

TIP PROJECT: B-0682

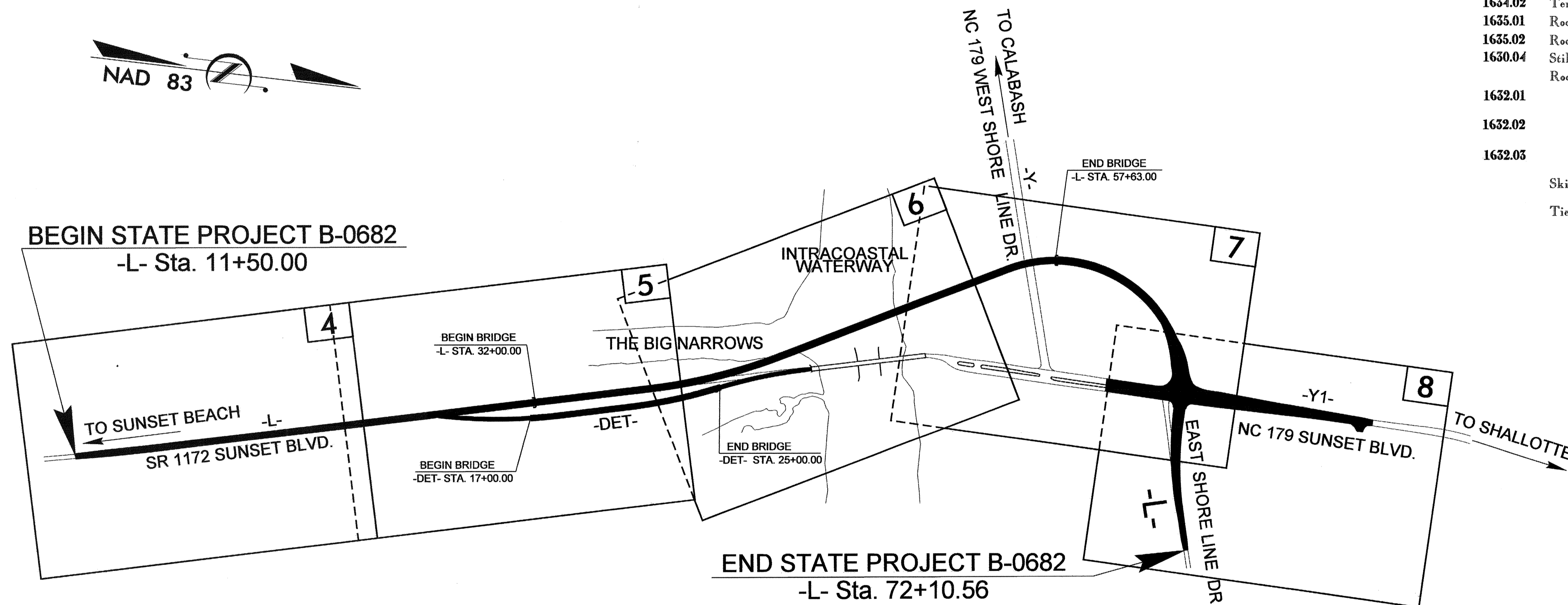
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL
BRUNSWICK COUNTY

**LOCATION: BRIDGE No. 198 OVER THE INTERCOASTAL WATERWAY
 AND APPROACHES ON SR 1172 AT SUNSET BEACH
 TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-0682	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

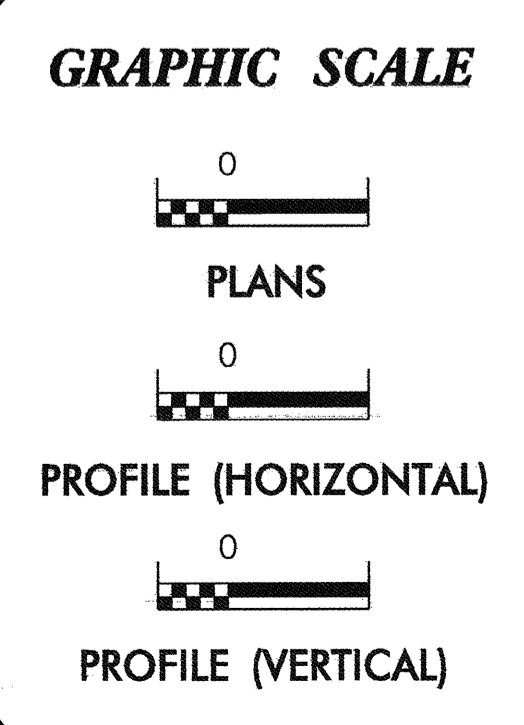
Std. #	Description	Symbol
	Streambank Reforestation	
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.01	Riser Basin	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-B	
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	
	Rock Inlet Sediment Trap:	
	Type A	
1632.01	Type B	
1632.02	Type C	
	Skimmer Basin	
	Tiered Skimmer Basin	



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

**THIS PROJECT HAS
 BEEN DESIGNED TO
 SENSITIVE WATERSHED
 STANDARDS.**

**HIGH QUALITY WATER(S) EXIST
 ON THIS PROJECT**
*High Quality Water Zone(s) Exist
 From Sta. 11+50
 to Sta. 72+10.56
 Refer To E. C. Special Provisions
 for Special Considerations.*



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

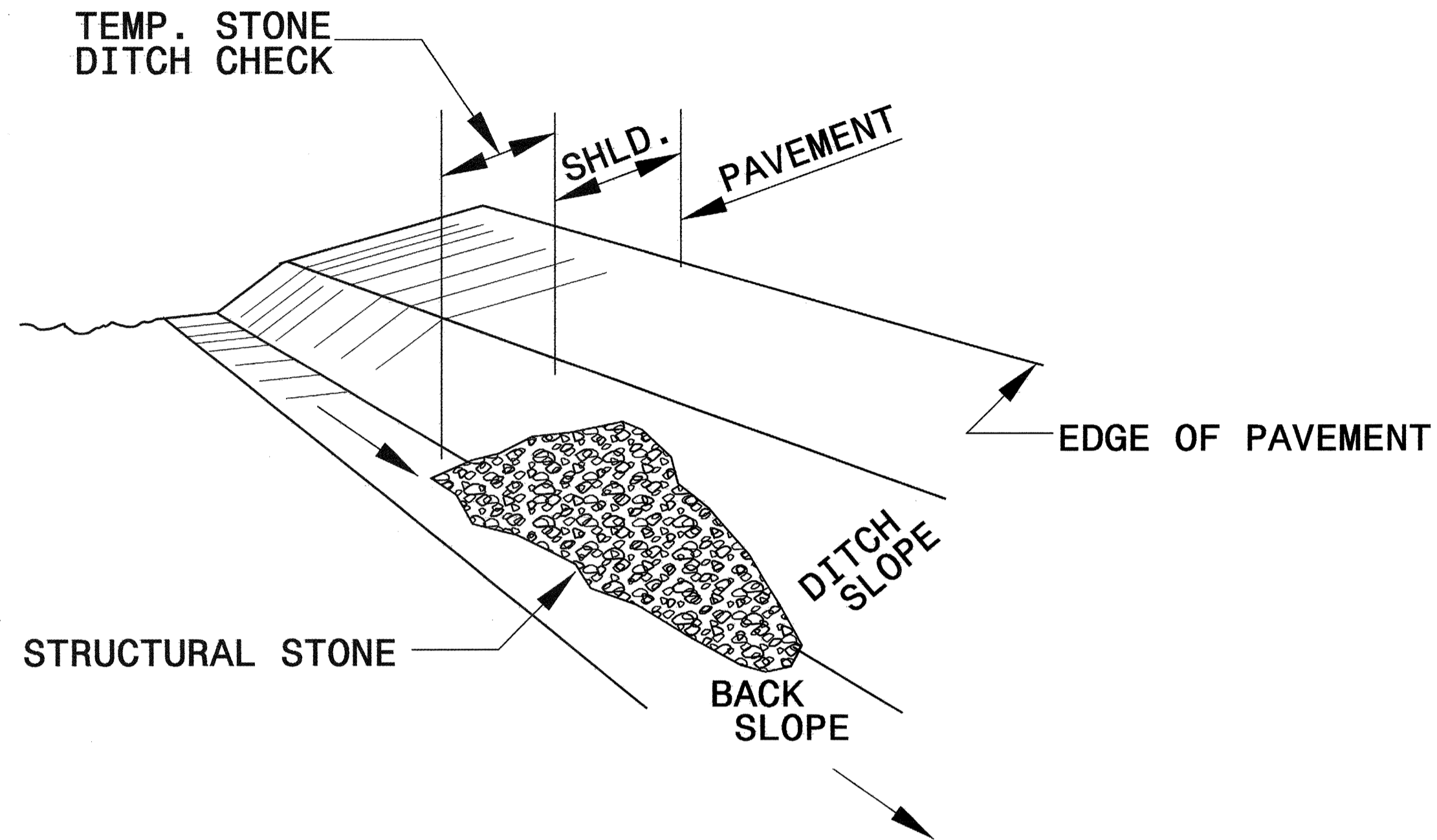
Roadway Standard Drawings

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	1630.06 Special Stilling Basin
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	1634.02 Temporary Rock Sediment Dam Type B
1630.02 Silt Basin Type B	
1630.05 Temporary Diversion	

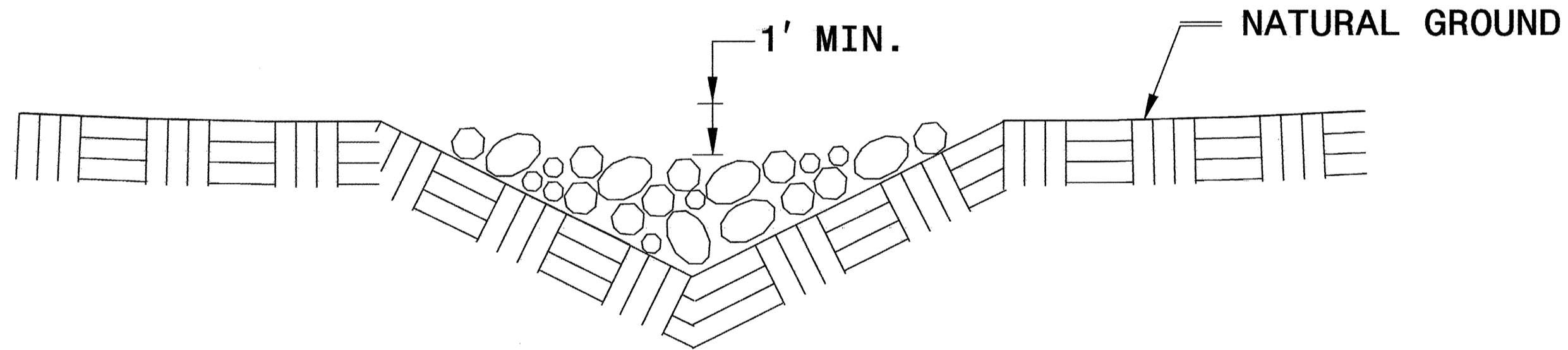
PROJECT REFERENCE NO. <i>B-0682</i>	SHEET NO. <i>EC-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

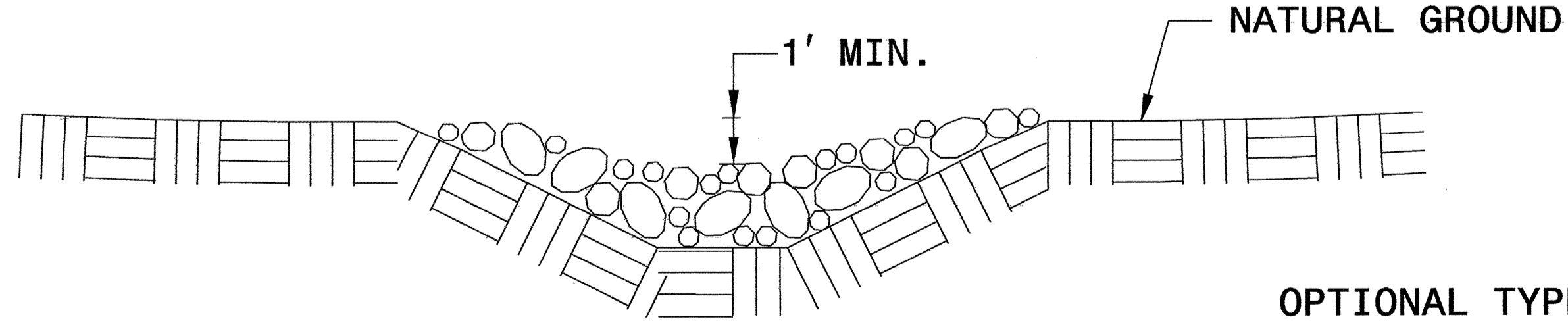


ISOMETRIC VIEW

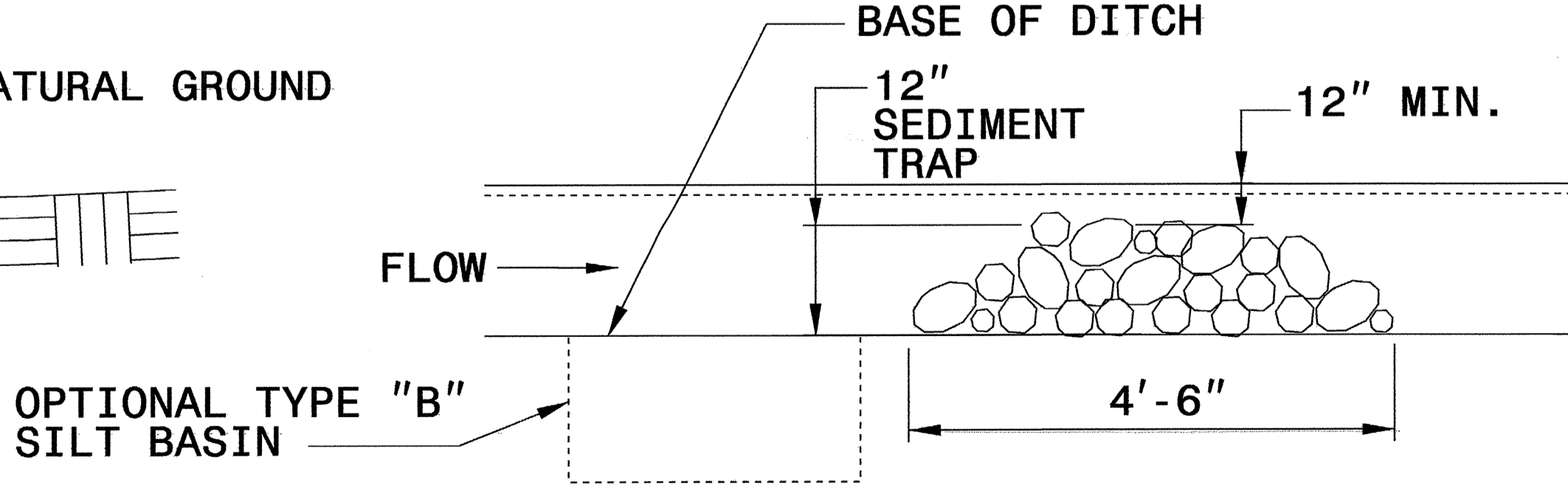
NOTES:
 USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.
 THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION VEE DITCH



