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STATE PROJECT: 17BP.2.R.92

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.R.92	EC-1	

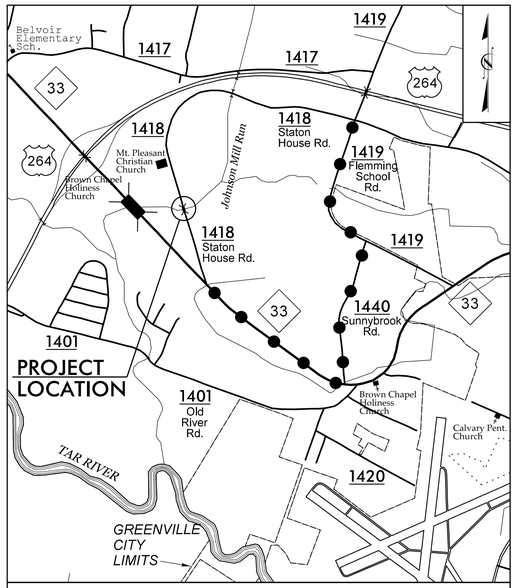
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

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

PITT COUNTY

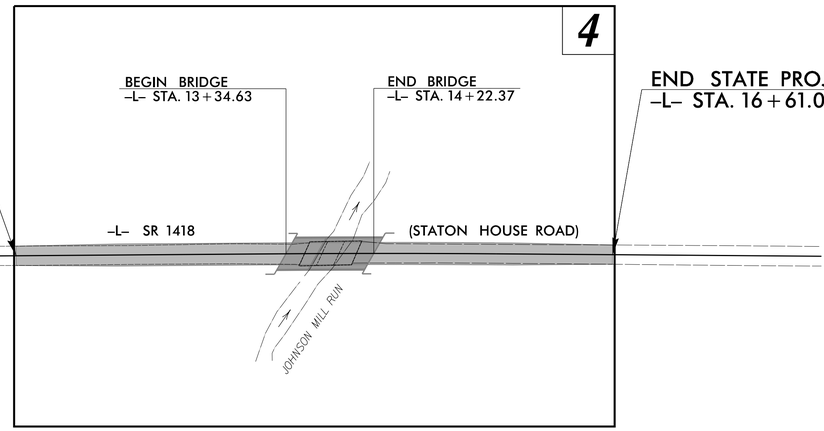
LOCATION: BRIDGE NO. 171 OVER JOHNSON MILL RUN ON SR 1418 (STATON HOUSE ROAD)

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE AND PAVING



VICINITY MAP
OFFSITE DETOUR

NAD 83/ NSRS 2007



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

GRAPHIC SCALE

0 20

PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared in the Office of:

TGS ENGINEERS

TGS ENGINEERS
706 HILLSBOROUGH ST.
SUITE 200
RALEIGH, NC 27603

PH (919) 733-8887
CORP. LICENSE NO.: C-0275

Designed by:

BRIANA JAMES, EI — ***4041***
NAME — LEVEL III CERTIFICATION NO.

Reviewed in the Office of:

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

2018 STANDARD SPECIFICATIONS

Reviewed by:

