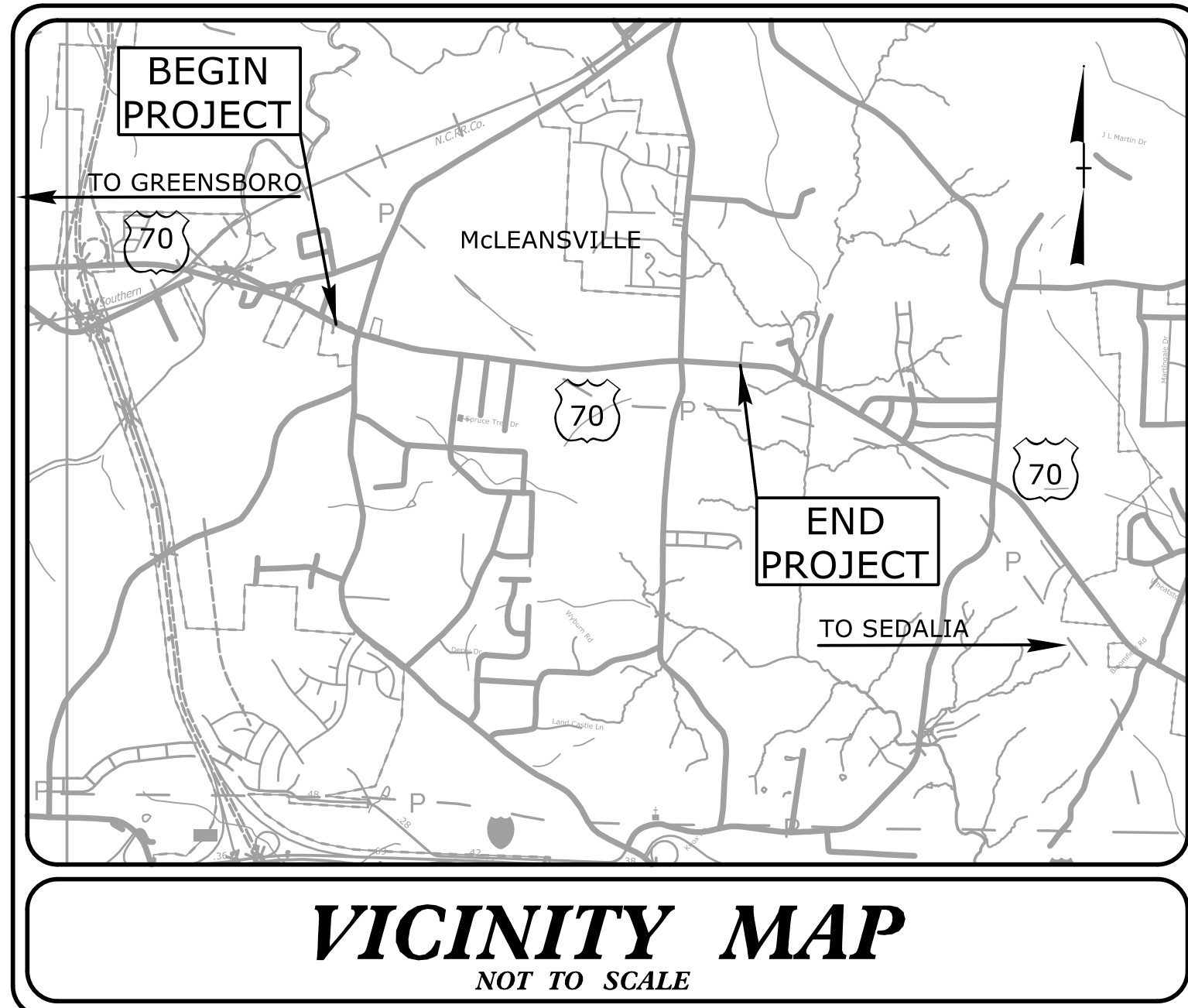


**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

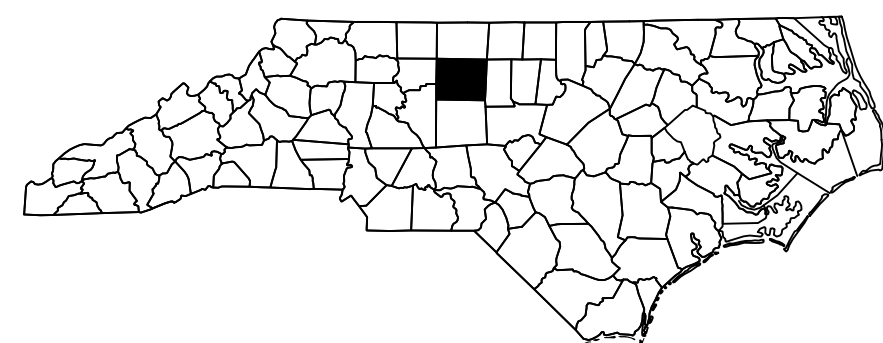
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and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**

TIP PROJECT: U-2581BA



VICINITY MAP
NOT TO SCALE

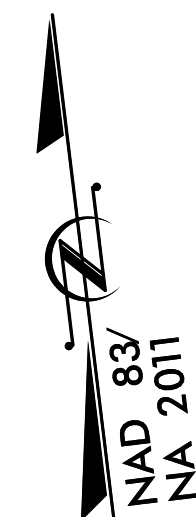
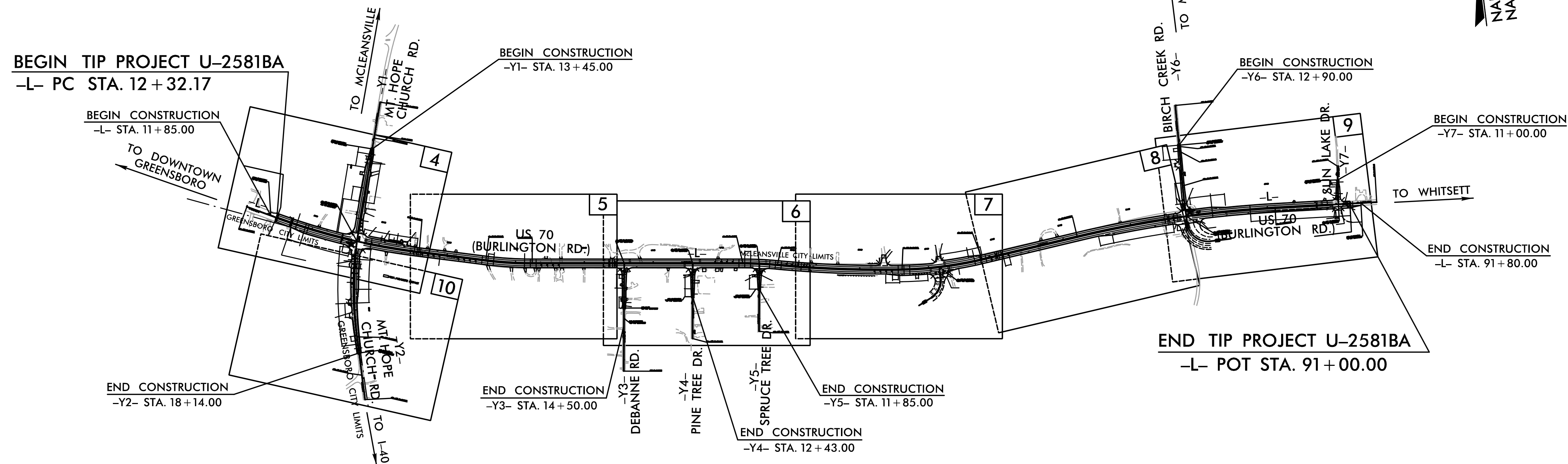


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
GUILFORD COUNTY

LOCATION: US 70 (BURLINGTON ROAD) FROM WEST OF SR 3045/SR 2819 (MT. HOPE CHURCH ROAD) TO JUST EAST OF SR 3175 (BIRCH CREEK ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS AND CULVERT

★ EXISTING SIGNAL TO BE MODIFIED



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2581BA	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Sid. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SSCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle/Coir Fiber Wattle	WF
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	WF-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDB
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISTRA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISTRB
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	RIA
1632.02	Type B	RIAB
1632.03	Type C	RIAC
	Skimmer Basin	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB

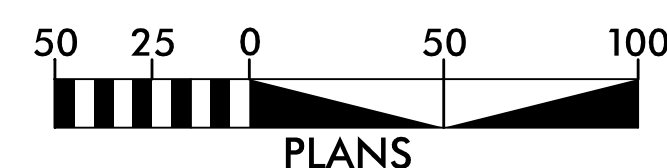
THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.

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.

GRAPHIC SCALE



PLANS

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.



VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606



Prepared In the Office of:
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

Designed by:

BRANDON BARHAM, PE, CFM 3368
NAME LEVEL III CERTIFICATION NO.

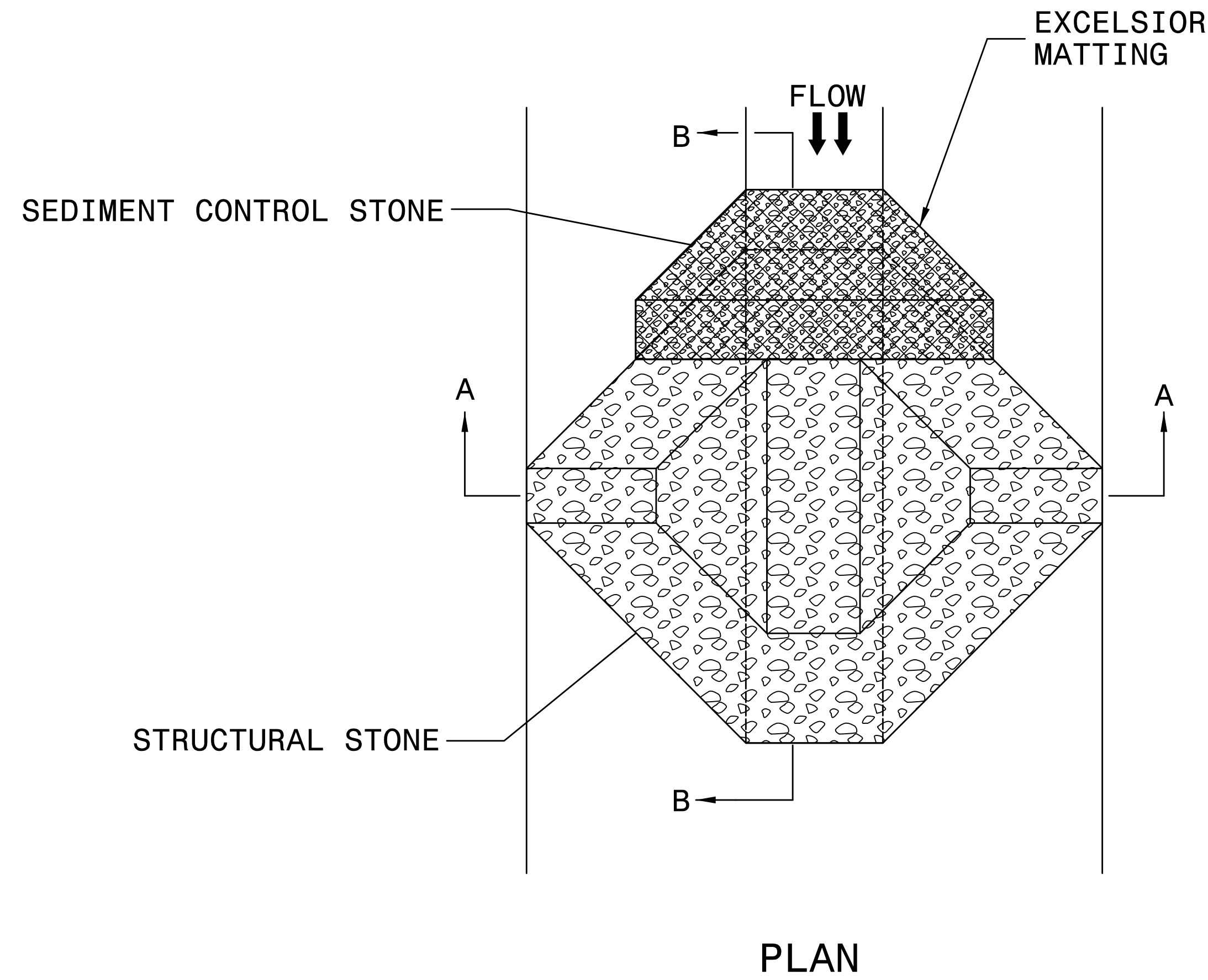
Roadway Standard Drawings

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 Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

PROJECT REFERENCE NO. <i>U-2581BA</i>	SHEET NO. <i>EC-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



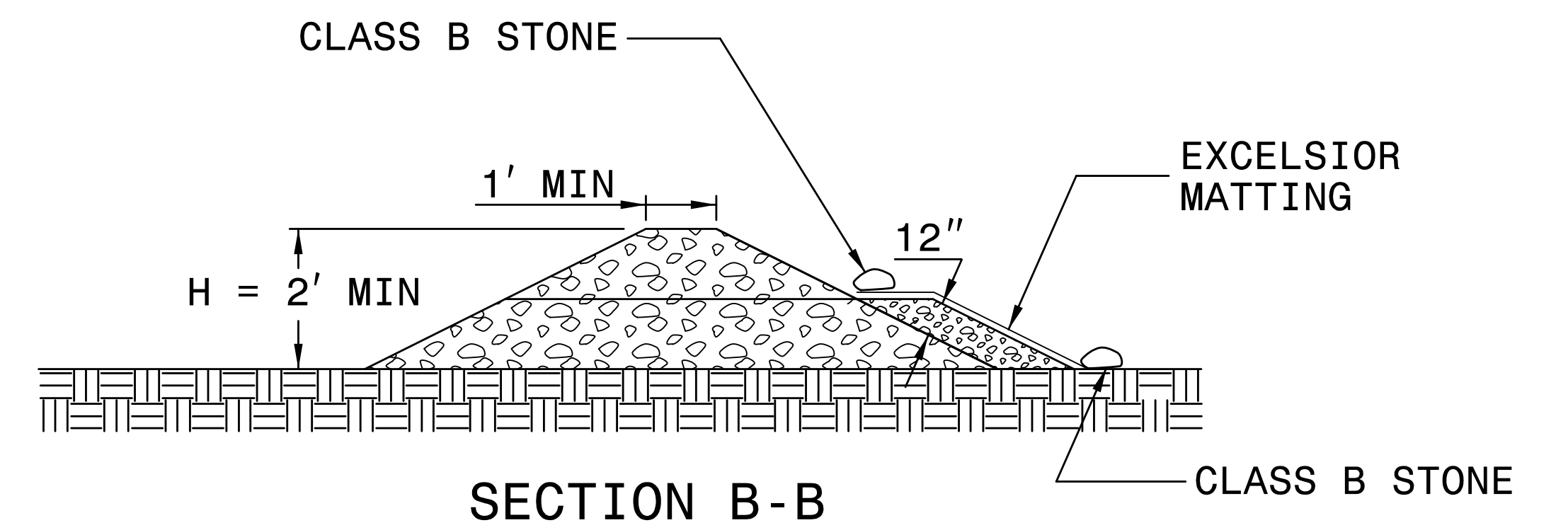
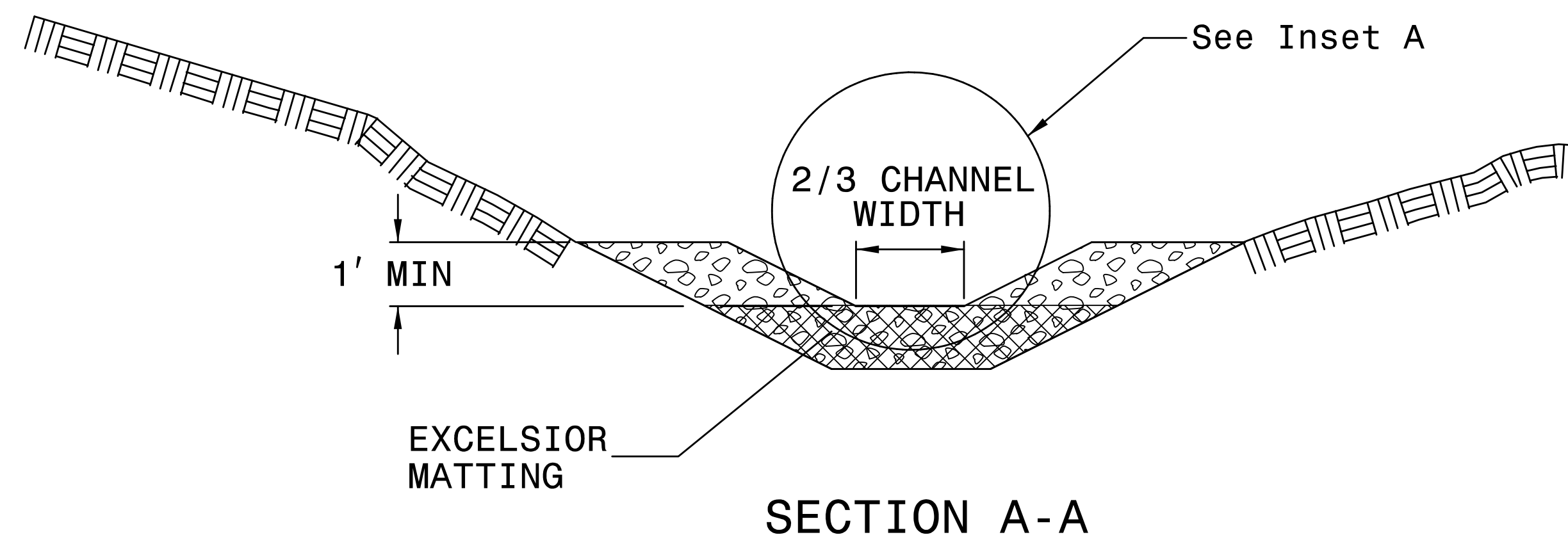
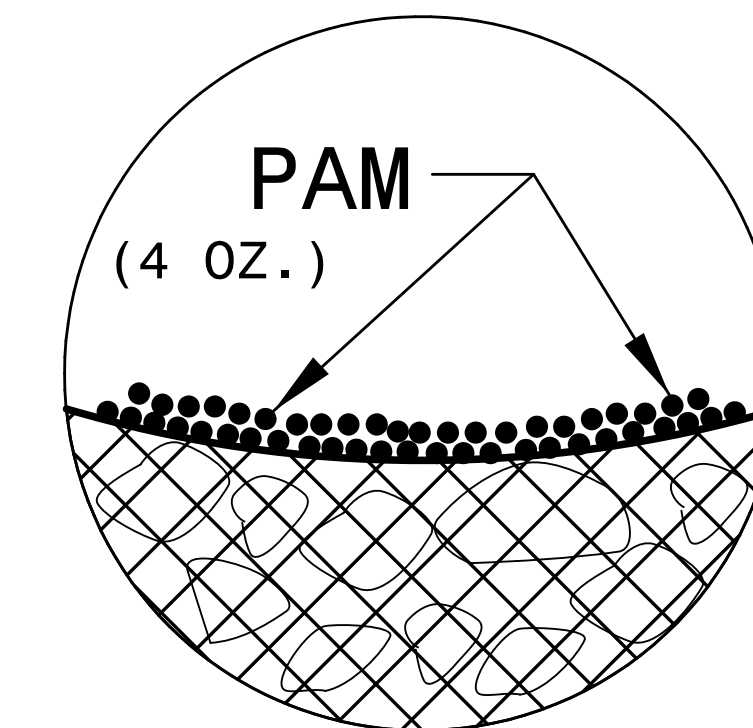
NOTES:

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.

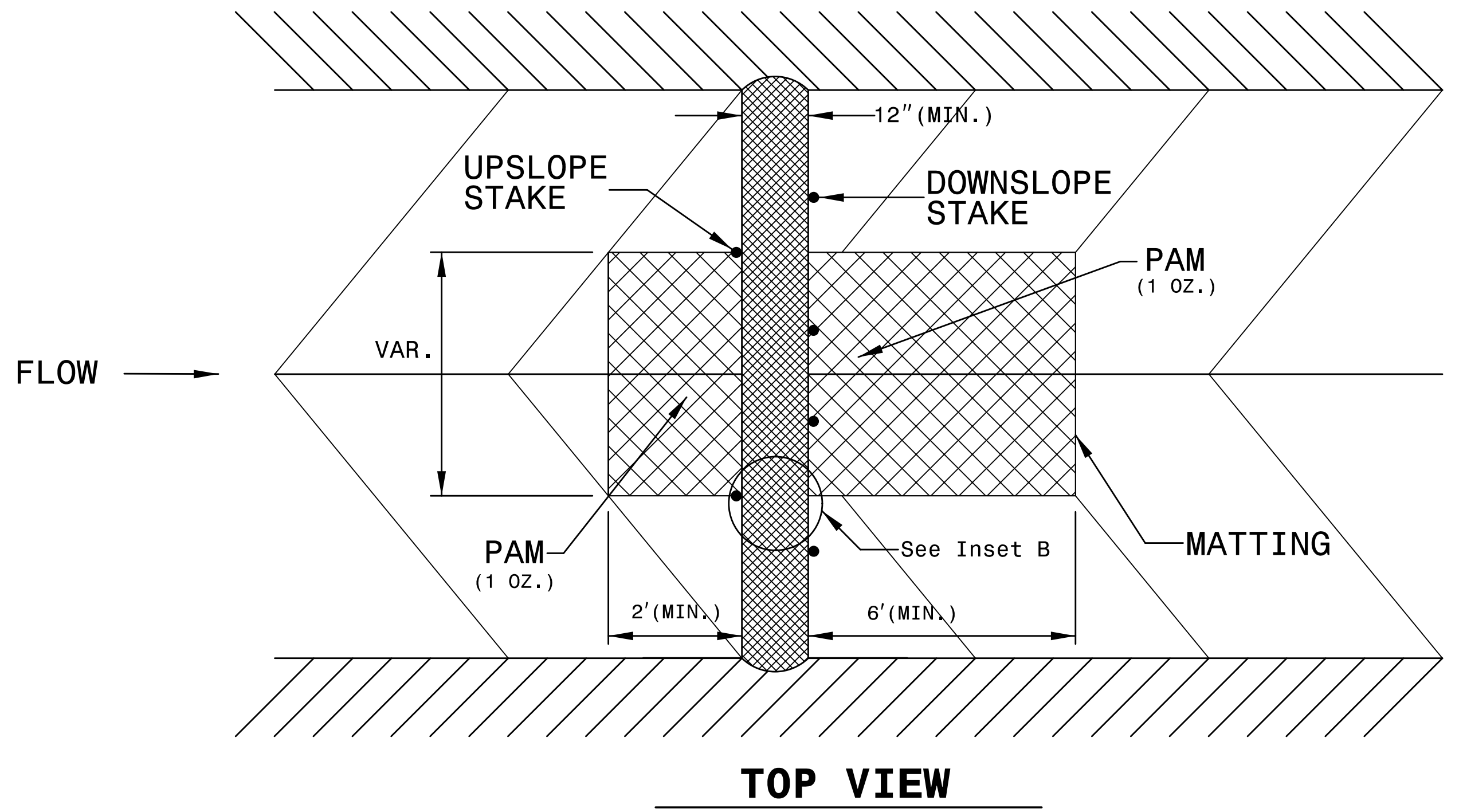
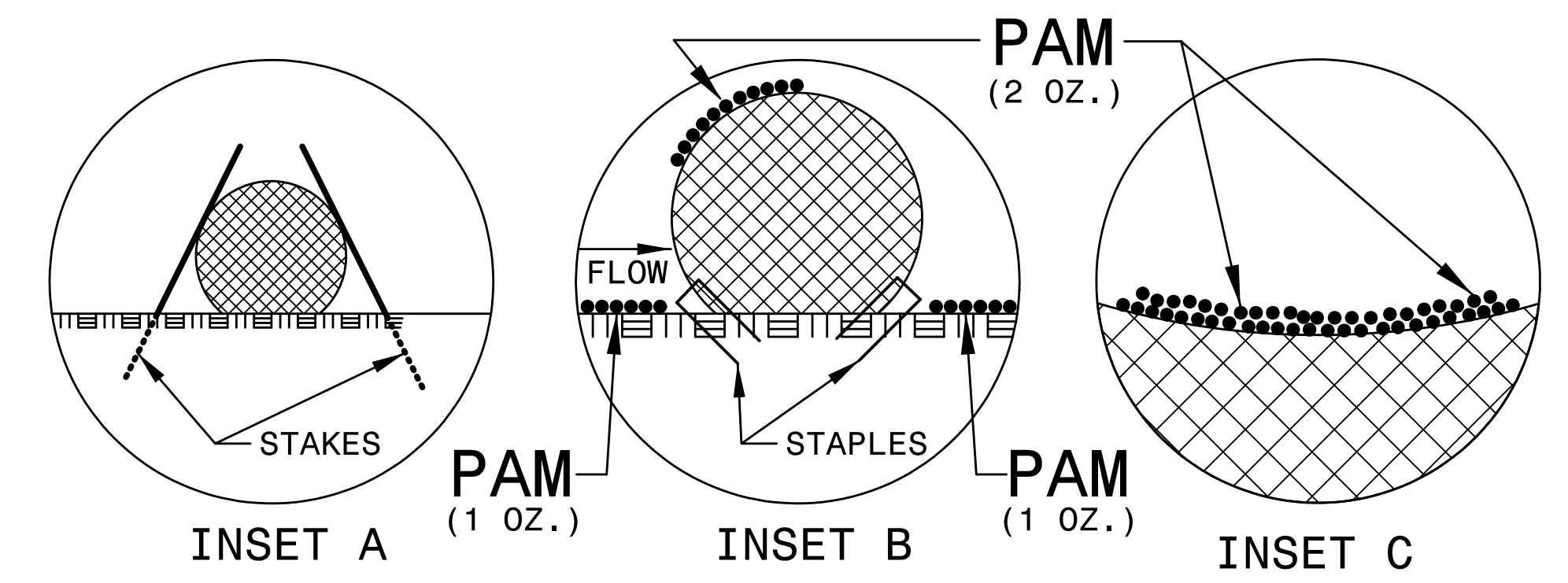
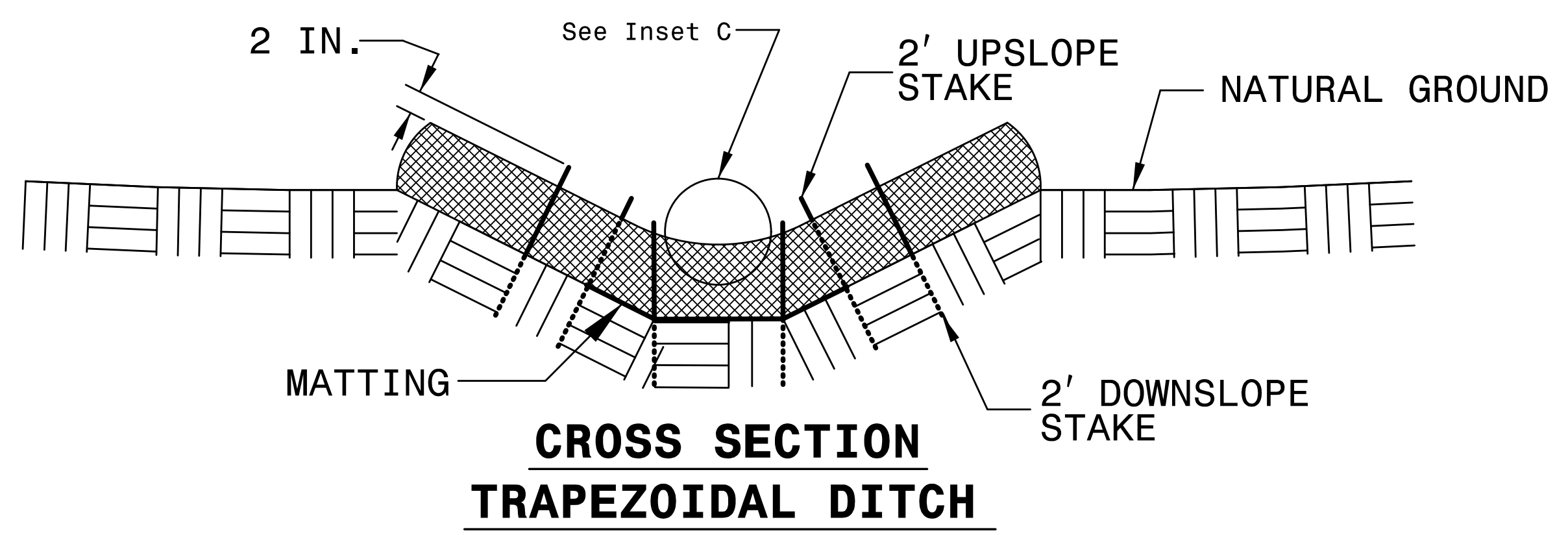
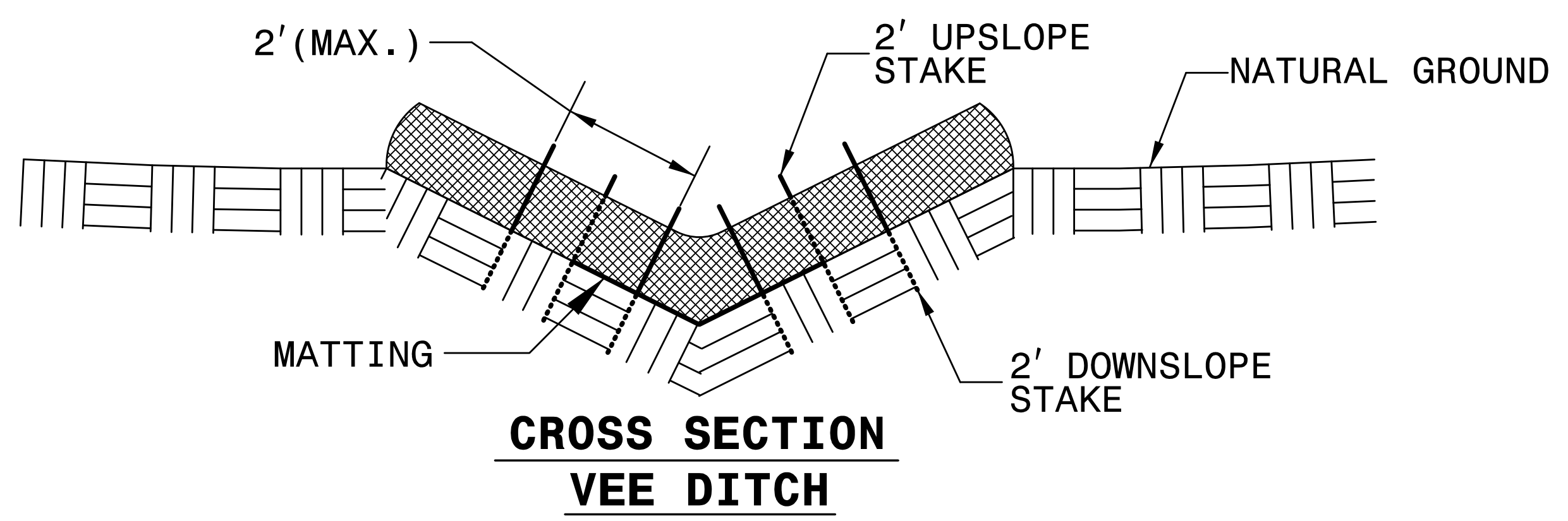
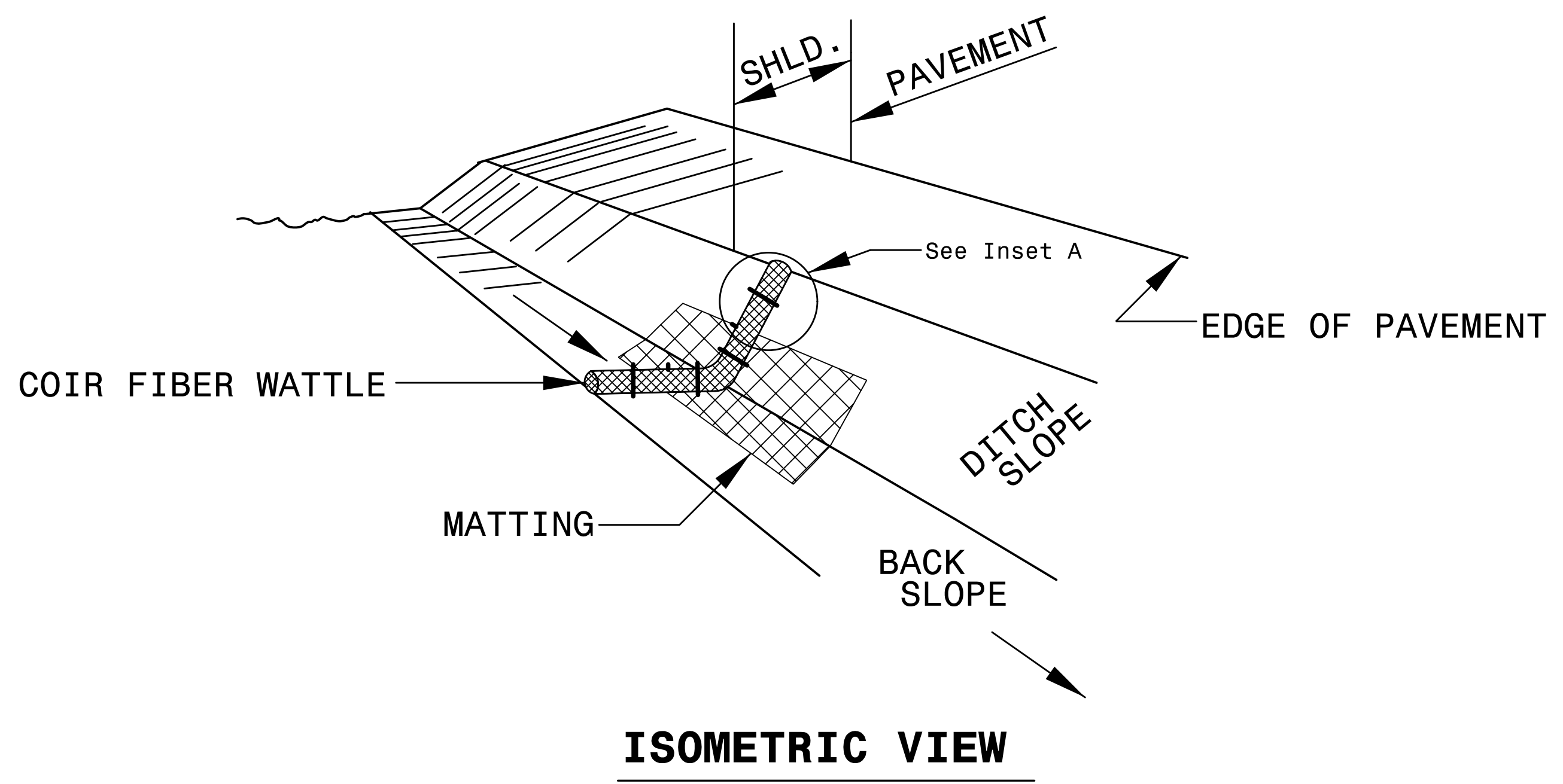


NOT TO SCALE

PROJECT REFERENCE NO. <i>U-2581BA</i>	SHEET NO. <i>EC-2A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

