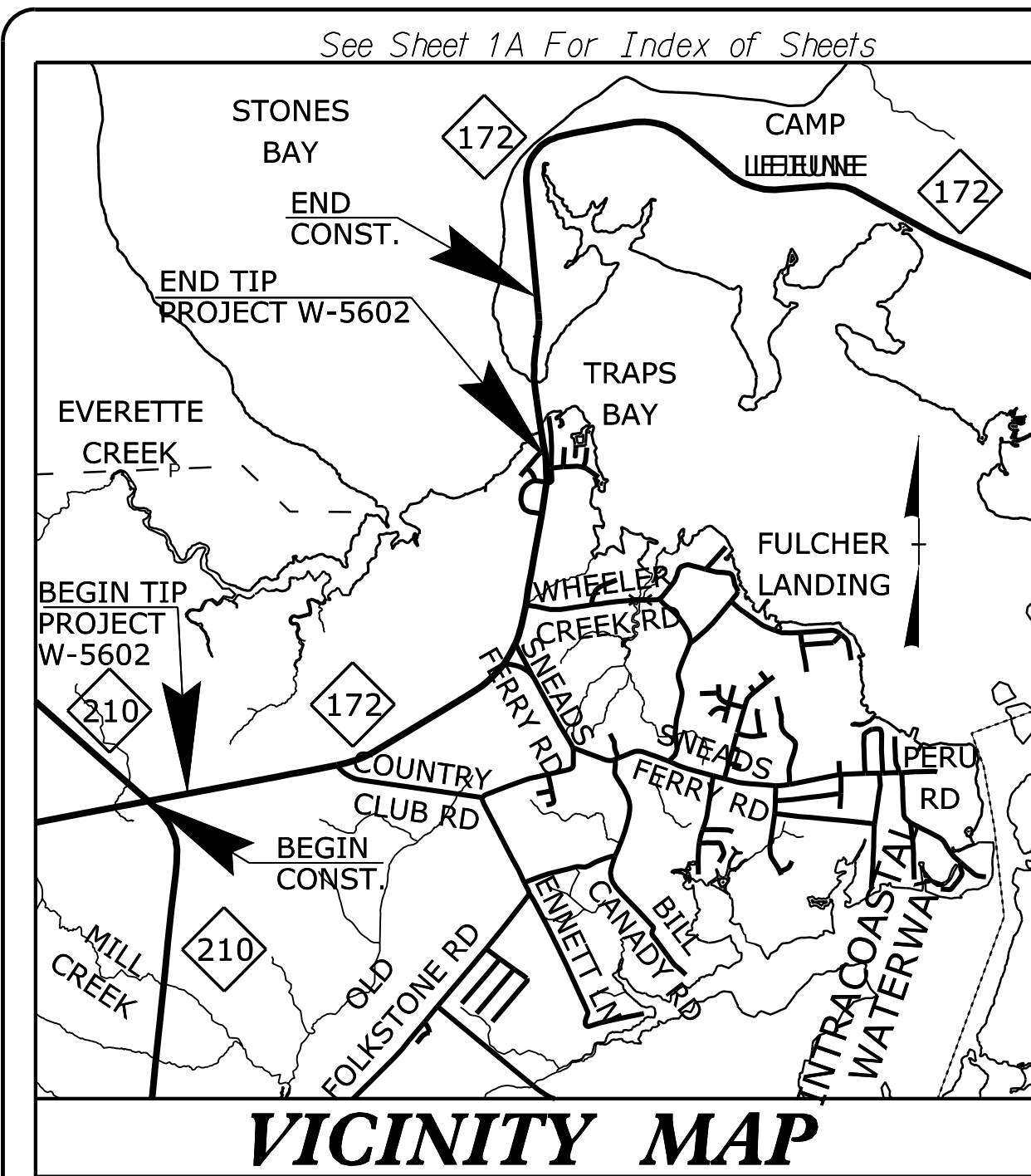


09/08/2018

TIP PROJECT: W-5602



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL**

ONSLOW COUNTY

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5602	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50139.1.FR1	HSIP-0172(13)	PE	
50139.2.1	HSIP-0172(13)	RW, UTL.	
50139.3.1	HSIP-0172(13)	CONST.	

**LOCATION: NC 172 (SNEADS FERRY RD) FROM NC 210 END CONSTRUCTION TIP PROJECT W-5602
TO BRIDGE #17
END OF GUARDRAIL PAST BRIDGE
NC 172 (SNEADS FERRY ROAD)**

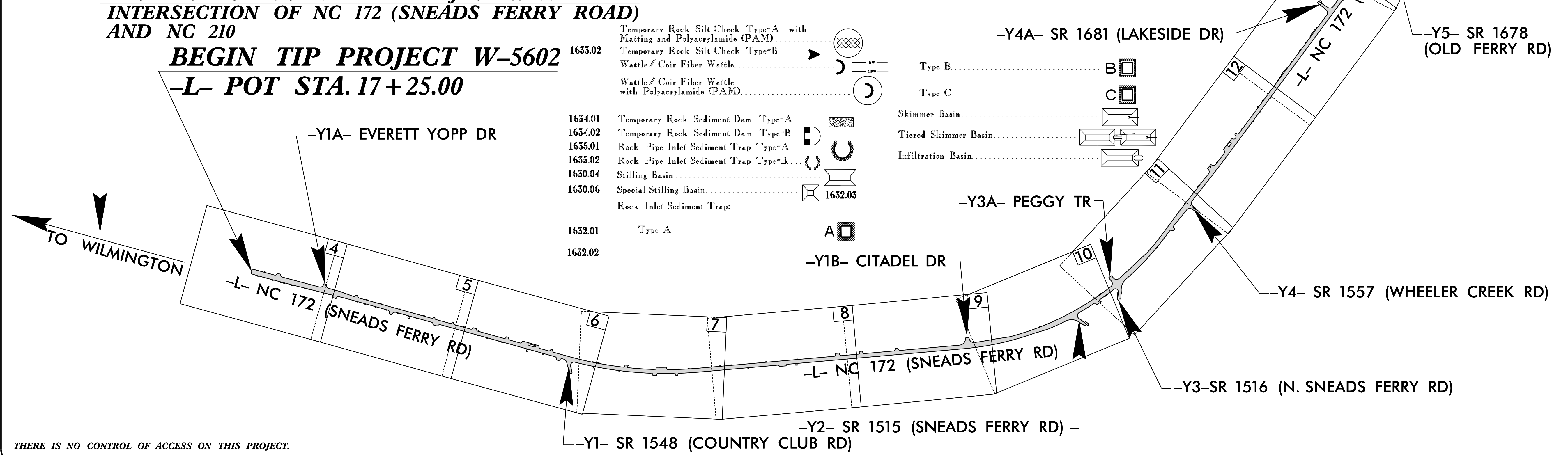
TYPE OF WORK: GRADING, DRAINAGE, PAVING

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1650.05	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
1635.01	Temporary Rock Silt Check Type-A	TRSCA

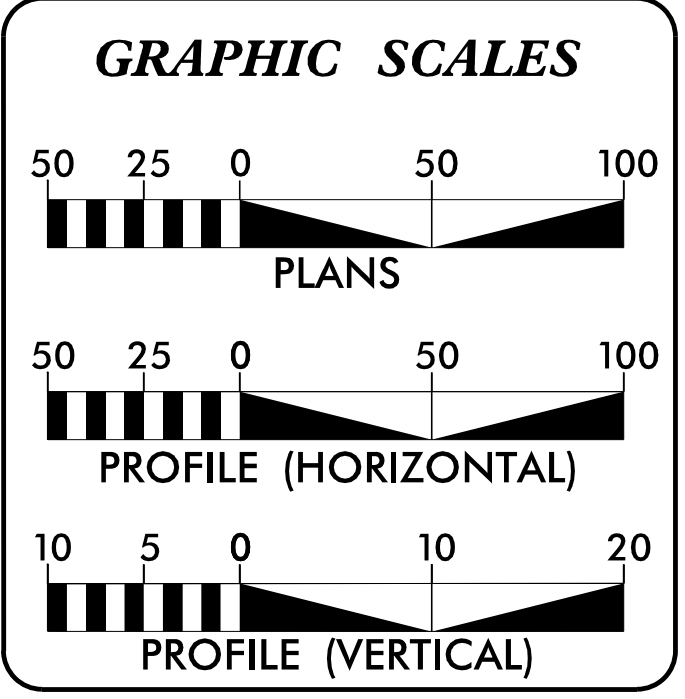
**BEGIN CONSTRUCTION TIP PROJECT W-5602
INTERSECTION OF NC 172 (SNEADS FERRY ROAD)
AND NC 210**

**BEGIN TIP PROJECT W-5602
-L- POT STA. 17+25.00**



1653.02	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-M
	Temporary Rock Silt Check Type-B	TRSCB
	Wattle / Coir Fiber Wattle	WF
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	WF-PAM
1654.01	Temporary Rock Sediment Dam Type-A	TRSDA
1654.02	Temporary Rock Sediment Dam Type-B	TRSDB
1655.01	Rock Pipe Inlet Sediment Trap Type-A	RPIST-A
1655.02	Rock Pipe Inlet Sediment Trap Type-B	RPIST-B
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
	Type C	C
	Skimmer Basin	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB

CONTRACT:



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

Prepared in the Office of:
CALYX
ENGINEERS & CONSULTANTS
7500 EAST INDEPENDENCE BOULEVARD, SUITE 100
CHARLOTTE, NC 28227
PHONE: 704.537.7300
CALYXengineers.com
NC License # F-1333

Designed by:
JAMES R. HOPSON, JR., PE 3736
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2018 STANDARD SPECIFICATIONS

Reviewed by:
WES CHANDLER, PE

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	

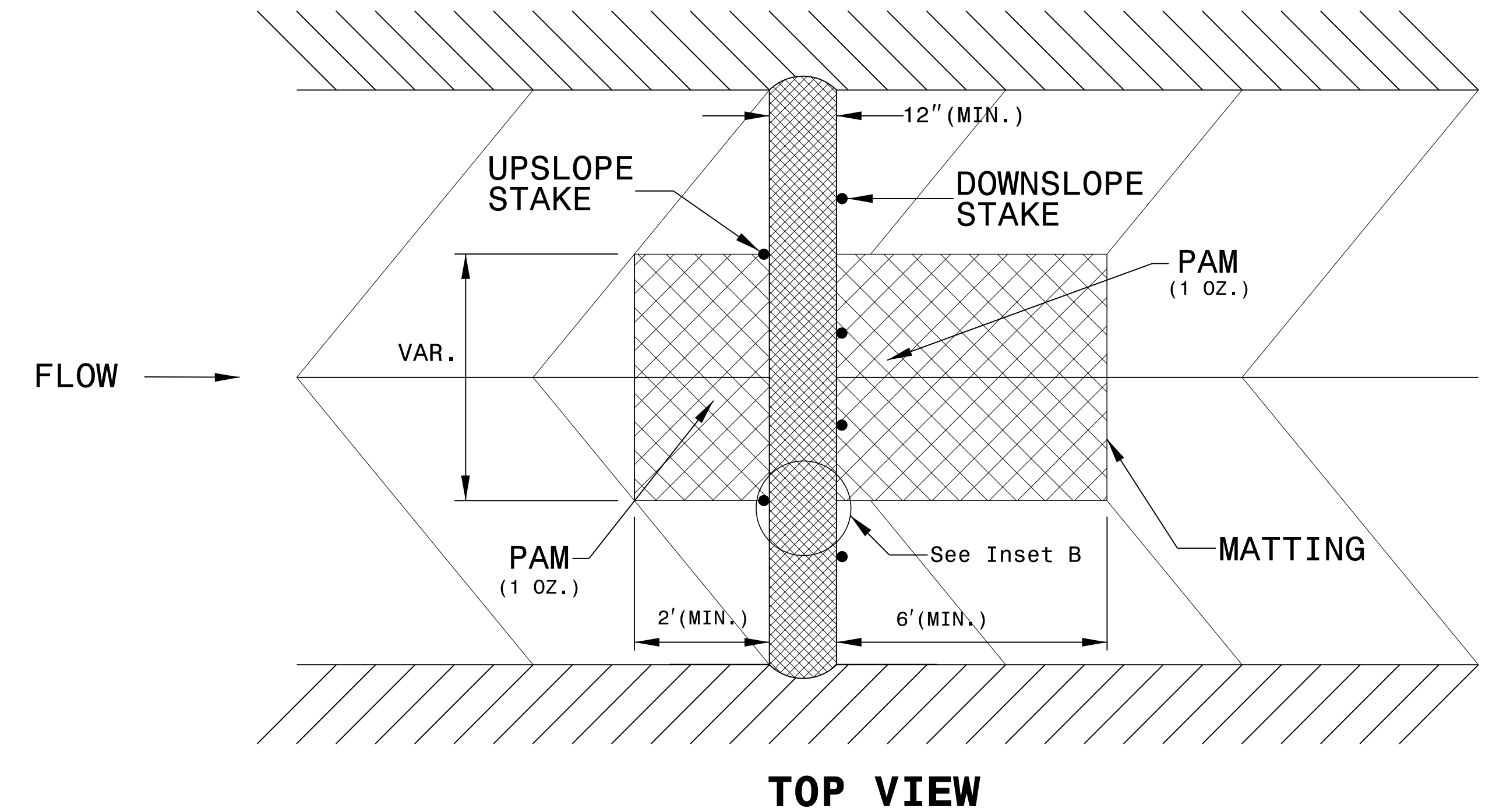
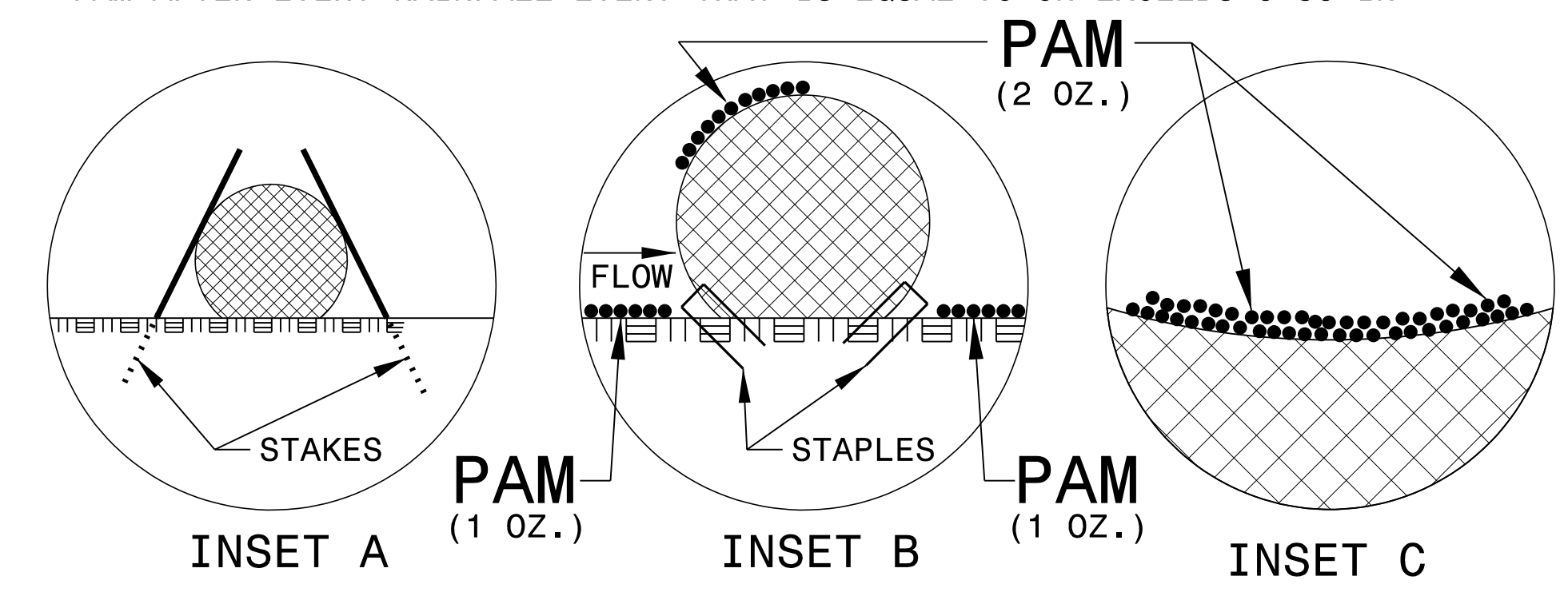
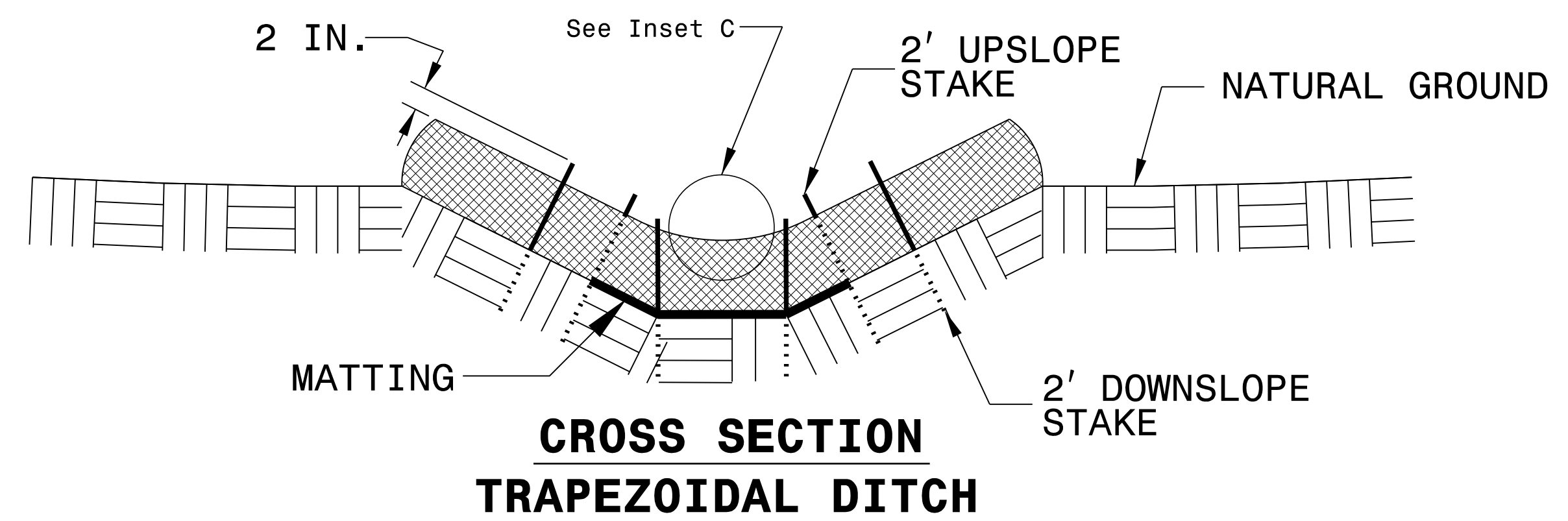
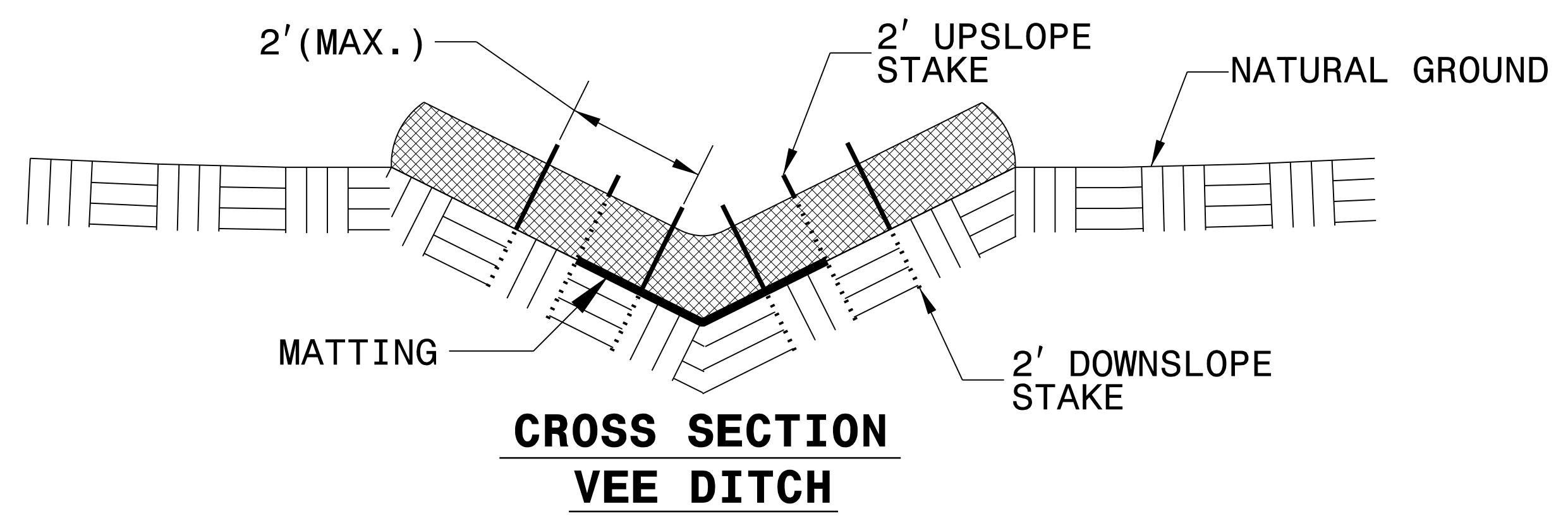
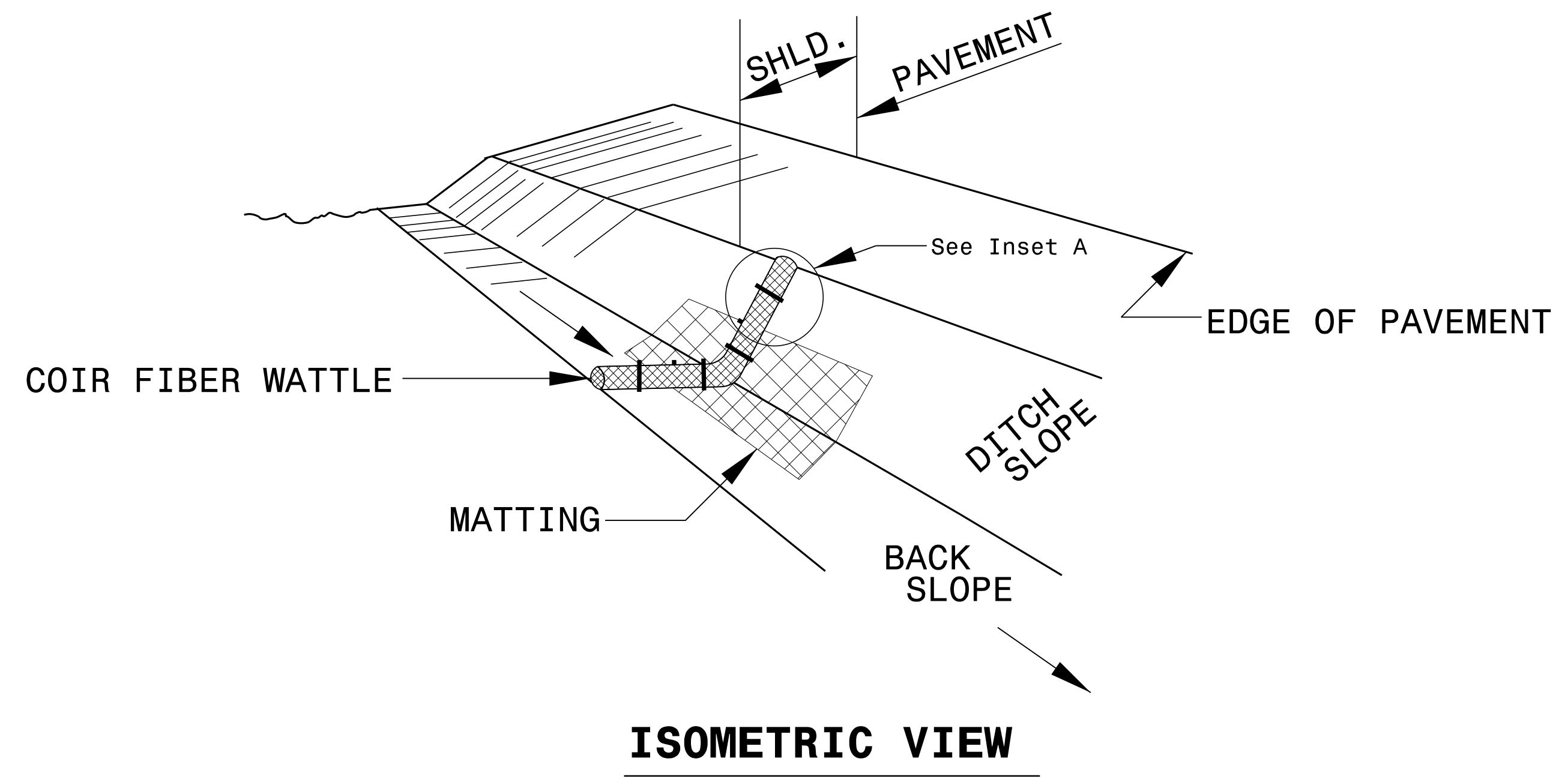
10/16/2018
R:\Environment\Design\W5602_hyd_EC_tsh.dgn
jhopson

