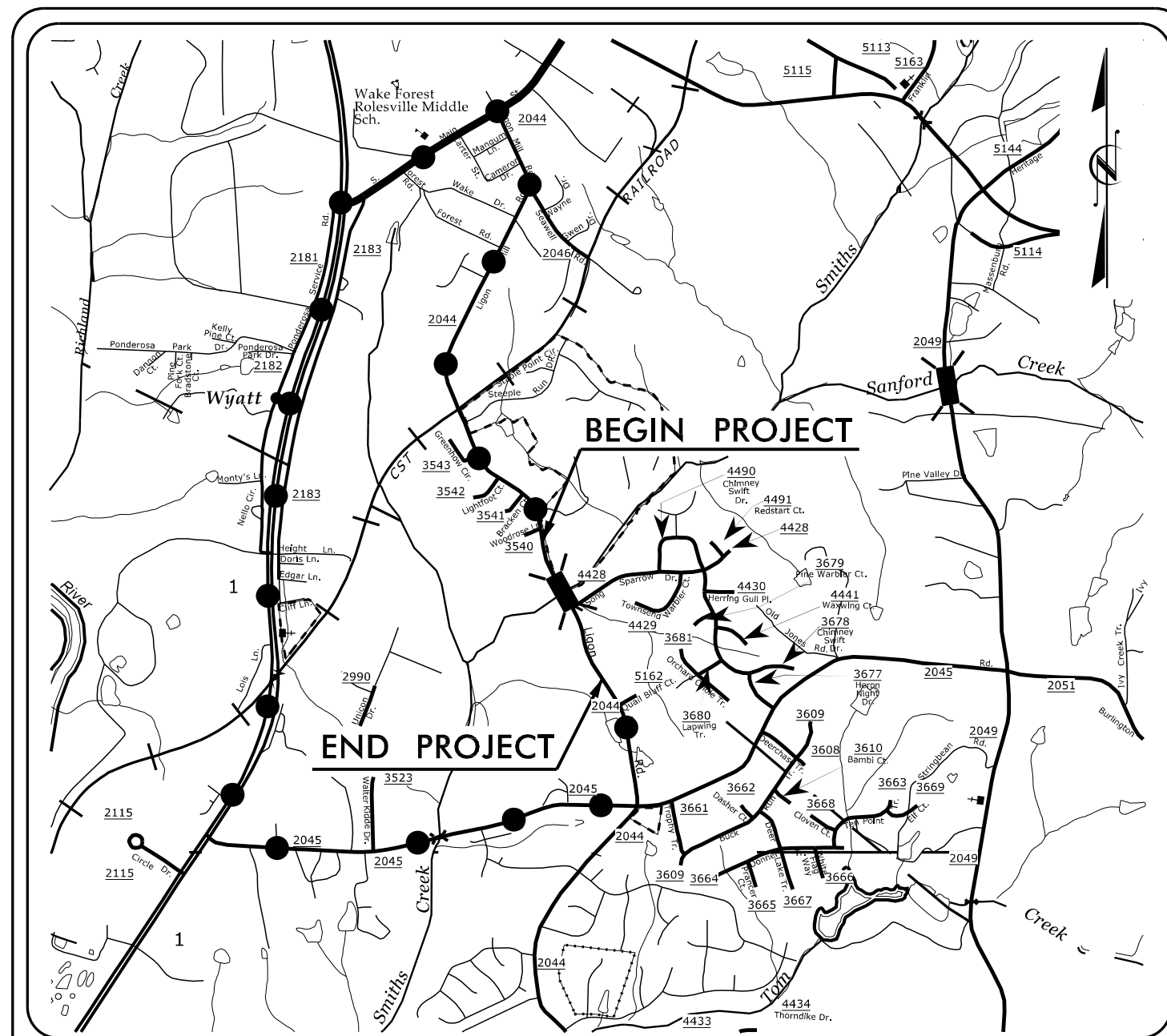


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TIP PROJECT: B-5318



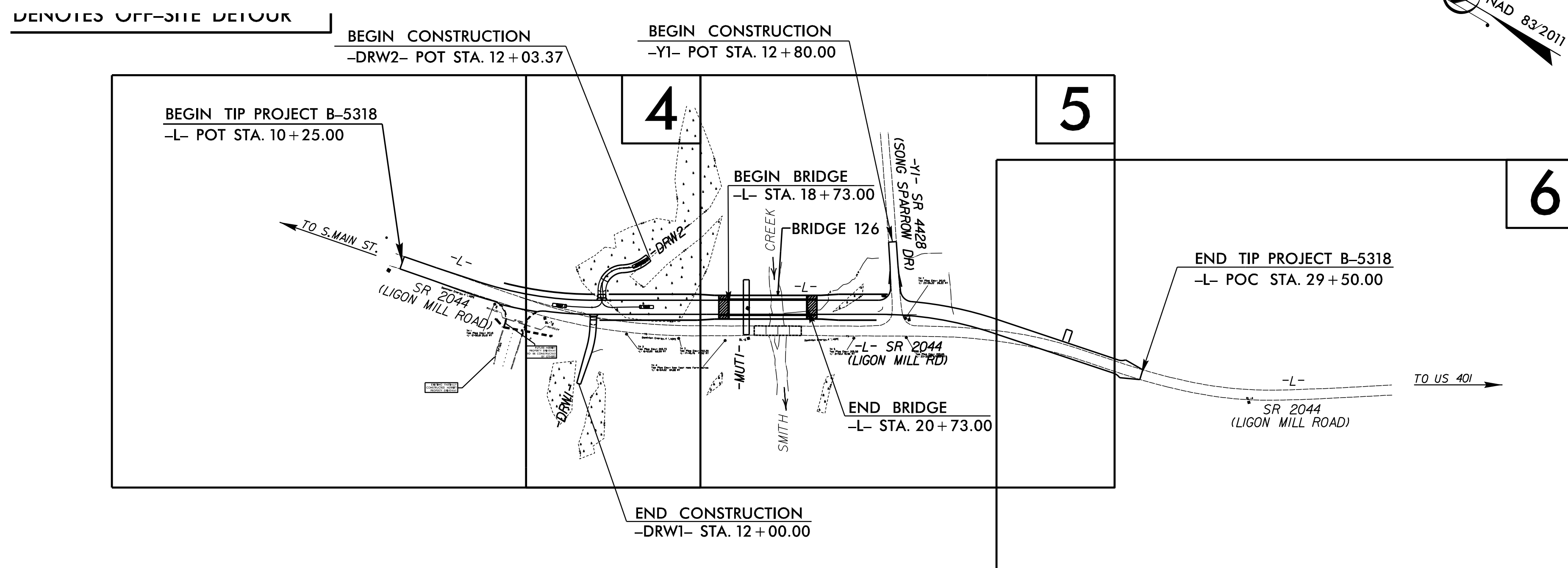
VICINITY MAP
NOT TO SCALE

OFF SITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
WAKE COUNTY

**LOCATION: REPLACE BRIDGE #126 OVER SMITH CREEK
ON SR 2044 (LIGON MILL ROAD) IN WAKE FOREST**

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5318	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

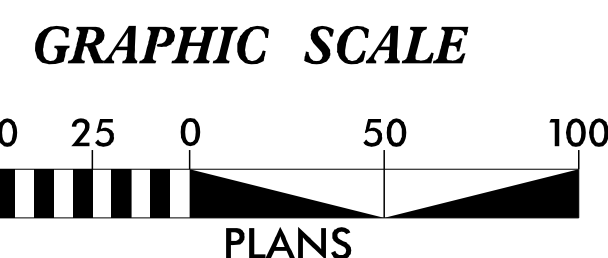
EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	ZZZZZZ
1622.01	Temporary Berms and Slope Drains	— — — — —
1650.02	Silt Basin Type B	[Symbol]
1633.01	Temporary Rock Silt Check Type-A	[Symbol]
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	[Symbol]
1633.02	Temporary Rock Silt Check Type-B	[Symbol]
	Wattle/Coir Fiber Wattle	[Symbol]
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	[Symbol]
1634.01	Temporary Rock Sediment Dam Type-A	[Symbol]
1634.02	Temporary Rock Sediment Dam Type-B	[Symbol]
1635.01	Rock Pipe Inlet Sediment Trap Type-A	[Symbol]
1635.02	Rock Pipe Inlet Sediment Trap Type-B	[Symbol]
1630.04	Stilling Basin	[Symbol]
1630.06	Special Stilling Basin	[Symbol]
	Rock Inlet Sediment Trap:	
1632.01	Type A	A [Symbol]
1632.02	Type B	B [Symbol]
1632.03	Type C	C [Symbol]
	Skimmer Basin	[Symbol]
	Tiered Skimmer Basin	[Symbol]
	Infiltration Basin	[Symbol]

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
Refer To E.C. Special Provisions for Special Considerations.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.