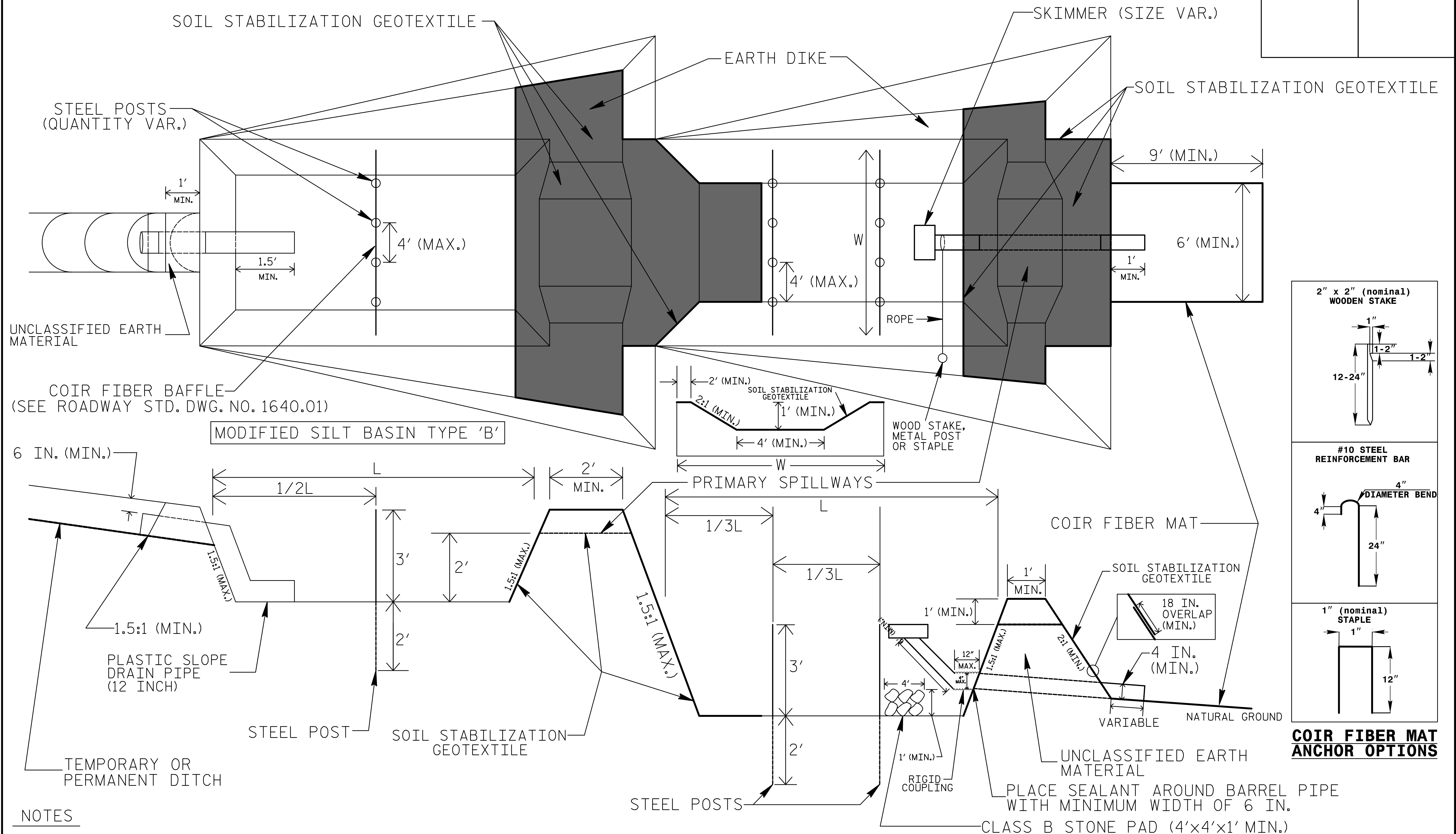
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

- 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 EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



TIERED SKIMMER BASIN DETAIL

PROJECT REFERENCE NO. U-258/BA	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. FOR BASIN DEPTHS OF 3FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE PRIMARY SPILLWAY WEIR LENGTHS (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>U-258/BA</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.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>U-2581BA</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	19+50	20+50	RT	100
4	-Y1-	15+50	18+00	RT	290
4	-Y1-	13+50	15+15	RT	195
4	-Y1-	15+55	16+39	LT	100
4	-Y2-	10+60	13+75	LT	405
4	-Y2-	14+50	18+14	LT	415
6	-Y3-	11+68	12+48	RT	60
6	-Y3-	13+74	14+50	RT	65
6	-Y3-	10+50	11+68	LT	105
6	-Y3-	11+94	12+44	LT	45
6	-Y3-	12+72	13+42	LT	55
6	-Y3-	13+73	14+50	LT	60
6	-Y4-	12+00	12+28	RT	25
6	-Y5-	11+00	11+45	RT	50
8	-L-	72+81	73+25	RT	45
9	-L-	80+65	81+15	RT	35
9	-L-	81+15	81+65	RT	40
9	-L-	90+63	91+40	LT	60
9	-Y6-	13+50	14+00	RT	25
			SUBTOTAL		2175
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				17695
			TOTAL		19870
			SAY		20000

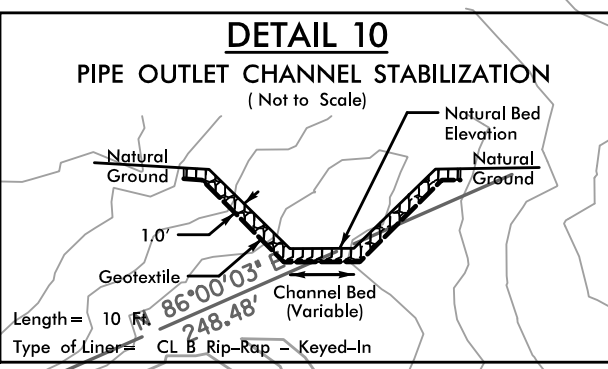
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
6	-L-	40+50	41+50	LT	80
6	-Y3-	10+50	11+44	RT	85
6	-Y3-	12+86	13+45	RT	50
7	-L-	62+65	64+65	LT	165
8	-L-	64+65	67+00	LT	170
			SUBTOTAL		550
		ADDITIONAL PRGM TO BE INSTALLED			0
			TOTAL		550
			SAY		600

PROJECT REFERENCE NO. U-2581BA	SHEET NO. EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

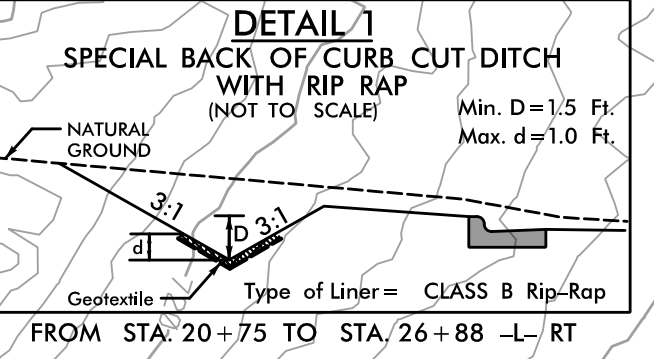


-L- CURVE DATA
 PI Sta 17+66.4
 $\Delta = 12^{\circ}58'11.1"$ (LT)
 $D = 1'13.086"$
 $L = 106.391'$
 $T = 534.24'$
 $R = 4700.00'$
 $SE = 0.025$
 $RO = 105'$
 $INC = 42'$

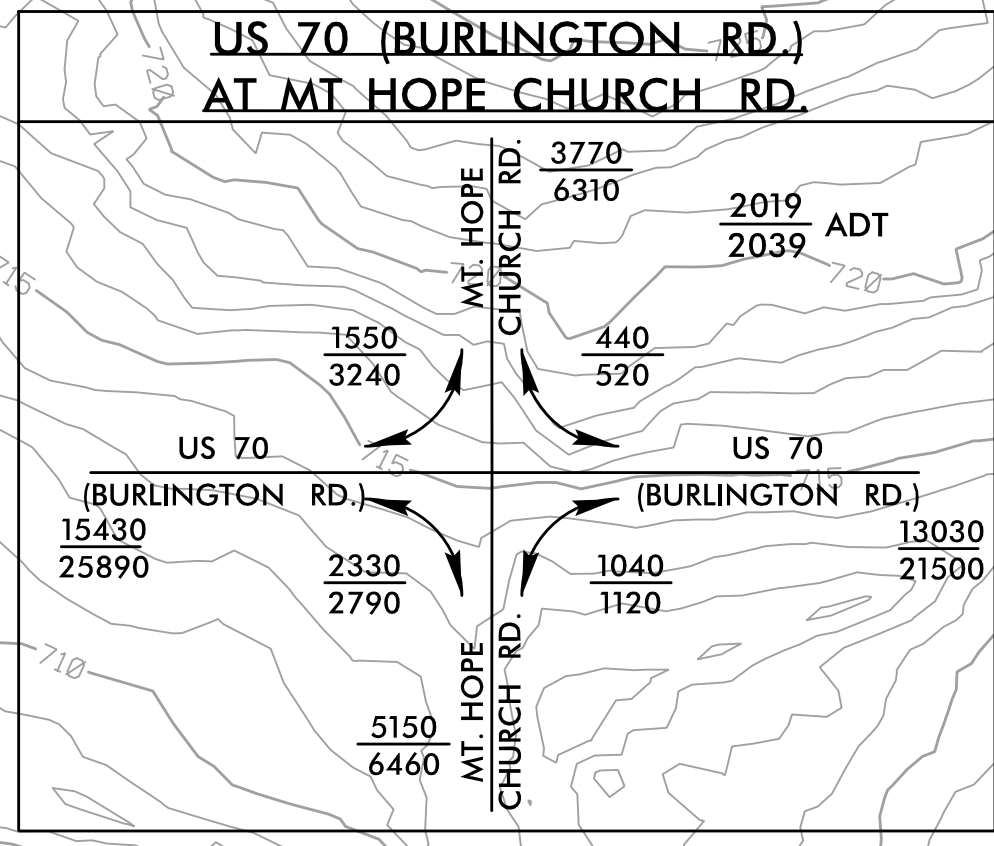
-Y2- CURVE DATA
 PI Sta 13+49.93
 $\Delta = 14^{\circ}39'42.3"$ (LT)
 $D = 2'06.233"$
 $L = 696.04'$
 $T = 349.93'$
 $R = 2720.00'$
 $SE = 0.04$
 $RO = 144'$



NOTE:
 UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C, TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC



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



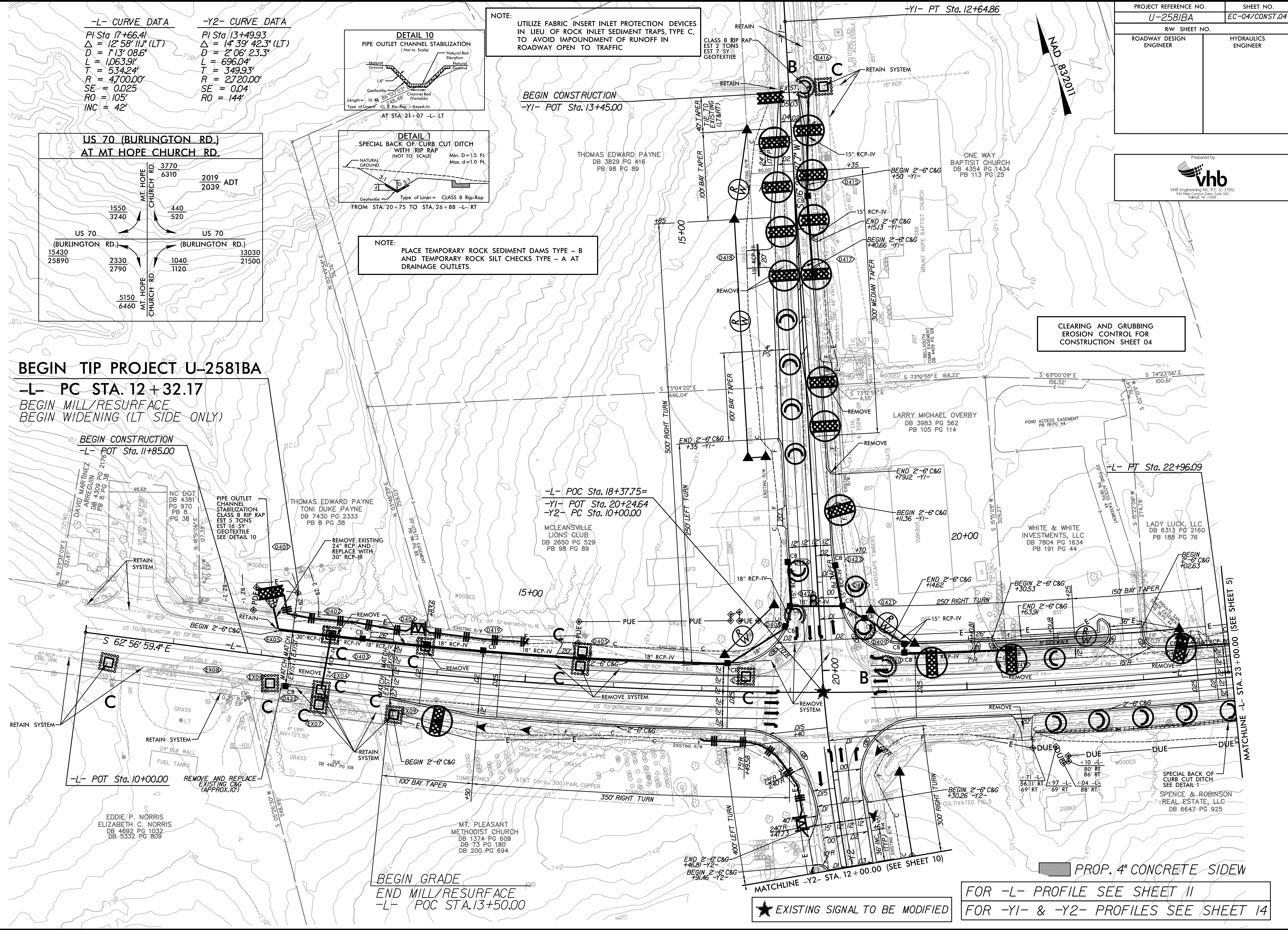
BEGIN TIP PROJECT U-2581BA

-L- PC STA. 12+32.17
 BEGIN MILL/RESURFACE
 BEGIN WIDENING (LT SIDE ONLY)

BEGIN CONSTRUCTION
-L- POT Sta. 11+85.00

-L- POC Sta. 18+37.75 =
-Y1- POT Sta. 20+24.64
-Y2- PC Sta. 10+00.00

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 04



-L- POT Sta. 10+00.00
 REMOVE AND REPLACE EXISTING C&G (APPROX. 10')

BEGIN GRADE
 END MILL/RESURFACE
-L- POC STA. 13+50.00

★ EXISTING SIGNAL TO BE MODIFIED

FOR -L- PROFILE SEE SHEET 11
 FOR -Y1- & -Y2- PROFILES SEE SHEET 14

PROP. 4" CONCRETE SIDEWALK

PROJECT REFERENCE NO.	SHEET NO.
U-2581BA	EC-05/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



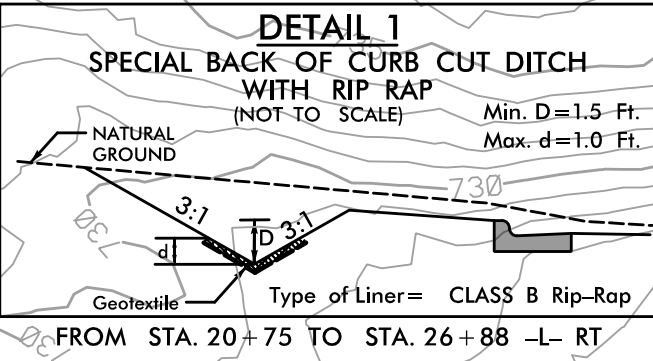
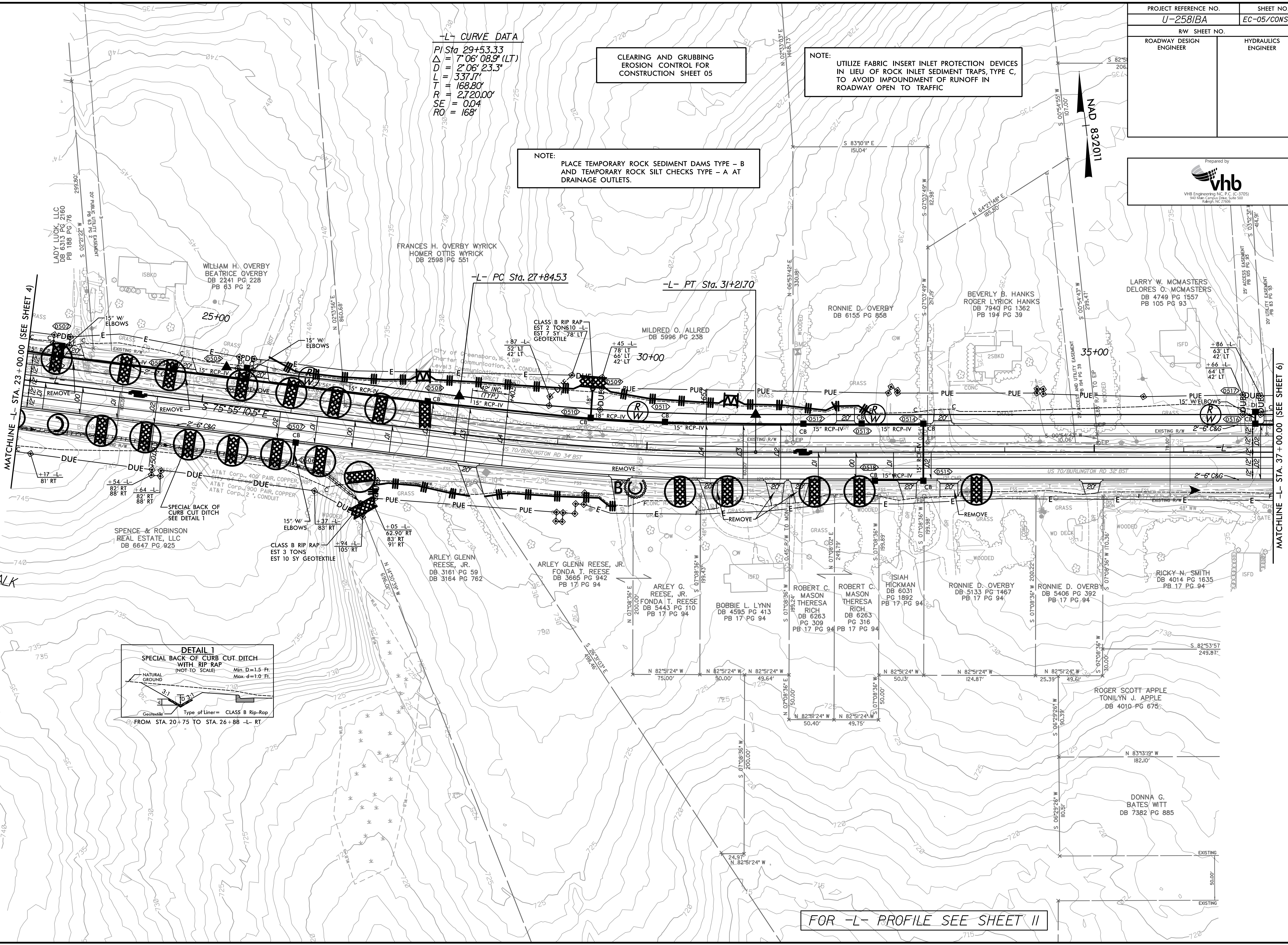
-L- CURVE DATA

PI Sta 29+53.33
 $\Delta = 7^{\circ}06'08.9''$ (LT)
 $D = 2^{\circ}06'23.3''$
 $L = 337.77'$
 $T = 168.80'$
 $R = 2720.00'$
 $SE = 0.04$
 $RO = 168'$

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 05

NOTE:
 UTILIZE FABRIC INSERT INLET PROTECTION DEVICES
 IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,
 TO AVOID IMPOUNDMENT OF RUNOFF IN
 ROADWAY OPEN TO TRAFFIC

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



FOR -L- PROFILE SEE SHEET 11

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8/17/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 06

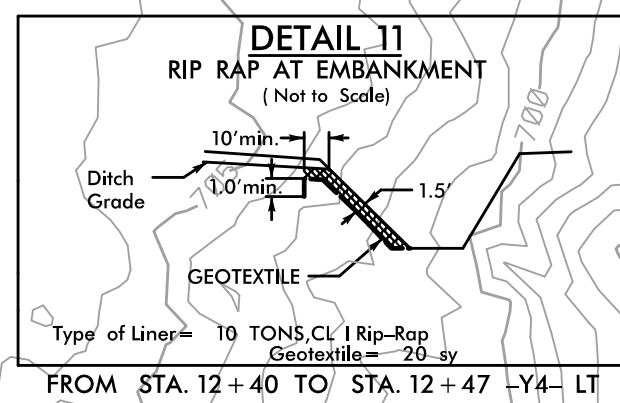
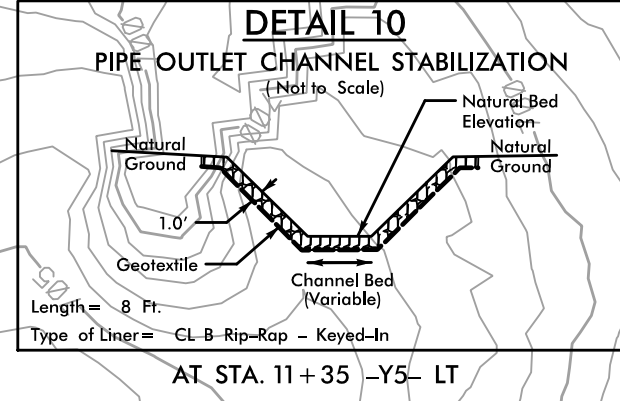
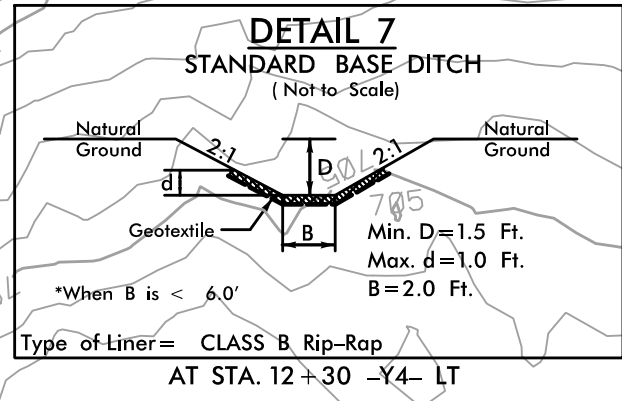
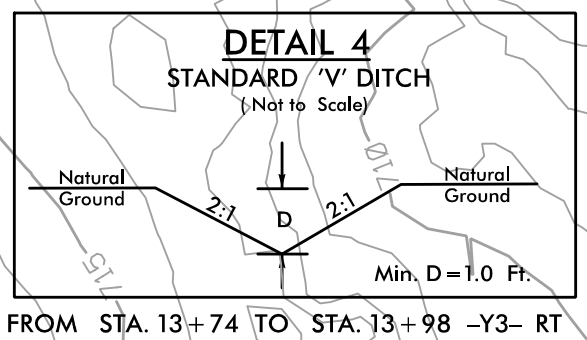
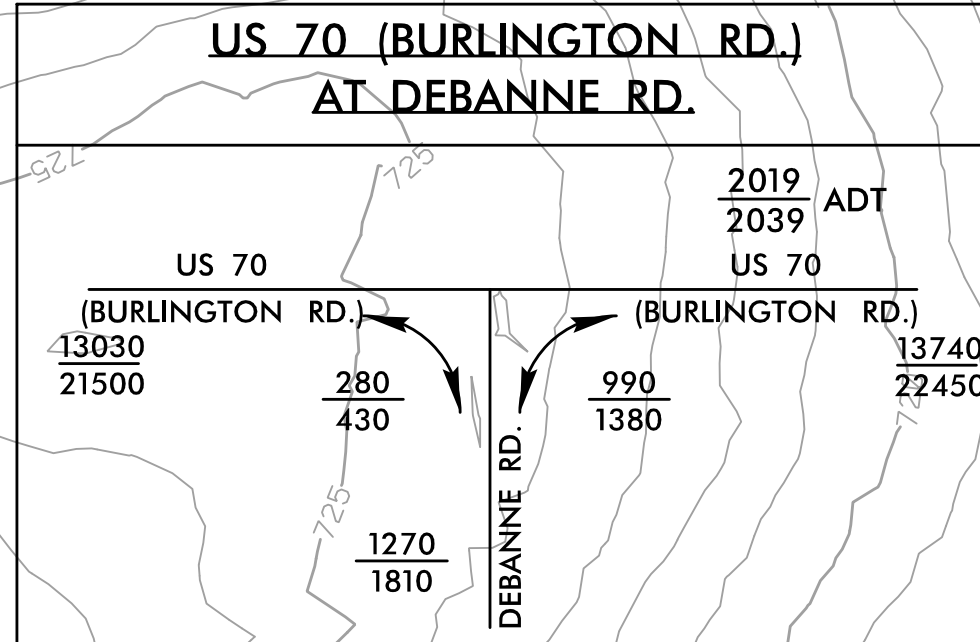
NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES
IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,
TO AVOID IMPOUNDMENT OF RUNOFF IN
ROADWAY OPEN TO TRAFFIC

-L- CURVE DATA

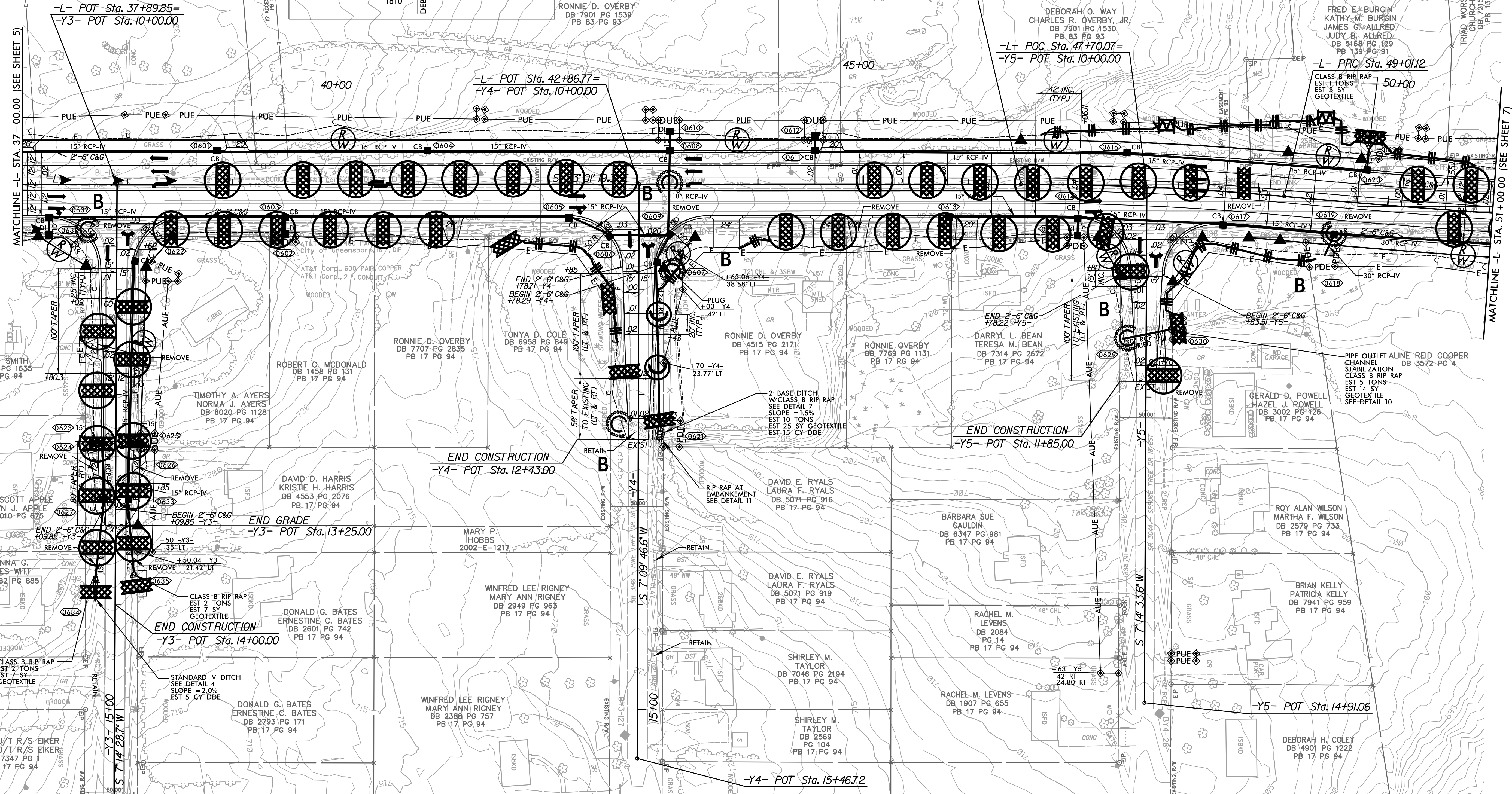
PI Sta 47+75.70	PI Sta 53+54.53
$\Delta = 5'17''14.8''$ (RT)	$\Delta = 6'19''47.5''$ (LT)
D = 2'06'23.3"	D = 0'41'55.4"
L = 251.01'	L = 905.91'
T = 125.59'	T = 453.42'
R = 2,720.00'	R = 8,200.00'
SE = 0.04	SE = NC
RO = 168'	

FOR -L- PROFILE SEE SHEET 12
FOR -Y3-, -Y4- & -Y5- PROFILES SEE SHEET 15

PROJECT REFERENCE NO. U-2581BA	SHEET NO. EC-06/CONST.06
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

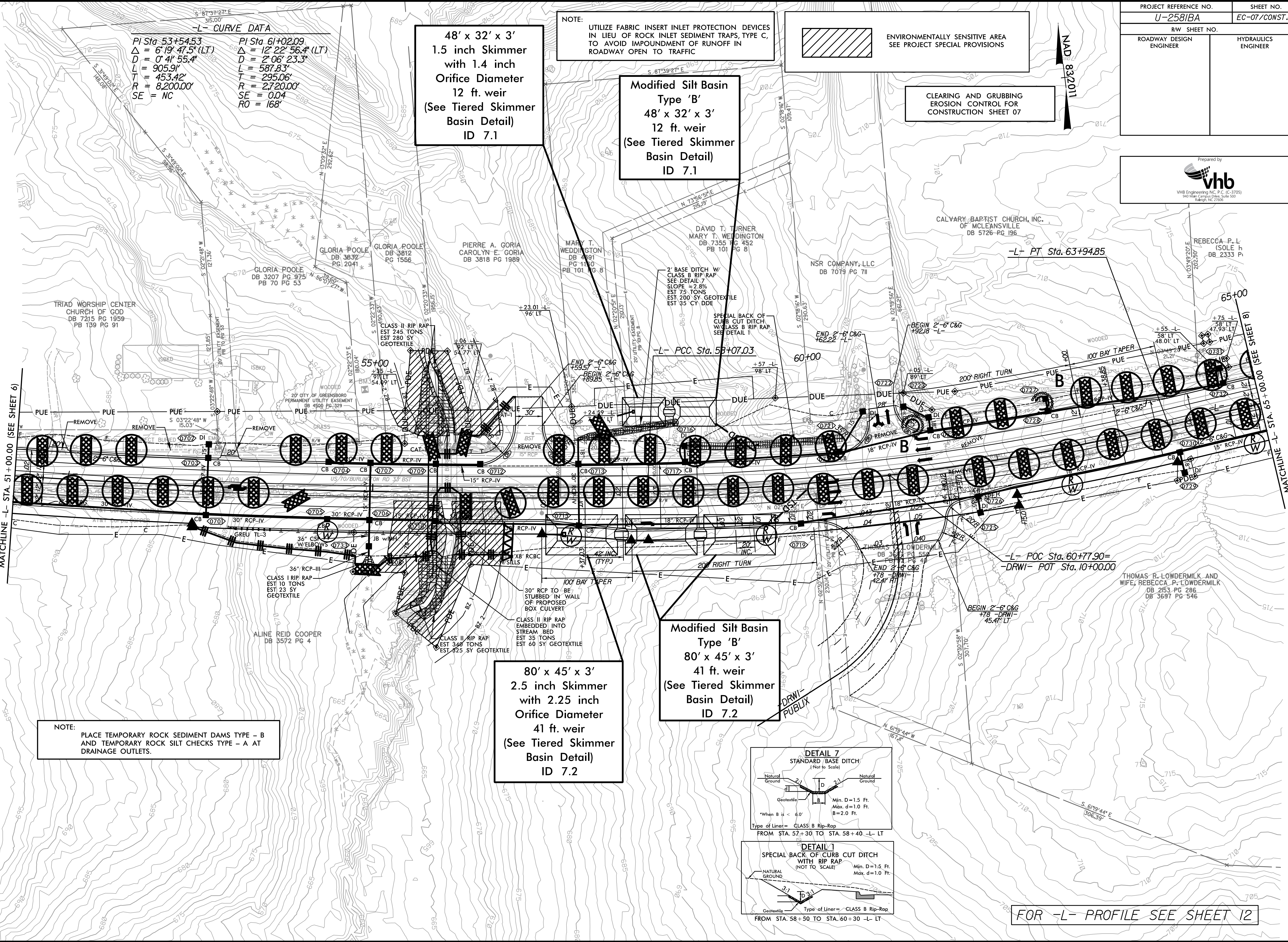


NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.



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PROJECT REFERENCE NO. U-2581BA	SHEET NO. EC-07/CONST.07
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



-L- CURVE DATA

PI Sta 53+54.53 Δ = 6'19" 47.5" (LT) D = 0' 4' 55.4" L = 905.9' T = 453.42' R = 8,200.00' SE = NC	PI Sta 61+02.09 Δ = 12' 22" 56.4" (LT) D = 2' 06" 23.3" L = 587.83' T = 295.06' R = 2,720.00' SE = 0.04 RO = 168'
---	--

48' x 32' x 3'
1.5 inch Skimmer
with 1.4 inch
Orifice Diameter
12 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.1

Modified Silt Basin
Type 'B'
48' x 32' x 3'
12 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.1

80' x 45' x 3'
2.5 inch Skimmer
with 2.25 inch
Orifice Diameter
41 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.2

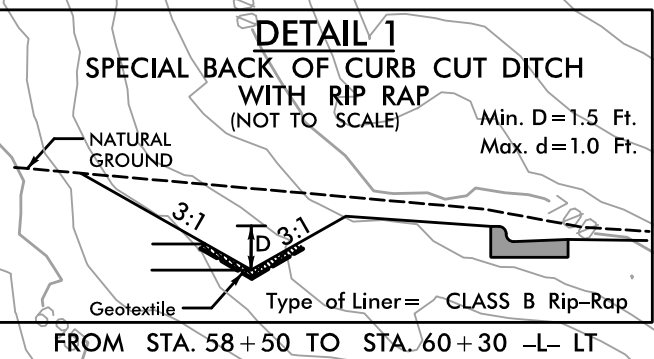
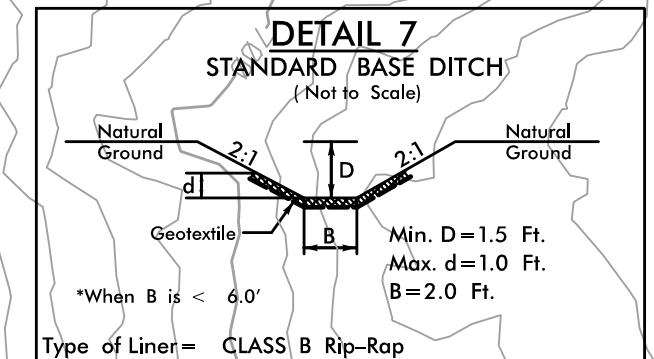
Modified Silt Basin
Type 'B'
80' x 45' x 3'
41 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.2

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

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C, TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC

ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 07



FOR -L- PROFILE SEE SHEET 12

PROJECT REFERENCE NO.	SHEET NO.
U-258/BA	EC-08/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

