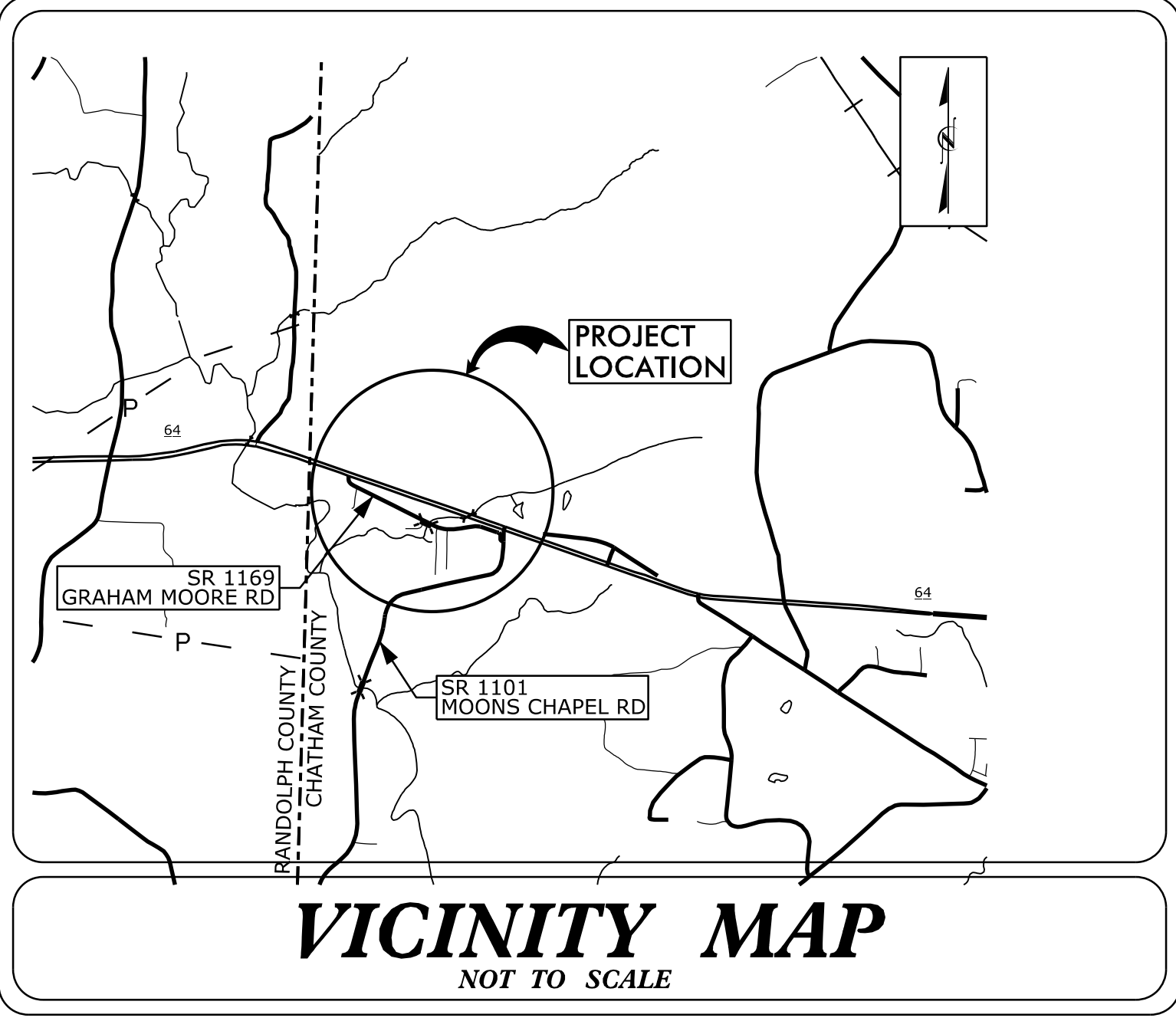
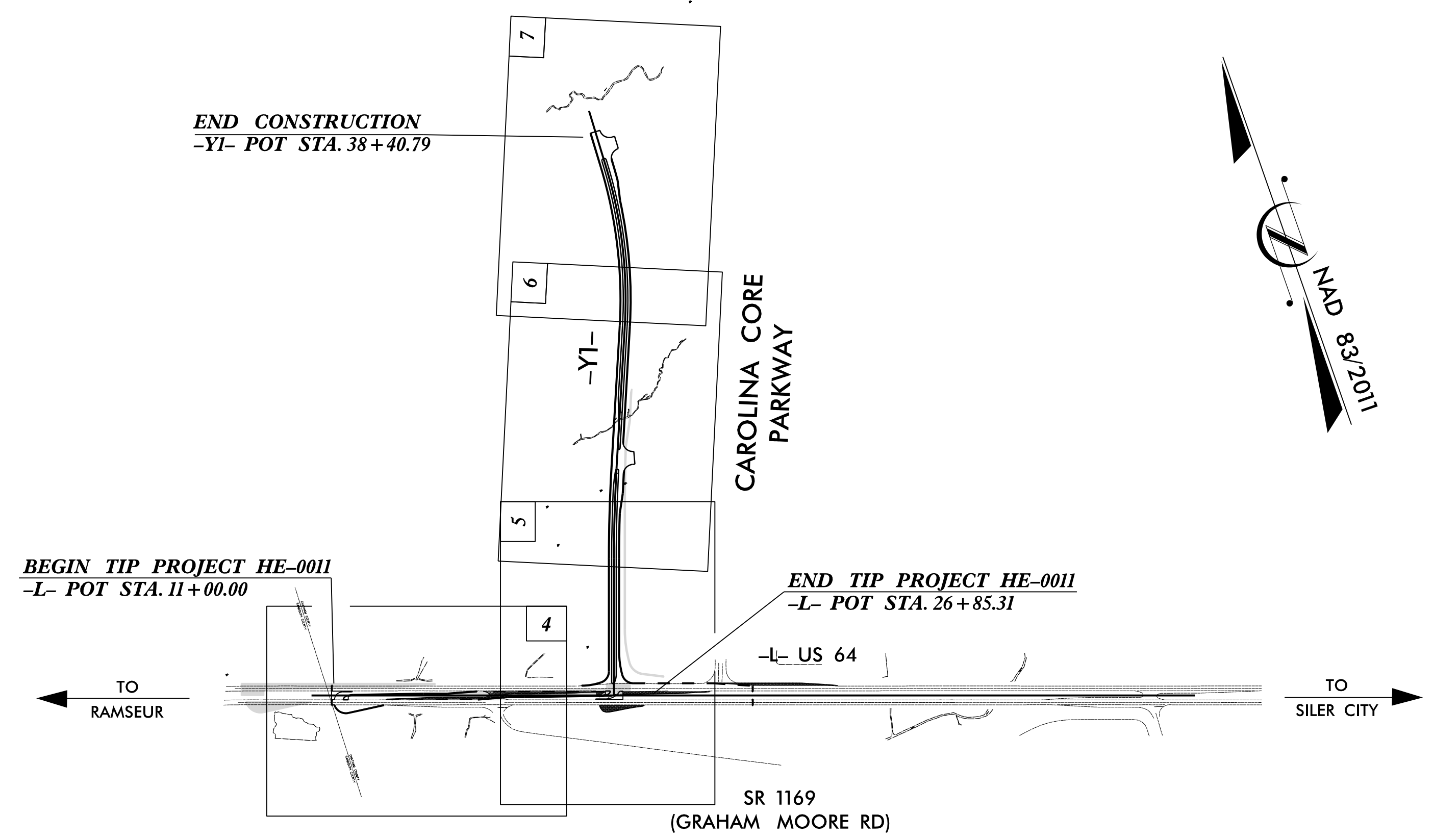


TIP PROJECT: HE-0011



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

LOCATION: CAM SITE ROADWAY IMPROVEMENTS
ALONG US 64 JUST WEST OF SILER CITY
TYPE OF WORK: GRADNG, PAVING & DRAINAGE

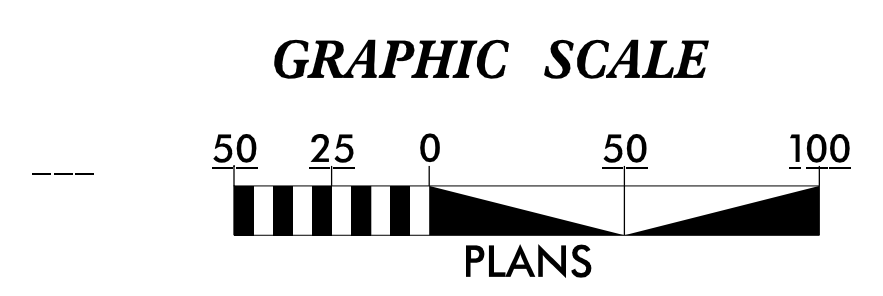


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HE-0011	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	T
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	RS
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	RS
1633.02	Temporary Rock Silt Check Type-B	RS
	Wattle/Coir Fiber Wattle	W
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	W
1634.01	Temporary Rock Sediment Dam Type-A	SD
1634.02	Temporary Rock Sediment Dam Type-B	SD
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RP
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RP
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SK
	Tiered Skimmer Basin	SK
	Infiltration Basin	IB

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



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:
GANNETT FLEMING

Designed by:
DAVID FULLER **4541**
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

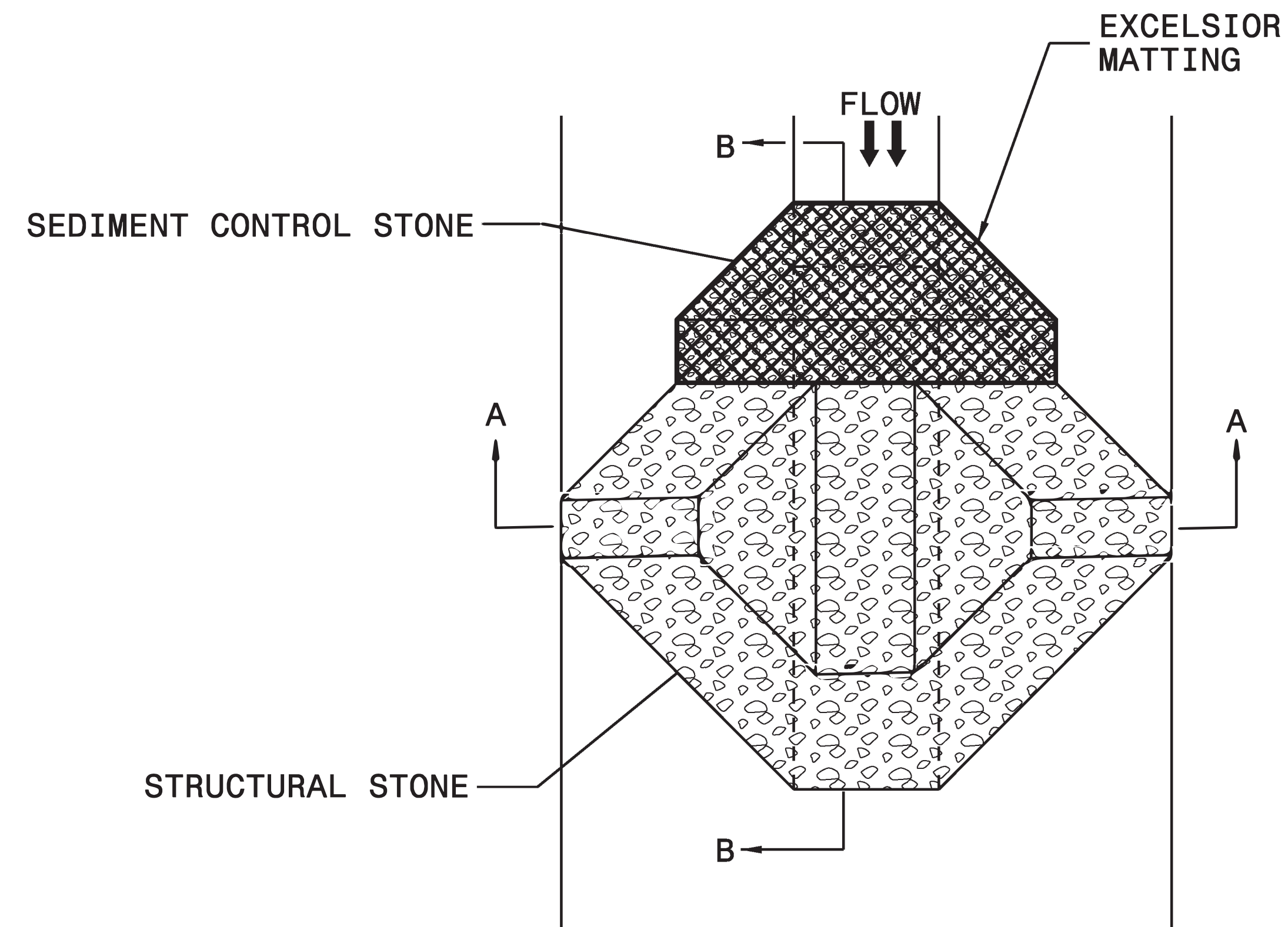
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Jaffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

26-JUL-2023 14:39 Task 017 - Chatham County Site/Erosion Control/CADD/PSH/HE-0011-dwg.tah.dgn

PROJECT REFERENCE NO.	SHEET NO.
HE-0011	FC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN

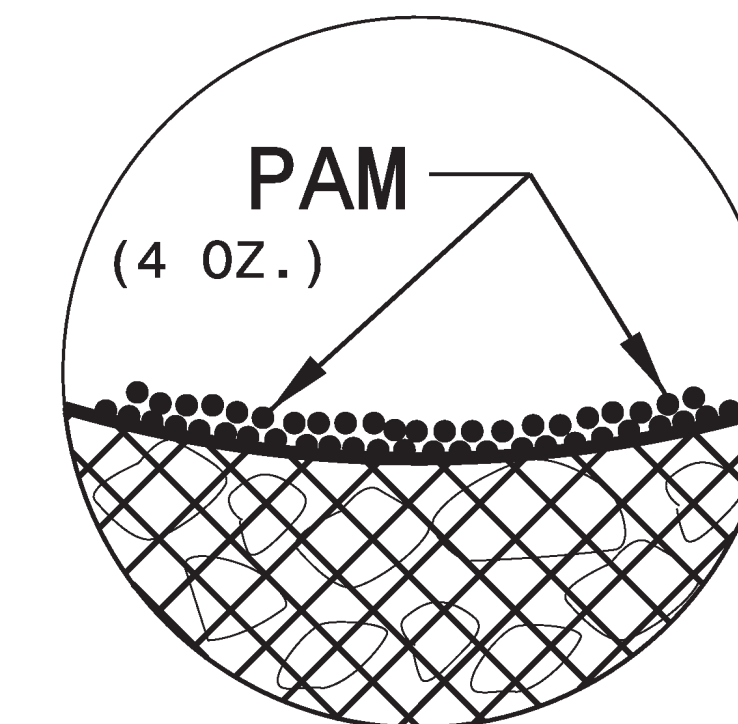
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

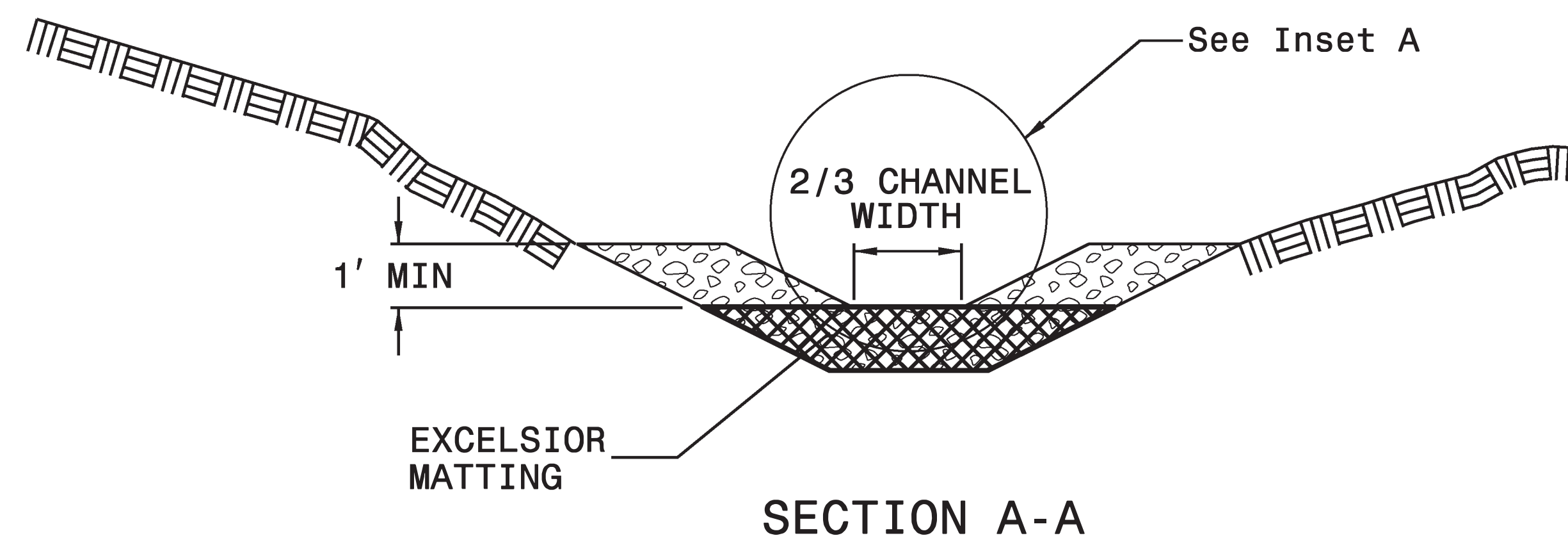
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

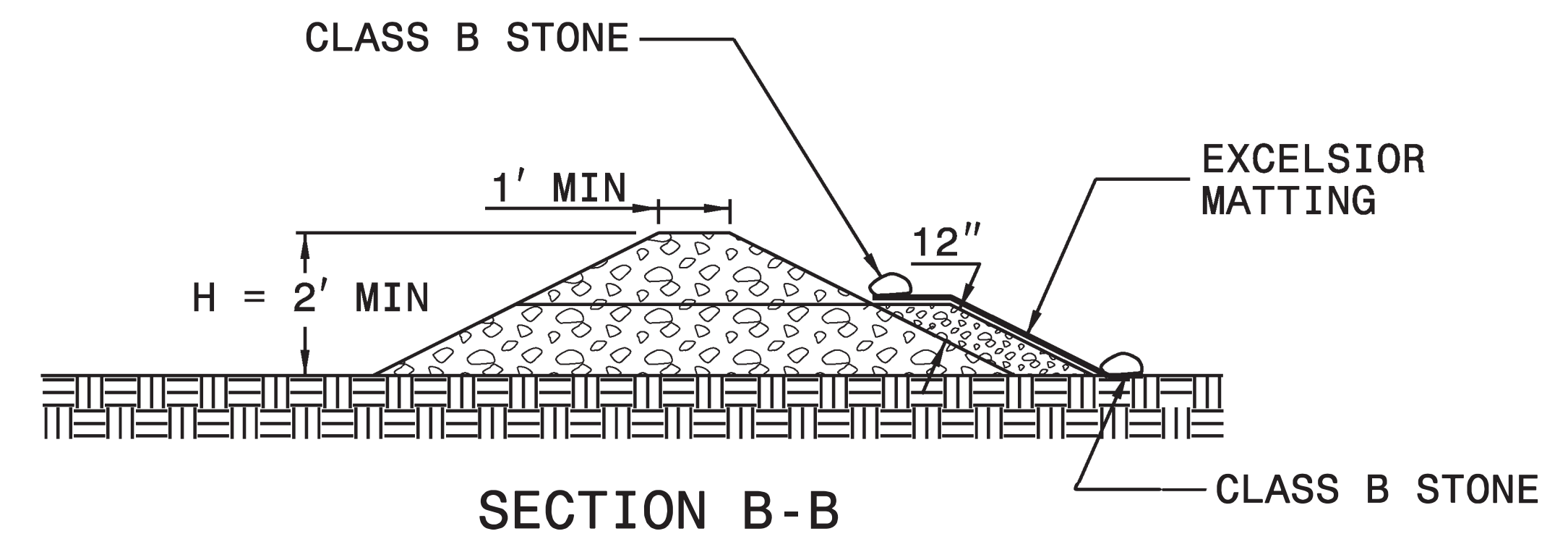
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A

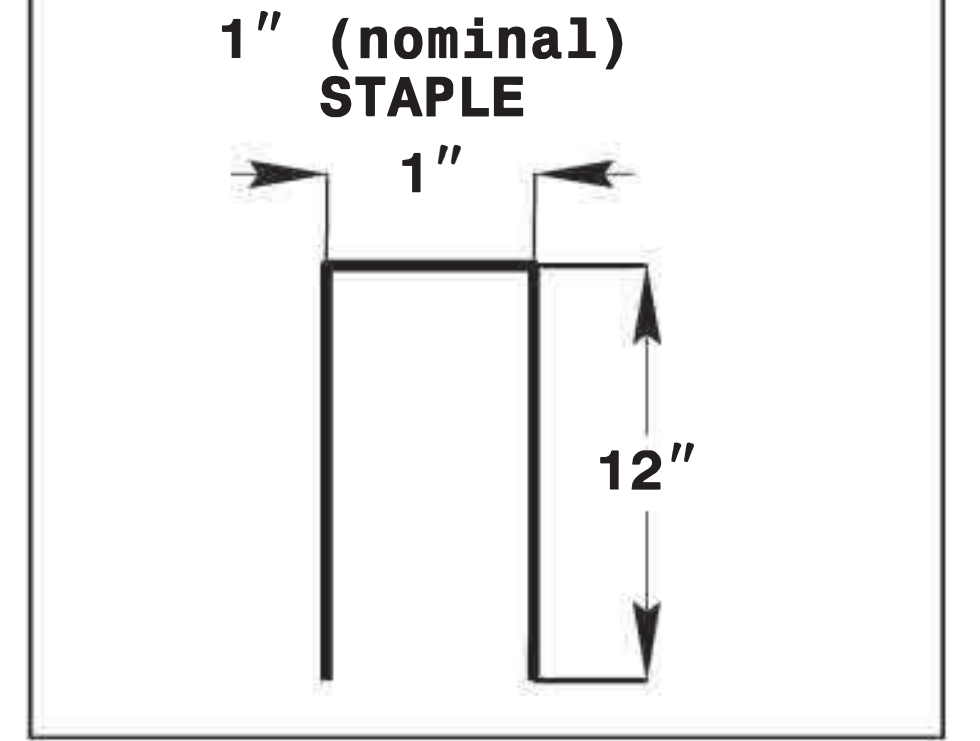
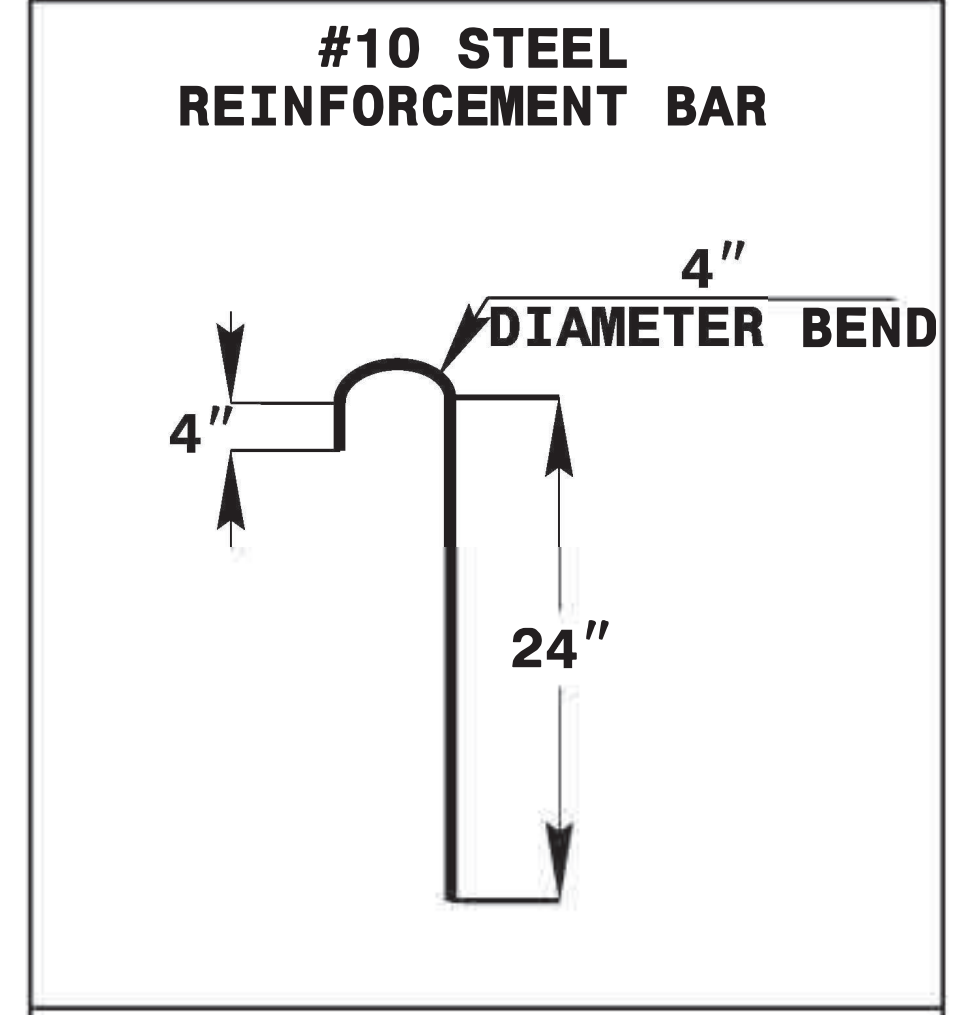
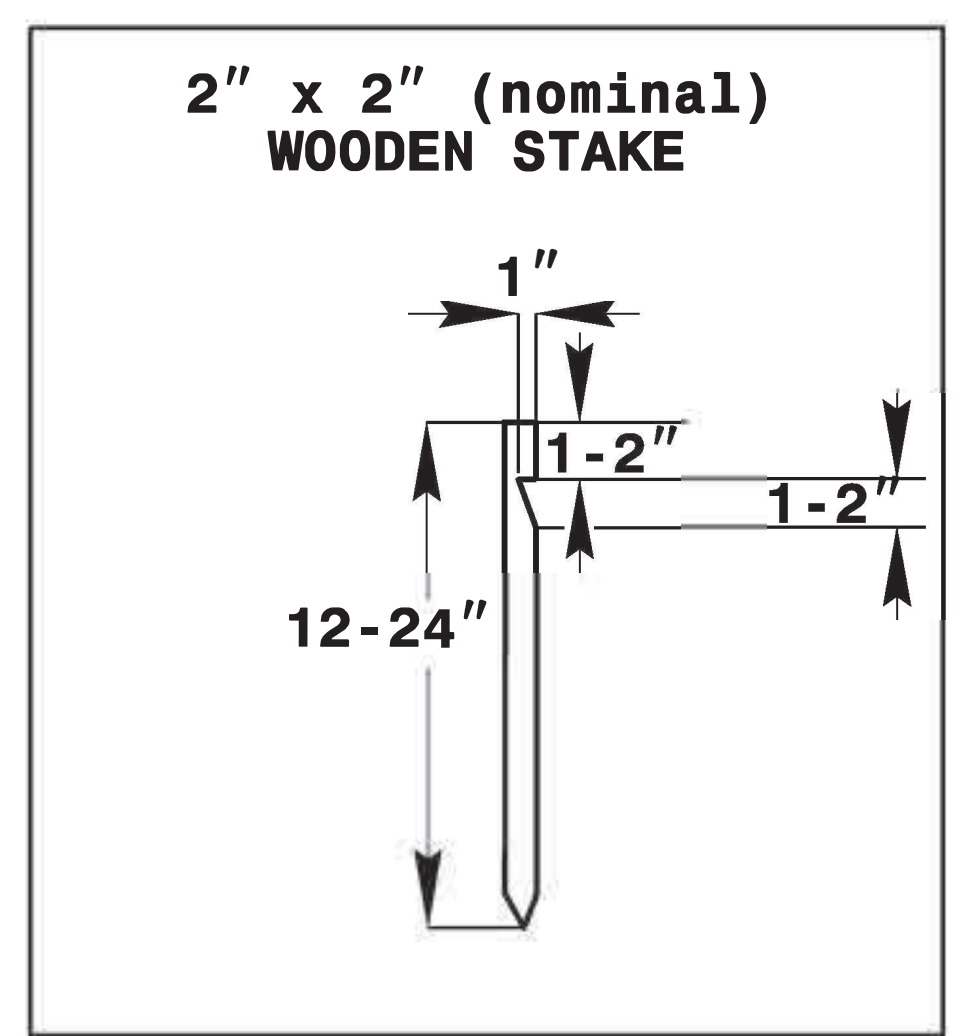
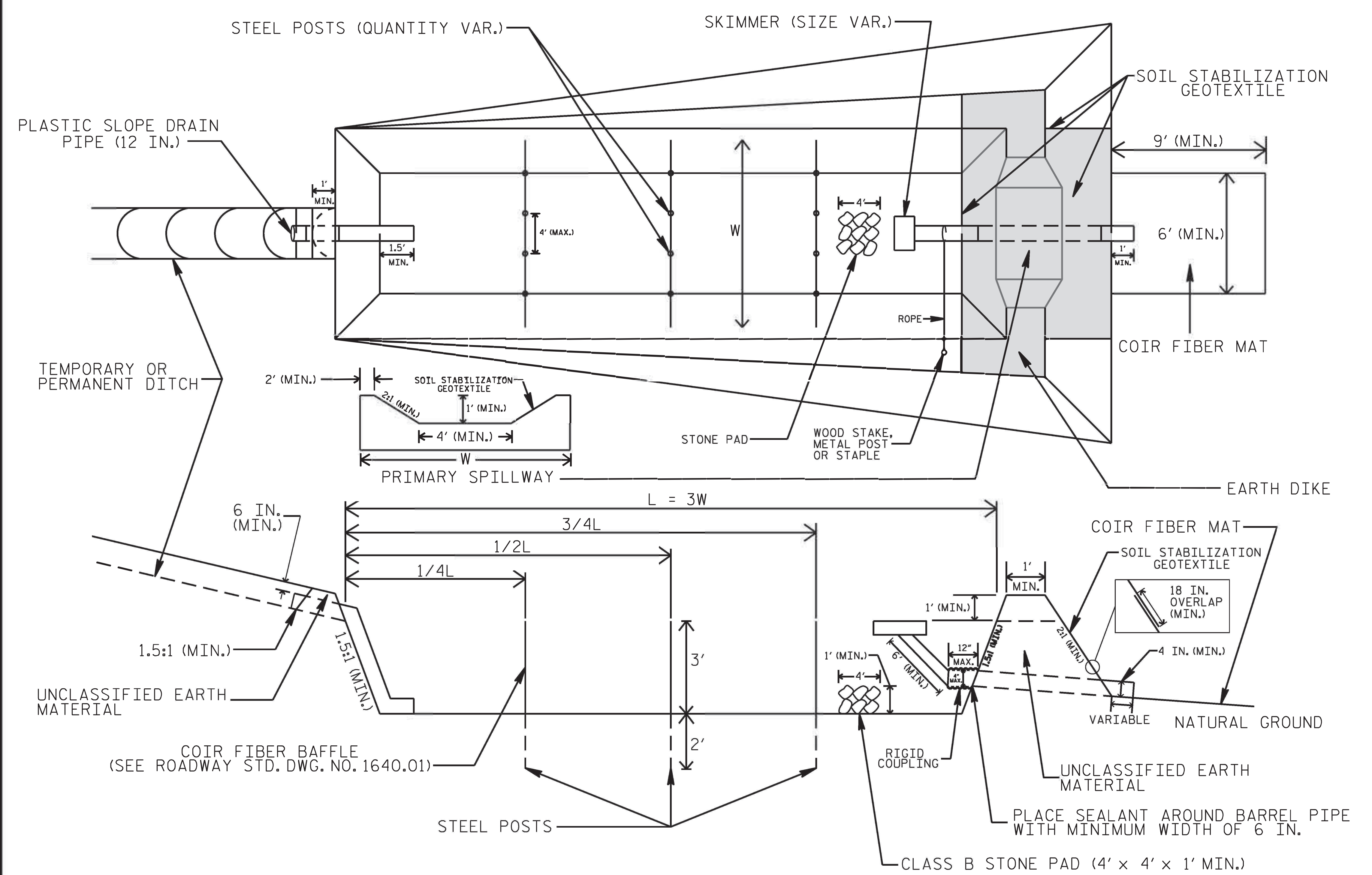


SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO. HE-0011	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL



COIR FIBER MAT ANCHOR OPTIONS

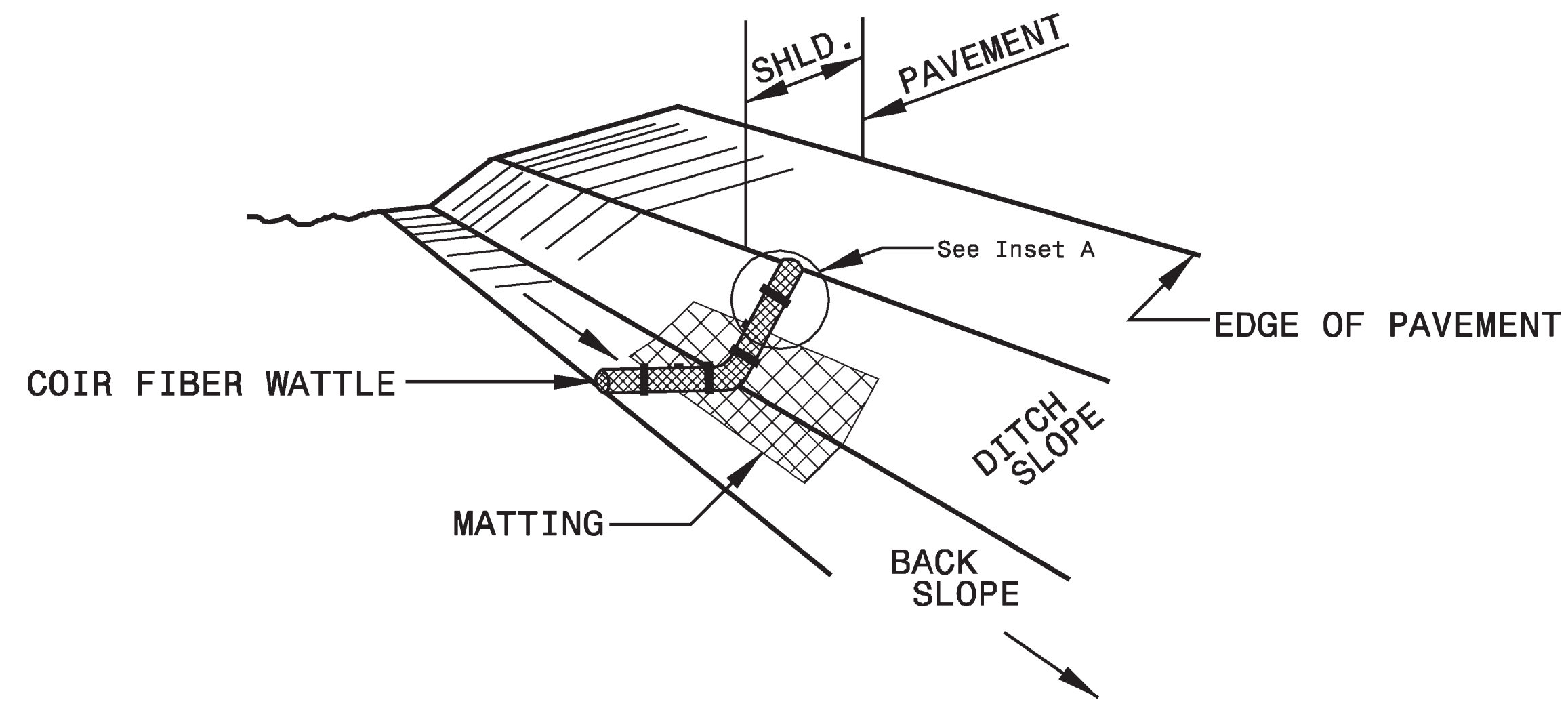
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

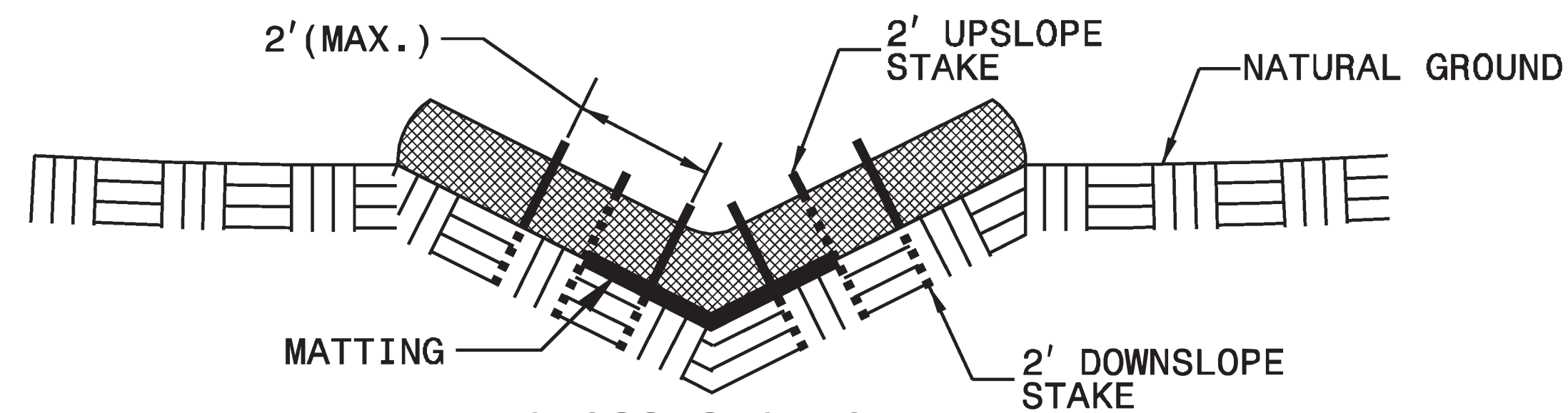
NOT TO SCALE

PROJECT REFERENCE NO. <i>HE-0077</i>	SHEET NO. <i>EC-2C</i>
RW. SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

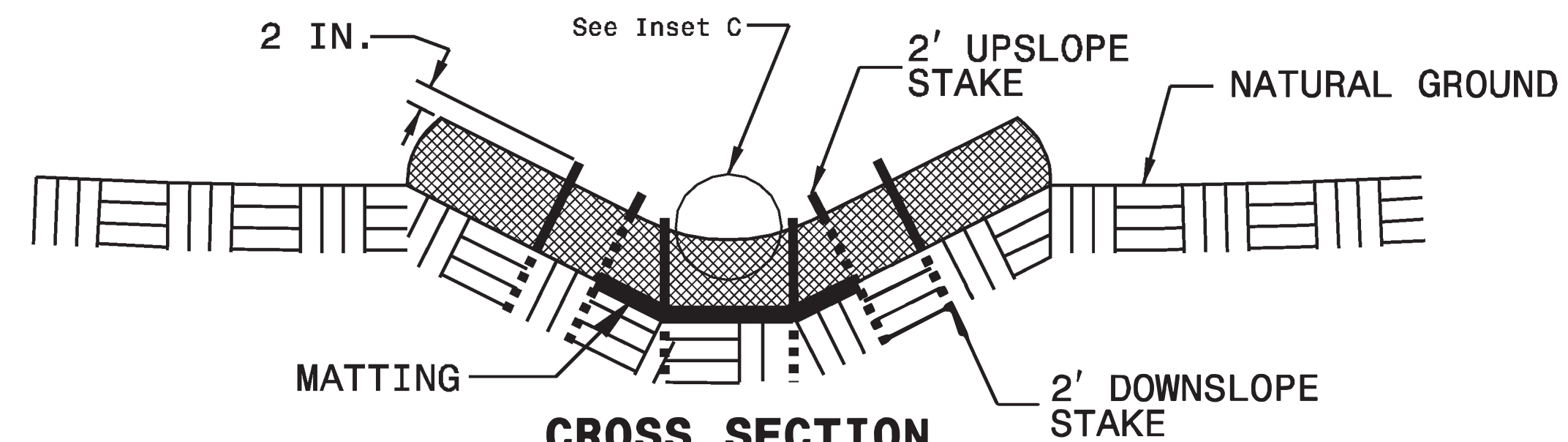
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

