

**TIP PROJECT: B-3611**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

---

PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL

---

**BEAUFORT COUNTY**

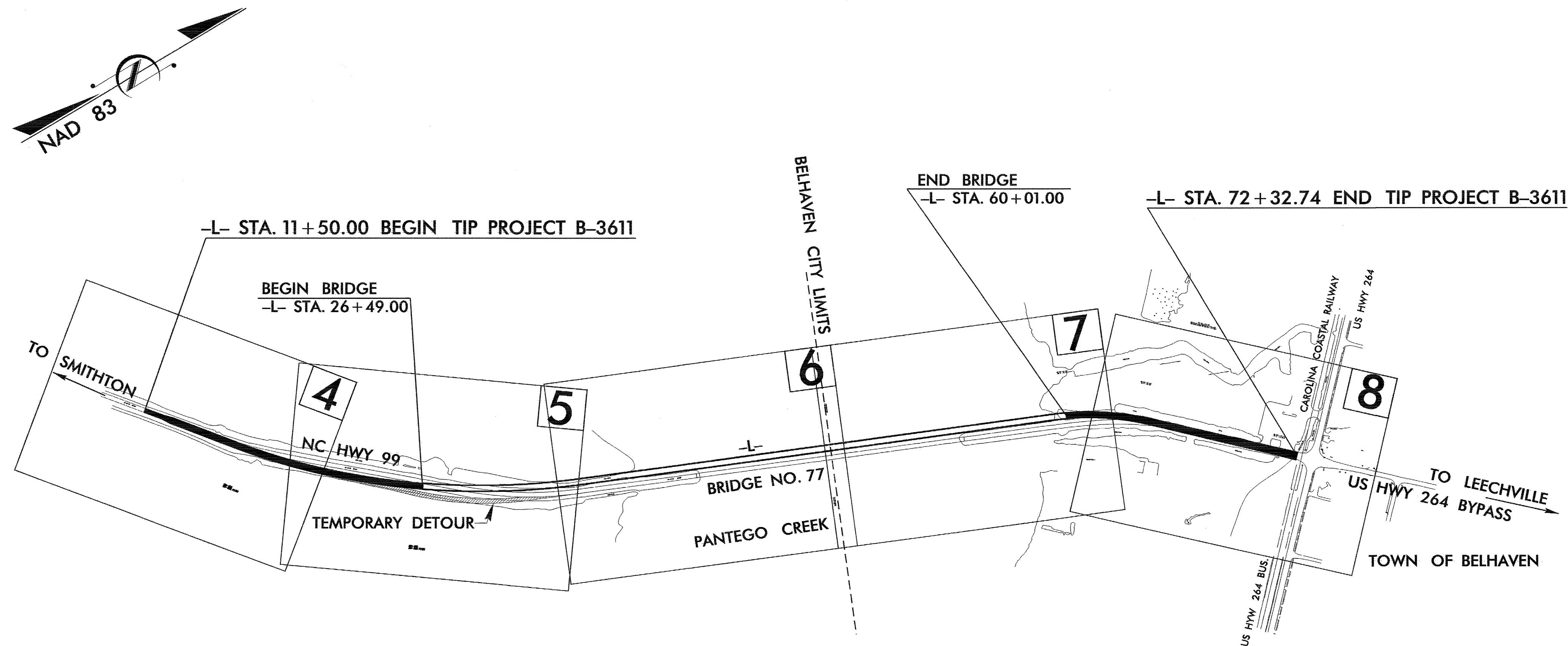
---

**LOCATION: BRIDGE NO. 77 OVER PANTEGO CREEK ON NC 99**  
**TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE AND PAVING**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3611	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

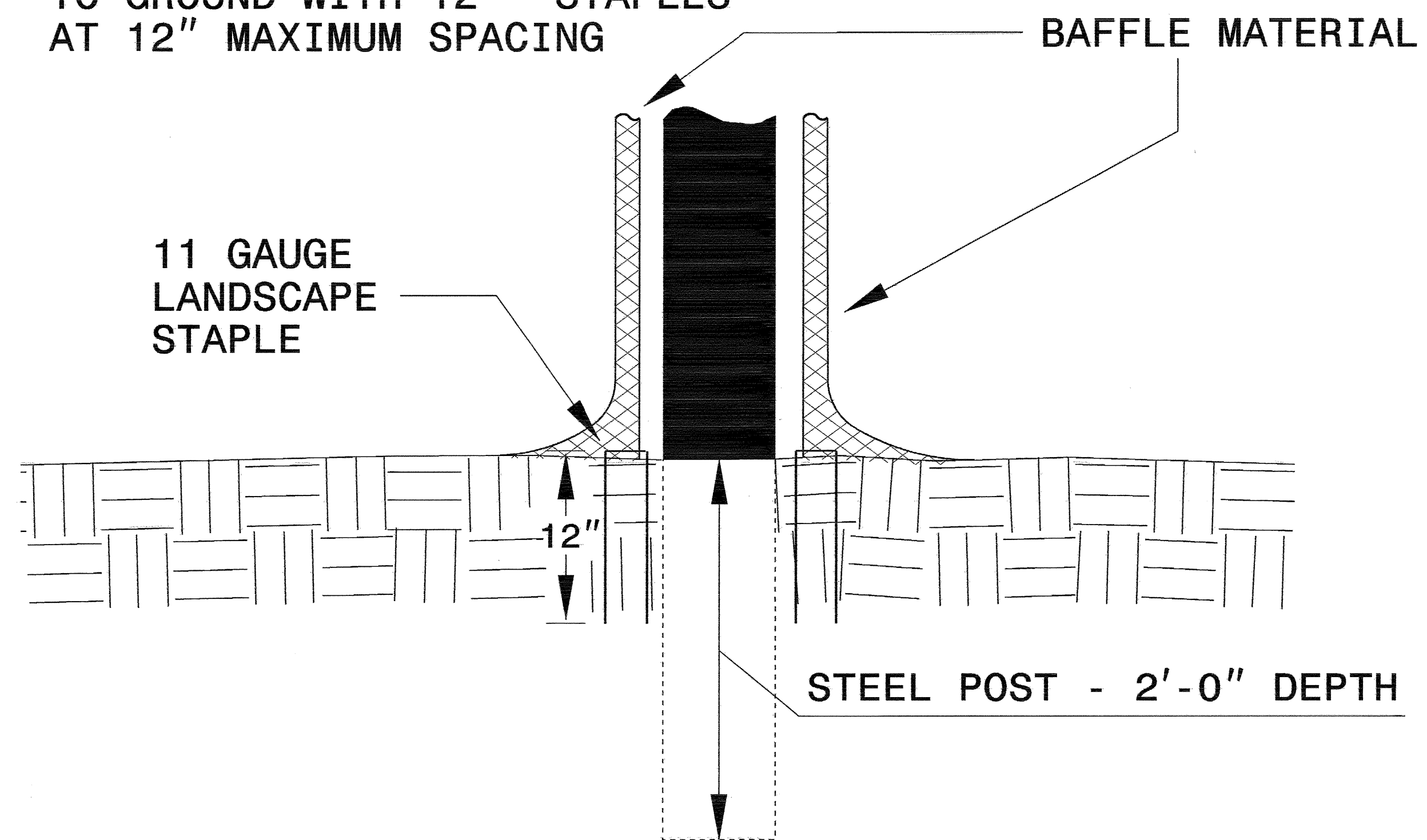
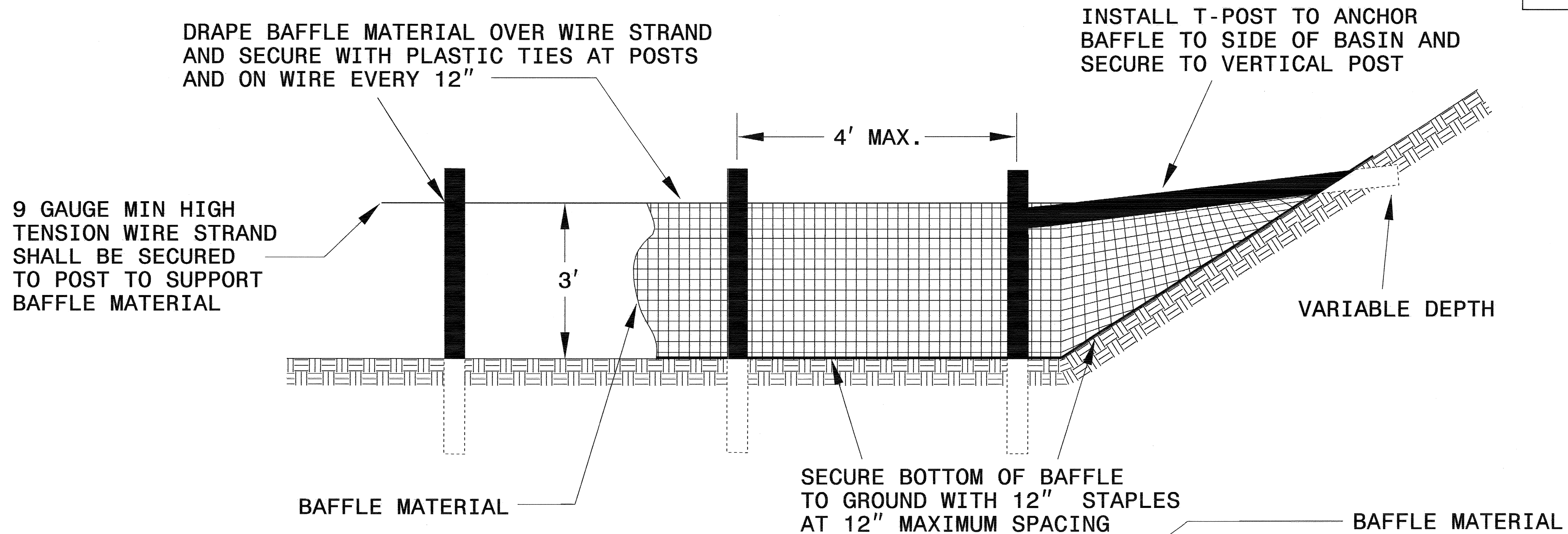
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	1635.01 Rock Pipe Inlet Sediment Trap Type A
1622.01 Temporary Berms and Slope Drains	

15-JAN-2010 09:35  
P:\B\PROJECTS\2010\B3611\EC.txd

PROJECT REFERENCE NO. B-3611	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER BAFFLE DETAIL



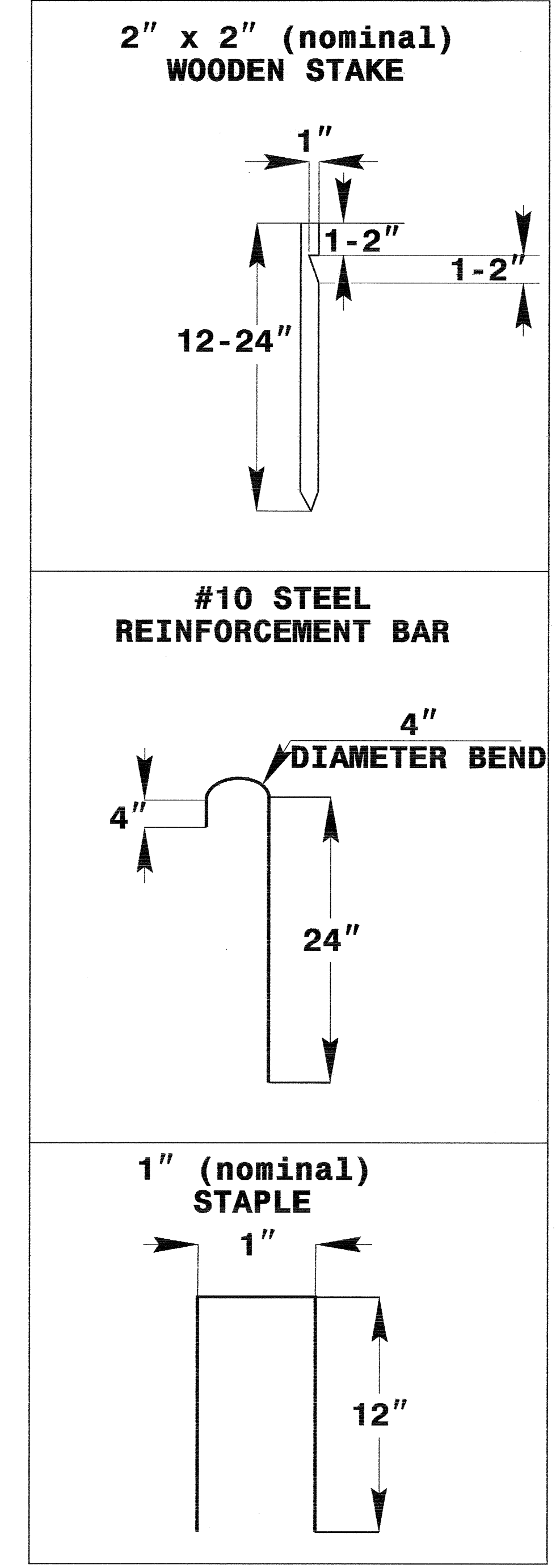
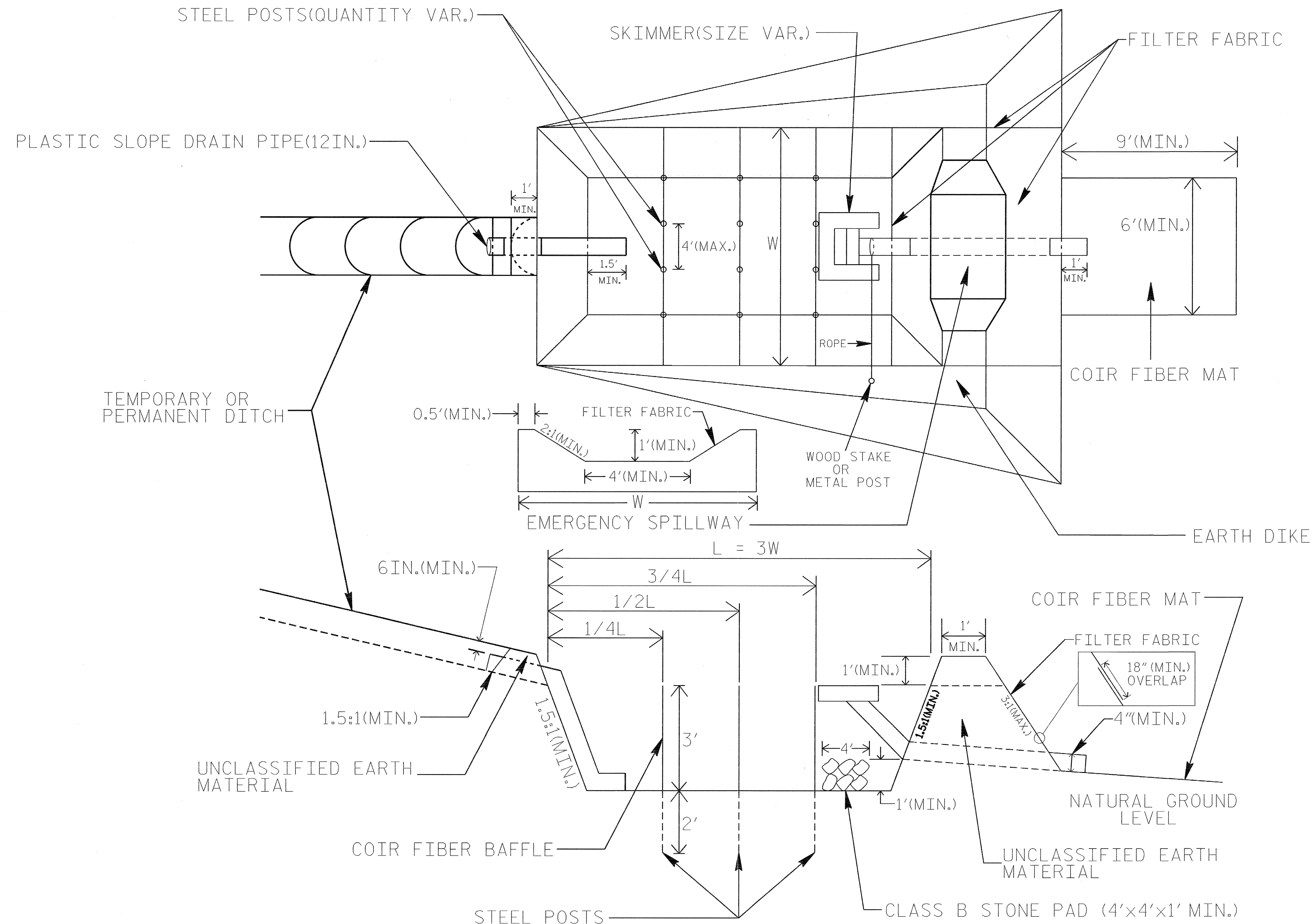
## NOTES:

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. B-3611	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