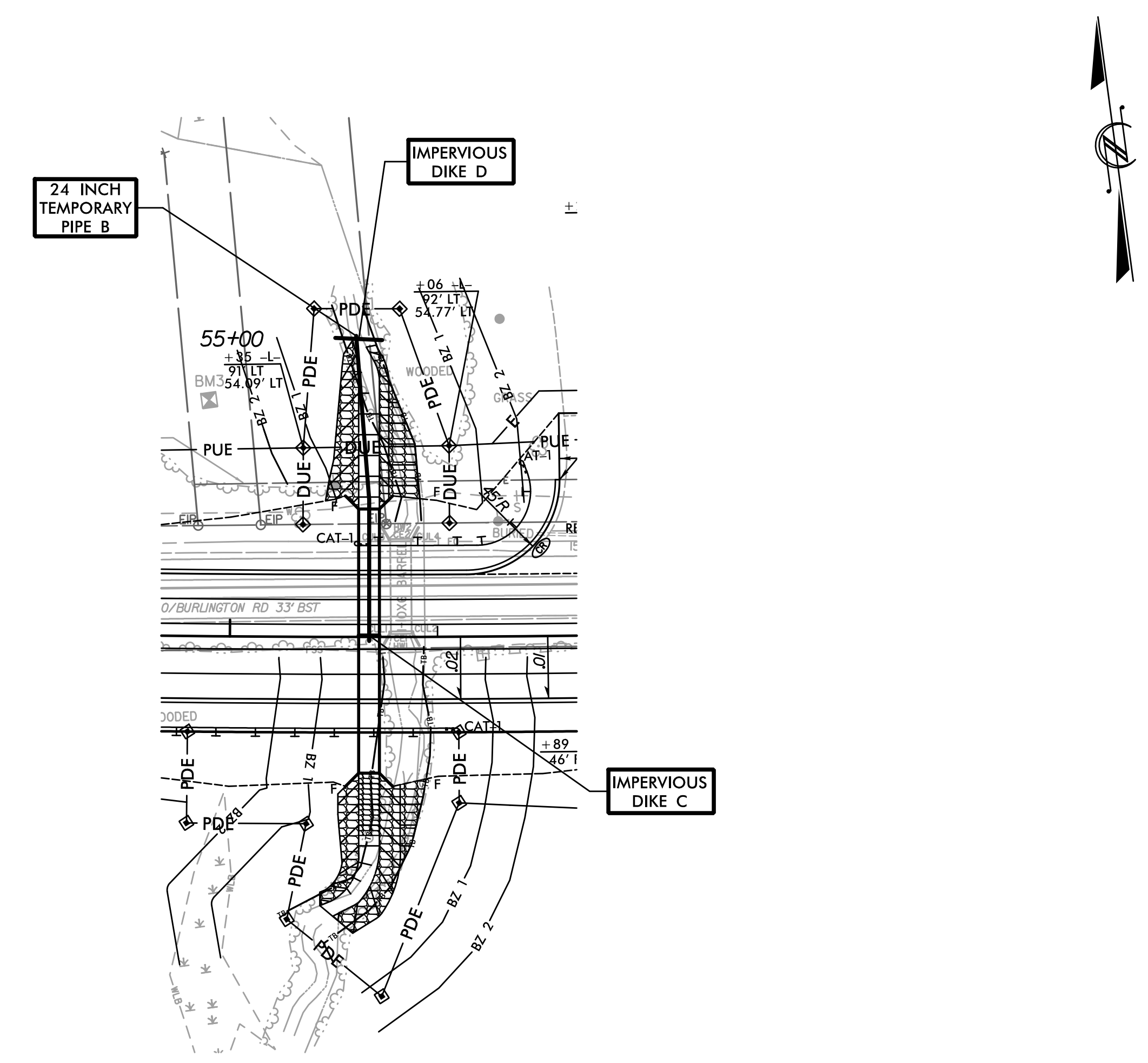
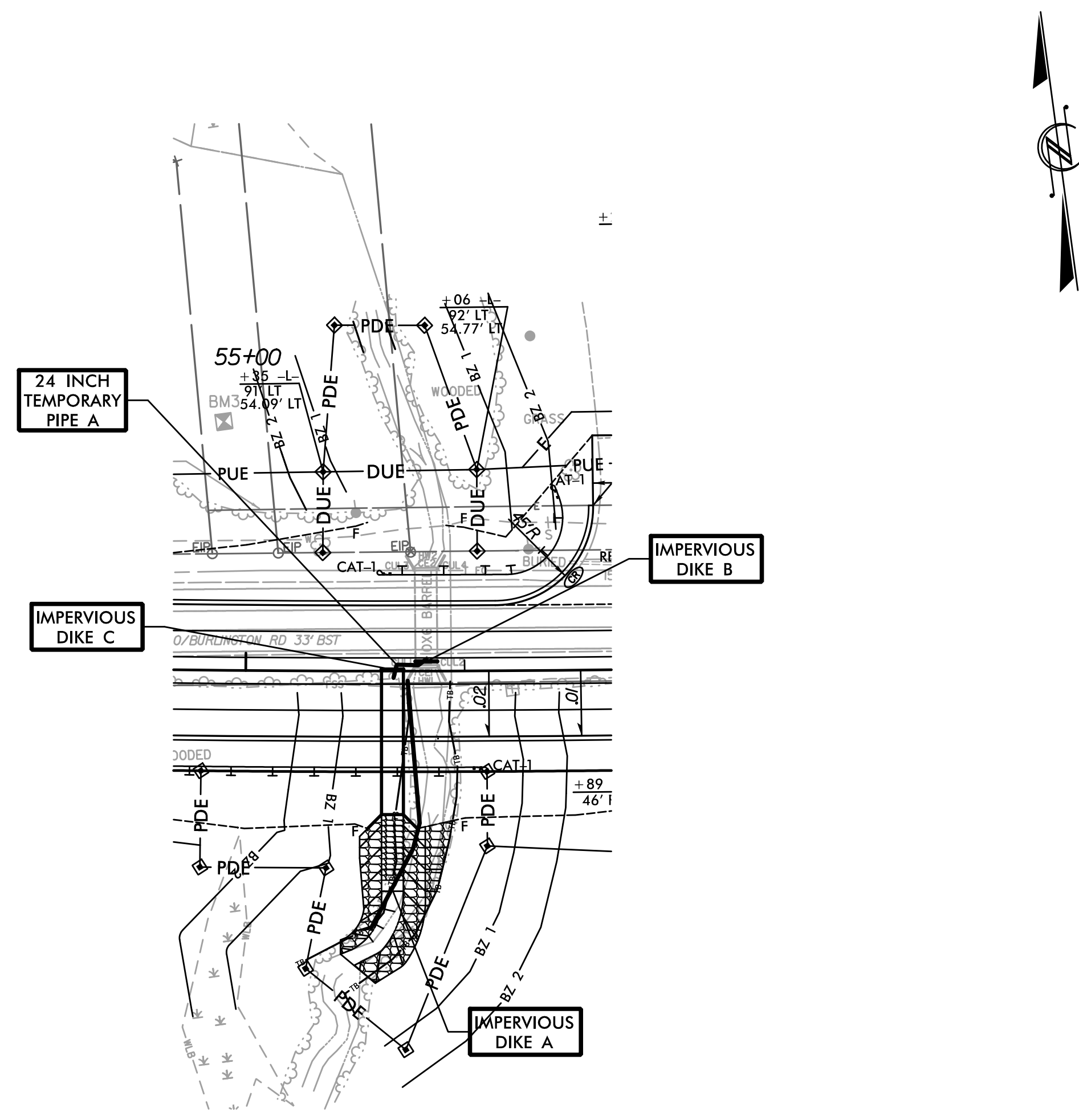
CULVERT CONSTRUCTION SEQUENCE STA. 55+83 -L-

PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NECESSARY TO DEWATER WORK AREAS.
2. MAINTAIN TRAFFIC OVER EXISTING RCBC.
3. INSTALL IMPERVIOUS DIKE A AND MAINTAIN FLOW THROUGH EXISTING RCBC.
4. CONSTRUCT APPROX. 65' OF DOWNSTREAM CULVERT. AND CONSTRUCT DOWNSTREAM CHANNEL AS MUCH AS POSSIBLE.
5. INSTALL IMPERVIOUS DIKE B AND C AND INSTALL 24" TEMPORARY PIPE A TO ROUTE WATER FROM OUTLET OF EXISTING RCBC INTO THE INSTALLED SECTION OF PROPOSED 10'x8' RCBC. REMOVE WINGWALL/HEADWALL OF EXISTING RCBC IF NECESSARY.
6. REMOVE IMPERVIOUS DIKE A AND FINISH CONSTRUCTION OF OUTLET CHANNEL.

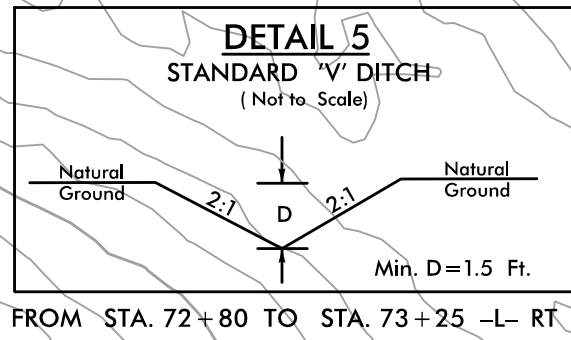
PHASE II

1. REMOVE PORTION OF EXISTING RCBC AND CONSTRUCT EAST BOUND ROADWAY OVER PROPOSED RCBC AND SHIFT TRAFFIC ONTO THE NEWLY CONSTRUCTED ROADWAY.
2. INSTALL IMPERVIOUS DIKE D AND INSTALL 24" TEMPORARY PIPE B.
3. REMOVE 24" TEMPORARY PIPE A AND IMPERVIOUS DIKE B.
4. CONSTRUCT REMAINING UPSTREAM CULVERT AND CHANNEL THAT WERE INSTALLED DURING PHASE I.
5. REMOVE IMPERVIOUS DIKE C AND D, 24" TEMPORARY PIPE B AND SPECIAL STILLING BASINS.
6. STABILIZE AND REMOVE ALL EROSION CONTROL DEVICES.



8/17/99

PROJECT REFERENCE NO. U-2581BA	SHEET NO. EC-09/CONST.08
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



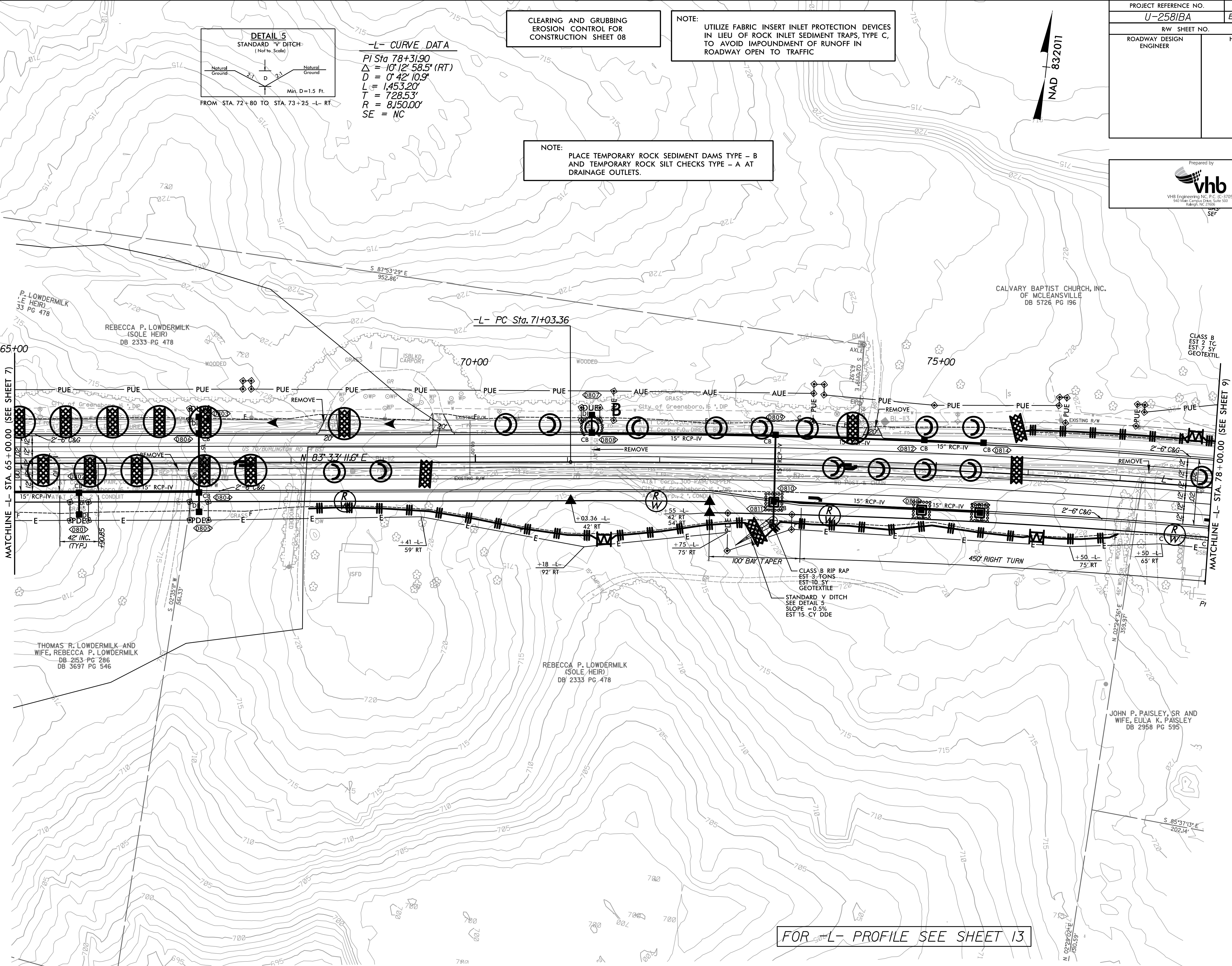
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 PI Sta 78+31.90
 $\Delta = 10^\circ 12' 58.5''$ (RT)
 $D = 0^\circ 42' 10.9''$
 $L = 1,453.20'$
 $T = 728.53'$
 $R = 8,150.00'$
 SE = NC

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 08

NOTE:
 UTILIZE FABRIC INSERT INLET PROTECTION DEVICES
 IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,
 TO AVOID IMPOUNDMENT OF RUNOFF IN
 ROADWAY OPEN TO TRAFFIC

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

NAD 832011



P. LOWDERMILK
 (E HEIR)
 33 PG 478

REBECCA P. LOWDERMILK
 (SOLE HEIR)
 DB 2333 PG 478

CALVARY BAPTIST CHURCH, INC.
 OF MCLEANSVILLE
 DB 5726 PG 196

CLASS B
 EST 2 TC
 EST 7 SY
 GEOTEXTILE

MATCHLINE -L- STA. 65+00.00 (SEE SHEET 7)

MATCHLINE -L- STA. 78+00.00 (SEE SHEET 9)

THOMAS R. LOWDERMILK AND
 WIFE, REBECCA P. LOWDERMILK
 DB 2153 PG 286
 DB 3697 PG 546

REBECCA P. LOWDERMILK
 (SOLE HEIR)
 DB 2333 PG 478

JOHN P. PAISLEY, SR AND
 WIFE, EULA K. PAISLEY
 DB 2958 PG 595

FOR -L- PROFILE SEE SHEET 13

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 abarban

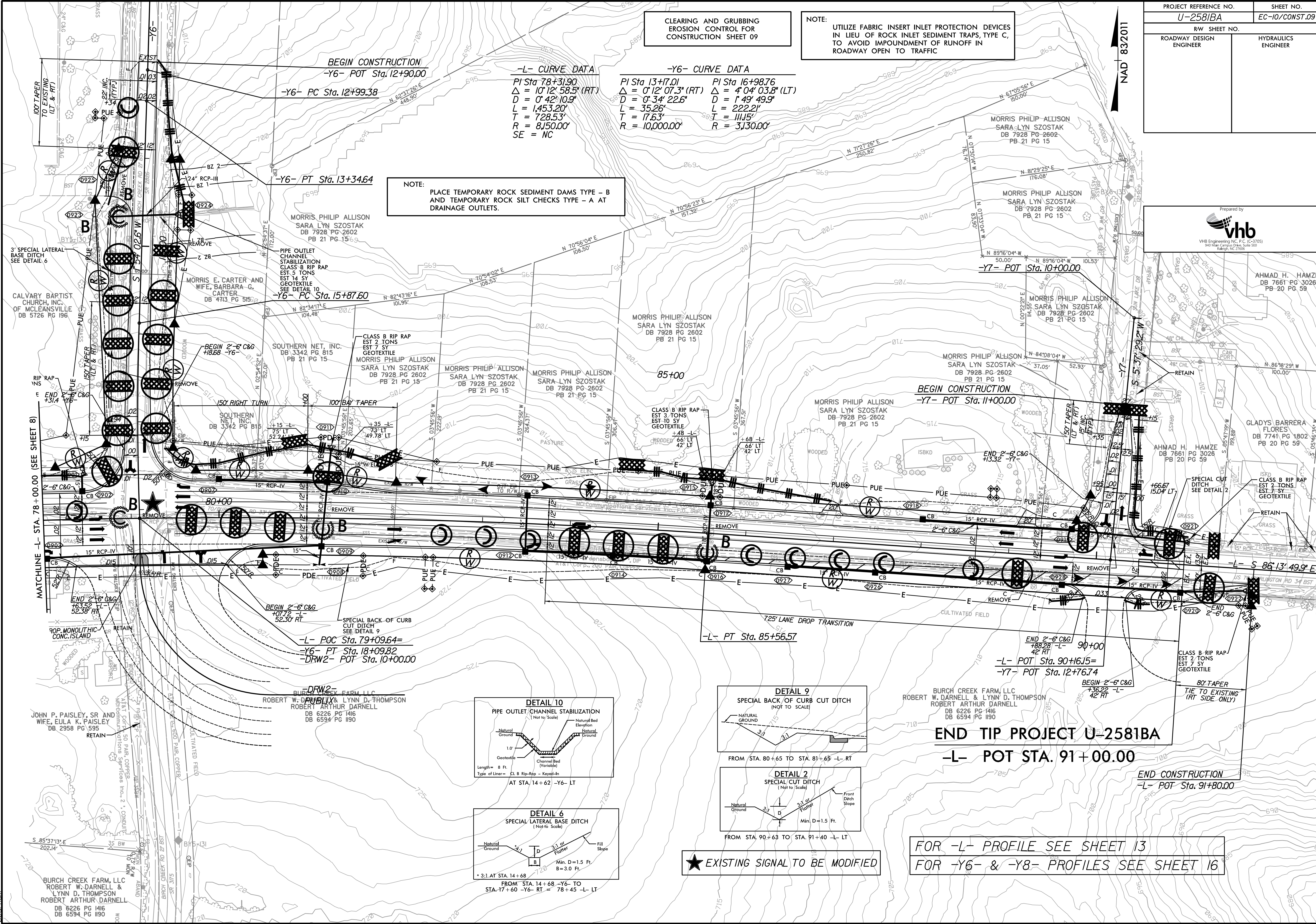
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-2581BA	EC-10/CONST.09
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 09

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES
IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,
TO AVOID IMPOUNDMENT OF RUNOFF IN
ROADWAY OPEN TO TRAFFIC

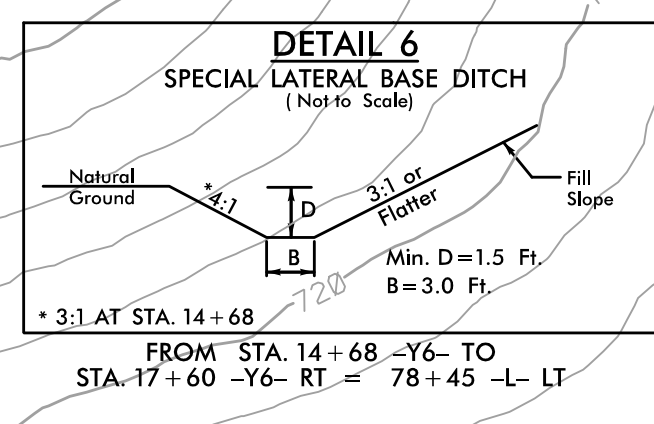
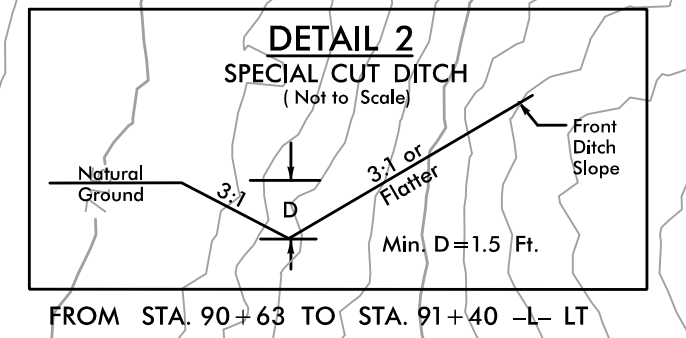
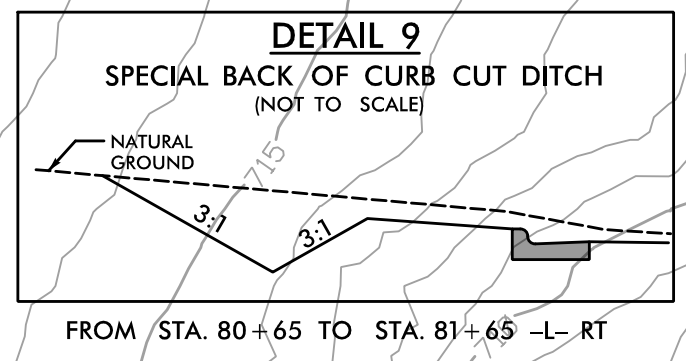
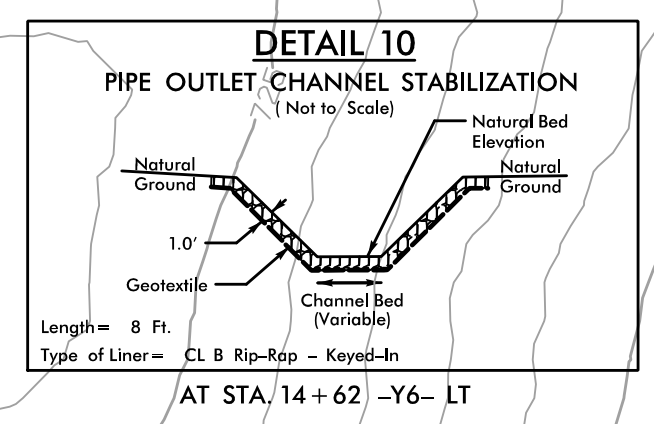
NAD 832011