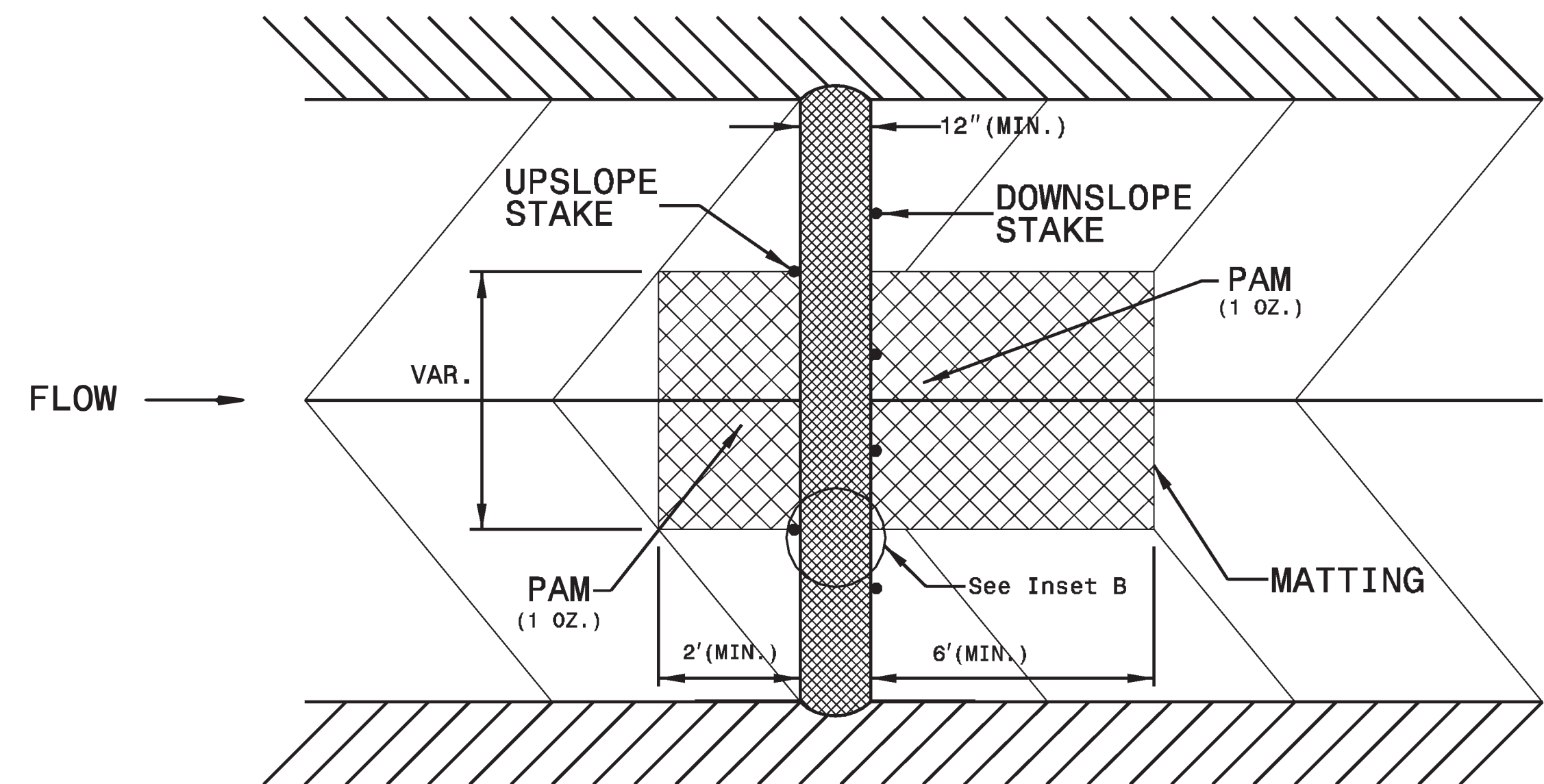
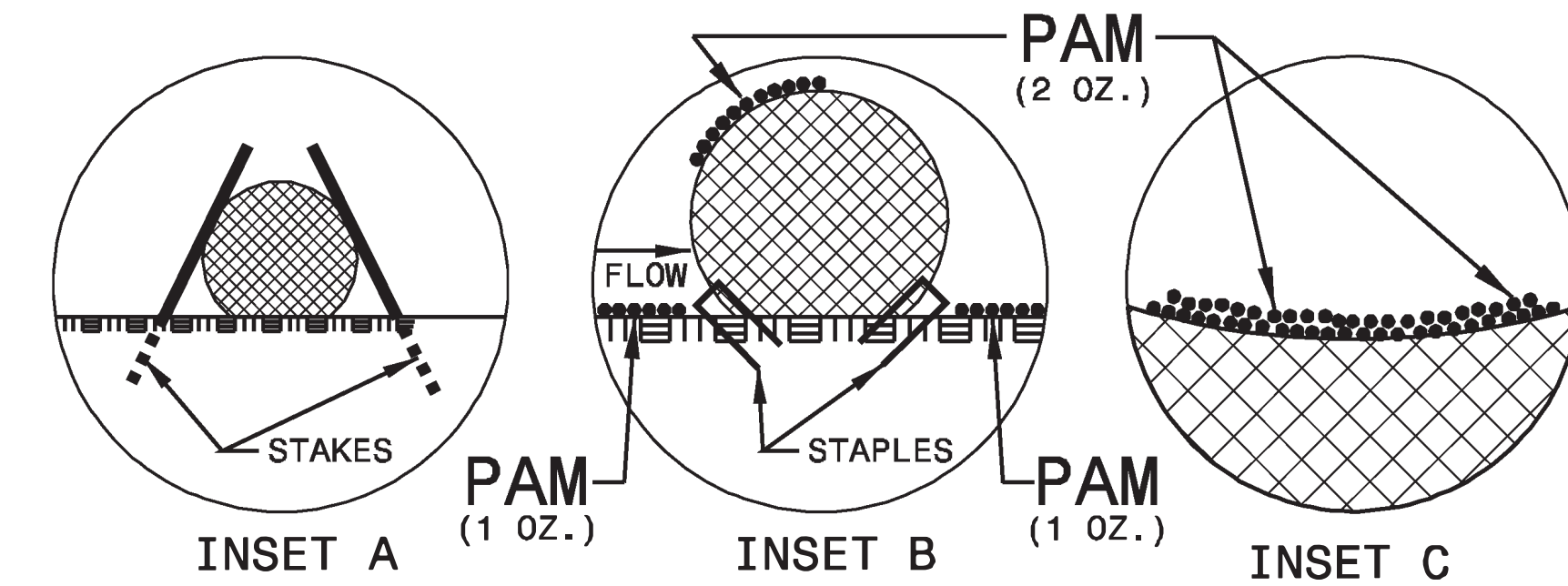
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



TOP VIEW

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

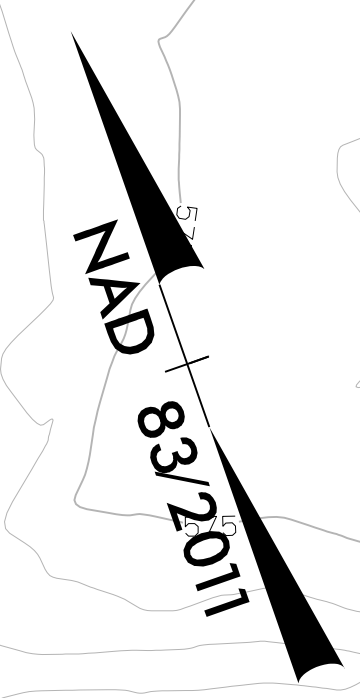


PROJECT REFERENCE NO.	SHEET NO.
HE-0011	EC-3A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

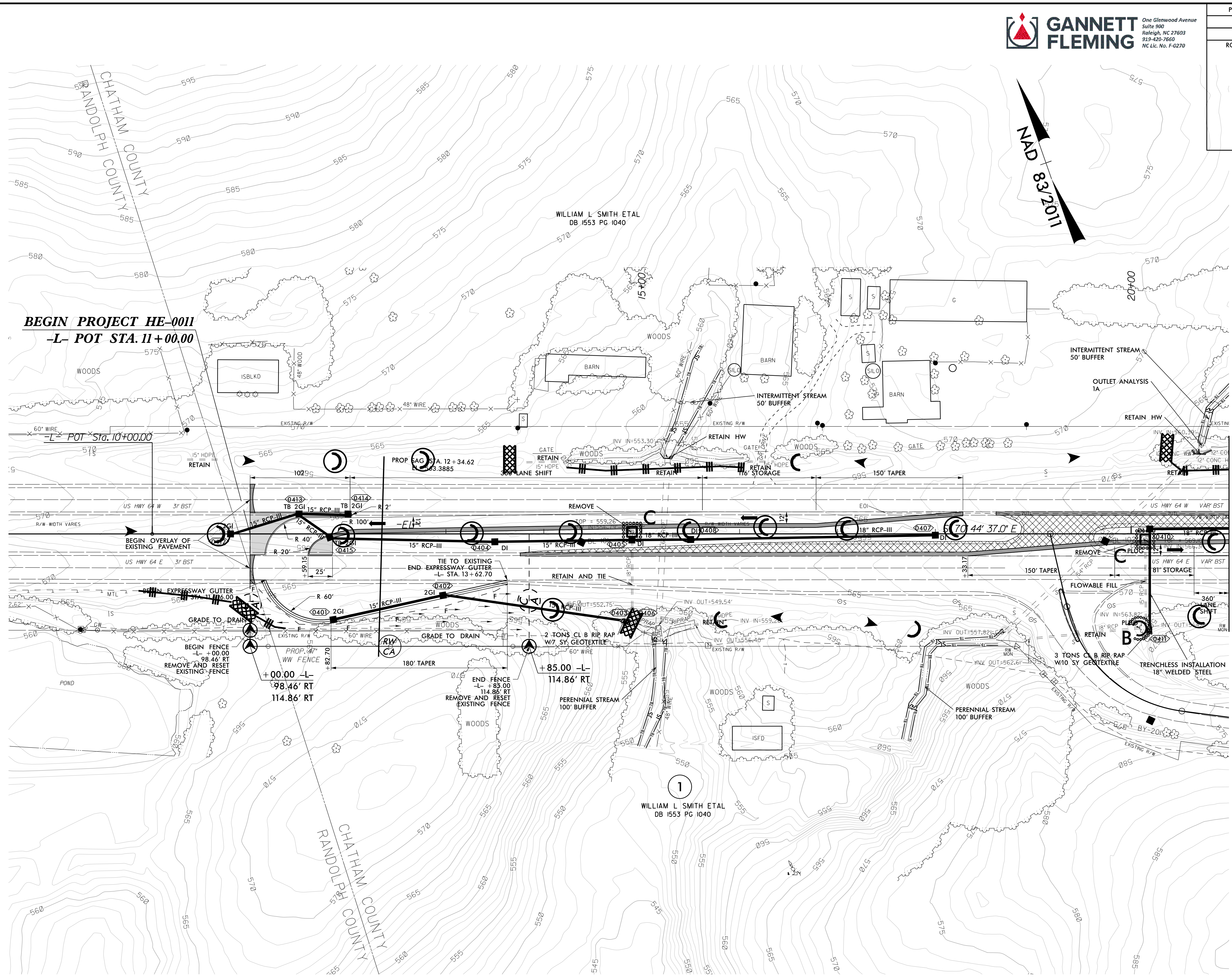
SOIL STABILIZATION TIMEFRAMES

<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.
HE-0011	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4



MATCHLINE SHEET 5
-L- STA 21+00.00

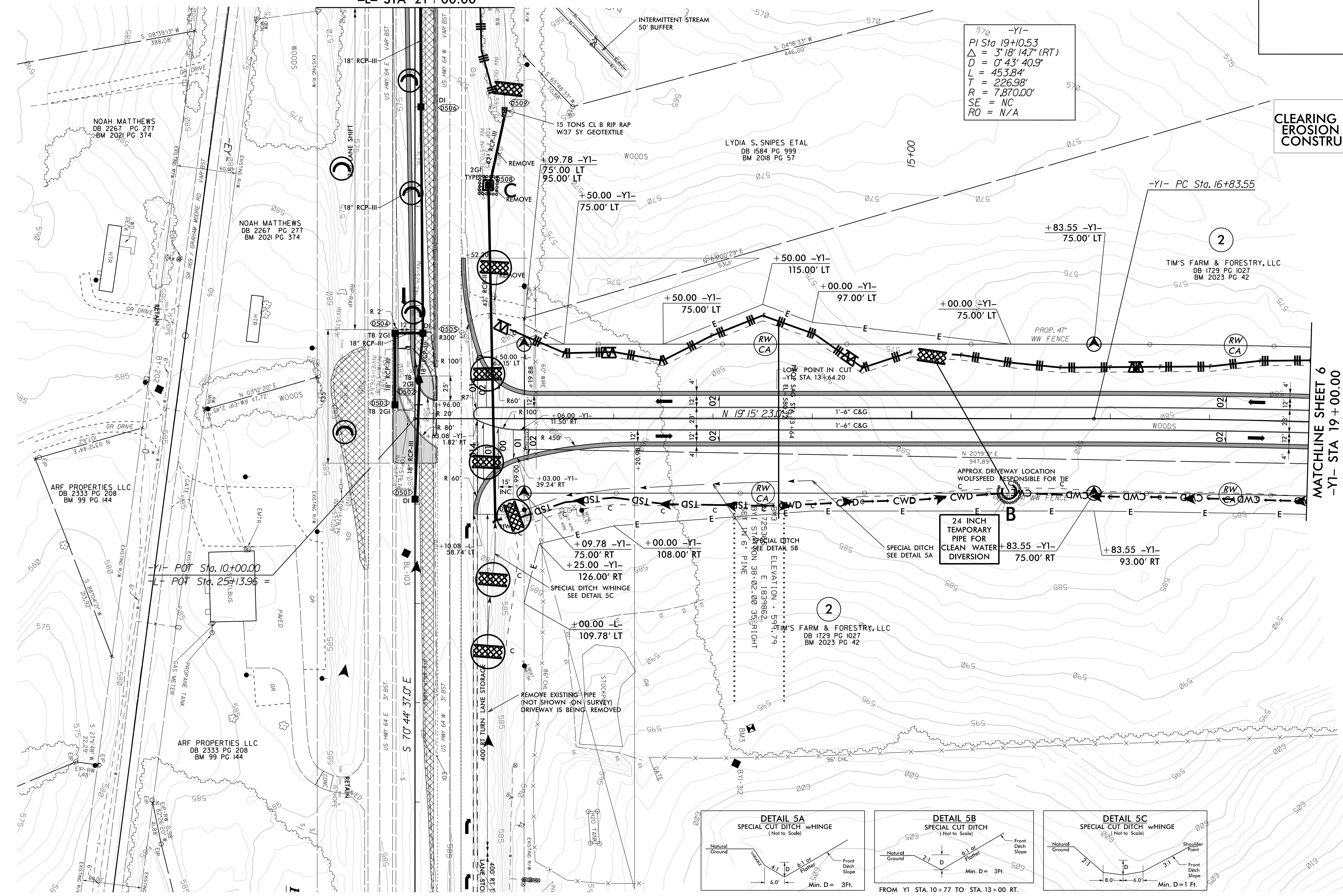
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PROJECT REFERENCE NO.	SHEET NO.
HE-0011	EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NAD 83/2011

