TIP PROJECT: R-5000

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

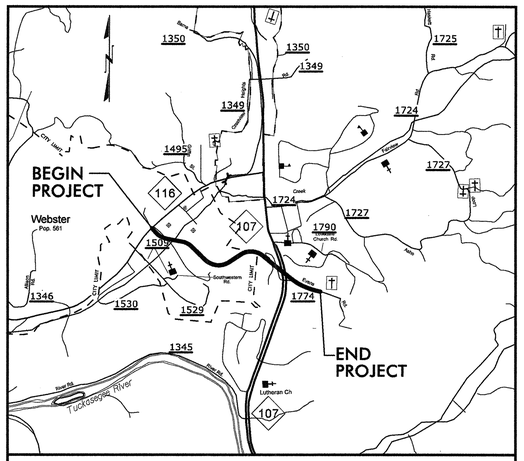
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

JACKSON COUNTY

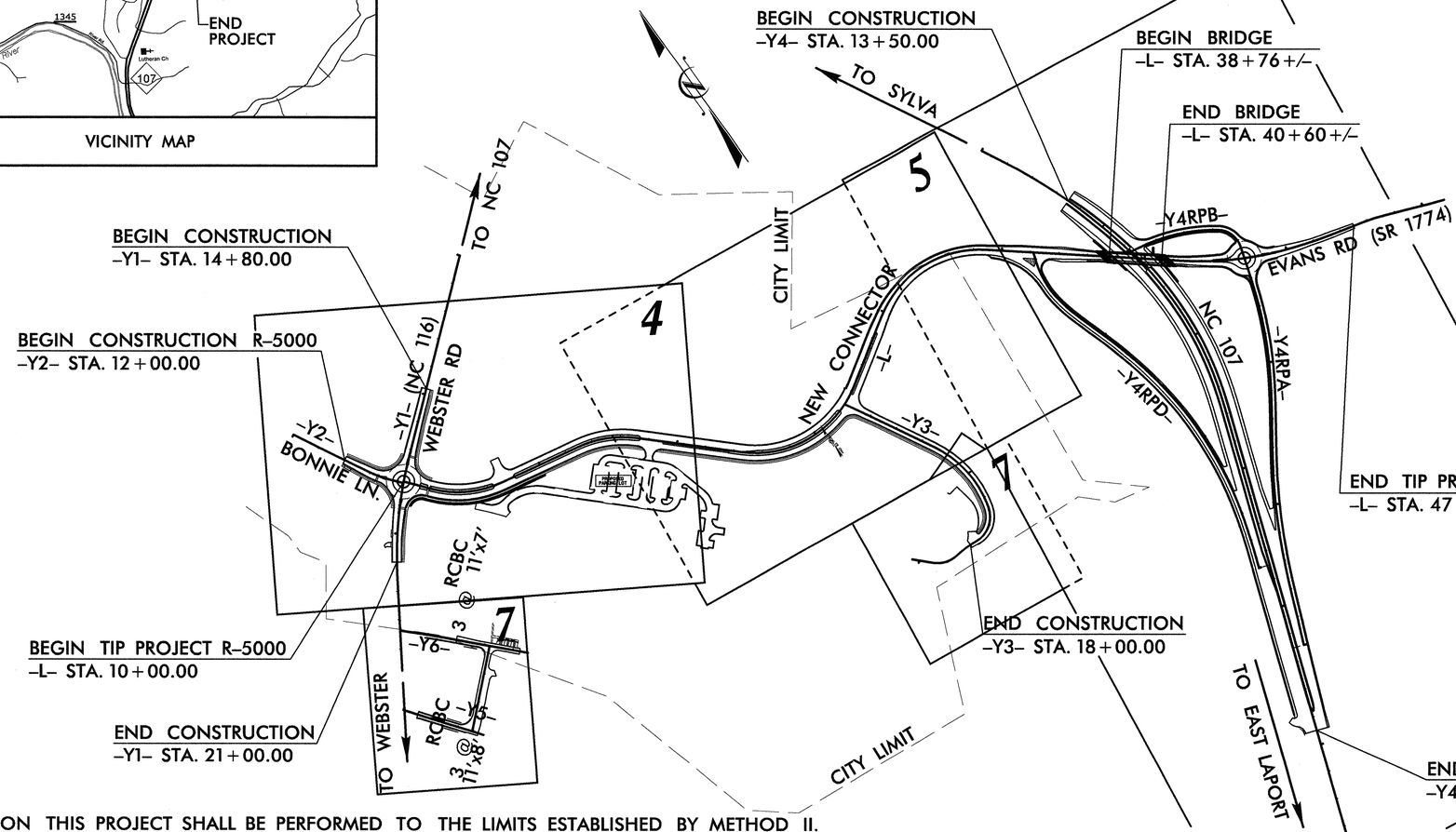
LOCATION: NEW LOCATION CONNECTOR ROAD FROM NC 116 TO EAST OF NC 107
TYPE OF WORK: GRADING, DRAINAGE, PAVING, CURB & GUTTER, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5000	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
41156.1.1		P.E.
41156.2.1		R/W /UTIL.



VICINITY MAP



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

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	SK
	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

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5000	=	0.671 MILES
LENGTH STRUCTURE TIP PROJECT R-5000	=	0.039 MILES
TOTAL LENGTH TIP PROJECT R-5000	=	0.710 MILES

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:
Mulkey Engineers & Consultants
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

MATTHEW HARVEY
MULKEY E & C
ENGINEER

LEVEL III-A CERTIFICATION No.: 412

2012 STANDARD SPECIFICATIONS

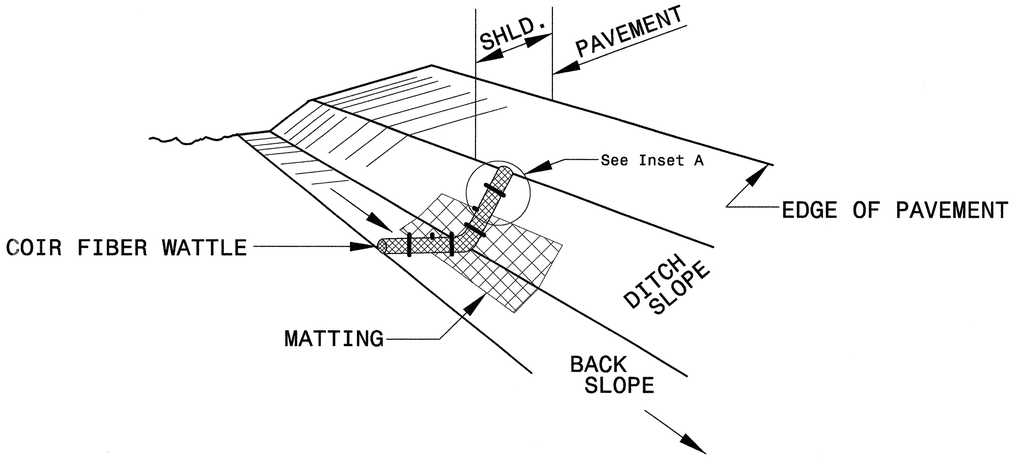
Roadway Standard Drawings

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

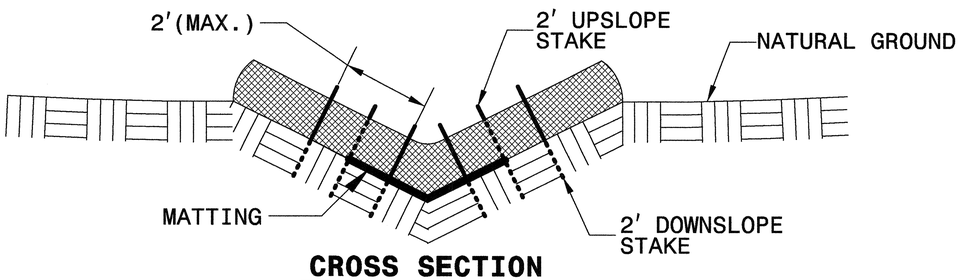
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type 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		

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

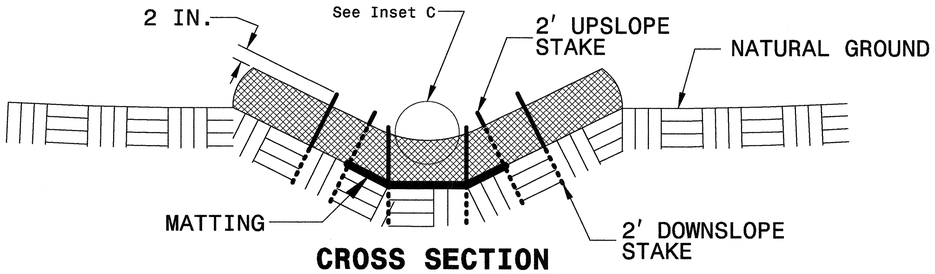
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

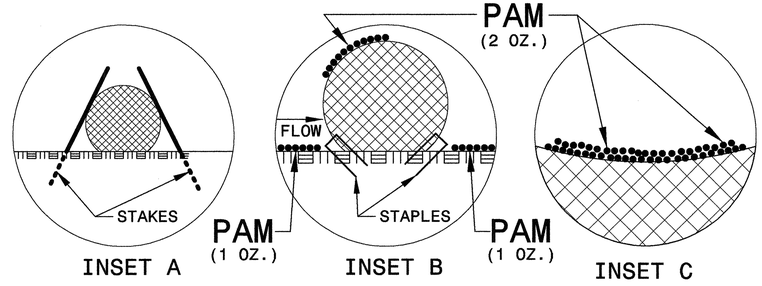
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

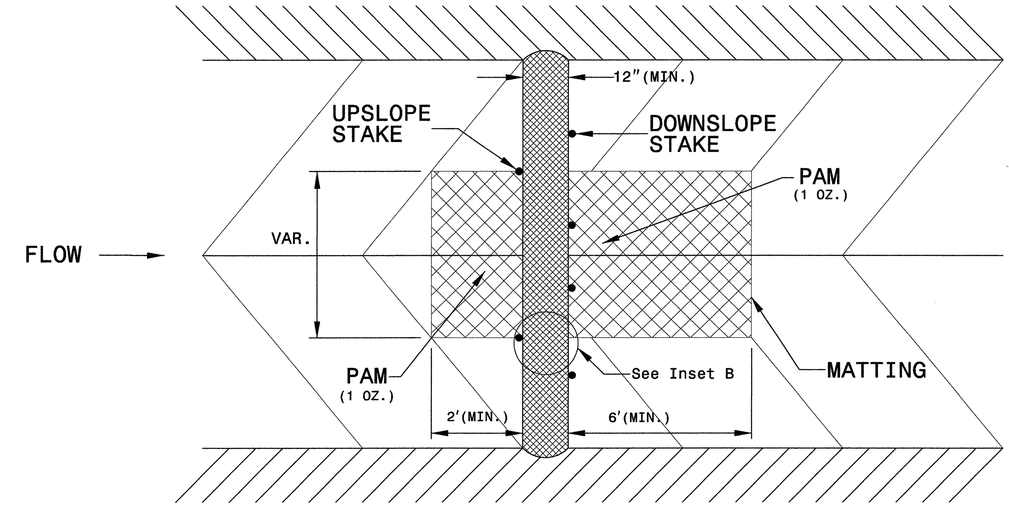
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

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

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

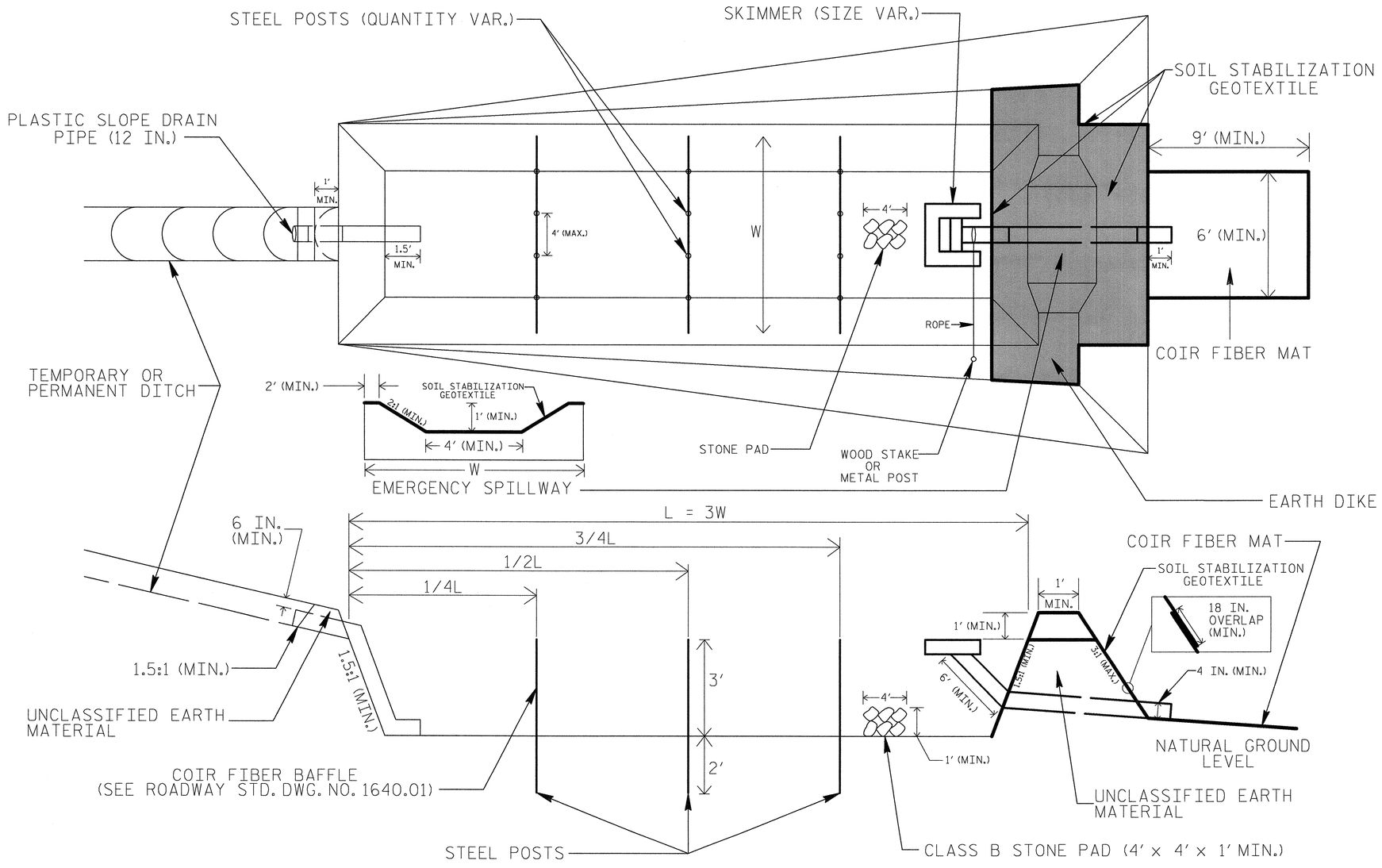




TOP VIEW

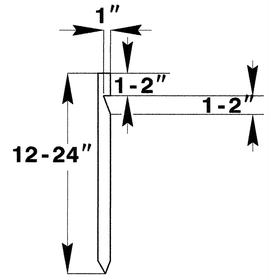
PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL

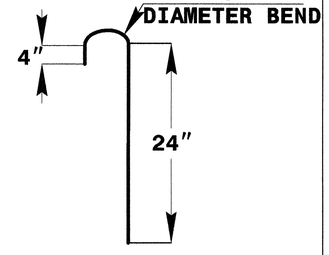


COIR FIBER MAT ANCHOR OPTIONS

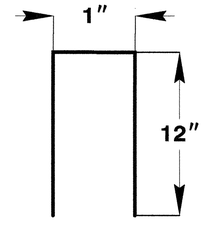
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