Prepared in the Office of:

DEWBERRY

2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

Designed by:

PAMELA KISTNER, PE 3715
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

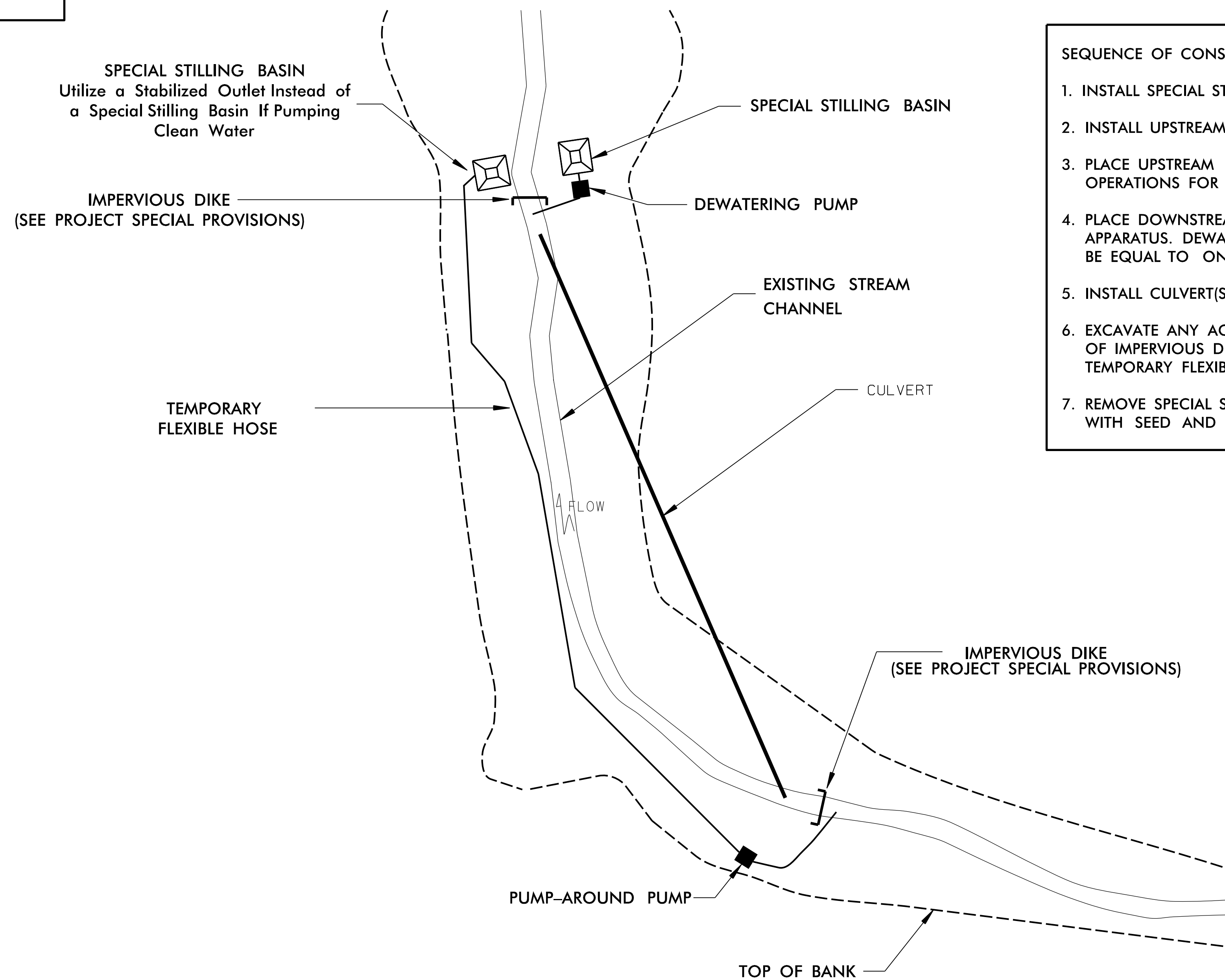
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1633.03 Temporary Rock Silt Check Type C
1630.02 Silt Basin Type 1	1634.01 Temporary Rock Sediment Dam Type A
1630.03 Temporary Silt Ditch	1634.02 Temporary Rock Sediment Dam Type B
1630.04 Stilling Basin	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.05 Temporary Diversion	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.06 Special Stilling Basin	1640.01 Coir Fiber Jaffle
1631.01 Matting Installation	1645.01 Temporary Stream Crossing

PROJECT REFERENCE NO.	SHEET NO.
B-5318	EC-2E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXAMPLE OF PUMP-AROUND OPERATION

NOTES:

- 1) All excavation shall be performed in only dry or isolated areas of the work zone.
- 2) Impervious dikes are to be used to isolate work from stream flow when necessary.
- 3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
- 4) Pumps and hoses shall be of sufficient size to dewater the work area.



SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

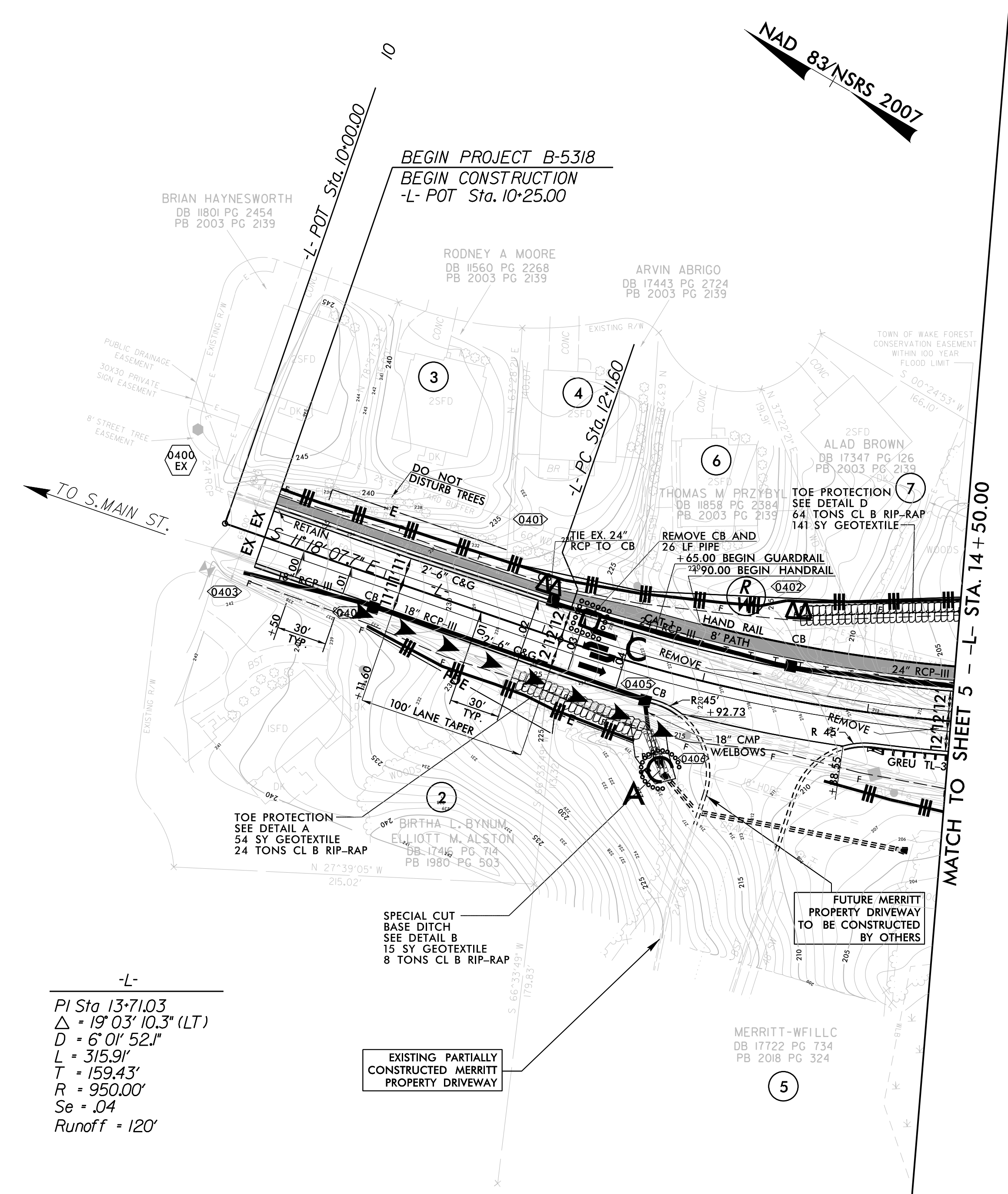
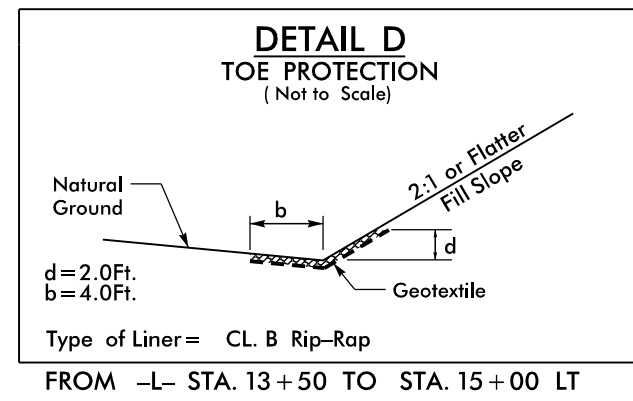
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>B-5318</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

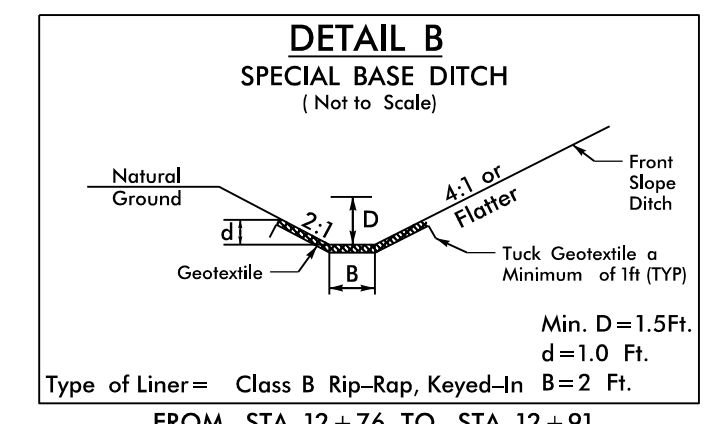
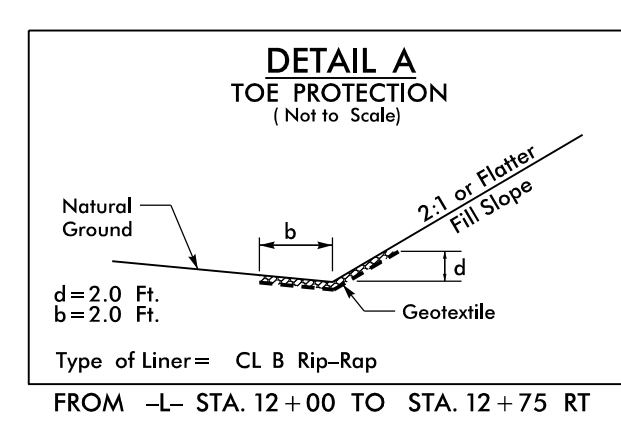
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
B-5318	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-
 P_i Sta 13+71.03
 $\Delta = 19^\circ 03' 10.3"$ (LT)
 $D = 6^\circ 01' 52.1"$
 $L = 315.9'$
 $T = 159.43'$
 $R = 950.00'$
 $Se = .04$
 $Runoff = 120'$



CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 4

NOTE:
 PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
 AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
 DRAINAGE OUTLETS.