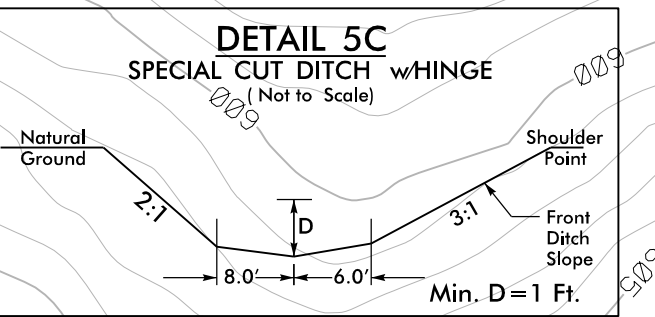
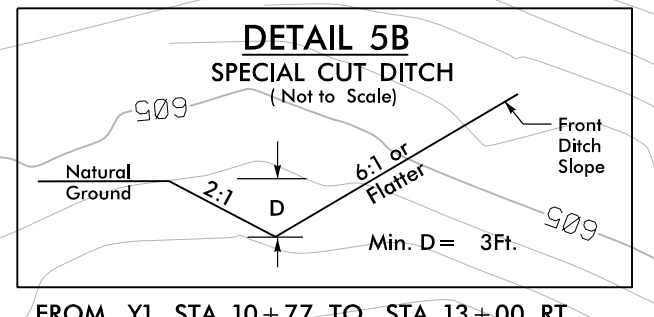
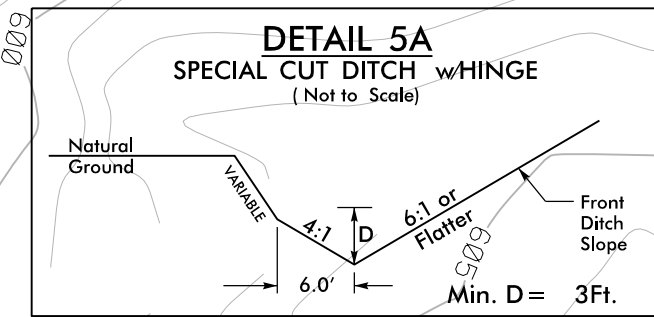
MATCHLINE SHEET 4
-L- STA 21+00.00



570 -Y1-
PI Sta 19+10.53
 $\Delta = 3'18''14.7'' (RT)$
 $D = 0'43''40.9''$
 $L = 453.84'$
 $T = 226.98'$
 $R = 7,870.00'$
 $SE = NC$
 $RO = N/A$

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

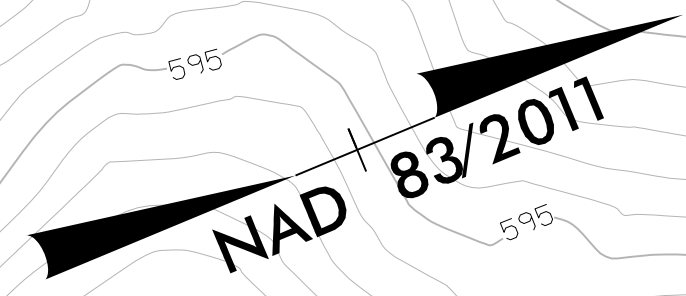
MATCHLINE SHEET 6
-Y1- STA 19+00.00



FOR -Y1- PROFILE, SEE SHEET 8

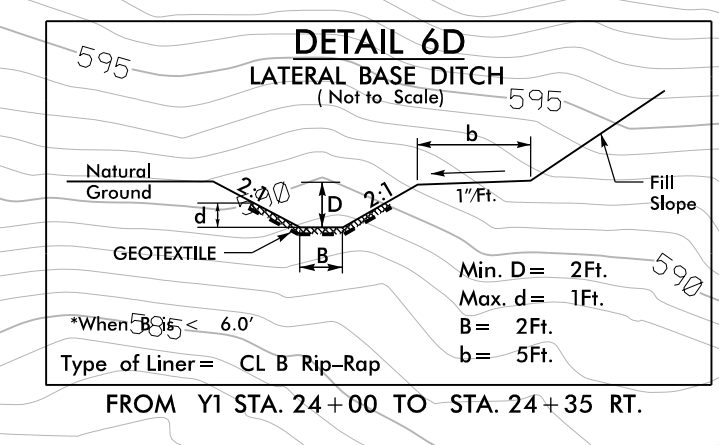
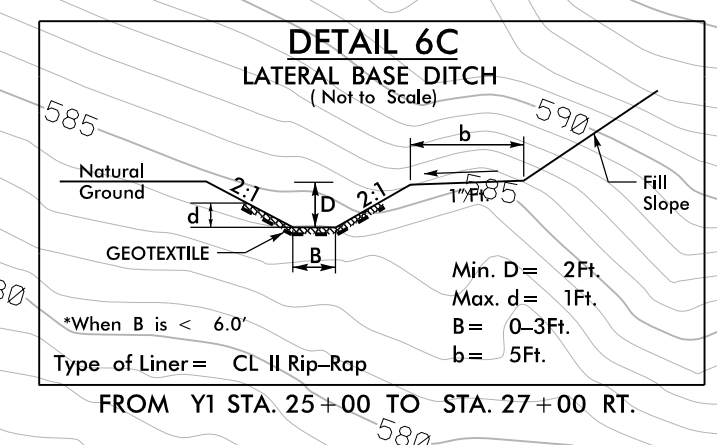
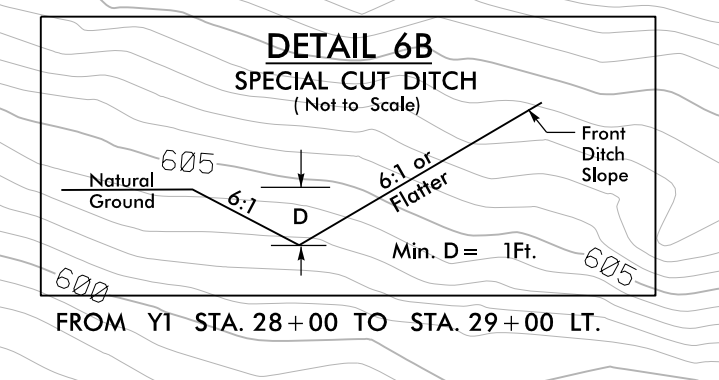
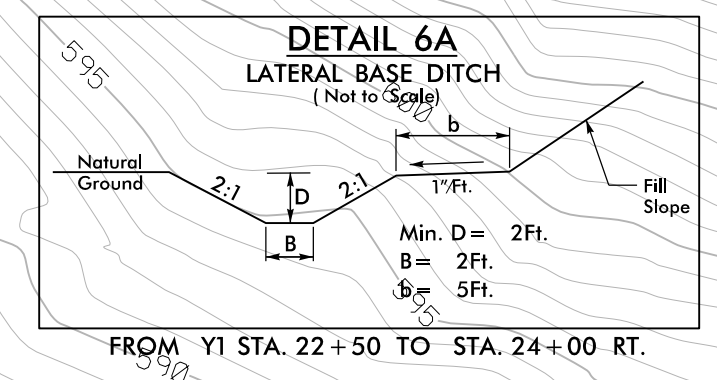
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PROJECT REFERENCE NO.	SHEET NO.
HE-0011	EC-6/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



$PI\ Sta\ 19+10.53$
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 $L = 453.84'$
 $T = 226.98'$
 $R = 7,870.00'$
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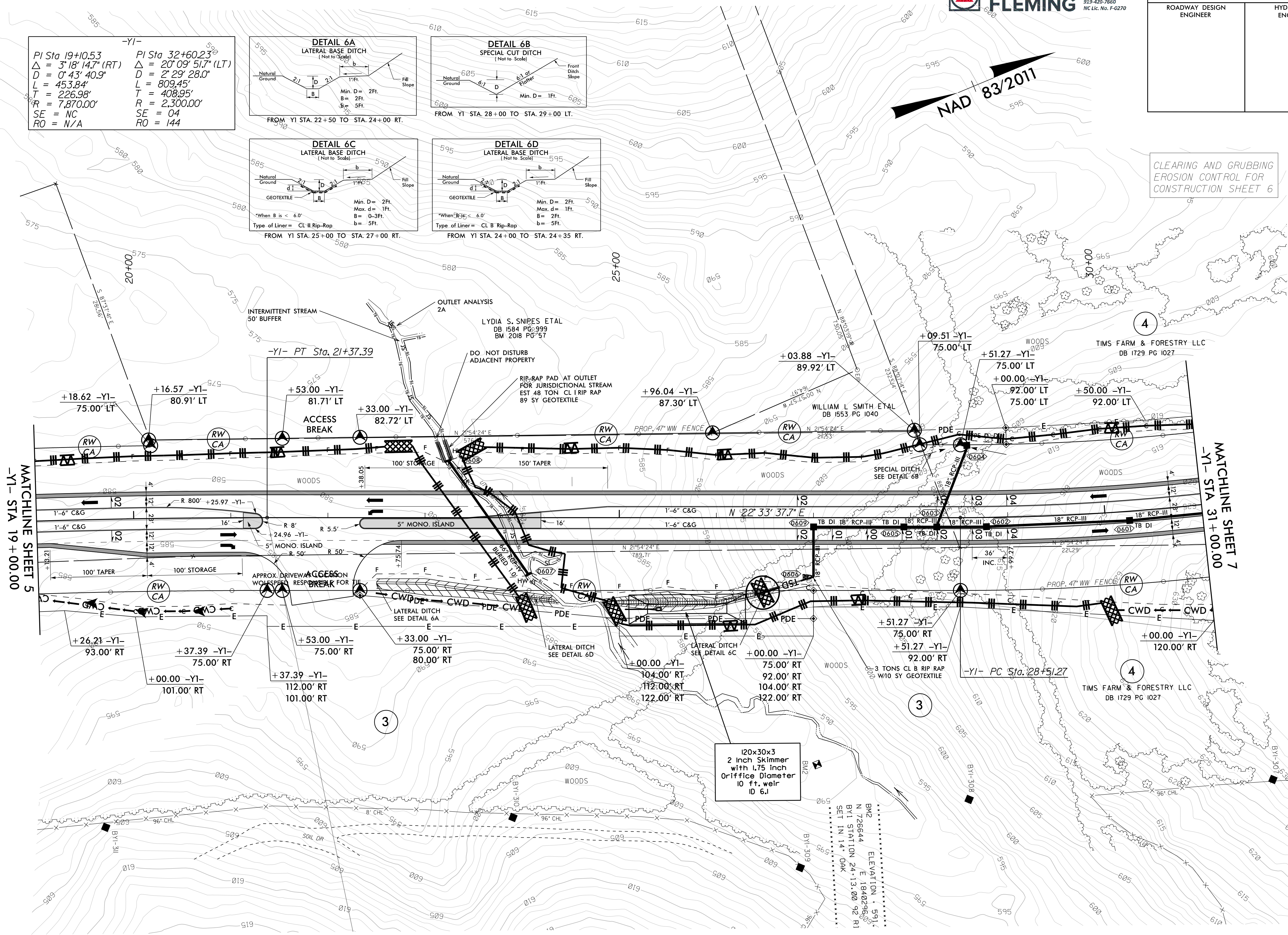
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 $D = 2^{\circ}29'28.0''$
 $L = 809.45'$
 $T = 408.95'$
 $R = 2,300.00'$
 $SE = 04$
 $RO = 144$