## COIR FIBER MAT ANCHOR OPTIONS

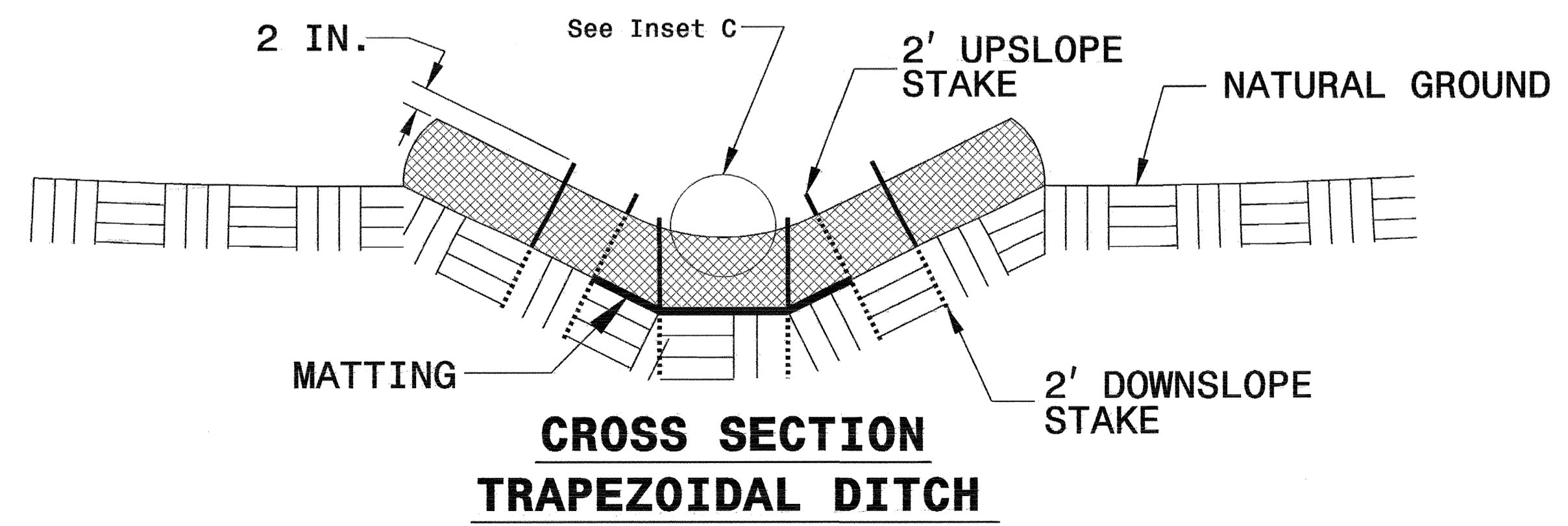
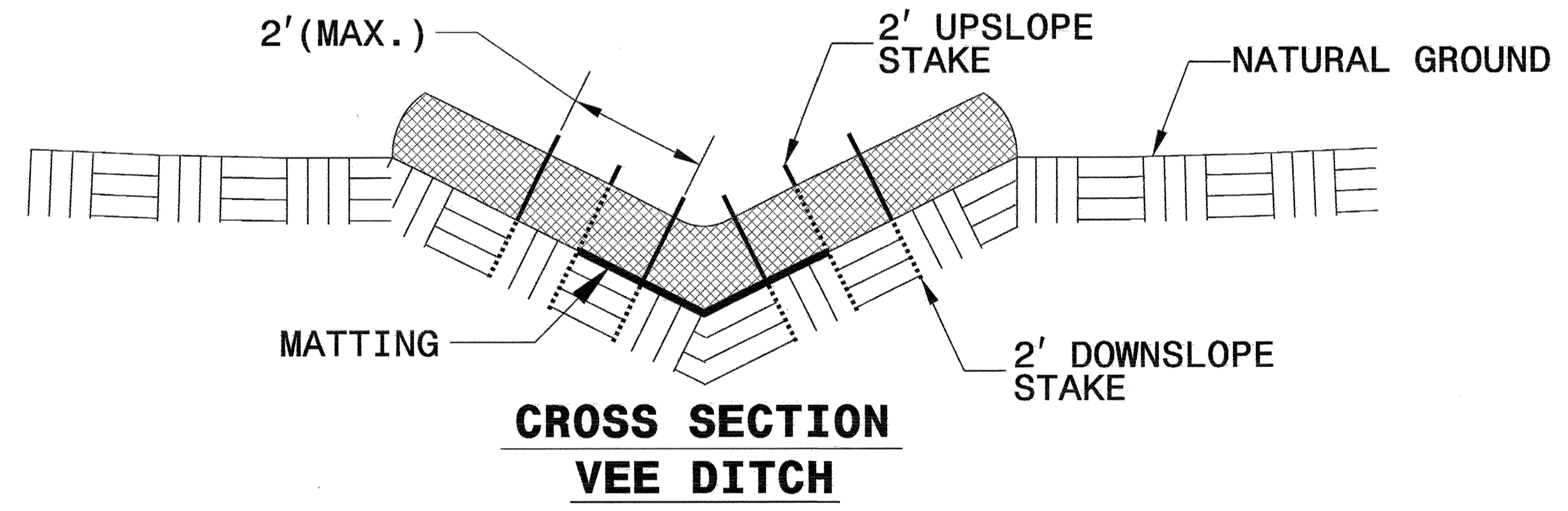
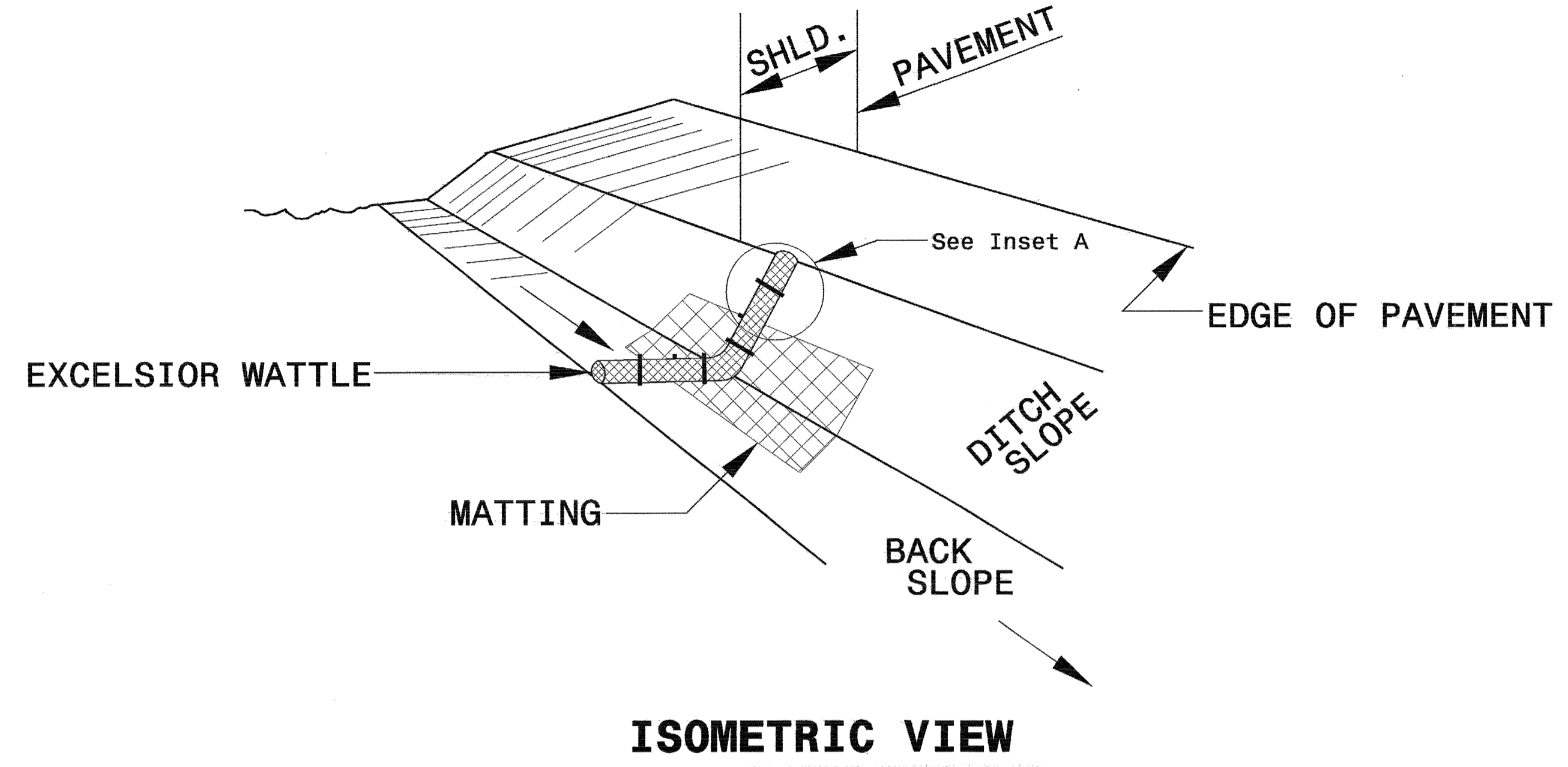
### NOTES

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 FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18" (MIN.) AS SHOWN.

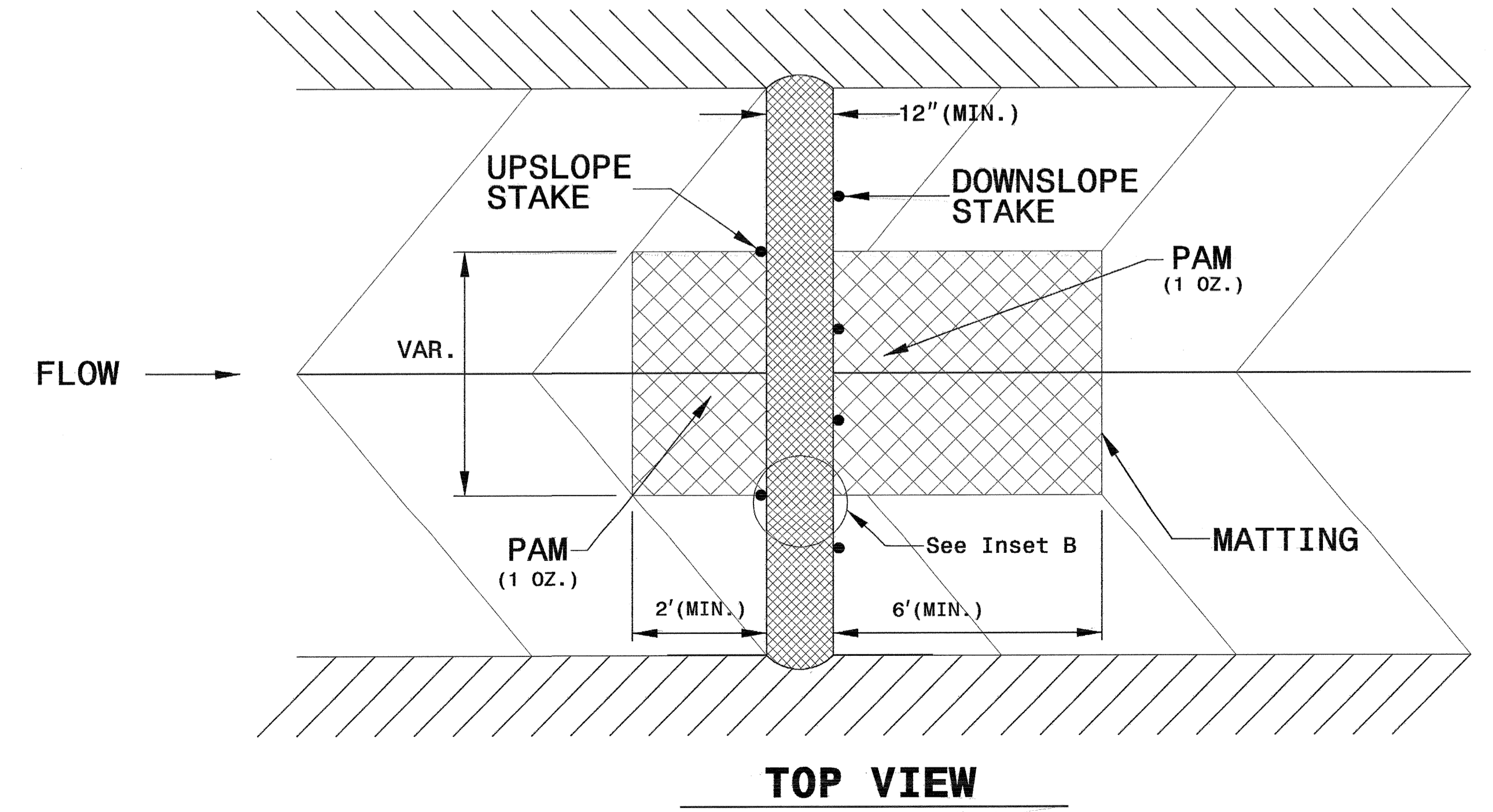
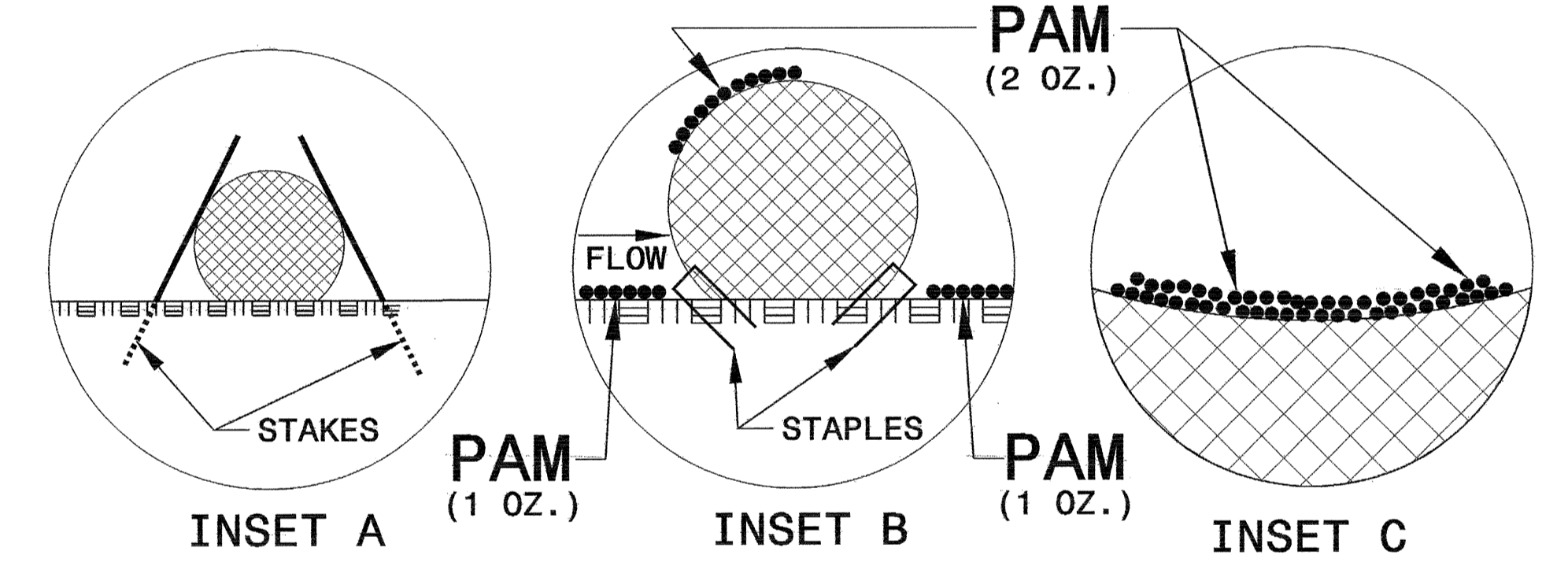
NOT TO SCALE

PROJECT REFERENCE NO. B-3611	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

