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

The documents contained herein were originally issued and sealed by the individuals whose names and license numbers appear on each page, on the dates appearing with their signature on that page.
This file or an individual page shall not be considered a certified document.

TIP PROJECT: B-4447

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4447	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

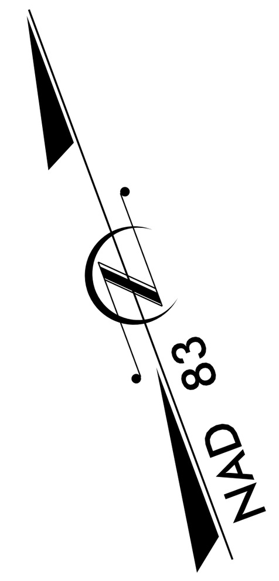
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

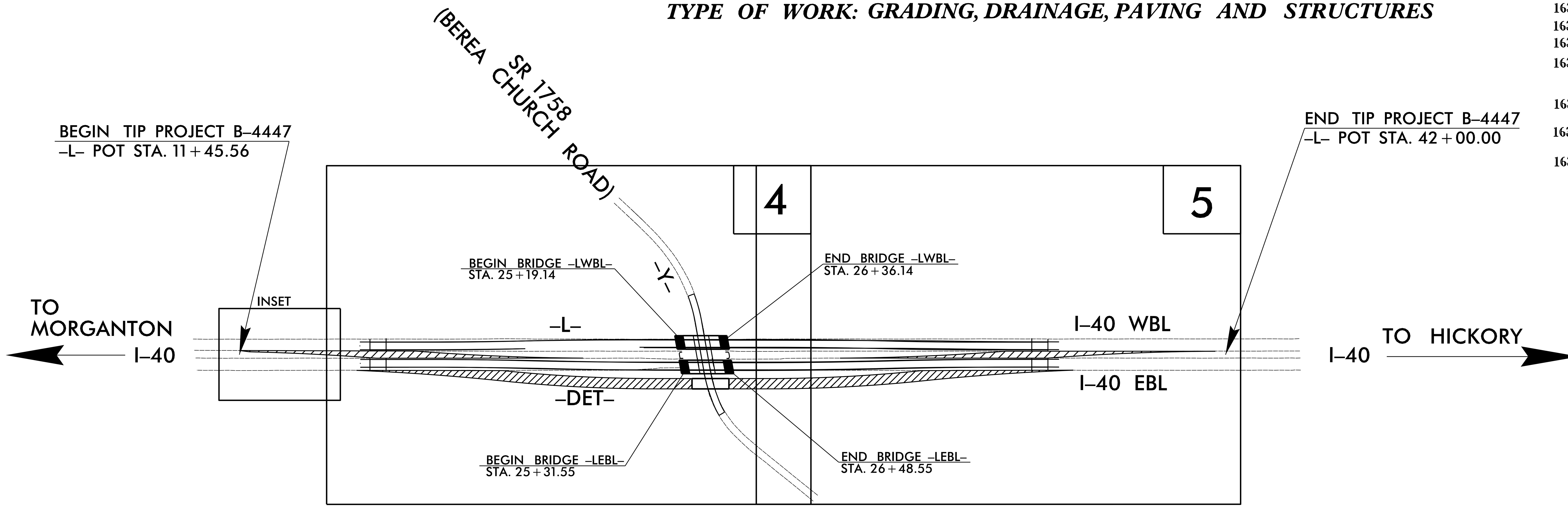
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

BURKE COUNTY

LOCATION: BRIDGES 160 & 162 ON I-40 OVER SR 1758 (BEREA CHURCH ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES





EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle/Coir Fiber Wattle	EW / CFW
	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.

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

Prepared In the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Designed by:

Noelle Ring	*3456*
NAME	*LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

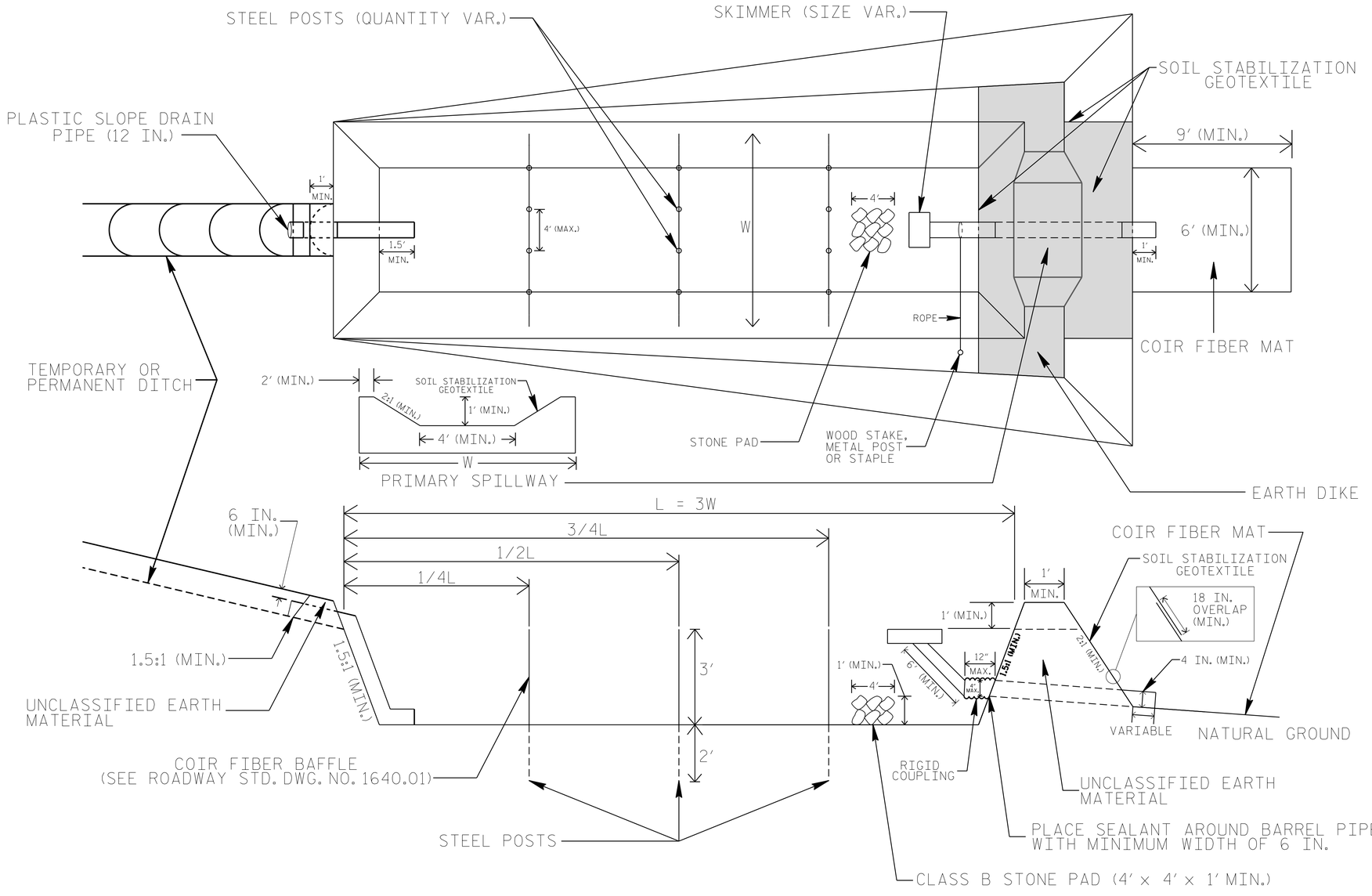
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

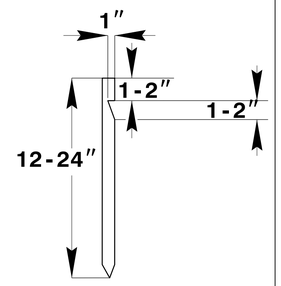
13-FEB-2017 16:15
R:\Environmental\Design\B4447_EC_tsh.dgn
nring AT RENV-269782

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

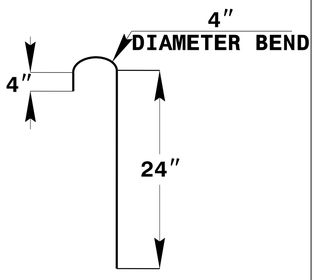
SKIMMER BASIN WITH BAFFLES DETAIL



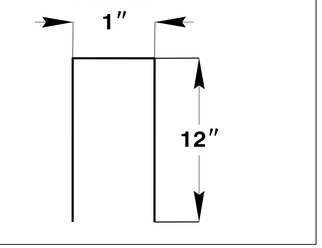
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

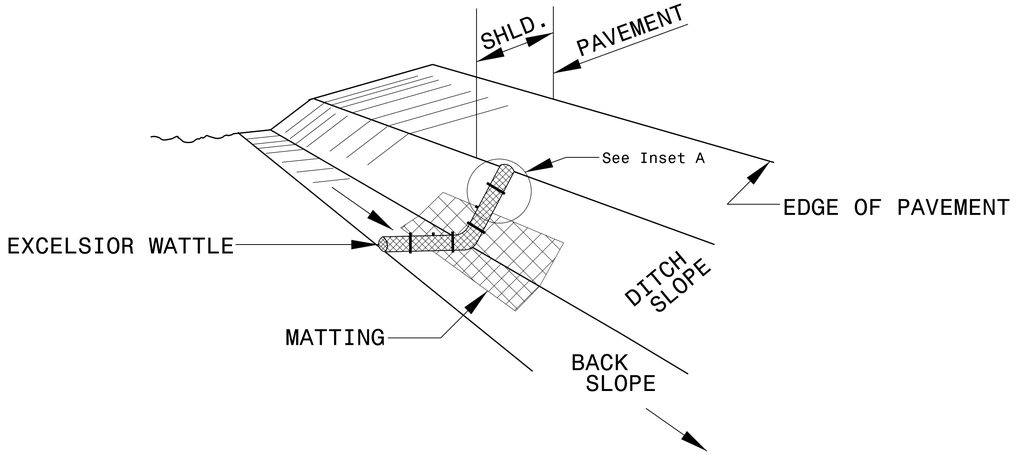
NOTES

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 PRIMARY SPILLWAY WEIR 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 FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

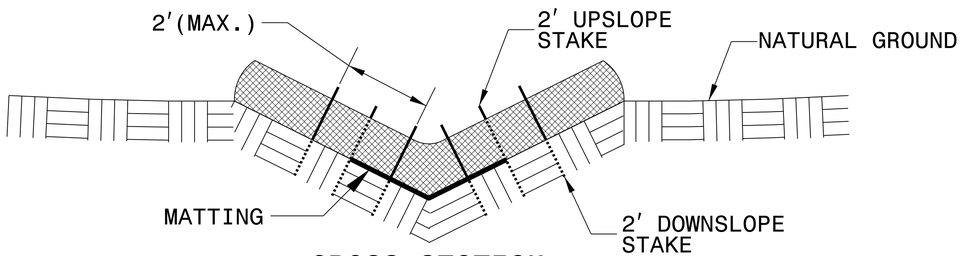
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

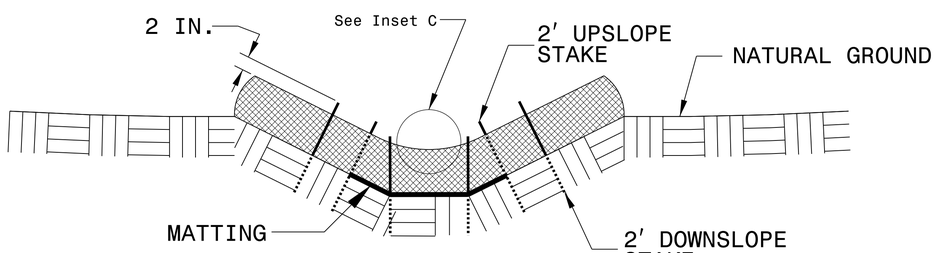
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

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.

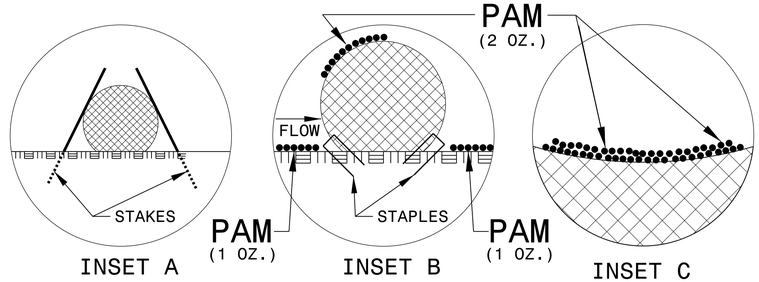
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

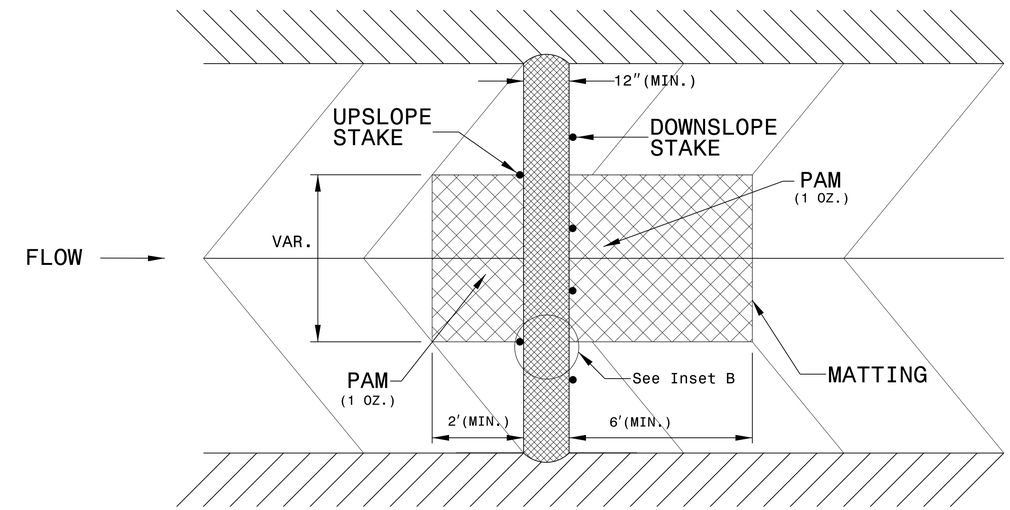
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.

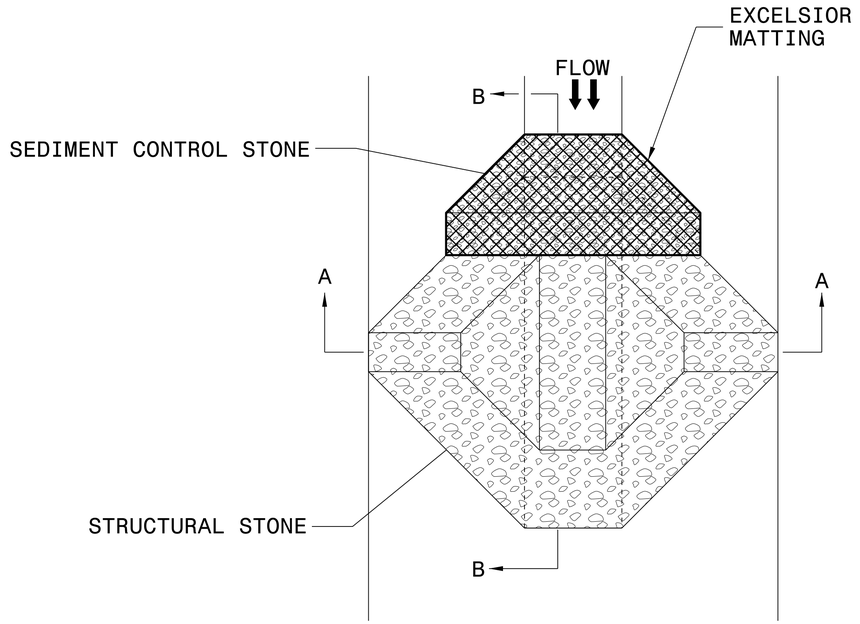




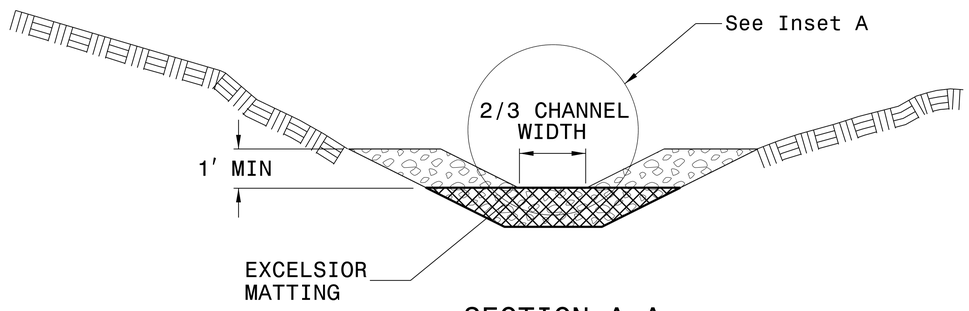
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

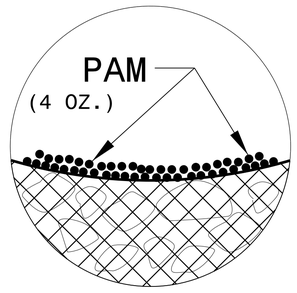
NOTES:

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

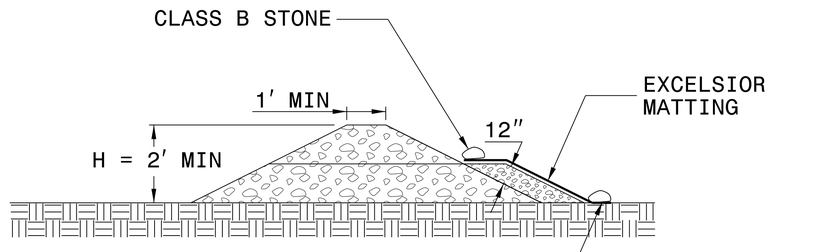
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

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



INSET A



SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
20-2	-DET-	19+00	21+50	RT	205
20-2	-DET-	21+50	22+50	RT	95
20-2, -3	-DET-	27+75	31+50	RT	250
20-3	-DET-	31+75	32+50	RT	150
4	-L-	18+50	22+25	RT	665
4	-L-	19+25	22+50	LT	550
				SUBTOTAL	1915
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					10275
				TOTAL	12190
				SAY	12200

