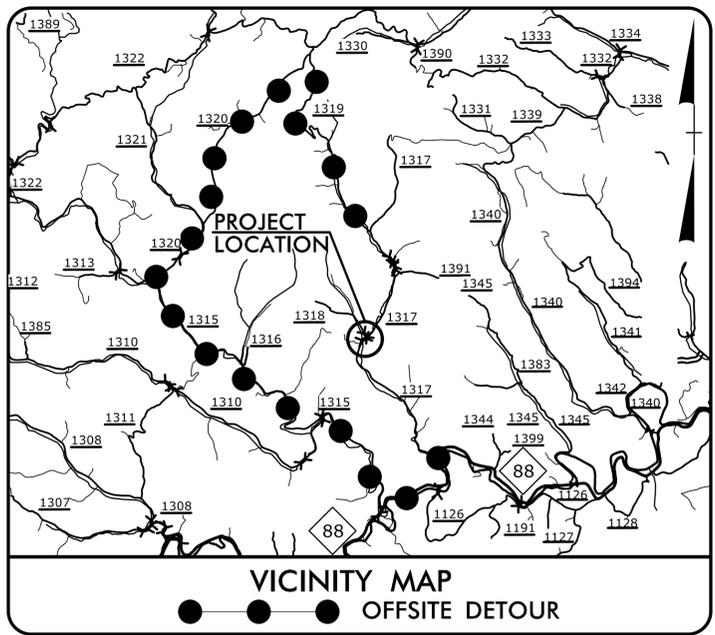


09/08/14

TIP PROJECT: 17BP.11.R.67

CONTRACT:

See Sheet 1-A For Index of Sheets



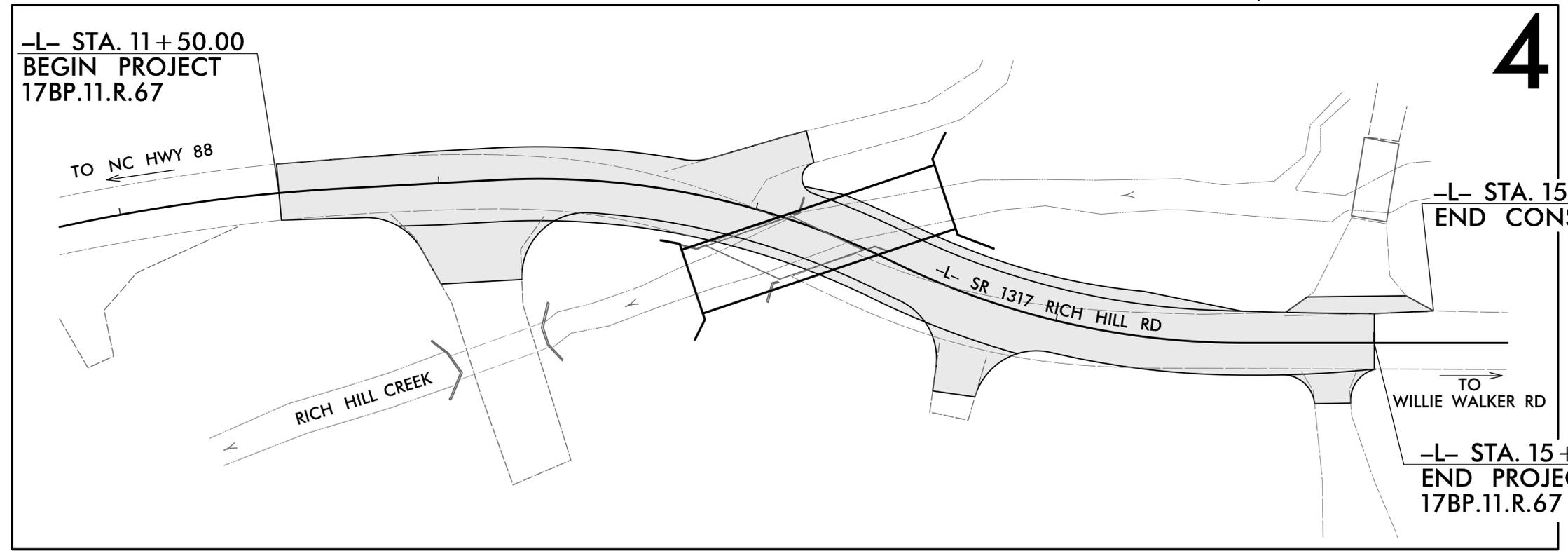
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASHE COUNTY

**LOCATION: BRIDGE NO. 040263 OVER RICH HILL CREEK
ON SR 1317 (RICH HILL RD)**

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

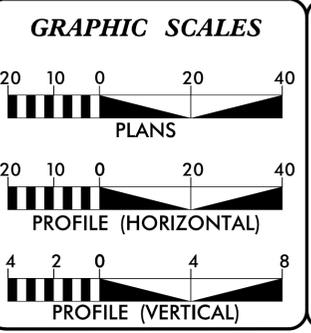
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.11.R.67	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.11.R.67	N/A	PE	
17BP.11.R.67	N/A	R/W & UTIL.	
17BP.11.R.67	N/A	CONST.	



-L- STA. 11+50.00
BEGIN PROJECT
17BP.11.R.67

-L- STA. 15+18.52
END CONSTRUCTION

-L- STA. 15+00.00
END PROJECT
17BP.11.R.67



DESIGN DATA

ADT 2011 = 290
V = 30 MPH
T = 6% *
*(TTST 3% + DUALS 3%)

FUNC CLASS =
RURAL LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH TOTAL PROJECT 17BP.11.R.67 = 0.066 MILES

NCDOT CONTACT: JAMI GUYNN

PLANS PREPARED BY:
TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO. C-0275

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOV 15, 2014

LETTING DATE:

DIVISION 11
801 STATESVILLE RD
NORTH WILKESBORO, 28659

JIMMY TERRY, P.E.
PROJECT ENGINEER

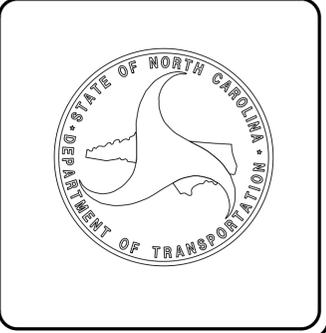
TRAVIS COOK, E.I.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

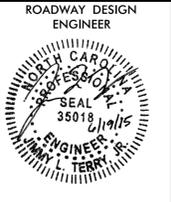
SIGNATURE: _____

ROADWAY DESIGN ENGINEER

SIGNATURE: _____



\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DCN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1	SURVEY CONTROL SHEET
2A-1	PAVEMENT SCHEDULE, TYPICAL SECTION, AND WEDGING DETAIL
3B-1	SUMMARIES - EARTHWORK, AND GUARDRAIL
4	PLAN AND PROFILE SHEET
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-6	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
X-1 THRU X-2	CROSS-SECTIONS
C-1 THRU C-5	CULVERT PLANS

GENERAL NOTES

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 07-30-2012

**GRADE LINE:
GRADING AND SURFACING:**

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED 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 AND/OR STD. NO. 225.05 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 AND/OR STD. NO. 560.02

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.

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.

SUBSURFACE PLANS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE SKYLINE TELEPHONE MEMBERSHIP CORPORATION AND BLUE RIDGE ELECTRIC MEMBERSHIP CORPORATION

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 CONTRACT.

STANDARD DRAWINGS

EFF. 01-17-2012
REV. 10-30-2012

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	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
862.01	Guardrail Placement
862.02	Guardrail Installation

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	_____
County Line	_____
Township Line	_____
City Line	_____
Reservation Line	_____
Property Line	_____
Existing Iron Pin	_____ 
Property Corner	_____ 
Property Monument	_____ 
Parcel/Sequence Number	_____ 
Existing Fence Line	_____ 
Proposed Woven Wire Fence	_____ 
Proposed Chain Link Fence	_____ 
Proposed Barbed Wire Fence	_____ 
Existing Wetland Boundary	_____ 
Proposed Wetland Boundary	_____ 
Existing Endangered Animal Boundary	_____ 
Existing Endangered Plant Boundary	_____ 
Known Soil Contamination: Area or Site	_____ 
Potential Soil Contamination: Area or Site	_____ 

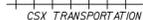
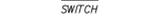
BUILDINGS AND OTHER CULTURE:

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	_____ 
Buffer Zone 1	_____ 
Buffer Zone 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 RW Marker	_____ 
Proposed Control of Access Line with Concrete CA Marker	_____ 
Existing Control of Access	_____ 
Proposed Control of Access	_____ 
Existing Easement Line	_____ 
Proposed Temporary Construction Easement	_____ 
Proposed Temporary Drainage Easement	_____ 
Proposed Permanent Drainage Easement	_____ 
Proposed Permanent Drainage / Utility Easement	_____ 
Proposed Permanent Utility Easement	_____ 
Proposed Temporary Utility Easement	_____ 
Proposed Aerial Utility Easement	_____ 
Proposed Permanent Easement with Iron Pin and Cap Marker	_____ 

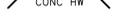
ROADS AND RELATED FEATURES:

Existing Edge of Pavement	_____ 
Existing Curb	_____ 
Proposed Slope Stakes Cut	_____ 
Proposed Slope Stakes Fill	_____ 
Proposed Curb Ramp	_____ 
Existing Metal Guardrail	_____ 
Proposed Guardrail	_____ 
Existing Cable Guiderail	_____ 
Proposed Cable Guiderail	_____ 
Equality Symbol	_____ 
Pavement Removal	_____ 
Single Tree	_____ 
Single Shrub	_____ 
Hedge	_____ 
Woods Line	_____ 

VEGETATION:

Orchard	_____ 
Vineyard	_____ 

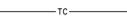
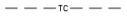
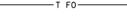
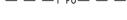
EXISTING STRUCTURES:

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	_____ 
Underground Storage Tank, Approx. Loc.	_____ 
A/G Tank; Water, Gas, Oil	_____ 
Geoenvironmental Boring	_____ 
U/G Test Hole (S.U.E.*)	_____ 
Abandoned According to Utility Records	_____ 
End of Information	_____ 

8/17/99

ASHE COUNTY
BRIDGE #040263

PROJECT REFERENCE NO. 17BPJLR.67
SHEET NO. 2A-1

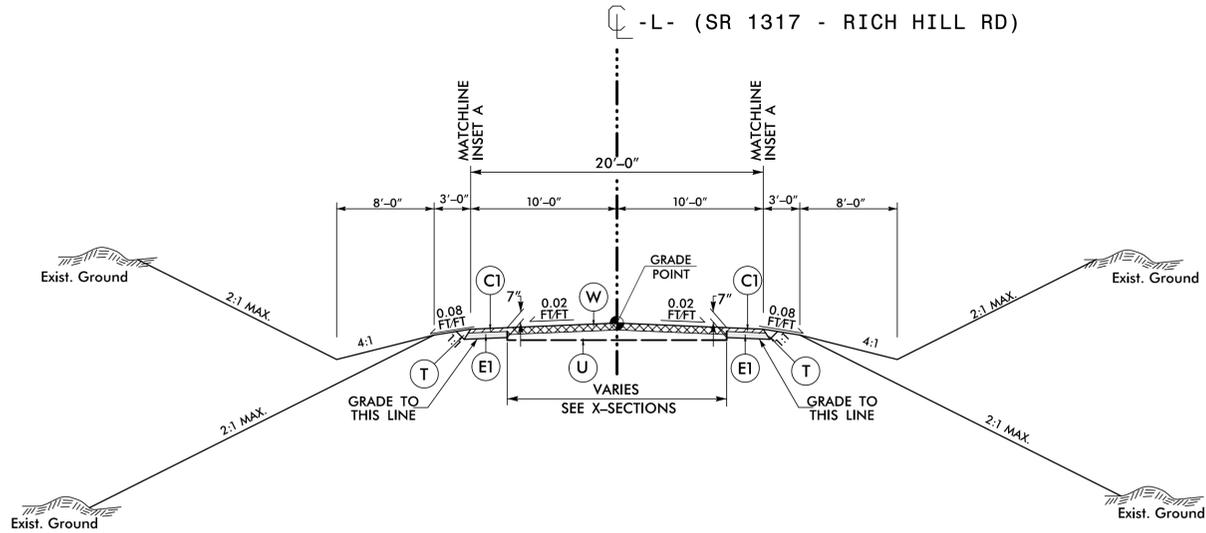
RW SHEET NO.
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO. C-0275

PAVEMENT SCHEDULE

C1	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.
C2	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 LESS THAN 1" IN DEPTH OR GREATER THAN 1.5" 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 (SEE WEDGING DETAILS THIS SHEET)

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



TYPICAL SECTION NO. 1

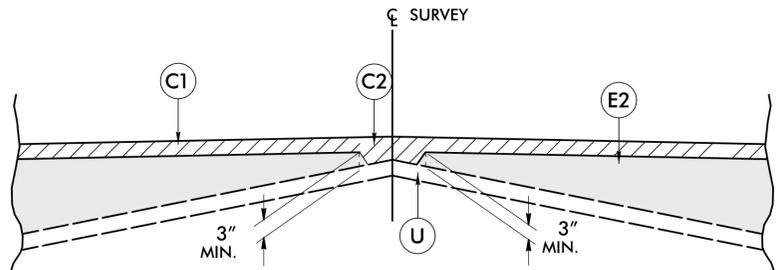
USE TYPICAL SECTION NO. 1
-L- STA. 12+00.00 TO -L- STA. 14+50.00

NOTE: TRANSITION BETWEEN EXISTING AND TYP. SECT. NO. 1 AS FOLLOWS:

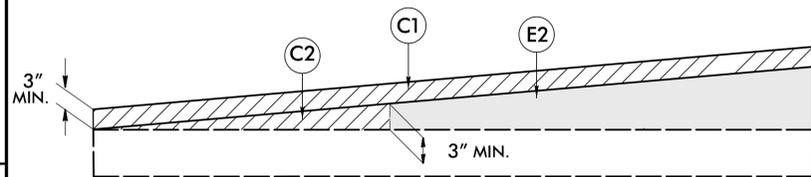
-L- STA. 11+50.00 TO -L- STA. 12+00.00
-L- STA. 14+50.00 TO -L- STA. 15+00.00

NOTE : USE FULL DEPTH PAVEMENT FROM -L- STA. 12+75 +/- TO -L- STA. 13+50 +/-

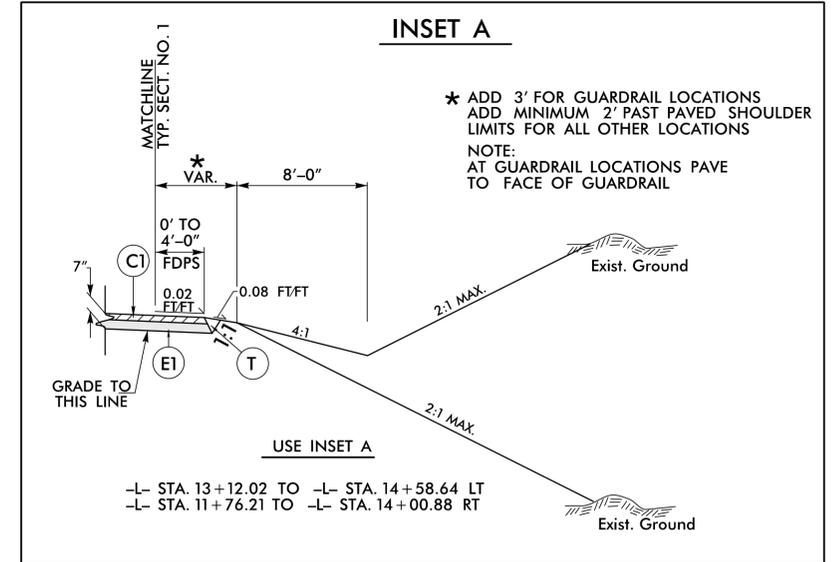
REVISIONS



Detail Showing Method of Wedging



Wedging Detail For Resurfacing



8/17/99

COMPUTED BY: SGM DATE: 6/12/2015
 CHECKED BY: JLT DATE: 6/16/2015

ASHE COUNTY
 BRIDGE #040263

PROJECT NO.
 17BP.11.R.67

SHEET NO.
 3B-1

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- 11+50.00	-L- 15+00.00	31	353	322	
TOTALS:		31	353	322	
Est. 5% Replace Topsoil on Borrow Pits				16	
PROJECT TOTALS:		31	353	338	0
SAY:		50		360	

"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	FLAIR LENGTH		W		ANCHORS				IMP. ATTN. TYPE 350			REMOVE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPR. END	TRAIL. END			APPR. END	TRAIL. END	APPR. END	TRAIL. END	GRAU 350 (TL3)	AT-1	EA	G	NG				
-L-	13+16.30	14+25.00	LT	93.75	18.75		13+59.94	13+44.31	3'	6'	50'		1'			1	1						
-L-	12+35.00	13+64.00	RT	100.00	37.5		12+79.57	12+91.63	3'	6'							2						
SUB-TOTALS:				193.75	56.25											1	3						
LESS ANCHOR DEDUCTIONS																							
	GRAU-350 (TL-3)	1@50.00 ft		50																			
	AT	3@6.25 ft			18.75																		
ANCHOR TOTALS				50	18.75																		
GRAND TOTALS				143.75	37.50											1	3						