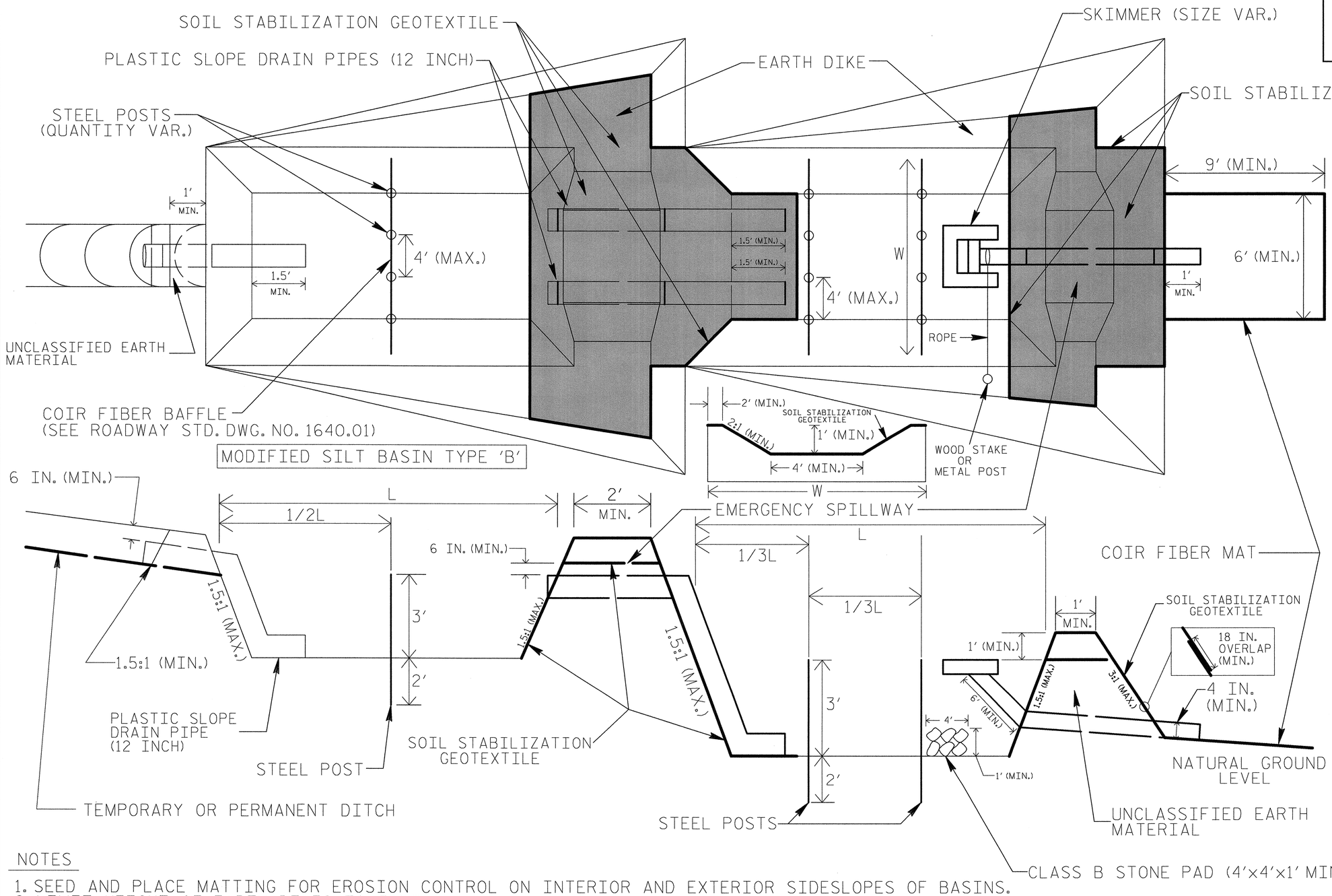
NOTES

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

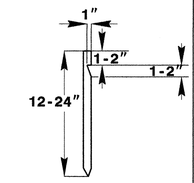
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

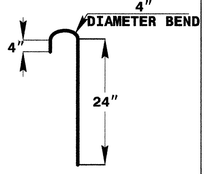
TIERED SKIMMER BASIN DETAIL



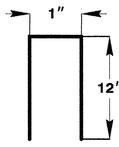
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

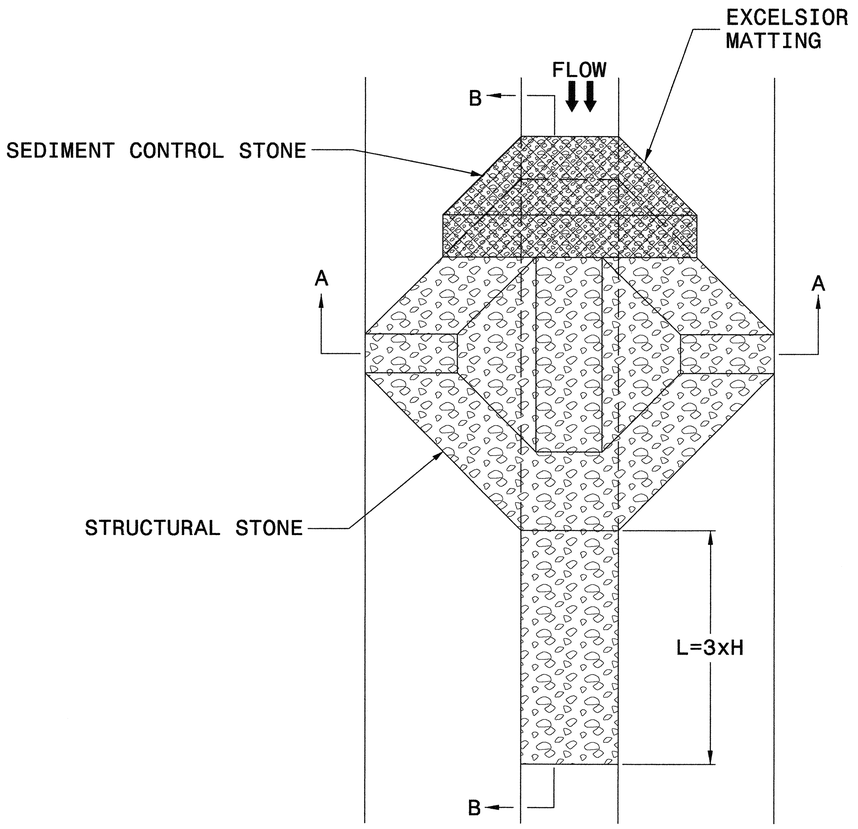
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. FOR BASIN DEPTHS OF 3FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTHS (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

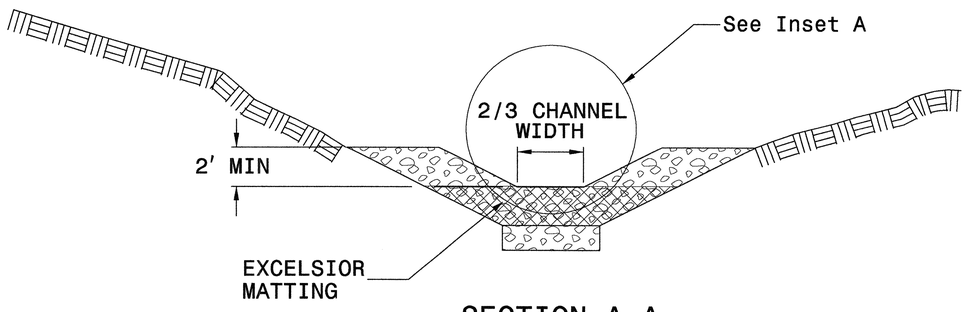
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



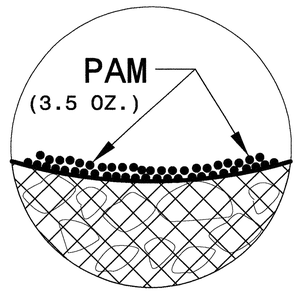
SECTION A-A

NOTES

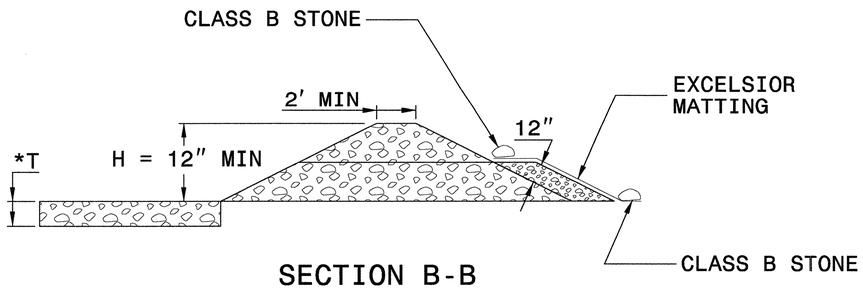
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.



INSET A



SECTION B-B

*T = 12" MIN., 18" MAX.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-3
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)
6	-L-	45+50	46+50	LT	180
6	-L-	46+50	47+50	LT	180
6	-L-	44+59	46+50	RT	325
5	-L-	31+50	33+50	LT	350
6	-Y4-	27+00	31+00	LT	1610
6	-Y4-	31+00	34+00	LT	1205
6	-Y4-	13+50	14+50	MED	105
6	-Y4-	28+00	33+50	MED	280
				SUBTOTAL	4235
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					115096
				TOTAL	119331
				SAY	120000

PERMANENT SOIL REINFORCEMENT MAT

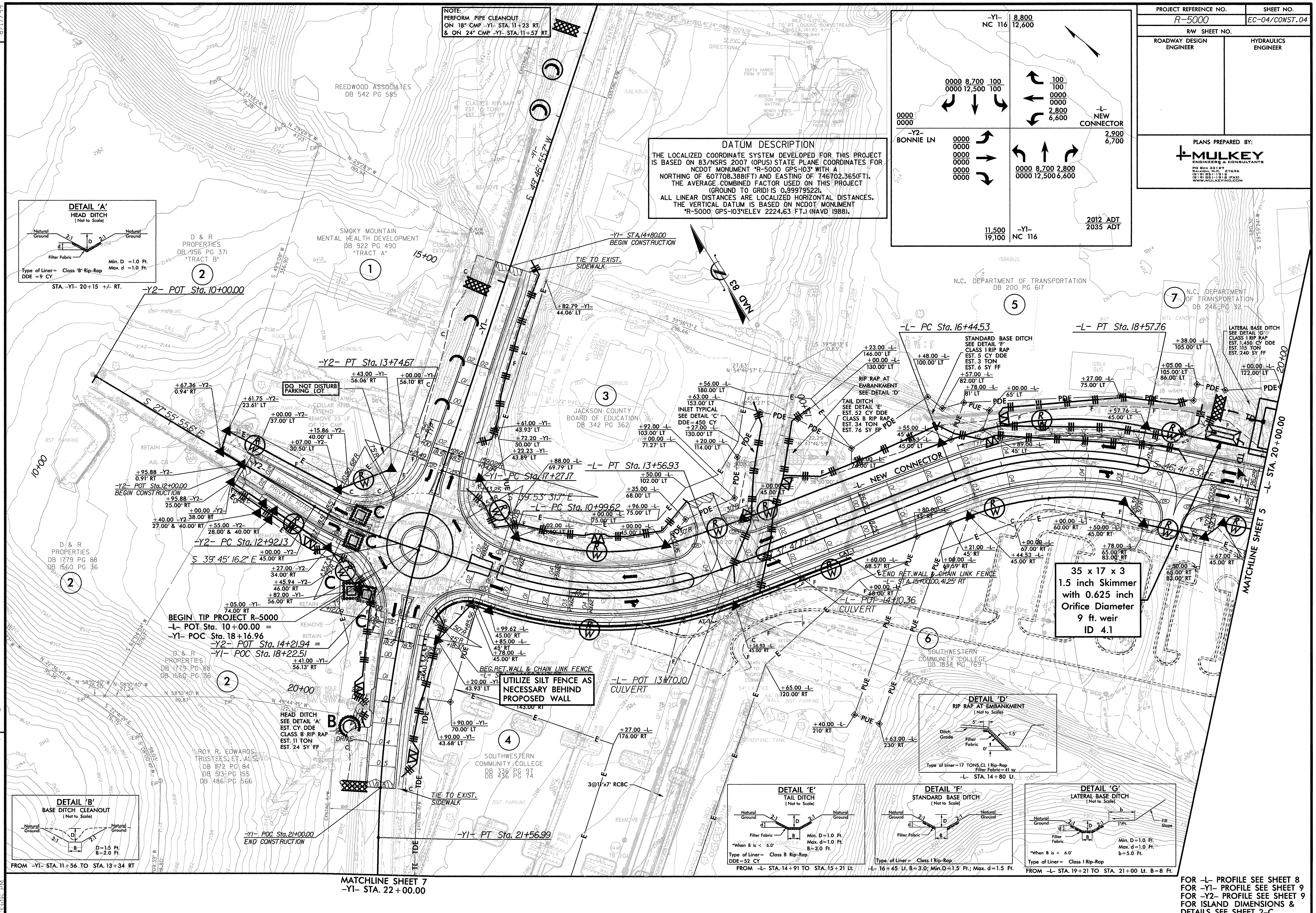
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
6	-Y4RPA-	15+00	15+50	RT	65
6	-Y4RPA-	14+75	15+00	RT	90
6	-L-	36+50	37+00	LT	180
6	-Y4RPB-	11+50	14+00	LT	670
6	-Y4RPA-	15+00	16+50	RT	405
6	-Y4RPA-	16+50	19+50	RT	805
6	-Y4-	20+00	28+00	MED	1425
6	-Y4-	14+50	24+00	RT	2135
				SUBTOTAL	5775
				ADDITIONAL PSRM TO BE INSTALLED	446
				TOTAL	6221
				SAY	6300

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-3A
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. R-5000
SHEET NO. EC-04/CONST.04
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PLANS PREPARED BY:
MULKEY ENGINEERS & CONSULTANTS
NOTE: PERFORM PIPE CLEANOUT ON 18" CMP -Y1- STA. 11+23 RT. & ON 24" CMP -Y1- STA. 11+57 RT.
DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON 83/NSRS 2007 (OPUS) STATE PLANE COORDINATES FOR NCDOT MONUMENT "R-5000 GPS-103" WITH A NORTHING OF 607708.388(FT) AND EASTING OF 746702.365(FT). THE AVERAGE COMBINED FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS 0.99979522I. ALL LINEAR DISTANCES ARE LOCALIZED HORIZONTAL DISTANCES. THE VERTICAL DATUM IS BASED ON NCDOT MONUMENT "R-5000 GPS-103"(ELEV 2224.63 FT.) (NAVD 1988).
-Y1- NC 116
-Y2- BONNIE LN
-L- NEW CONNECTOR
2012 ADT
2035 ADT
DETAIL 'A' HEAD DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
DDE =9 CY
STA. -Y1- 20+15 +/- RT.
DETAIL 'B' BASE DITCH CLEANOUT (Not to Scale)
FROM -Y1- STA. 11+56 TO STA. 13+34 RT
DETAIL 'D' RIP RAP AT EMBANKMENT (Not to Scale)
Type of Liner=17 TONS CL I Rip-Rap
Filter Fabric=41 sy
-L- STA. 14+80 Lt.
DETAIL 'E' TAIL DITCH (Not to Scale)
Type of Liner= Class B Rip-Rap
DDE=52 CY
FROM -L- STA. 14+91 TO STA. 15+21 Lt.
DETAIL 'F' STANDARD BASE DITCH (Not to Scale)
Type of Liner= Class I Rip-Rap
-L- 16+45 Lt. B=3.0; Min. D=1.5 Ft.; Max. d=1.5 Ft.
DETAIL 'G' LATERAL BASE DITCH (Not to Scale)
Type of Liner= Class I Rip-Rap
FROM -L- STA. 19+21 TO STA. 21+00 Lt. B=8 Ft.
BEGIN TIP PROJECT R-5000
-L- POT Sta. 10+00.00 =
-Y1- POC Sta. 18+16.96
-Y2- POT Sta. 14+21.94 =
-Y1- POC Sta. 18+22.51
UTILIZE SILT FENCE AS NECESSARY BEHIND PROPOSED WALL
35 x 17 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
9 ft. weir
ID 4.1
MATCHLINE SHEET 5 -L- STA. 20+00.00
MATCHLINE SHEET 7 -Y1- STA. 22+00.00
FOR -L- PROFILE SEE SHEET 8
FOR -Y1- PROFILE SEE SHEET 9
FOR -Y2- PROFILE SEE SHEET 9
FOR ISLAND DIMENSIONS & DETAILS SEE SHEET 2-C
REVISIONS
8/17/99

8/17/99

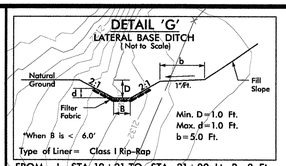
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-05/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANS PREPARED BY:

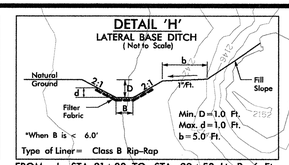
MULKEY
ENGINEERS & CONSULTANTS
PO BOX 33197
RALEIGH, NC 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

DETAIL 'G'
LATERAL BASE DITCH
(Not to Scale)



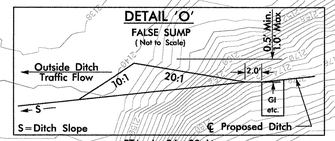
FROM –L– STA. 19+21 TO STA. 21+00 Lt. B=8 Ft.

DETAIL 'H'
LATERAL BASE DITCH
(Not to Scale)



FROM –L– STA. 21+00 TO STA. 22+50 Lt. B=6 Ft.
FROM –L– STA. 22+50 TO STA. 26+50 Lt. B=4 Ft.

DETAIL 'O'
FALSE SUMP
(Not to Scale)



STA. –L– 26+98 Lt.
STA. –L– 29+27 Lt.

Riser Basin
140 x 65 x 3
2.5 inch Skimmer with 2.5 inch Orifice Diameter
Riser Pipe=15" CMP or 12" Smooth Wall
Barrel Pipe=24"
ID 5.1

TEMPORARY DIVERSION
CONSTRUCT DITCH AS SOON AS PRACTICAL
SEE DETAILS G & H
SEE SHEET 8 FOR PROFILE

NAD 83

N 88°47'36" W
701.78'

SOUTHWESTERN COMMUNITY COLLEGE
DB 1146 PG 443

8

+10.00 –L–
96.00' LT

+85.00 –L–
102.00' LT

–L– PC Sta. 29+80.34

+42.00 –L–
138.00' LT

NEW CONNECTOR

–L– STA. 34+00.00

MATCHLINE SHEET 6

N. C. DEPARTMENT OF TRANSPORTATION
DB. 246, PG. 32

7

LATERAL BASE DITCH
SEE DETAIL 'G'
CLASS I RIP RAP
EST. 1,450 CY DDE
EST. 1,450 SY FF

+00.00 –L–
85.00' LT

+00.00 –L–
122.00' LT

–L– STA. 20+00.00

MATCHLINE SHEET 4

DO NOT DISTURB BLK WALL & SILO

–L–
125.00' LT

LATERAL BASE DITCH
SEE DETAIL 'H'
CLASS B RIP RAP
EST. 980 CY DDE
EST. 310 TON
EST. 525 SY FF

+69.00 –L–
164' LT
82' LT
45' LT

+00.00 –L–
164' LT
45' LT

–L– PT Sta. 27+18.92

BEGIN PROP. CA
BEGIN PROP. WW FENCE
+18.92 –L–
58.87' LT

–L– PC Sta. 22+26.79

+90.00 –L–
45.00' LT

+00.00 –L–
96.00' LT

–L– POC Sta. 26+48.00 =
–Y3– POT Sta. 10+00.00

+80.00 –L–
98.00' LT

+50.00 –L–
93.00' LT

+50.00 –L–
101.00' LT

+50.00 –L–
98.00' LT

+26.79 –L–
45.00' LT

+00.00 –L–
105.00' LT

+22.00 –L–
61.77' LT

BEGIN PAVED SHOULDER
END C&G
+00.00

FALSE SUMP
SEE DETAIL 'O'

+26.79 –L–
45.00' RT

+06.00 –L–
77.17' RT

BEGIN PROP. CA
BEGIN PROP. WW FENCE
+18.92 –L–
68.00' RT

+00.00 –Y3–
30.00' LT

SPECIAL CUT DITCH
SEE DETAIL 'L'
CLASS B RIP RAP
EST. 80 TON
EST. 178 SY FF

+00.00 –L–
118.00' RT

+00.00 –L–
126.00' RT

-BL-5 19+17.48 PINC =
-L- Sta. 21+10.59
71.82' RT

-BL-6 21+33.71 PINC =
-L- Sta. 23+13.91
23.77' RT

+28.00 –L–
127.50' RT

+70.00 –L–
45.00' RT

+74.00 –L–
85.00' RT

SP. CUT BASE DITCH
SEE DETAIL 'K'
SP. CUT BASE DITCH
EST. 19 SY PSRM
SEE DETAIL 'J'

+19.00 –Y3–
55.00' RT

+25.00 –Y3–
30.00' RT

-BL-7 23+36.53 PINC =
-BY3- 5+00.00 POT =
-L- Sta. 25+04.64
31.50' RT

+50.00 –L–
126.00' RT

+00.00 –L–
120.00' RT

-BL-8 25+11.10 PINC =
-Y3- Sta. 11+17.74
39.42' RT

BERM DITCH
EST. 67 SY PSRM
SEE DETAIL 'M'

+80.00 –Y3–
121.00' RT

-BY3-19 6+41.93 PINC =
-L- Sta. 24+72.09
167.43' RT

BM #2
-BL- STA. 25+30
144.15 RIGHT
ELEV. 2249.36'
-Y3- Sta. 12+34.29
126.28' RT

+41.91 –Y3–
30.00' RT

+77.00 –Y3–
92.00' RT

+25.00 –Y3–
55.00' LT

+75.00 –Y3–
45.00' LT

-BL-9 28+03.19 PINC
-Y3- Sta. 13+20.97
170.37' LT

BERM DITCH
EST. 35 SY PSRM
SEE DETAIL 'M'
-Y3- PC Sta. 13+41.91

+41.91 –Y3–
30.00' LT

MATCHLINE SHEET 7
-Y3- STA. 14+00.00

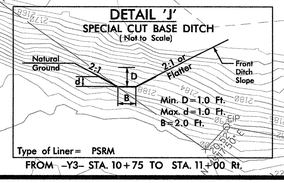
SOUTHWESTERN COMMUNITY COLLEGE
DB 1834 PG 769

6

SOUTHWESTERN COMMUNITY COLLEGE
DB 336 PG 97
DB 436 PG 74

4

DETAIL 'J'
SPECIAL CUT BASE DITCH
(Not to Scale)

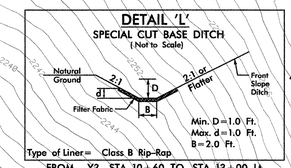


FROM –Y3– STA. 10+75 TO STA. 11+00 Rt.

DETAIL 'K'
SPECIAL CUT BASE DITCH
(Not to Scale)

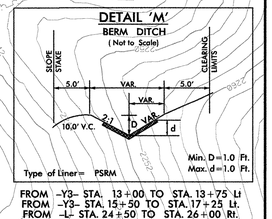
FROM –Y3– STA. 10+50 TO STA. 10+75 Rt.

DETAIL 'L'
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM –Y3– STA. 10+60 TO STA. 13+00 Lt.
FROM –L– STA. 27+00 TO STA. 27+25 Rt.

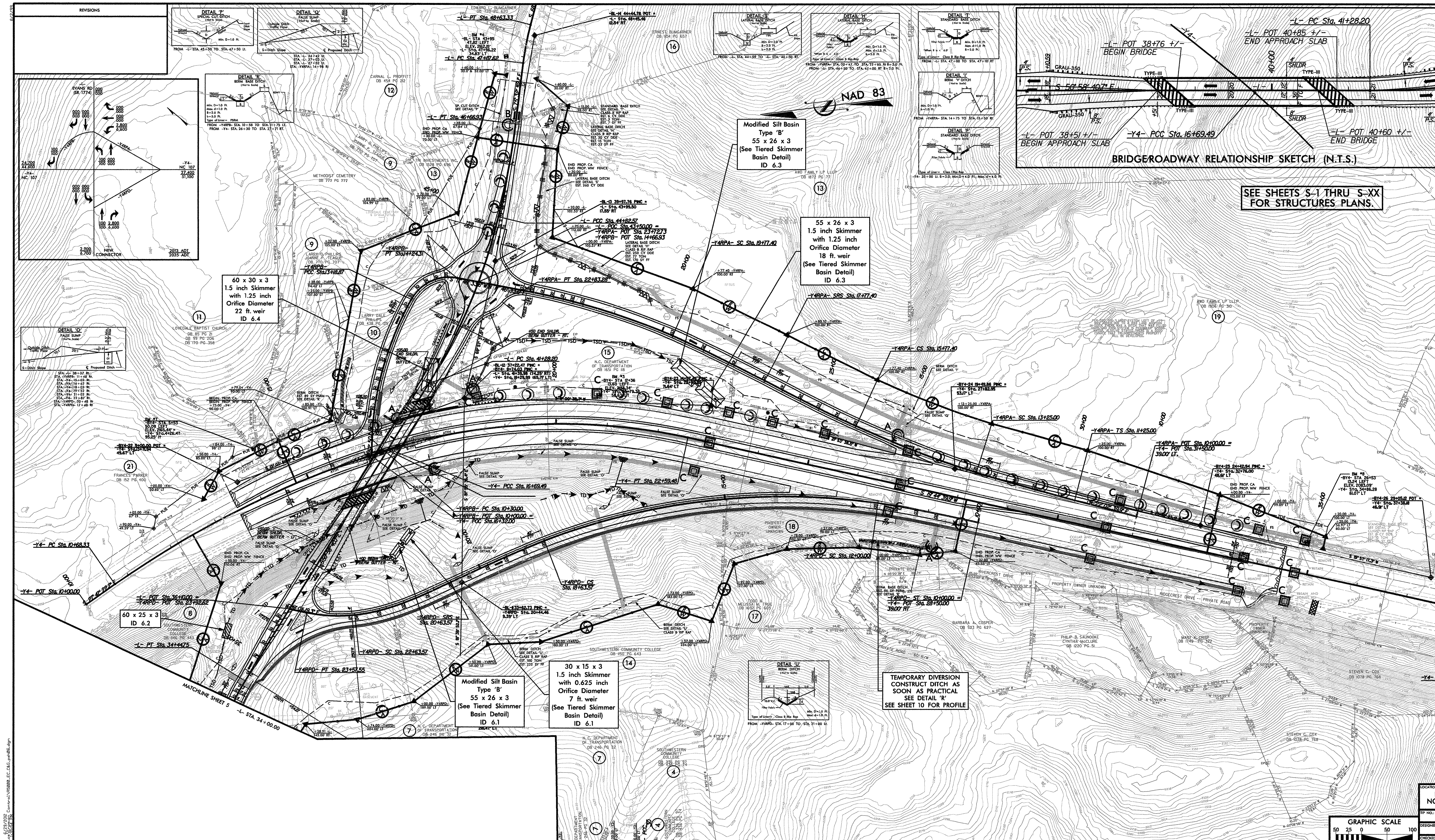
DETAIL 'M'
BERM DITCH
(Not to Scale)



FROM –Y3– STA. 13+00 TO STA. 13+75 Lt
FROM –Y3– STA. 15+50 TO STA. 17+25 Lt.
FROM –L– STA. 24+50 TO STA. 26+00 Rt.

FOR –L– PROFILE SEE SHEET 8
FOR –Y3– PROFILE SEE SHEET 10

6/29/2012
11:34:40 AM
C:\Projects\Erosion Control\R5000_EC_C&G_pt05.dgn



PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-06/CONST.06

R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PLANS PREPARED BY:

MULKEY ENGINEERS & CONSULTANTS
PO BOX 33127
RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

FOR -L- PROFILE SEE SHEET 9
FOR -Y4- PROFILE SEE SHEETS 10 & 11
FOR -Y4RPA- PROFILE SEE SHEET 11
FOR -Y4RPB- PROFILE SEE SHEET 12
FOR -Y4RPD- PROFILE SEE SHEET 12
FOR ISLAND DIMENSIONS & DETAILS SEE SHEET 2-C

GRAPHIC SCALE
50 25 0 50 100
PLANS

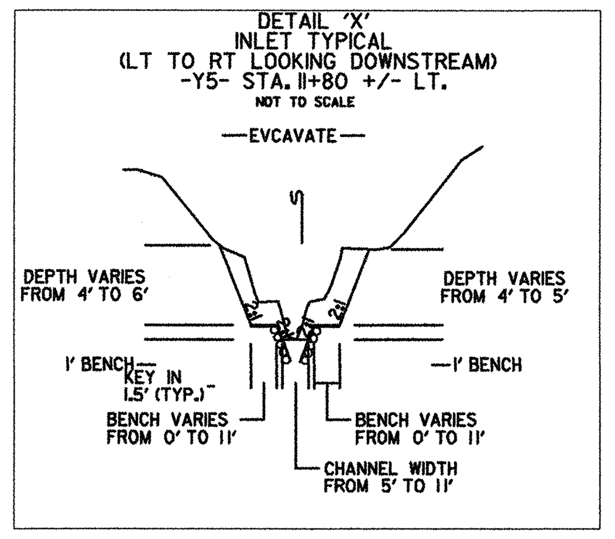
LOCATION:
PROPOSED INTERCHANGE OF NC 107 AND NEW CONNECTOR

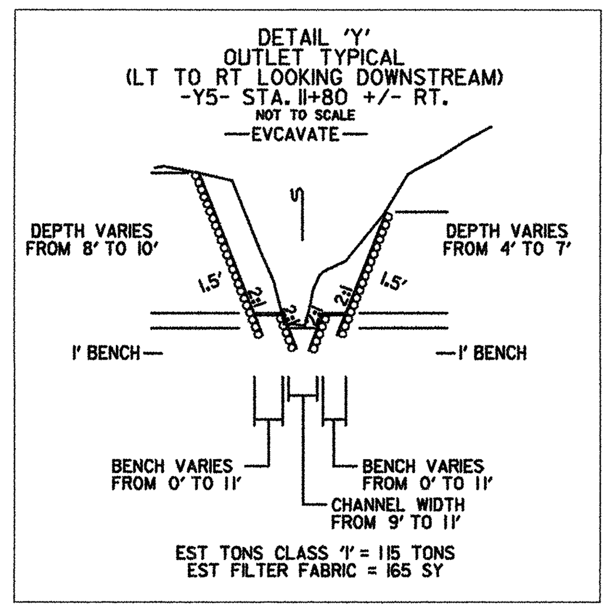
TIP NO.: R-5000
COUNTY: JACKSON
DESIGNED BY: J. BANKS
CHECKED BY: W.C. PARKER, PE
DATE: 3/2/2011

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-7/CONST. 7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

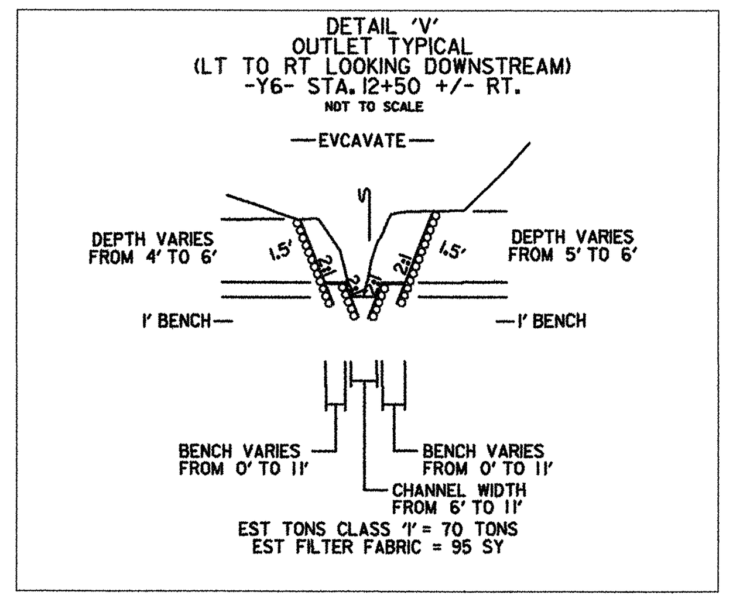
PLANS PREPARED BY:

