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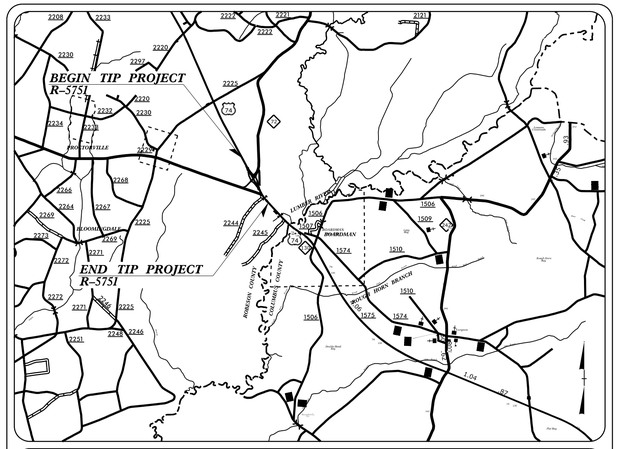
TIP PROJECT: R-5751



VICINITY MAP
NOT TO SCALE

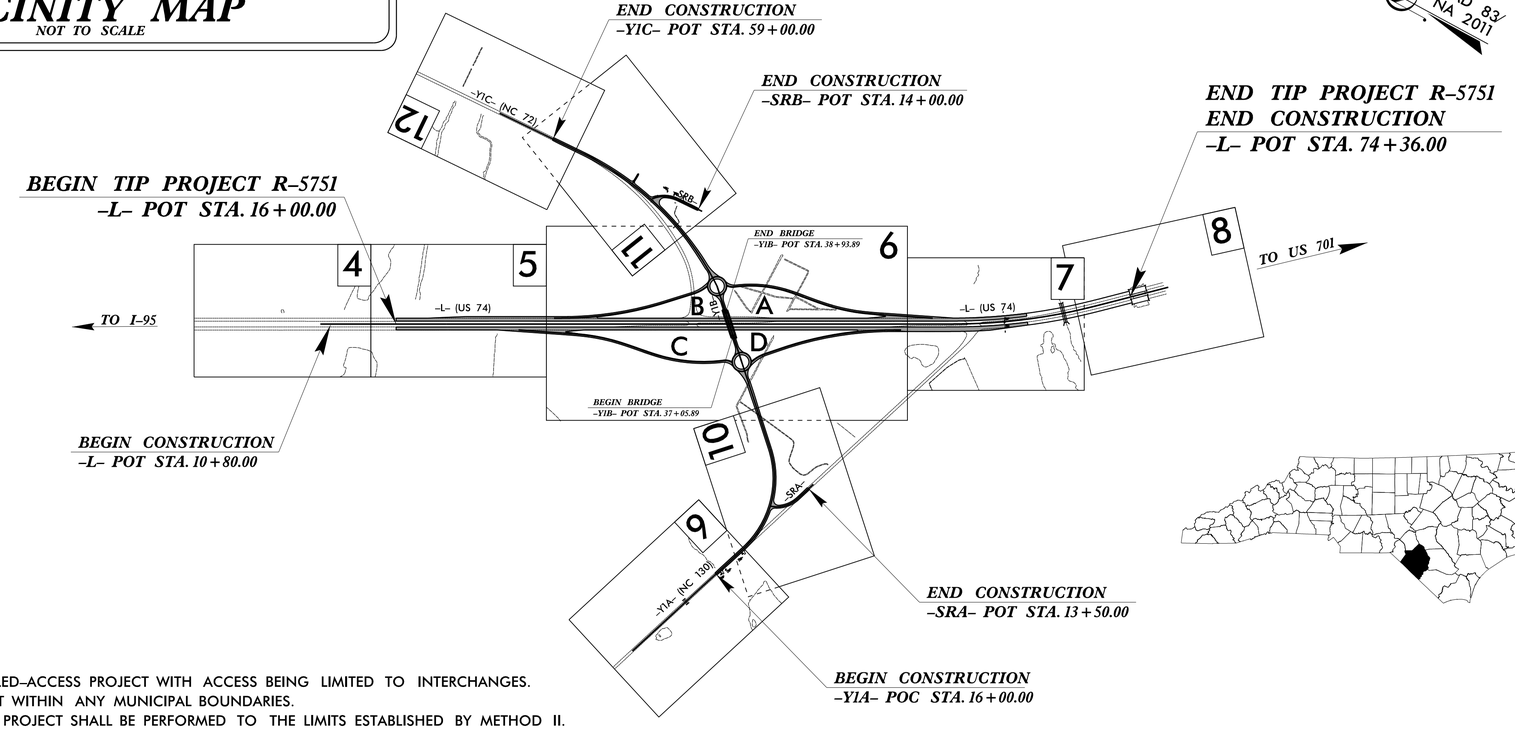
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

ROBESON COUNTY

LOCATION: US 74 AT NC 72 /NC 130
CONVERT INTERSECTION TO INTERCHANGE

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE



NAD 83/NA 2011

THIS IS A CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5751	EC-1	25

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

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

50 25 0 50 100
PLANS

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

RS&H

Prepared In the Office of:

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

Designed by:

COLE BENJAMIN, P.E. ***3977***
NAME *LEVEL III CERTIFICATION NO.*

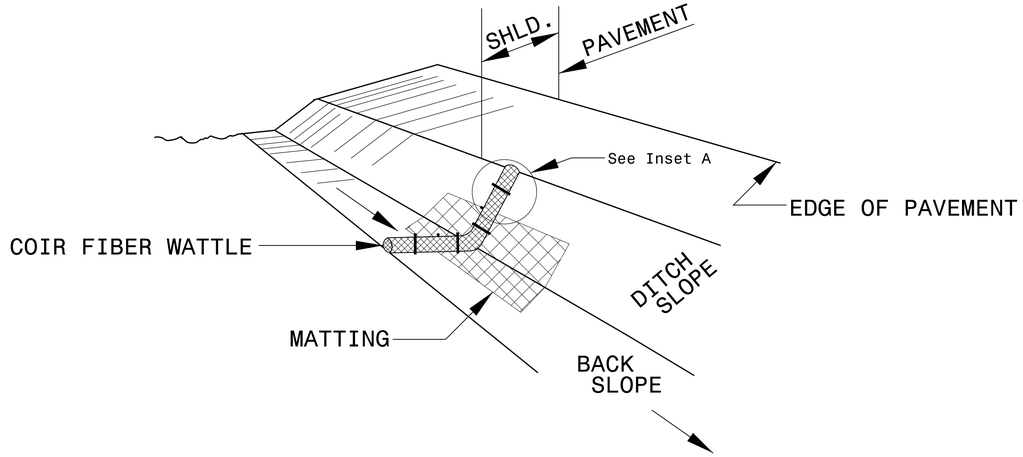
Roadway Standard Drawings

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

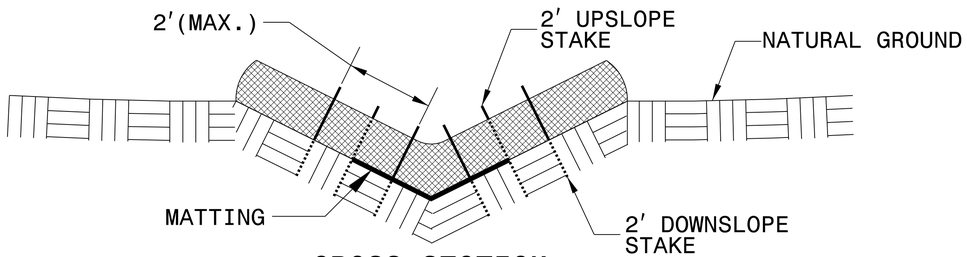
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type 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.
R-5751	EC-2

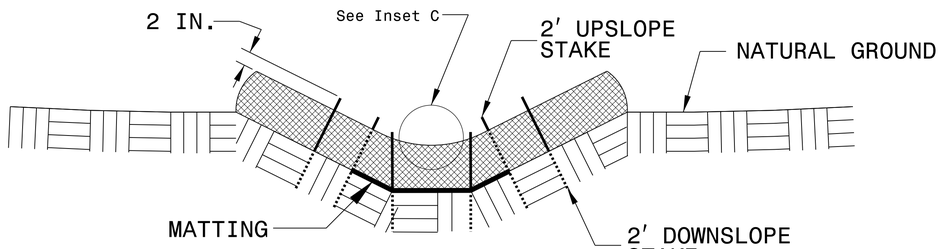
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

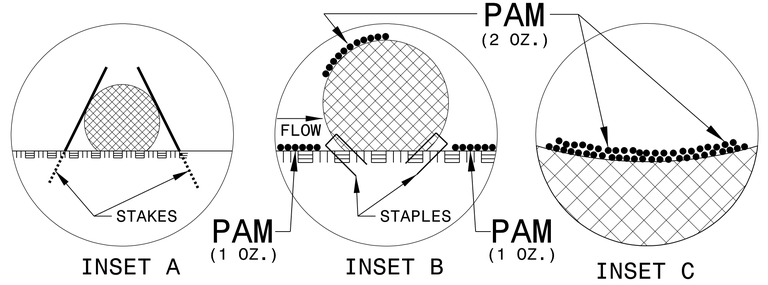
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

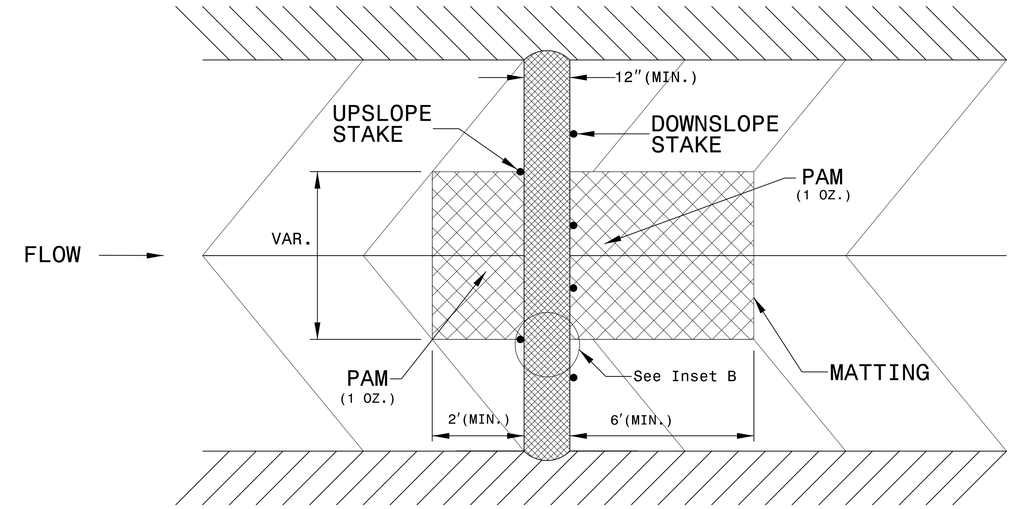
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.

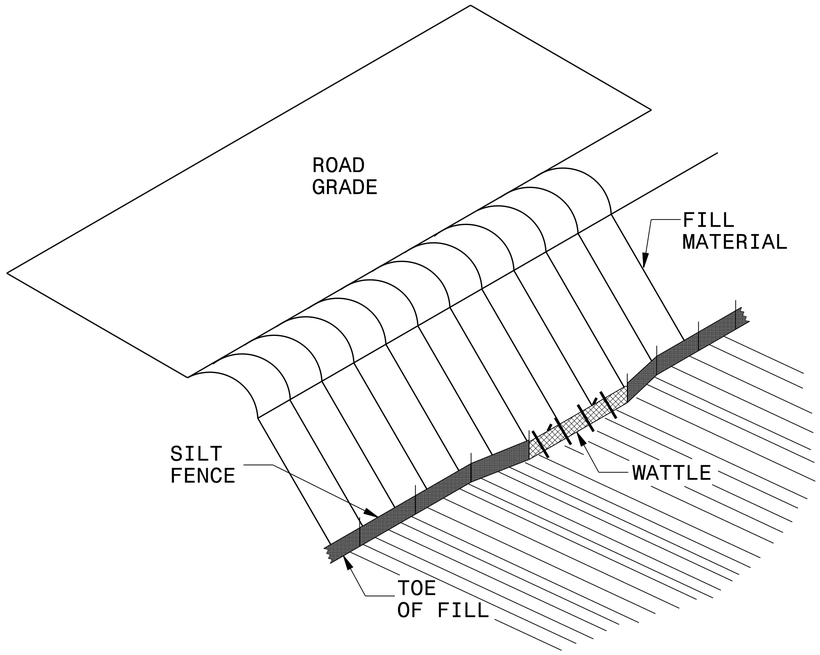




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-2A

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW

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.

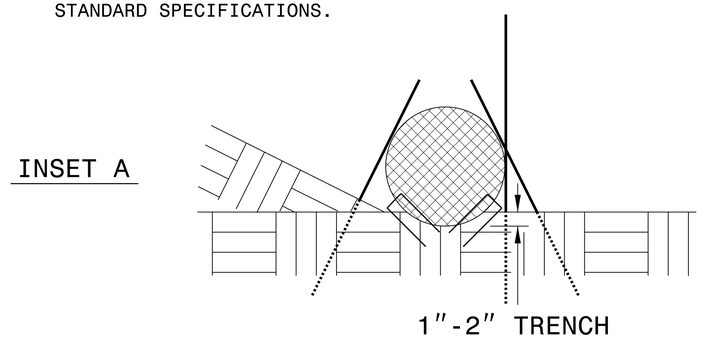
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

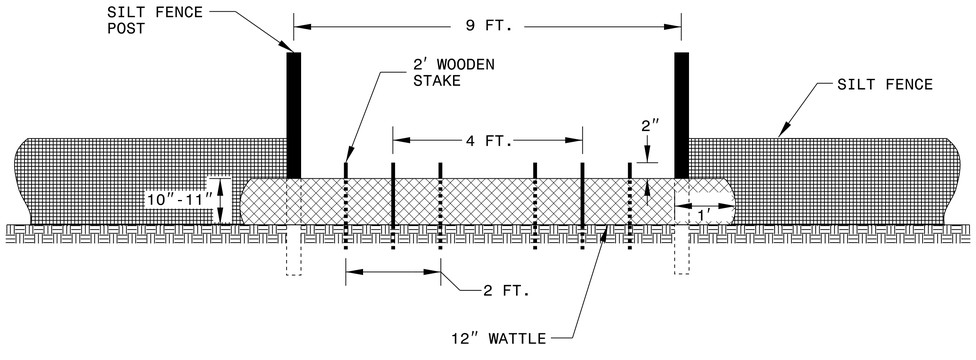
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

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

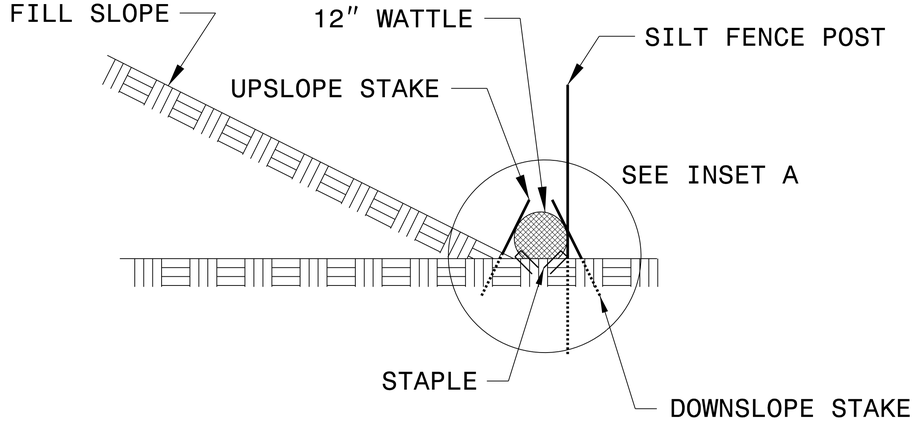
WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

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





VIEW FROM SLOPE



SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-2B

BORROW PIT DEWATERING BASIN DETAIL

GENERAL NOTES:

DETERMINE BORROW PIT DEWATERING BASIN SIZE USING V = 8.0203 * Q * T, WHERE V IS VOLUME (FT^3), Q IS PUMP FLOW RATE (GPM), AND T IS DEWATERING TIME (HR). USE MAXIMUM FLOW RATE OF 1000 GPM AND A MINIMUM DEWATERING TIME OF 2 HOURS.

RISER SHALL BE A NON-PERFORATED, SMOOTH OR CORRUGATED MATERIAL WITH A FLASHBOARD OPTION.

CONSTRUCT THE COIR FIBER BAFFLE IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1640.01 AND WITH MATERIAL THAT MEETS THE SPECIFICATIONS OF ROADWAY STANDARD 1640-14.

PROVIDE 5′ STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 3′ OF THE POST APPEARING ABOVE THE GROUND.

ATTACH THE COIR FIBER MAT TO THE STEEL POSTS WITH WIRE OR OTHER ACCEPTABLE MEANS AND STAPLED INTO THE BOTTOM AND SIDE SLOPES OF THE BASIN WITH 12″ STAPLES.

INSTALL TYPE 2 GEOTEXTILE ON SIDESLOPES AND BOTTOM OF BASIN AT INLET AS SHOWN IN THE DETAIL.

USE THE TYPICAL SECTION SHOWN FOR THE BORROW PIT DEWATERING BASIN AS A GUIDE. THE BASIN MAY HAVE ANY TYPE CONFIGURATION AS LONG AS SUFFICIENT VOLUME IS PROVIDED AND PROVISIONS ARE MADE FOR A NON-PERFORATED RISER.

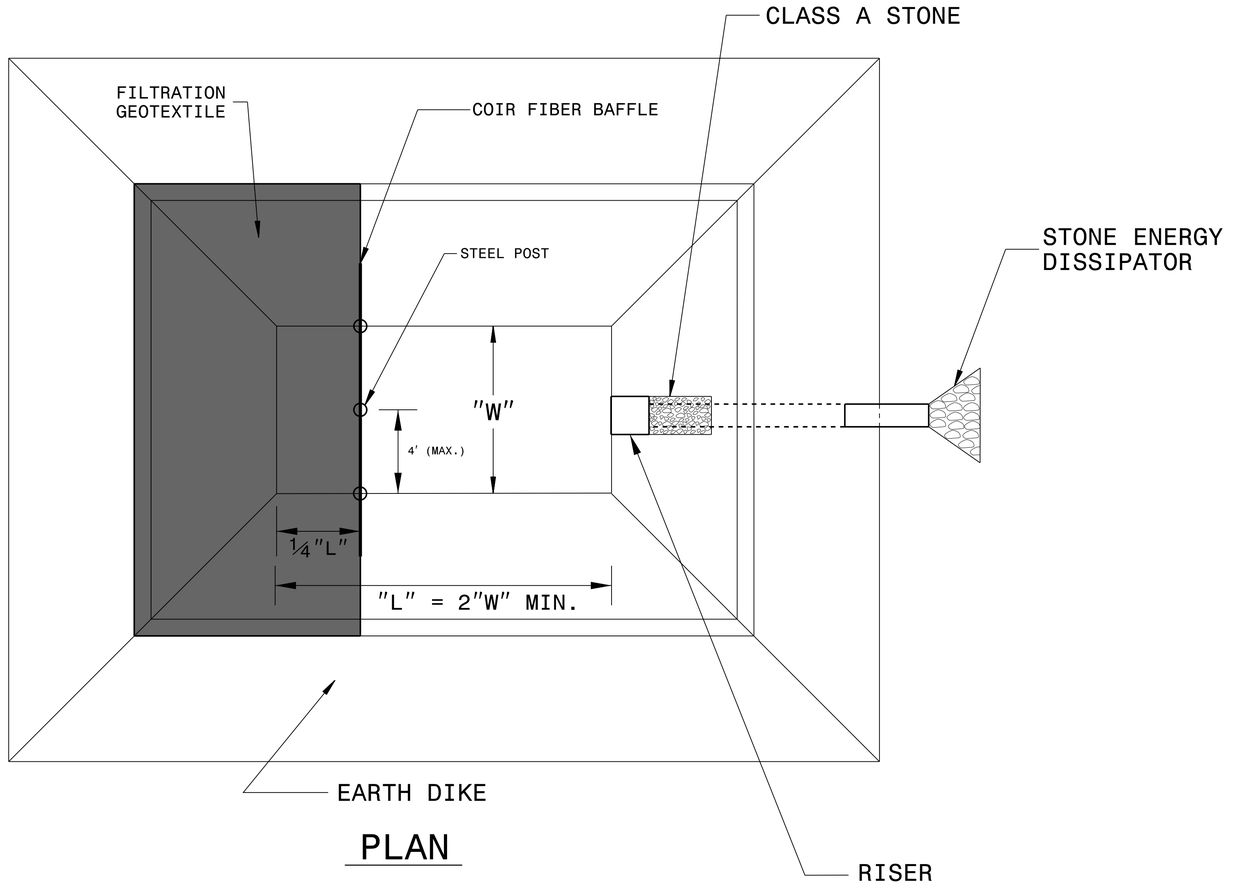
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

THE BORROW PIT DEWATERING BASIN SIZE IS VARIABLE AND DEPENDENT ON SPECIFIC SITE REQUIREMENTS AS WELL AS PROPOSED CONSTRUCTION OPERATIONS.

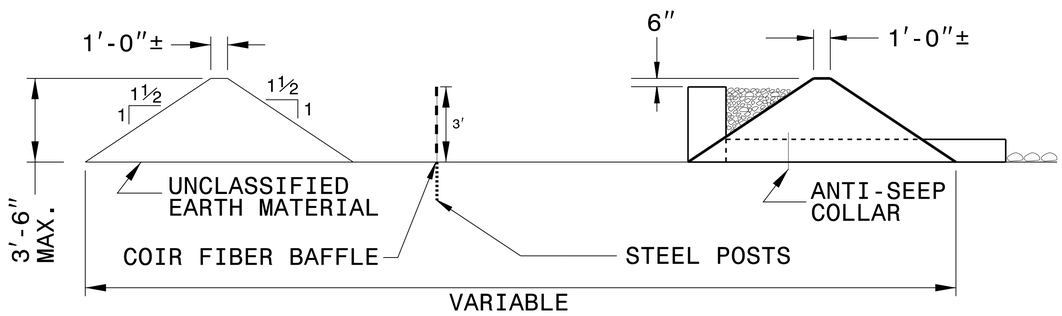
SUBMIT THE SIZE, LOCATION AND RISER PIPE MATERIAL FOR APPROVAL PRIOR TO CONSTRUCTION.

PUMP THE EFFLUENT INTO THE BORROW PIT DEWATERING BASIN TO A MAXIMUM DEPTH OF 6 IN. BELOW TOP OF EARTH DIKE.

PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.



PLAN

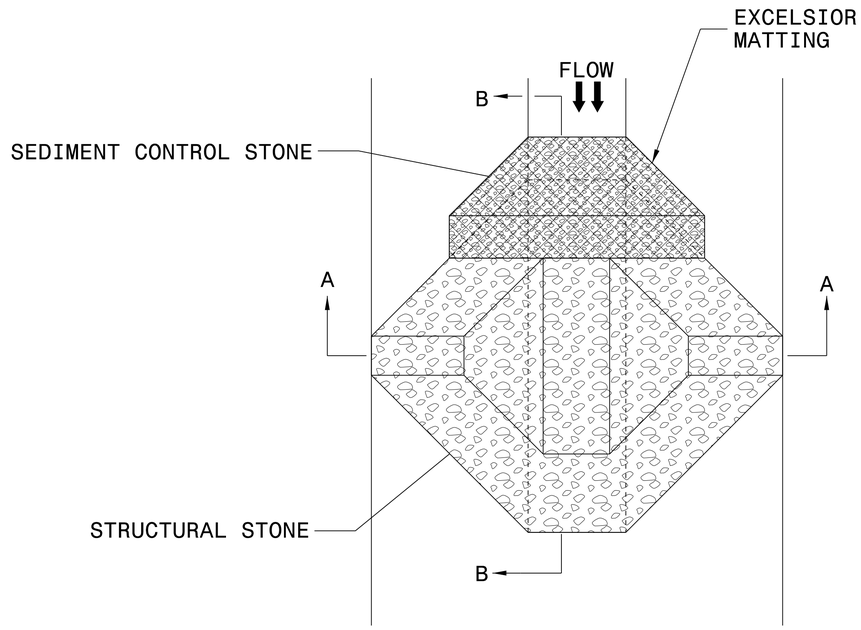


TYPICAL SECTION VIEW

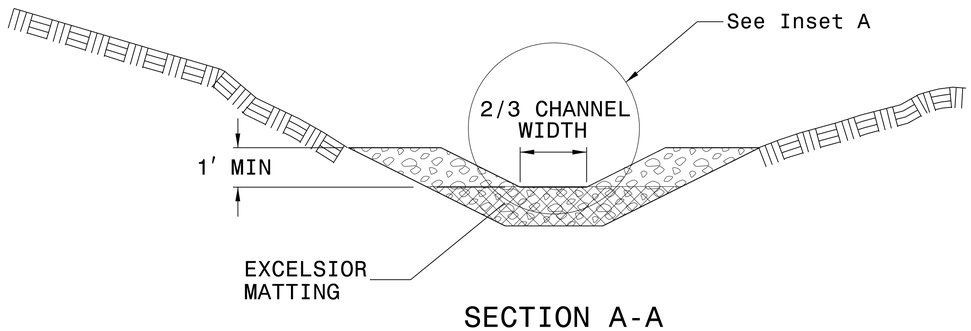
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-2C