ANDY BLANKENSHIP, PE, CPESC

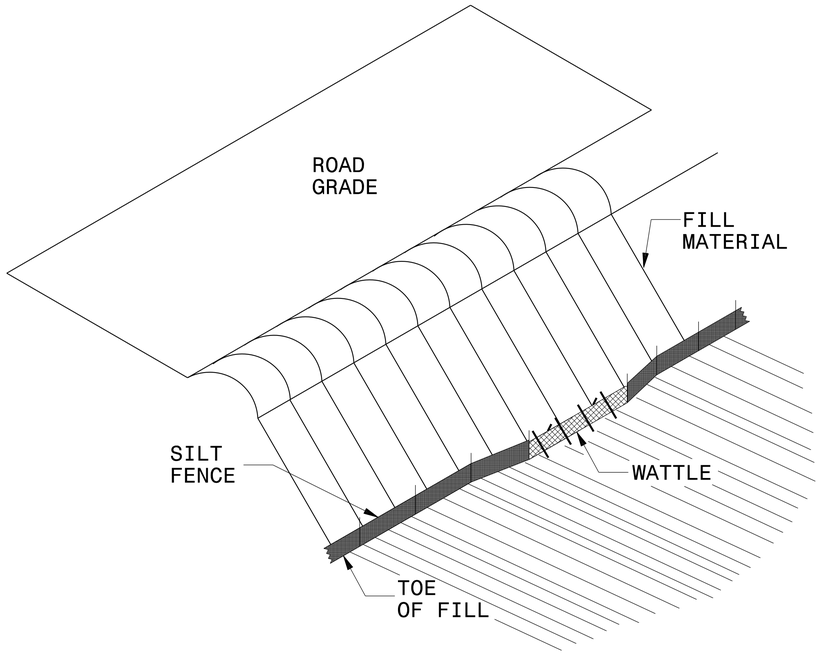
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2018 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

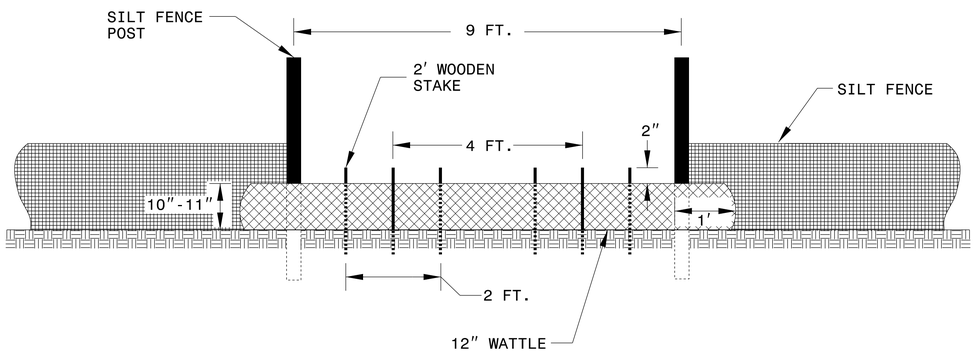
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type 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.
17BP.2.R.92	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

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

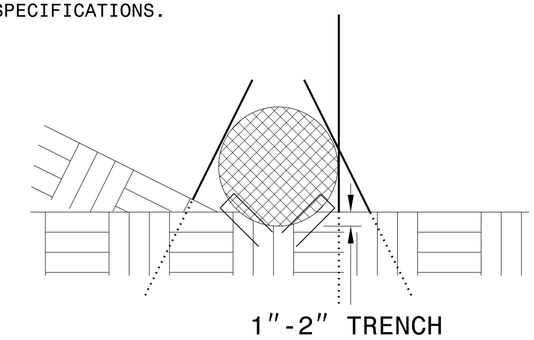
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

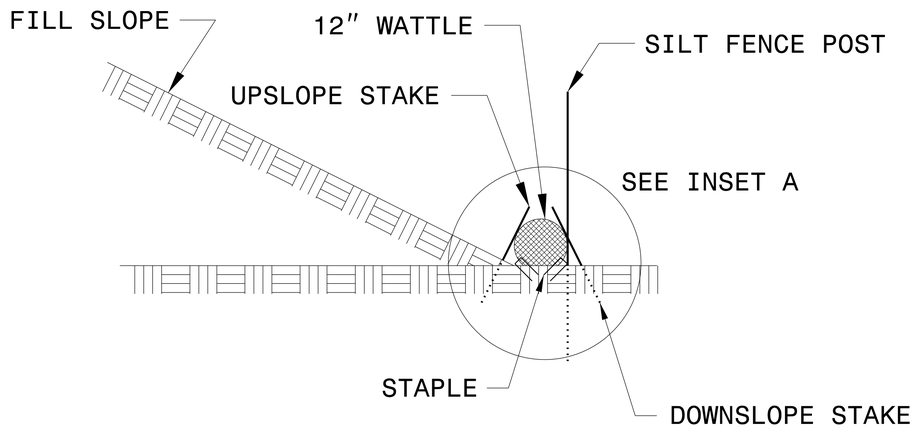
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A