MULKEY ENGINEERS & CONSULTANTS
PO Box 33127
Raleigh, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM
NC License No. C-1021

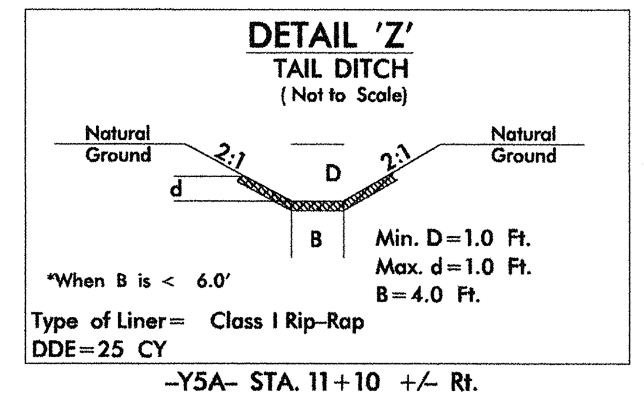


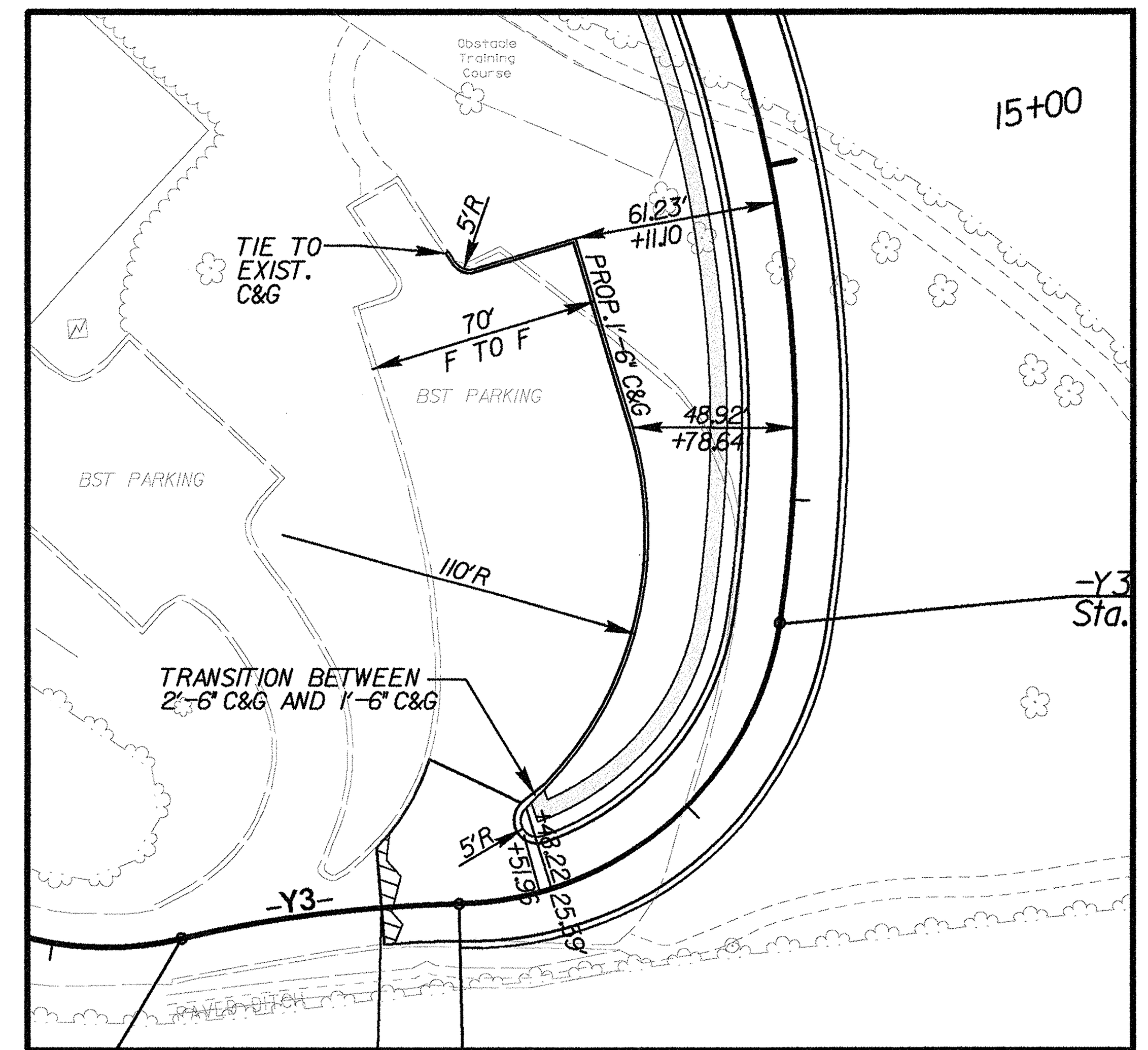


DETAIL 'Y'
OUTLET TYPICAL
(LT TO RT LOOKING DOWNSTREAM)
-Y5- STA. 11+80 +/- RT.
NOT TO SCALE
EXCAVATE
DEPTH VARIES FROM 8' TO 10'
DEPTH VARIES FROM 4' TO 7'
1' BENCH
BENCH VARIES FROM 0' TO 11'
BENCH VARIES FROM 0' TO 11'
CHANNEL WIDTH FROM 9' TO 11'
EST TONS CLASS 'I' = 115 TONS
EST FILTER FABRIC = 165 SY

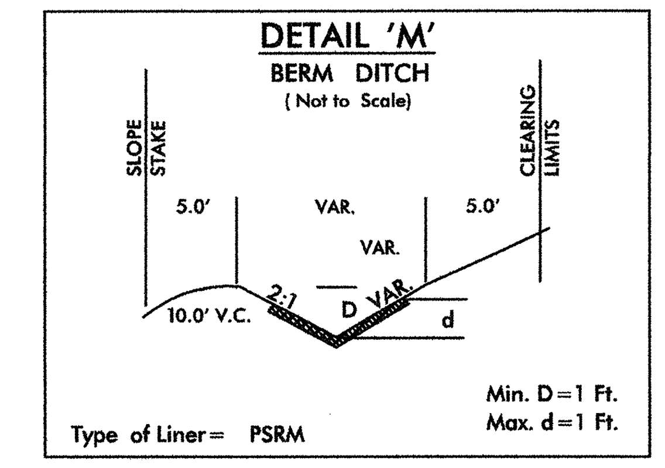


DETAIL 'V'
OUTLET TYPICAL
(LT TO RT LOOKING DOWNSTREAM)
-Y6- STA. 12+50 +/- RT.
NOT TO SCALE
EXCAVATE
DEPTH VARIES FROM 4' TO 5'
DEPTH VARIES FROM 5' TO 6'
1' BENCH
BENCH VARIES FROM 0' TO 11'
BENCH VARIES FROM 0' TO 11'
CHANNEL WIDTH FROM 6' TO 11'
EST TONS CLASS 'I' = 70 TONS
EST FILTER FABRIC = 95 SY

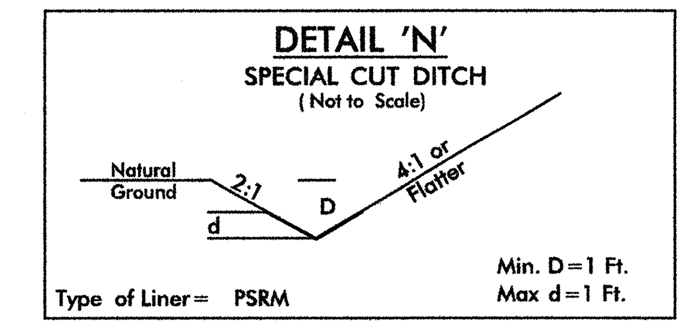




PARKING LOT CONSTRUCTION DETAIL



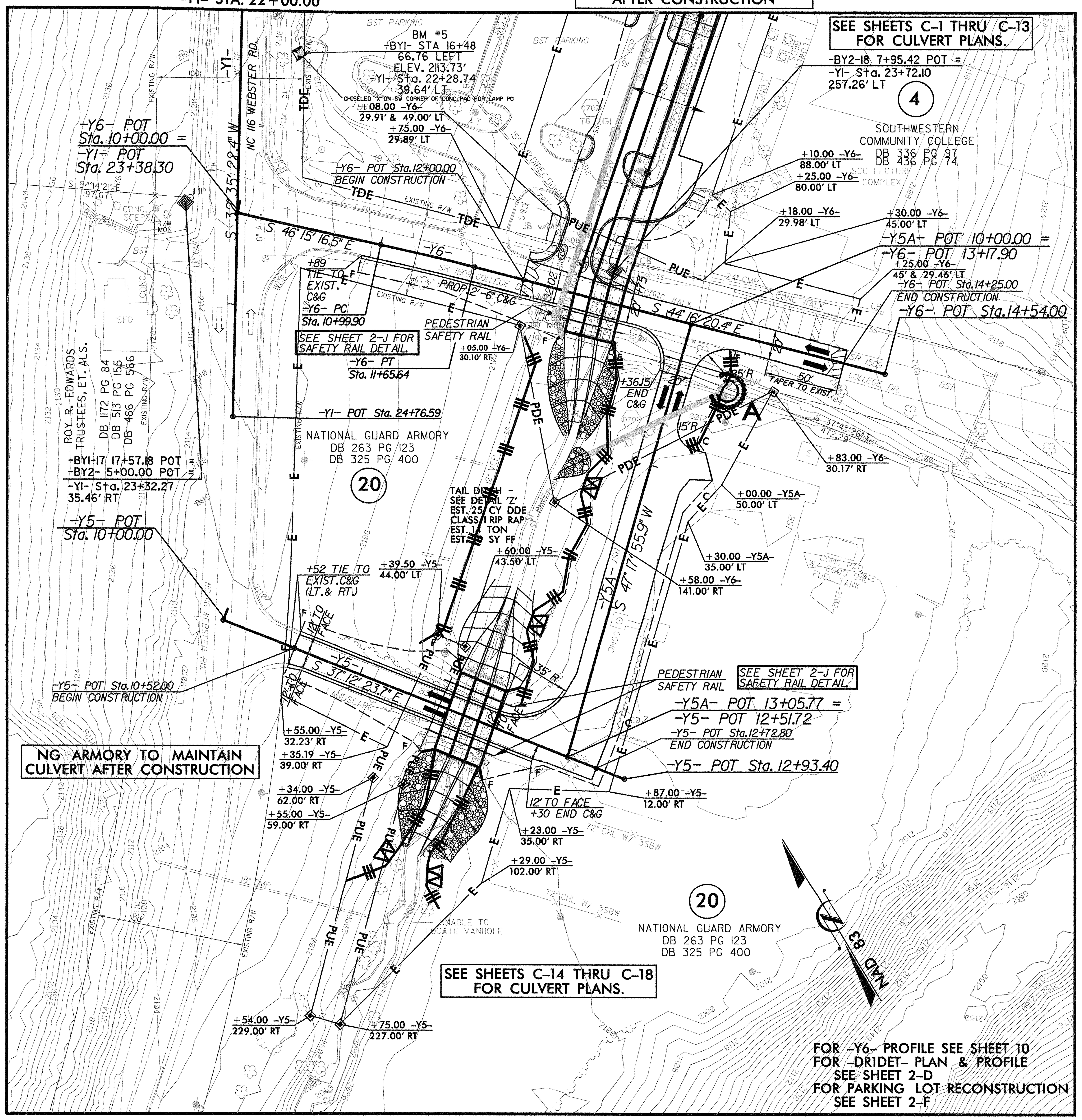
FROM -Y3- STA. 15+50 TO STA. 17+25 Lt.



FROM -Y3- STA. 17+25 TO STA. 17+85 Lt.

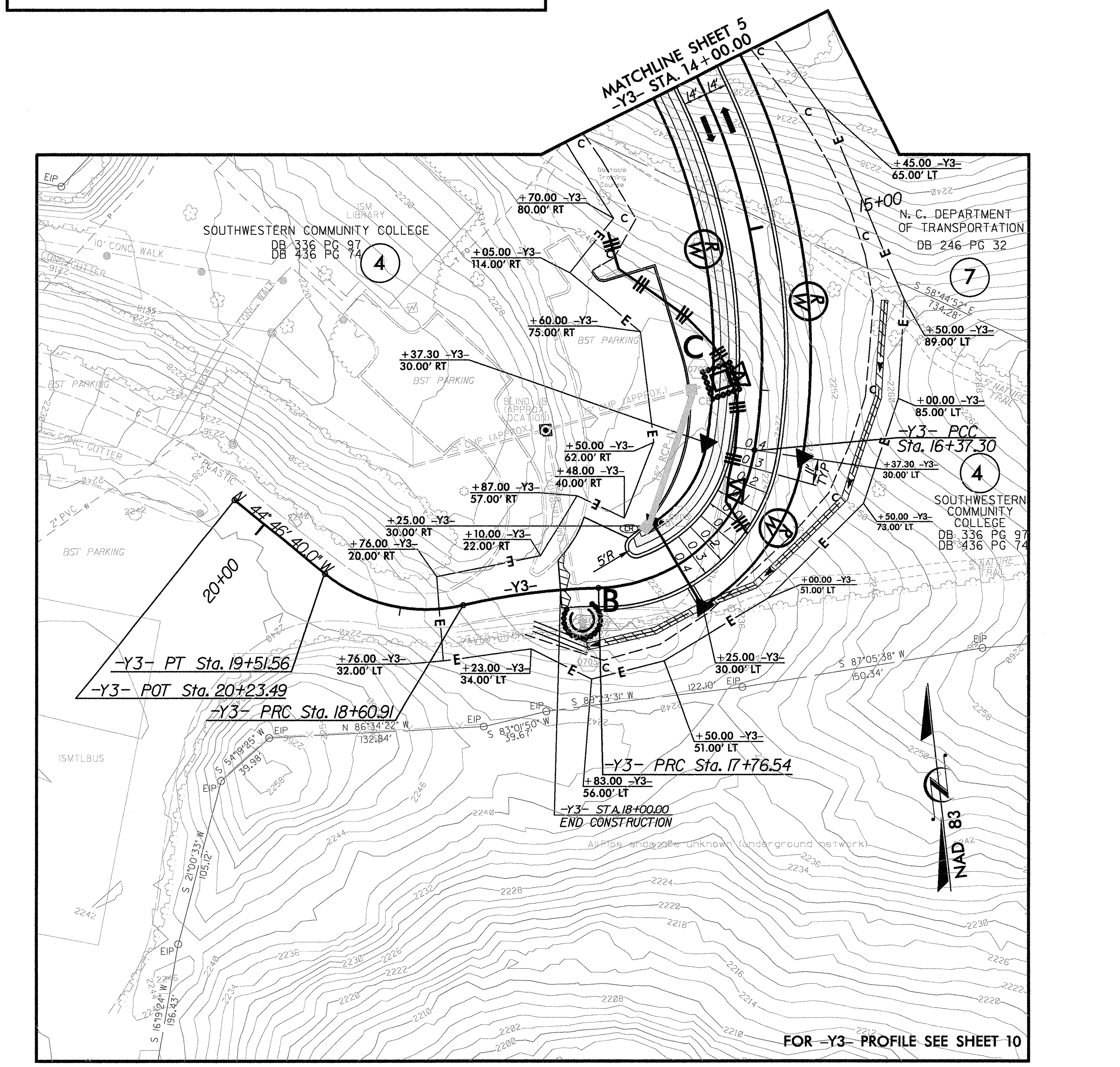
MATCHLINE SHEET 4
-Y1- STA. 22+00.00

SWCC TO MAINTAIN CULVERT AFTER CONSTRUCTION



SEE SHEETS C-1 THRU C-13 FOR CULVERT PLANS.
BM #5
-BY1- STA 16+48
66.76' LEFT
ELEV. 2113.73'
-Y1- Sta. 22+28.74
39.64' LT
-BY2-18 7+95.42 POT =
-Y1- Sta. 23+72.10
257.26' LT
NC 116 WEBSTER RD.
-Y6- POT Sta. 10+00.00 =
-Y1- POT Sta. 23+38.30
-Y6- POT Sta.12+00.00 BEGIN CONSTRUCTION
SOUTHWESTERN COMMUNITY COLLEGE
DB 336 PG 97
DB 436 PG 74
S 46°15'16.5" E
-Y5A- POT 10+00.00 =
-Y6- POT 13+17.90
-Y6- POT Sta.14+25.00 END CONSTRUCTION
-Y6- POT Sta.14+54.00
S 44°16'20.4" E
-Y6- PC Sta. 10+99.90
SEE SHEET 2-J FOR SAFETY RAIL DETAIL
-Y6- PT Sta. 11+65.64
PEDESTRIAN SAFETY RAIL
-Y1- POT Sta. 24+76.59
ROY R. EDWARDS TRUSTEES, ET. ALS.
DB 1172 PG 84
DB 513 PG 155
DB 486 PG 566
-BY1-17 17+57.18 POT =
-BY2- 5+00.00 POT
-Y1- Sta. 23+32.27
35.46' RT
NATIONAL GUARD ARMORY
DB 263 PG 123
DB 325 PG 400
-Y5- POT Sta. 10+00.00
TAIL DITCH - SEE DETAIL 'Z'
-Y5- POT Sta.10+52.00 BEGIN CONSTRUCTION
PEDESTRIAN SAFETY RAIL
SEE SHEET 2-J FOR SAFETY RAIL DETAIL
-Y5A- POT 13+05.77 =
-Y5- POT 12+51.72
-Y5- POT Sta.12+72.80 END CONSTRUCTION
-Y5- POT Sta. 12+93.40
S 47°17'55.9" W
S 37°12'23.7" E
NG ARMORY TO MAINTAIN CULVERT AFTER CONSTRUCTION
SEE SHEETS C-14 THRU C-18 FOR CULVERT PLANS.
NAD 83