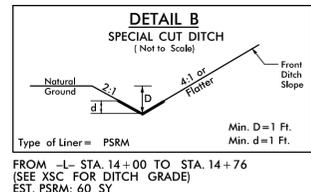
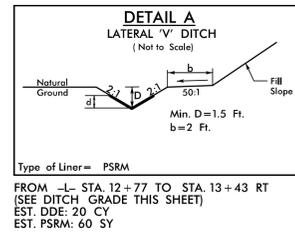
ADDITIONAL GUARDRAIL POSTS = 5 EA

RW SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO. C-0275



FROM -L- STA. 12+00 TO STA. 13+43 RT
(SEE DITCH GRADE THIS SHEET)
EST. DDE: 20 CY
EST. PSRM: 60 SY

FROM -L- STA. 14+00 TO STA. 14+76
(SEE XSC FOR DITCH GRADE)
EST. PSRM: 60 SY

-L- CURVE DATA

Station	Delta	D	L	T	R	SE	DS
PI Sta 10+90.23	16° 33' 52.8" (RT)	10' 25' 02.7"	159.0'	80.06'	550.00'	EXIST.	
PI Sta 12+82.68	29° 16' 36.2" (RT)	22' 55' 05.9"	127.7'	65.30'	250.00'	0.04	30 MPH
PI Sta 14+03.12	26° 07' 24.9" (LT)	22' 55' 05.9"	113.9'	58.00'	250.00'	0.04	30 MPH

JOSEPH RAY JONES AND WIFE,
KAREN D. JONES
DB 212 PG 1649

BEGIN PROJECT
17BP.11.R.67
-L- STA. 11+50.00

BL-3
LOCALIZED PROJECT COORDINATES
N= 1000563.4850
E= 1229965.6630
ELEVATION = 2972.04'



CULVERT HYDRAULIC DATA

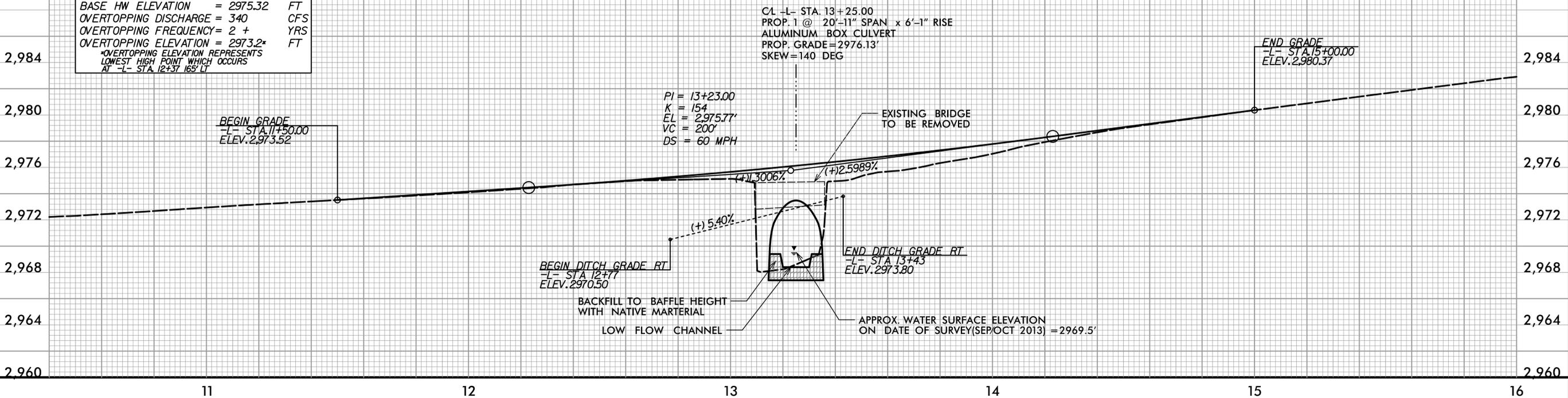
DESIGN DISCHARGE	= 320	CFS
DESIGN FREQUENCY	= 2	YRS
DESIGN HW ELEVATION	= 2972.4	FT
BASE DISCHARGE	= 1500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2975.32	FT
OVERTOPPING DISCHARGE	= 340	CFS
OVERTOPPING FREQUENCY	= 2 +	YRS
OVERTOPPING ELEVATION	= 2973.2*	FT

*OVERTOPPING ELEVATION REPRESENTS LOWEST HIGH POINT WHICH OCCURS AT -L- STA. 12+37.165' LT

USE NCDOT RDY STD 862.01, SHEET 10 OF 12 FOR GUARDRAIL PLACEMENT AT STRUCTURE.

BM#1 RR SPIKE IN 30" OAK
RT 61.15' OF -L- STA 12+82.08
ELEV. = 2975.20'

FOR CULVERT PLANS, SEE SHEET C-1 THRU C-5



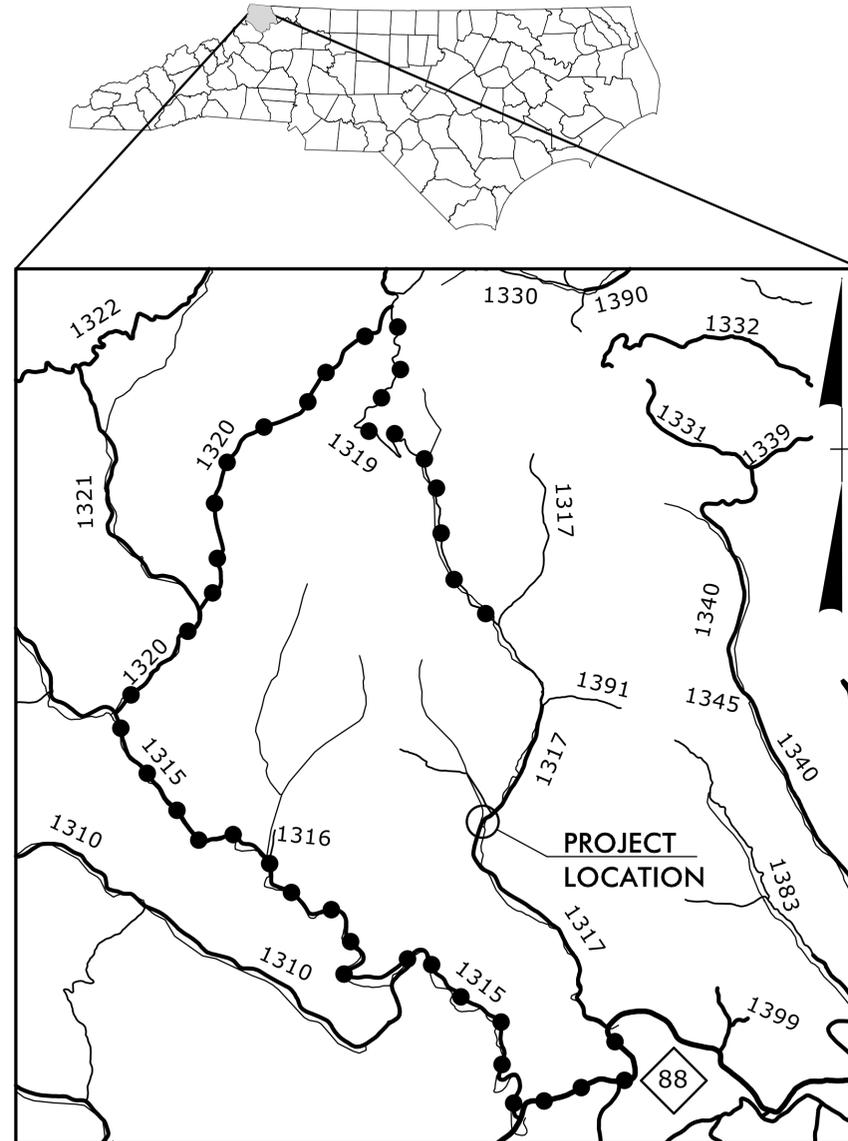
8/17/19

CUSTOMER'S USE ONLY

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ASHE COUNTY



VICINITY MAP

●●●●● OFFSITE DETOUR

NCDOT CONTACT INFORMATION:
Phone: 336 903 9220 Fax: 336 667 4549

JAMI GUYNN
Division Bridge Project Manager



PLAN PREPARED FOR N.C.D.O.T. BY:

TGS ENGINEERS
804-C N. LAFAYETTE ST.
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

JIMMY L. TERRY, PE PROJECT ENGINEER
KATELYN SPANGLER DESIGN TECHNICIAN



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES)
TMP-1C	SPECIAL SIGN DESIGN
TMP-2	OVERVIEW AND PHASING
TMP-3	OFFSITE DETOUR LOCATION AND BARRICADE PLACEMENT
PMP-1	FINAL PAVEMENT MARKING PLAN AND SCHEDULE

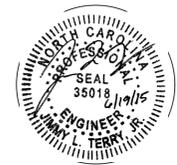
SHEET NO.
TMP-1

PROJECT: 17BP.II.R.67

CONTRACT:

APPROVED: _____
DATE: _____

SEAL



\$\$\$\$\$ SYSTEMS TIME\$\$\$\$\$
\$\$\$\$\$ CUSTOMER SERVICE\$\$\$\$\$
\$\$\$\$\$ USER NAME\$\$\$\$\$
\$\$\$\$\$ PASSWORD\$\$\$\$\$
\$\$\$\$\$ LOGIN\$\$\$\$\$
\$\$\$\$\$ LOG OFF\$\$\$\$\$
\$\$\$\$\$ EXIT\$\$\$\$\$

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)

- WORK AREA
- REMOVAL
- USER DEFINED (IF NEEDED)
- USER DEFINED (IF NEEDED)

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL / CRYSTAL
- CRYSTAL / RED
- YELLOW / YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

\$\$\$ SYSTEM \$\$\$
 \$\$\$ DATE: 11/15/11 \$\$\$
 \$\$\$ USER: JLM \$\$\$
 \$\$\$ PROJECT: 17BP.11.R.67 \$\$\$
 \$\$\$ SHEET: TMP-1A \$\$\$

TGS ENGINEERS
 804-C N. LAFAYETTE ST.
 SHELBY, NC 28150
 PH (704) 476 0003
 CORP. LICENSE NO.: C-0275

APPROVED: _____	DATE: _____		
ROADWAY STANDARD DRAWINGS & LEGEND			

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 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.

TRAFFIC PATTERN ALTERATIONS

- C) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- D) 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.
- E) PROVIDE PERMANENT SIGNING.
- F) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

- G) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

- H) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- I) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

- J) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS SHOWN IN THE PAVEMENT MARKING PLAN.
- K) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

MANAGEMENT STRATEGIES

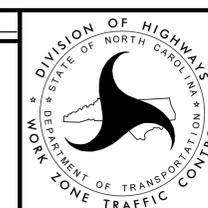
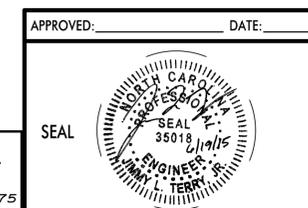
DURING CONSTRUCTION OF PROPOSED STRUCTURE, SR 1317 (RICH HILL RD) WILL BE CLOSED TO THROUGH TRAFFIC. RICH HILL RD TRAFFIC WILL BE MAINTAINED ON THE FOLLOWING OFFSITE DETOUR: SR 1319 (WILLIE WALKER RD) TO SR 1320 (ROARING FORK RD) TO SR 1315(BIG LAUREL RD) TO NC 88.

LOCAL NOTES

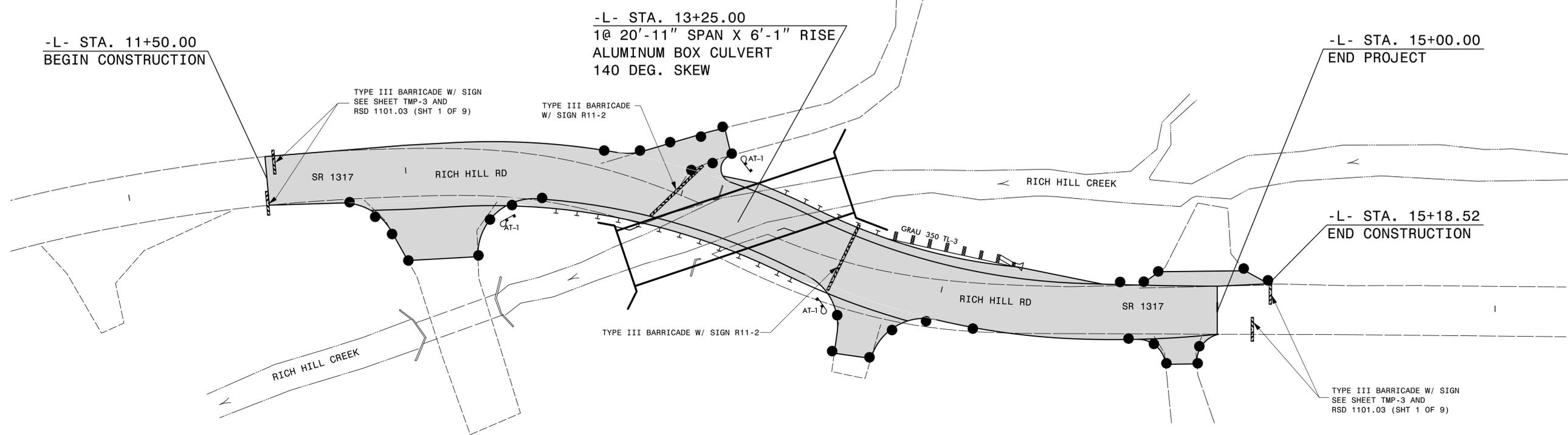
ACCESS TO ALL DRIVEWAYS MUST BE PROVIDED AT ALL TIMES WITHIN THE PROJECT LIMITS.

\$\$\$ SYSTEMS \$\$\$
 \$\$\$ ADDONS \$\$\$
 \$\$\$ PERMITS \$\$\$
 \$\$\$


TGS ENGINEERS
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TRANSPORTATION
 OPERATIONS
 PLAN



PHASING NOTES

- STEP 1: INSTALL ALL DETOUR ROUTE SIGNS AS SHOWN ON SHEET TMP-3.
- STEP 2: INSTALL TYPE III BARRICADES AND SIGNS AND CLOSE SR 1317 (RICH HILL RD) TO TRAFFIC AS SHOWN IN ROADWAY STANDARD DRAWING 1101.03 (SHEET 1 OF 9) AND ON SHEET TMP-2 AND TMP-3. PLACE TRAFFIC ON DETOUR ROUTE.
- NOTE:
1. THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNERS PRIOR TO CLOSING SR 1317 (RICH HILL RD) TO TRAFFIC.
2. THE CONTRACTOR SHALL COMPLETE THE WORK REQUIRED OF PHASE 1, STEP 3 IN 7 CONSECUTIVE CALENDAR DAYS.
- STEP 3: DEMOLISH AND REMOVE THE EXISTING BRIDGE AND CONSTRUCT THE NEW CULVERT ON RICH HILL CREEK AT -L- STA. 13+25.00.

CONSTRUCT TEMPORARY TIE INS TO OPEN SR 1317 TO TRAFFIC.

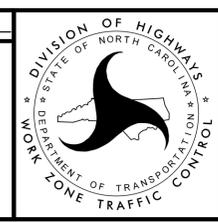
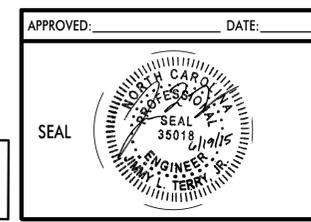
- STEP 4: USING FLAGGERS AND TEMPORARY LANE CLOSURES CONSTRUCT RICH HILL ROAD (SR 1317) FROM -L- 11+50.00 TO 15+00.00, INCLUDING THE FINAL LAYER OF SURFACE COURSE.

CONSTRUCT ALL ADJACENT DRIVEWAYS.

