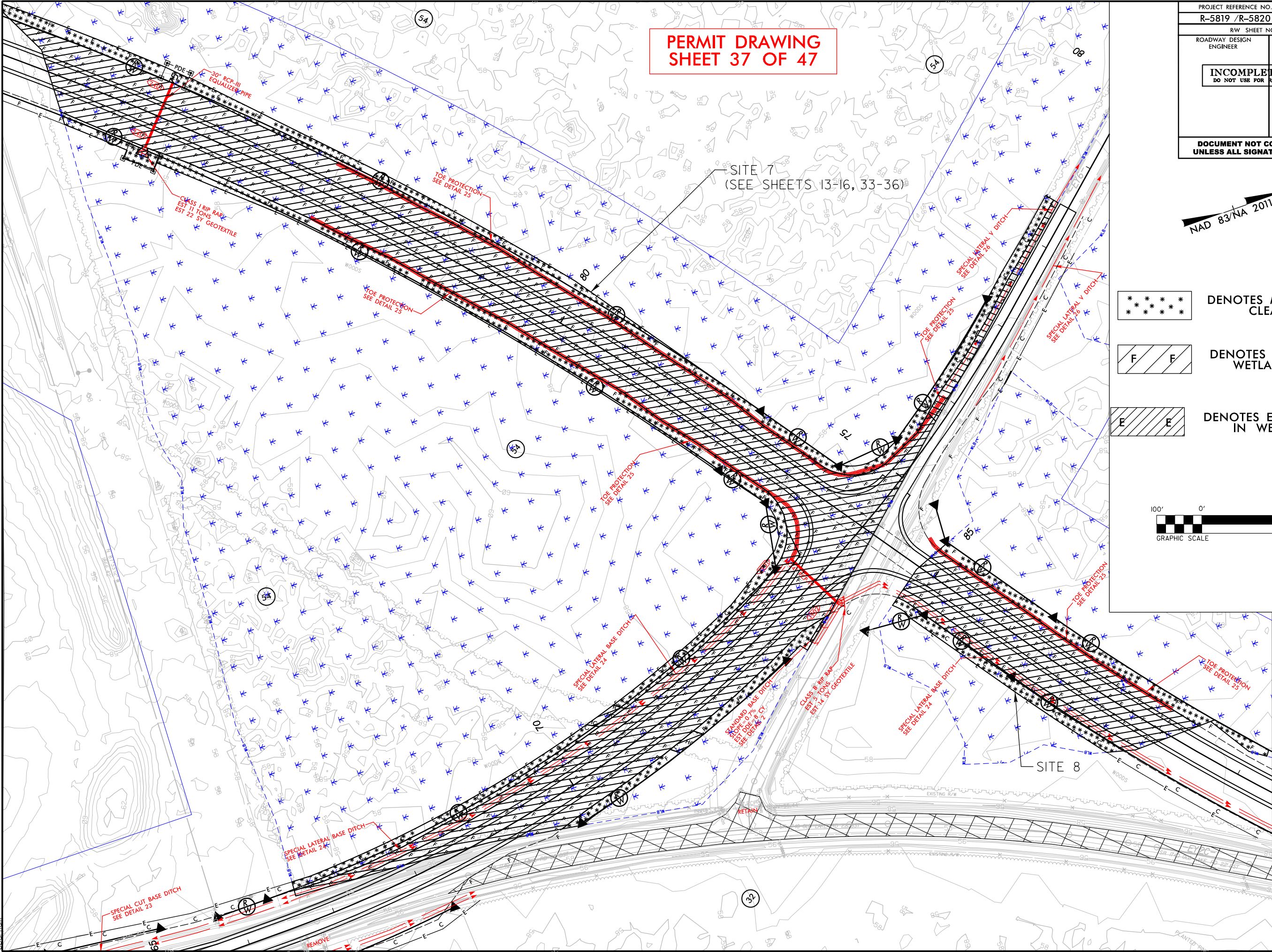
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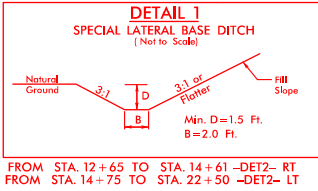