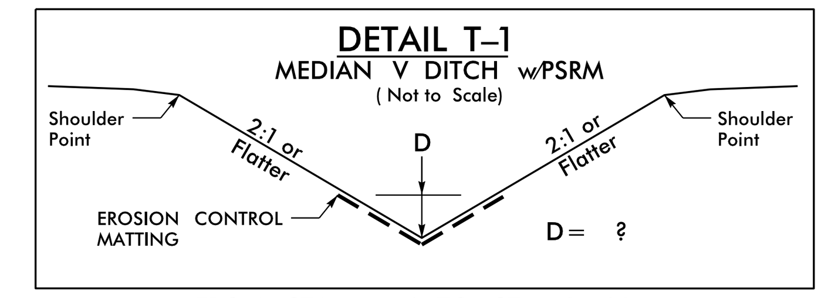
PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
20-2	-DET-	18+50	19+00	RT	55
				SUBTOTAL	55
		ADDITIONAL PSRM TO BE INSTALLED			1245
				TOTAL	1300
				SAY	1300

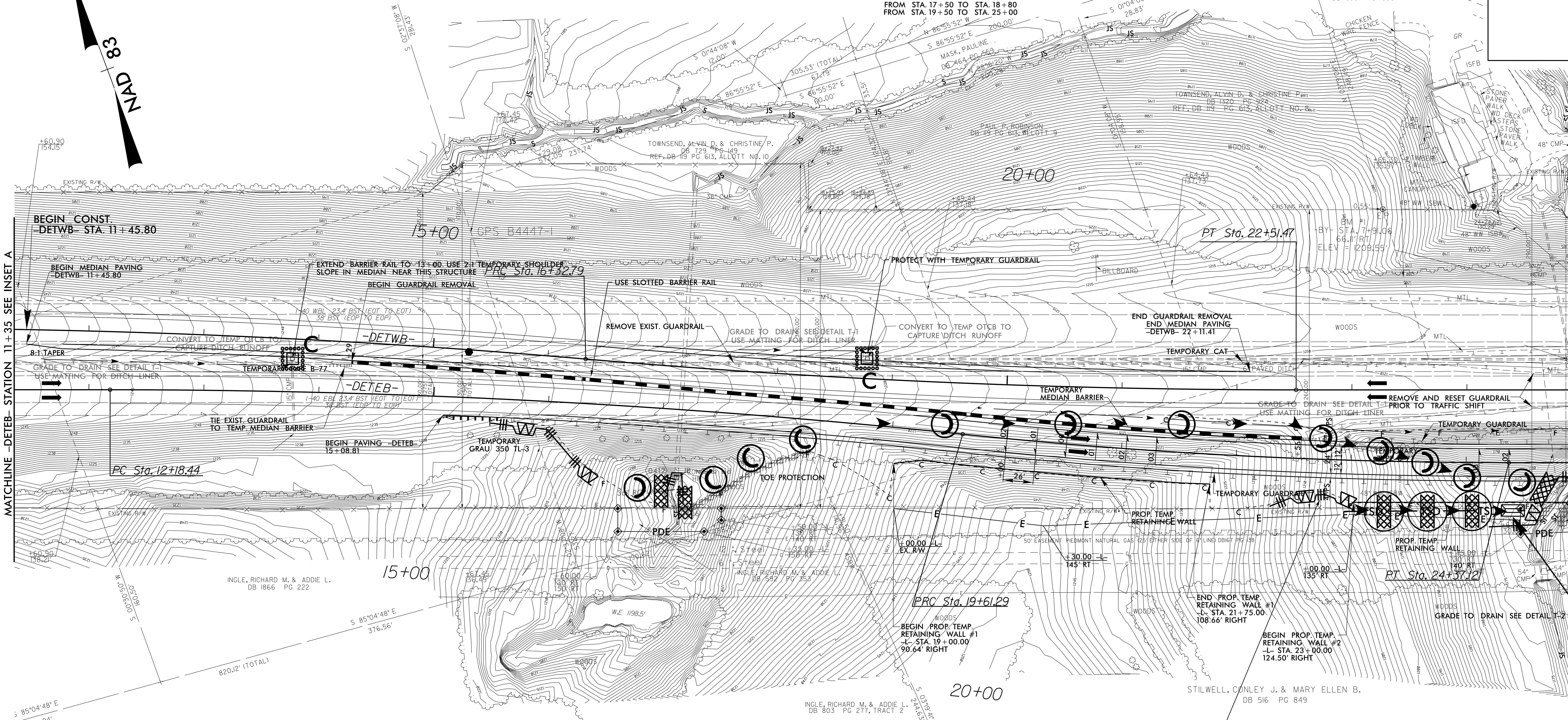
PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-4/CONST.2B-2
R/W SHEET NO.	2B-2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DETOUR

DETAIL T-1



FROM STA. 11+50 TO STA. 13+80
FROM STA. 17+50 TO STA. 18+80
FROM STA. 19+50 TO STA. 25+00

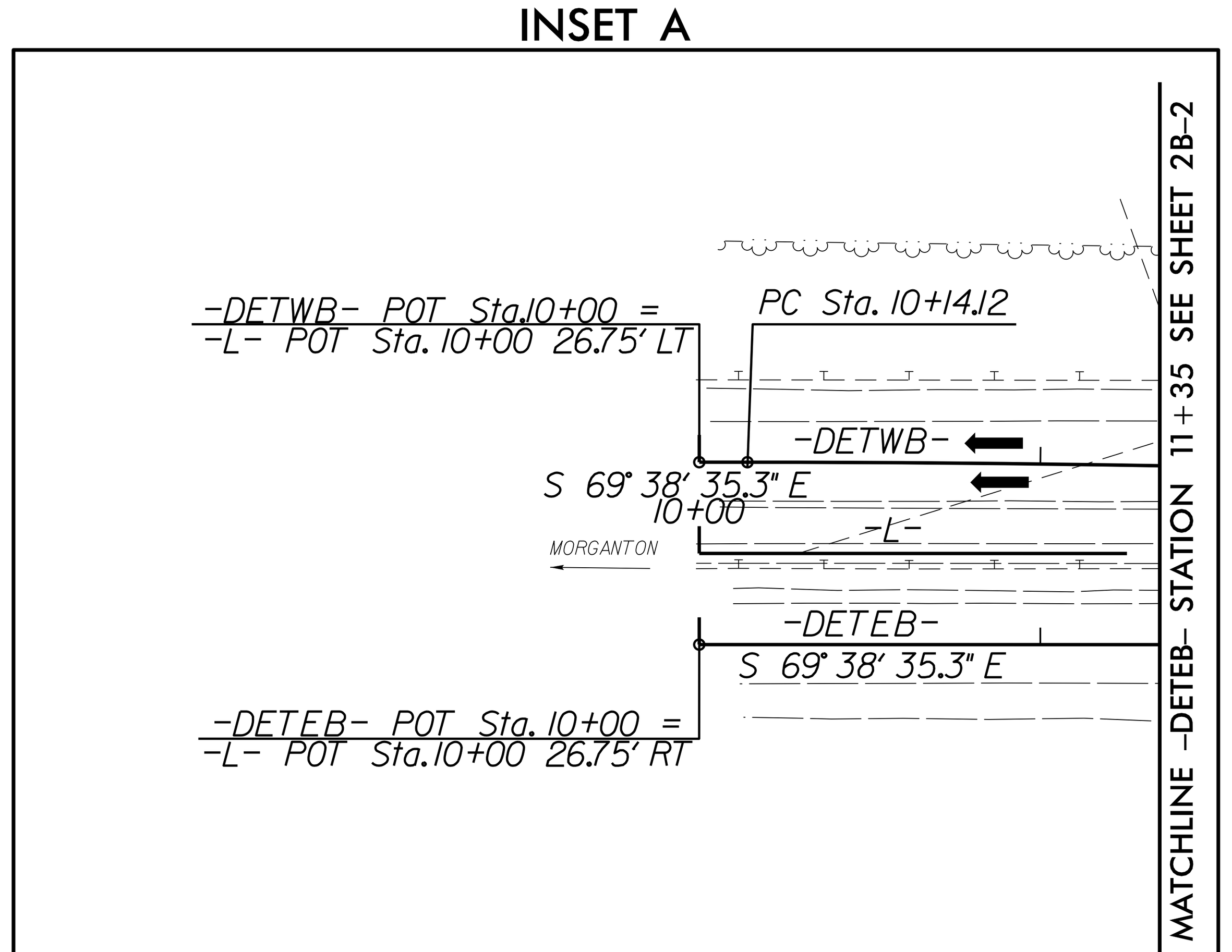


CHURCH, EARL FRED & LILLIE MAE LAIL
DB 874 PG 707, TRACT I
DB 874 PG 707, TRACT II
NAD 83
BEGIN CONST. -DETWB- STA. 11+45.80
BEGIN MEDIAN PAVING -DETWB- 11+45.80
EXTEND BARRIER RAIL TO 13+00 USE 2:1 TEMPORARY SHOULDER SLOPE IN MEDIAN NEAR THIS STRUCTURE
BEGIN GUARDRAIL REMOVAL
PRC Sta. 16+32.79
USE SLOTTED BARRIER RAIL
PROTECT WITH TEMPORARY GUARDRAIL
REMOVE EXIST. GUARDRAIL
GRADE TO DRAIN SEE DETAIL T-1 USE MATTING FOR DITCH LINER
CONVERT TO TEMP OTCB TO CAPTURE DITCH RUNOFF
8:1 TAPER
-DETWB-
-DETEB-
TIE EXIST. GUARDRAIL TO TEMP. MEDIAN BARRIER
BEGIN PAVING -DETEB- 15+08.81
TEMPORARY GRAU 350 TL-3
PC Sta. 12+18.44
TOE PROTECTION
PDE
15+00
20+00
PT Sta. 22+51.47
END GUARDRAIL REMOVAL
END MEDIAN PAVING -DETWB- 22+11.41
TEMPORARY CAT
TEMPORARY MEDIAN BARRIER
REMOVE AND RESET GUARDRAIL PRIOR TO TRAFFIC SHIFT
GRADE TO DRAIN SEE DETAIL T-1 USE MATTING FOR DITCH LINER
TEMPORARY GUARDRAIL
PROP. TEMP RETAININGE WALL
PROP. TEMP RETAINING WALL
PT Sta. 24+37.12
PRC Sta. 19+61.29
BEGIN PROP. TEMP RETAINING WALL #1 -L- STA. 19+00.00 90.64' RIGHT
END PROP. TEMP RETAINING WALL #1 -L- STA. 21+75.00 108.66' RIGHT
BEGIN PROP. TEMP RETAINING WALL #2 -L- STA. 23+00.00 124.50' RIGHT
GRADE TO DRAIN SEE DETAIL T-2
TOWNSEND, ALVIN D. & CHRISTINE P. DB 729 PG 149
PAUL P. ROBINSON
BERRY, ALAN ANDREW & JANET HERMAN DB 860 PG 1930
INGLE, RICHARD M. & ADDIE L. DB 1866 PG 222
INGLE, RICHARD M. & ADDIE L. DB 803 PG 277, TRACT 2
STILWELL, CONLEY J. & MARY ELLEN B. DB 516 PG 849
MATCHLINE -DETEB- STATION 11+35 SEE INSET A
MATCHLINE -DETEB- STATION 25+00 SEE SHEET 2B-3

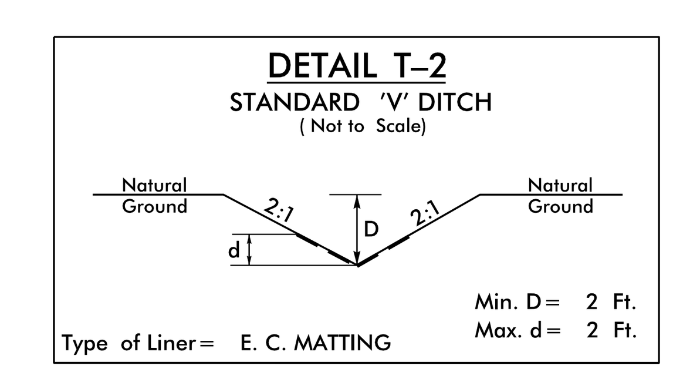
NOTE FOR ROADSIDE: LINE DITCH, FILL SLOPE AND AREA BEHIND WALL FROM END OF TEMPORARY WALL AT 21+75 TO CULVERT WITH EROSION CONTROL MATTING

20 x 10 x 3
1.5 inch Skimmer
with 0.250 inch
Orifice Diameter
4 ft. weir
ID 2B-2.2

INSET A



DETAIL T-2



FROM STA. TO STA.

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 2B-2

8/17/99

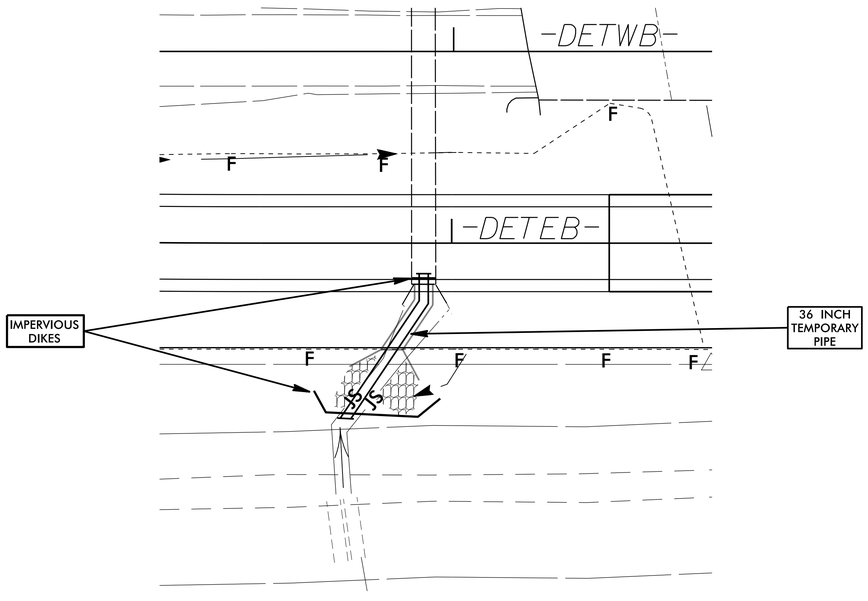
14-FEB-2017 09:33
R:\Environmental\Design\B4447_EC_det_2B-2.dgn

CULVERT CONSTRUCTION SEQUENCE STA. 24+88 –L–

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-5/CONST.2B-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. CONSTRUCT IMPERVIOUS DIKES AND INSTALL 36 INCH TEMPORARY PIPE, DIVERTING FLOW.
3. CONSTRUCT PROPOSED CULVERT EXTENSION, AND ANY NECESSARY UPSTREAM CHANNEL IMPROVEMENTS.
4. REMOVE IMPERVIOUS DIKE AND 36 INCH TEMPORARY PIPE, ALLOWING NORMAL FLOW THROUGH CULVERT.
5. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
6. COMPLETE DETOUR ROADWAY CONSTRUCTION.

NAD 83



DETOUR

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-6/CONST.2B-3
R/W SHEET NO.	2B-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

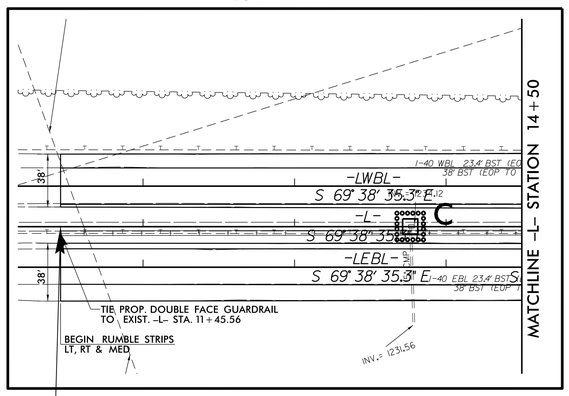
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 2B-3

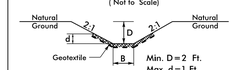
NAD 83
PT Sta. 12+76.26
PT Sta. 14+64.68
PC Sta. 29+66.47
PRC Sta. 35+85.15
30+00
35+00
-BL- 6
BEGIN MEDIAN PAVING -DETWB- 30+07.34
REVISE ALIGNMENT TO PROVIDE MINIMUM 6' SHOULDER FOR DETOUR
ADJUST TOP AS NECESSARY TO DRAIN LINE AHEAD DITCH
USE SLOTTED BARRIER RAIL
GRADE TO DRAIN SEE DETAIL T-1
USE MATTING FOR DITCH LINER
REMOVE EXIST. GUARDRAIL ANCHOR UNIT
TEMPORARY GUARDRAIL
REMOVE EXISTING GUARDRAIL
TIE TO EXISTING GUARDRAIL
TEMPORARY GRAU 350 TL-3
-DETWB-
S 69° 38' 35.3" E
REMOVE AND RESET GUARDRAIL PRIOR TO TRAFFIC SHIFT
PC Sta. 16+22.08
TEMPORARY TYPE B-77
TEMPORARY MEDIAN BARRIER
CAT-1
-DETEB-
S 69° 38' 35.3" E
MATCHLINE -DETEB- STATION 25+00 SEE SHEET 2B-2
MATCHLINE -DETEB- STA. 38+50 INSET B
COVER WITH STEEL PLATE
END PAVING -DETEB- 37+25.54
RAISE GRADE TO AVOID UNDERCUTTING EXISTING ROAD
PRC Sta. 32+62.96
COIR FIBER MATTING +/-160sy
TEMPORARY GUARDRAIL
PT Sta. 16+97.23
PC Sta. 17+12.88
PT Sta. 17+99.04
PC Sta. 18+21.27
PC Sta. 27+87.12
PT Sta. 18+81.33
S 19° 43' 55.4" E
S 30° 31' 08.4" E
20+00
POT Sta. 21+51.39
Special Lateral Ditch See Detail D -DETEB- STA. 32+33 TO STA. 33+36 SEE X-SEC FILE SLOPE=2.85%
PROPOSED DITCH LIMIT
END PROP. TEMP. RETAINING WALL #2 -L- STA. 25+90.00 124.50' RIGHT
BM #2 -BY- STA. 11+33.88 16.31' RT ELEV = 1191.28'
GRIGG, SANDRA SMITH DB 803 PG 2045
BRITTEN, REBA K. DB 1636 PG 282
BRITTEN, ROY E. & MARGARET E. DB 735 PG 548
BRITTEN, ROY E. & MARGARET E. DB 686 PG 679
INGLE, LESTER J. & LINDA DB 647 PG 640
SHARPE, BESSIE B. DB 205 PG 533
DETAIL D
SPECIAL LATERAL 'V' DITCH w/Coir Fiber Matting (Not to Scale)
Natural Ground
2:1
D
4:1 or Flatter
Fill Slope
Min. D = 2 Ft.
Matting D = 2 FT.
FROM -DETEB- STA. 32+33 TO STA. 33+36 RT.
INSET B
END CONST. -DETWB- STA. 42+00
PT Sta. 42+03.83
END REMOVE EXISTING GUARDRAIL +00
-DETWB-
S 69° 38' 35.3
TEMP. MEDIAN BARRIER
TEMP. CAT-1
-DETEB-
S 69° 38' 35.3" E
END MEDIAN PAVING -DETWB- 41+75.35
40+00
PT Sta. 40+05.80
MATCHLINE -DETEB- STA. 38+50