PROJECT REFERENCE NO.	SHEET NO.
W-5602	EC-02A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

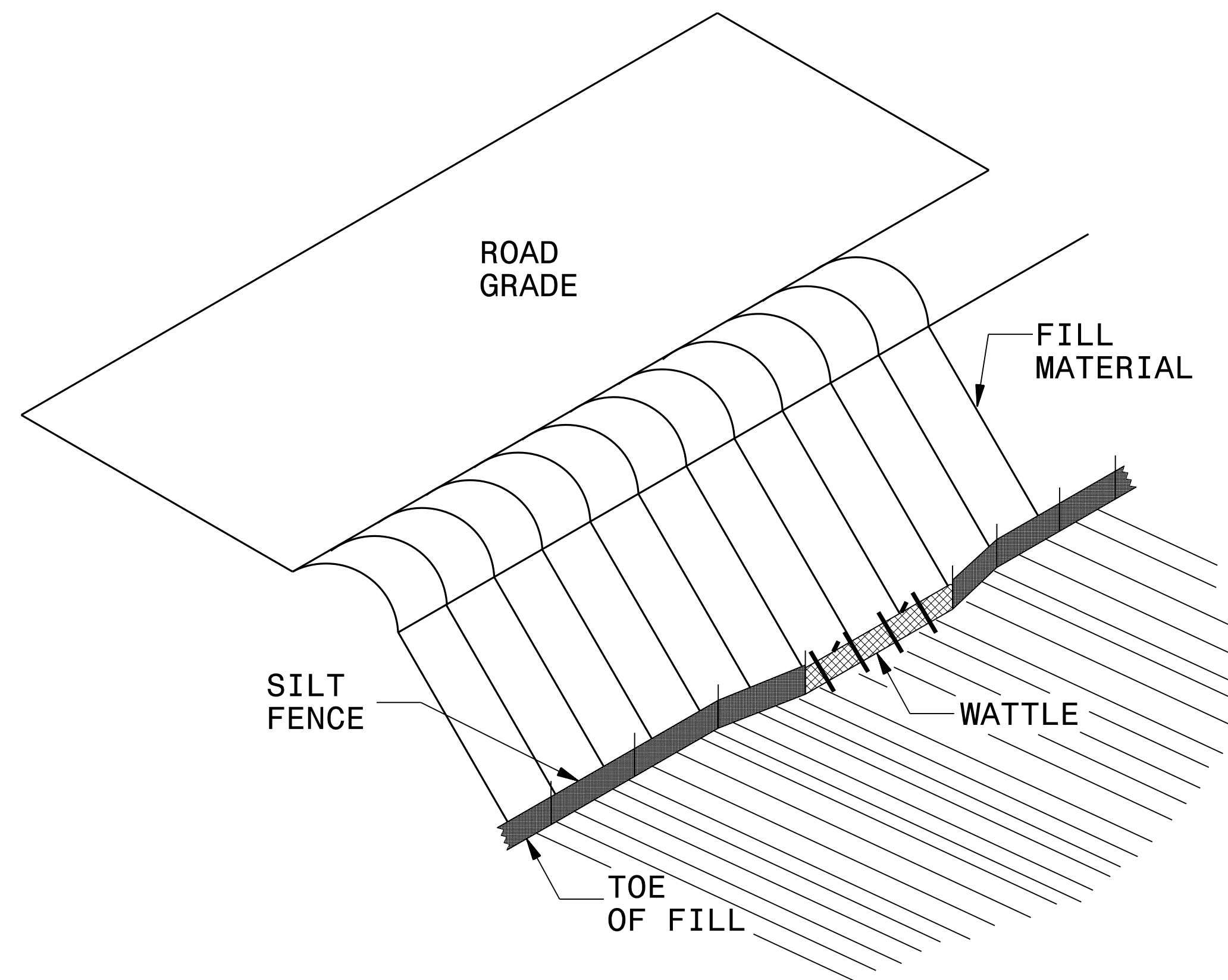
NOTES:

- 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.



SILT FENCE COIR FIBER WATTLE BREAK DETAIL

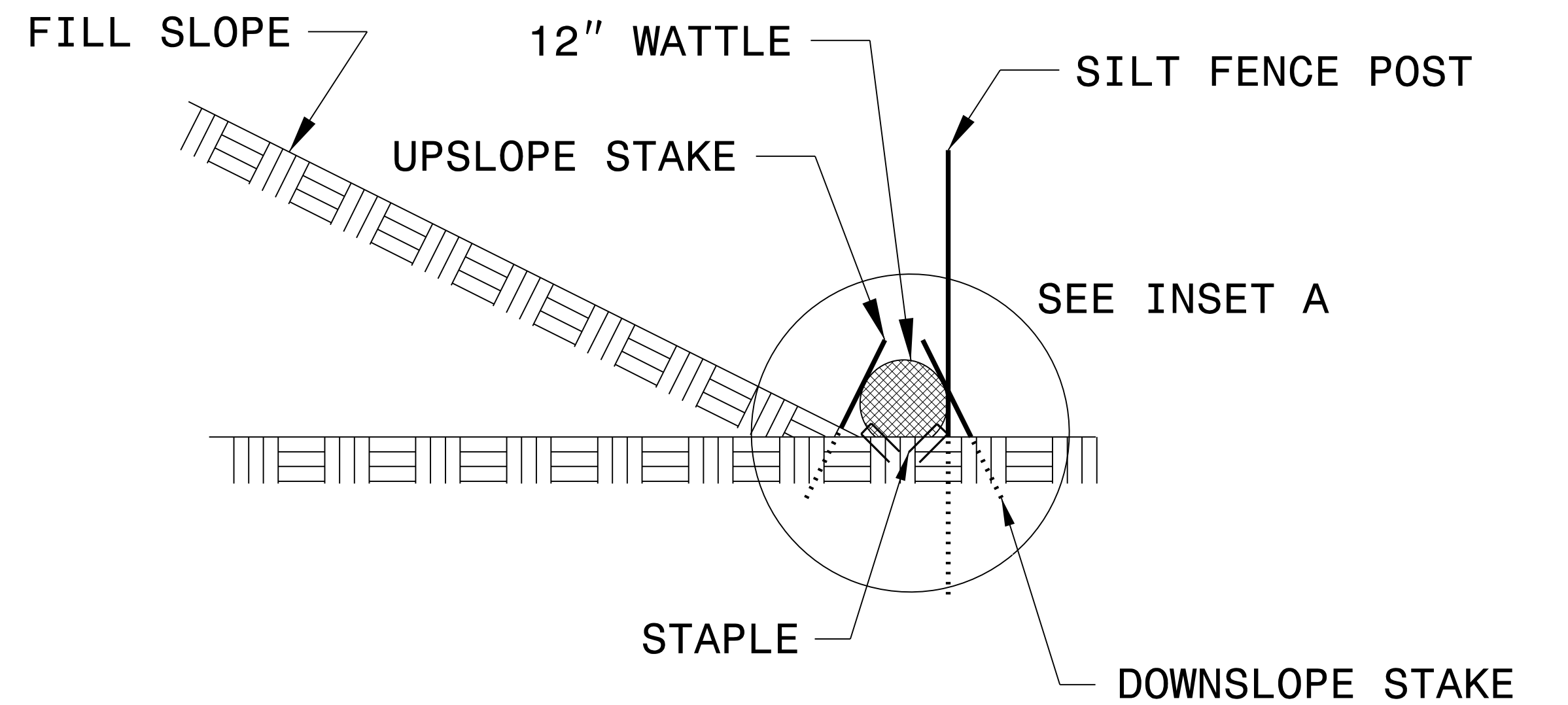
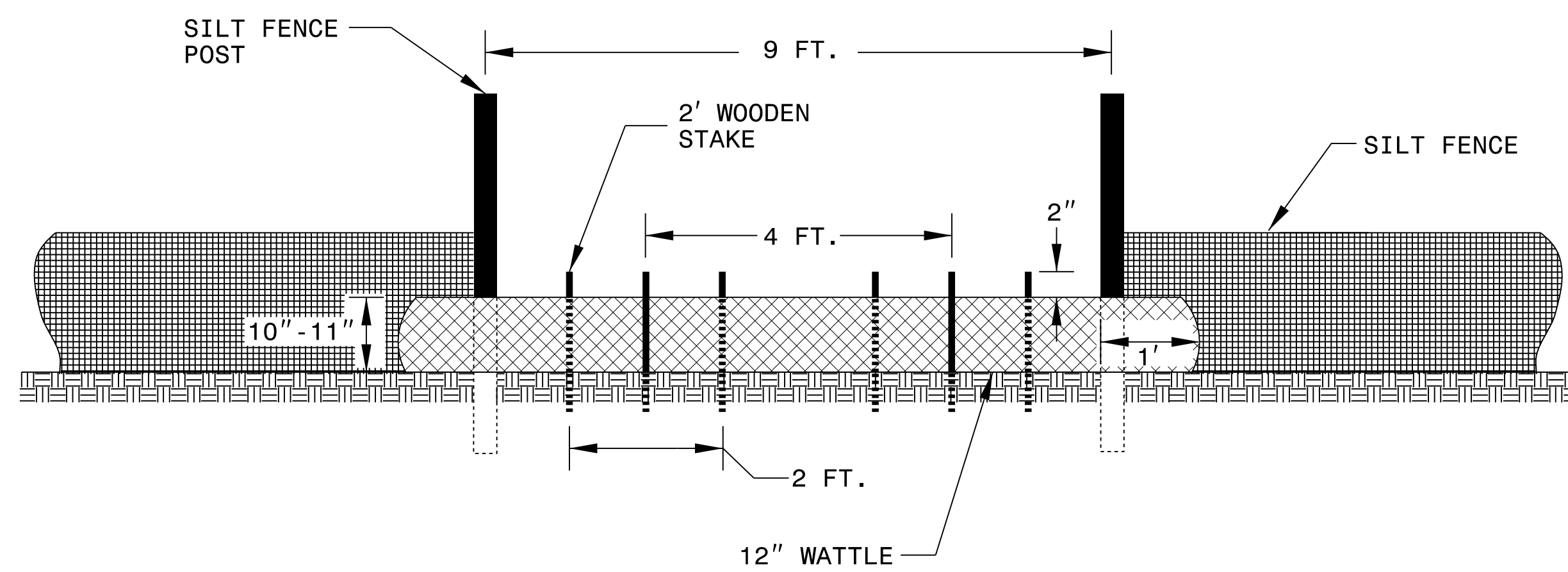
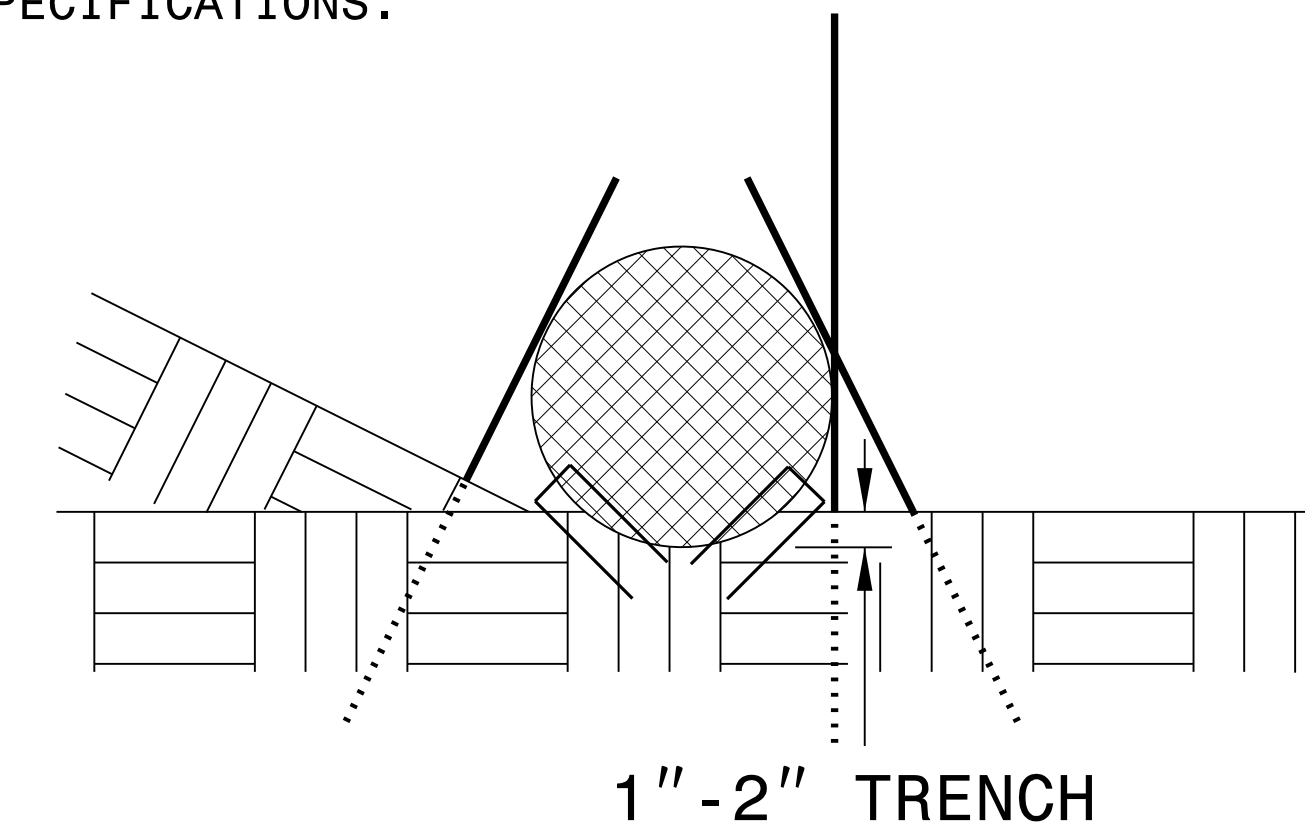
PROJECT REFERENCE NO.	SHEET NO.
W-5602	EC-02B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTES:

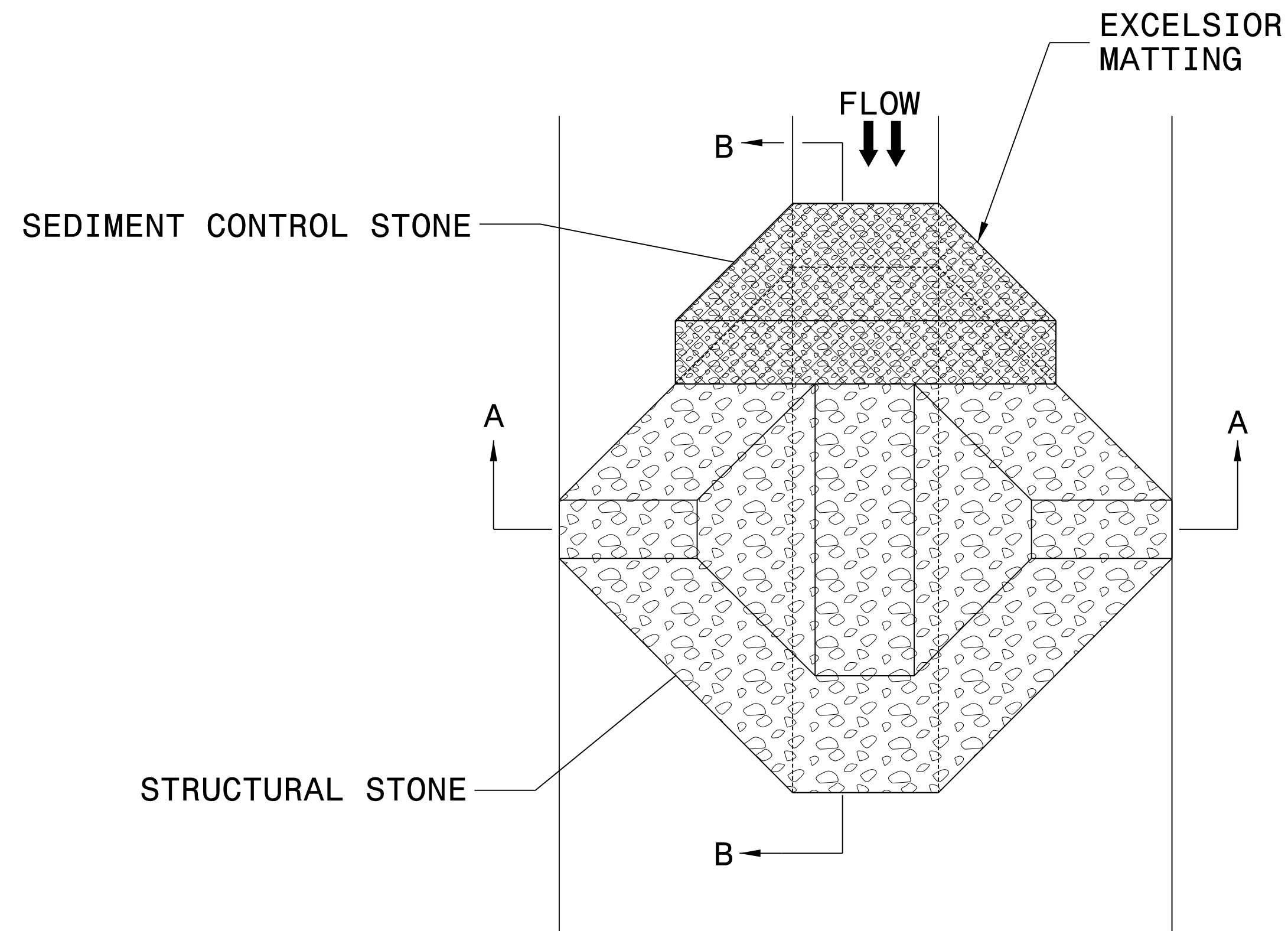
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- 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.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A



PROJECT REFERENCE NO.	SHEET NO.
W-5602	EC-02C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN

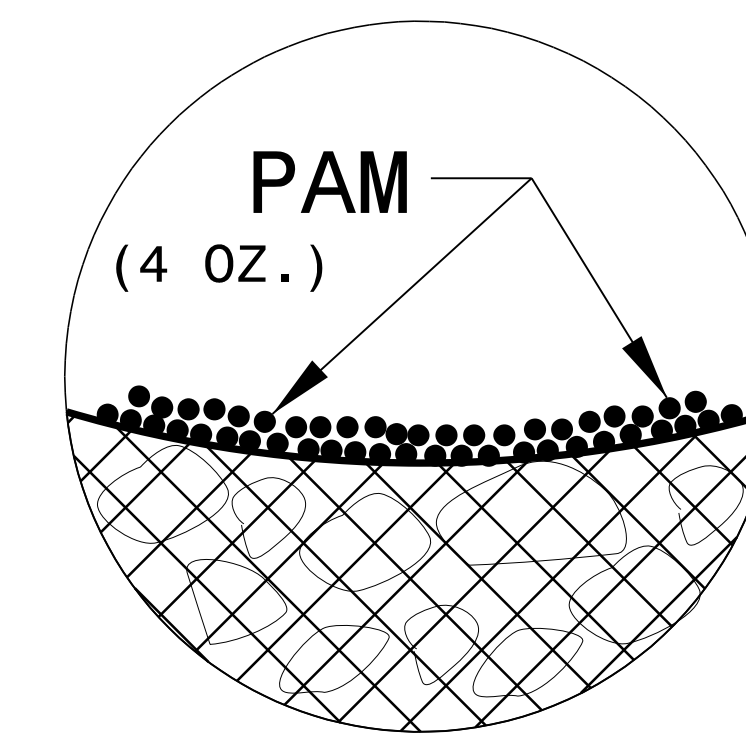
NOTES:

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

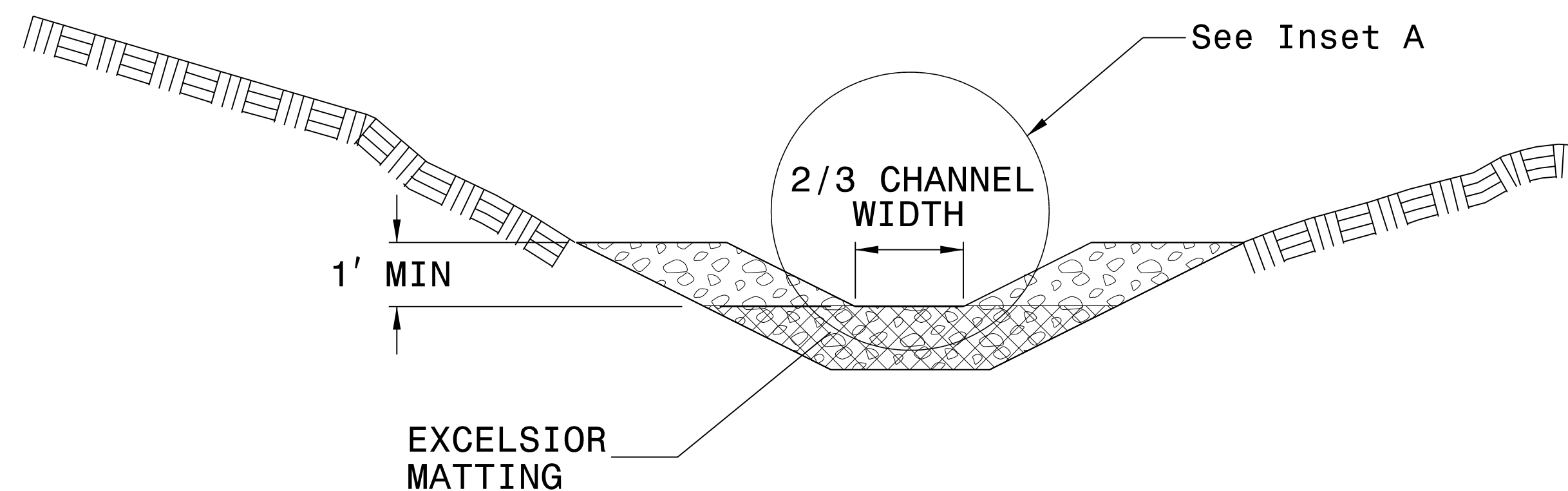
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

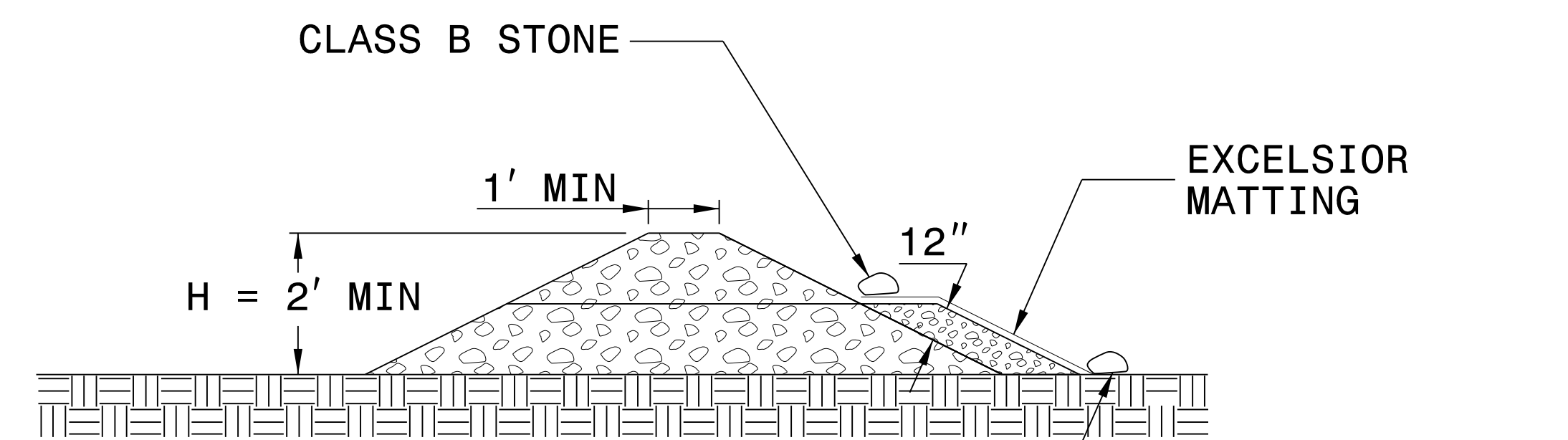
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