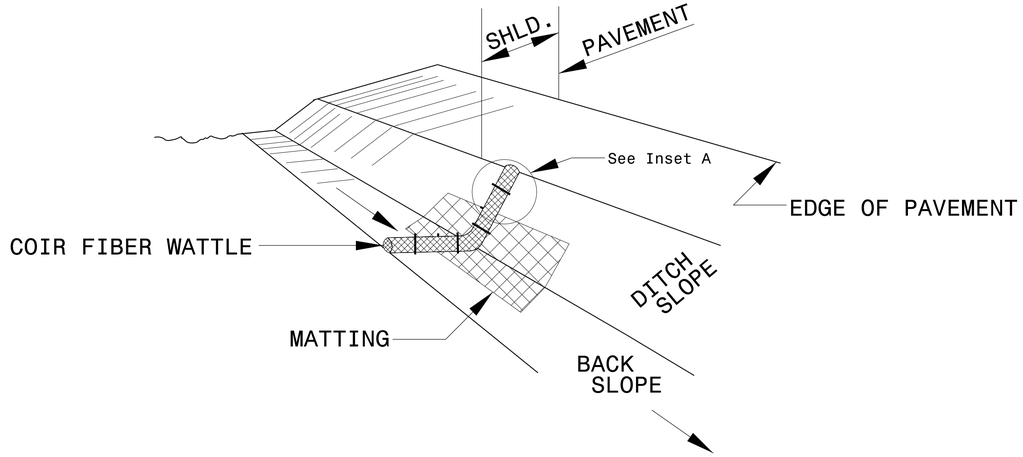




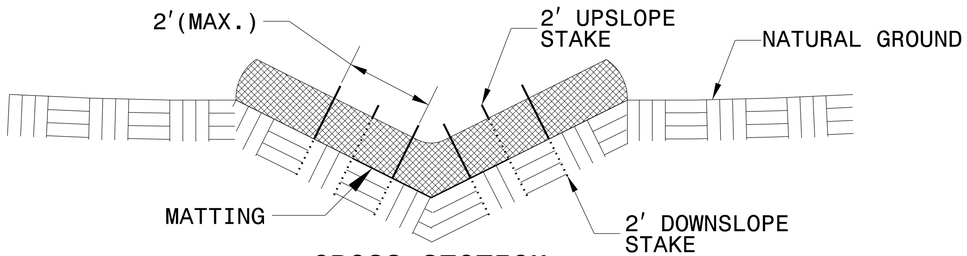
SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.92	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

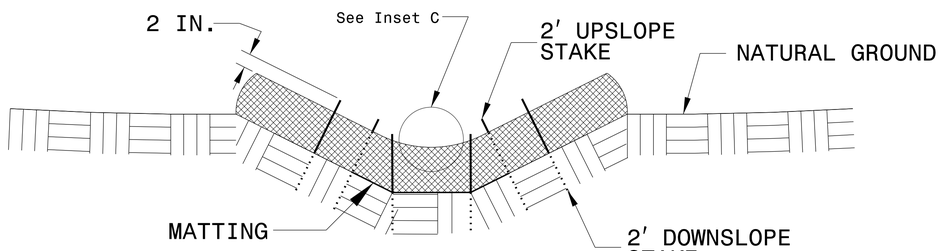
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