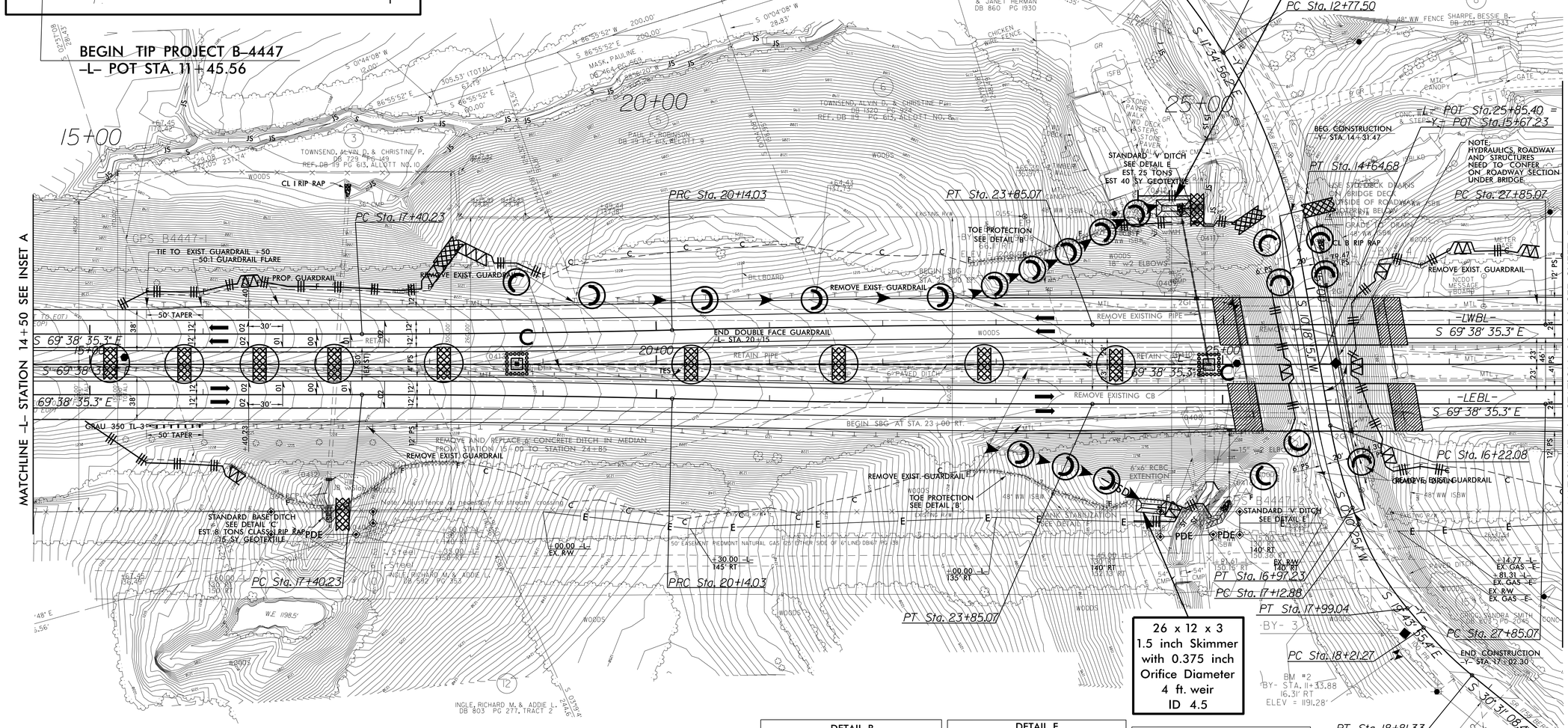
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

8/17/99

14-FEB-2017 09:49
R:\Environmental\Design\B4447_EC_det_2B-3.dgn







PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-7/CONST.4
R/W SHEET NO.	4
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 4

DETAIL B
TOE PROTECTION
(Not to Scale)

d= 2 Ft.
b= 4 Ft.

Type of Liner= CLASS B Rip-Rap

FROM -L- STA. 16+25 TO STA. 18+50 RT.
FROM -L- STA. 23+50 TO STA. 24+50 LT.
FROM -L- STA. 22+75 TO STA. 24+68 RT.
FROM -L- STA. 32+25 TO STA. 33+00 RT.

DETAIL F
BANK STABILIZATION
(Not to Scale)

Min. D=4 Ft.
Max. d=6 Ft.
B=6 Ft.

Type of Liner= CLASS I Rip-Rap

–L– STA 24+50 RT
EST 40 TONS CLASS I
EST 60 SY GEOTEXTILE
30 CY DDE

DETAIL E
STANDARD 'V' DITCH
(Not to Scale)

Min. D= 2 Ft.
Max. d= 2 Ft.

Type of Liner= CLASS 'I' Rip-Rap

–L– STA. 24+75 LT.
–L– STA. 25+00 RT.

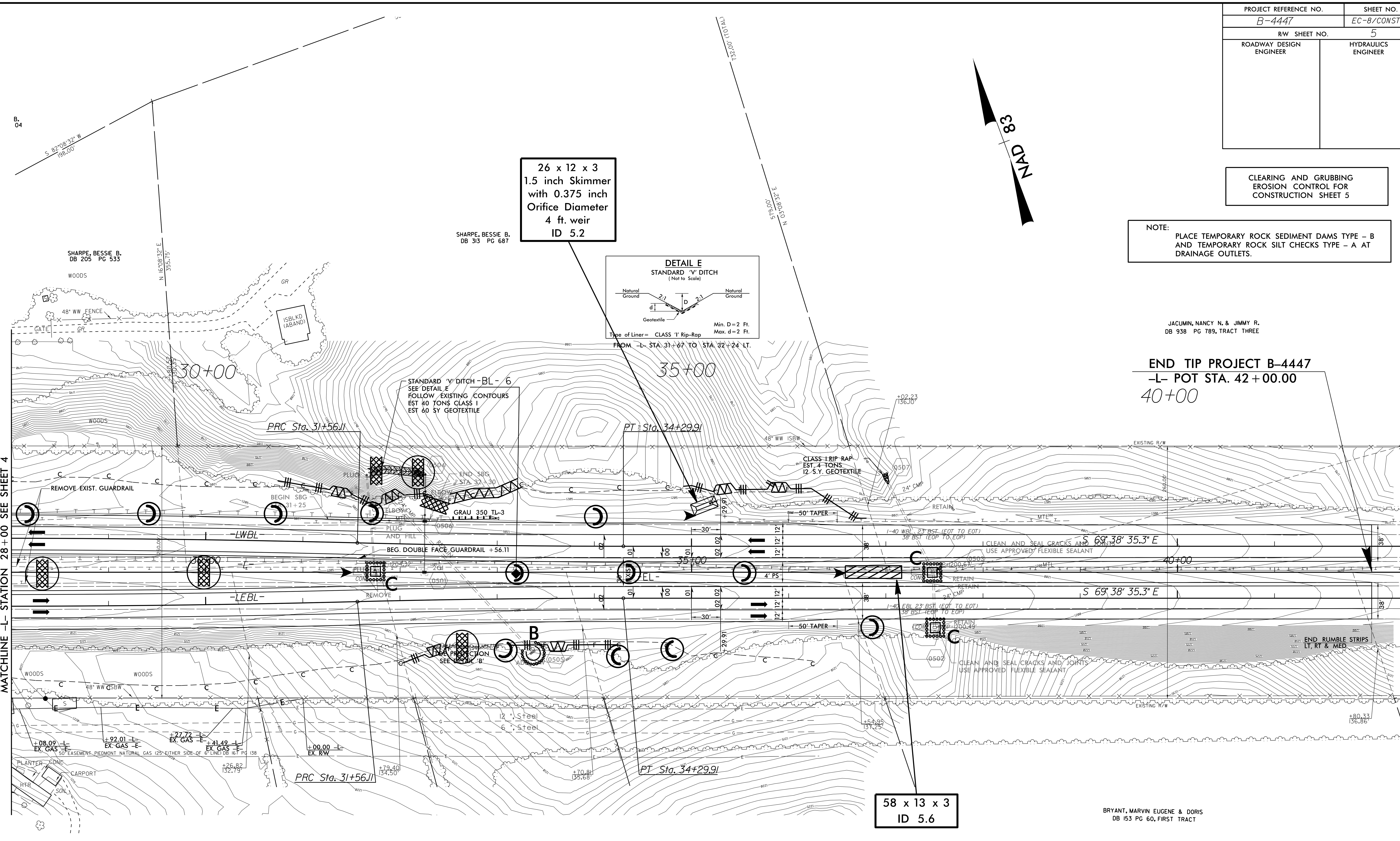
8/17/99

14-FEB-2017 10:21
R:\Environmental\Design\B4447_EC_psh4.dgn
nring AT RENV-269782

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-8/CONST.5
R/W SHEET NO.	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

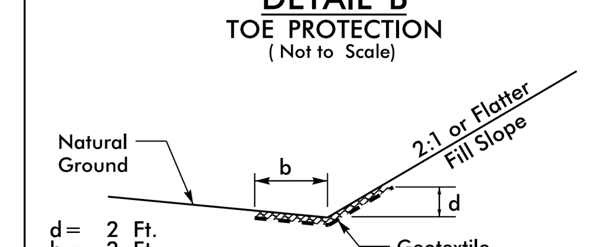
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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



NAD 83
26 x 12 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 5.2
DETAIL E
STANDARD 'V' DITCH
(Not to Scale)
Type of Liner = CLASS 'I' Rip-Rap
Min. D = 2 Ft.
Max. d = 2 Ft.
FROM -L- STA. 31+67 TO STA. 32+24 LT.
SHARPE, BESSIE B.
DB 205 PG 533
SHARPE, BESSIE B.
DB 313 PG 687
JACUMIN, NANCY N. & JIMMY R.
DB 938 PG 789, TRACT THREE
END TIP PROJECT B-4447
-L- POT STA. 42+00.00
STANDARD 'V' DITCH -BL- 6
SEE DETAIL E
FOLLOW EXISTING CONTOURS
EST 40 TONS CLASS I
EST 60 SY GEOTEXTILE
PRC Sta. 31+56.11
PT Sta. 34+29.91
CLASS I RIP RAP
EST. 4 TONS
12 S.Y. GEOTEXTILE
REMOVE EXIST. GUARDRAIL
BEG. DOUBLE FACE GUARDRAIL +56.11
GRAU 350 TL-3
S 69° 38' 35.3" E
CLEAN AND SEAL CRACKS AND JOINTS
USE APPROVED FLEXIBLE SEALANT
MATCHLINE -L- STATION 28+00 SEE SHEET 4
TOE PROTECTION
SEE DETAIL 'B'
END RUMBLE STRIPS
LT, RT & MED
58 x 13 x 3
ID 5.6
BRYANT, MARVIN EUGENE & DORIS
DB 153 PG 60, FIRST TRACT
PRC Sta. 31+56.11
PT Sta. 34+29.91

DETAIL B
TOE PROTECTION
(Not to Scale)



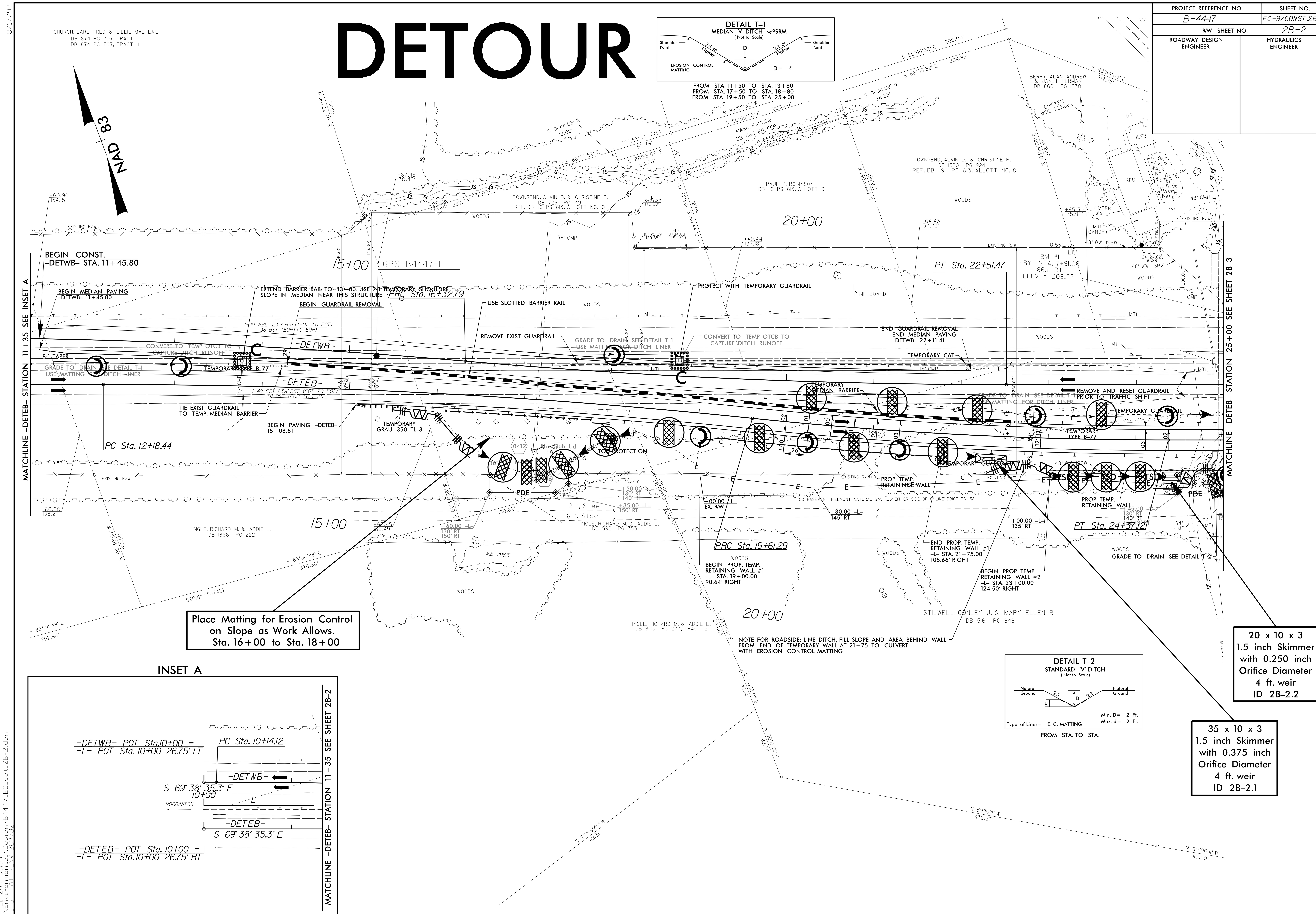
d = 2 Ft.
b = 2 Ft.

Type of Liner = CLASS B Rip-Rap

FROM -L- STA. 23+50 TO STA. 24+50 LT.
FROM -L- STA. 22+75 TO STA. 23+25 RT.
FROM -L- STA. 32+25 TO STA. 33+00 RT.

8/17/99

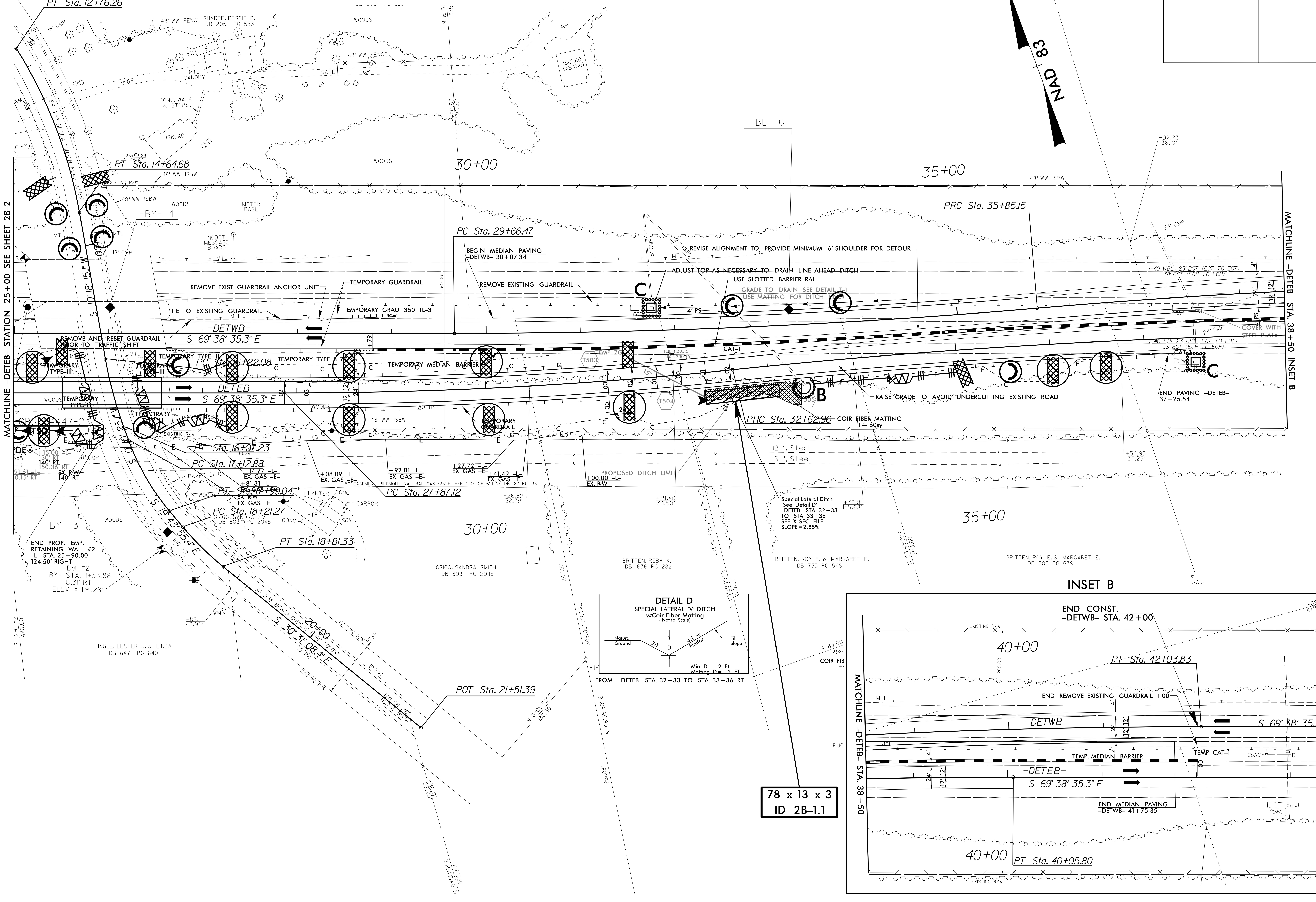
14-FEB-2017 10:29
R:\Environmental\Design\B4447_EC_psh5.dgn



