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See Sheet 1A For Index of Sheets

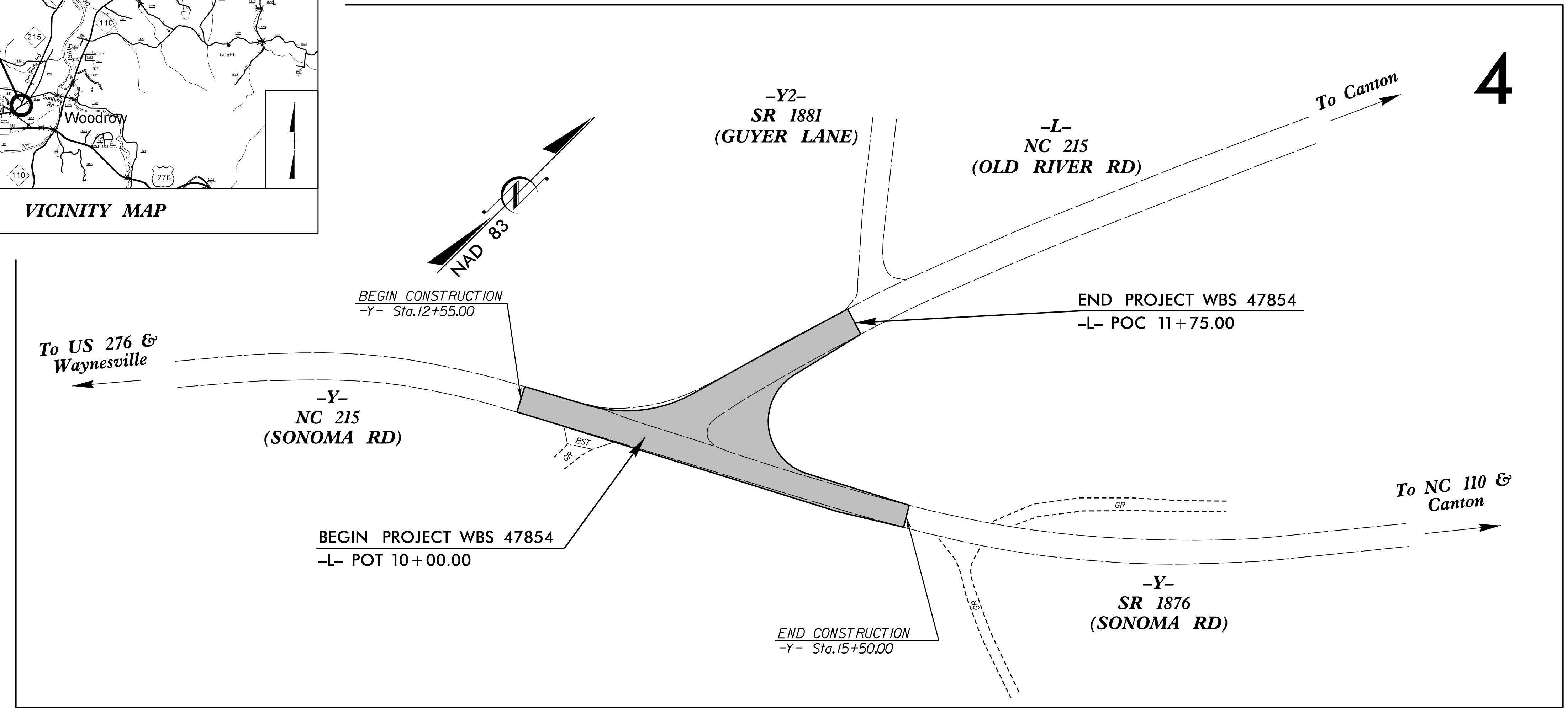
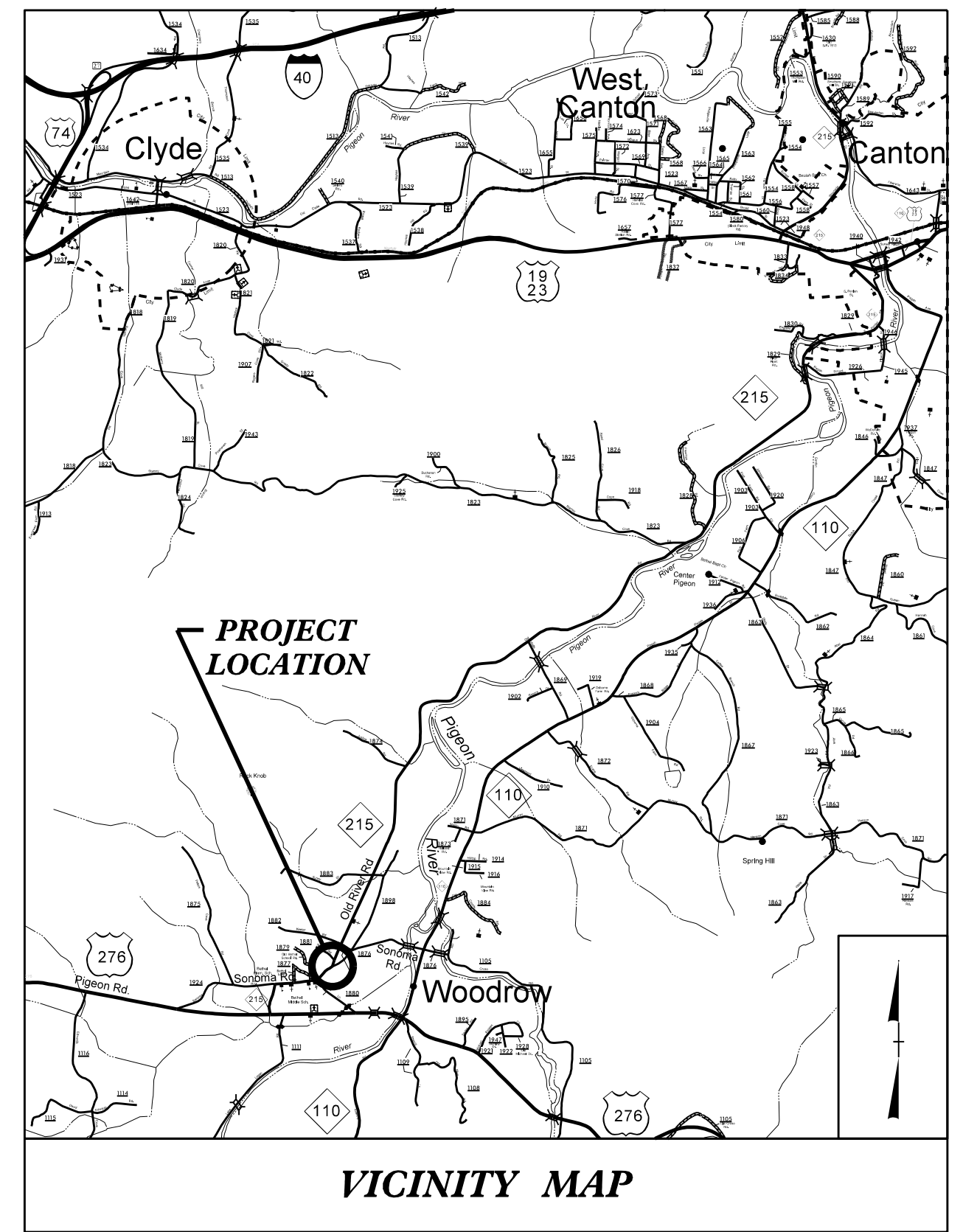
# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## HAYWOOD COUNTY

**LOCATION: INTERSECTION OF NC 215 / SR 1876 (SONOMA RD) AND  
NC 215 (OLD RIVER RD)**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND PAVEMENT MARKINGS**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	WBS 47854	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
WBS 47854		PE	
WBS 47854		RW, UTILITIES	
WBS 47854		CONSTRUCTION	



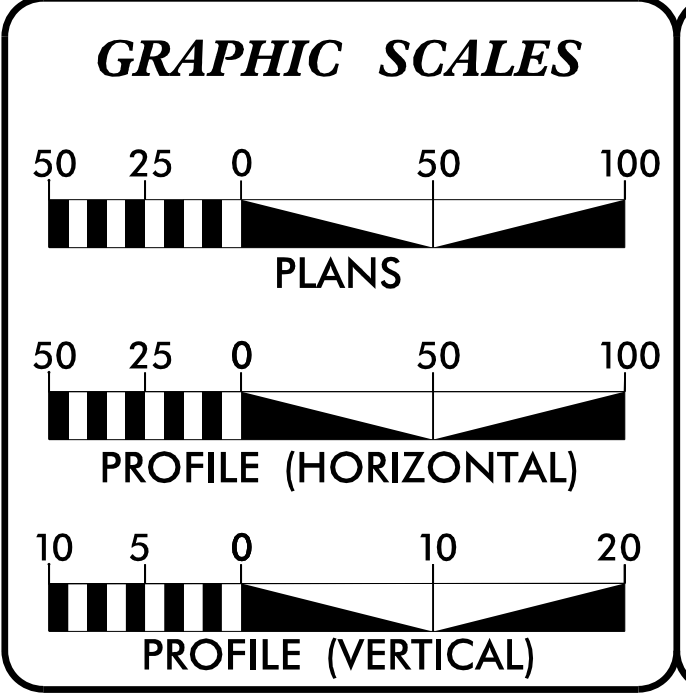
# 4

**PROJECT: WBS 47854**

**CONTRACT: DN00680**

NCDOT CONTACT:  
JONATHAN WOODARD, PE  
DIVISION 14, ASSISTANT  
PROJECT DEVELOPMENT ENGINEER  
(828) 631-5481

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



**DESIGN DATA**

ADT 2017 =	2,200 (NC 215)
ADT 2016 =	1,100 (SR 1876)
V =	40 MPH
FUNCTIONAL CLASS =	RURAL LOCAL SUB-REGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY PROJECT WBS 47854	=	0.033 mi
TOTAL LENGTH PROJECT WBS 47854	=	0.033 mi

Prepared For NCDOT:  
**DIVISION OF HIGHWAYS**  
Division 14, 253 Webster Road, Sylva, NC 28779

By:  
**Weston & Sampson**  
WSE of North Carolina, PC

568 East Chatham Street Suite 137  
Carr, NC 27811  
Phone: 919.297.0220 Fax: 919.297.0221  
NC License: C-4947

<b>2018 STANDARD SPECIFICATIONS</b>	<b>KEVIN S. HUTCHENS, PE</b> PROJECT ENGINEER
<b>RIGHT OF WAY DATE:</b> SEPTEMBER 14, 2018	<b>ROBERT W. PORTER, JR PE</b> PROJECT DESIGN ENGINEER
<b>LETTING DATE:</b> JUNE 14, 2022	

**HYDRAULICS ENGINEER**

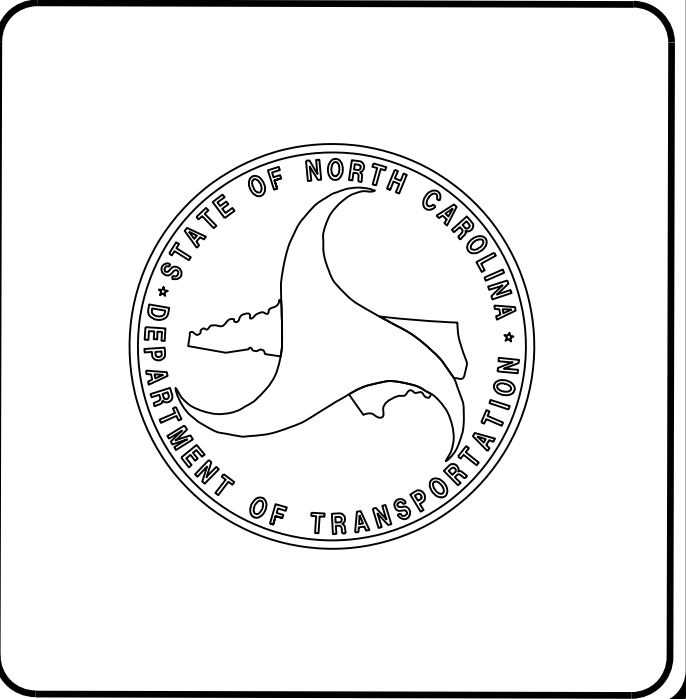
5/16/2022

DocuSigned by:  
**Paul Cameron**  
SIGNATURE:

**ROADWAY DESIGN ENGINEER**

5/16/2022

DocuSigned by:  
**Kevin S. Hutchens**  
SIGNATURE:



GENERAL NOTES: 2018 SPECIFICATIONS  
EFFECTIVE: 01-16-2018  
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:  
POWER - DUKE ENERGY  
PHONE - AT & T  
CABLE TV - CHARTER

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

2018 ROADWAY ENGLISH STANDARD DRAWINGS EFF. 01-16-2018  
REV.

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

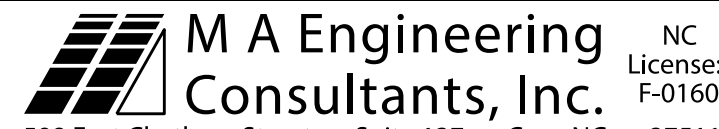
STD.NO. TITLE  
DIVISION 2 - EARTHWORK  
200.02 Method of Clearing - Method II  
225.02 Guide for Grading Subgrade - Secondary and Local  
225.04 Method of Obtaining Superelevation - Two Lane Pavement

DIVISION 3 - PIPE CULVERTS  
300.01 Method of Pipe Installation

DIVISION 5 - SUBGRADE, BASES AND SHOULDERS  
560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I

DIVISION 6 - ASPHALT BASES AND PAVEMENTS  
654.01 Pavement Repairs

DIVISION 8 - INCIDENTALS  
815.03 Pipe Underdrain and Blind Drain  
838.01 Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew  
838.11 Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew  
838.80 Precast Endwalls - 12" thru 72" Pipe 90 Skew  
876.02 Guide for Rip Rap at Pipe Outlets

PROJECT REFERENCE NO. <b>WBS 47854</b>	SHEET NO. <b>1A</b>
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 39283 5/1/2019	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
 M A Engineering Consultants, Inc. NC License: F-0160 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
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1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTION
3B-1	SUMMARIES OF EARTHWORK, PAVEMENT REMOVAL, DRAINAGE, SUBSURFACE DRAINAGE, AND AGGREGATE SUBGRADE/STABILIZATION
4	PLAN AND PROFILE SHEET
RW01 THRU RW04	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS, & PROPERTY TIES
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-4	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-2	SIGNING PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-7	CROSS-SECTIONS

# STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

## CONVENTIONAL PLAN SHEET SYMBOLS

### BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	-----
Property Monument	◻ ECM
Parcel/Sequence Number	①23
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	◻
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- WLB
Proposed Wetland Boundary	----- WLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	☠ S ☠
Potential Contamination Area: Soil	☠ S ☠
Known Contamination Area: Water	☠ W ☠
Potential Contamination Area: Water	☠ W ☠
Contaminated Site: Known or Potential	☠ ?

### BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	◻
Area Outline	◻
Cemetery	⊕
Building	◻
School	◻
Church	⊕
Dam	-----

### HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	◻
Jurisdictional Stream	----- JS
Buffer Zone 1	----- BZ 1
Buffer Zone 2	----- BZ 2
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	◻

### RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	◻ SWITCH
RR Abandoned	-----
RR Dismantled	-----

### RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	◻
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	⊕
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	-----
New Right of Way Line with Pin and Cap	-----
New Right of Way Line with Concrete or Granite R/W Marker	-----
New Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	----- E
New Temporary Construction Easement	----- E
New Temporary Drainage Easement	----- TDE
New Permanent Drainage Easement	----- PDE
New Permanent Drainage / Utility Easement	----- DUE
New Permanent Utility Easement	----- PUE
New Temporary Utility Easement	----- TUE
New Aerial Utility Easement	----- AUE

### ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C
Proposed Slope Stakes Fill	----- F
Proposed Curb Ramp	----- CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

### VEGETATION:

Single Tree	☼
Single Shrub	☼

*Note: Not to Scale*      \*S.U.E. = *Subsurface Utility Engineering*

Hedge	-----
Woods Line	-----
Orchard	☼ ☼ ☼ ☼
Vineyard	◻ Vineyard

### EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	----- CONC
Bridge Wing Wall, Head Wall and End Wall	----- CONC WW
MINOR:	
Head and End Wall	----- CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	◻ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	----- S

### UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊕
Power Transformer	⊕
U/G Power Cable Hand Hole	◻
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

### TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	◻
U/G Telephone Cable LOS B (S.U.E.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

### WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	----- A/G Water

### TV:

TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	◻
U/G TV Cable LOS B (S.U.E.*)	----- TV
U/G TV Cable LOS C (S.U.E.*)	----- TV
U/G TV Cable LOS D (S.U.E.*)	----- TV
U/G Fiber Optic Cable LOS B (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS C (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS D (S.U.E.*)	----- TV FO

### GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	----- G
U/G Gas Line LOS C (S.U.E.*)	----- G
U/G Gas Line LOS D (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas

### SANITARY SEWER:

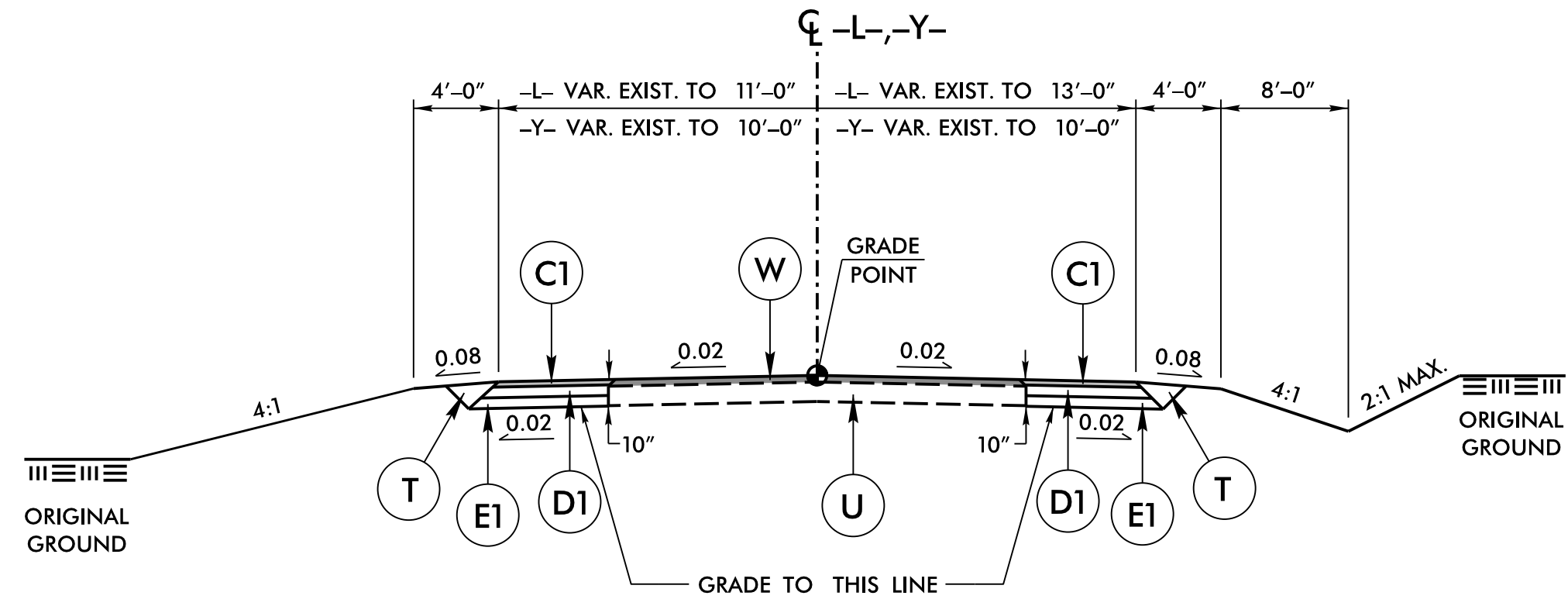
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

### MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	◻
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line LOS B (S.U.E.*)	----- TUL
U/G Tank; Water, Gas, Oil	◻
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	◻
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

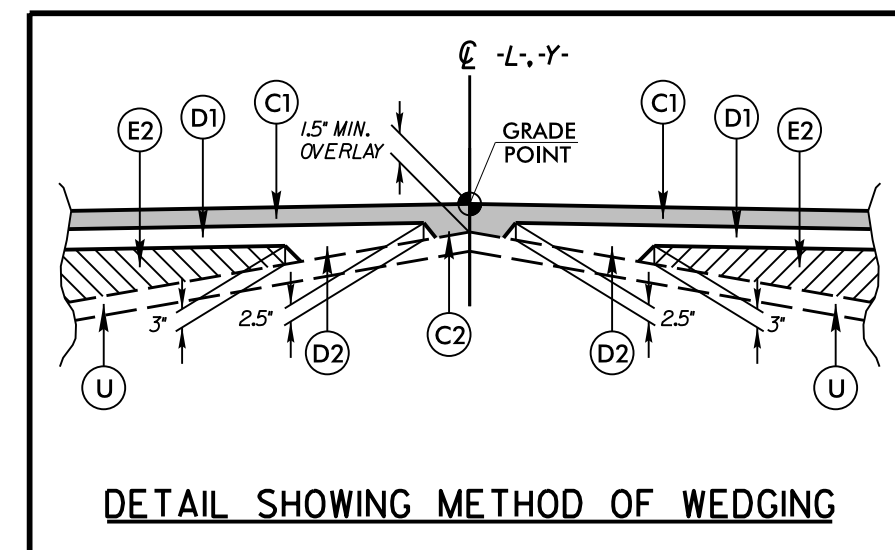
5/14/1999

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YARD.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1.5" OR GREATER THAN 2.0" IN DEPTH.
D1	PROP. APPROX. 4.0" ASPHALT CONCRETE SURFACE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4.0" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING (VARIABLE DEPTH ASPHALT PAVEMENT, SEE DETAIL ON THIS SHEET)
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.	



TYPICAL SECTION NO. 1

FROM -L- STA. 10+13.80 TO 11+75.00  
 FROM -Y- STA. 12+55.00 TO 15+50.00



DETAIL SHOWING METHOD OF WEDGING

PROJECT REFERENCE NO. <b>WBS 47854</b>	SHEET NO. <b>2A-1</b>
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	

4/30/2019  
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COMPUTED BY: JOM DATE: 1/31/2019  
CHECKED BY: RWP DATE: 3/19/2019

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. SHEET NO.  
WBS 47854 3B-1  
M A Engineering Consultants, Inc. NC License: F-0160  
598 East Chatham Street Suite 137 Cary, NC 27511  
Phone: 919.297.0220 Fax: 919.297.0221

SUMMARY OF EARTHWORK  
IN CUBIC YARDS

Table with columns: LOCATION, UNCLASSIFIED EXCAVATION, UNDERCUT, EMBT+15%, BORROW, WASTE. Rows include stationing ranges (-L- 10+13.80 TO 11+75.00), TOTAL, ESTIMATED LOSS DUE TO CLEARING AND GRUBBING, PROJECT TOTAL, GRAND TOTAL, and SAY.

APPROXIMATE QUANTITIES ONLY. CLEARING AND GRUBBING, UNCLASSIFIED EXCAVATION, FINE GRADING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".

NOTE: Earthwork quantities are calculated by the Roadway Designer. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineer.

SUMMARY OF PAVEMENT REMOVAL  
IN SQUARE YARDS

Table with columns: LOCATION, ASPHALT REMOVAL, ASPHALT BREAK-UP, CONCRETE REMOVAL, CONCRETE BREAK-UP. Rows include stationing range (-L- 10+00.00 TO 10+75.34 LT) and TOTAL/SAY.

SUMMARY OF SUBSURFACE DRAINAGE

Table with columns: LINE, STATION, STATION, LOCATION LT / RT / CL, DRAIN TYPE\* UD/BD/SD, LF. Includes rows for CONTINGENCY and GRAND TOTAL.

\*UD = UNDERDRAIN  
\*BD = BLIND DRAIN  
\*SD = SUBSURFACE DRAIN

SUMMARY OF  
AGGREGATE SUBGRADE / STABILIZATION

Table with columns: LINE, BEG STATION, END STATION, AGGREGATE TYPE\* ASU / AST, AGGREGATE THICKNESS (INCHES), SHALLOW UNDERCUT (CY), CLASS IV SUBGRADE STABILIZATION (TONS), GEOTEXTILE FOR SOIL STABILIZATION (SY), STABILIZER AGGREGATE (TONS), CLASS IV AGGREGATE STABILIZATION (TONS). Includes rows for ENGINEERS DISCRETION, CONTINGENCY, and TOTAL.

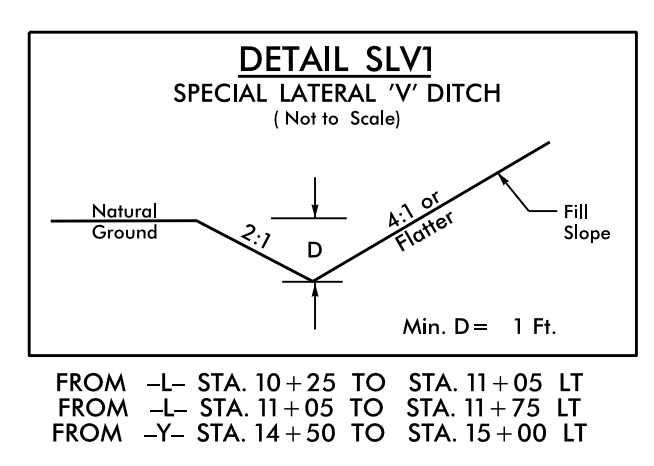
\*ASU = AGGREGATE SUBGRADE  
\*AST = AGGREGATE STABILIZATION  
\*Total square yards of Geotextile for Soil Stabilization is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

SUB-REGIONAL & REGIONAL

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

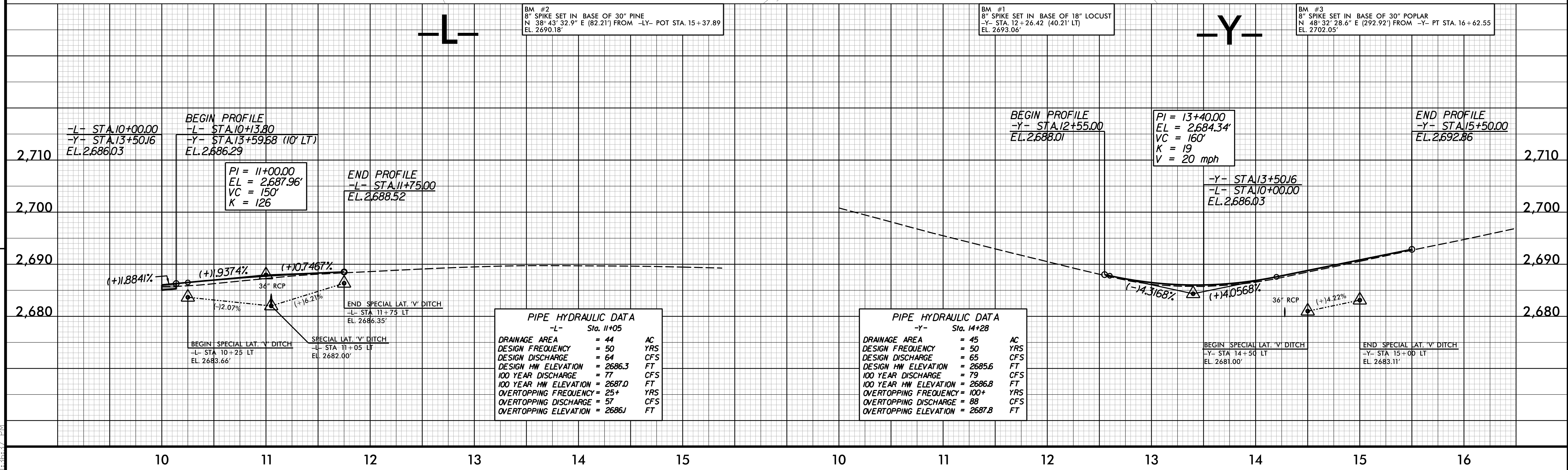
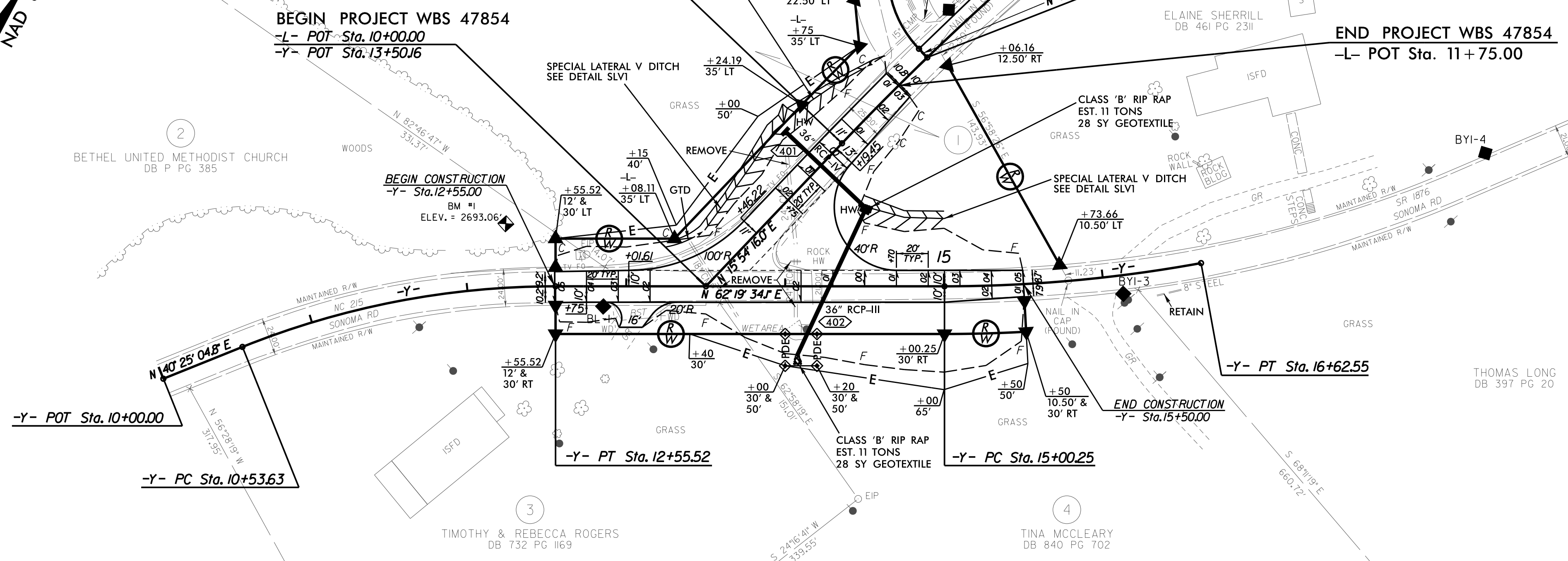
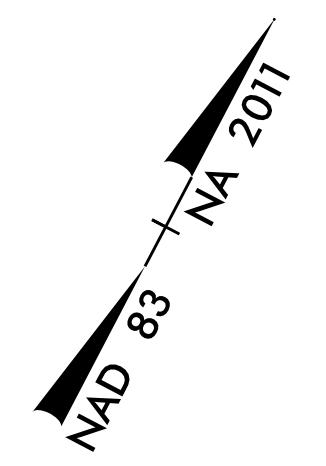
NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

Main project table with columns: STATION, LOCATION, STRUCTURE NO., TOP ELEVATION, INVERT ELEVATION, SLOPE CRITICAL, DRAINAGE PIPE, C.S. PIPE, R.C. PIPE, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES AND HOOD STANDARD, CONCRETE TRANSITIONAL SECTION, PIPE REMOVAL LIN.FT., REMARKS, ABBREVIATIONS.