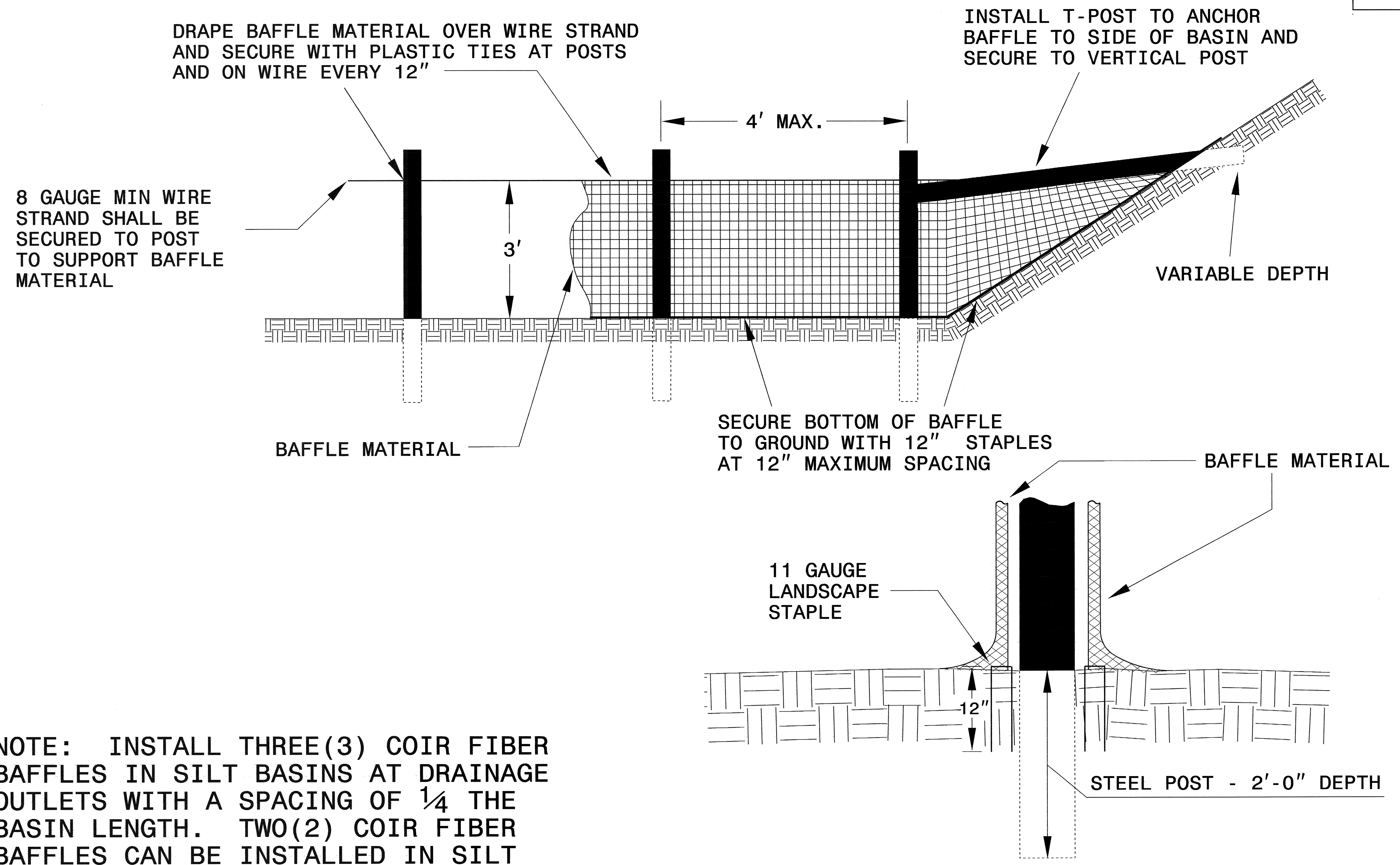
CROSS SECTION TRAPEZOIDAL DITCH



ELEVATION VIEW

PROJECT REFERENCE NO. B-0682	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL

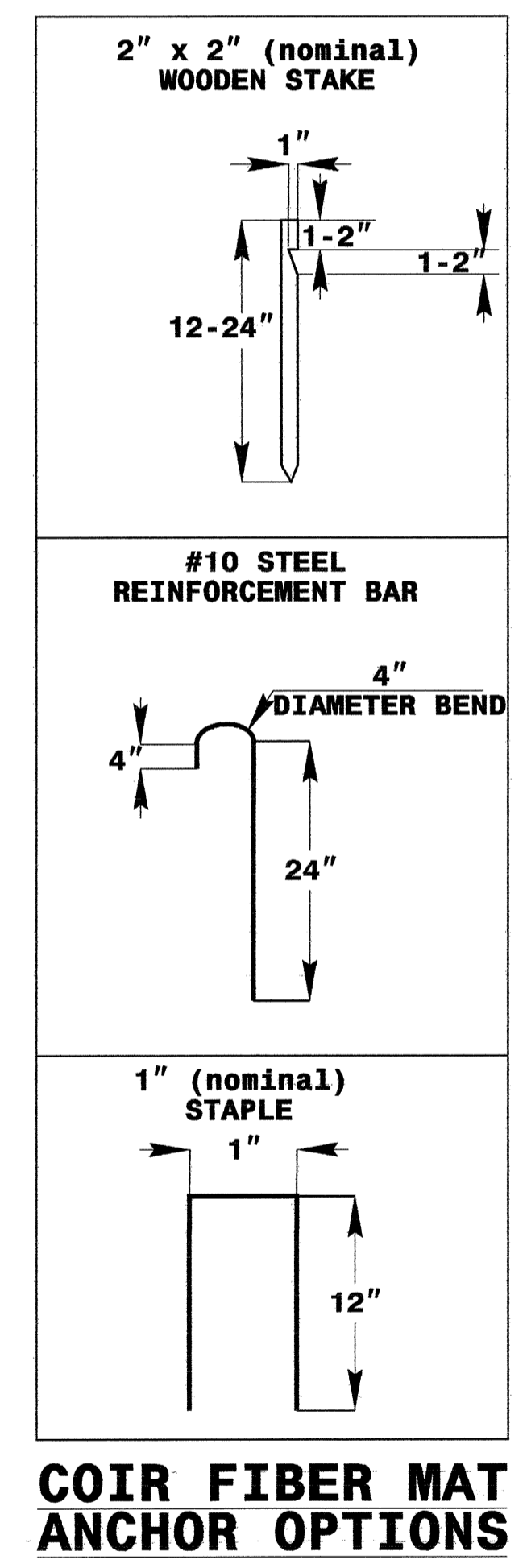
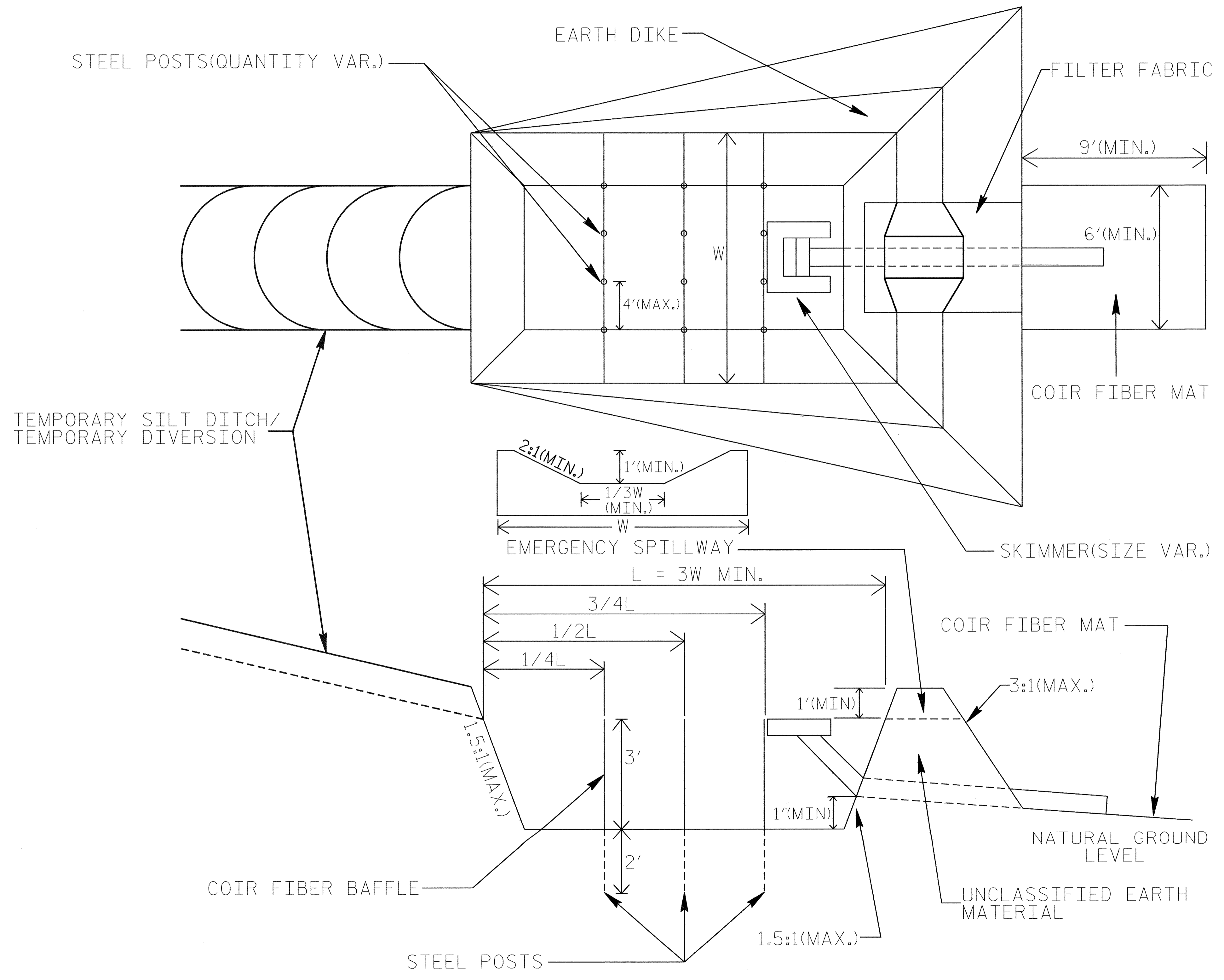


NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AT DRAINAGE OUTLETS WITH A SPACING OF $\frac{1}{4}$ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF $\frac{1}{3}$ THE BASIN LENGTH.

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-0682	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. B-0682	SHEET NO. EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
7	-YI-	18+50	19+00	LEFT	240
7	-YI-	20+50	22+00	LEFT	415
7	-YI-	20+50	22+00	RIGHT	275
7	-L-	59+50	64+50	RIGHT	915
7	-L-	66+00	67+00	LEFT	225
8	-YI-	22+00	28+00	RIGHT	1610
8	-YI-	22+00	28+00	LEFT	930
			SUBTOTAL		4610
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				1150
			TOTAL		5760
			SAY		5800