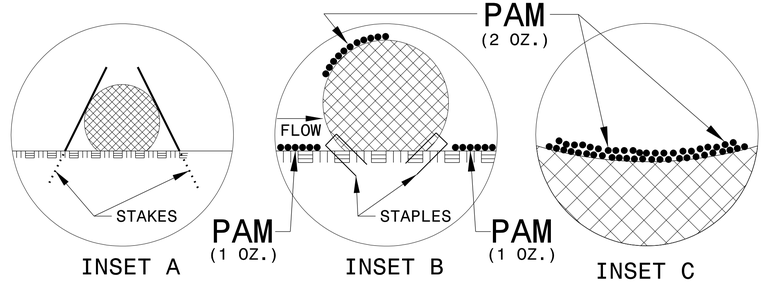
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

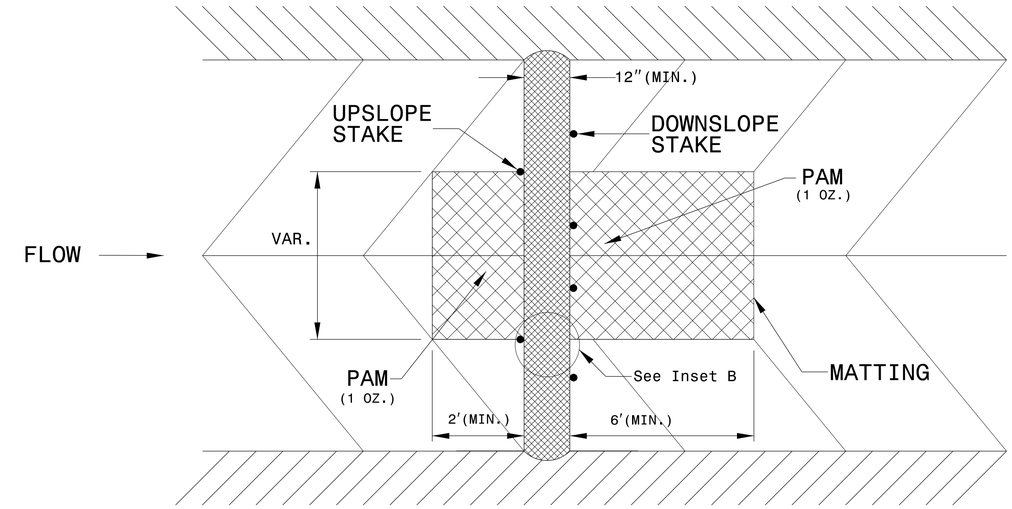
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.
17BP.2.R.92	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.

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L- DITCH	11+00	13+22	LT	155
4	-L- DITCH	11+50	12+76	RT	220
4	-L- DITCH	15+00	15+50	LT	35
4	-L- DITCH	14+36	15+25	RT	125
			SUBTOTAL		535
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					300
			TOTAL		835
			SAY		850

SOIL STABILIZATION SUMMARY SHEET

COIR FIBER MATTING FOR EROSION CONTROL

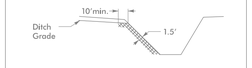
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L- DITCH	12+76	13+15	RT	40
4	-L- DITCH	14+25	14+36	RT	15
4	-L- DITCH	13+22	13+39	LT	20
			SUBTOTAL		75
			TOTAL		75
			SAY		100

8/17/99

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

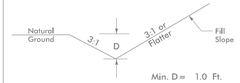
DETAIL 1
RIP-RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= Class 'I' Rip-Rap

FROM –L– STA. 13+38 TO STA. 13+86 LT
FROM –L– STA. 13+15 TO STA. 13+48 RT
FROM –L– STA. 14+09 TO STA. 14+42 LT
FROM –L– STA. 13+67 TO STA. 14+25 RT

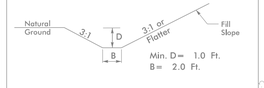
DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0 Ft.

FROM –L– STA. 11+00 TO STA. 12+75 LT
FROM –L– STA. 11+50 TO STA. 12+75 RT
FROM –L– STA. 14+20 TO STA. 15+50 LT
FROM –L– STA. 14+50 TO STA. 15+25 RT

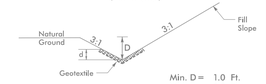
DETAIL 3
SPECIAL LATERAL BASE DITCH
(Not to Scale)



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

FROM –L– STA. 12+75 TO STA. 13+64 LT
FROM –L– STA. 12+75 TO STA. 13+31 RT
FROM –L– STA. 14+00 TO STA. 14+50 RT

DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



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

Type of Liner= Class 'B' Rip-Rap

FROM –DRV– STA. 10+26 TO STA. 10+50 LT
FROM –DRV– STA. 10+23 TO STA. 10+50 RT

NAD 83/NSRS 2007

PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.92	EC-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH ST. STE. 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

BEGIN STATE PROJECT 17BP.2.R.92
–L– POT Sta. 10+65.00

END STATE PROJECT 17BP.2.R.92
–L– POT Sta. 16+61.00

1
YARDLEY LAMONT MORNING
DB 2996 PG 08
MB 22 PG 197

3
ANDRES CASTILLO HELAREZ
DB 3302 PG 856

4
MARY HARRIS ATKINSON HEIRS
GN/F

2
BARNHILL CONTRACTING COMPANY
DB 3414 PG 487

5
JEFFREY TEEL &
LORI BROWN HARRIS
DB 3054 PG 711

E R LEWIS CONS CO INC
DB 2019 PG 565

–L– PC Sta. 13+27.52
–L– PT Sta. 15+44.75
–L– POT Sta.12+28.29 = –DRV– POT Sta. 10+00.00
–DRV– PC Sta. 10+23.00
–DRV– PRC Sta. 10+68.31
–DRV– POC Sta. 11+00.00
END CONSTRUCTION
–DRV– PT Sta. 11+47.78
–DRV– POT Sta. 11+69.75

SPEC. LAT. 'V' DITCH SEE DETAIL 2
SPEC. LAT. BASE DITCH SEE DETAIL 3
CLASS 'B' RIP-RAP EST. 2 TONS GEOTEXTILE EST. 7 SY
18" RCP-IV
DO NOT DISTURB CONC. PAD
END SBG 13+33.22
RIP-RAP AT EMBANKMENT SEE DETAIL 1 CLASS 'I' RIP-RAP EST. 30 TONS GEOTEXTILE EST. 60 SY
CLASS II RIP-RAP STRUCTURE PAY ITEM
RIP-RAP AT EMBANKMENT SEE DETAIL 1 CLASS 'I' RIP-RAP EST. 20 TONS GEOTEXTILE EST. 40 SY
SPEC. LAT. 'V' DITCH SEE DETAIL 2
SPEC. LAT. 'V' DITCH SEE DETAIL 4 CLASS 'B' RIP-RAP EST. 10 TONS GEOTEXTILE EST. 25 SY
SPEC. LAT. 'V' DITCH SEE DETAIL 4 CLASS 'B' RIP-RAP EST. 5 TONS GEOTEXTILE EST. 15 SY
SPEC. LAT. BASE DITCH SEE DETAIL 3
BEGIN APPROACH SLAB –L– STA 13+23.93
BEGIN BRIDGE –L– STA 13+34.63
END APPROACH SLAB –L– STA 14+33.07
END BRIDGE –L– STA 14+22.37
RIP-RAP AT EMBANKMENT SEE DETAIL 1 CLASS 'I' RIP-RAP EST. 20 TONS GEOTEXTILE EST. 40 SY
RIP-RAP AT EMBANKMENT SEE DETAIL 1 CLASS 'I' RIP-RAP EST. 35 TONS GEOTEXTILE EST. 75 SY
BEGIN SBG 13+09.54 18" RCP-IV
END SBG 13+14.63 0406 TB2GI
BEGIN SBG 13+23.23 0406 TB2GI
REMOVE EXISTING BRIDGE
GREU TL-3
2' FDPS
100' TAPER
RETAIN 15" RCP
REMOVE 18" RCP
REMOVE 15" RCP
REMOVE 18" HDPE
RETAIN 18" RCP
N 16° 52' 55.0" W
N 73° 07' 05.0" E
N 16° 03' 07.9" W
S 74° 16' 17.1" E
25' TYP.
15+00
16+00
BZ 1
BZ 2
TB
PDE
TD
E
PUE
CFW
DRAINAGE EASEMENT
JOHNSON MILL RUN
SCATTERED TREES
WOODS
ISFD
SHED
BMIO

–L–

PI Sta 14+36.14	
△ = 0° 49' 47.1" (RT)	
D = 0° 22' 55.1"	
L = 217.23'	
T = 108.62'	
R = 15,000.00'	
SE = NC	

–DRV–

PI Sta 10+46.80	PI Sta 11+15.09
△ = 43° 16' 17.6" (LT)	△ = 75° 52' 55.5" (RT)
D = 95° 29' 34.7"	D = 95° 29' 34.7"
L = 45.31'	L = 79.46'
T = 23.80'	T = 46.78'
R = 60.00'	R = 60.00'
SE = NC	SE = NC

FOR –L– & –DRV– PROFILES SEE SHEET 05

10/22/2019
X:\NCDOT\18-4788\Drainage\Erosion Control\18-4788_EC_psh_04.dgn
User:bhenegar


PROJECT REFERENCE NO. 17BP.2.R.92
SHEET NO. EC-5
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
TGS ENGINEERS
706 HILLSBOROUGH ST. STE. 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275
NAD 83/NSRS 2007
DETAIL 1
RIP-RAP AT EMBANKMENT
(Not to Scale)
Ditch Grade
10'min.
1.5'
Type of Liner= Class 'I' Rip-Rap
FROM -L- STA. 13+38 TO STA. 13+86 LT
FROM -L- STA. 13+15 TO STA. 13+48 RT
FROM -L- STA. 14+09 TO STA. 14+42 LT
FROM -L- STA. 13+67 TO STA. 14+25 RT
DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
3:1
D
3:1 or Flatter
Fill Slope
Min. D= 1.0 Ft.
FROM -L- STA. 11+00 TO STA. 12+75 LT
FROM -L- STA. 11+50 TO STA. 12+75 RT
FROM -L- STA. 14+20 TO STA. 15+50 LT
FROM -L- STA. 14+50 TO STA. 15+25 RT
DETAIL 3
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground
3:1
D
B
3:1 or Flatter
Fill Slope
Min. D= 1.0 Ft.
B= 2.0 Ft.
FROM -L- STA. 12+75 TO STA. 13+64 LT
FROM -L- STA. 12+75 TO STA. 13+31 RT
FROM -L- STA. 14+00 TO STA. 14+50 RT
DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
3:1
D
d
Geotextile
3:1
Fill Slope
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM -DRV- STA. 10+26 TO STA. 10+50 LT
FROM -DRV- STA. 10+23 TO STA. 10+50 RT
BEGIN STATE PROJECT 17BP.2.R.92
-L- POT Sta. 10+65.00
END STATE PROJECT 17BP.2.R.92
-L- POT Sta. 16+61.00
1
YARDLEY LAMONT MORNING
DB 2996 PG 08
MB 22 PG 197
3
ANDRES CASTILLO HELAREZ
DB 3302 PG 856
4
MARY HARRIS ATKINSON HEIRS
N/F
2
BARNHILL CONTRACTING COMPANY
DB 3414 PG 487
5
JEFFREY TEEL & LORI BROWN HARRIS
DB 3054 PG 711
E R LEWIS CONS CO INC
DB 2019 PG 565
-L- PC Sta. 13+27.52
-L- PT Sta. 15+44.75
-L- POT Sta.12+28.29 =
-DRV- POT Sta. 10+00.00
SPEC. LAT. BASE DITCH SEE DETAIL 3
CLASS 'B' RIP-RAP EST. 2 TONS GEOTEXTILE EST. 7 SY
18" RCP-IV
DO NOT DISTURB CONC. PAD
SHED
ISFD
WOODS
SCATTERED TREES
JOHNSON MILL RUN
DRAINAGE EASEMENT
END SBG 13+33.22
RIP-RAP AT EMBANKMENT SEE DETAIL 1 CLASS 'I' RIP-RAP EST. 30 TONS GEOTEXTILE EST. 60 SY
CLASS II RIP-RAP STRUCTURE PAY ITEM
RIP-RAP AT EMBANKMENT SEE DETAIL 1 CLASS 'I' RIP-RAP EST. 20 TONS GEOTEXTILE EST. 40 SY
SPEC. LAT. 'V' DITCH SEE DETAIL 2
BZ 1
BZ 2
TB
CFW
PDE
PUE
E
C
F
EXIST R/W
15" RCP RETAIN
15" HDPE REMOVE
REMOVE 15" RCP
RETAIN 18" RCP
2' FDPS
FDPS
8:1
GREU TL-3
AT-1
0401
0402
0403
0404
0405
0406
0408
BEGIN SBG 13+09.54
END SBG 13+14.63
TB2GI
BEGIN SBG 13+08.23
N 16° 52' 55.0" W
N 73° 07' 05.0" E
N 16° 03' 07.9" W
15+00
-L-
-DRV-
25' TYP.
100' TAPER
+77.00
+12.00
+16.00
11'
10' CONC
10' SOIL
REMOVE EXISTING BRIDGE
SPEC. LAT. 'V' DITCH SEE DETAIL 4 CLASS 'B' RIP-RAP EST. 10 TONS GEOTEXTILE EST. 25 SY
SPEC. LAT. 'V' DITCH SEE DETAIL 4 CLASS 'B' RIP-RAP EST. 5 TONS GEOTEXTILE EST. 15 SY
-DRV- PC Sta. 10+23.00
-DRV- PRC Sta. 10+68.31
-DRV- POC Sta. 11+00.00
END CONSTRUCTION
-DRV- PT Sta. 11+47.78
-DRV- POT Sta. 11+69.75
S 74°16' 17.1" E
BEGIN APPROACH SLAB -L- STA 13+23.93
BEGIN BRIDGE -L- STA 13+34.63
END BRIDGE -L- STA 14+22.37
END APPROACH SLAB -L- STA 14+33.07
RIP-RAP AT EMBANKMENT SEE DETAIL 1 CLASS 'I' RIP-RAP EST. 20 TONS GEOTEXTILE EST. 40 SY
RIP-RAP AT EMBANKMENT SEE DETAIL 1 CLASS 'I' RIP-RAP EST. 35 TONS GEOTEXTILE EST. 75 SY
BM10
-L-
PI Sta 14+36.14
Δ = 0° 49' 47.1" (RT)
D = 0° 22' 55.1"
L = 217.23'
T = 108.62'
R = 15,000.00'
SE = NC
-DRV-
PI Sta 10+46.80
Δ = 43° 16' 17.6" (LT)
D = 95° 29' 34.7"
L = 45.31'
T = 23.80'
R = 60.00'
SE = NC
PI Sta 11+15.09
Δ = 75° 52' 55.5" (RT)
D = 95° 29' 34.7"
L = 79.46'
T = 46.78'
R = 60.00'
SE = NC
SEE EC-3 FOR MATTING SUMMARY
FOR -L- & -DRV- PROFILES SEE SHEET 05
REVISIONS
8/17/99
10/22/2019
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