SEE SHEETS 7 & 8 FOR -L- PROFILE

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 \$\$\$\$.USE RNAME\$\$\$\$

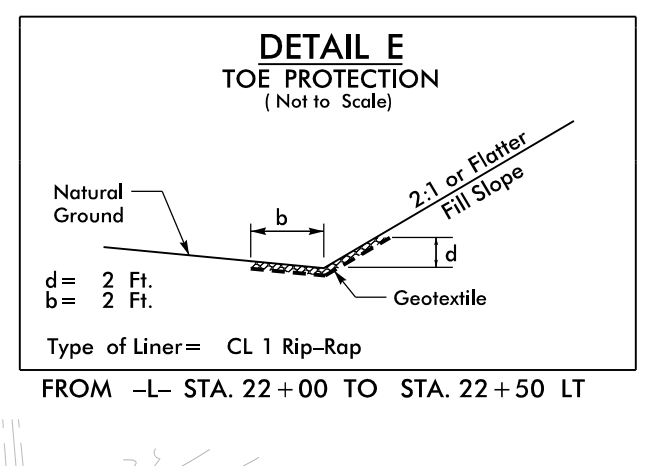
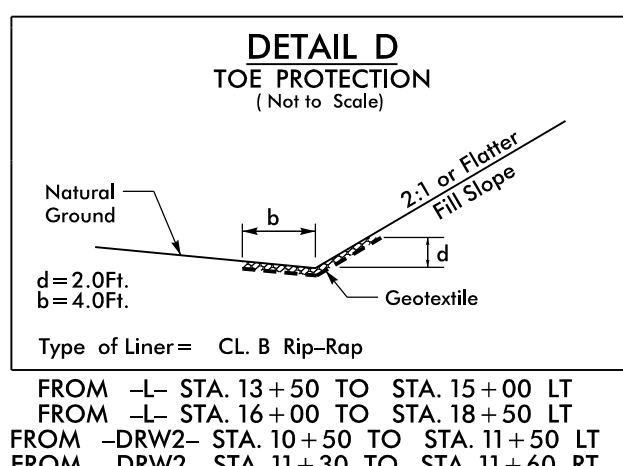
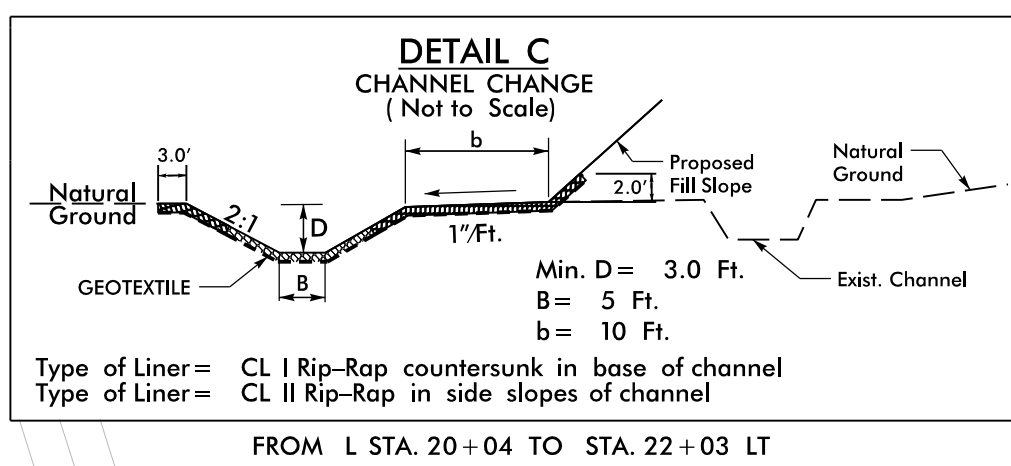
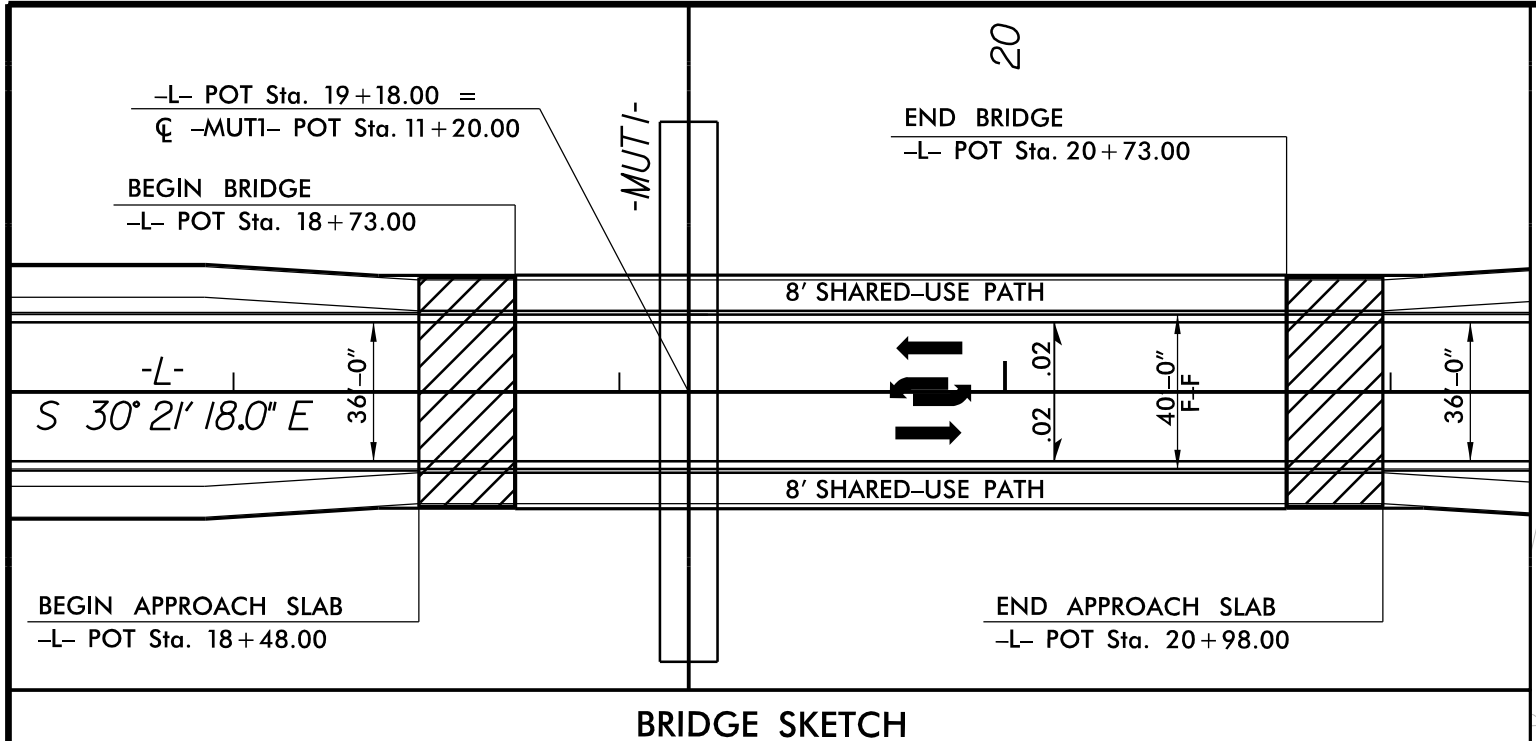
8/17/1999