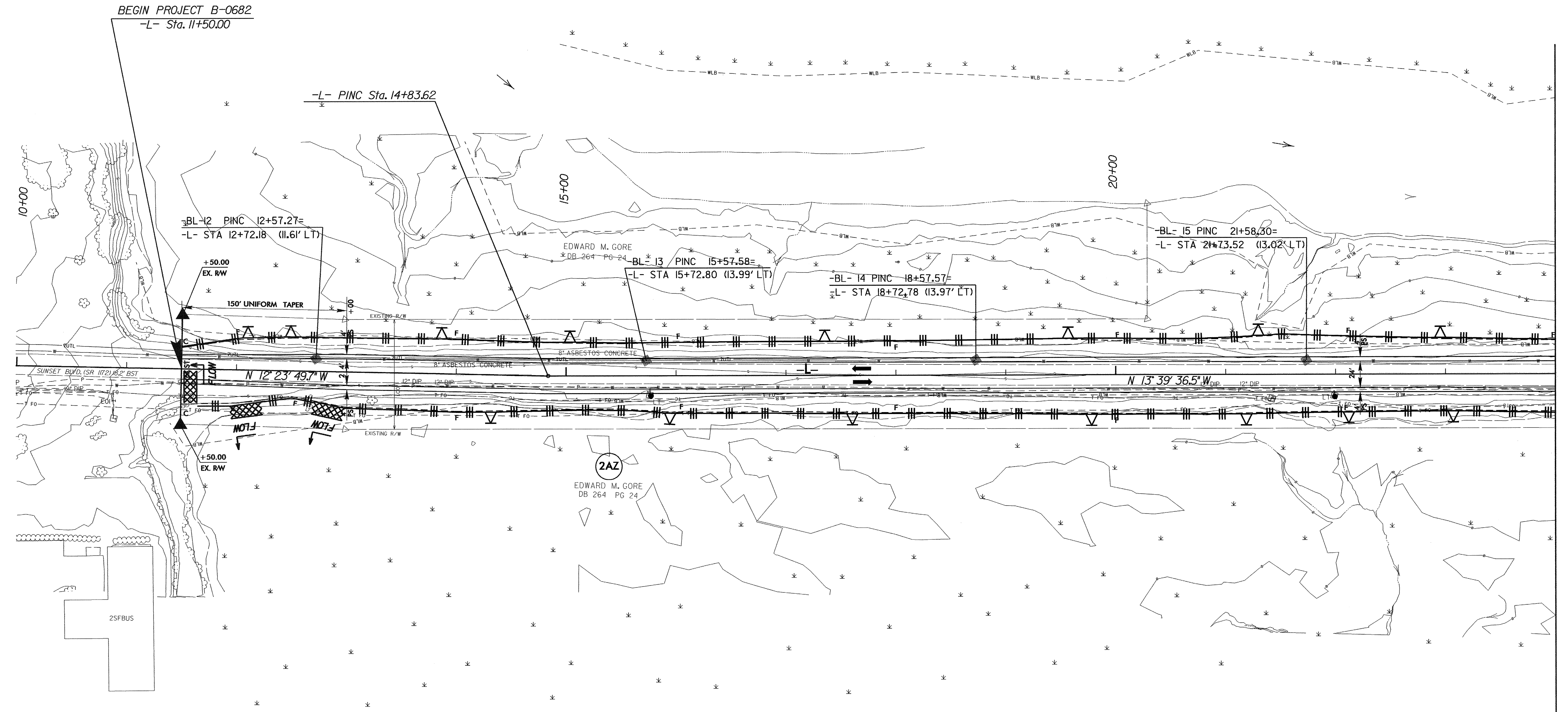
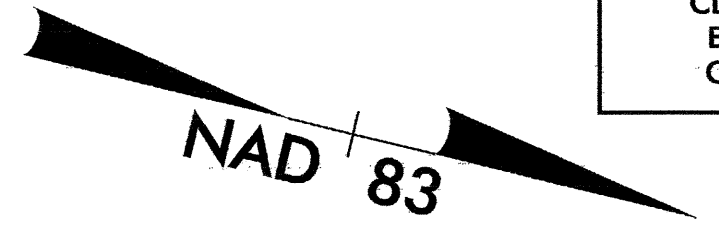
PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
7	-L-	64+00	64+50	LEFT	255
			SUBTOTAL		255
			ADDITIONAL PSRM TO BE INSTALLED		0
			TOTAL		255
			SAY		275

PROJECT REFERENCE NO.	SHEET NO.
B-0682	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
PLACE TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4



BEGIN PROJECT B-0682
-L- Sta. 11+50.00

-L- PINC Sta. 14+83.62

-BL- 12 PINC 12+57.27=
-L- STA 12+72.18 (11.61' LT)

-BL- 13 PINC 15+57.58=
-L- STA 15+72.80 (13.99' LT)

-BL- 14 PINC 18+57.57=
-L- STA 18+72.78 (13.97' LT)

-BL- 15 PINC 21+58.30=
-L- STA 21+73.52 (13.02' LT)

SUNSET BLVD. (SR 112) 16.2' BST

N 12° 23' 49.7\"/>

N 13° 39' 36.5\"/>

2AZ
EDWARD M. GORE
DB 264 PG 24

2SFBUS

MATCHLINE -L- STA 24+00 SEE SHEET 5

SEE SHEET 9 FOR -L- PROFILE

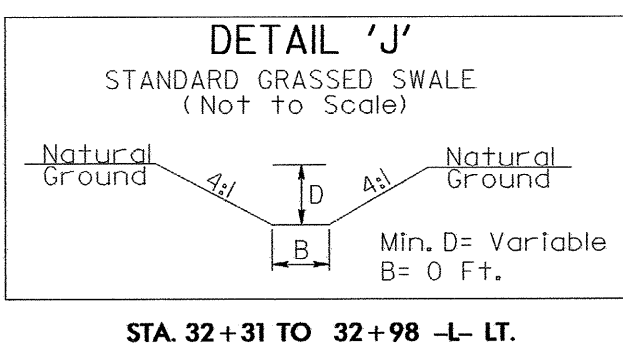
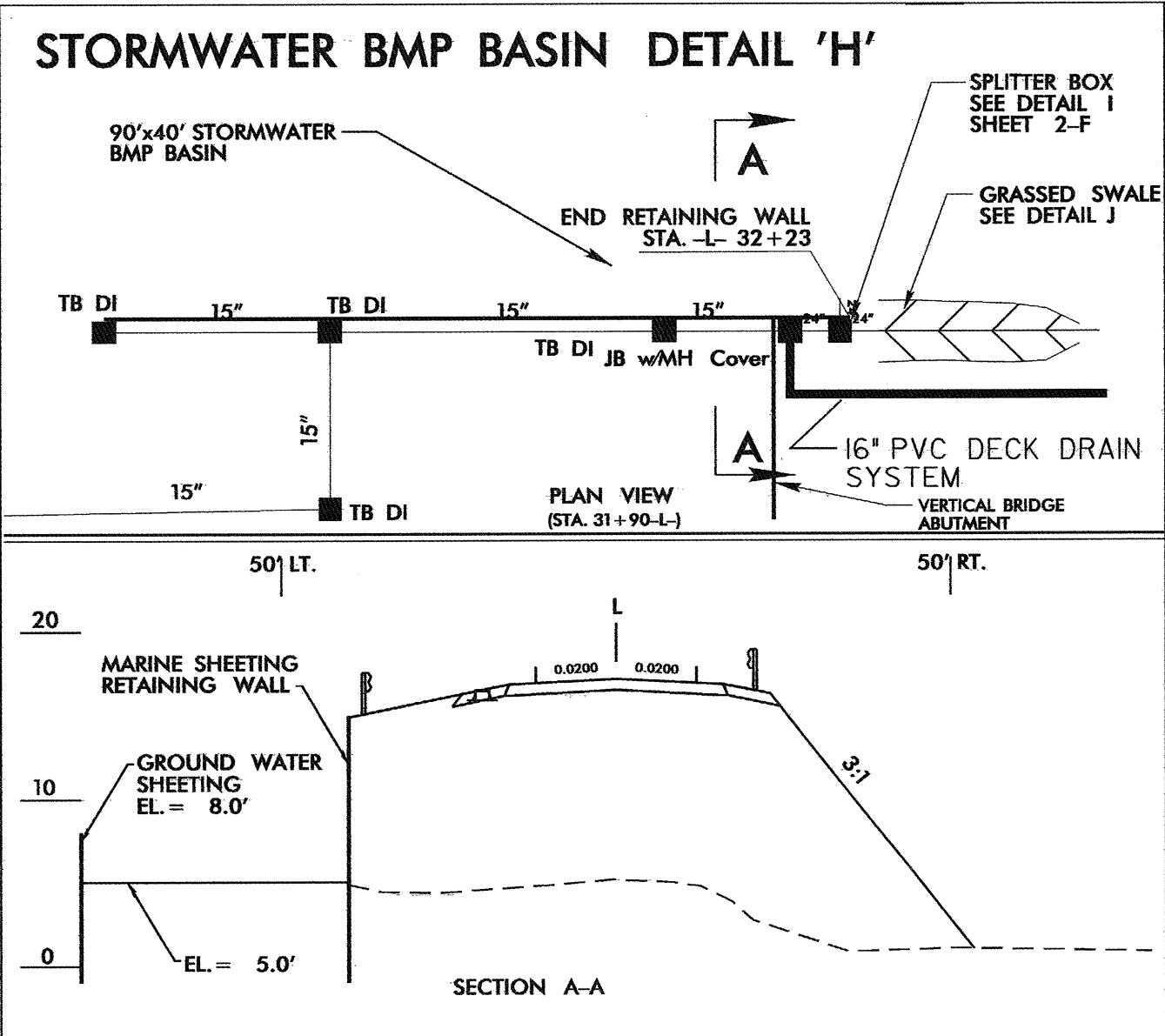
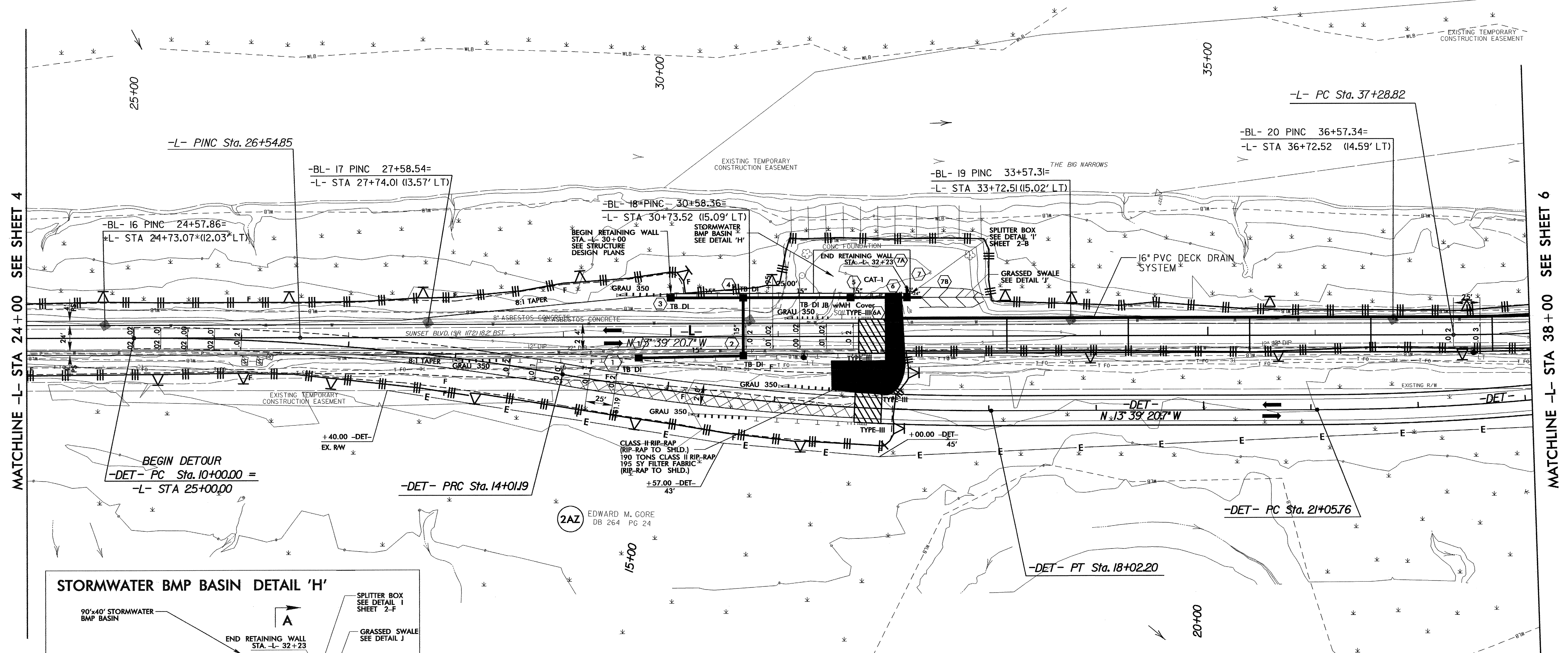
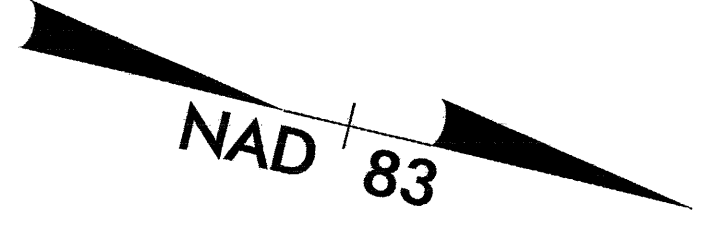
PROJECT REFERENCE NO.	SHEET NO.
B-0682	EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
PLACE TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5

NOTE:
UTILIZE SPECIAL STILLING BASIN AS STILLING BASIN WHERE APPLICABLE.

