PROJECT REFERENCE NO.	SHEET NO.
R-2566BA	EC-05/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

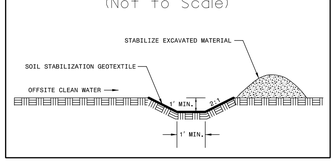
TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

NAD 83/2007

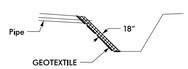
CLEAN WATER DIVERSION

→ CWD → CWD → CWD → CWD →

(Not to Scale)



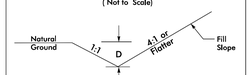
DETAIL 4A
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = 31 TONS,Class I Rip-Rap
Geotextile = 70 SY

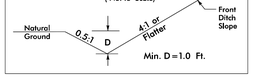
FROM –L– STA 161+94 TO 162+07 RT

DETAIL 5A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



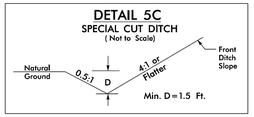
FROM –L– STA. 162+02 to 162+33 LT

DETAIL 5B
SPECIAL CUT DITCH
(Not to Scale)



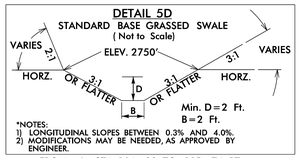
FROM –L– STA. 166+60 TO 166+84 RT

DETAIL 5C
SPECIAL CUT DITCH
(Not to Scale)



FROM –L– STA. 166+84 TO 167+15 RT

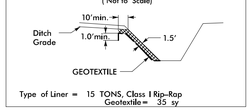
DETAIL 5D
STANDARD BASE GRASSED SWALE
(Not to Scale)



*NOTES:
1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%.
2) MODIFICATIONS MAY BE NEEDED, AS APPROVED BY ENGINEER.

FROM –L– STA 164+39 TO 165+74 RT

DETAIL 5E
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = 15 TONS, Class I Rip-Rap
Geotextile = 35 sy

FROM –L– STA 164+25 TO 164+51 RT

MATCHLINE –L– STA. 160+00.00 SEE SHEET 4

MATCHLINE –L– STA. 170+00.00 SEE SHEET 6

–Y5– PCC Sta. 17+07.48

–Y5– PC Sta. 16+11.40

–Y5– PCC Sta. 18+01.83

–Y5– STA. 18+34.40
END CONST.

PCC Sta. 18+98.12

–Y5– PC Sta. 20+86.96
–Y5REV– POT Sta. 20+86.96
–Y5REV– PC Sta. 21+34.97
–Y5– PT Sta. 21+58.69

–Y5– POT Sta. 10+00.00
–L– POC Sta. 166+40.00
S 54° 00' 52.5" E

–Y5– PT Sta. 19+48.93

PCC Sta. 168+60.77

–Y5REV– PT Sta. 21+59.02
–L– POC Sta. 162+41.00

–Y4– PC Sta. 10+35.50

–Y4– PT Sta. 11+40.57

–Y4– PC Sta. 12+05.27

–Y4– PT Sta. 12+82.76
END CONST.

–Y5– POT Sta. 21+95.89
–L– POC Sta. 162+74.00
S 69° 32' 53.2" E

–Y4– POT Sta. 14+27.76
S 12° 25' 00.0" E

RETAIN & CLEAN OUT

18" RCP

0506 0507 0508 0509 0510 0511 DI

RETAINING WALL NO.1
SINGLE FACED CONC. BARRIER

PROP. CONC. PAVED DITCH

CLASS B RIP RAP
2 TONS,7 SY GEO

IMPERVIOUS DIKE

TRANSITION FROM WALL TO DITCH GRADE TO DRAIN
11 TONS CLASS B,
24 SY GEO

SPECIAL LATERAL 'V' DITCH (SEE DETAIL 5A)

CWD

0503 2GI

18" RCP-IV

0504

CB-F

R=5.5'

18" RCP-IV

0501

TB 2GI

0502

RIP RAP AT EMBANKMENT
SEE DETAIL 4A
EST CL I RR=31 TNS
GT=60 SY

MAINTAIN 1.5:1 GROUND RADIUS

TRANSITION FROM 1.5:1 TO 2:1

300' FULL LANE

75' FULL LANE

300' TAPER

350' LANE SHIFT

720' TRANSITION

24" CSP

0514

END 24" CSP

0513

TB 4GI

24" RCP-IV

2GI

0512

REMOVE

2GI 18" RCP-IV

0515

CLASS B RIP RAP
2 TONS,
7 SY GEO

PROPOSED BIOFILTRATION CONVEYANCE
DDE=120 CY
(SEE DETAIL SHEETS 2D-1, 2D-2, & 2D-3)

SPECIAL CUT DITCH (SEE DETAIL 5C)

SPECIAL CUT DITCH (SEE DETAIL 5B)

PLACE COIR FIBER MATTING ALONG THE STREAMBANK AT LOCATIONS WHICH WILL NOT BE PLATED IN CLASS II RIP RAP, BUT WILL BE EXPOSED BY REMOVAL OF END BENTS.

–Y5–

PI Sta 16+59.54	PI Sta 17+55.18	PI Sta 18+51.22
△ = 9° 01' 25.6" (RT)	△ = 20° 47' 33.1" (RT)	△ = 31° 31' 28.0" (RT)
D = 9° 23' 33.9"	D = 22° 02' 12.6"	D = 32° 44' 25.6"
L = 96.07'	L = 94.35'	L = 96.29'
T = 48.14'	T = 47.70'	T = 49.40'
R = 610.00'	R = 260.00'	R = 175.00'
SE = 0.06 FT/FT	SE = 0.06 FT/FT	SE = 0.06 FT/FT
RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS

–Y5–

PI Sta 19+23.61	PI Sta 21+24.63	PI Sta 21+74.18
△ = 11° 38' 44.0" (RT)	△ = 43° 15' 37.0" (LT)	△ = 44° 39' 39.0" (LT)
D = 22° 55' 05.9"	D = 60° 18' 40.8"	D = 60° 18' 40.8"
L = 50.81'	L = 71.73'	L = 74.05'
T = 25.49'	T = 37.67'	T = 39.21'
R = 250.00'	R = 95.00'	R = 95.00'
SE = EXIST.	SE = 0.02 FT/FT	SE = 0.02 FT/FT
RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS

–Y5EV–

–Y4–

PI Sta 11+00.77	PI Sta 12+46.08
△ = 85° 59' 49.7" (RT)	△ = 44° 23' 57.2" (LT)
D = 81° 51' 04.0"	D = 57° 17' 44.8"
L = 105.07'	L = 77.49'
T = 65.27'	T = 40.81'
R = 70.00'	R = 100.00'
SE = 0.04 FT/FT	SE = 0.04 FT/FT
RO = SEE PLANS	RO = SEE PLANS

–L–

PI Sta 163+46.06	PI Sta 171+65.43
△ = 46° 24' 19.4" (RT)	△ = 19° 12' 46.1" (RT)
D = 4° 14' 38.9"	D = 3° 10' 59.2"
L = 1,093.40'	L = 603.59'
T = 578.69'	T = 304.65'
R = 1,350.00'	R = 1,800.00'
SE = 0.06 FT/FT	SE = 0.06 FT/FT
RO = SEE PLANS	RO = SEE PLANS

NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS