PROJECT: W-5521

TIP

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	50082.1.1	EC-1	

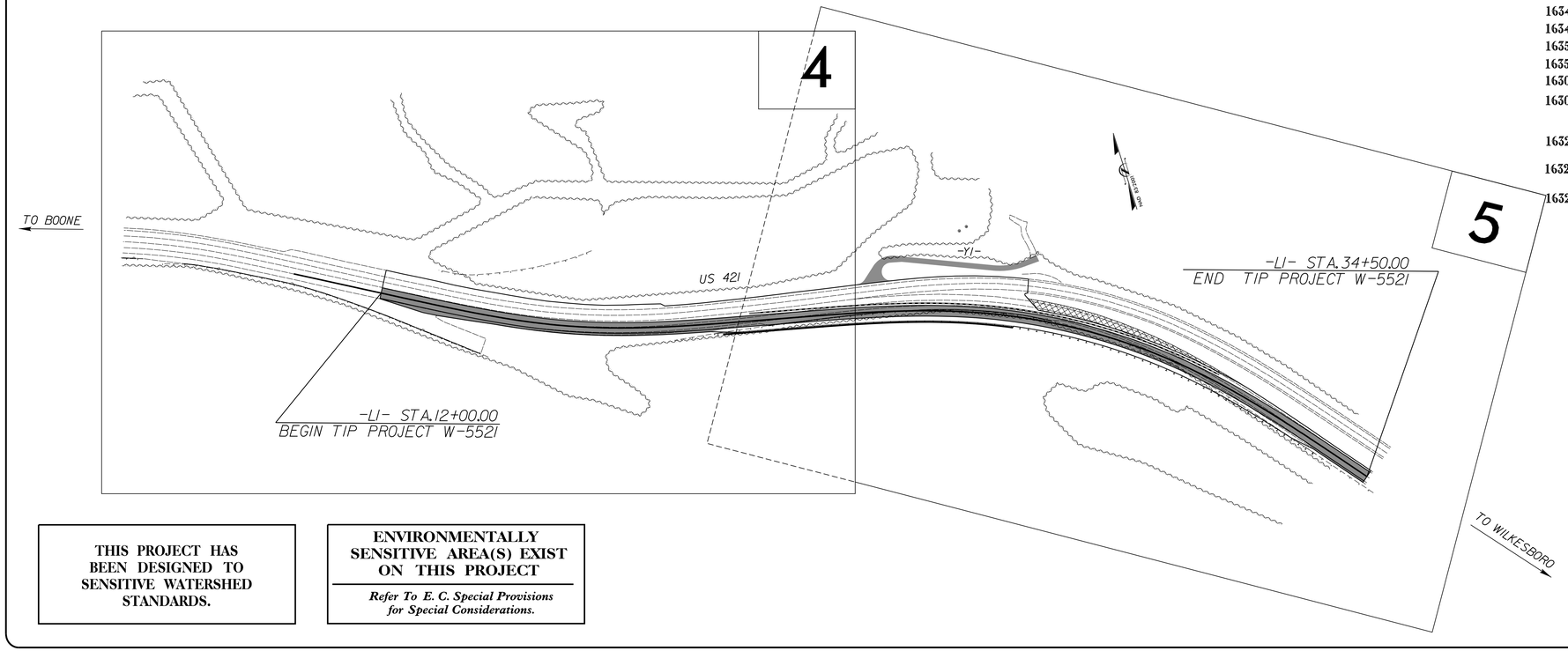
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL, WILKES COUNTY

LOCATION: US 421 RE-ALIGNMENT SAFETY IMPROVEMENT PROJECT BETWEEN WILKESBORO AND BOONE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, RESURFACING, MEDIAN BARRIER AND RETAINING WALL



THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

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.

V&M Vaughn & Melton
Consulting Engineers
Asheville, North Carolina 828-253-2796
Boone, NC 828-355-9933
Tri-Cities, TN 423-467-8401
Knoxville, TN 865-546-5800
Spartanburg, SC 864-574-4775
Charleston, SC 843-974-5650
Middlesboro, KY 606-248-6600
Raleigh, NC 919-977-9455
Charlotte, NC 704-357-0488
Atlanta, GA 770-627-3509

GRAPHIC SCALE

0
PLANS
0
PROFILE (HORIZONTAL)
0
PROFILE (VERTICAL)

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

Prepared in the Office of:

VAUGHN & MELTON
ASHEVILLE
NORTH CAROLINA

Designed by:

CONNOR BOYLE — ***3469***
NAME — *LEVEL III CERTIFICATION NO.*

Reviewed in the Office of:

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

2012 STANDARD SPECIFICATIONS

Reviewed by:

XXXX XXXX

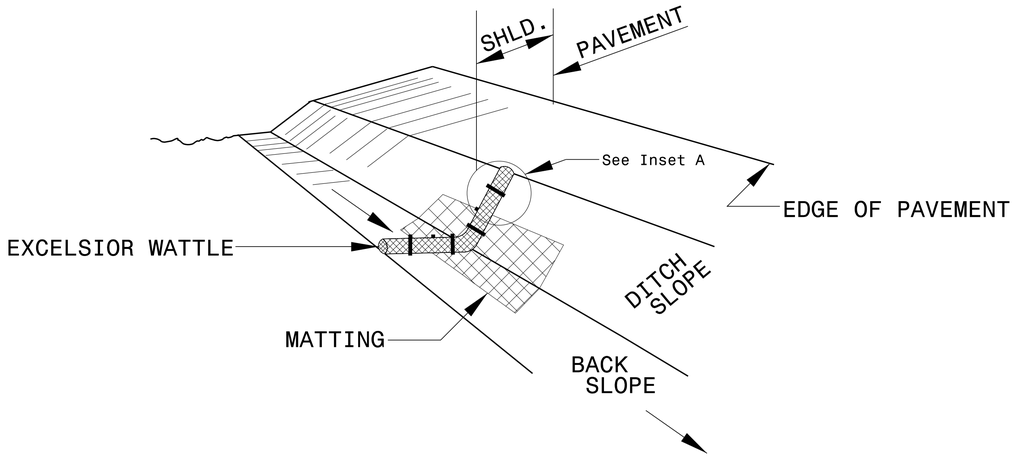
Roadway Standard Drawings

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		

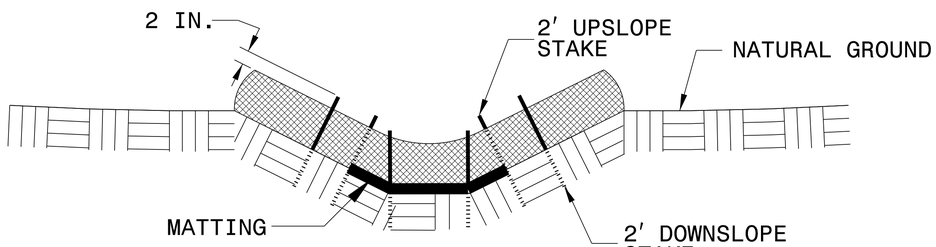
PROJECT REFERENCE NO.	SHEET NO.
W-5521	EC-2
R/W SHEET NO.	

WATTLE DETAIL



ISOMETRIC VIEW

CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

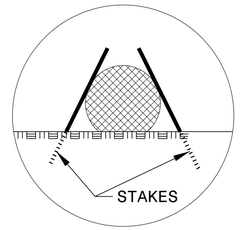
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

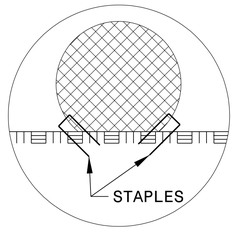
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

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

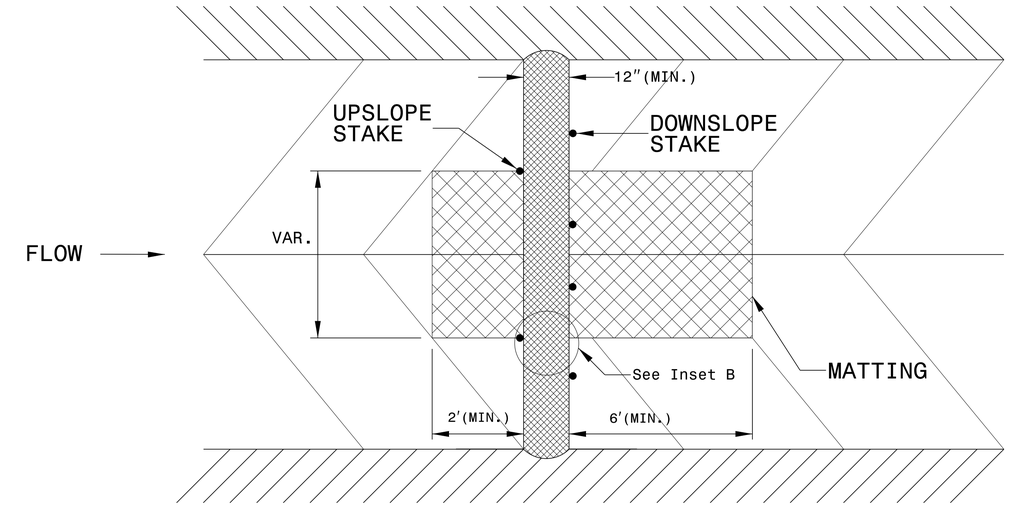
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A



INSET B



TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
W-5521	EC-3

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)
			SUBTOTAL		
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					5,0000
				TOTAL	5,000**
				SAY	
	**EROSION CONTROL MATTING TO BE PLACED ON ALL DISTURBED SLOPES				

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	L	30+42	31+50	RT	133
			SUBTOTAL		133
		ADDITIONAL PSRM TO BE INSTALLED			67
				TOTAL	200
				SAY	

PROJECT REFERENCE NO.	SHEET NO.
W-5521	EC-3A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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.
W-5521	EC-4/CONS-4

Vaughn & Melton
Consulting Engineers
Asheville, North Carolina 828-253-2796
Charlotte, North Carolina 704-351-0488
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865-546-5800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

EROSION CONTROL IMPLEMENTATION SEQUENCE TO FOLLOW CONSTRUCTION PHASING

NAD 83/2001

3 HAROLD D. WATSON DB 553 PG 254

5 GARY W. GORDON AND STEVE G. KELLY DB 989 PG 003

2 PAUL WELCH, JR DB 797 PG 588

4 HELEN S. KELLICUT DB 1106 PG 005

6 EDDIE MORETZ DB 1016 PG 133

7 MORETZ IV, LLC DB 1057 PG 130

-LI- STA.12+00.00 BEGIN TIP PROJECT W-5521

TS Sta. 12+50.40 -LI-

SC Sta. 15+85.40 -LI-

SC Sta. 16+86.67 -LI-

ST Sta. 20+21.87 -LI-

TS Sta. 21+27.32 -LI-

-BL- 8

-BL- 9

-LI-

PIs Sta 14+73.88
Θs = 6° 29' 04.2"
Ls = 335.00'
LT = 223.48'
ST = 111.80'

PI Sta 16+36.15
Δ = 3° 55' 41.8" (LT)
D = 3° 52' 16.8"
L = 101.47'
T = 50.76'
R = 1,480.00'
SE = .08

PIs Sta 17+98.67
Θs = 6° 29' 04.2"
Ls = 335.00'
LT = 223.48'
ST = 111.80'

ALL TEMPORARY DIVERSION DITCHES TO HAVE 1' MIN BOTTOM WIDTH

PLACE CLASS B RIPRAP FOR EROSION CONTROL IN TEMPORARY DITCHES UNLESS OTHERWISE NOTED

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

MATCH TO SHEET EC-5/CONS-5

PROJECT REFERENCE NO.	SHEET NO.
W-5521	EC-5/CONS-5

Vaughn & Melton
Consulting Engineers
Asheville, North Carolina 828-253-2796
Charlotte, North Carolina 704-351-0488
Tri-Cities, Tennessee 423-467-8400
Knoxville, Tennessee 865-546-9800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775

EROSION CONTROL IMPLEMENTATION SEQUENCE TO FOLLOW CONSTRUCTION PHASING

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

ALL TEMPORARY DIVERSION DITCHES TO HAVE 1' MIN BOTTOM WIDTH

PLACE CLASS B RIPRAP FOR EROSION CONTROL IN TEMPORARY DITCHES UNLESS OTHERWISE NOTED

NAD 83/2001

-Y1-
PI Sta 13+91.00
Δ = 102° 51' 25.0" (LT)
D = 127° 19' 26.2"
L = 80.78'
T = 56.43'
R = 45.00'

PI Sta 10+75.20
Δ = 28° 11' 36.6" (RT)
D = 38° 11' 49.9"
L = 73.81'
T = 37.67'
R = 150.00'

-LI-
PIs Sta 24+07.68
Θs = 8° 58' 45.1"
Ls = 420.00'
LT = 280.36'
ST = 140.33'

PI Sta 27+88.68
Δ = 20° 25' 16.2" (RT)
D = 4° 16' 32.9"
L = 477.60'
T = 241.36'
R = 1,340.00'
SE = .10

PIs Sta 31+65.25
Θs = 8° 58' 45.1"
Ls = 420.00'
LT = 280.36'
ST = 140.33'

-LI- ST A. 34+50.00
END TIP PROJECT W-5521

MATCH TO SHEET EC-4/CONS-4

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

INSTALL PSRM IN TEMP DIVERSION DITCH

Place Matting for Erosion Control on Slope as Work Allows. Sta. 26+00 to Sta. 34+50

PROJECT REFERENCE NO.	SHEET NO.
W-5521	EC-6/CONS-4

Vaughn & Melton
Consulting Engineers
Asheville, North Carolina 828-253-2796
Charlotte, North Carolina 704-351-0488
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865-546-9800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775

EROSION CONTROL IMPLEMENTATION SEQUENCE TO FOLLOW CONSTRUCTION PHASING

NAD 83/2001

3 HAROLD D. WATSON DB 553 PG 254

5 GARY W. GORDON AND STEVE G. KELLY DB 989 PG 003

2 PAUL WELCH, JR DB 797 PG 588

4 HELEN S. KELLICUT DB 806 PG 005

6 EDDIE MORETZ DB 1016 PG 133

7 MORETZ IV, LLC DB 1057 PG 130

-LI- STA.12+00.00 BEGIN TIP PROJECT W-5521

TS Sta. 12+50.40 -LI-

SC Sta. 15+85.40 -LI-

CS Sta. 16+86.87 -LI-

ST Sta. 20+21.87 -LI-

TS Sta. 21+27.32 -LI-

MATCH TO SHEET EC-5/CONS-5

-LI-

PIs Sta 14+73.88	PI Sta 16+36.15	PIs Sta 17+98.67
Θs = 6° 29' 04.2"	Δ = 3° 55' 41.8" (LT)	Θs = 6° 29' 04.2"
Ls = 335.00'	D = 3° 52' 16.8"	Ls = 335.00'
LT = 223.48'	L = 101.47'	LT = 223.48'
ST = 111.80'	T = 50.76'	ST = 111.80'
	R = 1,480.00'	
	SE = .08	

ALL TEMPORARY DIVERSION DITCHES TO HAVE 1' MIN BOTTOM WIDTH

PLACE CLASS B RIPRAP FOR EROSION CONTROL IN TEMPORARY DITCHES UNLESS OTHERWISE NOTED

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

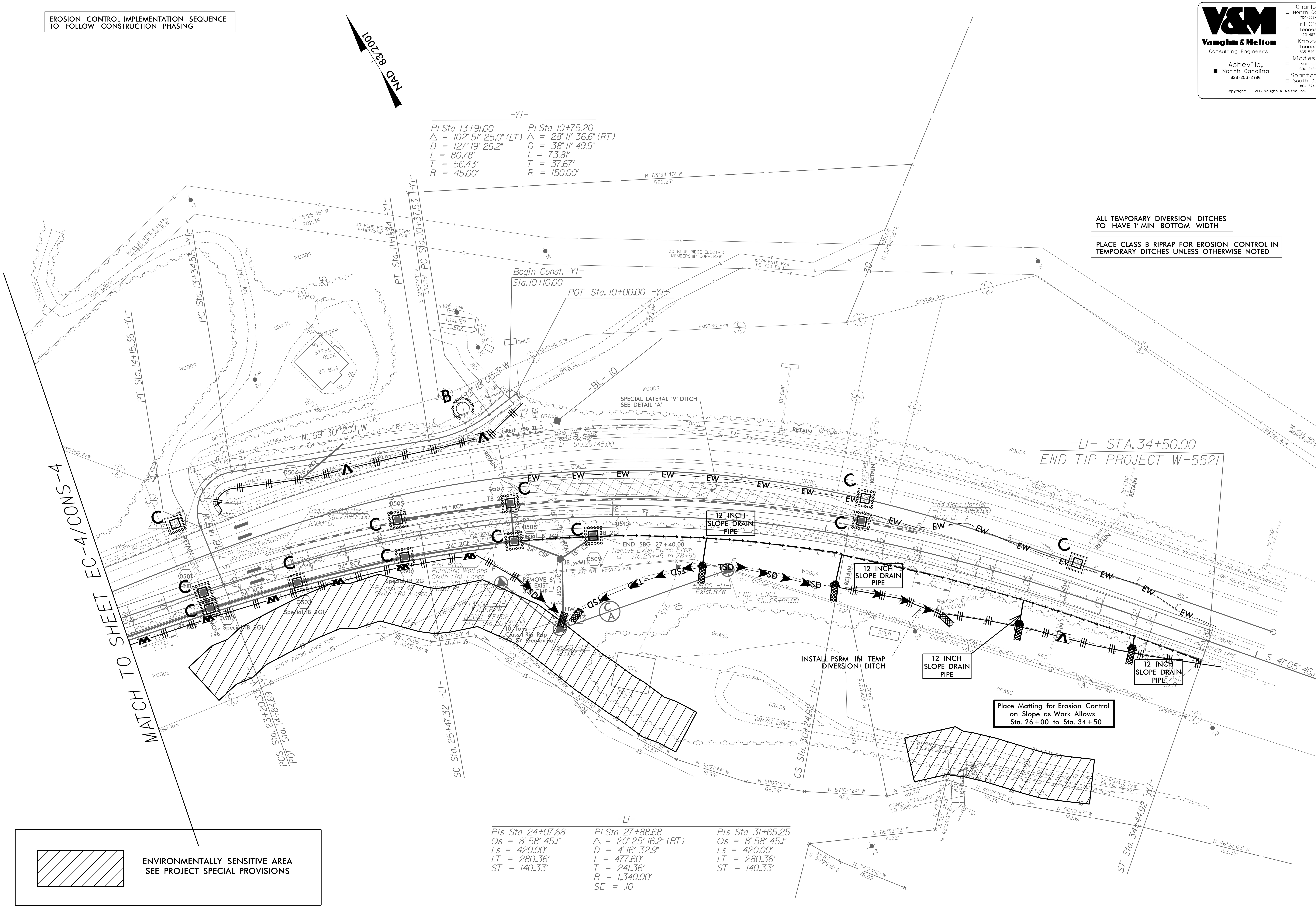
PROJECT REFERENCE NO.	SHEET NO.
W-5521	EC-7/CONS-5

V&M Vaughn & Melton Consulting Engineers
Charlotte, North Carolina 704-357-0488
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865-546-5800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775
Asheville, North Carolina 828-253-2796

EROSION CONTROL IMPLEMENTATION SEQUENCE TO FOLLOW CONSTRUCTION PHASING

ALL TEMPORARY DIVERSION DITCHES TO HAVE 1' MIN BOTTOM WIDTH

PLACE CLASS B RIPRAP FOR EROSION CONTROL IN TEMPORARY DITCHES UNLESS OTHERWISE NOTED



09/08/99

TIP PROJECT: W-5521

CONTRACT:

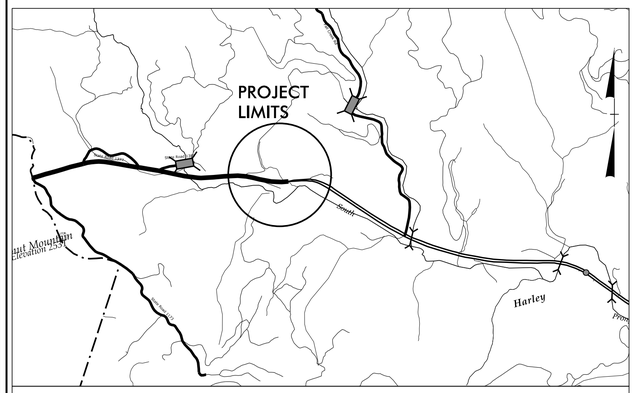
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
W-5521	UO-1