-L-
PI Sta 40+10.40
 $\Delta = 14^{\circ} 00' 31.7''$ (LT)
 $D = 2^{\circ} 30' 00.0''$
 $L = 560.35'$
 $T = 281.58'$
 $R = 2,291.83'$
 $SE = 03$



-DET-
 PI Sta 12+01.11 $\Delta = 10^{\circ} 01' 46.9''$ (RT) $D = 2^{\circ} 30' 00.0''$ $L = 401.19'$ $T = 201.11'$ $R = 2,291.83'$ $SE = 0.02$
 PI Sta 16+02.21 $\Delta = 10^{\circ} 01' 31.1''$ (LT) $D = 2^{\circ} 30' 00.0''$ $L = 401.01'$ $T = 201.02'$ $R = 2,291.83'$ $SE = 0.02$
 PI Sta 23+05.19 $\Delta = 9^{\circ} 56' 46.1''$ (LT) $D = 2^{\circ} 30' 00.0''$ $L = 397.85'$ $T = 199.42'$ $R = 2,291.83'$ $SE = 0.02$

2AZ EDWARD M. GORE DB 264 PG 24

PROJECT REFERENCE NO. B-0682	SHEET NO. EC-6/CONST.6
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

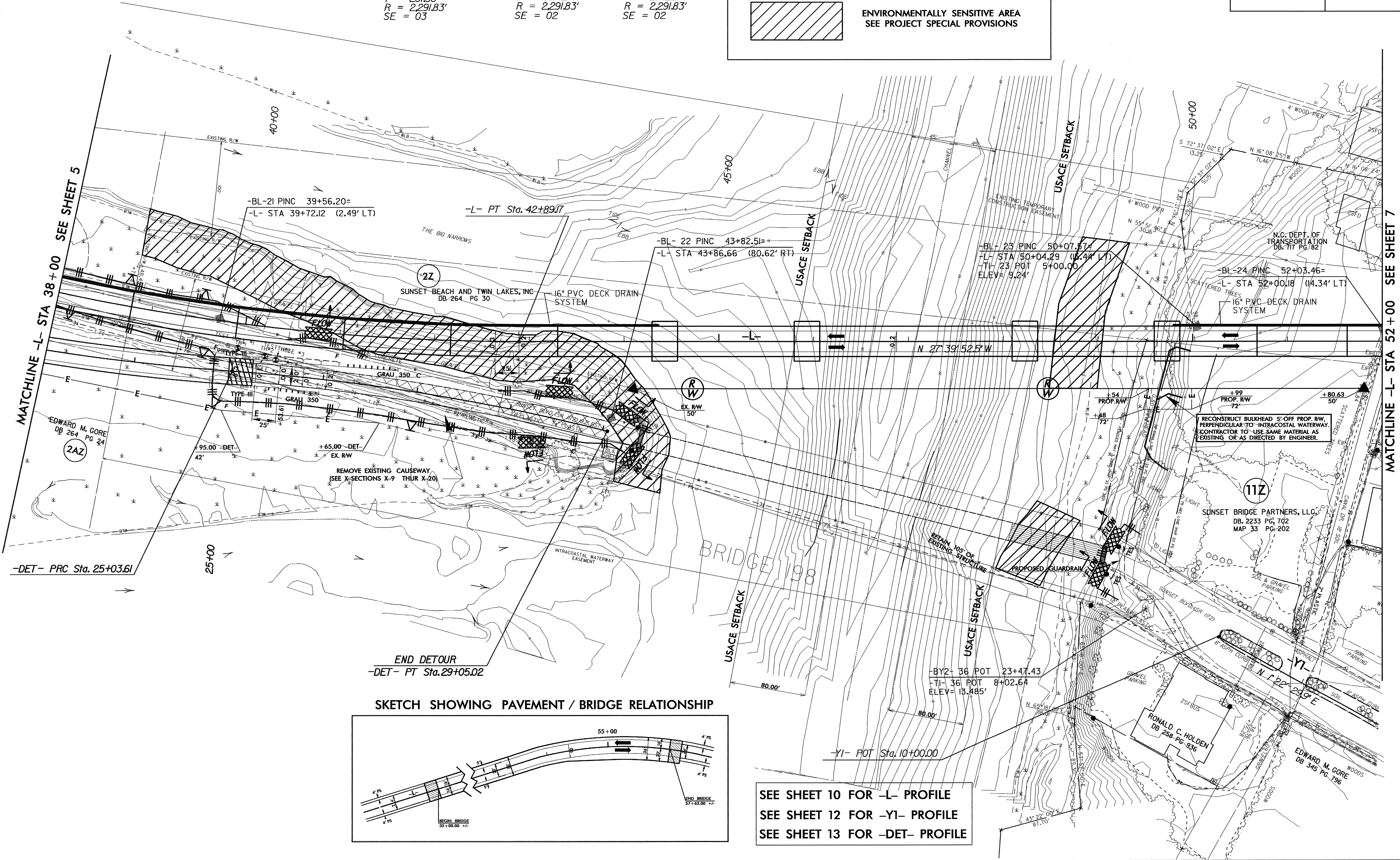
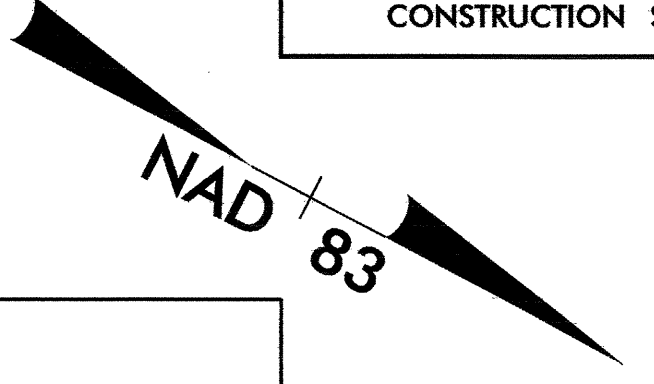
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

NOTE:
UTILIZE SPECIAL STILLING BASIN AS STILLING BASIN WHERE APPLICABLE.

-L-	-DET-	
PI Sta 40+10.40	PI Sta 23+05.19	PI Sta 27+04.83
$\Delta = 14^{\circ} 00' 31.7''$ (LT)	$\Delta = 9^{\circ} 56' 46.1''$ (LT)	$\Delta = 10^{\circ} 02' 06.8''$ (RT)
D = 2' 30" 00.0"	D = 2' 30" 00.0"	D = 2' 30" 00.0"
L = 560.35'	L = 397.85'	L = 401.41'
T = 281.58'	T = 199.42'	T = 201.22'
R = 2,291.83'	R = 2,291.83'	R = 2,291.83'
SE = 03	SE = 02	SE = 02

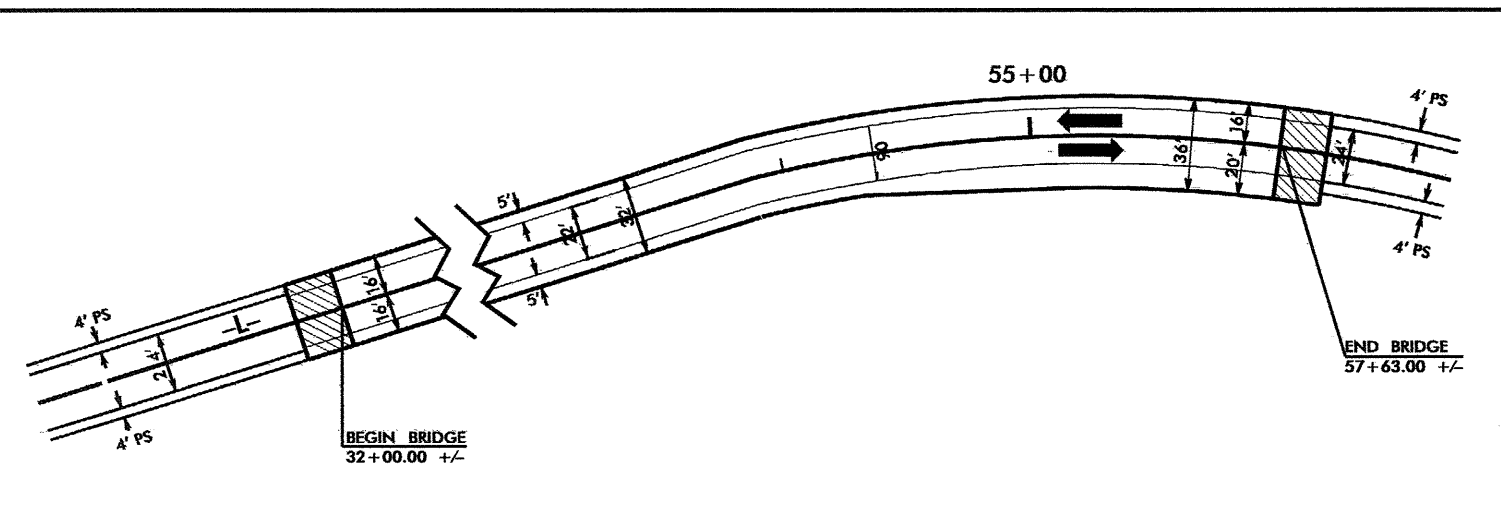
 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS



MATCHLINE -L- STA 38+00 SEE SHEET 5

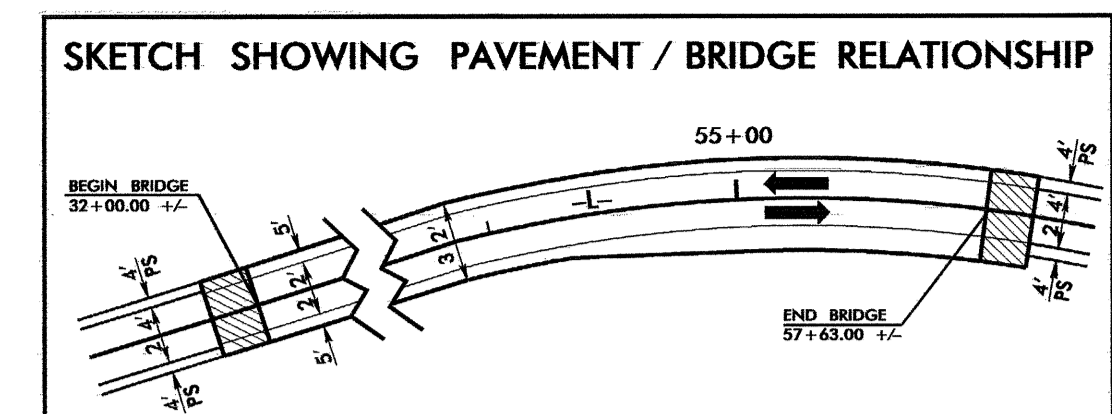
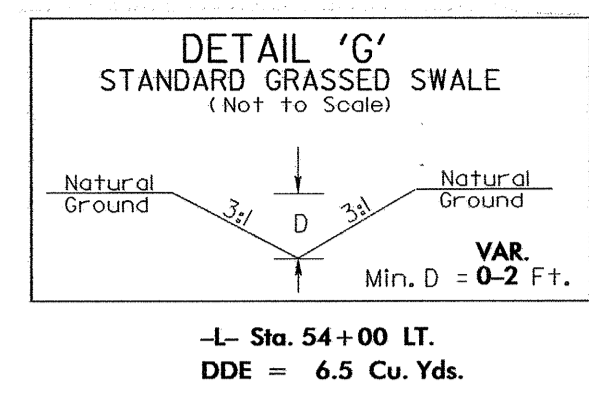
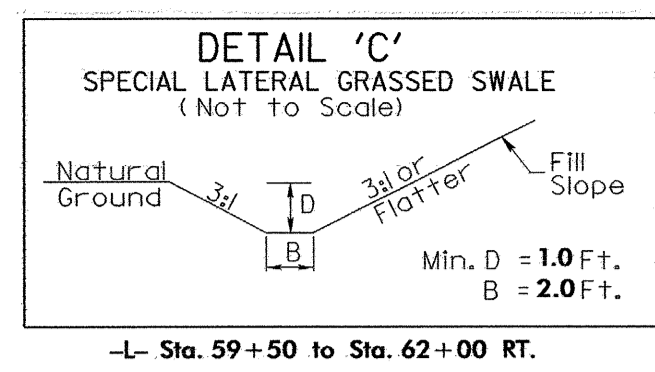
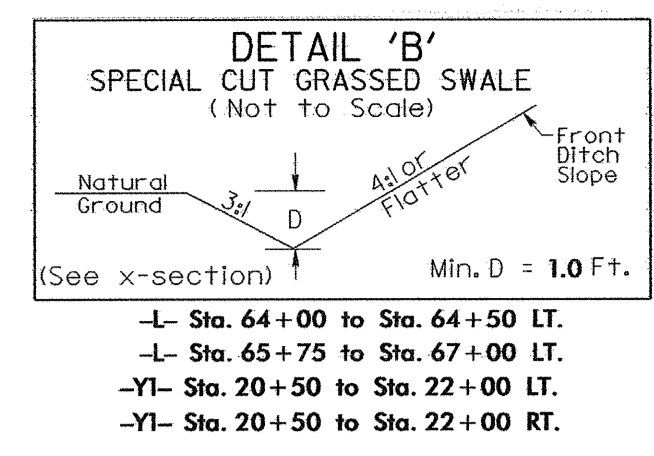
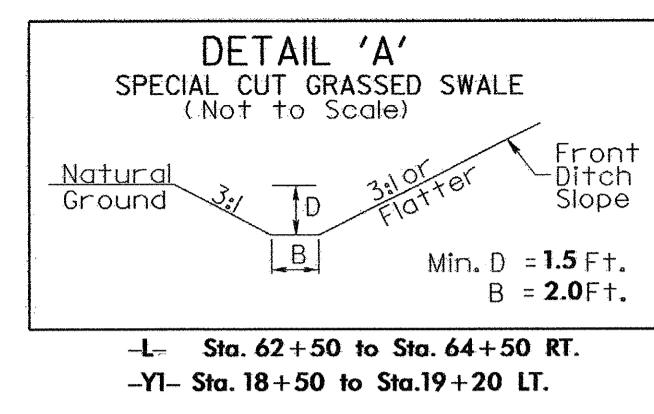
MATCHLINE -L- STA 52+00 SEE SHEET 7

END DETOUR
-DET- PT Sta. 29+05.02
SKETCH SHOWING PAVEMENT / BRIDGE RELATIONSHIP



SEE SHEET 10 FOR -L- PROFILE
SEE SHEET 12 FOR -Y1- PROFILE
SEE SHEET 13 FOR -DET- PROFILE

PROJECT REFERENCE NO.		SHEET NO.	
B-0682		EC-7/CONST.7	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			