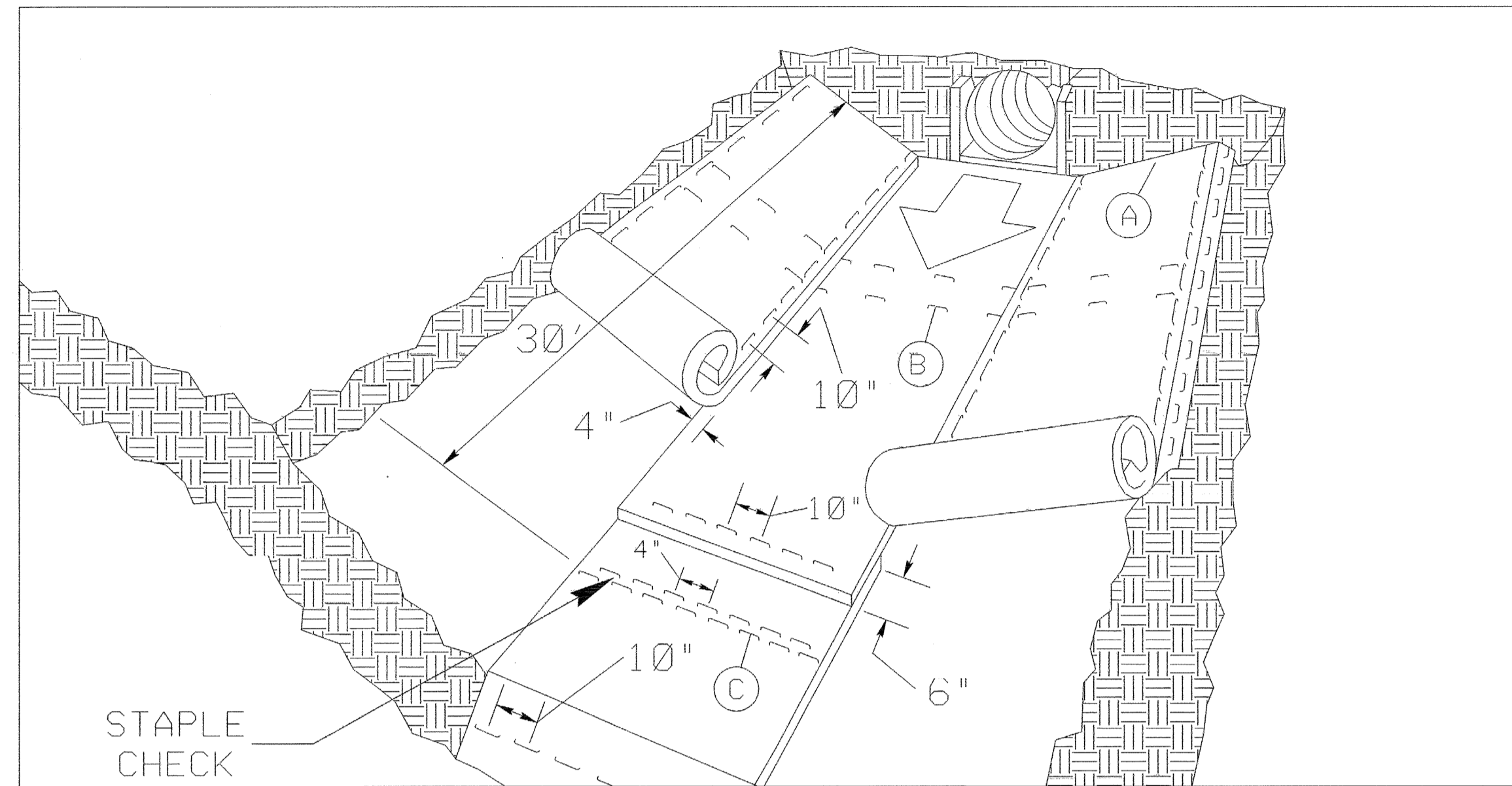


- NOTES:
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
  - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
  - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
  - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 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. B-3611	SHEET NO. EC-20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# MATTING INSTALLATION DETAIL



**MATTING IN DITCHES**

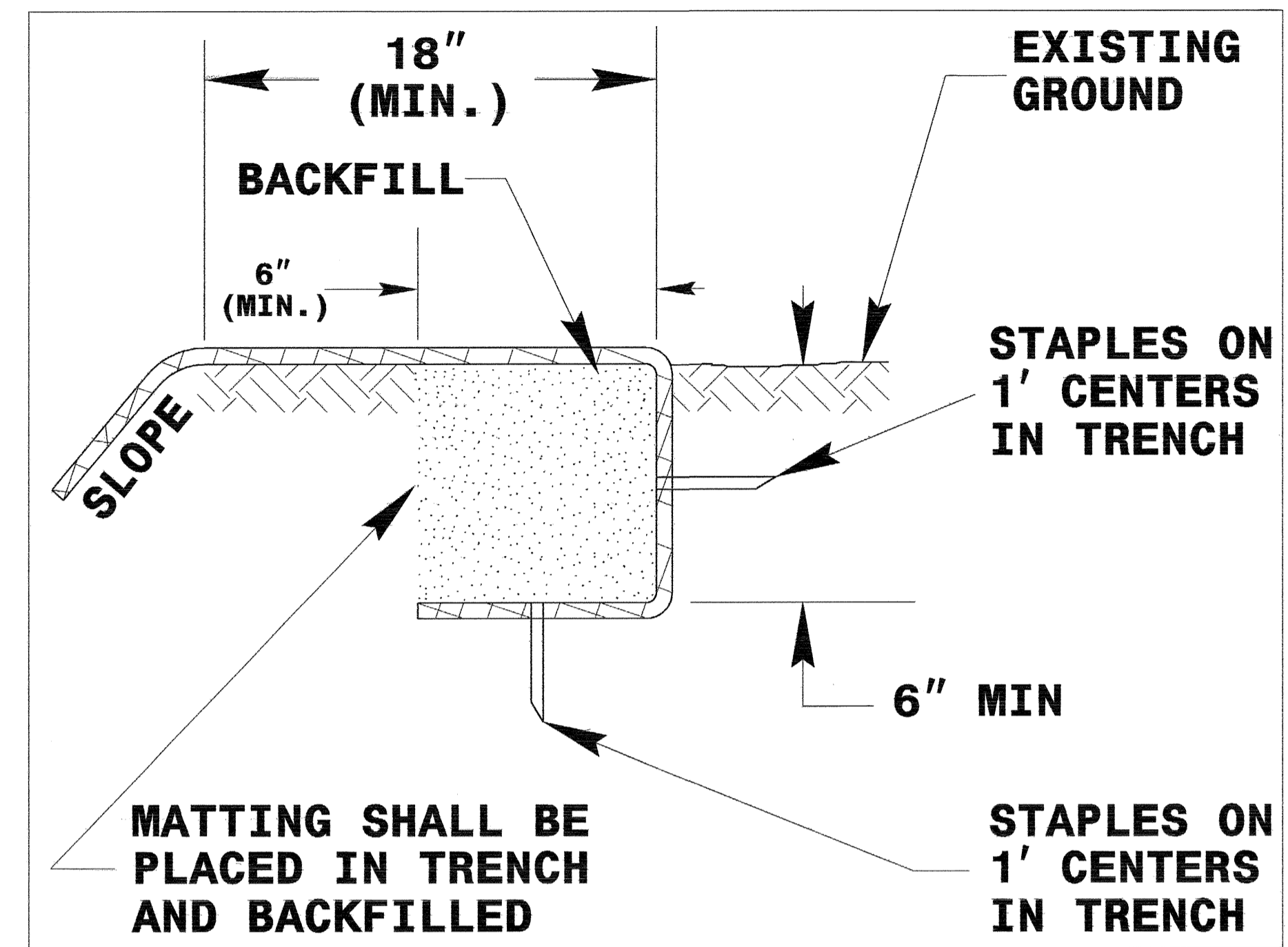
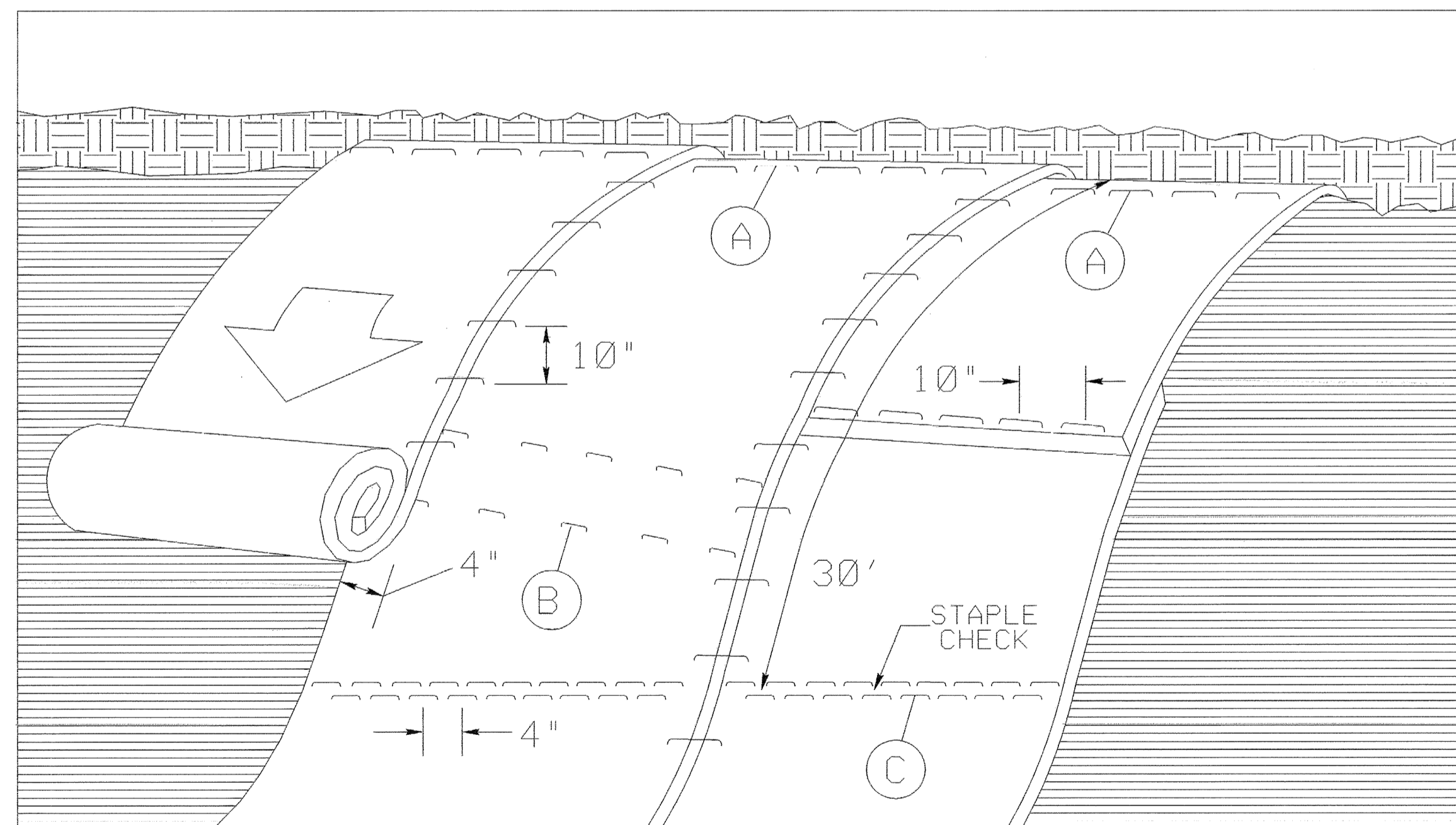


DIAGRAM (A)



**MATTING ON SLOPES**

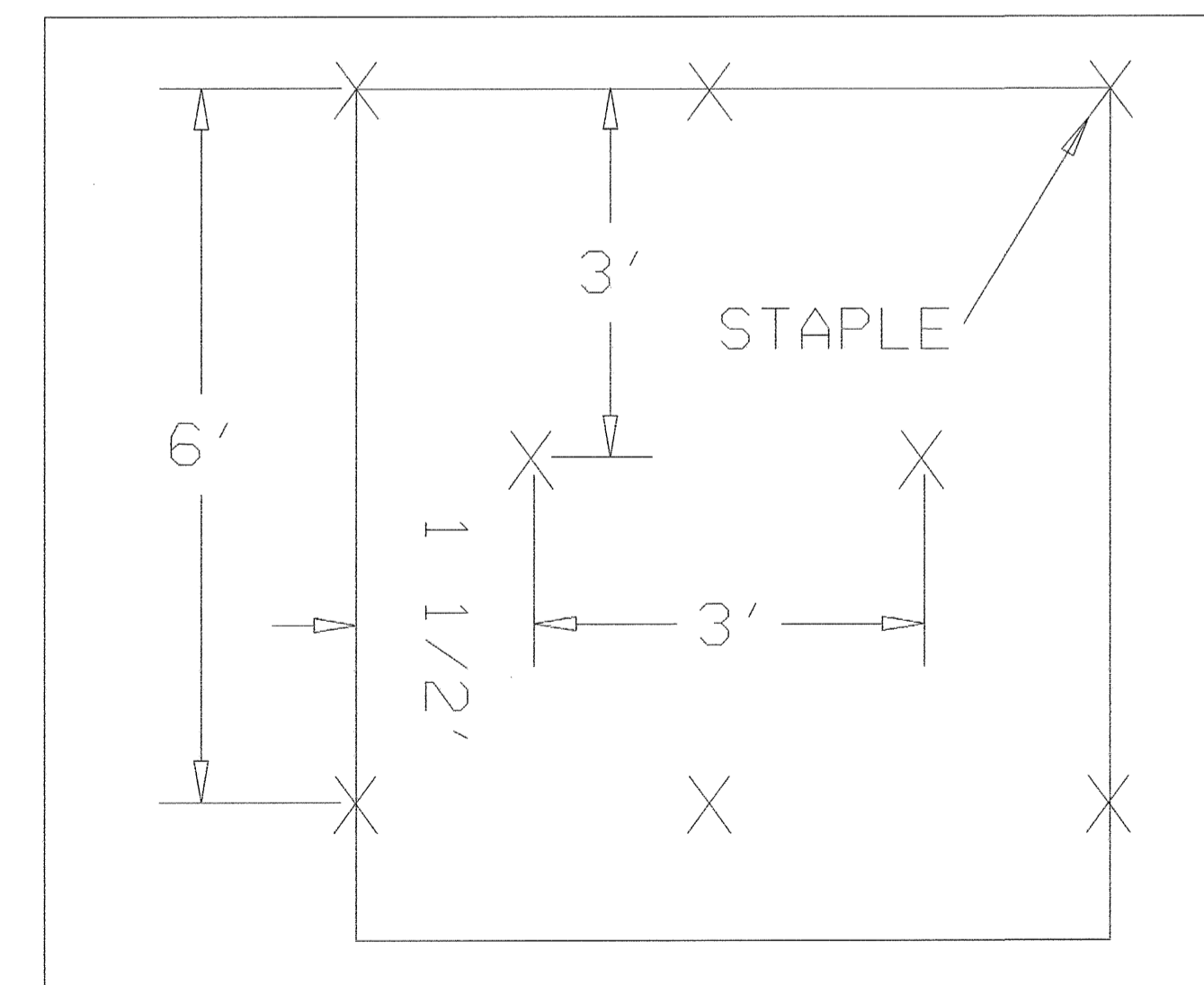


DIAGRAM (B)

STAPLE CHECK PATTERN

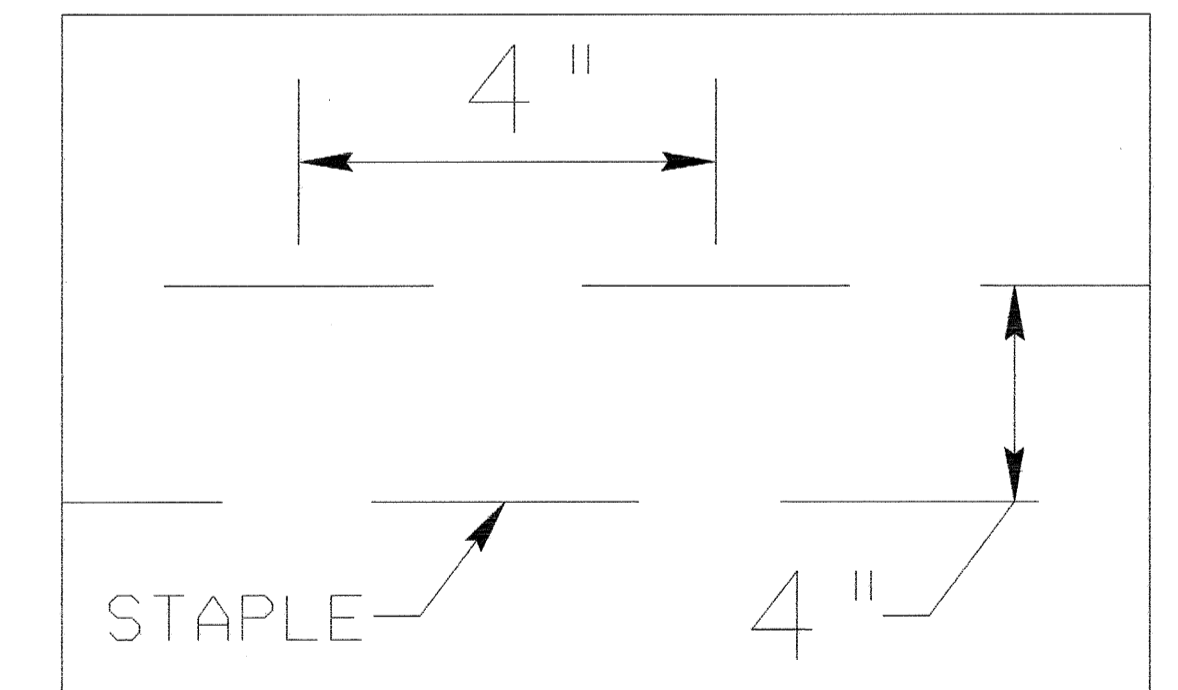


DIAGRAM (C)