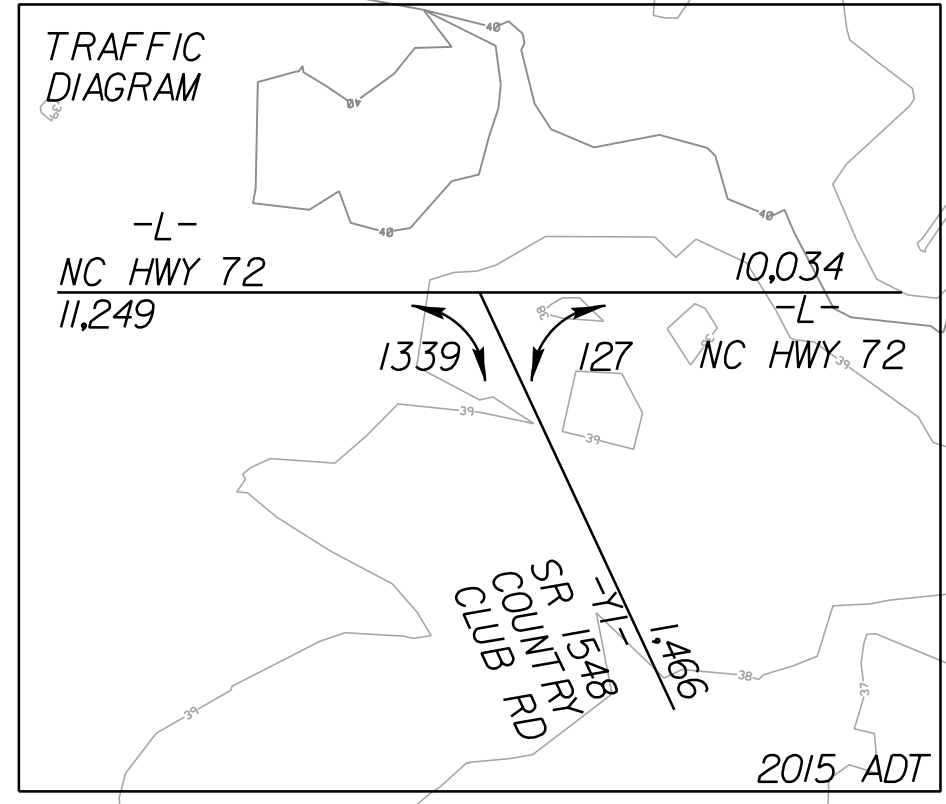
PROJECT REFERENCE NO. W-5602	SHEET NO. <i>EC-03A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.
W-5602	EC-06/CONST.06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



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

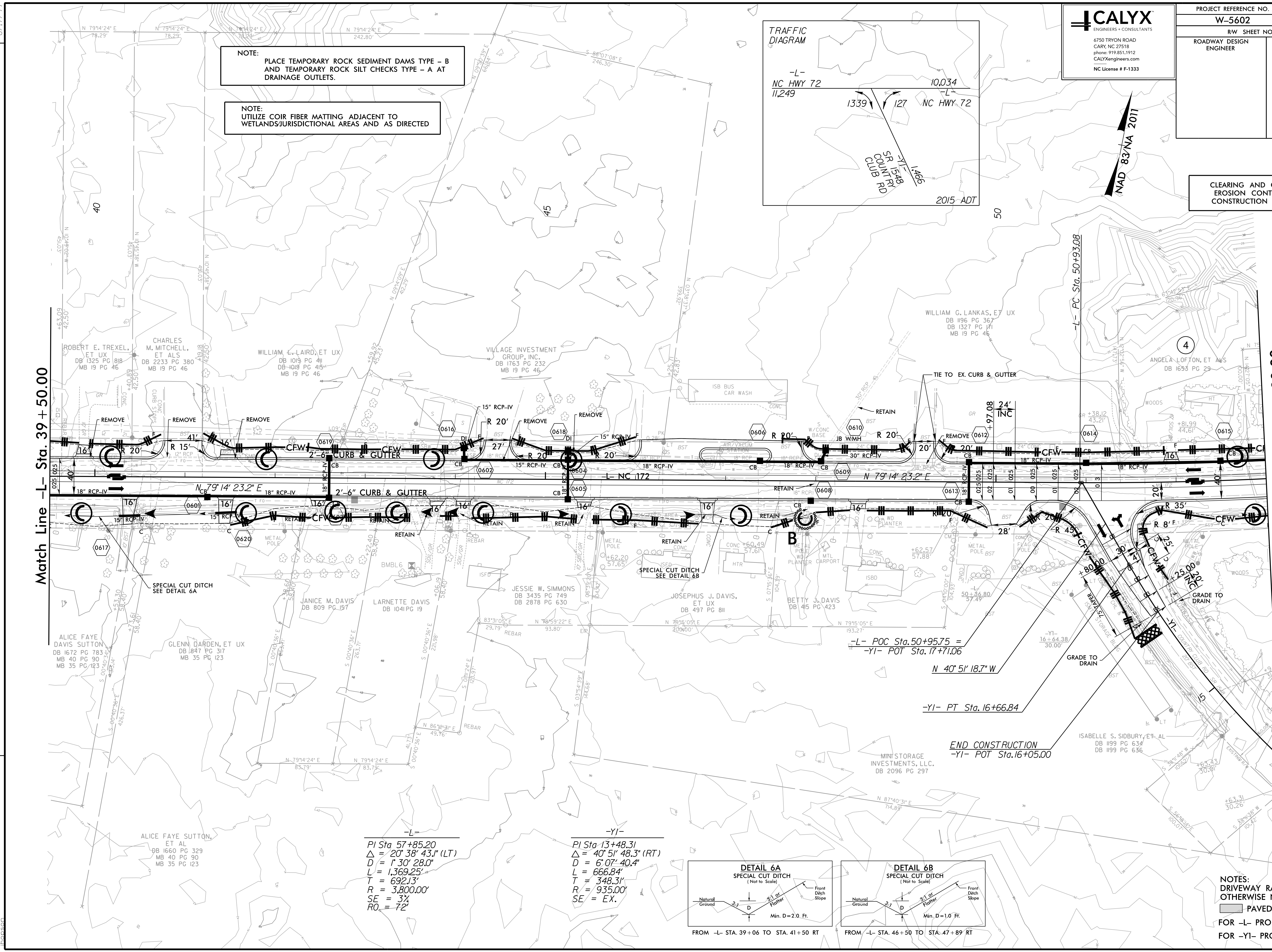
NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 06

REVISIONS

Match Line -L- Sta. 39 + 50.00

Match Line -L- Sta. 53 + 00.00



ROBERT E. TREXEL, ET UX
DB 1325 PG 818
MB 19 PG 46

CHARLES M. MITCHELL, ET ALS
DB 2233 PG 380
MB 19 PG 46

WILLIAM G. LAIRD, ET UX
DB 1019 PG 411
DB 1019 PG 415
MB 19 PG 46

VILLAGE INVESTMENT GROUP, INC.
DB 1763 PG 232
MB 19 PG 46

WILLIAM G. LANKAS, ET UX
DB 1196 PG 367
DB 1327 PG 171
MB 19 PG 46

ANGELA LOFTON, ET ALS
DB 1653 PG 29

ALICE FAYE DAVIS SUTTON
DB 1672 PG 781
MB 40 PG 90
MB 35 PG 123

GLENN GARDEN, ET UX
DB 1847 PG 317
MB 35 PG 123

JANICE M. DAVIS
DB 809 PG 157

LARNETTE DAVIS
DB 1041 PG 19

JESSIE W. SIMMONS
DB 3435 PG 749
DB 2878 PG 630

JOSEPHUS J. DAVIS, ET UX
DB 497 PG 811

BETTY J. DAVIS
DB 415 PG 423

-L- POC Sta. 50+95.75 =
-YI- POT Sta. 17+71.06

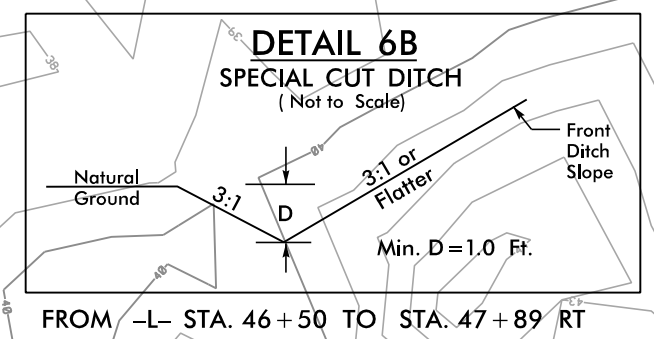
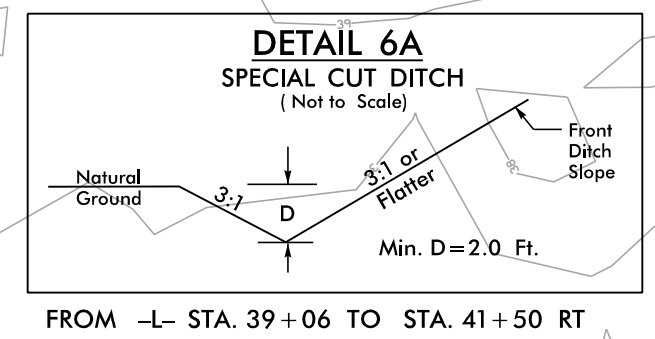
-YI- PT Sta. 16+66.84

END CONSTRUCTION
-YI- POT Sta. 16+05.00

ALICE FAYE SUTTON, ET AL
DB 1660 PG 329
MB 40 PG 90
MB 35 PG 123

-L-
PI Sta 57+85.20
Δ = 20° 38' 43.1" (LT)
D = 1' 30' 28.0"
L = 1,369.25'
T = 692.13'
R = 3,800.00'
SE = 3%
RO = 72'

-YI-
PI Sta 13+48.31
Δ = 40° 51' 48.3" (RT)
D = 6' 07' 40.4"
L = 666.84'
T = 348.31'
R = 935.00'
SE = EX.



NOTES:
DRIVEWAY RADI ARE 10' UNLESS OTHERWISE NOTED
PAVED SHOULDER
FOR -L- PROFILE SEE SHEET 16
FOR -YI- PROFILE SEE SHEET 20

10/14/2018
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10/17/99

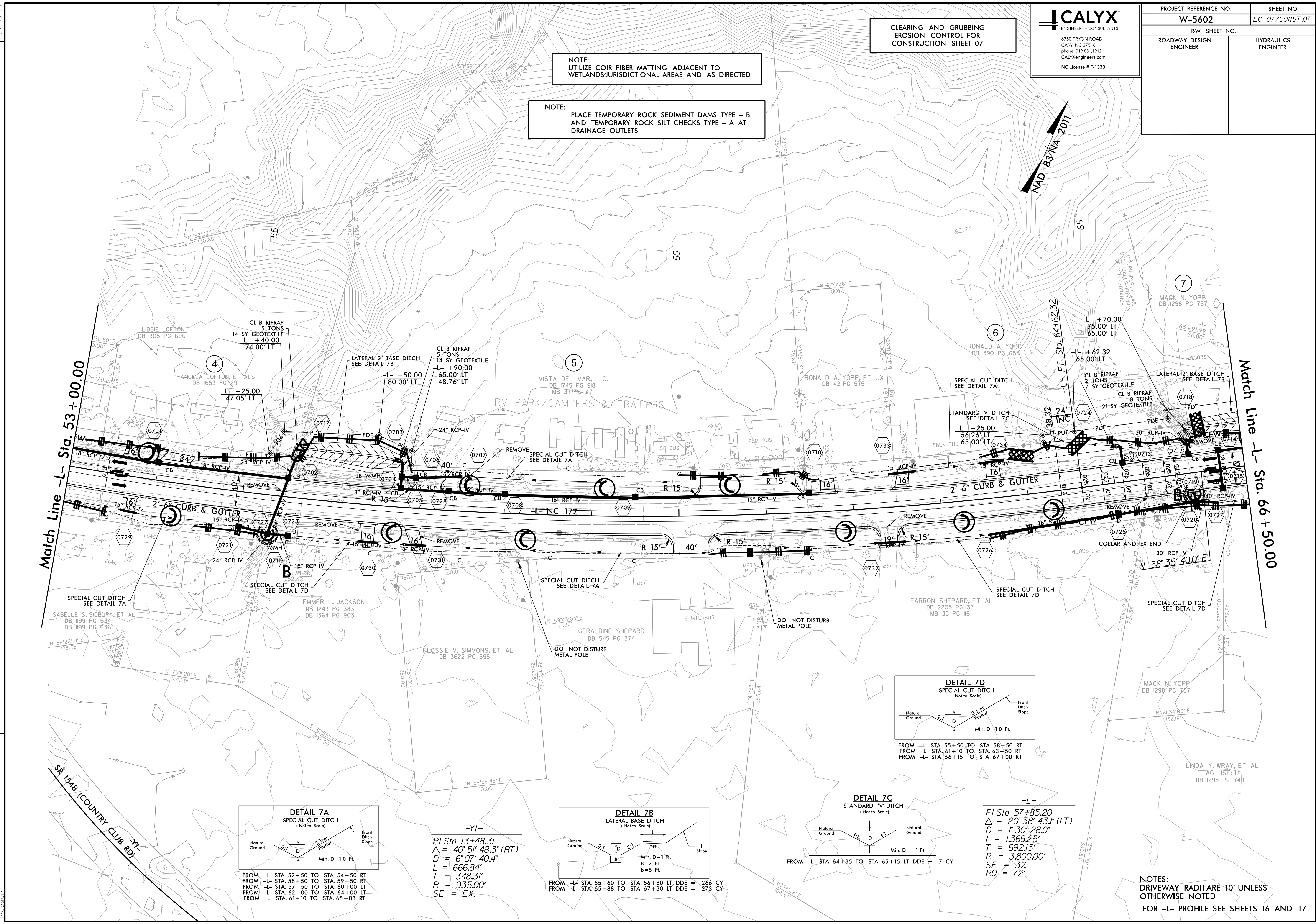
**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 07**

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

PROJECT REFERENCE NO. W-5602	SHEET NO. EC-07/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

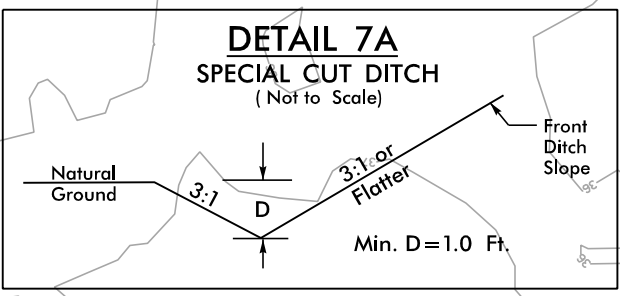
NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

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



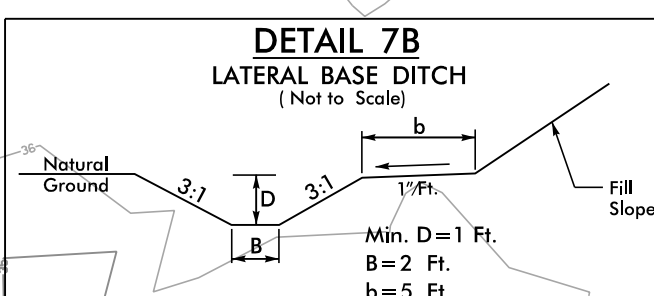
Match Line -L- Sta. 53+00.00

Match Line -L- Sta. 66+50.00

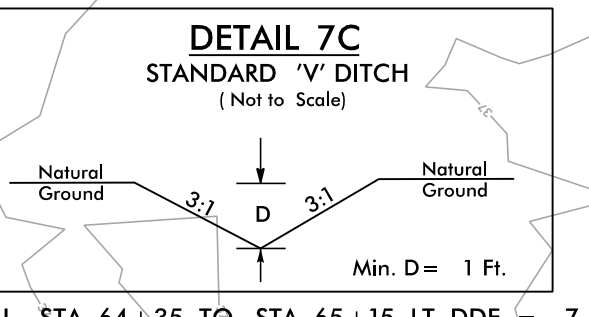


FROM -L- STA. 52+50 TO STA. 54+50 RT
FROM -L- STA. 58+50 TO STA. 59+50 RT
FROM -L- STA. 57+50 TO STA. 60+00 LT
FROM -L- STA. 62+00 TO STA. 64+00 LT
FROM -L- STA. 61+10 TO STA. 65+88 RT

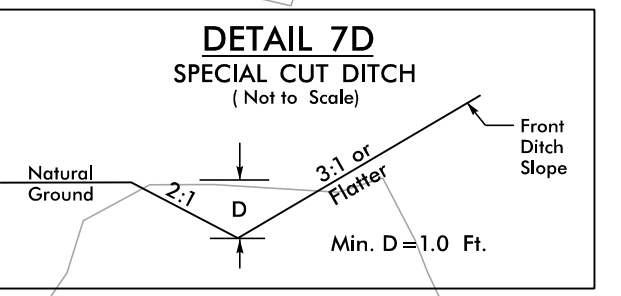
-YI-
PI Sta 13+48.31
 $\Delta = 40' 51'' 48.3''$ (RT)
D = 6' 07'' 40.4''
L = 666.84'
T = 348.31'
R = 935.00'
SE = EX.



FROM -L- STA. 55+60 TO STA. 56+80 LT, DDE = 266 CY
FROM -L- STA. 65+88 TO STA. 67+30 LT, DDE = 273 CY



FROM -L- STA. 64+35 TO STA. 65+15 LT, DDE = 7 CY



FROM -L- STA. 55+50 TO STA. 58+50 RT
FROM -L- STA. 61+10 TO STA. 63+50 RT
FROM -L- STA. 66+15 TO STA. 67+00 RT

-L-
PI Sta 57+85.20
 $\Delta = 20' 38'' 43.1''$ (LT)
D = 1' 30'' 28.0''
L = 1,369.25'
T = 692.13'
R = 3,800.00'
SE = 3%
RO = 72'

NOTES:
DRIVEWAY RADII ARE 10' UNLESS
OTHERWISE NOTED
FOR -L- PROFILE SEE SHEETS 16 AND 17

REVISIONS

8/17/99

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10/20/2018

8/17/99

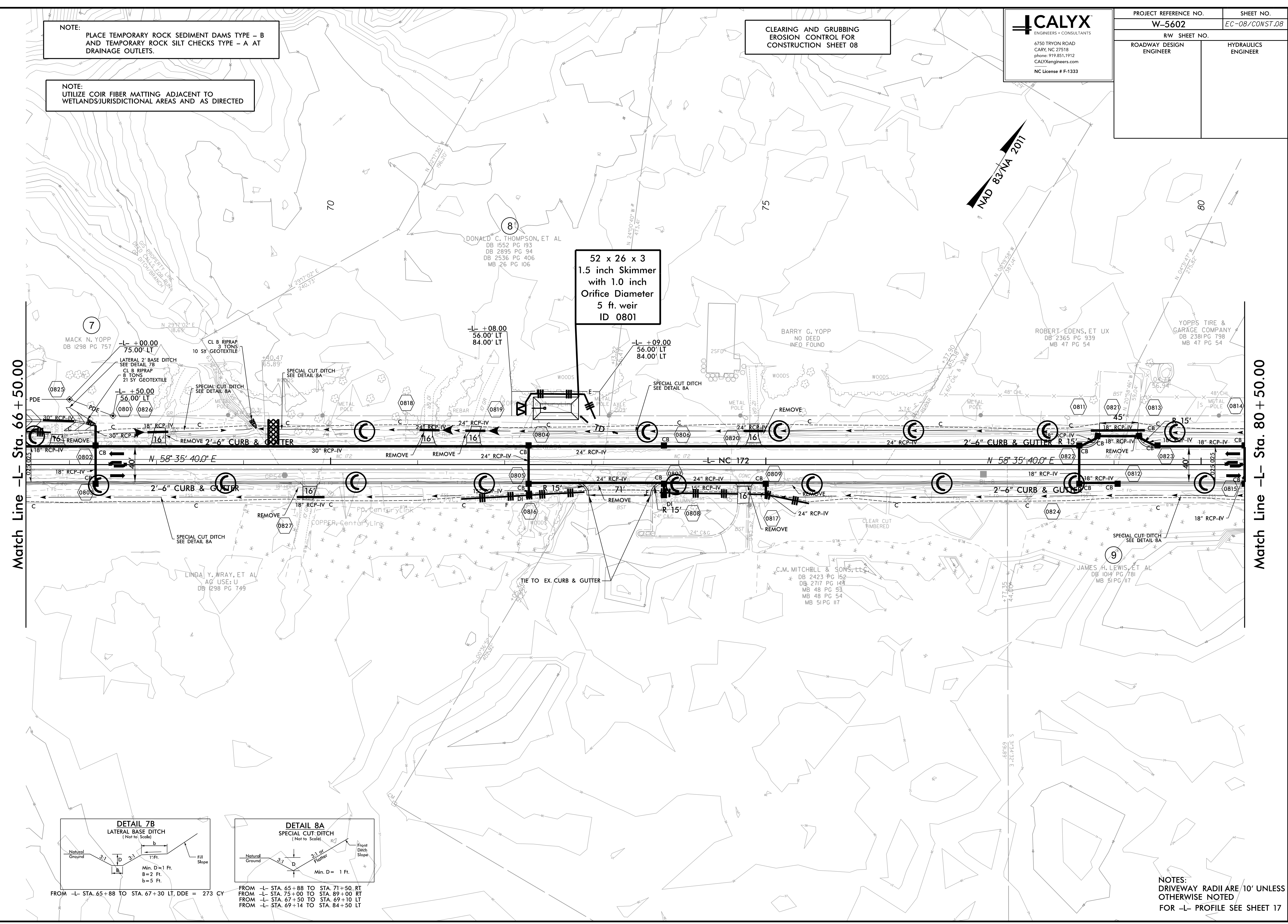
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 08

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

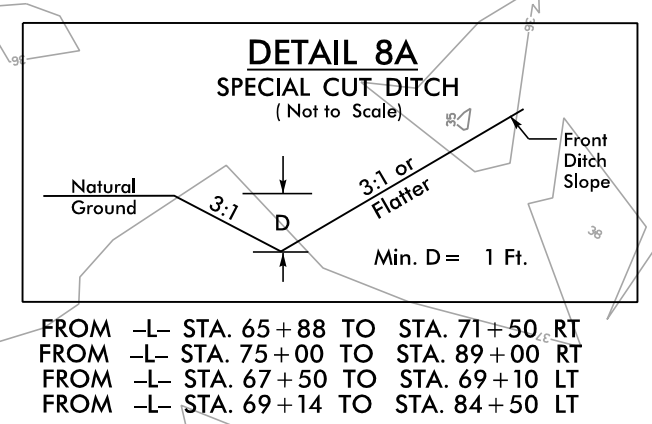
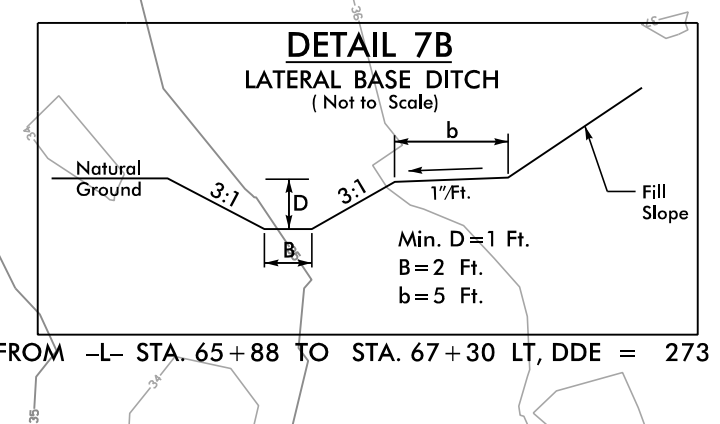
PROJECT REFERENCE NO. W-5602	SHEET NO. EC-08/CONST.08
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



REVISIONS

Match Line -L- Sta. 66+50.00

Match Line -L- Sta. 80+50.00



NOTES: DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED FOR -L- PROFILE SEE SHEET 17