FOR -Y6- PROFILE SEE SHEET 10
FOR -DRIDET- PLAN & PROFILE SEE SHEET 2-D
FOR PARKING LOT RECONSTRUCTION SEE SHEET 2-F



MATCHLINE SHEET 5
-Y3- STA. 14+00.00
15+00
N. C. DEPARTMENT OF TRANSPORTATION
DB 246 PG 32
SOUTHWESTERN COMMUNITY COLLEGE
DB 336 PG 97
DB 436 PG 74
-Y3- PCC Sta. 16+37.30
SOUTHWESTERN COMMUNITY COLLEGE
DB 336 PG 97
DB 436 PG 74
20+00
N 44°46'40.0" W
-Y3- PT Sta. 19+51.56
-Y3- POT Sta. 20+23.49
-Y3- PRC Sta. 18+60.91
-Y3- PRC Sta. 17+76.54
-Y3- STA.18+00.00 END CONSTRUCTION
NAD 83

FOR -Y3- PROFILE SEE SHEET 10

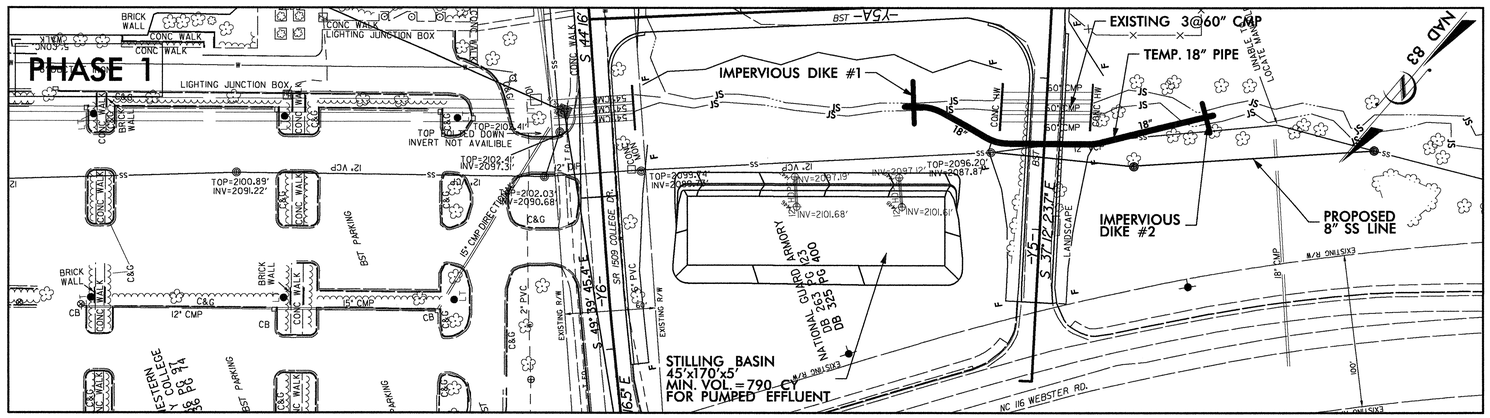
REVISIONS

8/17/99

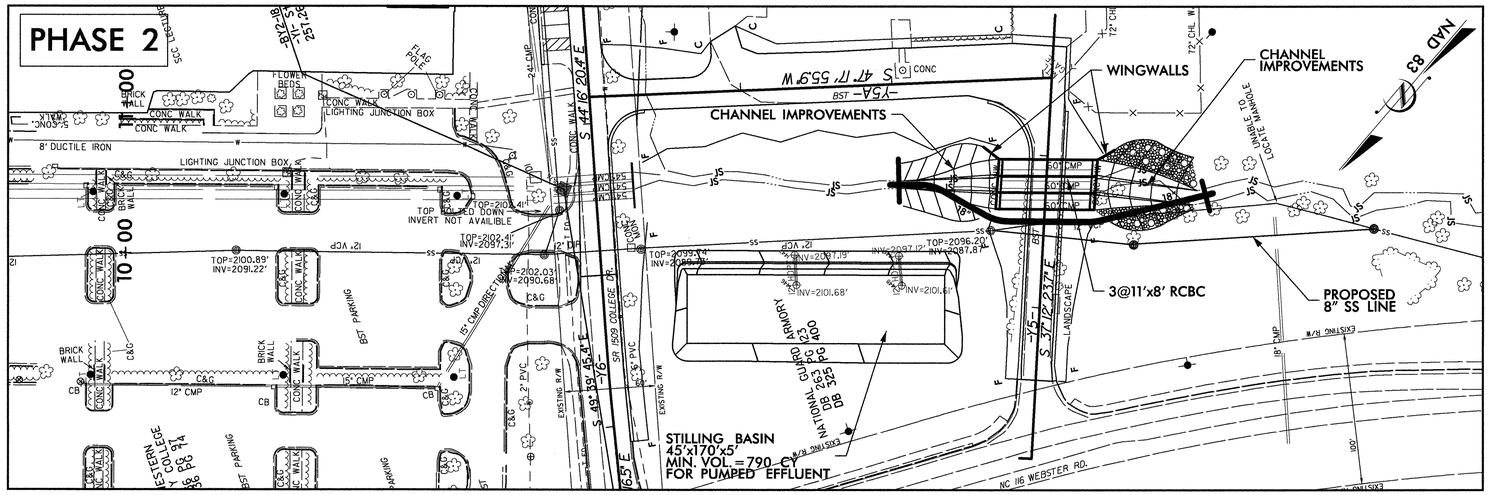
6/29/2012
R:\Hydraulics\Erosion Control\R5000_EC_C&G_psh07.dgn

CONSTRUCTION SEQUENCE OF 3 @ 11' X 8' RCBC WITH 0.5 FT. AND 1.0 FT. SILLS AT 37.5' INTERVALS IN CENTER BARREL ALONG MILL CREEK (TRIB. TO TUSKASEGEE RIVER)

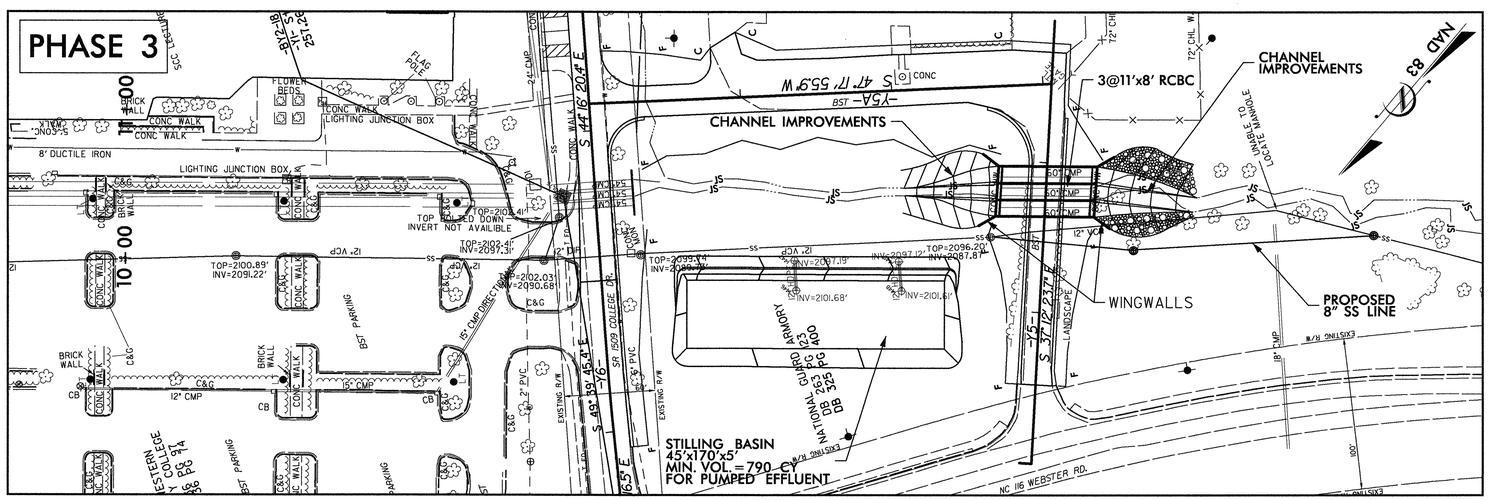
PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-8/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PHASE 1
1. INSTALL STILLING BASIN (MIN. VOL.=790 CY)
2. INSTALL IMPERVIOUS DIKES #1 & #2 & 18" FLEXIBLE PIPE AND DIVERT WATER
3. REMOVE EXISTING 3@60" CMP



PHASE 2
1. INSTALL 3@11'x8' RCBC WHILE PUMPING EFFLUENT INTO STILLING BASIN
2. CONSTRUCT WINGWALLS ON LEFT SIDE OF RCBC
3. CONSTRUCT PORTION OF UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS



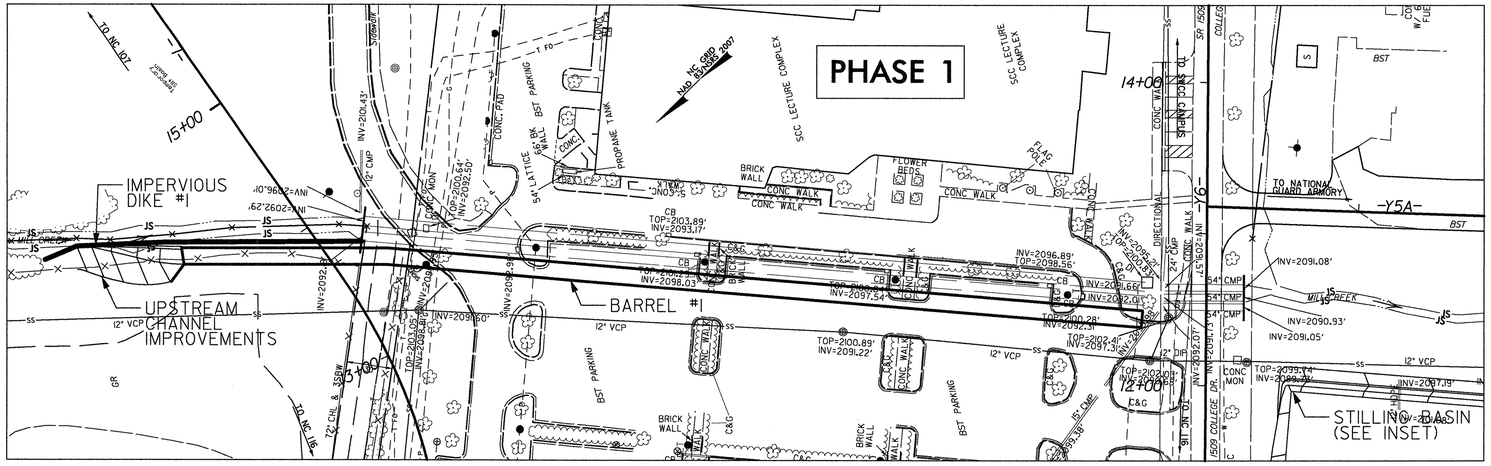
PHASE 3
1. REMOVE IMPERVIOUS DIKE AND DIVERT WATER INTO NEWLY CONSTRUCTED 3@11'x8' RCBC
2. CONSTRUCT WINGWALLS ON RIGHT SIDE OF RCBC
3. CONSTRUCT REMAINDER OF UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS
4. RETAIN STILLING BASIN FOR FUTURE CONSTRUCTION OF UPSTREAM CULVERT

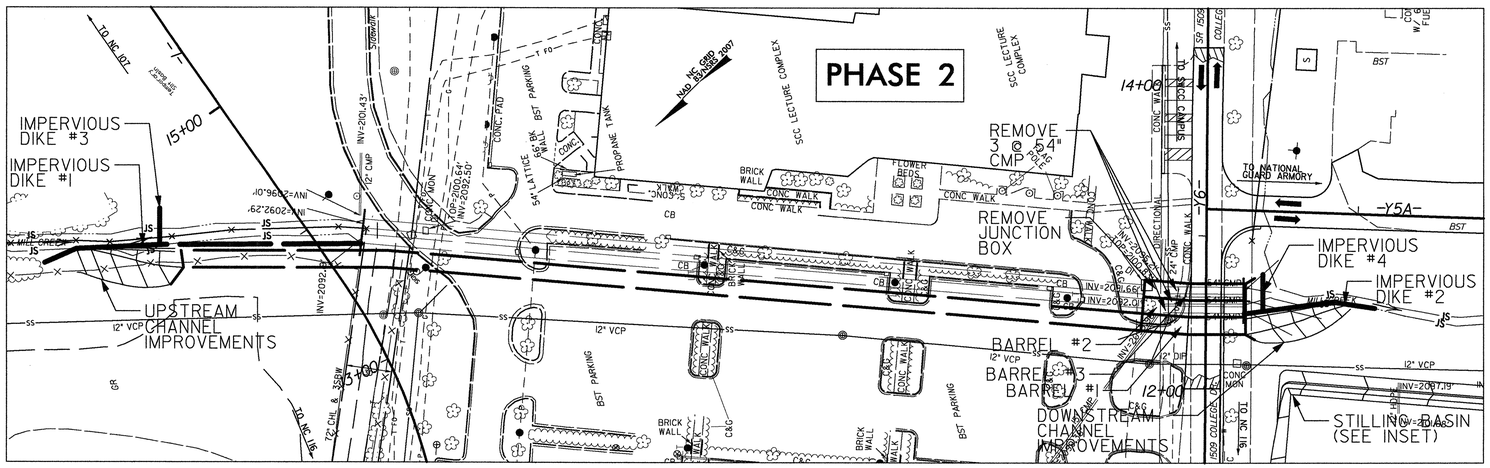
REVISIONS 8/17/99

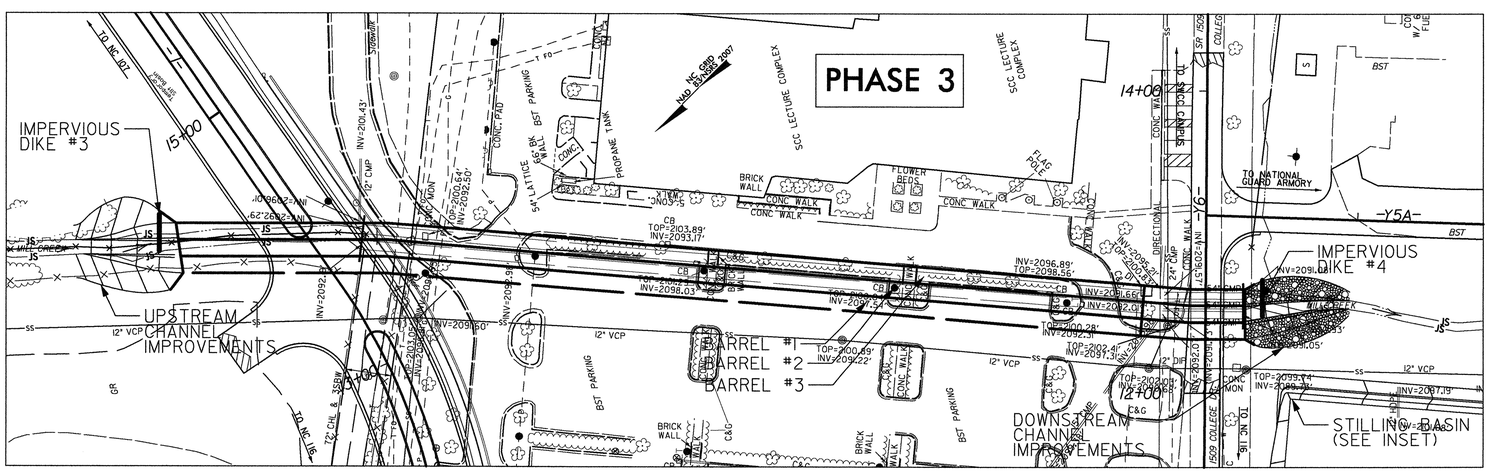
8/20/2012
R:\Hydraulics\CADD\r-5000_hyd_csr_2_phasing.dgn
Phasing DN

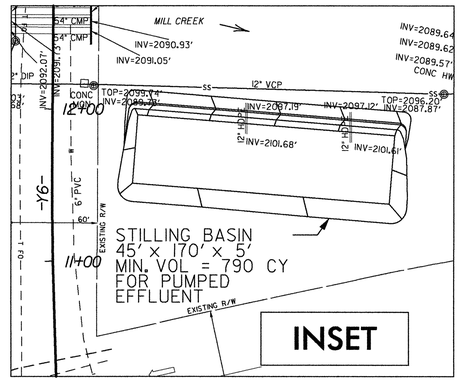
CONSTRUCTION SEQUENCE OF 3 @ 11' X 7' RCBC WITH 0.5 FT. AND 1.0 FT. SILLS AT STA. 13+90.23 –L– ALONG MILL CREEK (TRIB. TO TUSKASEGEE RIVER)

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-9/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER





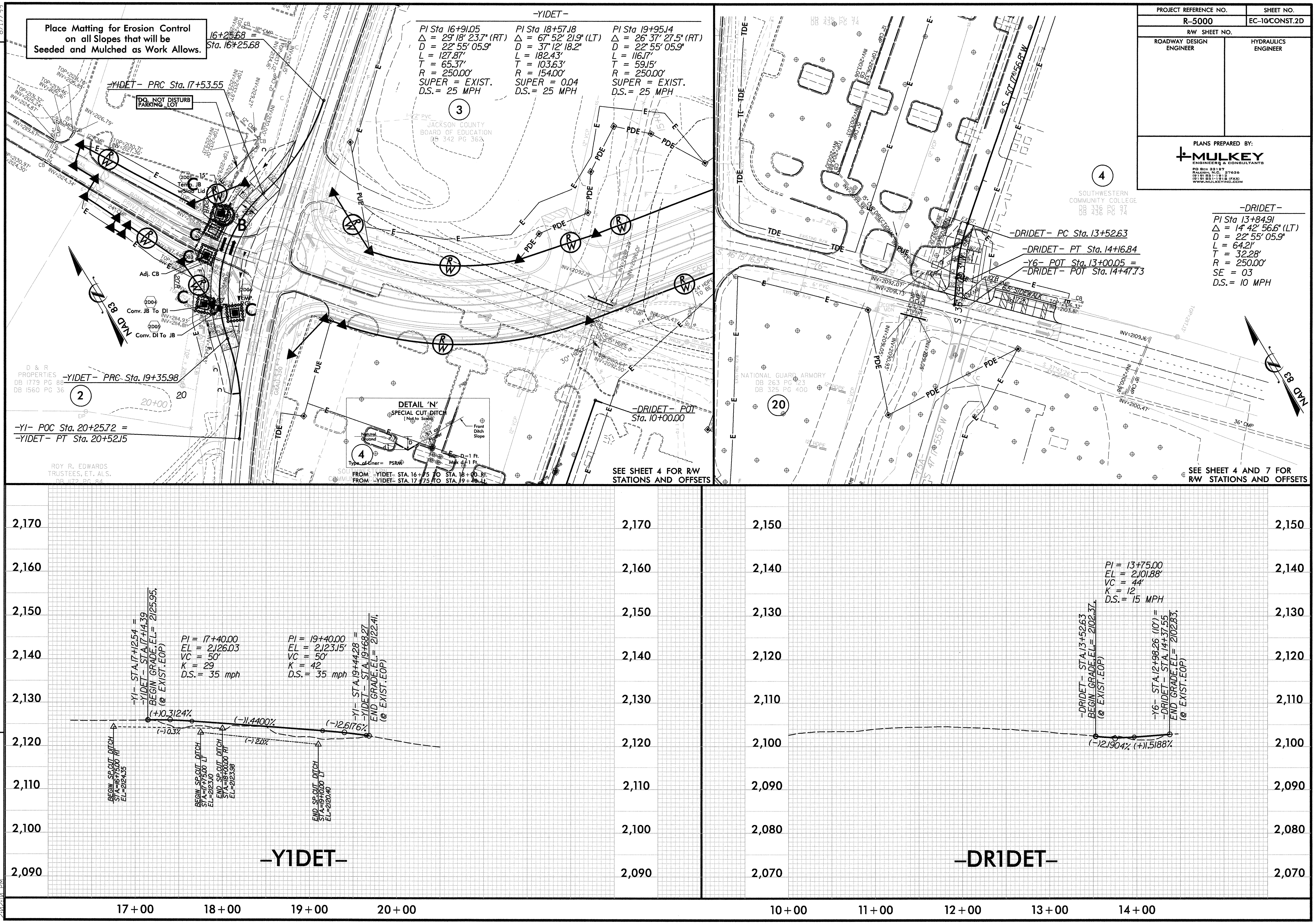




PHASE 1
1. USE STILLING BASIN (MIN. VOL. = 790 CY) CONSTRUCTED FOR REPLACEMENT OF CULVERT ON -Y5-
2. INSTALL IMPERVIOUS DIKE #1
3. CONSTRUCT PORTION OF PROPOSED CULVERT BARREL #1
4. CONSTRUCT PORTION OF UPSTREAM CHANNEL IMPROVEMENTS

PHASE 2
5. DETOUR TRAFFIC ONTO -Y5A-
6. INSTALL IMPERVIOUS DIKE #2
7. COMPLETE CONSTRUCTION OF PROPOSED CULVERT BARREL #1
8. CONSTRUCT PORTION OF DOWNSTREAM CHANNEL IMPROVEMENTS
9. REMOVE IMPERVIOUS DIKES #1 & #2. DIVERT FLOW INTO BARREL #1.
10. INSTALL IMPERVIOUS DIKE #3 & #4.
11. REMOVE EXISTING 3 @ 54" CMP PIPES AND JUNCTION BOX
12. CONSTRUCT PORTION OF PROPOSED BARRELS #2 & #3
13. COMPLETE IMPROVEMENTS TO -Y6- AND SHIFT TRAFFIC ONTO -Y6-

PHASE 3
14. REMOVE 2 @ 72" CMP
15. COMPLETE CONSTRUCTION OF PROPOSED CULVERT BARRELS #2 & #3
16. REMOVE IMPERVIOUS DIKES #3 & #4.
17. COMPLETE UPSTREAM & DOWNSTREAM CHANNEL IMPROVEMENTS
18. COMPLETE CONSTRUCTION OF -L-
19. REMOVE STILLING BASIN AND GRADE THE PROPERTY BACK TO THE EXISTING CONDITIONS



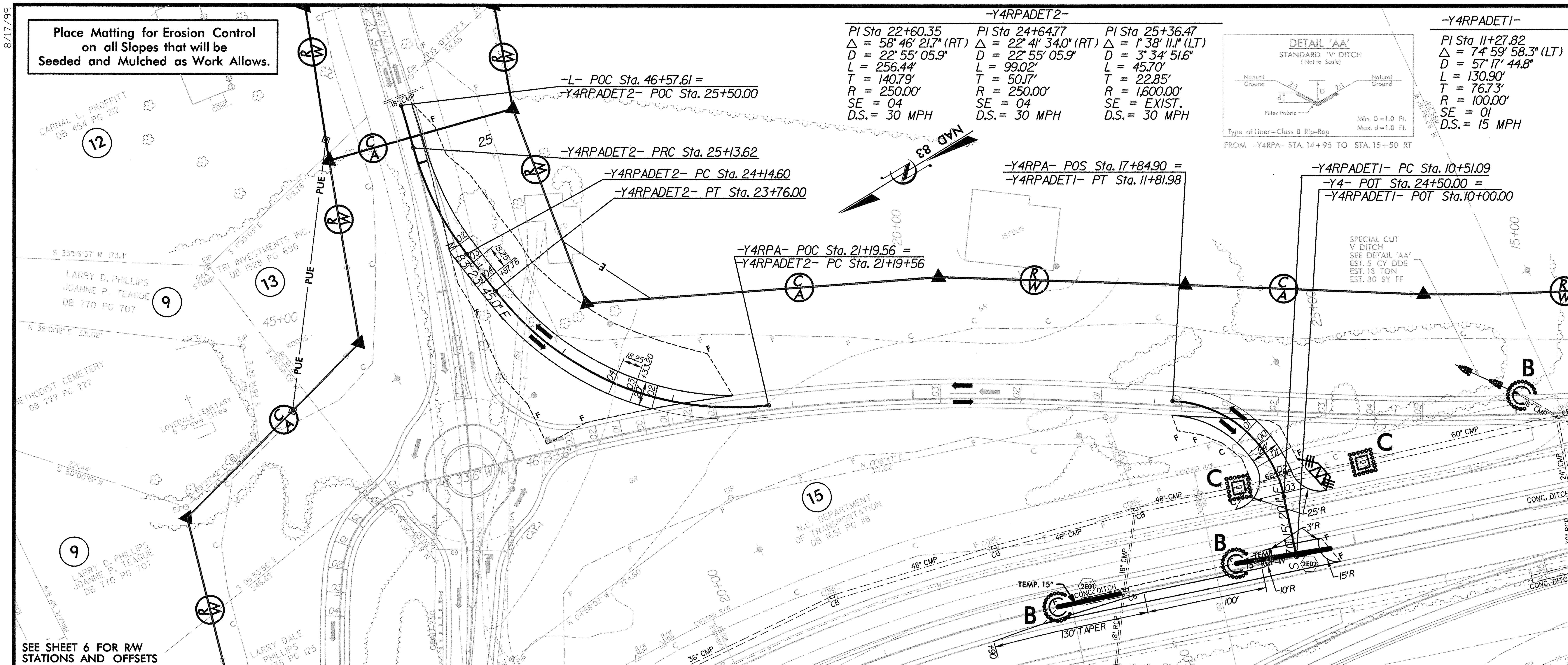
PROJECT REFERENCE NO.
SHEET NO.
R-5000
EC-10/CONST.2D
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PLANS PREPARED BY:
MULKEY ENGINEERS & CONSULTANTS
Place Matting for Erosion Control on all Slopes that will be Seeded and Mulched as Work Allows.
-YIDET-
PI Sta 16+91.05
△ = 29° 18' 23.7" (RT)
D = 22° 55' 05.9"
L = 127.87'
T = 65.37'
R = 250.00'
SUPER = EXIST.
D.S.= 25 MPH
PI Sta 18+57.18
△ = 67° 52' 21.9" (LT)
D = 37° 12' 18.2"
L = 182.43'
T = 103.63'
R = 154.00'
SUPER = 0.04
D.S.= 25 MPH
PI Sta 19+95.14
△ = 26° 37' 27.5" (RT)
D = 22° 55' 05.9"
L = 116.17'
T = 59.15'
R = 250.00'
SUPER = EXIST.
D.S.= 25 MPH
-YIDET- PRC Sta. 17+53.55
DO NOT DISTURB PARKING LOT
-YIDET- PRC Sta. 19+35.98
-Y1- POC Sta. 20+25.72 =
-YIDET- PT Sta. 20+52.15
JACKSON COUNTY BOARD OF EDUCATION
D & R PROPERTIES
ROY R. EDWARDS TRUSTEES, ET. ALS.
DETAIL 'N'
SPECIAL CUT DITCH (Not to Scale)
-DRIDET- POT Sta. 10+00.00
SEE SHEET 4 FOR R/W STATIONS AND OFFSETS
NAD 83
SOUTHWESTERN COMMUNITY COLLEGE
NATIONAL GUARD ARMORY
-DRIDET-
PI Sta 13+84.91
△ = 14° 42' 56.6" (LT)
D = 22° 55' 05.9"
L = 64.21'
T = 32.28'
R = 250.00'
SE = 03
D.S.= 10 MPH
-DRIDET- PC Sta. 13+52.63
-DRIDET- PT Sta. 14+16.84
-Y6- POT Sta. 13+00.05 =
-DRIDET- POT Sta. 14+47.73
SEE SHEET 4 AND 7 FOR R/W STATIONS AND OFFSETS
PI = 17+40.00
EL = 2126.03
VC = 50'
K = 29
D.S.= 35 mph
PI = 19+40.00
EL = 2123.15'
VC = 50'
K = 42
D.S.= 35 mph
-Y1- STA.17+12.54 = -YIDET- STA.17+14.39 BEGIN GRADE EL= 2125.95 (@ EXIST.EOP)
-Y1- STA.19+44.28 = -YIDET- STA.19+68.27 END GRADE EL= 2122.41 (@ EXIST.EOP)
(+)0.3124%
(-)1.4400%
(-)2.6176%
-Y1DET-
PI = 13+75.00
EL = 2,101.88'
VC = 44'
K = 12
D.S.= 15 MPH
-DRIDET- STA.13+52.63 BEGIN GRADE EL= 2102.37 (@ EXIST.EOP)
-Y6- STA.12+98.26 (10') -DRIDET- STA.14+37.55 END GRADE EL= 2102.83 (@ EXIST.EOP)
(-)2.1904%
(+)1.5188%
-DR1DET-
17+00
18+00
19+00
20+00
10+00
11+00
12+00
13+00
14+00
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-11/CONST.2E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

