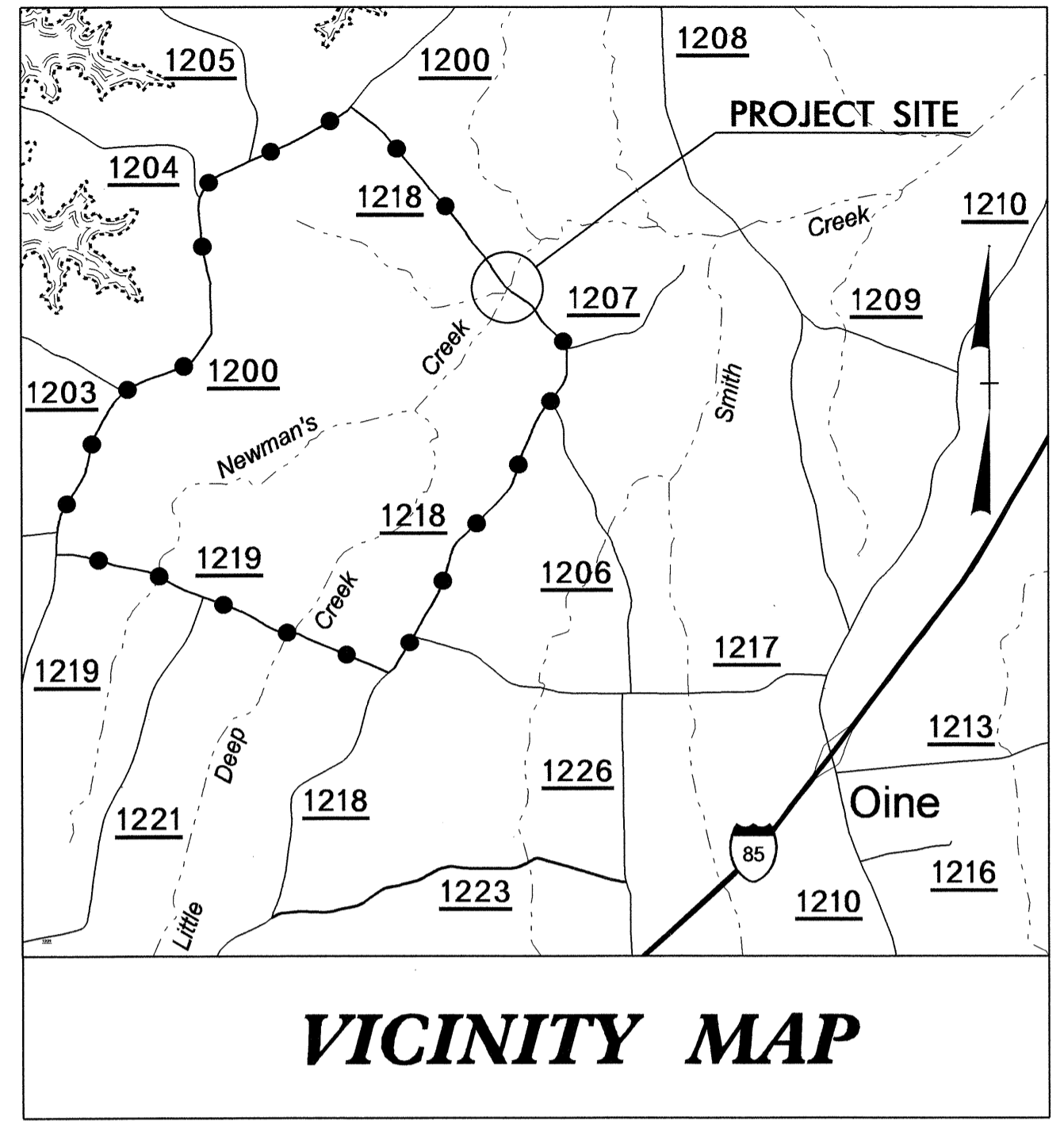


09/08/09

**TIP PROJECT: B-4834**

**CONTRACT: C203033**

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Symbology



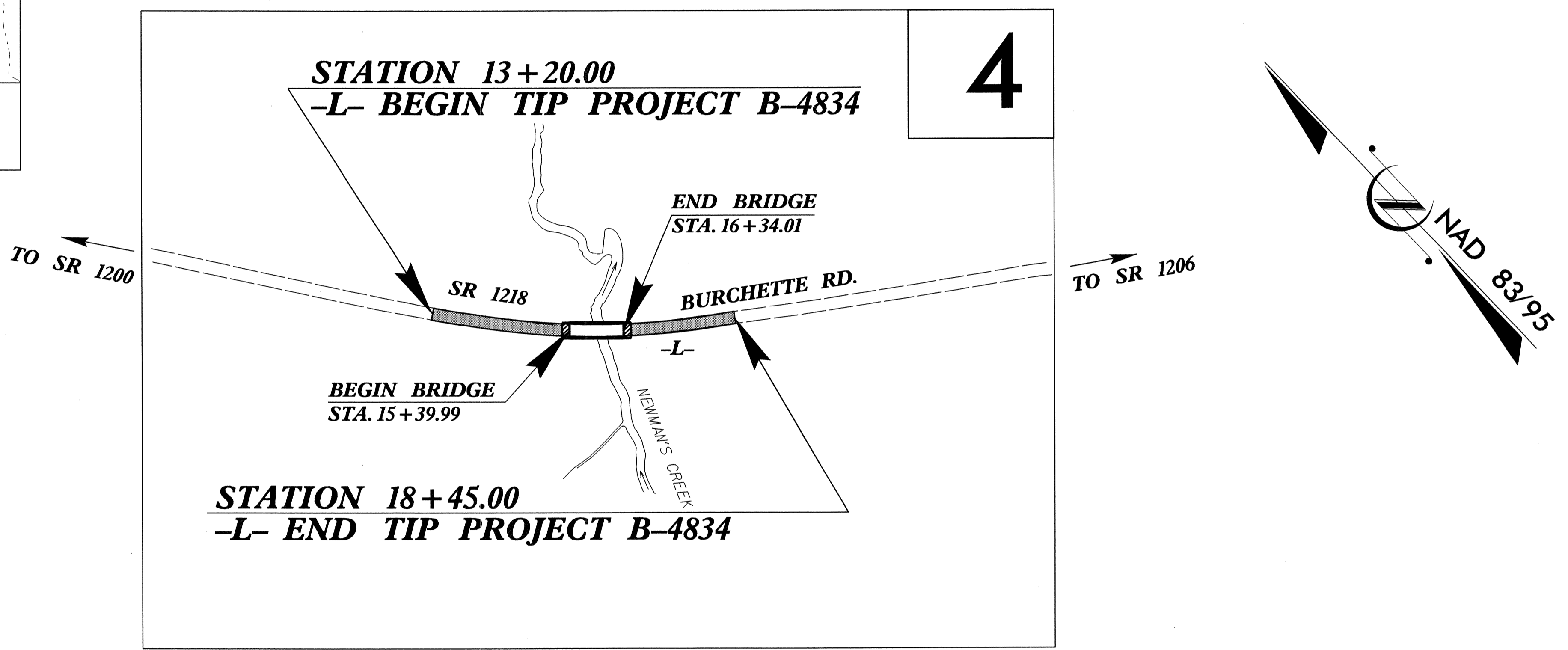
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**WARREN COUNTY**