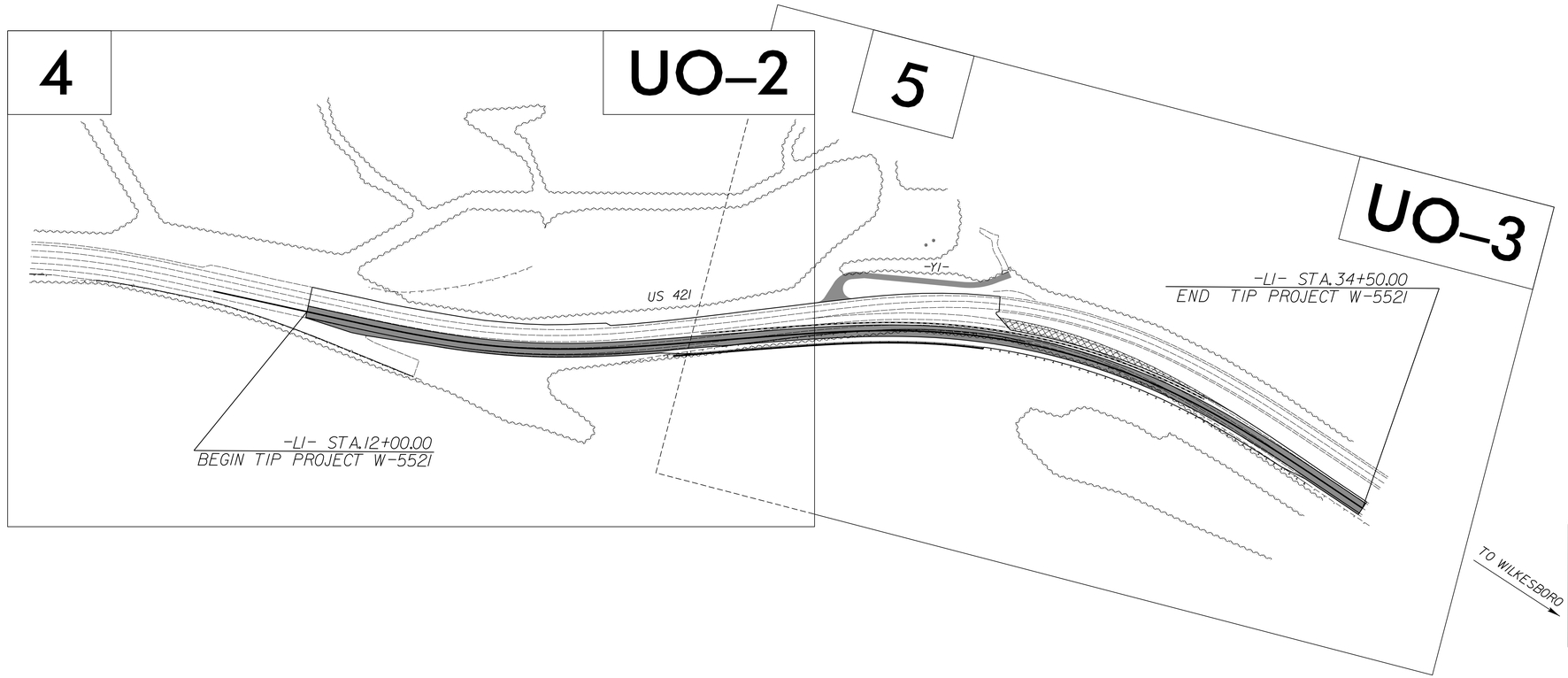
UTILITIES BY OTHERS PLANS
WILKES COUNTY

LOCATION: US 421 RE-ALIGNMENT SAFETY IMPROVEMENT PROJECT BETWEEN WILKESBORO AND BOONE

TYPE OF WORK: UNDERGROUND FIBER OPTIC



VICINITY MAP



V&M Vaughn & Melton
Consulting Engineers
Asheville, North Carolina
828-253-2796
Raleigh, NC 919-977-9455 · Charlotte, NC 704-357-0488 · Boone, NC 828-355-9933 · Tri-Cities, TN 423-467-8401 · Knoxville, TN 865-546-5800 · Spartanburg, SC 864-574-4775 · Charleston, SC 843-974-5650 · Middlesboro, KY 606-248-6600 · Atlanta, GA 770-627-3509

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 THRU UO-3	UTILITY BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT

(A) FRONTIER GAS - GAS
(B) WILKES COMMUNICATIONS, INC - FIBER

V&M Vaughn & Melton
Consulting Engineers
Charlotte, North Carolina
704-357-0488
Raleigh, NC 919-977-9455 · Asheville, NC 828-253-2796 · Boone, NC 828-355-9933 · Tri-Cities, TN 423-467-8401 · Knoxville, TN 865-546-5800 · Spartanburg, SC 864-574-4775 · Charleston, SC 843-974-5650 · Middlesboro, KY 606-248-6600 · Atlanta, GA 770-627-3509