DETOUR
PROJECT REFERENCE NO.
B-4447
SHEET NO.
EC-9/CONST.2B-2
R/W SHEET NO.
2B-2
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DETAIL T-1
MEDIAN V DITCH wPSRM
(Not to Scale)
Shoulder Point
2:1 or Flatter
EROSION CONTROL MATTING
D= ?
FROM STA. 11+50 TO STA. 13+80
FROM STA. 17+50 TO STA. 18+80
FROM STA. 19+50 TO STA. 25+00
NAD 83
CHURCH, EARL FRED & LILLIE MAE LAIL
DB 874 PG 707, TRACT I
DB 874 PG 707, TRACT II
BEGIN CONST.
-DETWB- STA. 11+45.80
BEGIN MEDIAN PAVING
-DETWB- 11+45.80
MATCHLINE -DETEB- STATION 11+35 SEE INSET A
MATCHLINE -DETEB- STATION 25+00 SEE SHEET 2B-3
EXTEND BARRIER RAIL TO 13+00. USE 2:1 TEMPORARY SHOULDER SLOPE IN MEDIAN NEAR THIS STRUCTURE
BEGIN GUARDRAIL REMOVAL
PRC Sta. 16+32.79
USE SLOTTED BARRIER RAIL
PROTECT WITH TEMPORARY GUARDRAIL
PT Sta. 22+51.47
BM #1
-BY- STA. 7+91.06
66.11' RT
ELEV = 1209.55'
END GUARDRAIL REMOVAL
END MEDIAN PAVING
-DETWB- 22+11.41
TEMPORARY CAT
REMOVE EXIST. GUARDRAIL
GRADE TO DRAIN SEE DETAIL T-1
USE MATTING FOR DITCH LINER
CONVERT TO TEMP OTCB TO CAPTURE DITCH RUNOFF
-DETWB-
-DETEB-
8:1 TAPER
TIE EXIST. GUARDRAIL TO TEMP. MEDIAN BARRIER
BEGIN PAVING -DETEB- 15+08.81
TEMPORARY GRAU 350 TL-3
TEMPORARY MEDIAN BARRIER
REMOVE AND RESET GUARDRAIL PRIOR TO TRAFFIC SHIFT
TEMPORARY GUARDRAIL
TEMPORARY TYPE B-77
PC Sta. 12+18.44
TOE PROTECTION
PDE
PROP. TEMP. RETAINING WALL
PRC Sta. 19+61.29
BEGIN PROP. TEMP. RETAINING WALL #1
-L- STA. 19+00.00
90.64' RIGHT
END PROP. TEMP. RETAINING WALL #1
-L- STA. 21+75.00
108.66' RIGHT
BEGIN PROP. TEMP. RETAINING WALL #2
-L- STA. 23+00.00
124.50' RIGHT
PT Sta. 24+37.12
GRADE TO DRAIN SEE DETAIL T-2
TOWNSEND, ALVIN D. & CHRISTINE P.
DB 729 PG 149
REF. DB 119 PG 613, ALLOTT NO. 10
TOWNSEND, ALVIN D. & CHRISTINE P.
DB 1320 PG 924
REF. DB 119 PG 613, ALLOTT NO. 8
PAUL P. ROBINSON
DB 119 PG 613, ALLOTT 9
BERRY, ALAN ANDREW & JANET HERMAN
DB 860 PG 1930
INGLE, RICHARD M. & ADDIE L.
DB 1866 PG 222
INGLE, RICHARD M. & ADDIE L.
DB 592 PG 353
INGLE, RICHARD M. & ADDIE L.
DB 803 PG 277, TRACT 2
STILWELL, CONLEY J. & MARY ELLEN B.
DB 516 PG 849
15+00
20+00
GPS B4447-1
Place Matting for Erosion Control on Slope as Work Allows.
Sta. 16+00 to Sta. 18+00
NOTE FOR ROADSIDE: LINE DITCH, FILL SLOPE AND AREA BEHIND WALL FROM END OF TEMPORARY WALL AT 21+75 TO CULVERT WITH EROSION CONTROL MATTING
DETAIL T-2
STANDARD 'V' DITCH
(Not to Scale)
Natural Ground
Min. D= 2 Ft.
Max. d= 2 Ft.
Type of Liner= E. C. MATTING
FROM STA. TO STA.
20 x 10 x 3
1.5 inch Skimmer
with 0.250 inch
Orifice Diameter
4 ft. weir
ID 2B-2.2
35 x 10 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 2B-2.1
INSET A
-DETWB- POT Sta10+00 =
-L- POT Sta. 10+00 26.75' LT
PC Sta. 10+14.12
S 69° 38' 35.3" E
-DETEB- POT Sta. 10+00 =
-L- POT Sta.10+00 26.75' RT
MATCHLINE -DETEB- STATION 11+35 SEE SHEET 2B-2

DETOUR

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-10/CONST.2B-3
R/W SHEET NO.	2B-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NAD 83
PT Sta. 12+76.26
PT Sta. 14+64.68
PC Sta. 29+66.47
PRC Sta. 35+85.15
PRC Sta. 32+62.96
PC Sta. 27+87.12
PT Sta. 16+97.23
PC Sta. 17+12.88
PC Sta. 18+21.27
PT Sta. 18+81.33
POT Sta. 21+51.39
-BL- 6
-BY- 4
-BY- 3
-DETWB-
-DETEB-
S 69° 38' 35.3" E
S 30° 31' 08.4" E
30+00
35+00
20+00
BEGIN MEDIAN PAVING -DETWB- 30+07.34
REMOVE EXIST. GUARDRAIL ANCHOR UNIT
TEMPORARY GUARDRAIL
REMOVE EXISTING GUARDRAIL
TIE TO EXISTING GUARDRAIL
TEMPORARY GRAU 350 TL-3
REMOVE AND RESET GUARDRAIL PRIOR TO TRAFFIC SHIFT
TEMPORARY TYPE-III
TEMPORARY MEDIAN BARRIER
REVISE ALIGNMENT TO PROVIDE MINIMUM 6' SHOULDER FOR DETOUR
ADJUST TOP AS NECESSARY TO DRAIN LINE AHEAD DITCH
USE SLOTTED BARRIER RAIL
GRADE TO DRAIN SEE DETAIL T-1
USE MATTING FOR DITCH
RAISE GRADE TO AVOID UNDERCUTTING EXISTING ROAD
COIR FIBER MATTING +/-160sy
END PAVING -DETEB- 37+25.54
COVER WITH STEEL PLATE
MATCHLINE -DETEB- STATION 25+00 SEE SHEET 2B-2
MATCHLINE -DETEB- STA. 38+50 INSET B
Special Lateral Ditch See Detail D' -DETEB- STA. 32+33 TO STA. 33+36 SEE X-SEC FILE SLOPE=2.85%
PROPOSED DITCH LIMIT
50' EASEMENT PIEDMONT NATURAL GAS (25' EITHER SIDE OF 6" LINE) DB 167 PG 138
END PROP. TEMP. RETAINING WALL #2 -L- STA. 25+90.00 124.50' RIGHT
BM #2 -BY- STA. 11+33.88 16.31' RT ELEV = 1191.28'
SHARPE, BESSIE B. DB 205 PG 533
GRIGG, SANDRA SMITH DB 803 PG 2045
BRITTEN, REBA K. DB 1636 PG 282
BRITTEN, ROY E. & MARGARET E. DB 735 PG 548
BRITTEN, ROY E. & MARGARET E. DB 686 PG 679
INGLE, LESTER J. & LINDA DB 647 PG 640
DETAIL D
SPECIAL LATERAL 'V' DITCH w/Coir Fiber Matting (Not to Scale)
Natural Ground
Fill Slope
4:1 or Flatter
Min. D = 2 Ft.
Matting D = 2 FT.
FROM -DETEB- STA. 32+33 TO STA. 33+36 RT.
78 x 13 x 3
ID 2B-1.1
INSET B
END CONST. -DETWB- STA. 42+00
PT Sta. 42+03.83
END REMOVE EXISTING GUARDRAIL +00
TEMP. MEDIAN BARRIER
TEMP. CAT-1
END MEDIAN PAVING -DETWB- 41+75.35
PT Sta. 40+05.80
40+00
MATCHLINE -DETEB- STA. 38+50

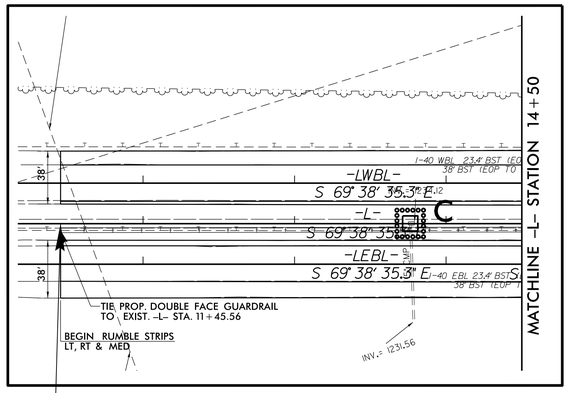
8/17/99

14-FEB-2017 09:51
R:\Environmental\Design\B4447_EC_det_2B-3.dgn

8/17/99

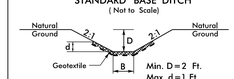
PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-11/CONST.4
RW SHEET NO.	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INSET A



Place Matting for Erosion Control on Slope as Work Allows. Sta. 23+00 to Sta. 25+00 LT & RT

DETAIL C
STANDARD BASE DITCH
(Not to Scale)



Type of Liner= CLASS I Rip-Rap
-L- 17+10 RT.