-L-	-Y-	-YI-	-YI-
PI Sta 12+47.79	PI Sta 11+55.82	PI Sta 15+81.62	PI Sta 10+28.12
$\Delta = 8' 04" 48.7" (RT)$	$\Delta = 2' 54" 29.4" (RT)$	$\Delta = 10' 19" 57.9" (LT)$	$\Delta = 32' 45" 05.4" (RT)$
$D = 3' 16" 26.6"$	$D = 10' 51" 05.3"$	$D = 6' 21" 58.3"$	$D = 81' 51" 04.0"$
$L = 246.80'$	$L = 201.89'$	$L = 162.31'$	$L = 40.01'$
$T = 123.60'$	$T = 102.19'$	$T = 81.37'$	$T = 20.57'$
$R = 1750.00'$	$R = 528.00'$	$R = 900.00'$	$R = 70.00'$
$SE = 0.03$	$SE = 0.05 (EX.)$	$SE = 0.05 (EX.)$	$SE = 0.05 (EX.)$
$RO = 60'$	$RO = 100'$	$RO = 100'$	$RO = 100'$

PROJECT REFERENCE NO. <b>WBS 47854</b>	SHEET NO. <b>4</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
<b>M A Engineering Consultants, Inc.</b> 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220	
NC License: F-0160 27511 Fax: 919.297.0221	



REVISIONS

4/26/2019  
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09/06/19

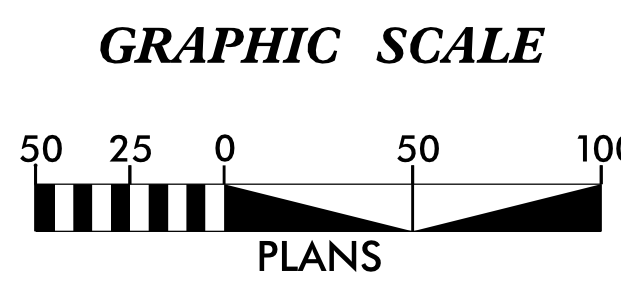
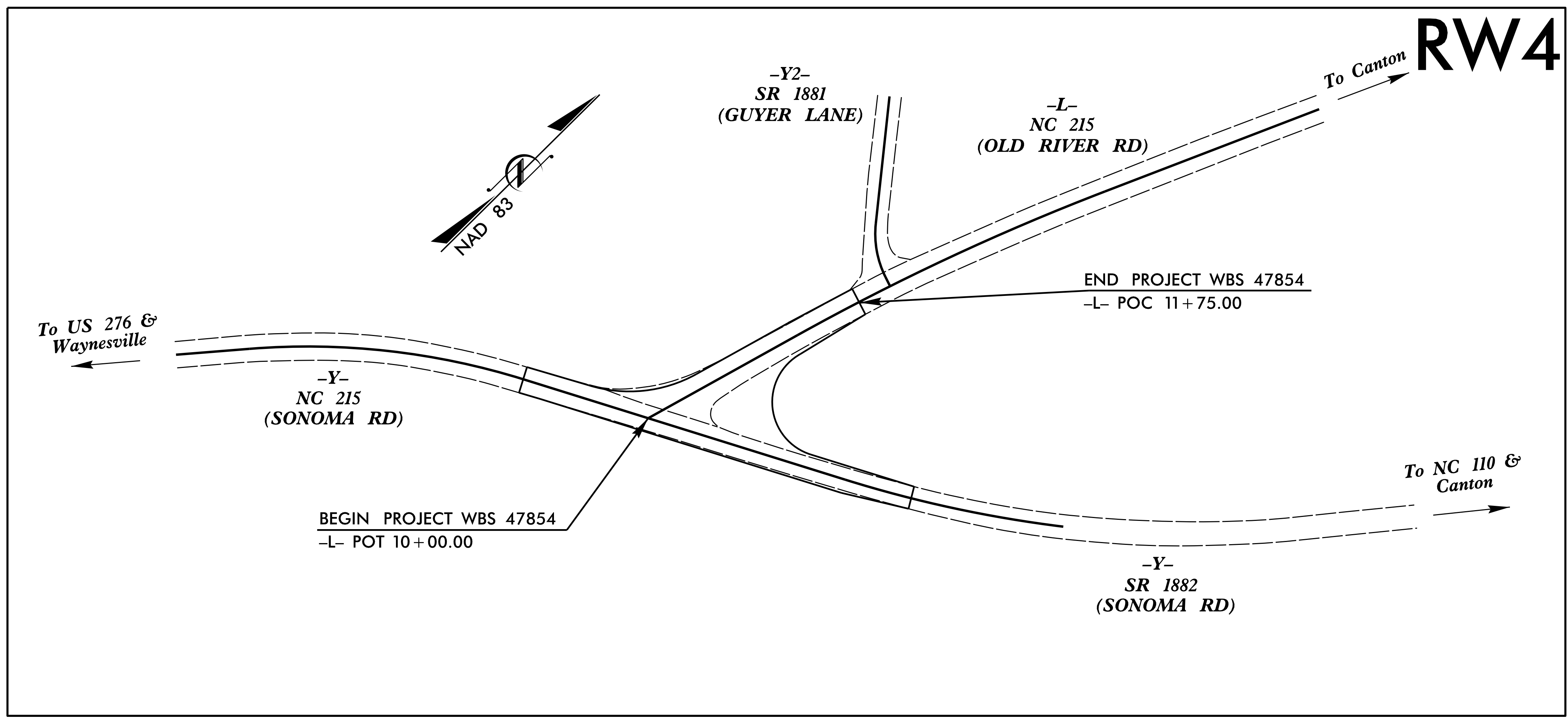
TIP PROJECT: 47854

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	47854	RW01	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES,  
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

**HAYWOOD COUNTY**



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "G-101" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 651097.007(ft) EASTING: 841940.793(ft) ELEVATION: 2688.08(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999756625 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "G-101" TO -L- STATION 10+00 IS S 30°29'28.2" W 1022.53(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

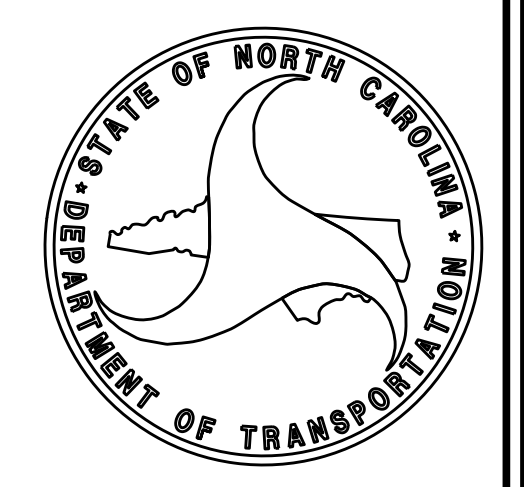
LOCATION AND SURVEYS, DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

PROFESSIONAL LAND SURVEYOR



DocuSigned by:  
*Brian Barnhart*  
SIGNATURE:

2/20/2019  
Date:

\$\$\$\$\$ SYSTEM \$\$\$\$\$\$  
\$\$\$\$\$ DDN \$\$\$\$\$\$  
\$\$\$\$\$ USERNAME \$\$\$\$\$\$



# SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

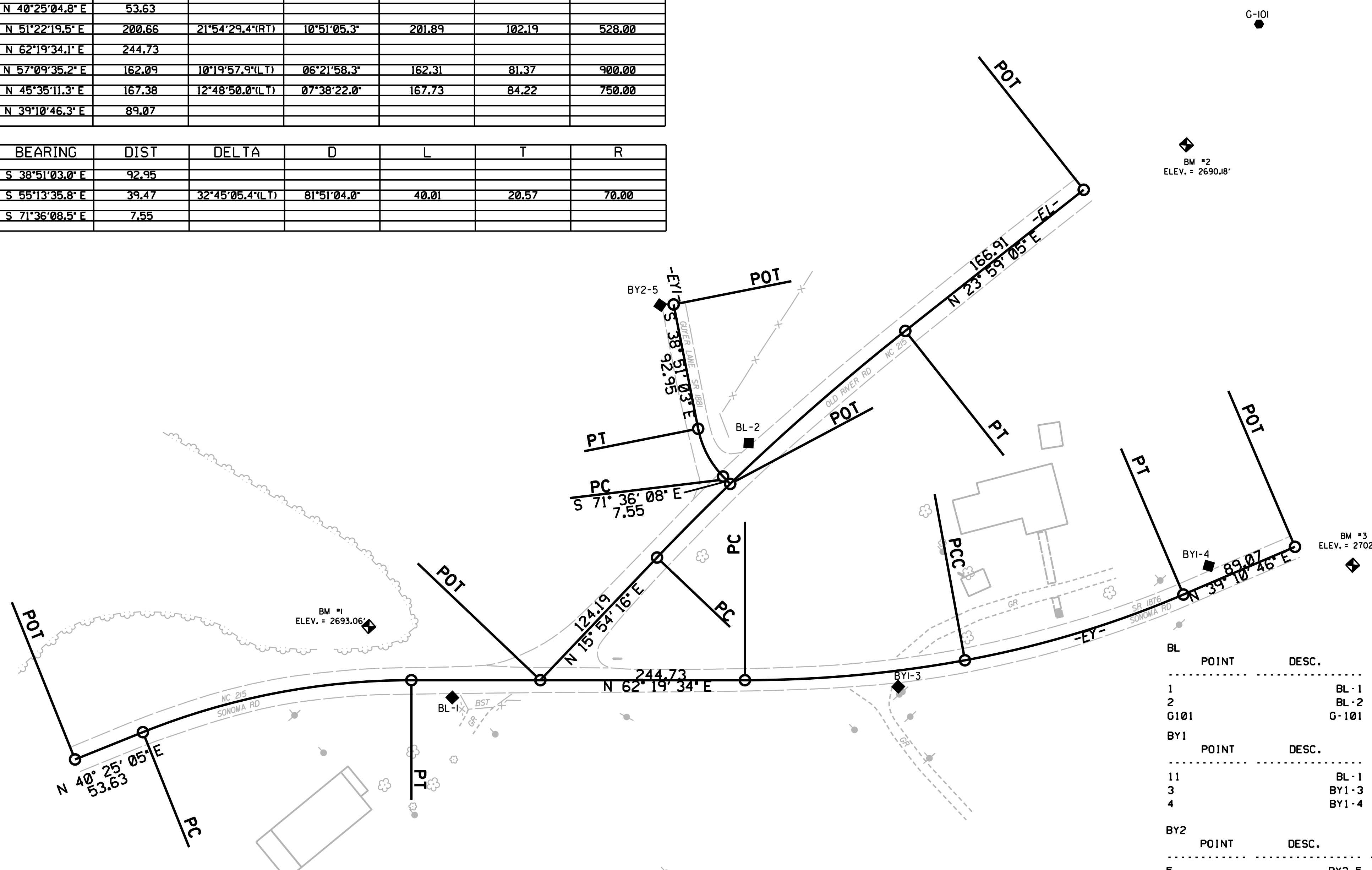
PROJECT REFERENCE NO.	SHEET NO.
47854	RW02C-1
Location and Surveys	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVA, NC 28779	

EL									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	650425.935	841697.303							
LINE			N 15°54'16.0" E	124.19					
PC	650545.367	841731.335							
CURVE			N 19°56'40.4" E	246.59	08°04'48.7"(RT)	03°16'26.6"	246.80	123.60	1750.00
PT	650777.168	841815.449							
LINE			N 23°59'04.7" E	166.91					
POT	650929.665	841883.296							

EY									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	650215.884	841421.955							
LINE			N 40°25'04.8" E	53.63					
PC	650256.713	841456.725							
CURVE			N 51°22'19.5" E	200.66	21°54'29.4"(RT)	10°51'05.3"	201.89	102.19	528.00
PT	650381.979	841613.486							
LINE			N 62°19'34.1" E	244.73					
PC	650495.639	841830.217							
CURVE			N 57°09'35.2" E	162.09	10°19'57.9"(LT)	06°21'58.3"	162.31	81.37	900.00
PCC	650583.538	841966.400							
CURVE			N 45°35'11.3" E	167.38	12°48'50.0"(LT)	07°38'22.0"	167.73	84.22	750.00
PT	650700.679	842085.964							
LINE			N 39°10'46.3" E	89.07					
POT	650769.725	842142.235							

EY1									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	650715.405	841655.900							
LINE			S 38°51'03.0" E	92.95					
PC	650643.019	841714.206							
CURVE			S 55°13'35.8" E	39.47	32°45'05.4"(LT)	81°51'04.0"	40.01	20.57	70.00
PT	650620.507	841746.628							
LINE			S 71°36'08.5" E	7.55					
POT	650618.125	841753.789							

.....  
 BM1 ELEVATION = 2693.06  
 N 650402 E 841567  
 8" SPIKE SET IN BASE OF 18" LOCUST  
 .....  
 BM2 ELEVATION = 2690.18  
 N 650994 E 841935  
 8" SPIKE SET IN BASE OF 30" PINE  
 .....  
 BM3 ELEVATION = 2702.05  
 N 650777 E 842186  
 8" SPIKE SET IN BASE OF 30" POPLAR  
 .....