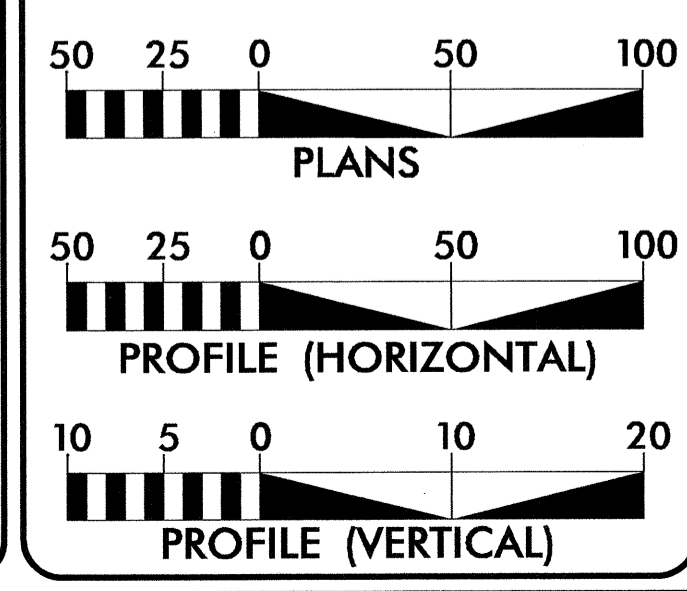
**LOCATION: BRIDGE NO. 23 OVER NEWMAN'S CREEK ON SR 1218**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4834	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38604.1.1	BRZ-1218(4)	PE	
38604.2.1	BRZ-1218(4)	ROW, UTIL.	
38604.3.1	BRZ-1218(4)	CONST.	



**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2013 = 143  
ADT 2033 = 286  
DHV = 10 %  
D = 60 %  
T = 3 %  
V = 55 MPH  
\* (TTST 1 % + DUAL 2 %)  
FUNC CLASS = RURAL LOCAL  
SUBREGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4834 = 0.081 MI  
LENGTH STRUCTURE TIP PROJECT B-4834 = 0.018 MI  
TOTAL LENGTH TIP PROJECT B-4834 = 0.099 MI

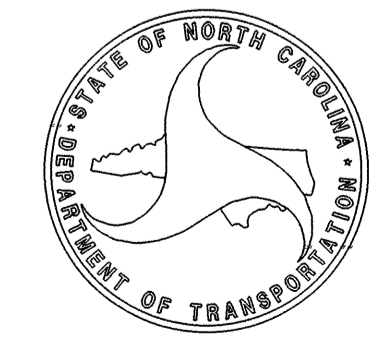
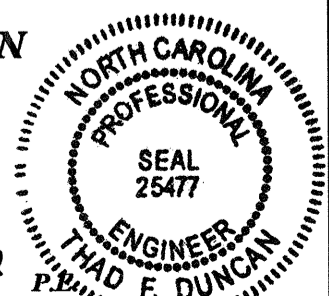
Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS  
**RIGHT OF WAY DATE:**  
JANUARY 20, 2012  
**LETTING DATE:**  
JANUARY 15, 2013

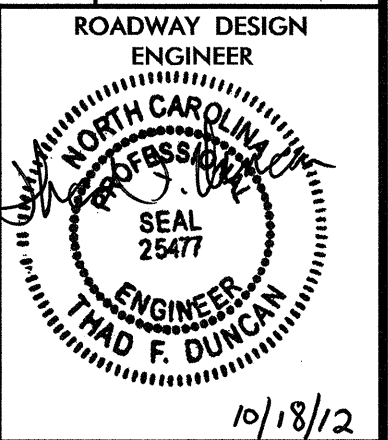
**G. E. BREW, PE**  
PROJECT ENGINEER  
**THAD F. DUNCAN, PE**  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

*[Signature]* 11/29/12 P.E.  
**ROADWAY DESIGN ENGINEER**  
*[Signature]* 11/29/12 P.E.  
**THAD F. DUNCAN, PE**



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\$\$\$\$\$USERNAME\$\$\$\$\$



SHEET NUMBER	SHEET	INDEX OF SHEETS
1	TITLE SHEET	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
3	SUMMARY OF QUANTITIES	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES	SUMMARY OF DRAINAGE QUANTITIES
3-B	SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL/BREAKUP SUMMARY	SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL/BREAKUP SUMMARY
4	PLAN SHEET	PLAN SHEET
5	PROFILE SHEET	PROFILE SHEET
TMP-1 THRU TMP-2	TRANSPORTATION MANAGEMENT PLANS	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLANS	PAVEMENT MARKING PLANS
SD-1	SIGNING AND DELINEATION PLANS	SIGNING AND DELINEATION PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS	EROSION CONTROL PLANS
SIGN-1	SIGNING PLANS	SIGNING PLANS
UC-1 THRU UC-4	UTILITY CONSTRUCTION PLANS	UTILITY CONSTRUCTION PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS	UTILITIES BY OTHERS
X-1A	CROSS-SECTION SUMMARY	CROSS-SECTION SUMMARY
X-1 THRU X-5	CROSS-SECTIONS	CROSS-SECTIONS
S-1 THRU S-20	STRUCTURE PLANS	STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS  
EFFECTIVE: 01-17-12  
REVISED: 11/01/11

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 III.

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.

GUARDRAIL:  
THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

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

SUBSURFACE PLANS:  
NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:  
THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:  
UTILITY OWNERS ON THIS PROJECT ARE  
Hollifox EMC- Power  
Century Link- Telephone  
Warren County  
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

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

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
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 4 - MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class "B" Rip Rap

Note: Not to Scale

\*S.U.E. = Subsurface Utility Engineering

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
Property Corner	-----
Property Monument	□ EDM
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	-w.l.b.-
Proposed Wetland Boundary	w.l.b.
Existing Endangered Animal Boundary	-e.a.b.-
Existing Endangered Plant Boundary	-e.p.b.-

**BUILDINGS AND OTHER CULTURE:**

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
Small Mine	⊗
Foundation	□
Area Outline	□
Cemetery	⊕
Building	□
School	□
Church	⊕
Dam	▬

**HYDROLOGY:**

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	-j.s.-
Buffer Zone 1	-b.z. 1-
Buffer Zone 2	-b.z. 2-
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

**RAILROADS:**

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

**RIGHT OF WAY:**

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	⊕
Proposed Control of Access	⊕
Existing Easement Line	-e-
Proposed Temporary Construction Easement	-e-
Proposed Temporary Drainage Easement	-t.d.e.-
Proposed Permanent Drainage Easement	-p.d.e.-
Proposed Permanent Drainage / Utility Easement	-d.u.e.-
Proposed Permanent Utility Easement	-p.u.e.-
Proposed Temporary Utility Easement	-t.u.e.-
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

**ROADS AND RELATED FEATURES:**

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-c-
Proposed Slope Stakes Fill	-f-
Proposed Wheel Chair Ramp	⊕
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗

**VEGETATION:**

Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

**EXISTING STRUCTURES:**

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

**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	●
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

**TELEPHONE:**

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	□
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	⊕
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

**WATER:**

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

**TV:**

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	⊕
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

**GAS:**

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

**SANITARY SEWER:**

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

**MISCELLANEOUS:**

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

# SURVEY CONTROL SHEET B-4834

# WARREN COUNTY

**LOCATION: BRIDGE NO. 23 OVER NEWMAN'S CREEK  
AND APPROACHES ON SR 1218 (BURCHETTE ROAD)**

PROPOSED ROW				
ALIGN	STATION	OFFSET	NORTH	EAST
L	15+30.00	45.00	1009414.1049	2216959.6777
L	15+30.00	30.71	1009423.9885	2216970.0054
L	16+60.00	29.44	1009333.0082	2217058.0331
L	16+60.00	45.00	1009321.8987	2217058.0215

PROPOSED PERMANENT DRAINAGE EASEMENT				
ALIGN	STATION	OFFSET	NORTH	EAST
L	15+29.00	-29.30	1009468.1984	2217012.6820
L	15+29.00	-45.00	1009477.0269	2217024.0347
L	15+80.00	-50.00	1009445.8701	2217062.1536
L	15+80.00	-29.38	1009431.0071	2217047.8649
L	16+33.00	-55.00	1009415.2432	2217102.8371
L	16+33.00	-30.03	1009396.4941	2217086.3420
L	16+62.00	-55.00	1009397.2184	2217123.8311
L	16+62.00	-30.62	1009378.5307	2217108.1746

TYPE	STATION	NORTH	EAST
POT	10+00.00	1009869.1550	2216674.9766
PC	12+56.26	1009659.0080	2216821.6371
PCC	14+33.85	1009517.2694	2216928.5642
PT	17+88.85	1009290.1733	2217173.3609
POT	20+85.16	1009109.4041	2217432.9280

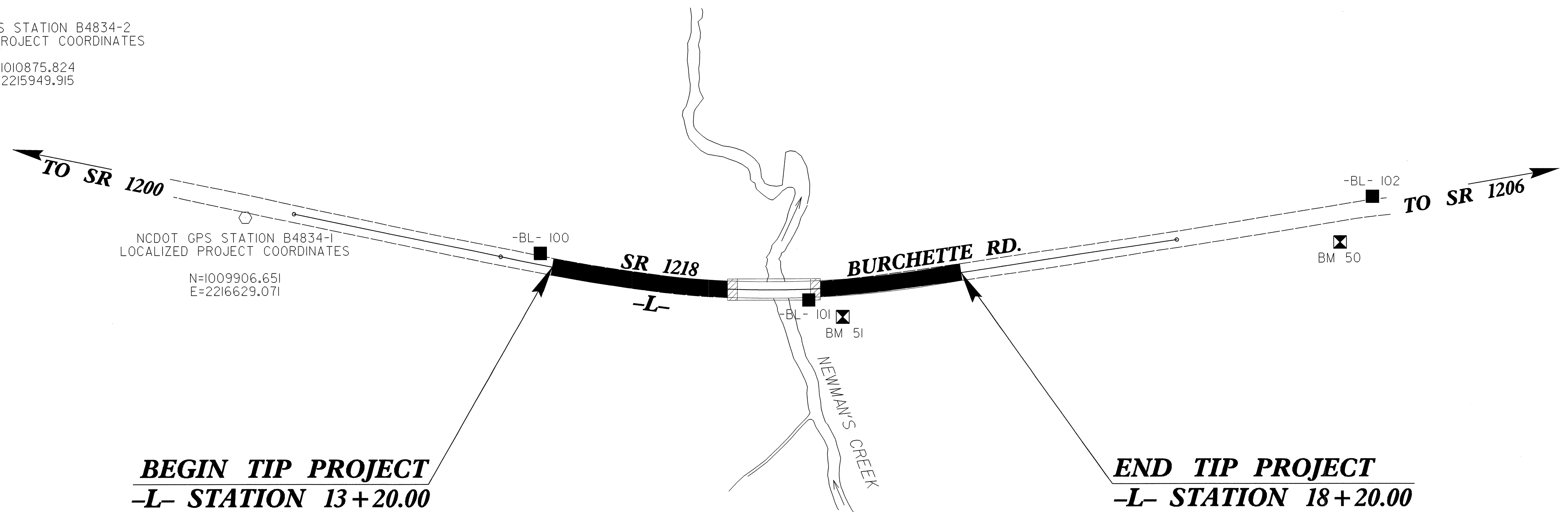
NCDOT GPS STATION B4834-2  
LOCALIZED PROJECT COORDINATES

N=1010875.824  
E=2215949.915



NCDOT GPS STATION B4834-1  
LOCALIZED PROJECT COORDINATES

N=1009906.651  
E=2216629.071



**CONTROL DATA**

BASELINE POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B4834-1	1009906.6510	2216629.0710	285.15	OUTSIDE PROJECT LIMITS	
100	BL-100	1009628.8855	2216859.5585	270.76	13+02.93	13.41 LT
101	BL-101	1009364.0761	2217057.9020	246.77	16+33.06	13.10 RT
102	BL-102	1008984.3773	2217641.7415	286.05	OUTSIDE PROJECT LIMITS	

**BENCHMARK DATA**

```

*****
BM50      ELEVATION = 287.18
N 1008971      E 2217575
L STATION 10+00.00  RIGHT
S 45+03'34.32" E DIST 1271.50
RRS SET IN 8 INCH TWIN GUM
*****
BM51      ELEVATION = 243.64
N 1009321      E 2217074
L STATION 16+72.00 35 RIGHT
RRS SET IN 10 INCH ASH TREE
*****

```

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4834-1" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 1009906.6510(±) EASTING: 2216629.0710(±) ELEVATION: 285.15(±ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00011013

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4834-1" TO -L- STATION 13+20.00 IS S 37°29'51.3" E 377.40'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
VERTICAL DATUM USED IS NAVD 88

**NOTE: DRAWING NOT TO SCALE**

**NOTES:**

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.NCDOT.ORG/DOH/RECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/RECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)

THE FILES TO BE FOUND ARE AS FOLLOWS:  
B4834\_ls\_control\_110613.txt

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

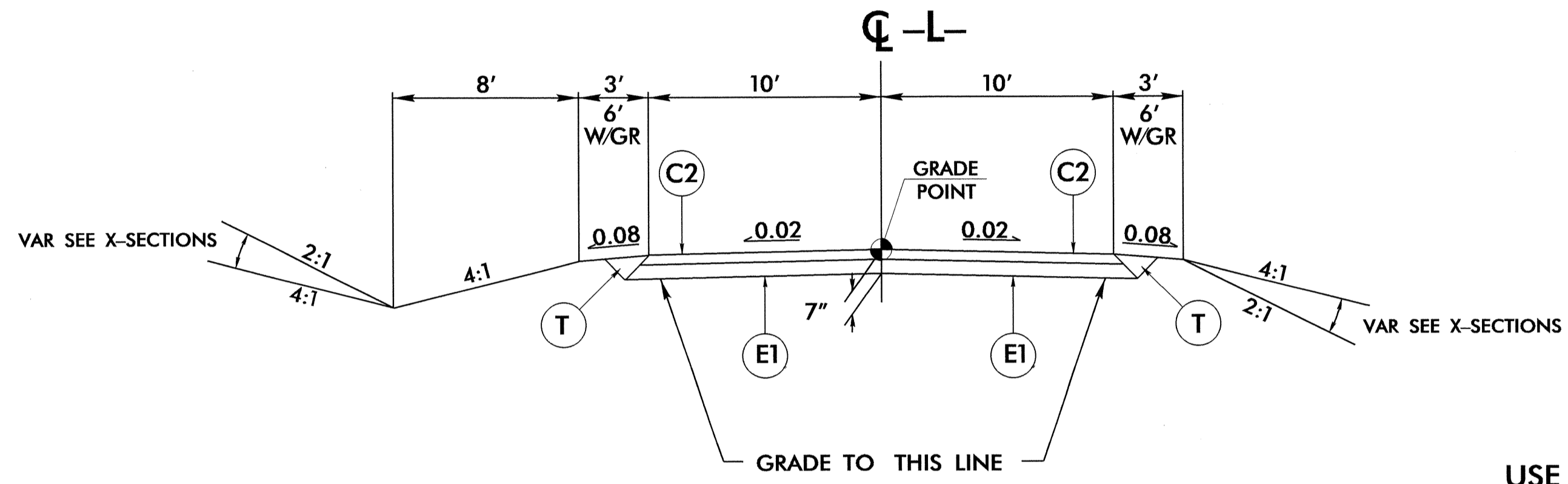
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8/17/99

PROJECT REFERENCE NO. B-4834	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT.

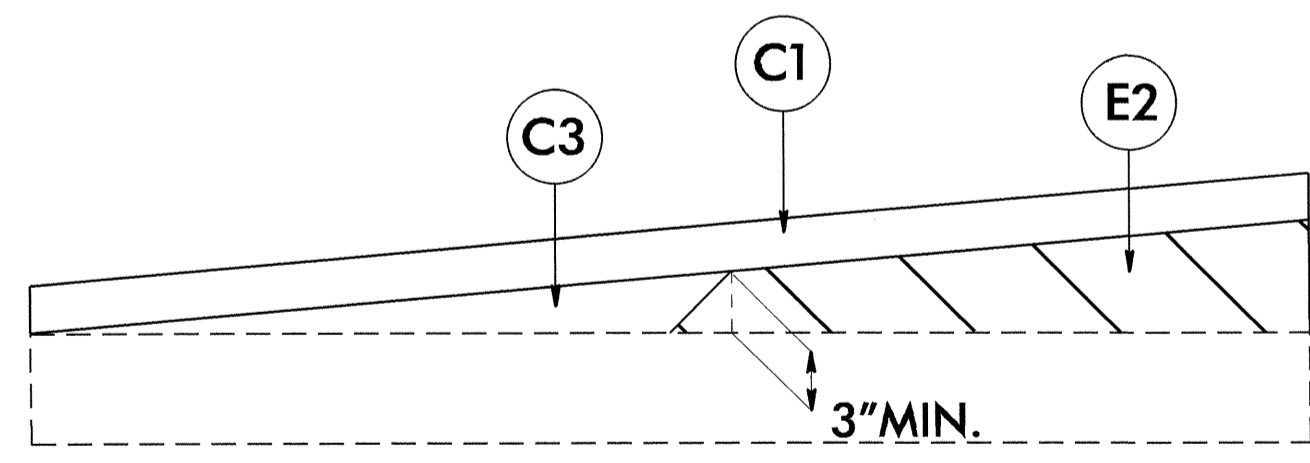
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