-L- CURVE DATA
PI Sta 78+31.90
 $\Delta = 10^\circ 12' 58.5''$ (RT)
D = 0' 42' 10.9"
L = 1,453.20'
T = 728.53'
R = 8,150.00'
SE = NC

-Y6- CURVE DATA
PI Sta 13+71.01 $\Delta = 0^\circ 12' 07.3''$ (RT) $\Delta = 4^\circ 04' 03.8''$ (LT)
D = 0' 34' 22.6" $L = 35.26'$ $L = 222.21'$
T = 17.63' $T = 111.15'$
R = 10,000.00' $R = 3,130.00'$

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



★ EXISTING SIGNAL TO BE MODIFIED

END TIP PROJECT U-2581BA
-L- POT STA. 91+00.00

END CONSTRUCTION
-L- POT STA. 91+80.00

FOR -L- PROFILE SEE SHEET 13
FOR -Y6- & -Y8- PROFILES SEE SHEET 16

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BURCH CREEK FARM, LLC
ROBERT W. DARNELL & LYNN D. THOMPSON
ROBERT ARTHUR DARNELL
DB 6226 PG 1416
DB 6594 PG 1190

BURCH CREEK FARM, LLC
ROBERT W. DARNELL & LYNN D. THOMPSON
ROBERT ARTHUR DARNELL
DB 6226 PG 1416
DB 6594 PG 1190

BURCH CREEK FARM, LLC
ROBERT W. DARNELL & LYNN D. THOMPSON
ROBERT ARTHUR DARNELL
DB 6226 PG 1416
DB 6594 PG 1190

JOHN P. PAISLEY, SR AND WIFE, EULA K. PAISLEY
DB 2958 PG 595

CALVARY BAPTIST CHURCH, INC. OF MCLEANSVILLE
DB 5726 PG 196

MORRIS E. CARTER AND WIFE, BARBARA G. CARTER
DB 4713 PG 515

SOUTHERN NET, INC.
DB 3342 PG 815
PB 21 PG 15

MORRIS PHILIP ALLISON SARA LYN SZOSTAK
DB 7928 PG 2602
PB 21 PG 15

MORRIS PHILIP ALLISON SARA LYN SZOSTAK
DB 7928 PG 2602
PB 21 PG 15

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PB 21 PG 15

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PB 21 PG 15

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PB 21 PG 15

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DB 7928 PG 2602
PB 21 PG 15

MORRIS PHILIP ALLISON SARA LYN SZOSTAK
DB 7928 PG 2602
PB 21 PG 15

AHMAD H. HAMZE DB 7661 PG 3026
PB 20 PG 59

GLADYS BARRERA FLORES DB 7741 PG 1802
PB 20 PG 59

ISFD CLASS B RIP RAP EST 2 TONS EST 7 SY GEOTEXTILE

RETAIN

RETAIN

RETAIN

RETAIN

RETAIN

RETAIN

RETAIN

RETAIN

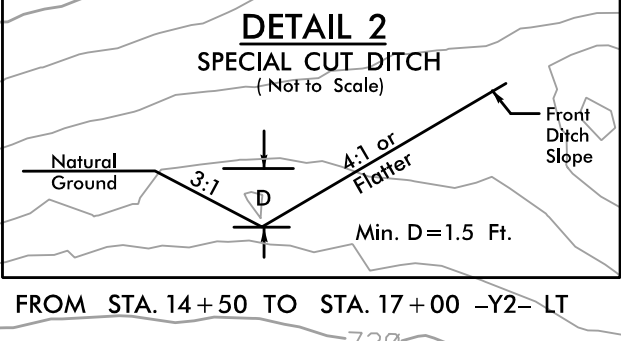
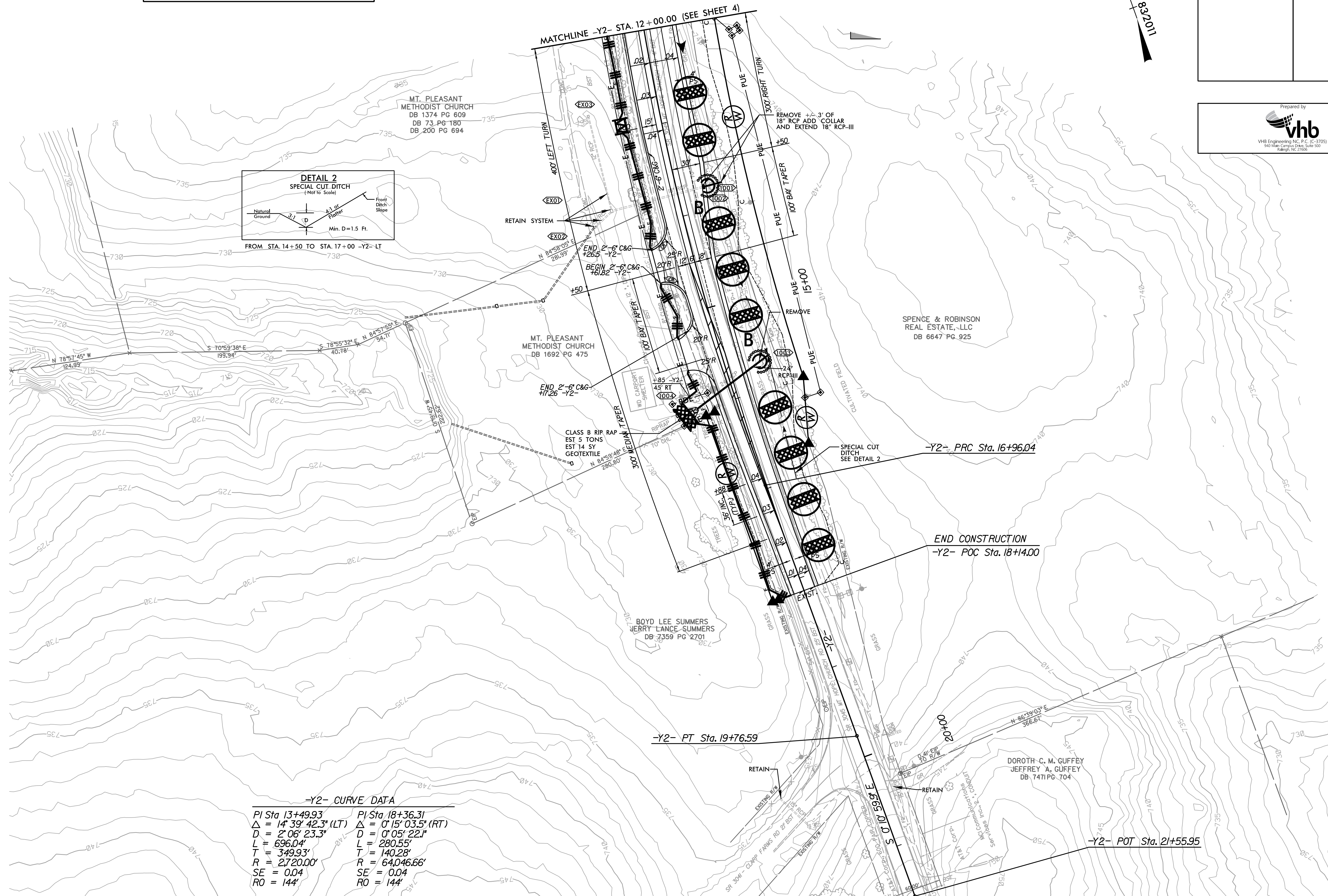
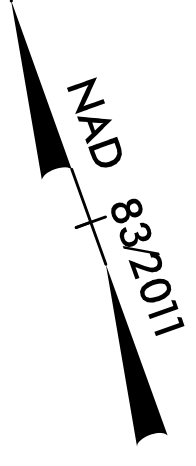
RETAIN

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES
IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,
TO AVOID IMPOUNDMENT OF RUNOFF IN
ROADWAY OPEN TO TRAFFIC

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

PROJECT REFERENCE NO. U-2581BA	SHEET NO. EC-II/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



FROM STA. 14+50 TO STA. 17+00 -Y2- LT

-Y2- CURVE DATA

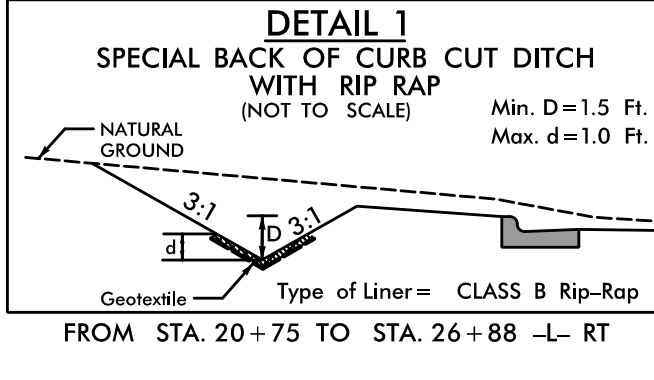
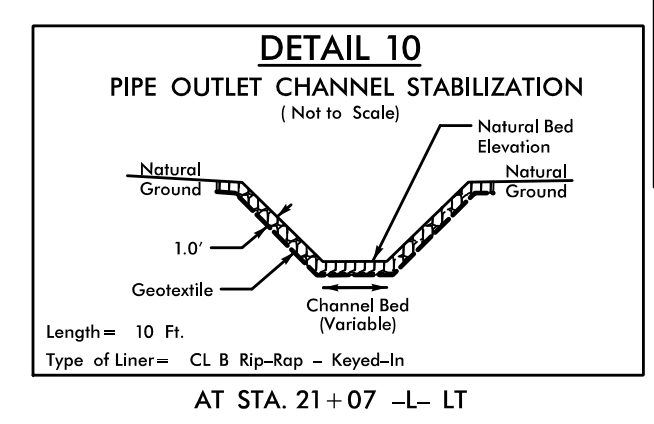
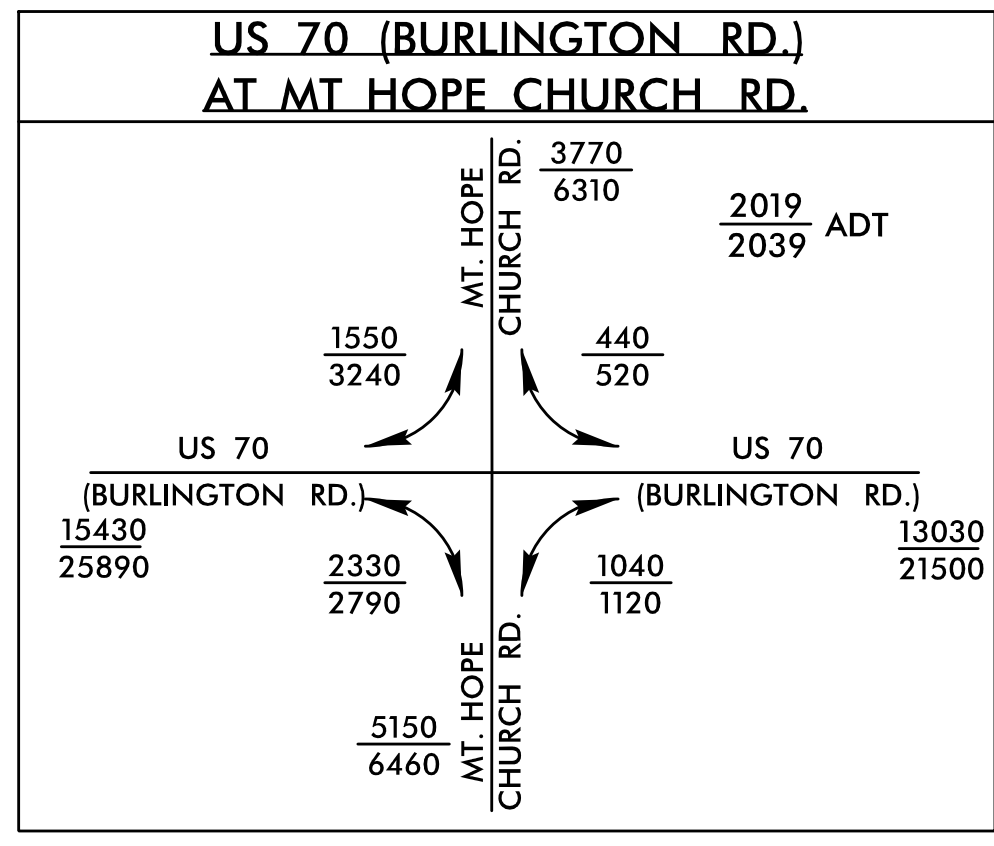
PI Sta 13+49.93	PI Sta 18+36.31
$\Delta = 14^{\circ} 39' 42.3''$ (LT)	$\Delta = 0^{\circ} 15' 03.5''$ (RT)
D = 2' 06' 23.3"	D = 0' 05' 22.1"
L = 696.04'	L = 280.55'
T = 349.93'	T = 140.28'
R = 2720.00'	R = 64,046.66'
SE = 0.04	SE = 0.04
RO = 144'	RO = 144'

FOR -Y2- PROFILE SEE SHEET 14

8/17/99

-L- CURVE DATA
 PI Sta 17+66.41
 $\Delta = 12^{\circ} 58' 11''$ (LT)
 $D = 1' 13'' 08.6''$
 $L = 1,063.91'$
 $T = 534.24'$
 $R = 4,700.00'$
 $SE = 0.025$
 $RO = 105'$
 $INC = 42'$

-Y2- CURVE DATA
 PI Sta 13+49.93
 $\Delta = 14^{\circ} 39' 42.3''$ (LT)
 $D = 2^{\circ} 06' 23.3''$
 $L = 696.04'$
 $T = 349.93'$
 $R = 2,720.00'$
 $SE = 0.04$
 $RO = 144'$

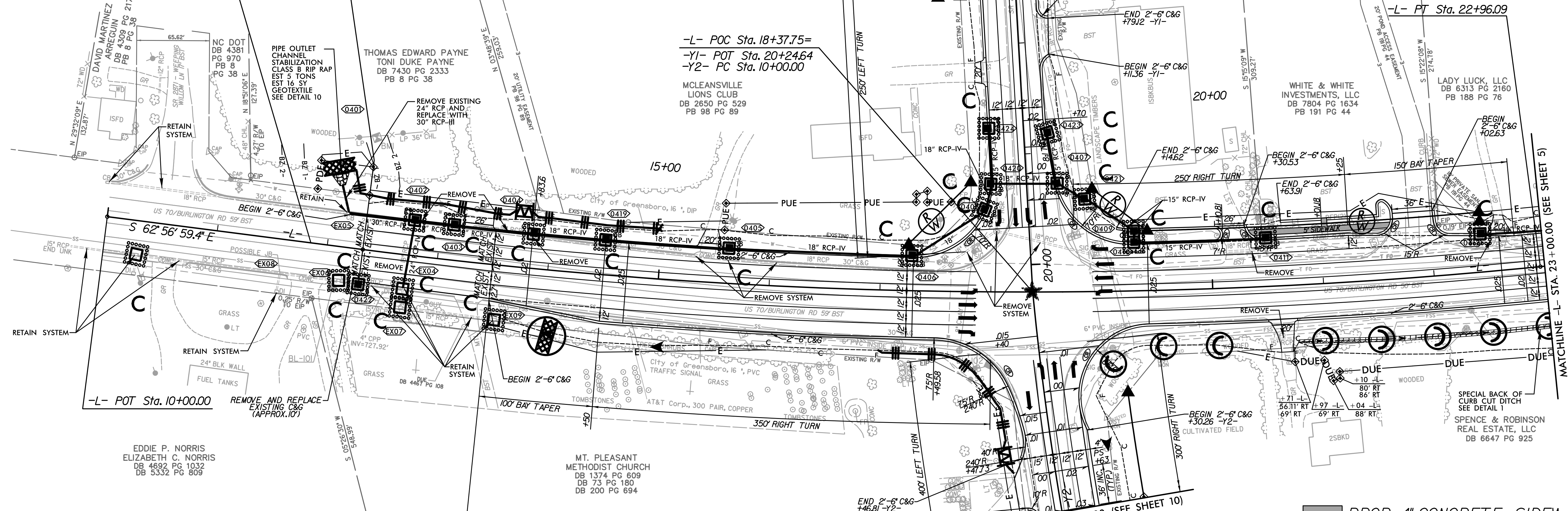


NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C, TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC

BEGIN CONSTRUCTION
 -Y1- POT Sta. 13+45.00

BEGIN TIP PROJECT U-2581BA
 -L- PC STA. 12+32.17
 BEGIN MILL/RESURFACE
 BEGIN WIDENING (LT SIDE ONLY)

BEGIN CONSTRUCTION
 -L- POT Sta. 11+85.00



-L- POT Sta. 10+00.00
 REMOVE AND REPLACE EXISTING C&G (APPROX. 10')

EDDIE P. NORRIS
 ELIZABETH C. NORRIS
 DB 4692 PG 1032
 DB 5332 PG 809

MT. PLEASANT
 METHODIST CHURCH
 DB 1374 PG 609
 DB 73 PG 180
 DB 200 PG 694

BEGIN GRADE
 END MILL/RESURFACE
 -L- POC STA. 13+50.00

★ EXISTING SIGNAL TO BE MODIFIED

FOR -L- PROFILE SEE SHEET 11
 FOR -Y1- & -Y2- PROFILES SEE SHEET 14

PROJECT REFERENCE NO. U-2581BA	SHEET NO. EC-12/CONST.04
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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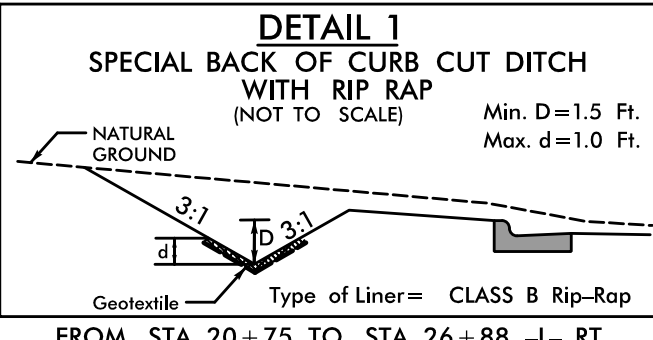
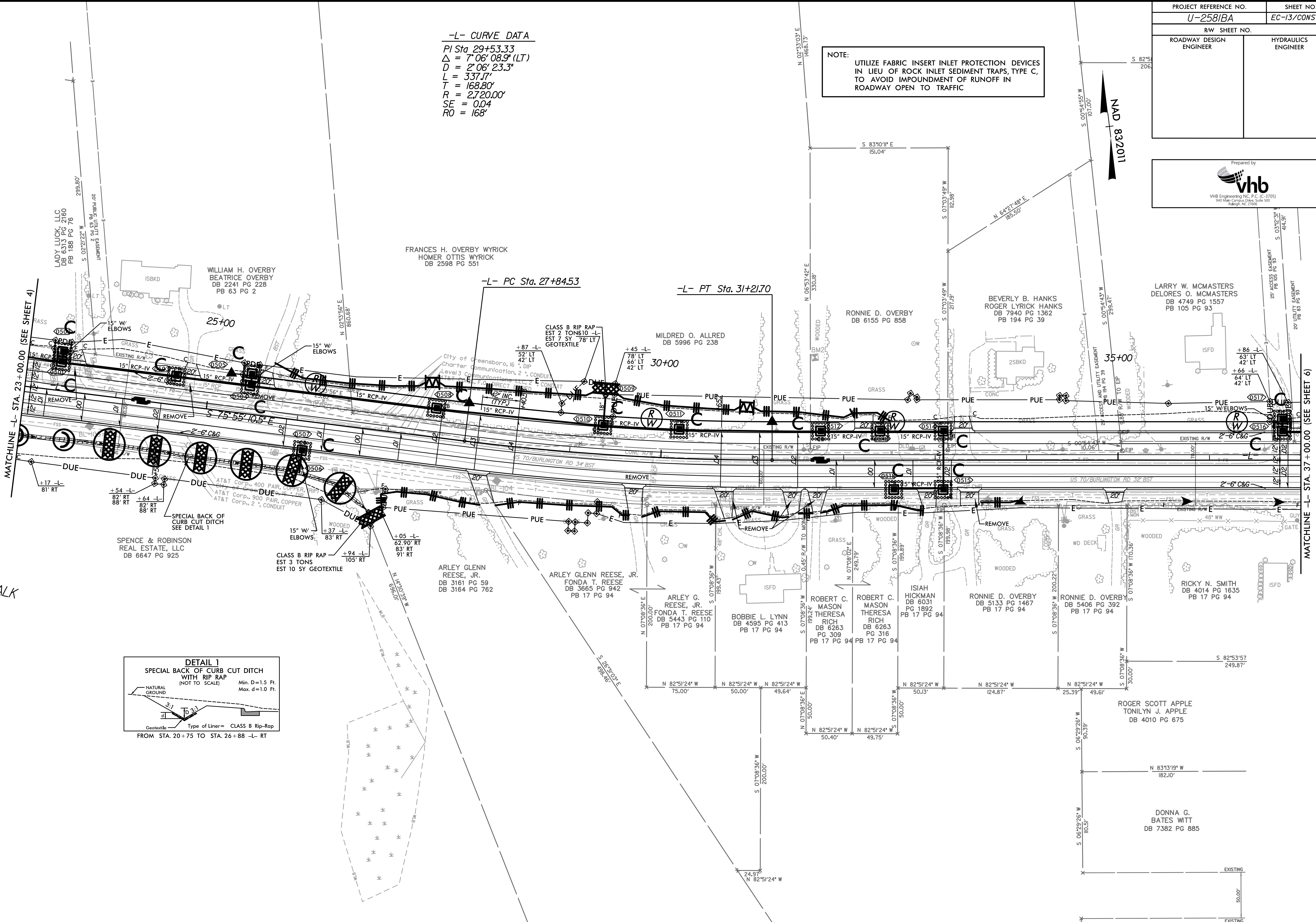
PROJECT REFERENCE NO.	SHEET NO.
U-258IBA	EC-13/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L- CURVE DATA

PI Sta 29+53.33
 $\Delta = 7^{\circ}06'08.9''$ (LT)
 $D = 2^{\circ}06'23.3''$
 $L = 337.17'$
 $T = 168.80'$
 $R = 2720.00'$
 $SE = 0.04$
 $RO = 168'$

NOTE:
 UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C, TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC



FOR -L- PROFILE SEE SHEET II

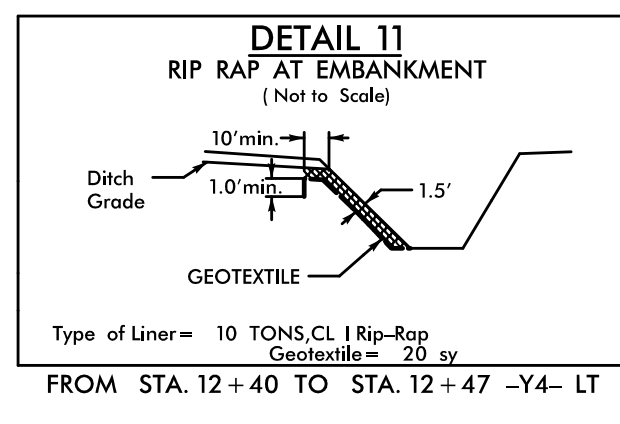
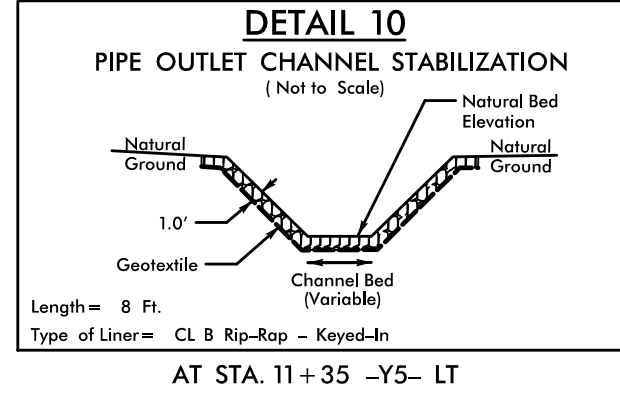
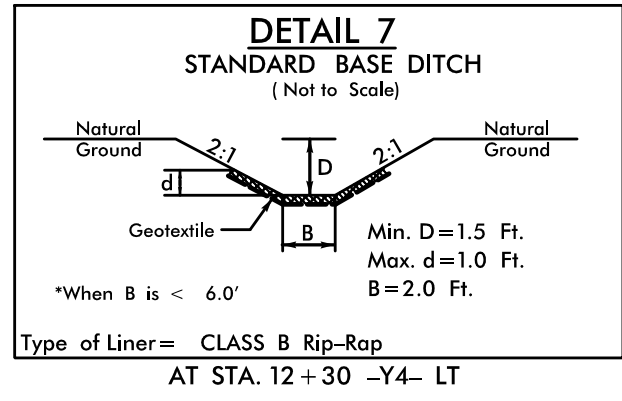
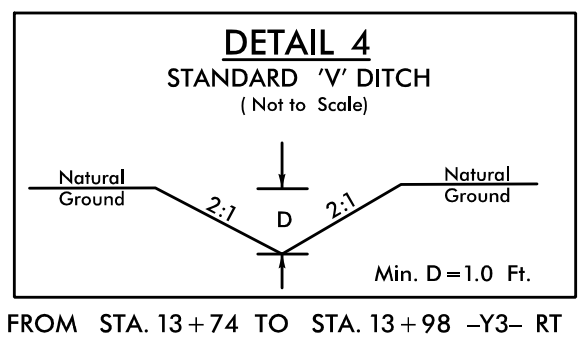
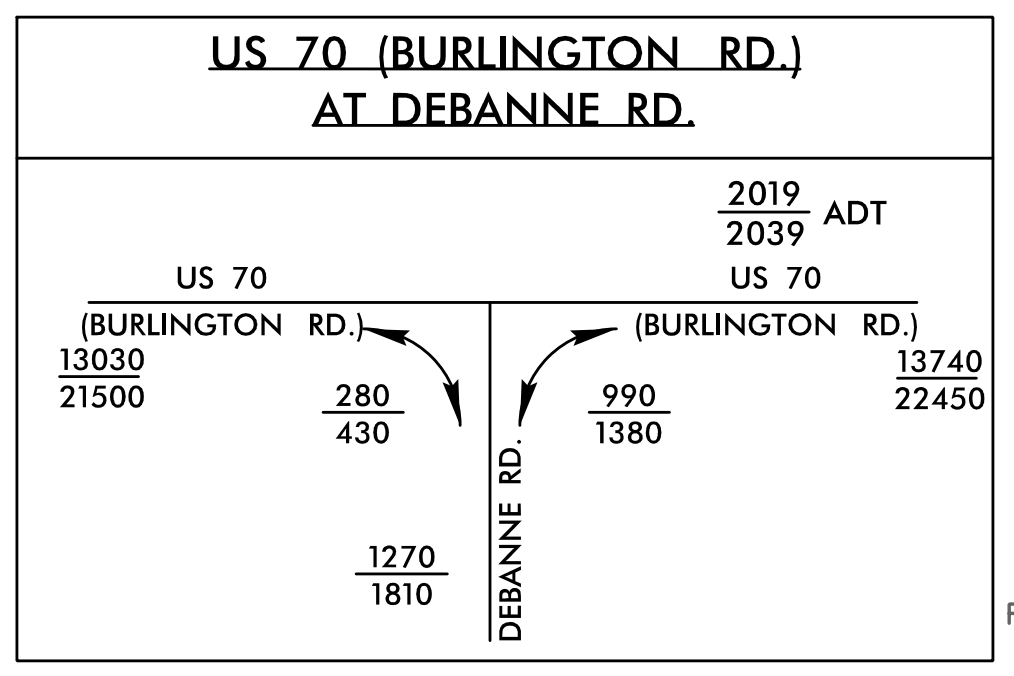
8/17/99

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C, TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC

-L- CURVE DATA
PI Sta 47+75.70 Δ = 5'17".148" (RT) D = 2'06".23.3" L = 251.01' T = 125.59' R = 2,720.00' SE = 0.04 RO = 168'
PI Sta 53+54.53 Δ = 6'19".47.5" (LT) D = 0'41".55.4" L = 905.91' T = 453.42' R = 8,200.00' SE = NC

FOR -L- PROFILE SEE SHEET 12
FOR -Y3-, -Y4- & -Y5- PROFILES SEE SHEET 15

PROJECT REFERENCE NO.	
U-2581BA	
RW SHEET NO.	
EC-14/CONST.06	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NAD 83/2011

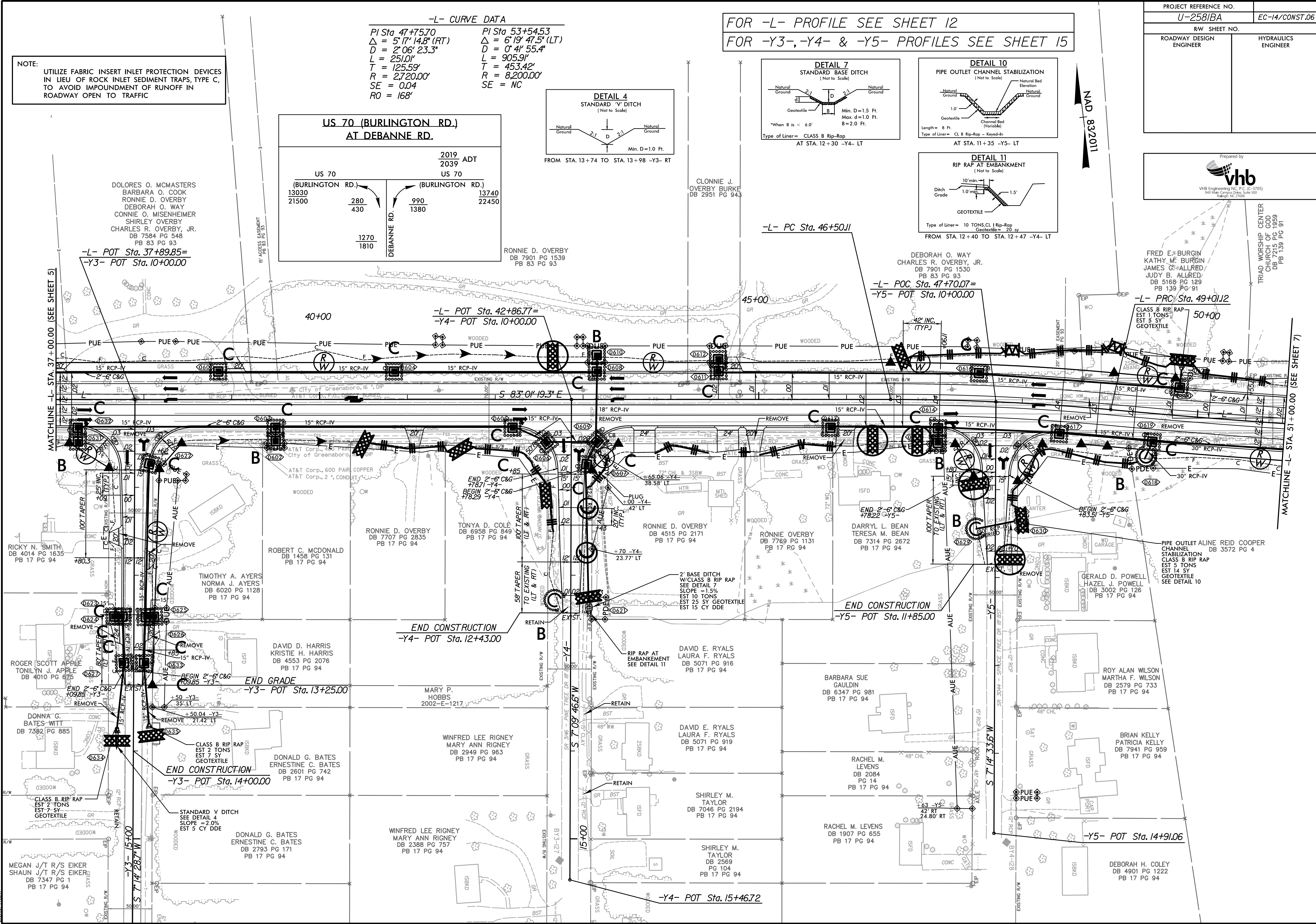
Prepared by

vhb

VHB Engineering, Inc., P.C. (C-3705)
940 West Campus Drive, Suite 500
Raleigh, NC 27606

FRED E. BURGIN
KATHY M. BURGIN
JAMES G. ALLRED
JUDY B. ALLRED
DB 5168 PG 129
PB 139 PG 91

TRIAID WORSHIP CENTER
CHURCH OF GOD
DB 7215 PG 1959
PB 139 PG 91

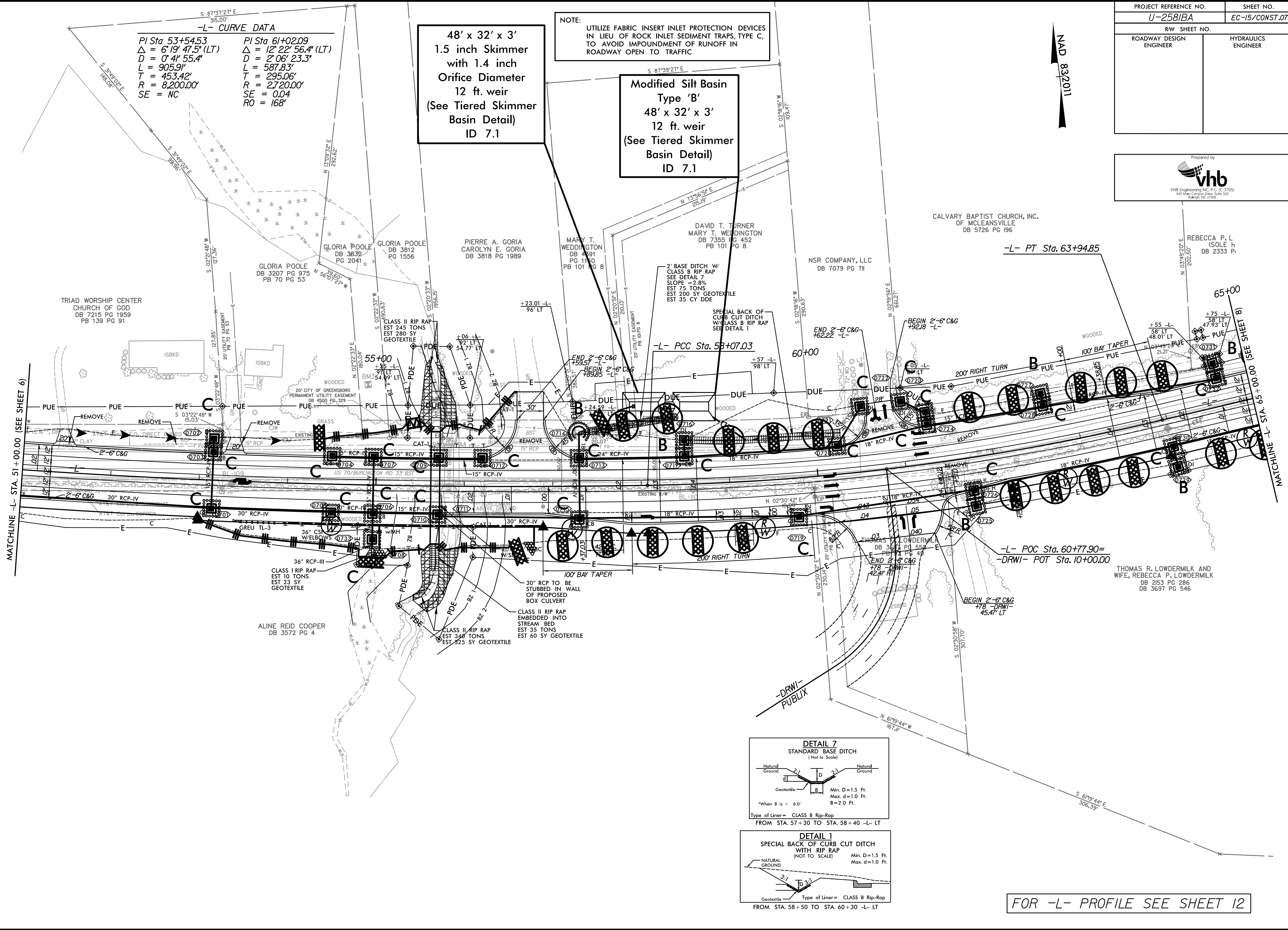


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PROJECT REFERENCE NO.	SHEET NO.
U-2581BA	EC-15/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NAD 83/2011