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

MATCHLINE SHEET 5
-Y1- STA 19 + 00.00

MATCHLINE SHEET 7
-Y1- STA 31 + 00.00

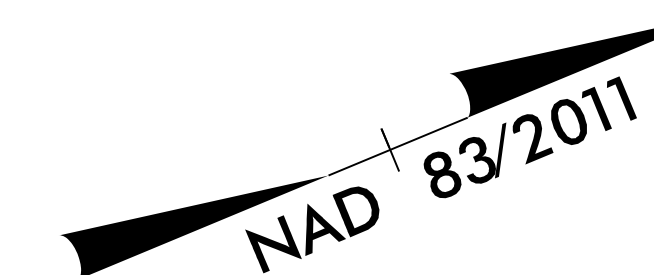


120x30x3
2 inch Skimmer
with 1.75 inch
Orifice Diameter
10 ft. weir
ID 6.1

FOR -Y1- PROFILE, SEE SHEET 8

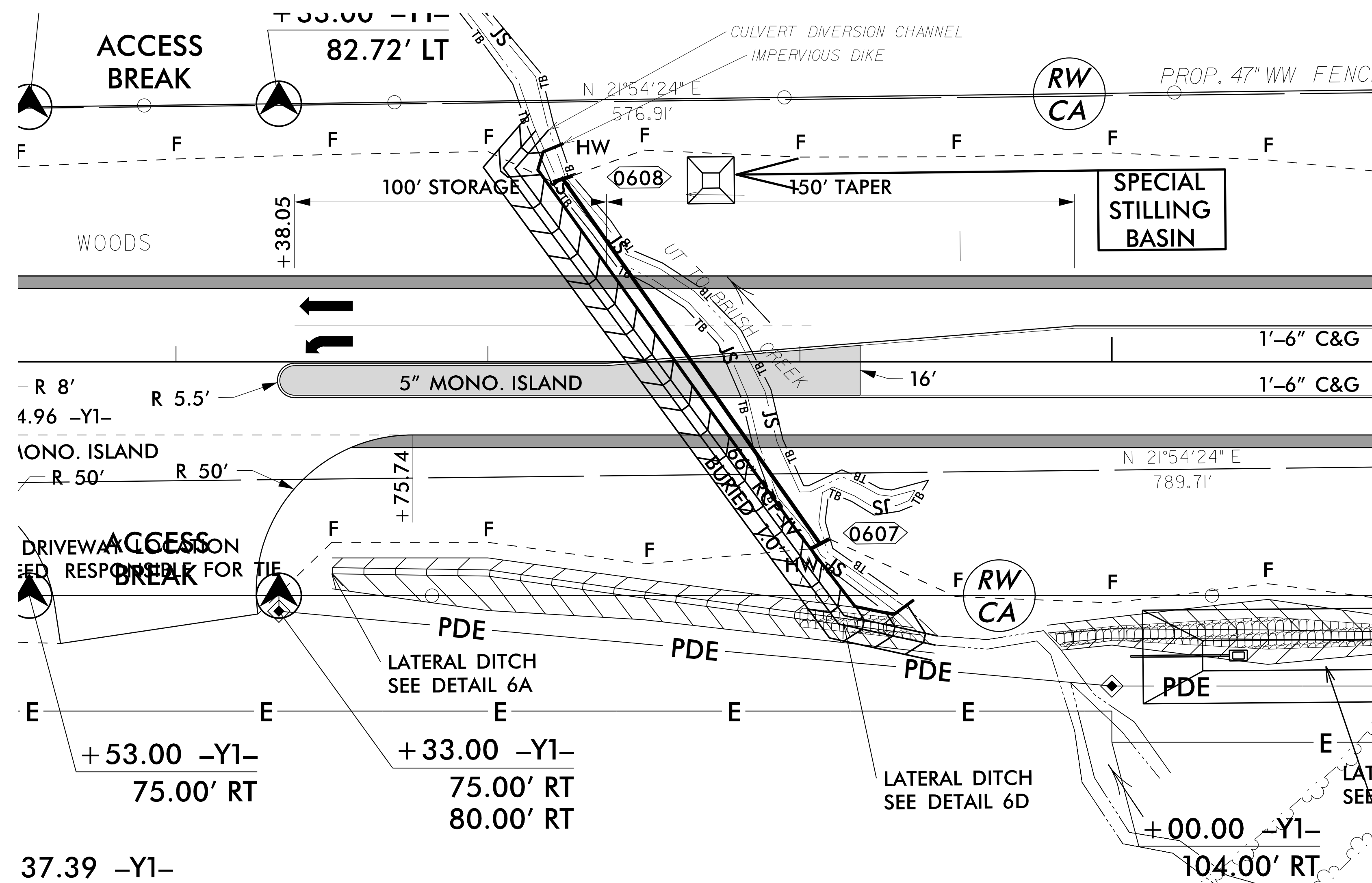
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PROJECT REFERENCE NO.	SHEET NO.
HE-0011	EC-6A/CONST.6
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



CULVERT CONSTRUCTION SEQUENCE STA. 23+50 -L-

1. BEGIN CULVERT CONSTRUCTION PRIOR TO ROADWAY FILL
2. UTILIZE SPECIAL STILLING BASIN AS NEEDED
3. CONSTRUCT CULVERT DIVERSION CHANNEL (3 FT. BASE, 2.5' DEEP, 2:1 SIDE SLOPES), UTILIZING AN IMPERVIOUS DIKE FOR ONE SIDE OF CHANNEL, DIVERTING FLOW.
4. CONSTRUCT PROPOSED CULVERT AND PORTION OF INLET/OUTLET CHANNEL IMPROVEMENTS
5. REMOVE IMPERVIOUS DIKE AND CULVERT DIVERSION CHANNEL, DIVERTING FLOW THROUGH CULVERT
6. CONSTRUCT REMAINDER OF INLET/OUTLET CHANNEL IMPROVEMENTS
7. REMOVE SPECIAL STILLING BASIN AND COMPLETE ROADWAY

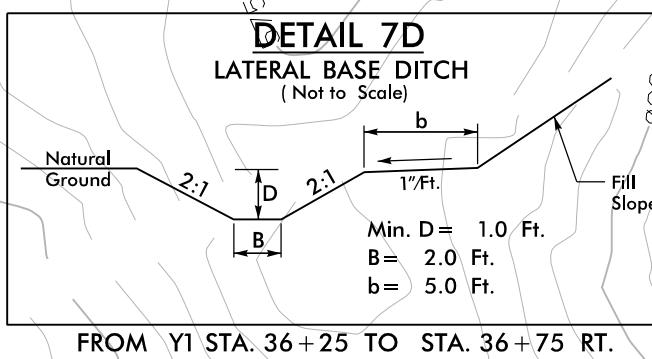
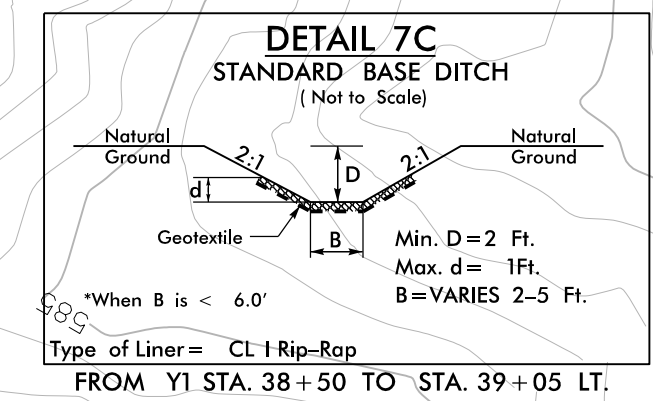
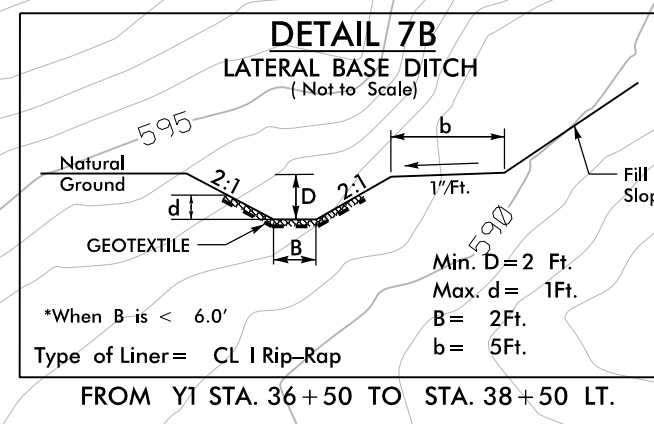
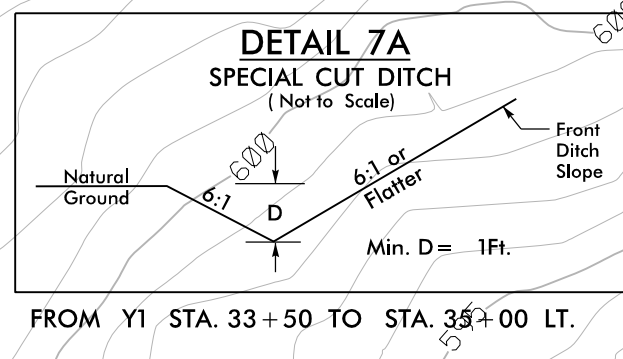


FOR -Y1- PROFILE, SEE SHEET 8

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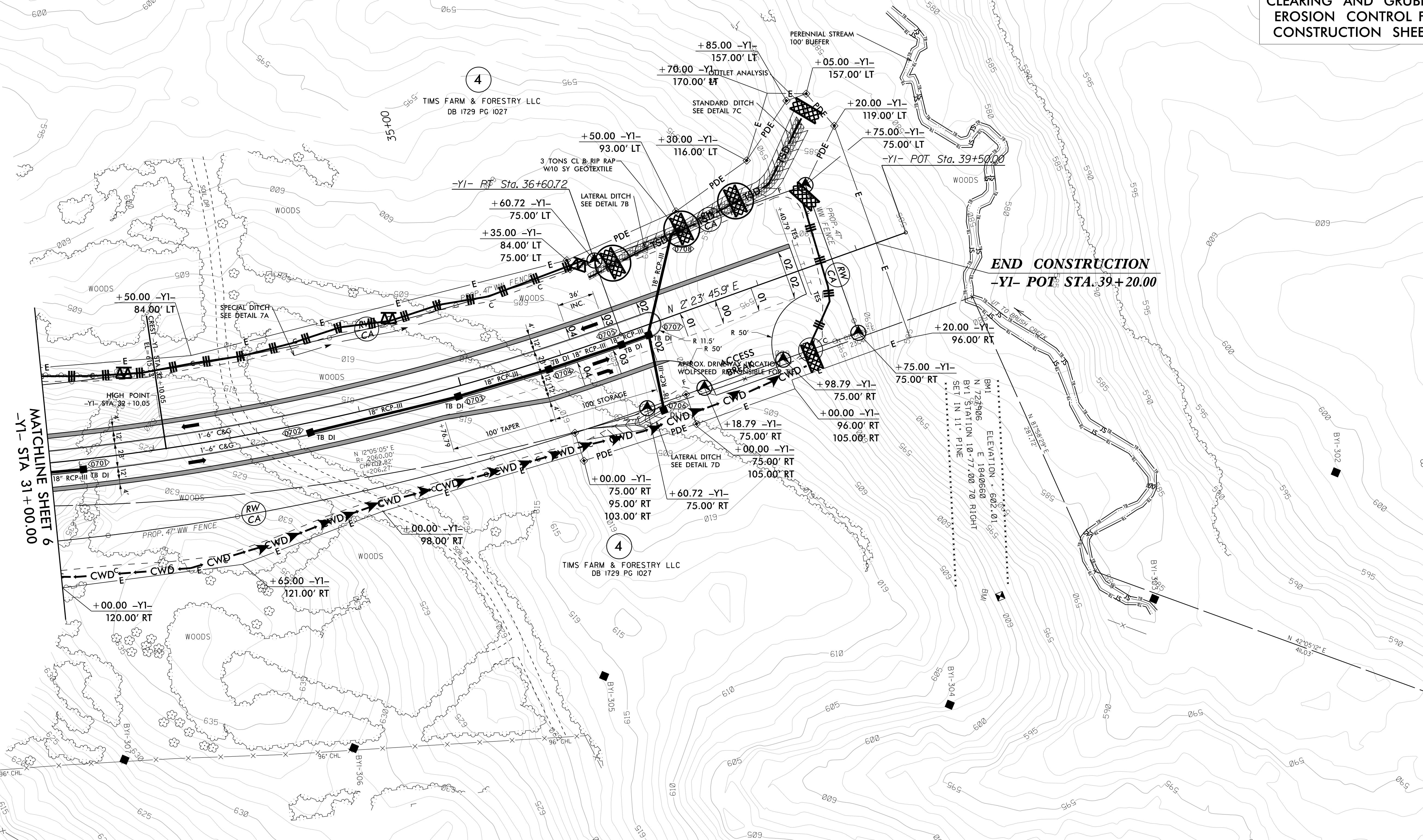
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HE-0011	EC-7/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-Y1-
 PI Sta 32+60.23
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 $D = 2^{\circ}29'28.0"$
 $L = 809.45'$
 $R = 408.95'$
 $SE = 04$
 $RO = 144$