BL POINT	DESC.	NORTH	EAST	ELEVATION
1	BL - 1	650384.6650	841645.9750	2685.93
2	BL - 2	650650.9380	841751.8410	2688.50
G101	G - 101	651097.0070	841940.7930	2688.08

BY1 POINT	DESC.	NORTH	EAST	ELEVATION
11	BL - 1	650384.6650	841645.9750	2685.93
3	BY1 - 3	650543.7090	841932.0290	2694.95
4	BY1 - 4	650727.8940	842092.6410	2701.10

BY2 POINT	DESC.	NORTH	EAST	ELEVATION
5	BY2 - 5	650710.4180	841647.4300	2692.39
22	BL - 2	650650.9380	841751.8410	2688.50

- NOTES:
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
  - THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

20-FEB-2019 13:40 C:\sylvia\high\project\_low\cost\nc215 (47854)\rw Sheets Revised (TIP)\To\_Send\nc215\_1s.rw02c-1.dgn bobar-watt AT LSD14-279911

# PROPOSED ALIGNMENT SHEET

PROJECT REFERENCE NO.	SHEET NO.
47854	RW02D-1
Location and Surveys	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVA, NC 28779	

6/2/09

REVISIONS

20-FEB-2019 13:42  
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bobor-watt AT LS014-279911

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	650425.9350	841697.3035
PC	11+24.19	650545.3670	841731.3346
PT	13+70.98	650777.1683	841815.4494
POT	15+37.89	650929.6650	841883.2963

Y

TYPE	STATION	NORTH	EAST
POT	10+00.00	650215.8837	841421.9545
PC	10+53.63	650256.7125	841456.7247
PT	12+55.52	650381.9788	841613.4863
PC	15+00.25	650495.6390	841830.2174
PT	16+62.55	650583.5382	841966.4001

Y1

TYPE	STATION	NORTH	EAST
POT	10+00.00	650618.1254	841753.7890
PC	10+07.55	650620.5073	841746.6278
PT	10+47.56	650643.0188	841714.2058
POT	11+40.51	650715.4048	841655.9001

**NOTES:**

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

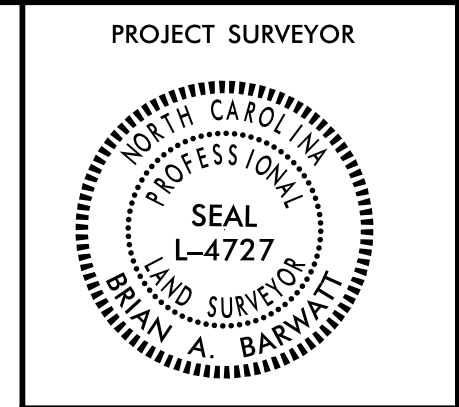
PROJECT REFERENCE NO.	SHEET NO.
47854	RW03E-1
<b>Location and Surveys</b>	
LOCATION AND SURVEYS, DIVISION 14 122 BONNIE LANE SYLVA, NC 28779	

I, Brian Barwatt, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 20th day of February, 2019.



DocuSigned by:  
*Brian Barwatt*  
Professional Land Surveyor

L-4727  
PLS #

Seal

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+08.11	-35.00	650443.3228	841665.8649
L	11+24.19	-35.00	650554.9582	841697.6744
L	11+75.00	-35.00	650604.5914	841712.5993
L	12+06.16	12.50	650619.6613	841767.4833

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y	12+55.52	-12.00	650392.6061	841607.9130
Y	12+55.52	-30.00	650408.5470	841599.5531
Y	12+55.52	12.00	650371.3515	841619.0595
Y	12+55.52	30.00	650355.4106	841627.4194
Y	15+00.25	30.00	650469.0708	841844.1505
Y	15+50.00	30.00	650494.1951	841888.9991
Y	15+50.00	10.50	650510.9376	841879.0022
Y	15+73.66	-10.50	650541.2187	841888.1538

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	10+47.56	-22.50	650628.9047	841696.6832

PDE

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y	14+00.00	30.00	650422.5130	841755.3725
Y	14+00.00	50.00	650404.8009	841764.6613
Y	14+20.00	50.00	650414.0897	841782.3734
Y	14+20.00	30.00	650431.8018	841773.0846

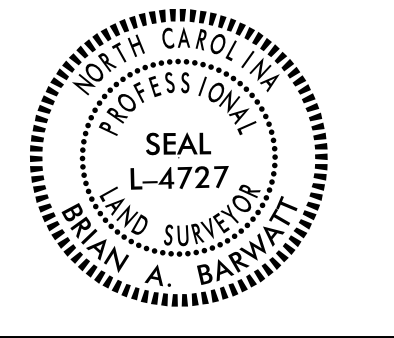
NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

REVISIONS

20-FEB-2019 13:54  
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bbarwatt



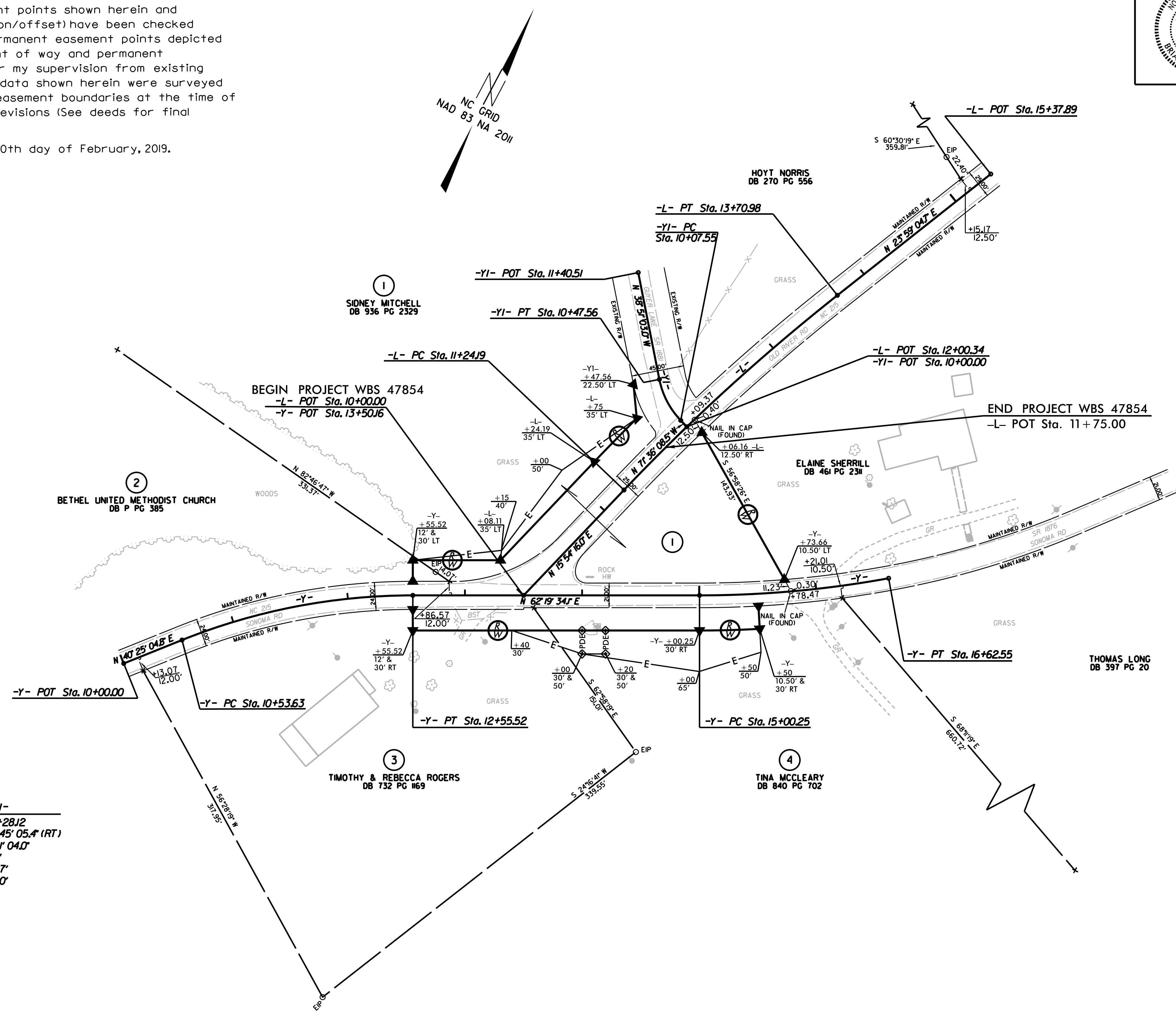
I, Brian Barwatt, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 20th day of February, 2019.

DocuSigned by:  
*Brian Barwatt*  
Professional Land Surveyor L-4727  
PLS \* Seal



-L-	-Y-	-YI-
PI Sta 12+47.79	PI Sta 11+55.82	PI Sta 15+81.62
$\Delta = 8^{\circ}04'48.7''$ (RT)	$\Delta = 21^{\circ}54'29.4''$ (RT)	$\Delta = 10^{\circ}19'57.9''$ (LT)
D = 3'16" 26.6"	D = 10'51" 05.3"	D = 6'21" 58.3"
L = 246.80'	L = 201.89'	L = 162.31'
T = 123.60'	T = 102.19'	T = 81.37'
R = 1750.00'	R = 528.00'	R = 900.00'
SE = 0.03	SE = 0.05 (EX.)	SE = 0.05 (EX.)
RO = 60'	RO = 100'	RO = 100'

REVISIONS

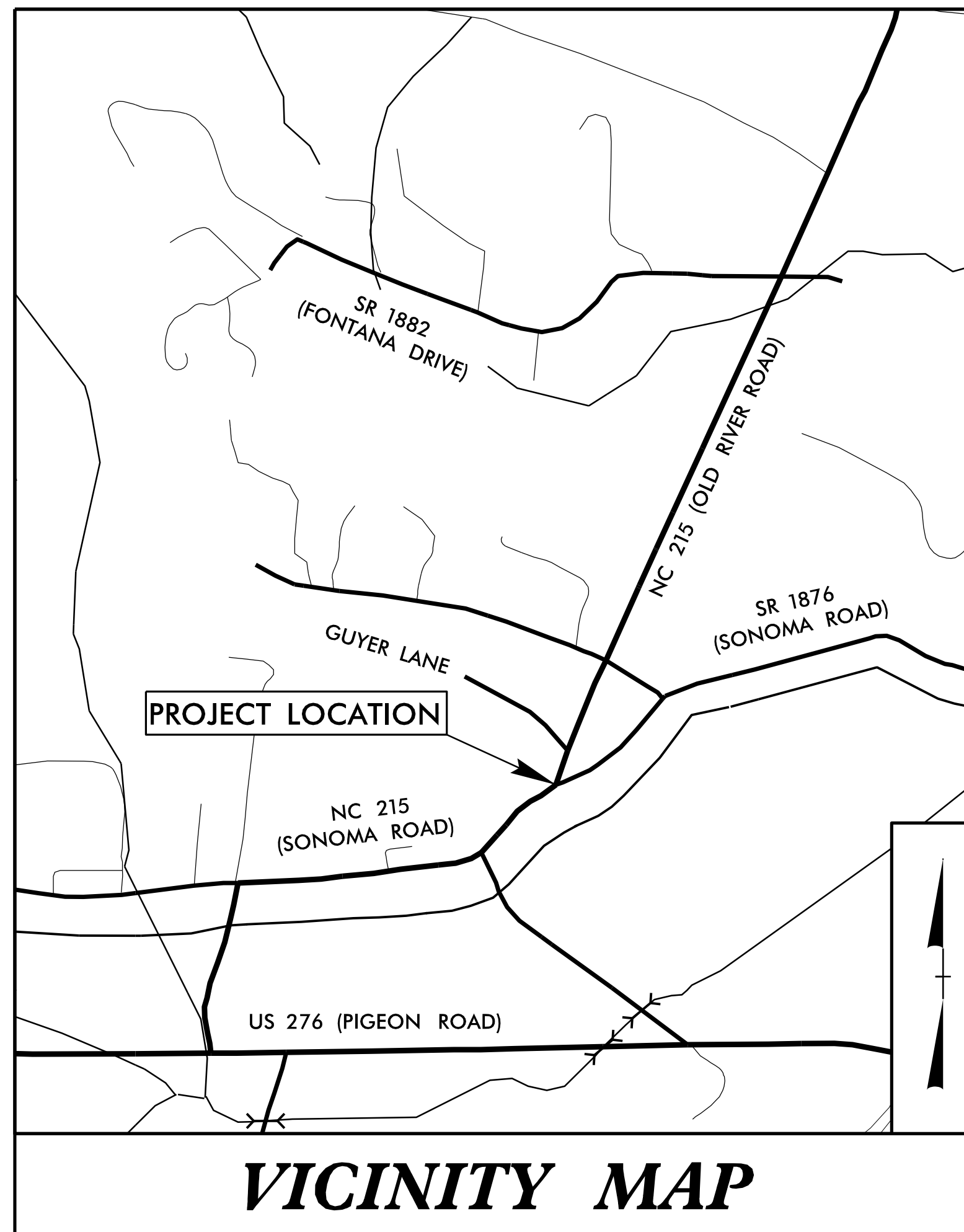
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Impact\_Loc\_Cost\nc215 (47854)\RW  
Sheet 14 of 14  
Barwatt

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**HAYWOOD COUNTY**

NC 215 (SONOMA ROAD) AT NC 215 (OLD RIVER ROAD)



**VICINITY MAP**

**INDEX OF SHEETS**

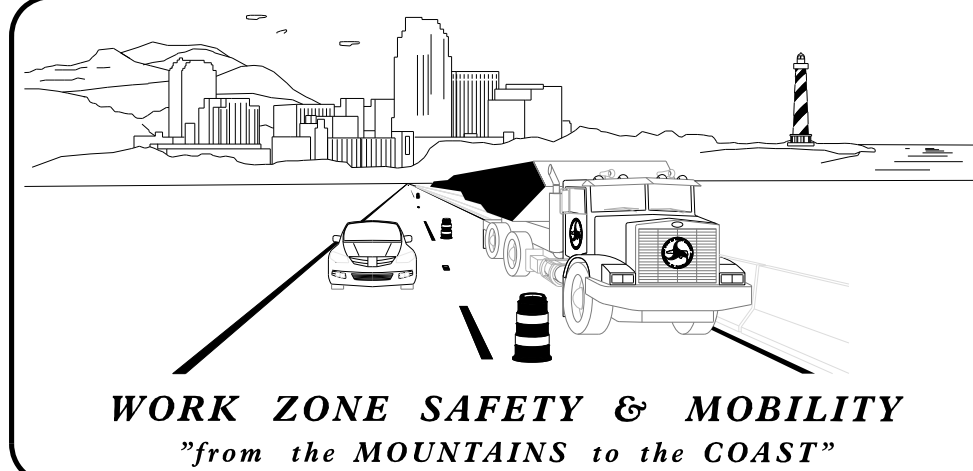
<u>SHEET NO.</u>	<u>TITLE</u>
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-2	ROADWAY STANDARD DRAWINGS & LEGEND
TMP-3	GENERAL NOTES

SHEET NO.

TMP-1

**TIP PROJECT: WBS 47854**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



PLANS PREPARED BY:  
NICK E. BURNS, P.E.  
PROJECT ENGINEER  
ZACH M. ESPOSITO, E.I.  
PROJECT DESIGN ENGINEER



**RAMEY KEMP & ASSOCIATES, INC.**  
Transportation Engineers  
8307 University Executive Park Drive, Suite 260  
Charlotte, North Carolina 28262  
704-549-4260 Tel. 704-549-4277 Fax.  
www.rameykemp.com  
NC License No. C-0910

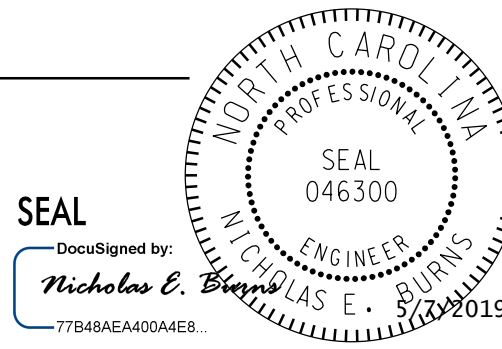
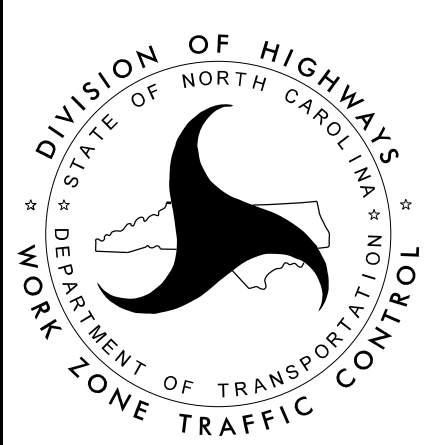
APPROVED: \_\_\_\_\_  
DATE: \_\_\_\_\_  
SEAL  
Nicholas E. Burns  
NICHOLAS E. BURNS  
ENGINEER  
SEAL  
046300  
77848AE4004E8 2019

**CONTRACT:**

## ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

APPROVED: _____  DATE: _____			<h3>ROADWAY STANDARD DRAWINGS &amp; LEGEND</h3>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

## GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

### LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- F) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

### TRAFFIC PATTERN ALTERATIONS

- G) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

### SIGNING

- H) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

### PAVEMENT MARKINGS AND MARKERS

- I) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1876 (SONOMA ROAD)	THERMOPLASTIC	NONE
NC 215 (OLD RIVER ROAD)	THERMOPLASTIC	NONE

- J) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- K) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- L) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

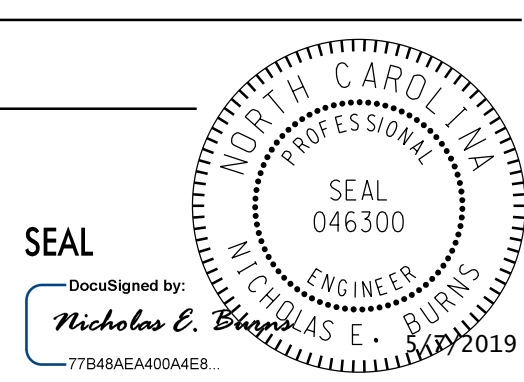
## PHASING

### PHASE I

NOTE: WHEN REFERENCING THE USE OF FLAGGERS, SEE RSD 1101.02, SHEET 1 OF 14)

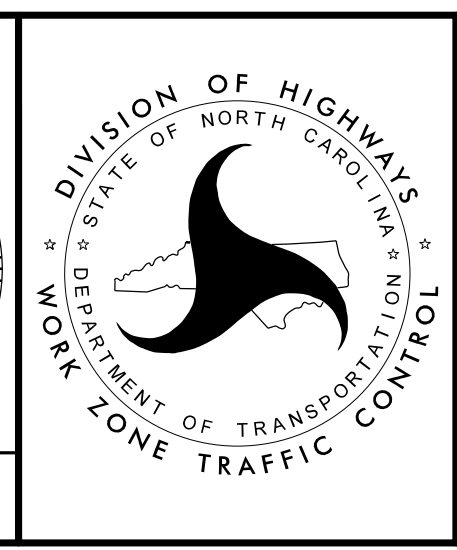
- STEP 1 -- INSTALL ADVANCE WARNING SIGNS (SEE RSD 1101.01).
- STEP 2 -- USING FLAGGERS ALONG -Y- AND -L-, CONSTRUCT THE PROPOSED RADIUS WIDENING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM THE RADIUS TIE-IN AT -L- STA. 11+19± TO THE RADIUS TIE-IN AT -Y- STA. 14+70±.
- STEP 3 -- USING ALTERNATING LANE CLOSURES AND FLAGGERS ON -Y-; CONSTRUCT WIDENING OF -Y- FROM STA. 12+55± TO STA. 15+50±.
- STEP 4 -- USING ALTERNATING LANE CLOSURES AND FLAGGERS ON BOTH -Y- AND -L-; PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKERS THROUGHOUT THE PROJECT LIMITS.

APPROVED: \_\_\_\_\_  
 DATE: \_\_\_\_\_



DocuSigned by:  
 Nicholas E. Burns  
 77B48AE4A0D0AEB

**DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED**



**STAGING CONCEPT  
 GENERAL NOTES**

T.I.P.: WBS 47854

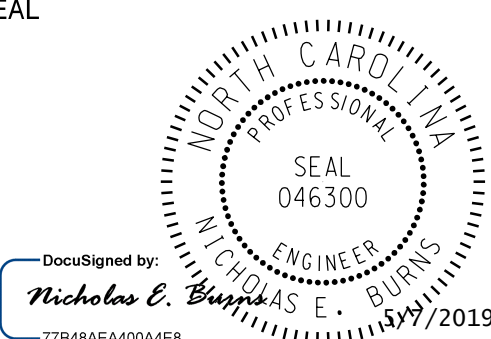
CONTRACT: -

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKING PLAN**

**HAYWOOD COUNTY**

LOCATION: RADIUS IMPROVEMENT FOR NC 215 (SONOMA ROAD) ONTO US 215 (OLD RIVER ROAD)

TIP NO. WBS 47854	SHEET NO. PMP-1
APPROVED: _____	
DATE: _____	
SEAL	
	

**ROADWAY STANDARD DRAWING**

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS

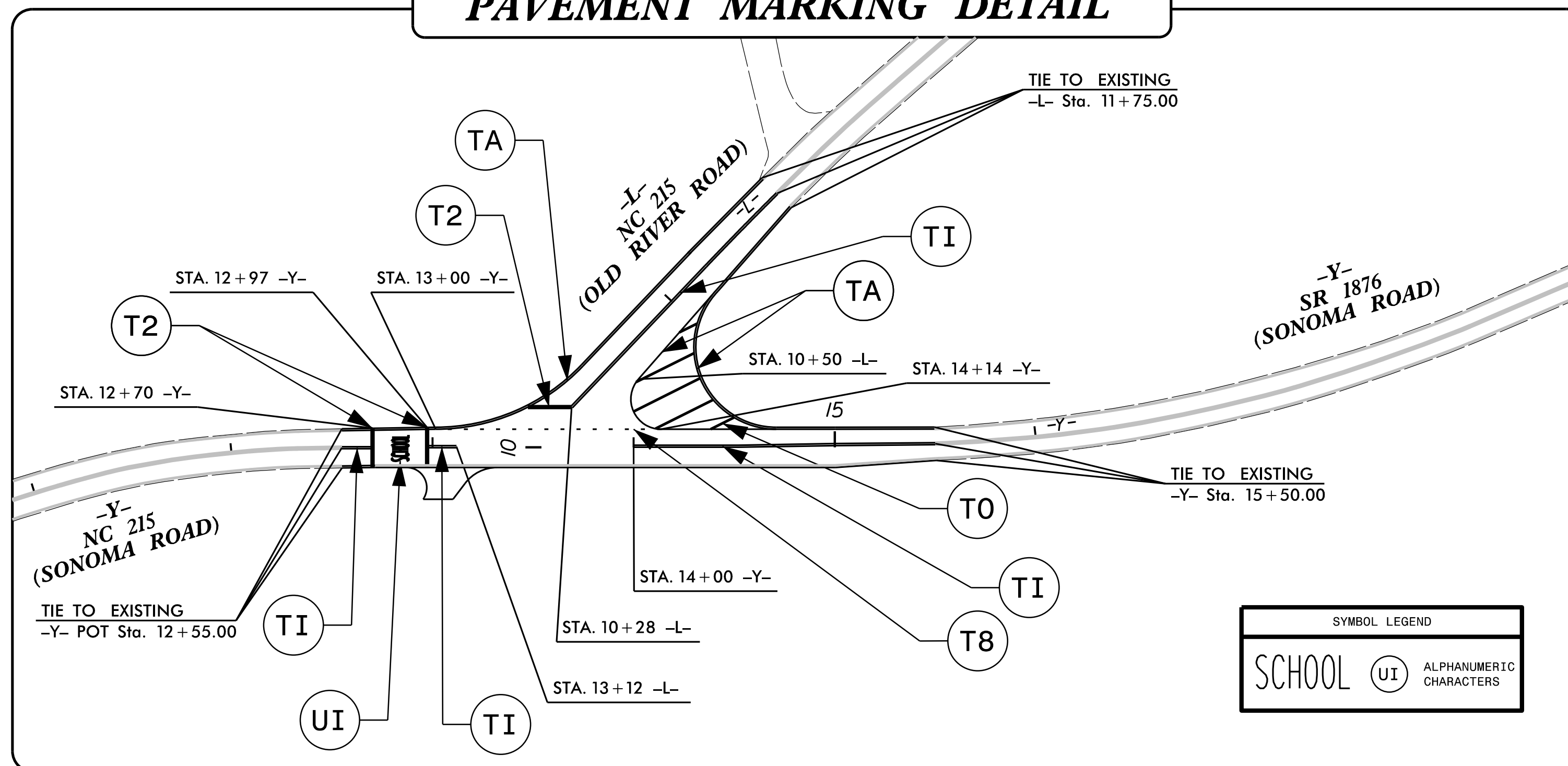
**GENERAL NOTES**

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:
 

ROAD NAME	MARKING	MARKER
ALL	THERMOPLASTIC	NONE
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
- E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

**PAVEMENT MARKING DETAIL**



**PAVEMENT MARKING SCHEDULE**

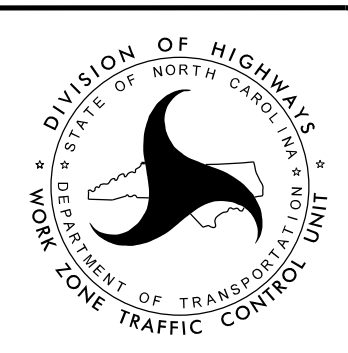
SYMBOL	DESCRIPTION
T2	WHITE STOP OR TRANSVERSE BAR (24", 120 MIL)
T8	2 FT.-6FT./SP WHITE MINISKIP (4", 120 MIL)
TA	WHITE EDGELINE (4", 90 MIL)
TI	YELLOW DOUBLE CENTER (4", 120 MIL)
TO	WHITE DIAGONAL (8", 90 MIL)

**INDEX**

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE SHEET AND PAVEMENT MARKING SCHEDULE AND PAVEMENT MARKING DETAILS

PLAN REVIEWED BY: N.C.D.O.T. HIGHWAY DIVISION 14

**JONATHAN WOODARD** NCDOT PROJECT MANAGER  
**ETHAN MILLER** NCDOT PROJECT ENGINEER



PLAN PREPARED BY: Ramey Kemp & Associates

**NICHOLAS E. BURNS, P.E.** PROJECT MANAGER  
**ZACHARY M. ESPOSITO, E.I.** PROJECT ENGINEER





09/08/09

PROJECT: WBS 47854

CONTRACT: DN00680

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

LOCATION: INTERSECTION OF NC 215 / SR 1876 (SONOMA RD) AND  
 NC 215 (OLD RIVER RD)

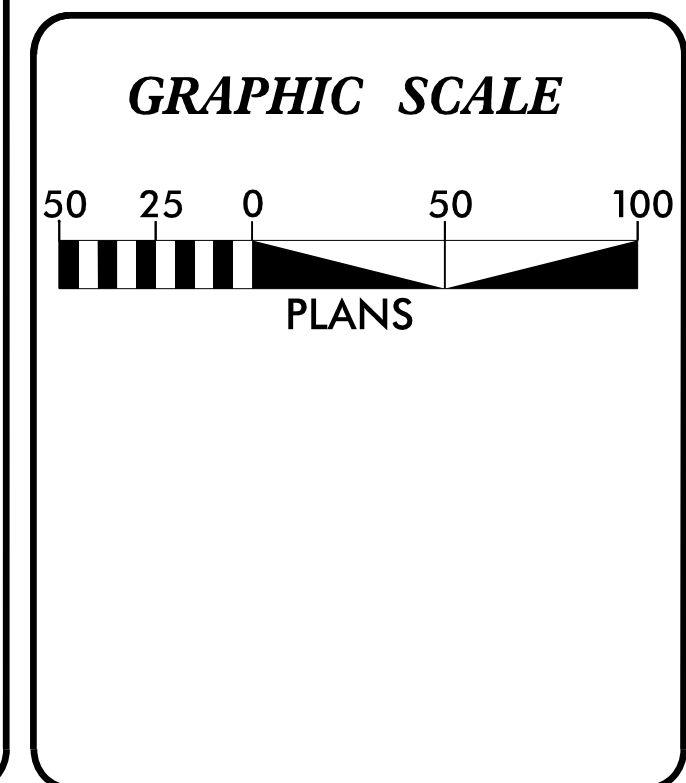
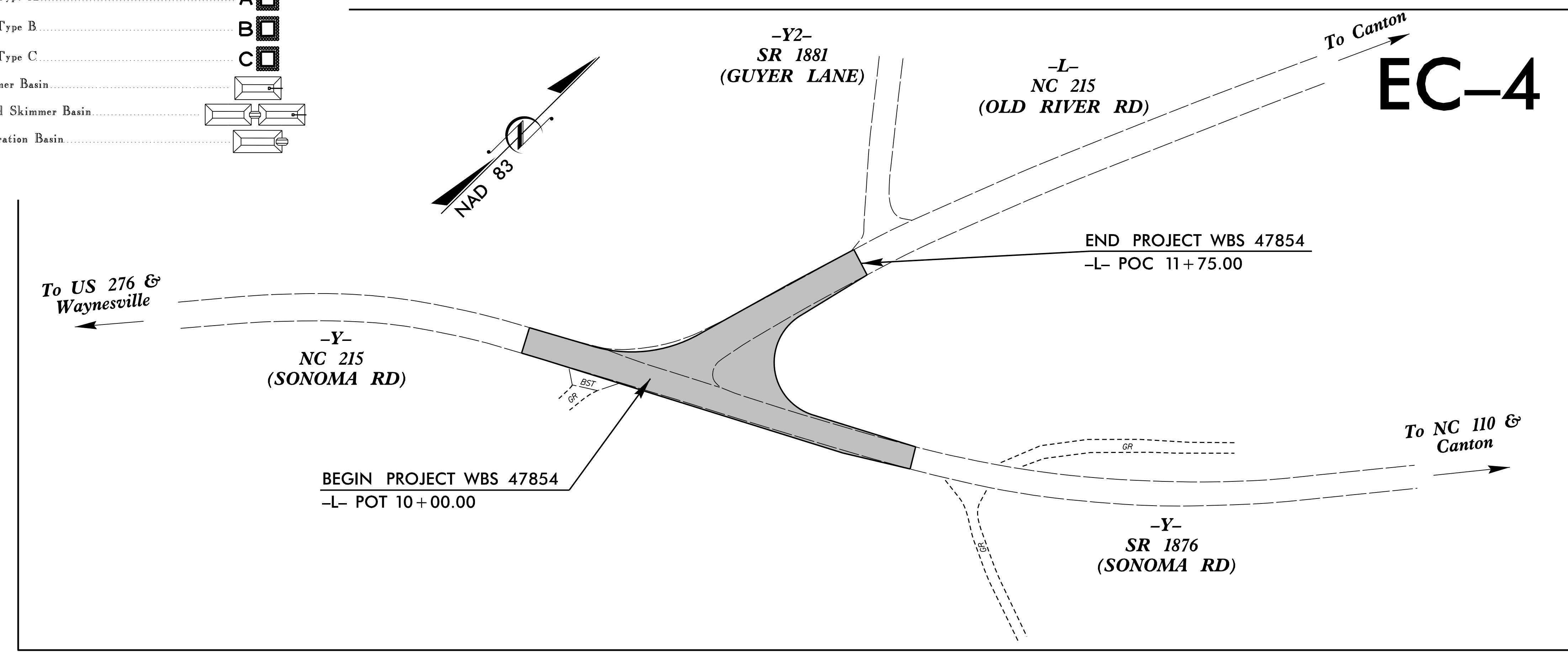
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND PAVEMENT MARKINGS

**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
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	
	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	
1632.02	Type B	
1632.03	Type C	
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	WBS 47854	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
WBS 47854		PE	
WBS 47854		RW, UTILITIES	
WBS 47854		CONSTRUCTION	

THIS PROJECT CONTAINS  
 EROSION CONTROL PLANS  
 FOR CLEARING AND  
 GRUBBING PHASE OF  
 CONSTRUCTION.



ROADSIDE ENVIRONMENTAL UNIT  
 DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY  
 WITH THE REGULATIONS SET FORTH BY THE  
 NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016  
 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND  
 NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:  
**Weston & Sampson**  
 608 East Chatham Street Suite 137  
 Cary, NC 27511  
 Phone: 919.297.0220 Fax: 919.297.0221  
 NC License: C-4847

Prepared For NCDOT:  
**DIVISION OF HIGHWAYS**  
 Division 14, 253 Webster Road, Sylva, NC 28779  
**2018 STANDARD SPECIFICATIONS**

Designed by:  
**PAUL CAMERON, PE** 3624  
 NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

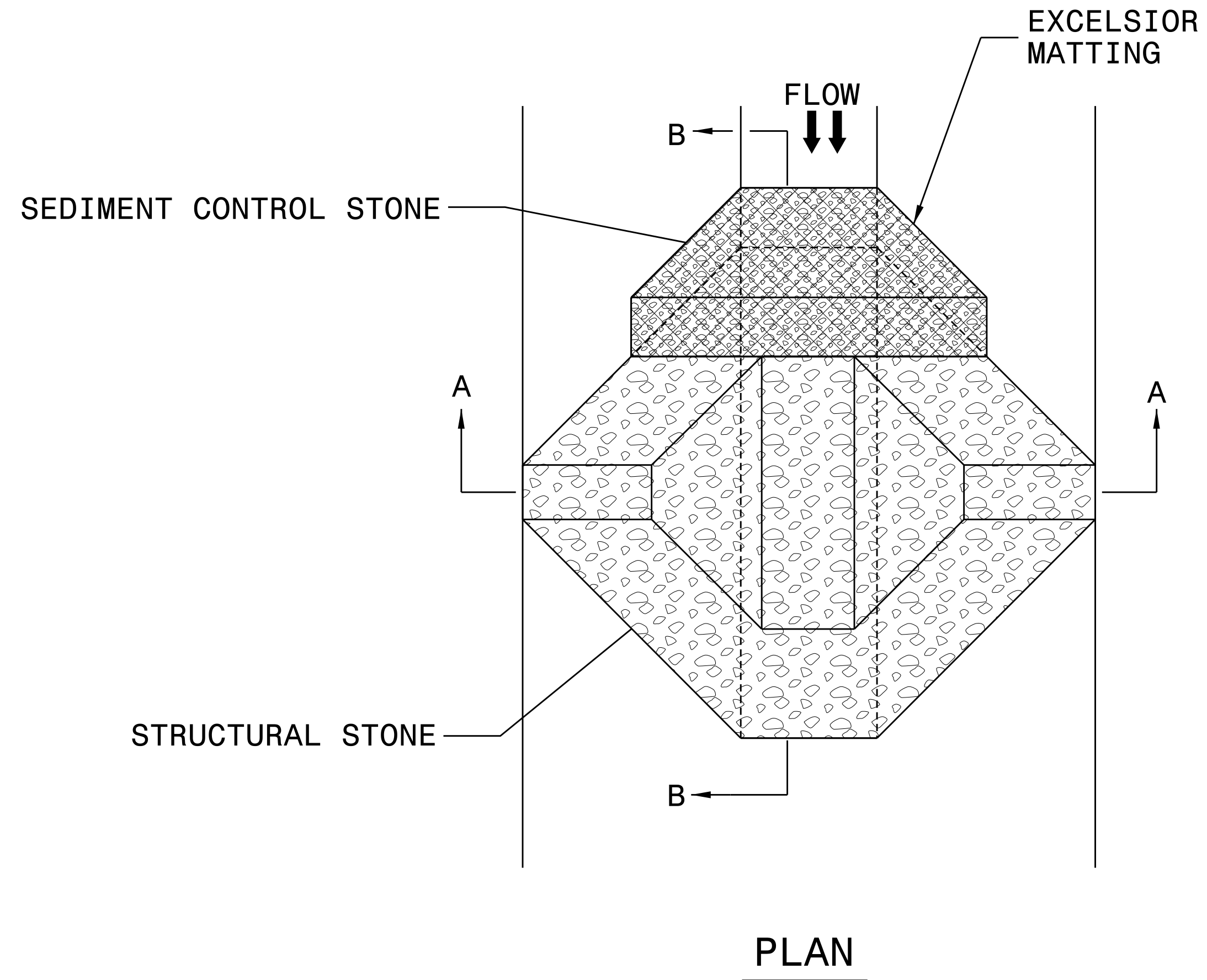
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

BS:\0854\0915\16\2022\160924\Hydro\erocn\EC\NC215\_EC\_EC1.txdgn

PROJECT REFERENCE NO. WBS 47854	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



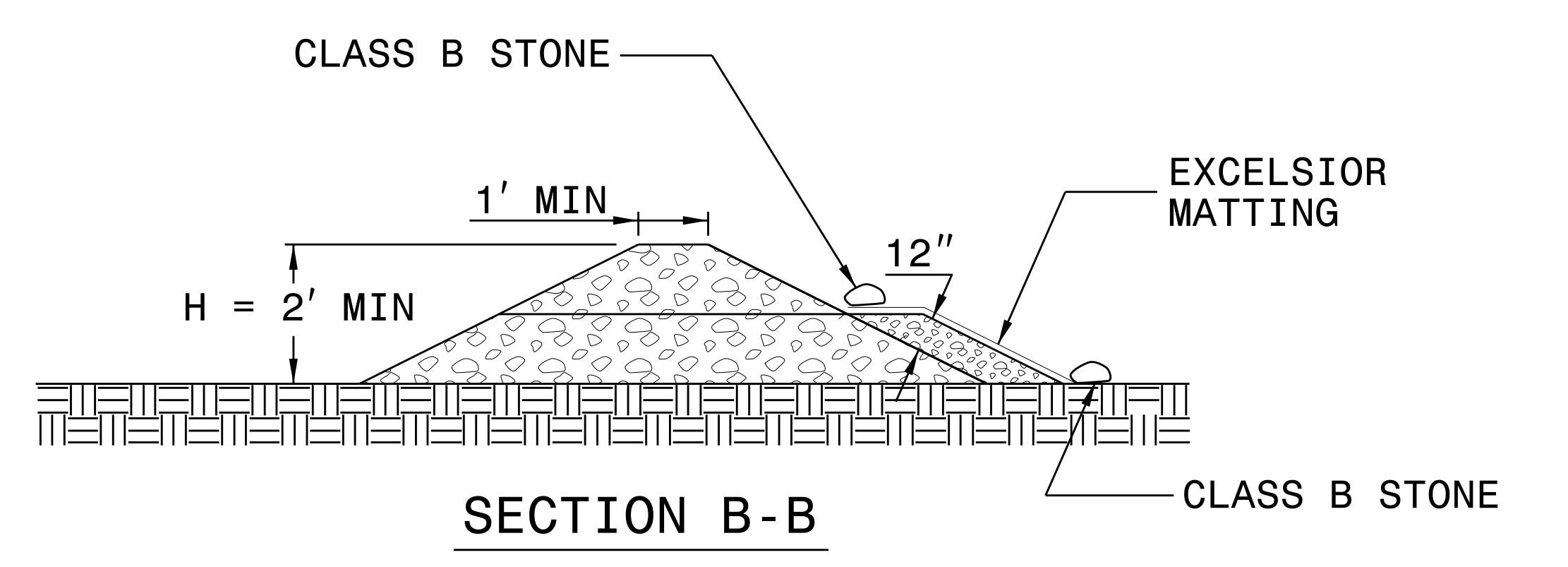
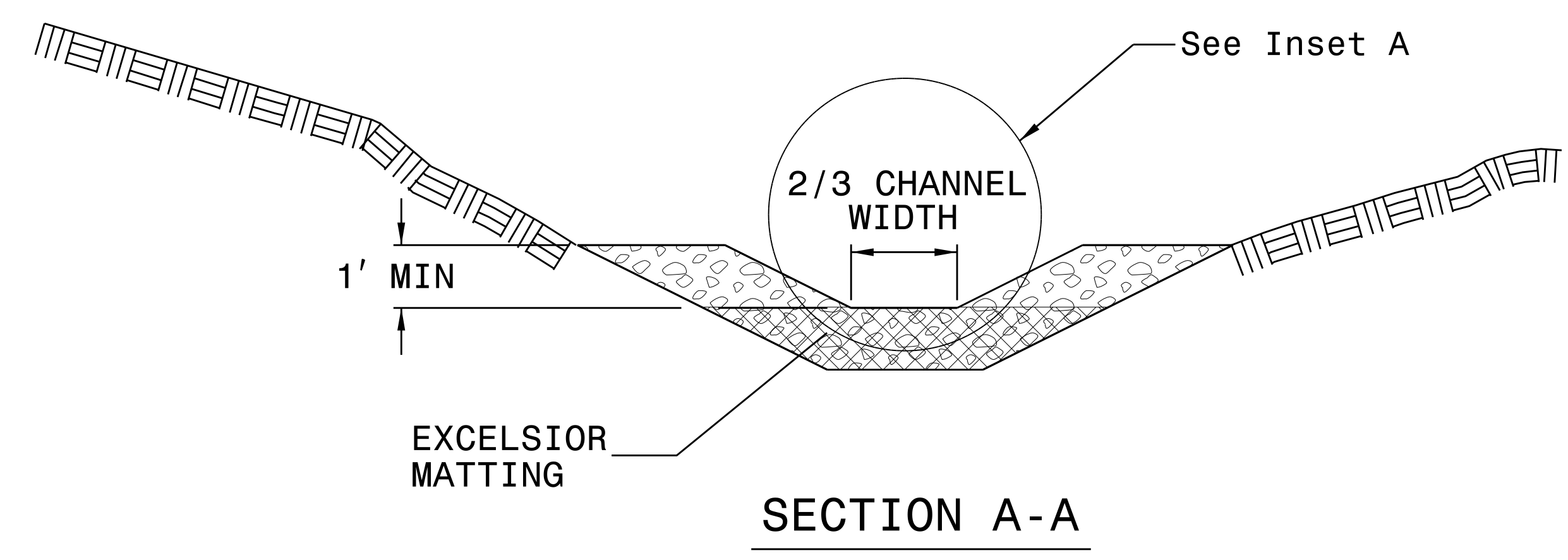
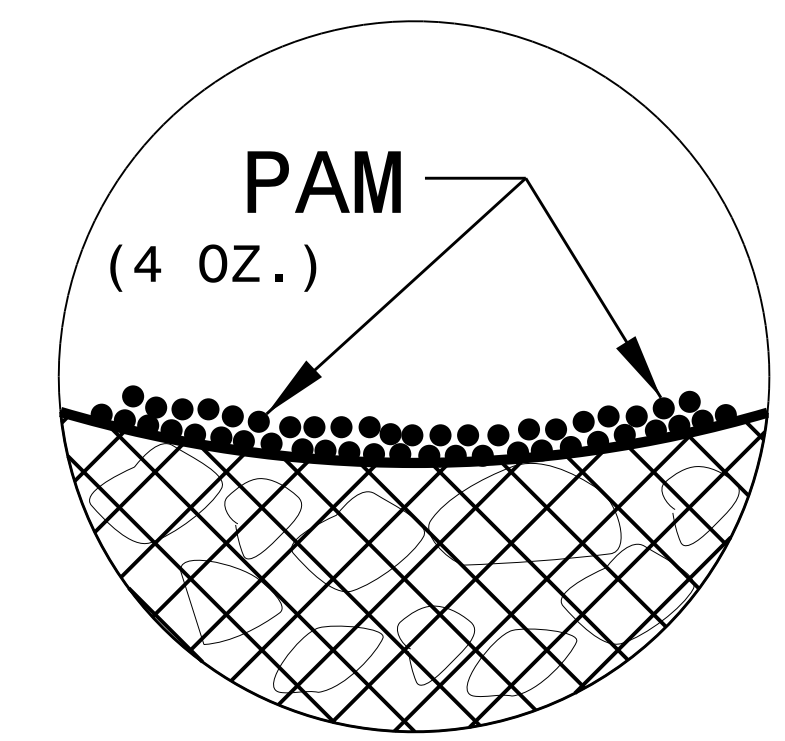
**NOTES:**

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.