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



PLAN



SECTION A-A

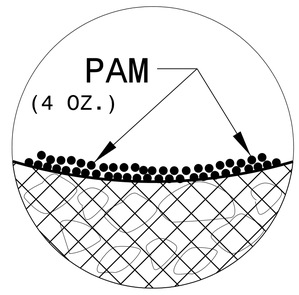
NOTES:

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

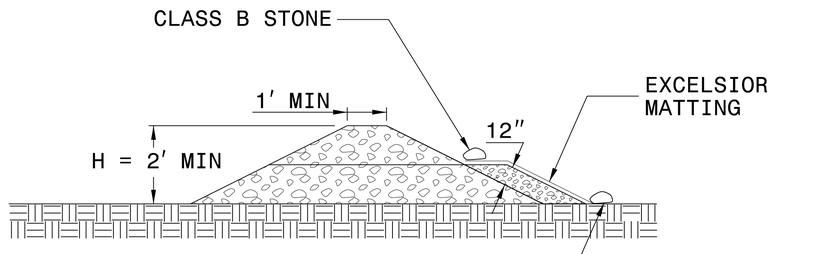
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

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-	40+90	41+50	MED	70
6	-Y1A-	31+00	33+40	RT	495
6	-RAB-	13+58	14+00	RT	80
6	-RAB-	14+00	14+15	RT	15
6	-Y1RPA-	15+00	17+00	RT	380
6	-Y1RPA-	17+00	19+50	RT	430
6	-Y1RPA-	19+50	20+91	RT	200
7	-L-	61+00	63+00	MED	225
7	-L-	63+00	63+50	MED	60
7	-L-	63+50	64+00	MED	60
7	-L-	64+00	64+50	MED	60
7	-L-	64+50	65+00	MED	60
7	-L-	65+00	65+50	MED	60
7	-L-	65+50	66+00	MED	60
7	-L-	66+00	66+50	MED	60
7	-L-	66+50	68+00	MED	170
9	-Y1A-	16+00	19+00	LT	620
9	-Y1A-	18+50	18+62	RT	15
10	-Y1A-	19+00	27+00	LT	1645
10	-Y1A-	25+00	27+00	RT	415
10	-Y1A-	27+00	31+00	RT	825
11	-SRB-	11+54	13+00	RT	135
				SUBTOTAL	6140
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					110320
				TOTAL	116460
				SAY	116500

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-3A

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.
R-5751	EC-4/CONST.4

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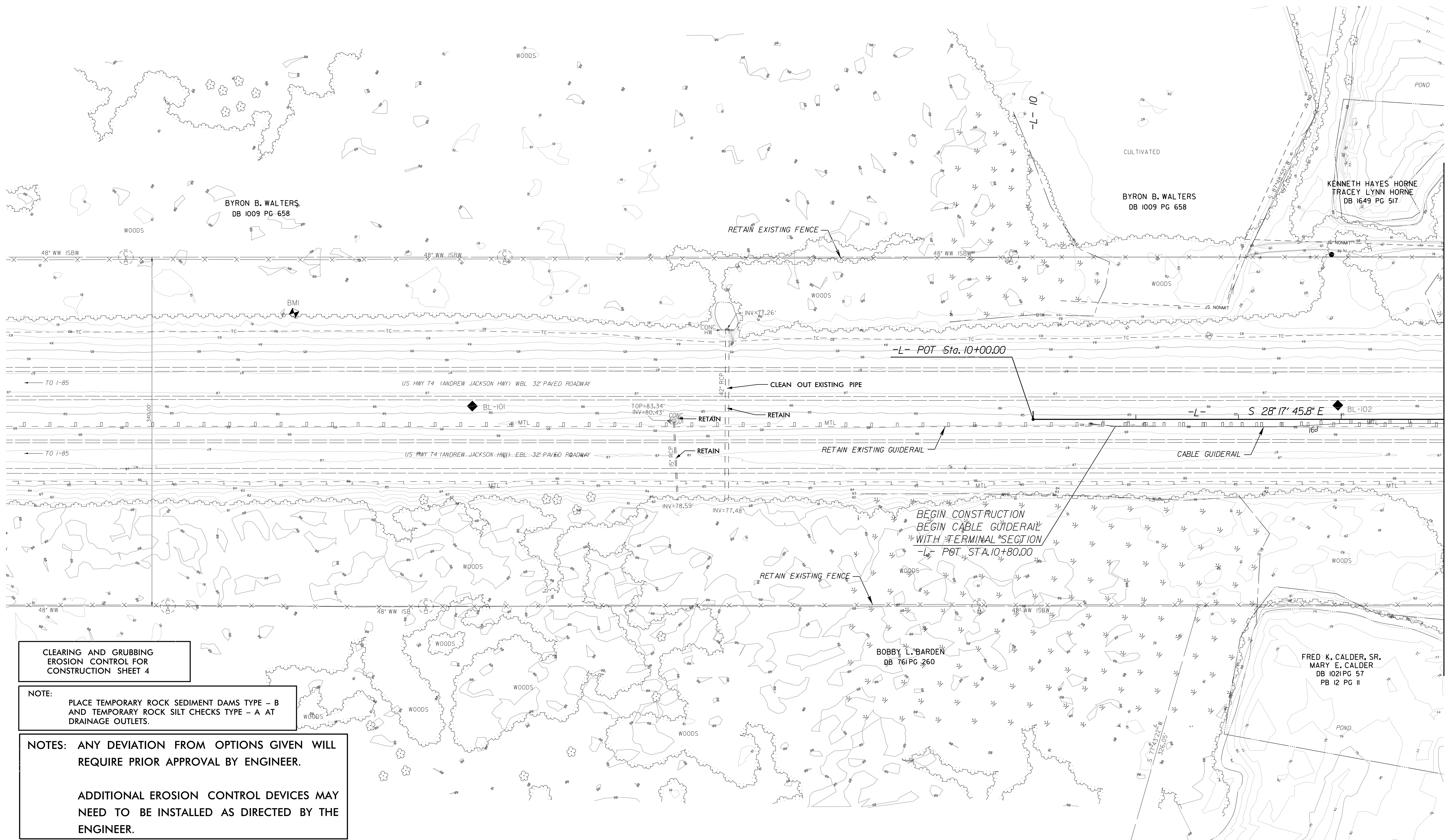
RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

REVISIONS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-5/CONST.5

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

REVISIONS 8/17/99

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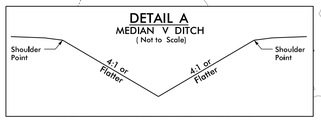
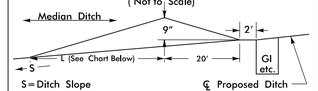
DETAIL A
MEDIAN 'V' DITCH
(Not to Scale)



FROM -L- STA. 19+50 TO STA. 28+00

DETAIL C
FALSE SUMP
(Not to Scale)



S = Ditch Slope ℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

STA. 15+87 CL

MATCHLINE SHEET 4 -L- STA. 14+00.00

MATCHLINE SHEET 6 -L- STA. 28+00.00
-Y1RPC- STA. 12+30.00

KENNETH HAYES HORNE
TRACEY LYNN HORNE
DB 1649 PG 517

KENNETH HAYES HORNE
DB 1582 PG 124

WILLIAM H. STEPHENS
DB 2152 PG 883
PB 12 PG 11

FRED K. CALDER, SR.
MARY E. CALDER
DB 1021 PG 57
PB 12 PG 11

BARBARA CALDER CAIN
DB 1683 PG 379

WOODS

-L- 15

-L- 20

-L- 25

RETAIN EXISTING FENCE

EXISTING R/W VARIES

48" WW ISRM

48" WW ISRW (DALAPIDATED)

300' TAPER

700' ACCELERATION LENGTH

USE DETAIL 2C-II FOR 25' CLEAR SPAN

INTERMEDIATE ANCHORAGE SECTION -L- Sta. 26+00.00 (8.00' RT.)

60 x 20 x 3
ID 5.1

40 x 20 x 3
ID 5.2

40 x 20 x 3
ID 5.3

2@66" WELDED STEEL PIPE

US HWY 74 (ANDREW JACKSON HWY) WBL 32' PAVED ROADWAY

US HWY 74 (ANDREW JACKSON HWY) EBL 32' PAVED ROADWAY

S 28° 17' 45.8" E

S 24° 17' 45.9" E -Y1RPC-

REMOVE EXISTING GUIDERAIL

CABLE GUIDERAIL

RETAIN

RETAIN EXISTING GUARDRAIL

REMOVE EXISTING GUARDRAIL

60' (TYP.)

MEDIAN 'V' DITCH SEE DETAIL A

EST 1 TON CL "B" RIP RAP
EST 5 SY GEOTEXTILE

BEGIN TIP PROJECT R-5751
BEGIN INSIDE AND OUTSIDE WIDENING
BEGIN PROPOSED GRADE
-L- POT Sta. 16+00.00

-Y1RPC- POT Sta. 10+00.00 =
-L- POT Sta. 25+70.00 (47.00' RT.)

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5

NOTE: UTILIZE IMPERVIOUS DIKES AS NEEDED DURING THE INSTALLATION OF 2 @ 66" WSP.

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

REVISIONS

-YIRPA- CURVE DATA

PIs Sta 15+26.71	PI Sta 16+98.31	PIs Sta 18+76.38
Θs = 4° 15′ 30.5″	Δ = 7° 36′ 02.2″ (RT)	Θs = 4° 38′ 44.2″
Ls = 220.00′	D = 3° 52′ 16.8″	Ls = 240.00′
LT = 146.71′	L = 196.33′	LT = 160.06′
ST = 73.37′	T = 98.31′	ST = 80.05′
	R = 1,480.00′	
	SE = .08	
	RO = SEE PLANS	
	DS = 65 MPH	

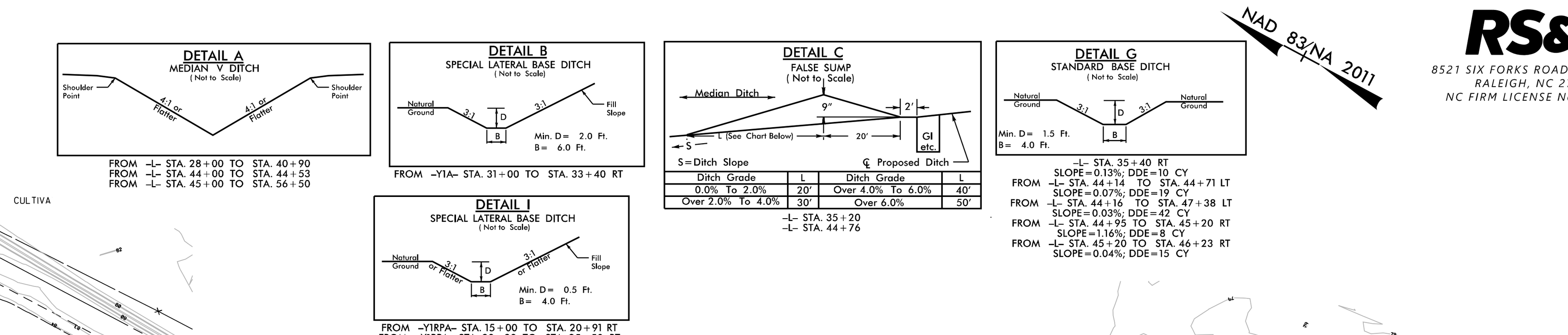
PIs Sta 21+56.38	PI Sta 24+12.62	PI Sta 26+36.96
Θs = 5° 20′ 37.1″	Δ = 22° 59′ 42.9″ (LT)	Δ = 38° 17′ 54.5″ (RT)
Ls = 180.00′	D = 5° 56′ 14.6″	D = 59° 40′ 59.2″
LT = 120.05′	L = 387.30′	L = 64.17′
ST = 60.05′	T = 196.29′	T = 33.34′
	R = 965.00′	R = 96.00′
	SE = .06	
	RO = SEE PLANS	
	DS = 40 MPH	

