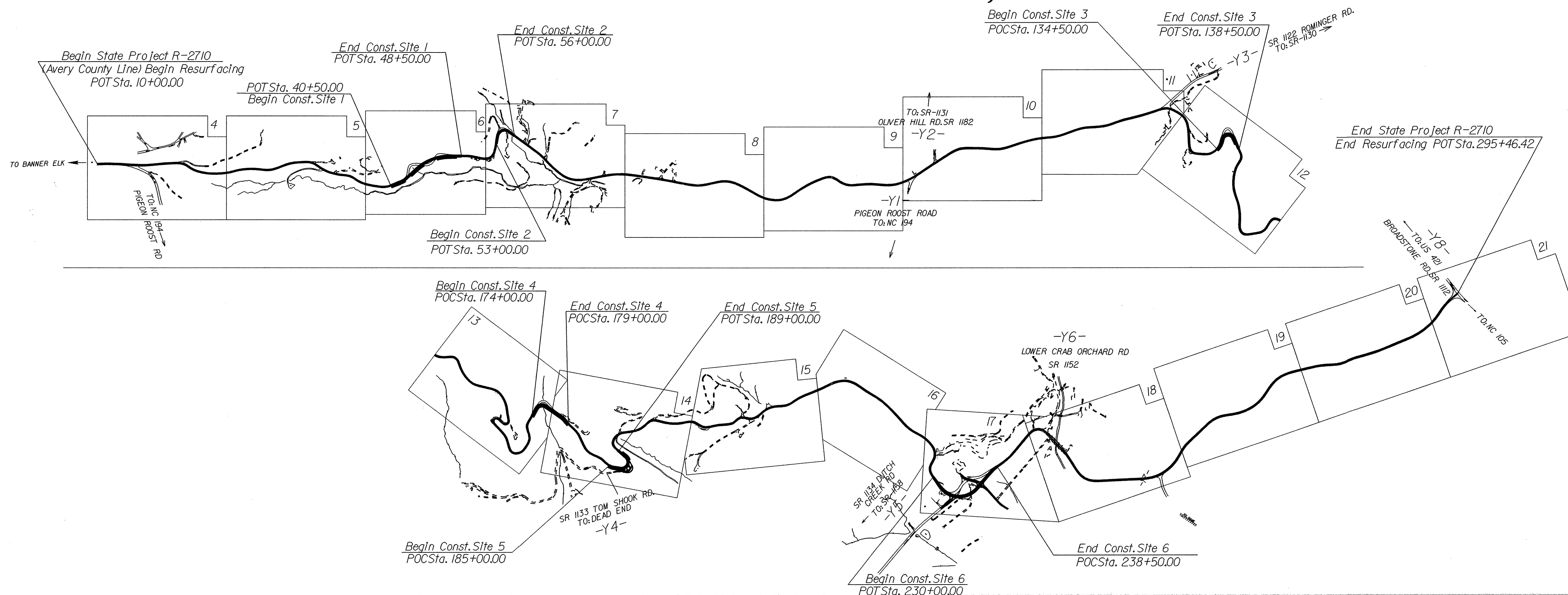


**TIP PROJECT: R-2710**

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

**LOCATION: NC 194 FROM THE AVERY / WATAUGA COUNTY LINE  
 TO BROADSTONE ROAD (SR 1112)**

**TYPE OF WORK: GRADING, PAVING, WEDGING, GUARDRAIL,  
 RETAINING WALLS, RESURFACING AND DRAINAGE**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2710	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	
1606.01	Special Sediment Control Fence	▲▲▲
1622.01	Temporary Berms and Slope Drains	▲
	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
	Temporary Rock Silt Check Type-B	▨
	Wattle / Coir Fiber Wattle	~
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	~
1634.01	Temporary Rock Sediment Dam Type-A	▨
1634.02	Temporary Rock Sediment Dam Type-B	▨
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⊓
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊓
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

**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**

0

PLANS

0

PROFILE (HORIZONTAL)

0

PROFILE (VERTICAL)

**ROADSIDE ENVIRONMENTAL UNIT  
 DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA**

Prepared in the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
 1 South Wilmington St.  
 Raleigh, NC 27611  
**2006 STANDARD SPECIFICATIONS**

**Roadway Standard Drawings**

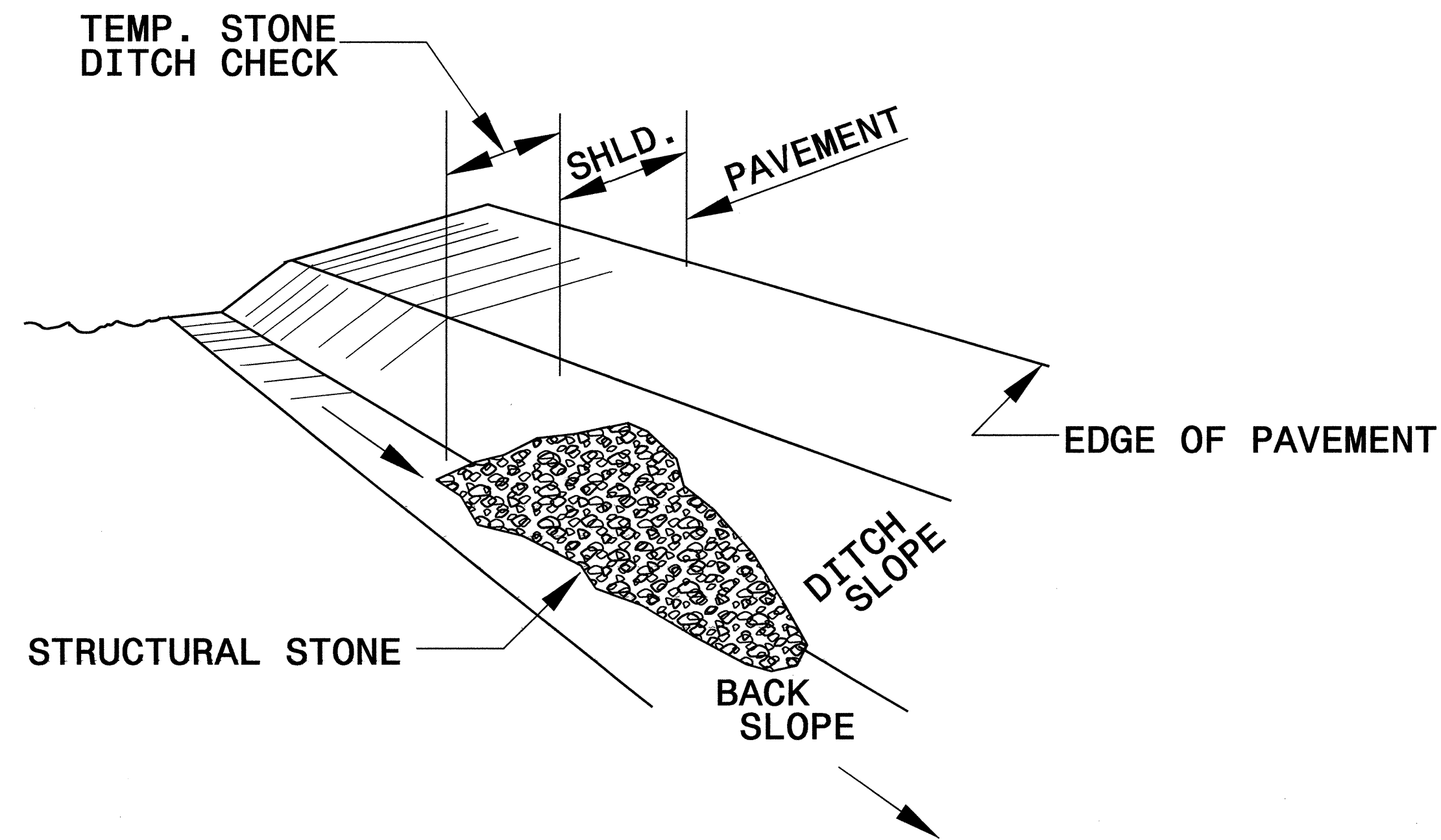
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1632.03 Rock Inlet Sediment Trap Type C
1606.01 Special Sediment Control Fence	1633.01 Temporary Rock Silt Check Type A
1607.01 Gravel Construction Entrance	1634.01 Temporary Rock Sediment Dam Type A
1622.01 Temporary Berms and Slope Drains	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.03 Temporary Silt Ditch	1635.02 Rock Pipe Inlet Sediment Trap Type B

03-JUN-2010 14:34  
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 ...

PROJECT REFERENCE NO. R-2710	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

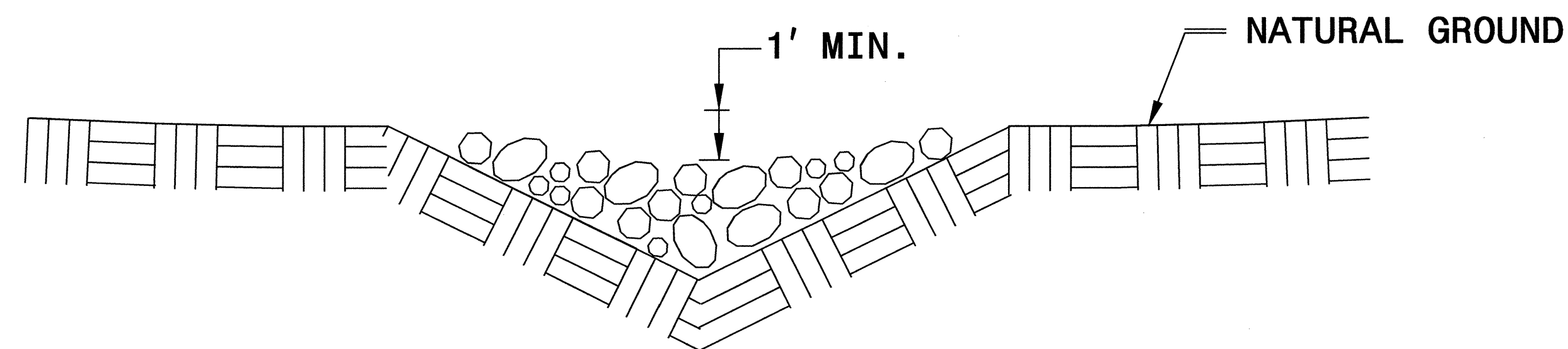


**ISOMETRIC VIEW**

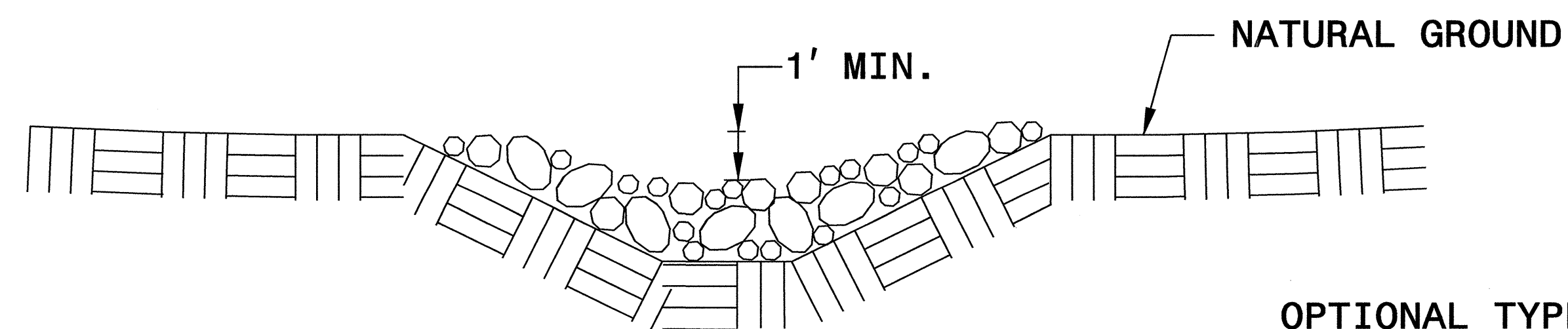
**NOTES:**

USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

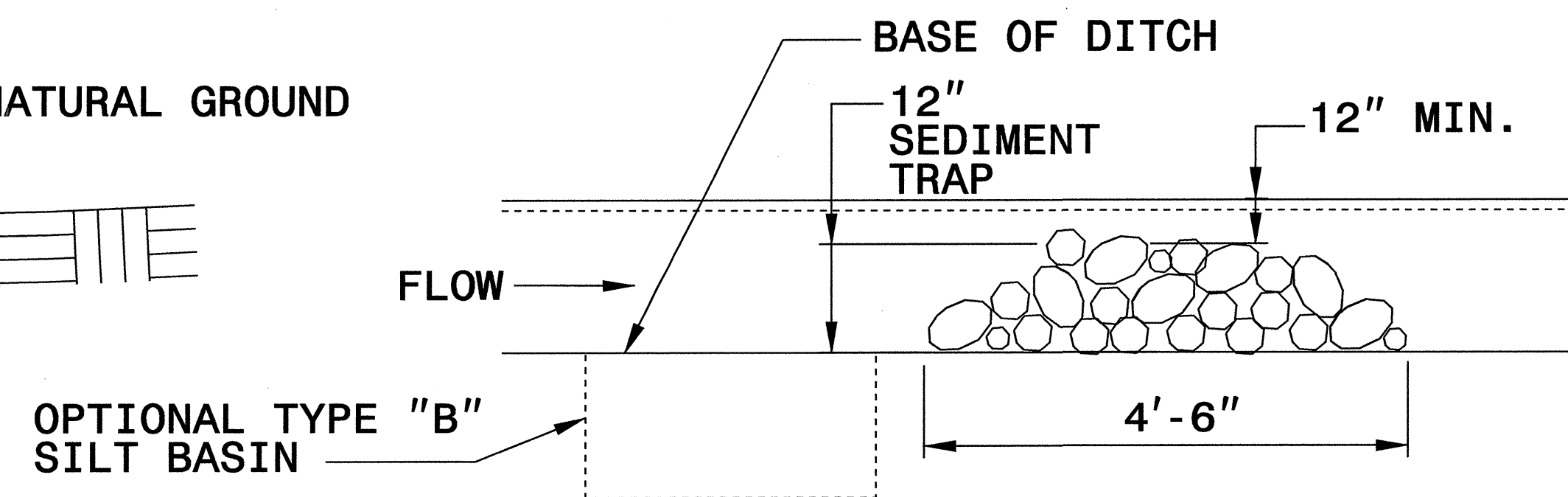
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



**CROSS SECTION  
VEE DITCH**



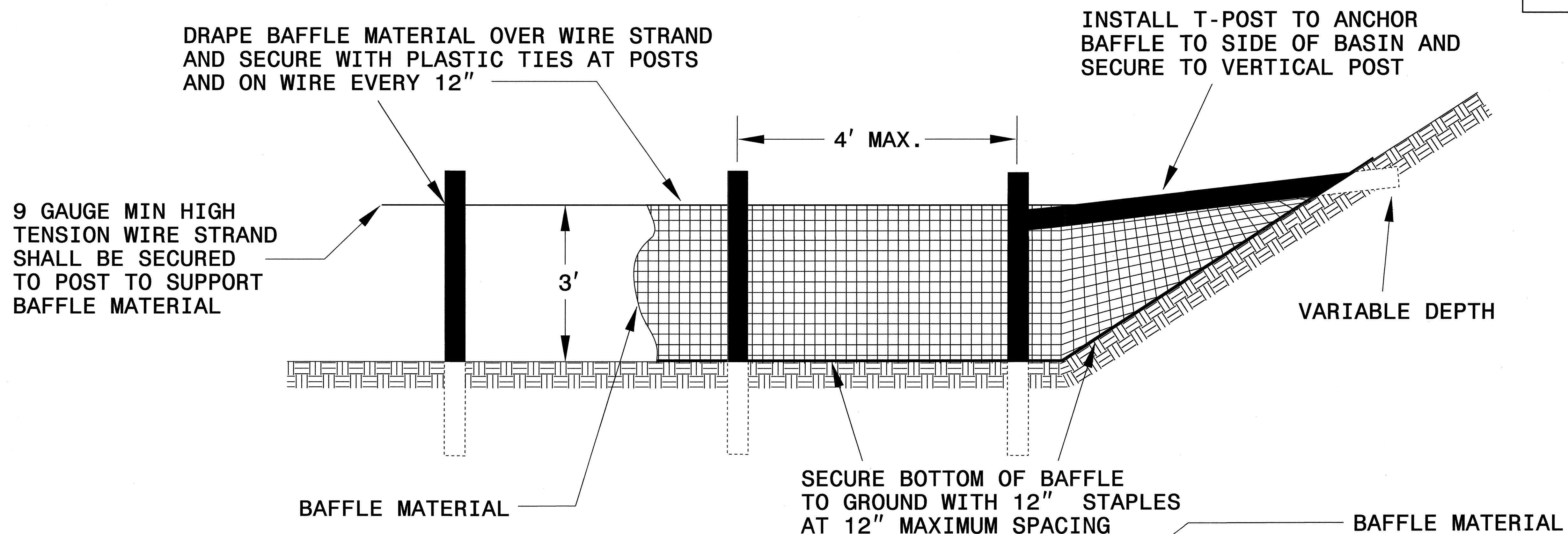
**CROSS SECTION  
TRAPEZOIDAL DITCH**



**ELEVATION VIEW**

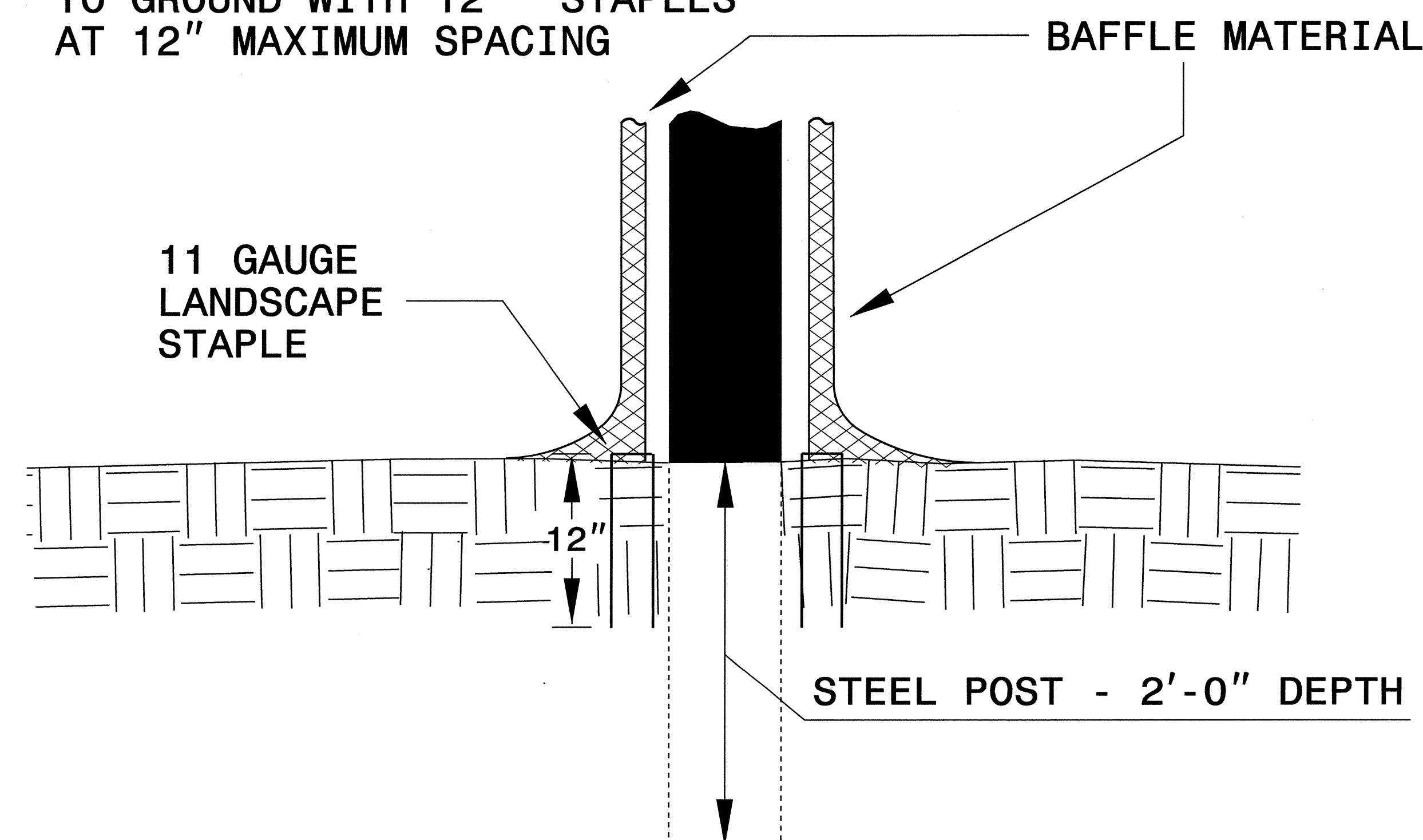
PROJECT REFERENCE NO. R-2710	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER BAFFLE DETAIL



## NOTES:

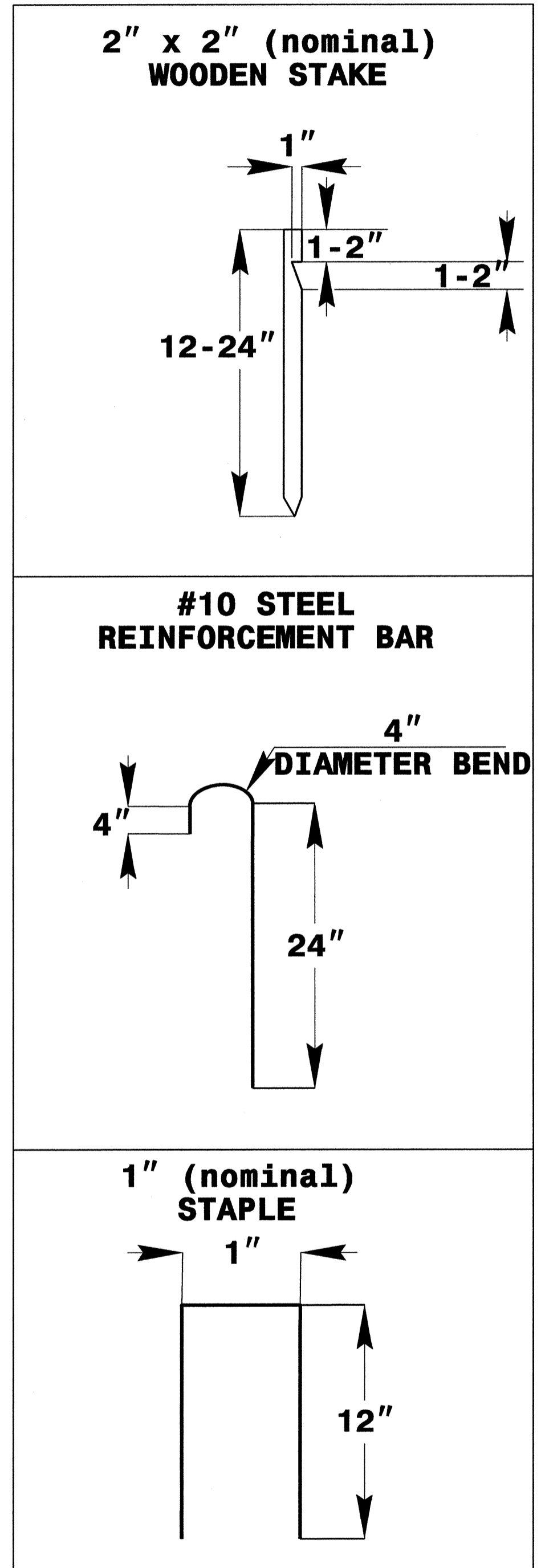
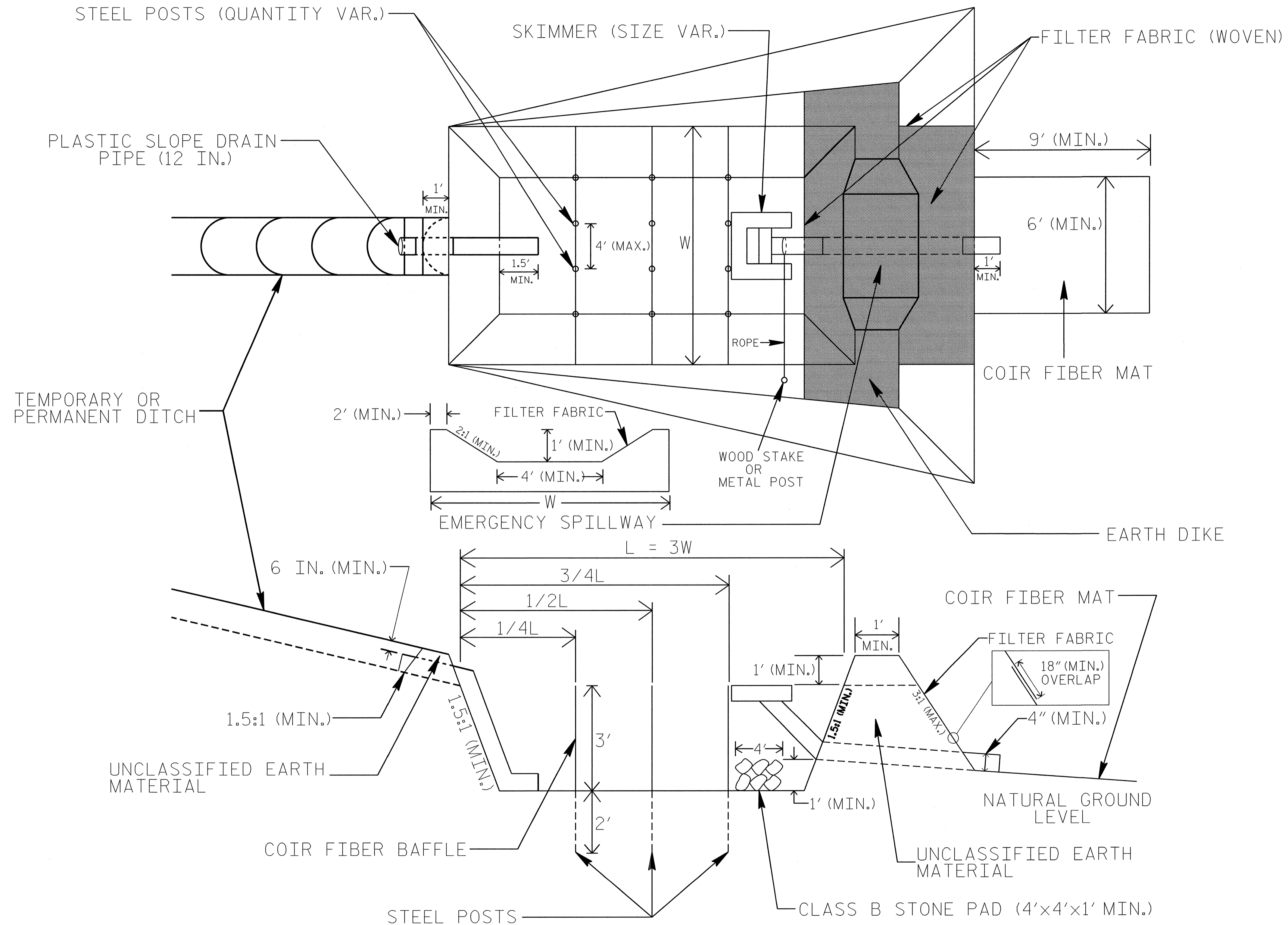
1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF  $\frac{1}{4}$  THE BASIN LENGTH.
2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF  $\frac{1}{3}$  THE BASIN LENGTH.
3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.



BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES

# SKIMMER BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. R-2710	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



## COIR FIBER MAT ANCHOR OPTIONS

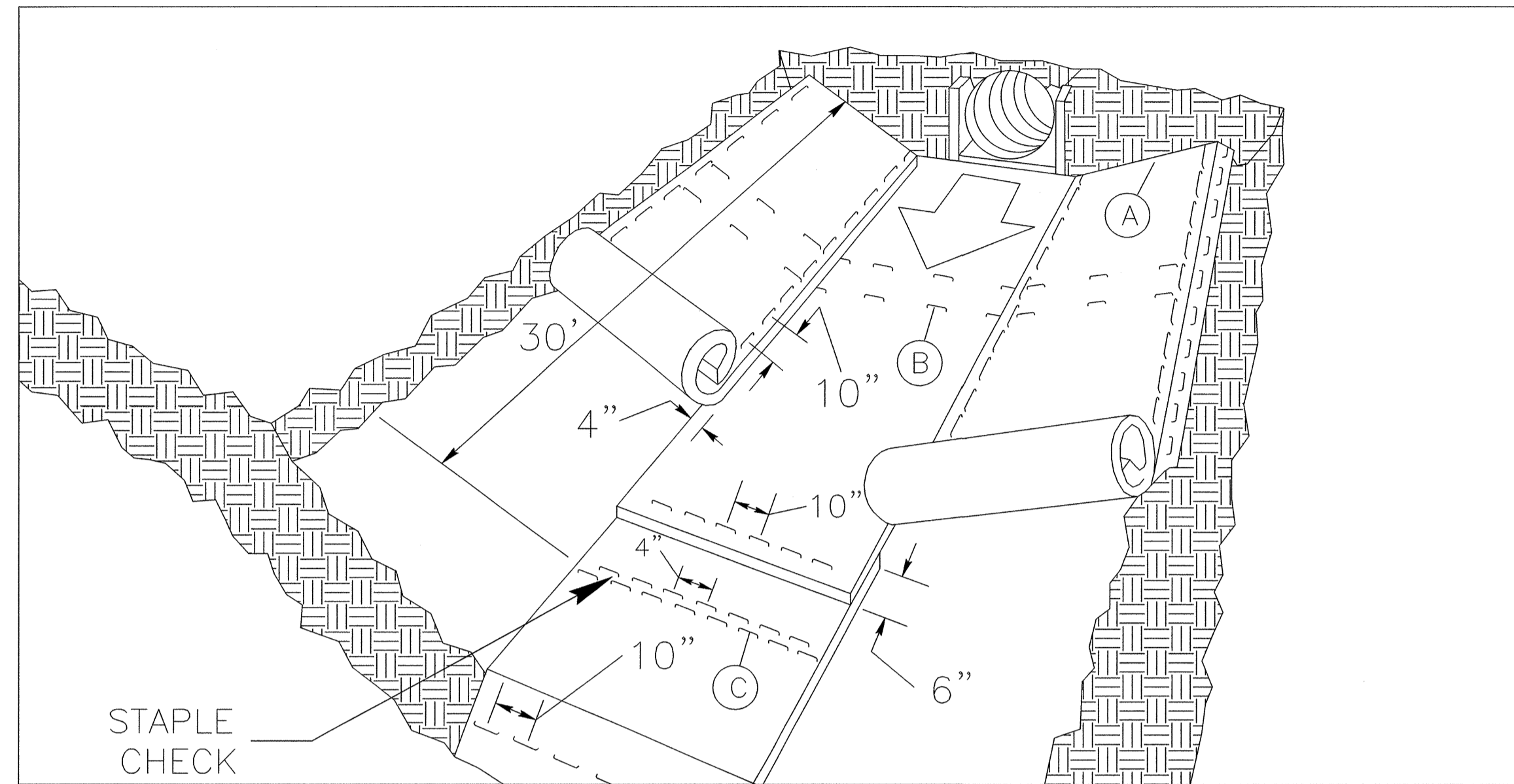
### NOTES

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 EMERGENCY SPILLWAY 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 FILTER FABRIC AS DIRECTED.
6. FILTER FABRIC (WOVEN) FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18" AS SHOWN.

NOT TO SCALE

PROJECT REFERENCE NO. R-2710	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# MATTING INSTALLATION DETAIL



**MATTING IN DITCHES**

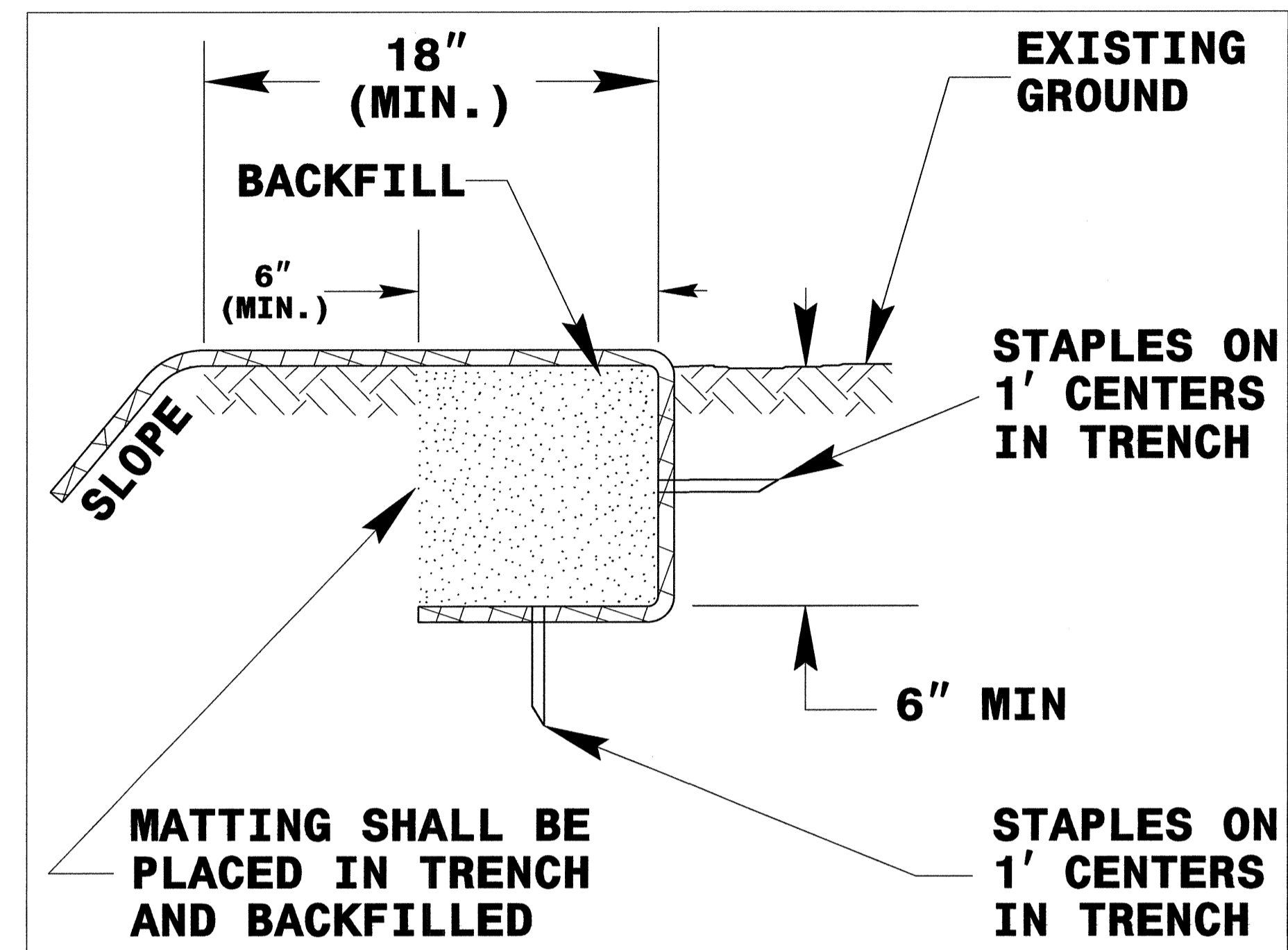
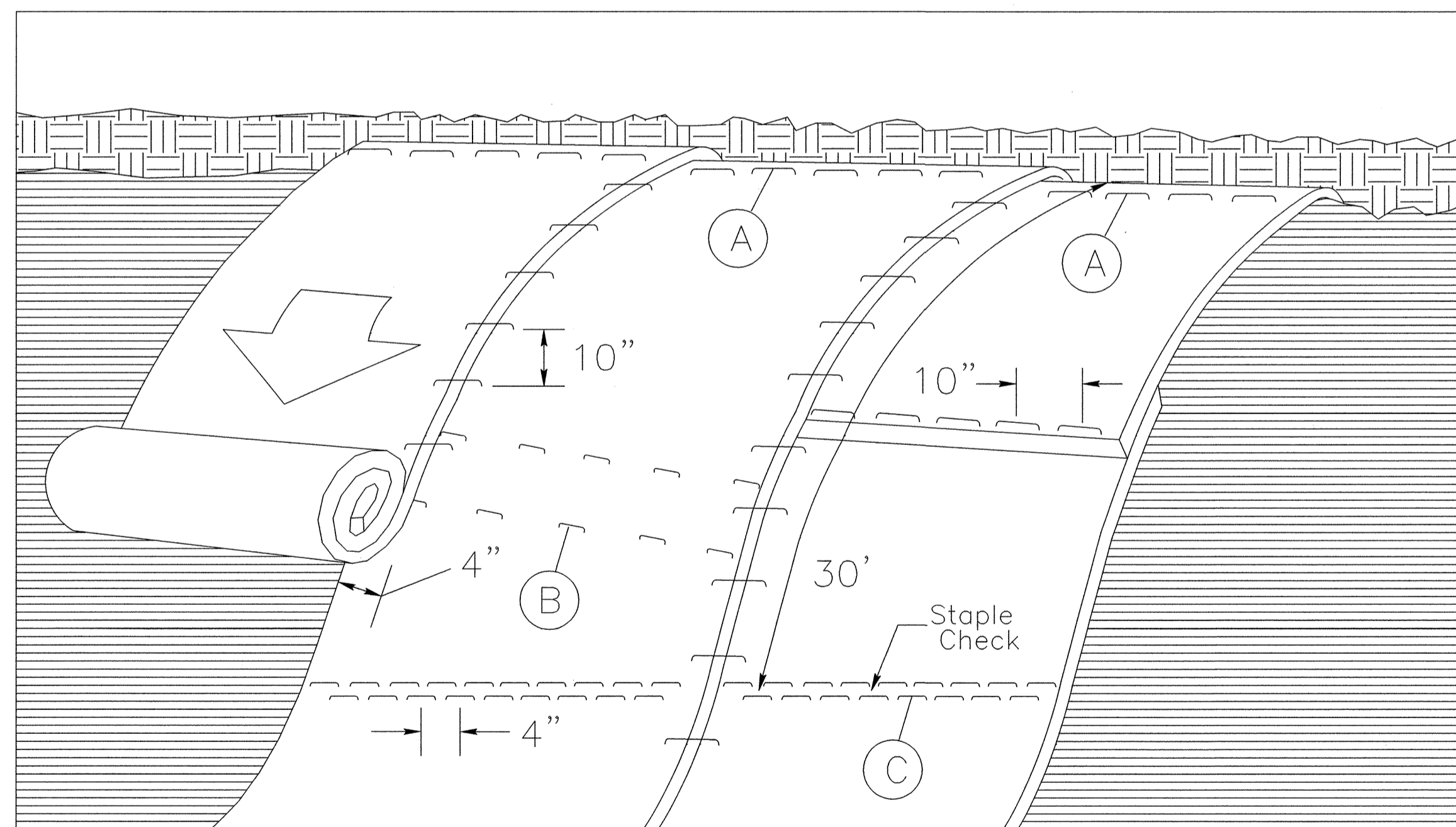


DIAGRAM (A)



**MATTING ON SLOPES**

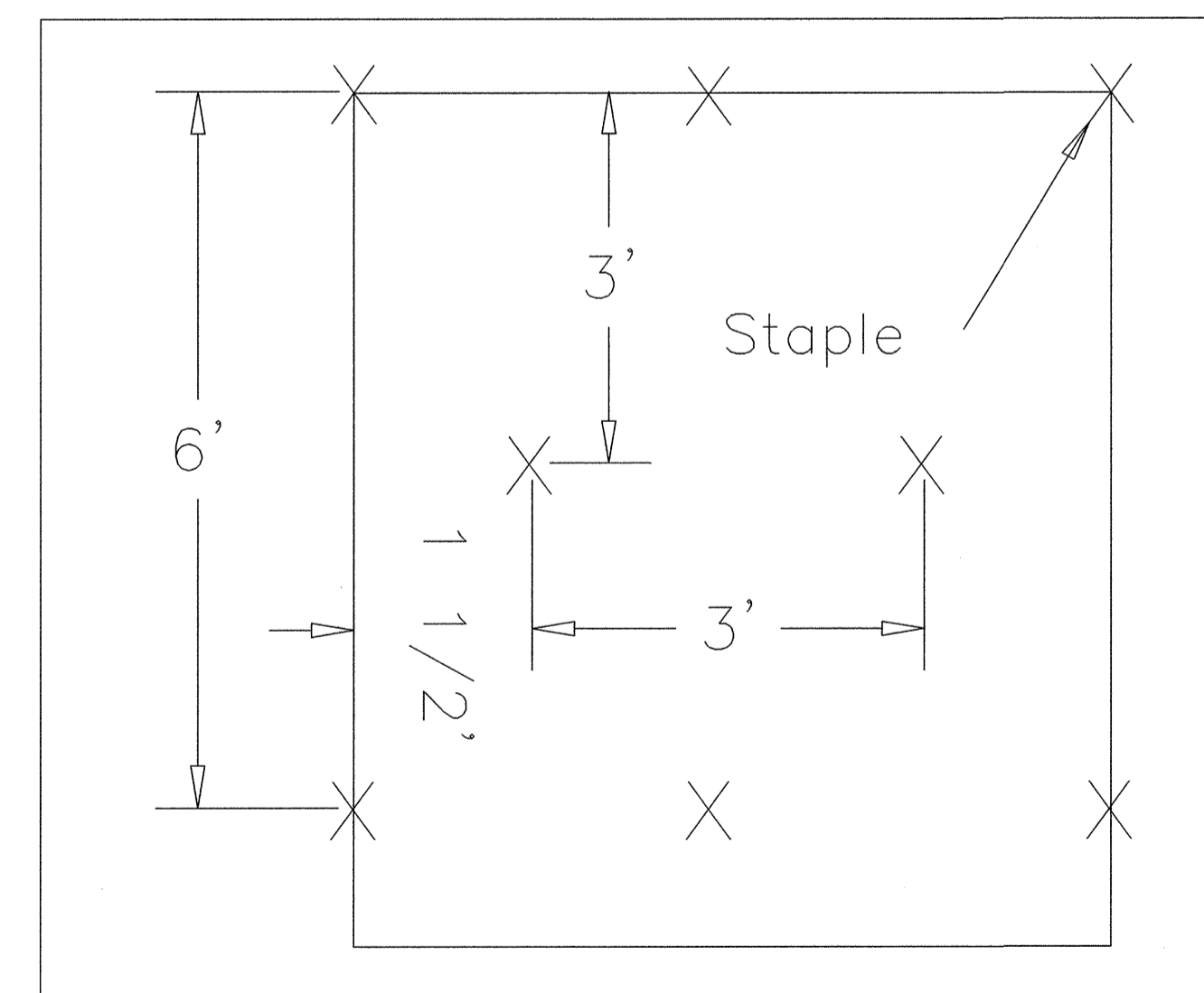


DIAGRAM (B)

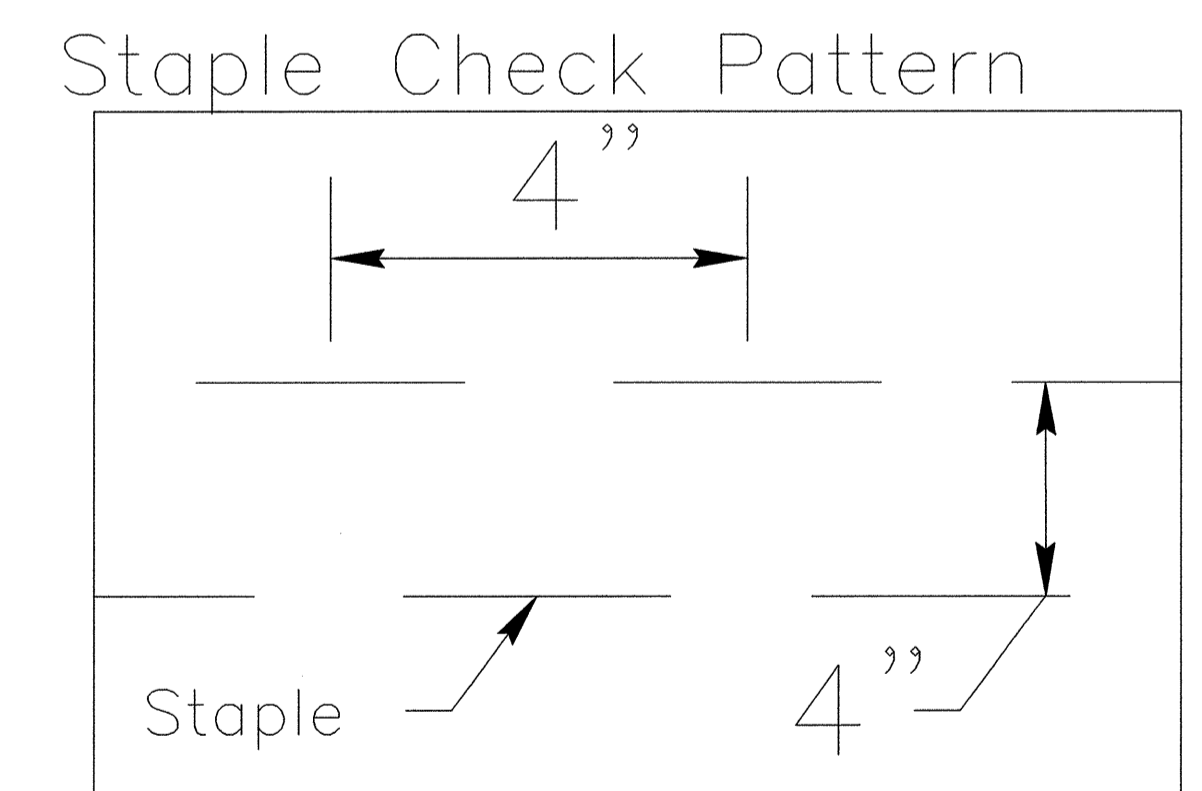


DIAGRAM (C)

**NOTES:**

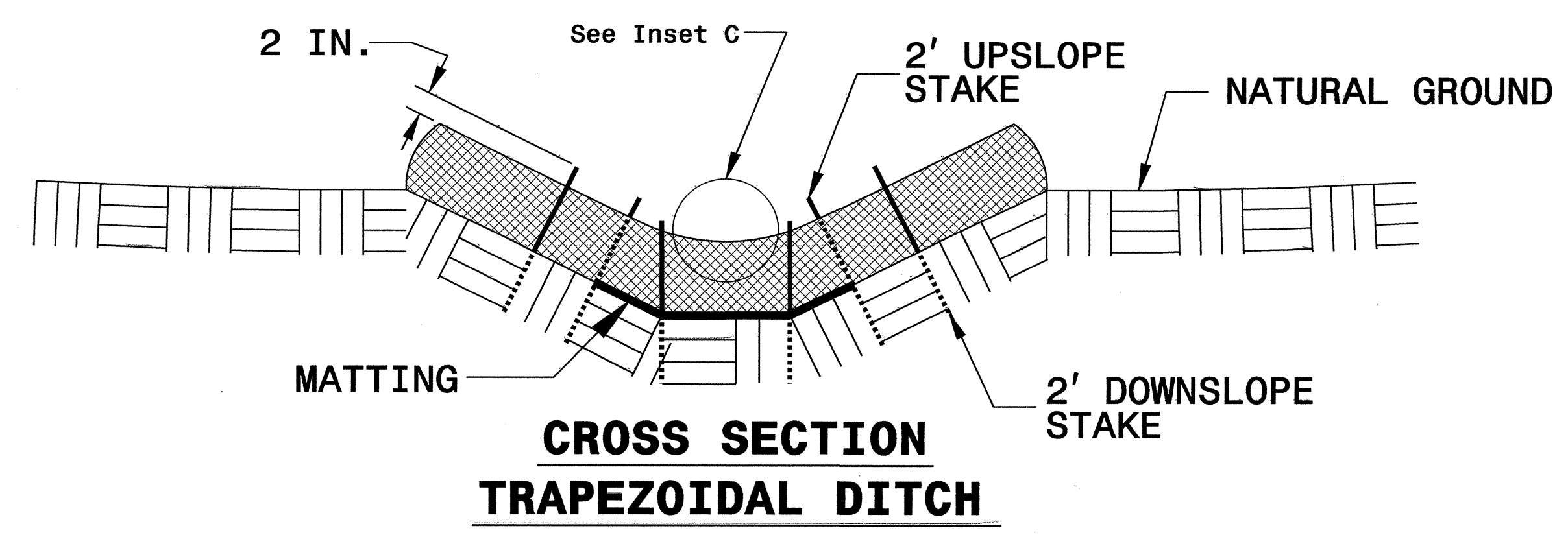
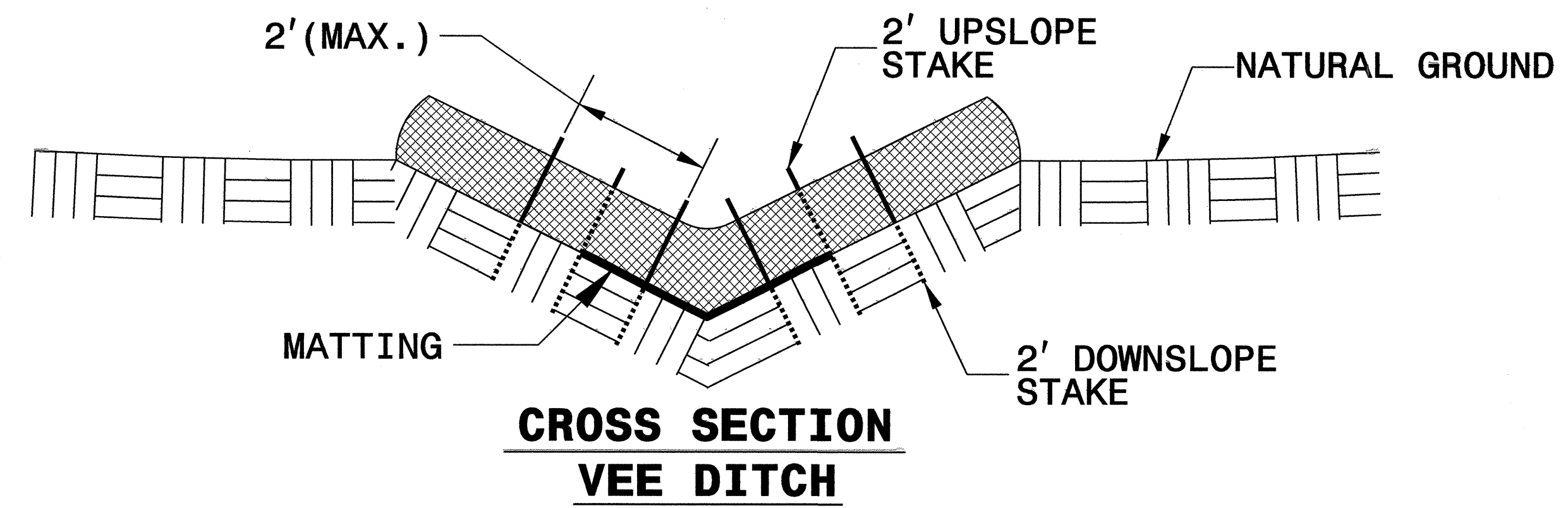
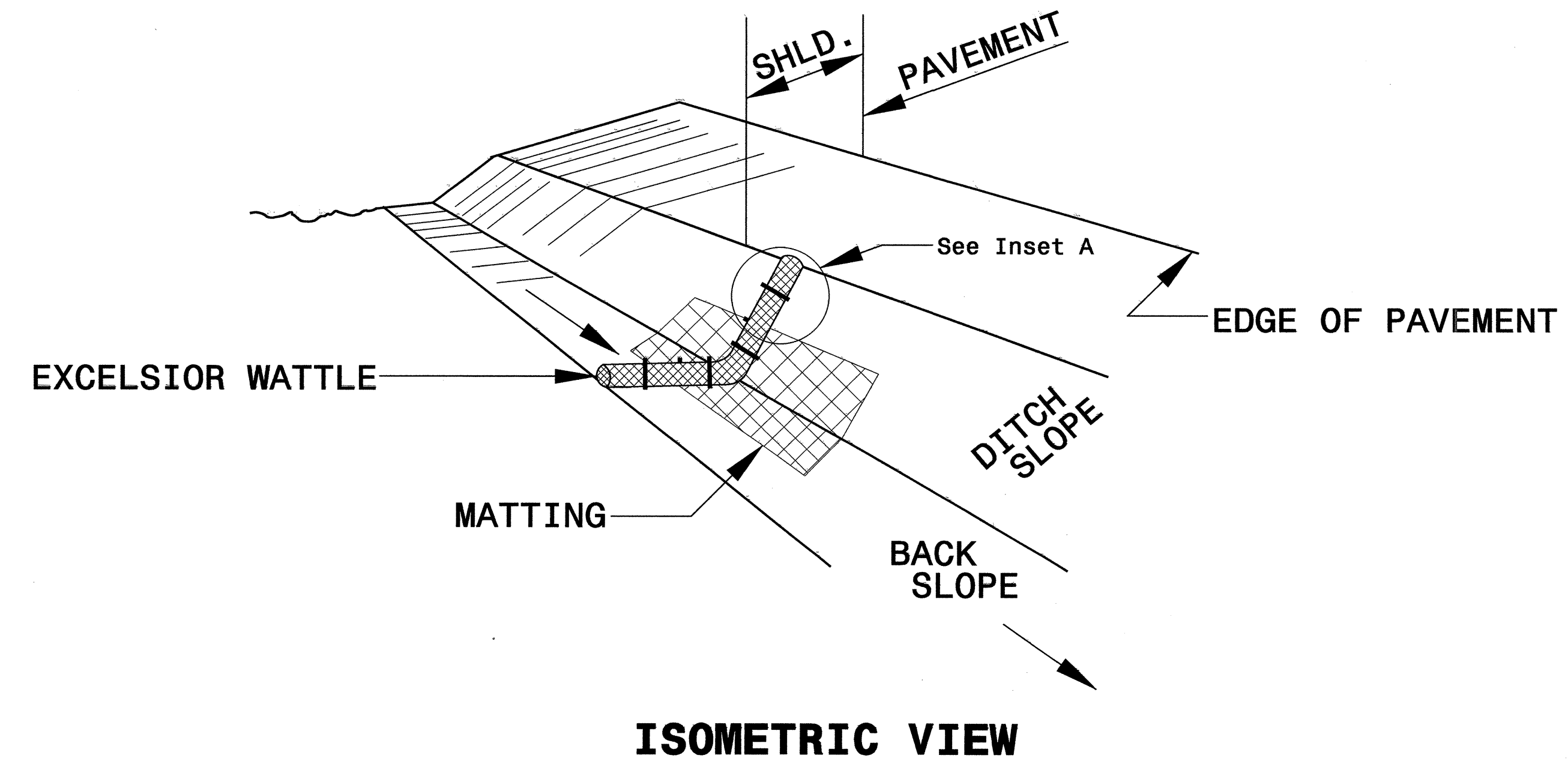
THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

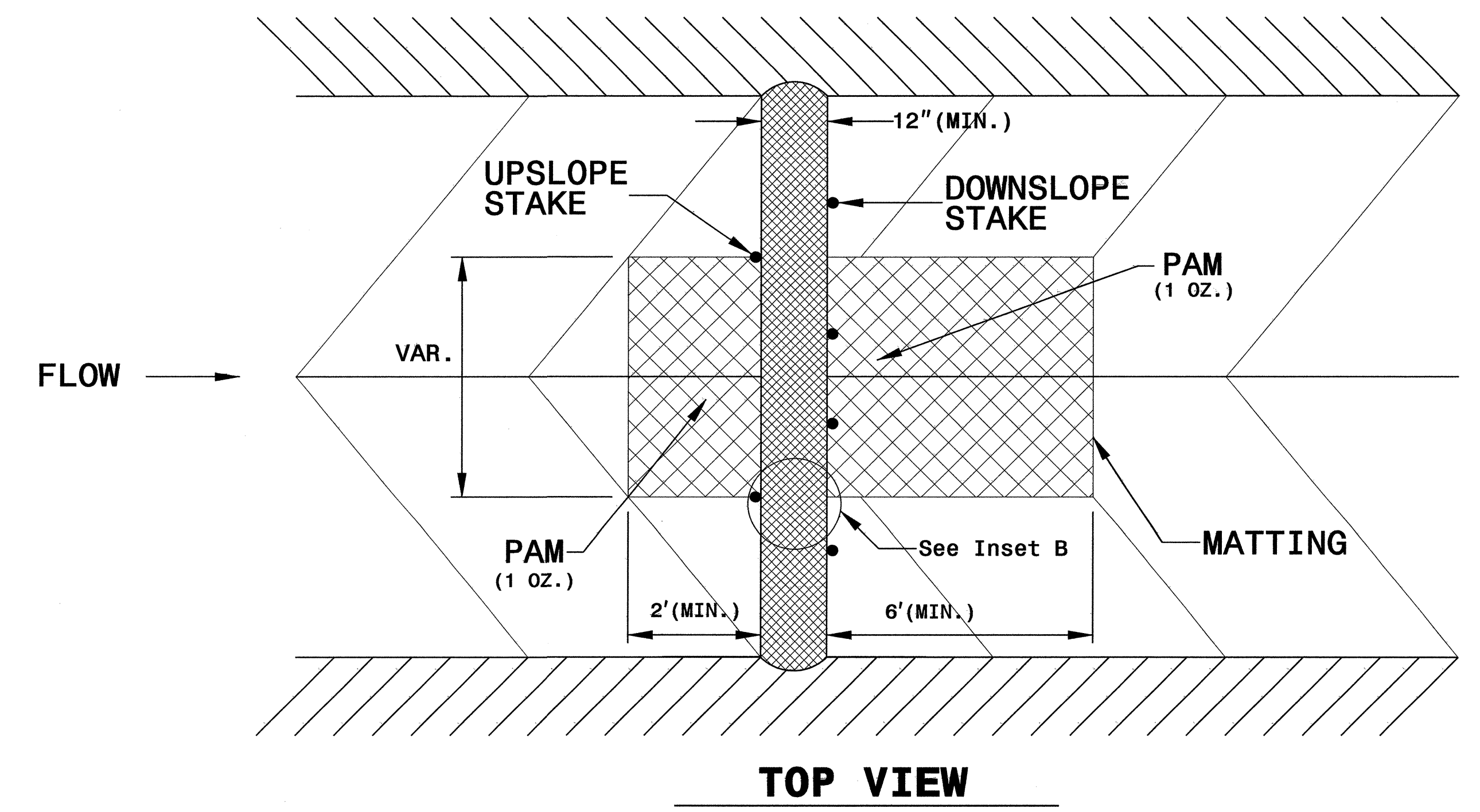
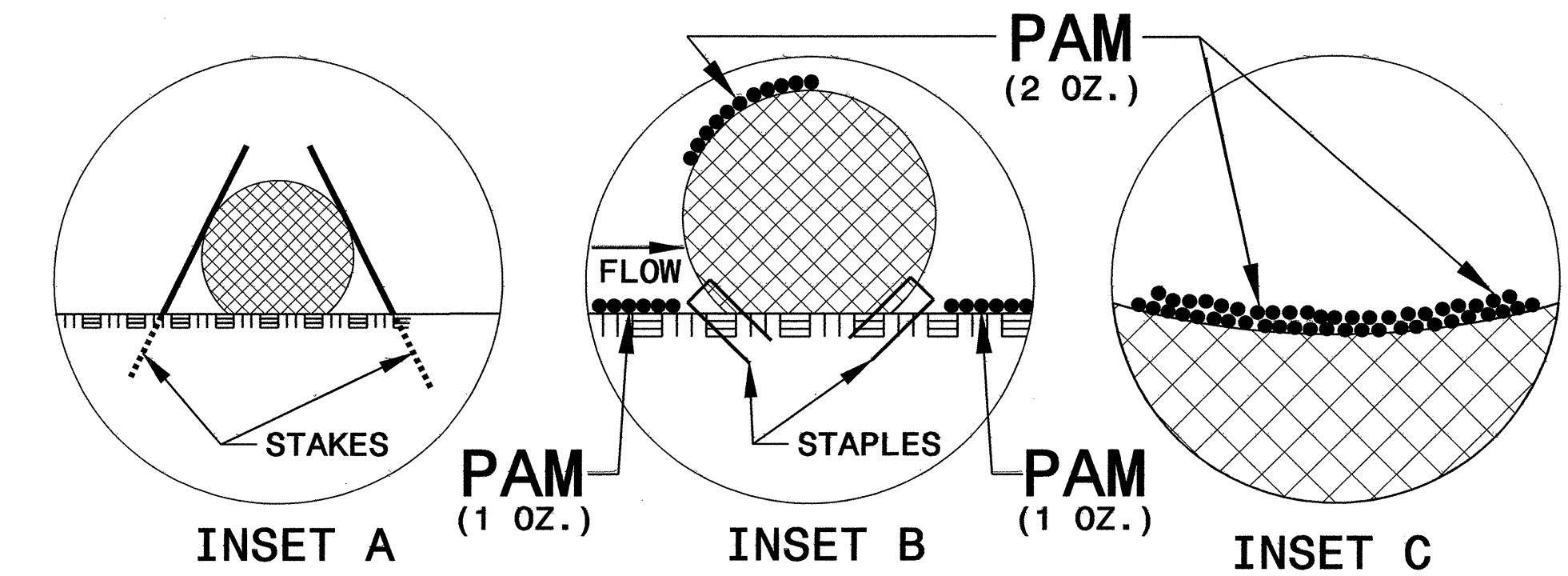
NOT TO SCALE

PROJECT REFERENCE NO. R-2710	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

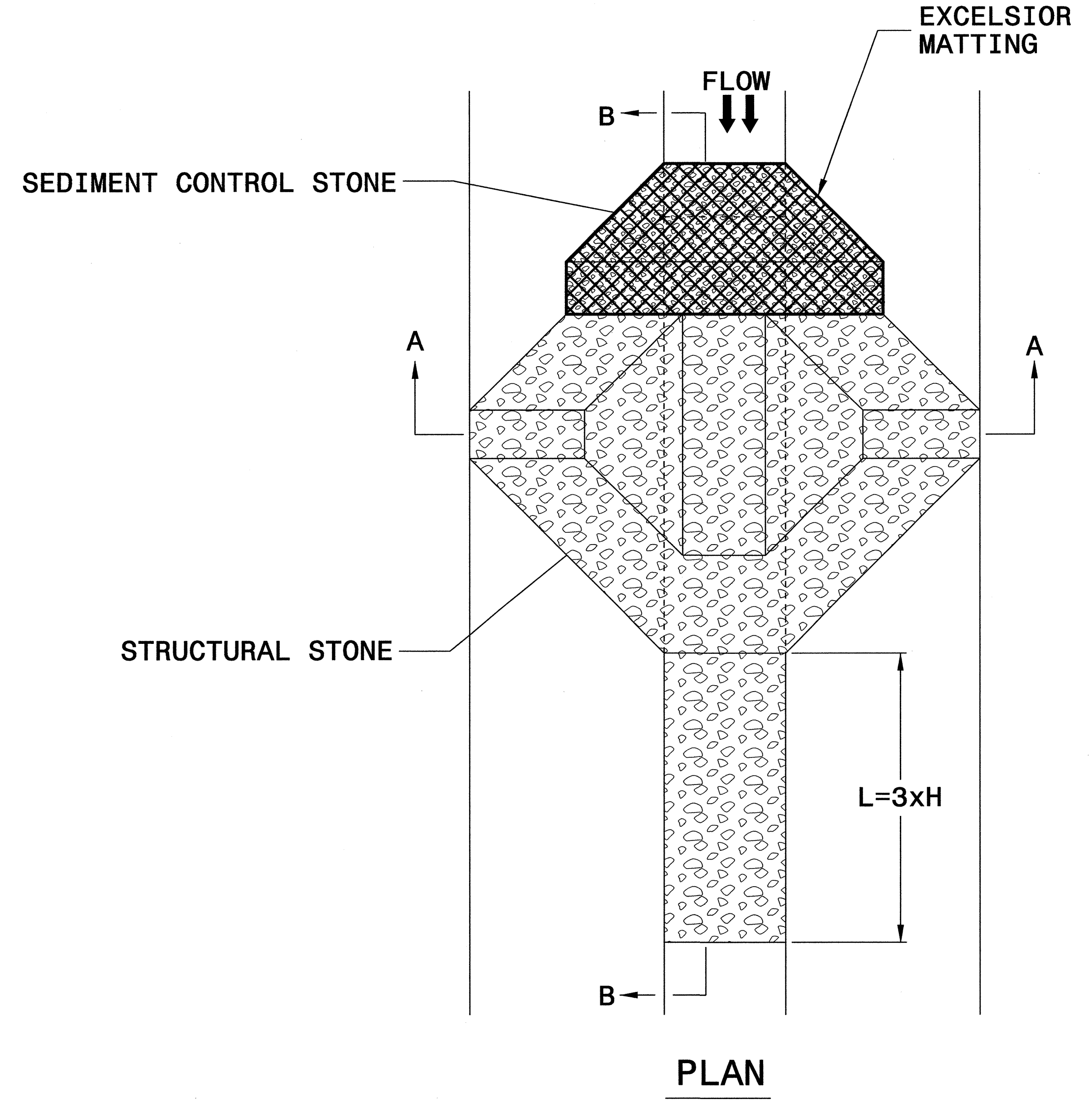


- NOTES:
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
  - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
  - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
  - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 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.



PROJECT REFERENCE NO. R-2710	SHEET NO. EC-2E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

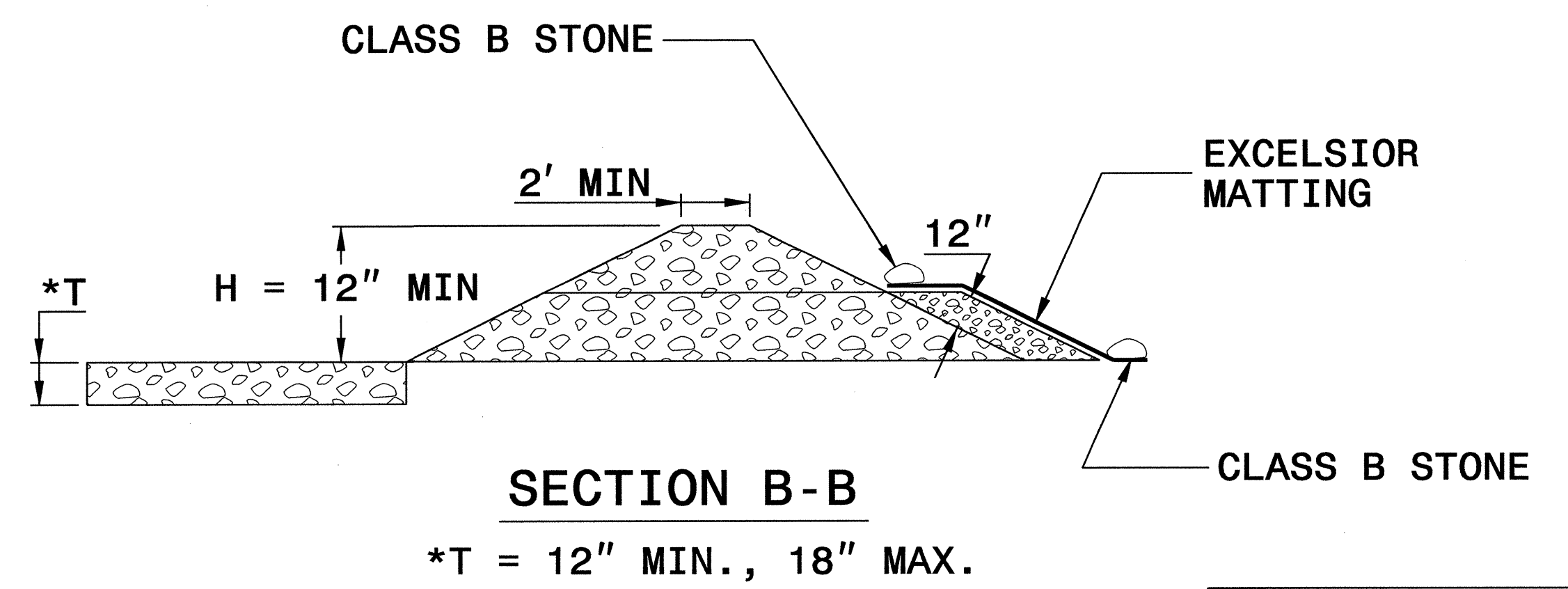
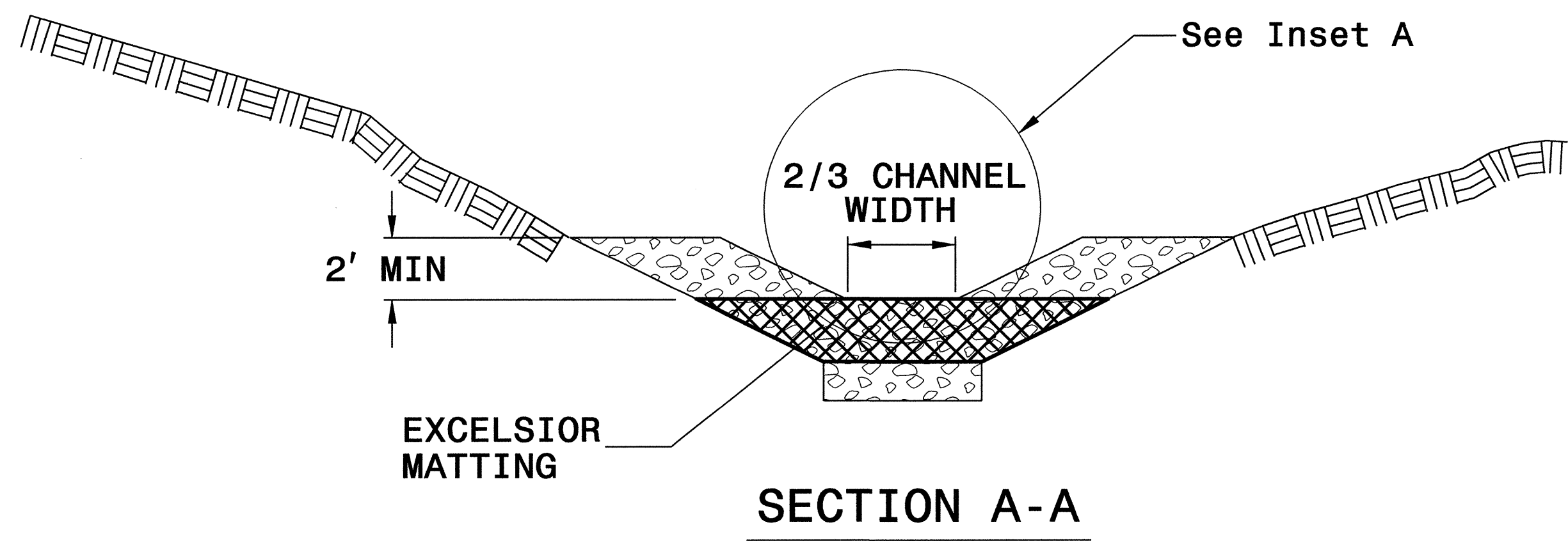
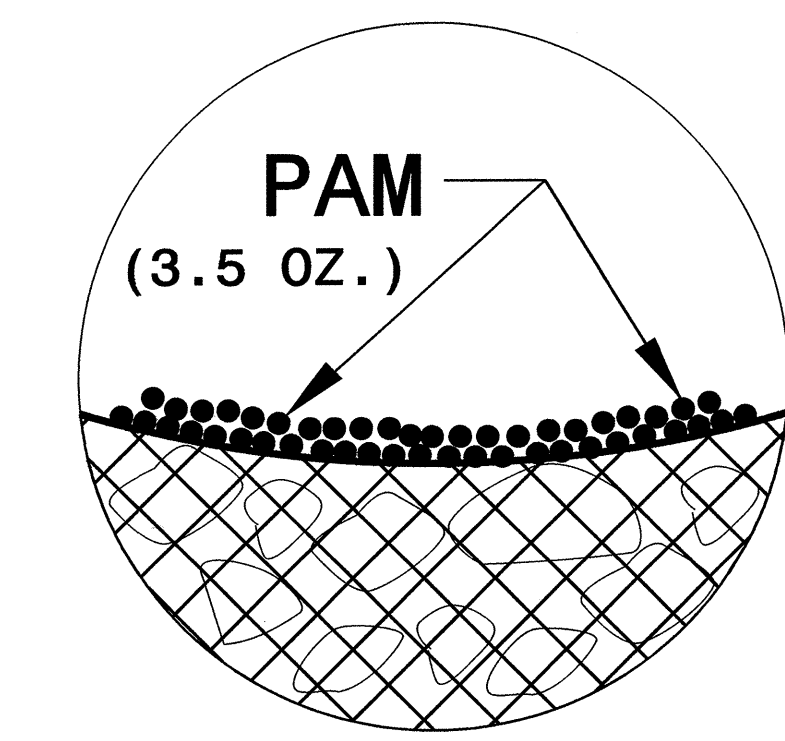


## NOTES

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



NOT TO SCALE



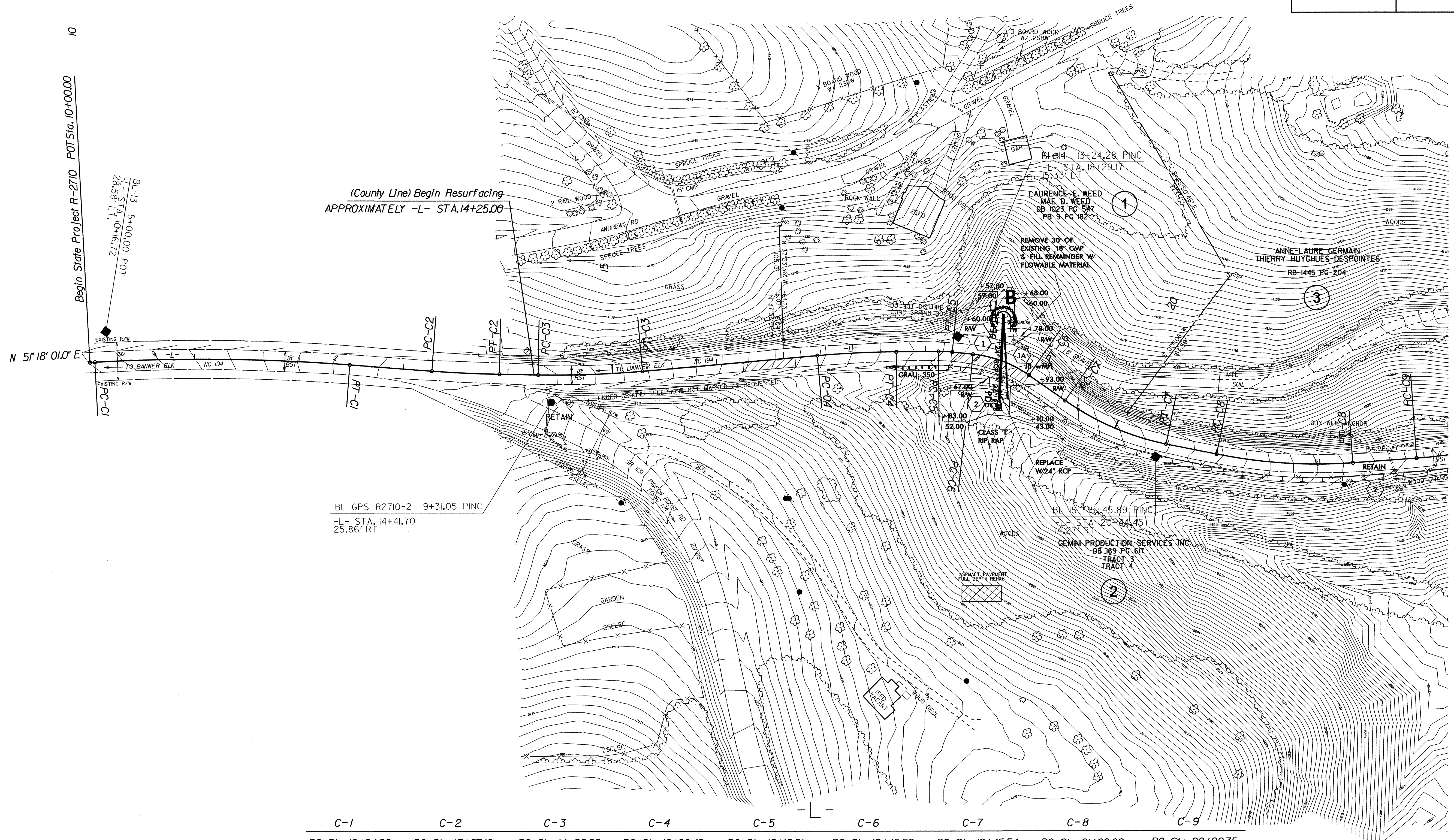
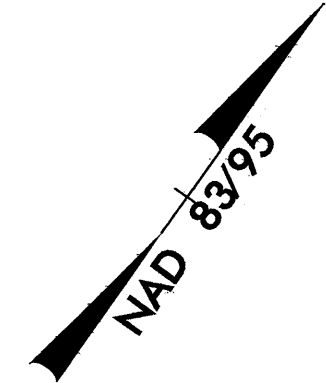


NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 04

RESURFACE ONLY

PROJECT REFERENCE NO. R-2710	SHEET NO. EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



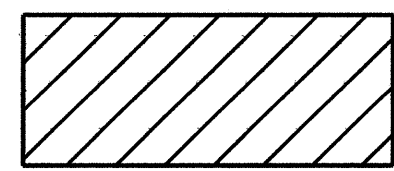
MATCHLINE \*\* SEE SHEET 5 \*\*

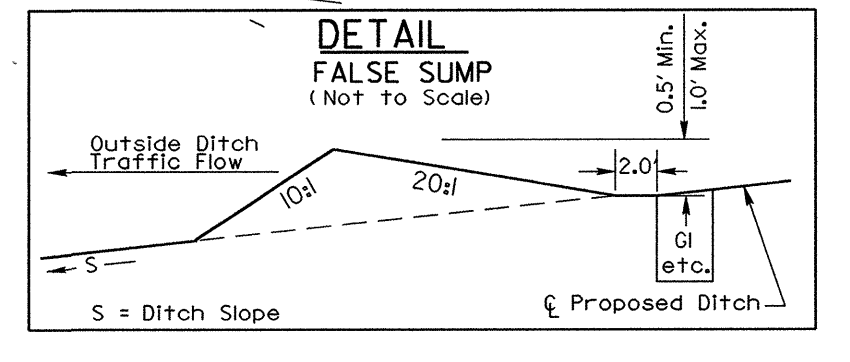
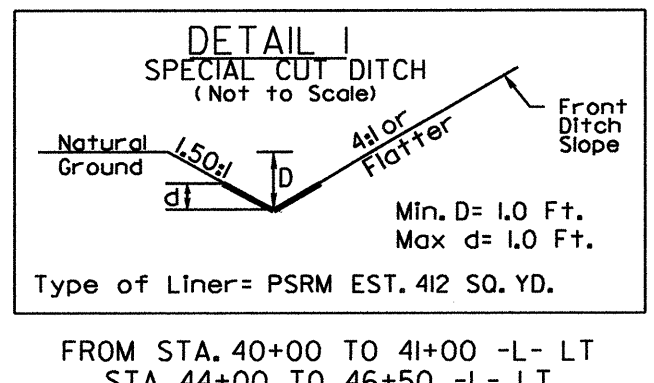
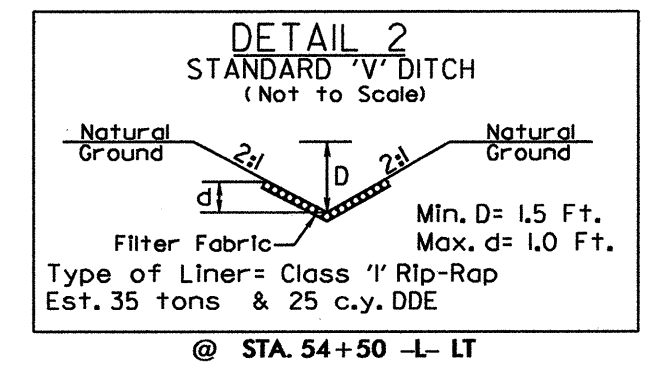
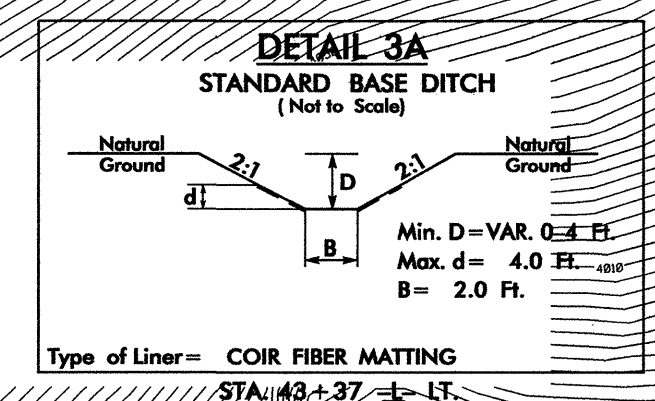
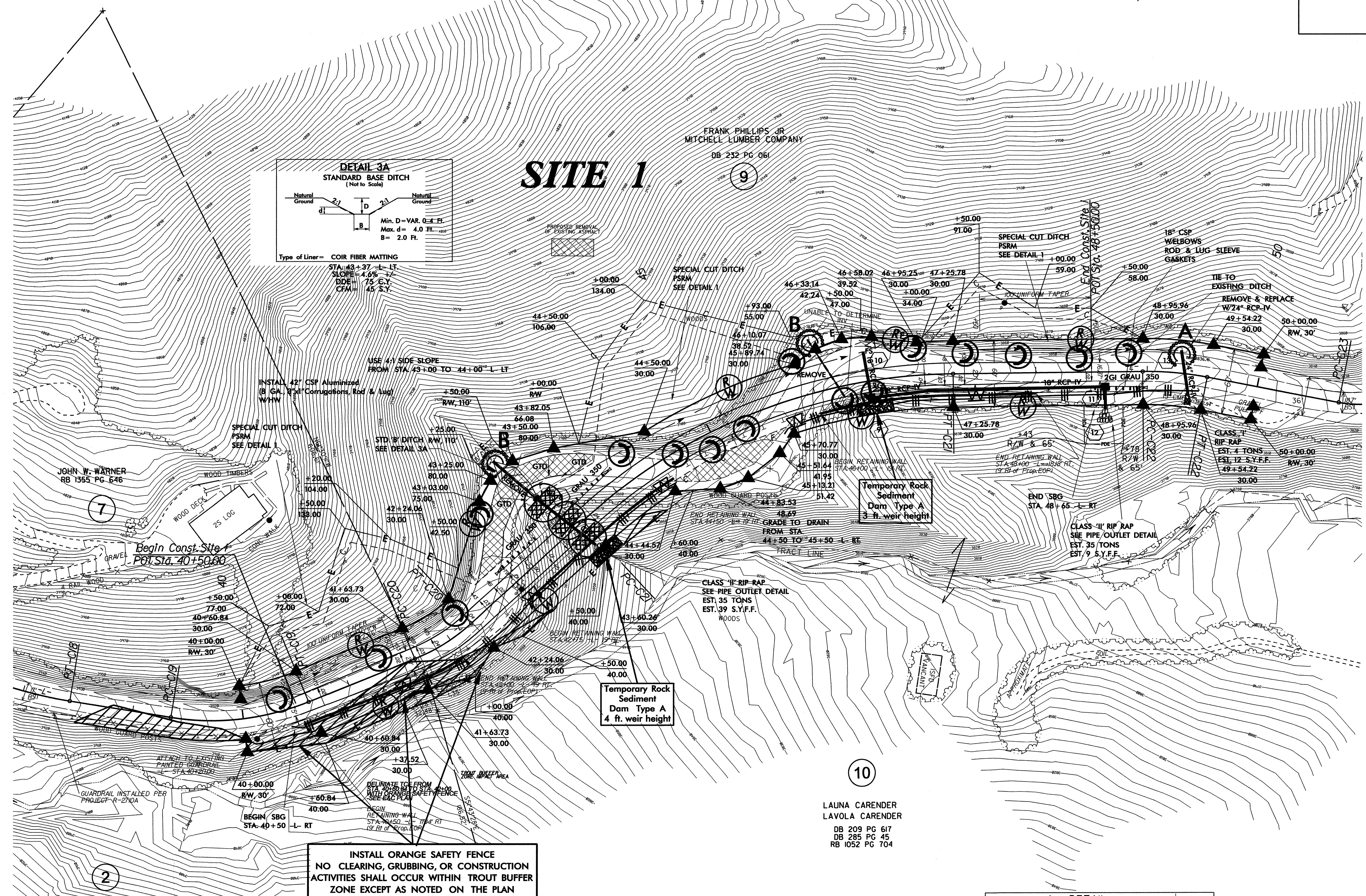
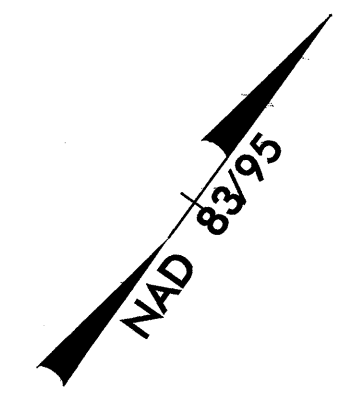
C-1	C-2	C-3	C-4	C-5	C-6	C-7	C-8	C-9
PC Sta 10+04.82	PC Sta 13+27.16	PC Sta 14+28.88	PC Sta 16+96.49	PC Sta 18+12.51	PC Sta 18+45.59	PC Sta 19+45.54	PC Sta 21+00.62	PC Sta 22+92.75
PI Sta 11+26.89	PI Sta 13+59.56	PI Sta 14+78.83	PI Sta 17+34.29	PI Sta 18+19.05	PI Sta 18+75.05	PI Sta 19+99.14	PI Sta 21+66.53	PI Sta 23+38.88
$\Delta = 7' 18'' 50.3'' (RT)$	$\Delta = 3' 14'' 19.7'' (LT)$	$\Delta = 5' 59'' 19.2'' (LT)$	$\Delta = 4' 32'' 01.8'' (RT)$	$\Delta = 6' 31'' 53.7'' (RT)$	$\Delta = 28' 50'' 10.7'' (RT)$	$\Delta = 23' 15'' 37.2'' (LT)$	$\Delta = 15' 43'' 03.5'' (LT)$	$\Delta = 11' 02'' 17.2'' (LT)$
D = 3' 00' 00.0"	D = 5' 00' 00.0"	D = 6' 00' 00.0"	D = 6' 00' 00.0"	D = 50' 00' 00.0"	D = 50' 00' 00.0"	D = 22' 00' 00.0"	D = 12' 00' 00.0"	D = 12' 00' 00.0"
L = 243.80'	L = 64.78'	L = 99.81'	L = 75.56'	L = 13.06'	L = 57.67'	L = 105.73'	L = 130.98'	L = 91.98'
T = 122.07'	T = 32.40'	T = 49.95'	T = 37.80'	T = 6.54'	T = 29.46'	T = 53.60'	T = 65.90'	T = 46.13'
R = 1,909.86'	R = 1,145.92'	R = 954.93'	R = 954.93'	R = 114.59'	R = 114.59'	R = 260.44'	R = 477.46'	R = 477.46'
PT Sta 12+48.62	PT Sta 13+91.94	PT Sta 15+28.69	PT Sta 17+72.05	PT Sta 18+25.58	PT Sta 19+03.26	PT Sta 20+51.27	PT Sta 22+31.60	PT Sta 23+84.73
N 58° 36' 51.4" E	N 55° 22' 31.7" E	N 49° 23' 12.5" E	N 53° 55' 14.3" E	N 60° 27' 08.0" E	N 89° 17' 18.7" E	N 66° 01' 41.5" E	N 50° 18' 38.0" E	N 39° 16' 20.86" E

PROJECT REFERENCE NO. R-2710		SHEET NO. EC-05/CONST.06	
RAW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 06

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS



MATCHLINE \*\* SEE SHEET 5 \*\*

MATCHLINE \*\* SEE SHEET 7 \*\*

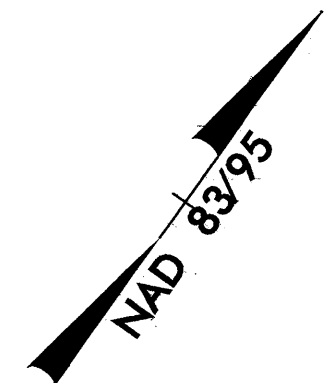
INSTALL ORANGE SAFETY FENCE  
NO CLEARING, GRUBBING, OR CONSTRUCTION  
ACTIVITIES SHALL OCCUR WITHIN TROUT BUFFER  
ZONE EXCEPT AS NOTED ON THE PLAN

GEMINI PRODUCTION SERVICES INC  
DB 169 PG 617  
TRACT 4

LAUNA CARENDER  
LAVOLA CARENDER  
DB 209 PG 617  
DB 285 PG 45  
RB 1052 PG 704

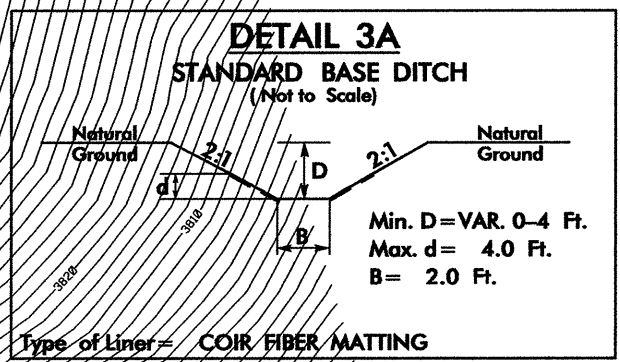
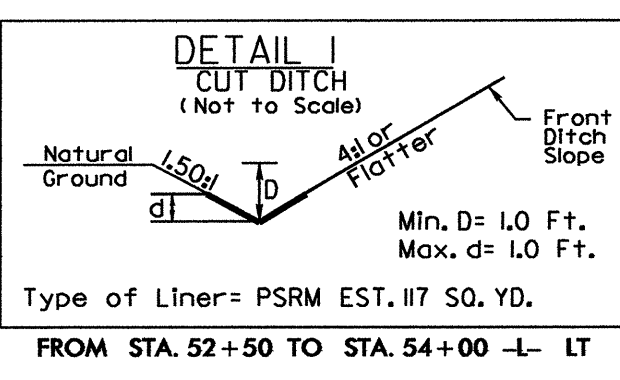
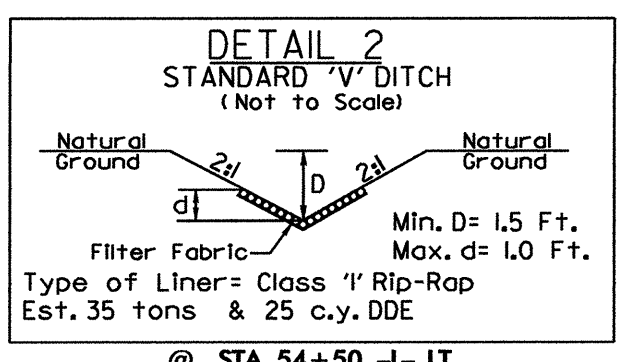
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PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-06/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 07



STA. 59+55 -L- LT.  
SLOPE= 10.0% +/-  
DDE= 75 C.Y.  
CFM= 45 S.Y.

INSTALL ORANGE SAFETY FENCE  
NO CLEARING, GRUBBING, OR CONSTRUCTION  
ACTIVITIES SHALL OCCUR WITHIN TROUT BUFFER  
ZONE BETWEEN THE RIGHT-OF-WAY LINE AND  
THE ORANGE SAFETY FENCE

MATCHLINE \*\* SEE SHEET 6 \*\*

MATCHLINE \*\* SEE SHEET 8 \*\*

LAUNA CARENDER  
LAVOLA CARENDER  
DB 209 PG 617  
DB 285 PG 45  
RB 1052 PG 704

ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

ASPHALT PAVEMENT  
FULL DEPTH REHAB

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8/17/99

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 12

PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-07/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

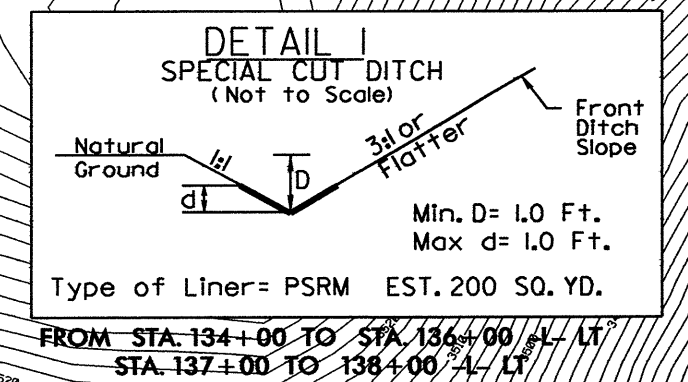
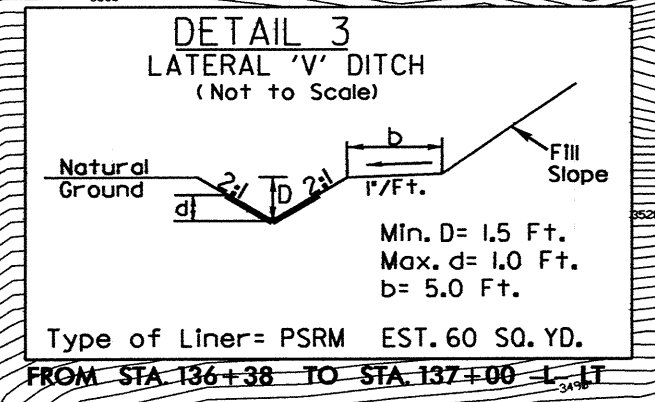
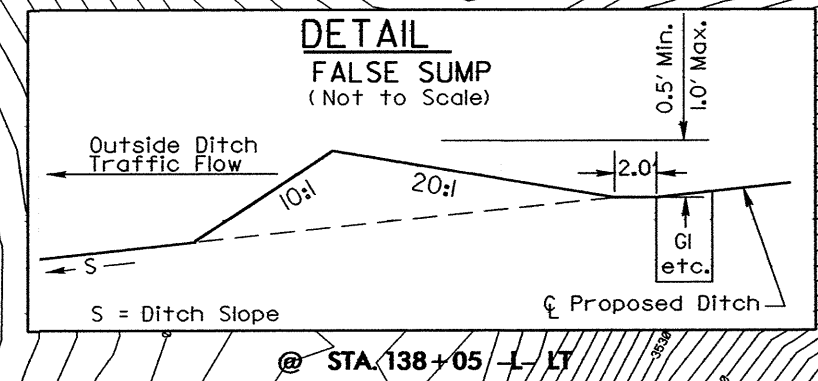
# SITE 3

DIocese of Western North Carolina of the Protestant Episcopal Church DB 001 PG 592 TAX MAP



MATCHLINE \*\* SEE SHEET 11 \*\*

MATCHLINE \*\* SEE SHEET 13 \*\*



Temporary Rock Sediment Dam Type A  
3 ft. weir height

SWEET CAROLINA VINYL  
RB 1042 PG 783  
PB 20 PG 21A  
PB 19 PG 87

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8/17/99

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

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 13

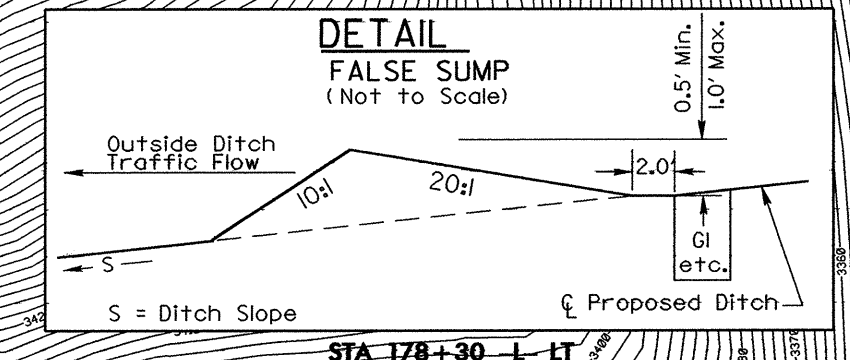
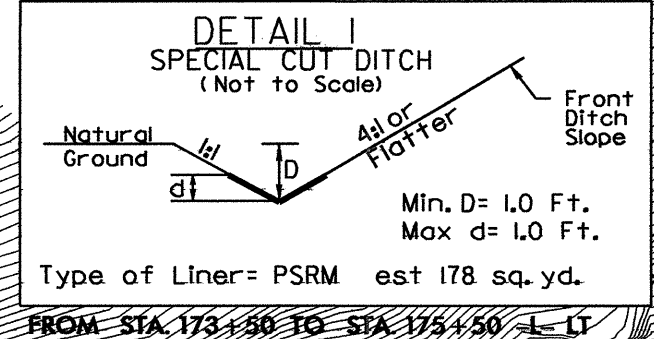
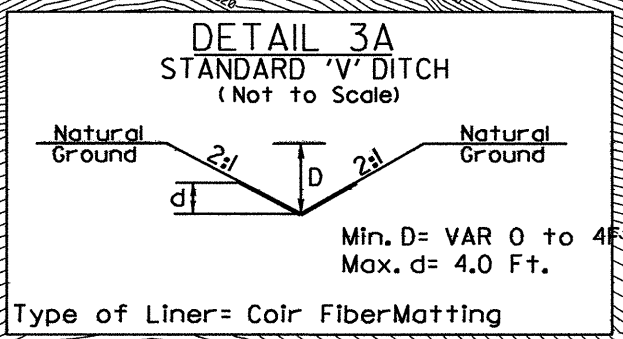
PROJECT REFERENCE NO.		SHEET NO.	
R-2710		EC-08/CONST.13	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

# SITE 4

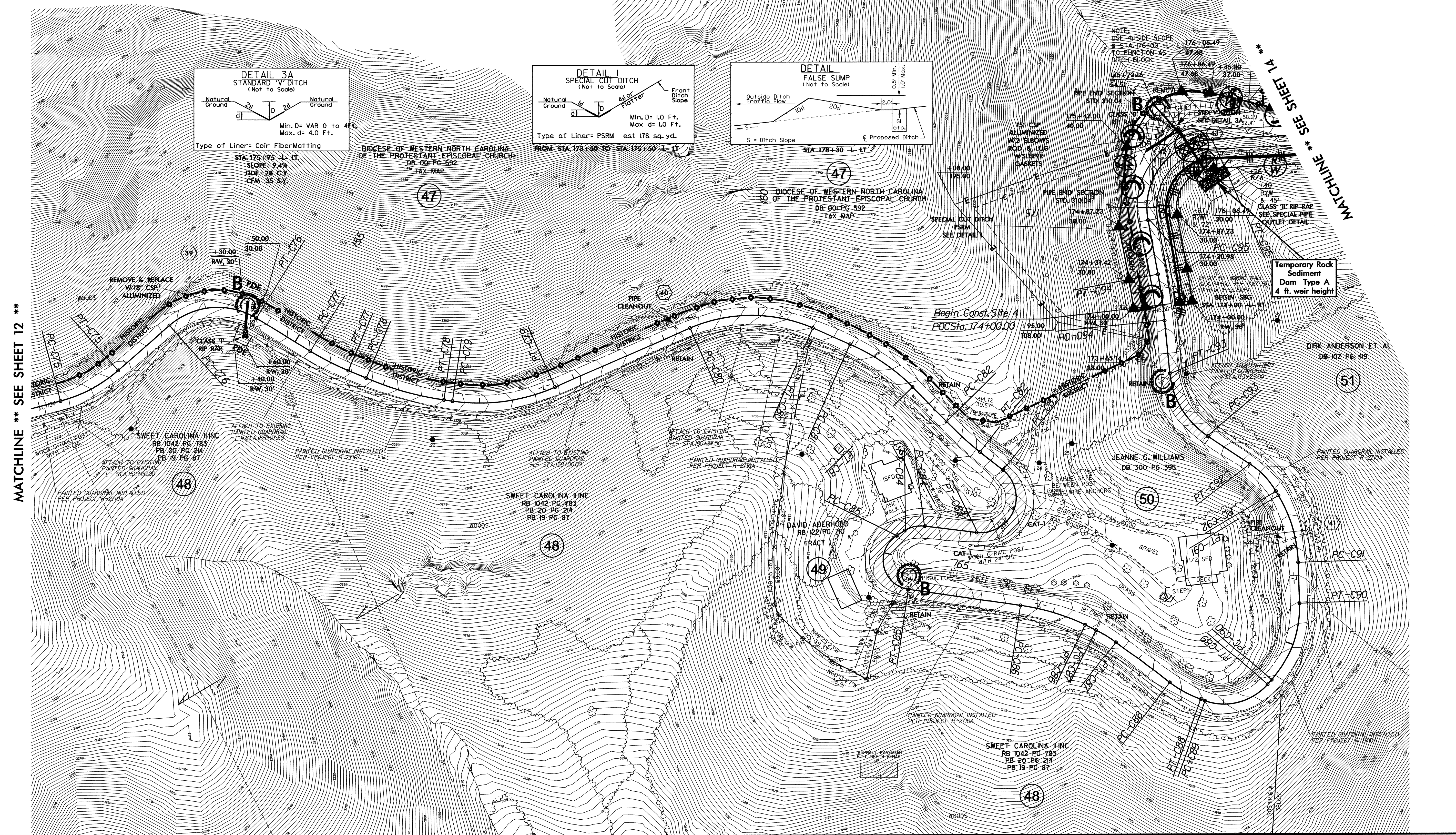
NAD 83 95

MATCHLINE \*\* SEE SHEET 12 \*\*

MATCHLINE \*\* SEE SHEET 14 \*\*



NOTE:  
USE 4:1 SIDE SLOPE  
FROM STA. 174+00 TO  
TO FUNCTION AS  
DITCH BLOCK



04-JUN-2010 09:36 C:\Documents\psh13.dgn

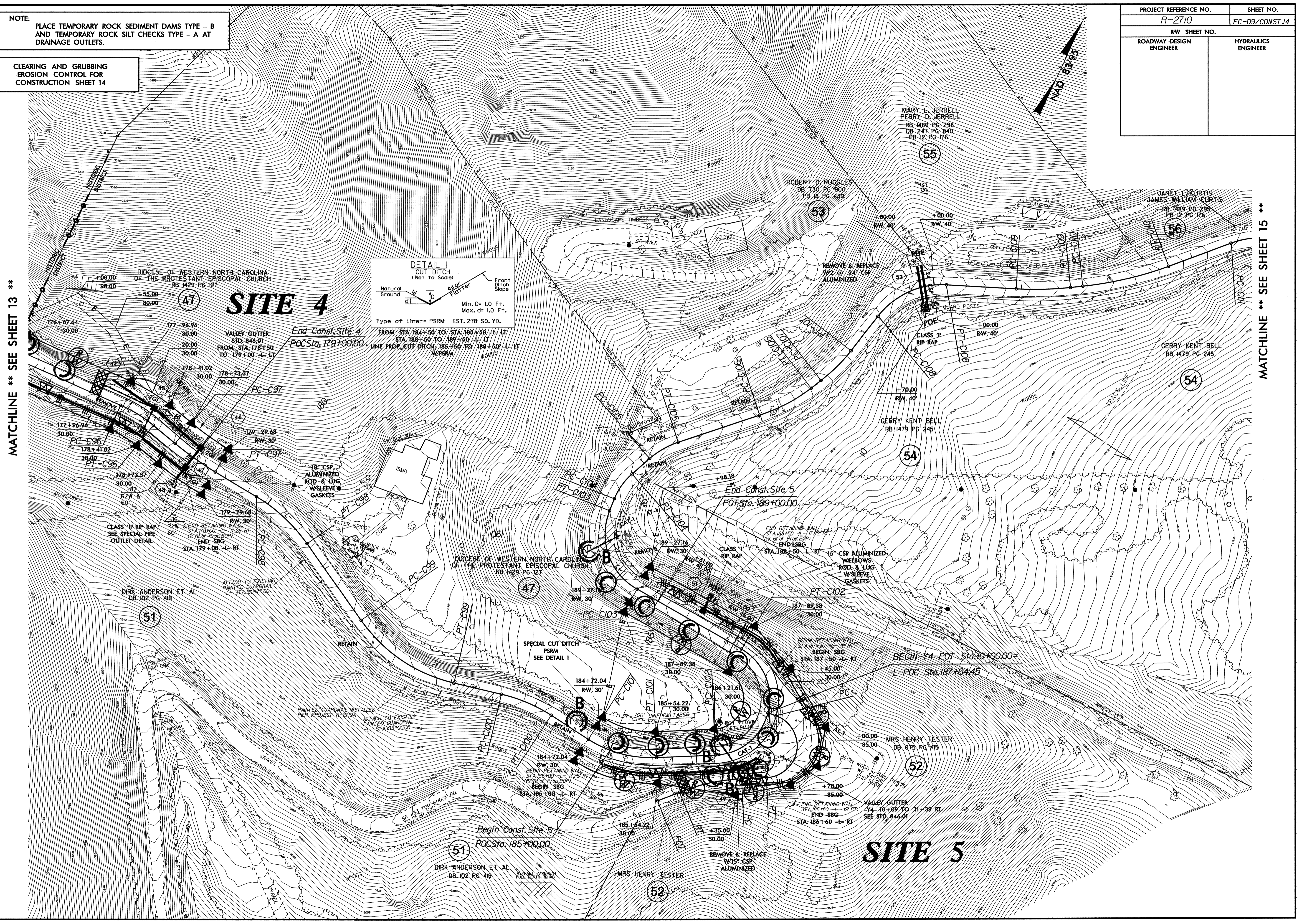
PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-09/CONST.14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 14

MATCHLINE \*\* SEE SHEET 13 \*\*

MATCHLINE \*\* SEE SHEET 15 \*\*

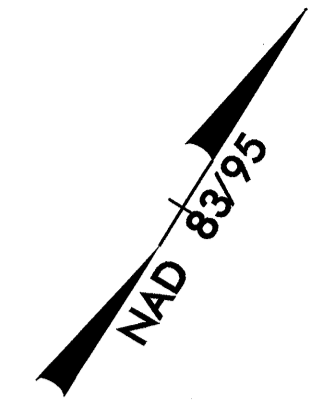


8/17/99  
04-JUN-2000 09:40  
C:\Documents\15...  
S:\Drawings\mchan\Desktop\R-2710\EC-09\psh14.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-10/CONST.17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

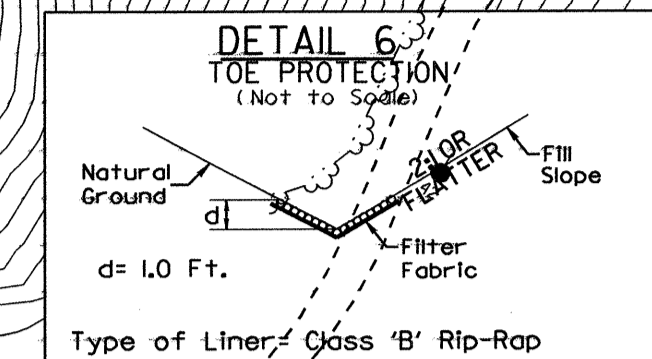
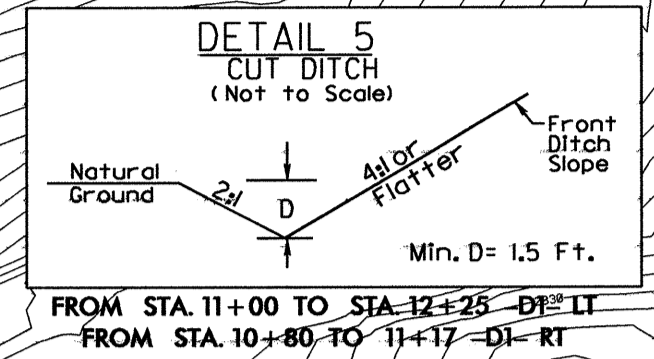
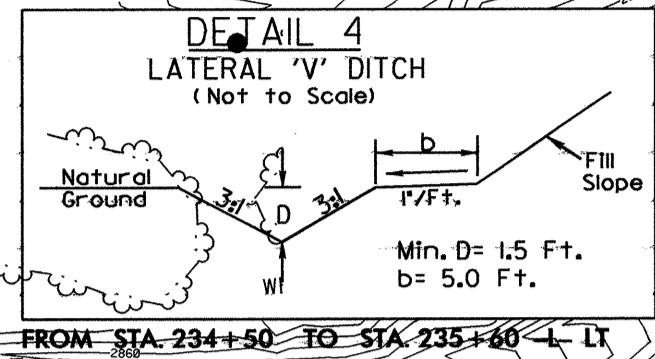
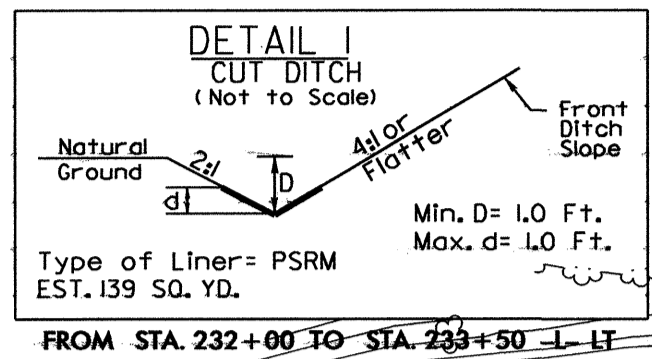
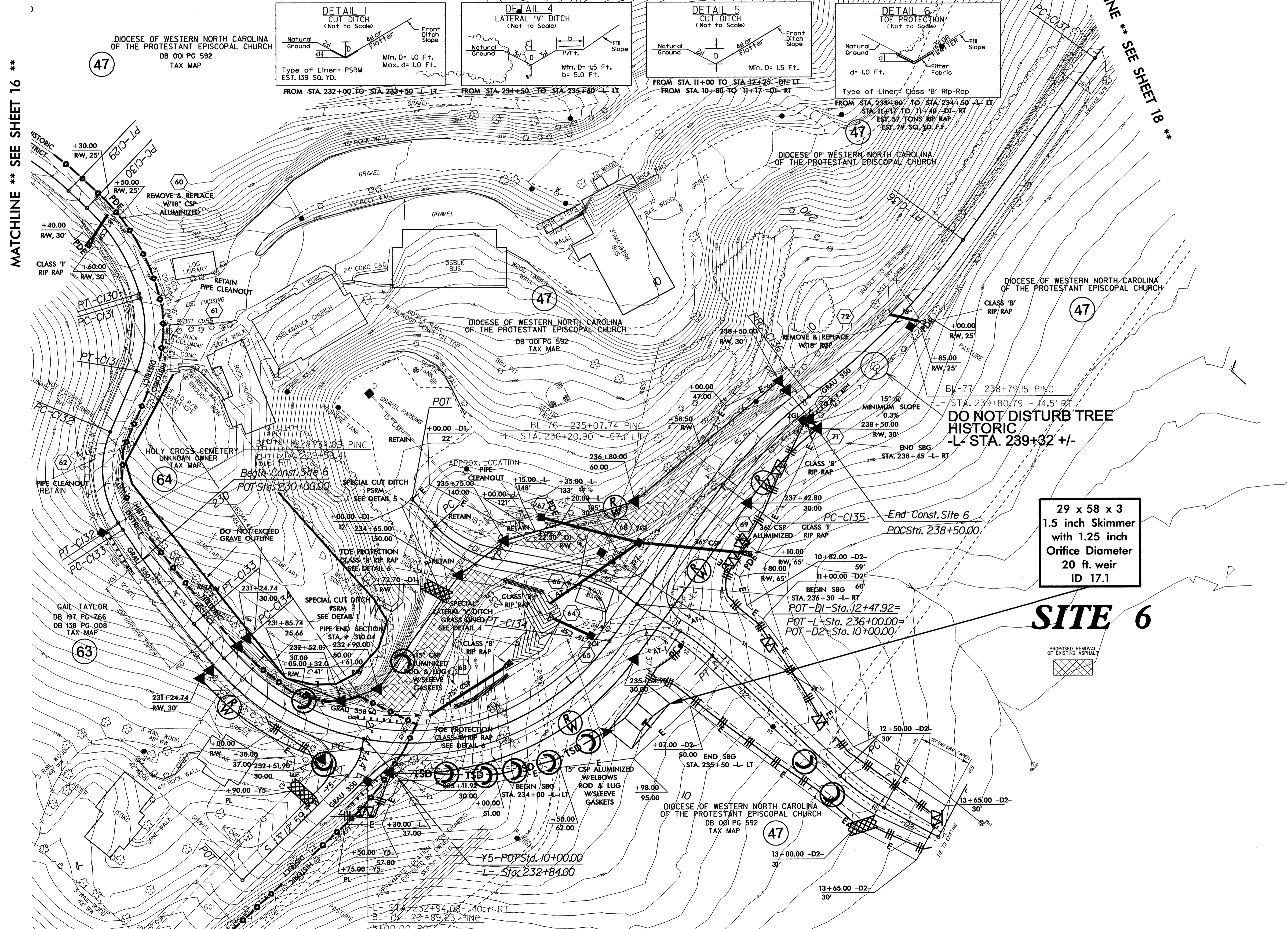
NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 17



MATCHLINE \*\* SEE SHEET 16 \*\*

MATCHLINE \*\* SEE SHEET 18 \*\*



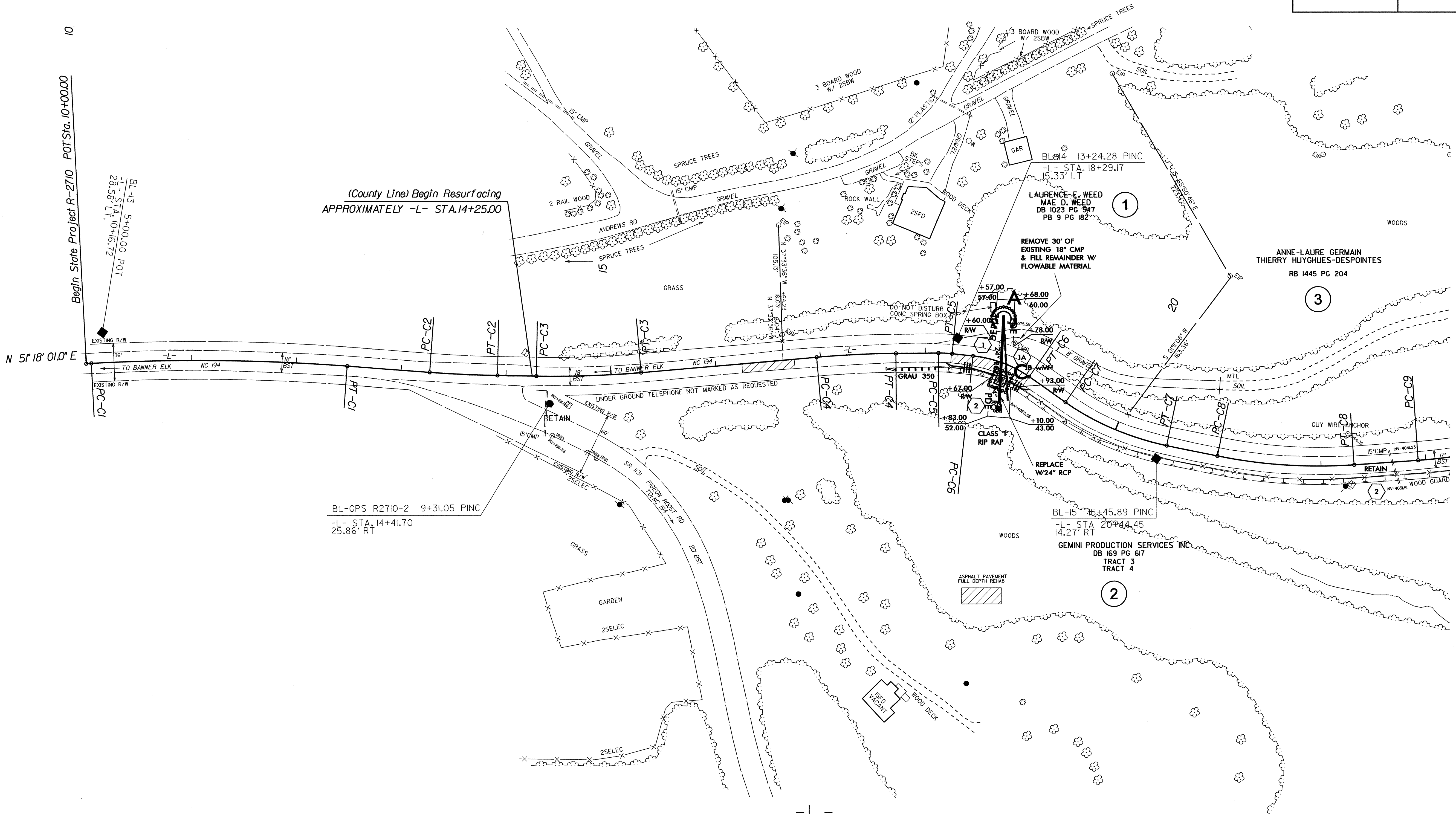
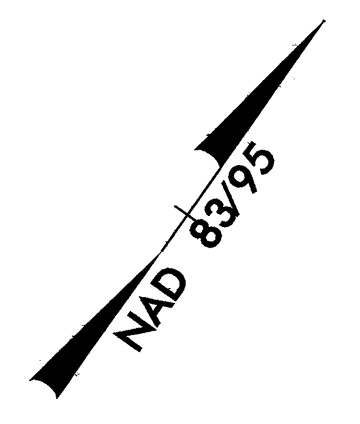
29 x 58 x 3  
1.5 inch Skimmer  
with 1.25 inch  
Orifice Diameter  
20 ft. weir  
ID 17.1

**SITE 6**

8/17/09  
04 JUN 2010 09:47 Settings incher\Desktop\R-2710\R-2710-EC.psh17.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-II/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

RESURFACE ONLY



Begin State Project R-2710 POT Sta. 10+00.00  
 BL-13 5+00.00 POT  
 28.58' RT  
 10+16.72 LT

(County Line) Begin Resurfacing  
 APPROXIMATELY -L- STA.14+25.00

N 5°18'01.0" E

BL-GPS R2710-2 9+31.05 PINC  
 -L- STA. 14+41.70  
 25.86' RT

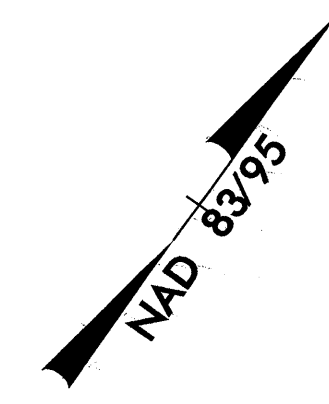
BL-15 16+45.89 PINC  
 -L- STA 20+44.45  
 14.27' RT

C-1	C-2	C-3	C-4	C-5	C-6	C-7	C-8	C-9
PC Sta 10+04.82	PC Sta 13+27.16	PC Sta 14+28.88	PC Sta 16+96.49	PC Sta 18+12.51	PC Sta 18+45.59	PC Sta 19+45.54	PC Sta 21+00.62	PC Sta 22+92.75
PI Sta 11+26.89	PI Sta 13+59.56	PI Sta 14+78.83	PI Sta 17+34.29	PI Sta 18+19.05	PI Sta 18+75.05	PI Sta 19+99.14	PI Sta 21+66.53	PI Sta 23+38.88
$\Delta = 7' 18" 50.3" (RT)$	$\Delta = 3' 14" 19.7" (LT)$	$\Delta = 5' 59" 19.2" (LT)$	$\Delta = 4' 32" 01.8" (RT)$	$\Delta = 6' 31" 53.7" (RT)$	$\Delta = 28' 50" 10.7" (RT)$	$\Delta = 23' 15" 37.2" (LT)$	$\Delta = 15' 43" 03.5" (LT)$	$\Delta = 11' 02" 17.2" (LT)$
D = 3' 00' 00.0"	D = 5' 00' 00.0"	D = 6' 00' 00.0"	D = 6' 00' 00.0"	D = 50' 00' 00.0"	D = 50' 00' 00.0"	D = 22' 00' 00.0"	D = 12' 00' 00.0"	D = 12' 00' 00.0"
L = 243.80'	L = 64.78'	L = 99.81'	L = 75.56'	L = 13.06'	L = 57.67'	L = 105.73'	L = 130.98'	L = 91.98'
T = 122.07'	T = 32.40'	T = 49.95'	T = 37.80'	T = 6.54'	T = 29.46'	T = 53.60'	T = 65.90'	T = 46.13'
R = 1,909.86'	R = 1,445.92'	R = 954.93'	R = 954.93'	R = 114.59'	R = 114.59'	R = 260.44'	R = 477.46'	R = 477.46'
PT Sta 12+48.62	PT Sta 13+91.94	PT Sta 15+28.69	PT Sta 17+72.05	PT Sta 18+25.58	PT Sta 19+03.26	PT Sta 20+51.27	PT Sta 22+31.60	PT Sta 23+84.73
N 58° 36' 51.4" E	N 55° 22' 31.7" E	N 49° 23' 12.5" E	N 53° 55' 14.3" E	N 60° 27' 08.0" E	N 89° 17' 18.7" E	N 66° 01' 41.5" E	N 50° 18' 38.0" E	N 39° 16' 20.86" E

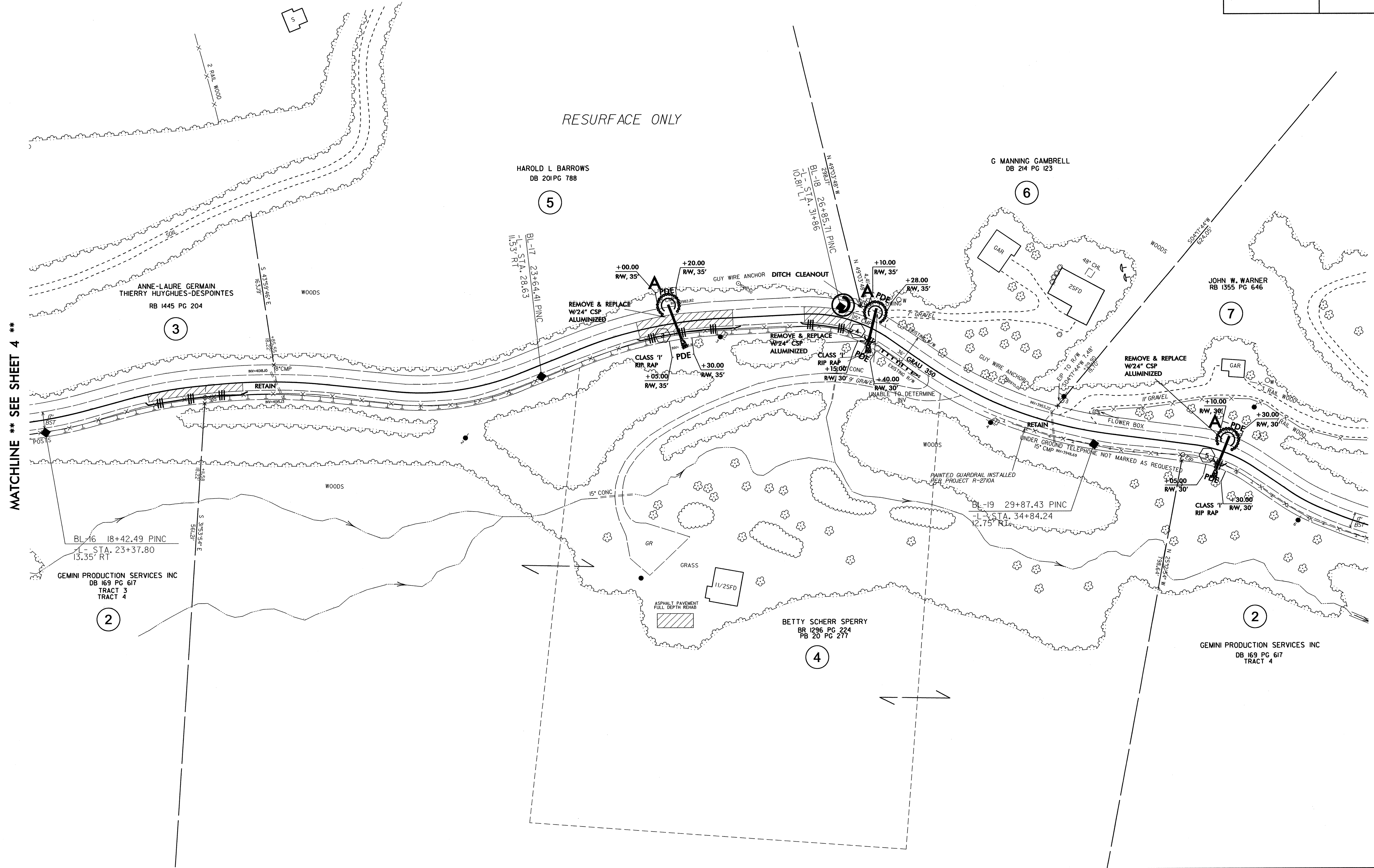
MATCHLINE \*\* SEE SHEET 5 \*\*



PROJECT REFERENCE NO. R-2710	SHEET NO. EC-12/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



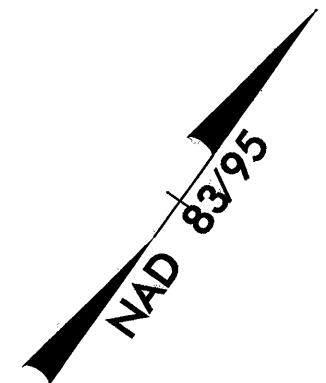
8/17/99  
D:\JUN-2010\_01:44\_Sat\mgs\inchan\Desk-top\R-2710\R-2710-EC-psht5.dgn  
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MATCHLINE \*\* SEE SHEET 4 \*\*

MATCHLINE \*\* SEE SHEET 6 \*\*

8/17/99

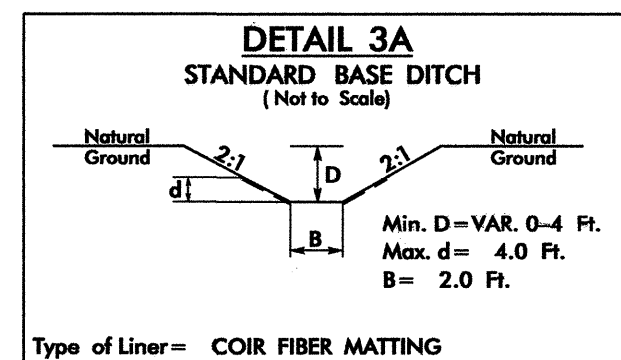


# SITE 1

FRANK PHILLIPS JR  
MITCHELL LUMBER COMPANY

DB 232 PG 061

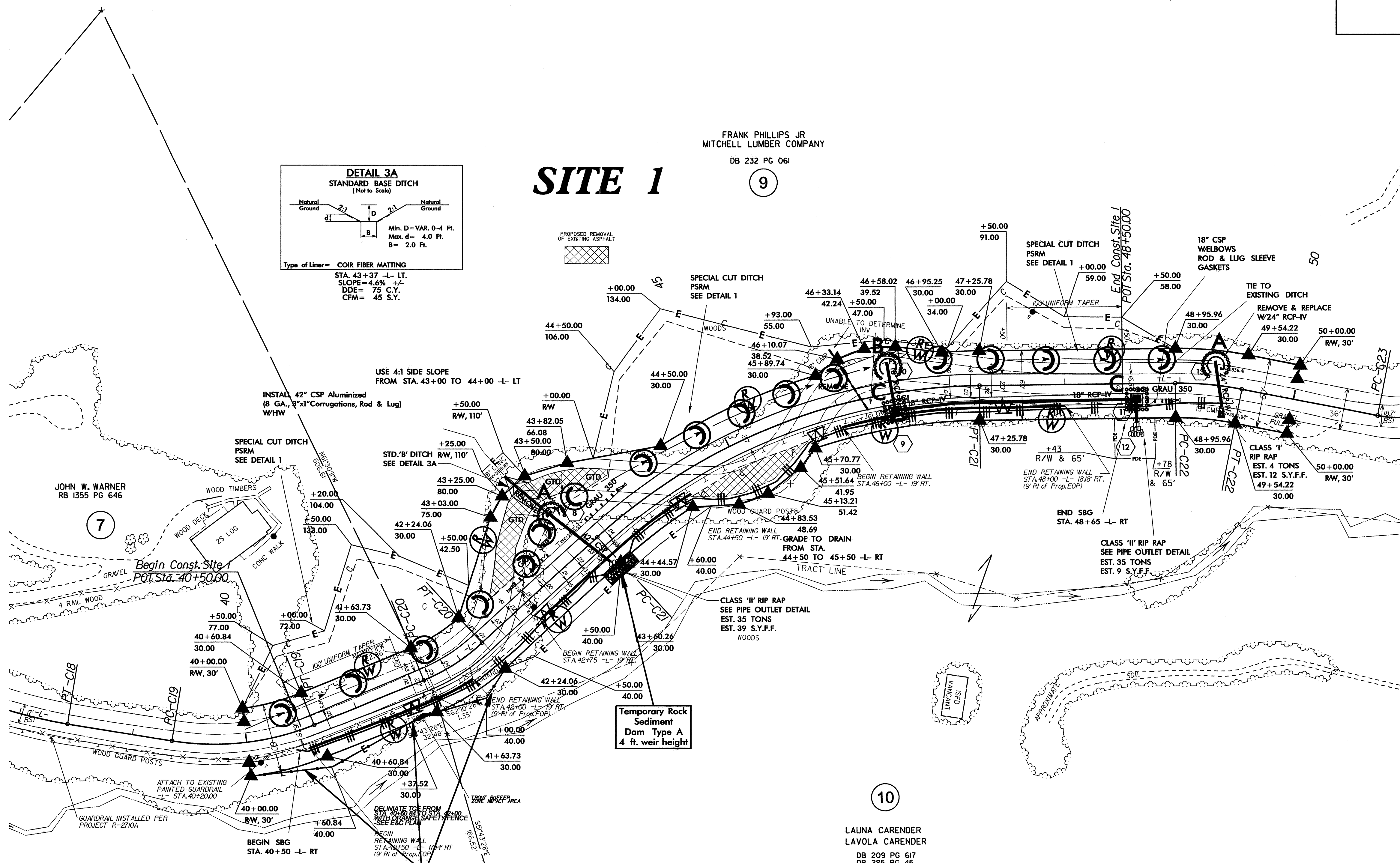
9



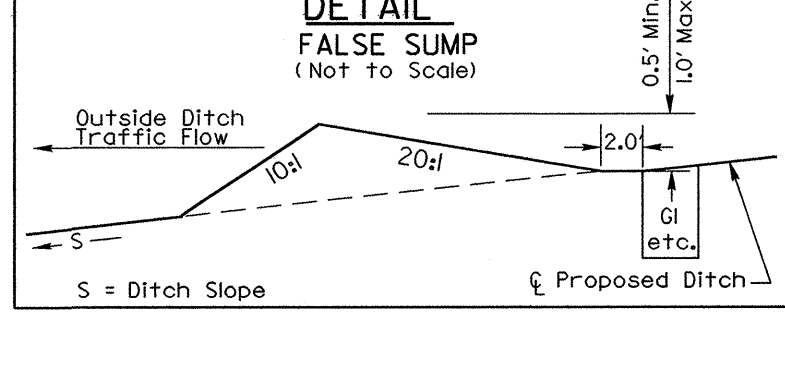
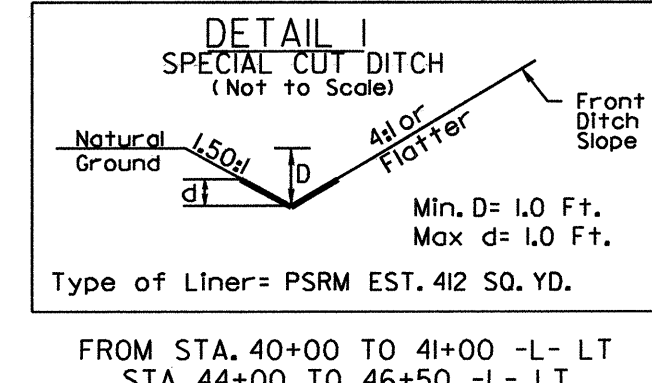
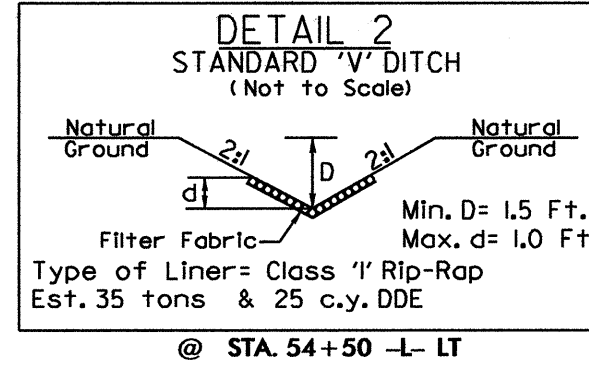
STA. 43+37 -L- LT.  
SLOPE = 4.6% -L-  
DDE = 75 C.Y.  
CFM = 45 S.Y.

MATCHLINE \*\* SEE SHEET 5 \*\*

MATCHLINE \*\* SEE SHEET 7 \*\*



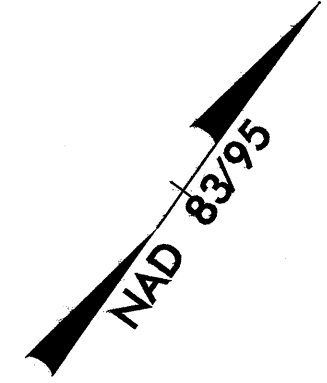
**INSTALL ORANGE SAFETY FENCE**  
NO CLEARING, GRUBBING, OR CONSTRUCTION  
ACTIVITIES SHALL OCCUR WITHIN TROUT BUFFER  
ZONE EXCEPT AS NOTED ON THE PLAN



GEMINI PRODUCTION SERVICES INC  
DB 169 PG 617  
TRACT 4

LAUNA CARENDER  
LAVOLA CARENDER  
DB 209 PG 617  
DB 285 PG 45  
RB 1052 PG 704

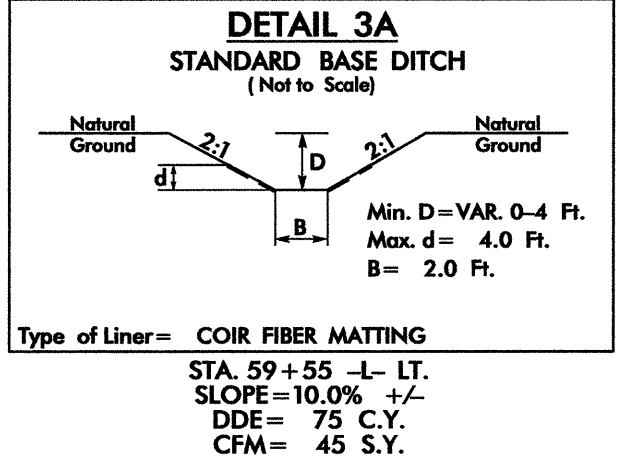
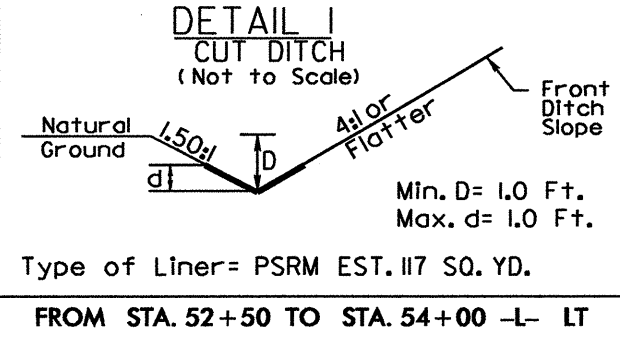
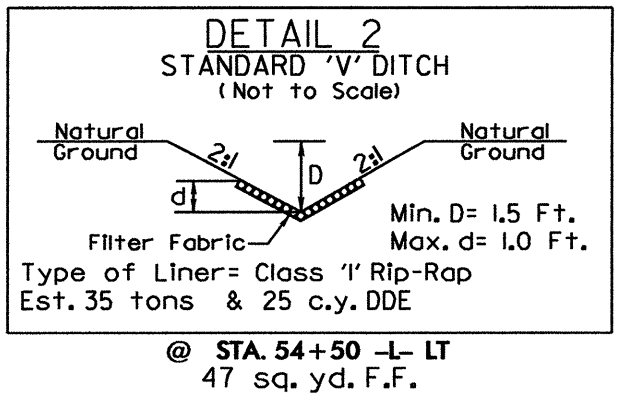
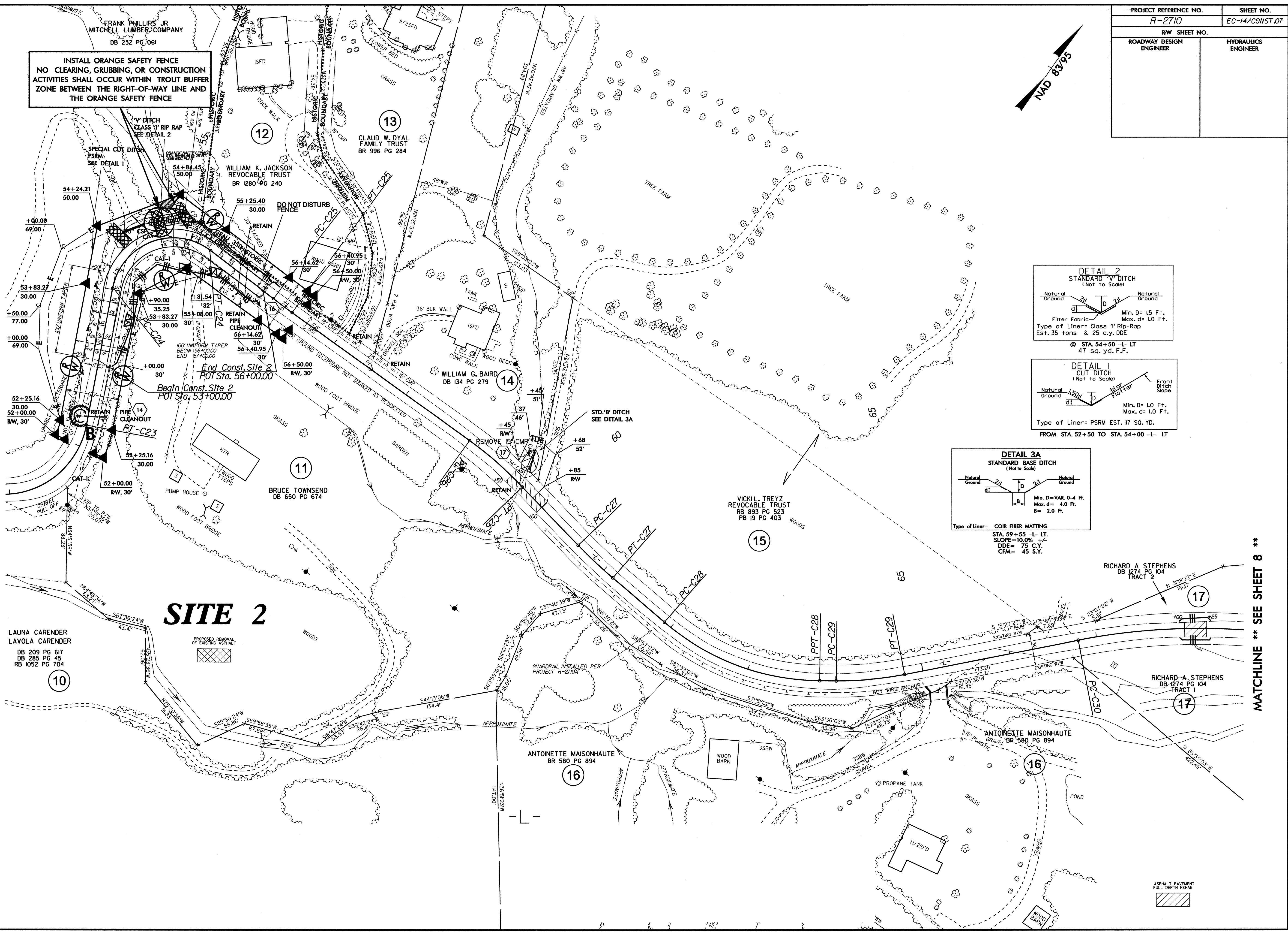
PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-14/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



INSTALL ORANGE SAFETY FENCE  
NO CLEARING, GRUBBING, OR CONSTRUCTION  
ACTIVITIES SHALL OCCUR WITHIN TROUT  
BUFFER ZONE BETWEEN THE RIGHT-OF-WAY LINE AND  
THE ORANGE SAFETY FENCE

MATCHLINE \*\* SEE SHEET 6 \*\*

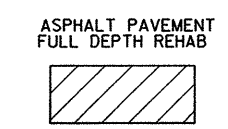
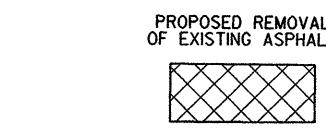
MATCHLINE \*\* SEE SHEET 8 \*\*



**SITE 2**

LAUNA CARENDER  
LAVOLA CARENDER  
DB 209 PG 617  
DB 285 PG 45  
RB 1052 PG 704

10

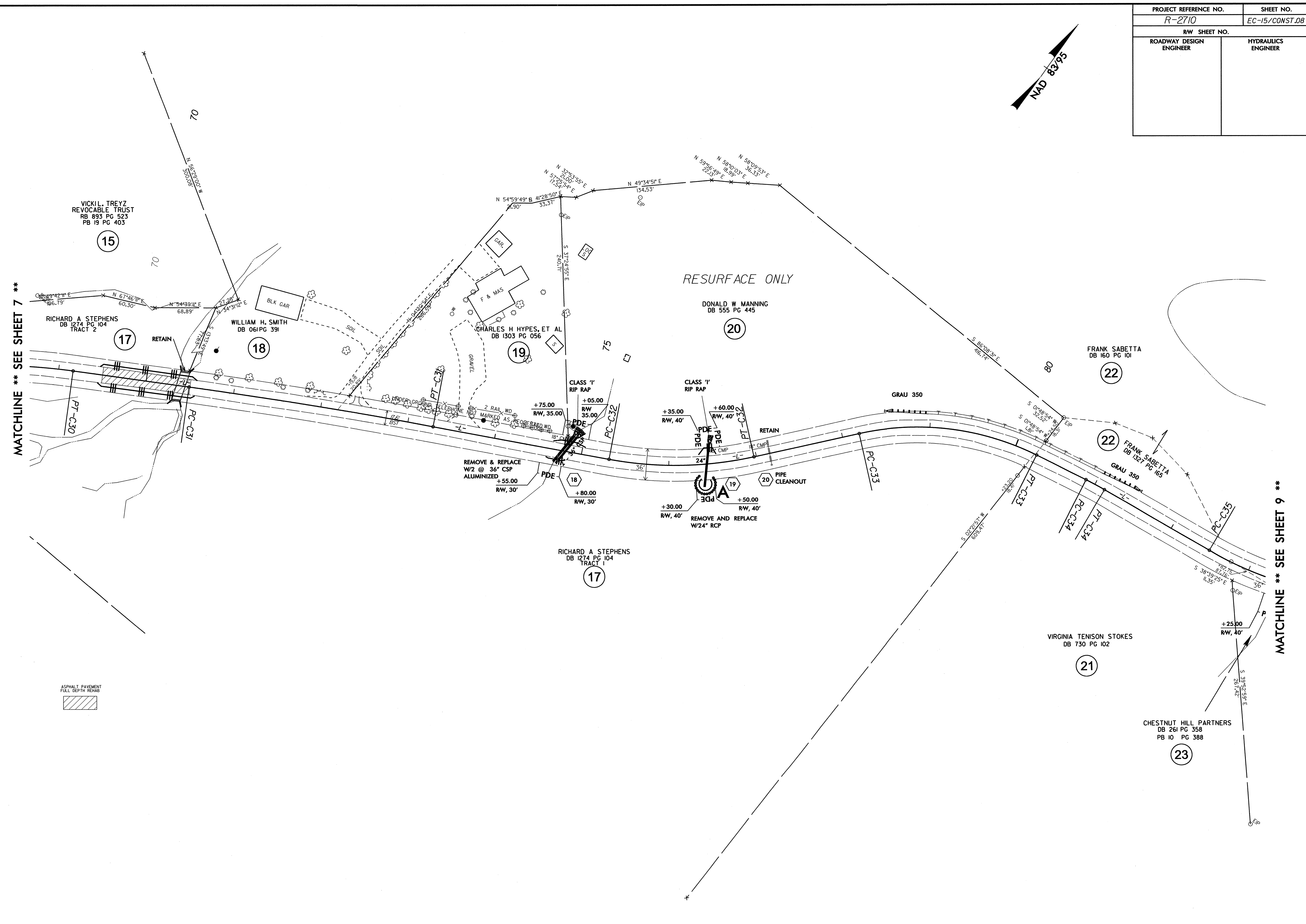
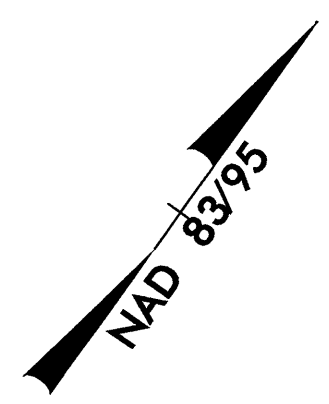


8/17/99

03-AUG-2010 10:33  
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jessgodwin

8/17/99

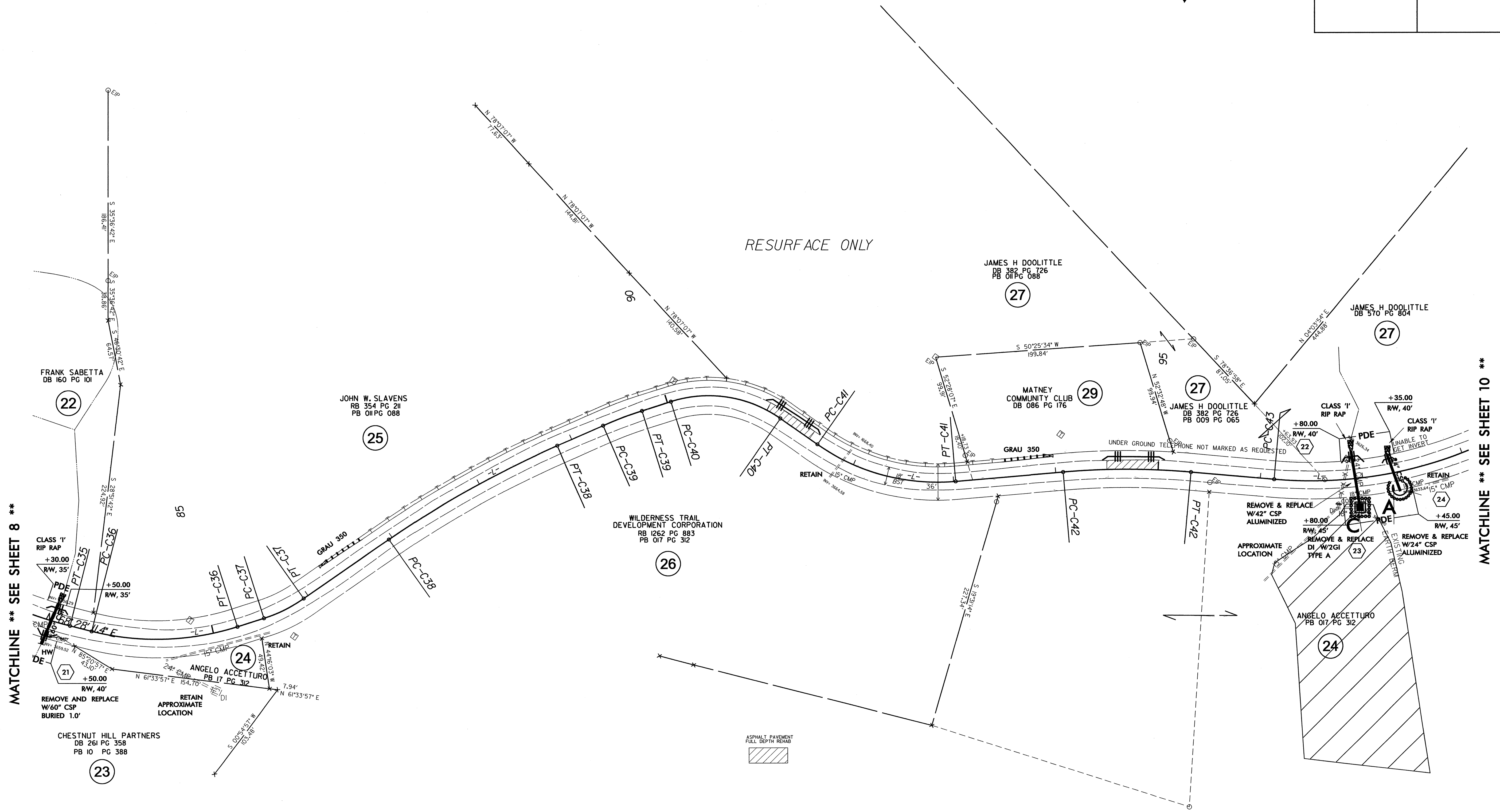
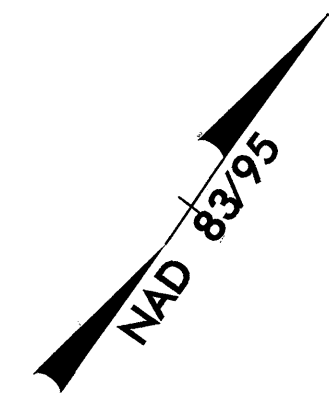
PROJECT REFERENCE NO. R-2710	SHEET NO. EC-15/CONST.08
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



04-JUN-2010 07:57  
 C:\Documents and Settings\Nohan\Desktop\R-2710-EC-15-pah8.dgn  
 Nohan

8/17/99

PROJECT REFERENCE NO. <i>R-2710</i>	SHEET NO. <i>EC-16/CONST.09</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

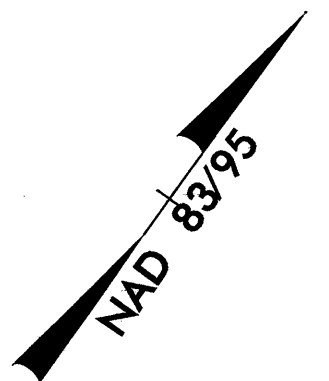


MATCHLINE \*\* SEE SHEET 8 \*\*

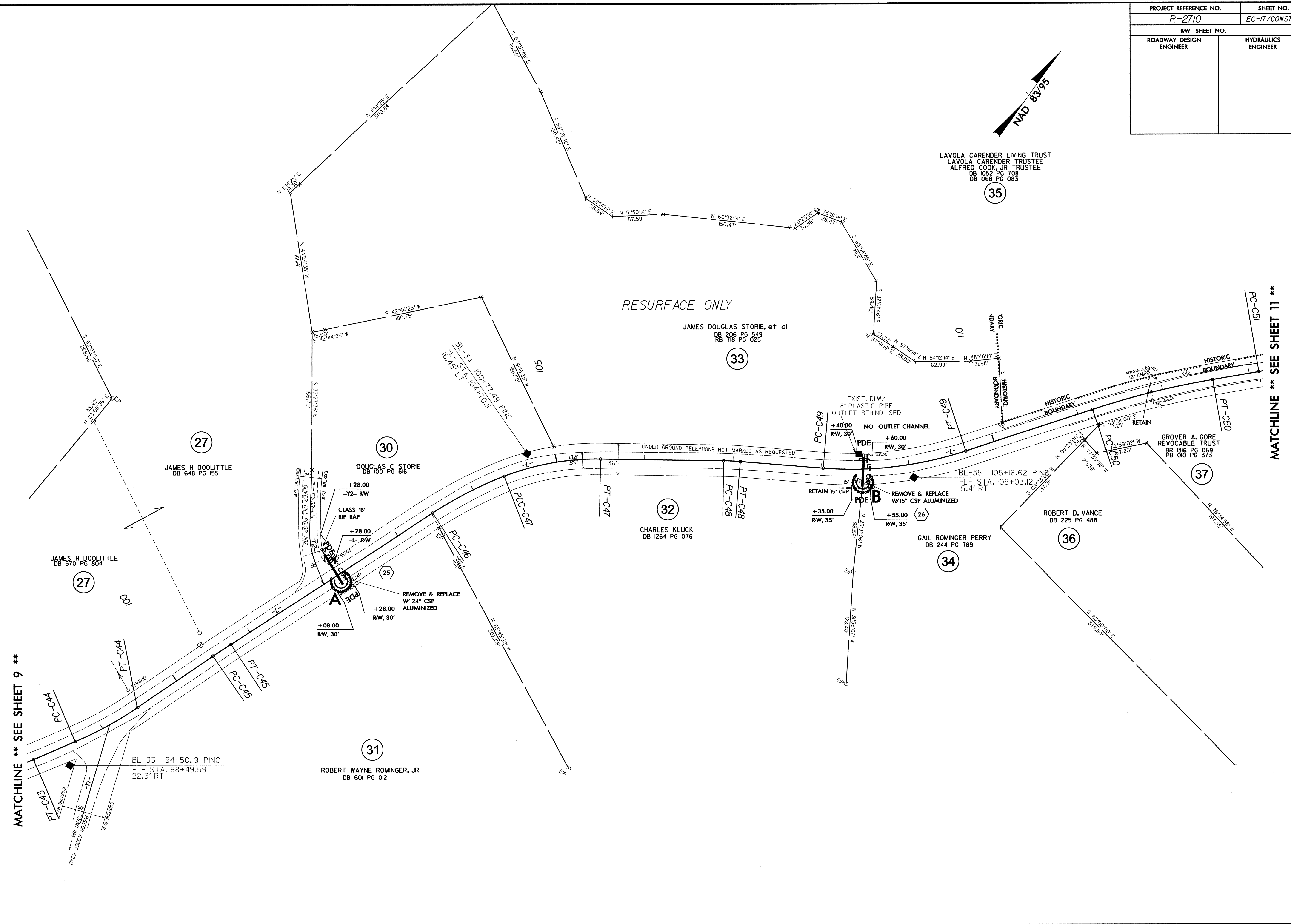
MATCHLINE \*\* SEE SHEET 10 \*\*

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 04 JUN 2010 07:58

PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-17/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



LAVOLA CARENDER LIVING TRUST  
LAVOLA CARENDER TRUSTEE  
ALFRED COOK, JR TRUSTEE  
DB 1052 PG 708  
DB 068 PG 083

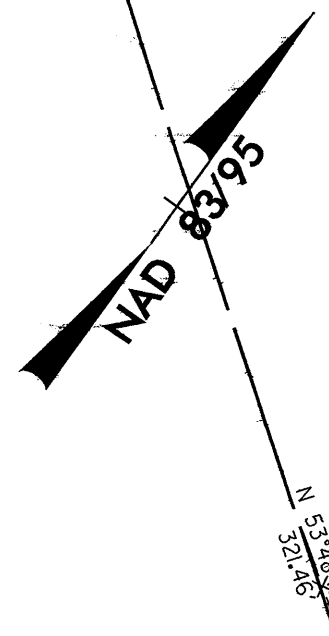


MATCHLINE \*\* SEE SHEET 9 \*\*

MATCHLINE \*\* SEE SHEET 11 \*\*

8/17/99  
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 11/2/2012 11:12 AM  
 04 JUN 2010 08:03

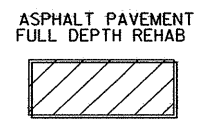
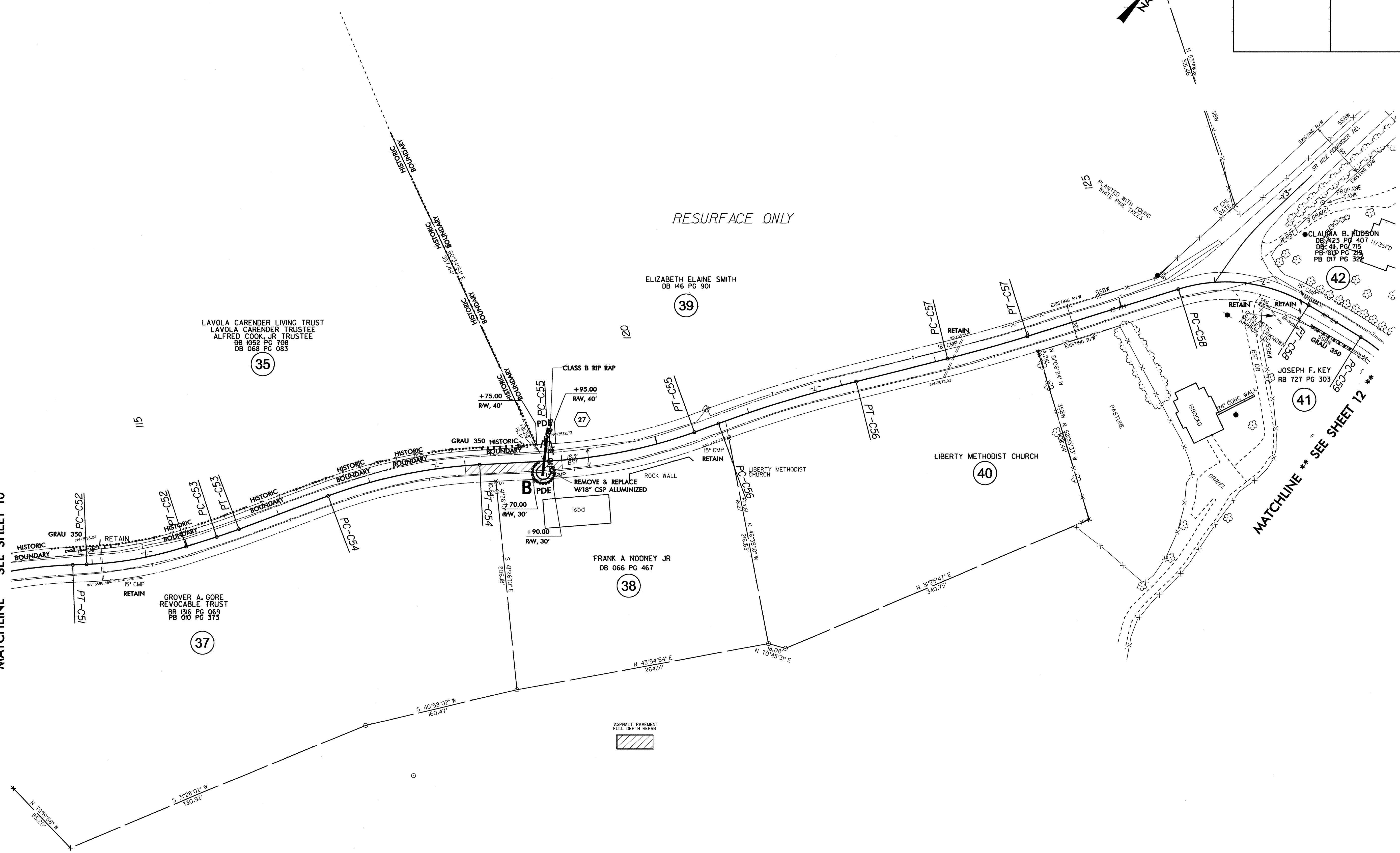
PROJECT REFERENCE NO.		SHEET NO.	
R-2710		EC-18/CONST.II	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



8/17/99  
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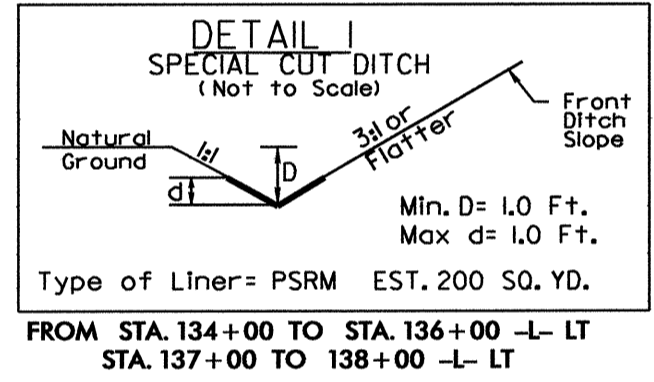
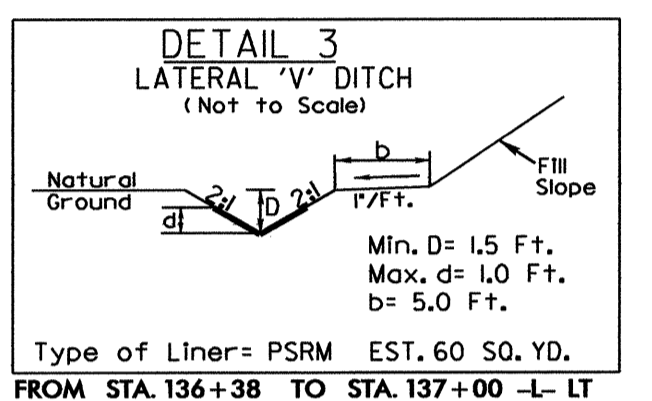
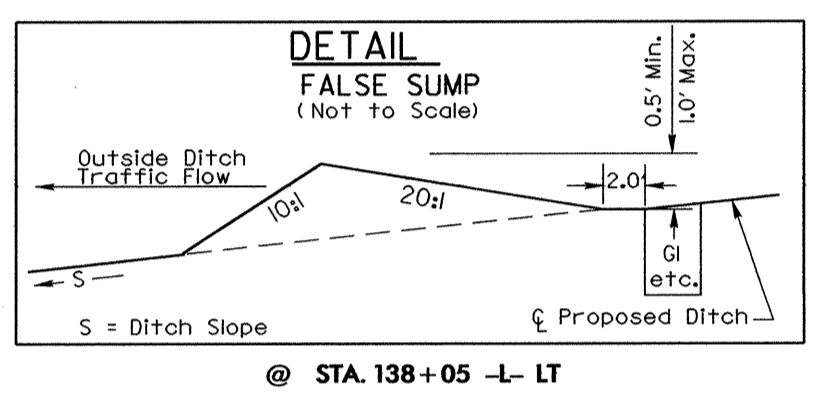
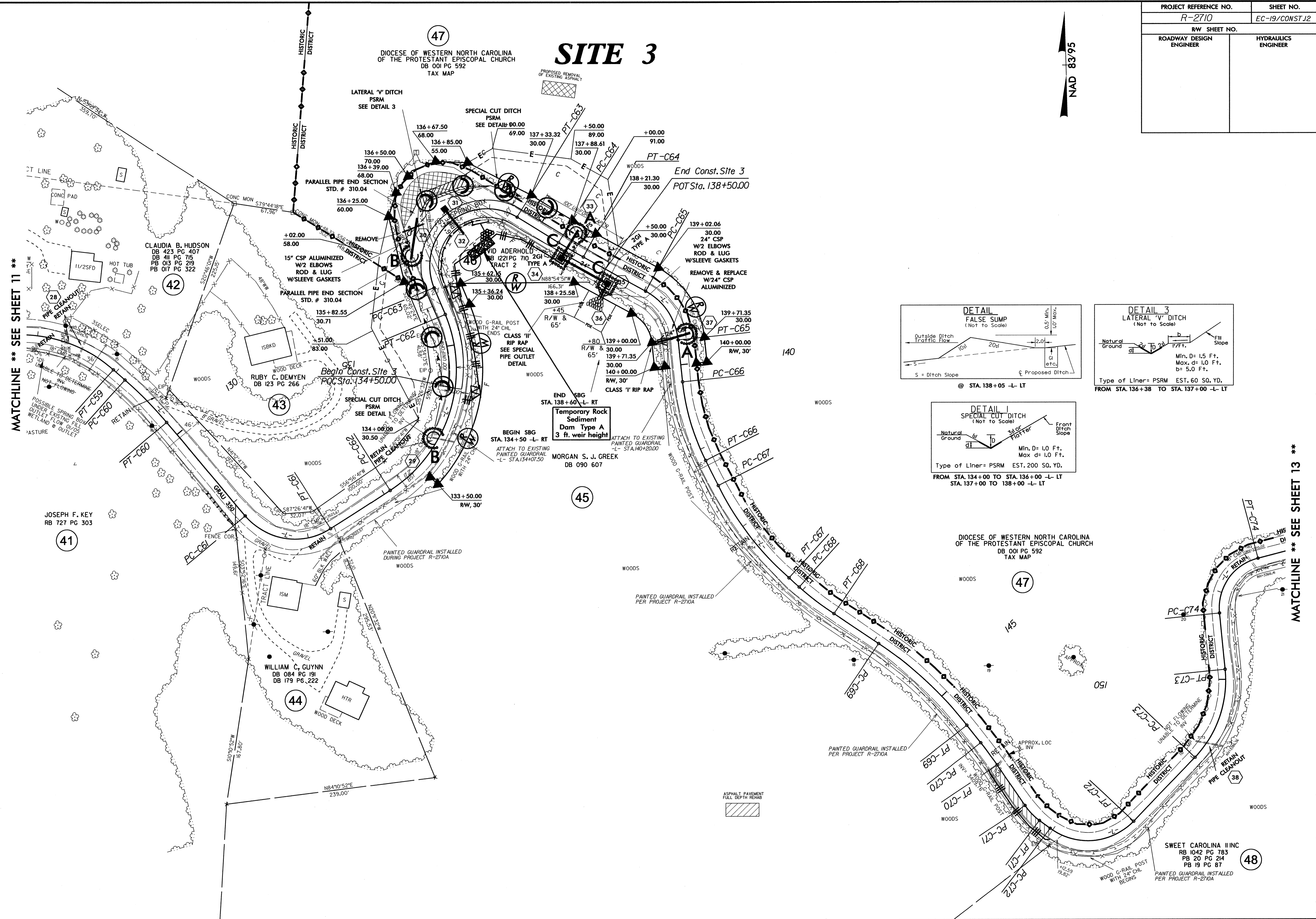
MATCHLINE \*\* SEE SHEET 10 \*\*

MATCHLINE \*\* SEE SHEET 12 \*\*



8/17/99  
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 11:23:18 AM

PROJECT REFERENCE NO. R-2710		SHEET NO. EC-19/CONST.12	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



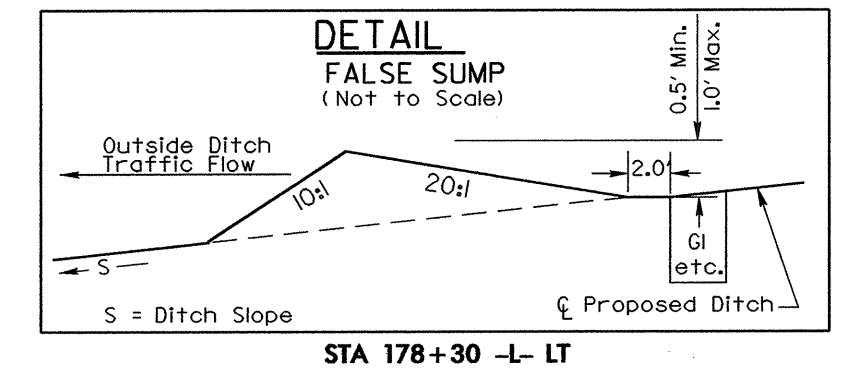
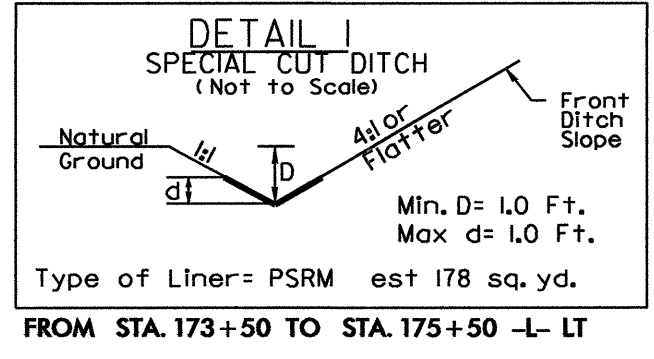
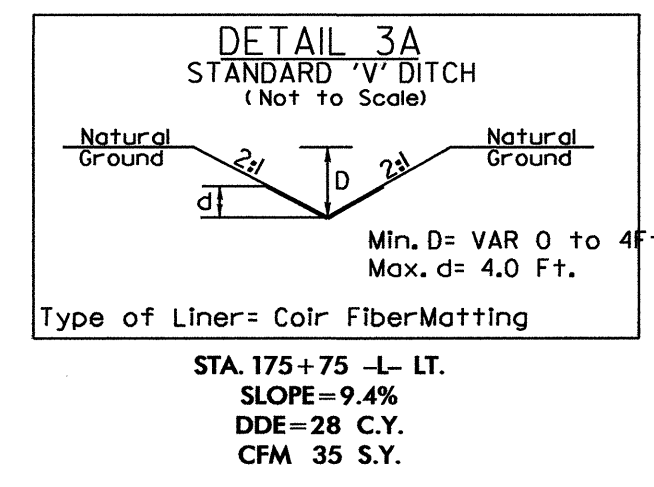
MATCHLINE \*\* SEE SHEET 13 \*\*



PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-20/CONST.13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

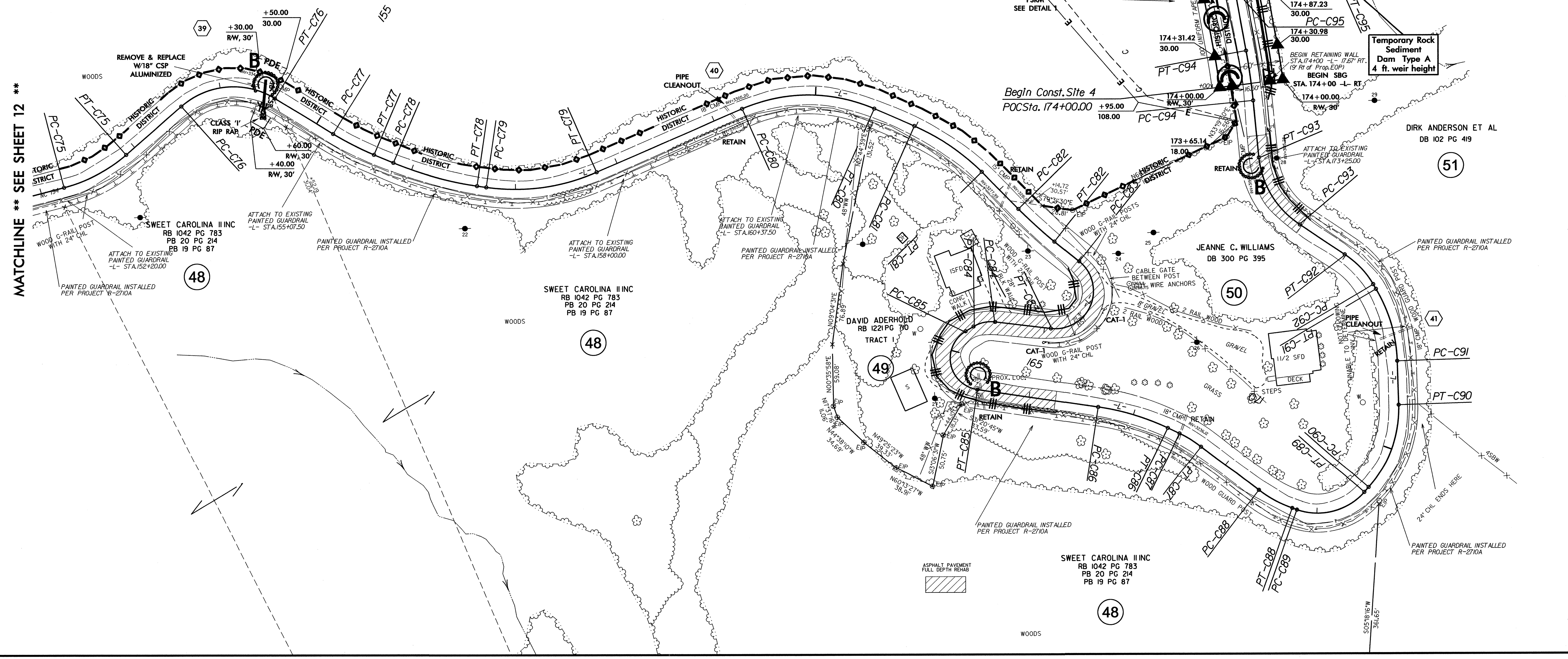
# SITE 4

NAD 83/95



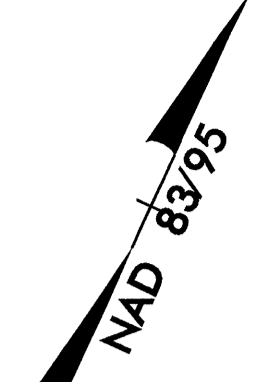
MATCHLINE \*\* SEE SHEET 12 \*\*

MATCHLINE \*\* SEE SHEET 14 \*\*



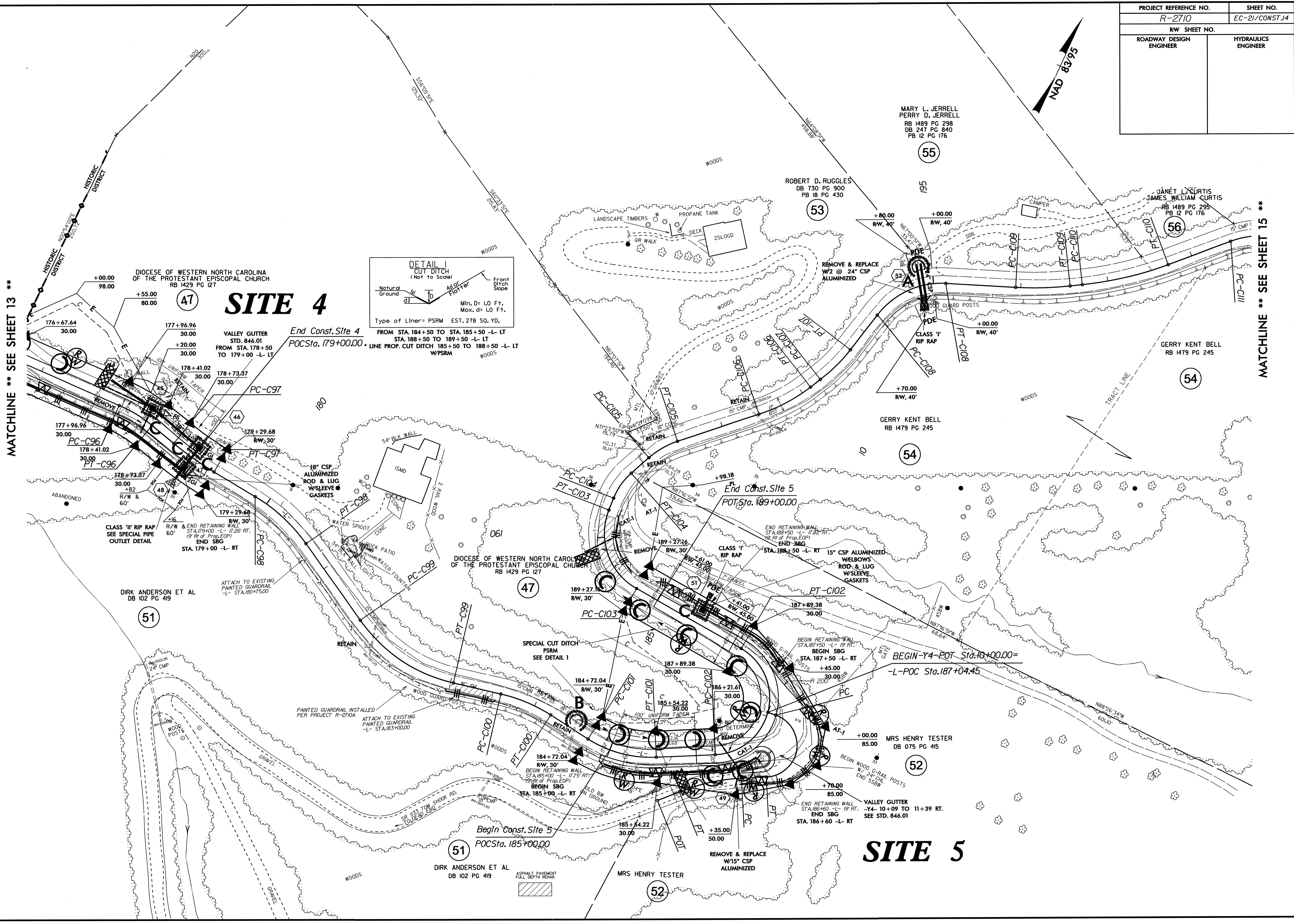
8/17/99  
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 04/06/2000 09:30  
 11/11/2000 11:11  
 11/11/2000 11:11

PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-21/CONST.14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



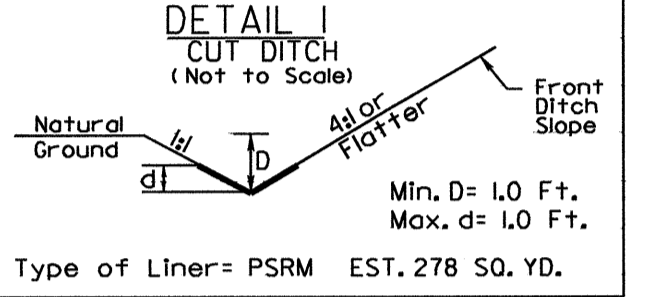
MATCHLINE \*\* SEE SHEET 13 \*\*

MATCHLINE \*\* SEE SHEET 15 \*\*



# SITE 4

# SITE 5



FROM STA. 184+50 TO STA. 185+50 -L- LT  
 FROM STA. 188+50 TO 189+50 -L- LT  
 FROM STA. 185+50 TO 188+50 -L- LT  
 TO 179+00 -L- LT

DIocese OF WESTERN NORTH CAROLINA  
 OF THE PROTESTANT EPISCOPAL CHURCH  
 RB 1429 PG 127

DIocese OF WESTERN NORTH CAROLINA  
 OF THE PROTESTANT EPISCOPAL CHURCH  
 RB 1429 PG 127

MARY L. JERRELL  
 PERRY D. JERRELL  
 RB 1489 PG 298  
 DB 247 PG 840  
 PB 12 PG 176

ROBERT D. RUGGLES  
 DB 730 PG 900  
 PB 18 PG 430

JAMÉT L. CURTIS  
 JAMES WILLIAM CURTIS  
 RB 1489 PG 298  
 PB 12 PG 176

GERRY KENT BELL  
 RB 1479 PG 245

GERRY KENT BELL  
 RB 1479 PG 245

DIRK ANDERSON ET AL  
 DB 102 PG 419

DIRK ANDERSON ET AL  
 DB 102 PG 419

MRS HENRY TESTER  
 DB 075 PG 415

MRS HENRY TESTER

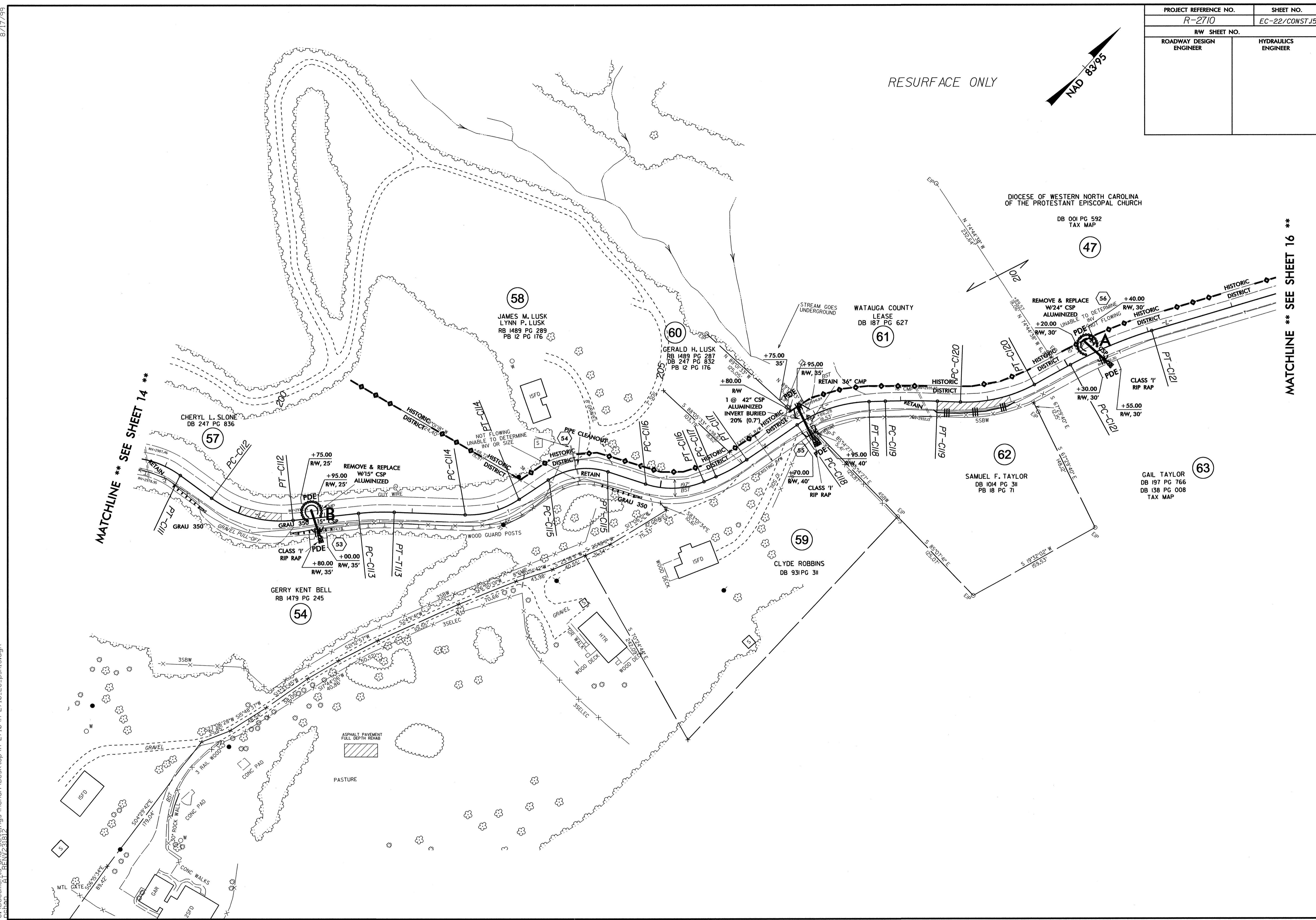
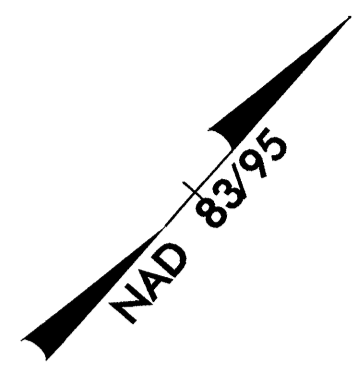
VALLEY GUTTER  
 -Y4- 10+09 TO 11+39 RT.  
 SEE STD. 846.01

04 JUN 2010 09:41 S:\p1\ings\mchan\Desk\top\R-2710\R-2710-EC.psh14.dgn  
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PROJECT REFERENCE NO. R-2710	SHEET NO. EC-22/CONST.15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

RESURFACE ONLY

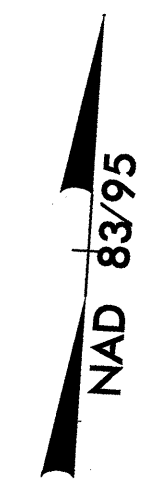


MATCHLINE \*\* SEE SHEET 14 \*\*

MATCHLINE \*\* SEE SHEET 16 \*\*

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 15

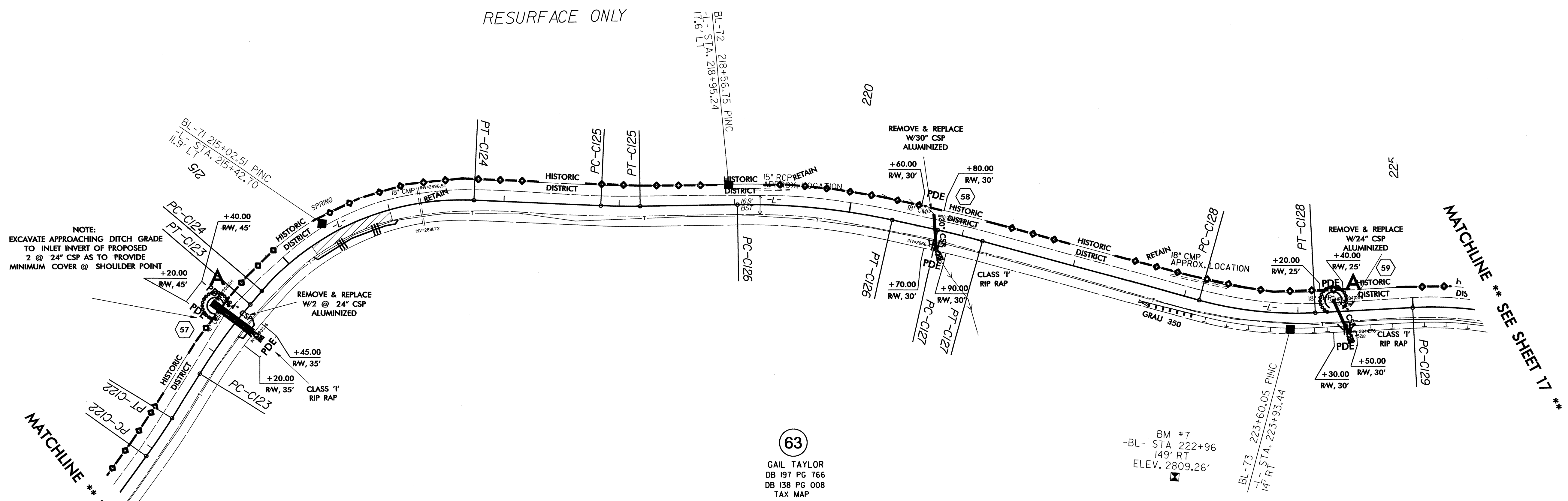
PROJECT REFERENCE NO. R-2710	SHEET NO. EC-23/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



47

DIOCESE OF WESTERN NORTH CAROLINA  
OF THE PROTESTANT EPISCOPAL CHURCH  
DB 001 PG 592  
TAX MAP

RESURFACE ONLY



NOTE:  
EXCAVATE APPROACHING DITCH GRADE  
TO INLET INVERT OF PROPOSED  
2 @ 24" CSP AS TO PROVIDE  
MINIMUM COVER @ SHOULDER POINT

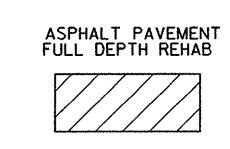
MATCHLINE \*\* SEE SHEET 15 \*\*

MATCHLINE \*\* SEE SHEET 17 \*\*

63

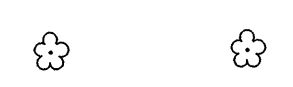
GAIL TAYLOR  
DB 197 PG 766  
DB 138 PG 008  
TAX MAP

BM #7  
-BL- STA 222+96  
149' RT  
ELEV. 2809.26'

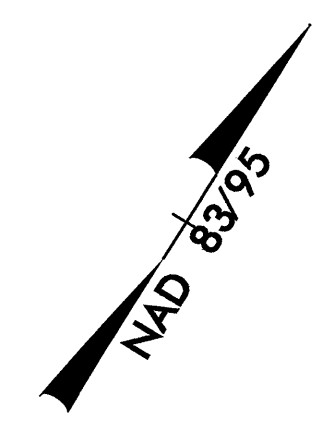


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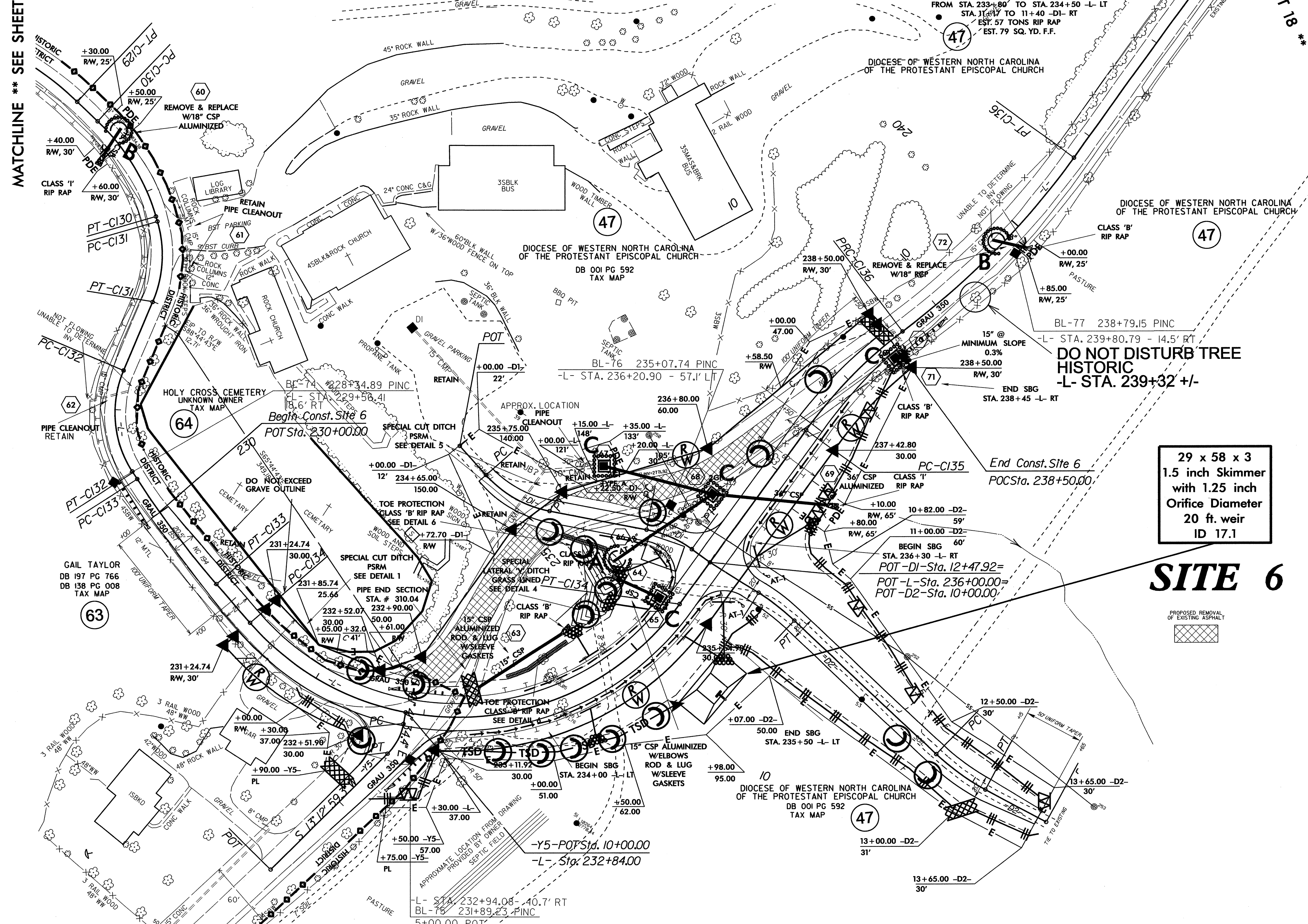
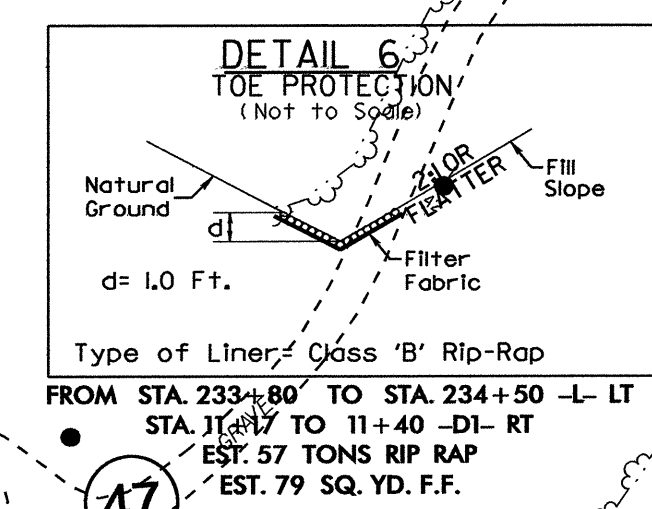
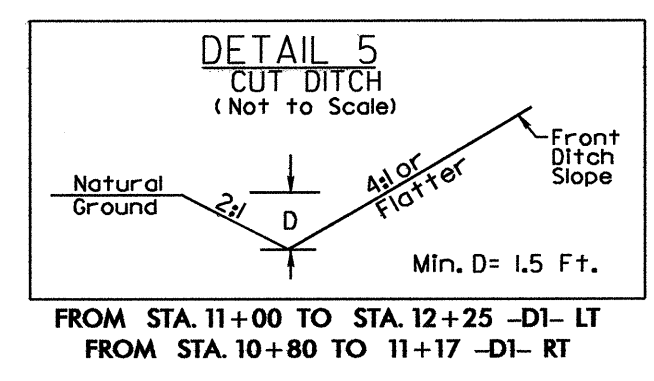
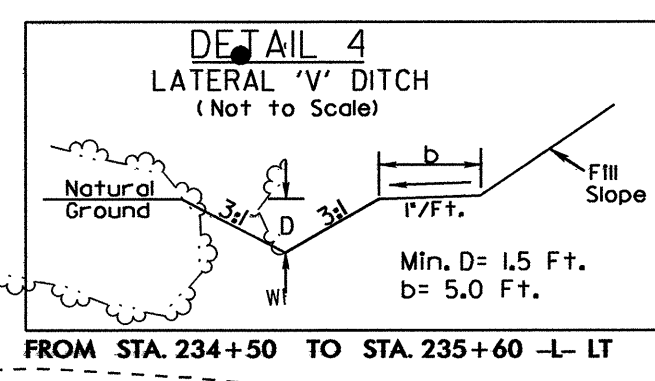
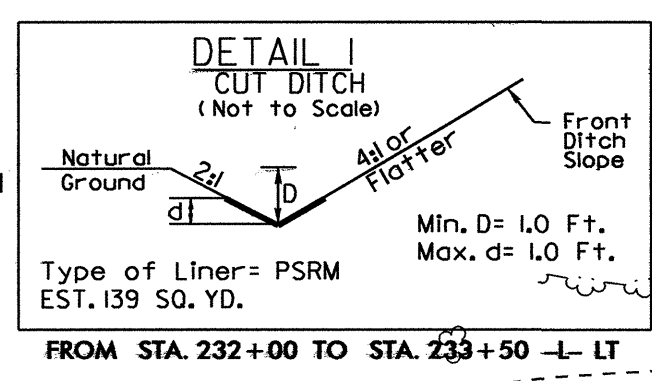


PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-24/CONST.17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



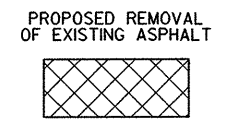
MATCHLINE \*\* SEE SHEET 16 \*\*

MATCHLINE \*\* SEE SHEET 18 \*\*



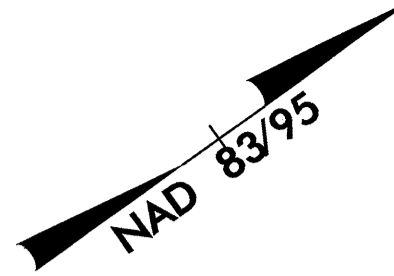
29 x 58 x 3  
1.5 inch Skimmer  
with 1.25 inch  
Orifice Diameter  
20 ft. weir  
ID 17.1

**SITE 6**



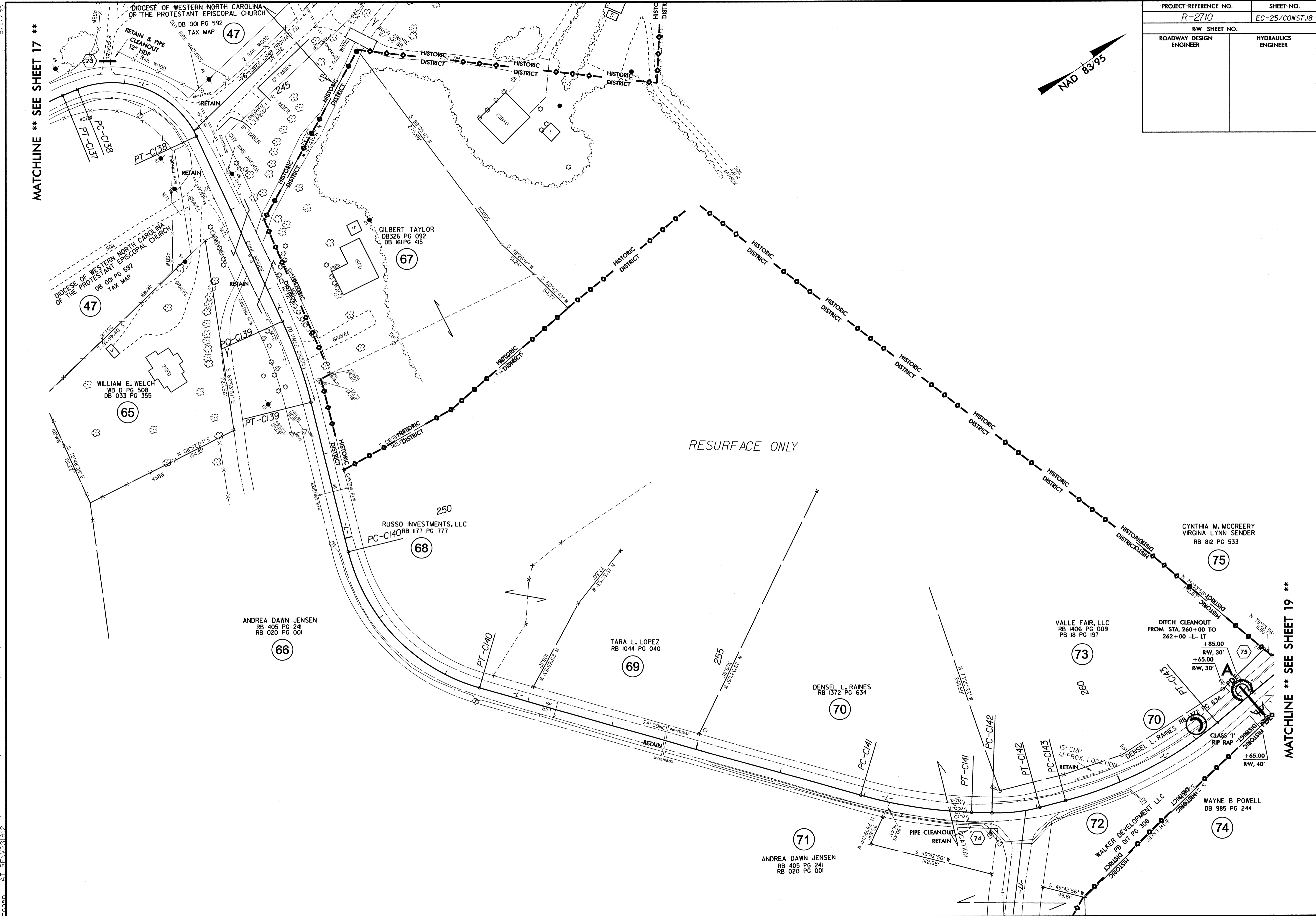
8/17/99  
04 JUN 2010 09:48 S:\projects\mchan\Desktop\R-2710\R-2710-EC.psh17.dgn  
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PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-25/CONST.18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



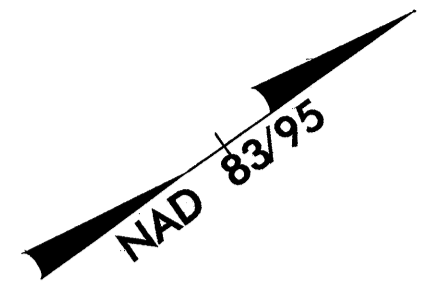
MATCHLINE \*\* SEE SHEET 17 \*\*

MATCHLINE \*\* SEE SHEET 19 \*\*



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 04 JUN 2010 10:38  
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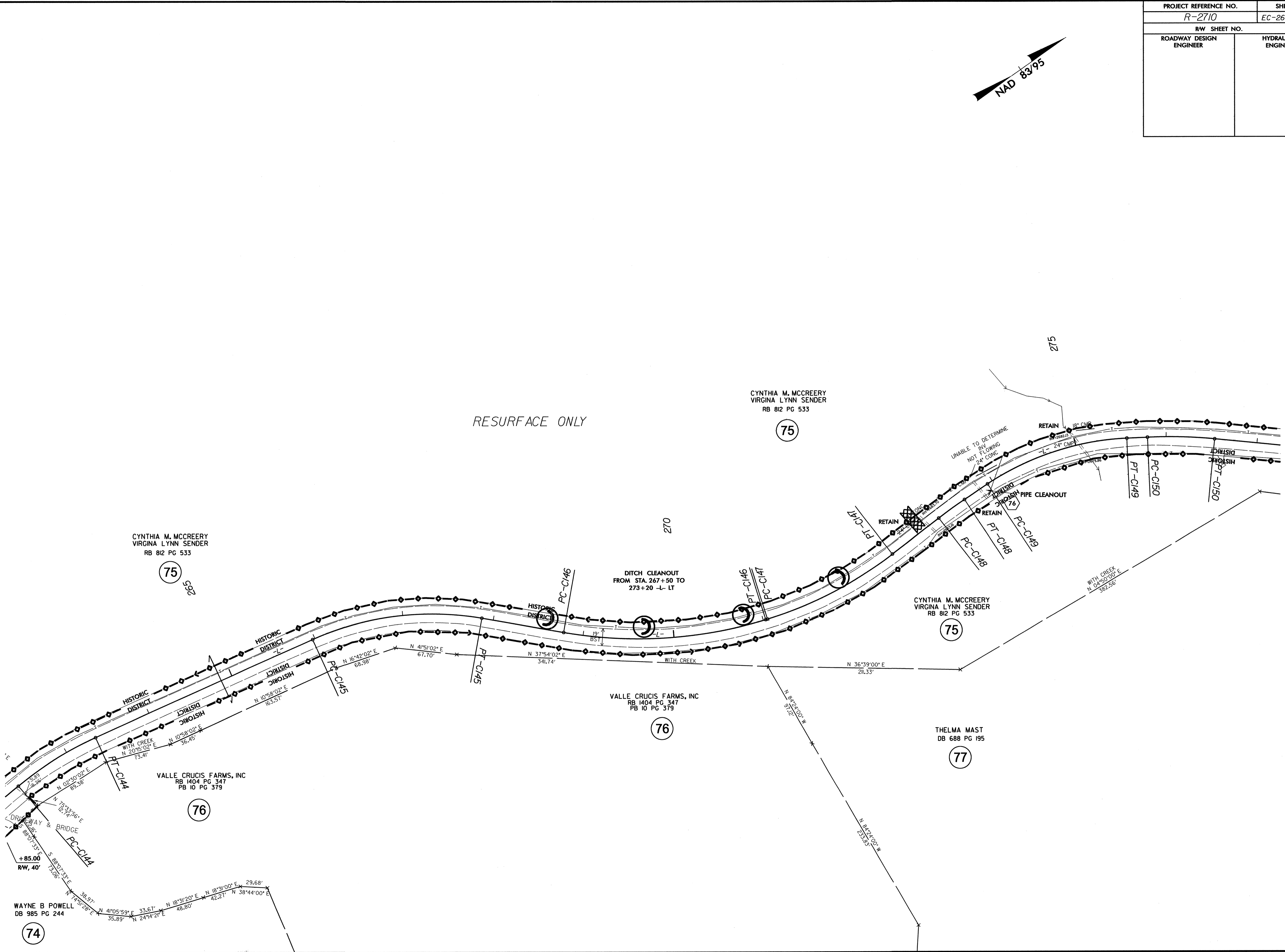
PROJECT REFERENCE NO. <i>R-2710</i>	SHEET NO. EC-26/CONST.19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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**MATCHLINE \*\* SEE SHEET 18 \*\***

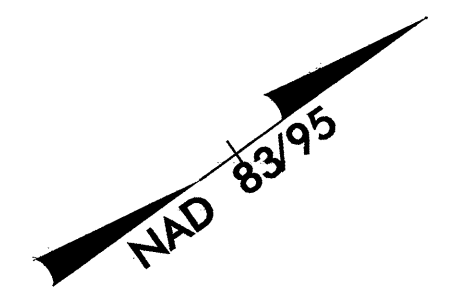
**MATCHLINE \*\* SEE SHEET 20 \*\***



**WAYNE B POWELL**  
DB 985 PG 244

N 10°58'02" E 163.57'  
N 10°58'02" E 36.45'  
N 10°58'02" E 73.41'  
N 02°30'02" E 89.38'  
N 75°33'56" E 72.74'  
S 88°07'33" E 73.06'  
N 41°05'59" E 33.67'  
N 18°31'20" E 48.80'  
N 18°31'00" E 29.68'  
N 18°31'00" E 42.27'  
N 38°44'00" E 35.89'

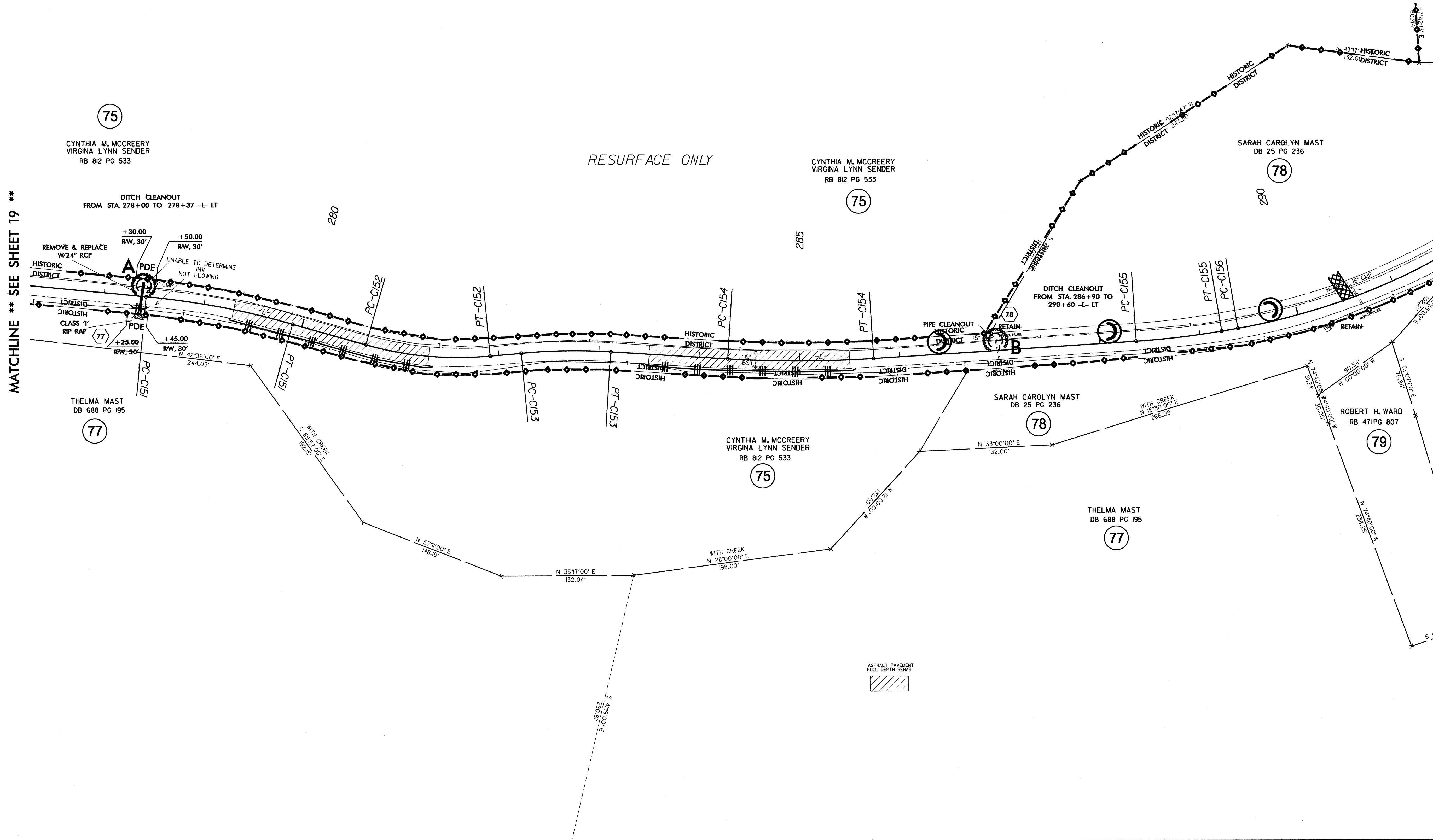
PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-27/CONST.20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE \*\* SEE SHEET 19 \*\*

MATCHLINE \*\* SEE SHEET 21 \*\*

RESURFACE ONLY

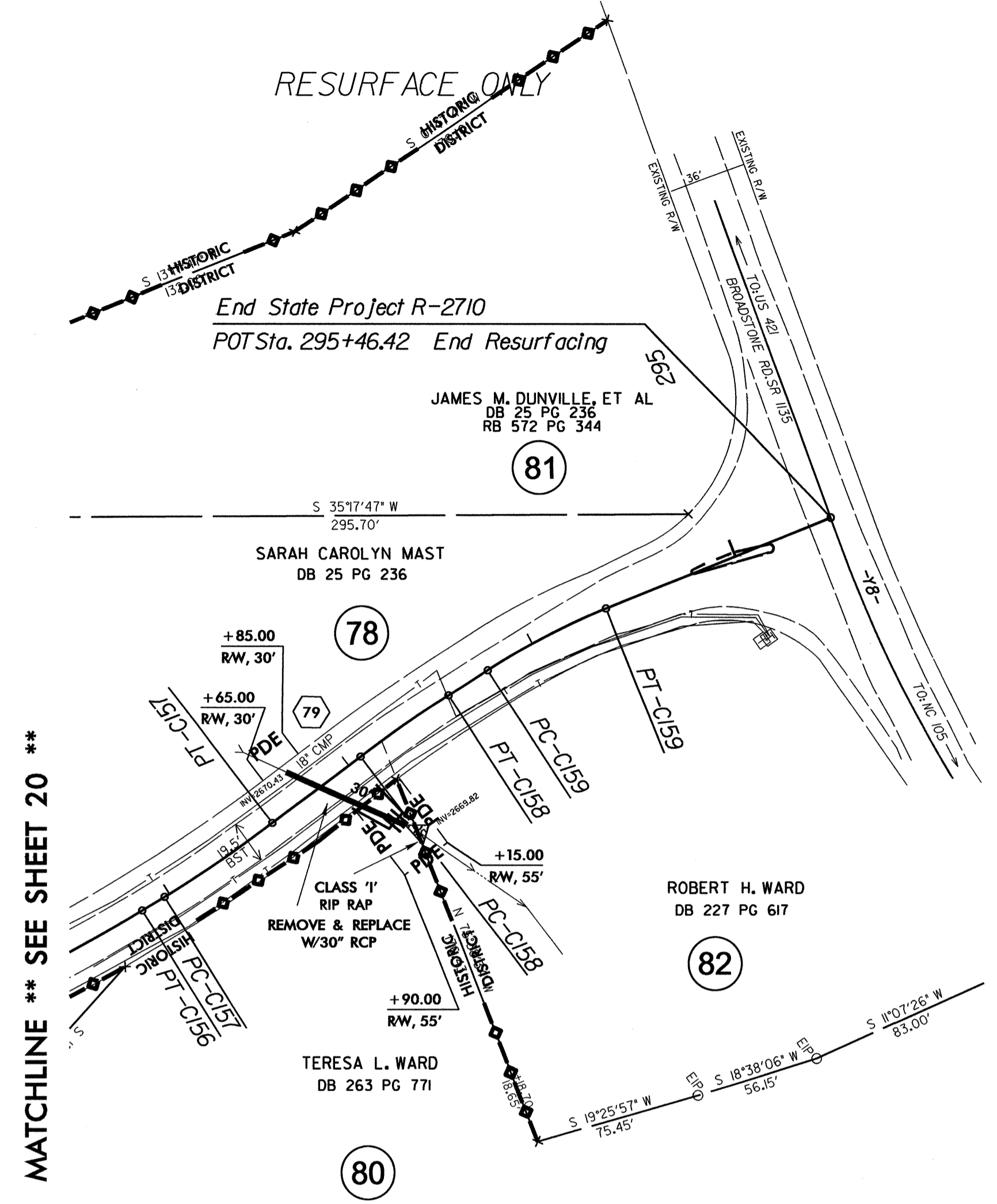
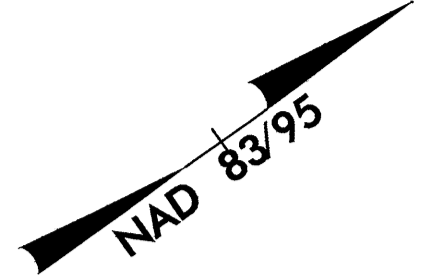


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 2312



PROJECT REFERENCE NO.	SHEET NO.
R-2710	EC-28/CONST.21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE \*\* SEE SHEET 20 \*\*