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING
1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. — *UTILITIES SECTION ENGINEER*
_____ — *UTILITIES SQUAD LEADER PROJECT ENGINEER*
Nicholas V. Asaro, PLS — *UTILITIES PROJECT DESIGNER*

7/17/2017
V:\Asheville\transportation\3535-01\W552\Utility\W552_utLU01.dgn
User:jddaves

PROJECT REFERENCE NO.	SHEET NO.
W-5221	U0-2

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

NO UTILITY RELOCATION WORK ON THIS SECTION OF PROJECT

NAD 83/2001

3 HAROLD D. WATSON DB 553 PG 254

5 GARY W. GORDON AND STEVE G. KELLY DB 989 PG 003

2 PAUL WELCH, JR DB 797 PG 588

4 HELEN S. KELLICUT DB 106 PG 005

6 EDDIE MORETZ DB 1016 PG 133

7 MORETZ IV, LLC DB 1057 PG 130

-LI- STA.12+00.00
BEGIN TIP PROJECT W-5521

MATCH TO SHEET U0-3

-LI-		
PIs Sta 14+73.88	PI Sta 16+36.15	PIs Sta 17+98.67
Θs = 6° 29' 04.2"	Δ = 3° 55' 41.8" (LT)	Θs = 6° 29' 04.2"
Ls = 335.00'	D = 3° 52' 16.8"	Ls = 335.00'
LT = 223.48'	L = 101.47'	LT = 223.48'
ST = 111.80'	T = 50.76'	ST = 111.80'
	R = 1,480.00'	
	SE = .08	

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
W-5221	UO-3

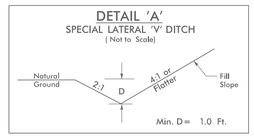
UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

NAD 83/2001

WILKES COMMUNICATIONS, INC TO RELOCATE FIBER TO AVOID CONFLICT WITH CONSTRUCTION. WILKES COMMUNICATIONS, INC CONTACT IS ZACK CHURCH (336) 973-6130.

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



FROM STA. 28+50 TO STA. 29+02

-Y1-
PI Sta 13+91.00
Δ = 102° 51' 25.0" (LT)
D = 127° 19' 26.2"
L = 80.78'
T = 56.43'
R = 45.00'

PI Sta 10+75.20
Δ = 28° 11' 36.6" (RT)
D = 38° 11' 49.9"
L = 73.81'
T = 37.67'
R = 150.00'

-LI- STA. 34+50.00
END TIP PROJECT W-5521

EXISTING GAS NOT IN CONFLICT WITH PROPOSED CONSTRUCTION AS PER ASBUILT PLANS PROVIDED BY FRONTIER NATURAL GAS CO. AND WILL REMAIN IN PLACE DURING CONSTRUTION. CONTRACTOR RESPONSIBLE FOR 811 UTILITY LOCATION PRIOR TO CONSTRUCTION OF PROPOSED GUARD RAIL TO CONFIRM LOCATION. FRONTIER NATURAL GAS CO. CONTACT IS TED GAMBILL (336-526-2690)

9 PAUL CHRISTIAN BREDEN AND WIFE, LOUISE C. BREDEN, DB 824 PG 373, DB 824 PG 374

10 HARROLD LUNSFORD AND WIFE, AMY LUNSFORD, DB 1167 PG 73

11 CATHY FINCHER REED, DB 1030 PG 318

12 PATSY J. ROTEN, DB 1169 PG 339

13 ROBERT GREGG, DB 681 PG 577

14 IVAN DOUGLAS COFFEY AND WIFE, KELLY GREENE COFFEY, DB 851 PG 257

8 PATSY J. ROTEN, DB 1169 PG 338

MATCH TO SHEEET UO-2

-LI-
PIs Sta 24+07.68
Θs = 8° 58' 45.1"
Ls = 420.00'
LT = 280.36'
ST = 140.33'

PI Sta 27+88.68
Δ = 20° 25' 16.2" (RT)
D = 4° 16' 32.9"
L = 477.60'
T = 241.36'
R = 1,340.00'
SE = .10

PIs Sta 31+65.25
Θs = 8° 58' 45.1"
Ls = 420.00'
LT = 280.36'
ST = 140.33'

8/7/2017
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