-YIRPB- CURVE DATA

PIs Sta 10+93.34	PI Sta 15+17.53	PI Sta 21+96.32
Θs = 1° 28′ 47.9″	Δ = 15° 51′ 42.1″ (LT)	Δ = 24° 22′ 00.9″ (LT)
Ls = 140.00′	D = 2° 06′ 51.2″	D = 19° 21′ 24.1″
LT = 93.34′	L = 750.23′	L = 125.88′
ST = 46.67′	T = 377.53′	T = 63.91′
	R = 2,710.00′	R = 296.00′
	SE = .06	
	RO = SEE PLANS	
	DS = 65 MPH	

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-6/CONST.6

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20′	Over 4.0% To 6.0%	40′
Over 2.0% To 4.0%	30′	Over 6.0%	50′

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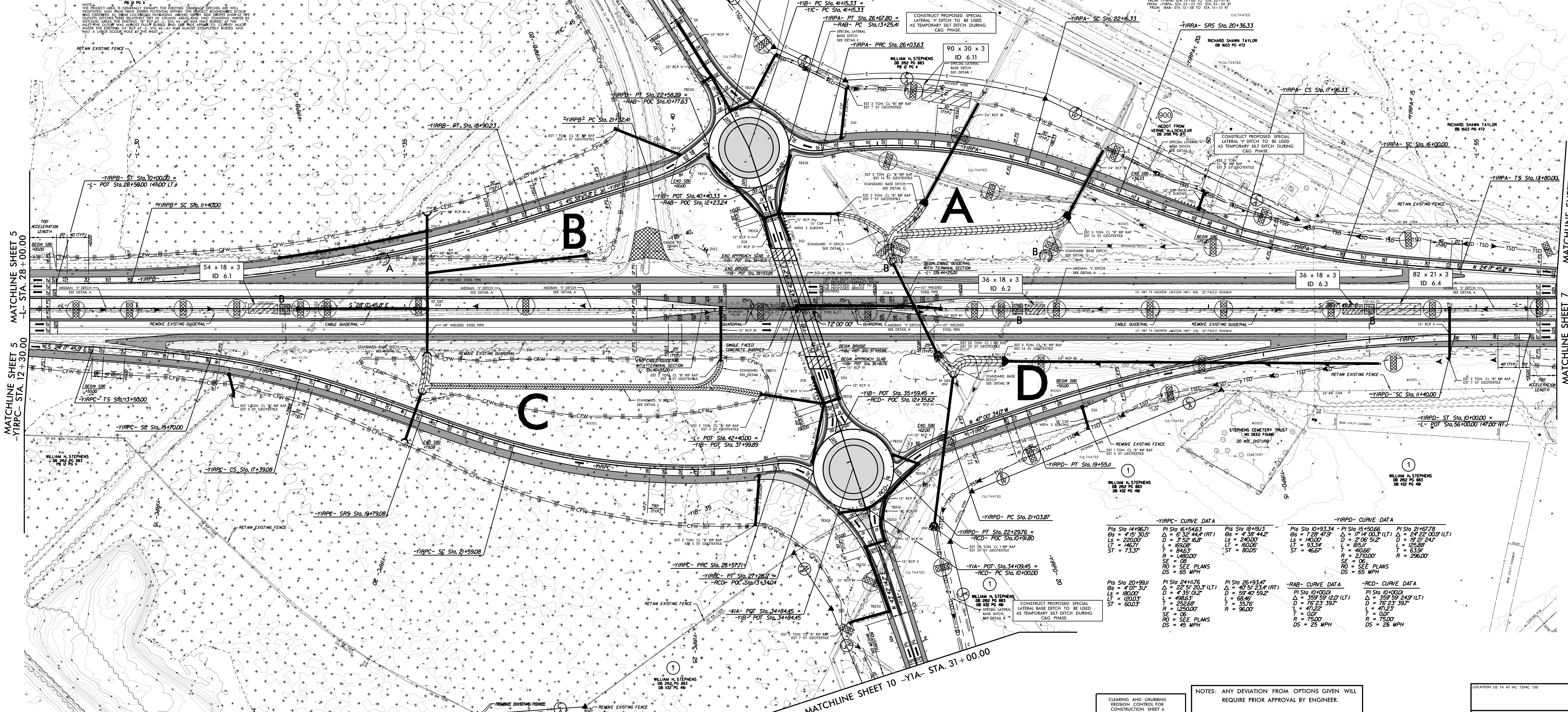

-Y1RPC- CURVE DATA

PIs Sta 14+96.71	PI Sta 16+54.63	PIs Sta 18+19.13
Θs = 4° 15′ 30.5″	Δ = 6° 32′ 44.4″ (RT)	Θs = 4° 38′ 44.2″
Ls = 220.00′	D = 3° 52′ 16.8″	Ls = 240.00′
LT = 146.71′	L = 169.08′	LT = 160.06′
ST = 73.37′	T = 84.63′	ST = 80.05′
	R = 1,480.00′	
	SE = .08	
	RO = SEE PLANS	
	DS = 65 MPH	

PIs Sta 20+99.11	PI Sta 24+11.76	PI Sta 26+93.47
Θs = 4° 07′ 31.1″	Δ = 22° 51′ 20.3″ (LT)	Δ = 40° 51′ 23.4″ (RT)
Ls = 180.00′	D = 4° 35′ 01.2″	D = 59° 40′ 59.2″
LT = 120.03′	L = 498.63′	L = 68.46′
ST = 60.03′	T = 252.68′	T = 35.76′
	R = 1,250.00′	R = 96.00′
	SE = .06	
	RO = SEE PLANS	
	DS = 45 MPH	

-Y1RPD- CURVE DATA

PIs Sta 10+93.34	PI Sta 15+50.66	PI Sta 21+67.78
Θs = 1° 28′ 47.9″	Δ = 17° 14′ 00.3″ (LT)	Δ = 24° 22′ 00.9″ (LT)
Ls = 140.00′	D = 2° 06′ 51.2″	D = 19° 21′ 24.1″
LT = 93.34′	L = 815.11′	L = 125.88′
ST = 46.67′	T = 410.66′	T = 63.91′
	R = 2,710.00′	R = 296.00′
	SE = .06	
	RO = SEE PLANS	
	DS = 65 MPH	

-RAB- CURVE DATA

PI Sta 10+00.01
Δ = 359° 59′ 12.0″ (LT)
D = 76° 23′ 39.7″
L = 471.22′
T = 0.01′
R = 75.00′
DS = 25 MPH

-RCD- CURVE DATA

PI Sta 10+00.01
Δ = 359° 59′ 24.9″ (LT)
D = 76° 23′ 39.7″
L = 471.23′
T = 0.01′
R = 75.00′
DS = 25 MPH

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION: US 74 AT NC 72/NC 130
TIP NO.: R-5751 COUNTY: ROBESON
DESIGNED BY: JMB
CHECKED BY: JMT DATE: 4/1/19

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-7/CONST.7

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

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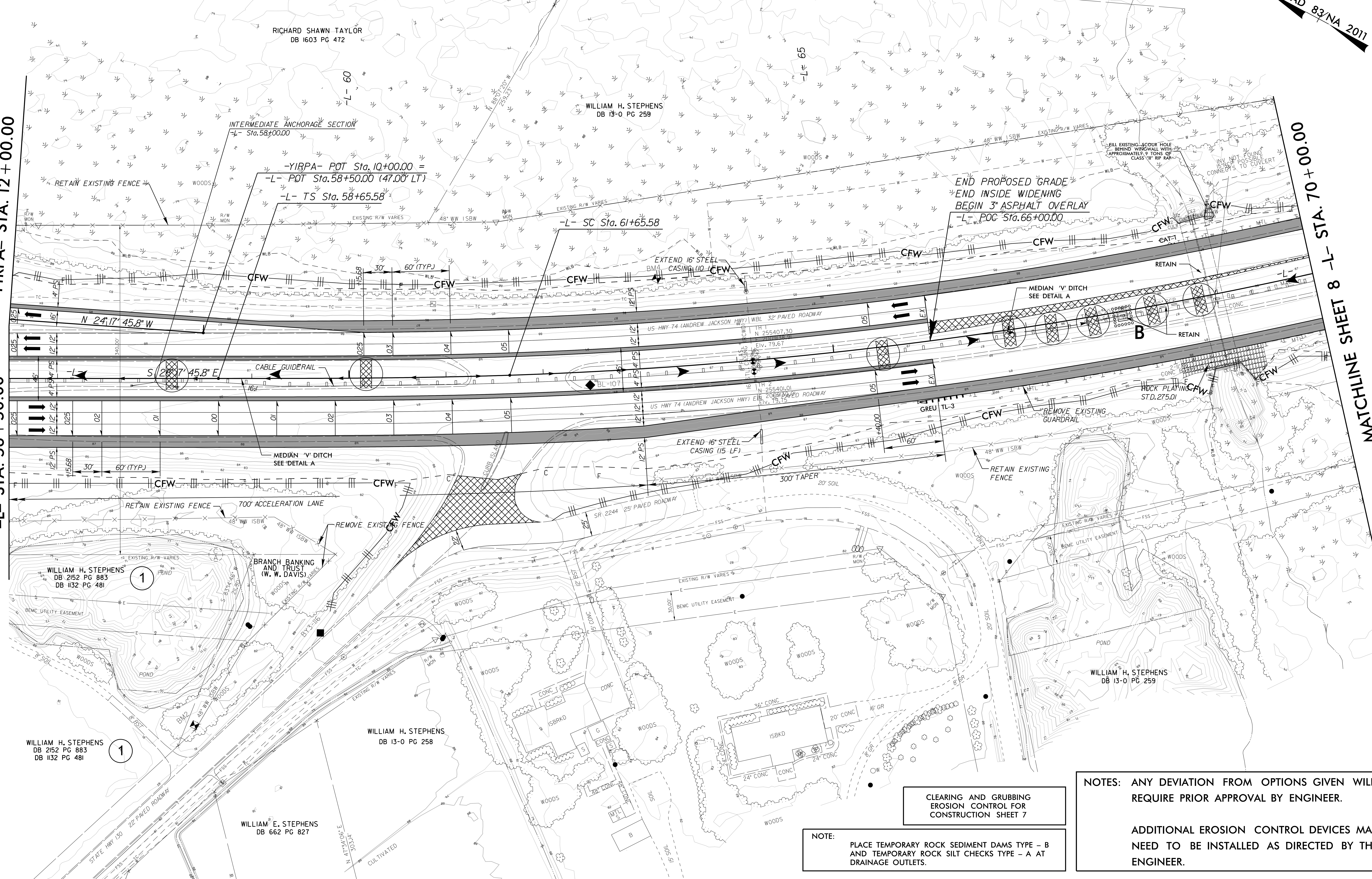
REVISIONS

-L- CURVE DATA

PIs Sta 60+65.59	PI Sta 65+86.83	PIs Sta 71+05.64
Θs = 1° 54′ 35.5″	△ = 10° 41′ 45.2″ (LT)	Θs = 1° 54′ 35.5″
Ls = 300.00′	D = 1° 16′ 23.7″	Ls = 300.00′
LT = 200.01′	L = 840.05′	LT = 200.01′
ST = 100.01′	T = 421.25′	ST = 100.01′
	R = 4,500.00′	
	SE = 05	
	RO = SEE PLANS	

DETAIL A
MEDIAN V DITCH
(Not to Scale)
Shoulder Point — 4:1 or Flatter — 4:1 or Flatter — Shoulder Point