DENOTES EXCAVATION IN WETLAND



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 abraham



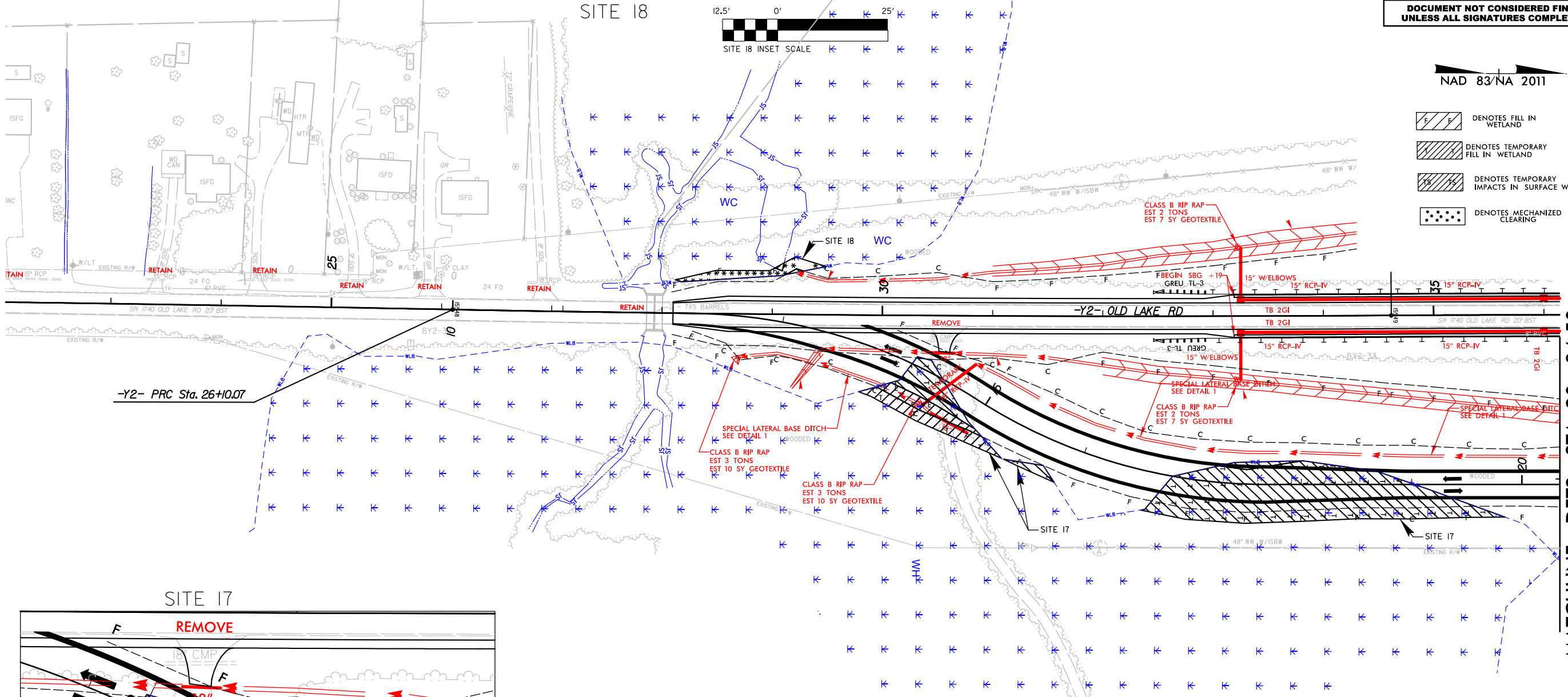


-Y2- DETOUR

CALYX
ENGINEERS & CONSULTANTS
6750 TRYON ROAD
CARY, NC 27518
phone: 919.851.1912
CALYXengineers.com
NC License # F-1333

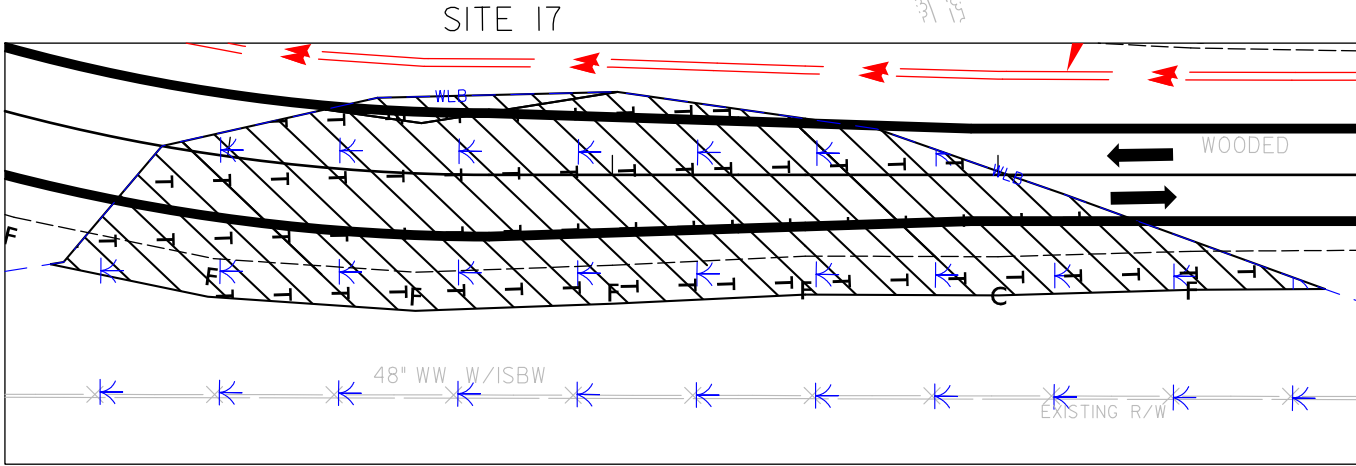
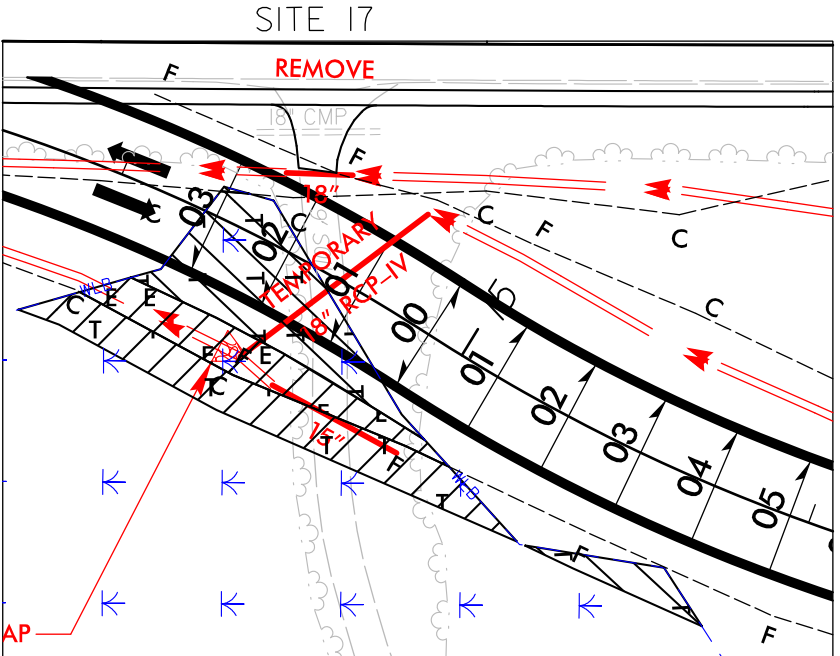
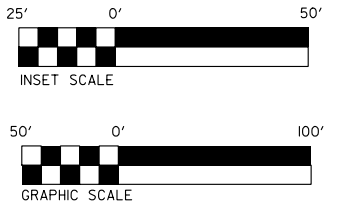
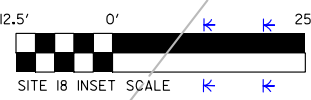
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 38 OF 47



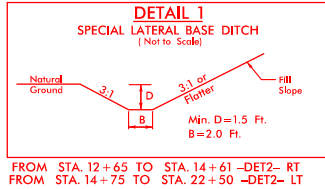
NAD 83/NA 2011

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



MATCHLINE -DET2- STA. 20 + 34.50
SEE SHEET 2B-5

NOTES:
■ PROP PAVED SHOULDER
FOR -DET2- PROFILE, SEE SHEET 45



FROM STA. 12+65 TO STA. 14+61 -DET2- RT
FROM STA. 14+75 TO STA. 22+50 -DET2- LT

-Y2- DETOUR

CALYX
ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27518
PHONE: 919.851.1912
CALYXengineers.com
NC License # F-1333

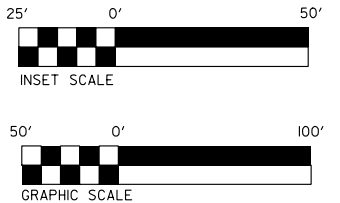
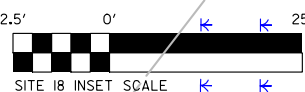
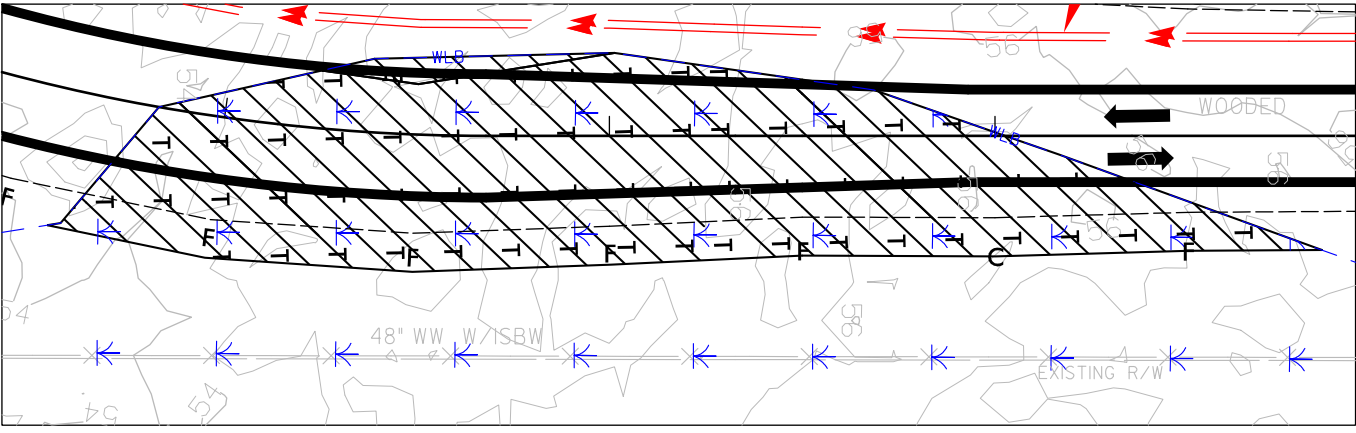
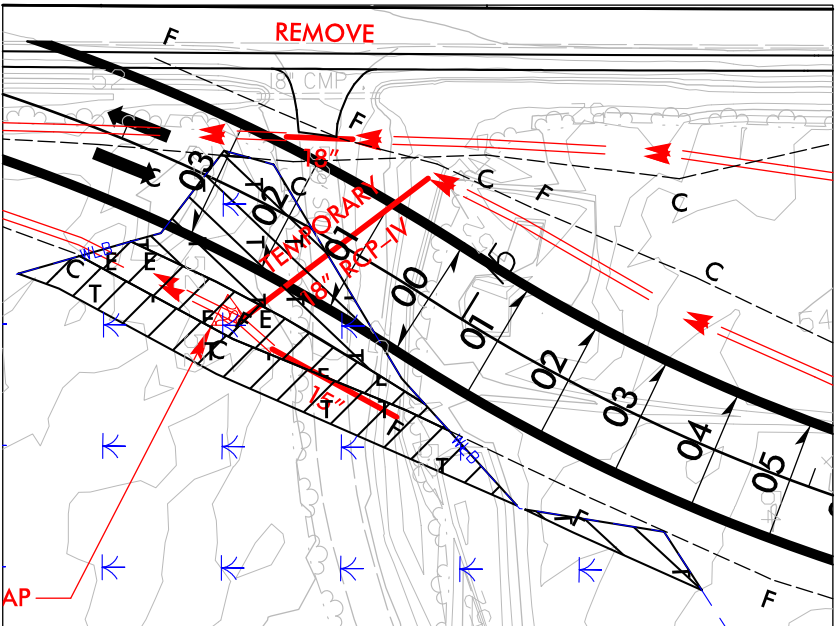
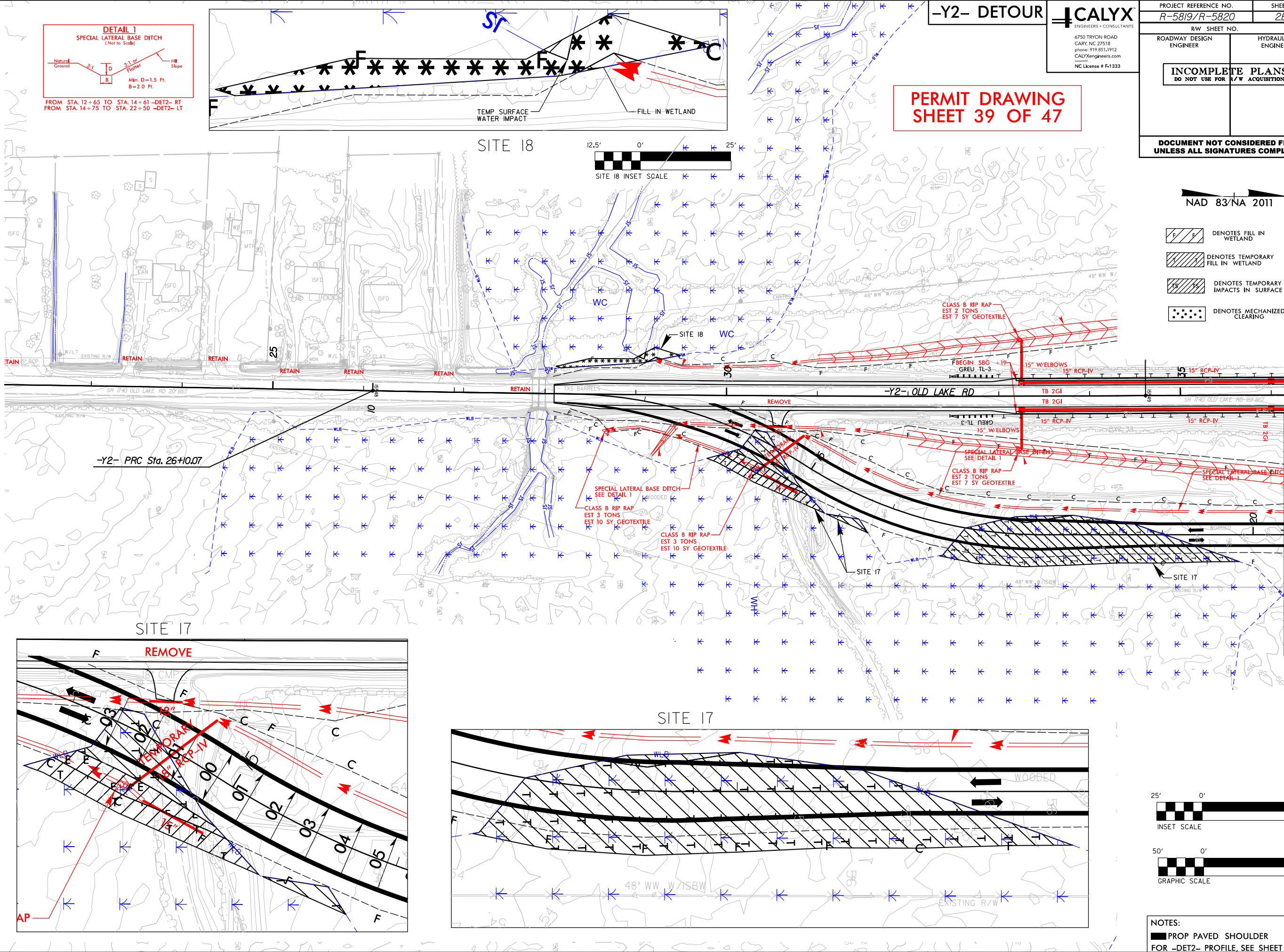
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RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			