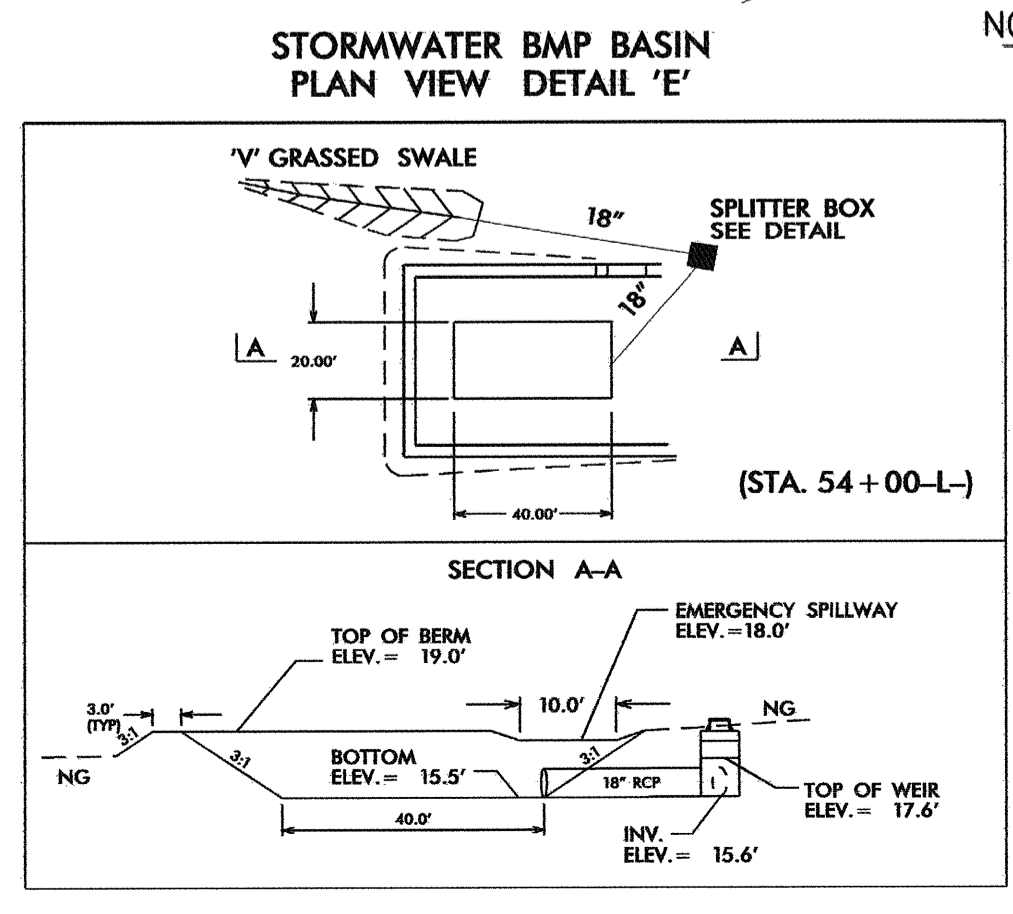
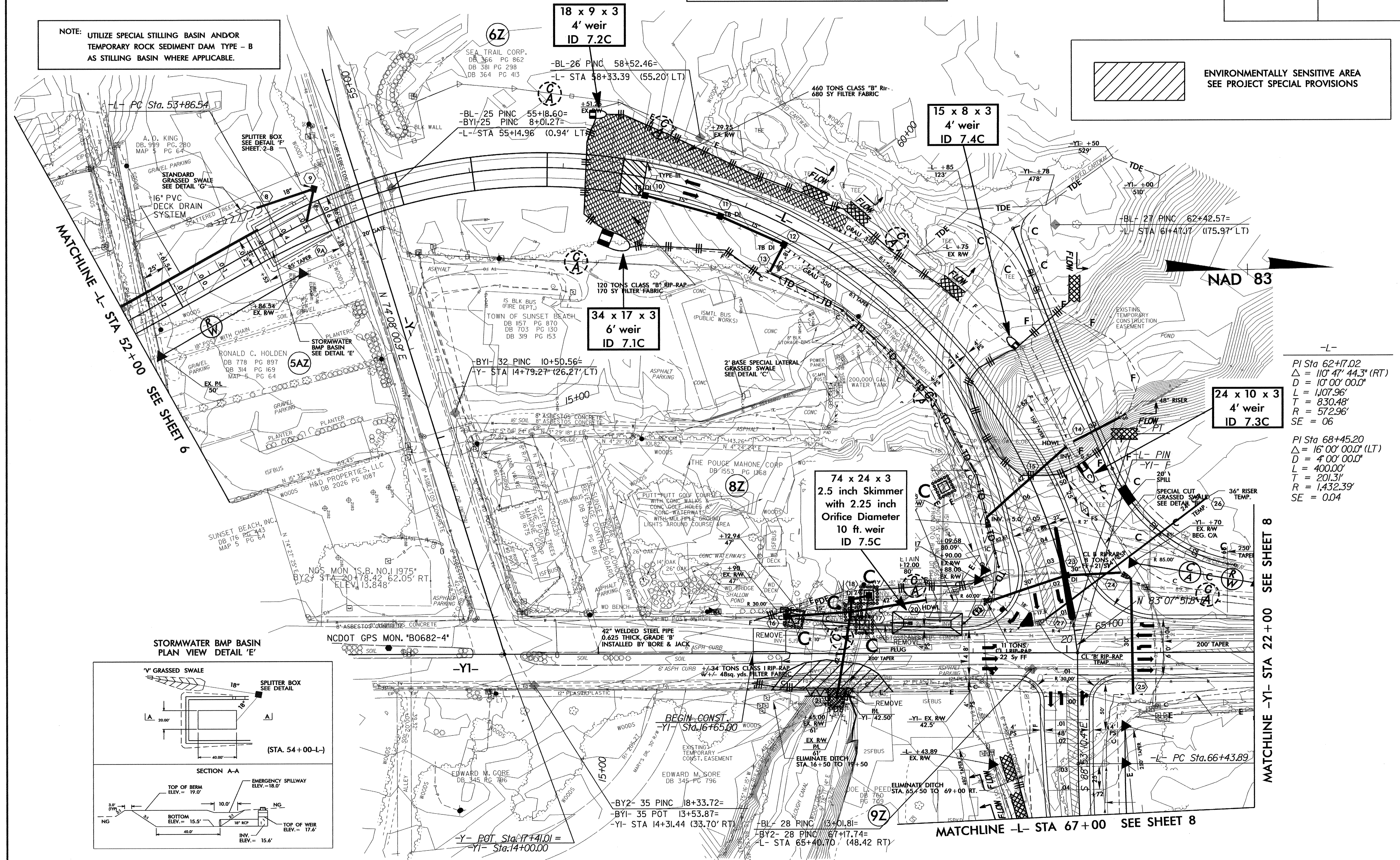


NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 7

NOTE: UTILIZE SPECIAL STILLING BASIN AND/OR TEMPORARY ROCK SEDIMENT DAM TYPE - B AS STILLING BASIN WHERE APPLICABLE.

ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS



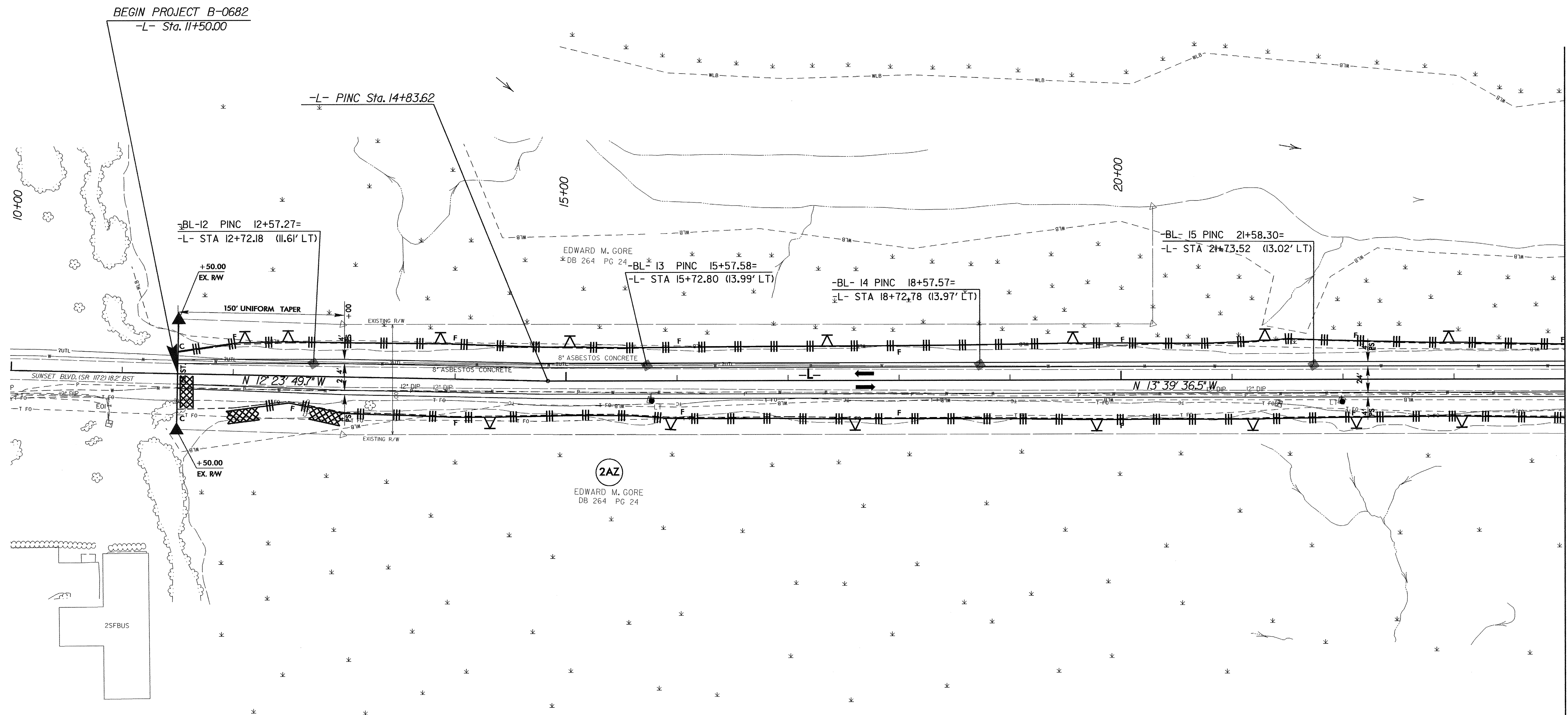
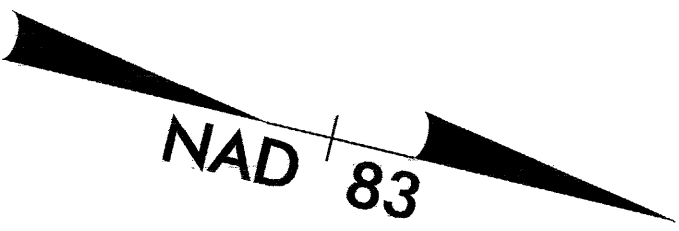
-L-
 PI Sta 62+7.02
 $\Delta = 110' 47' 44.3''$ (RT)
 $D = 10' 00' 00.0''$
 $L = 1,107.96'$
 $T = 830.48'$
 $R = 572.96'$
 $SE = 06$

PI Sta 68+45.20
 $\Delta = 16' 00' 00.0''$ (LT)
 $D = 4' 00' 00.0''$
 $L = 400.00'$
 $T = 201.31'$
 $R = 1,432.39'$
 $SE = 0.04$

MATCHLINE -Y1- STA 22+00 SEE SHEET 8

MATCHLINE -L- STA 67+00 SEE SHEET 8

PROJECT REFERENCE NO. B-0682	SHEET NO. EC-9/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BEGIN PROJECT B-0682
-L- Sta. 11+50.00

-L- PINC Sta. 14+83.62

-BL-12 PINC 12+57.27=
-L- STA 12+72.18 (11.61' LT)

-BL-13 PINC 15+57.58=
-L- STA 15+72.80 (13.99' LT)

-BL-14 PINC 18+57.57=
-L- STA 18+72.78 (13.97' LT)

-BL-15 PINC 21+58.30=
-L- STA 21+73.52 (13.02' LT)