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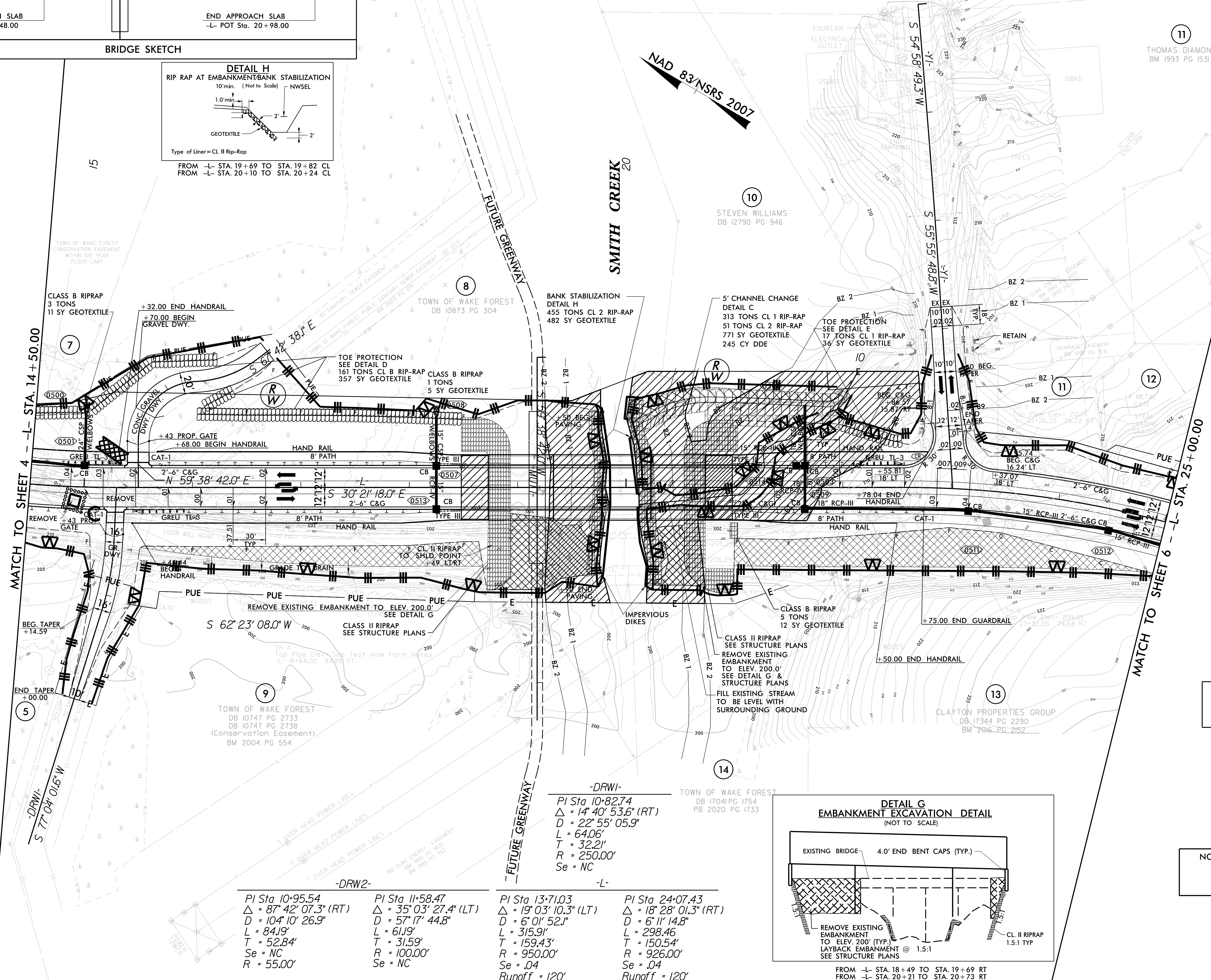
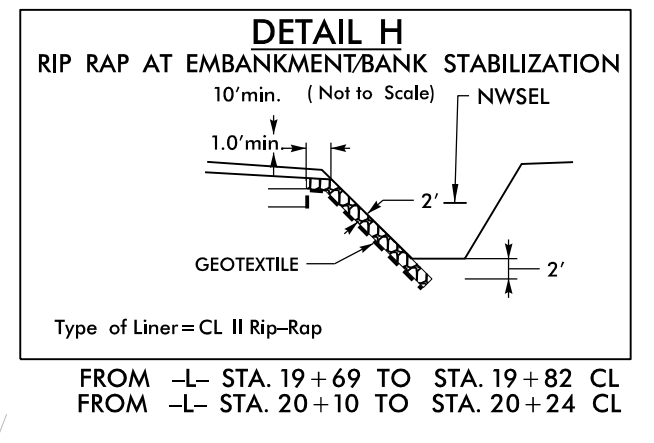


3010 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC REG. NO. P-5029

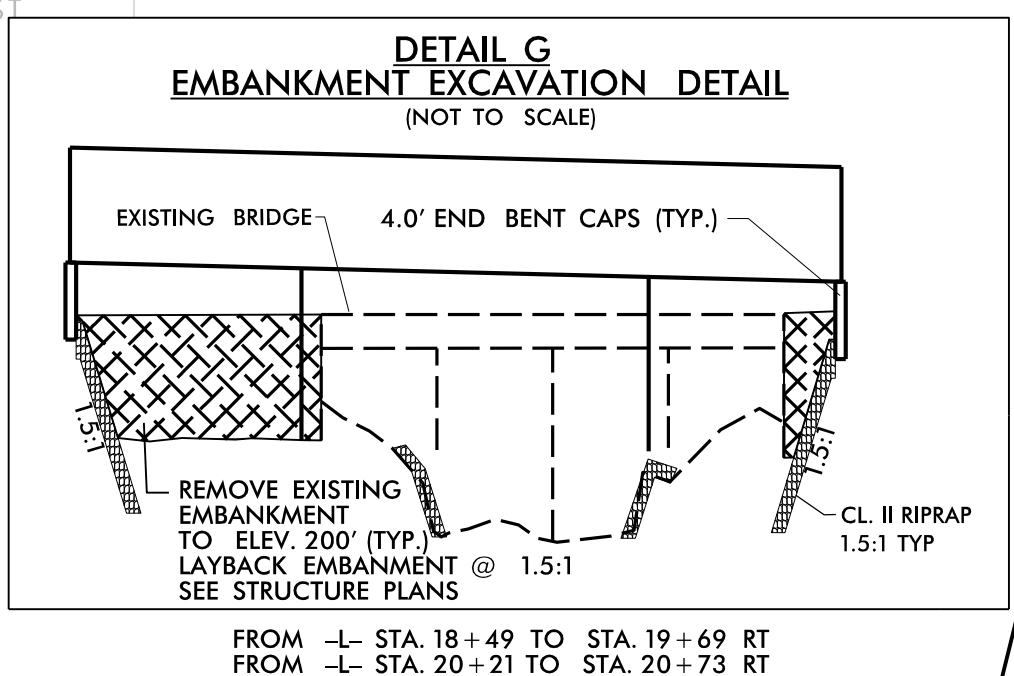
PROJECT REFERENCE NO. B-5318	SHEET NO. EC-05/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-YI-
PI Sta. 11+75.57
 $\Delta = 0' 56' 59.5''$ (RT)
 $D = 0' 42' 58.3''$
 $L = 132.62'$
 $T = 66.31'$
 $R = 8,000.00'$
Se = NC



PI Sta 10+95.54 $\Delta = 87' 42' 07.3''$ (RT) $D = 104' 10' 26.9''$ $L = 84.19'$ $T = 52.84'$ Se = NC R = 55.00'	PI Sta 11+58.47 $\Delta = 35' 03' 27.4''$ (LT) $D = 57' 17' 44.8''$ $L = 61.19'$ $T = 31.59'$ R = 100.00' Se = NC	PI Sta 13+71.03 $\Delta = 19' 03' 10.3''$ (LT) $D = 6' 01' 52.1''$ $L = 315.91'$ $T = 159.43'$ R = 950.00' Se = .04 Runoff = 120'	PI Sta 24+07.43 $\Delta = 18' 28' 01.3''$ (RT) $D = 6' 11' 14.8''$ $L = 298.46'$ $T = 150.54'$ R = 926.00' Se = .04 Runoff = 120'
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PROJECT REFERENCE NO. B-53/B	SHEET NO. EC-06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