**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

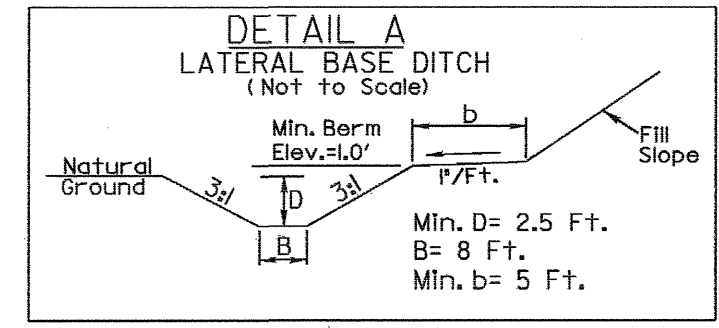
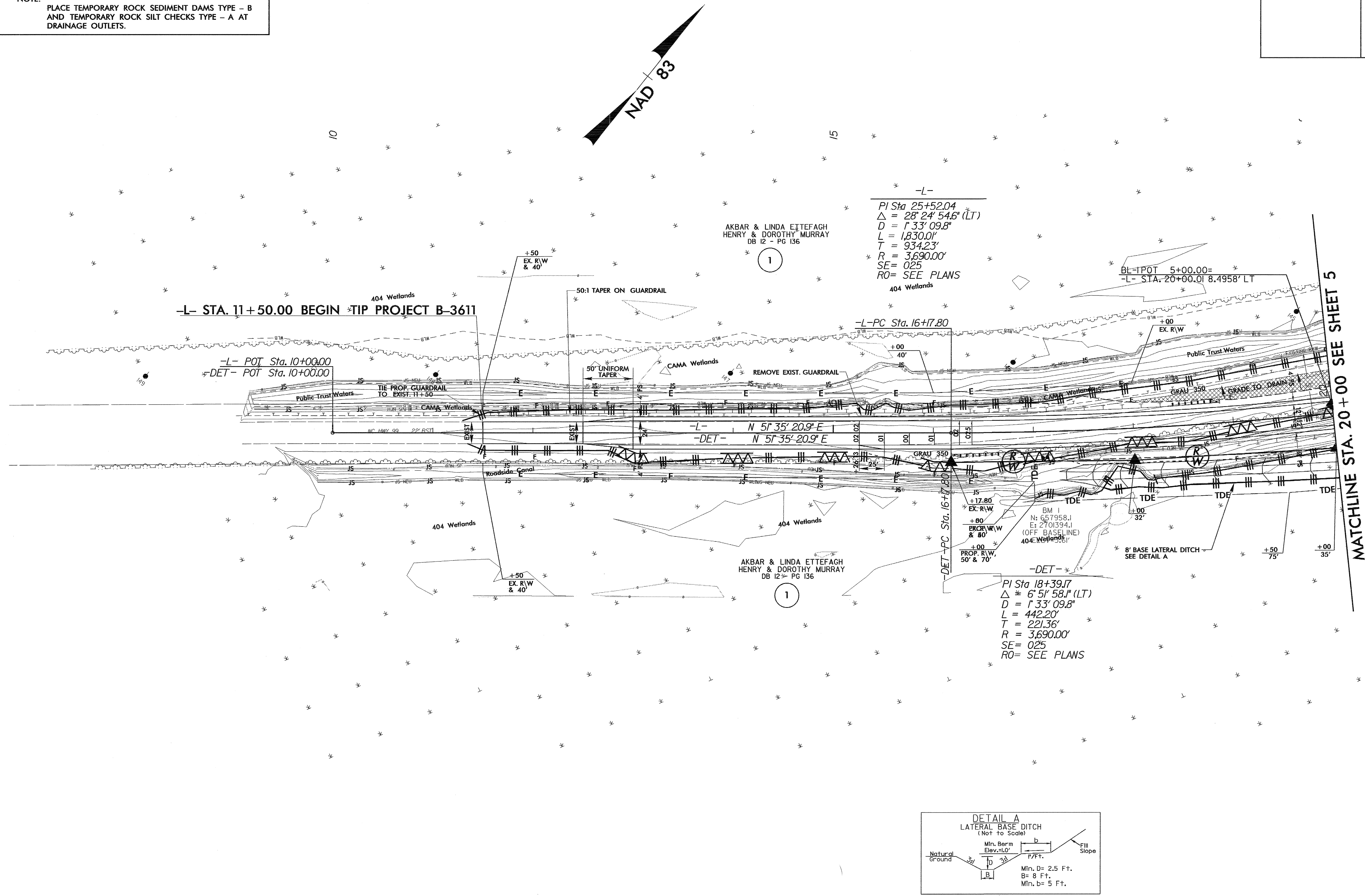


8/17/99

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4

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

PROJECT REFERENCE NO.	SHEET NO.
B-3611	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L- STA. 17+25 TO STA. 27+25 RT.  
DDE = 2600 Cu. Yds.

SEE DETAIL SHEET 2-B FOR DETOUR DESIGN  
SEE SHEET 9 FOR -L- PROFILE  
SEE SHEET 11 FOR -DET- PROFILE

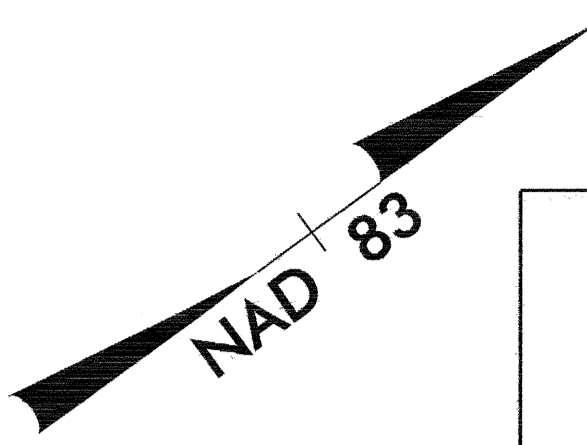
15 JAN 2010 09:58  
C:\Users\pash4\dgn\Design\B3611\_EC\_psh4.dgn  
AT:REV:2/2/2010


8/17/99

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 5

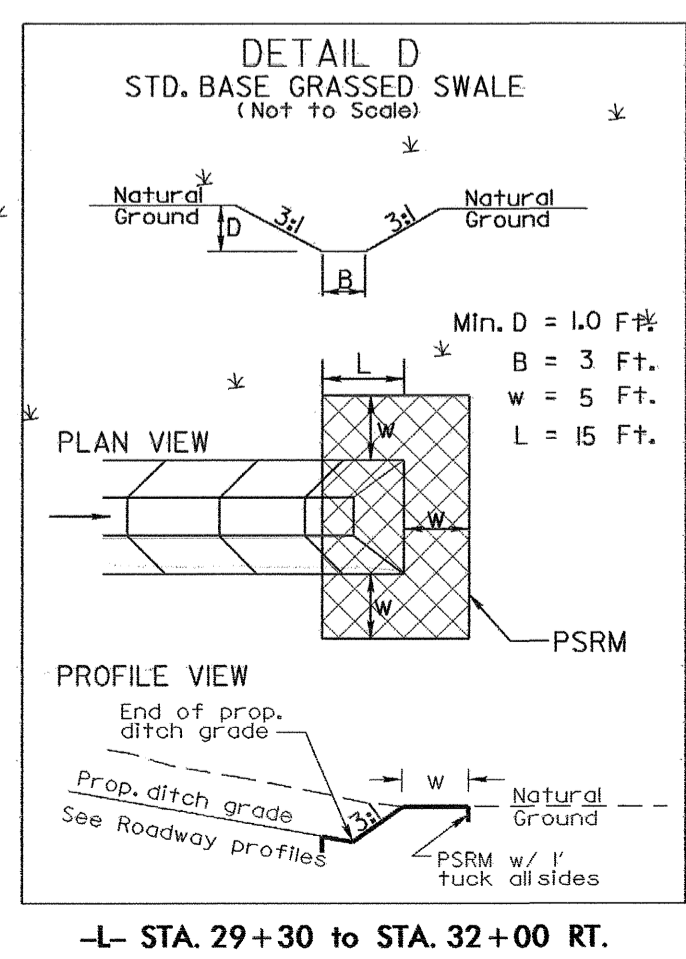
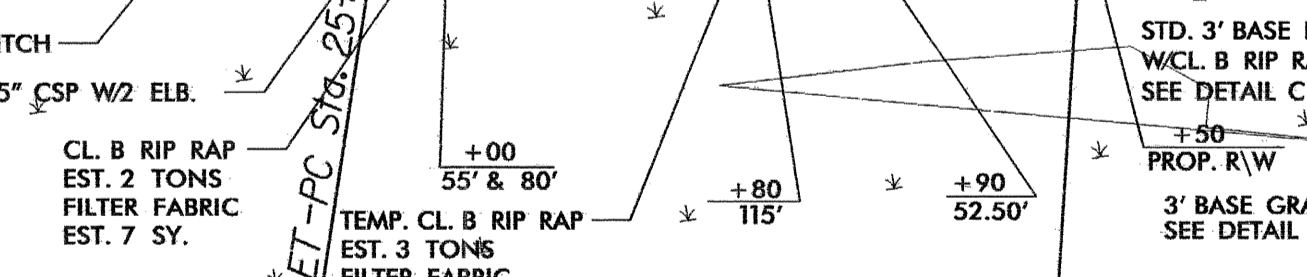
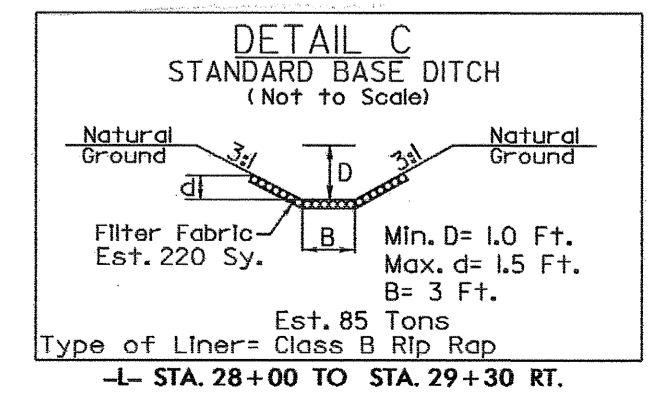
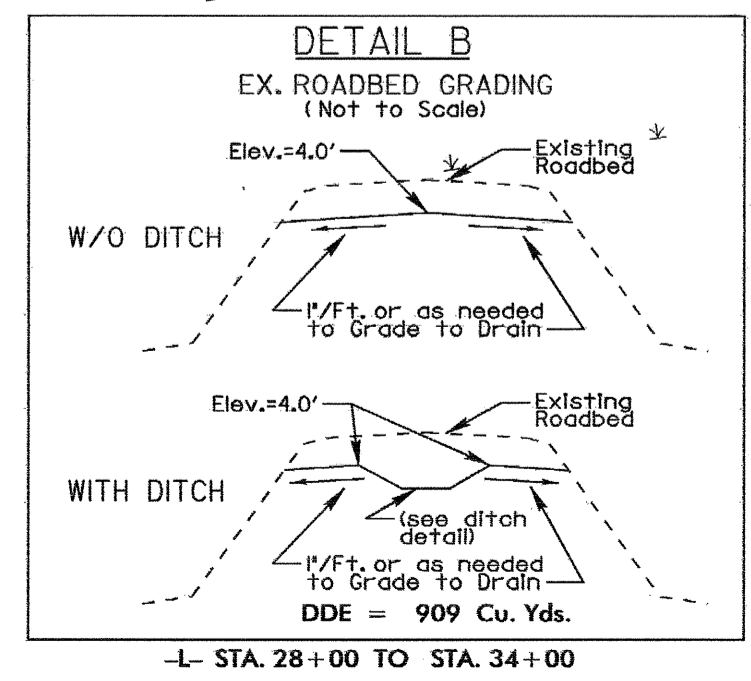
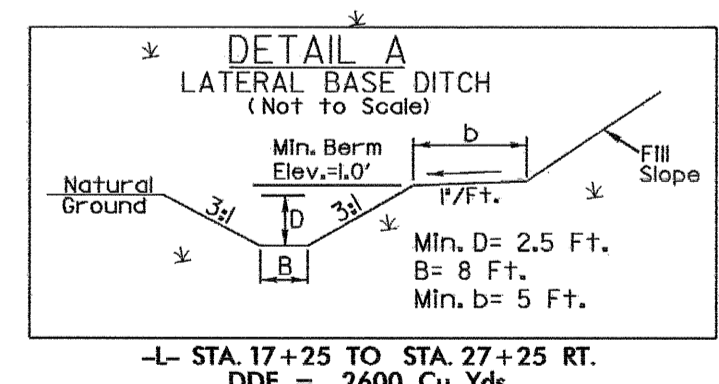
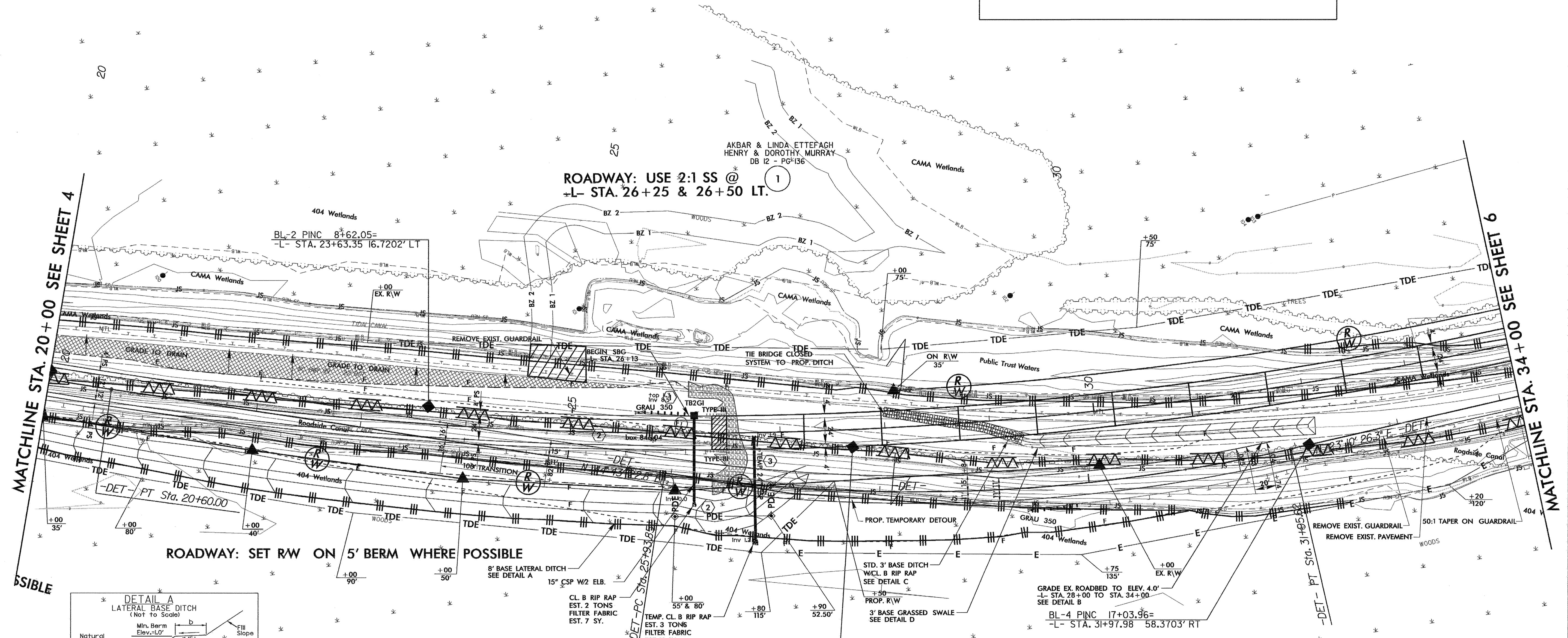
NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

-L-  
PI Sta 25+52.04  
Δ = 28° 24' 54.6" (LT)  
D = 1° 33' 09.8"  
L = 1,830.01'  
T = 934.23'  
R = 3,690.00'  
SE = 025  
RO = SEE PLANS

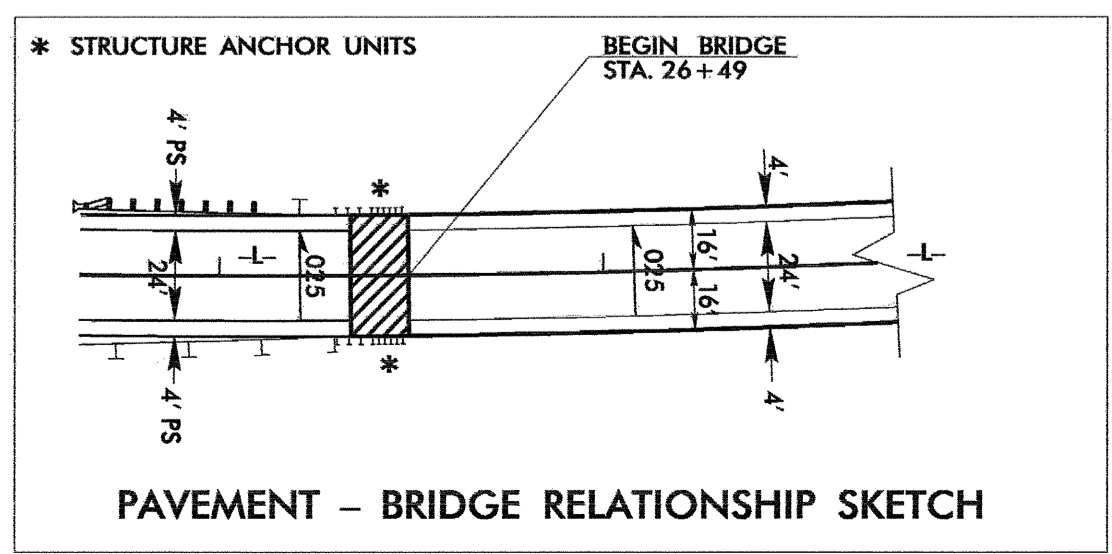


 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

PROJECT REFERENCE NO. B-3611	SHEET NO. EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