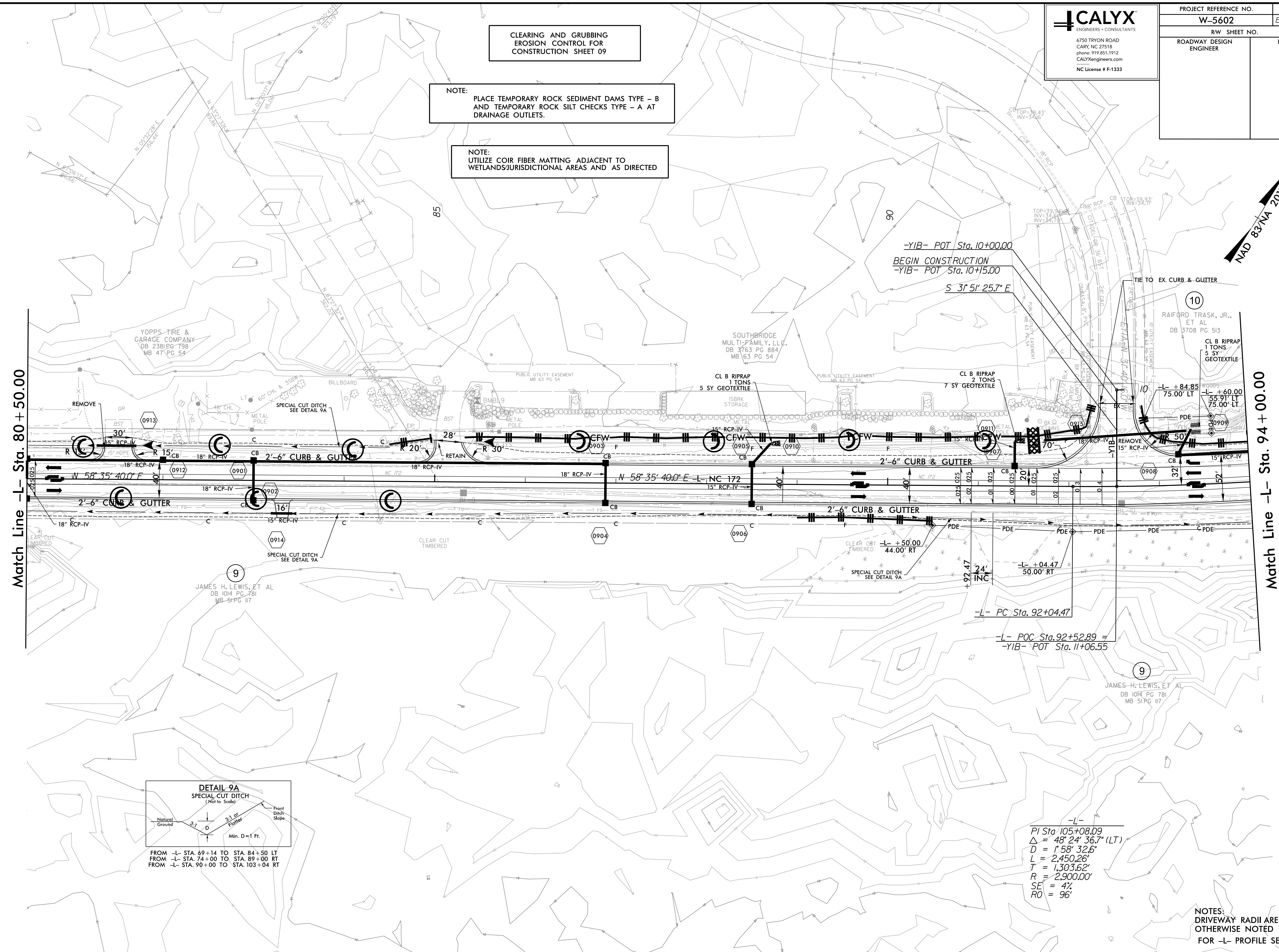
10/10/2018
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L:\Users\jason

PROJECT REFERENCE NO. W-5602	SHEET NO. <i>EC-09/CONST.09</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 09

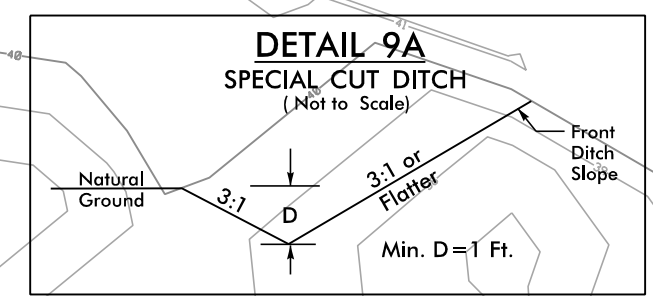
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED



Match Line -L- Sta. 80+50.00

Match Line -L- Sta. 94+00.00



FROM -L- STA. 69+14 TO STA. 84+50 LT
FROM -L- STA. 74+00 TO STA. 89+00 RT
FROM -L- STA. 90+00 TO STA. 103+04 RT

-L-
PI Sta 105+08.09
 $\Delta = 48' 24' 36.7''$ (LT)
 $D = 1' 58' 32.6''$
 $L = 2,450.26'$
 $T = 1,303.62'$
 $R = 2,900.00'$
 $SE = 4\%$
 $RO = 96'$

NOTES:
DRIVEWAY RADII ARE 10' UNLESS
OTHERWISE NOTED
FOR -L- PROFILE SEE SHEETS 17

REVISIONS

8/17/09
10/4/2018
RAY Environmental\Design\W5602_hyd_EC_psh_09.dgn

8/17/99

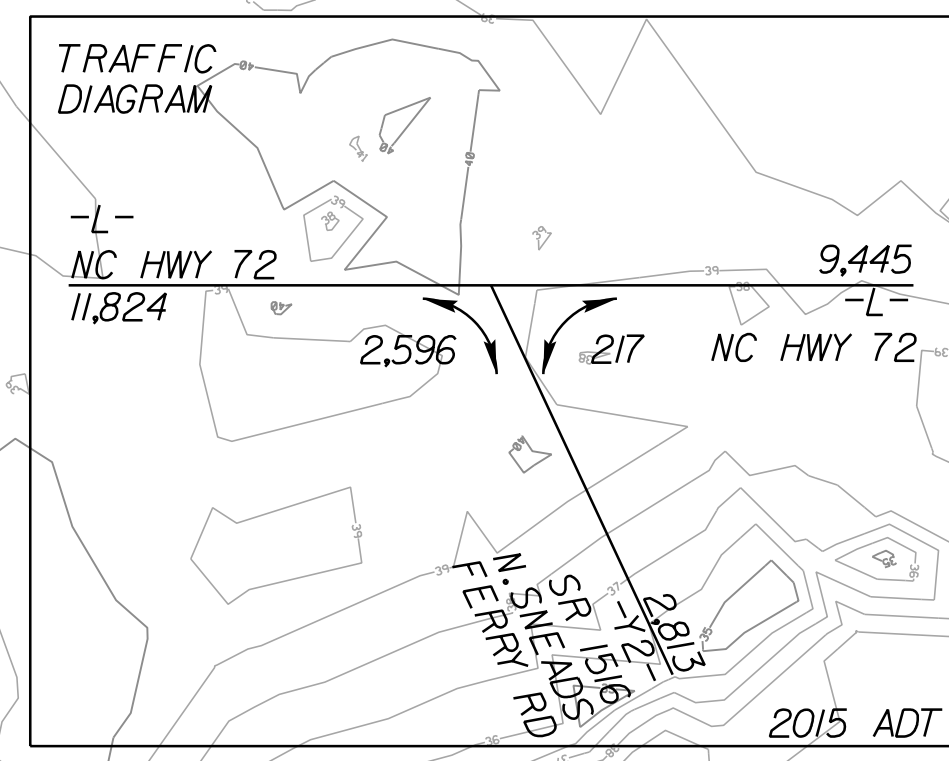
CALYX
ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27518
phone: 919.851.1912
CALYXengineers.com
NC License # F-1333

PROJECT REFERENCE NO. W-5602	SHEET NO. EC-10/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

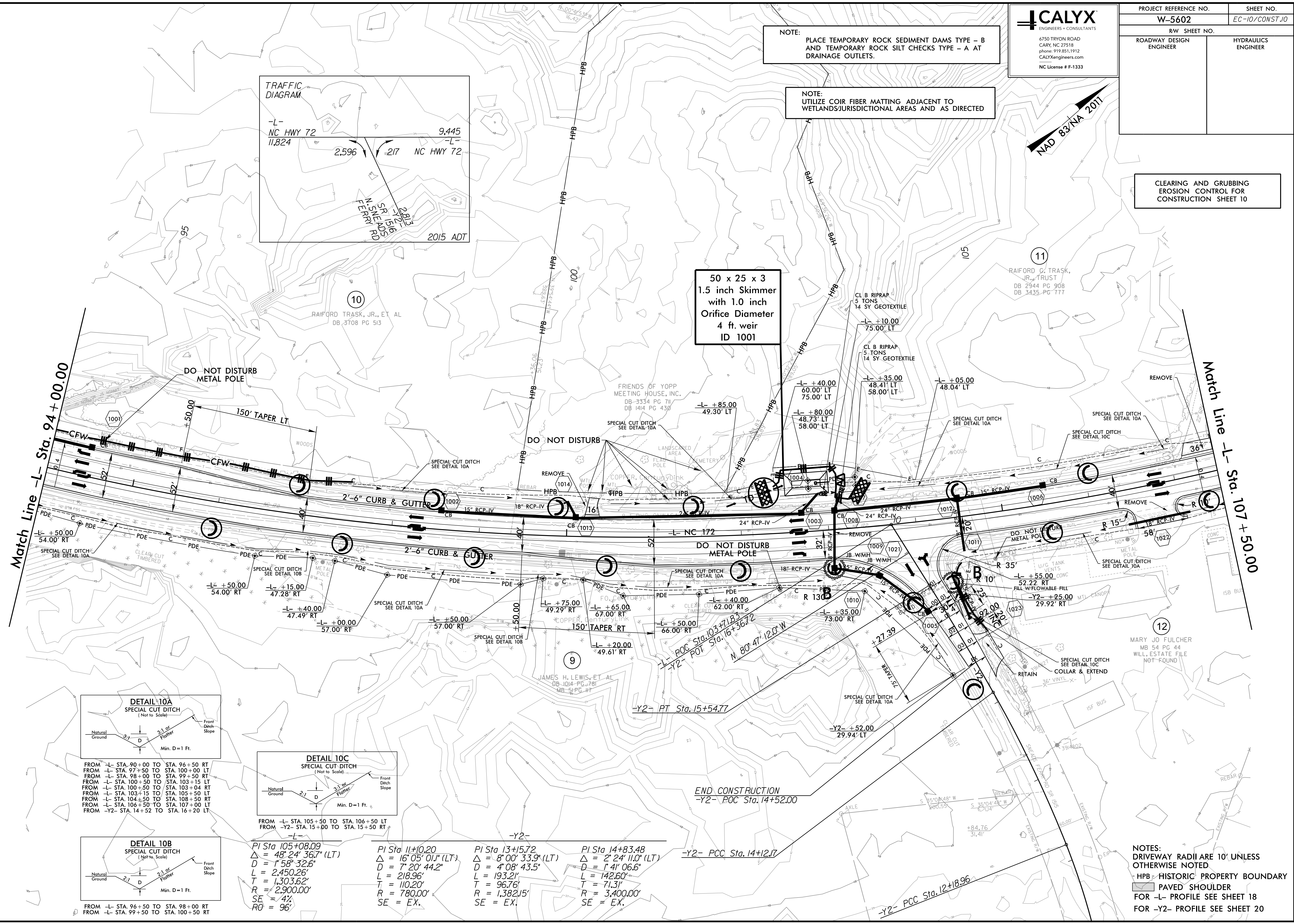
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 10



50 x 25 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
4 ft. weir
ID 1001



8/17/99

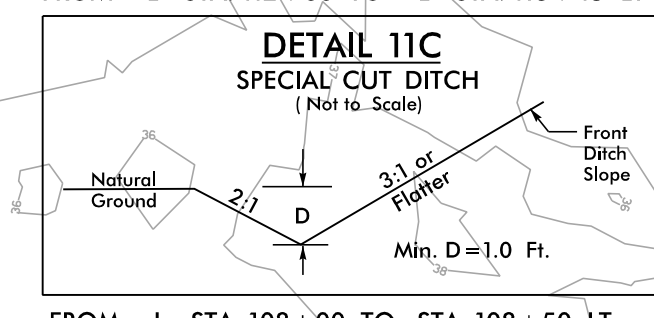
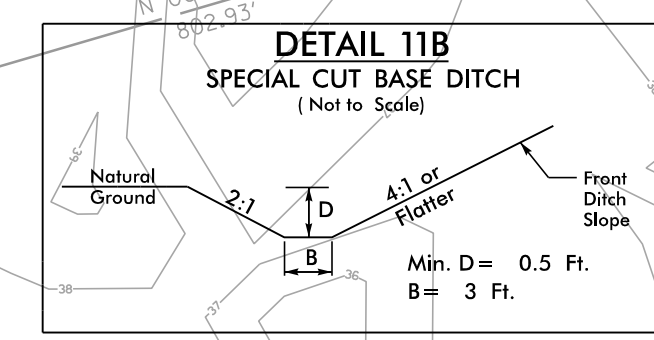
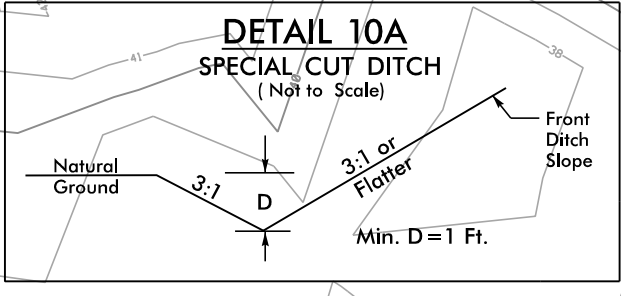
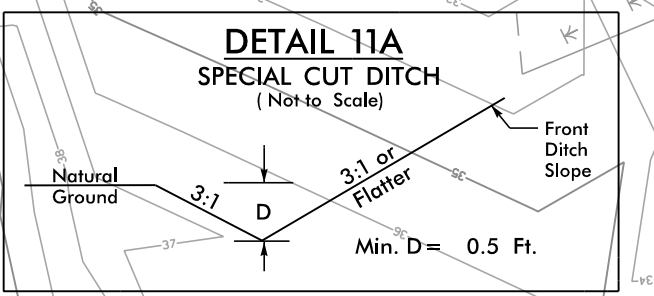
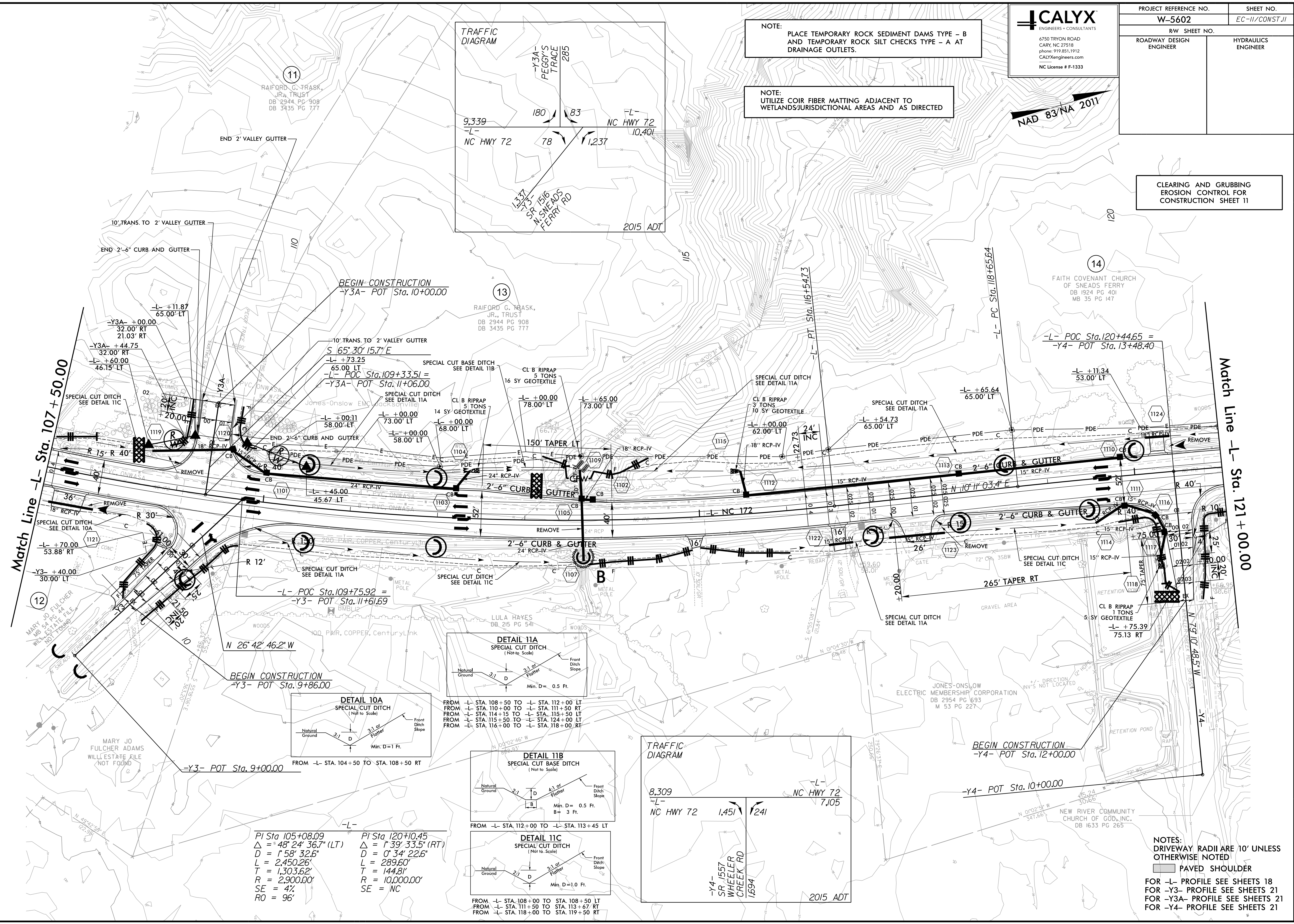
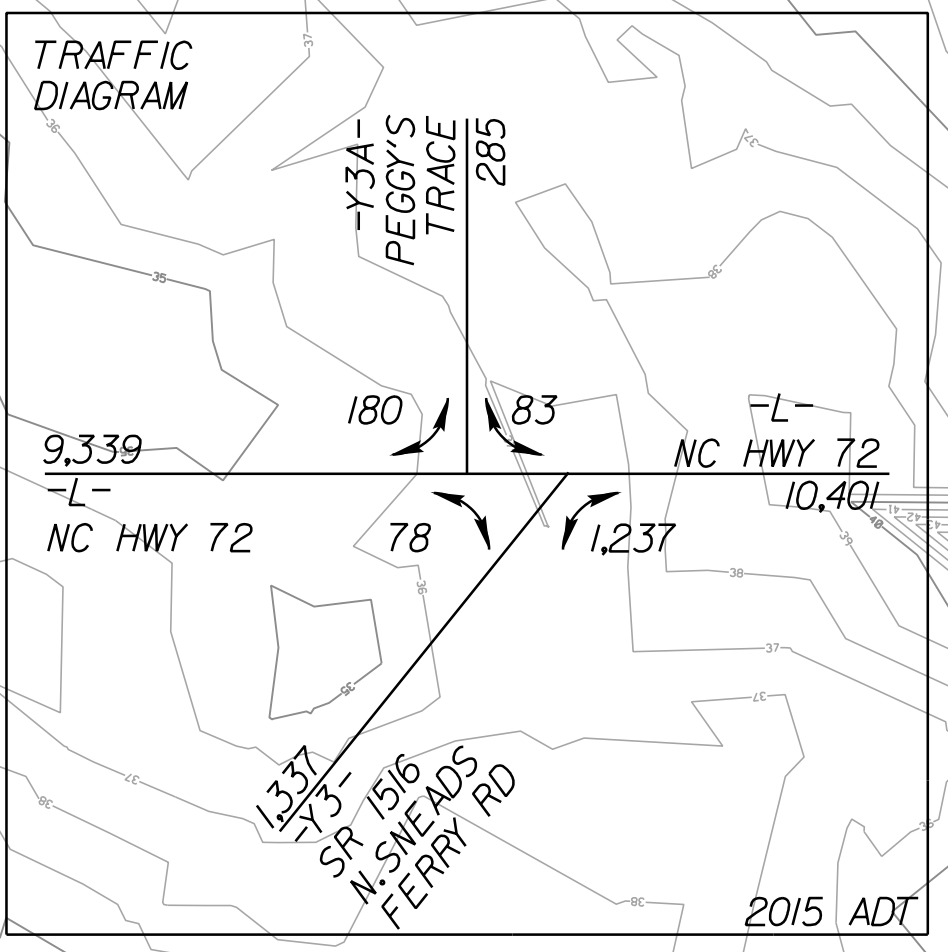
PROJECT REFERENCE NO. W-5602	SHEET NO. EC-II/CONST.II
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

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

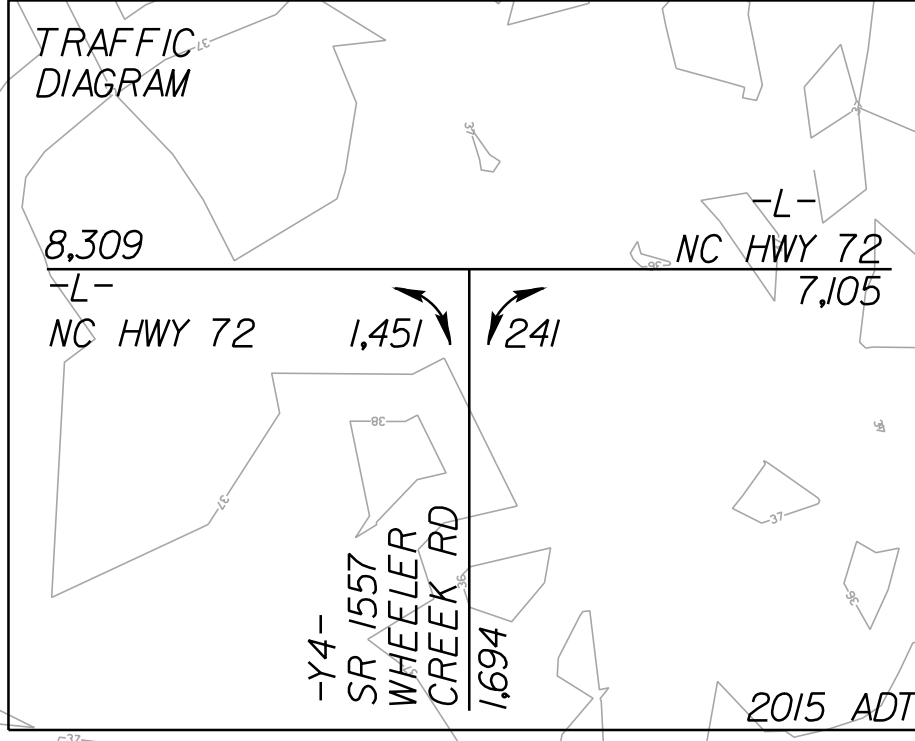
NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11



PI Sta 105+08.09
Δ = 48° 24' 36.7" (LT)
D = 1' 58" 32.6"
L = 2,450.26'
T = 1,303.62'
R = 2,900.00'
SE = 4%
RO = 96'

PI Sta 120+10.45
Δ = 1° 39' 33.5" (RT)
D = 0' 34" 22.6"
L = 289.60'
T = 144.81'
R = 10,000.00'
SE = NC



NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
PAVED SHOULDER
FOR -L- PROFILE SEE SHEETS 18
FOR -Y3- PROFILE SEE SHEETS 21
FOR -Y4- PROFILE SEE SHEETS 21

REVISIONS

10/4/2018
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8.17.99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

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CARY, NC 27518
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PROJECT REFERENCE NO. W-5602	SHEET NO. EC-12/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