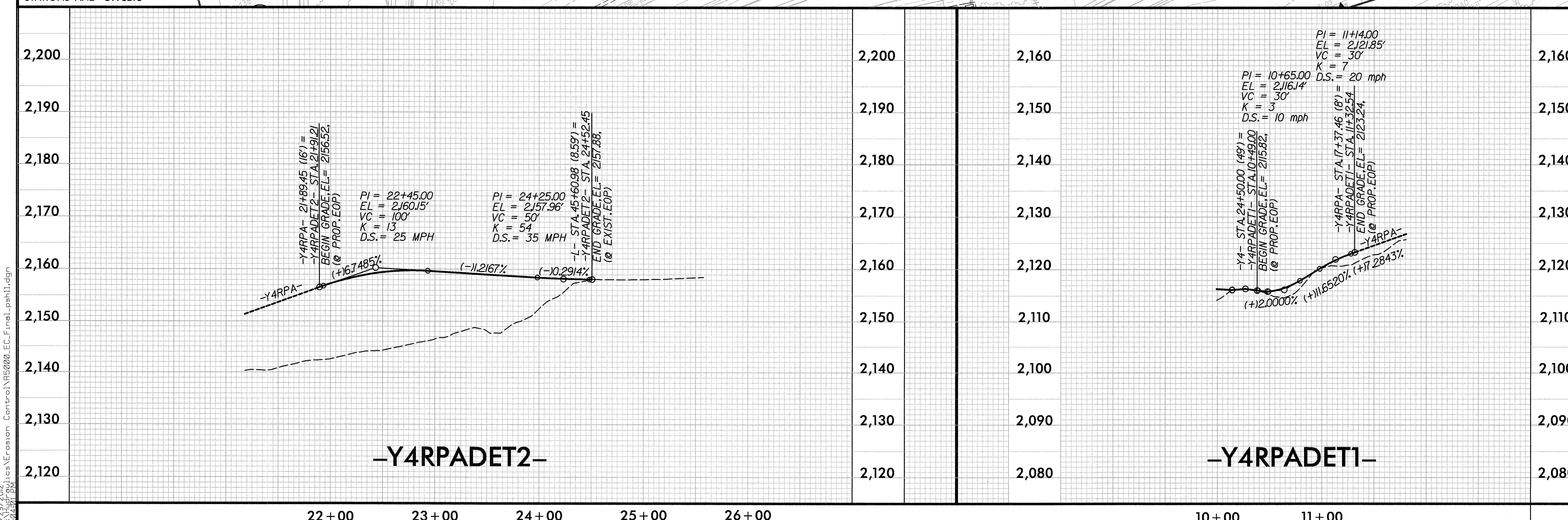
PLANS PREPARED BY:
MULKEY ENGINEERS & CONSULTANTS

8/17/99

REVISIONS



Place Matting for Erosion Control on all Slopes that will be Seeded and Mulched as Work Allows.
-Y4RPADET2-
PI Sta 22+60.35
Δ = 58° 46' 21.7" (RT)
D = 22° 55' 05.9"
L = 256.44'
T = 140.79'
R = 250.00'
SE = 04
D.S.= 30 MPH
PI Sta 24+64.77
Δ = 22° 41' 34.0" (RT)
D = 22° 55' 05.9"
L = 99.02'
T = 50.17'
R = 250.00'
SE = 04
D.S.= 30 MPH
PI Sta 25+36.47
Δ = 1° 38' 11.1" (LT)
D = 3° 34' 51.6"
L = 45.70'
T = 22.85'
R = 1,600.00'
SE = EXIST.
D.S.= 30 MPH
-Y4RPADET1-
PI Sta 11+27.82
Δ = 74° 59' 58.3" (LT)
D = 57° 17' 44.8"
L = 130.90'
T = 76.73'
R = 100.00'
SE = 01
D.S.= 15 MPH
DETAIL 'AA'
STANDARD 'V' DITCH
(Not to Scale)
Type of Liner= Class B Rip-Rap
FROM -Y4RPA- STA. 14+95 TO STA. 15+50 RT
NAD 83
-L- POC Sta. 46+57.61 =
-Y4RPADET2- POC Sta. 25+50.00
-Y4RPADET2- PRC Sta. 25+13.62
-Y4RPADET2- PC Sta. 24+14.60
-Y4RPADET2- PT Sta. 23+76.00
-Y4RPA- POC Sta. 21+19.56 =
-Y4RPADET2- PC Sta. 21+19+56
-Y4RPA- POS Sta. 17+84.90 =
-Y4RPADET1- PT Sta. 11+81.98
-Y4RPADET1- PC Sta. 10+51.09
-Y4- POT Sta. 24+50.00 =
-Y4RPADET1- POT Sta.10+00.00
SPECIAL CUT
V DITCH
SEE DETAIL 'AA'
EST. 5 CY DDE
EST. 13 TON
EST. 30 SY FF
CARNAL L. PROFFITT
DB 454 PG 212
TRI INVESTMENTS INC.
DB 1526 PG 696
LARRY D. PHILLIPS
JOANNE P. TEAGUE
DB 770 PG 707
N.C. DEPARTMENT OF TRANSPORTATION
DB 1651 PG 118
LARRY DALE PHILLIPS
TEMP. 15"
130' TAPER
100'
SEE SHEET 6 FOR R/W STATIONS AND OFFSETS



-Y4RPA- 21+89.45 (16') =
-Y4RPADET2- STA.21+91.21
BEGIN GRADE.EL= 2156.52
(@ PROP. EOP)
PI = 22+45.00
EL = 2,160.15'
VC = 100'
K = 13
D.S. = 25 MPH
PI = 24+25.00
EL = 2,157.96'
VC = 50'
K = 54
D.S.= 35 MPH
-L- STA.45+60.98 (8.59') =
-Y4RPADET2- STA.24+52.45
END GRADE.EL= 2157.88
(@ EXIST.EOP)
(+)16.7485%
(-)11.2167%
(-)0.2914%
-Y4RPA-
-Y4RPADET2-
2,200
2,190
2,180
2,170
2,160
2,150
2,140
2,130
2,120
22+00
23+00
24+00
25+00
26+00
PI = 11+14.00
EL = 2,121.85'
VC = 30'
K = 7
D.S.= 20 mph
PI = 10+65.00
EL = 2,116.14'
VC = 30'
K = 3
D.S.= 10 mph
-Y4- STA.24+50.00 (49') =
-Y4RPADET1- STA.10+49.00
BEGIN GRADE.EL= 2115.82
(@ PROP.EOP)
-Y4RPA- STA.17+37.46 (8') =
-Y4RPADET1- STA.11+32.54
END GRADE.EL= 2123.24
(@ PROP.EOP)
(+)2.0000%
(+)11.6520%
(+)17.2843%
-Y4RPA-
-Y4RPADET1-
2,160
2,150
2,140
2,130
2,120
2,110
2,100
2,090
2,080
10+00
11+00

6/23/2012
R:\Hydraulics\Erosion Control\R5000_EC_Final_psh11.dgn
2:04:01 PM

8/17/99

REVISIONS

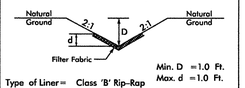
Place Matting for Erosion Control on all Slopes that will be Seeded and Mulched as Work Allows.

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-12/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANS PREPARED BY:

MULKEY ENGINEERS & CONSULTANTS
PO BOX 33127 RALEIGH, NC 27636
(919) 851-1912 (FAX)
WWW.MULKEYINC.COM

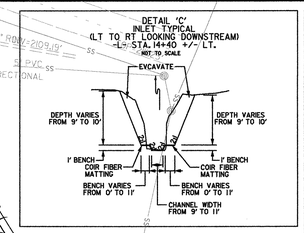
DETAIL 'A'
HEAD DITCH
(Not to Scale)

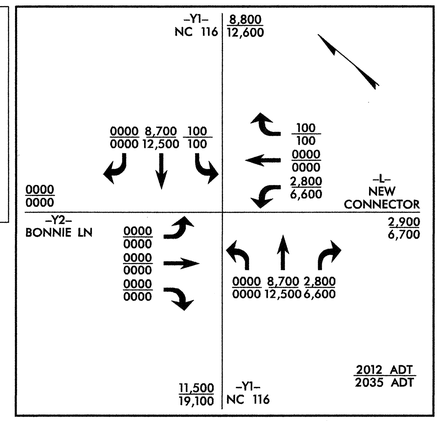


Type of Liner= Class 'B' Rip-Rap
DDE =9 CY
Min. D =1.0 Ft.
Max. d =1.0 Ft.

STA. -Y1- 20+15 +/- RT.

DETAIL 'C'
INLET TYPICAL
(LT TO RT LOOKING DOWNSTREAM)
-L- STA. 14+40 +/- LT.
NOT TO SCALE



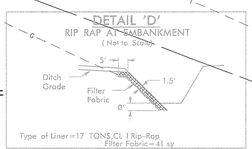


DETAIL 'B'
BASE DITCH CLEANOUT
(Not to Scale)

D=1.5 Ft.
B=2.0 Ft.

FROM -Y1- STA. 11+56 TO STA. 13+34 RT

DETAIL 'D'
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner=17 TONS,CL 1 Rip-Rap
Filter Fabric=41 sy

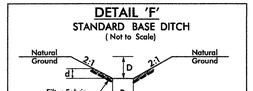
-L- STA. 14+80 Lt.

DETAIL 'E'
TAIL DITCH
(Not to Scale)

Min. D=1.0 Ft.
Max. d=1.0 Ft.
B=3.0 Ft.
*When B is < 6.0'
Type of Liner= Class B Rip-Rap
DDE=52 CY

FROM -L- STA. 14+91 TO STA. 15+21 Lt.

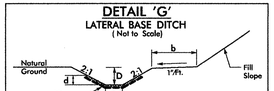
DETAIL 'F'
STANDARD BASE DITCH
(Not to Scale)



Type of Liner= Class 1 Rip-Rap

-L- 16+45 Lt. B=3.0; Min.D=1.5 Ft.; Max. d=1.5 Ft.

DETAIL 'G'
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.0 Ft.
Max. d=1.0 Ft.
b=5.0 Ft.
*When B is < 6.0'
Type of Liner= Class 1 Rip-Rap

FROM -L- STA. 19+21 TO STA. 21+00 Lt. B=8 Ft.

REEDWOOD ASSOCIATES
DB 542 PG 585

SMOKY MOUNTAIN MENTAL HEALTH DEVELOPMENT
DB 922 PG 490
TRACT A
1

D & R PROPERTIES
DB 956 PG 371
TRACT B
2

D & R PROPERTIES
DB 1779 PG 88
DB 1560 PG 36
2

D & R PROPERTIES
DB 1779 PG 88
DB 1560 PG 36
2

ROY R. EDWARDS TRUSTEES, ET. ALS.
DB 1172 PG 84
DB 513 PG 155
DB 486 PG 566

JACKSON COUNTY BOARD OF EDUCATION
DB 342 PG 362
3

SOUTHWESTERN COMMUNITY COLLEGE
DB 336 PG 97
DB 436 PG 74
4

DEPARTMENT OF TRANSPORTATION
DB 200 PG 617
5

SOUTHWESTERN COMMUNITY COLLEGE
DB 1834 PG 769
6

N.C. DEPARTMENT OF TRANSPORTATION
DB 246 PG 32
7

BM #1
-BY1- STA 7+84
10.88 RIGHT
ELEV. 2127.78'
-Y1- Sta. 13+67.13
30.82' RT

-BY1-16 8+74.28 PINC =
-Y1- POT Sta. 14+57.84
19.48' RT

-Y1- STA.14+80.00
BEGIN CONSTRUCTION

TIE TO EXIST. SIDEWALK

-Y2- POT Sta. 10+00.00

-BL-1 5+00.00 POT =
-Y2- POT Sta. 10+77.73
17.23' LT

-Y2- PT Sta. 13+74.67

-Y1- PC Sta. 17+27.17

-L- PT Sta. 13+56.93

-L- PC Sta. 10+99.62

-Y2- PC Sta. 12+92.13

-BY1- 12+60.03 PINC =
-BL-2 8+18.36 PINC =
-Y1- Sta. 18+41.08 (31.98' RT)
-Y2- Sta. 13+91.59 (21.31' RT)

BEGIN TIP PROJECT R-5000
-L- POT Sta. 10+00.00 =
-Y1- POC Sta. 18+16.96
-Y2- POT Sta. 14+21.94 =
-Y1- POC Sta. 18+22.51

-Y2- POT Sta.12+00.00
BEGIN CONSTRUCTION

-Y1- POC Sta.21+00.00
END CONSTRUCTION

-Y1- PT Sta. 21+56.99

-L- PC Sta. 16+44.53

-L- PT Sta. 18+57.76

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

BEG.RET.WALL & CHAIN LINK FENCE
-L- STA.10+44.56,74.13' RT

END RET.WALL & CHAIN LINK FENCE
-L- STA.15+00.00,41.25' RT

-L- POT 13+70.10
CULVERT

-L- POT 14+10.36
CULVERT

-BL-3 12+58.43 PINC =
-L- Sta. 14+02.00
37.55' RT

-BL-4 16+92.27 PINC =
-L- Sta. 19+01.50
155.48' RT

DO NOT DISTURB PARKING LOT

HEAD DITCH
SEE DETAIL 'A'
EST. CY DDE
CLASS B RIP RAP
EST. 11 TON
EST. 24 SY FF

TAIL DITCH
SEE DETAIL 'E'
EST. 52 CY DDE
CLASS B RIP RAP
EST. 34 TON
EST. 76 SY FF

STANDARD BASE DITCH
SEE DETAIL 'F'
CLASS 1 RIP RAP
EST. 5 CY DDE
EST. 3 TON
EST. 6 SY FF

LATERAL BASE DITCH
SEE DETAIL 'G'
CLASS 1 RIP RAP
EST. 1,450 CY DDE
EST. 115 TON
EST. 240 SY FF

3@11'x7' RCBC

TIE TO EXIST. SIDEWALK

NAD 83

MATCHLINE SHEET 7
-Y1- STA. 22+00.00

MATCHLINE SHEET 5
-L- STA. 20+00.00

FOR -L- PROFILE SEE SHEET 8
FOR -Y1- PROFILE SEE SHEET 9
FOR -Y2- PROFILE SEE SHEET 9
FOR ISLAND DIMENSIONS & DETAILS SEE SHEET 2-C

6/29/2012
12:06:08 PM
J:\projects\Erosion Control\R5000_EC_Final.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-13/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

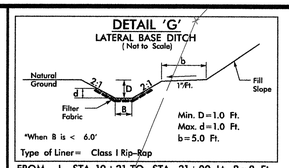
PLANS PREPARED BY:

MULKEY
ENGINEERS & CONSULTANTS
PO Box 53129
Fayetteville, NC 28305
(910) 851-1912
(910) 851-1918 (FAX)
WWW.MULKEYINC.COM

REVISIONS

8/17/99

DETAIL 'G'
LATERAL BASE DITCH
(Not to Scale)



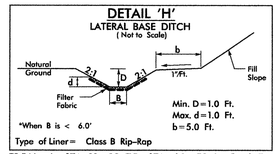
Min. D=1.0 Ft.
Max. d=1.0 Ft.
b=5.0 Ft.

*When B is < 6.0'

Type of Liner= Class I Rip-Rap

FROM –L– STA. 19+21 TO STA. 21+00 Lt. B=8 Ft.

DETAIL 'H'
LATERAL BASE DITCH
(Not to Scale)



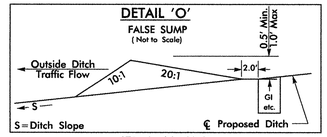
Min. D=1.0 Ft.
Max. d=1.0 Ft.
b=5.0 Ft.

*When B is < 6.0'

Type of Liner= Class B Rip-Rap

FROM –L– STA. 21+00 TO STA. 22+50 Lt. B=6 Ft.
FROM –L– STA. 22+50 TO STA. 26+50 Lt. B=4 Ft.

DETAIL 'O'
FALSE SUMP
(Not to Scale)



STA. –L– 26+98 Lt.
STA. –L– 29+27 Lt.

Riser Basin
140 x 65 x 3
2.5 inch Skimmer with 2.5 inch Orifice Diameter
Riser Pipe=15" CMP or 12" Smooth Wall Barrel Pipe=24"
ID 5.1

Place Matting for Erosion Control on all Slopes that will be Seeded and Mulched as Work Allows.

NAD 83

N 35°47'24" E
526.14'

N 88°47'36" W
701.78'

S 80°03'32" W
S 28°52'24" W

N. C. DEPARTMENT OF TRANSPORTATION
DB 246 PG 32
7

SOUTHWESTERN COMMUNITY COLLEGE
DB 1146 PG 443
8

SOUTHWESTERN COMMUNITY COLLEGE
DB 1834 PG 769
6

SOUTHWESTERN COMMUNITY COLLEGE
DB 336 PG 97
DB 436 PG 74
4

MATCHLINE SHEET 4
–L– STA. 20+00.00

MATCHLINE SHEET 6
–L– STA. 34+00.00

MATCHLINE SHEET 7
–Y3– STA. 14+00.00

–L– PC Sta. 22+26.79

–L– PT Sta. 27+18.92
BEGIN PROP. CA
BEGIN PROP. WW FENCE
+18.92 –L–
58.87' LT

–L– POC Sta. 26+48.00 =
–Y3– POT Sta. 10+00.00

–L– PC Sta. 29+80.34

–L– NEW CONNECTOR

–Y3–

LATERAL BASE DITCH
SEE DETAIL 'G'
CLASS I RIP RAP
EST. 1450 CY DDE
EST. 115 TON
EST. 240 SY FF

LATERAL BASE DITCH
SEE DETAIL 'H'
CLASS B RIP RAP
EST. 980 CY DDE
EST. 310 TON
EST. 525 SY FF

DO NOT DISTURB BLK WALL & SILO

+20.00 –L–
125.00' LT

+00.00 –L–
85.00' LT

+00.00 –L–
122.00' LT

+69.00 –L–
164' LT
87' LT
45' LT

+00.00 –L–
164' LT
45' LT

+00.00 –L–
96.00' LT

+50.00 –L–
93.00' LT

+50.00 –L–
101.00' LT

+50.00 –L–
98.00' LT

+26.79 –L–
45.00' LT

+26.79 –L–
45.00' RT

+28.00 –L–
127.50' RT

+50.00 –L–
126.00' RT

+00.00 –L–
120.00' RT

+80.00 –L–
98.00' LT

+00.00 –L–
105.00' LT

+22.00 –L–
61.77' LT

+42.00 –L–
138.00' LT

+85.00 –L–
102.00' LT

+10.00 –L–
96.00' LT

+00.00 –L–
126.00' RT

+00.00 –L–
118.00' RT

+06.00 –L–
77.17' RT

+70.00 –L–
45.00' RT

+74.00 –L–
85.00' RT

+19.00 –Y3–
65.00' RT

+80.00 –Y3–
121.00' RT

+00.00 –Y3–
30.00' LT

+25.00 –Y3–
55.00' LT

+25.00 –Y3–
30.00' RT

+75.00 –Y3–
45.00' LT

+41.91 –Y3–
30.00' LT

+41.91 –Y3–
30.00' RT

+77.00 –Y3–
92.00' RT

FALSE SUMP
SEE DETAIL 'O'

BEGIN PAVED SHOULDER
END C&G
+00.00

BEGIN PROP. CA
BEGIN PROP. WW FENCE
+18.92 –L–
68.00' RT

SPECIAL CUT DITCH
SEE DETAIL 'L'
CLASS B RIP RAP
EST. 80 TON
EST. 178 SY FF

SP. CUT BASE DITCH
EST. 19 SY PSRM
SEE DETAIL 'J'

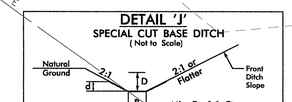
SP. CUT BASE DITCH
SEE DETAIL 'K'

BERM DITCH
EST. 67 SY PSRM
SEE DETAIL 'M'

BERM DITCH
EST. 35 SY PSRM
SEE DETAIL 'M'

–Y3– PC Sta. 13+41.91

DETAIL 'J'
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D=1.0 Ft.
Max. d=1.0 Ft.
B=2.0 Ft.

Type of Liner= PSRM

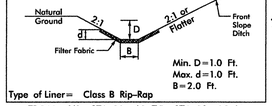
FROM –Y3– STA. 10+75 TO STA. 11+00 Rt.

DETAIL 'K'
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D=1.0 Ft.
B=2.0 Ft.

FROM –Y3– STA. 10+50 TO STA. 10+75 Rt.

DETAIL 'L'
SPECIAL CUT BASE DITCH
(Not to Scale)

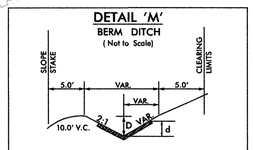


Min. D=1.0 Ft.
Max. d=1.0 Ft.
B=2.0 Ft.

Type of Liner= Class B Rip-Rap

FROM –Y3– STA. 10+60 TO STA. 13+00 Lt.
FROM –L– STA. 27+00 TO STA. 27+25 Rt.

DETAIL 'M'
BERM DITCH
(Not to Scale)



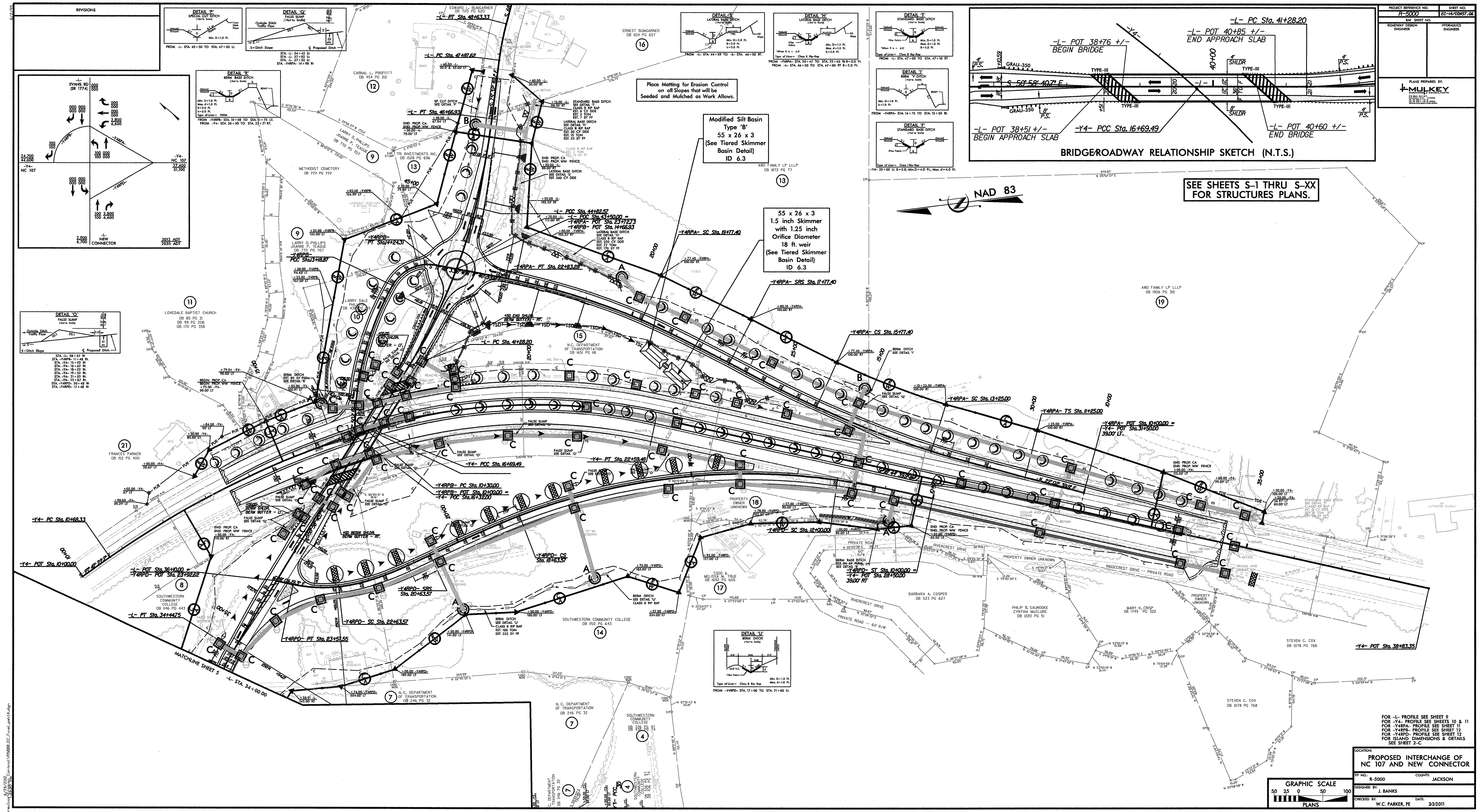
Min. D=1.0 Ft.
Max. d=1.0 Ft.

Type of Liner= PSRM

FROM –Y3– STA. 13+00 TO STA. 13+75 Lt
FROM –Y3– STA. 15+50 TO STA. 17+25 Lt.
FROM –L– STA. 24+50 TO STA. 26+00 Rt.

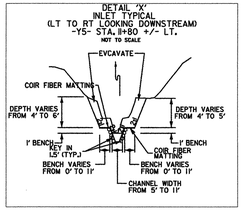
FOR –L– PROFILE SEE SHEET 8
FOR –Y3– PROFILE SEE SHEET 10

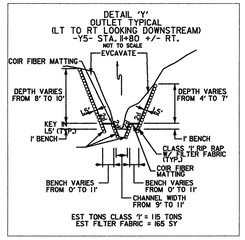
6/29/2012
R:\Roadway Projects\Erosion Control\R5000_EC_Final_sh13.dgn

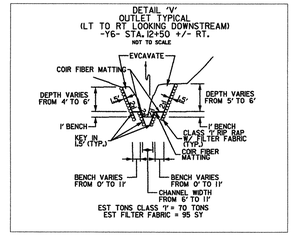

PROJECT REFERENCE NO.
R-5000
SHEET NO.
EC-14/CONST.06
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PLANS PREPARED BY:
MULKEY ENGINEERS & CONSULTANTS
-L- PC Sta. 41+28.20
-L- POT 40+85 +/-
END APPROACH SLAB
-L- POT 38+76 +/-
BEGIN BRIDGE
-L- POT 38+51 +/-
BEGIN APPROACH SLAB
-Y4- PCC Sta. 16+69.49
-L- POT 40+60 +/-
END BRIDGE
BRIDGE/ROADWAY RELATIONSHIP SKETCH (N.T.S.)
SEE SHEETS S-1 THRU S-XX FOR STRUCTURES PLANS.
NAD 83
Place Matting for Erosion Control on all Slopes that will be Seeded and Mulched as Work Allows.
Modified Silt Basin Type 'B' 55 x 26 x 3 (See Tiered Skimmer Basin Detail) ID 6.3
55 x 26 x 3 1.5 inch Skimmer with 1.25 inch Orifice Diameter 18 ft. weir (See Tiered Skimmer Basin Detail) ID 6.3
REVISIONS
MATCHLINE SHEET 5 -L- STA. 34+00.00
FOR -L- PROFILE SEE SHEET 9
FOR -Y4- PROFILE SEE SHEETS 10 & 11
FOR -Y4RPA- PROFILE SEE SHEET 11
FOR -Y4RPB- PROFILE SEE SHEET 12
FOR -Y4RPD- PROFILE SEE SHEET 12
FOR ISLAND DIMENSIONS & DETAILS SEE SHEET 2-C
LOCATION:
PROPOSED INTERCHANGE OF NC 107 AND NEW CONNECTOR
TIP NO.: R-5000
COUNTY: JACKSON
DESIGNED BY: J. BANKS
CHECKED BY: W.C. PARKER, PE
DATE: 3/2/2011
GRAPHIC SCALE
50 25 0 50 100
PLANS

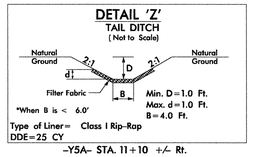
8/17/99

REVISIONS

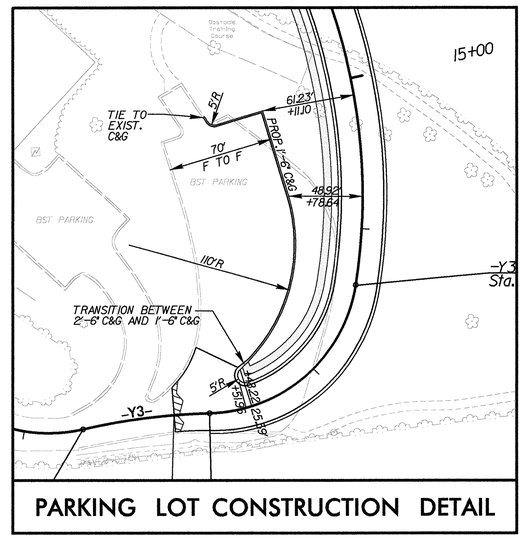




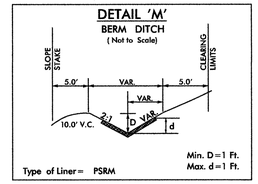




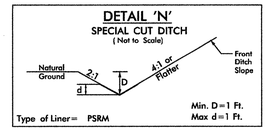
-Y5A- STA. 11+10 +/- Rt.



PARKING LOT CONSTRUCTION DETAIL



FROM -Y3- STA. 15+50 TO STA. 17+25 Lt.



FROM -Y3- STA. 17+25 TO STA. 17+85 Lt.

PROJECT REFERENCE NO.	SHEET NO.
R-5000	EC-15/CONST. 7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANS PREPARED BY:

MULKEY
ENGINEERS & CONSULTANTS
PO Box 33127
Raleigh, N.D. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM
NC License No. C-1101

MATCHLINE SHEET 4
-Y1- STA. 22+00.00

SWCC TO MAINTAIN CULVERT AFTER CONSTRUCTION

SEE SHEETS C-1 THRU C-13 FOR CULVERT PLANS.

BM #5
-BY1- STA 16+48
66.76 LEFT
ELEV. 2113.73'
-Y1- Sta. 22+28.74
39.64' LT
CHISELED "X" ON SW CORNER OF CONC. PAD FOR LAMP PO

-Y6- POT Sta. 10+00.00 = -Y1- POT Sta. 23+38.30

-BY2-18 7+95.42 POT = -Y1- Sta. 23+72.10 257.26' LT

SOUTHWESTERN COMMUNITY COLLEGE DB 336 PG 97 DB 436 PG 74

-Y6- PC Sta. 10+99.90

-Y6- PT Sta. 11+65.64

-Y1- POT Sta. 24+76.59

-Y6- POT Sta. 14+54.00

-Y5A- POT 10+00.00 = -Y6- POT 13+17.90

-Y5- POT Sta. 10+00.00

-Y5A- POT 13+05.77 = -Y5- POT 12+51.72

-Y5- POT Sta. 12+93.40

-Y5-1

-Y5A-

ROY R. EDWARDS TRUSTEES, ET. ALS. DB 1172 PG 84 DB 513 PG 155 DB 486 PG 566

-BY1-17 17+57.18 POT = -BY2- 5+00.00 POT = -Y1- Sta. 23+32.27 35.46' RT

NATIONAL GUARD ARMORY DB 263 PG 123 DB 325 PG 400 (20)

Place Matting for Erosion Control on all Slopes that will be Seeded and Mulched as Work Allows.

NG ARMORY TO MAINTAIN CULVERT AFTER CONSTRUCTION

SEE SHEETS C-14 THRU C-18 FOR CULVERT PLANS.

FOR -Y6- PROFILE SEE SHEET 10
FOR -DR1DET- PLAN & PROFILE SEE SHEET 2-D
FOR PARKING LOT RECONSTRUCTION SEE SHEET 2-F

MATCHLINE SHEET 5
-Y3- STA. 14+00.00

SOUTHWESTERN COMMUNITY COLLEGE DB 336 PG 97 DB 436 PG 74 (4)

N. C. DEPARTMENT OF TRANSPORTATION DB 246 PG 32 (7)

-Y3- PCC Sta. 16+37.30

-Y3- PT Sta. 19+51.56

-Y3- POT Sta. 20+23.49

-Y3- PRC Sta. 18+60.91

-Y3- PRC Sta. 17+76.54

-Y3- STA 18+00.00 END CONSTRUCTION

All Pipe ends are unknown (underground network)

Place Matting for Erosion Control on all Slopes that will be Seeded and Mulched as Work Allows.

FOR -Y3- PROFILE SEE SHEET 10

6/29/2012
R:\Hydraulics\Erosion Control\R5000_EC_Final_sh15.dgn
12:10:07 PM