**PERMIT DRAWING
SHEET 39 OF 47**

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

NAD 83/NA 2011

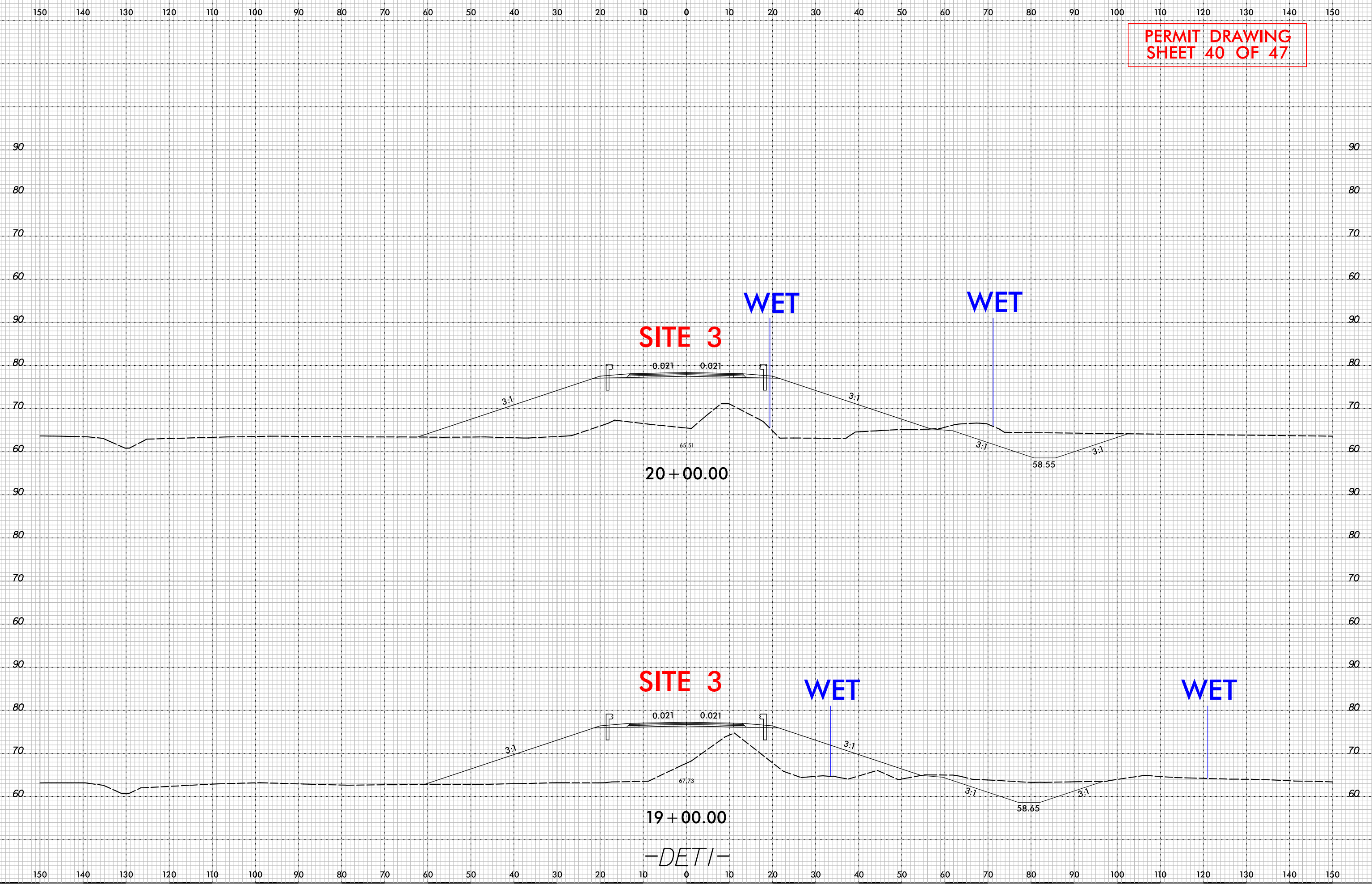
- DENOTES FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING

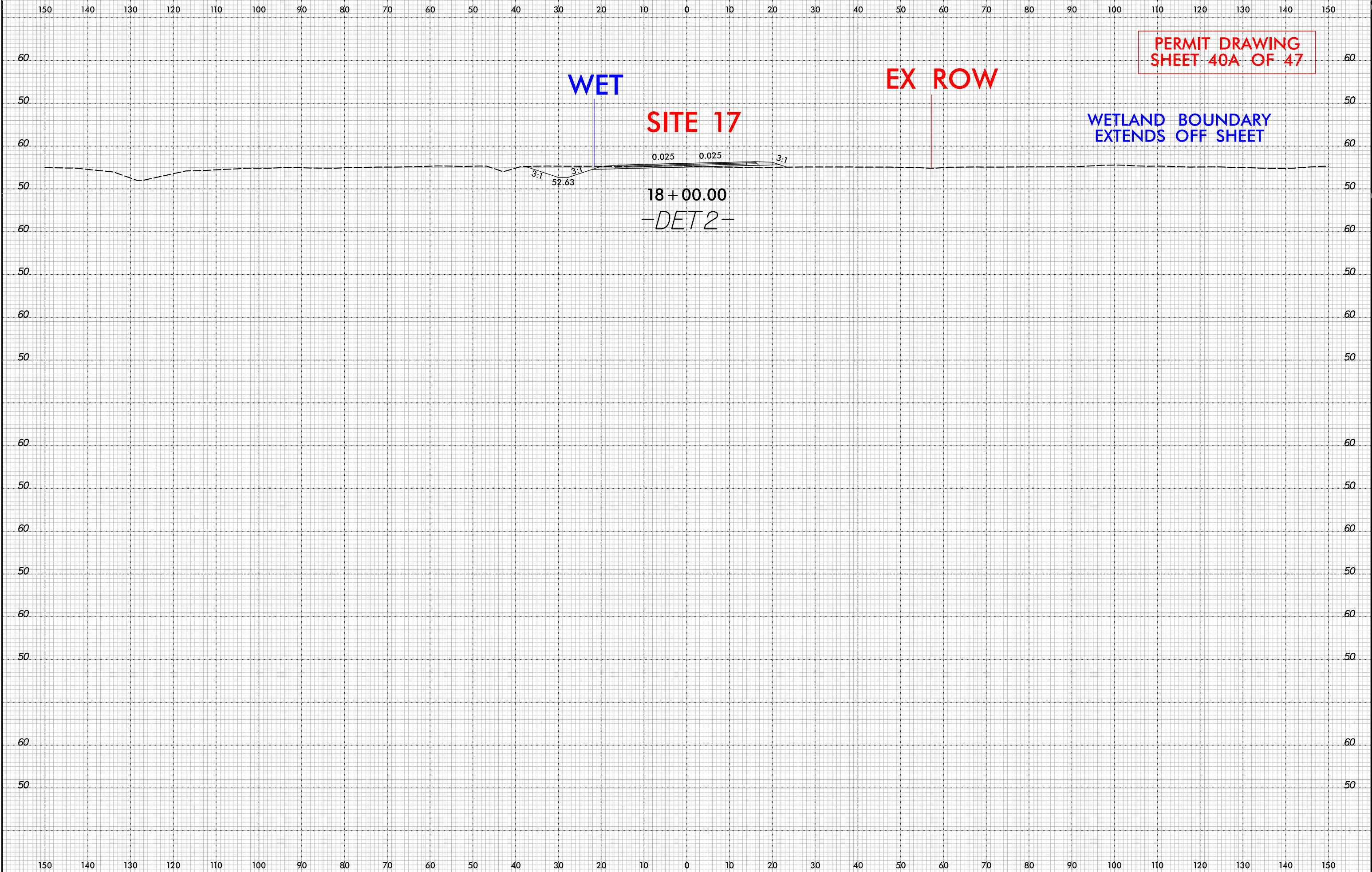


NOTES:
 PROP PAVED SHOULDER
 FOR -DET2- PROFILE, SEE SHEET 45

MATCHLINE -DET2- STA. 20 + 34.50
SEE SHEET 2B-5

PERMIT DRAWING
SHEET 40 OF 47

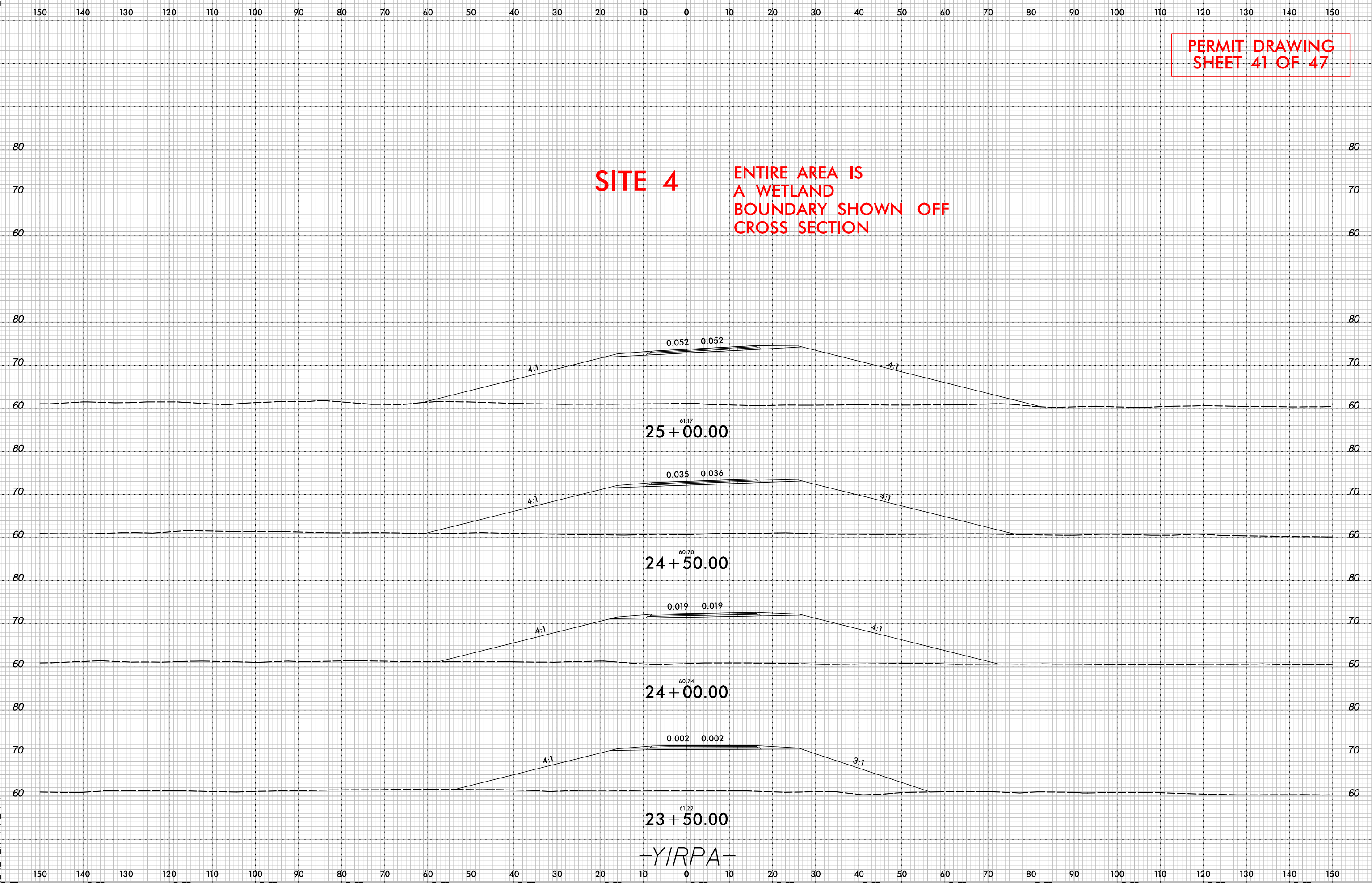




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PERMIT DRAWING
SHEET 41 OF 47