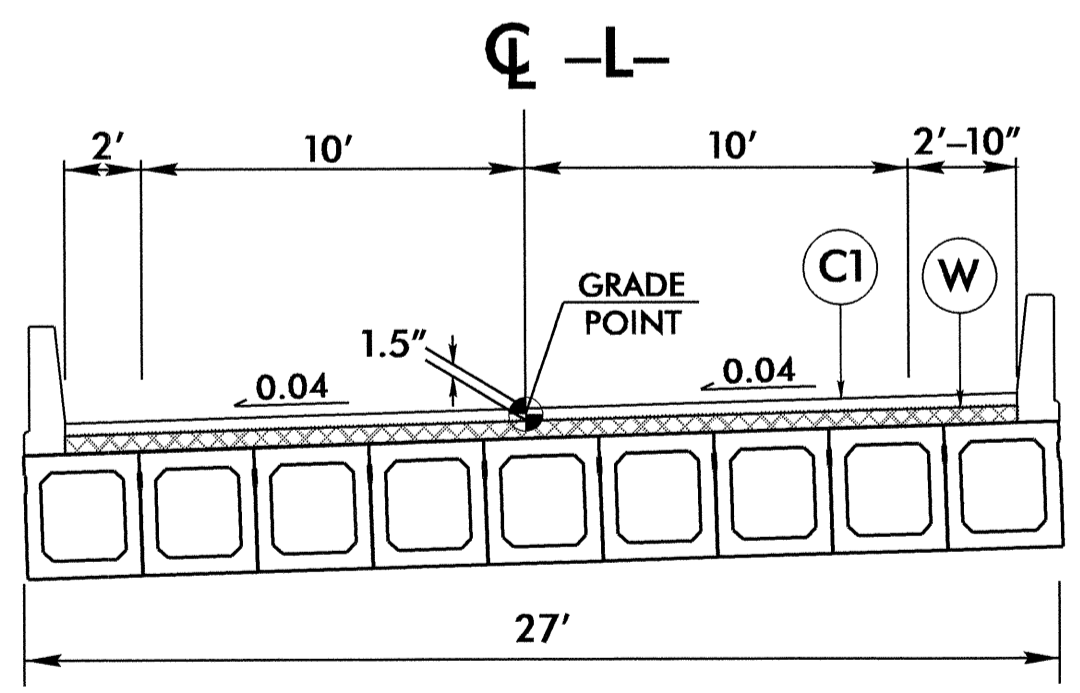
**TYPICAL SECTION NO. 1**

USE TYPICAL SECTION NO. 1

-L- STA. 13+20.00 TO -L- STA. 15+39.99 (BEGIN BRIDGE)  
-L- STA. 16+34.01 (END BRIDGE) TO -L- STA. 18+45.00



**Wedging Detail For Resurfacing  
BRIDGE TYPICAL SECTION NO. 1**



**BRIDGE TYPICAL SECTION NO. 1**

USE BRIDGE TYPICAL SECTION NO. 1

-L- STA. 15+39.99 TO -L- STA. 16+34.01

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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**SUMMARY OF QUANTITIES**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203033

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (15+87.00)
0036000000-E	225	200	CY	UNDERCUT EXCAVATION
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0195000000-E	265	200	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	19	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	40	SY	FOUNDATION CONDITIONING GEOTEXTILE
0582000000-E	310	28	LF	15" CS PIPE CULVERTS, 0.064" THICK
0636000000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (15", 0.064")
0995000000-E	340	19.3	LF	PIPE REMOVAL
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1489000000-E	610	300	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	240	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1575000000-E	620	30	TON	ASPHALT BINDER FOR PLANT MIX
2000000000-N	806	4	EA	RIGHT OF WAY MARKERS
2286000000-N	840	1	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	15	LF	SHOULDER BERM GUTTER
3030000000-E	862	50	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III

ItemNumber	Sec #	Quantity	Unit	Description
3270000000-N	SP	2	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3285000000-N	SP	2	EA	GUARDRAIL ANCHOR UNITS, TYPE M-350
3628000000-E	876	72	TON	RIP RAP, CLASS I
3649000000-E	876	93	TON	RIP RAP, CLASS B
3656000000-E	876	825	SY	GEOTEXTILE FOR DRAINAGE
4072000000-E	903	65	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4096000000-N	904	2	EA	SIGN ERECTION, TYPE D
4400000000-E	1110	410	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	131	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4422000000-N	1120	28	DAY	PORTABLE CHANGEABLE MESSAGE SIGN (SHORT TERM)
4445000000-E	1145	96	LF	BARRICADES (TYPE III)
4810000000-E	1205	4,200	LF	PAINT PAVEMENT MARKING LINES (4")
5325600000-E	1510	606	LF	6" WATER LINE
5871400000-E	1550	263	LF	TRENCHLESS INSTALLATION OF 6" IN SOIL
5871410000-E	1550	263	LF	TRENCHLESS INSTALLATION OF 6" NOT IN SOIL
6000000000-E	1605	900	LF	TEMPORARY SILT FENCE
6006000000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	150	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	55	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	100	LF	SAFETY FENCE
6030000000-E	1630	100	CY	SILT EXCAVATION

ItemNumber	Sec #	Quantity	Unit	Description
6036000000-E	1631	2,500	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	100	SY	COIR FIBER MAT
6042000000-E	1632	125	LF	1/4" HARDWARE CLOTH
6071020000-E	SP	30	LB	POLYACRYLAMIDE (PAM)
6084000000-E	1660	1.5	ACR	SEEDING & MULCHING
6087000000-E	1660	1	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	0.75	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	5	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL

5/28/09

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COMPUTED BY: GSB DATE: 9/14/2011  
 CHECKED BY: TFD DATE: 9/21/2011

PROJECT NO. SHEET NO.  
 B-4834 3-B

## STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

### SUMMARY OF EARTHWORK

IN CUBIC YARDS					
STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-L-					
STA 13+20.00	STA 15+39.99	116	742	626	
STA 16+34.01	STA 18+20.00	3	367	364	
<b>SUBTOTAL:</b>		119	1,109	990	
<b>TOTAL:</b>		119	1,109	990	
EST. 5% TO REPLACE BORROW PIT				50	
<b>GRAND TOTAL:</b>		119	1,109	1,040	
		<b>SAY:</b>	<b>120 CY</b>	<b>1,100 CY</b>	

ESTIMATED UNDERCUT PER GEOTECH = 200 CUBIC YARDS

### SUMMARY OF EXISTING PAVEMENT REMOVAL/BREAKING

IN SQUARE YARDS				
LINE	STATION	STATION	LOC LT/RT/CL	AREA SY
<b>REMOVAL OF EXISTING PAVEMENT</b>				
-L-	13+20.00	14+00.00		172 SY
-L-	15+03.00	15+53.00		101 SY
-L-	16+28.00	16+80.00		107 SY
-L-	17+30.00	18+20.00		196 SY
<b>TOTAL:</b>				576
<b>SAY:</b>				<b>580 SY</b>
<b>BREAKING OF EXISTING PAVEMENT</b>				
-L-	14+00.00	15+03.00		219 SY
-L-	16+80.00	17+30.00		109 SY
<b>TOTAL:</b>				328 SY
<b>SAY:</b>				<b>330 SY</b>