FROM -L- STA. 56+50 TO STA. 63+00
FROM -L- STA. 66+50 TO STA. 68+00



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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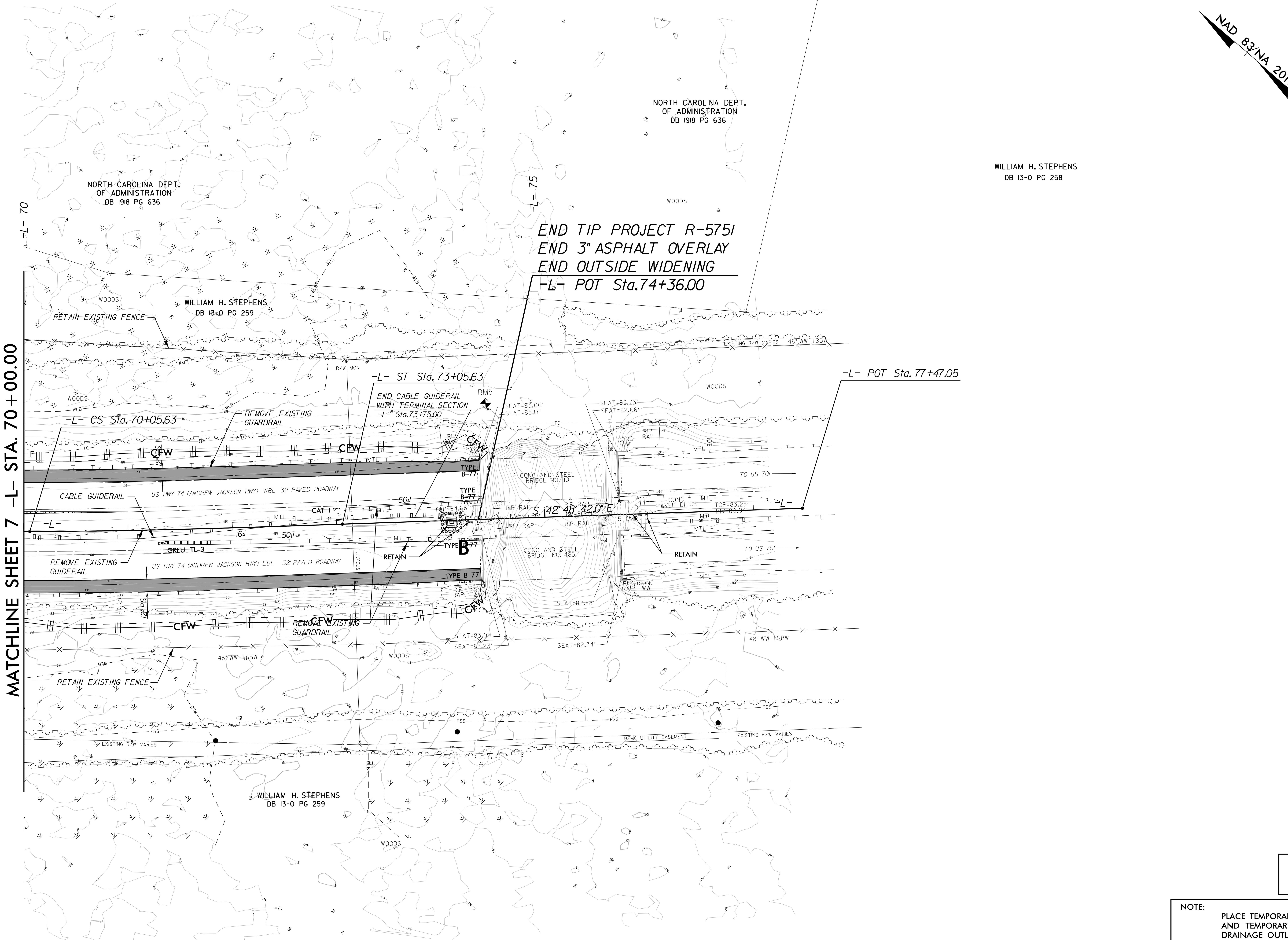
PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-8/CONST.8

RS&H

8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-9/CONST.9

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

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REVISIONS
8/17/99

MATCHLINE SHEET 10 –Y1A– STA. 19+00.00

WILLIAM H. STEPHENS
DB 2152 PG 883
PB 12 PG 11

JULIA F. SMITH
ANNE F. RICH
DB 2082 PG 400

INDIAN LAND FARM XIV, LLC
DB 11798 PG 165
PB 29 PG 139
PB 30 PG 113
PB 11 PG 31

TONY BRITT ET UX
GLADYS MARIE BRITT
DB 649 PG 717

WILLIAM H. STEPHENS
DB 2152 PG 883
DB 1132 PG 481

–Y1A– 10

–Y1A– 15

BEGIN CONSTRUCTION
BEGIN 1.5" ASPHALT OVERLAY
–Y1A– POC Sta. 8+00.00
–Y1A– POT Sta. 7+00.00

–Y1A– PC Sta. 12+09.34

–Y1A– PT Sta. 16+41.16

END 1.5" ASPHALT OVERLAY
BEGIN PROPOSED GRADE
–Y1A– POC Sta. 16+00.00

–Y1A– PC Sta. 18+97.36

SPECIAL LATERAL BASE DITCH
SEE DETAIL C

SPECIAL LATERAL
'V' DITCH
SEE DETAIL H

S 71° 00' 41.0" E

S 70° 49' 50.1" E

STATE HWY 130 22' PAVED ROADWAY

EXISTING R/W

MTL HW

INV=72.99'
(BOTTOM OF PIPE DILAPIDATED)

INV=74.05

INV=73.99' INV=74.00'
95"x67" CMAP

95"x67" CMAP

RETAIN

RETAIN

DO NOT DISTURB HEADWALLS

50' TAPER LT.

50' TAPER RT.

R=20' TYP.

30' (TYP.)

15' (TYP.)

+00.00

+47.00

+10.35

+10.35

N 25643.42
E 20063.26
Elv. 76.15

N 25647.24
E 20063.60
Elv. 75.15

S 18°15'55" W
46.70'

S 16°48'38" E
25.58'

S 71° 00' 41.0" E
24.08'

S 58°54'37" E
45.37'

S 71°00'41" E
45.37'

S 71°00'41" E
46.00'

S 18°55'23" E
24.08'

S 18°55'23" E
46.00'

S 18°55'23" E
25.58'

WOODS

SHALLOW POND

ISFD

36" MD RMV

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9

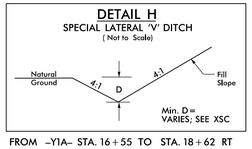
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

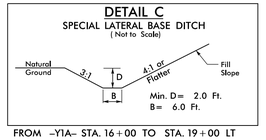
EXISTING 2 @ 95"X67" CMAP APPEARED TO BE IN FAIR CONDITION. THE DILAPEDATED BOTTOM OF THE PIPE COULD NOT BE VERIFIED ON EITHER DATE OF SURVEY DUE TO SIGNIFICANT DEPTH OF WATER IN THE PIPES.

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



FROM –Y1A– STA. 16+55 TO STA. 18+62 RT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



FROM –Y1A– STA. 16+00 TO STA. 19+00 LT

–Y1A– CURVE DATA
PI Sta 14+25.25
△ = 0° 10' 51.0" (RT)
D = 0° 02' 30.7"
L = 431.82'
T = 215.91'
R = 136,828.22'
SE = NC

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-10/CONST.10

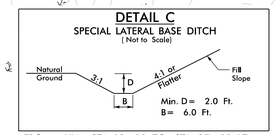
RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

MATCHLINE SHEET 9 -Y1A- STA. 19+00.00

MATCHLINE SHEET 6 -Y1A- STA. 31+00.00

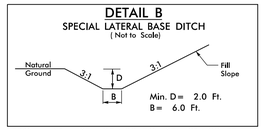
DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
B= 6.0 Ft.

FROM -Y1A- STA. 19+00 TO STA. 27+00 LT

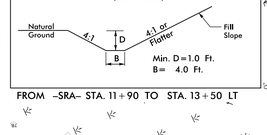
DETAIL B
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D= 2.0 Ft.
B= 6.0 Ft.

FROM -Y1A- STA. 25+00 TO STA. 31+00 RT

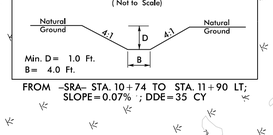
DETAIL E
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D=1.0 Ft.
B= 4.0 Ft.

FROM -SRA- STA. 11+90 TO STA. 13+50 LT

DETAIL F
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.0 Ft.
B= 4.0 Ft.

FROM -SRA- STA. 10+74 TO STA. 11+90 LT;
SLOPE=0.07% ; DDE=35 CY

6
TONY BRITT ET UX
GLADYS MARIE BRITT
DB 649 PG 717

7
MDAYYAD AL-NASRA
DB 1175 PG 361

1
WILLIAM H. STEPHENS
DB 2152 PG 883
DB 1132 PG 481

CULTIVATED

SPECIAL LATERAL BASE DITCH
SEE DETAIL C

-SRA- PC Sta. 10+00.00 =
-Y1A- POC Sta. 23+00.00

CONSTRUCT PROPOSED SPECIAL LATERAL BASE DITCH TO BE USED AS TEMPORARY SILT DITCH DURING C&G PHASE.

EST 14 TON CL 1 RIP RAP
EST 30 SY GEOTEXTILE

EST 15 TON CL 1 RIP RAP
EST 30 SY GEOTEXTILE

SPECIAL LATERAL BASE DITCH
SEE DETAIL C

EST 15 TON CL 1 RIP RAP
EST 30 SY GEOTEXTILE

EST 15 TON CL 1 RIP RAP
EST 30 SY GEOTEXTILE

-Y1A- PT Sta. 27+63.44

STANDARD BASE DITCH
SEE DETAIL F

SPECIAL LATERAL BASE DITCH
SEE DETAIL E

SPECIAL LATERAL BASE DITCH SEE DETAIL B

-SRA- PT Sta. 12+36.47

END CONSTUCTION
-SRA- POT Sta. 13+50.00

-SRA- POT Sta. 14+02.03

CONSTRUCT PROPOSED SPECIAL LATERAL BASE DITCH TO BE USED AS TEMPORARY SILT DITCH DURING C&G PHASE.

CONSTRUCT PROPOSED SPECIAL LATERAL BASE DITCH TO BE USED AS TEMPORARY SILT DITCH DURING C&G PHASE.

WOODS
DRAINAGE DITCH
WOVEN WIRE
CFW
GREU TL-3
HW
TSD
SD
SIDE DRAIN
165' MEDIAN TRANSITION
8' PS
2' PS
STATE HWY 130 22' PAVED ROADWAY
RETAIN
2' SOIL
15' SOIL
60.00'
N 43°42'14.2" E
N 25°36'23" E
362.65'
S 17°01'38.2" E
S 17°55'50" W
35.00'
N 49°31'39" E
35.64'
S 19°37'38" W
45.82'
N 06°06'05" E
138.00'
36" WD RAIL

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 10

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

-SRA- CURVE DATA
PI Sta 11+27.92
Δ = 54° 11' 40.5" (LT)
D = 22° 55' 05.9"
L = 236.47'
T = 127.92'
R = 250.00'
SE = 02
R0 = SEE PLANS

-Y1A- CURVE DATA
PI Sta 23+84.60
Δ = 65° 27' 55.8" (LT)
D = 7° 33' 31.7"
L = 866.08'
T = 487.24'
R = 758.00'
SE = 08
R0 = SEE PLANS
DS = 50 MPH

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-11/CONST.11

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RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

MATCHLINE SHEET 6 -Y1C- STA. 46+00.00

MATCHLINE SHEET 12 -Y1C- STA. 57+00.00

-YIC- PT Sta. 56+37.72

-SRB- PC Sta. 10+00.00 = -YIC- PCO Sta. 49+85.00

-DRI- PC Sta. 10+00.00 = -YIC- POC Sta. 51+78.00

RETAIN EXISTING FENCE

1A WILLIAM H. STEPHENS DB 2152 PG 883 PB 12 PG 11

WILLIAM H. STEPHENS DB 2152 PG 883 PB 12 PG 11

4 WILLIAM H. STEPHENS DB 2152 PG 883 PB 12 PG 11

8 TONY BRITT ET AL DB 2265 PG 165 PB 12 PG 11

TONY BRITT ET AL DB 2265 PG 165 PB 12 PG 11

EST 3 TON CL "B" RIP RAP
EST 11 SY GEOTEXTILE

STATE HWY 72 (WILMINGTON HWY) 24' PAVED ROADWAY

24" RCP III

GREU TL-3

STANDARD BASE DITCH SEE DETAIL K

WOVEN WIRE

CARE TO BE TAKEN AROUND EXISTING WATER LINE WHILE INSTALLING PIPE 1102

SPECIAL LATERAL 'V' DITCH SEE DETAIL H

12" RCP V

-SRB- PT Sta. 12+20.22

END CONSTRUCTION -SRB- POT Sta. 14+00.00

-SRB- POT Sta. 14+33.57

END CONSTRUCTION -DRI- POT Sta. 10+90.00

-DRI- PT Sta. 10+95.78

CONSTRUCT PROPOSED SPECIAL LATERAL 'V' DITCH TO BE USED AS TEMPORARY SILT DITCH DURING C&G PHASE.