SITE 4
ENTIRE AREA IS
A WETLAND
BOUNDARY SHOWN OFF
CROSS SECTION

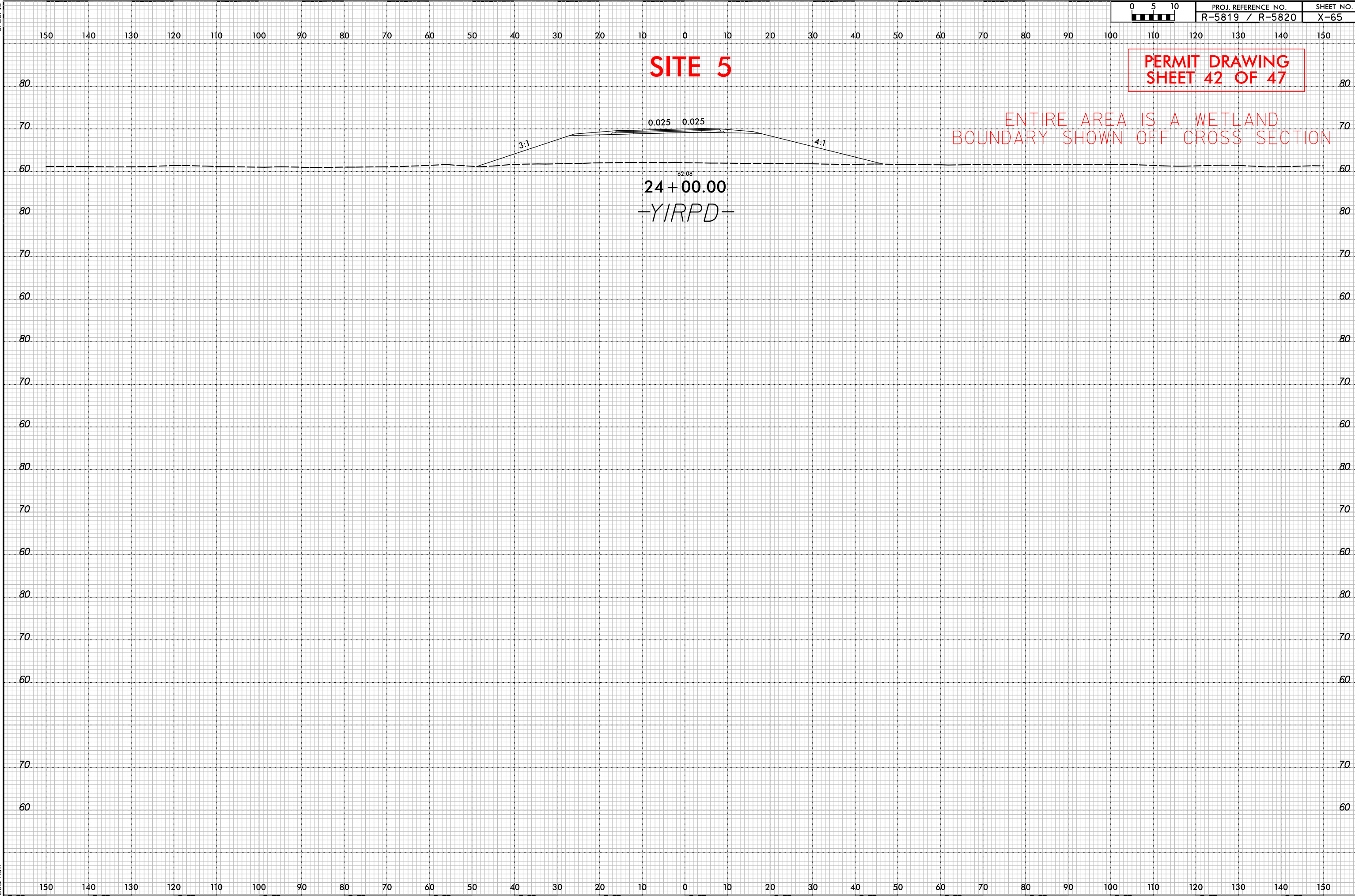


-YIRPA-

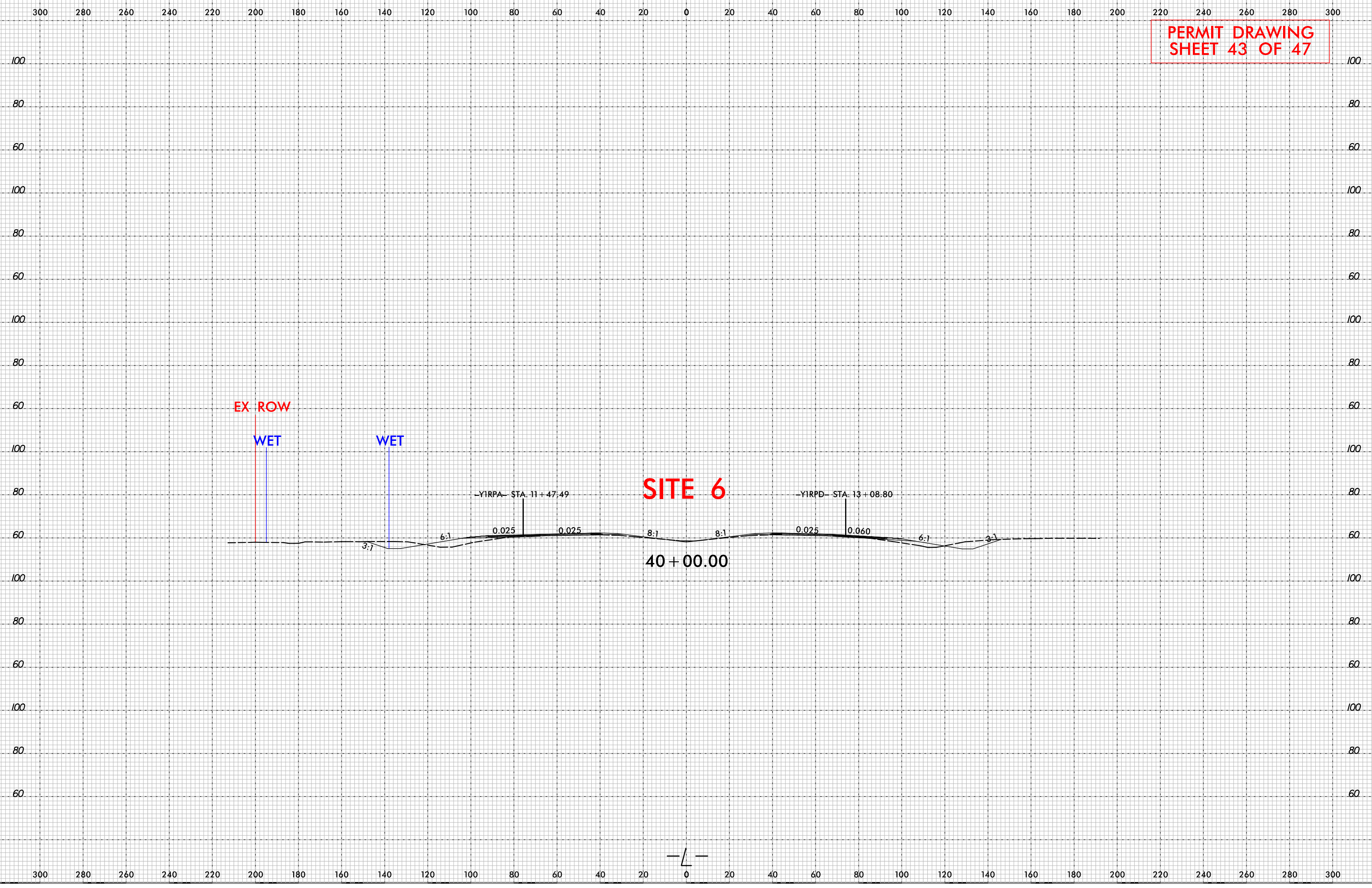
SITE 5

PERMIT DRAWING
SHEET 42 OF 47

ENTIRE AREA IS A WETLAND
BOUNDARY SHOWN OFF CROSS SECTION



**PERMIT DRAWING
SHEET 43 OF 47**



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 bbenham

PERMIT DRAWING
SHEET 44 OF 47

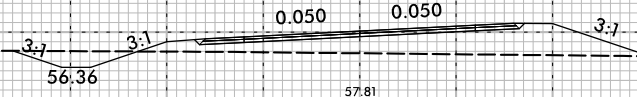
WETLAND BOUNDARY
EXTENDS OFF SHEET

ROW

SITE 7

ROW

WET



71+50.00

-Y2-

**PERMIT DRAWING
SHEET 45 OF 47**

**REPRESENTATIVE SECTION
FOR Y7 SITES
7,9,10,11,12,13,14,15,16**

ROW

WET

ROW

SITE 7

**WETLAND BOUNDARY
EXTENDS OFF SHEET**

79 + 50.00

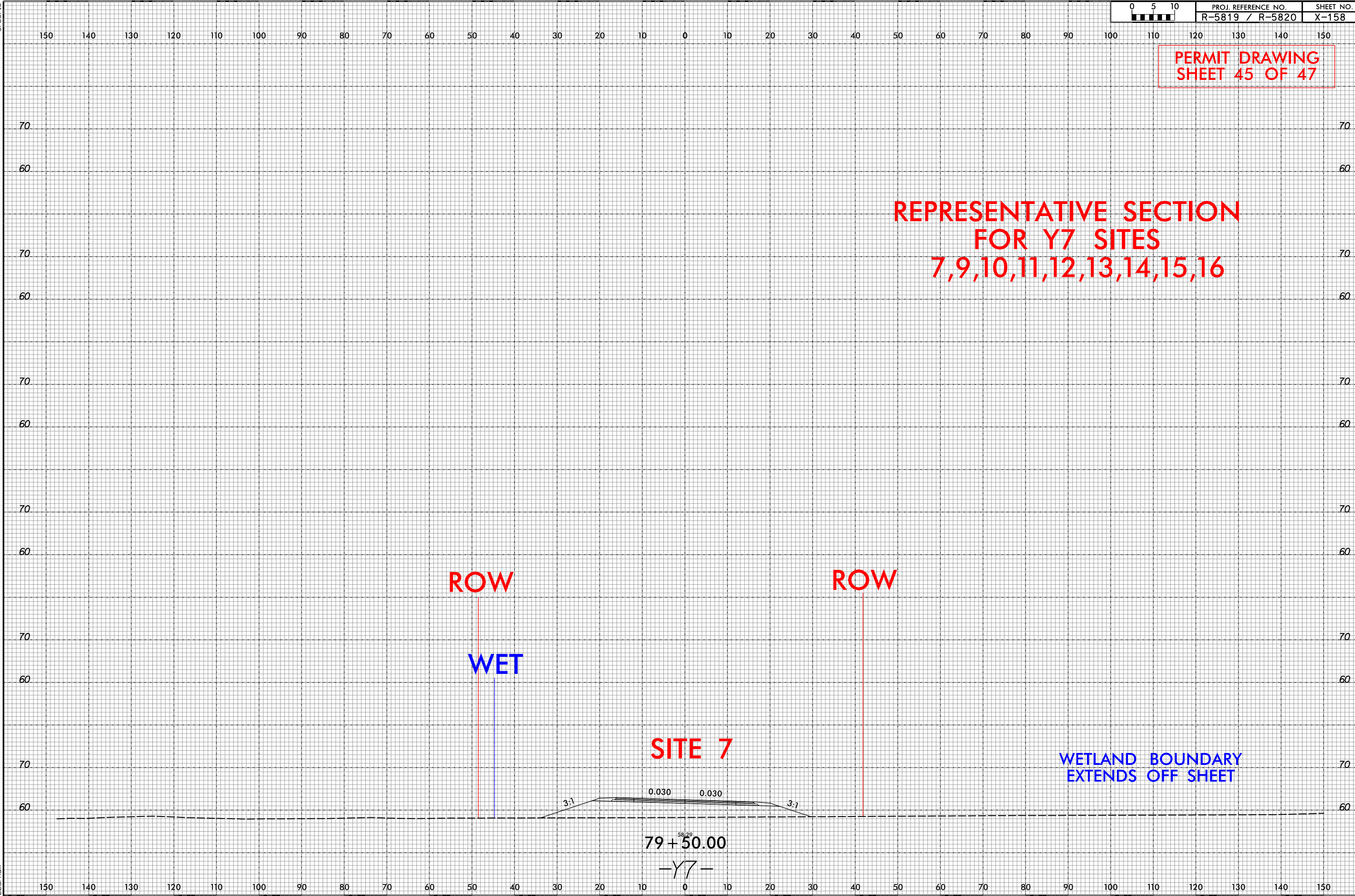
-Y7-

3:1

0.030

0.030

3:1



**REPRESENTATIVE SECTION
FOR Y7 SITES
7,9,10,11,12,13,14,15,16**

**PERMIT DRAWING
SHEET 45A OF 47**

**WETLAND BOUNDARY
EXTENDS OFF SHEET**

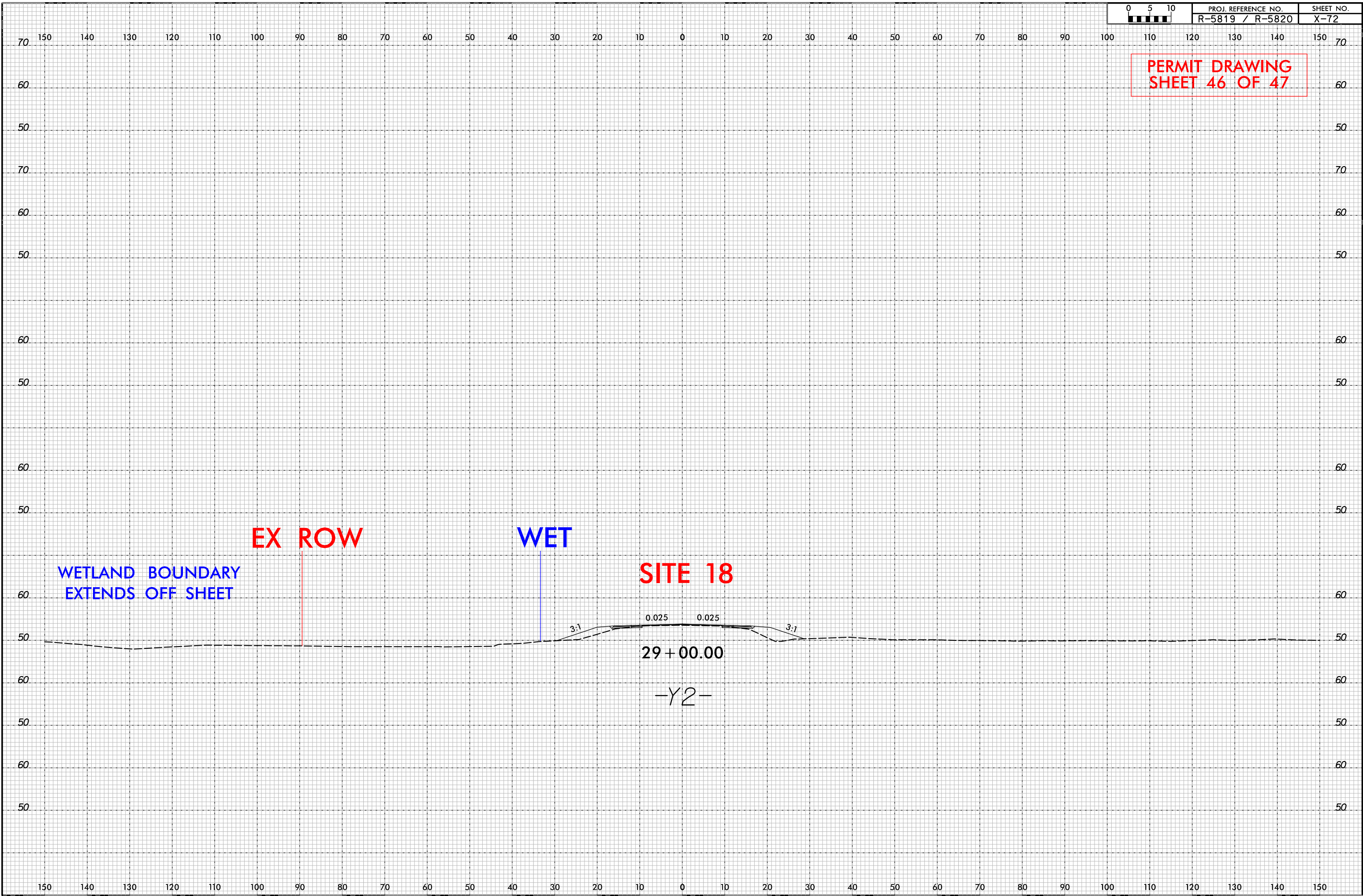
ROW

ROW EASEMENT

WET

86+00.00

-Y7-



**PERMIT DRAWING
SHEET 46 OF 47**

EX ROW

WET

SITE 18

**WETLAND BOUNDARY
EXTENDS OFF SHEET**

29 + 00.00

-Y2-

3:1

0.025

0.025

3:1

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)	Temp. 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	19+45 to 19+82 Y1RPB	Fill/Excavation							0.202	0.015			
3	18+46 to 21+12 DET1	Fill/Excavation	0.098	0.094		0.062							
4	19+09 to 26+99 Y1RPA	Fill	1.889				0.329						
4	26+33 to 26+99 Y1RPA	Fill (Trib 8)							0.020	0.001			
4	23+34 to 24+72 Y1RPA	Fill (Trib 6)							0.010	0.001			
4	19+54 to 20+83 Y1RPA	Fill (Trib 7)							0.008	0.001			
5	22+54 to 29+07 Y1RPD	Fill	0.721				0.208						
6	38+94 to 40+35 L LT	Excavation			0.010		0.025						
7	72+83 to 84+31 Y7	Fill/Excavation	2.388		0.224		0.842	0.020					
8	84+78 to 91+82 Y7	Fill/Excavation	0.483		0.075		0.278						
9	14+58 to 21+60 Y7 LT	Excavation			0.310		0.200		0.003	0.001			
10	15+45 to 24+86 Y7 RT	Excavation			0.338		0.211						
10	15+42 to 24+59 Y7 RT	Utility Access						0.210					
11	32+44 to 38+81 Y7 LT	Fill/Excavation			0.032		0.097		0.100	0.100			