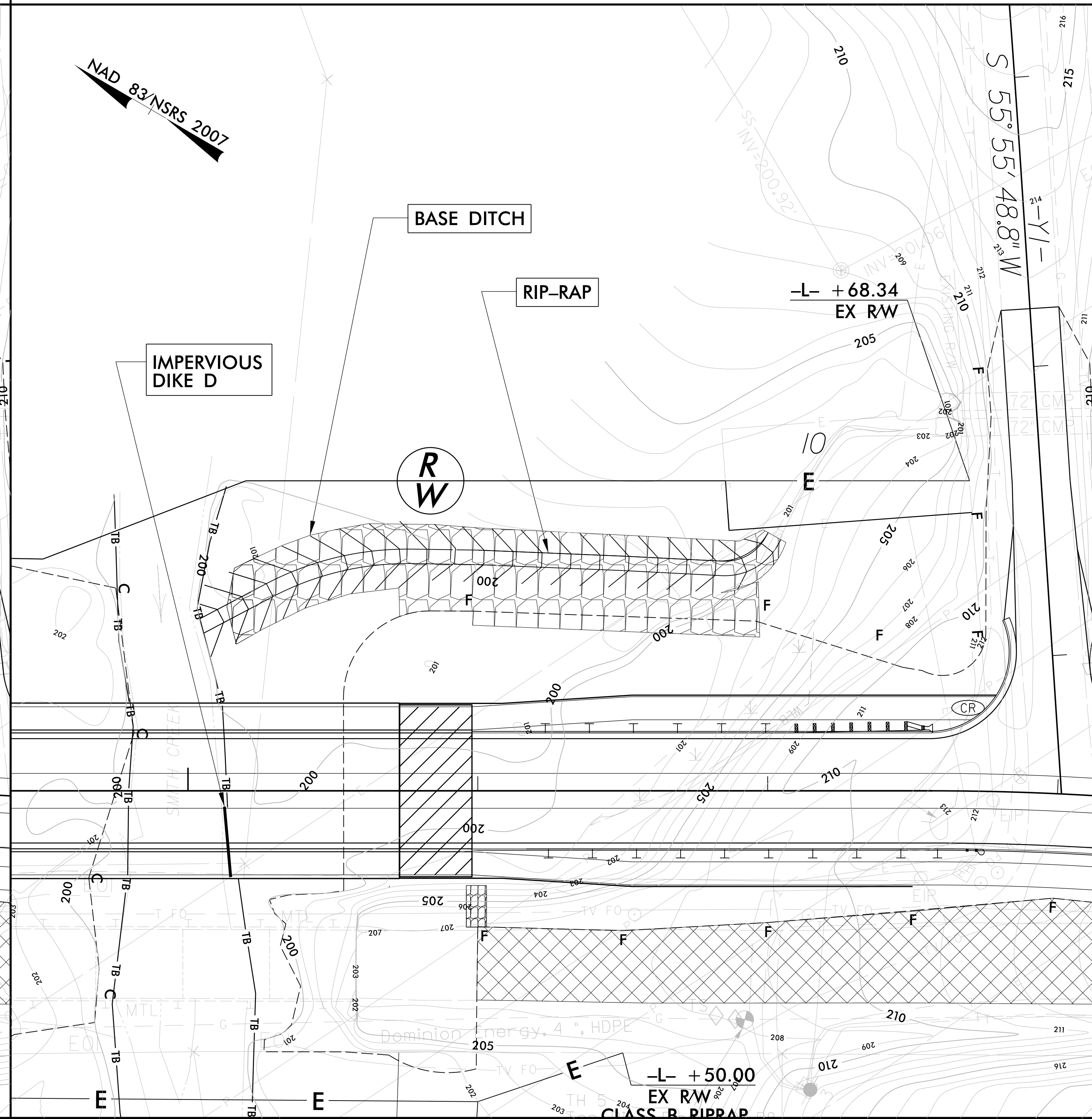
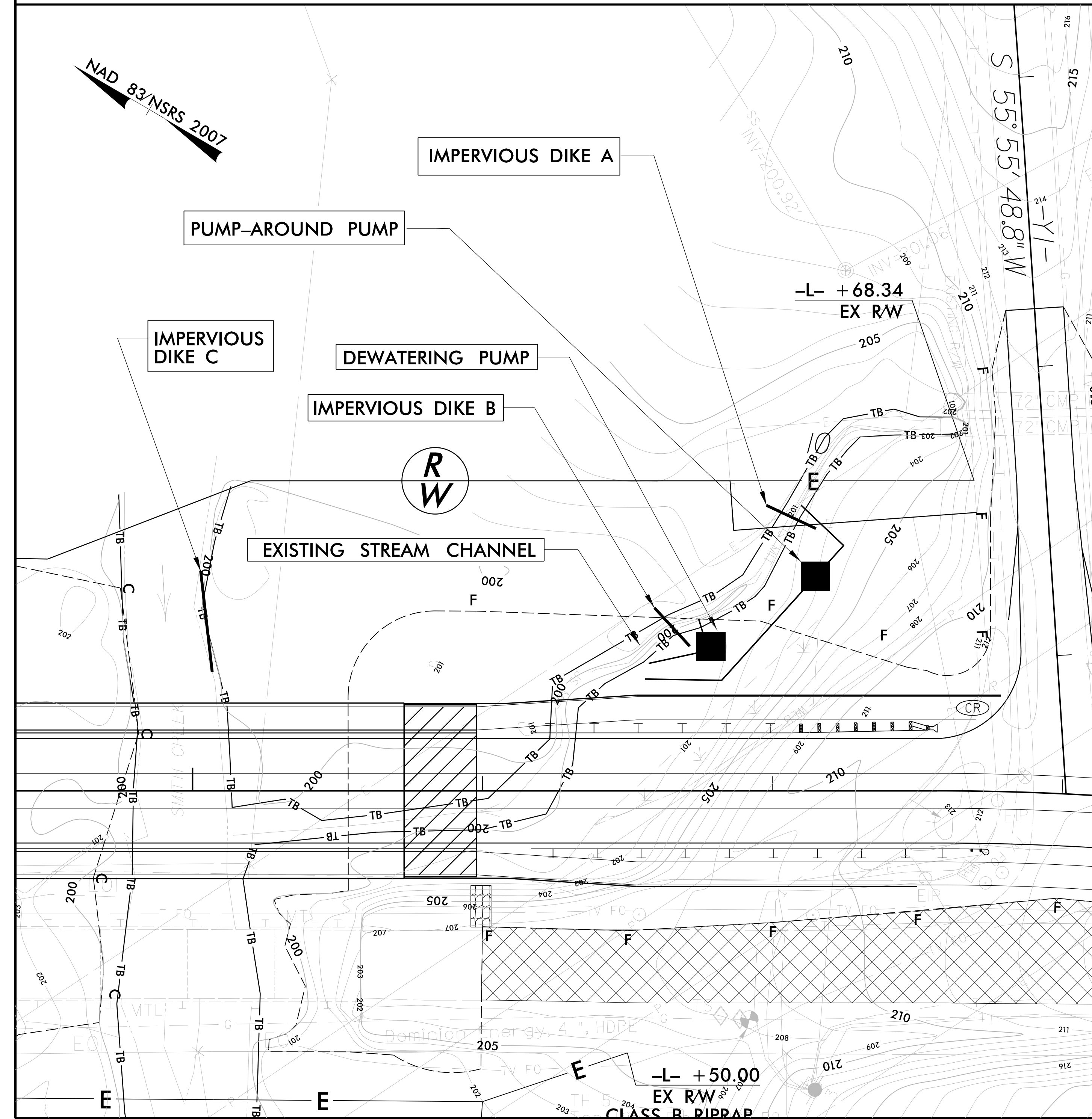
DITCH CONSTRUCTION SEQUENCE STA. -L- 22 + 00 LT

PHASE I

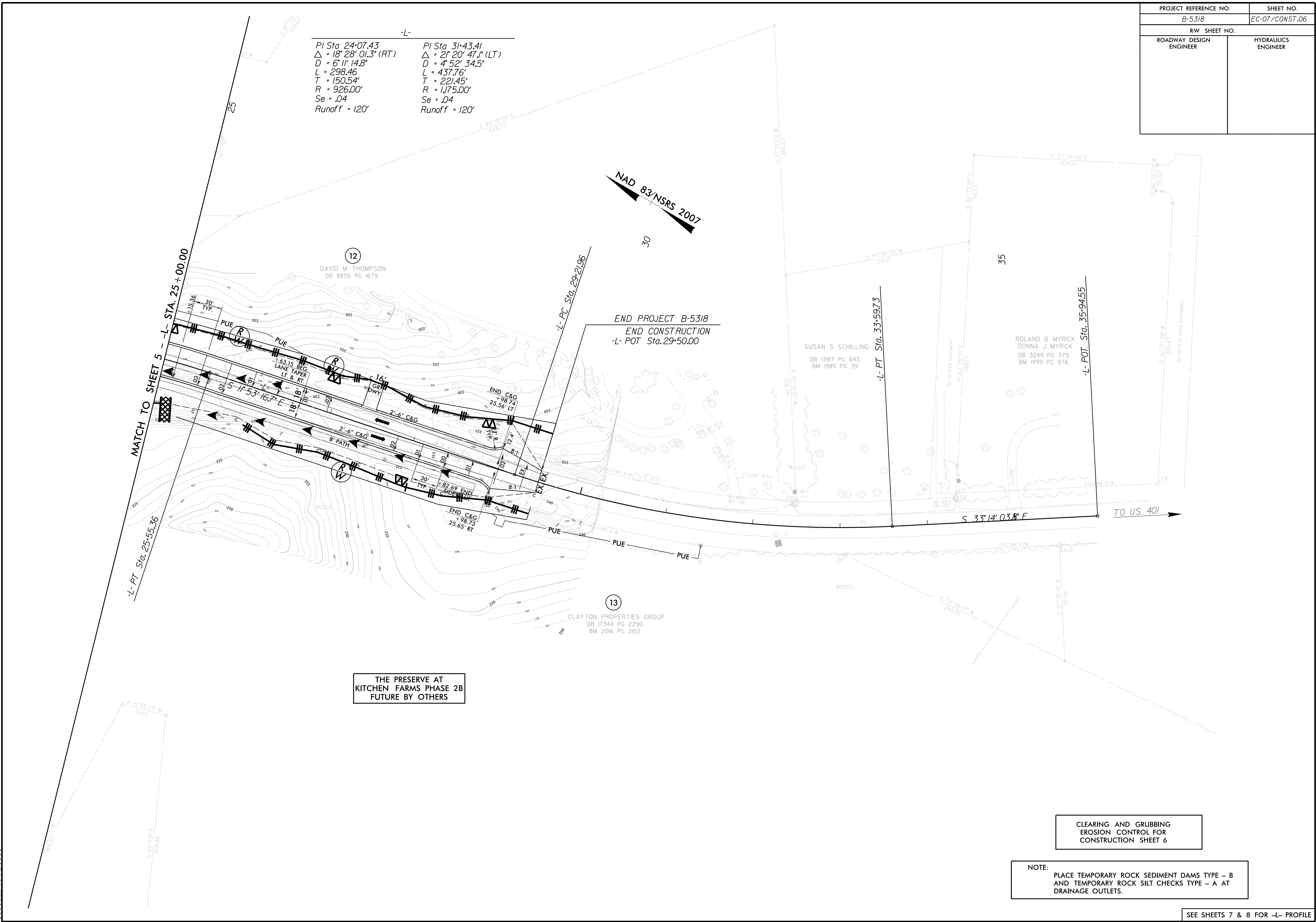
1. INSTALL IMPERVIOUS DIKES A, B, AND C.
2. UTILIZE PUMP AROUND OPERATION FOR STREAM DIVERSION. SEE SHEET EC-2E.
3. DEWATER WORK AREA WITH AN APPROVED METHOD.

PHASE II

1. CONSTRUCT BASE DITCH AND ADD RIP-RAP FOR BANK STABILIZATION.
2. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES B AND C.
3. REMOVE IMPERVIOUS DIKE B AND C.
4. REMOVE IMPERVIOUS DIKE A, PUMP AROUND OPERATION.
5. BACKFILL EXISTING CHANNEL IN ACCORDANCE WITH PLANS AND INSTALL IMPERVIOUS DIKE D.