-L- CURVE DATA

PI Sta 53+54.53	PI Sta 61+02.09
$\Delta = 6' 19' 47.5''$ (LT)	$\Delta = 12' 22' 56.4''$ (LT)
$D = 0' 4' 55.4''$	$D = 2' 06' 23.3''$
$L = 905.9'$	$L = 587.83'$
$T = 453.42'$	$T = 295.06'$
$R = 8,200.00'$	$R = 2,720.00'$
SE = NC	SE = 0.04
	RO = 168'

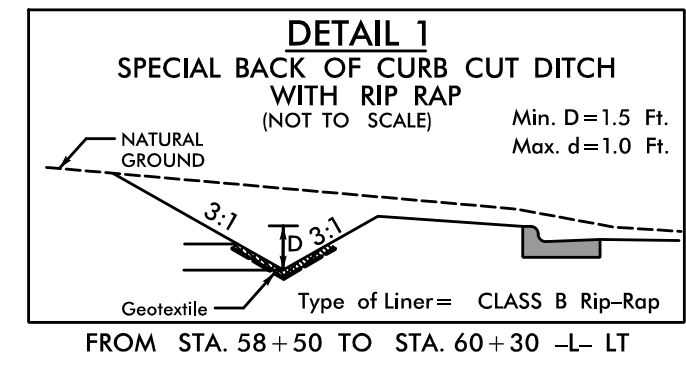
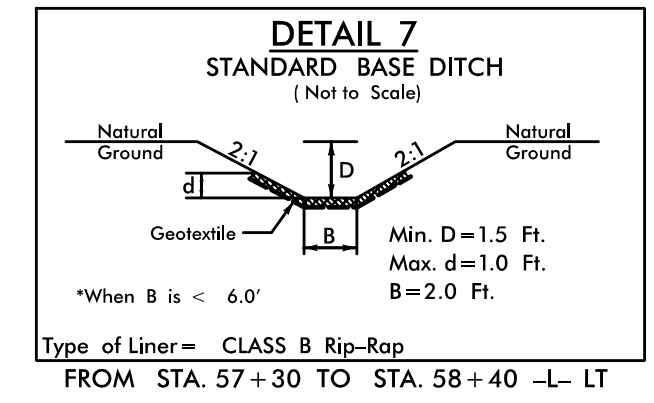
48' x 32' x 3'
1.5 inch Skimmer
with 1.4 inch
Orifice Diameter
12 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.1

Modified Silt Basin
Type 'B'
48' x 32' x 3'
12 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.1

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES
IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C,
TO AVOID IMPOUNDMENT OF RUNOFF IN
ROADWAY OPEN TO TRAFFIC

MATCHLINE -L- STA. 51+00.00 (SEE SHEET 6)

MATCHLINE -L- STA. 65+00.00 (SEE SHEET 8)

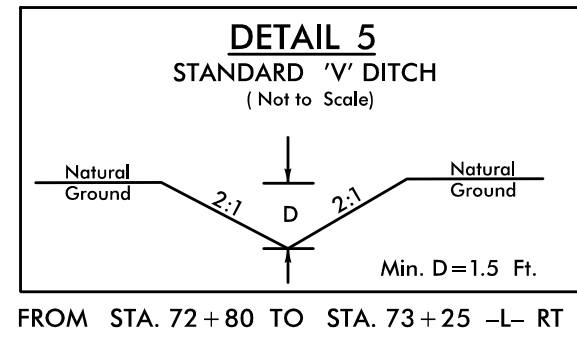


FOR -L- PROFILE SEE SHEET 12

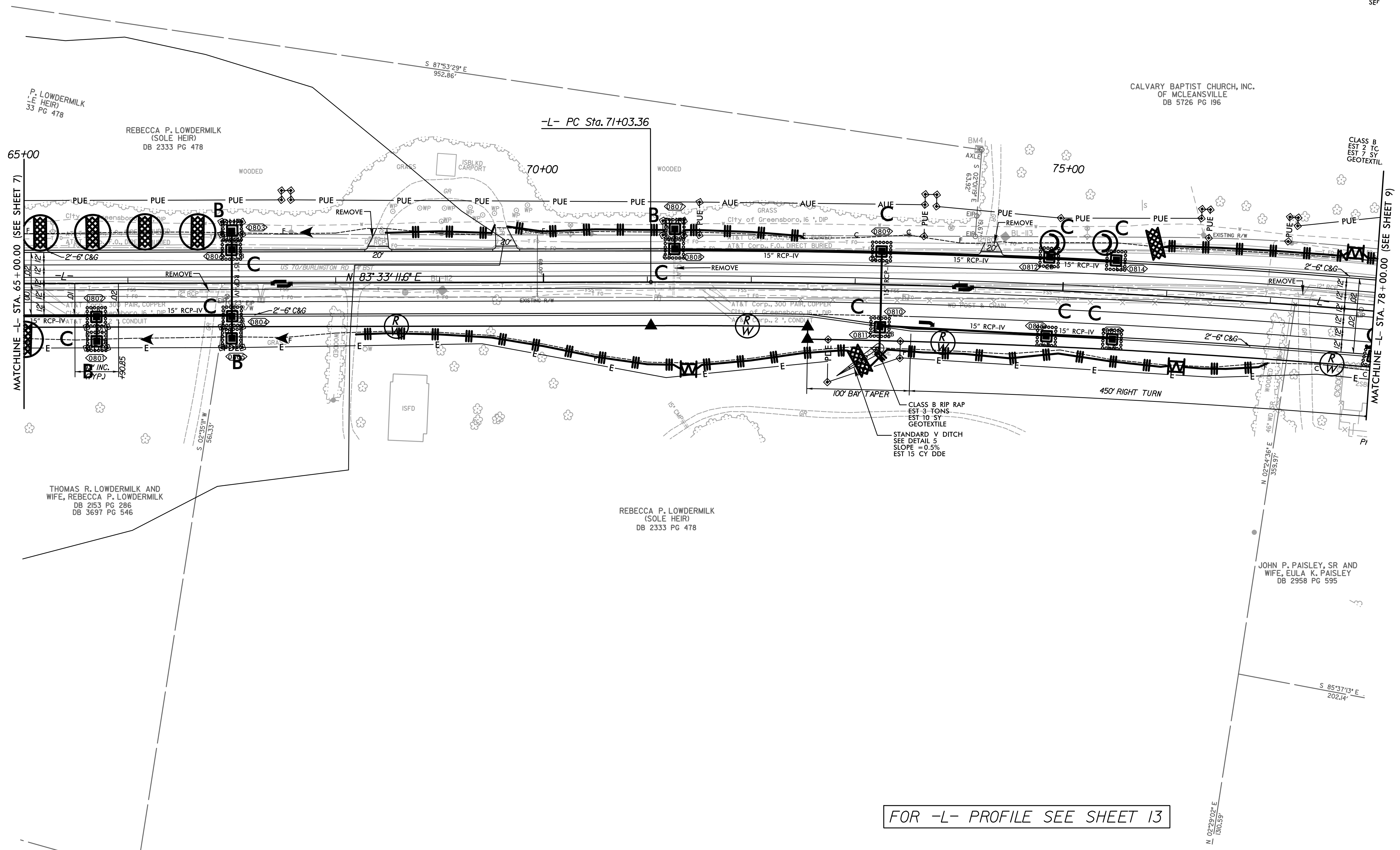
PROJECT REFERENCE NO.	SHEET NO.
U-2581BA	EC-16/CONST.08
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C, TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC



-L- CURVE DATA
 PI Sta 78+31.90
 $\Delta = 10^\circ 12' 58.5''$ (RT)
 $D = 0^\circ 42' 10.9''$
 $L = 1,453.20'$
 $T = 728.53'$
 $R = 8,150.00'$
 SE = NC



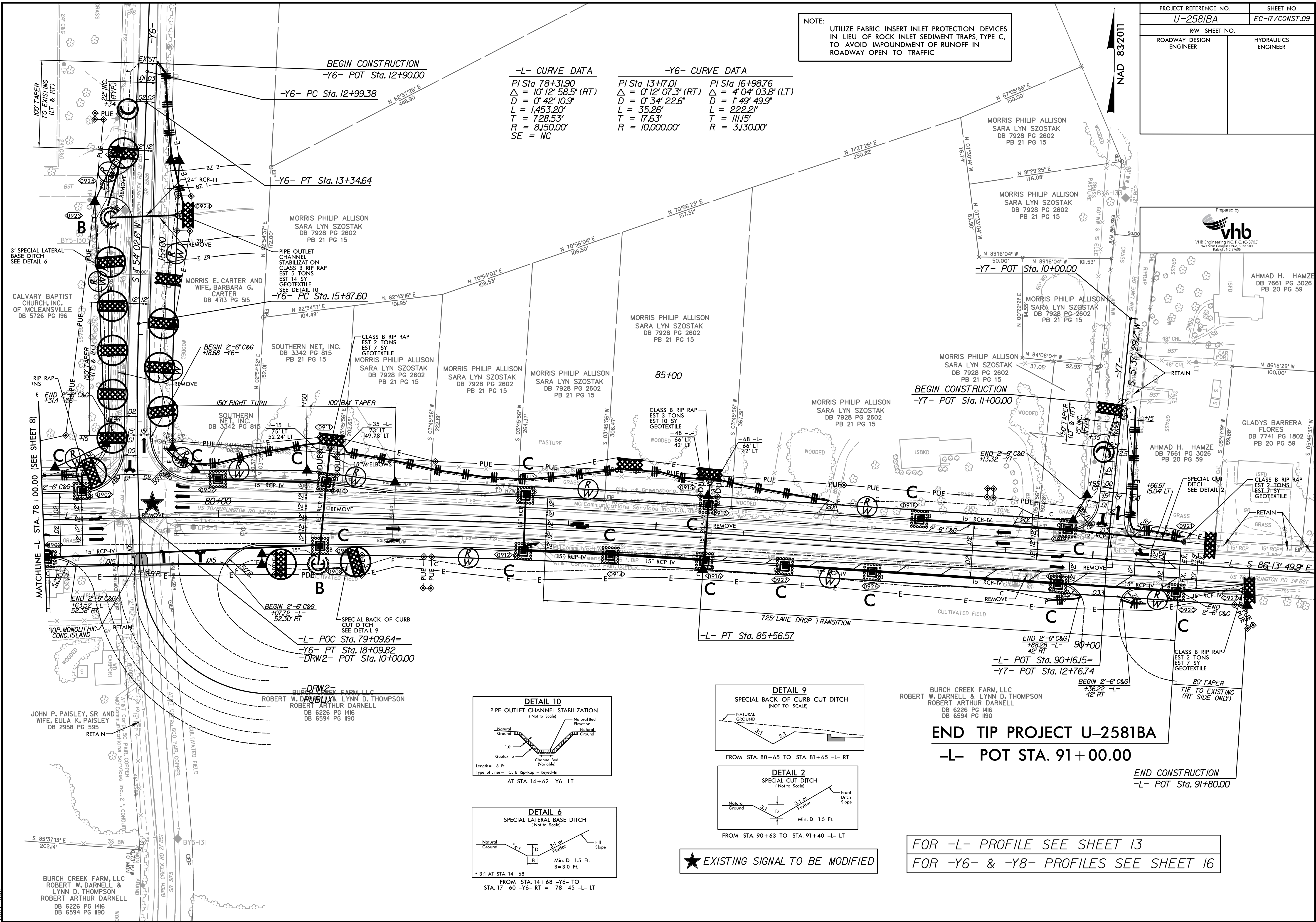
FOR -L- PROFILE SEE SHEET 13

8/17/99

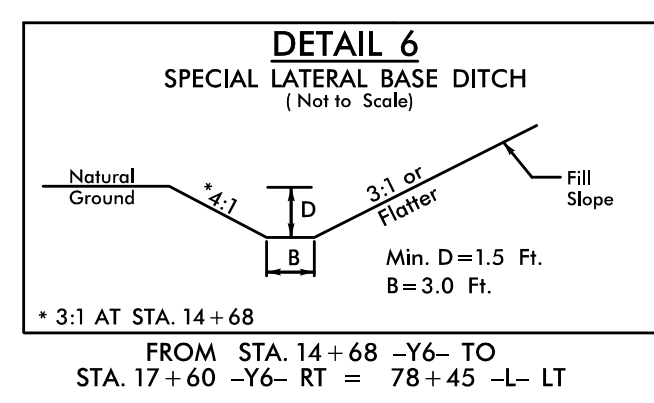
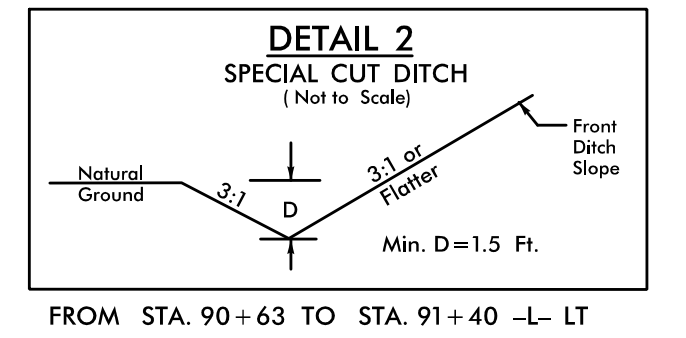
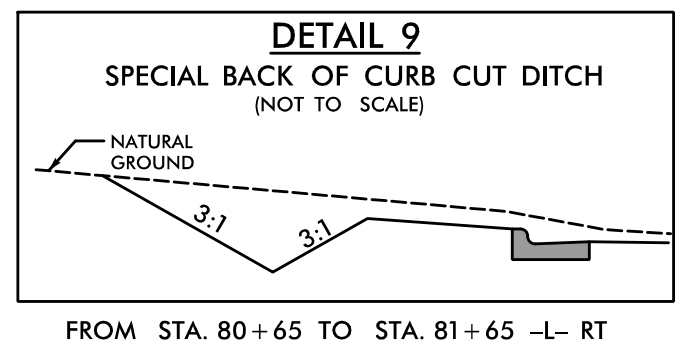
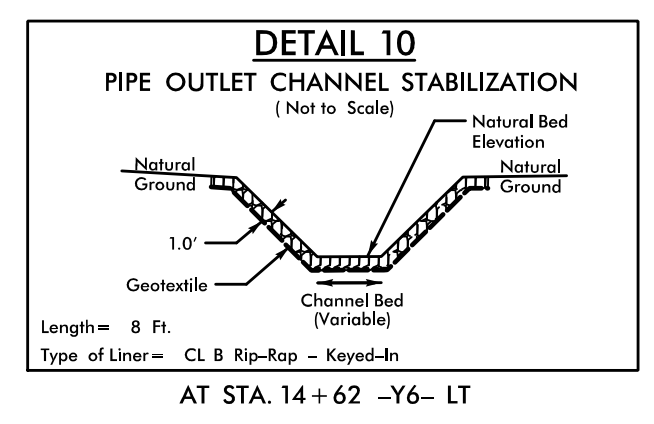
PROJECT REFERENCE NO.	SHEET NO.
U-2581BA	EC-17/CONST.09
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE C, TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC

-L- CURVE DATA	-Y6- CURVE DATA	-Y6- CURVE DATA
PI Sta 78+31.90	PI Sta 13+17.01	PI Sta 16+98.76
$\Delta = 10^{\circ}12'58.5"$ (RT)	$\Delta = 0^{\circ}12'07.3"$ (RT)	$\Delta = 4^{\circ}04'03.8"$ (LT)
$D = 0^{\circ}42'10.9"$	$D = 0^{\circ}34'22.6"$	$D = 1^{\circ}49'49.9"$
$L = 1,453.20'$	$L = 35.26'$	$L = 222.21'$
$T = 728.53'$	$T = 17.63'$	$T = 111.15'$
$R = 8,150.00'$	$R = 10,000.00'$	$R = 3,130.00'$
SE = NC		



MATCHLINE -L- STA. 78+00.00 (SEE SHEET 8)



★ EXISTING SIGNAL TO BE MODIFIED

END TIP PROJECT U-2581BA
-L- POT STA. 91+00.00

END CONSTRUCTION
-L- POT STA. 91+80.00

FOR -L- PROFILE SEE SHEET 13
FOR -Y6- & -Y8- PROFILES SEE SHEET 16

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BURCH CREEK FARM, LLC
ROBERT W. DARNELL & LYNN D. THOMPSON
ROBERT ARTHUR DARNELL
DB 6226 PG 1416
DB 6594 PG 1190

BURCH CREEK FARM, LLC
ROBERT W. DARNELL & LYNN D. THOMPSON
ROBERT ARTHUR DARNELL
DB 6226 PG 1416
DB 6594 PG 1190

BURCH CREEK FARM, LLC
ROBERT W. DARNELL & LYNN D. THOMPSON
ROBERT ARTHUR DARNELL
DB 6226 PG 1416
DB 6594 PG 1190



Prepared by

AHMAD H. HAMZE
DB 7661 PG 3026
PB 20 PG 59

MORRIS PHILIP ALLISON
SARA LYN SZOSTAK
DB 7928 PG 2602
PB 21 PG 15

MORRIS PHILIP ALLISON
SARA LYN SZOSTAK
DB 7928 PG 2602
PB 21 PG 15

MORRIS PHILIP ALLISON
SARA LYN SZOSTAK
DB 7928 PG 2602
PB 21 PG 15

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SARA LYN SZOSTAK
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DB 7928 PG 2602
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SARA LYN SZOSTAK
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PB 21 PG 15

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SARA LYN SZOSTAK
DB 7928 PG 2602
PB 21 PG 15

MORRIS PHILIP ALLISON
SARA LYN SZOSTAK
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