SUNSET BLVD. (SR 1172) 18' BST

N 12° 23' 49.7" W

N 13° 39' 36.5" W

2AZ

EDWARD M. GORE
DB 264 PG 24

25FBUS

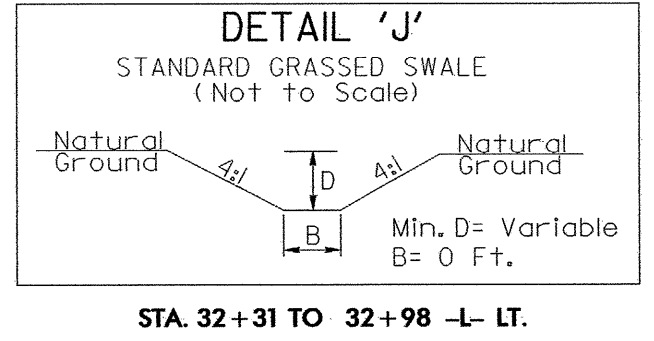
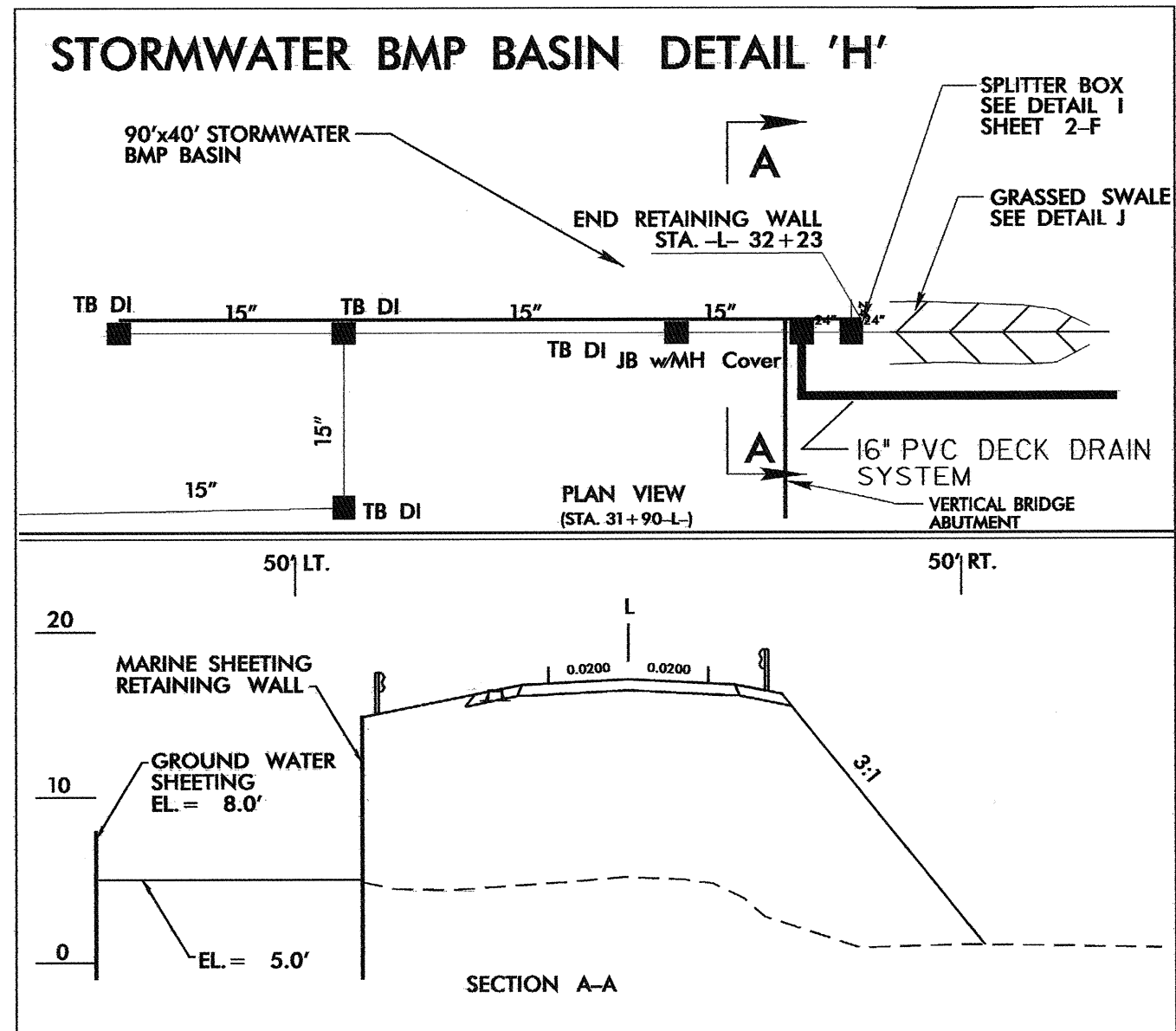
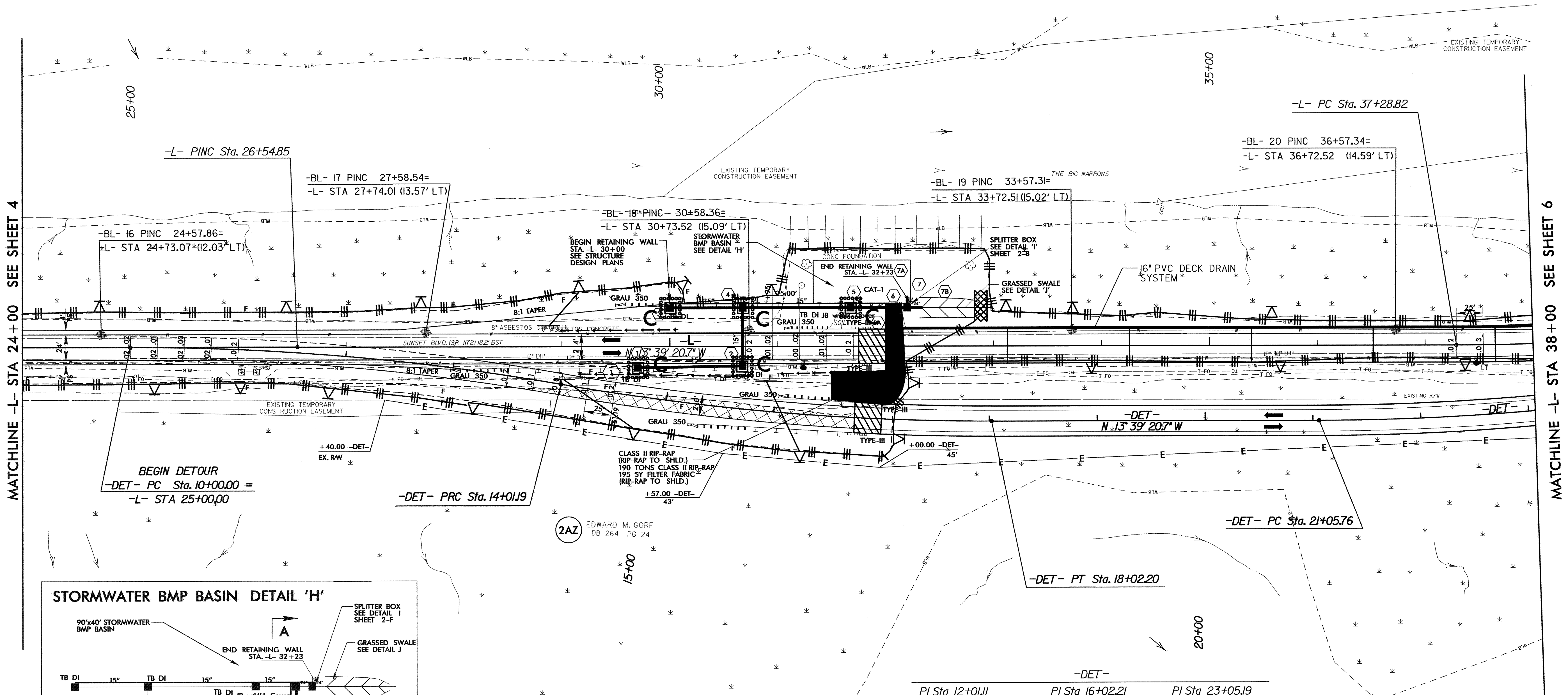
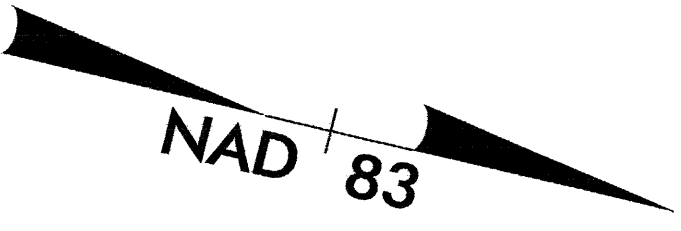
MATCHLINE -L- STA 24+00 SEE SHEET 5

SEE SHEET 9 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
B-0682	EC-10/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
UTILIZE SPECIAL STILLING BASIN AS
STILLING BASIN WHERE APPLICABLE.

-L-
PI Sta 40+10.40
 $\Delta = 14^{\circ} 00' 31.7''$ (LT)
 $D = 2^{\circ} 30' 00.0''$
 $L = 560.35'$
 $T = 281.58'$
 $R = 2,291.83'$
 $SE = 03$



-DET-
PI Sta 12+01.11
 $\Delta = 10^{\circ} 01' 46.9''$ (RT)
 $D = 2^{\circ} 30' 00.0''$
 $L = 401.19'$
 $T = 201.11'$
 $R = 2,291.83'$
 $SE = 0.02$

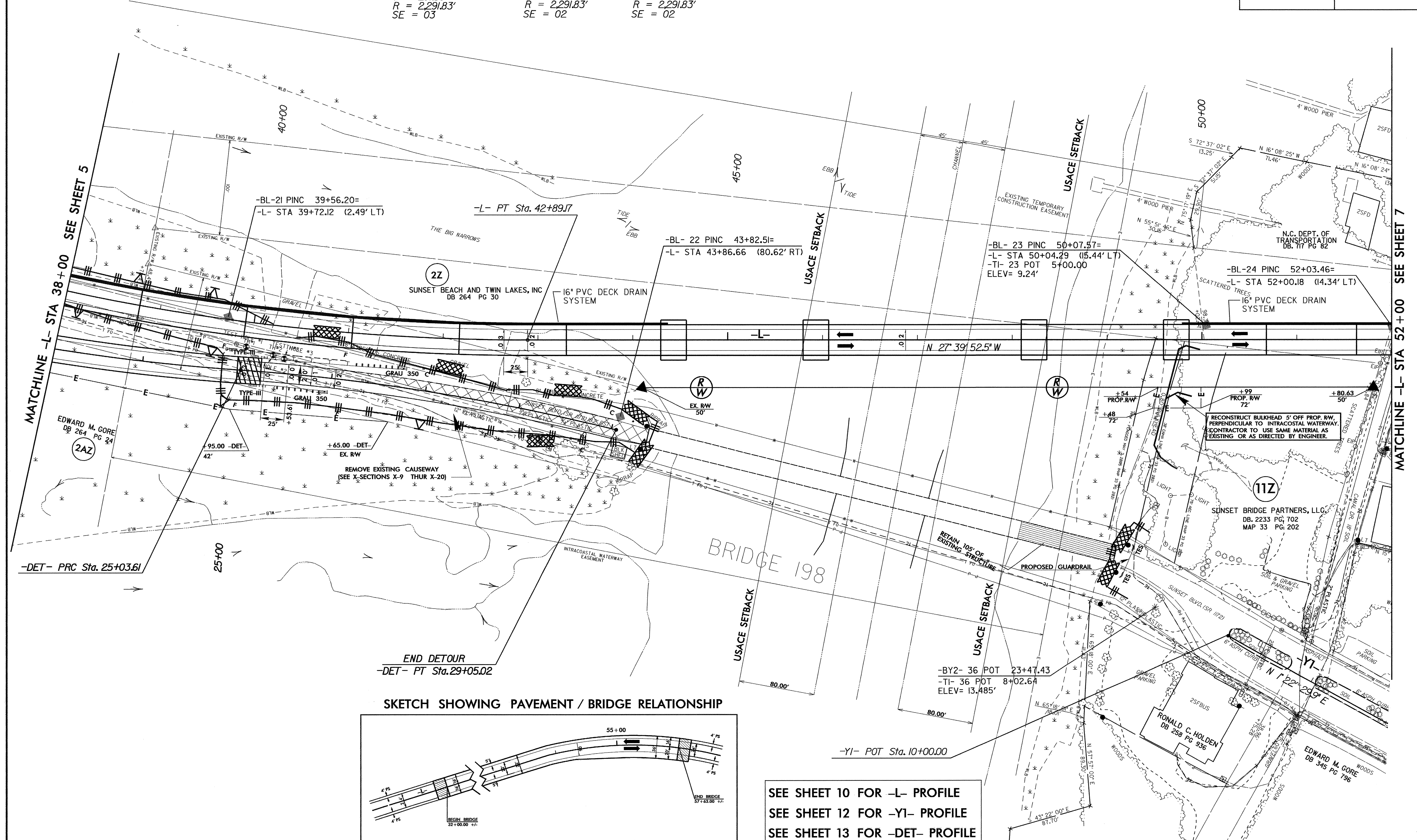
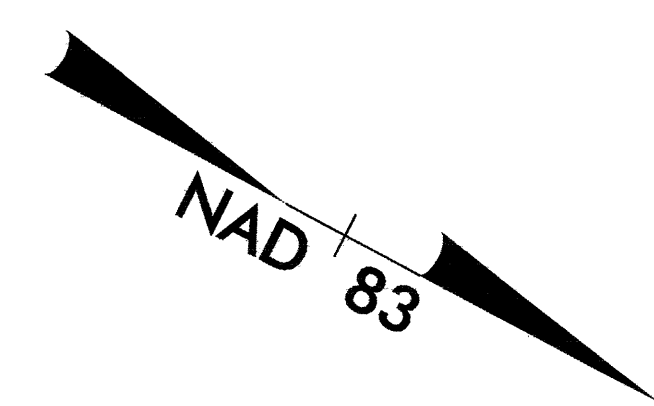
-DET-
PI Sta 16+02.21
 $\Delta = 10^{\circ} 01' 31.1''$ (LT)
 $D = 2^{\circ} 30' 00.0''$
 $L = 401.01'$
 $T = 201.02'$
 $R = 2,291.83'$
 $SE = 0.02$

-DET-
PI Sta 23+05.19
 $\Delta = 9^{\circ} 56' 46.1''$ (LT)
 $D = 2^{\circ} 30' 00.0''$
 $L = 397.85'$
 $T = 199.42'$
 $R = 2,291.83'$
 $SE = 0.02$

PROJECT REFERENCE NO.	SHEET NO.
B-0682	EC-11/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
UTILIZE SPECIAL STILLING BASIN AS
STILLING BASIN WHERE APPLICABLE.