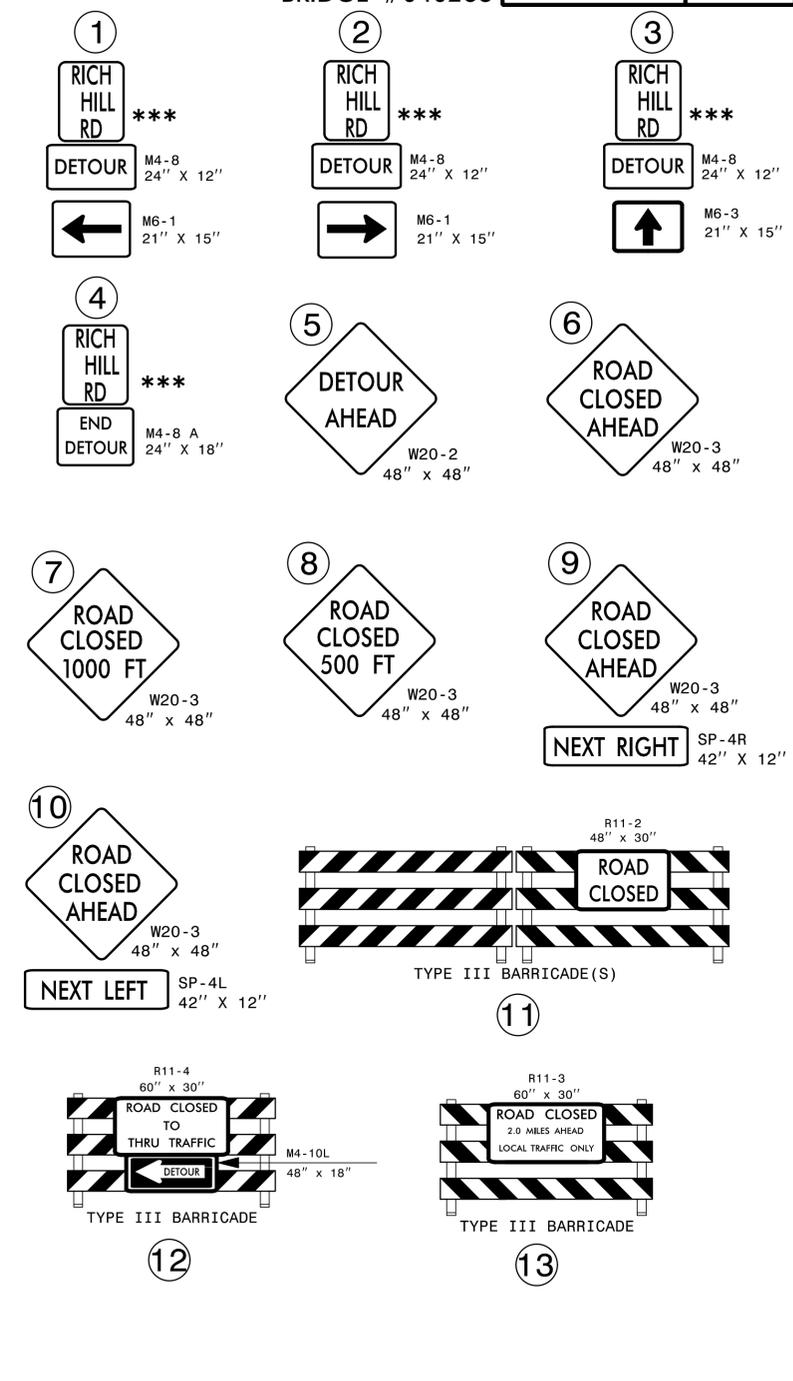
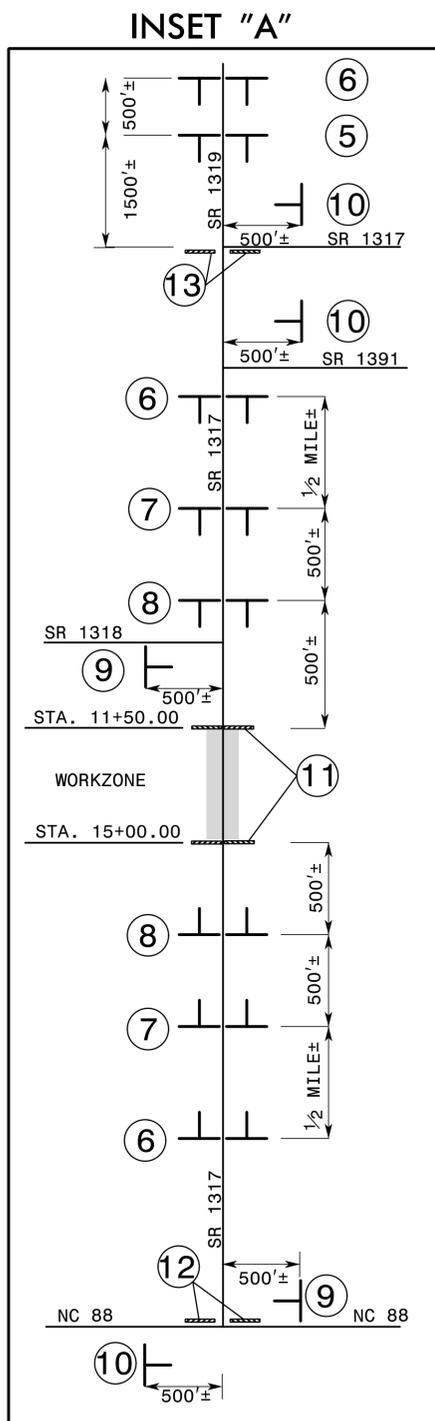
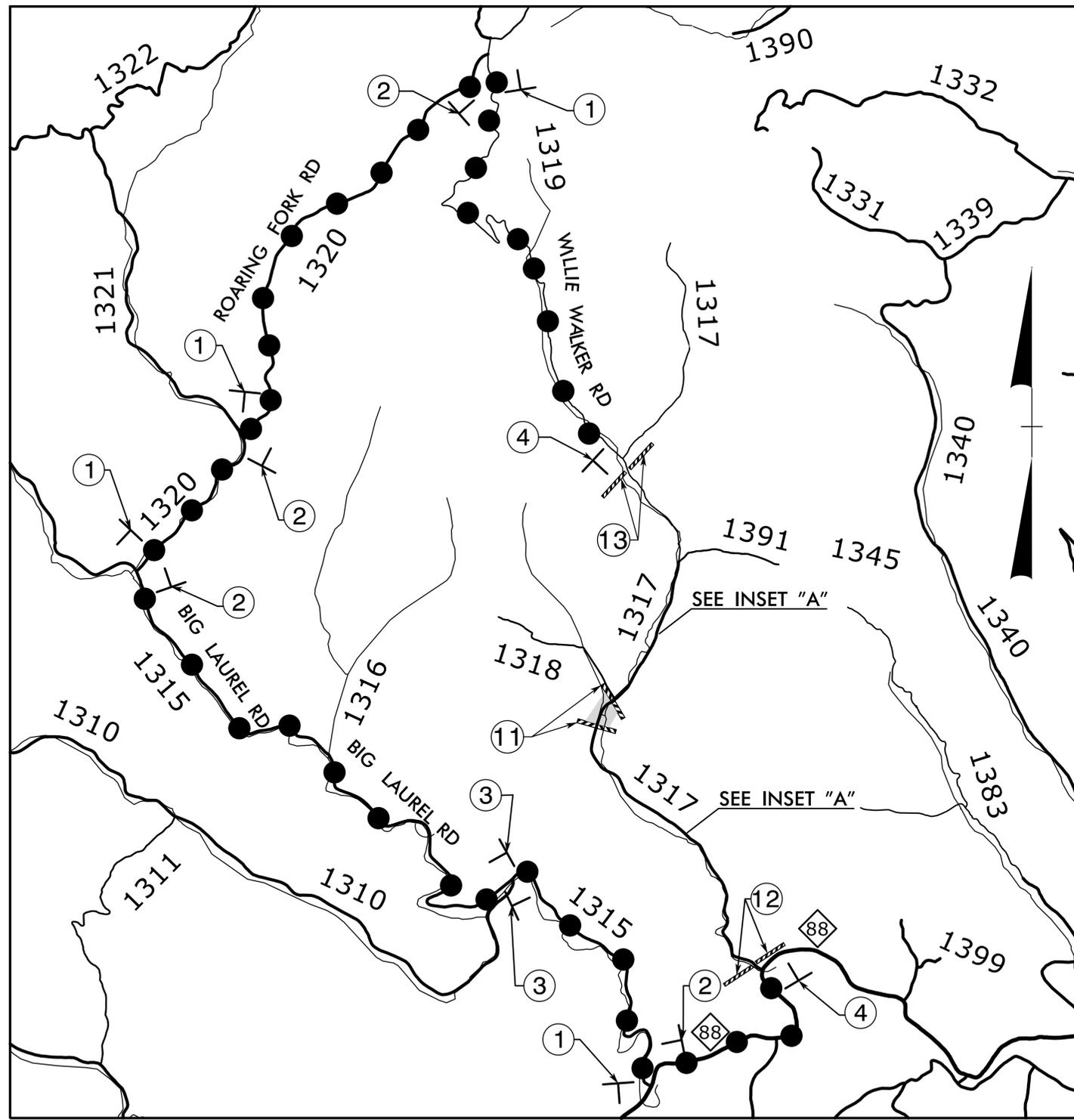
NOTE: MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION
- STEP 5: USING FLAGGERS AND TEMPORARY LANE CLOSURES PLACE FINAL PAVEMENT MARKINGS FROM -L- STA 11+50.00 TO 15+18.52 AS INDICATED ON SHEET PMP-1.
- STEP 6: REMOVE BARRICADES, SIGNS, AND ALL OTHER TRAFFIC CONTROL DEVICES AND OPEN SR 1317 (RICH HILL ROAD) TO TRAFFIC IN FINAL PATTERN.

\$\$\$ SYSTEMS \$\$\$
 \$\$\$ DESIGN \$\$\$
 \$\$\$ DRAWING \$\$\$
 \$\$\$ CHECKING \$\$\$
 \$\$\$ REVISIONS \$\$\$
 \$\$\$ DATE \$\$\$
 \$\$\$ USER NAME \$\$\$
 \$\$\$ 00/00 \$\$\$

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OVERVIEW AND PHASING



CONSTRUCTION AREA
 DETOUR ROUTE
 *** SEE SHEET TMP-1C FOR SIGN DESIGN

REFER TO ROADWAY STANDARD
DRAWING 1101.03, SHEETS 1 OF 9
FOR APPLICABLE NOTES.

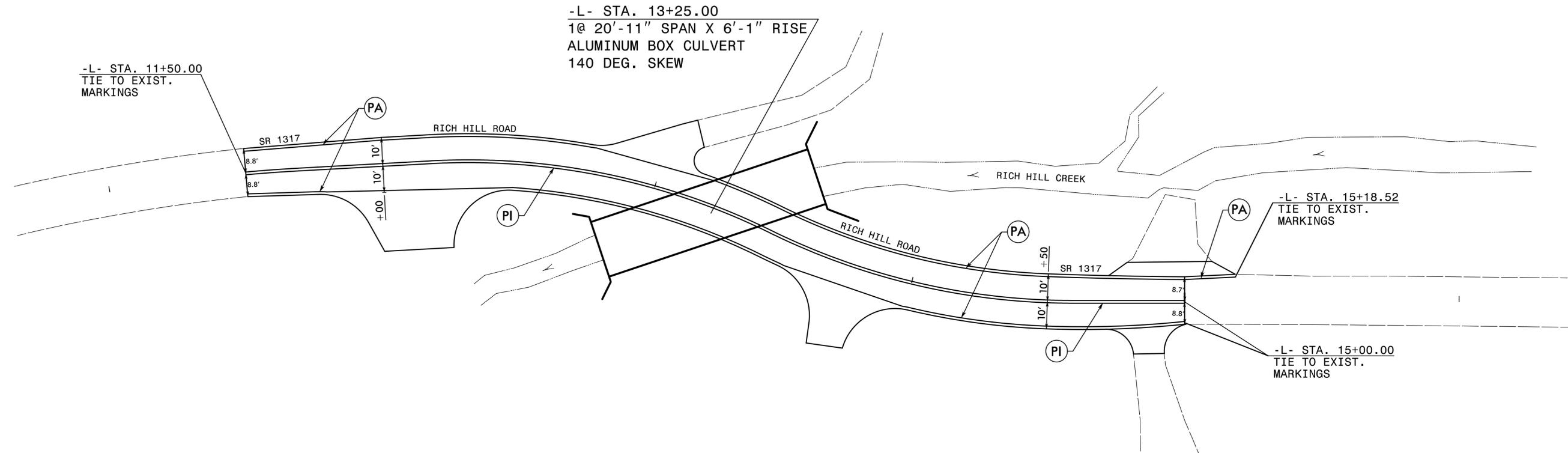
\$\$\$ SYSTEM TIME \$\$\$
 \$\$\$ DATE: 11/19/15 \$\$\$
 \$\$\$ USER: JLN \$\$\$
 \$\$\$ PROJECT: 17BP.11.R.67 \$\$\$
 \$\$\$ SHEET: TMP-3 \$\$\$

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APPROVED: _____ DATE: _____



**OFFSITE DETOUR ROUTE
AND BARRICADE PLACEMENT**



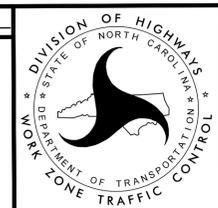
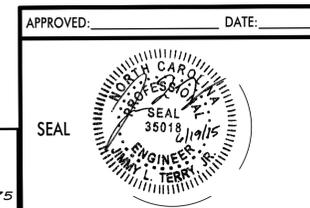
Pavement Marking Schedule

TIP Project # 17BP.11.R.67

SYMB	DESCRIPTION	PAY ITEM	QUANTITY	TOTAL
	FINAL PAVEMENT MARKINGS			
	PAINT (4")			
PA	WHITE EDGELINE (2X)		1437 LF	
PI	YELLOW DOUBLE CENTER (2X)		1400 LF	
		TOTAL		2837 LF

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.

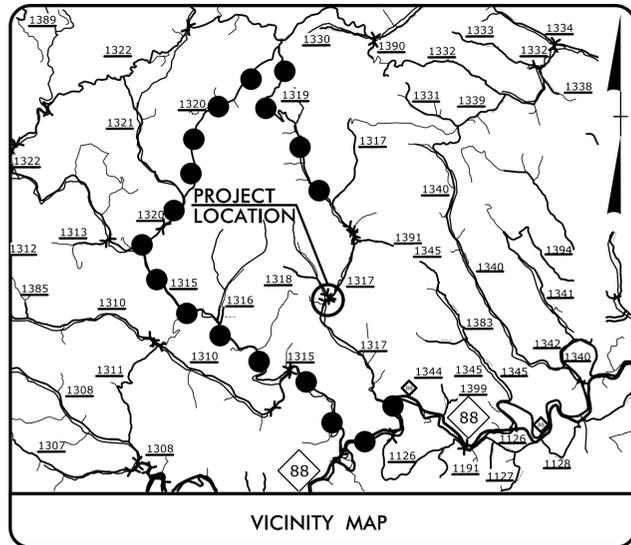
TGS ENGINEERS
804-C N. LAFAYETTE ST.
SHELBY, NC 28150
PH (704) 476 0003
CORP. LICENSE NO.: C-0275



FINAL PAVEMENT
MARKING PLAN
AND SCHEDULE

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$SERNAME\$\$\$\$\$

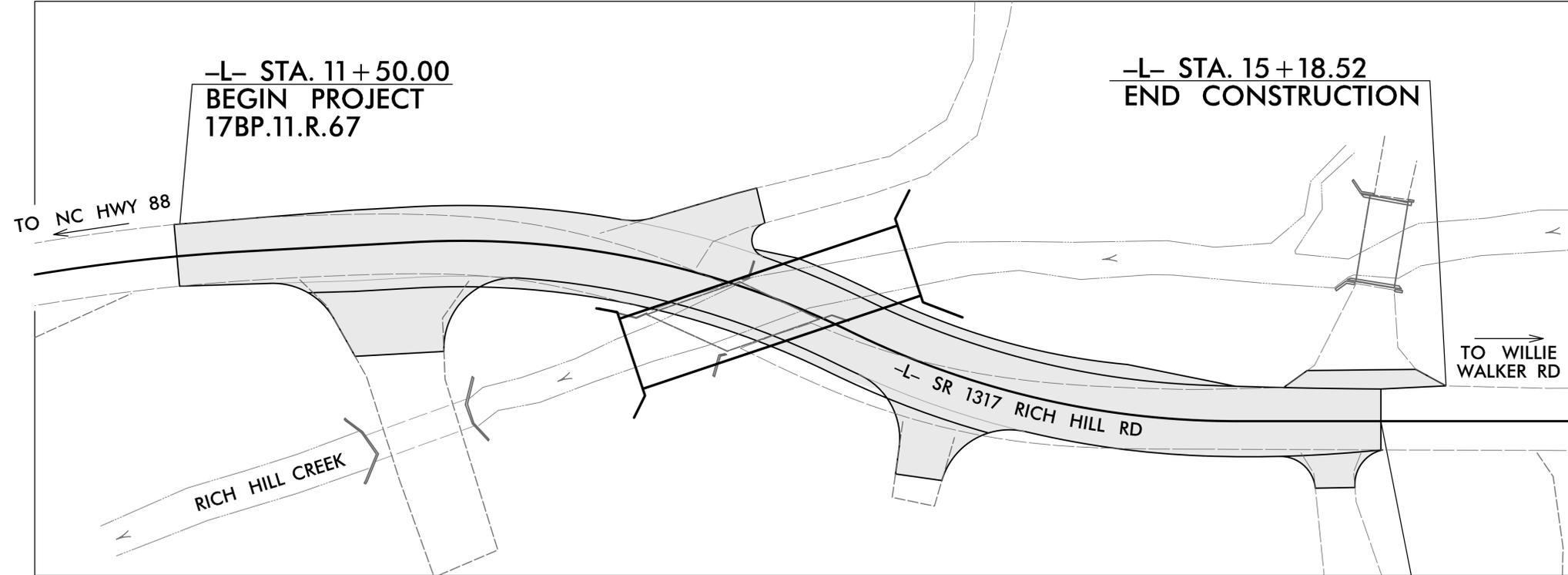
PROJECT: 17BP.11.R.67



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

LOCATION: BRIDGE NO. 040263 OVER RICH HILL CREEK
ON SR 1317 (RICH HILL ROAD)

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



-L- STA. 15 + 00.00
END PROJECT
17BP.11.R.67

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT
High Quality Water Zone(s) Exist
From Sta. 11+50.00
to Sta. 15+18.52
Refer To E. C. Special Provisions for Special Considerations.

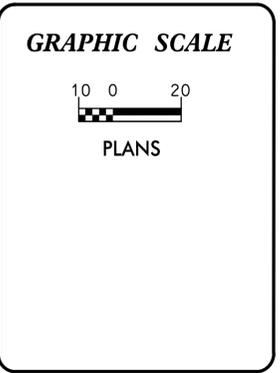
THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

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	TD
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	W
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	W
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	U
1635.02	Rock Pipe Inlet Sediment Trap Type-B	U
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	▭



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 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

TGS ENGINEERS
Plans Prepared By:
TGS ENGINEERS
804-C N. LAFAYETTE ST.
SHELBY, NC 28150
PH (704) 476-0003

2012 STANDARD SPECIFICATIONS

LETTING DATE:

NCDOT DIVISION II
NCDOT Contact:
JAMI GUYNN
DIVISION BRIDGE
PROJECT MANAGER

ANDREW H. COCHRANE, EI
PROJECT ENGINEER
LEVEL III CERTIFICATION
NUMBER 3015

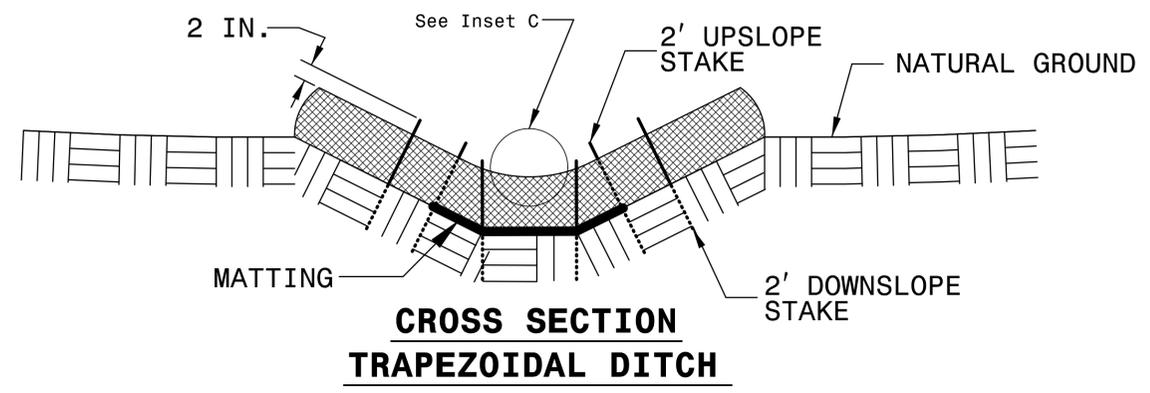
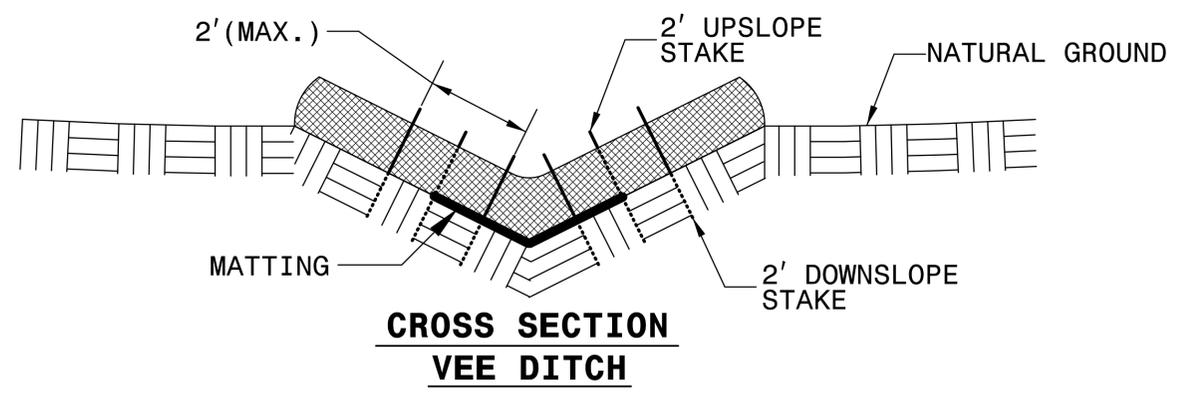
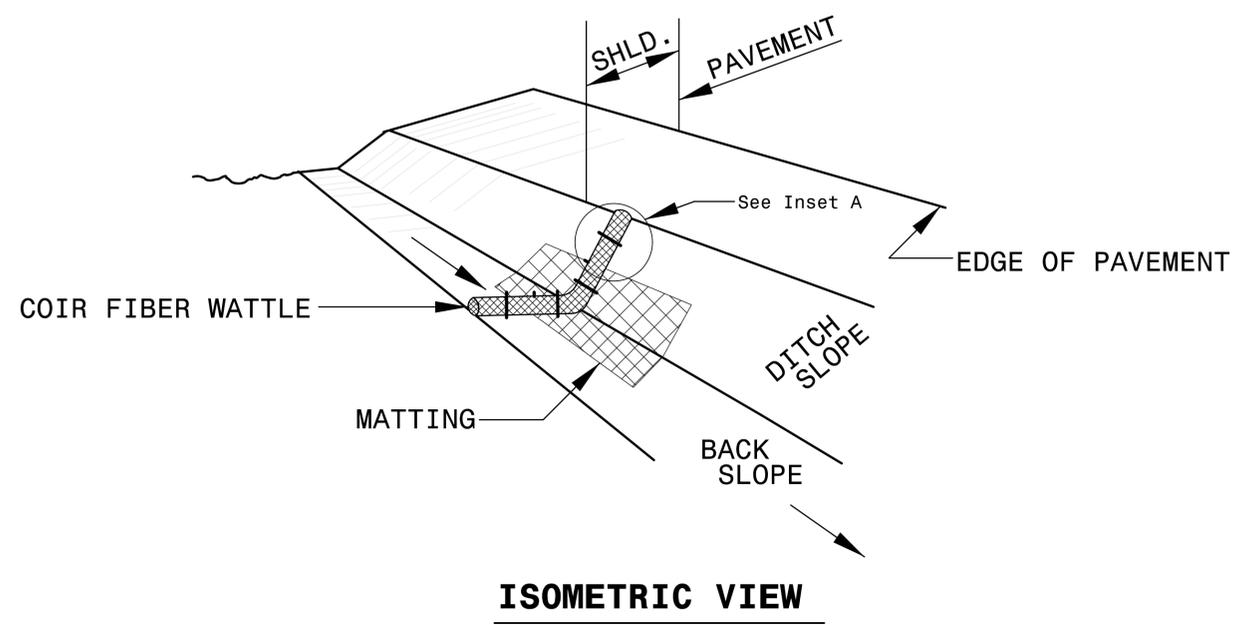
Roadway Standard Drawings

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 revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

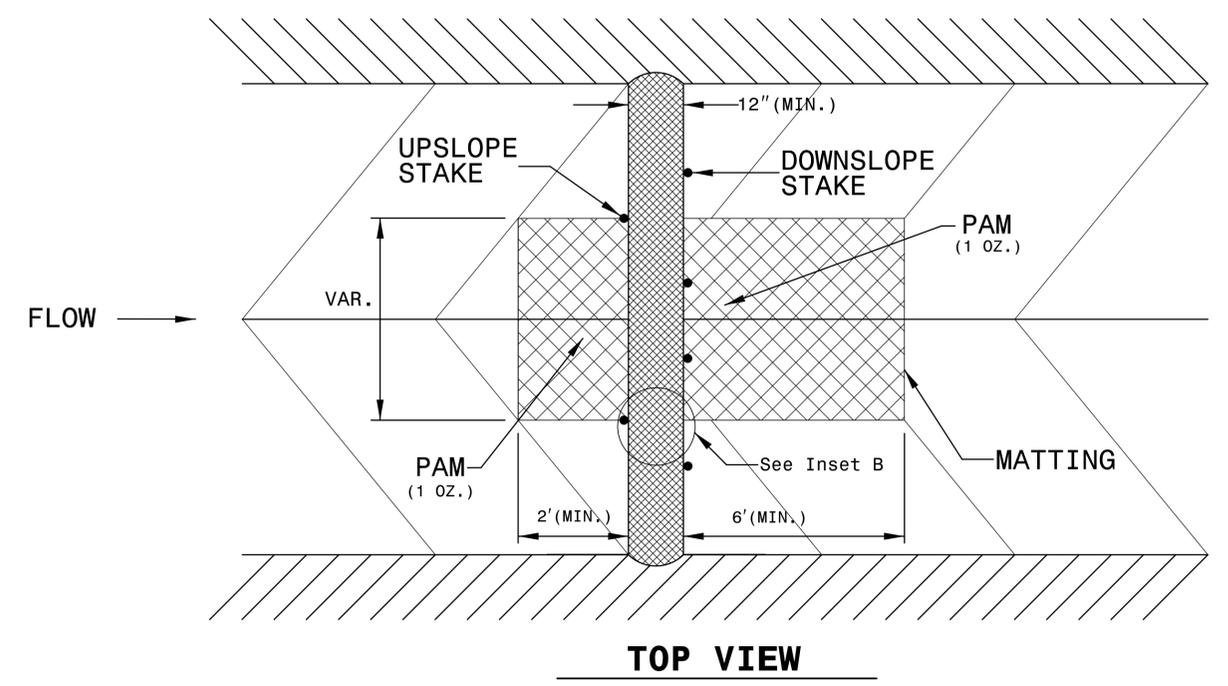
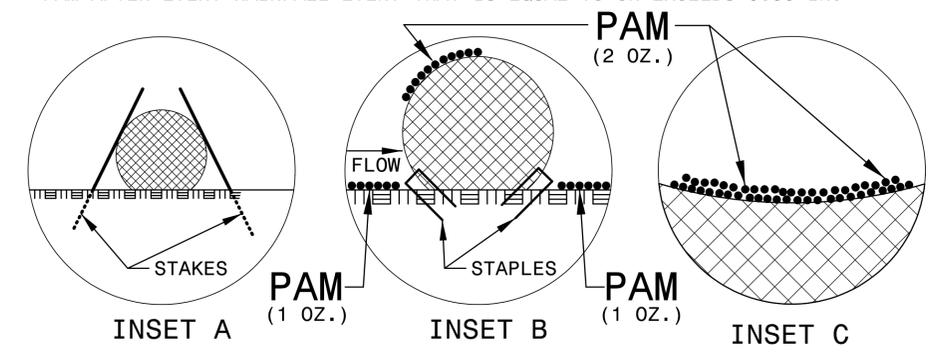
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1633.02 Temporary Rock Silt Check Type B
1630.02 Silt Basin Type B	1634.01 Temporary Rock Sediment Dam Type A
1630.03 Temporary Silt Ditch	1634.02 Temporary Rock Sediment Dam Type B
1630.04 Stilling Basin	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.05 Temporary Diversion	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.06 Special Stilling Basin	1640.01 Coir Fiber Baffle
1631.01 Matting Installation	1645.01 Temporary Stream Crossing

PROJECT REFERENCE NO. 17BP.II.R.67	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

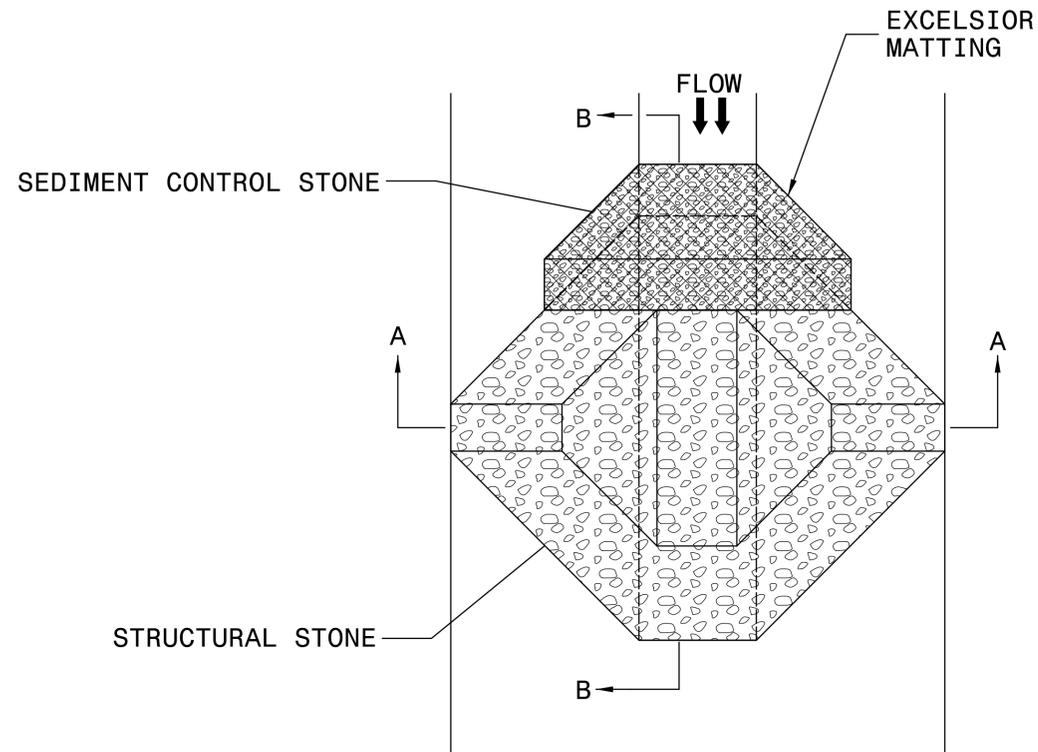


- NOTES:
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
 - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
 - PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
 - INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
 - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
 - PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
 - INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



PROJECT REFERENCE NO. 17BP.II.R.67	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN

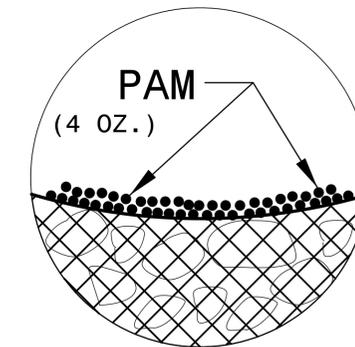
NOTES:

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

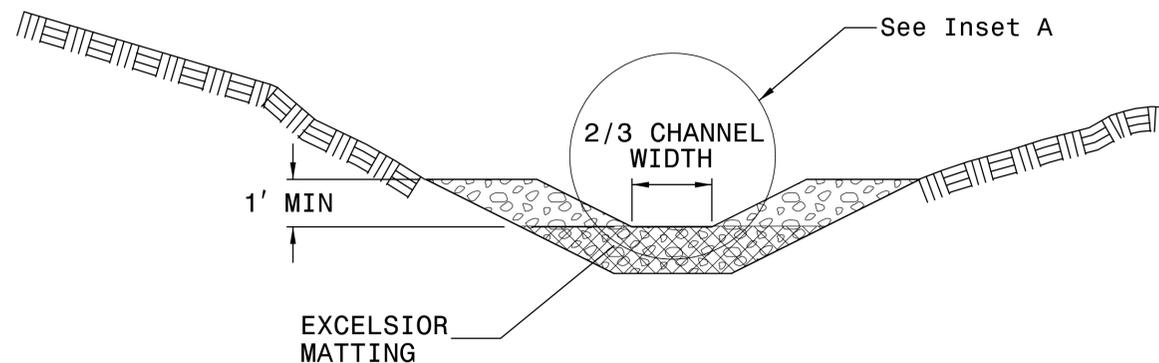
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

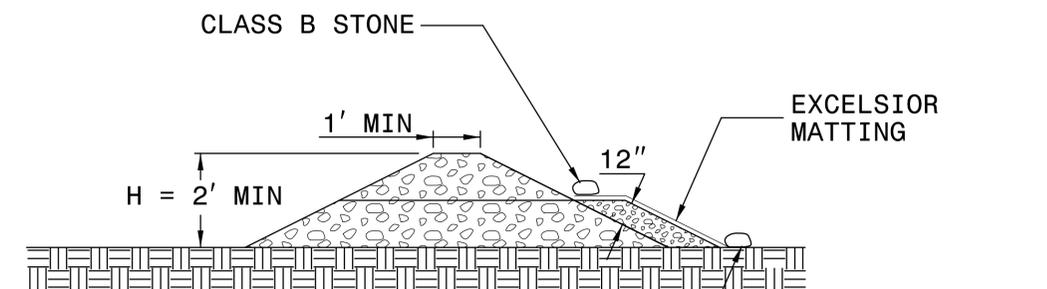
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
<i>17BPJLR.67</i>	<i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

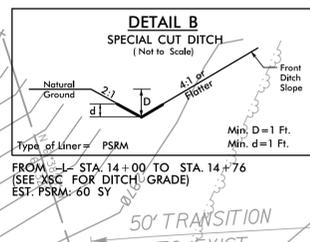
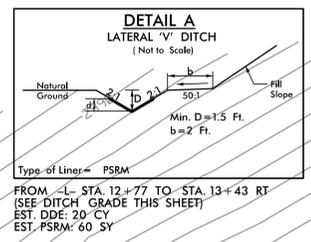
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
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.