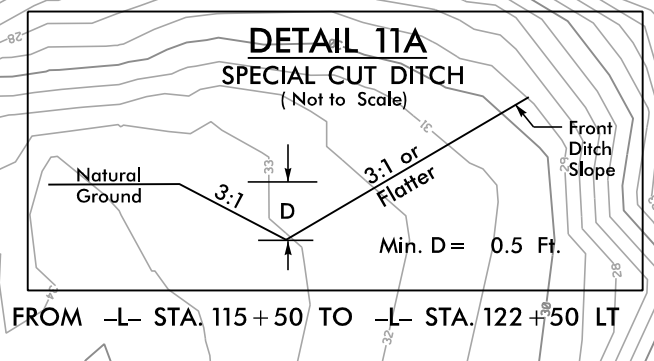
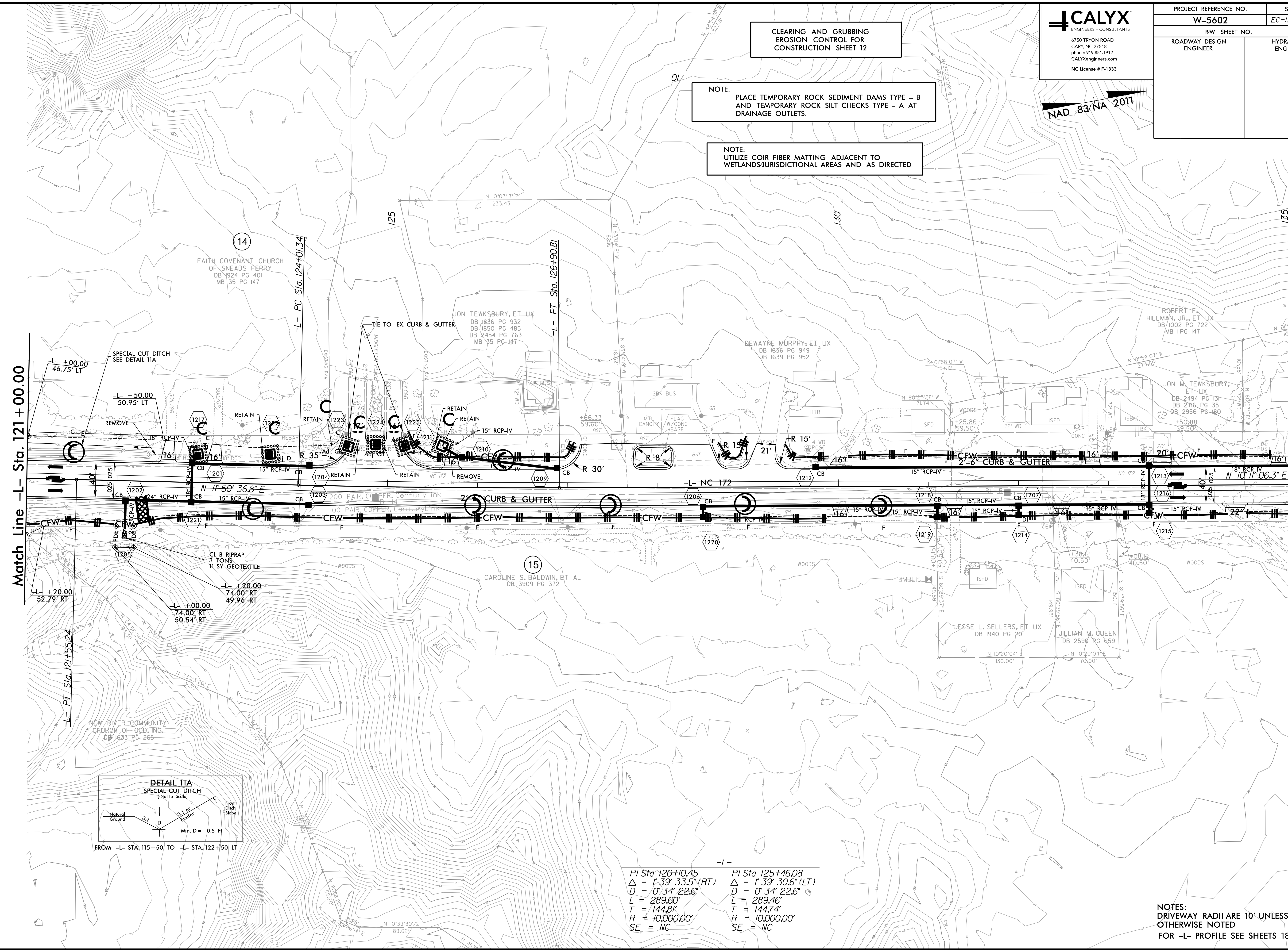
NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED



REVISIONS

Match Line -L- Sta. 121+00.00

Match Line -L- Sta. 135+00.00



-L-	-L-
PI Sta 120+10.45	PI Sta 125+46.08
$\Delta = 1' 39' 33.5''$ (RT)	$\Delta = 1' 39' 30.6''$ (LT)
$D = 0' 34' 22.6''$	$D = 0' 34' 22.6''$
$L = 289.60'$	$L = 289.46'$
$T = 144.81'$	$T = 144.74'$
$R = 10,000.00'$	$R = 10,000.00'$
$SE = NC$	$SE = NC$

NOTES:
DRIVEWAY RADII ARE 10' UNLESS
OTHERWISE NOTED
FOR -L- PROFILE SEE SHEETS 18 AND 19

10/4/2018
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RAY

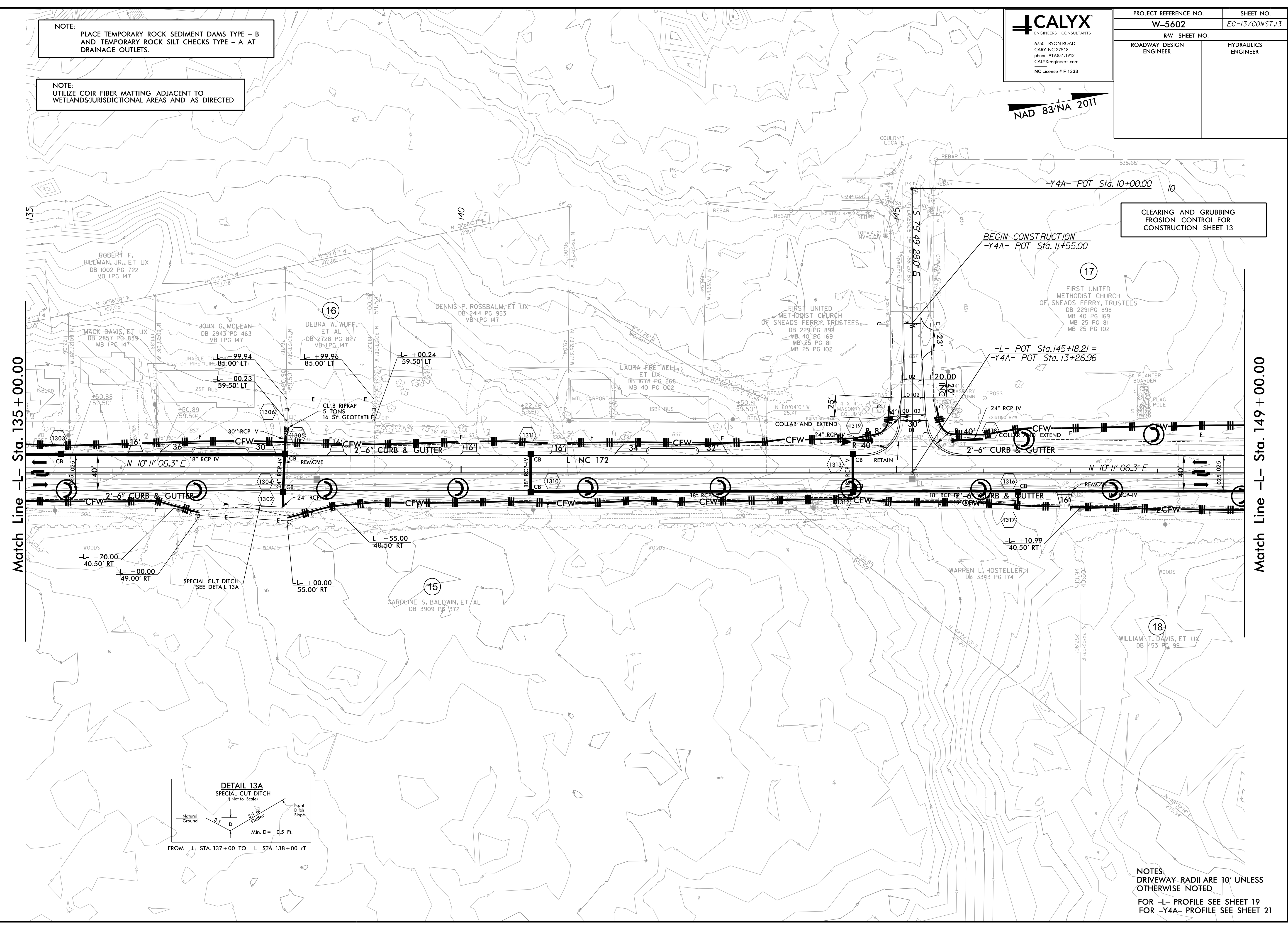
PROJECT REFERENCE NO. W-5602	SHEET NO. <i>EC-13/CONST.13</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

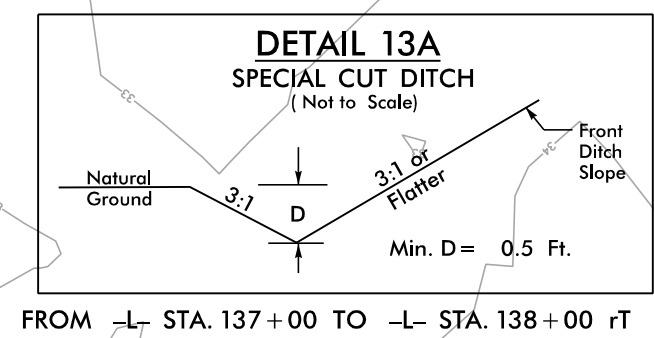
NAD 83/NA 2011

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 13



Match Line -L- Sta. 135+00.00

Match Line -L- Sta. 149+00.00



NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.
FOR -L- PROFILE SEE SHEET 19
FOR -Y4A- PROFILE SEE SHEET 21

REVISIONS

8.17.99
10/4/2018
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L. BOSSON

8/17/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 14

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PROJECT REFERENCE NO. W-5602	SHEET NO. EC-14/CONST.14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

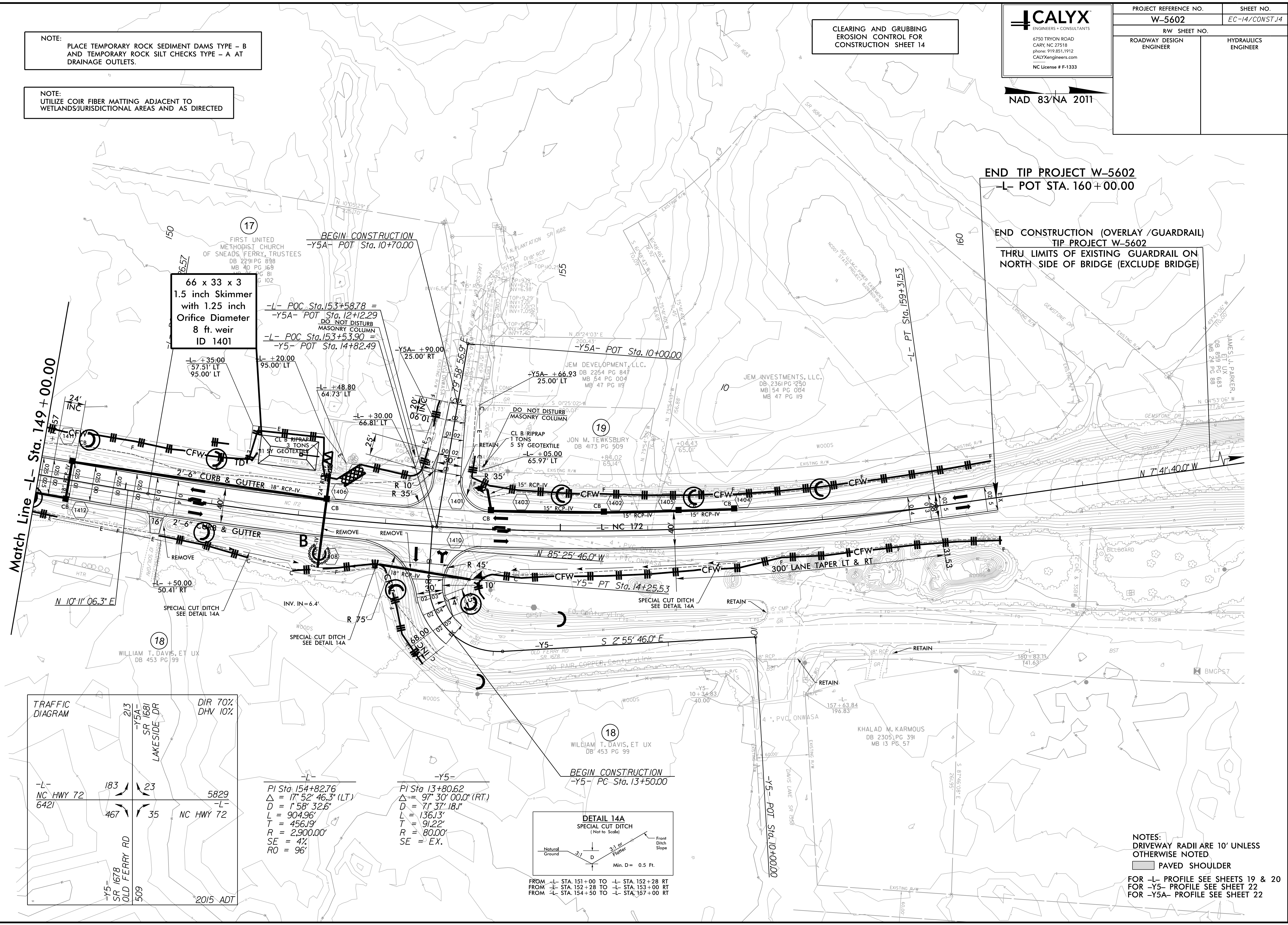
NAD 83/NA 2011

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

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

END TIP PROJECT W-5602
-L- POT STA. 160+00.00

END CONSTRUCTION (OVERLAY /GUARDRAIL)
TIP PROJECT W-5602
THRU LIMITS OF EXISTING GUARDRAIL ON
NORTH SIDE OF BRIDGE (EXCLUDE BRIDGE)



66 x 33 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID 1401

-L- POC Sta. 153+58.78 =
-Y5A- POT Sta. 12+12.29
DO NOT DISTURB
MASONRY COLUMN
-L- POC Sta. 153+53.90 =
-Y5- POT Sta. 14+82.49

-L- +35.00
57.51' LT
95.00' LT

-L- +20.00
95.00' LT

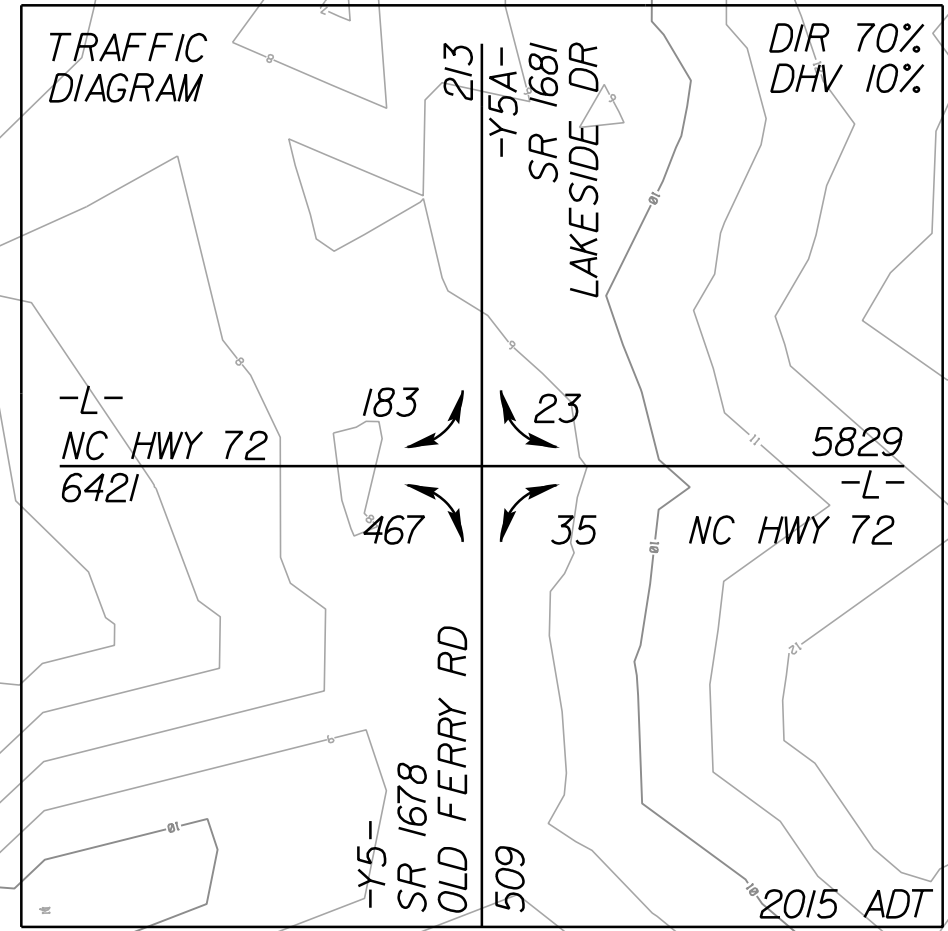
-L- +48.80
64.73' LT

-L- +30.00
66.81' LT

-Y5A- +90.00
25.00' RT

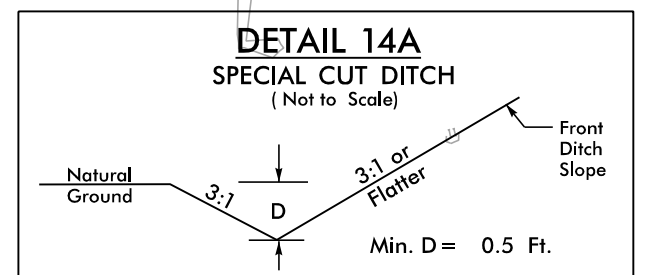
-Y5A- +66.93
25.00' LT

-L- +05.00
65.97' LT



-L-
PI Sta. 154+82.76
 $\Delta = 17^\circ 52' 46.3''$ (LT)
D = 1' 58' 32.6"
L = 904.96'
T = 456.19'
R = 2,900.00'
SE = 4%
RO = 96'

-Y5-
PI Sta. 13+80.62
 $\Delta = 97^\circ 30' 00.0''$ (RT)
D = 7' 37' 18.1"
L = 136.13'
T = 91.22'
R = 80.00'
SE = EX.



NOTES:
DRIVEWAY RADII ARE 10' UNLESS
OTHERWISE NOTED
PAVED SHOULDER
FOR -L- PROFILE SEE SHEETS 19 & 20
FOR -Y5- PROFILE SEE SHEET 22
FOR -Y5A- PROFILE SEE SHEET 22

REVISIONS

10/10/2018
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8/17/99

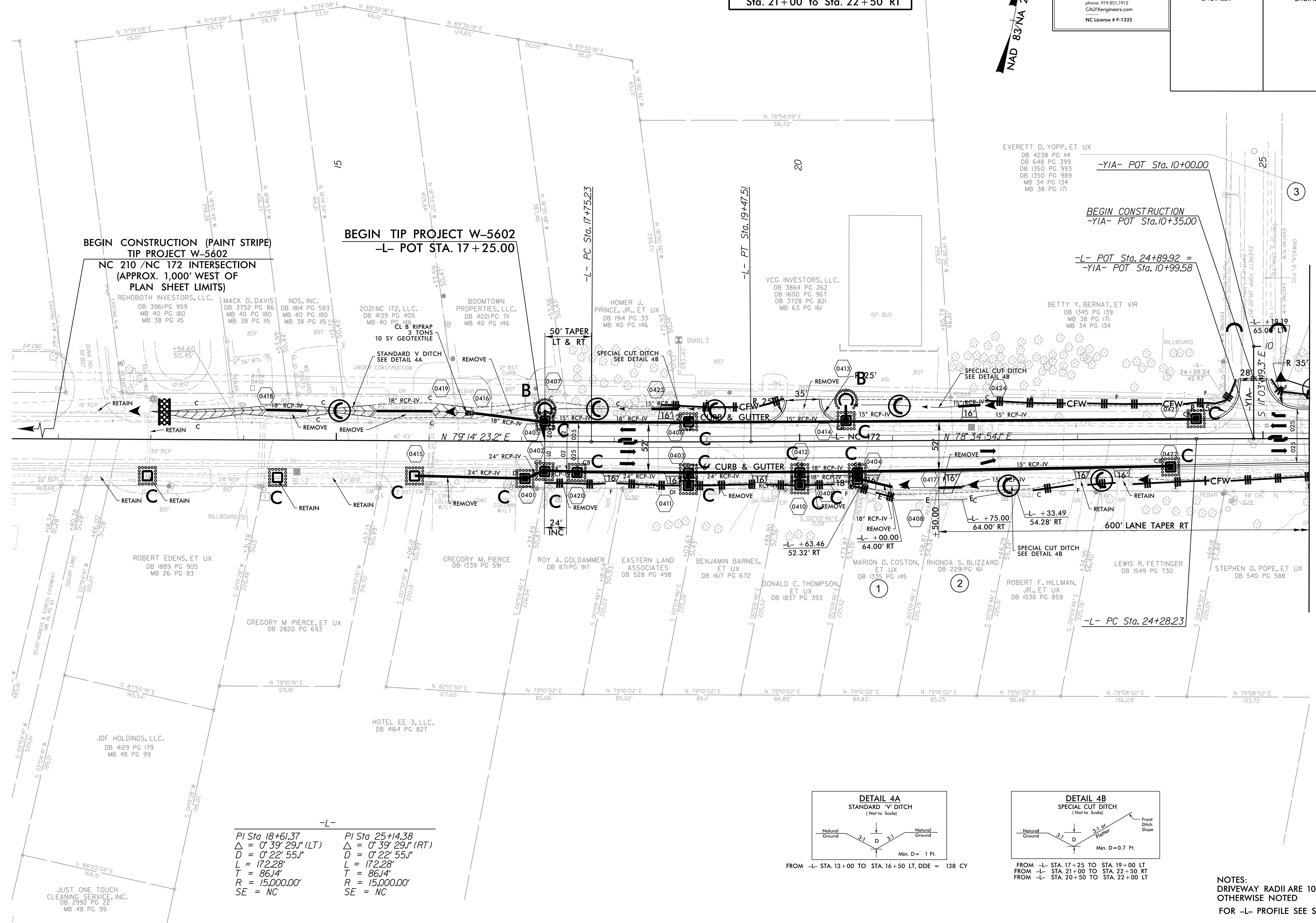
NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 21+00 to Sta. 22+50 RT

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PROJECT REFERENCE NO. W-5602	SHEET NO. EC-15/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NA 2011



BEGIN CONSTRUCTION (PAINT STRIPE)
TIP PROJECT W-5602
NC 210 / NC 172 INTERSECTION
(APPROX. 1,000' WEST OF
PLAN SHEET LIMITS)

BEGIN TIP PROJECT W-5602
-L- POT STA. 17+25.00

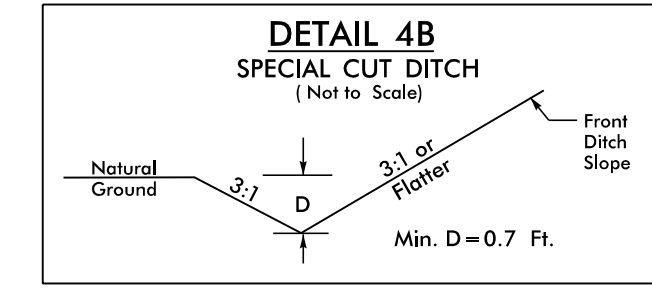
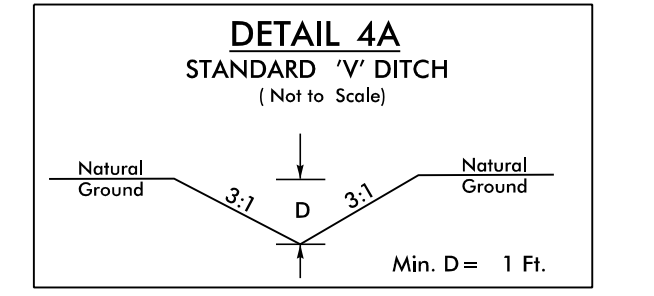
-YIA- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-YIA- POT Sta. 10+35.00

-L- POT Sta. 24+89.92 =
-YIA- POT Sta. 10+99.58

Match Line -L- Sta. 25+50.00

-L-	
PI Sta 18+61.37	PI Sta 25+14.38
$\Delta = 0' 39' 29.1''$ (LT)	$\Delta = 0' 39' 29.1''$ (RT)
$D = 0' 22' 55.1''$	$D = 0' 22' 55.1''$
$L = 172.28'$	$L = 172.28'$
$T = 86.14'$	$T = 86.14'$
$R = 15,000.00'$	$R = 15,000.00'$
SE = NC	SE = NC