12	34+40 to 54+02 Y7 RT	Fill/Excavation			0.805		0.437		0.190				
13	45+69 to 50+97 Y7 LT	Excavation			0.460		0.130						
14	53+38 to 53+81 Y7 LT	Fill	0.004				0.010						
15	56+47 to 57+16 Y7 LT	Fill			0.008		0.013						
16	63+93 to 69+64 Y7	Fill/Excavation	1.025		0.226		0.248	0.040					
17	13+87 to 19+84 Det-2 RT	Fill/Excavation		0.351		0.019							
18	12+01 to 13+87 Det-2 LT	Fill	0.001				0.021			0.001		6	
19	88+68 L to 91+66 L LT	Culvert to Bridge							0.001	0.058	8	310	
19	89+08 to 89+94 L LT	Bank Stabilization							0.012		86		
20	41+64 to 50+50 Y2 LT	Fill							0.042				
TOTALS*:			6.609	0.445	2.488	0.081	3.049	0.270	0.588	0.178	94	316	

*Rounded totals are sum of actual impacts

NOTES:

Site 1 also runs along LWB from Sta 39+03 to 39+47 LT and along L from Sta 10+00 to 43+11 LT.
 Site 2 is no longer a permitted site and has been removed from the table.

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 11/09/2021
 Columbus County
 R-5819/R-5820
 47091.1.1/47092.1.1

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