NOT TO SCALE

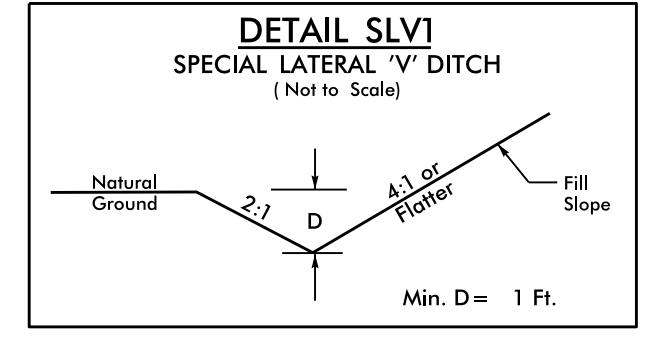


8.17.09

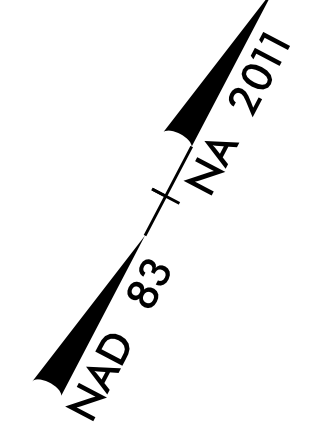
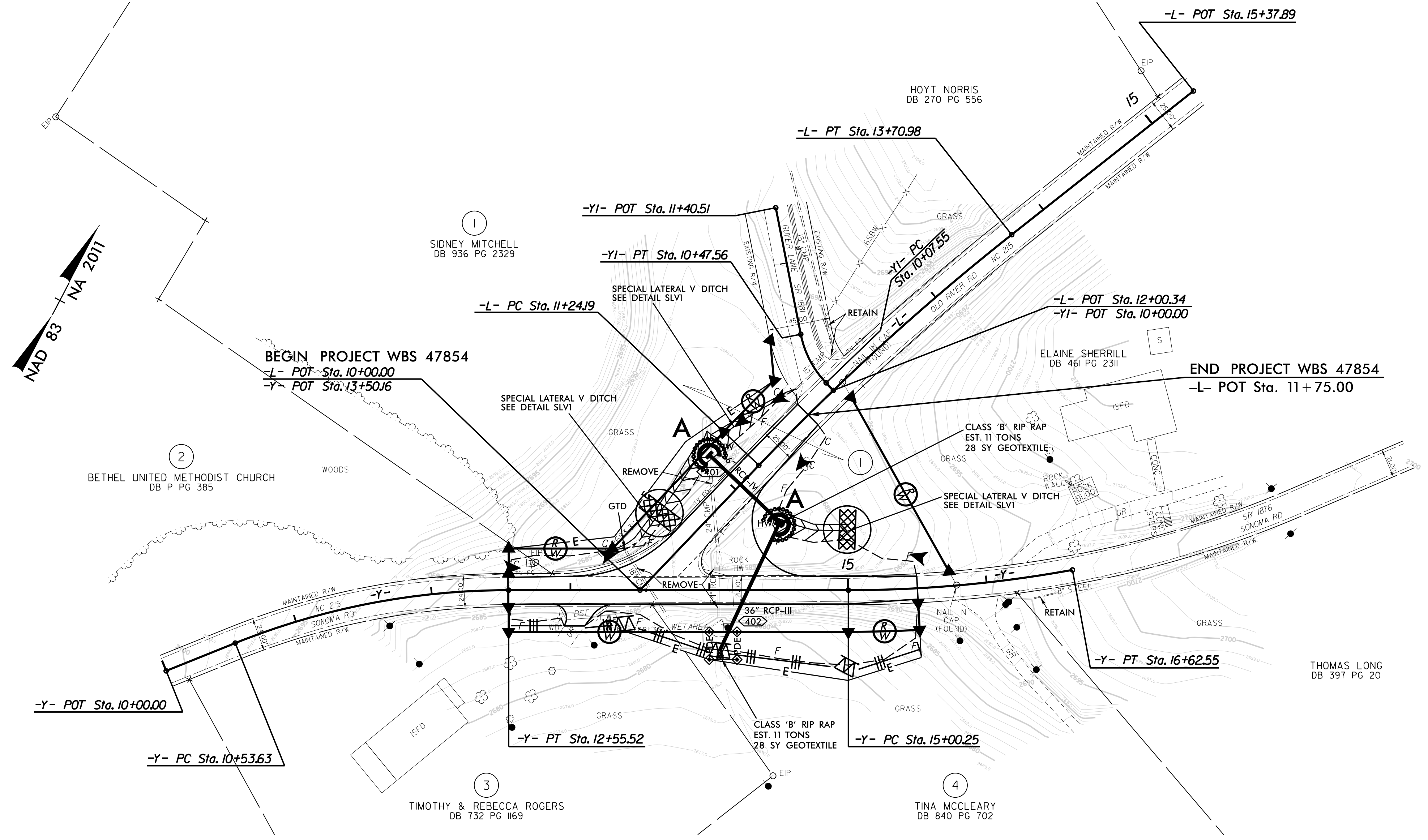
PROJECT REFERENCE NO. <b>WBS 47854</b>	SHEET NO. <b>EC-4/CONST 4</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

**M A Engineering Consultants, Inc.**  
 NC License: F-0160  
 598 East Chatham Street Suite 137 Cary, NC 27511  
 Phone: 919.297.0220 Fax: 919.297.0221



FROM -L- STA. 10+25 TO STA. 11+05 LT  
 FROM -L- STA. 11+05 TO STA. 11+75 LT  
 FROM -Y- STA. 14+50 TO STA. 15+00 LT



P:\18\209\0659\0659\WBS47854\Hydr\ulics\ec\EC4.dgn

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE AS NOTED ON EC-3

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


T.I.P.: WBS 47854

CONTRACT:

**STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN  
HAYWOOD COUNTY**

**LOCATION: RADIUS IMPROVEMENT FOR NC 215 (SONOMA ROAD) ONTO NC 215 (OLD RIVER ROAD)**

<small>TIP NO.</small> WBS 47854	<small>SHEET NO.</small> SIGN-1
<small>APPROVED:</small> _____	
<small>DATE:</small> _____	
	

**GENERAL NOTES**

- . SIGNS FURNISHED BY STATE
- . SIGNING PLANS DO NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING OR PAVEMENT MARKINGS. SEE TRAFFIC CONTROL PLANS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- . SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

**ROADWAY STANDARD DRAWING**

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

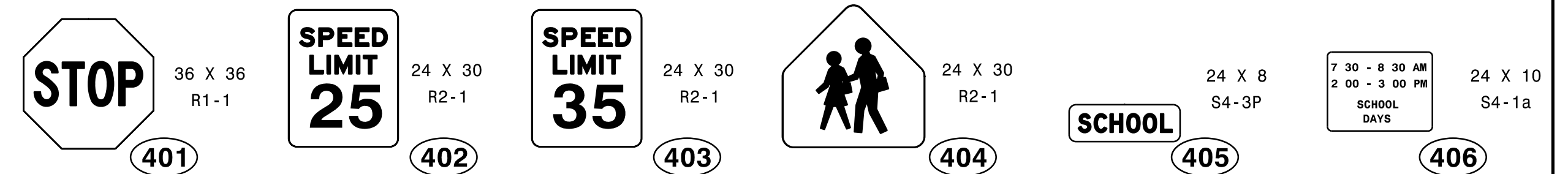
<small>STD. NO.</small>	<small>TITLE</small>
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

**SUMMARY OF QUANTITIES**

ITEM NO.	ITEM DESCRIPTION		QUANTITY	UNIT
<small>DESC. NO.</small>	<small>SECT. NO.</small>			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	95	L.F.
4102000000	904	SIGN ERECTION, TYPE E	6	EA.
4108000000	904	SIGN ERECTION, TYPE F	3	EA.
4192000000	907	DISPOSAL OF SUPPORT, U-CHANNEL	7	EA.
4238000000	907	DISPOSAL OF SIGN, D, E OR F	10	EA.

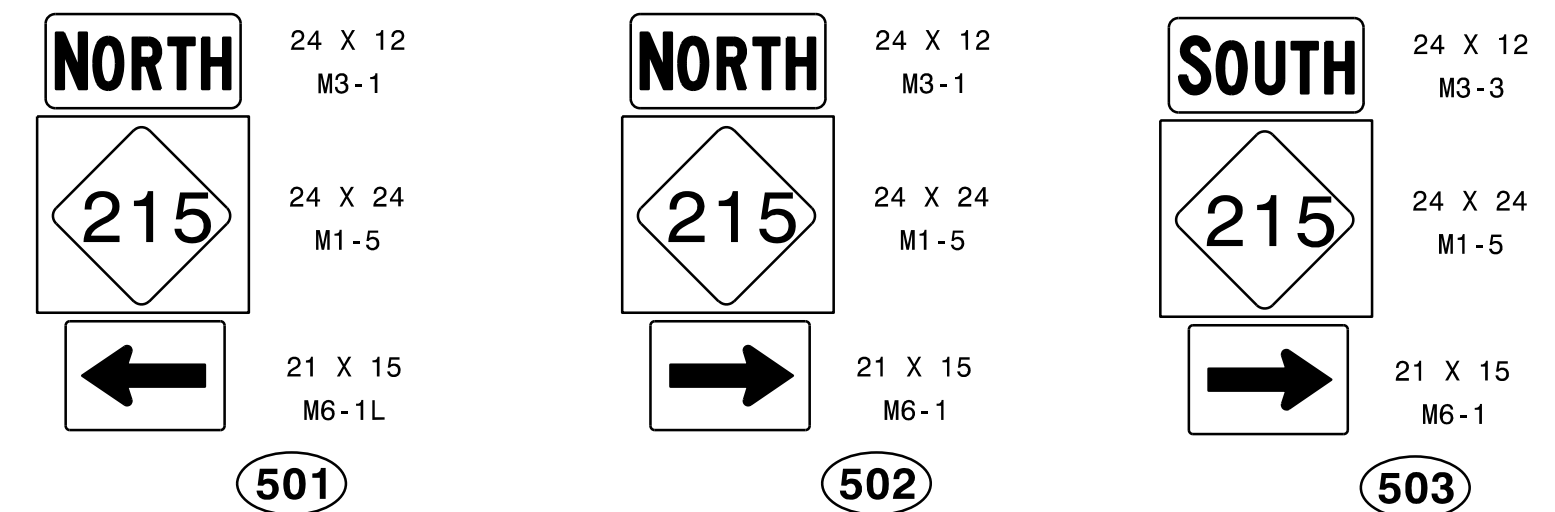
**"E" SIGNS**

- |                        |                        |                        |
|------------------------|------------------------|------------------------|
| (401) QUANTITY REQ'D 1 | (403) QUANTITY REQ'D 1 | (405) QUANTITY REQ'D 1 |
| (402) QUANTITY REQ'D 1 | (404) QUANTITY REQ'D 1 | (406) QUANTITY REQ'D 1 |



**"F" SIGNS**

- |                        |                        |
|------------------------|------------------------|
| (501) QUANTITY REQ'D 1 | (503) QUANTITY REQ'D 1 |
| (502) QUANTITY REQ'D 1 |                        |

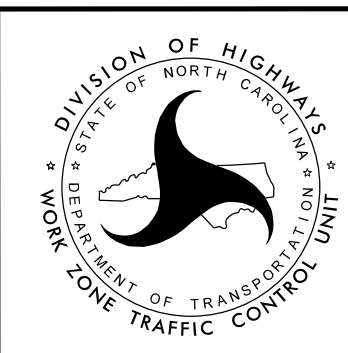


**INDEX**

<small>SHEET NO.</small>	<small>DESCRIPTION</small>
SIGN-1	TITLE SHEET, SIGN DESIGN, E SIGNS, F SIGNS, NOTES, AND QUANTITIES
SIGN-2	PROPOSED SIGNS

*PLAN REVIEWED BY: N.C.D.O.T. SIGNING UNIT*

JONATHAN WOODARD NCDOT PROJECT MANAGER  
ETHAN MILLER NCDOT PROJECT ENGINEER



*PLAN PREPARED BY: Ramey Kemp & Associates*

NICHOLAS E. BURNS, P.E. PROJECT MANAGER  
ZACHARY M. ESPOSITO, E.I. PROJECT ENGINEER



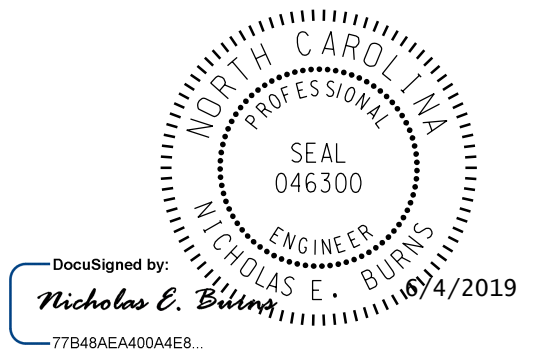
**PROJECT NOTES**

1. RELOCATE EXISTING SIGN ON NEW U-CHANNEL

APPROVED: \_\_\_\_\_

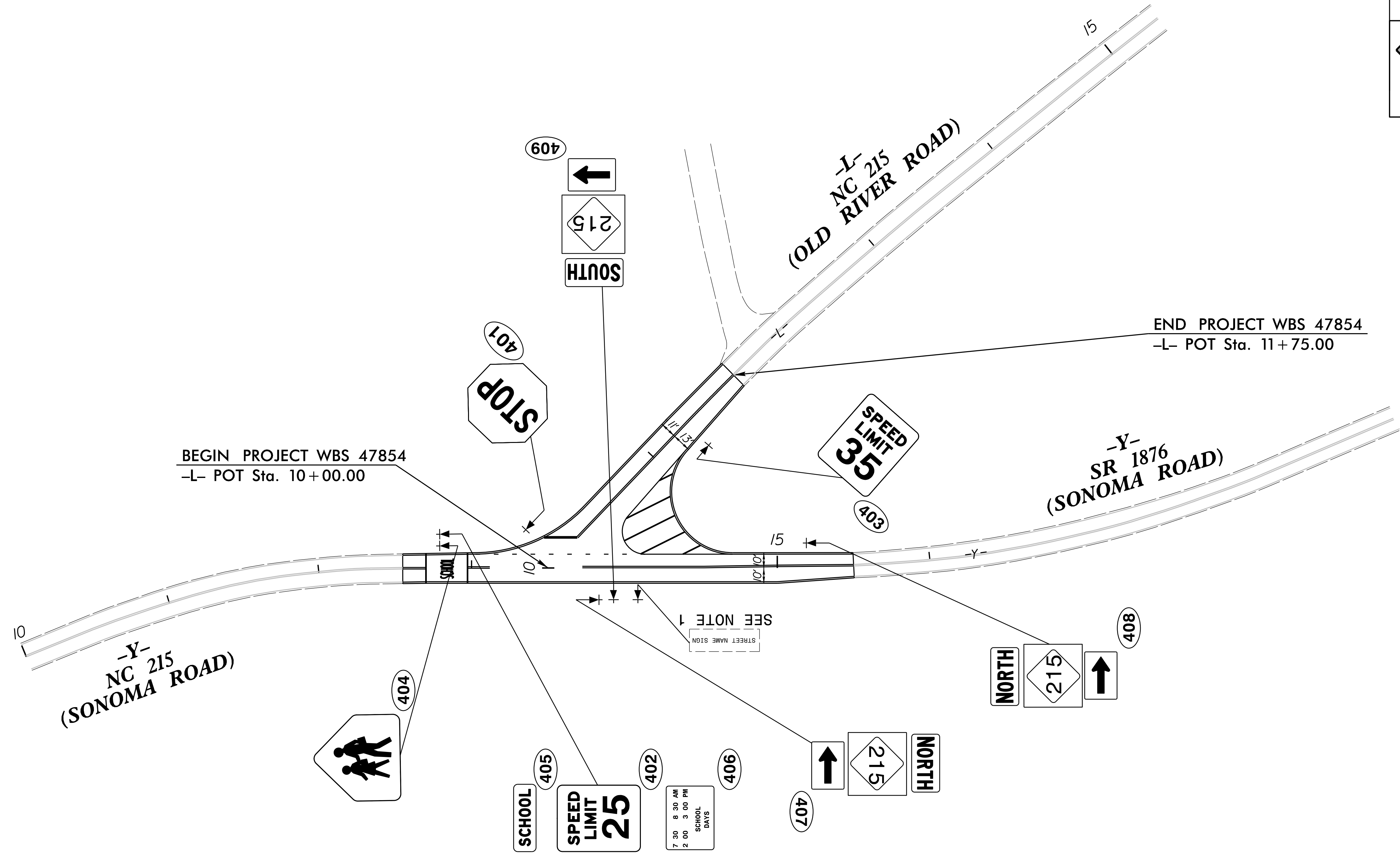
DATE: \_\_\_\_\_

SEAL



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

**RAMEY KEMP ASSOCIATES, INC.**  
 Transportation Engineers  
 8307 University Executive Park Drive, Suite 260  
 Charlotte, North Carolina 28262  
 704-549-4260 Tel. 704-549-4277 Fax.  
 www.rameykemp.com  
 NC License No. C-0910



**PROPOSED SIGNS**

09/08/19  
 5/16/2022  
 P:\JOBS\0659\093\WBS47854\Utilities\Engineering\UB0\Proj\nc215\_uo\_1.sh.dgn  
 10:35:42 AM