NAD 83/2011

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 7

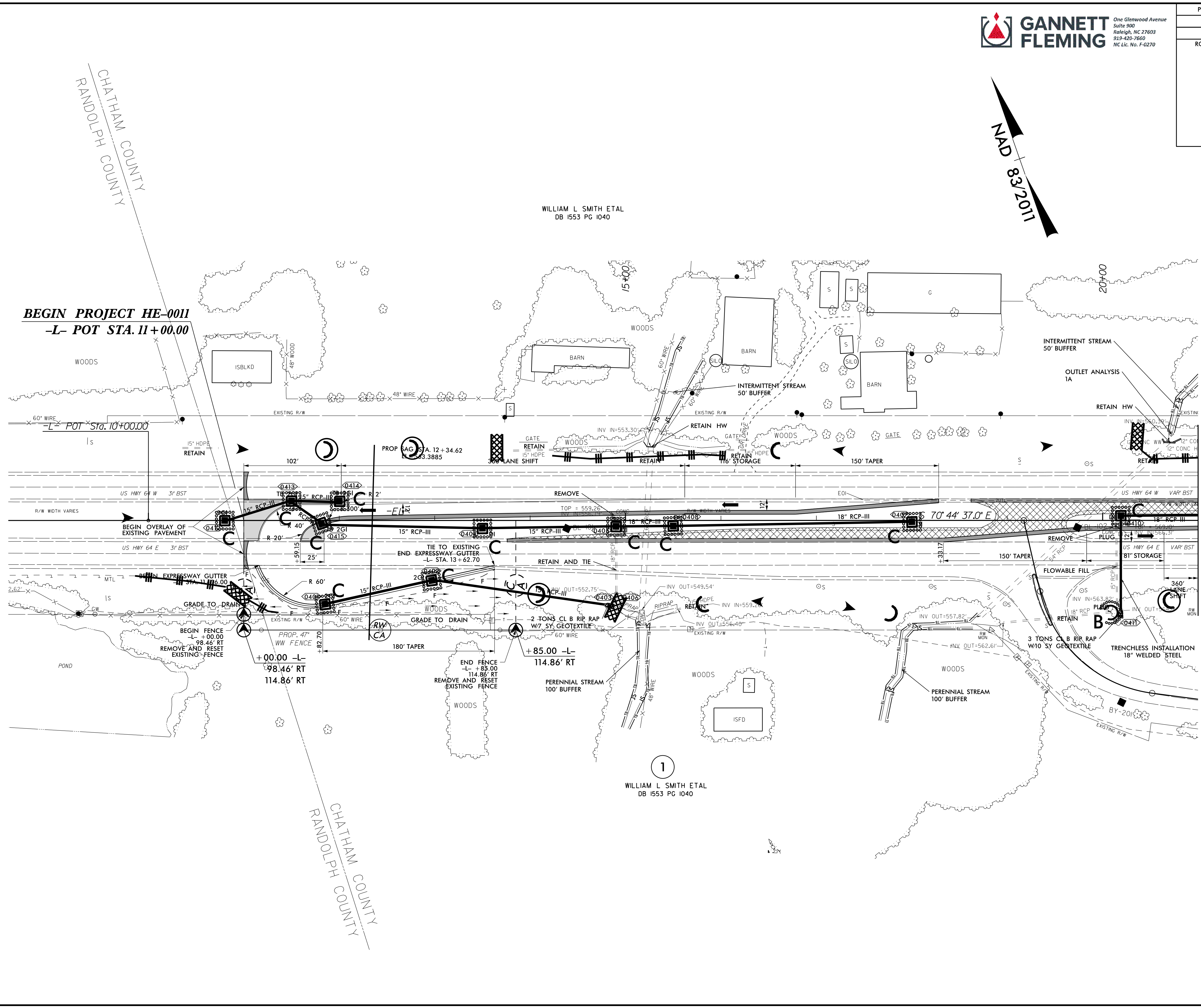
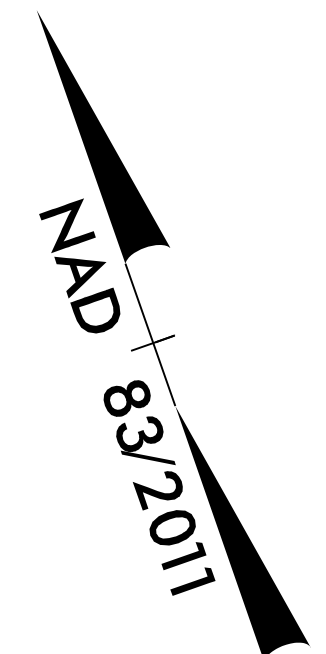


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FOR -Y1- PROFILE, SEE SHEET 9

PROJECT REFERENCE NO.	SHEET NO.
HE-0011	EC-8/CONST.4
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

FINAL PHASE
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 4



CHATHAM COUNTY
 RANDOLPH COUNTY

CHATHAM COUNTY
 RANDOLPH COUNTY

WILLIAM L SMITH ETAL
 DB 1553 PG 1040

1
 WILLIAM L SMITH ETAL
 DB 1553 PG 1040

8/17/99
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PROJECT REFERENCE NO.	SHEET NO.
HE-0011	EC-9/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

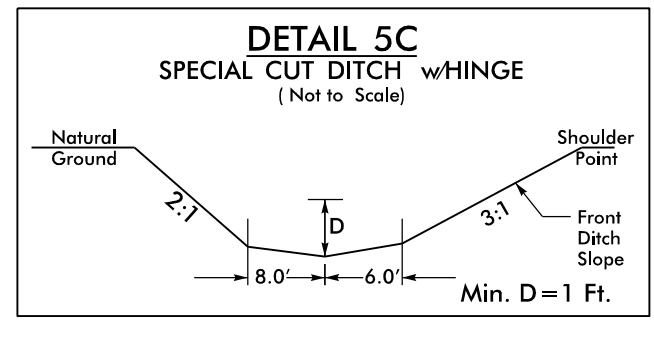
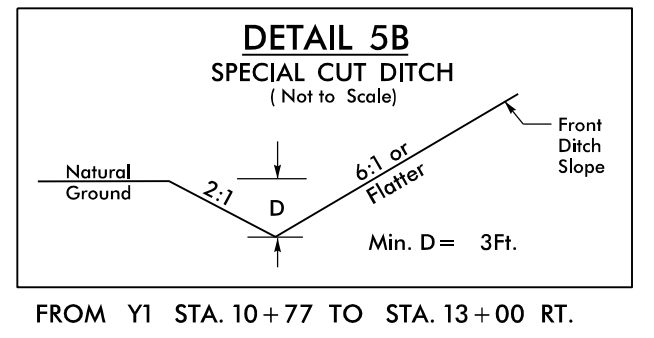
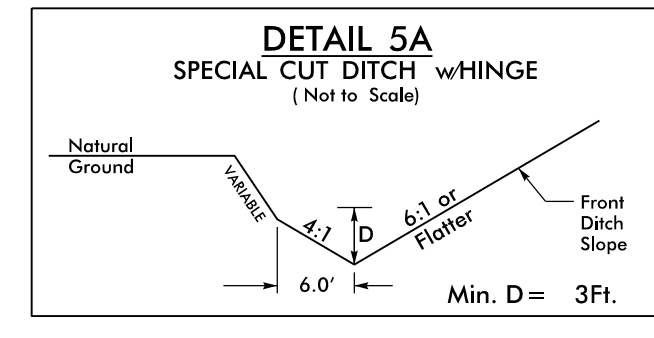
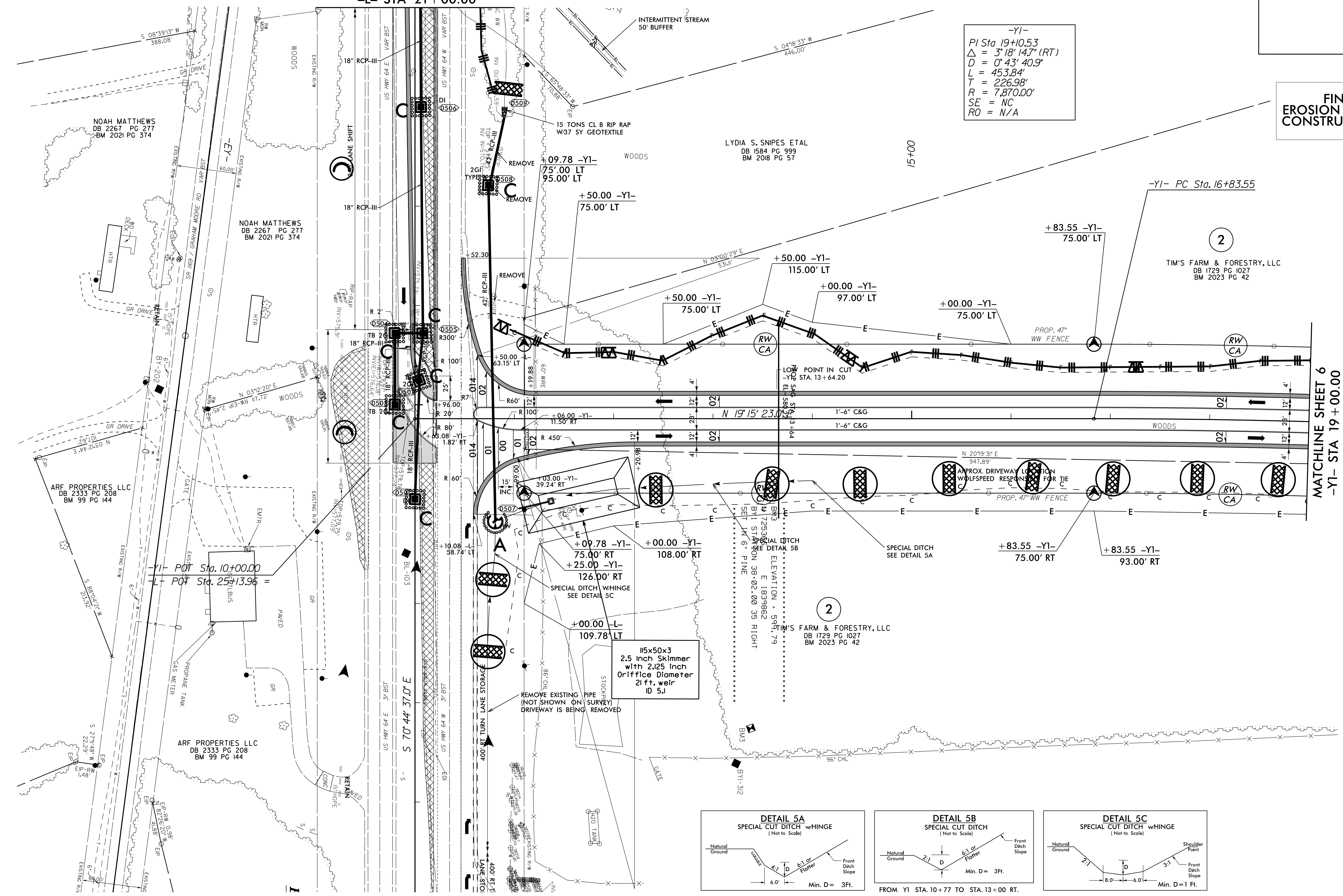


NAD 83/2011

MATCHLINE SHEET 4
-L- STA 21+00.00

-Y1-
PI Sta 19+10.53
 $\Delta = 3' 18" 14.7" (RT)$
 $D = 0' 43" 40.9"$
 $L = 453.84'$
 $T = 226.98'$
 $R = 7,870.00'$
SE = NC
RO = N/A

FINAL PHASE
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

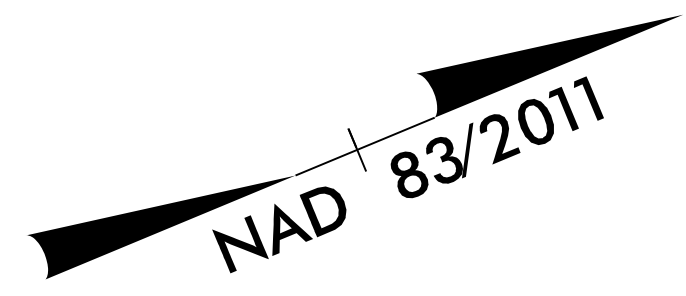
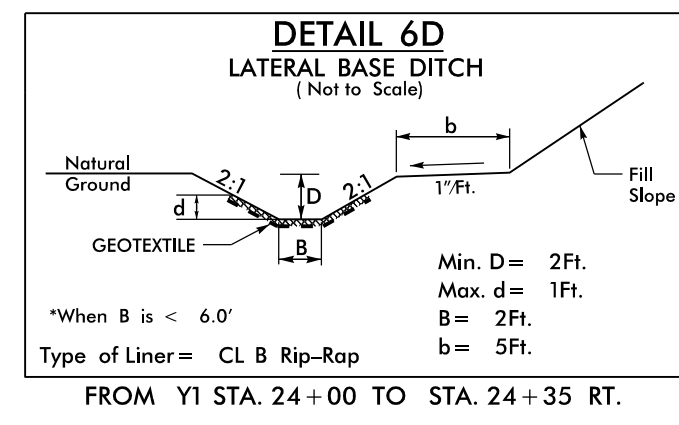
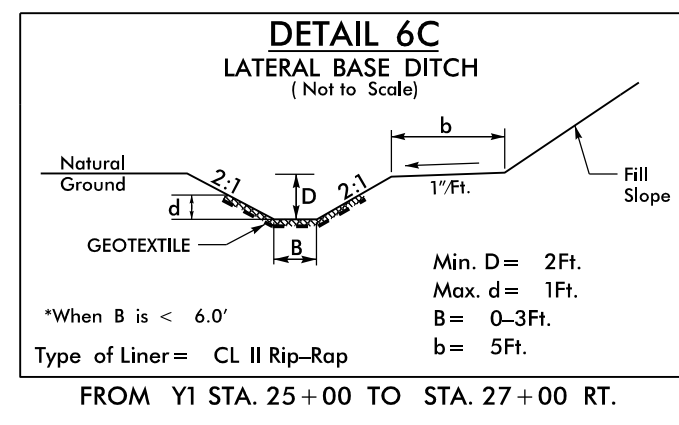
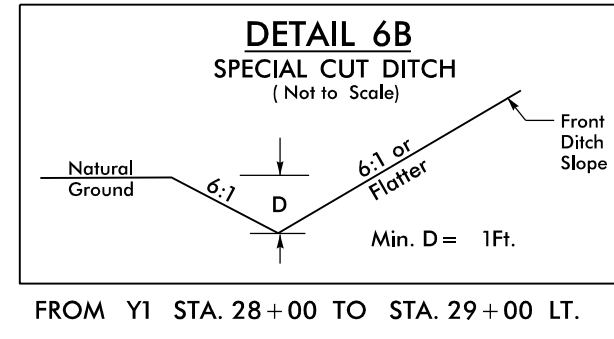
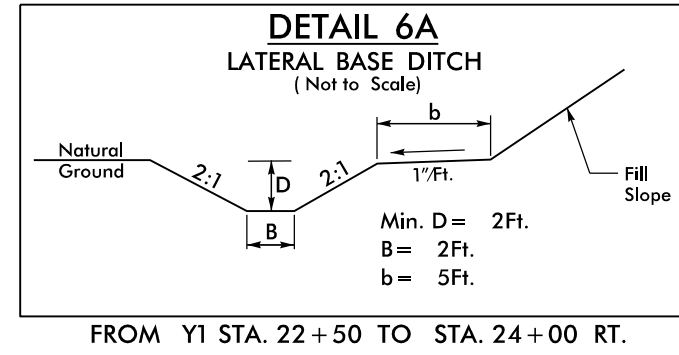