43 x 15 x 3
ID 4.1

30 x 15 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 4.2

NAD 83

BEGIN TIP PROJECT B-4447
-L- POT STA. 11+45.56

POT Sta. 10+00.00

PC Sta. 11+26.19
-BY- 5

PT Sta. 12+76.26

PC Sta. 12+77.50

Existing 1@54 CMP, 1@72 CMP beneath SR 1758 (Berea Church Rd.)

PRC Sta. 20+14.03

PT Sta. 23+85.07

PC Sta. 17+40.23

-L- POT Sta.25+85.40 = -Y- POT Sta.15+67.23

BEG. CONSTRUCTION
-Y- STA. 14+31.47

PT Sta. 14+64.68

PC Sta. 27+85.07

PT Sta. 16+97.23

PC Sta. 16+12.88

PT Sta. 17+99.04
-BY- 3

PC Sta. 18+21.27

PT Sta. 18+81.33

PC Sta. 16+42.08

END CONSTRUCTION
-Y- STA. 17+02.30

NOTE:
HYDRAULICS, ROADWAY AND STRUCTURES NEED TO CONFER ON ROADWAY SECTION UNDER BRIDGE

BM #2
-BY- STA. 11+33.88
16.31' RT
ELEV = 1191.28'

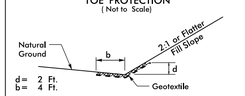
GPS B4447-1

GPS B4447-2

-BY- 4

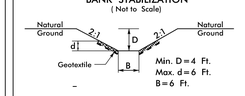
TIE TO EXIST. GUARDRAIL +50
50:1 GUARDRAIL FLARE
PROP. GUARDRAIL
REMOVE EXIST. GUARDRAIL
END DOUBLE FACE GUARDRAIL
-L- STA. 20+15
REMOVE EXISTING PIPE
REMOVE EXISTING CB
REMOVE AND REPLACE 6' CONCRETE DITCH IN MEDIAN FROM STATION 15+00 TO STATION 24+85
BEGIN SBG AT STA. 23+00 RT.
CL I RIP RAP
CL B RIP RAP
STANDARD BASE DITCH SEE DETAIL 'C' EST. 8 TONS CLASS I RIP RAP 15 SY GEOTEXTILE
STANDARD 'V' DITCH SEE DETAIL 'E' EST. 25 TONS EST 40 SY GEOTEXTILE
TOE PROTECTION SEE DETAIL 'B'
BANK STABILIZATION SEE DETAIL 'F'
6'x6' RCBC EXTENTION
USE STD. DECK DRAINS ON BRIDGE DECK OUTSIDE OF ROADWAY FOOTPRINT BELOW
GRADE TO DRAIN
Note: Adjust fence as necessary for stream crossing
72 x 15 x 2
ID 4.3
49 x 18 x 3
1.5 inch Skimmer
with 0.750 inch
Orifice Diameter
4 ft. weir
ID 4.4
26 x 12 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 4.5
62 x 15 x 3
ID 4.6

DETAIL B
TOE PROTECTION
(Not to Scale)



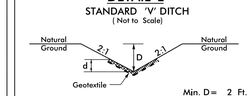
d= 2 Ft.
b= 4 Ft.
Type of Liner= CLASS B Rip-Rap

DETAIL F
BANK STABILIZATION
(Not to Scale)



Type of Liner= CLASS I Rip-Rap

DETAIL E
STANDARD 'V' DITCH
(Not to Scale)



Type of Liner= CLASS 'I' Rip-Rap

FROM -L- STA. 16+25 TO STA. 18+50 RT.
FROM -L- STA. 23+50 TO STA. 24+50 LT.
FROM -L- STA. 22+75 TO STA. 24+68 RT.
FROM -L- STA. 32+25 TO STA. 33+00 RT.

-L- STA 24+50 RT
EST 40 TONS CLASS I
EST 60 SY GEOTEXTILE
30 CY DDE

-L- STA. 24+75 LT.
-L- STA. 25+00 RT.

MATCHLINE -L- STATION 14+50 SEE INSET A

MATCHLINE -L- STATION 28+00 SEE SHEET 5

14-FEB-2017 10:23
C:\Projects\GT_REW\26182\Design\B4447_EC_pst4.dgn
GT_REW 26182

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4447	EC-12/CONST.5
R/W SHEET NO.	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

B.
04

S 82°08'32" W
198.00'

SHARPE, BESSIE B.
DB 205 PG 533

WOODS

N 16°08'32" E
355.75'

48" WW FENCE

GATE

GR

ISBLKD (ABAND)

30+00

WOODS

45 x 18 x 3
1.5 inch Skimmer
with 0.750 inch
Orifice Diameter
4 ft. weir
ID 5.1

SHARPE, BESSIE B.
DB 313 PG 687

26 x 12 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 5.2

DETAIL E
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground — 2:1 — d — D — 2:1 — Natural Ground
Geotextile
Min. D = 2 Ft.
Max. d = 2 Ft.
Type of Liner = CLASS 'I' Rip-Rap

FROM –L– STA. 31+67 TO STA. 32+24 LT.

35+00

STANDARD 'V' DITCH -BL- 6
SEE DETAIL E
FOLLOW EXISTING CONTOURS
EST 40 TONS CLASS I
EST 60 SY GEOTEXTILE

PRC Sta. 31+56.11

PT Sta. 34+29.91

S 15°20'00" E
1525.00'

N 03°08'32" E
1200.00'

JACUMIN, NANCY N. & JIMMY R.
DB 938 PG 789, TRACT THREE

END TIP PROJECT B-4447
–L– POT STA. 42+00.00
40+00

MATCHLINE –L– STATION 28+00 SEE SHEET 4

REMOVE EXISTING GUARDRAIL

0504

END SBG STA. 32+30

PLUG

REMOVE SBG STA. 32+23

ELBOW

GRAU 350 TL-3

MTL

0506

PLUG AND FILL

BEG. DOUBLE FACE GUARDRAIL +56.11

-LWBL-

-L-

-LEBL-

REMOVE

TOE PROTECTION SEE DETAIL 'B'

ADJ

0505

48" WW ISBW

CLASS I RIP RAP
EST. 4 TONS
12 S.Y. GEOTEXTILE

0507

24" CMP

RETAIN

+02.23
136.10

50' TAPER

30'

I-40 WB 23' BST (EOT TO EOT)
38' BST (EOP TO EOP)

S 69°38'35.3" E

0502

CLEAN AND SEAL CRACKS AND JOINTS
USE APPROVED FLEXIBLE SEALANT

EXISTING R/W

260.00'

38'

12' 12'

02 01 00 01 02

4' PS

35+00

40+00

I-40 EB 23' BST (EOT TO EOT)
38' BST (EOP TO EOP)

S 69°38'35.3" E

0502

CLEAN AND SEAL CRACKS AND JOINTS
USE APPROVED FLEXIBLE SEALANT

RETAIN

24" CMP

RETAIN

50' TAPER

END RUMBLE STRIPS
LT, RT & MED

EXISTING R/W

+80.33
136.86

WOODS

WOODS

48" WW CSBW

12 ", Steel

6 ", Steel

+08.09 –L–
EX. GAS –E–

+92.01 –L–
EX. GAS –E–

+27.72 –E–
EX. GAS –E–

+41.49 –L–
EX. GAS –E–

50' EASEMENT PIEDMONT NATURAL GAS (25' EITHER SIDE OF 6" LINE) DB 167 PG 131

+00.00 –L–
EX. RW

PLANTER

CONC

CARPORT

HTR

SOIL

+26.82
132.79

+79.40
134.50

PRC Sta. 31+56.11

+70.81
135.68

PT Sta. 34+29.91

+54.95
137.25

76 x 13 x 3
ID 5.3

70 x 16 x 3
ID 5.4

37 x 13 x 3
ID 5.5

58 x 13 x 3
ID 5.6

BRYANT, MARVIN EUGENE & DORIS
DB 153 PG 60, FIRST TRACT

DETAIL B
TOE PROTECTION
(Not to Scale)

Natural Ground — b — 2:1 or Flatter Fill Slope — d
Geotextile
d = 2 Ft.
b = 2 Ft.
Type of Liner = CLASS B Rip-Rap

FROM –L– STA. 23+50 TO STA. 24+50 LT.
FROM –L– STA. 22+75 TO STA. 23+25 RT.
FROM –L– STA. 32+25 TO STA. 33+00 RT.

S 87°51'28" E
296.40'

495.00' (TOTAL)

98.60'

14-FEB-2017 10:26
C:\Projects\Design\B4447_EC_psh5.dgn
dfloyd
$$(EC_ST_REV) 26182