SEE SHEET 9 FOR -L- PROFILE  
SEE SHEETS 11 AND 12 FOR -DET- PROFILE  
SEE DETAIL SHEET 2-B FOR DETOUR DESIGN



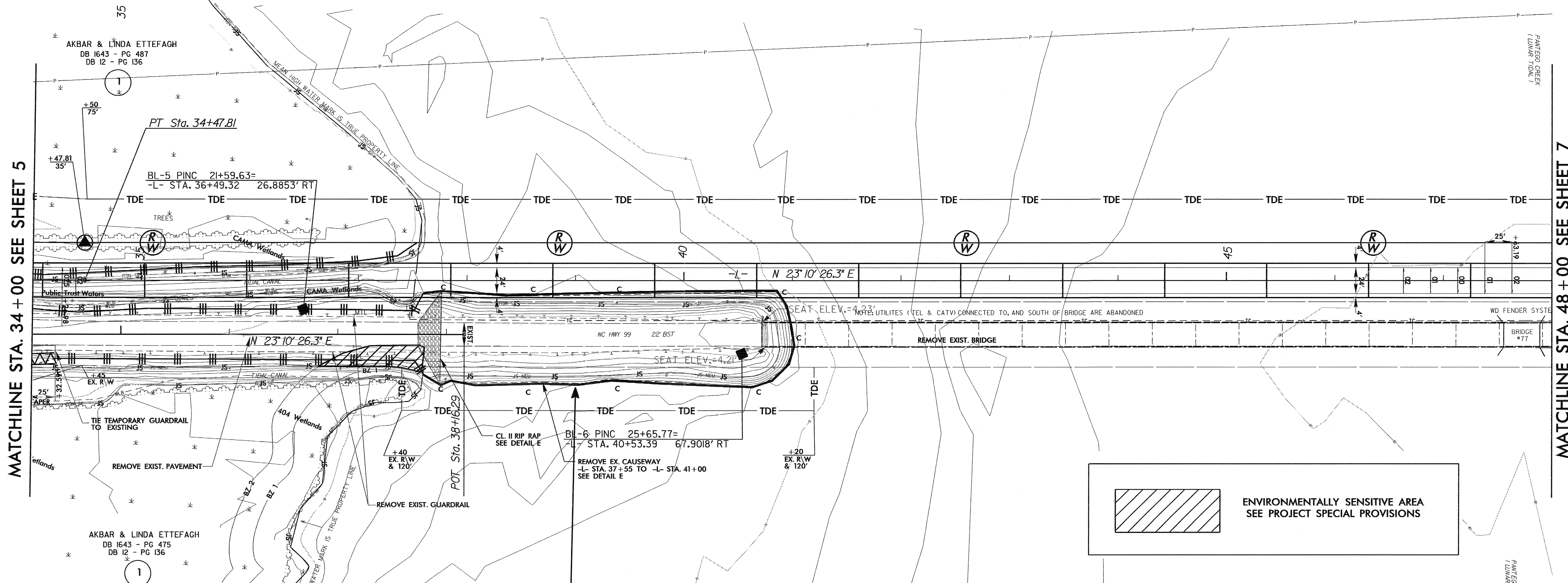
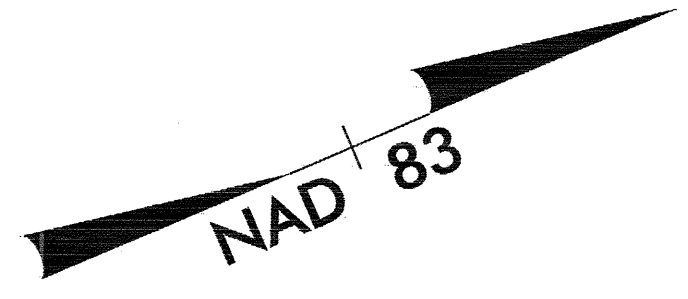
15-JAN-2010 09:39  
R:\Environmental\Design\3611\_EC\_psh5.dgn  
AT:RENV23812



8/17/99

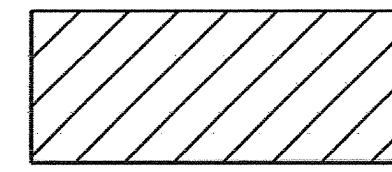
PROJECT REFERENCE NO.		SHEET NO.	
B-3611		EC-6/CONST.6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

-L-  
 PI Sta 25+52.04  
 $\Delta = 28^{\circ} 24' 54.6" (LT)$   
 $D = 1^{\circ} 33' 09.8"$   
 $L = 1,830.0'$   
 $T = 934.23'$   
 $R = 3,690.00'$   
 $SE = 025$   
 $RO = SEE PLANS$

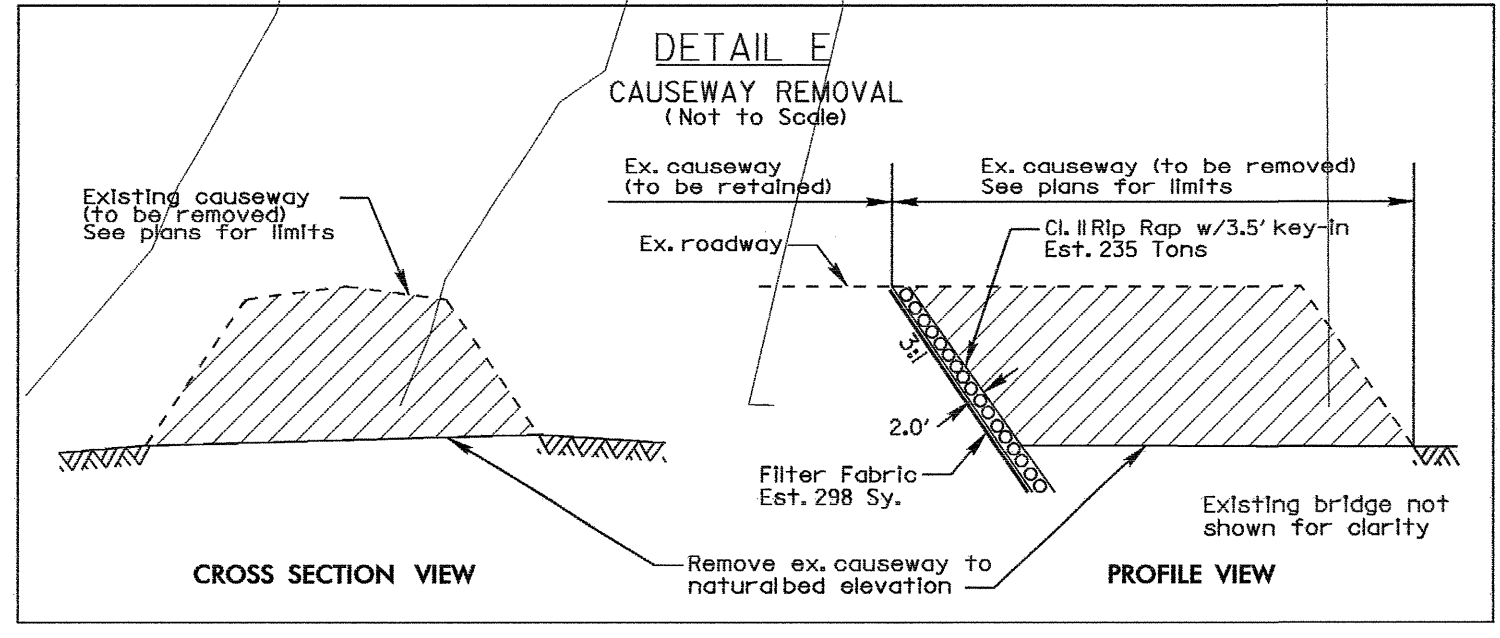


MATCHLINE STA. 34 + 00 SEE SHEET 5

MATCHLINE STA. 48 + 00 SEE SHEET 7

 ENVIRONMENTALLY SENSITIVE AREA  
 SEE PROJECT SPECIAL PROVISIONS

**FLOATING  
 TURBIDITY  
 CURTAIN**



CLEARING AND GRUBBING  
 EROSION CONTROL FOR  
 CONSTRUCTION SHEET 6

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

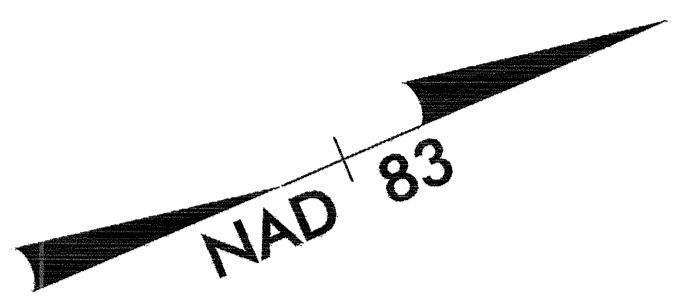
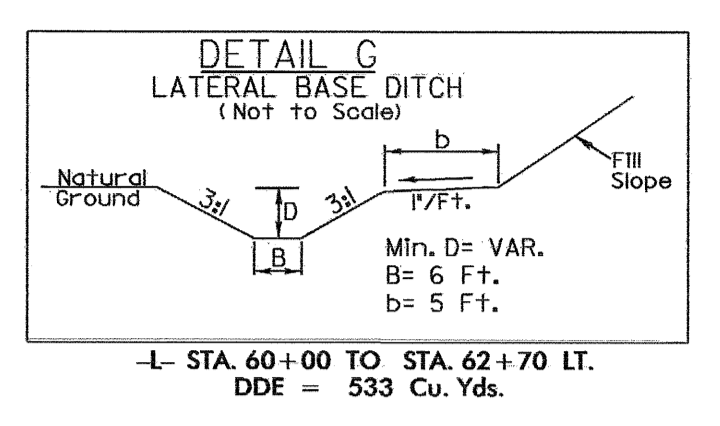
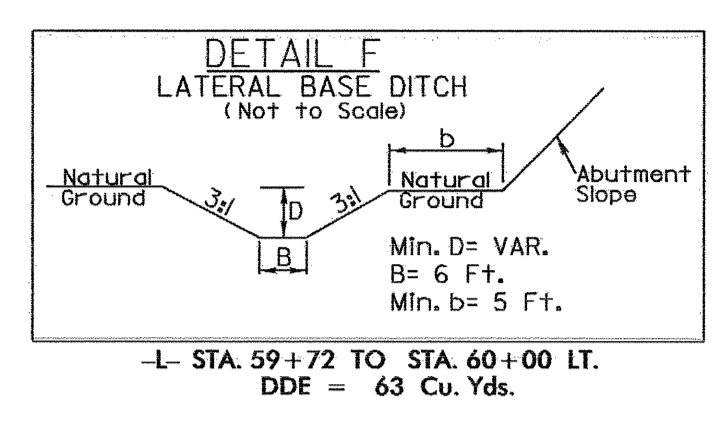
SEE SHEET 10 FOR -L- PROFILE  
 SEE SHEETS 11 AND 12 FOR -DET- PROFILE  
 SEE DETAIL SHEET 2-B FOR DETOUR DESIGN

15-JAN-2010 09:40  
 R:\enviro\3611\Design\3611\_EC\_psf6.dgn  
 AT: R:\enviro\3611\3611.dwg

PROJECT REFERENCE NO.		SHEET NO.	
B-3611		EC-7/CONST.7	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 7

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

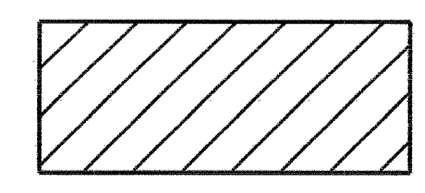


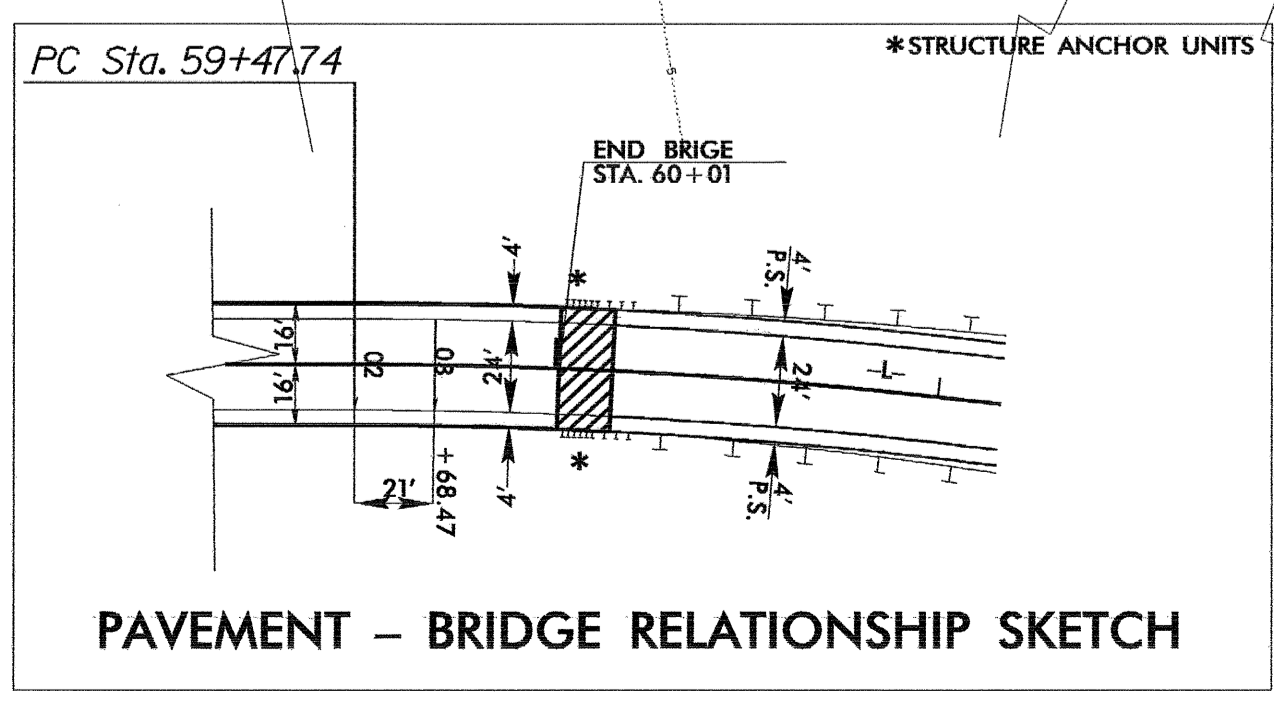
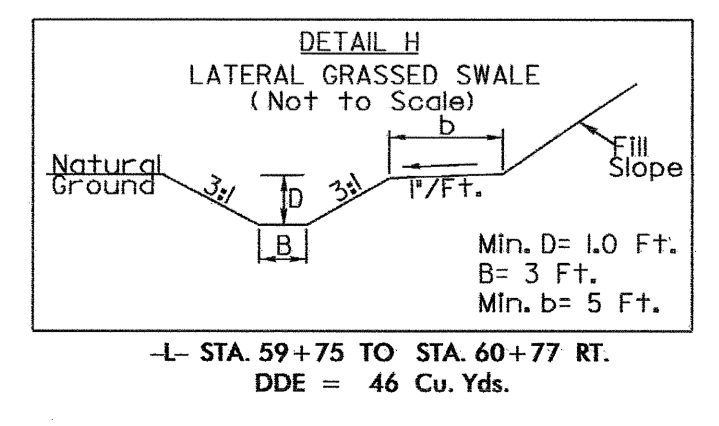
-L-  
PI Sta 61+97.52  
 $\Delta = 20^{\circ} 39' 57.2''$  (RT)  
 $D = 410' 55.8''$   
 $L = 494.14'$   
 $T = 249.79'$   
 $R = 1,370.00'$   
 $SE = 03$   
RO= SEE PLANS