-L-	-DET-
PI Sta 40+10.40 Δ = 14° 00' 31.7" (LT) D = 2' 30' 00.0" L = 560.35' T = 281.58' R = 2,291.83' SE = 03	PI Sta 23+05.19 Δ = 9° 56' 46.1" (LT) D = 2' 30' 00.0" L = 397.85' T = 199.42' R = 2,291.83' SE = 02
	PI Sta 27+04.83 Δ = 10° 02' 06.8" (RT) D = 2' 30' 00.0" L = 401.41' T = 201.22' R = 2,291.83' SE = 02

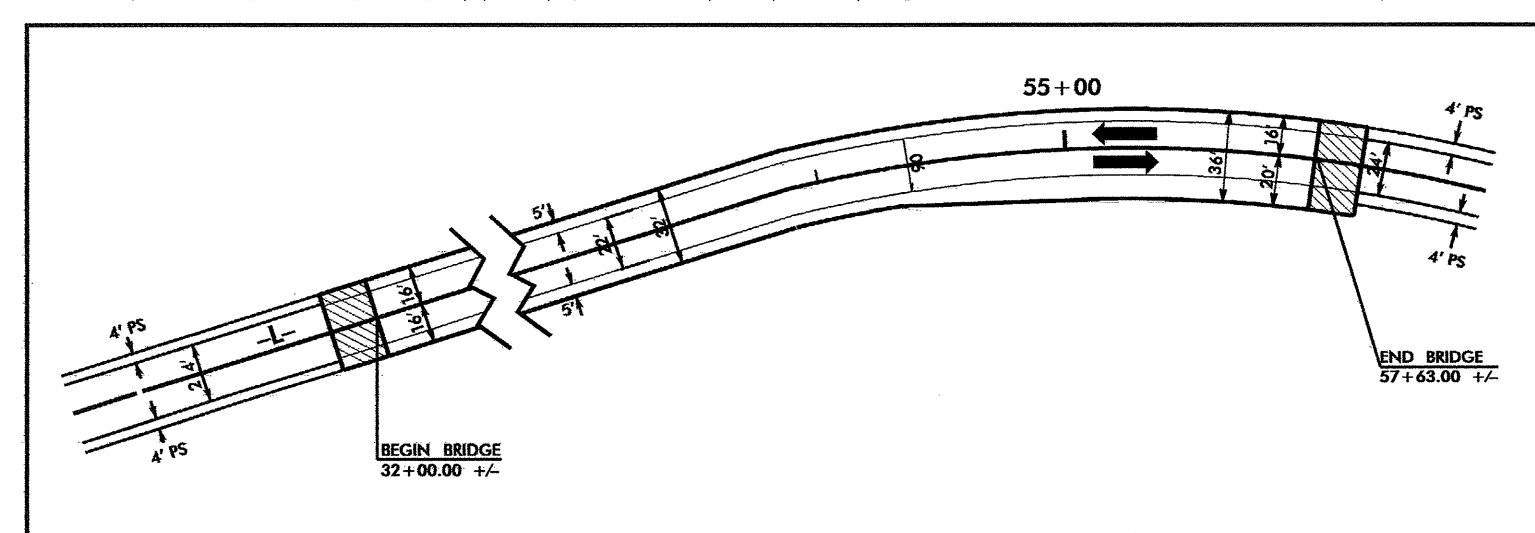


MATCHLINE -L- STA 38+00 SEE SHEET 5

MATCHLINE -L- STA 52+00 SEE SHEET 7

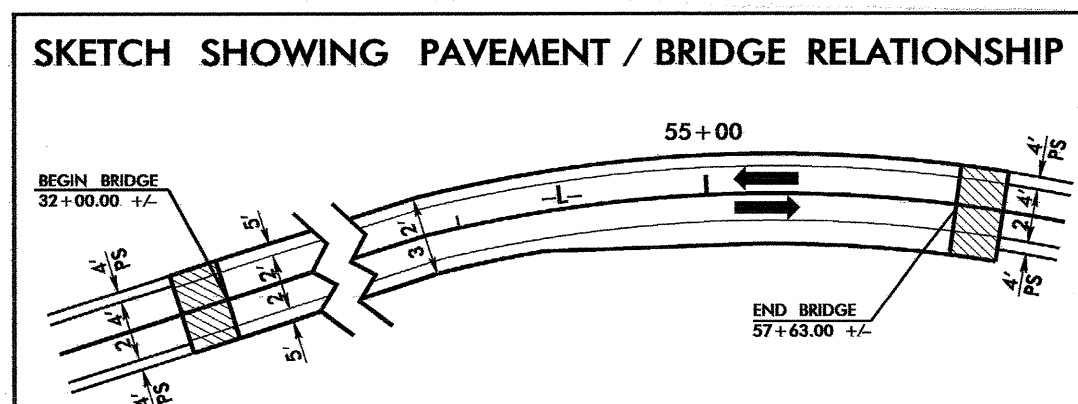
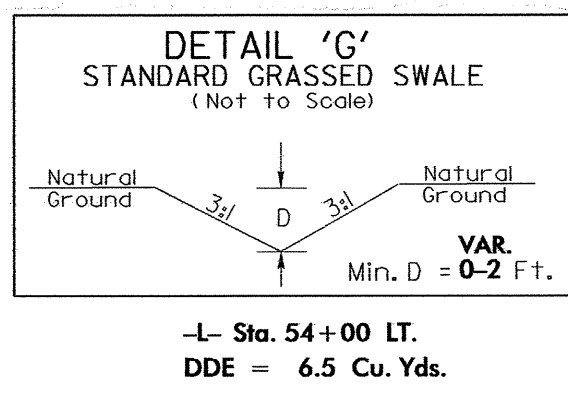
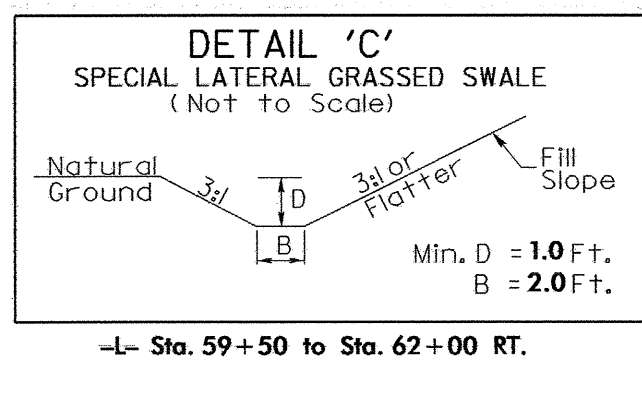
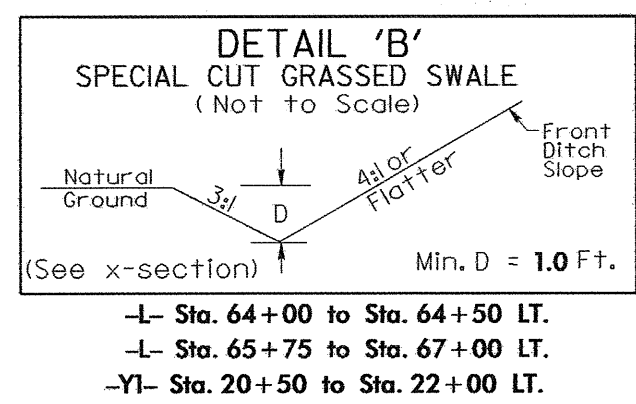
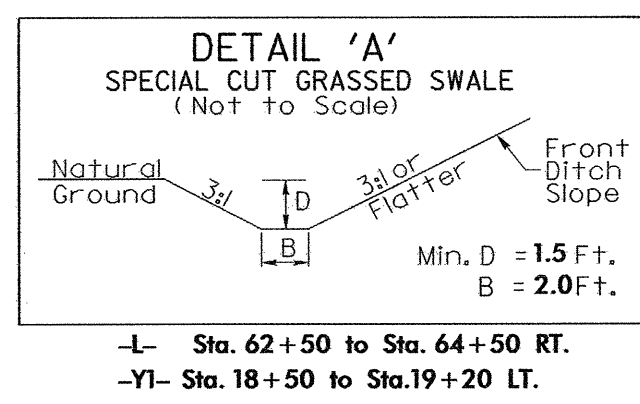
END DETOUR
-DET- PT Sta. 29+05.02

SKETCH SHOWING PAVEMENT / BRIDGE RELATIONSHIP

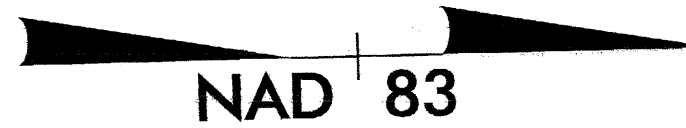
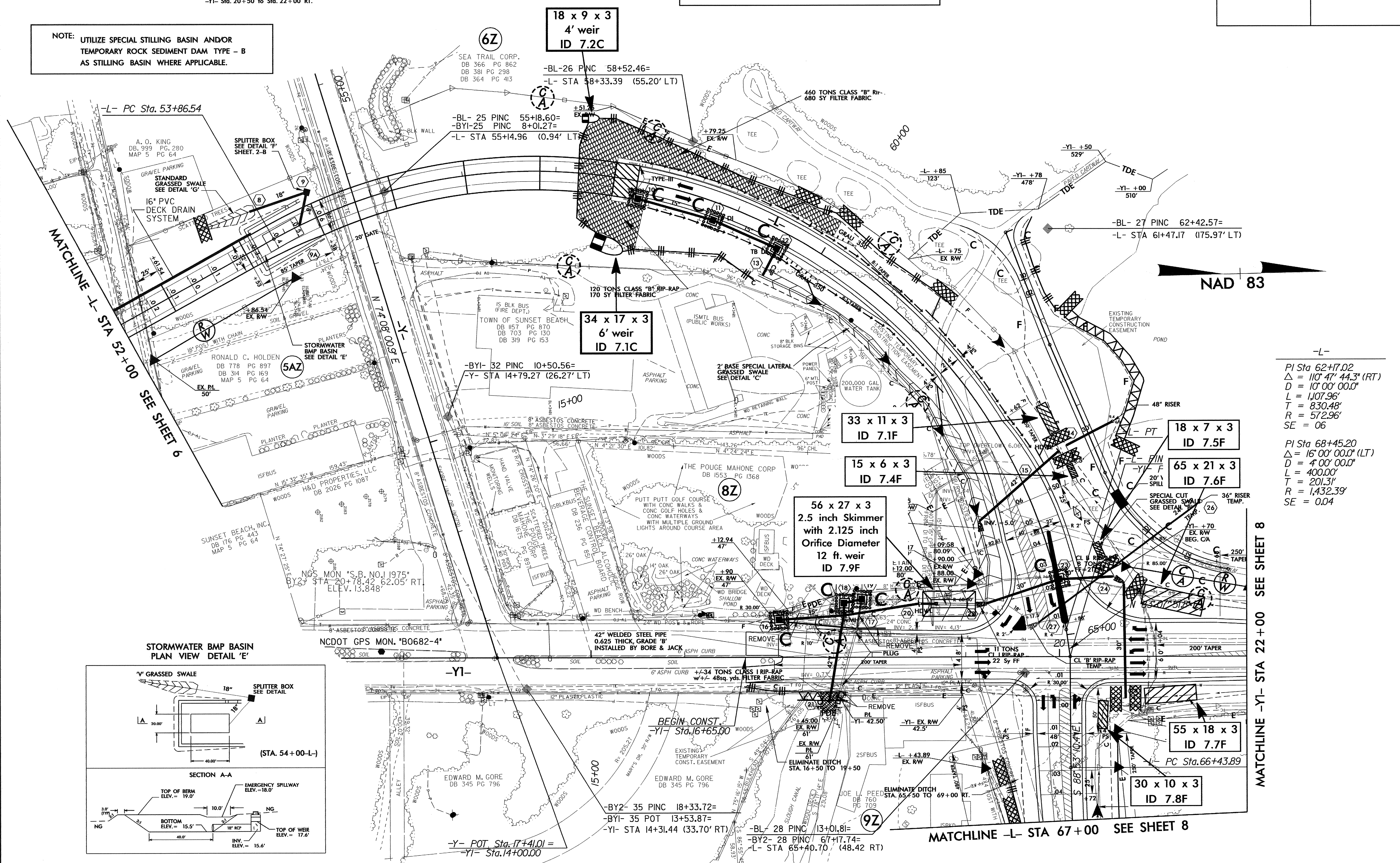


SEE SHEET 10 FOR -L- PROFILE
SEE SHEET 12 FOR -YI- PROFILE
SEE SHEET 13 FOR -DET- PROFILE

PROJECT REFERENCE NO. B-0682		SHEET NO. EC-12/CONST.7	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

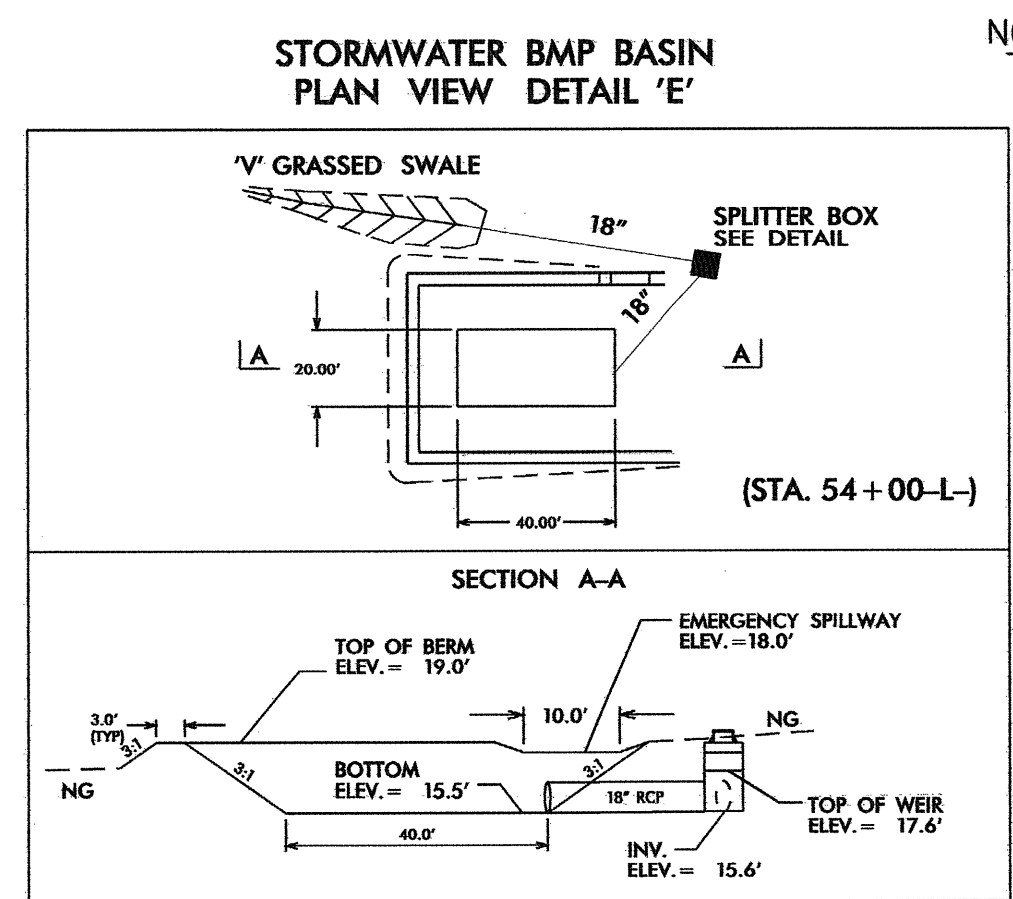


NOTE: UTILIZE SPECIAL STILLING BASIN AND/OR TEMPORARY ROCK SEDIMENT DAM TYPE - B AS STILLING BASIN WHERE APPLICABLE.