**PROJECT: WBS 47854**

**CONTRACT: DN00680**

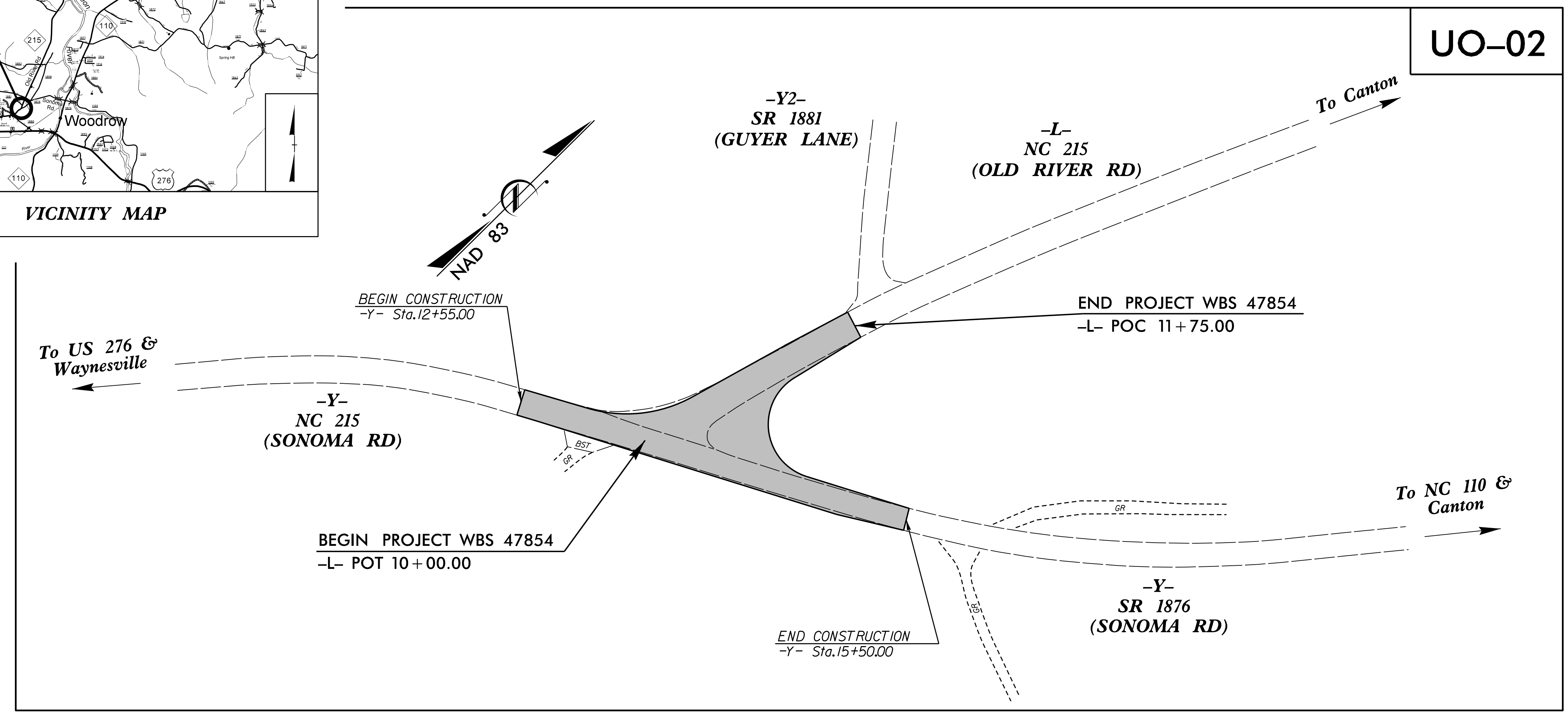
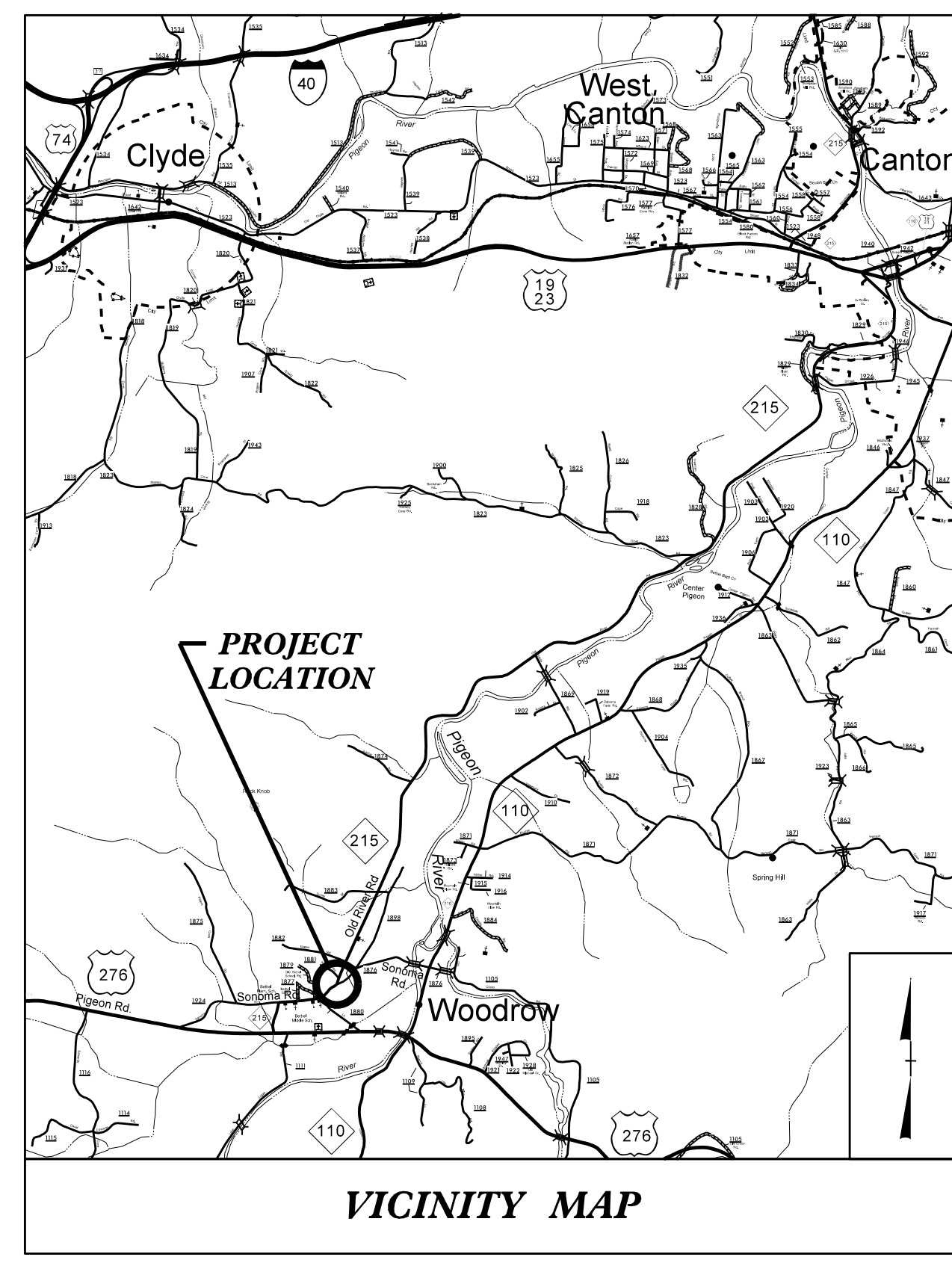
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS  
HAYWOOD COUNTY**

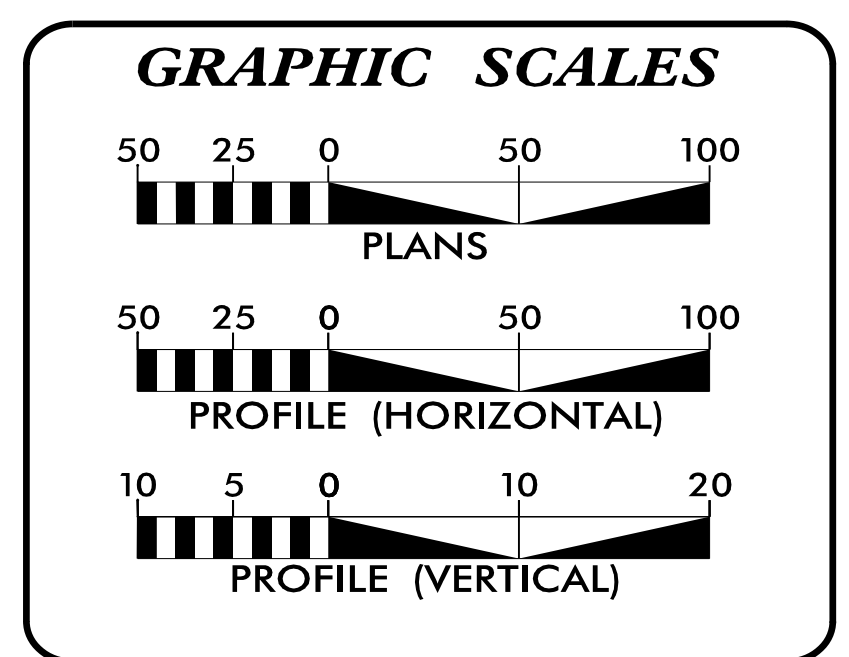
**LOCATION: INTERSECTION OF NC 215 / SR 1876 (SONOMA RD) AND  
NC 215 (OLD RIVER RD)**  
**TYPE OF WORK: RELOCATE PHONE**

T.I.P. NO.	SHEET NO.
WBS 47854	UO-01

**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.



**UO-02**



**INDEX OF SHEETS**

SHEET NO.:	DESCRIPTION:
UO-01	TITLE SHEET
UO-02	UBO PLAN SHEET

**UTILITY OWNERS WITH CONFLICTS**

(A) PHONE - ATT

PREPARED IN THE OFFICE OF:

**Weston & Sampson**  
WSE of North Carolina, PC

698 East Chatham Street Suite 137  
Cary, NC 27511  
Phone: 919.297.0220 Fax: 919.297.0221  
NC License: C-4847

WEBB WHITE	UTILITY PROJECT MANAGER
BILLY GREEN	PROJECT UTILITY COORDINATOR
BOB GOLDING	PROJECT UTILITY ENGINEER

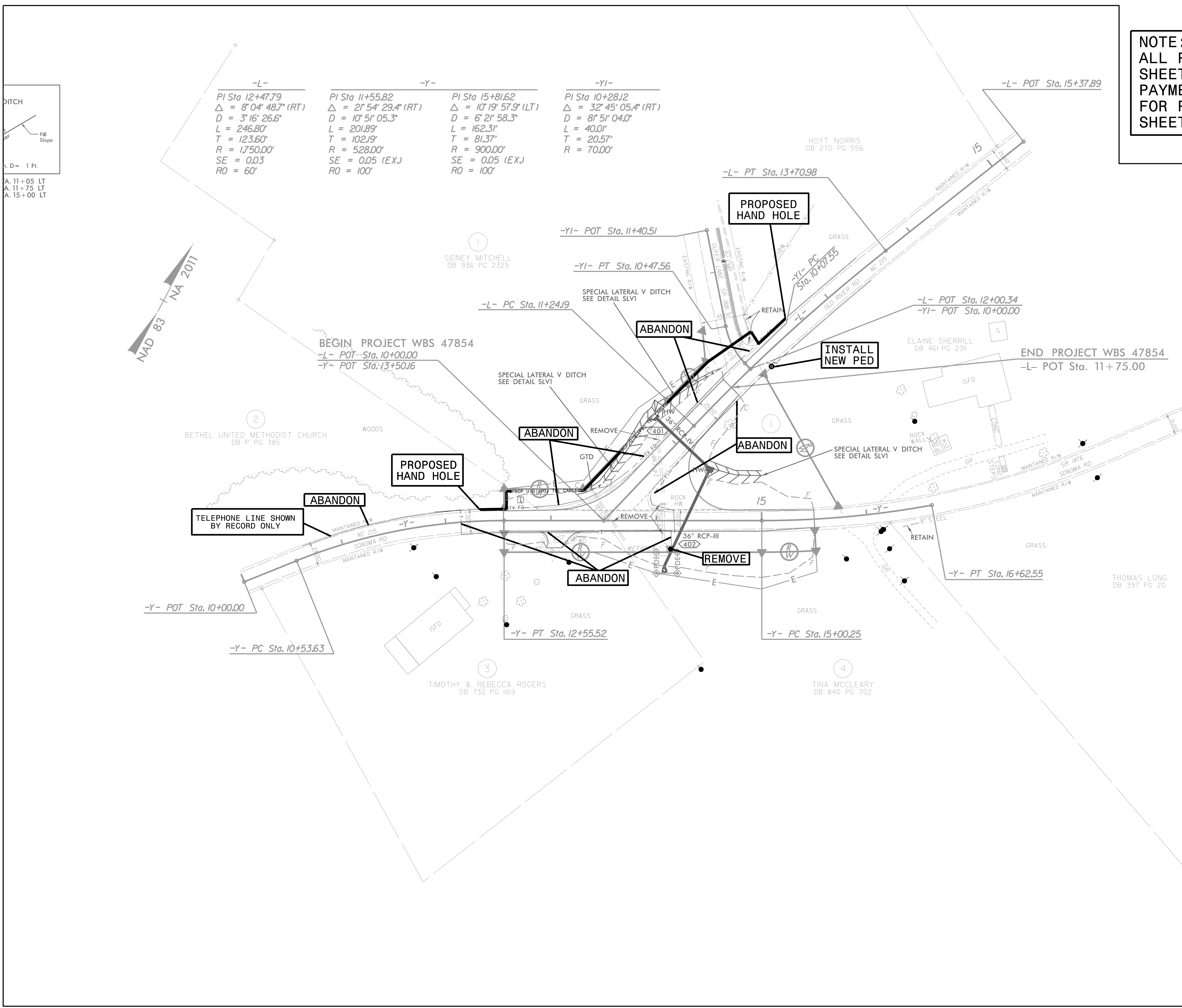
**DIVISION OF HIGHWAYS  
DIVISION 14**

DIV ADDRESS  
253 WEBSTER RD  
SYLVA, NC 28779

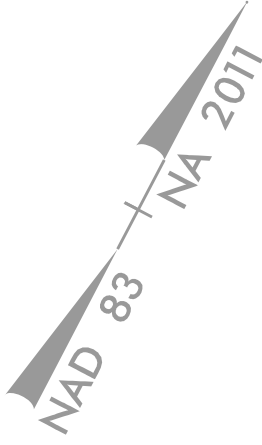
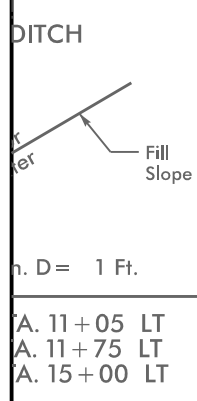
**JONATHAN WOODARD**  
DIVISION 14 -  
SENIOR PROJECT ENGINEER

# UTILITIES BY OTHERS

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



-L-	-Y-	-YI-
PI Sta 12+47.79	PI Sta 11+55.82	PI Sta 15+81.62
$\Delta = 8' 04" 48.7" (RT)$	$\Delta = 2' 54" 29.4" (RT)$	$\Delta = 10' 19" 57.9" (LT)$
D = 3' 16" 26.6"	D = 10' 51" 05.3"	D = 6' 21" 58.3"
L = 246.80'	L = 201.89'	L = 162.31'
T = 123.60'	T = 102.19'	T = 81.37'
R = 1750.00'	R = 528.00'	R = 900.00'
SE = 0.03	SE = 0.05 (EX.)	SE = 0.05 (EX.)
RO = 60'	RO = 100'	RO = 100'



2/20/2019  
 F:\J065\06599\093\WBS47854\Utilities\Engineering\UBONProj\NC215.uo\_psh02\_rev\_20190220.dgn  
 1:27:59 PM