MATCHLINE STA. 48 + 00 SEE SHEET 6

MATCHLINE STA. 62 + 00 SEE SHEET 8

NOTE: ALL UNDERGROUND UTILITY DATA WAS  
LOCATED BY TRANSFERENCE FROM DRAWN  
PLANS FURNISHED BY THE UTILITY OWNERS

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS



SEE SHEET 10 FOR -L- PROFILE

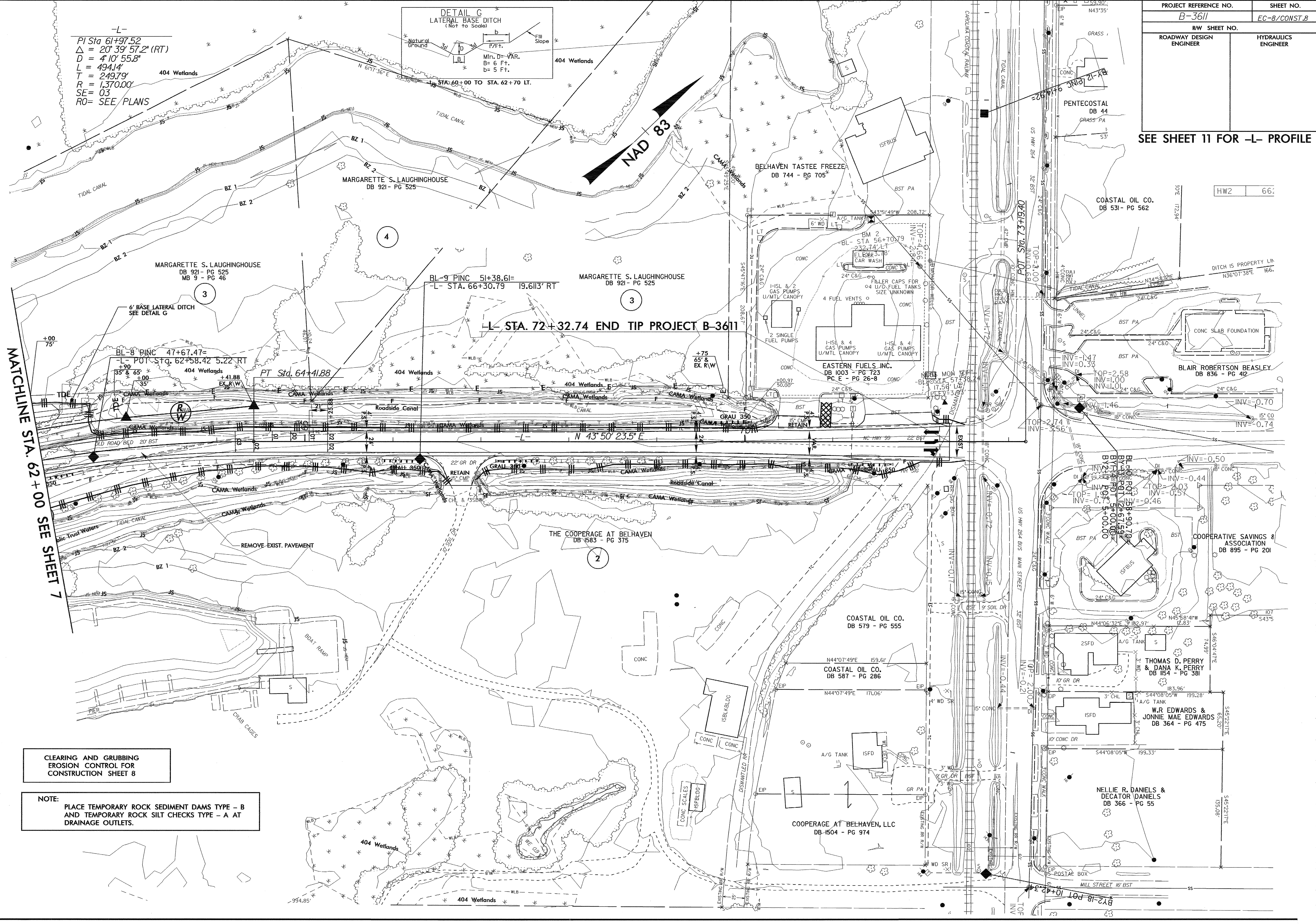
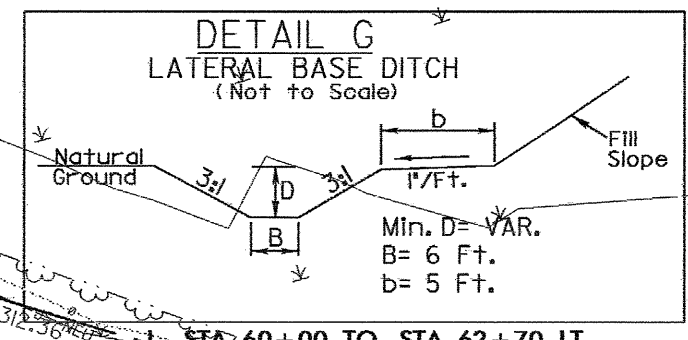
8/17/99  
15-JAN-2010 09:40  
R:\V\A\2010\_09\40\_Design\B3611\_EC\_psh7.dgn  
User: psh7  
Plot: B3611\_EC\_psh7.dgn

8/17/99

PROJECT REFERENCE NO. <b>B-3611</b>		SHEET NO. <b>EC-8/CONST.8</b>	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

SEE SHEET 11 FOR -L- PROFILE

-L-  
 PI Sta 61+97.52  
 $\Delta = 20' 39" 57.2" (RT)$   
 $D = 4' 10" 55.8"$   
 $L = 494.14'$   
 $T = 249.79'$   
 $R = 1,370.00'$   
 $SE = 03$   
 $RO = SEE PLANS$



MATCHLINE STA. 62+00 SEE SHEET 7

-L- STA. 72+32.74 END TIP PROJECT B-3611

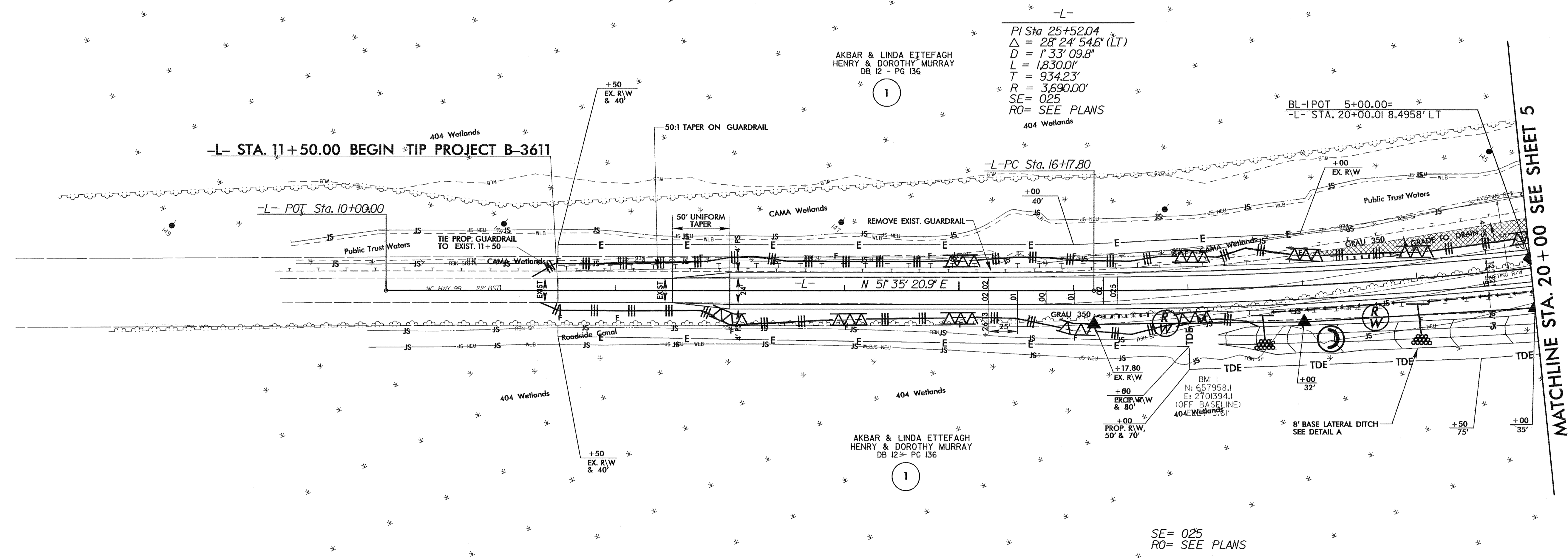
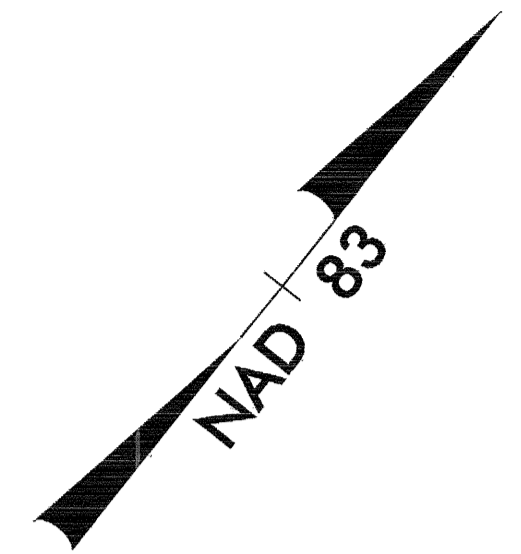
CLEARING AND GRUBBING  
 EROSION CONTROL FOR  
 CONSTRUCTION SHEET 8

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

15: JMN-200\_09:40  
 R: JMN-200\_09:40  
 Design: b3611.ec\_psh8.dgn  
 Date: 8/17/99  
 User: jmn

8/17/99

PROJECT REFERENCE NO.		SHEET NO.	
B-3611		EC-9/CONST.4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



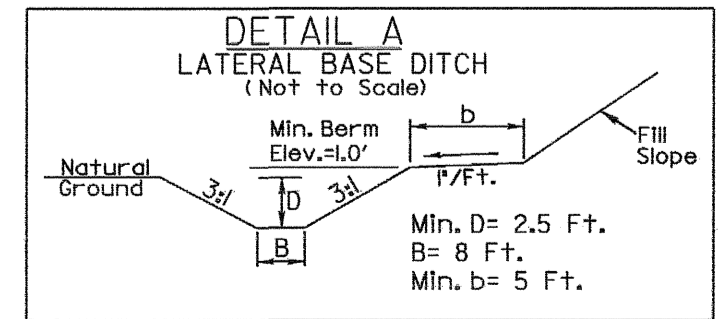
-L-  
 PI Sta. 25+52.04  
 $\Delta = 28^\circ 24' 54.6" (LT)$   
 $D = 1,830.01'$   
 $T = 934.23'$   
 $R = 3,690.00'$   
 $SE = 025$   
 $RO = \text{SEE PLANS}$

BL-IPOT 5+00.00=  
 -L- STA. 20+00.01 8.4958' LT

MATCHLINE STA. 20+00 SEE SHEET 5

BM 1  
 N: 657958.1  
 E: 2701394.1  
 (OFF. BASELINE)  
 404 Wetlands

SE= 025  
 RO= SEE PLANS



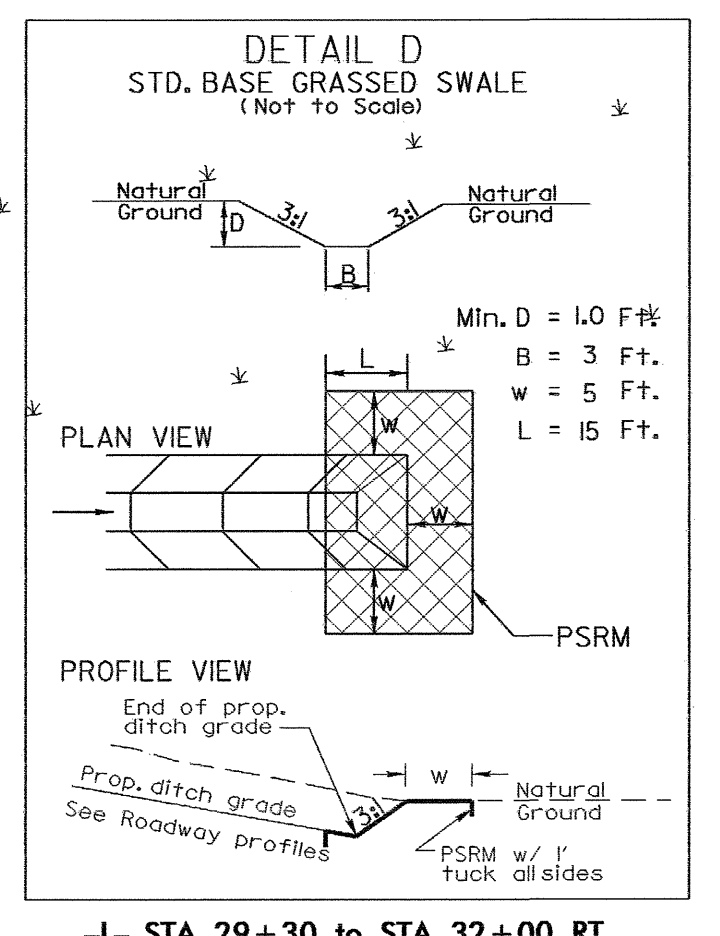
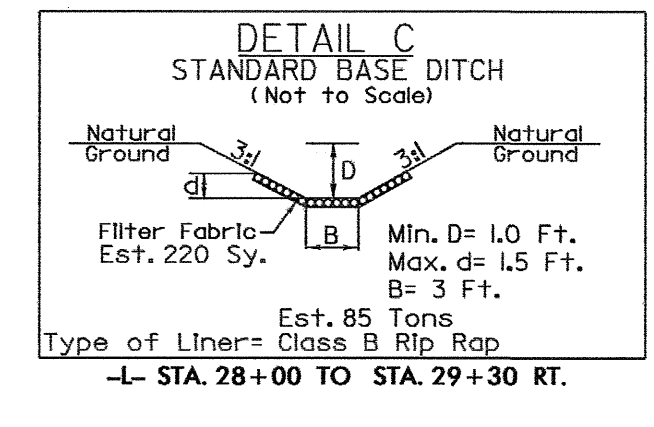
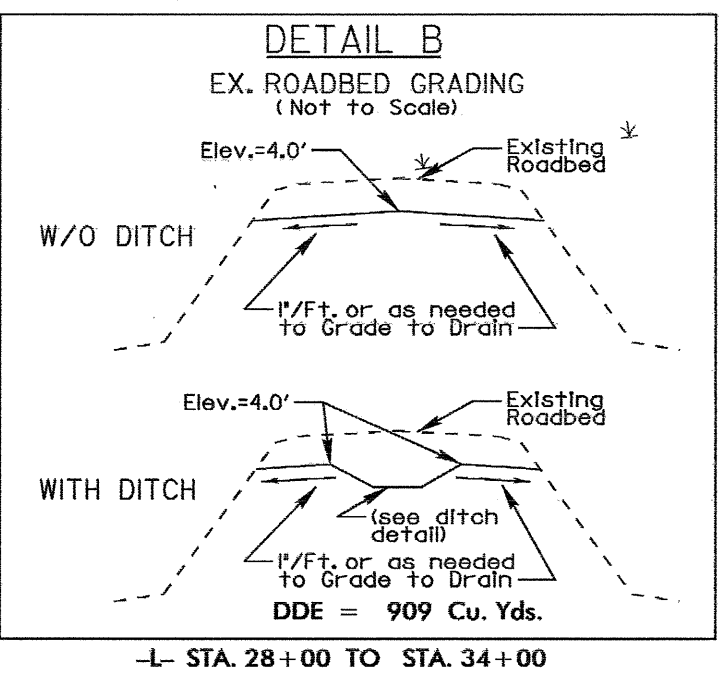
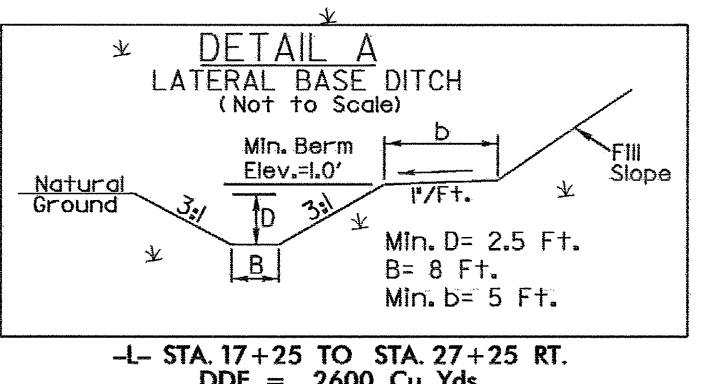
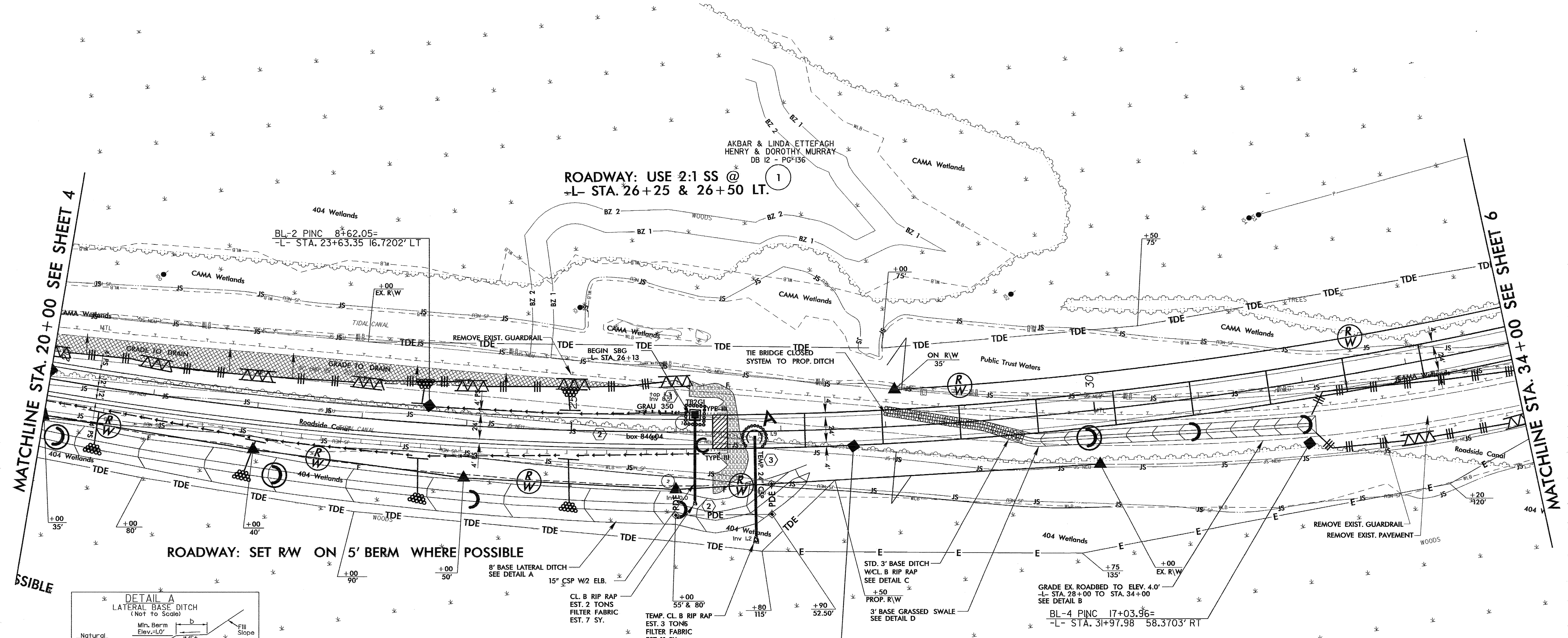
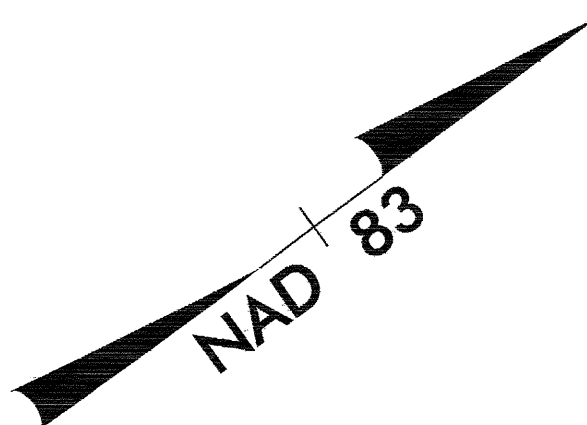
-L- STA. 17+25 TO STA. 27+25 RT.  
 DDE = 2600 Cu. Yds.

SEE DETAIL SHEET 2-B FOR DETOUR DESIGN  
 SEE SHEET 9 FOR -L- PROFILE  
 SEE SHEET 11 FOR -DET- PROFILE

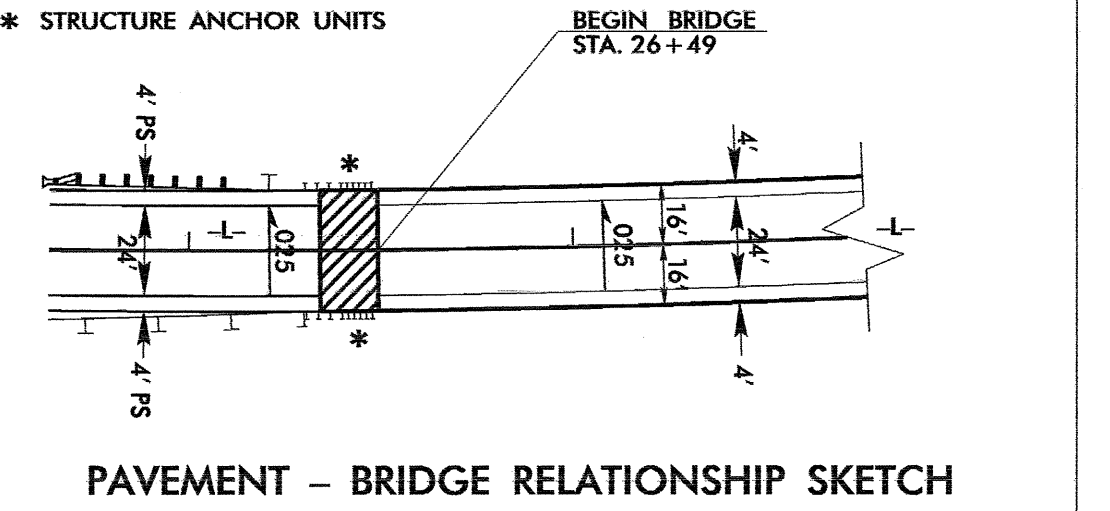
I:\LAN-2000\_09\41\Drawings\Design\B3611\EC\_psh4.dgn  
 8/17/99 10:28:18 AM

PROJECT REFERENCE NO.		SHEET NO.	
B-3611		EC-10/CONST.5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

-L-  
 PI Sta 25+52.04  
 $\Delta = 28' 24" 54.6" (LT)$   
 $D = 1' 33" 09.8"$   
 $L = 1,830.01'$   
 $T = 934.23'$   
 $R = 3,690.00'$   
 $SE = 025$   
 $RO = \text{SEE PLANS}$



SEE SHEET 9 FOR -L- PROFILE  
 SEE SHEETS 11 AND 12 FOR -DET- PROFILE  
 SEE DETAIL SHEET 2-B FOR DETOUR DESIGN

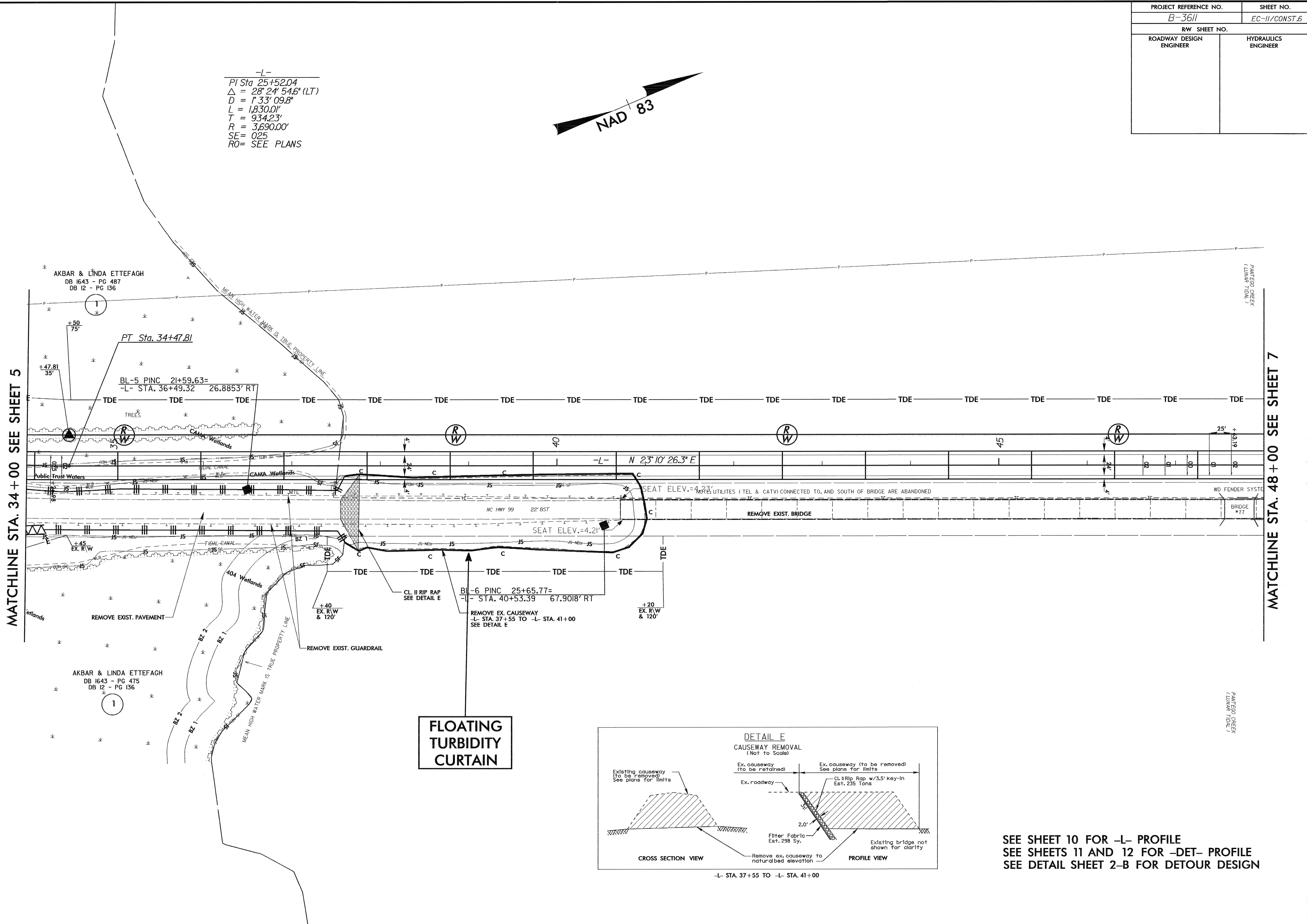


15 JAN 2000 09:41  
 E:\Projects\Design\3611\EC\_psh5.dgn  
 AT REV 2/18/99  
 maban

8/17/99  
15 JAN 20 09 43 \\Design\3611.EC-psb6.dgn  
R:\E\3611\3611.DAT

PROJECT REFERENCE NO.		SHEET NO.	
B-3611		EC-II/CONST.6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

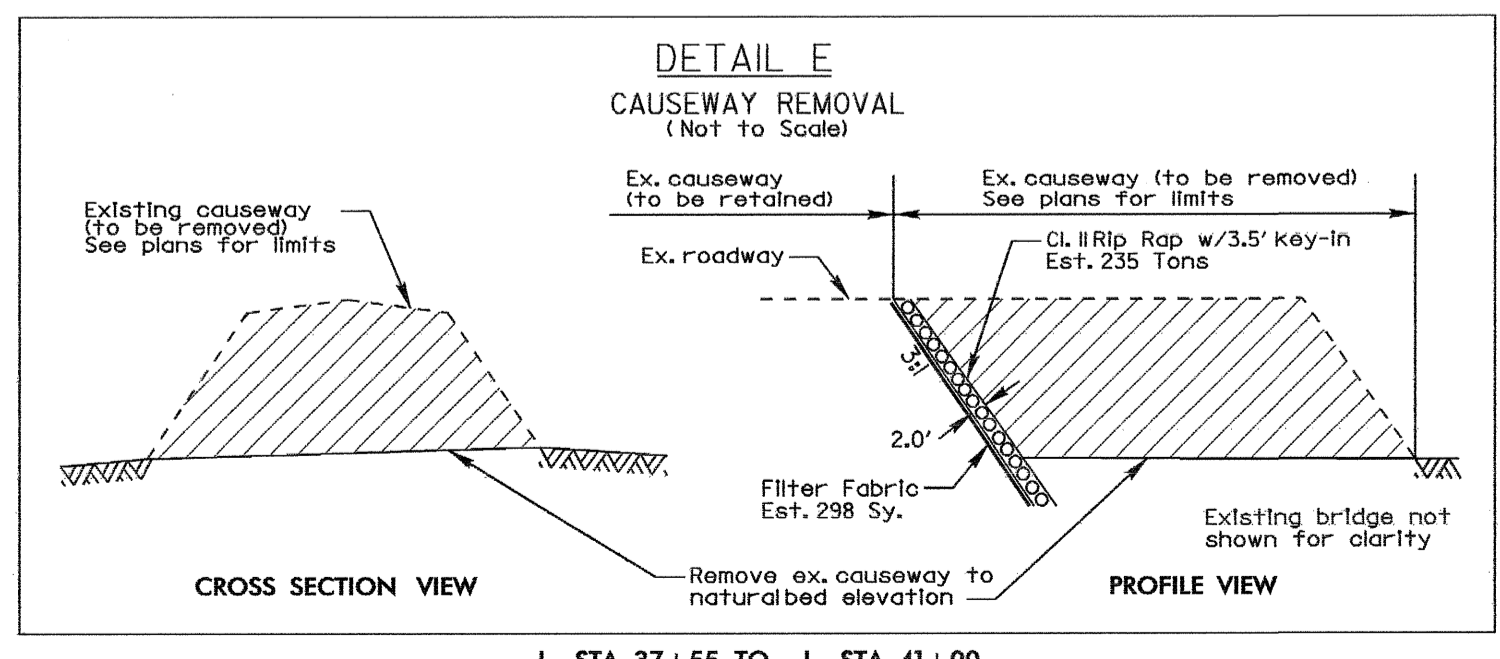
-L-  
PI Sta. 25+52.04  
Δ = 28° 24' 54.6" (LT)  
D = 1° 33' 09.8"  
L = 1,830.0'  
T = 934.23'  
R = 3,690.00'  
SE = 025  
RO = SEE PLANS



MATCHLINE STA. 34 + 00 SEE SHEET 5

MATCHLINE STA. 48 + 00 SEE SHEET 7

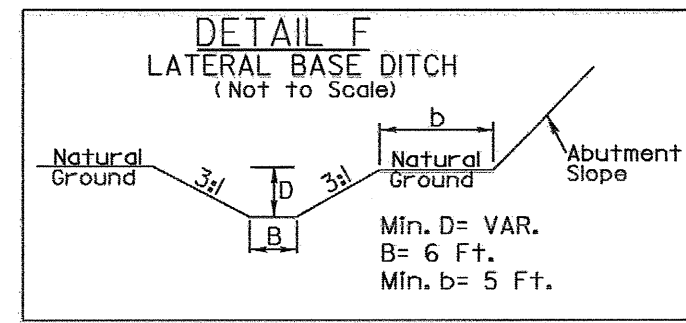
**FLOATING  
TURBIDITY  
CURTAIN**



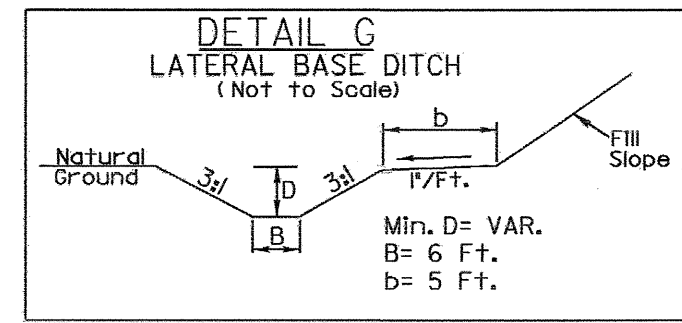
SEE SHEET 10 FOR -L- PROFILE  
SEE SHEETS 11 AND 12 FOR -DET- PROFILE  
SEE DETAIL SHEET 2-B FOR DETOUR DESIGN

-L- STA. 37+55 TO -L- STA. 41+00

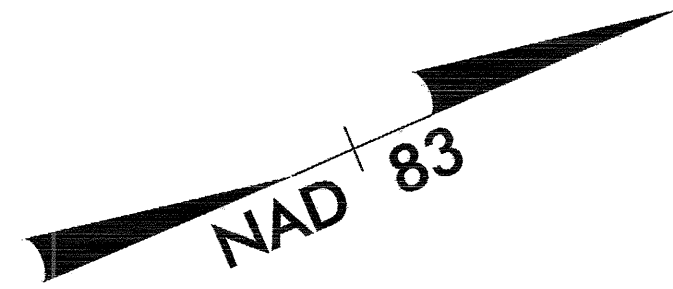
PROJECT REFERENCE NO.		SHEET NO.	
B-3611		EC-12/CONST.7	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



-L- STA. 59+72 TO STA. 60+00 LT.  
DDE = 63 Cu. Yds.