ASHE COUNTY
BRIDGE #040263

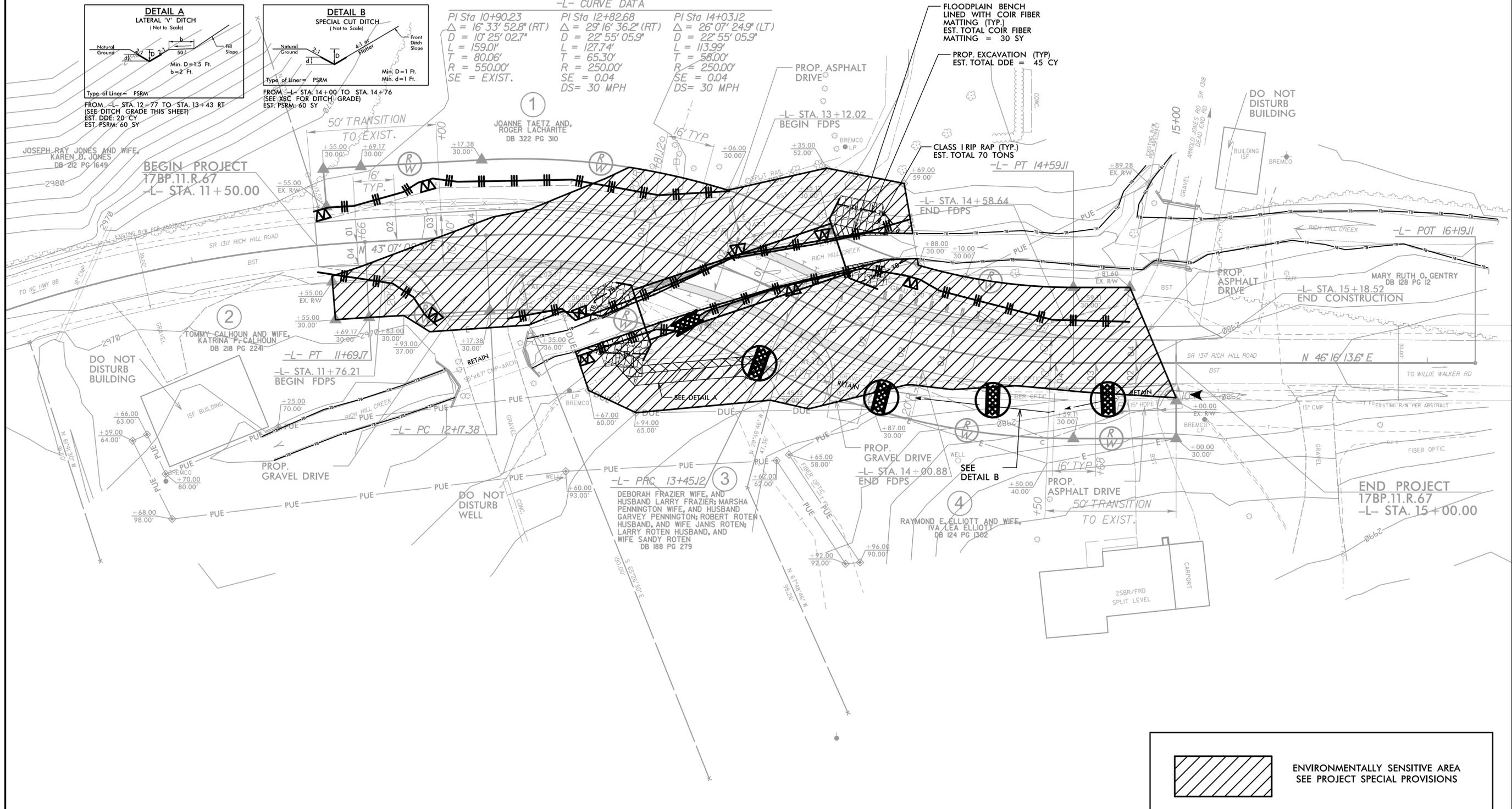


PROJECT REFERENCE NO. 17BP.11.R.67	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L- CURVE DATA

PI Sta 10+90.23	PI Sta 12+82.68	PI Sta 14+03.12
$\Delta = 16^\circ 33' 52.8''$ (RT)	$\Delta = 29^\circ 16' 36.2''$ (RT)	$\Delta = 26^\circ 07' 24.9''$ (LT)
$D = 10^\circ 25' 02.7''$	$D = 22^\circ 55' 05.9''$	$D = 22^\circ 55' 05.9''$
$L = 159.01'$	$L = 127.74'$	$L = 113.99'$
$T = 80.06'$	$T = 65.30'$	$T = 58.00'$
$R = 550.00'$	$R = 250.00'$	$R = 250.00'$
$SE = EXIST.$	$SE = 0.04$	$SE = 0.04$
	$DS = 30$ MPH	$DS = 30$ MPH



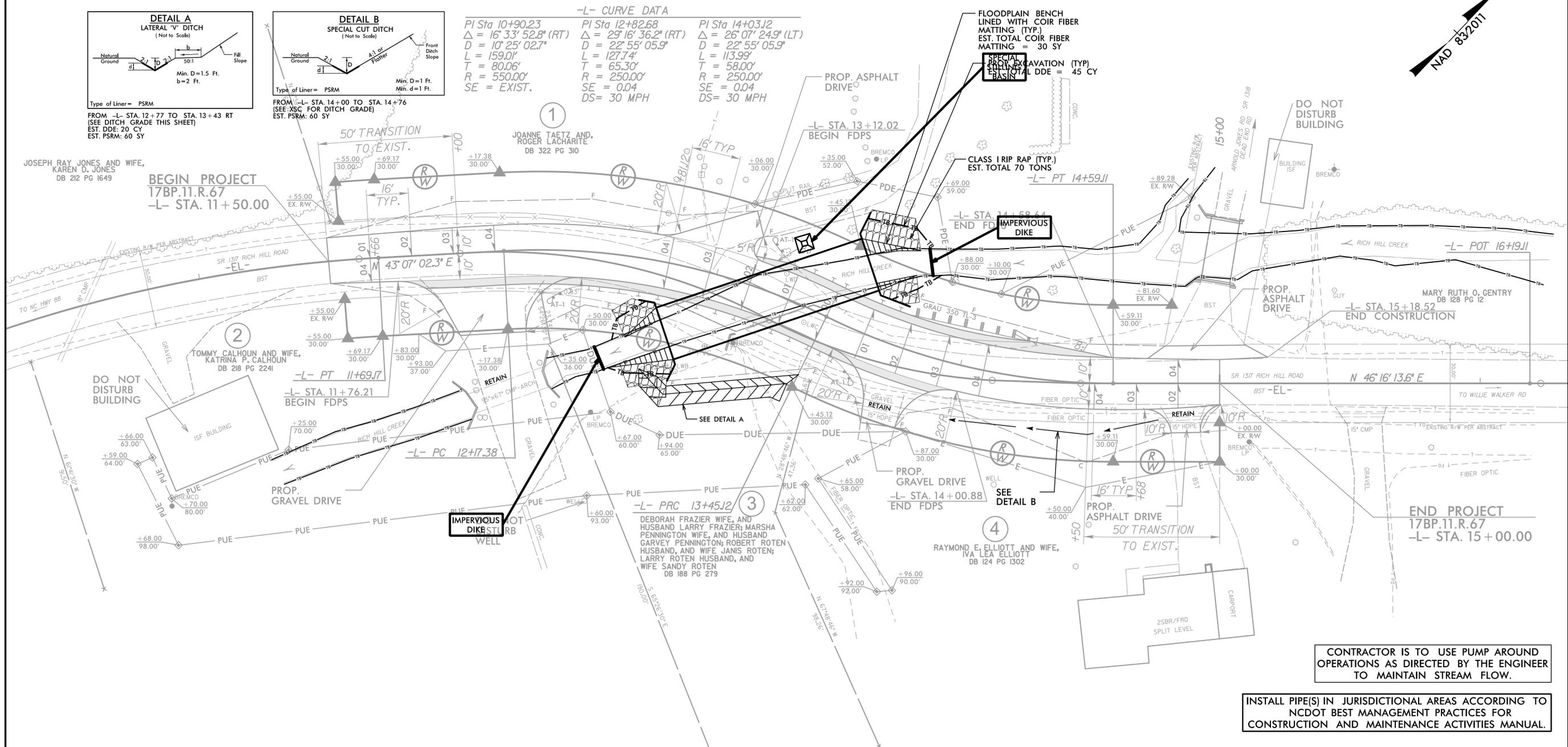
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

PROJECT REFERENCE NO. 17BP.11.R.67	SHEET NO. EC-5/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 13+25 -L-

PHASING

1. Close SR 1317 (Rich Hill Road) to traffic as shown in traffic management plans.
2. Install perimeter erosion control devices as shown on EC-4.
3. Construct impervious dikes to restrain stream and begin pump around operations.
4. Remove existing bridge over Rich Hill Creek.
5. Install proposed 20'-11" Span x 6'-1" Rise Aluminum Box Culvert with aluminum headwalls and wingwalls.
6. Complete any necessary Inlet/Outlet channel improvements.
7. Remove impervious dikes and divert water into new culvert.
8. Complete roadway construction.



CONTRACTOR IS TO USE PUMP AROUND OPERATIONS AS DIRECTED BY THE ENGINEER TO MAINTAIN STREAM FLOW.

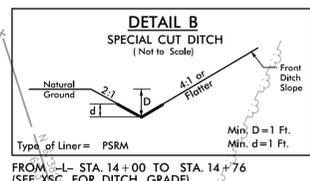
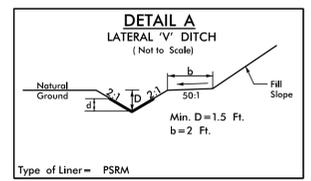
INSTALL PIPE(S) IN JURISDICTIONAL AREAS ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ASHE COUNTY
BRIDGE #040263



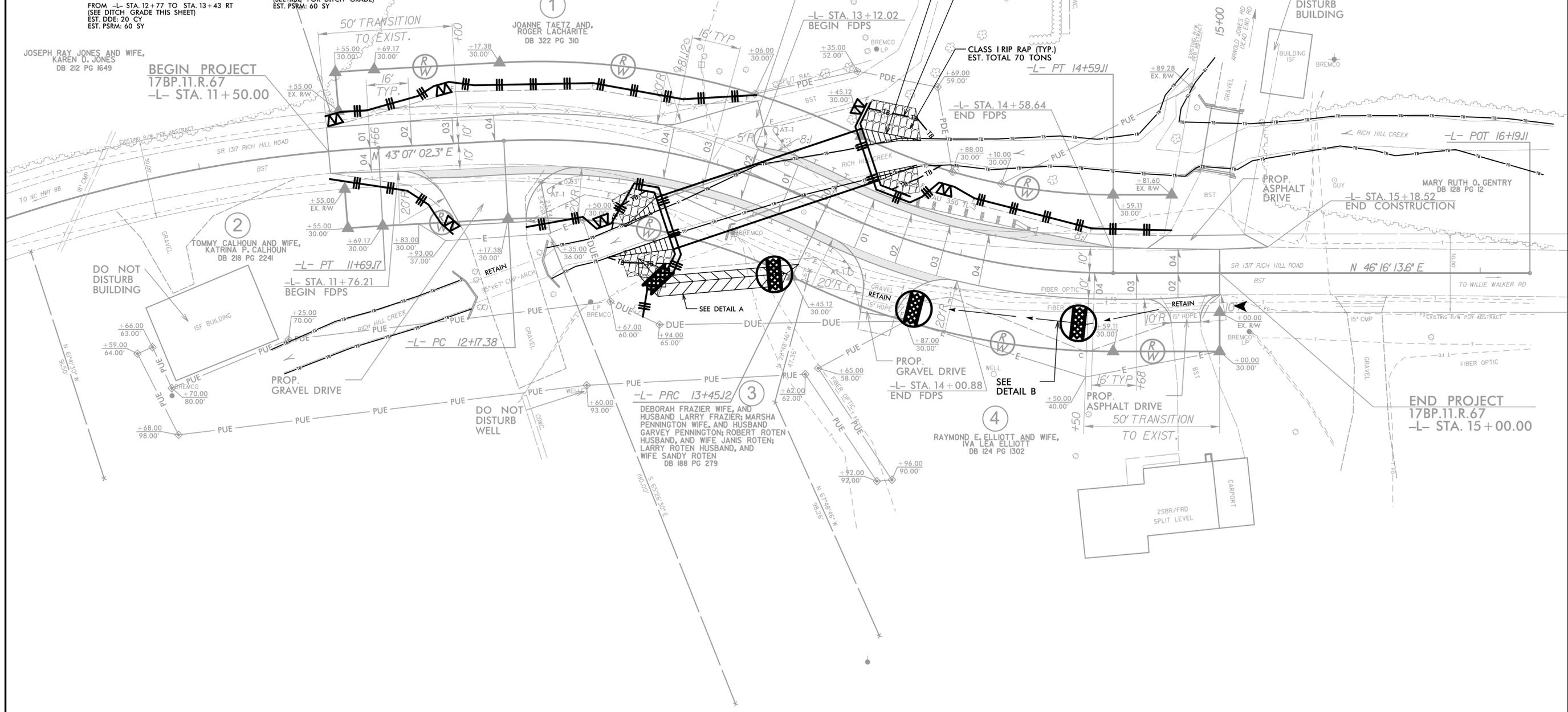
PROJECT REFERENCE NO. 17BP.11.R.67	SHEET NO. EC-6/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Place Matting for Erosion Control on Slope as Work Allows.



-L- CURVE DATA

PI Sta 10+90.23 Δ = 16° 33' 52.8" (RT) D = 10° 25' 02.7" L = 159.01' T = 80.06' R = 550.00' SE = EXIST.	PI Sta 12+82.68 Δ = 29° 16' 36.2" (RT) D = 22° 55' 05.9" L = 127.74' T = 65.30' R = 250.00' SE = 0.04 DS = 30 MPH	PI Sta 14+03.12 Δ = 26° 07' 24.9" (LT) D = 22° 55' 05.9" L = 113.99' T = 58.00' R = 250.00' SE = 0.04 DS = 30 MPH
---	--	--



FROM -L- STA. 12+77 TO STA. 13+43 RT
(SEE DITCH GRADE THIS SHEET)
EST. DDE: 20 CY
EST. PSRM: 60 SY

JOSEPH RAY JONES AND WIFE,
KAREN D. JONES
DB 212 PG 1649

BEGIN PROJECT
17BP.11.R.67
-L- STA. 11+50.00

DO NOT DISTURB BUILDING

DO NOT DISTURB WELL

DO NOT DISTURB BUILDING

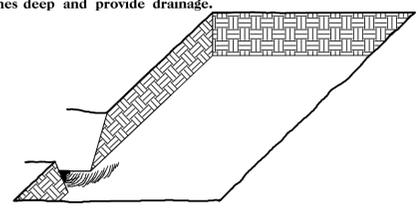
END PROJECT
17BP.11.R.67
-L- STA. 15+00.00

PLANTING DETAILS

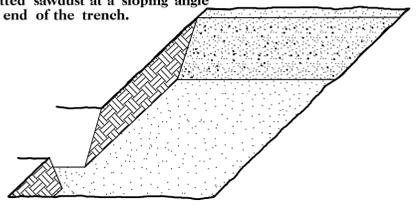
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

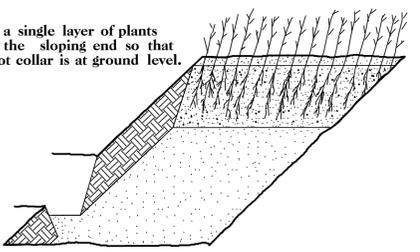
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



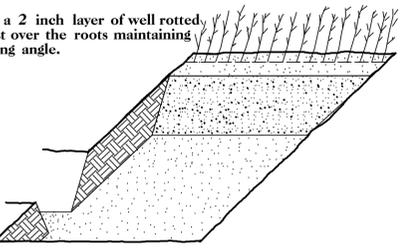
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

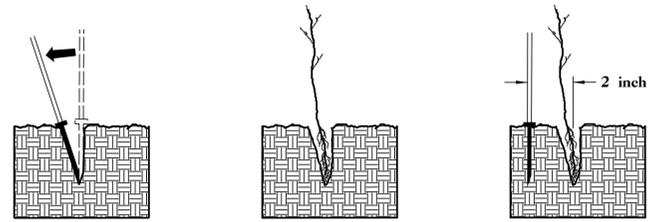


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

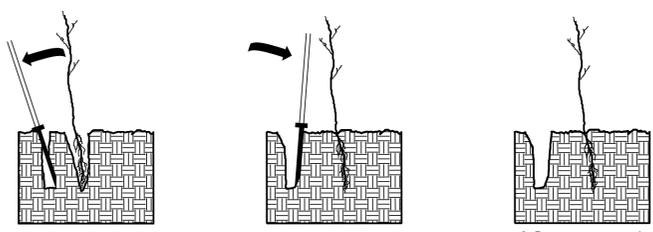


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



1. Insert planting bar as shown and pull handle toward planter.
2. Remove planting bar and place seedling at correct depth.
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

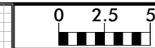
- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

25%	LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
25%	PLATANUS OCCIDENTALIS	SYCAMORE	12 in - 18 in BR
25%	FRAXINUS PENNSYLVANICA	GREEN ASH	12 in - 18 in BR
25%	BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

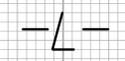
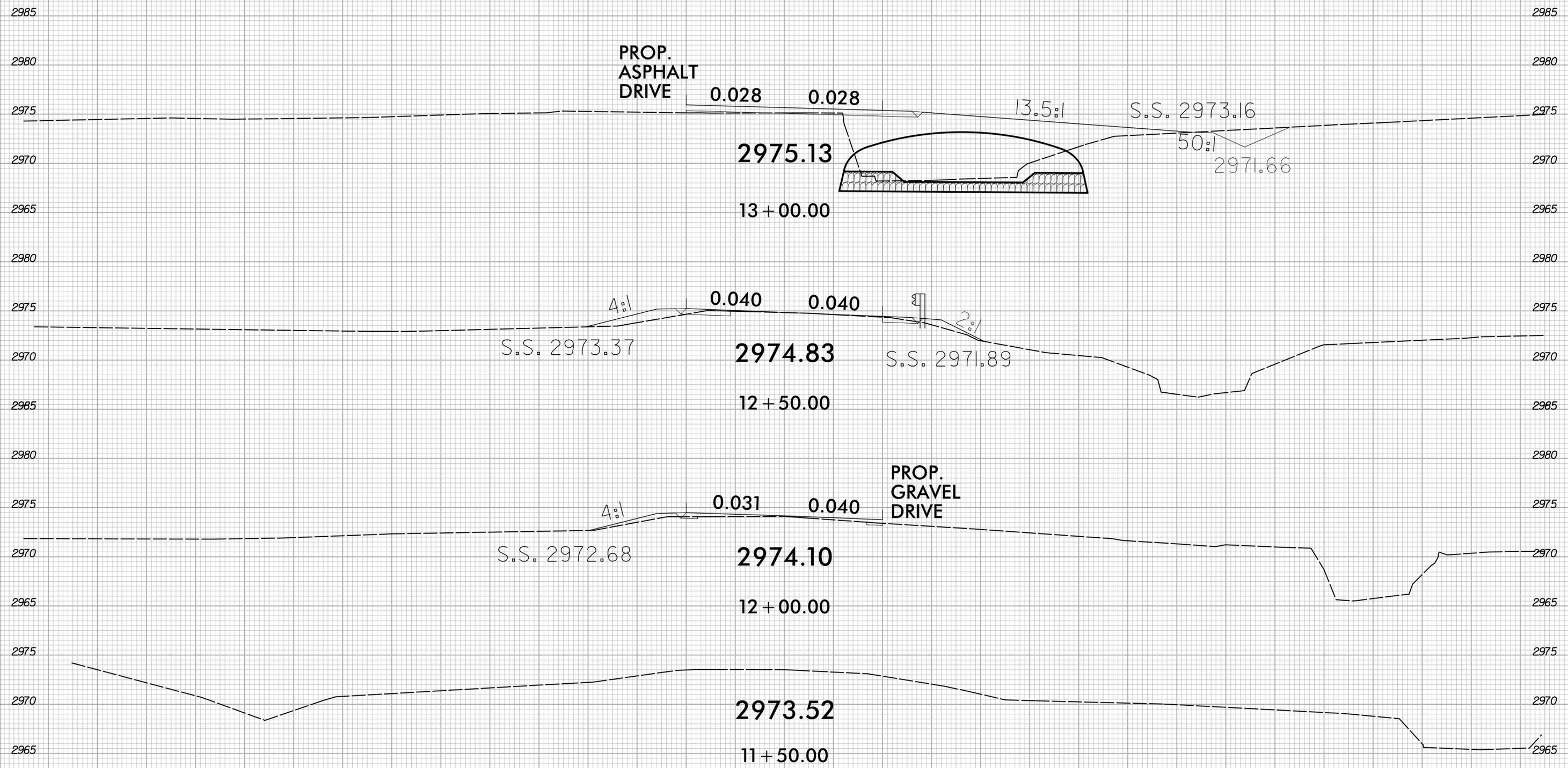
8/23/99



PROJ. REFERENCE NO. 17BP.11.R.67	SHEET NO. X-1
-------------------------------------	------------------

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

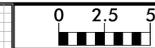
**ASHE COUNTY
BRIDGE #040263**



*****SYTIME*****
*****CUD*****

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8/23/99

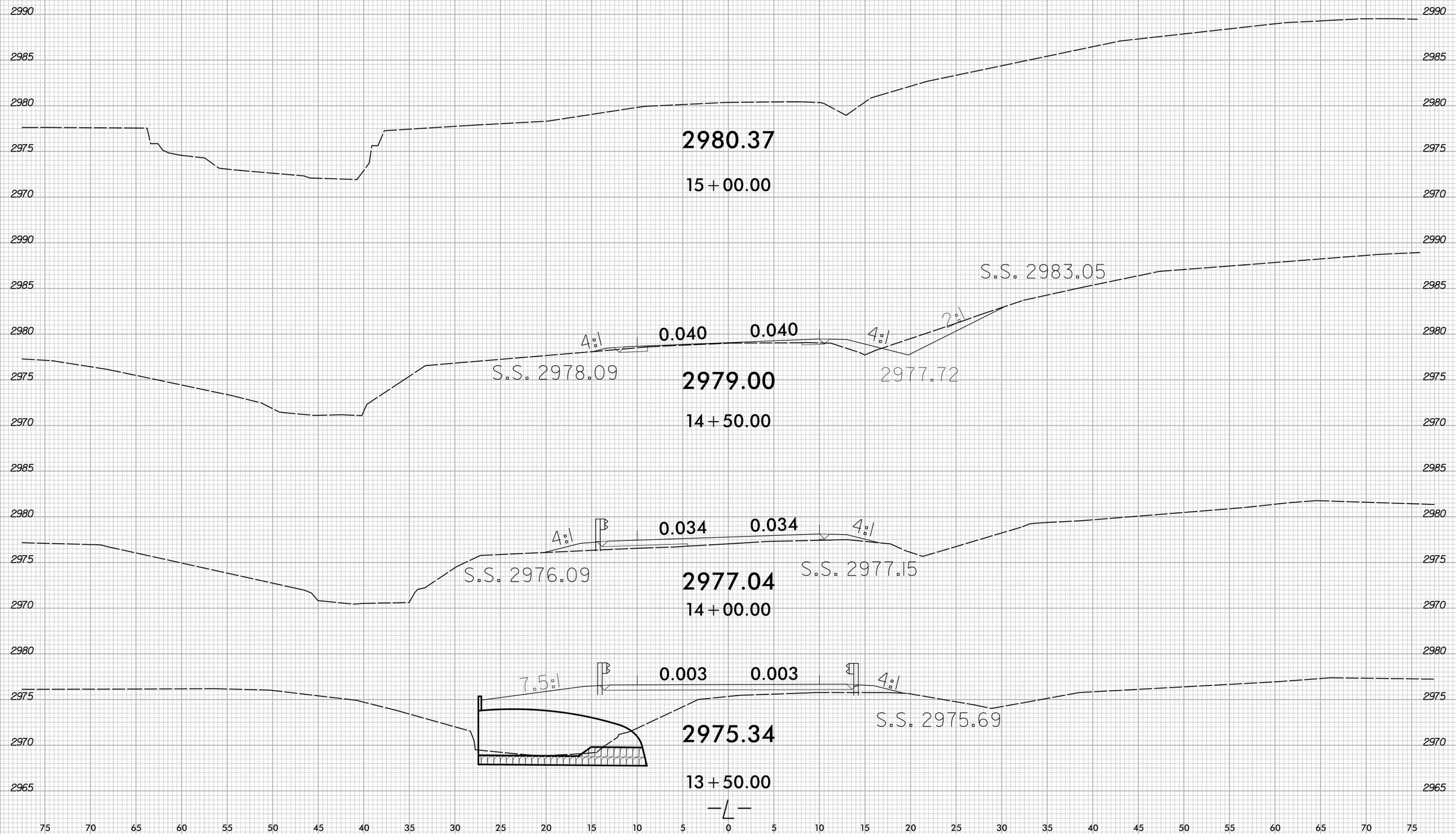


PROJ. REFERENCE NO.
17BP.11.R.67

SHEET NO.
X-2

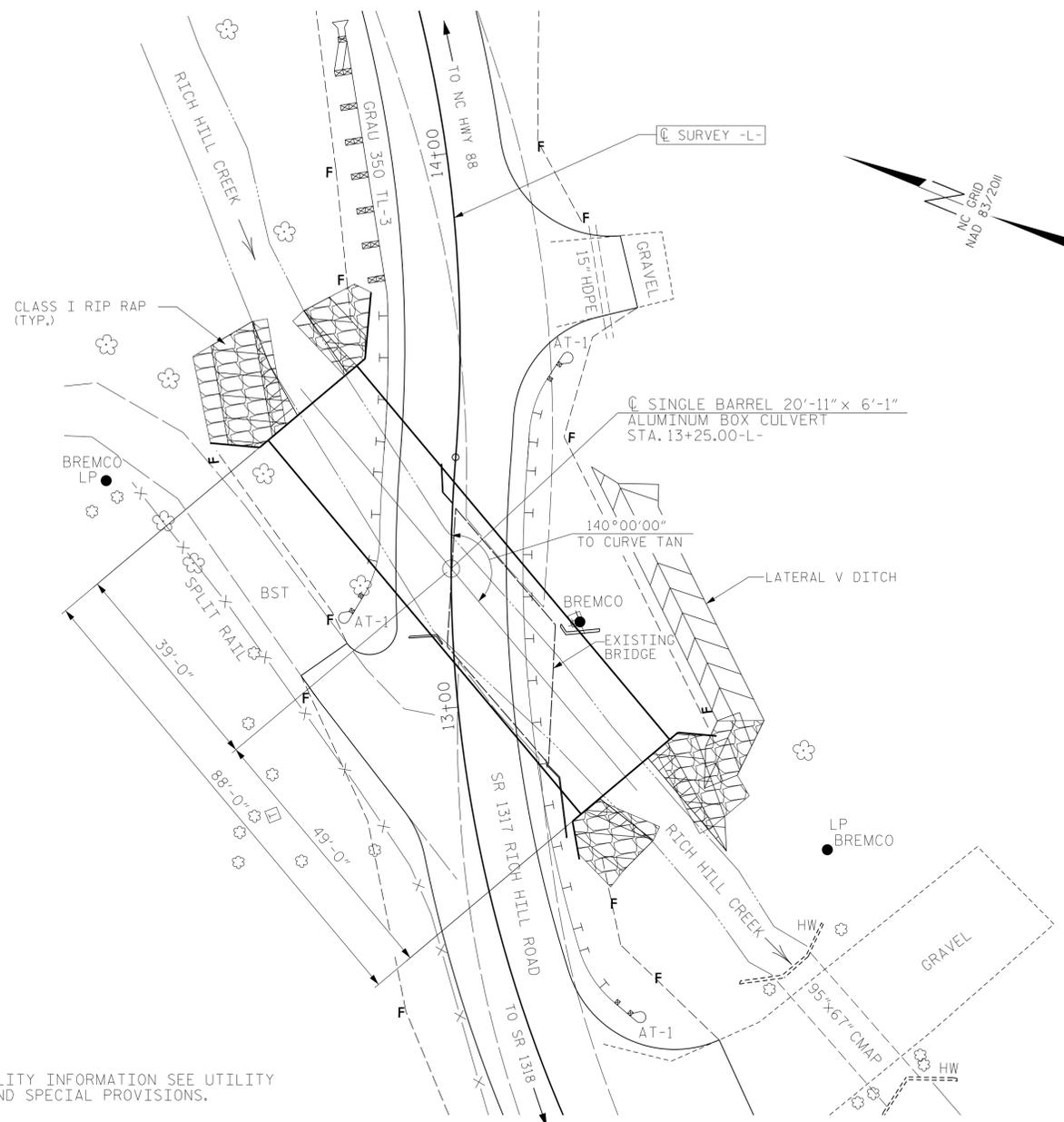
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ASHE COUNTY BRIDGE #040263



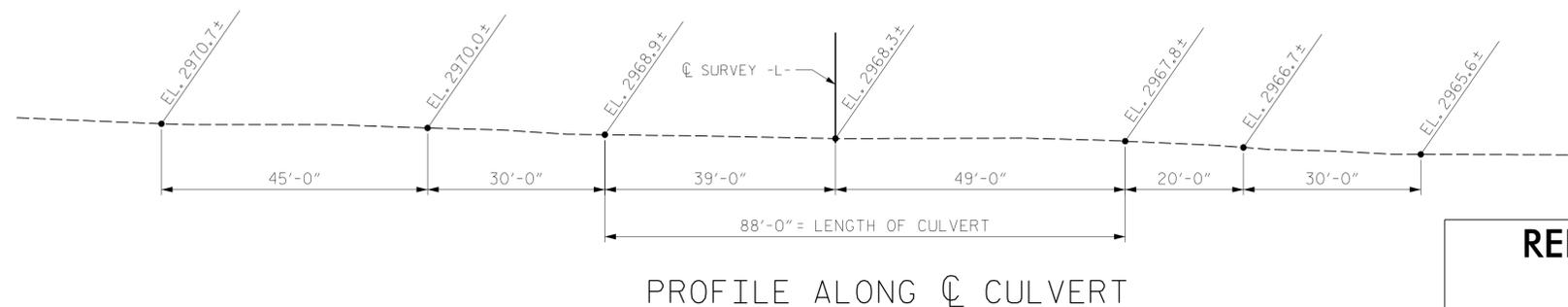
*****SYTIME*****
*****SUDRIVE*****

BENCH MARK #1: RR SPIKE IN THE BASE OF 30" OAK TREE SOUTH OF BRIDGE -L-12+82, 61' RT ELEV.= 2975.20' (NAVD 88)



FOR UTILITY INFORMATION SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH



PROFILE ALONG CULVERT

RELEASED FOR CONSTRUCTION

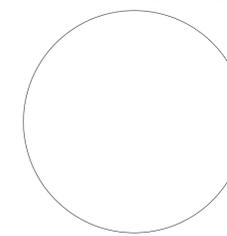
DRAWN BY : NMW DATE : 9/14
 CHECKED BY : JBW DATE : 10/14

PREPARED BY
 TGS ENGINEERS
 107-A WICA AVENUE
 MORGANTON, NC 28655

NOTES:

- ASSUMED LIVE LOAD-----HL-93 OR ALTERNATE LOADING.
- DESIGN FILL----- MIN. 2.28', MAX. 2.91'
- MATERIALS SHALL MEET THE REQUIREMENTS OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES DATED JANUARY 2012.
- THE DETAILS SHOWN ARE FOR GENERAL LAYOUT ONLY. THE SUPPLIER SHALL PROVIDE DESIGNS AND DETAILS THAT MEET THE REQUIREMENTS OF AASHTO SECTION 12 AND ARE SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.
- UNLESS OTHERWISE INDICATED, THE SUPPLIER SHALL DESIGN, DETAIL, AND FURNISH ALL STRUCTURAL ELEMENTS AND HARDWARE.
- FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTES SHEET.
- THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF THE CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.
- FOR ALUMINUM BOX CULVERT SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR FOUNDATION MATERIAL, SEE SPECIAL PROVISIONS.
- FOR CULVERT BACKFILL SEE SPECIAL PROVISIONS.
- THE EXISTING STRUCTURE CONSISTING OF (1) 26" ± TIMBER PLANK DECK ON STEEL I-BEAM SPAN AND SUPPORTED ON TIMBER CAPS / TIMBER POSTS & SILLS AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED.
- REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR THE DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
- INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO THE HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STA. 13+25.00-L-".
- EXCAVATE 1 FOOT BELOW CULVERT AND REPLACE WITH FOUNDATION MATERIAL IN ACCORDANCE WITH ARTICLE 414 OF THE STANDARD SPECIFICATIONS AND THE "FOUNDATION MATERIAL "SPECIAL PROVISIONS.
- NO WORK SHALL BE DONE ON THE CULVERT @ 13+25.00-L- UNTIL THE AREA OF THE BOX CULVERT HAS BEEN UNDERCUT AND UNSUITABLE MATERIAL REPLACED WITH SUITABLE MATERIAL, PROPERLY COMPACTED TO THE ELEVATION OF THE BOTTOM OF THE PROPOSED CULVERT. THE LIMITS OF THIS UNDERCUT EXCAVATION SHALL BE AT LEAST THE LIMITS OF THE BOX CULVERT INCLUDING THE WINGS. NO SEPARATE PAYMENT WILL BE MADE FOR ANY TEMPORARY SHEETING, UNDERCUT, OR UNSUITABLE MATERIAL REPLACEMENT AS REQUIRED TO CONSTRUCT THE PROPOSED CULVERT. PAYMENT IS INCLUDED IN THE LUMP SUM PRICE FOR "CULVERT EXCAVATION."
- BED MATERIAL PLACED BETWEEN SILLS IN THE CULVERT SHALL PROVIDE A CONTINUOUS LOW FLOW CHANNEL BETWEEN THE LOWER SILLS. THE MATERIAL SHALL BE NATURAL STONE WITH A GRADATION SIZE SIMILAR TO THAT OF CLASS B RIP RAP. STONES LARGER THAN 12 INCHES SHALL NOT BE PLACED WITHIN THE LOW FLOW CHANNEL. BED MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER.