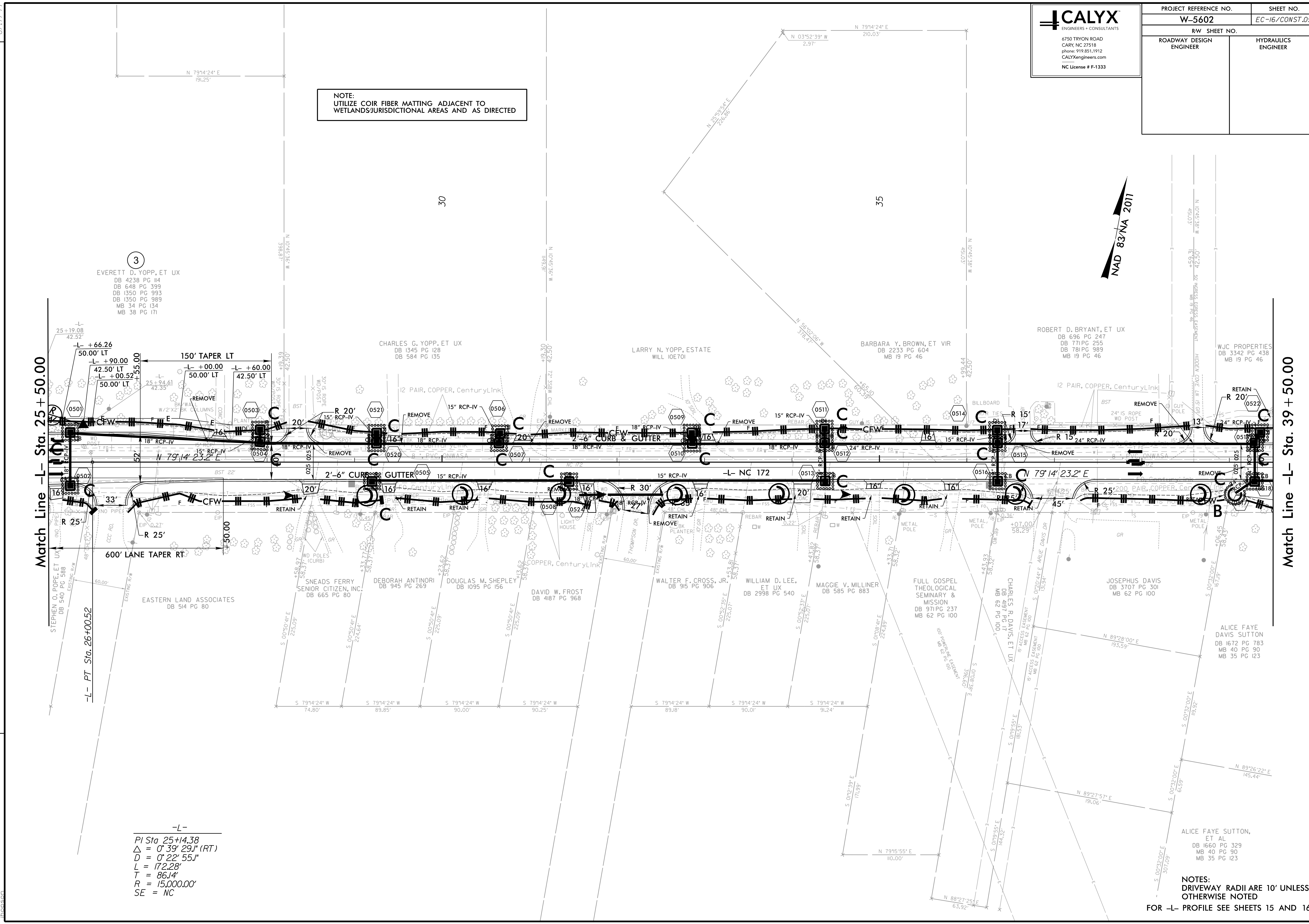
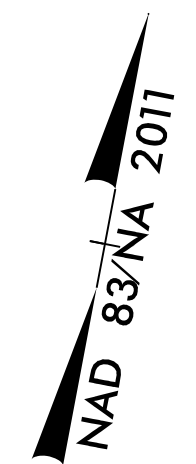
NOTES:
DRIVEWAY RADII ARE 10' UNLESS
OTHERWISE NOTED
FOR -L- PROFILE SEE SHEET 15

REVISIONS

10/4/2018
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15:00

PROJECT REFERENCE NO. W-5602		SHEET NO. EC-16/CONST.05	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS JURISDICTIONAL AREAS AND AS DIRECTED



3
EVERETT D. YOPP, ET UX
DB 4238 PG 114
DB 648 PG 399
DB 1350 PG 993
DB 1350 PG 989
MB 34 PG 134
MB 38 PG 171

CHARLES G. YOPP, ET UX
DB 1345 PG 128
DB 584 PG 135

LARRY N. YOPP, ESTATE
WILL 10E701

BARBARA Y. BROWN, ET VIR
DB 2233 PG 604
MB 19 PG 46

ROBERT D. BRYANT, ET UX
DB 696 PG 247
DB 771 PG 255
DB 781 PG 989
MB 19 PG 46

WJC PROPERTIES
DB 3342 PG 438
MB 19 PG 46

EASTERN LAND ASSOCIATES
DB 514 PG 80

DEBORAH ANTINORI
DB 945 PG 269

DOUGLAS M. SHEPLEY
DB 1095 PG 156

DAVID W. FROST
DB 4187 PG 968

WALTER F. CROSS, JR.
DB 915 PG 906

WILLIAM D. LEE,
ET UX
DB 2998 PG 540

MAGGIE V. MILLINER
DB 585 PG 883

FULL GOSPEL THEOLOGICAL SEMINARY & MISSION
DB 971 PG 237
MB 62 PG 100

CHARLES R. DAVIS, ET UX
DB 4167 PG 171
MB 62 PG 100

JOSEPHUS DAVIS
DB 3707 PG 301
MB 62 PG 100

ALICE FAYE DAVIS SUTTON
DB 1672 PG 783
MB 40 PG 90
MB 35 PG 123

ALICE FAYE SUTTON, ET AL
DB 1660 PG 329
MB 40 PG 90
MB 35 PG 123

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
FOR -L- PROFILE SEE SHEETS 15 AND 16

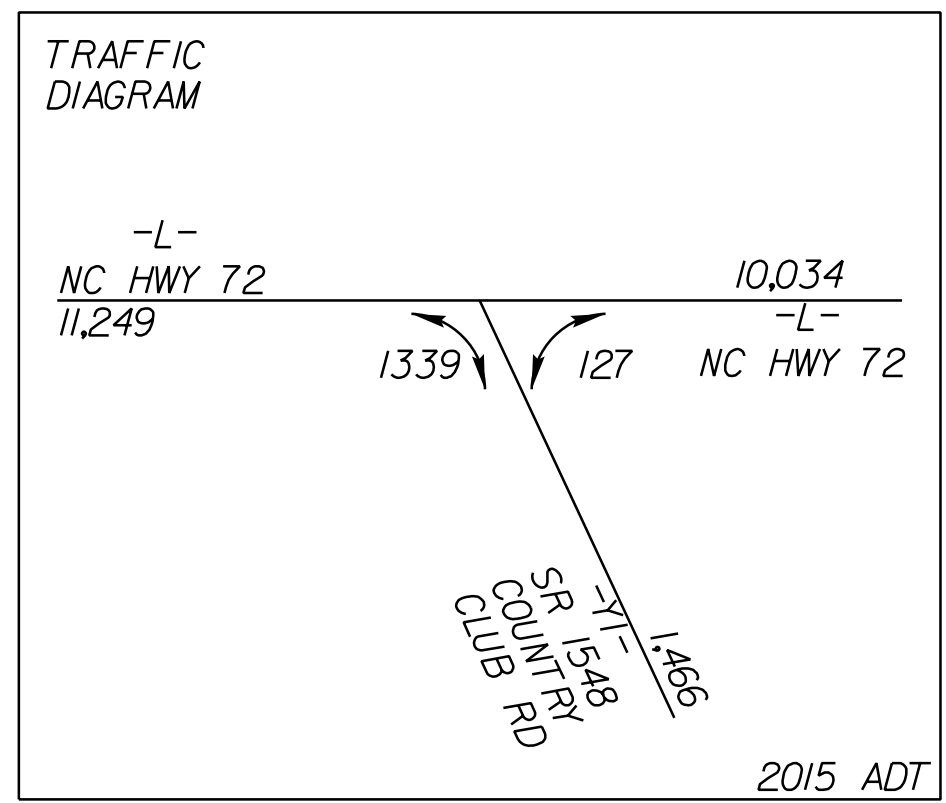
-L-
PI Sta 25+14.38
 $\Delta = 0^\circ 39' 29.1'' (RT)$
 $D = 0^\circ 22' 55.1''$
 $L = 172.28'$
 $T = 86.14'$
 $R = 15,000.00'$
 $SE = NC$

REVISIONS

10/14/2018 R:\E:\commental\Design\W5602_hyd_EC_psh_16.dgn

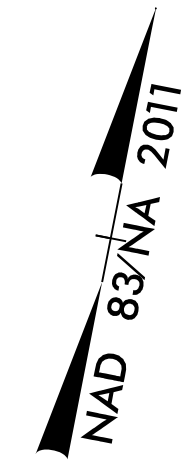
PROJECT REFERENCE NO.	SHEET NO.
W-5602	EC-17/CONST.06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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6750 TRYON ROAD
CARY, NC 27518
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CALYXengineers.com
NC License # F-1333



NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

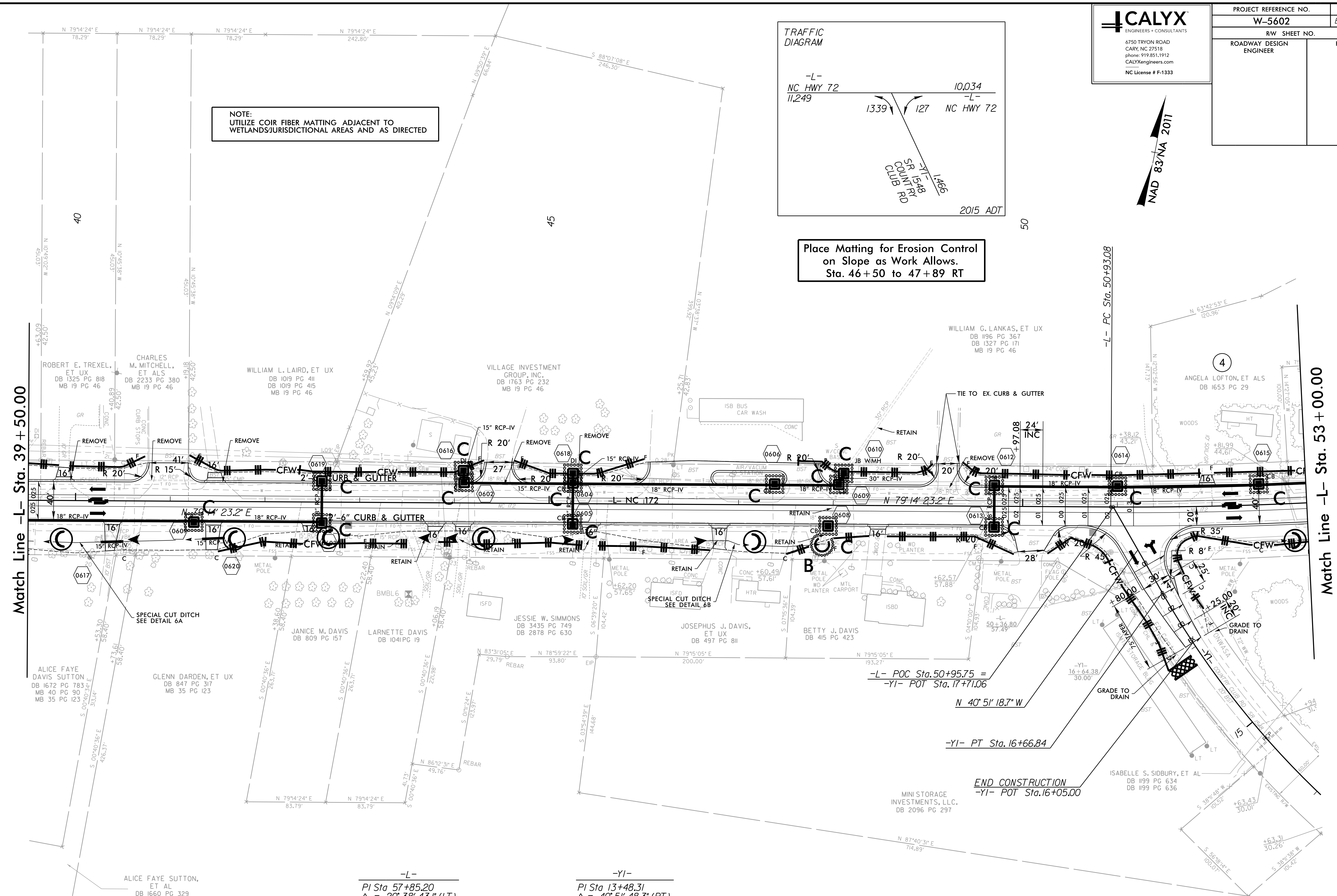
Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 46+50 to 47+89 RT



REVISIONS

Match Line -L- Sta. 39+50.00

Match Line -L- Sta. 53+00.00



SPECIAL CUT DITCH
SEE DETAIL 6A

SPECIAL CUT DITCH
SEE DETAIL 6B

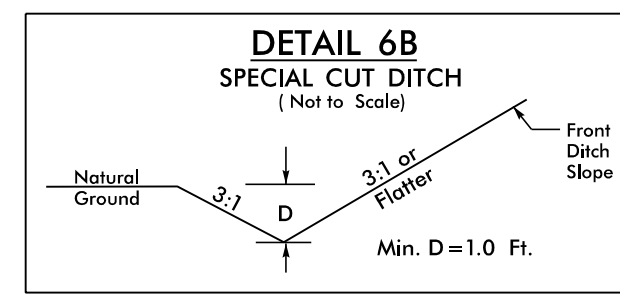
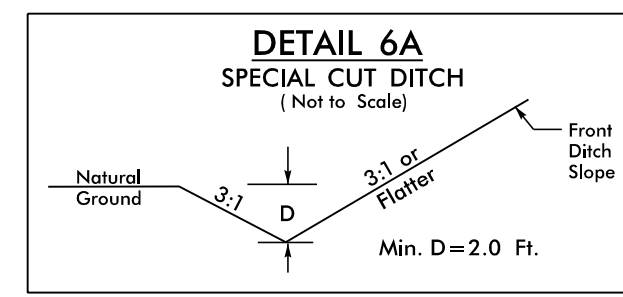
-L- POC Sta. 50+95.75 =
-YI- POT Sta. 17+71.06

-YI- PT Sta. 16+66.84

END CONSTRUCTION
-YI- POT Sta. 16+05.00

-L-
PI Sta 57+85.20
 $\Delta = 20' 38' 43.1''$ (LT)
 $D = 1' 30' 28.0''$
 $L = 1,369.25'$
 $T = 692.13'$
 $R = 3,800.00'$
 $SE = 3\%$
 $RO = 72'$

-YI-
PI Sta 13+48.31
 $\Delta = 40' 51' 48.3''$ (RT)
 $D = 6' 07' 40.4''$
 $L = 666.84'$
 $T = 348.31'$
 $R = 935.00'$
 $SE = EX.$

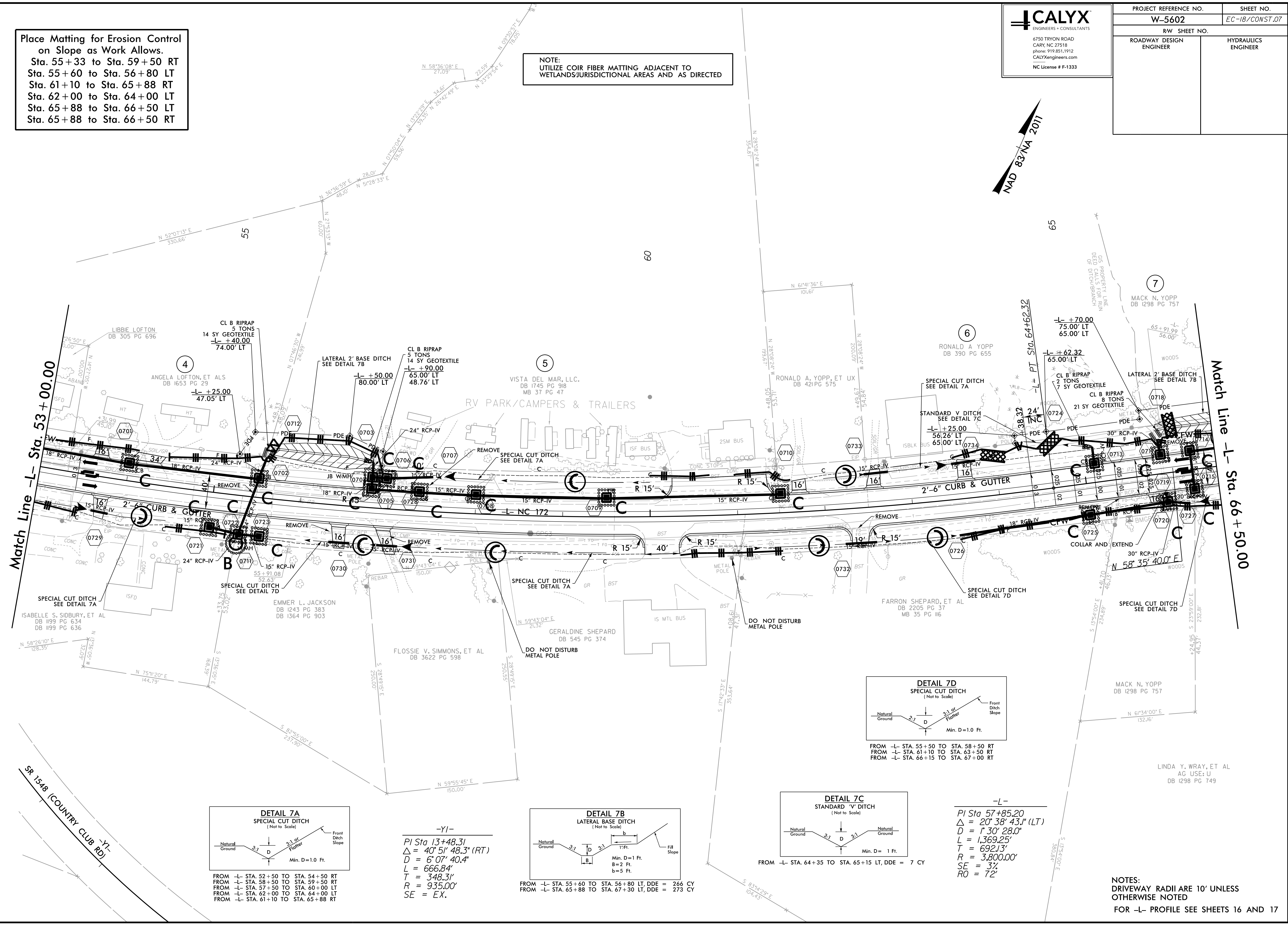
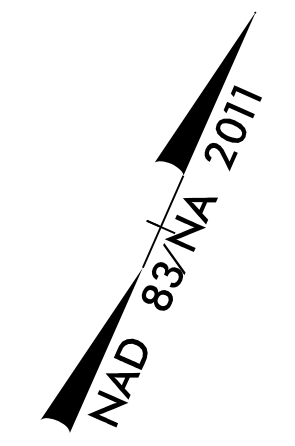


NOTES:
DRIVEWAY RADI ARE 10' UNLESS
OTHERWISE NOTED
PAVED SHOULDER
FOR -L- PROFILE SEE SHEET 16
FOR -YI- PROFILE SEE SHEET 20

I:\07\10\2018\RA\Environmental\Design\W5602_hyd_EC_psh_17.dgn
10/17/2018
10:53:00 AM
17

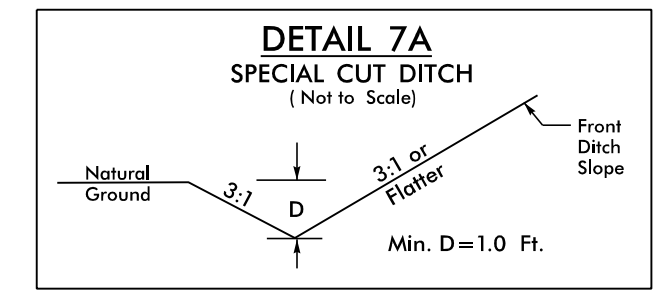
Place Matting for Erosion Control on Slope as Work Allows.
Sta. 55+33 to Sta. 59+50 RT
Sta. 55+60 to Sta. 56+80 LT
Sta. 61+10 to Sta. 65+88 RT
Sta. 62+00 to Sta. 64+00 LT
Sta. 65+88 to Sta. 66+50 LT
Sta. 65+88 to Sta. 66+50 RT

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

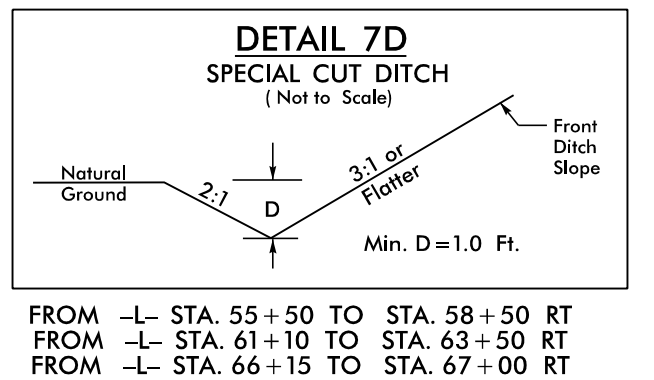
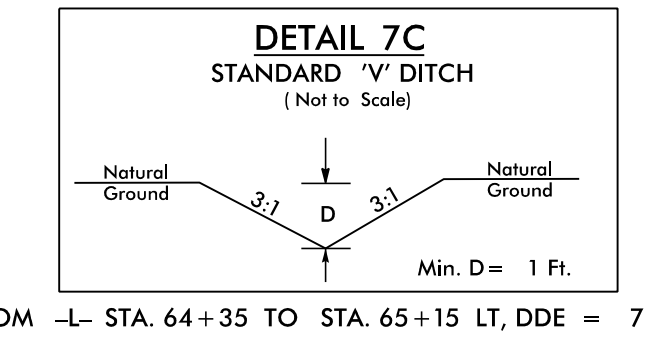
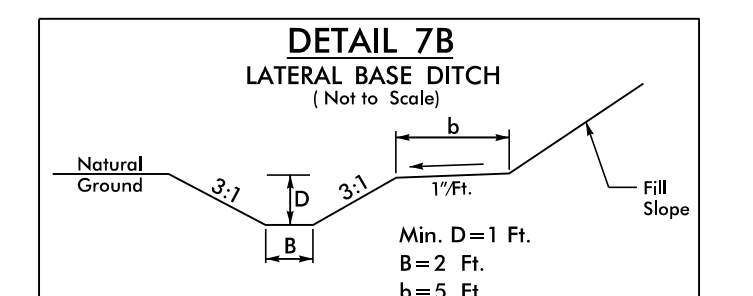


Match Line -L- Sta. 53+00.00

Match Line -L- Sta. 66+50.00



-YI-
PI Sta 13+48.31
 $\Delta = 40' 51'' 48.3''$ (RT)
D = 6' 07" 40.4"
L = 666.84'
T = 348.31'
R = 935.00'
SE = EX.