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

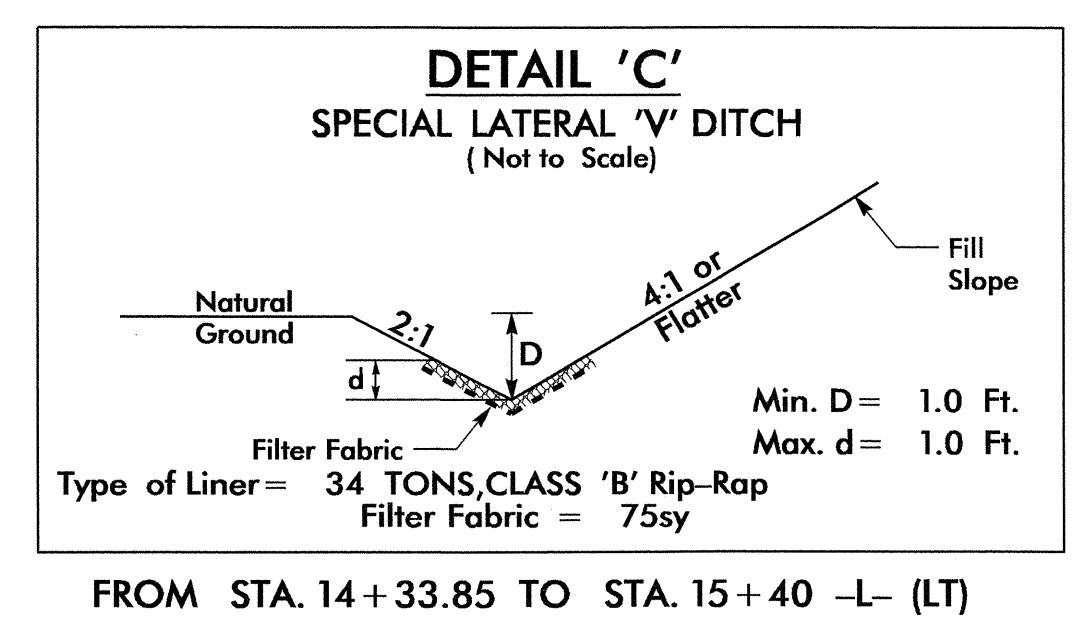
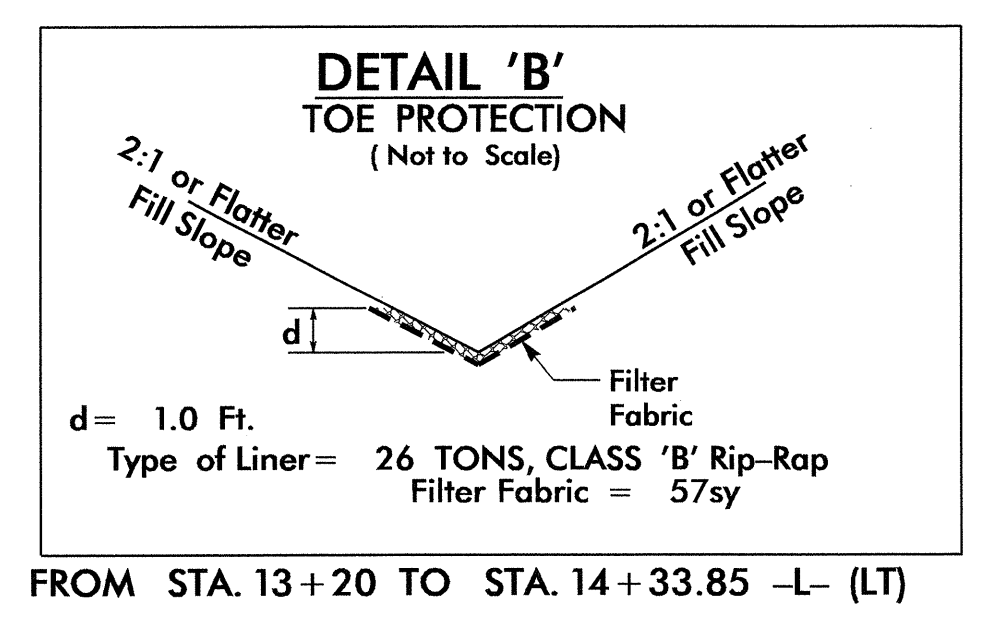
NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL  
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.  
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.  
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.  
 G = GATING IMPACT ATTENUATOR TYPE 350  
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

### GUARDRAIL SUMMARY

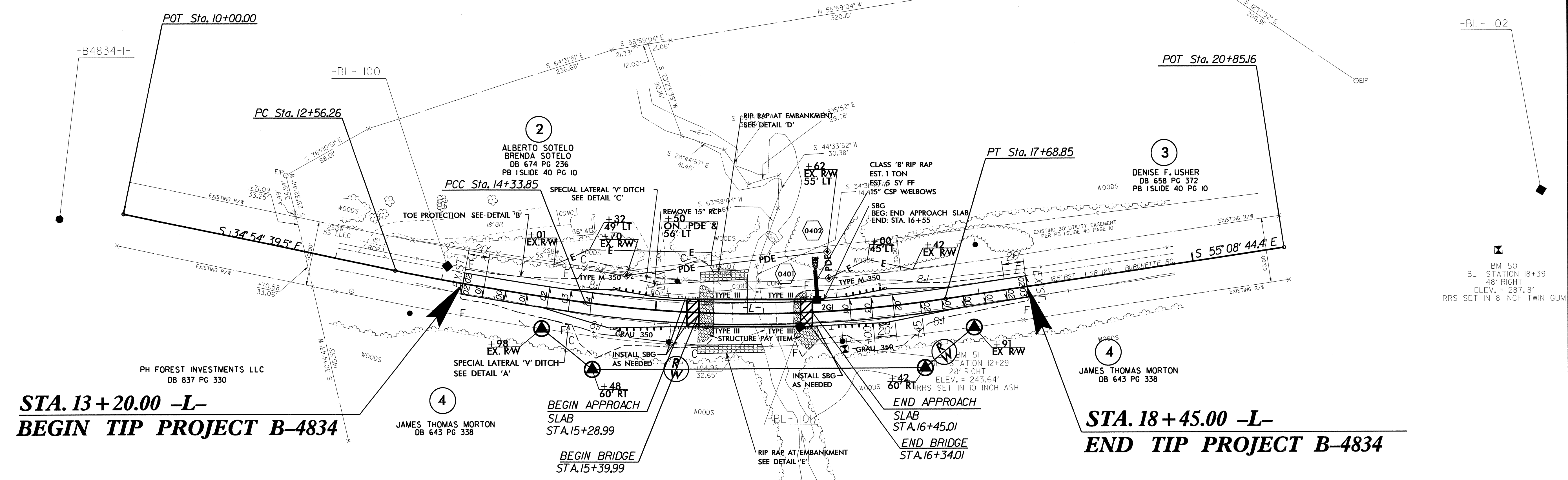
LINE	BEG. STA.	END STA.	LOC.	LENGTH				WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHLDR WIDTH	FLARE LENGTH		W		ANCHORS			GUARDRAIL REMOVAL	ADDITIONAL GUARDRAIL POSTS	REMARKS	
				STRAIGHT	TEMP STRAIGHT	SHOP CURVED	TEMP SHOP CURVED	APPR. END	TRAIL. END			APPR. END	TRAIL. END	APPR. END	TRAIL. END	GRAU 350	TYPE III	M-350				
-L-	14+65.49	15+40.49	RT	75.00'					15+40.49	VAR	6.0'	50'		1.0'		1	1					
-L-	14+64.52	15+39.52	LT	75.00'				15+39.52		VAR	6.0'		37.50'	4.0'			1		1			FLARE GR AT 50:1
-L-	16+33.51	17+08.51	RT	75.00'				16+33.51		VAR	6.0'		50'	1.0'		1	1					
-L-	16+34.48	17+09.48	LT	75.00'					16+34.48	VAR	6.0'	37.50'		4.0'			1		1			FLARE GR AT 50:1
<b>SUBTOTAL:</b>				300.00'												2	4	2		5		
<b>LESS ANCHORS DEDUCTIONS:</b>																						
	<b>GRAU 350</b>	2	@	50.00'	100.00'																	
	<b>TYPE III</b>	4	@	18.75'	75.00'																	
	<b>M-350</b>	2	@	37.50'	75.00'																	
<b>ANCHOR TOTALS:</b>				250.00'																		
<b>GRAND TOTAL:</b>				50.00'												2	4	2		5		





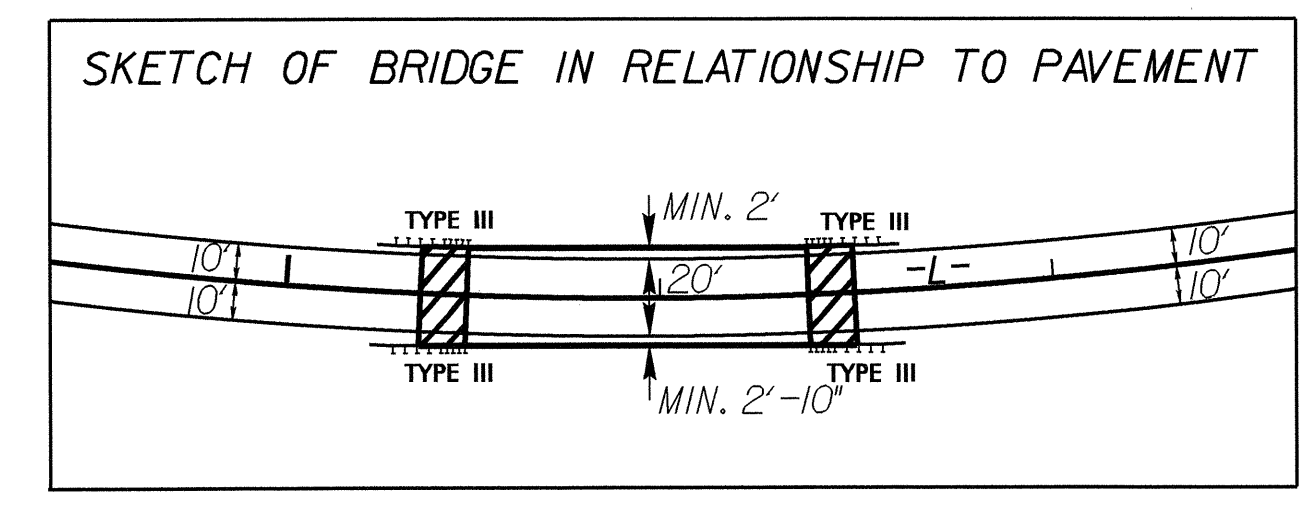
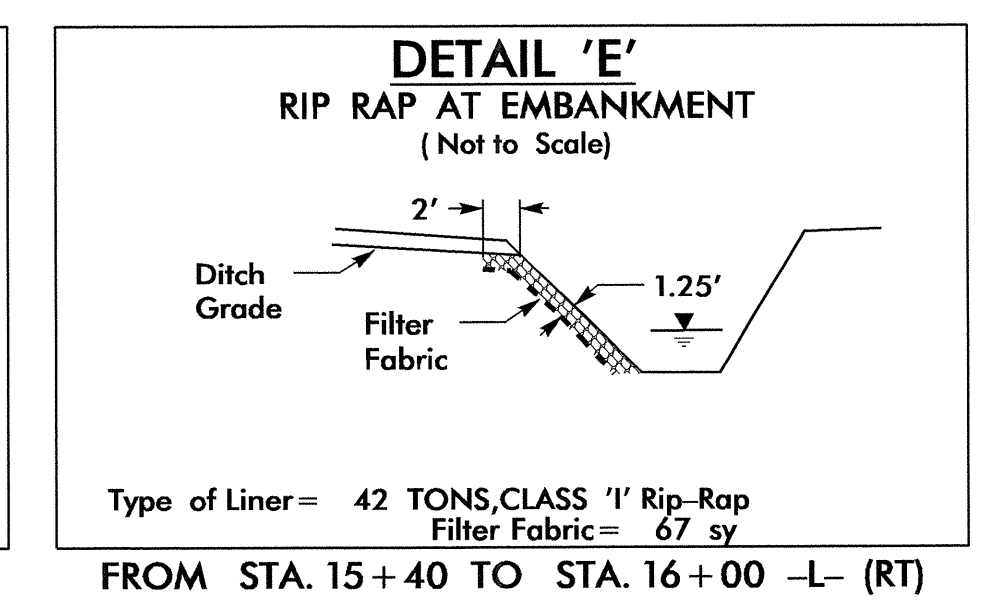
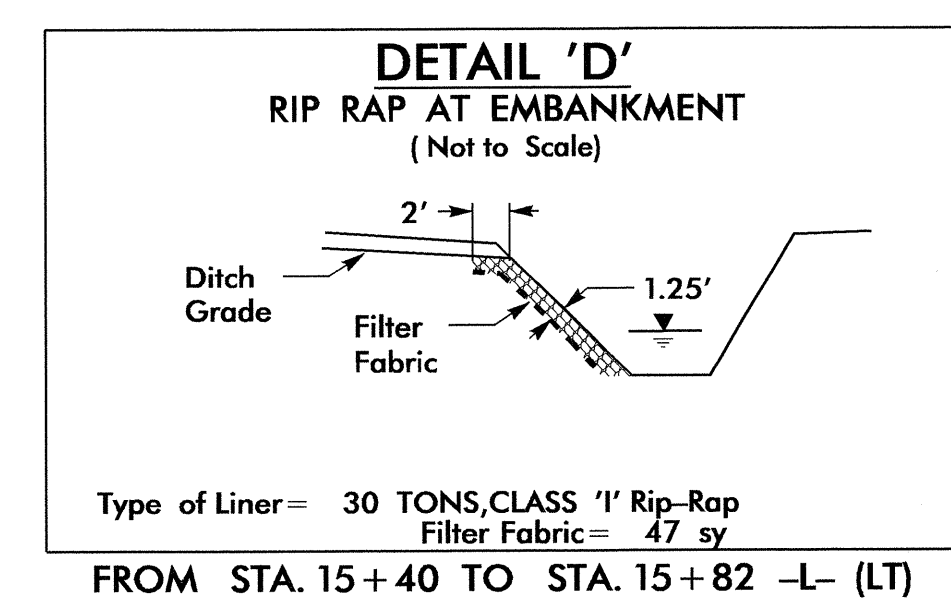
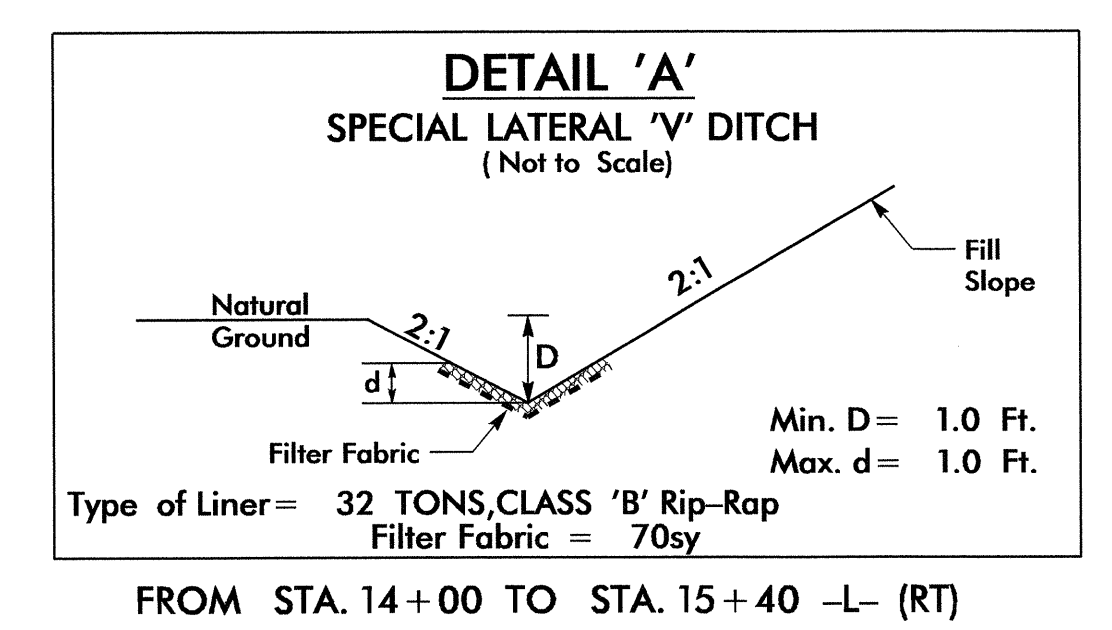
-L-