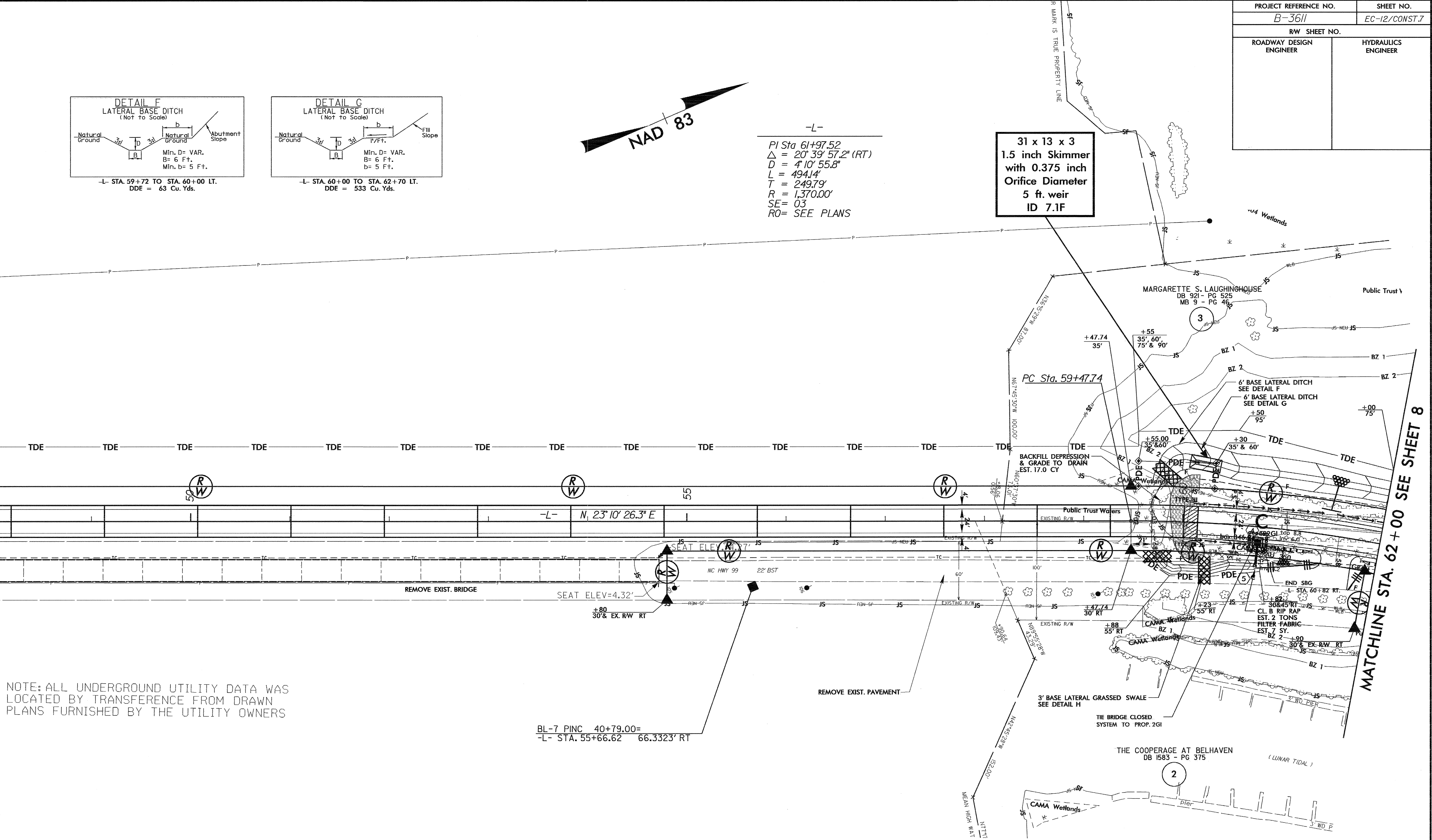
-L- STA. 60+00 TO STA. 62+70 LT.  
DDE = 533 Cu. Yds.



-L-  
PI Sta 61+97.52  
 $\Delta = 20' 39' 57.2''$  (RT)  
D = 4' 10' 55.8"  
L = 494.14'  
T = 249.79'  
R = 1,370.00'  
SE = 03  
R0 = SEE PLANS

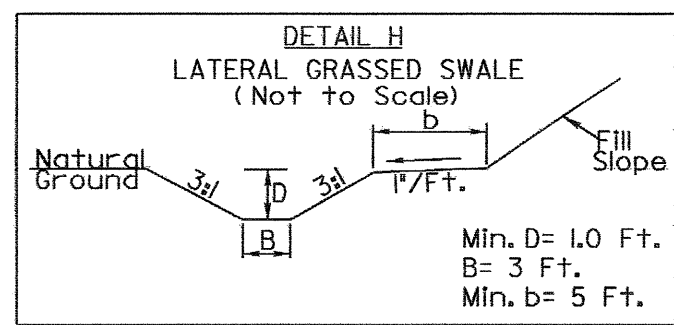
31 x 13 x 3  
1.5 inch Skimmer  
with 0.375 inch  
Orifice Diameter  
5 ft. weir  
ID 7.1F

MATCHLINE STA. 48 + 00 SEE SHEET 6

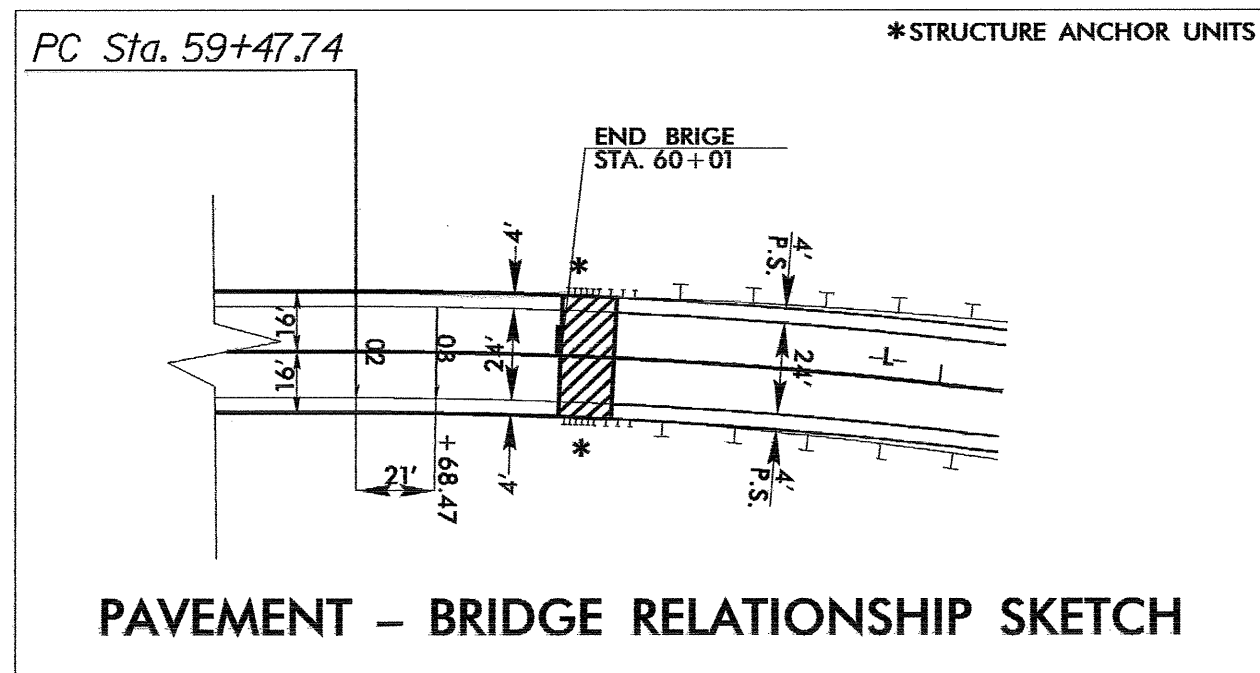


NOTE: ALL UNDERGROUND UTILITY DATA WAS LOCATED BY TRANSFERENCE FROM DRAWN PLANS FURNISHED BY THE UTILITY OWNERS

BL-7 PINC 40+79.00=  
-L- STA. 55+66.62 66.3323' RT



-L- STA. 59+75 TO STA. 60+77 RT.  
DDE = 46 Cu. Yds.



PAVEMENT - BRIDGE RELATIONSHIP SKETCH

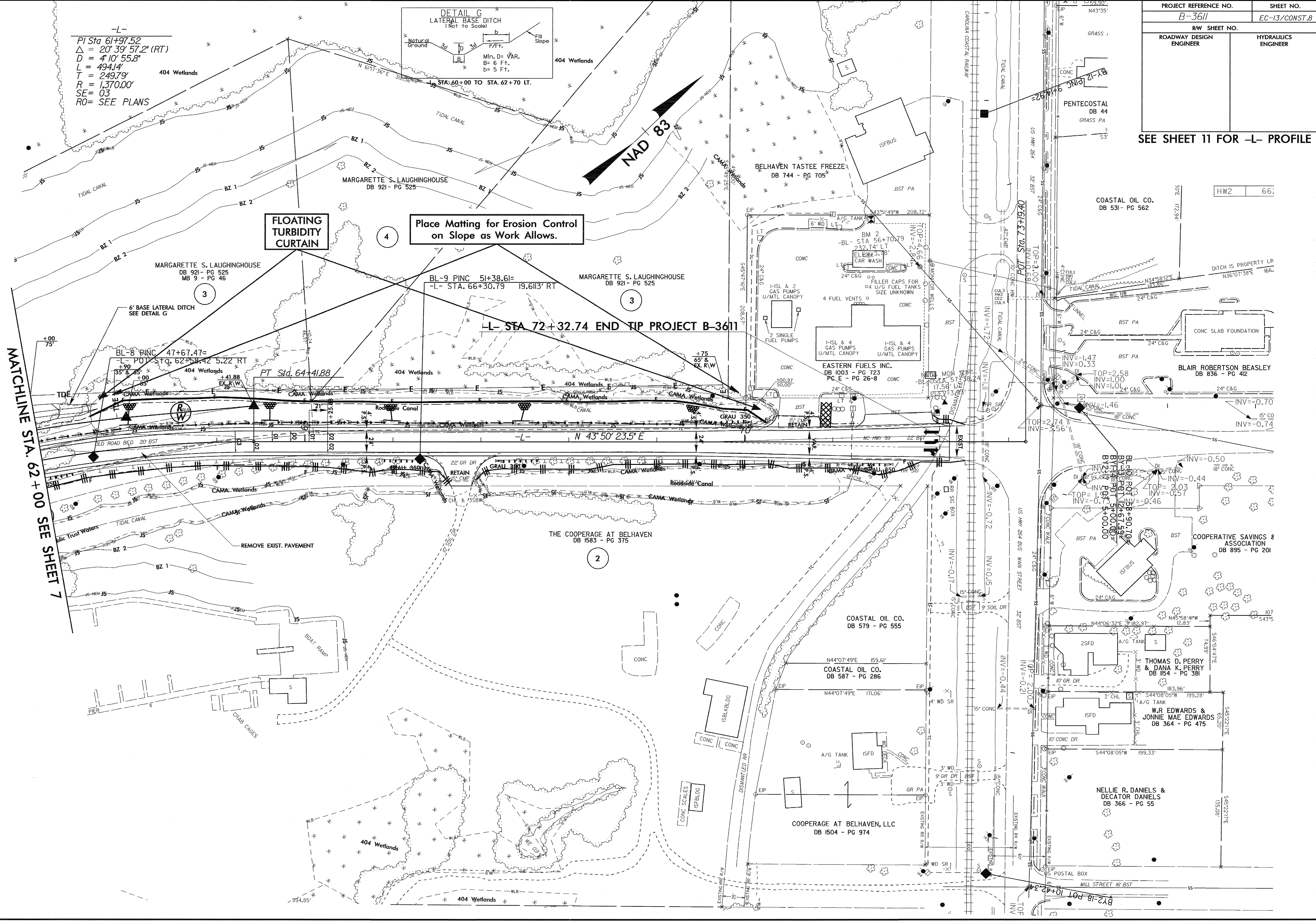
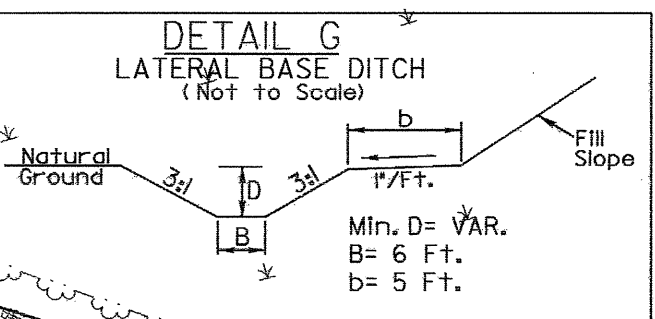
SEE SHEET 10 FOR -L- PROFILE

8/17/99

PROJECT REFERENCE NO. B-3611		SHEET NO. EC-13/CONST.8	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

SEE SHEET 11 FOR -L- PROFILE

-L-  
 PI Sta 61+97.52  
 $\Delta = 20' 39" 57.2" (RT)$   
 $D = 4' 10" 55.8"$   
 $L = 494.14'$   
 $T = 249.79'$   
 $R = 1,370.00'$   
 $SE = 03$   
 $RO = SEE PLANS$



FLOATING TURBIDITY CURTAIN

Place Matting for Erosion Control on Slope as Work Allows.

MATCHLINE STA. 62+00 SEE SHEET 7

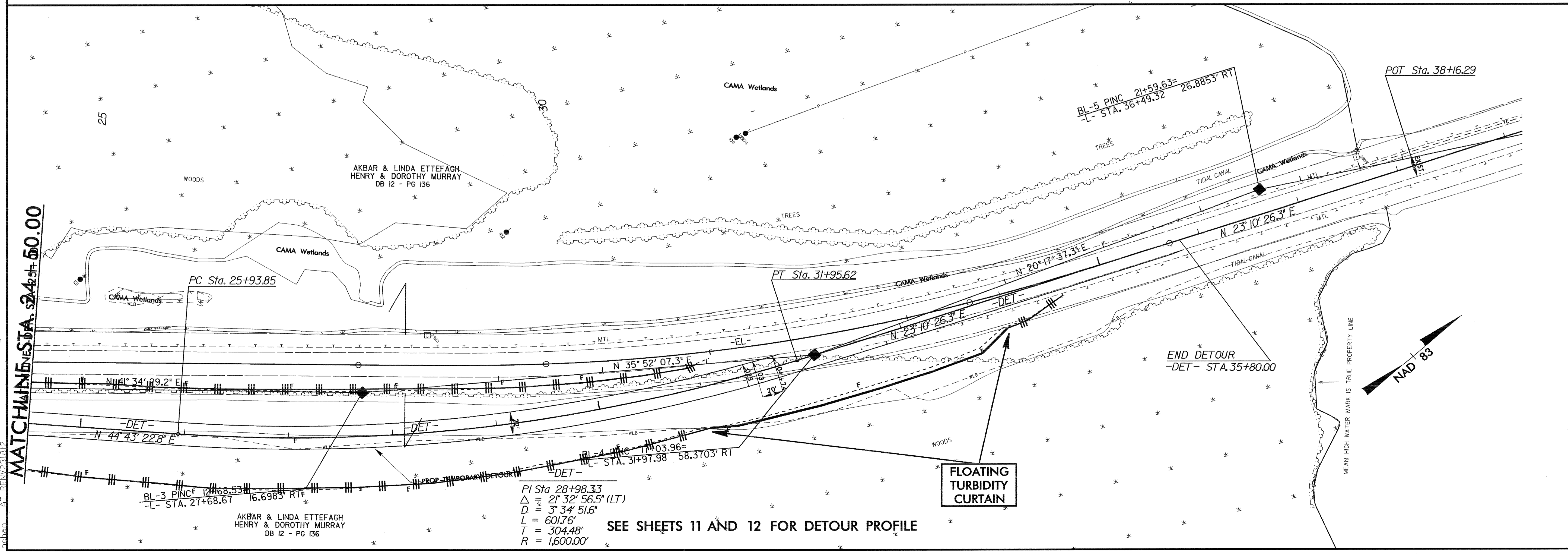
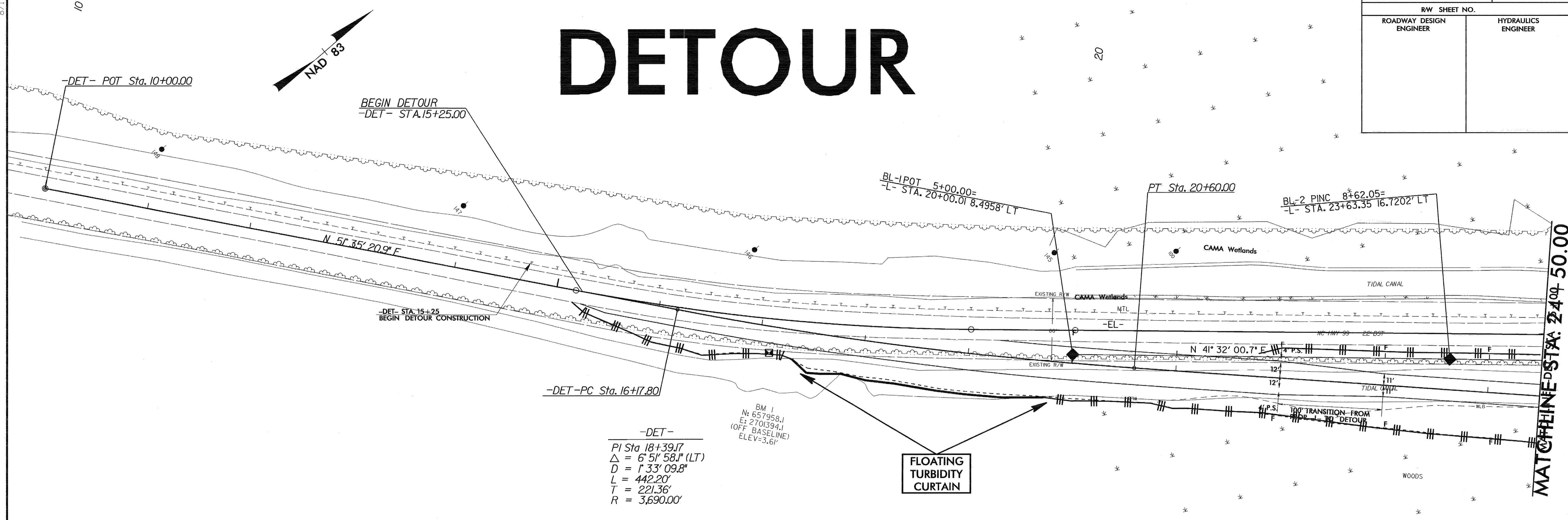
FILE:MAN-200\_09445\Design\B3611\EC\_psf8.dgn



8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-3611	EC-14/CONST.2-B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# DETOUR



P:\AN-200\_09\45\Design\3611.deta1.s2-b.dgn

SEE SHEETS 11 AND 12 FOR DETOUR PROFILE