FOR -Y1- PROFILE, SEE SHEET 8

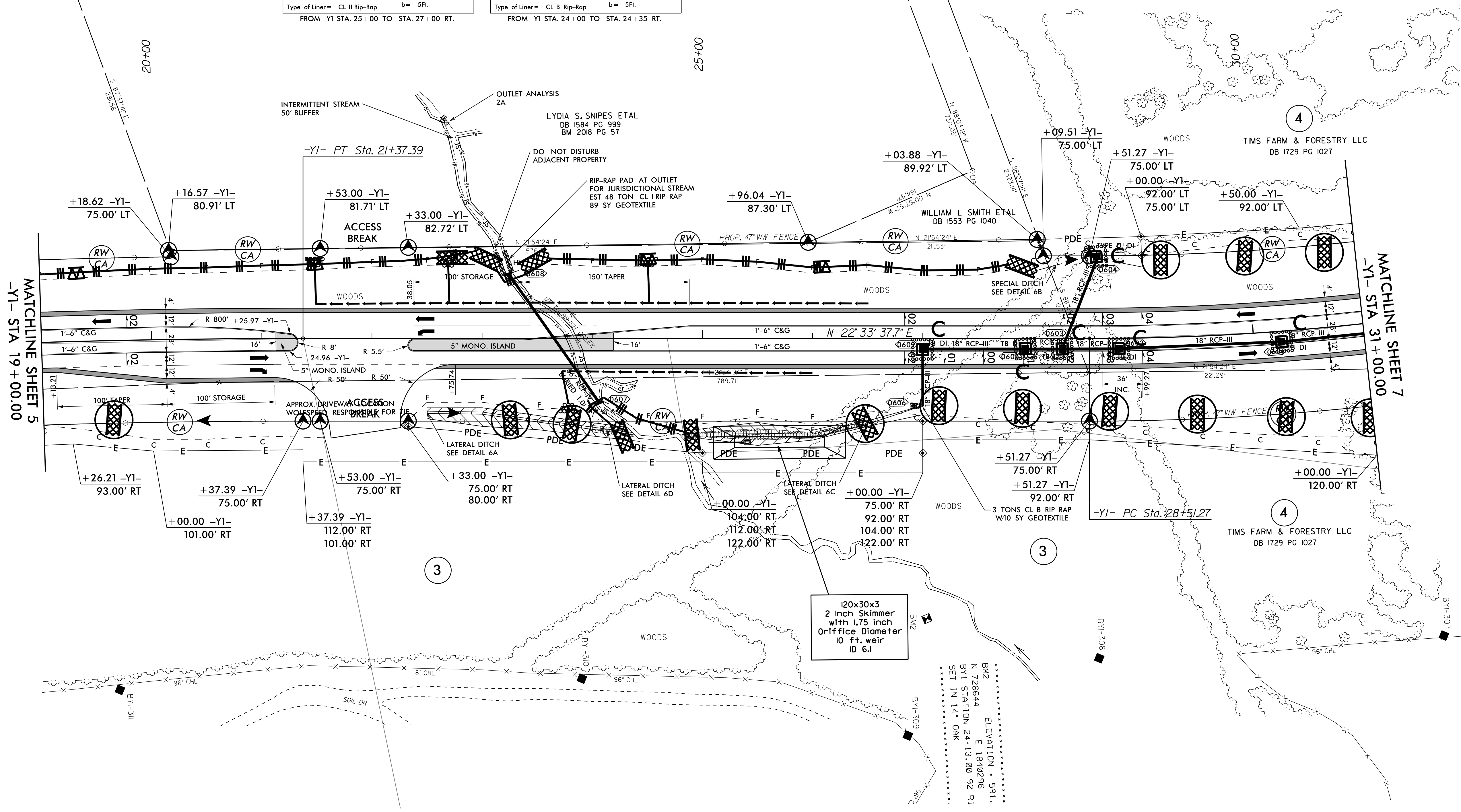
8/17/99
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PROJECT REFERENCE NO.	SHEET NO.
HE-0011	EC-10/CONST.6
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

-YI-
 PI Sta 19+10.53 PI Sta 32+60.23
 $\Delta = 3^{\circ} 18' 14.7''$ (RT) $\Delta = 2^{\circ} 09' 51.7''$ (LT)
 $D = 0^{\circ} 43' 40.9''$ $D = 2^{\circ} 29' 28.0''$
 $L = 453.84'$ $L = 809.45'$
 $T = 226.98'$ $T = 408.95'$
 $R = 7,870.00'$ $R = 2,300.00'$
 $SE = NC$ $SE = 04$
 $RO = N/A$ $RO = 144$



FINAL PHASE
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 6



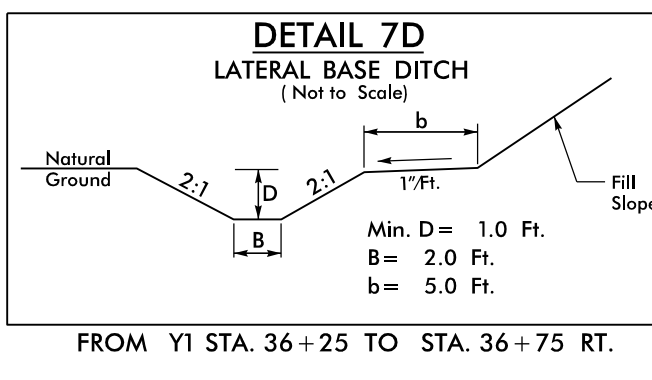
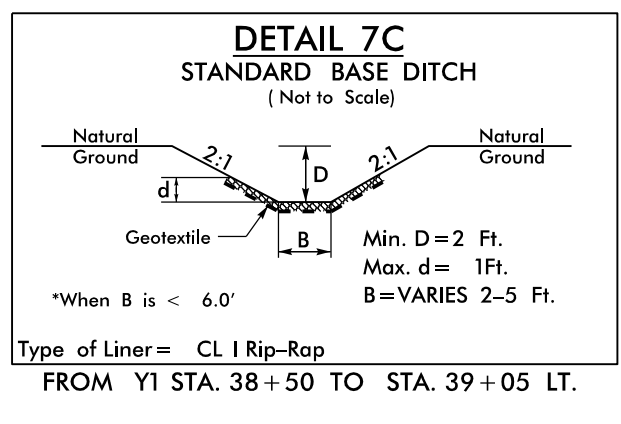
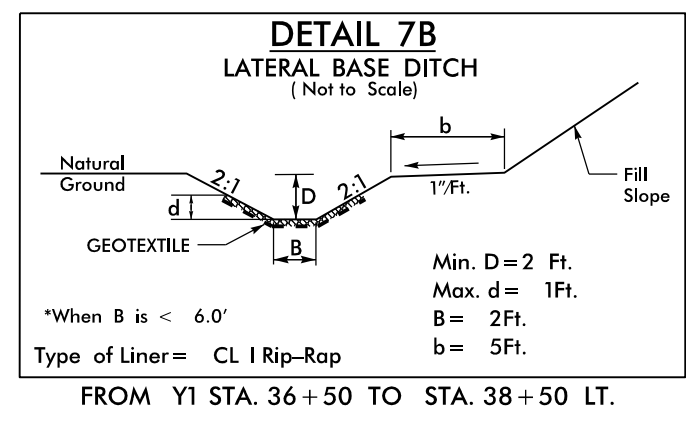
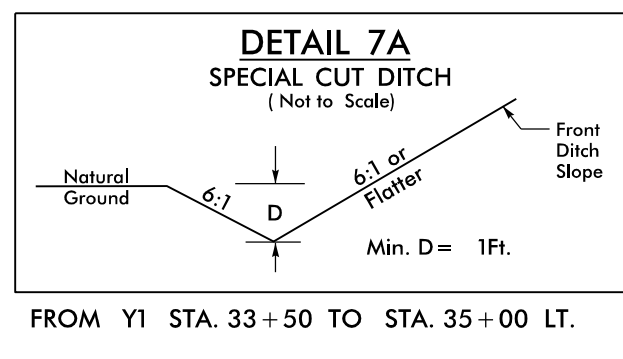
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FOR -YI- PROFILE, SEE SHEET 8

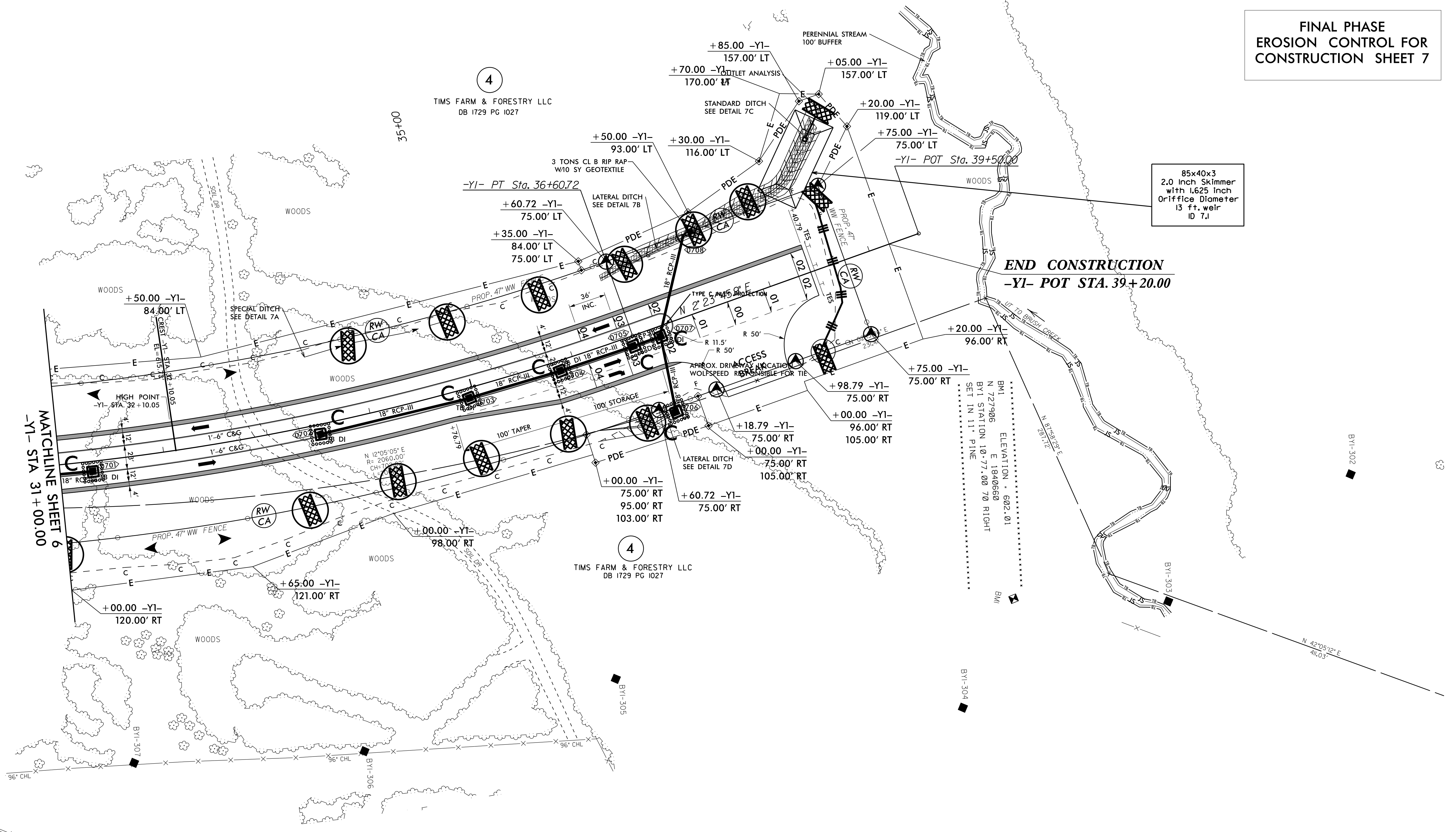
PROJECT REFERENCE NO.	SHEET NO.
HE-0011	EC1V/CONST.7
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



-Y1-
 PI Sta 32+60.23
 $\Delta = 20^{\circ}09'51.7"$ (LT)
 $D = 2^{\circ}29'28.0"$
 $L = 809.45'$
 $T = 408.95'$
 $R = 2,300.00'$
 $SE = 04$
 $RO = 144$



FINAL PHASE
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 7



8/17/99
 SSSJULSERNAMESSS
 17 JUL 2023 15:24
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FOR -Y1- PROFILE, SEE SHEET 9