CULTIVATED

WOODS

GARDEN

ISFD

2SMTL BARN

MTL BARN

2SFD BARN

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

Natural Ground, 4:1, D, 4:1, Fill Slope
Min. D= 1.0 Ft.

FROM -SRB- STA. 11+54 TO STA. 12+32 LT
FROM -SRB- STA. 12+68 TO STA. 14+00 LT

DETAIL K
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 3:1, d, D, 3:1, Natural Ground, Geotextile, B
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
B= 2.0 Ft.

Type of Liner= CL "B" Rip-Rap
FROM -SRB- STA. 12+07 TO STA. 12+38 RT
EST 21 TON CL "B" RIP RAP
EST 37 SY GEOTEXTILE

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

-YIC- CURVE DATA
PI Sta 49+05.07
△ = 37° 35' 51.9" (LT)
D = 2° 28' 10.7"
L = 1,522.39'
T = 789.74'
R = 2,320.00'
SE = 06
R0 = SEE PLANS
DS = 60 MPH

-SRB- CURVE DATA
PI Sta 11+17.83
△ = 50° 28' 17.2" (RT)
D = 22° 55' 05.9"
L = 220.22'
T = 117.83'
R = 250.00'
SE = 02
R0 = SEE PLANS

-DRI- CURVE DATA
PI Sta 10+47.96
△ = 7° 19' 02.3" (LT)
D = 7° 38' 22.0"
L = 95.78'
T = 47.96'
R = 750.00'
SE = NC

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-12/CONST.12

RS&H

8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

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MATCHLINE SHEET 11 -Y1C- STA. 57+00.00

-Y1C- 60

CULTIVATED

KENNETH HAYES HORNE
DB 1582 PG 124

END CONSTRUCTION
END PROPOSED GRADE
-Y1C- POT Sta. 59+00.00

-Y1C- POT Sta. 63+71.03

KENNETH HAYES HORNE
DB 1582 PG 124

KENNETH HAYES HORNE
TRACEY LYNN HORNE
DB 1649 PG 517

WOODS

30' (TYP.)

+27.72

+70.00

CFW

RETAIN

INV=76.92'
24" RCP

GATE

-Y1C-

N 2° 25' 15.7" W

STATE HWY 72 (WILMINGTON HWY) 24' PAVED ROADWAY

50' TAPER

B

METER BOX

SOIL

ISFD

60' WD

8

TONY BRITT ET AL
DB 2265 PG 165
PB 12 PG 11

9

WANDA CRAWFORD
JERRY D. CRAWFORD
DB 1784 PG 122

DANIEL C. FAULK
SHEARLDIAN FAULK
DB 19N PG 111

ISMTL SHED

MTL CAN

HTR

WD CAN

RODNEY CLEVELAND IVEY
DB 1954 PG 336

DDG PENN

BM 7
SDDDM

INV=76.92'
24" RCP

WESLEY GORDON POWELL
SHARRON HAMMOND POWELL
DB 711 PG 185
PB 32 PG 3

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-13/CONST.4

NAD 83/NA 2011

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

REVISIONS

8/17/99

MATCHLINE SHEET 5 -L- STA. 14+00.00

WOODS
BYRON B. WALTERS
DB 1009 PG 658
WOODS
48" WW ISBW
RETAIN EXISTING FENCE
48" WW ISBW
48" WW ISBW
BMI
TO I-85
US HWY 74 (ANDREW JACKSON HWY) WBL 32' PAVED ROADWAY
BL-101
TOP=83.34'
INV=80.43'
CONC HW
RETAIN
RETAIN
42" RCP
CLEAN OUT EXISTING PIPE
340.00'
MTL
TO I-85
US HWY 74 (ANDREW JACKSON HWY) EBL 32' PAVED ROADWAY
15" RCP
RETAIN
MTL
INV=78.59'
INV=77.48'
WOODS
WOODS
WOODS
WOODS
WOODS
WOODS
48" WW
48" WW ISB
WOODS
INV=77.26'
CONC HW
WOODS
-L- POT Sta. 10+00.00
-L- S 28° 17' 45.8" E
RETAIN EXISTING GUIDERAIL
CABLE GUIDERAIL
BEGIN CONSTRUCTION
BEGIN CABLE GUIDERAIL
WITH TERMINAL SECTION
-L- POT STA. 10+80.00
RETAIN EXISTING FENCE
48" WW ISBW
BOBBY L. BARDEN
DB 761 PG 260
WOODS
WOODS
CULTIVATED
BYRON B. WALTERS
DB 1009 PG 658
-L- 10
POND
KENNETH HAYES HORNE
TRACEY LYNN HORNE
DB 1649 PG 517
15" NONMT
JS NONMT
S 28°28'55" W
JS NONMT
BL-102
MTL
168'
WOODS
FRED K. CALDER, SR.
MARY E. CALDER
DB 1021 PG 57
PB 12 PG 11
POND
S 77°43'32" W
366.05'

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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$$$$USERNAME$$$$

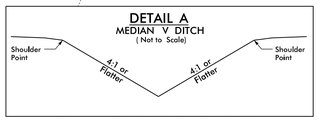
PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-14/CONST.5

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

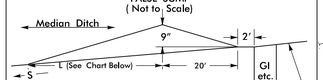
REVISIONS
8/17/99

DETAIL A
MEDIAN 'V' DITCH
(Not to Scale)



FROM -L- STA. 19+50 TO STA. 28+00

DETAIL C
FALSE SUMP
(Not to Scale)



S=Ditch Slope ℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

STA. 15+87 CL

MATCHLINE SHEET 4 -L- STA. 14+00.00

MATCHLINE SHEET 6 -L- STA. 28+00.00
-Y1RPC- STA. 12+30.00

KENNETH HAYES HORNE
TRACEY LYNN HORNE
DB 1649 PG 517

KENNETH HAYES HORNE
DB 1582 PG 124

WILLIAM H. STEPHENS
DB 2152 PG 883
PB 12 PG 11

FRED K. CALDER, SR.
MARY E. CALDER
DB 1021 PG 57
PB 12 PG 11

BARBARA CALDER CAIN
DB 1683 PG 379

WOODS

-L- 15

-L- 20

-L- 25

RETAIN EXISTING FENCE

48" WW ISRW

EXISTING R/W

EXISTING R/W VARIES

300' TAPER

700' ACCELERATION LENGTH

USE DETAIL 2C-I FOR 25' CLEAR SPAN

INTERMEDIATE ANCHORAGE SECTION
-L- Sta.26+00.00 (8.00' RT.)

MEDIAN 'V' DITCH SEE DETAIL A

CAT-1

40 x 20 x 3
ID 5.2

EX EX

US HWY 74 (ANDREW JACKSON HWY) WBL 32' PAVED ROADWAY

US HWY 74 (ANDREW JACKSON HWY) EBL 32' PAVED ROADWAY

S 24° 17' 45.8" E

S 24° 17' 45.9" E -Y1RPC-

REMOVE EXISTING GUIDERAIL

CABLE GUIDERAIL

2@66" WELDED STEEL PIPE

15" RCP III

36" RCP

TOP=83.00'

TOP=83.17'

INV=78.79'

INV=78.59'

RETAIN

RETAIN EXISTING GUARDRAIL

REMOVE EXISTING GUARDRAIL

60' (TYP.)

EST 1 TON CL "B" RIP RAP
EST 5 SY GEOTEXTILE

BEGIN TIP PROJECT R-5751
BEGIN INSIDE AND OUTSIDE WIDENING
BEGIN PROPOSED GRADE
-L- POT Sta.16+00.00

-Y1RPC- POT Sta.10+00.00 =
-L- POT Sta.25+70.00 (47.00' RT.)

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-15/CONST.6

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

REVISIONS

-YIRPA- CURVE DATA

Pls Sta 15+26.71
Θs = 4° 15′ 30.5″
Ls = 220.00′
LT = 146.71′
ST = 73.37′

PI Sta 16+98.31
Δ = 7° 36′ 02.2″ (RT)
D = 3° 52′ 16.8″
L = 196.33′
T = 98.31′
R = 1,480.00′
SE = 08
RO = SEE PLANS
DS = 65 MPH

Pls Sta 18+76.38
Θs = 4° 38′ 44.2″
Ls = 240.00′
LT = 160.06′
ST = 80.05′

Pls Sta 21+56.38
Θs = 5° 20′ 37.1″
Ls = 180.00′
LT = 120.05′
ST = 60.05′

PI Sta 24+12.62
Δ = 22° 59′ 42.9″ (LT)
D = 5° 56′ 14.6″
L = 387.30′
T = 196.29′
R = 965.00′
SE = 06
RO = SEE PLANS
DS = 40 MPH

PI Sta 26+36.96
Δ = 38° 17′ 54.5″ (RT)
D = 59° 40′ 59.2″
L = 64.17′
T = 33.34′
R = 96.00′

-YIRPB- CURVE DATA

Pls Sta 10+93.34
Θs = 1° 28′ 47.9″
Ls = 140.00′
LT = 93.34′
ST = 46.67′

PI Sta 15+17.53
Δ = 15° 51′ 42.1″ (LT)
D = 2° 06′ 51.2″
L = 750.23′
T = 377.53′
R = 2,710.00′
SE = 06
RO = SEE PLANS
DS = 65 MPH

PI Sta 21+96.32
Δ = 24° 22′ 00.9″ (LT)
D = 19° 21′ 24.1″
L = 125.88′
T = 63.91′
R = 296.00′

DETAIL A
MEDIAN V DITCH
(Not to Scale)
Shoulder Point — 4:1 or Flatter — 4:1 or Flatter — Shoulder Point
FROM -L- STA. 28+00 TO STA. 40+90
FROM -L- STA. 44+00 TO STA. 44+53
FROM -L- STA. 45+00 TO STA. 56+50

DETAIL B
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground — 3:1 — D — B — 3:1 — Fill Slope
Min. D = 2.0 Ft.
B = 6.0 Ft.
FROM -Y1A- STA. 31+00 TO STA. 33+40 RT

DETAIL C
FALSE SUMP
(Not to Scale)
Median Ditch — 9″ — 2′ — S — L (See Chart Below) — 20′ — GI etc.
S = Ditch Slope — ℄ Proposed Ditch

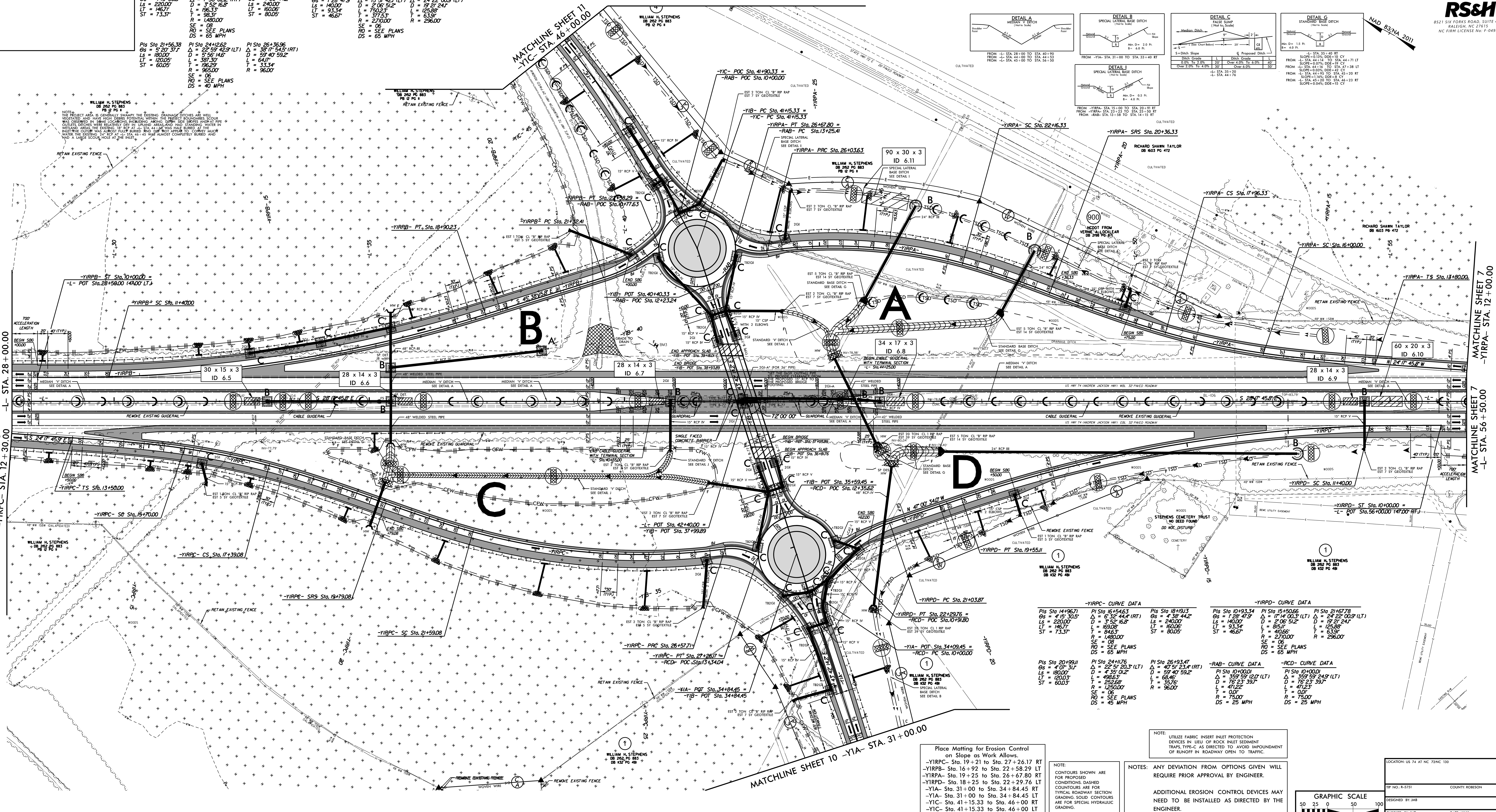
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20′	Over 4.0% To 6.0%	40′
Over 2.0% To 4.0%	30′	Over 6.0%	50′

-L- STA. 35+20
-L- STA. 44+76

DETAIL G
STANDARD BASE DITCH
(Not to Scale)
Natural Ground — 3:1 — D — B — 3:1 — Natural Ground
Min. D = 1.5 Ft.
B = 4.0 Ft.
-L- STA. 35+40 RT
SLOPE=0.13%; DDE=10 CY
FROM -L- STA. 44+14 TO STA. 44+71 LT
SLOPE=0.07%; DDE=19 CY
FROM -L- STA. 44+16 TO STA. 47+38 LT
SLOPE=0.03%; DDE=42 CY
FROM -L- STA. 44+95 TO STA. 45+20 RT
SLOPE=1.16%; DDE=8 CY
FROM -L- STA. 45+20 TO STA. 46+23 RT
SLOPE=0.04%; DDE=15 CY

DETAIL I
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground — 3:1 or Flatter — D — B — 3:1 or Flatter — Fill Slope
Min. D = 0.5 Ft.
B = 4.0 Ft.
FROM -Y1RPA- STA. 15+00 TO STA. 20+91 RT
FROM -Y1RPA- STA. 23+23 TO STA. 25+50 RT
FROM -RAB- STA. 13+58 TO STA. 14+15 RT

NAD 83/NA 2011



-YIRPC- CURVE DATA		
Pls Sta 14+96.71 Θs = 4° 15′ 30.5″ Ls = 220.00′ LT = 146.71′ ST = 73.37′	PI Sta 16+54.63 Δ = 6° 32′ 44.4″ (RT) D = 3° 52′ 16.8″ L = 169.08′ T = 84.63′ R = 1,480.00′ SE = 08 RO = SEE PLANS DS = 65 MPH	Pls Sta 18+19.13 Θs = 4° 38′ 44.2″ Ls = 240.00′ LT = 160.06′ ST = 80.05′
Pls Sta 20+99.11 Θs = 4° 07′ 31.1″ Ls = 180.00′ LT = 120.03′ ST = 60.03′	PI Sta 24+11.76 Δ = 22° 51′ 20.3″ (LT) D = 4° 35′ 01.2″ L = 498.63′ T = 252.68′ R = 1,250.00′ SE = 06 RO = SEE PLANS DS = 45 MPH	PI Sta 26+93.47 Δ = 40° 51′ 23.4″ (RT) D = 59° 40′ 59.2″ L = 68.46′ T = 35.76′ R = 96.00′

-YIRPD- CURVE DATA		
Pls Sta 10+93.34 Θs = 1° 28′ 47.9″ Ls = 140.00′ LT = 93.34′ ST = 46.67′	PI Sta 15+50.66 Δ = 17° 14′ 00.3″ (LT) D = 2° 06′ 51.2″ L = 815.11′ T = 410.66′ R = 2,710.00′ SE = 06 RO = SEE PLANS DS = 65 MPH	PI Sta 21+67.78 Δ = 24° 22′ 00.9″ (LT) D = 19° 21′ 24.1″ L = 125.88′ T = 63.91′ R = 296.00′

-RAB- CURVE DATA	-RCD- CURVE DATA
PI Sta 10+00.01 Δ = 359° 59′ 12.0″ (LT) D = 76° 23′ 39.7″ L = 471.22′ T = 0.01′ R = 75.00′ DS = 25 MPH	PI Sta 10+00.01 Δ = 359° 59′ 24.9″ (LT) D = 76° 23′ 39.7″ L = 471.23′ T = 0.01′ R = 75.00′ DS = 25 MPH

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE-C AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.

Place Matting for Erosion Control on Slope as Work Allows.
- -Y1RPC- Sta. 19+21 to Sta. 27+26.17 RT
- -Y1RPB- Sta. 16+92 to Sta. 22+58.29 LT
- -Y1RPA- Sta. 19+25 to Sta. 26+67.80 RT
- -Y1RPD- Sta. 18+25 to Sta. 22+29.76 LT
- -Y1A- Sta. 31+00 to Sta. 34+84.45 RT
- -Y1A- Sta. 31+00 to Sta. 34+84.45 LT
- -Y1C- Sta. 41+15.33 to Sta. 46+00 RT
- -Y1C- Sta. 41+15.33 to Sta. 46+00 LT

NOTE:
CONTOURS SHOWN ARE FOR PROPOSED CONDITIONS. DASHED COUNTOURS ARE FOR TYPICAL ROADWAY SECTION GRADING. SOLID CONTOURS ARE FOR SPECIAL HYDRAULIC GRADING.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION: US 74 AT NC 72/NC 130
TIP NO.: R-5751 — COUNTY: ROBESON
DESIGNED BY: JMB
CHECKED BY: JMT — DATE: 4/1/19

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-16/CONST.7

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

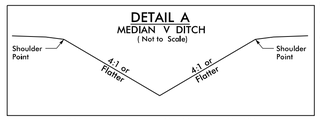
NAD 83/NA 2011

REVISIONS 8/17/99

-L- CURVE DATA

PIs Sta 60+65.59	PI Sta 65+86.83	PIs Sta 71+05.64
Θs = 1° 54' 35.5"	Δ = 10° 41' 45.2" (LT)	Θs = 1° 54' 35.5"
Ls = 300.00'	D = 1° 16' 23.7"	Ls = 300.00'
LT = 200.01'	L = 840.05'	LT = 200.01'
ST = 100.01'	T = 421.25'	ST = 100.01'
	R = 4,500.00'	
	SE = 05	
	RO = SEE PLANS	

DETAIL A
MEDIAN V DITCH
(Not to Scale)



FROM -L- STA. 56+50 TO STA. 63+00
FROM -L- STA. 66+50 TO STA. 68+00

NORTH CAROLINA DEPT. OF ADMINISTRATION DB 1918 PG 636

RICHARD SHAWN TAYLOR DB 1603 PG 472

WILLIAM H. STEPHENS DB 13-0 PG 259

MATCHLINE SHEET 6 -Y1RPA- STA. 12+00.00

MATCHLINE SHEET 6 -L- STA. 50.00

MATCHLINE SHEET 8 -L- STA. 70+00.00

INTERMEDIATE ANCHORAGE SECTION -L- Sta.58+00.00

-Y1RPA- POT Sta. 10+00.00 = -L- POT Sta.58+50.00 (47.00' LT)

-L- TS Sta. 58+65.58

-L- SC Sta. 61+65.58

END PROPOSED GRADE
END INSIDE WIDENING
BEGIN 3" ASPHALT OVERLAY
-L- POC Sta.66+00.00

RETAIN EXISTING FENCE

FILL EXISTING SCOUR HOLE BEHIND WINGWALL WITH APPROXIMATELY 9 TONS OF CLASS 'B' RIP RAP

INV NOT FOUND CHECK POSSIBILITY OF CONNECTING TO CONVERT

EXTEND 16" STEEL CASING (10 LF)

EXTEND 16" STEEL CASING (15 LF)

MEDIAN 'V' DITCH SEE DETAIL A

CABLE GUIDERAIL

REMOVE EXISTING GUARDRAIL

HOOK PLATING STD.275.01

RETAIN EXISTING FENCE

700' ACCELERATION LANE

REMOVE EXISTING FENCE

300' TAPER

BRANCH BANKING AND TRUST (W. W. DAVIS)

WILLIAM H. STEPHENS DB 2152 PG 883 DB 1132 PG 481

WILLIAM H. STEPHENS DB 13-0 PG 258

WILLIAM E. STEPHENS DB 662 PG 827

US HWY 74 (ANDREW JACKSON HWY) WBL 32' PAVED ROADWAY

US HWY 74 (ANDREW JACKSON HWY) EBL 28' PAVED ROADWAY

SR 2244 25' PAVED ROADWAY

STATE HWY 130 22' PAVED ROADWAY

BM1 N 255407.30 E 2029192.02 ELEV. 79.67

BM2 N 255401.01 E 2029192.02 ELEV. 79.52

BM3 N 255396.47 E 2029194.56 ELEV. 79.52

N 24°17' 45.8" W

S 28° 17' 45.8" E

S 23°32'15" E 790.50'

N 88°12'20" W 259.33'

S 83°44'46" W 52.21'

S 83°44'46" W 20.30'

N 53°24'47" E 52.06'

WOODS

POND

CULTIVATED

BEMC UTILITY EASEMENT

EXISTING R/W VARIES

48" WW | SBW

ISBKD

CONC

GREU TL-3

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

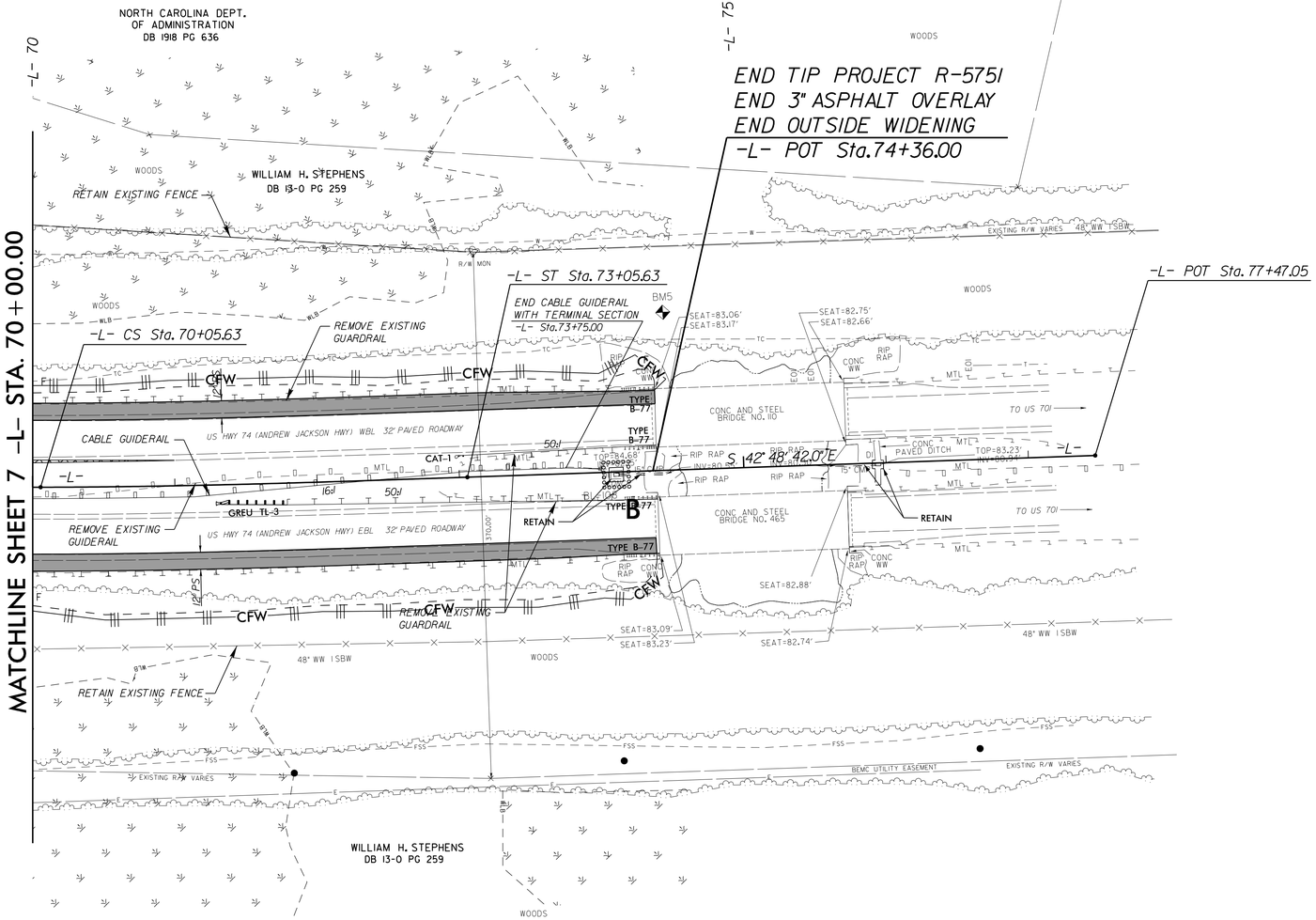
PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-17/CONST.8

NAD 83/NA 2011

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

REVISIONS

8/17/99



NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-18/CONST.9

RS&H

8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

REVISIONS 8/17/99

WILLIAM H. STEPHENS
DB 2152 PG 883
PB 12 PG 11

S 65°30'56"E
824.08'

JULIA F. SMITH
ANNE F. RICH
DB 2082 PG 400

WILLIAM H. STEPHENS
DB 2152 PG 883
DB 1132 PG 481

-Y1A- 10

-Y1A- 15

-Y1A- PT Sta. 16+41.16

BEGIN CONSTRUCTION
BEGIN 1.5" ASPHALT OVERLAY
-Y1A- POC Sta. 8+00.00

-Y1A- POT Sta. 7+00.00

-Y1A- PC Sta. 12+09.34

END 1.5" ASPHALT OVERLAY
BEGIN PROPOSED GRADE
-Y1A- POC Sta. 16+00.00

-Y1A- PC Sta. 18+97.36
SPECIAL LATERAL BASE DITCH
SEE DETAIL C

INV=72.99'
(BOTTOM OF PIPE DILAPIDATED)
95"x67" CMAP
INV=74.05'

EXISTING R/W
MTL HW
WLB
TC
FSS
E
WOODS
WOOD

S 71°00'41.0" E
STATE HWY 130 22' PAVED ROADWAY
S 70°49'50.1" E

50' TAPER LT.
50' TAPER RT.

R=20' TYP.

RETAIN

INV=73.99'
INV=74.10'
95"x67" CMAP

SHALLOW POND

INDIAN LAND FARM XIV, LLC
DB 1798 PG 165
PB 29 PG 139
PB 30 PG 113
PB 11 PG 31

DO NOT DISTURB HEADWALLS

SPECIAL LATERAL 'V' DITCH
SEE DETAIL H

TONY BRITT ET UX
GLADYS MARIE BRITT
DB 649 PG 717

ISFD

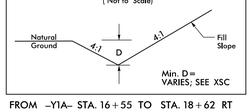
36" WD TRAIL

GR

-Y1A- STA. 19+00.00

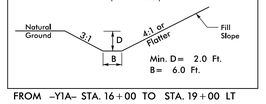
EXISTING 2 @ 95"X67" CMAP APPEARED TO BE IN FAIR CONDITION. THE DILAPEDATED BOTTOM OF THE PIPE COULD NOT BE VERIFIED ON EITHER DATE OF SURVEY DUE TO SIGNIFICANT DEPTH OF WATER IN THE PIPES.

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



FROM -Y1A- STA. 16+55 TO STA. 18+62 RT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



FROM -Y1A- STA. 16+00 TO STA. 19+00 LT

-Y1A- CURVE DATA
PI Sta 14+25.25
Δ = 0° 10' 51.0" (RT)
D = 0° 02' 30.7"
L = 431.82'
T = 215.91'
R = 136,828.22'
SE = NC

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-19/CONST.10

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

MATCHLINE SHEET 9 –Y1A– STA. 19+00.00

MATCHLINE SHEET 6 –Y1A– STA. 31+00.00

NAD 83/NA 2011

REVISIONS

8/17/99

06-SEP-2022 (QA)
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$$$$USERNAME$$$$

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, 4:1 or Flatter, Fill Slope
Min. D= 2.0 Ft.
B= 6.0 Ft.
FROM –Y1A– STA. 19+00 TO STA. 27+00 LT

DETAIL B
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, 3:1, Fill Slope
Min. D= 2.0 Ft.
B= 6.0 Ft.
FROM –Y1A– STA. 25+00 TO STA. 31+00 RT

DETAIL E
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 4:1, D, B, 4:1 or Flatter, Fill Slope
Min. D=1.0 Ft.
B= 4.0 Ft.
FROM –SRA– STA. 11+90 TO STA. 13+50 LT

DETAIL F
STANDARD BASE DITCH
(Not to Scale)
Natural Ground, 4:1, D, 4:1, Natural Ground, B
Min. D= 1.0 Ft.
B= 4.0 Ft.
FROM –SRA– STA. 10+74 TO STA. 11+90 LT;
SLOPE=0.07% ; DDE= 35 CY

6 TONY BRITT ET UX GLADYS MARIE BRITT DB 649 PG 717

7 MDAYYAD AL-NASRA DB 1175 PG 361

1 WILLIAM H. STEPHENS DB 2152 PG 883 DB 1132 PG 481

–SRA– PC Sta. 10+00.00 = –Y1A– POC Sta. 23+00.00

–SRA– PT Sta. 12+36.47

END CONSTUCTION –SRA– POT Sta. 13+50.00

–SRA– POT Sta. 14+02.03

–Y1A– PT Sta. 27+63.44

SPECIAL LATERAL BASE DITCH SEE DETAIL C

EST 14 TON CL 1 RIP RAP EST 30 SY GEOTEXTILE

EST 15 TON CL 1 RIP RAP EST 30 SY GEOTEXTILE

EST 15 TON CL 1 RIP RAP EST 30 SY GEOTEXTILE

SPECIAL LATERAL BASE DITCH SEE DETAIL C

EST 15 TON CL 1 RIP RAP EST 30 SY GEOTEXTILE

STANDARD BASE DITCH SEE DETAIL F

SPECIAL LATERAL BASE DITCH SEE DETAIL E

SPECIAL LATERAL BASE DITCH SEE DETAIL B

RETAIN

WOVEN WIRE

DRAINAGE DITCH

65' MEDIAN TRANSITION

STATE HWY 130 22' PAVED ROADWAY

WOODS

CULTIVATED

N 43°42'14.2" E

N 25°36'23" E 962.65'

S 71°01'38.2" E

S 77°55'50" W 95.00'

S 19°37'38" W 45.82'

N 49°31'39" E 35.64'

N 06°06'05" E 138.00'

Place Matting for Erosion Control on Slope as Work Allows.
–Y1A– Sta. 26+75 to Sta. 31+00 RT
–Y1A– Sta. 26+75 to Sta. 31+00 LT

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

–SRA– CURVE DATA
PI Sta 11+27.92
Δ = 54° 11' 40.5" (LT)
D = 22° 55' 05.9"
L = 236.47'
T = 127.92'
R = 250.00'
SE = 02
RO = SEE PLANS

–Y1A– CURVE DATA
PI Sta 23+84.60
Δ = 65° 27' 55.8" (LT)
D = 7° 33' 31.7"
L = 866.08'
T = 487.24'
R = 758.00'
SE = 08
RO = SEE PLANS
DS = 50 MPH

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-20/CONST.11

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

REVISIONS

8/17/99

MATCHLINE SHEET 6 -Y1C- STA. 46+00.00

MATCHLINE SHEET 12 -Y1C- STA. 57+00.00

-YIC- PT Sta. 56+37.72

-SRB- PC Sta. 10+00.00 =
-YIC- PCO Sta. 49+85.00

-DRI- PC Sta. 10+00.00 =
-YIC- POC Sta. 51+78.00

RETAIN EXISTING FENCE

EXISTING R/W

WILLIAM H. STEPHENS
DB 2152 PG 883
PB 12 PG 11

1A

EST 3 TON CL "B" RIP RAP
EST 11 SY GEOTEXTILE

STATE HWY 72 (WILMINGTON HWY) 24' PAVED ROADWAY

BM6

CFW

TSD

24" RCP
INV=78.19

GREU TL-3

-YIC-

24" RCP III

GREU TL-3

WOODS

GRADE TO DRAIN

TONY BRITT ET AL
DB 2265 PG 165
PB 12 PG 11

8

CULTIVATED

END CONSTRUCTION
-DRI- POT Sta. 10+90.00

-DRI- PT Sta. 10+95.78

ISFD

WILLIAM H. STEPHENS
DB 2152 PG 883
PB 12 PG 11

4

STANDARD BASE DITCH
SEE DETAIL K

WOVEN WIRE

R/W

-SRB-
S 22° 24' 27.0" E
R=20
T=15.12
L=31.00

CARE TO BE TAKEN AROUND EXISTING WATER LINE WHILE INSTALLING PIPE 1102
24" RCP III

SPECIAL LATERAL 'V' DITCH
SEE DETAIL H

12" RCP V

-SRB- PT Sta. 12+20.22

END CONSTRUCTION
-SRB- POT Sta. 14+00.00

-SRB- POT Sta. 14+33.57

50' TAPER

STATE HWY 72 E.B.
20' PAVED ROADWAY

EXISTING R/W

15 SOIL

25MTL BARN

MTL S

GARDEN

ISFD

SOIL

5 LINES

TONY BRITT ET AL
DB 2265 PG 165
PB 12 PG 11

8

CULTIVATED

GARDEN

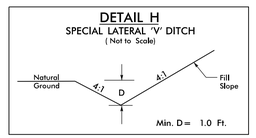
25FD BARN

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

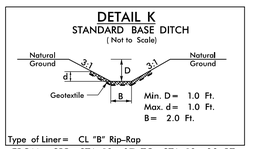
Place Matting for Erosion Control on Slope as Work Allows.
-Y1C- Sta. 46+00 to Sta. 48+25 RT
-Y1C- Sta. 46+00 to Sta. 47+46 LT

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



FROM -SRB- STA. 11+54 TO STA. 12+32 LT
FROM -SRB- STA. 12+68 TO STA. 14+00 LT

DETAIL K
STANDARD BASE DITCH
(Not to Scale)



Type of Liner= CL "B" Rip-Rap
FROM -SRB- STA. 12+07 TO STA. 12+38 RT
EST 21 TON CL "B" RIP RAP
EST 37 SY GEOTEXTILE

-YIC- CURVE DATA
PI Sta 49+05.07
△ = 37° 35' 51.9" (LT)
D = 2° 28' 10.7"
L = 1,522.39'
T = 789.74'
R = 2,320.00'
SE = 06
RO = SEE PLANS
DS = 60 MPH

-SRB- CURVE DATA
PI Sta 11+17.83
△ = 50° 28' 17.2" (RT)
D = 22° 55' 05.9"
L = 220.22'
T = 117.83'
R = 250.00'
SE = 02
RO = SEE PLANS

-DRI- CURVE DATA
PI Sta 10+47.96
△ = 7° 19' 02.3" (LT)
D = 7° 38' 22.0"
L = 95.78'
T = 47.96'
R = 750.00'
SE = NC

PROJECT REFERENCE NO.	SHEET NO.
R-5751	EC-21/CONST.12

RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

8/17/99

06-SEP-2022 10:03
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