PROJECT REFERENCE NO.		SHEET NO.	
B-5318		EC-07/CONST.06	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



-L-

PI Sta 24+07.43	PI Sta 31+43.41
$\Delta = 18^{\circ} 28' 01.3''$ (RT)	$\Delta = 21^{\circ} 20' 47.1''$ (LT)
D = 6' 11" 14.8"	D = 4' 52" 34.5"
L = 298.46	L = 437.76'
T = 150.54'	T = 221.45'
R = 926.00'	R = 1,175.00'
Se = .04	Se = .04
Runoff = 120'	Runoff = 120'

NAD 83/NSRS 2007

END PROJECT B-5318
END CONSTRUCTION
-L- POT Sta. 29+50.00

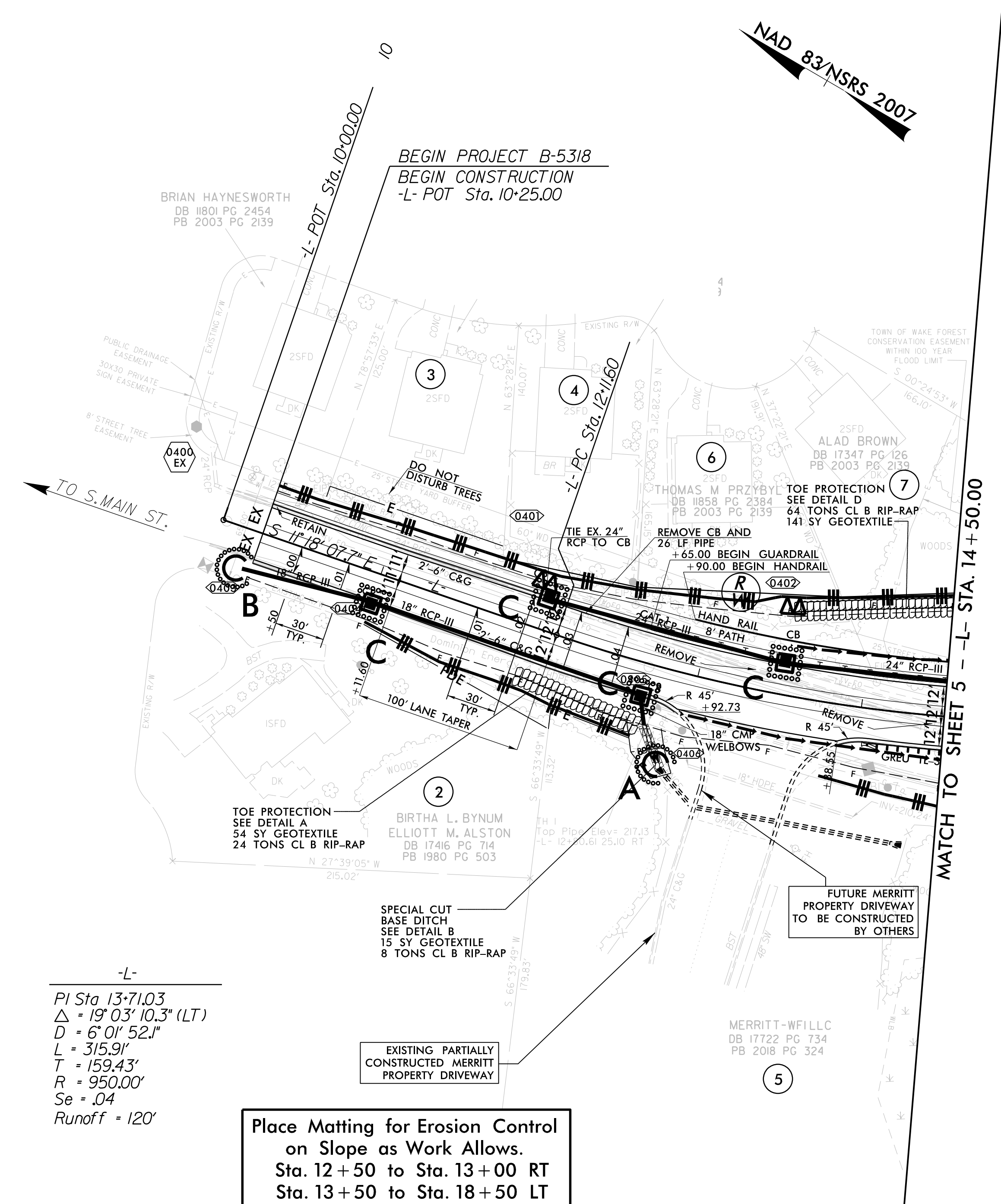
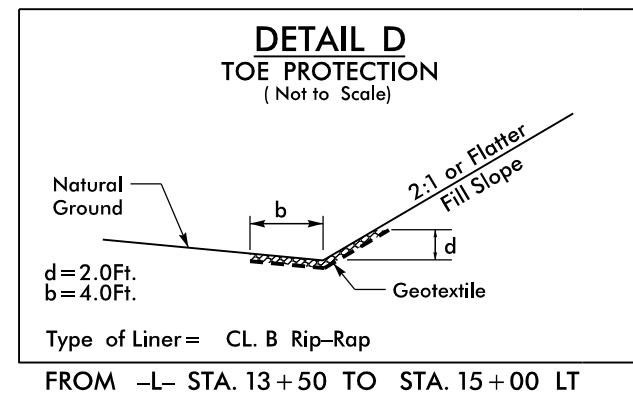
THE PRESERVE AT
KITCHEN FARMS PHASE 2B
FUTURE BY OTHERS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

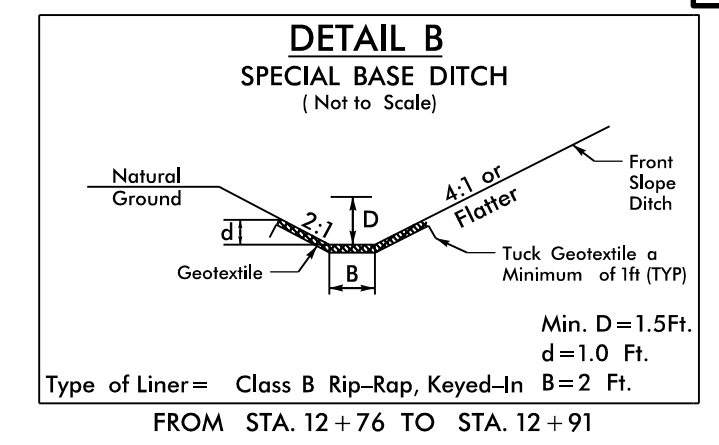
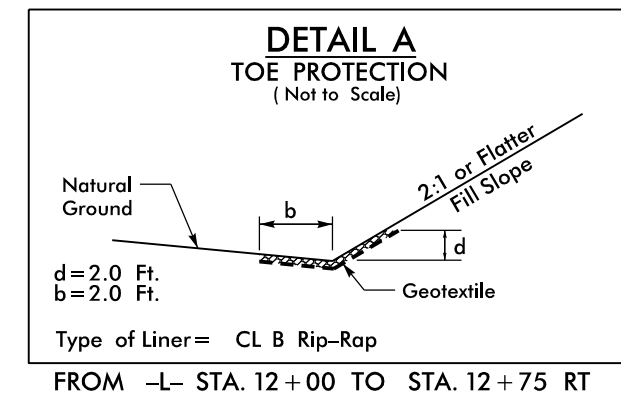
SEE SHEETS 7 & 8 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
B-5318	EC-08/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-
 PI Sta 13+71.03
 $\Delta = 19^{\circ} 03' 10.3" (LT)$
 $D = 6^{\circ} 01' 52.1"$
 $L = 315.91'$
 $T = 159.43'$
 $R = 950.00'$
 $Se = .04$
 $Runoff = 120'$

Place Matting for Erosion Control on Slope as Work Allows.
 Sta. 12+50 to Sta. 13+00 RT
 Sta. 13+50 to Sta. 18+50 LT



SEE SHEETS 7 & 8 FOR -L- PROFILE

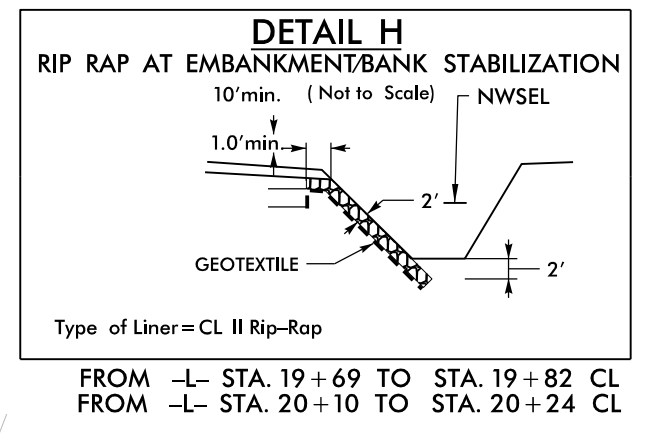
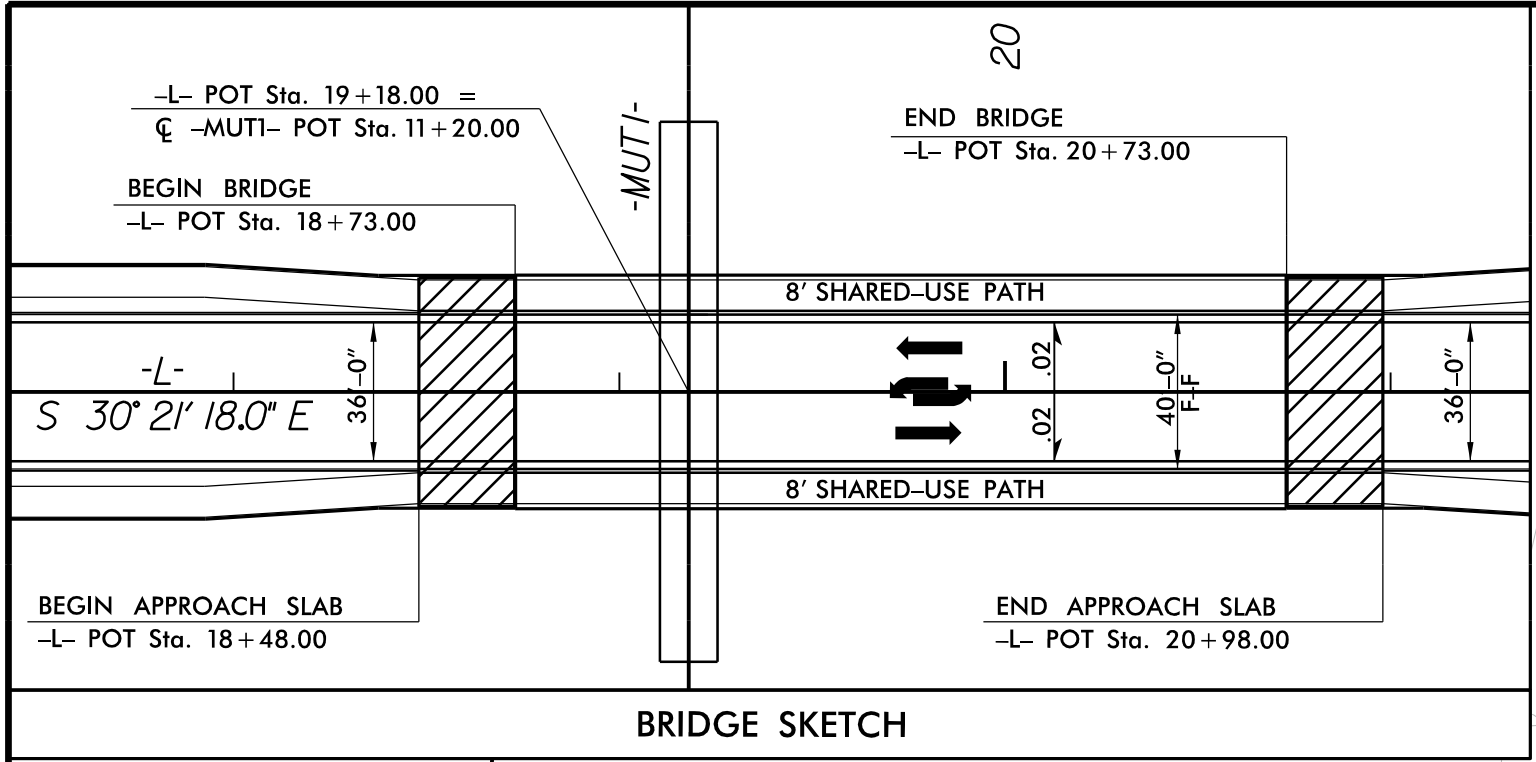
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 \$\$\$USE RNAME\$\$\$

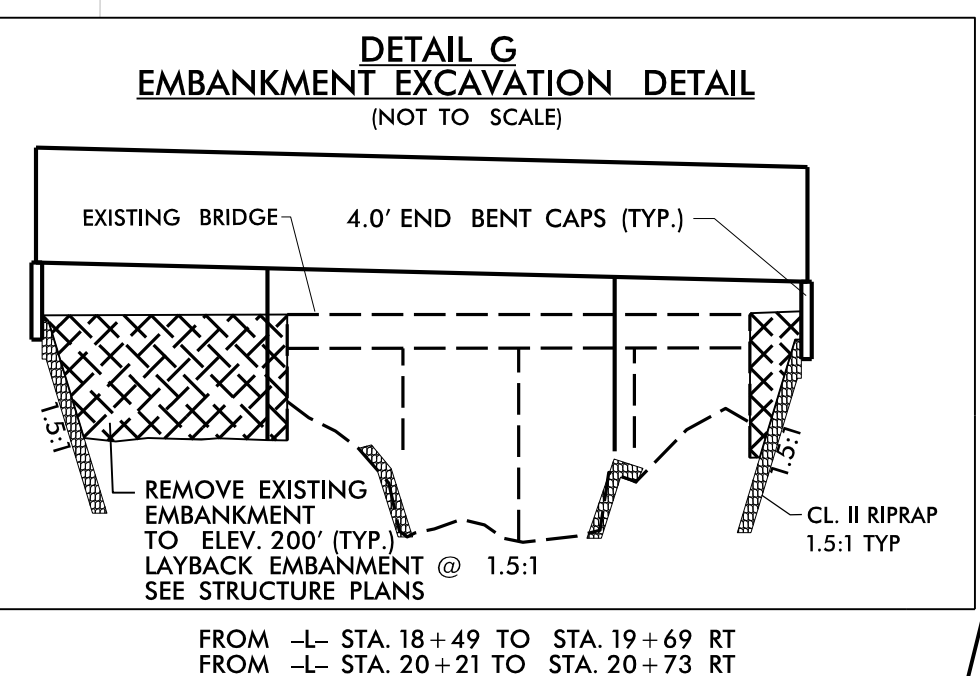
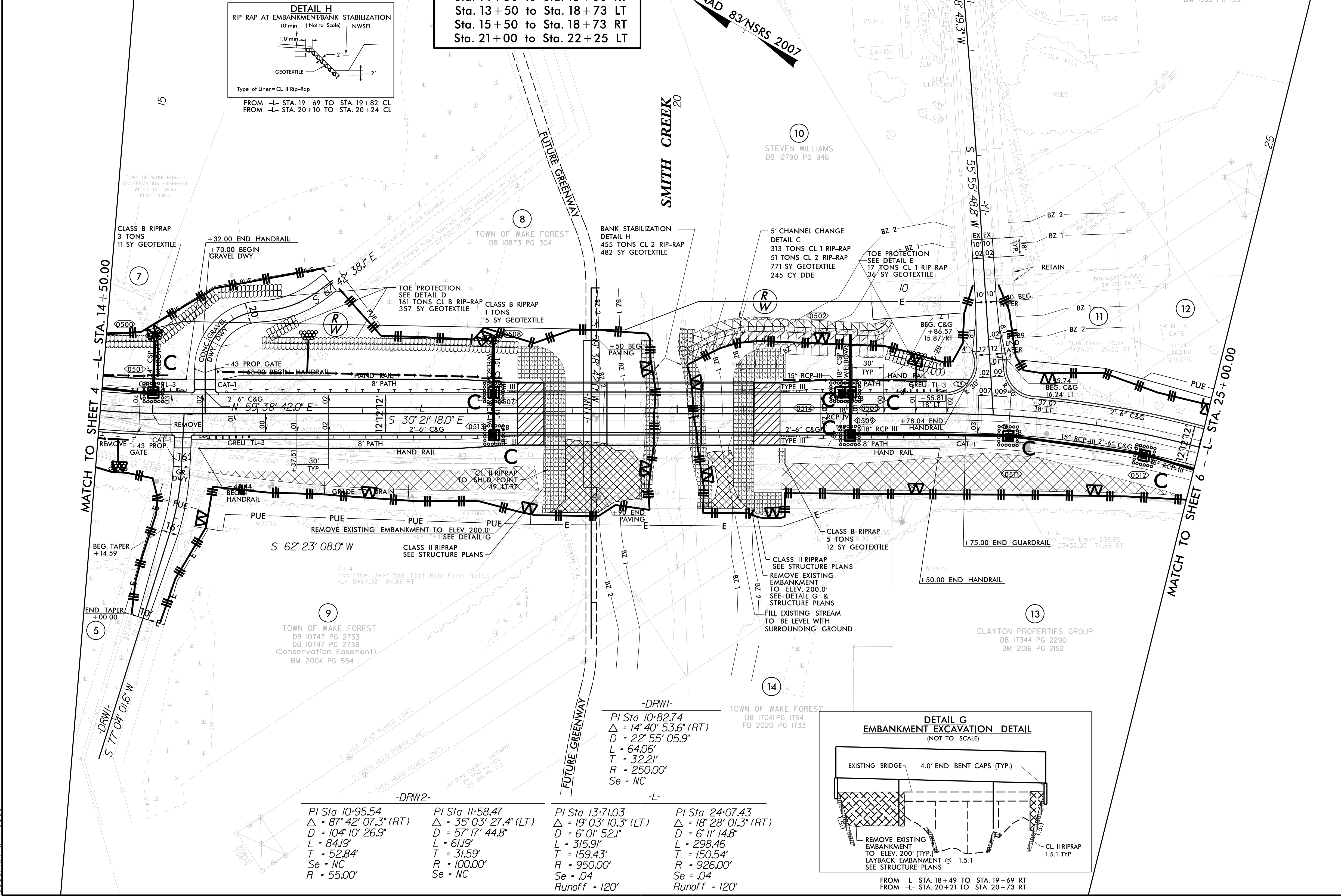
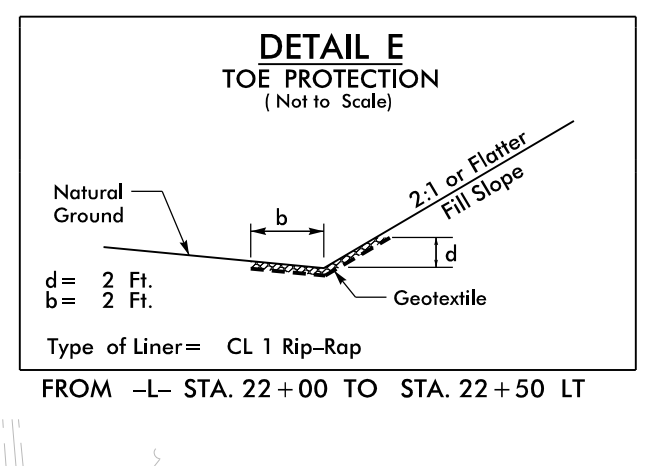
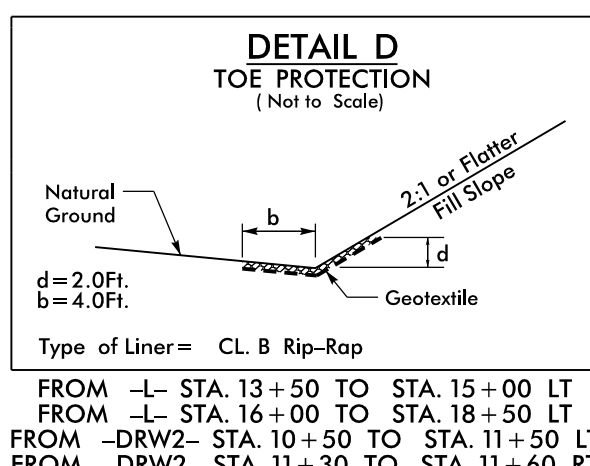
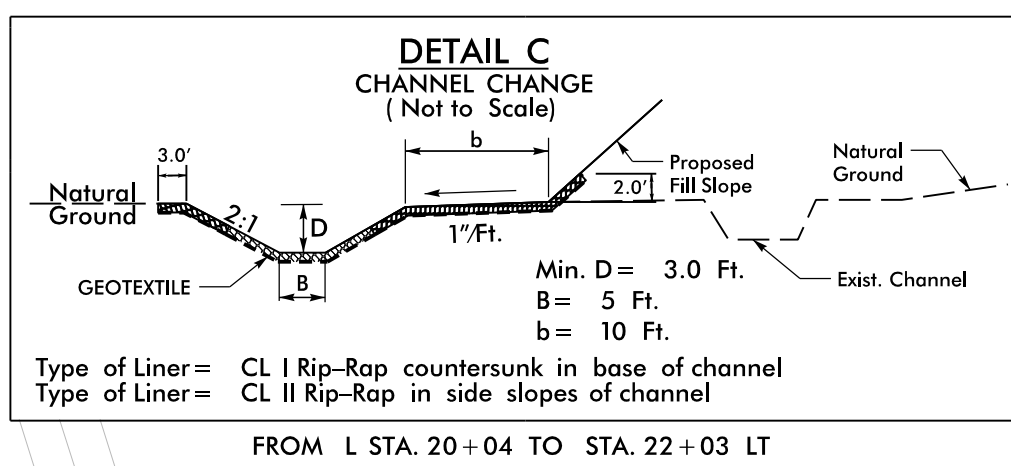
PROJECT REFERENCE NO.	SHEET NO.
B-5318	EC-09/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-YI-
 $PI Sta. 11+75.57$
 $\Delta = 0^{\circ} 56' 59.5" (RT)$
 $D = 0^{\circ} 42' 58.3"$
 $L = 132.62'$
 $T = 66.31'$
 $R = 8,000.00'$
 $Se = NC$