-L-
PI Sta 57+85.20
 $\Delta = 20' 38'' 43.1''$ (LT)
D = 1' 30" 28.0"
L = 1,369.25'
T = 692.13'
R = 3,800.00'
SE = 3%
RO = 72'

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
FOR -L- PROFILE SEE SHEETS 16 AND 17

REVISIONS

10/4/2018
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8/17/99

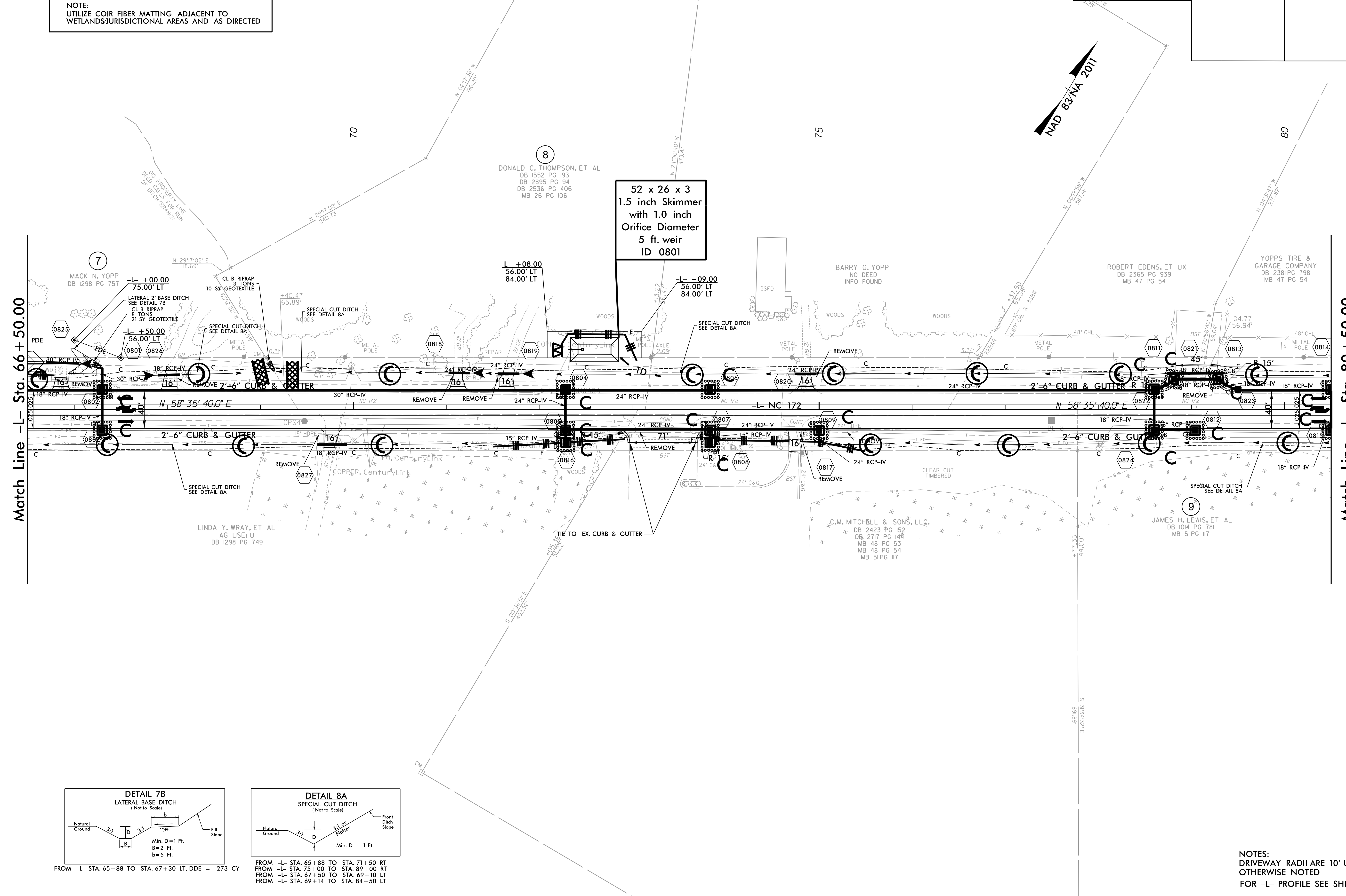
8/17/09

Place Matting for Erosion Control on Slope as Work Allows. Sta. 66+50 to Sta. 67+30 LT Sta. 66+50 to Sta. 71+50 RT

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

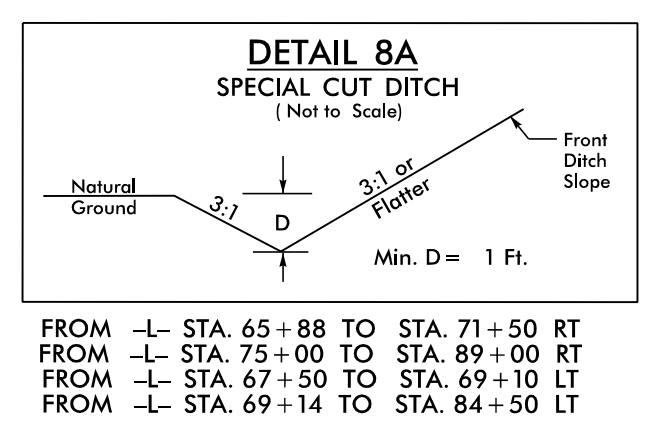
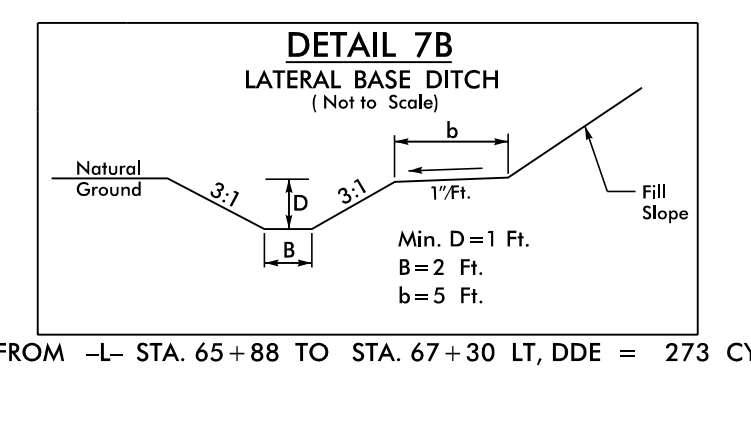


PROJECT REFERENCE NO.	SHEET NO.
W-5602	EC-19/CONST.08
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



Match Line -L- Sta. 66+50.00

Match Line -L- Sta. 80+50.00



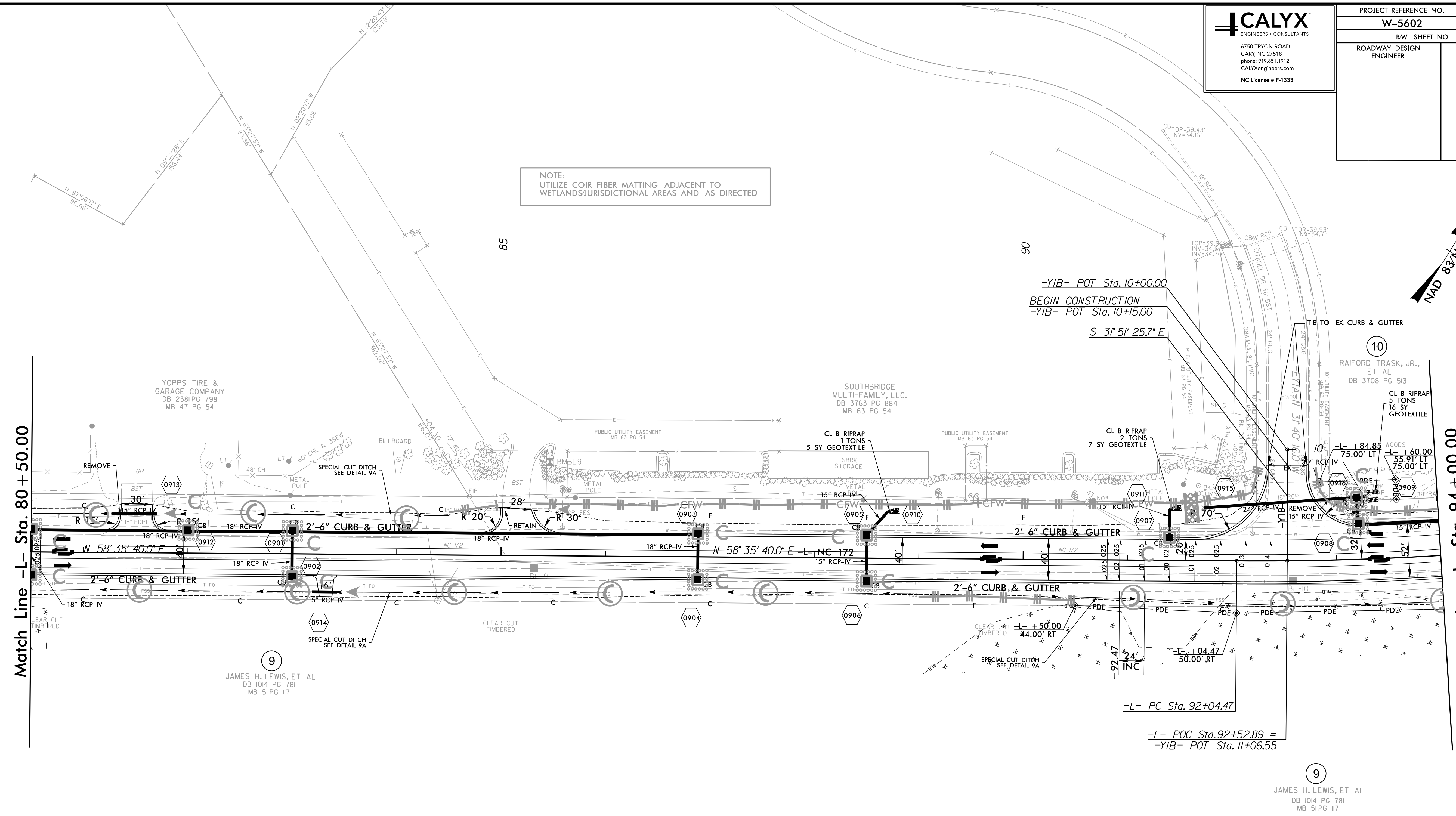
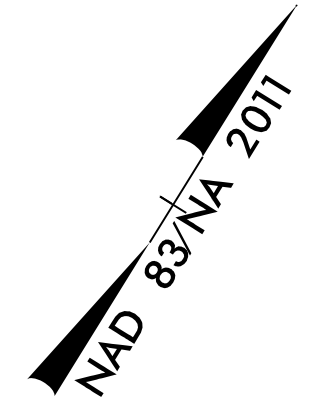
NOTES: DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED FOR -L- PROFILE SEE SHEET 17

REVISIONS

10/10/2018 R:\Environmental\Design\W5602_hyd_EC_psh_19.dgn

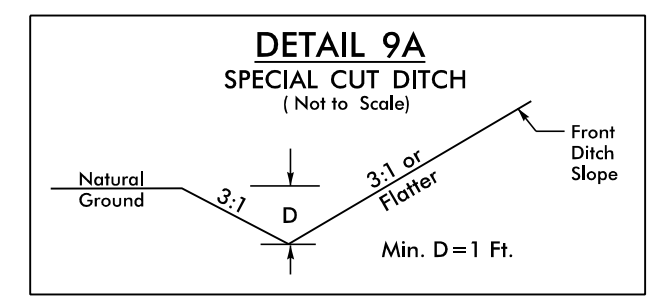
PROJECT REFERENCE NO.	SHEET NO.
W-5602	EC-20/CONST.09
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS JURISDICTIONAL AREAS AND AS DIRECTED



Match Line -L- Sta. 80+50.00

Match Line -L- Sta. 94+00.00



FROM -L- STA. 69+14 TO STA. 84+50 LT
FROM -L- STA. 74+00 TO STA. 89+00 RT
FROM -L- STA. 90+00 TO STA. 103+04 RT

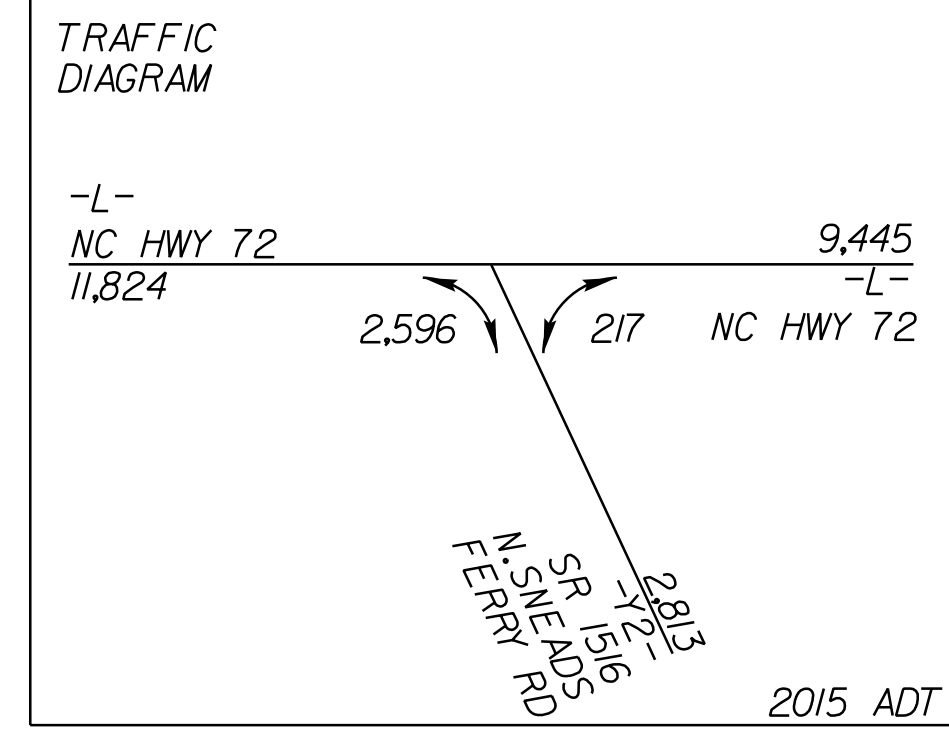
-L-
PI Sta 105+08.09
 $\Delta = 48' 24' 36.7''$ (LT)
 $D = 1' 58' 32.6''$
 $L = 2,450.26'$
 $T = 1,303.62'$
 $R = 2,900.00'$
 $SE = 4\%$
 $RO = 96'$

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
FOR -L- PROFILE SEE SHEETS 17

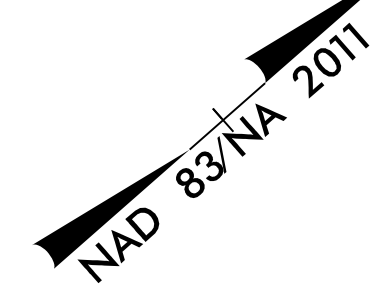
REVISIONS

10/25/2016
RA\Environmental\Design\W5602_hyd_EC_psh_20.dgn
dblocker

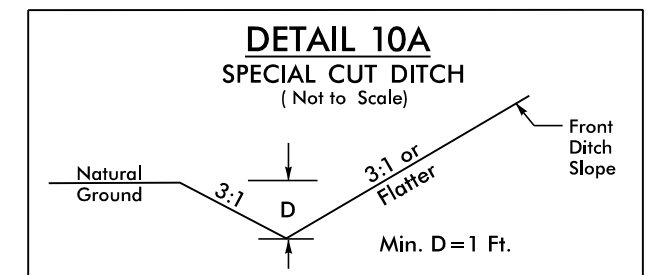
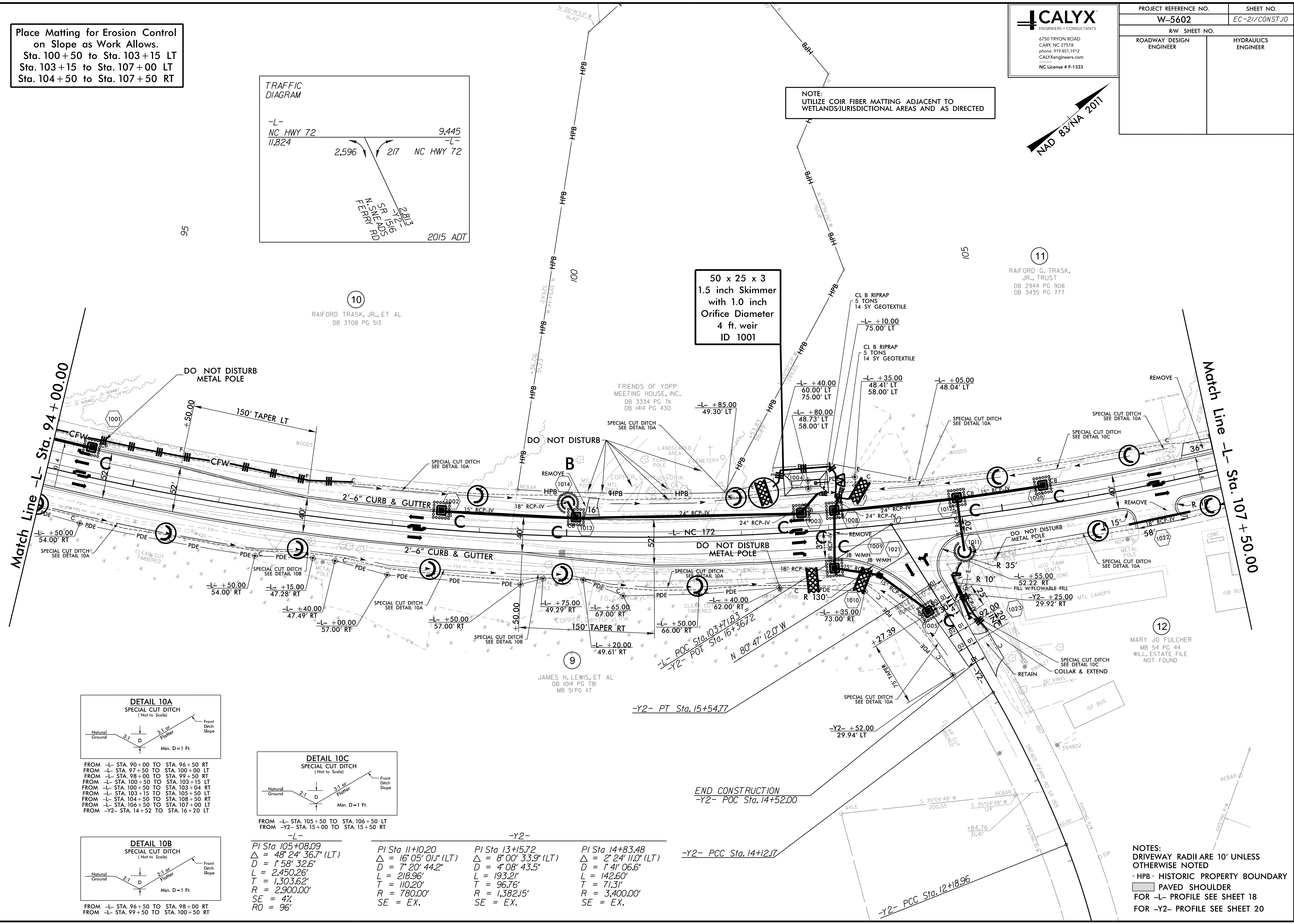
Place Matting for Erosion Control on Slope as Work Allows.
Sta. 100+50 to Sta. 103+15 LT
Sta. 103+15 to Sta. 107+00 LT
Sta. 104+50 to Sta. 107+50 RT



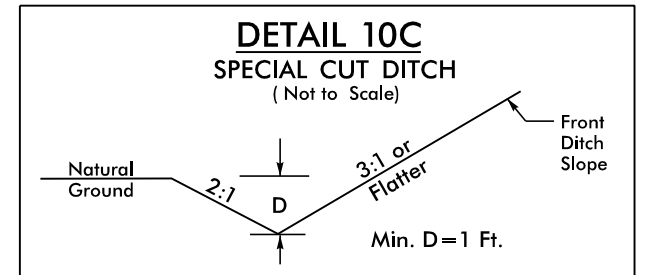
NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED



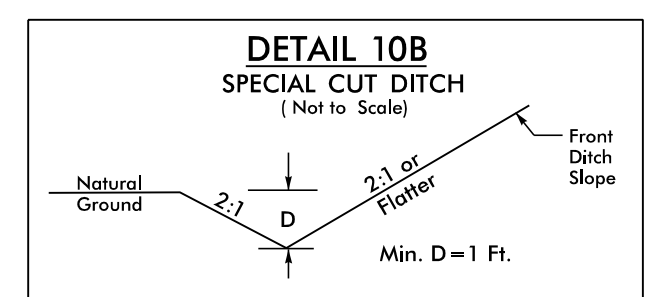
50 x 25 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
4 ft. weir
ID 1001



FROM -L- STA. 90+00 TO STA. 96+50 RT
FROM -L- STA. 97+50 TO STA. 100+00 LT
FROM -L- STA. 98+00 TO STA. 99+50 RT
FROM -L- STA. 100+50 TO STA. 103+15 LT
FROM -L- STA. 100+50 TO STA. 103+04 RT
FROM -L- STA. 103+15 TO STA. 105+50 LT
FROM -L- STA. 104+50 TO STA. 108+50 RT
FROM -Y2- STA. 14+52 TO STA. 16+20 LT



FROM -L- STA. 105+50 TO STA. 106+50 LT
FROM -Y2- STA. 15+00 TO STA. 15+50 RT



FROM -L- STA. 96+50 TO STA. 98+00 RT
FROM -L- STA. 99+50 TO STA. 100+50 RT

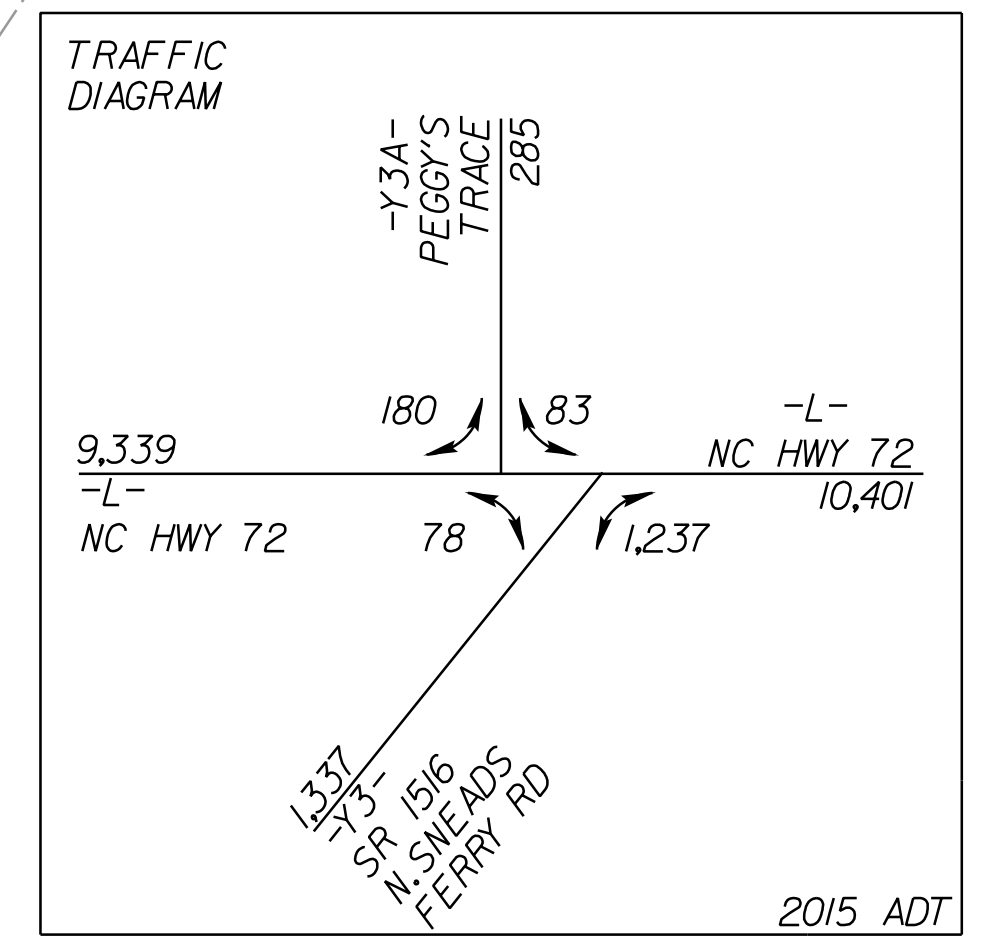
-L-	-Y2-	-Y2-	-Y2-
PI Sta 105+08.09	PI Sta 11+0.20	PI Sta 13+15.72	PI Sta 14+83.48
$\Delta = 48' 24' 36.7''$ (LT)	$\Delta = 16' 05' 01.1''$ (LT)	$\Delta = 8' 00' 33.9''$ (LT)	$\Delta = 2' 24' 11.0''$ (LT)
D = 1' 58' 32.6"	D = 7' 20' 44.2"	D = 4' 08' 43.5"	D = 1' 41' 06.6"
L = 2,450.26'	L = 218.96'	L = 193.21'	L = 142.60'
T = 1,303.62'	T = 110.20'	T = 96.76'	T = 71.31'
R = 2,900.00'	R = 780.00'	R = 1,382.15'	R = 3,400.00'
SE = 4%	SE = EX.	SE = EX.	SE = EX.
RO = 96'			

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
-HPB- HISTORIC PROPERTY BOUNDARY
PAVED SHOULDER
FOR -L- PROFILE SEE SHEET 18
FOR -Y2- PROFILE SEE SHEET 20

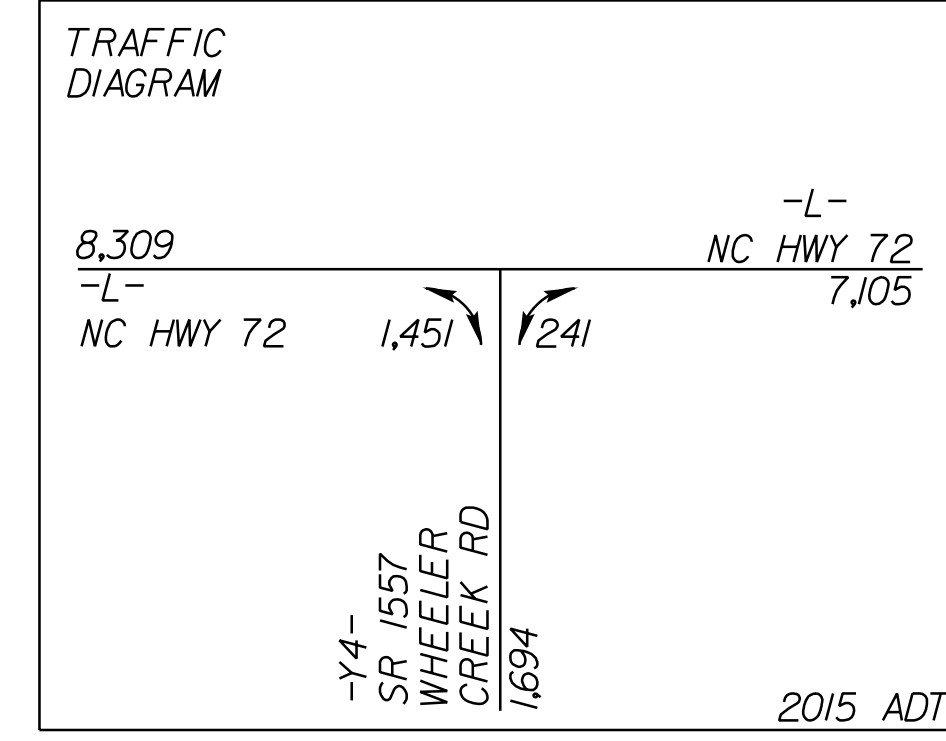
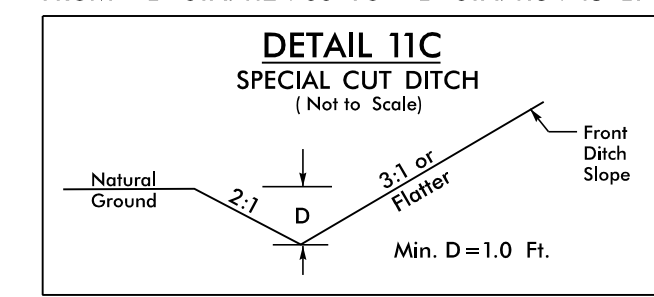
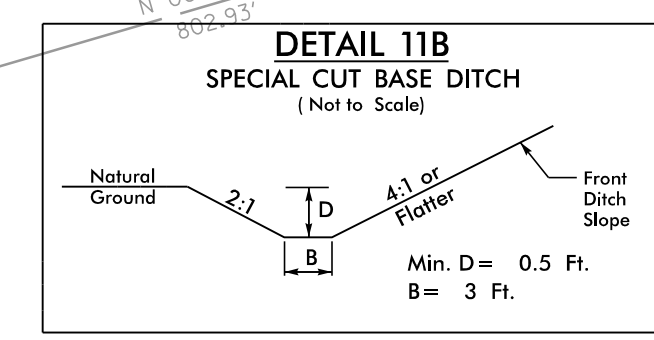
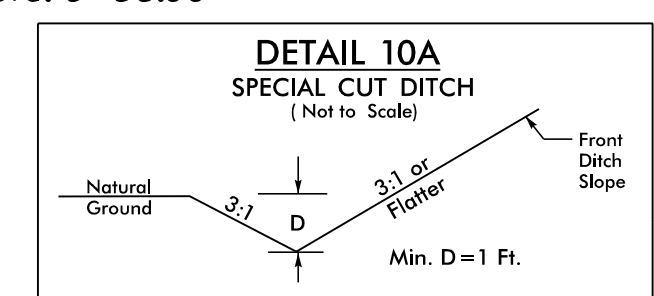
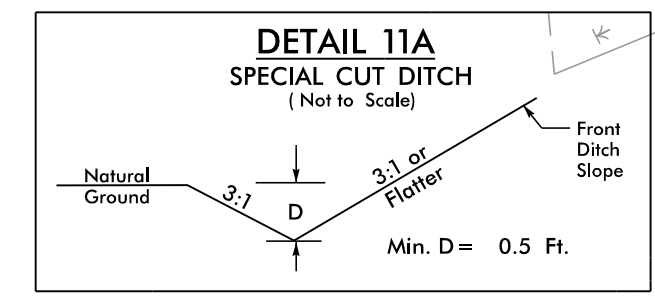
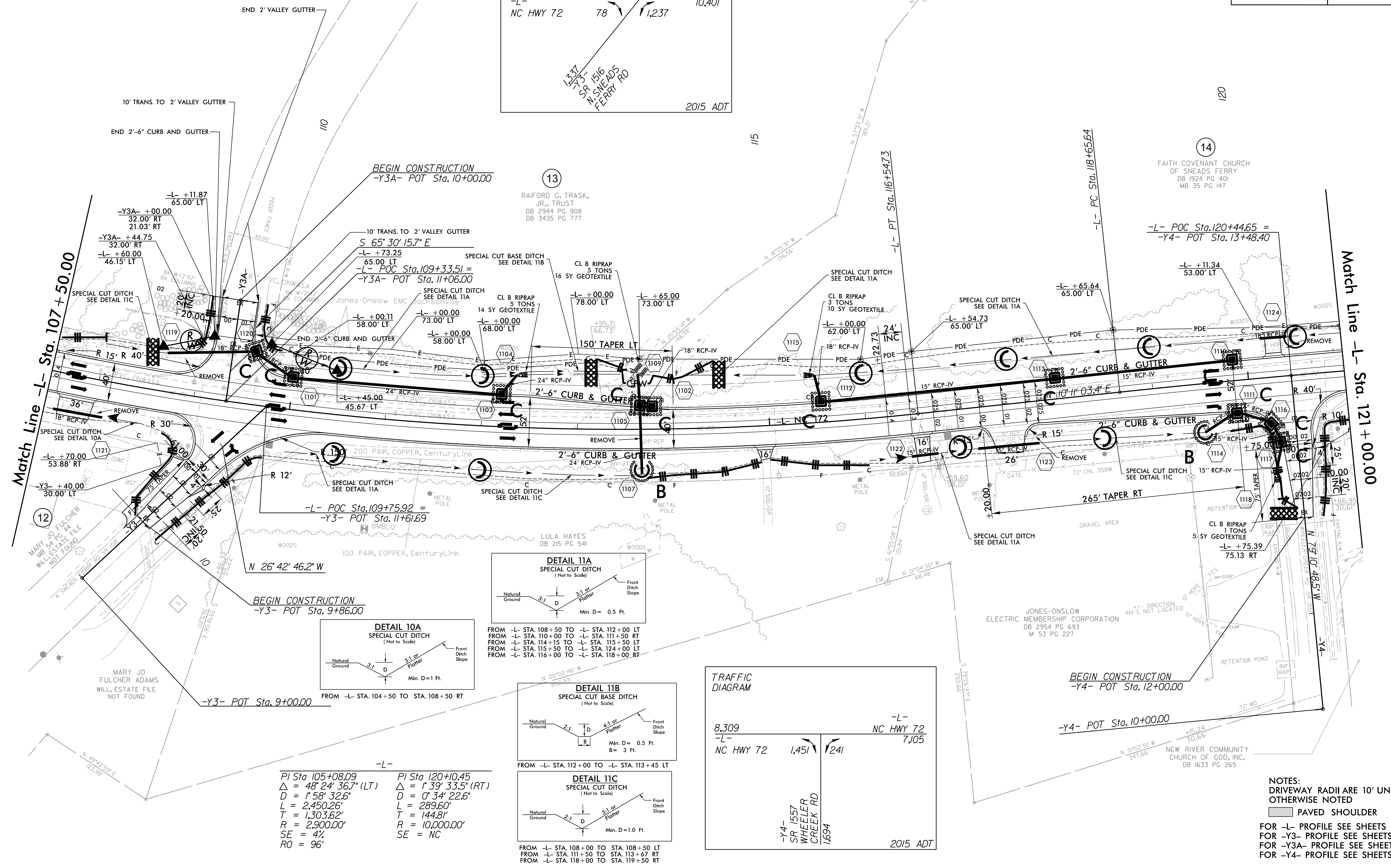
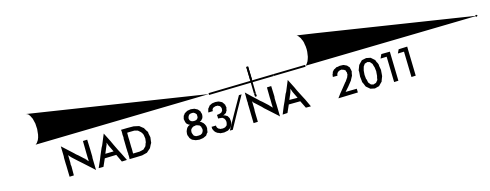
REVISIONS

8/17/99
10/10/2018
RA Environmental\Design\W5602_hyd_EC_psh_21.dwg

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 107+50 to Sta. 108+50 RT
Sta. 108+00 to Sta. 112+00 LT
Sta. 116+00 to Sta. 120+00 RT
Sta. 115+50 to Sta. 121+00 LT



NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED



<p>PI Sta 105+08.09 Δ = 48° 24' 36.7" (LT) D = 1' 58" 32.6" L = 2,450.26' T = 1,303.62' R = 2,900.00' SE = 4% RO = 96'</p>	<p>PI Sta 120+10.45 Δ = 1° 39' 33.5" (RT) D = 0' 34" 22.6" L = 289.60' T = 144.81' R = 10,000.00' SE = NC</p>
--	---

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
PAVED SHOULDER
FOR -L- PROFILE SEE SHEETS 18
FOR -Y3- PROFILE SEE SHEETS 21
FOR -Y4- PROFILE SEE SHEETS 21

REVISIONS

8/17/99
10/4/2018
RAYE\corrommental\Design\W5602_hyd_EC_psh_22.dgn

8/17/99

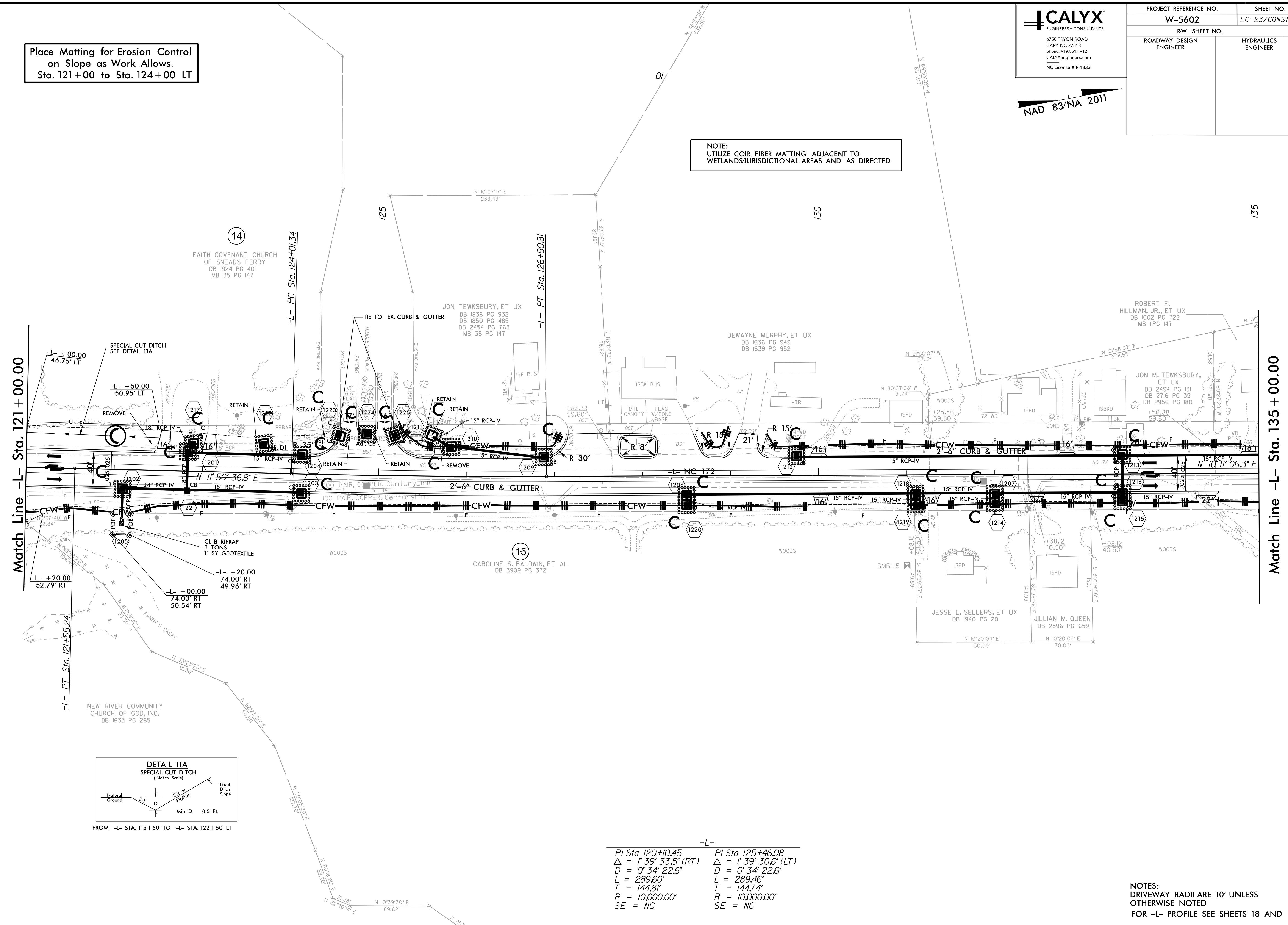
CALYX
ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27518
phone: 919.851.1912
CALYXengineers.com
NC License # F-1333

PROJECT REFERENCE NO. W-5602	SHEET NO. <i>EC-23/CONST.12</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

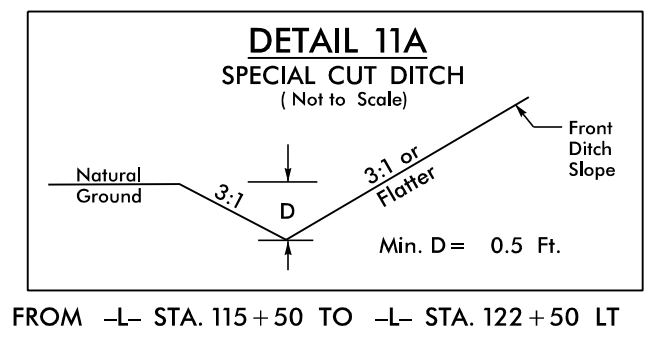


Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 121+00 to Sta. 124+00 LT

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED



REVISIONS



-L-	-L-
PI Sta 120+10.45	PI Sta 125+46.08
$\Delta = 1^{\circ} 39' 33.5''$ (RT)	$\Delta = 1^{\circ} 39' 30.6''$ (LT)
$D = 0^{\circ} 34' 22.6''$	$D = 0^{\circ} 34' 22.6''$
$L = 289.60'$	$L = 289.46'$
$T = 144.81'$	$T = 144.74'$
$R = 10,000.00'$	$R = 10,000.00'$
$SE = NC$	$SE = NC$

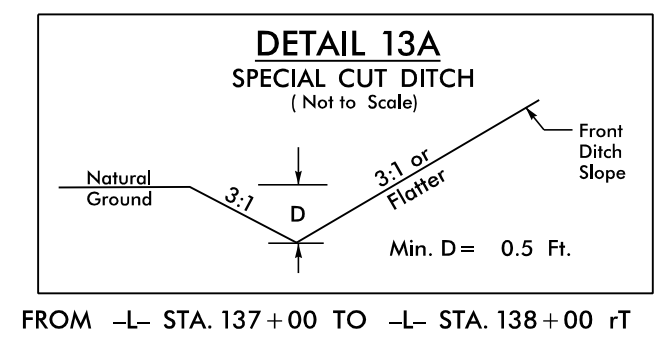
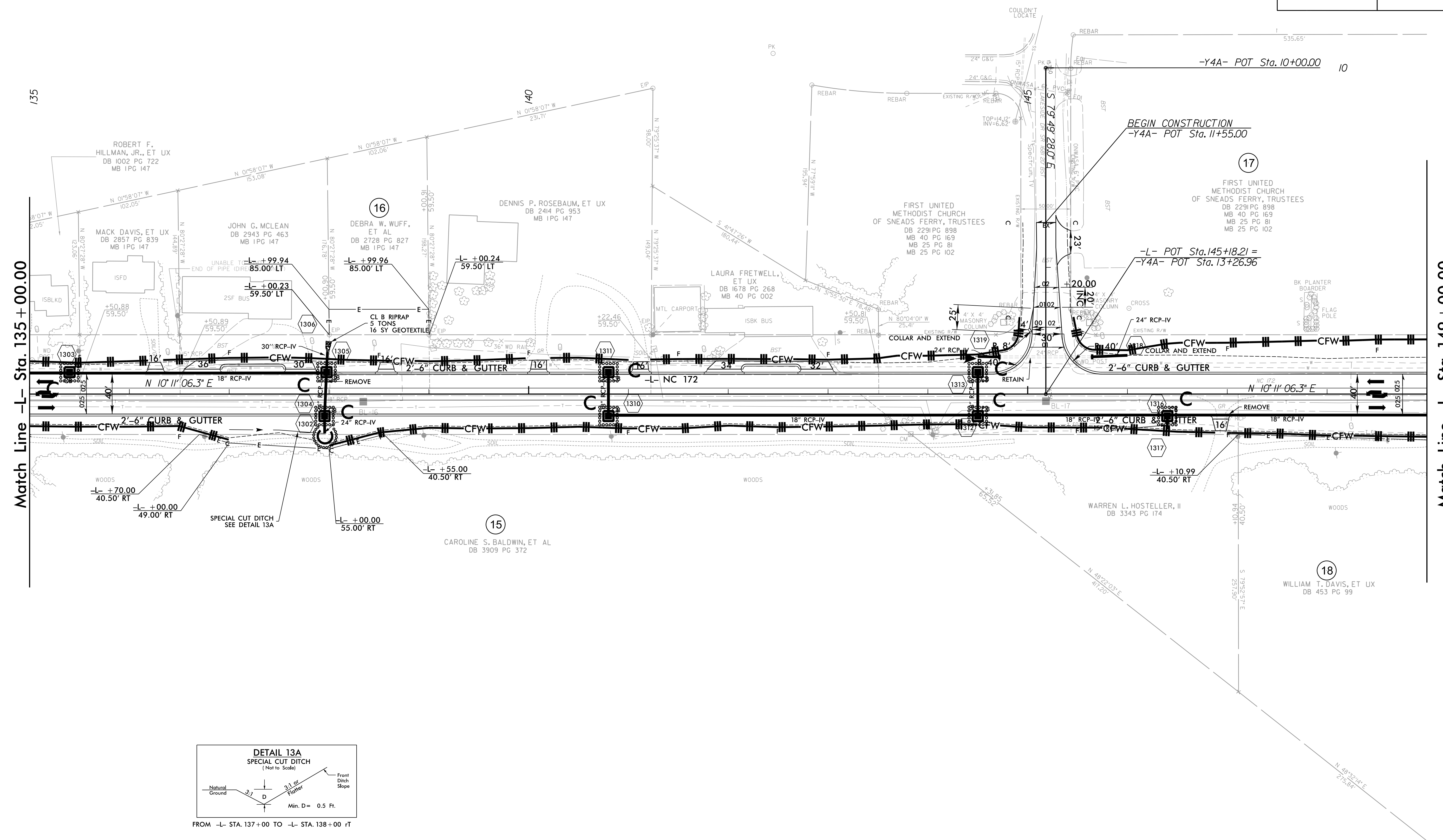
NOTES:
DRIVEWAY RADII ARE 10' UNLESS
OTHERWISE NOTED
FOR -L- PROFILE SEE SHEETS 18 AND 19

10/14/2018
 R:\E\Environmental\Design\W5602_hyd_EC_psh_23.dgn
 10:55:00 AM
 10/14/2018

Place Matting for Erosion Control on Slope as Work Allows. Sta. 137+00 to Sta. 138+00 RT

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

NAD 83/NA 2011



NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
FOR -L- PROFILE SEE SHEET 19
FOR -Y4A- PROFILE SEE SHEET 21

REVISIONS

8/17/99
10/14/2018
R:\Environmental\Design\W5602_hyd_EC_psh_24.dgn
L:\Erosion

8/17/99

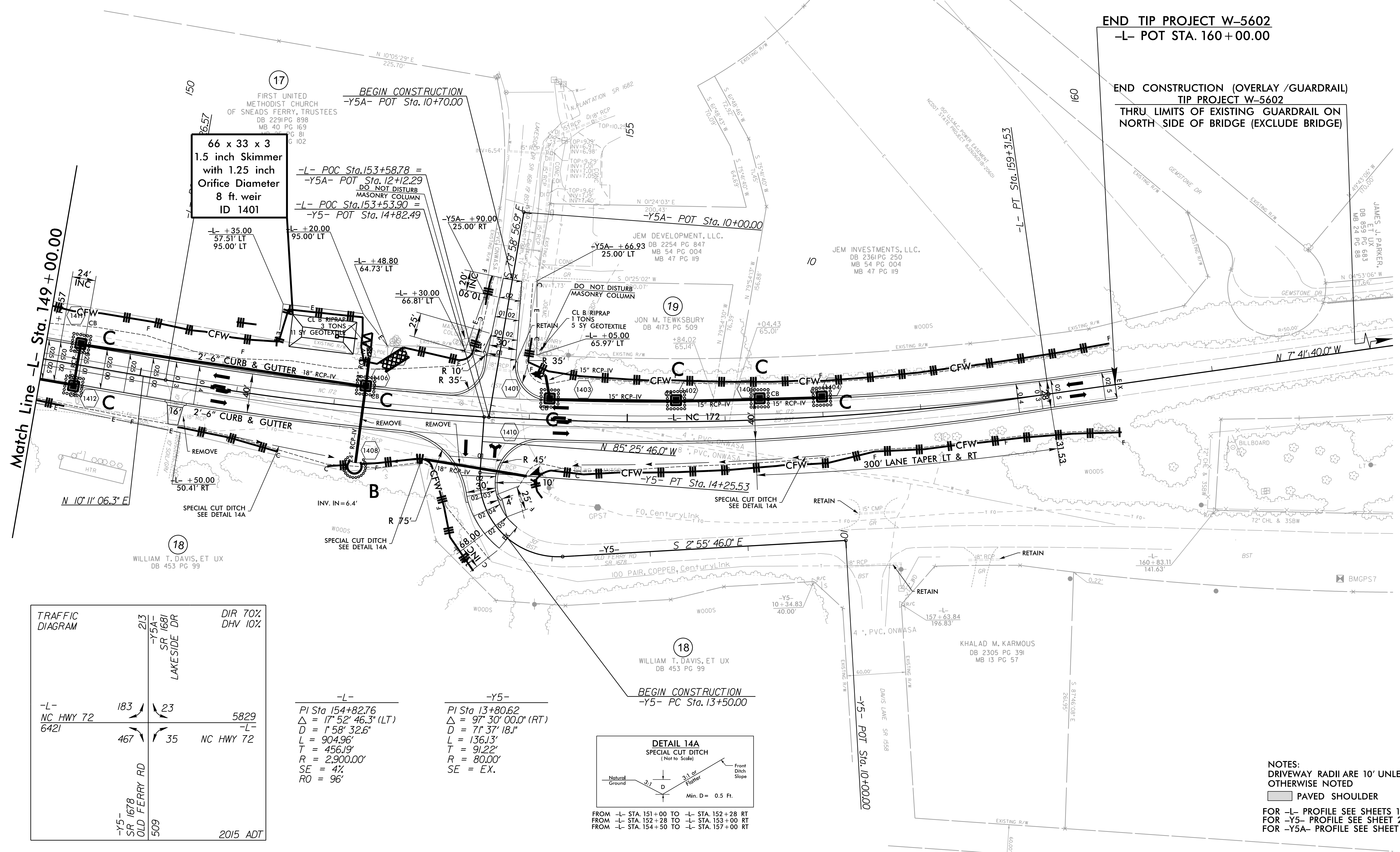
Place Matting for Erosion Control on Slope as Work Allows. Sta. 151+00 to Sta. 152+28 RT

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS AND AS DIRECTED

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

PROJECT REFERENCE NO. W-5602		SHEET NO. EC-25/CONST.14	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

NAD 83/NA 2011



66 x 33 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID 1401

-L- POC Sta.153+58.78 =
-Y5A- POT Sta.12+12.29
DO NOT DISTURB
MASONRY COLUMN
-L- POC Sta.153+53.90 =
-Y5- POT Sta.14+82.49

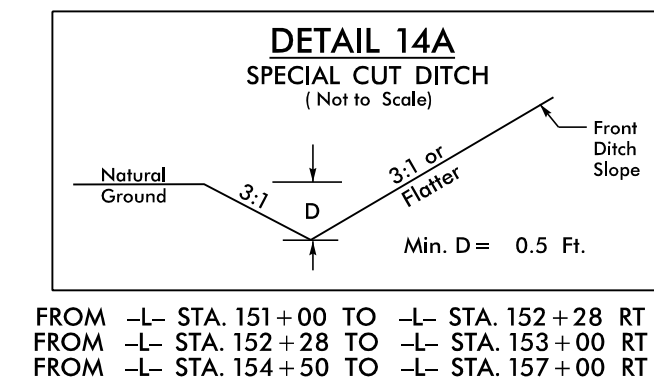
TRAFFIC DIAGRAM

	213	DIR 70% DHW 10%
-L- NC HWY 72 6421	183	23
	467	35 NC HWY 72
-Y5- SR 1678 509		

LAKESIDE DR SR 1681
2015 ADT

-L-
PI Sta 154+82.76
 $\Delta = 17^{\circ} 52' 46.3"$ (LT)
 $D = 1^{\circ} 58' 32.6"$
 $L = 904.96'$
 $T = 456.19'$
 $R = 2,900.00'$
 $SE = 4\%$
 $RO = 96'$

-Y5-
PI Sta 13+80.62
 $\Delta = 97^{\circ} 30' 00.0"$ (RT)
 $D = 71^{\circ} 37' 18.1"$
 $L = 136.13'$
 $T = 91.22'$
 $R = 80.00'$
 $SE = EX.$



NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
PAVED SHOULDER
FOR -L- PROFILE SEE SHEETS 19 & 20
FOR -Y5- PROFILE SEE SHEET 22
FOR -Y5A- PROFILE SEE SHEET 22

REVISIONS

10/10/2018
R:\Environmental\Design\W5602_hyd_EC_psh_25.dgn
Bosson