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.



SEAL

TOTAL STRUCTURE QUANTITIES	
REMOVAL OF EXISTING STRUCTURE @ STA. 13+25.00-L-	LUMP SUM
ALUMINUM BOX CULVERT @ STA. 13+25.00-L-	LUMP SUM
CULVERT EXCAVATION	LUMP SUM
FOUNDATION MATERIAL	168 TONS
CULVERT BACKFILL	538 TONS
MOMENT SLAB	69.0 LIN. FT.
GEOGRID FABRIC	225 S.Y.

HYDRAULIC DATA

DESIGN DISCHARGE-----	= 320 CFS
FREQUENCY OF DESIGN FLOOD-----	= 2 YRS
DESIGN HIGH WATER ELEVATION-----	= 2972.4'
DRAINAGE AREA-----	= 3.9 SQ. MILES
BASE DISCHARGE (Q100)-----	= 1500 CFS
BASE HIGH WATER ELEVATION-----	= 2975.32'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE-----	= 340 CFS
FREQUENCY OF OVERTOPPING FLOOD-----	= 2+ YRS
OVERTOPPING FLOOD ELEVATION-----	= 2973.2*

* OVERTOPPING ELEVATION REPRESENTS LOWEST HIGH POINT WHICH OCCURS @ -L-STA. 12+37, 165" LT.

GRADE DATA

GRADE POINT ELEV. @ STATION 13+25-L-	= 2976.13'
BED ELEV. @ STATION-----	= 2968.4'
ROADWAY SLOPES-----	= 2:1 (MAX.)

PROJECT NO. 17BP.11.R.67
 ASHE COUNTY
 STATION: 13+25.00-L-

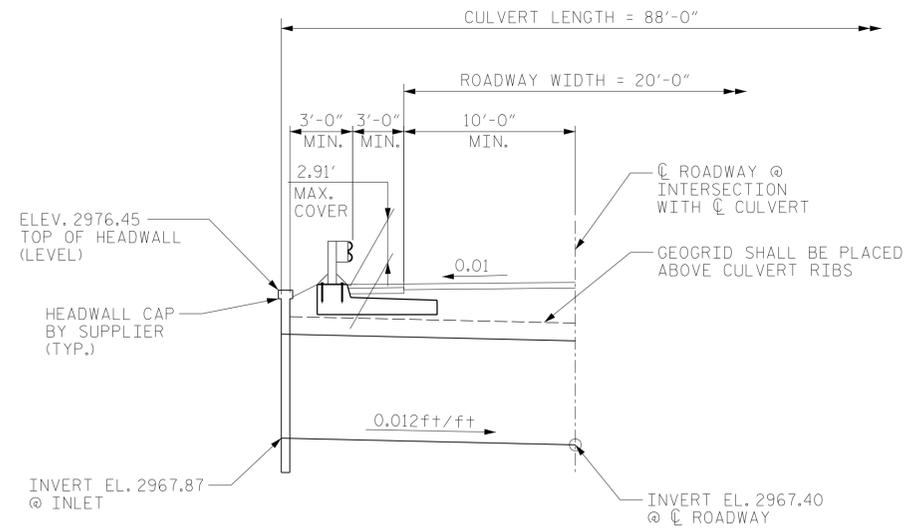
REPLACES BRIDGE NO. 263



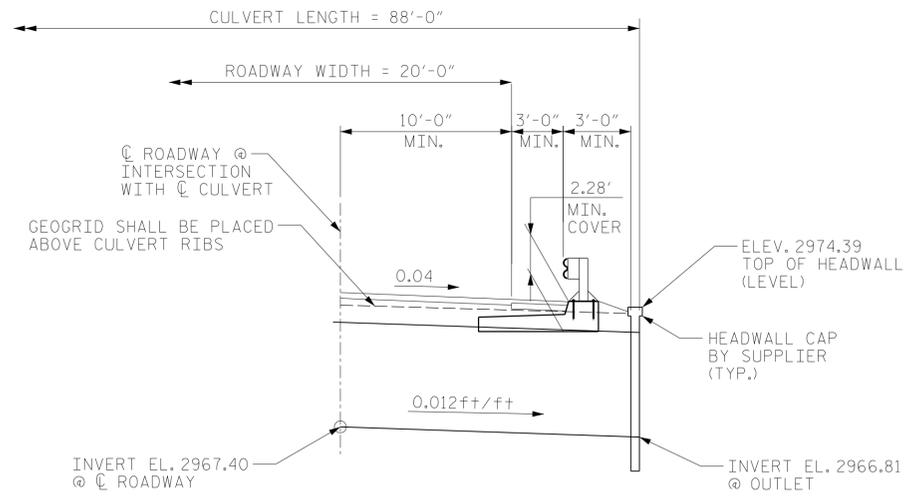
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SINGLE
 20'-11" X 6'-1"
 ALUMINUM BOX CULVERT
 @ 140°

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			5

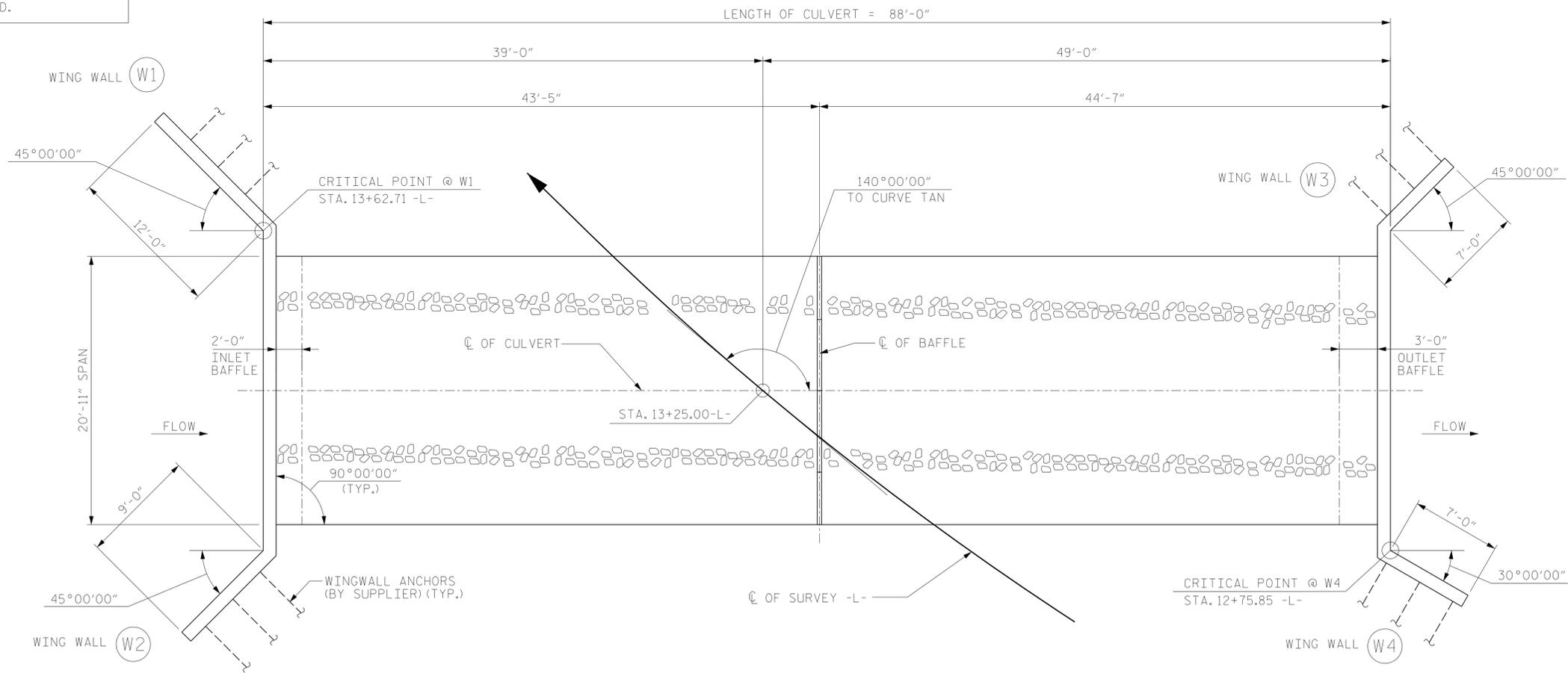


SECTION @ STA. 13+62.71-L- CRITICAL POINT @ W1



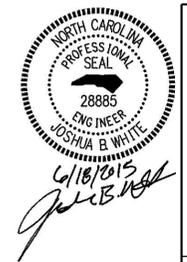
SECTION @ STA. 12+75.85-L- CRITICAL POINT @ W4

NOTE:
HEADWALLS SHALL BE DESIGNED FOR LIVE LOAD.



LENGTH FOR ALUMINUM BOX COLVERT

PROJECT NO. 17BP.11.R.67
ASHE COUNTY
STATION: 13+25.00-L-



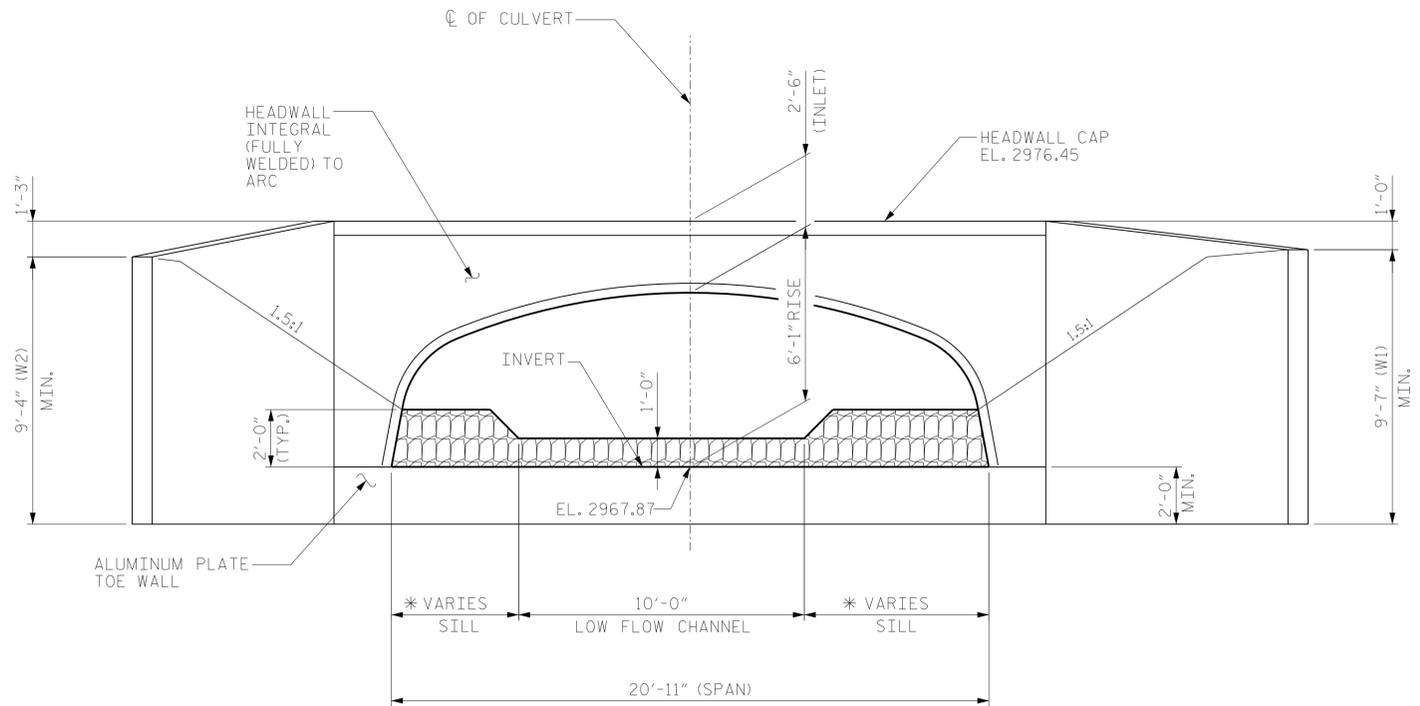
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SINGLE
20'-11" X 6'-1"
ALUMINUM BOX COLVERT
@ 140°

RELEASED FOR CONSTRUCTION

PREPARED BY
TGS ENGINEERS
107-A WICA AVENUE
MORGANTON, NC 28655

DRAWN BY : NMW DATE : 9/14
CHECKED BY : JBW DATE : 10/14

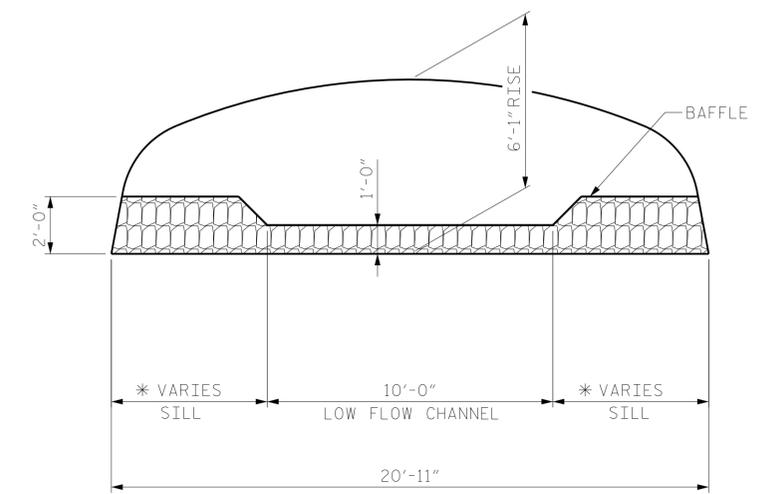
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-2
1			3			TOTAL SHEETS
2			4			5



END ELEVATION OF INLET - NORMAL TO SKEW

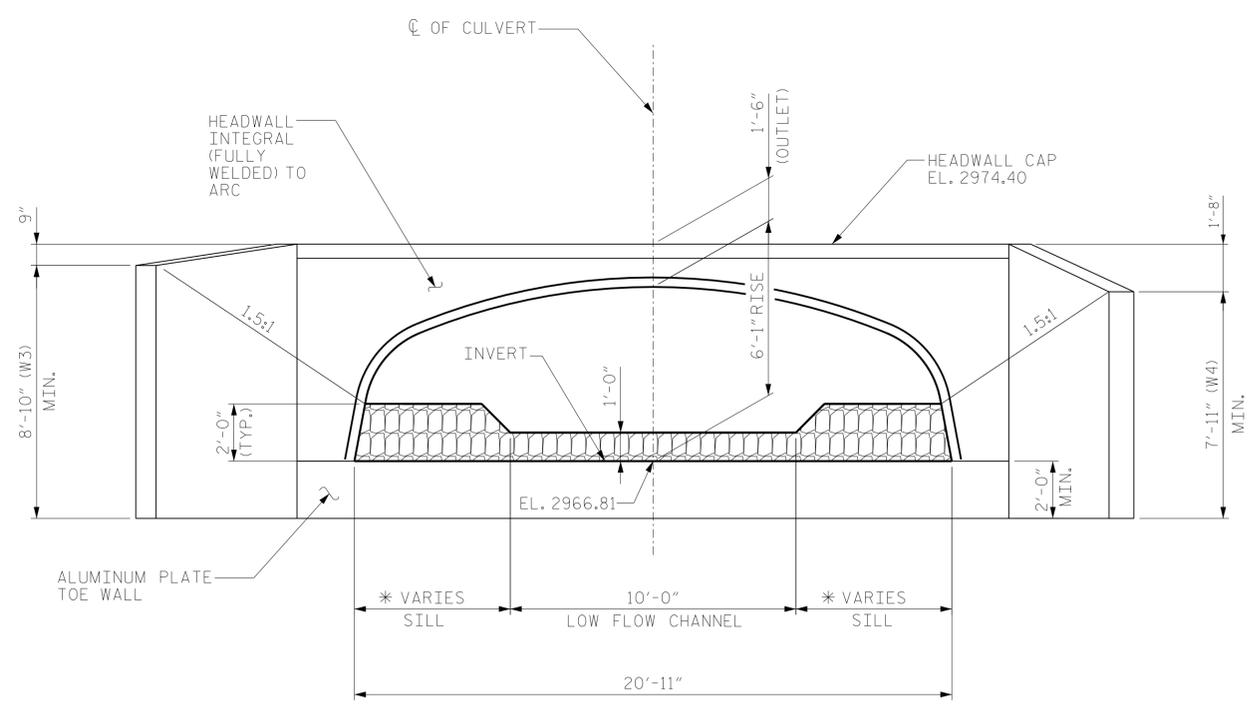
(LOOKING DOWNSTREAM)

* C LOW FLOW CHANNEL TO BE LOCATED AT C EXISTING STREAM BED AT INLET AND OUTLET OF CULVERT. LOW FLOW CHANNEL IN BAFFLES SHALL BE LOCATED IN A STRAIGHT LINE BETWEEN THE INLET AND OUTLET FLOW CHANNELS.