19-SEP-2022 12:55
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 8/17/19



Place Matting for Erosion Control on Slope as Work Allows.
 Sta. 14+50 to Sta. 15+00 RT
 Sta. 13+50 to Sta. 18+73 LT
 Sta. 15+50 to Sta. 18+73 RT
 Sta. 21+00 to Sta. 22+25 LT



-DRW1-
 $PI Sta. 10+82.74$
 $\Delta = 14^{\circ} 40' 53.6" (RT)$
 $D = 22^{\circ} 55' 05.9"$
 $L = 64.06'$
 $T = 32.21'$
 $R = 250.00'$
 $Se = NC$

-DRW2-
 $PI Sta. 10+95.54$
 $\Delta = 87^{\circ} 42' 07.3" (RT)$
 $D = 104^{\circ} 10' 26.9"$
 $L = 84.19'$
 $T = 52.84'$
 $Se = NC$
 $R = 55.00'$

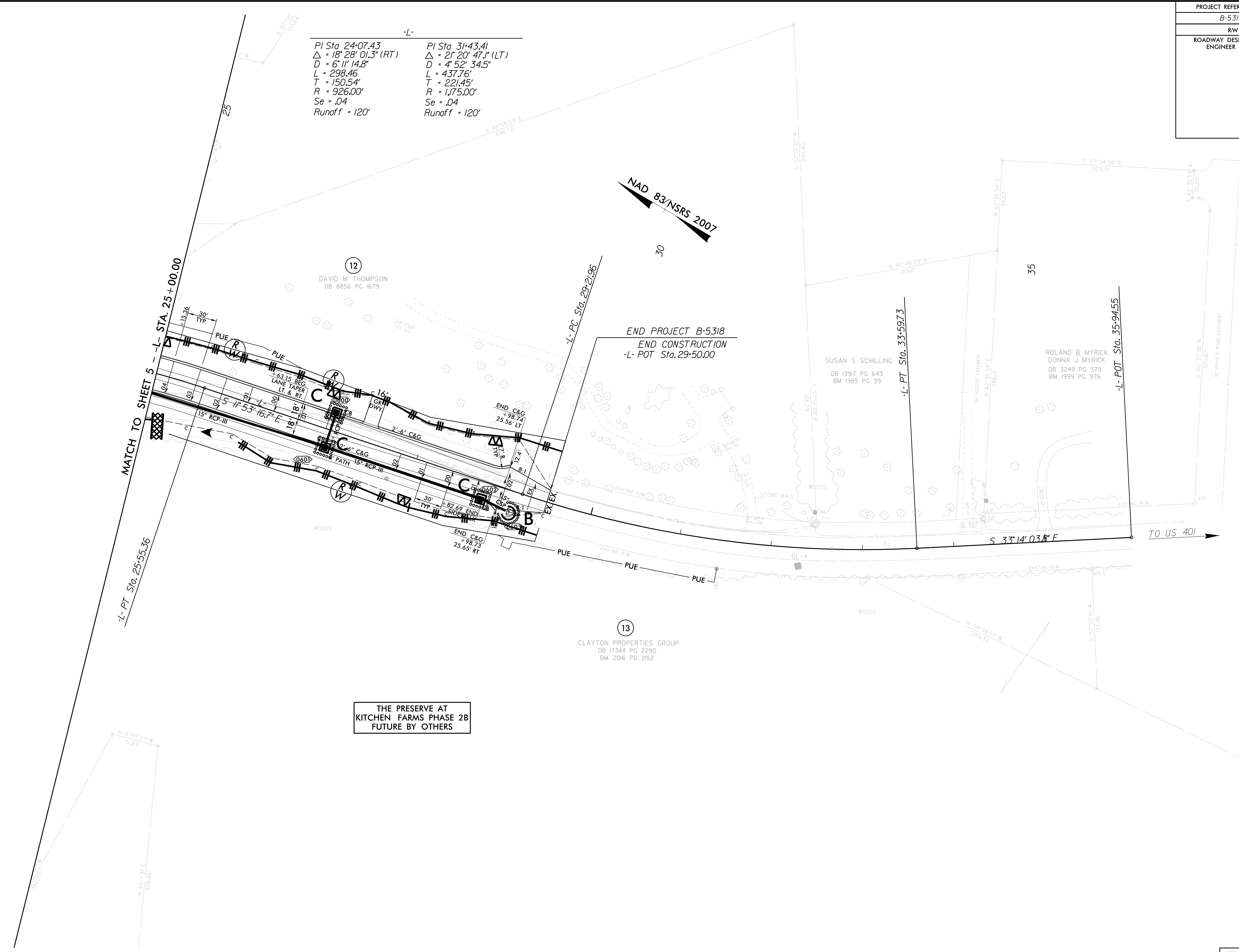
-L-
 $PI Sta. 11+58.47$
 $\Delta = 35^{\circ} 03' 27.4" (LT)$
 $D = 57^{\circ} 17' 44.8"$
 $L = 61.19'$
 $T = 31.59'$
 $R = 100.00'$
 $Se = NC$

-L-
 $PI Sta. 13+71.03$
 $\Delta = 19^{\circ} 03' 10.3" (LT)$
 $D = 6^{\circ} 01' 52.1"$
 $L = 315.91'$
 $T = 159.43'$
 $R = 950.00'$
 $Se = .04$
 $Runoff = 120'$

-L-
 $PI Sta. 24+07.43$
 $\Delta = 18^{\circ} 28' 01.3" (RT)$
 $D = 6^{\circ} 11' 14.8"$
 $L = 298.46'$
 $T = 150.54'$
 $R = 926.00'$
 $Se = .04$
 $Runoff = 120'$

SEE SHEETS 7 & 8 FOR -L- PROFILE
 SEE SHEET 9 FOR -YI- PROFILE
 SEE SHEET 9 FOR -MUTI- PROFILE
 SEE SHEET 9 FOR -DRW1- PROFILE
 SEE SHEET 9 FOR -DRW2- PROFILE
 SEE SHEETS S-1 THRU S-41 FOR STRUCTURE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
B-5318	EC-10/CONST.06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-

PI Sta 24+07.43	PI Sta 31+43.41
$\Delta = 18^\circ 28' 01.3''$ (RT)	$\Delta = 21^\circ 20' 47.1''$ (LT)
D = 6' 11" 14.8"	D = 4' 52" 34.5"
L = 298.46	L = 437.76'
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Runoff = 120'	Runoff = 120'

NAD 83/NSRS 2007

THE PRESERVE AT
KITCHEN FARMS PHASE 2B
FUTURE BY OTHERS