PI Sta 13+45.00 Δ = 4' 14" 22.6' (LT) D = 2' 23" 14.4" L = 177.59' T = 88.83' R = 2,400.00' SE = SEE PLANS RO = SEE PLANS	PI Sta 16+02.45 Δ = 15' 59" 42.3' (LT) D = 4' 46" 28.7" L = 335.00' T = 168.60' R = 1,200.00' SE = SEE PLANS RO = SEE PLANS
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**STA. 13+20.00 -L-**  
**BEGIN TIP PROJECT B-4834**

**STA. 18+45.00 -L-**  
**END TIP PROJECT B-4834**



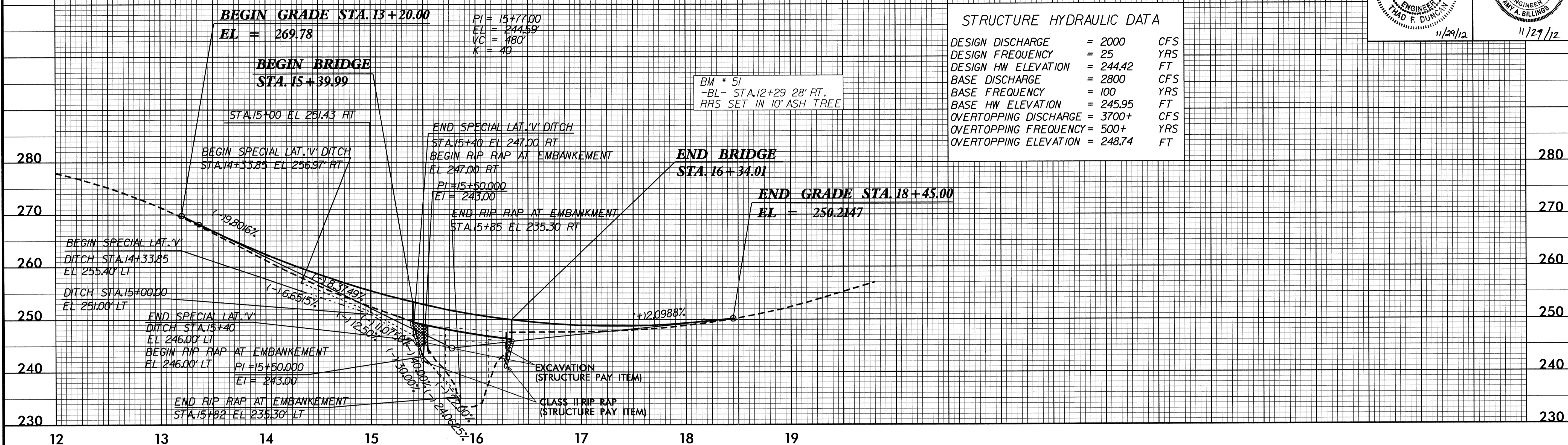
FOR -L- PROFILE SEE SHEET 5  
FOR STRUCTURE SEE SHEET S10 S20

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SUBSTANTIAL REVISIONS

5/28/99

**-L-**

PROJECT REFERENCE NO. <b>B-4834</b>	SHEET NO. <b>5</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**STRUCTURE HYDRAULIC DATA**

DESIGN DISCHARGE	= 2000	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 244.42	FT
BASE DISCHARGE	= 2800	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 245.95	FT
OVERTOPPING DISCHARGE	= 3700+	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 248.74	FT

BM \* 51  
 -BL- STA. 12+29 28' RT.  
 RRS SET IN 10' ASH TREE

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