CULVERT INTERNAL SECTION

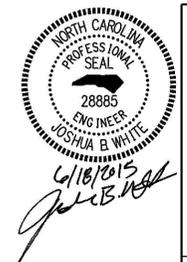
(LOOKING DOWNSTREAM)



END ELEVATION OF OUTLET - NORMAL TO SKEW

(LOOKING UPSTREAM)

PROJECT NO. 17BP.11.R.67
 ASHE COUNTY
 STATION: 13+25.00-L-



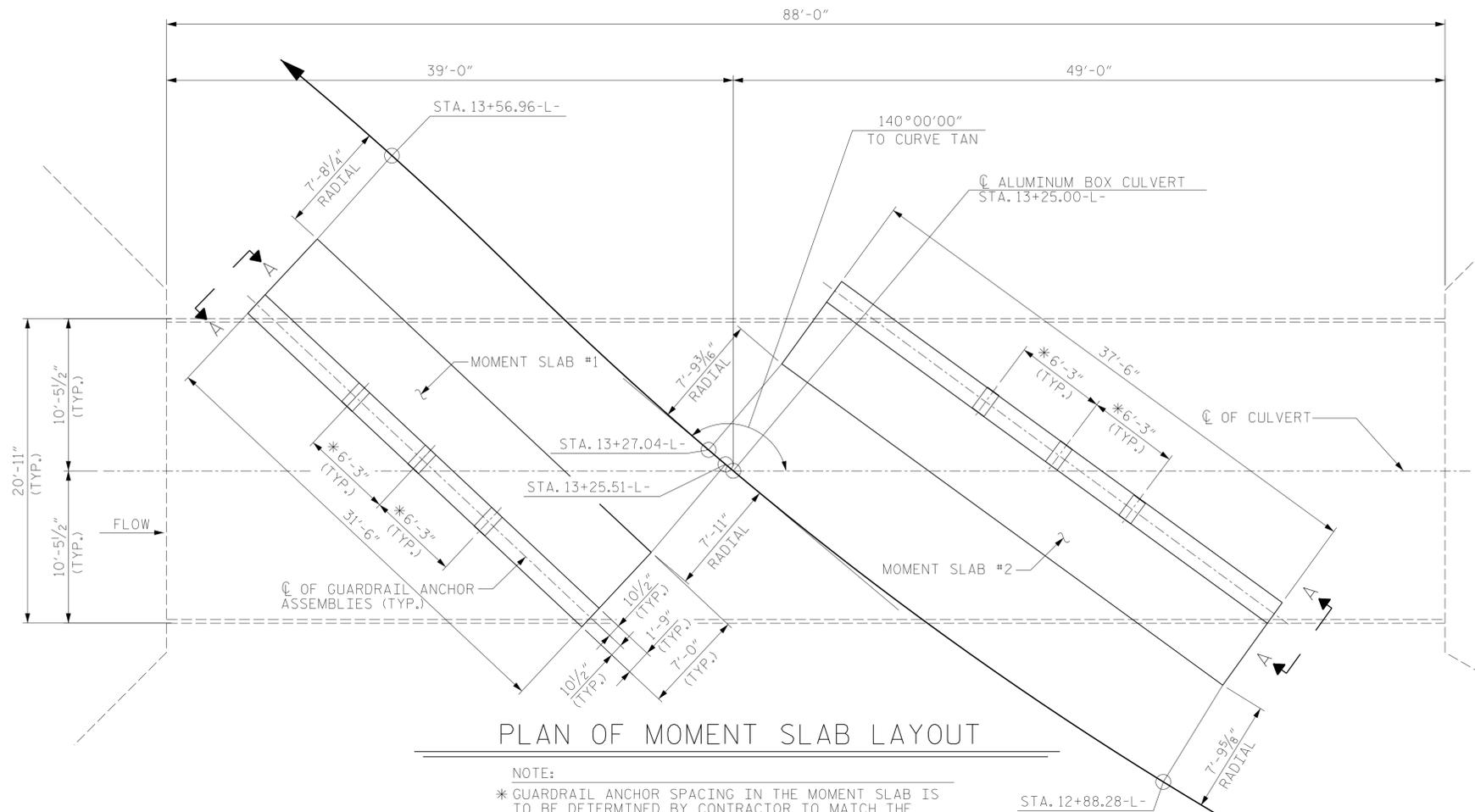
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SINGLE
 20'-11" X 6'-1"
 ALUMINUM BOX CULVERT
 @ 140°

RELEASED FOR CONSTRUCTION

PREPARED BY
 TGS ENGINEERS
 107-A MICA AVENUE
 MORGANTON, NC 28655

DRAWN BY : NMW DATE : 9/14
 CHECKED BY : JBV DATE : 10/14

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			C-3
2			4			TOTAL SHEETS 5



PLAN OF MOMENT SLAB LAYOUT

NOTE:
 * GUARDRAIL ANCHOR SPACING IN THE MOMENT SLAB IS TO BE DETERMINED BY CONTRACTOR TO MATCH THE PROPOSED ROADWAY GUARDRAIL USING A 6'-3" MAXIMUM SPACING. THE GUARDRAIL ANCHORS SHALL BE DRILLED AND EPOXYED IN PLACE AFTER THE SLAB HAS PROPERLY CURED.

NOTES:

ALL GUARDRAIL ATTACHMENTS SHALL BE MADE USING ADHESIVELY ANCHORED ANCHOR BOLTS. LEVEL TWO FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 1" Ø BOLT IS 21.8 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS, SEE STANDARD SPECIAL PROVISIONS.

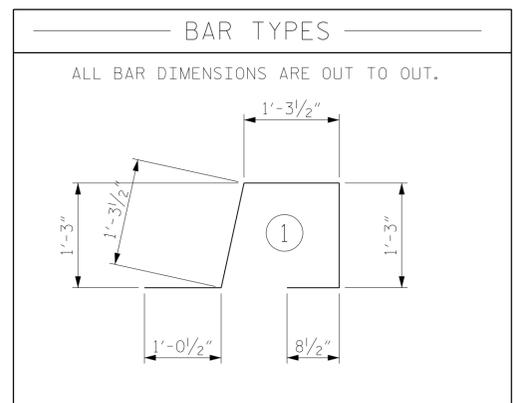
ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE 1" Ø AND MEET THE REQUIREMENTS OF ASTM A325. BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

PAYMENT FOR GUARDRAIL, POST, ADHESIVELY ANCHORED ANCHOR BOLTS AND POST BASE PLATES IS INCLUDED IN ROADWAY ITEMS.

THE GUARDRAIL POSTS SHALL NOT BE ATTACHED UNTIL THE MOMENT SLAB HAS ATTAINED AN AGE OF THREE CURING DAYS OR A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI. IN ADDITION, NO FILL MATERIAL, ASPHALT, OR CONSTRUCTION EQUIPMENT IS ALLOWED ON THE MOMENT SLAB PRIOR TO SATISFYING THE MINIMUM CONCRETE CURING AND STRENGTH REQUIREMENTS.

ALL REINFORCING STEEL IN THE MOMENT SLAB SHALL BE EPOXY COATED.

THE CONTRACT UNIT PRICE FOR "MOMENT SLAB, LIN. FT." WILL BE FULL COMPENSATION FOR SUBMITTALS, LABOR, TOOLS, EQUIPMENT, MOMENT SLAB MATERIALS, EXCAVATING, BACKFILLING, HAULING AND REMOVING EXCAVATED MATERIALS, AND SUPPLYING ANY INCIDENTALS NECESSARY TO CONSTRUCT THE CONCRETE MOMENT SLAB.



BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
MOMENT SLAB #1					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
*B1	42	#4	STR.	16'-7"	465
*G1	32	#5	STR.	6'-7"	220
*G2	32	#4	STR.	6'-7"	141
*S1	63	#5	1	5'-7"	367

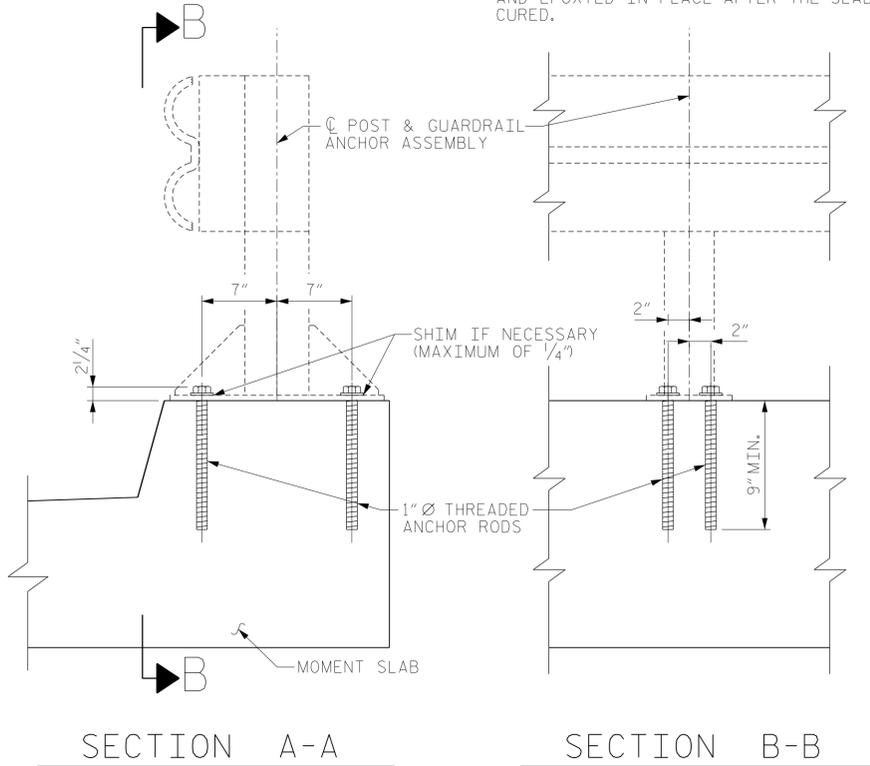
* EPOXY COATED REINFORCING STEEL 1,193 LBS.
 CLASS AA CONCRETE MOMENT SLAB 9.8 CY

BILL OF MATERIAL					
MOMENT SLAB #2					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
*B2	42	#4	STR.	19'-7"	549
*G1	38	#5	STR.	6'-7"	261
*G2	38	#4	STR.	6'-7"	167
*S1	75	#5	1	5'-7"	437

* EPOXY COATED REINFORCING STEEL 1,414 LBS.
 CLASS AA CONCRETE MOMENT SLAB 11.7 CY

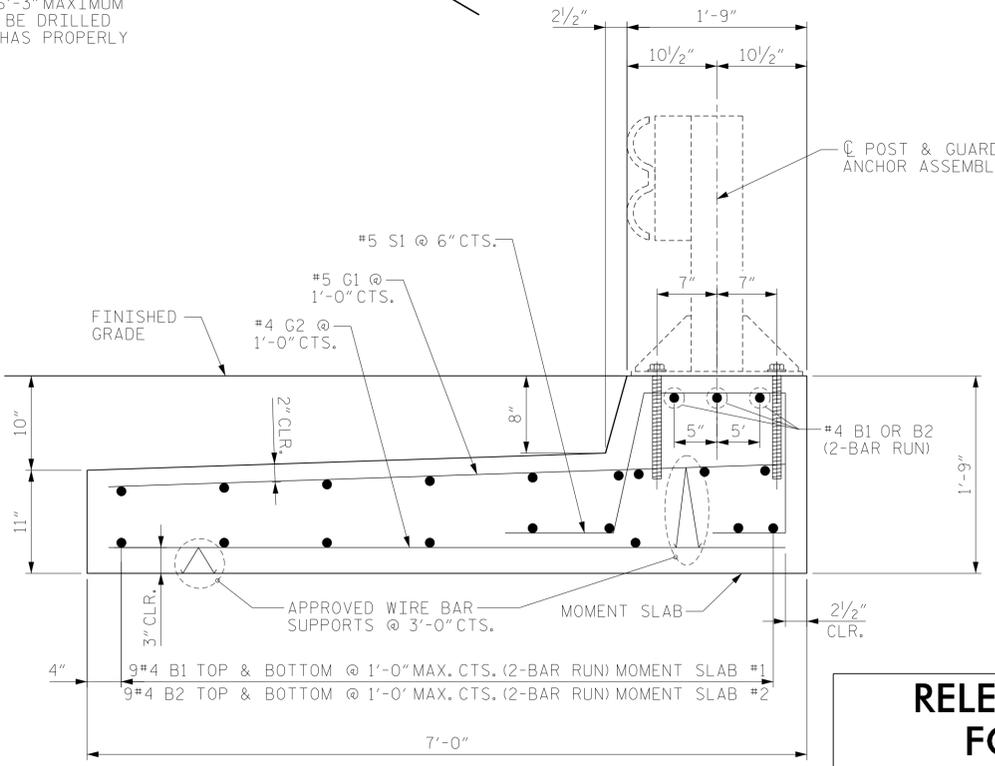
MOMENT SLABS	
MOMENT SLAB #1	31.5 LIN. FT.
MOMENT SLAB #1	37.5 LIN. FT.
TOTAL	69.0 LIN. FT.

SPLICE LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	2'-0"	1'-9"
#5	2'-6"	2'-2"
#6	3'-10"	2'-7"



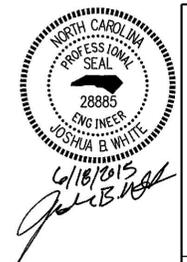
SECTION A-A

SECTION B-B



TYPICAL SECTION THRU MOMENT SLAB

RELEASED FOR CONSTRUCTION



PROJECT NO. 17BP.11.R.67
 ASHE COUNTY
 STATION: 13+25.00-L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SINGLE
 20'-11" X 6'-1"
 ALUMINUM BOX CULVERT
 @ 140°

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-4
1			3			TOTAL SHEETS
2			4			5

DRAWN BY : NMW DATE : 9/14
 CHECKED BY : JWB DATE : 10/14

PREPARED BY
 TGS ENGINEERS
 107-A WICA AVENUE
 MORGANTON, NC 28655

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN		
OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT.
		(MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.
 ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.
 IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.
 DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.
 WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".
 EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.
 WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.
 METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

PROJECT NO. 17BP.11.R.67
ASHE COUNTY
 STATION: 13+25.00-L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD NOTES

**RELEASED
FOR
CONSTRUCTION**

PREPARED BY
 TGS ENGINEERS
 107-A WICA AVENUE
 MORGANTON, NC 28655

DRAWN BY : NMW DATE : 9/14
 CHECKED BY : JBW DATE : 10/14

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-5
1			3			TOTAL SHEETS
2			4			5