-L-
 PI Sta 62+17.02
 $\Delta = 110' 47' 44.3''$ (RT)
 $D = 10' 00' 00.0''$
 $L = 1,107.96'$
 $T = 830.48'$
 $R = 572.96'$
 $SE = 06$

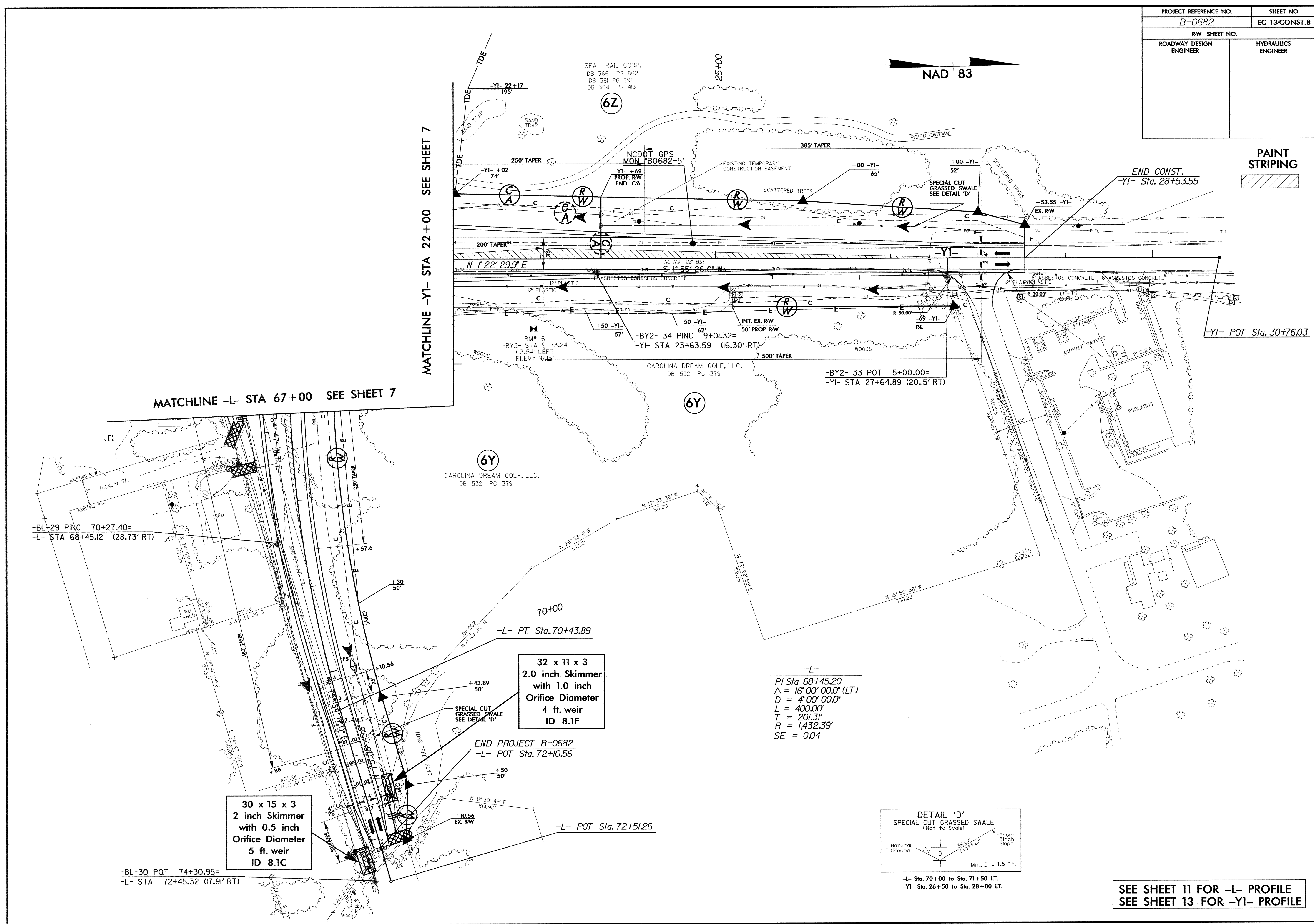
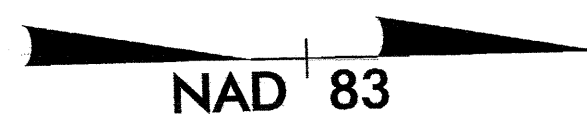
-L-
 PI Sta 68+45.20
 $\Delta = 16' 00' 00.0''$ (LT)
 $D = 4' 00' 00.0''$
 $L = 400.00'$
 $T = 201.31'$
 $R = 1,432.39'$
 $SE = 0.04$



MATCHLINE -Y1- STA 22+00 SEE SHEET 8

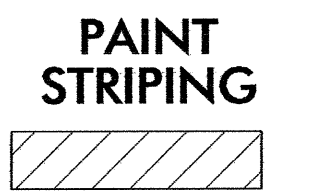
MATCHLINE -L- STA 67+00 SEE SHEET 8

PROJECT REFERENCE NO. B-0682	SHEET NO. EC-13/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE -L- STA 67+00 SEE SHEET 7

MATCHLINE -Y1- STA 22+00 SEE SHEET 7



-BL-29 PINC 70+27.40=
-L- STA 68+45.12 (28.73' RT)

32 x 11 x 3
2.0 inch Skimmer
with 1.0 inch
Orifice Diameter
4 ft. weir
ID 8.1F

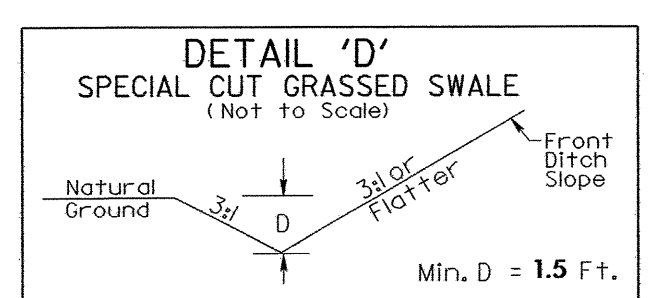
30 x 15 x 3
2 inch Skimmer
with 0.5 inch
Orifice Diameter
5 ft. weir
ID 8.1C

-L-
PI Sta 68+45.20
 $\Delta = 16' 00' 00.0''$ (LT)
D = 4' 00' 00.0''
L = 400.00'
T = 201.31'
R = 1,432.39'
SE = 0.04

-BL-30 POT 74+30.95=
-L- STA 72+45.32 (17.91' RT)

END PROJECT B-0682
-L- POT Sta. 72+10.56

-L- POT Sta. 72+51.26



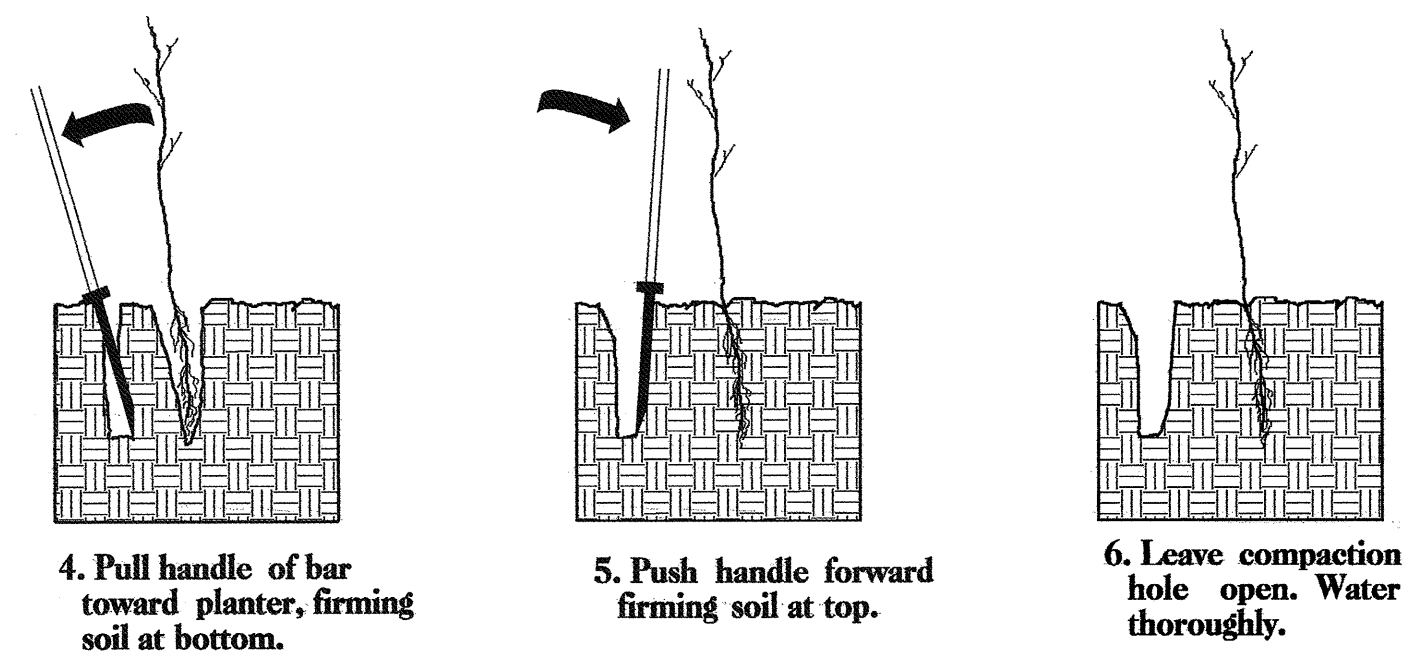
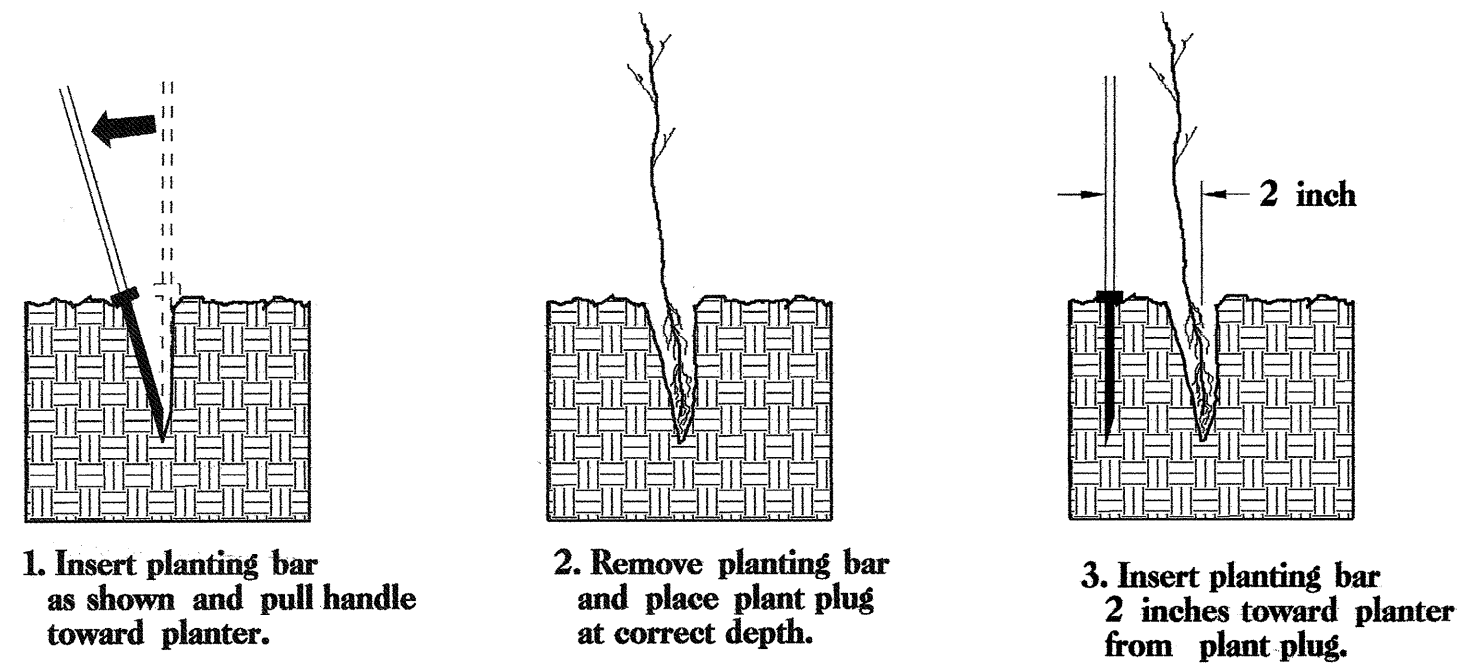
-L- Sta. 70+00 to Sta. 71+50 LT.
-Y1- Sta. 26+50 to Sta. 28+00 LT.

SEE SHEET 11 FOR -L- PROFILE
SEE SHEET 13 FOR -Y1- PROFILE

PROJECT REFERENCE NO. <i>B-0682</i>	SHEET NO. <i>EC-14</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

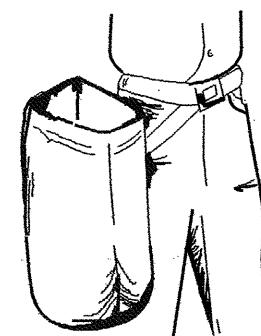
PLANTING DETAILS

DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR

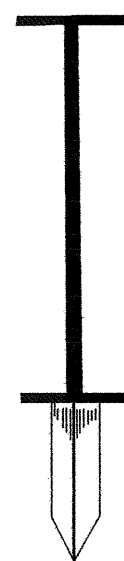


PLANTING NOTES:

PLANTING BAG
During planting, plant plugs shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



WETLAND GRASS PLANTING

- WETLAND GRASS SPECIES SHALL BE PLANTED 2 FT. TO 4 FT. ON CENTER, RANDOM SPACING, AVERAGING 3 FT. ON CENTER, APPROXIMATELY 4840 PLANTS PER ACRE.

WETLAND GRASS PLANTING

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

100% SPARTINA ALTERNIFLORA SMOOTH CORDGRASS 2 in PEAT POT

WETLAND GRASS PLANTING DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT