

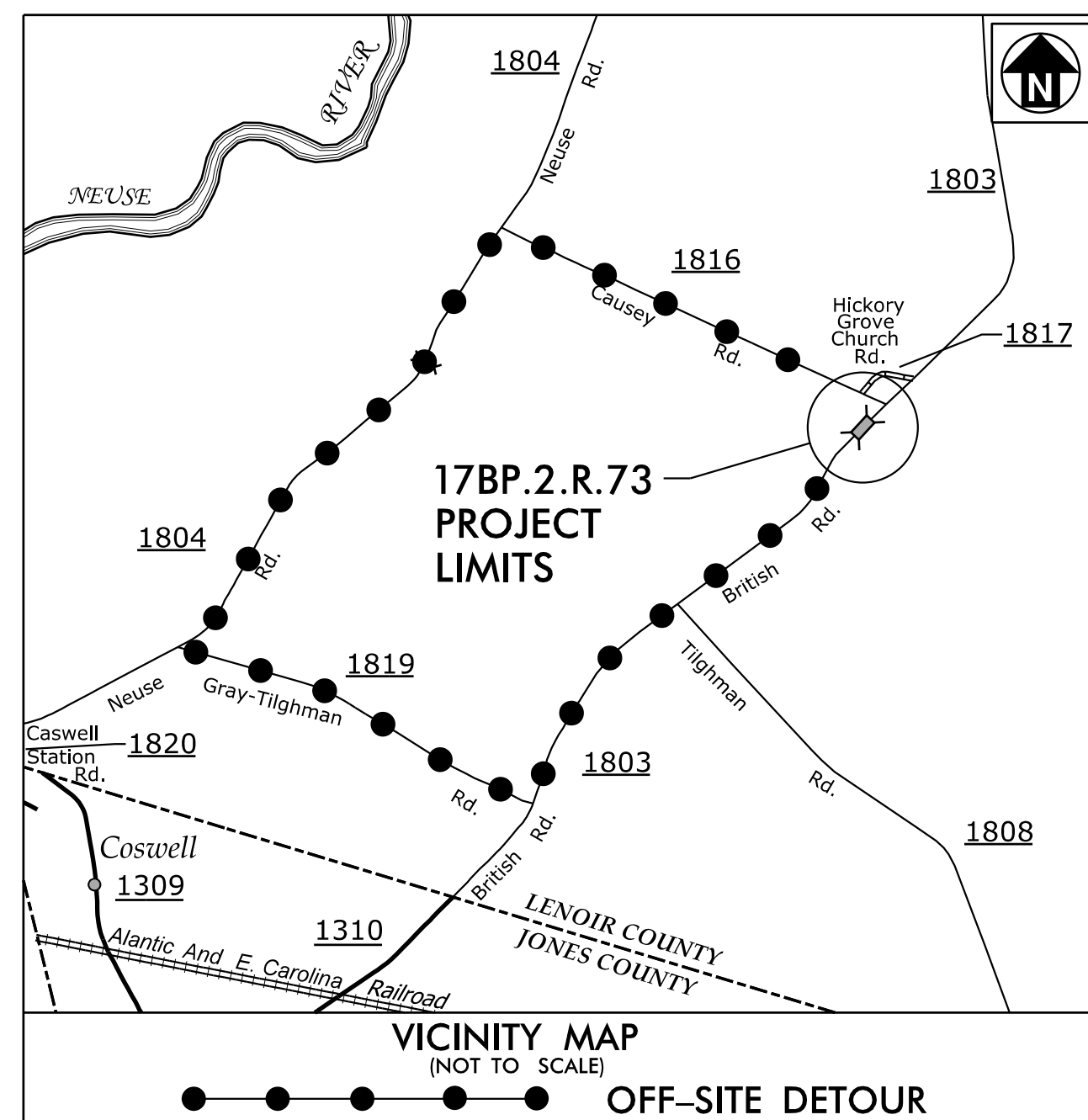
**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**

WBS NO.: 17BP.2.R.73

CONTRACT: DB00394

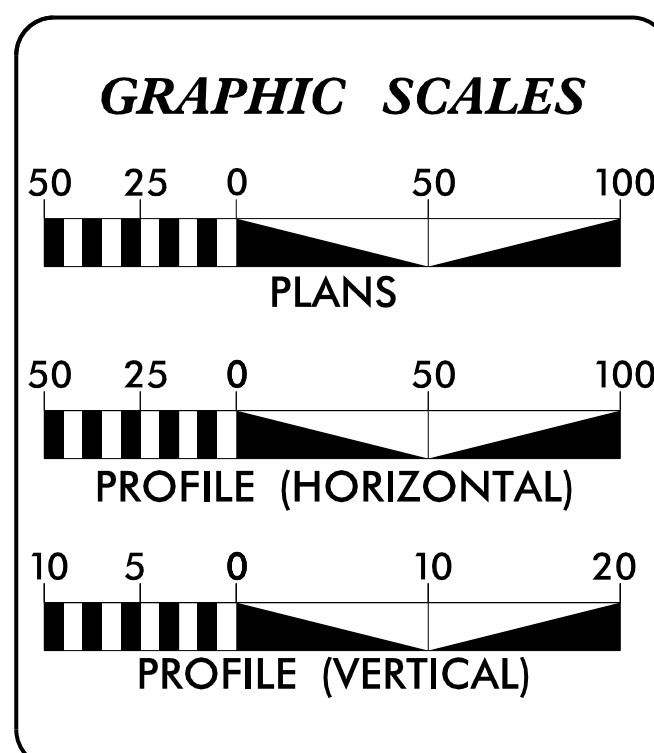
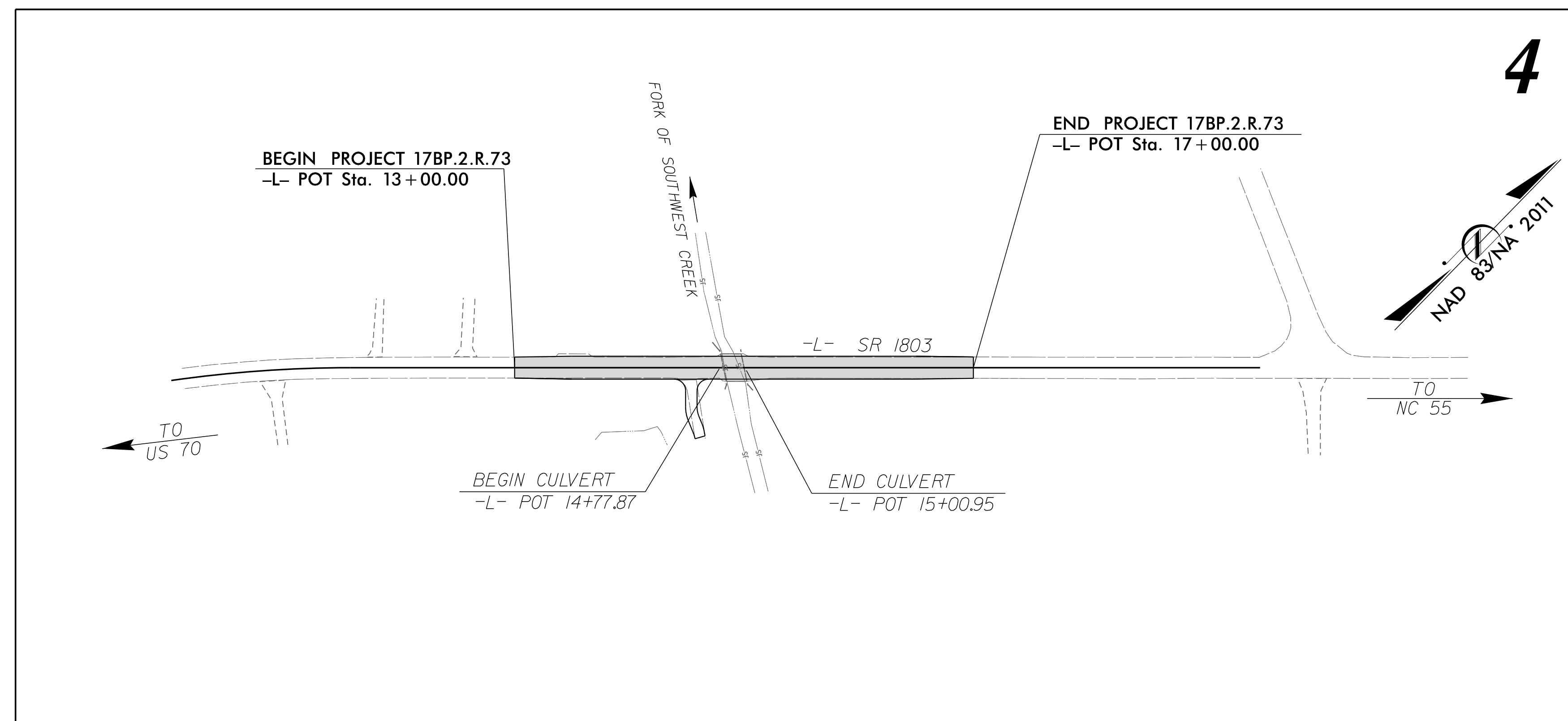


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
LENOIR COUNTY

LOCATION: BRIDGE NO. 159 OVER FORK OF SOUTHWEST CREEK ON SR 1803 (BRITISH ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND CULVERT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.R.73	1	
STATE PROJECT NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.2.R.73		P.E.	
17BP.2.R.73		R.O.W.	
17BP.2.R.73		CONST	



DESIGN DATA

ADT 2017 = 530
ADT 2027 = 645
T = 6%
V = 55 MPH

FUNC. CLASS. = LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT	=	0.072 MILES
LENGTH STRUCTURE TIP PROJECT	=	0.004 MILES
TOTAL LENGTH TIP PROJECT	=	0.076 MILES

Prepared in the Office of Matt MacDonald for
DIVISION 2
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 14, 2017

LETTING DATE:
MARCH 28, 2018

DAVID C. WALLER, PE
PROJECT ENGINEER

RICHARD MOORE, PE
HYDRAULIC ENGINEER

HON YEUNG, PE
NCDOT BRIDGE PROGRAM MANAGER

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL
SEAL 22606
DAVID C. WALLER, PE
2018
SIGNATURE: DAVID C. WALLER P.E.

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL
SEAL 025503
RICHARD MOORE, PE
2018
SIGNATURE: RICHARD A. MOORE P.E.

PLANS PREPARED BY:

M M
MOTT MACDONALD

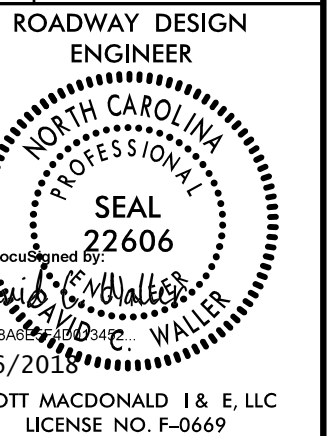
PO Box 700
Fuquay-Varina, NC 27526
(919) 552-2253
(919) 552-2254 (Fax)
www.mottmac.com/americas

LICENSE NO. F-0669

MCKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 343-1048 FAX: (910) 790-8282

8/17/99

PROJECT REFERENCE NO. <i>17BP.2.R.73</i>	SHEET NO. <i>1A</i>
---	------------------------



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

INDEX OF SHEETS:

SHEET NO.	DESCRIPTION
1	TITLE SHEET
1-A	GENERAL NOTES, LIST OF STANDARD DRAWINGS, INDEX OF SHEETS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2A-1	PAVEMENT SCHEDULE & TYPICAL SECTIONS
3	SUMMARY SHEET
4	PLAN/PROFILE SHEET
TMP-1 THRU TMP-2	TRAFFIC MANAGEMENT PLANS
EC-1 THRU EC-4D	EROSION CONTROL PLANS
UO-1 THRU UO-2	UTILITY BY OTHER PLANS
X-1 THRU X-3	CROSS SECTIONS

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

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 III.

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 Duke Energy, Centurylink

& North Lenoir Water Corporation.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

EFF. 01-16-2018
REV.

2018 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, 2018 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
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 8 - INCIDENTALS	
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
862.01	Guardrail Placement
862.02	Guardrail Installation

I:\02457
R:\Roadway\Proj\530023_rdy_psh1A.dgn
default

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

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

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	△
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	○ RW
Proposed Right of Way Line with Iron Pin and Cap Marker	○ RW ▲
Proposed Right of Way Line with Concrete or Granite RW Marker	▲ RW
Proposed Control of Access Line with Concrete C/A Marker	▲ C/A
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Drainage / Utility Easement	-DUE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed Aerial Utility Easement	-AUE-
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 Curb Ramp	○ CR
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	□ Vineyard

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

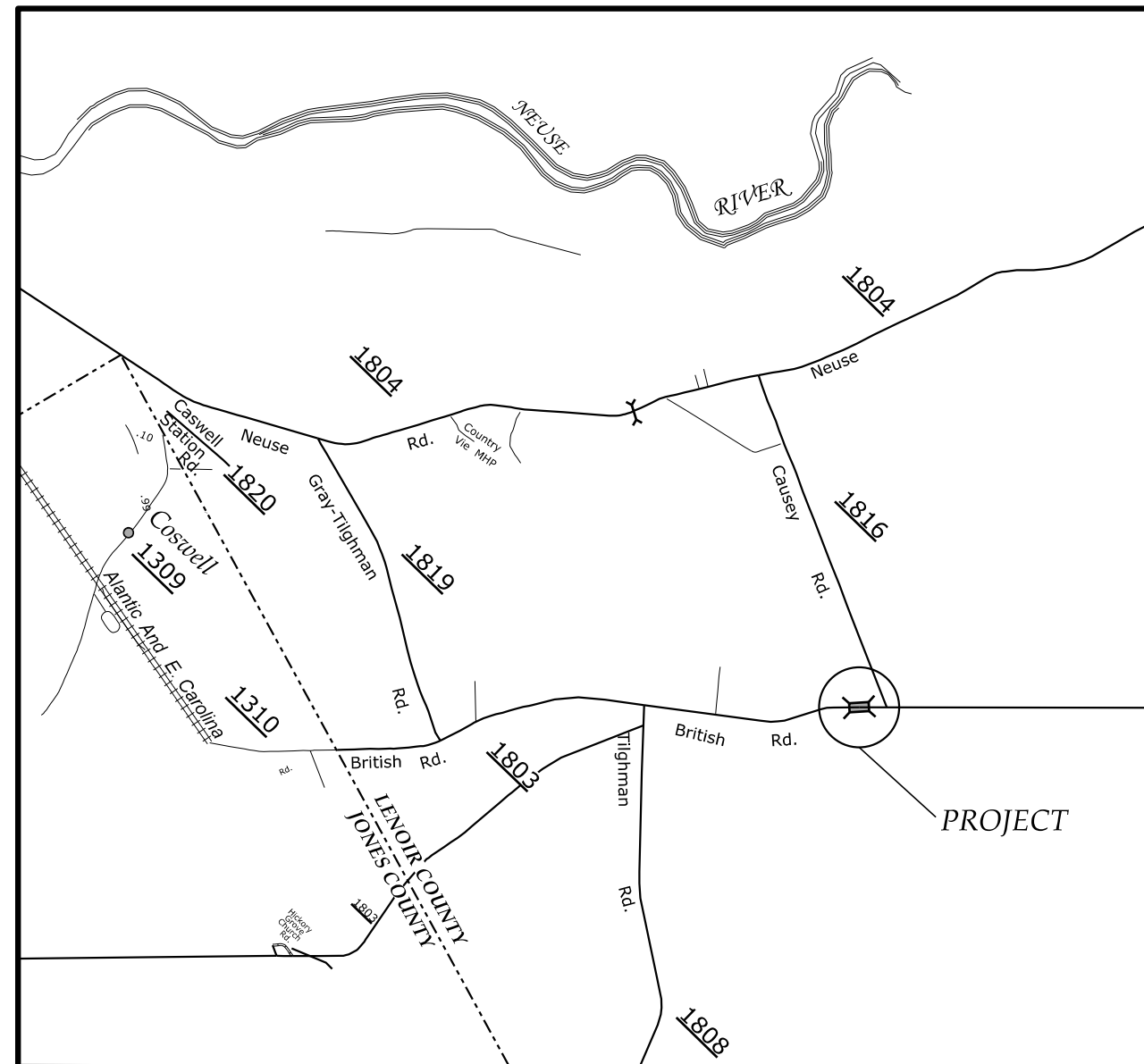
SANITARY SEWER:

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

MISCELLANEOUS:

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

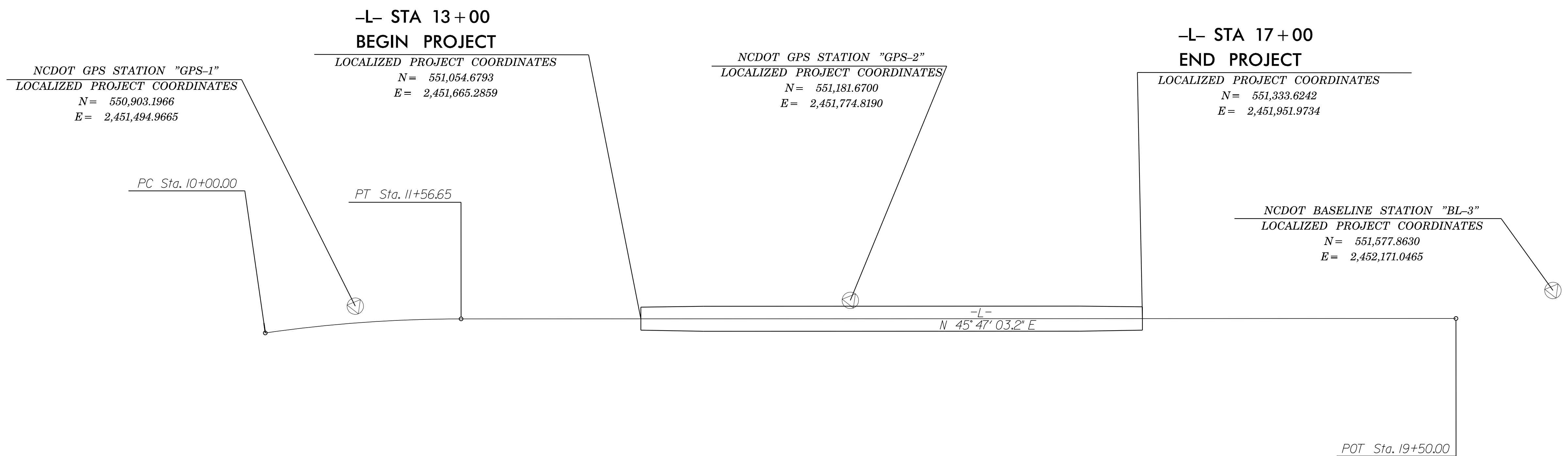
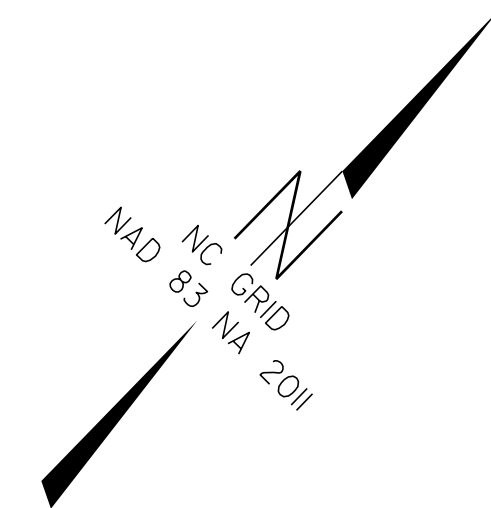
SURVEY CONTROL SHEET 53-0159



VICINITY MAP

CONTROL DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		GPS1	550903.1966	2451494.9665	37.20	10+73.23	13.40 LT
2		GPS2	551181.6700	2451774.8190	35.38	14+67.06	14.63 LT
3		BL3	551577.8630	2452171.0465	34.43	OUTSIDE PROJECT LIMITS	



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "GPS 2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 551181.6700(ft) EASTING: 2451774.8190(ft) ELEVATION: 35.38(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999876601

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS 2" TO -L- STATION 13+00 IS S 40° 46' 43.38" E 167.70'

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

BENCHMARK DATA

.....
 821 ELEVATION = 36.76'
 N 551194 E 2451874
 BL STATION 9+74.00 61 RIGHT
 BM*1 RR SPIKE IN BASE OF 30" PINE

NOTES:

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

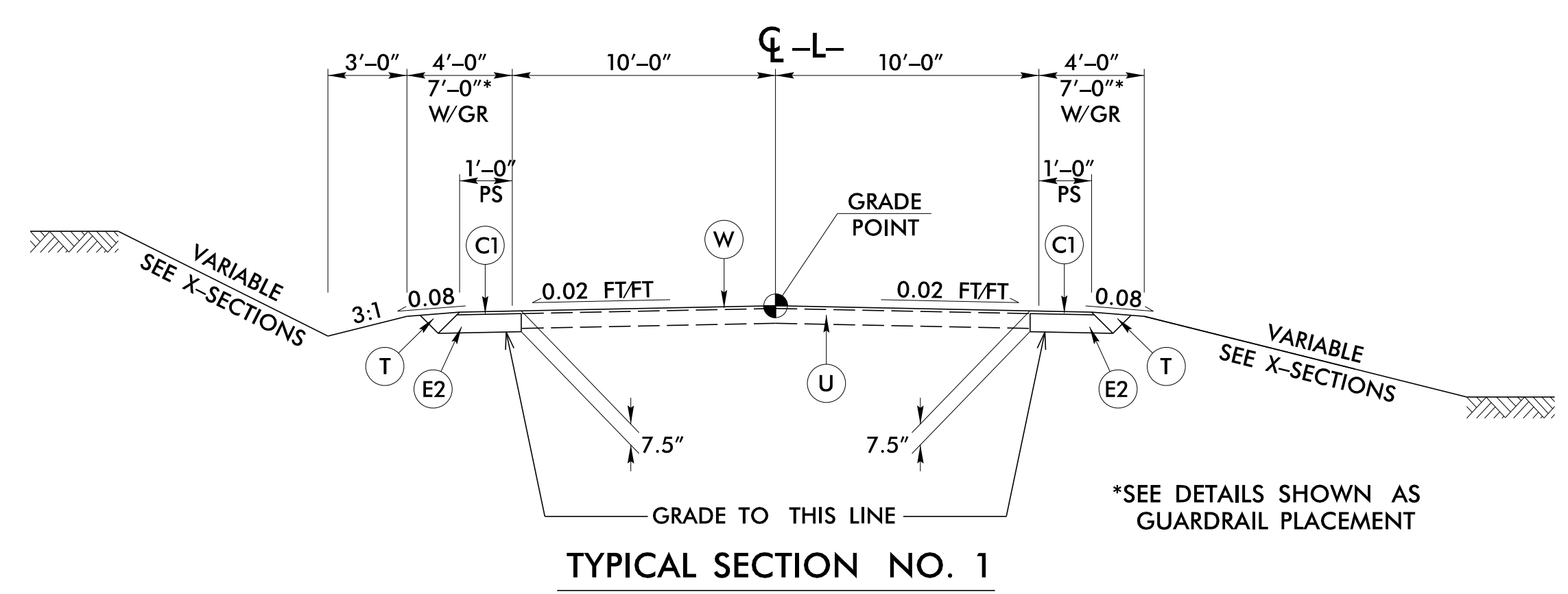
THE FILES TO BE FOUND ARE AS FOLLOWS:
 TIP 530159_LS_CONTROL.TXT

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.

NOTE: DRAWING NOT TO SCALE

PROJECT REFERENCE	SHEET NO.
17BP.2.R.73 - LENOIR 159	2A-1
ROADWAY DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL	
UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of:	
	MOTT MACDONALD 1 & E, LLC Fuquay-Varina, NC 27526 www.mottmac.com/americas

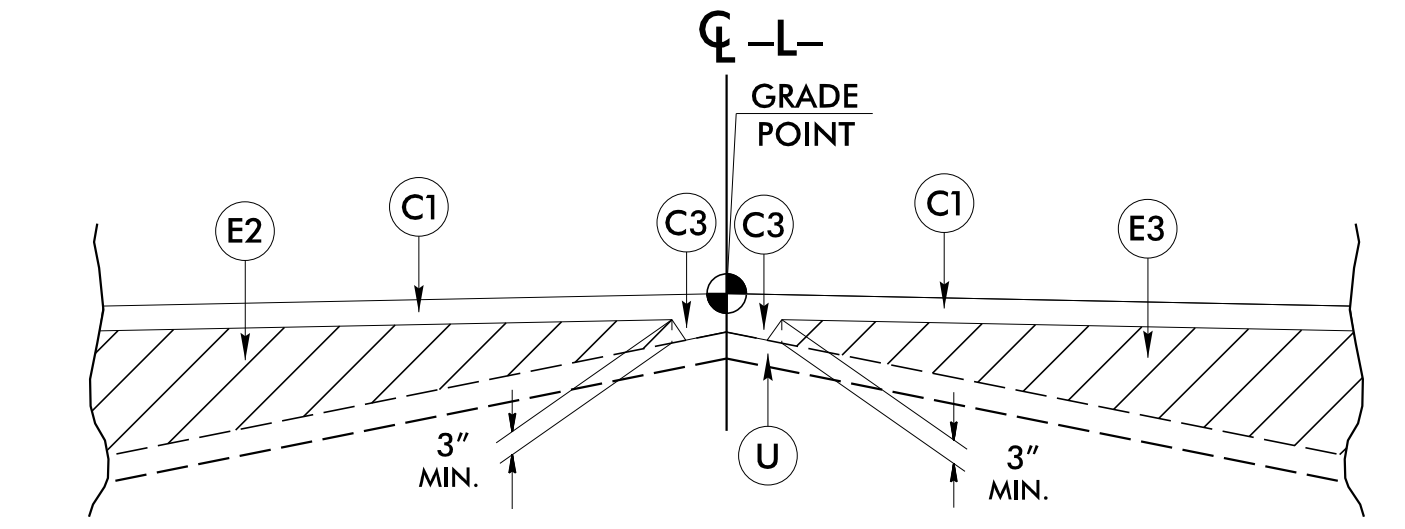
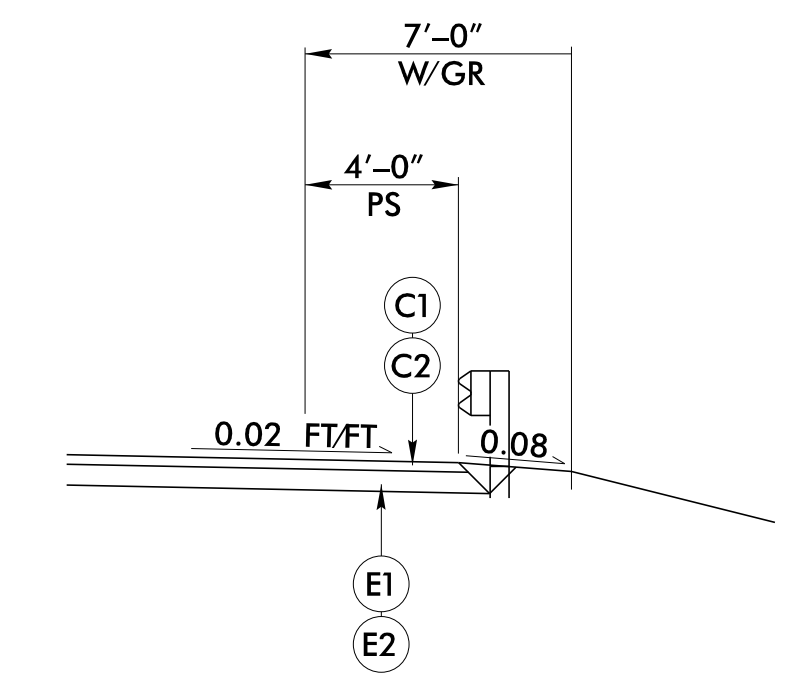
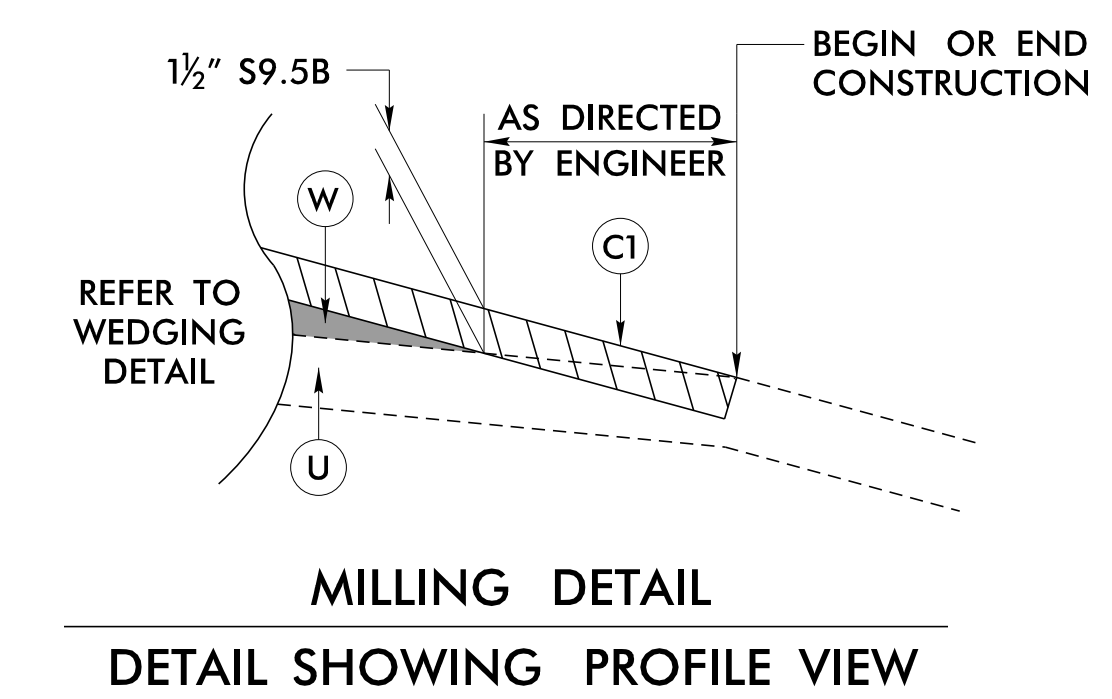


TYPICAL SECTION NO. 1

TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1:
 -L- STA 13+00.00 TO 13+50.00

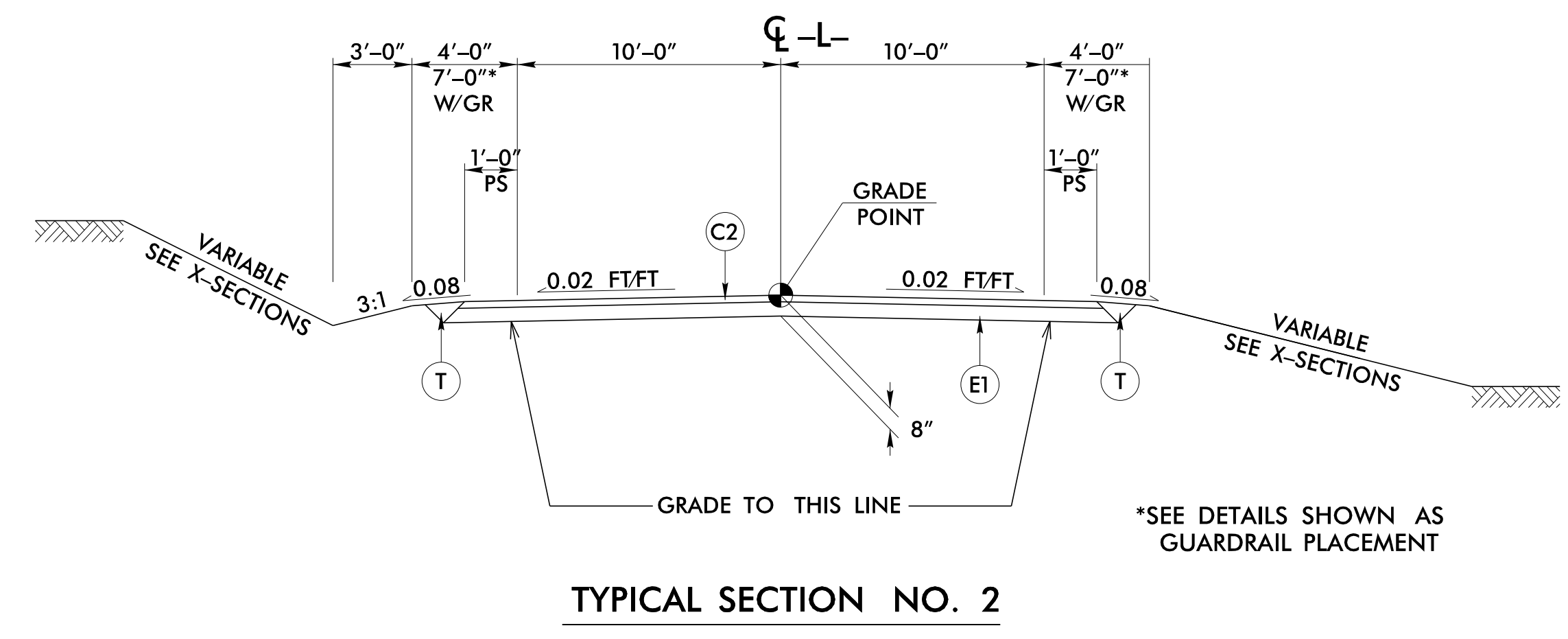
USE TYPICAL SECTION NO. 1:
 -L- STA 13+50.00 TO 14+25.00
 -L- STA 15+25.00 TO 16+50.00

TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING:
 -L- STA 16+50.00 TO 17+00.00



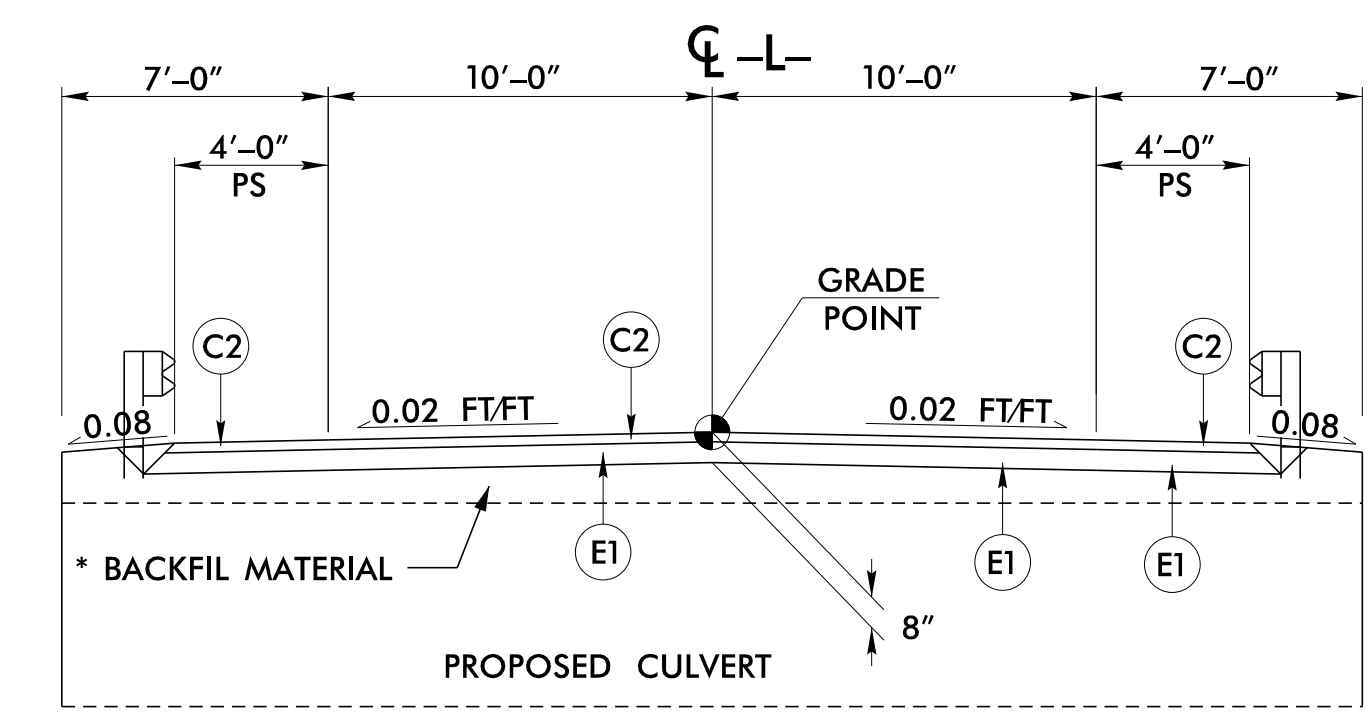
GUARDRAIL PLACEMENT
 DETAIL SHOWING GUARDRAIL PLACEMENT

WEDGING DETAIL
 DETAIL SHOWING METHOD OF WEDGING



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2:
 -L- STA 14+25.00 TO 14+77.87 (BEGIN CULVERT)
 -L- STA 15+00.95 (END CULVERT TO 15+25.00)



* NOTE: FOR BACKFILL, USE #57 STONE OR OTHER MATERIAL APPROVED BY THE ENGINEER.

TYPICAL SECTION NO. 3

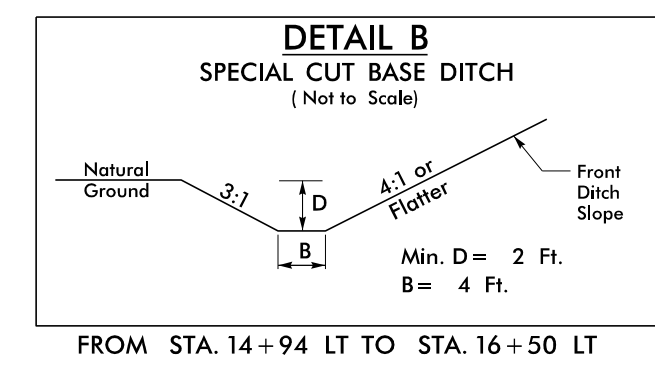
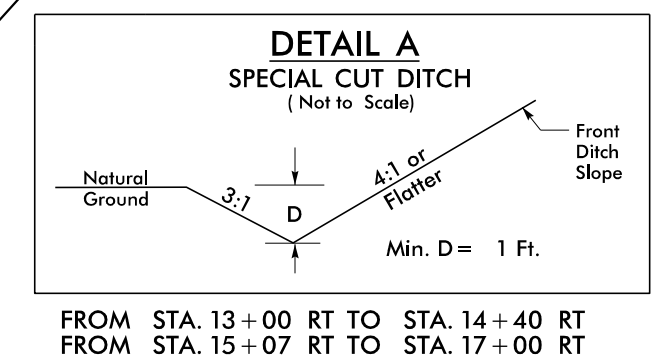
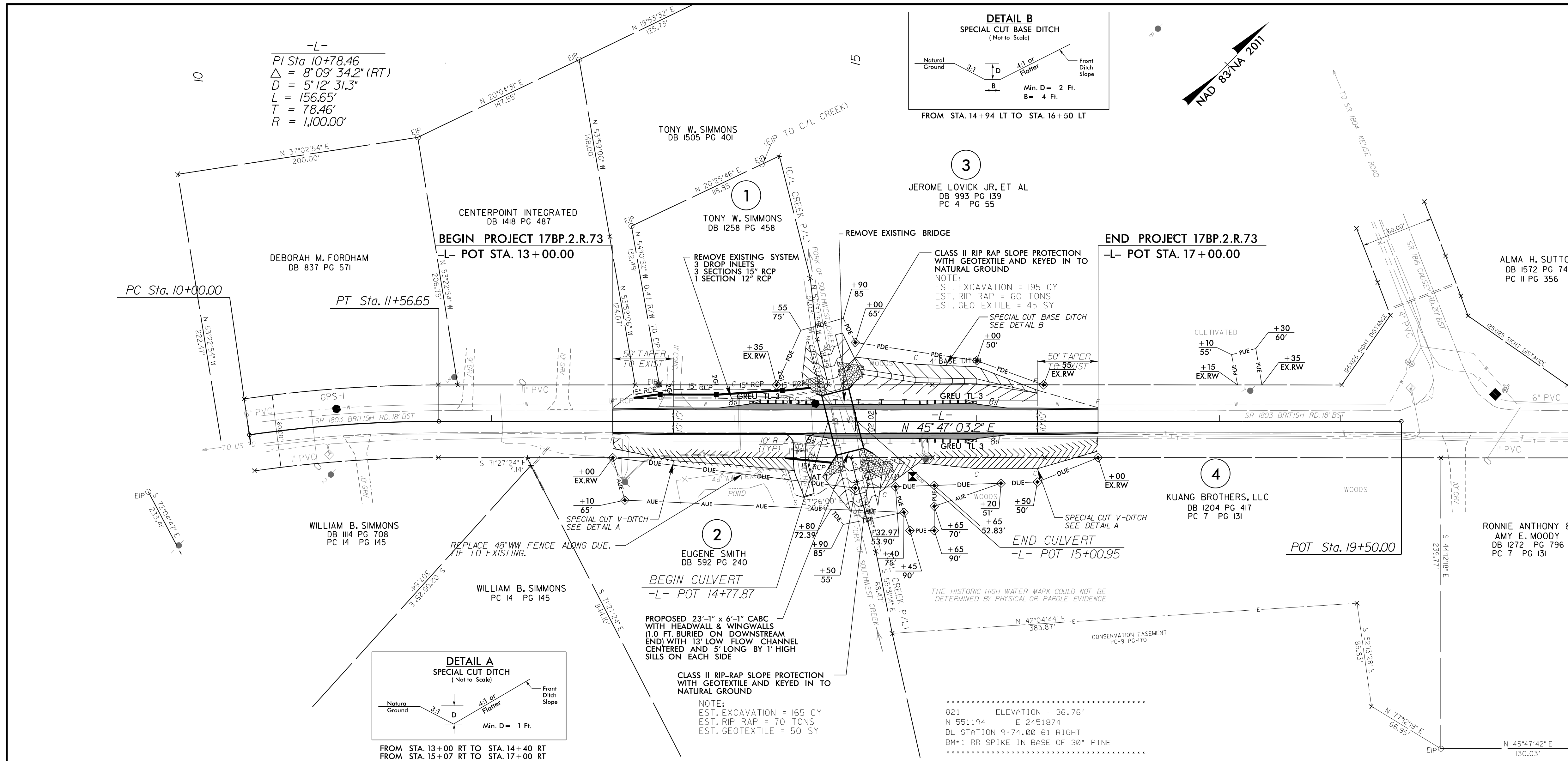
USE TYPICAL SECTION NO. 3:
 -L- STA 14+77.87 (BEGIN CULVERT) TO 15+00.95 (END CULVERT)

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E3	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	WEDGING (SEE DETAIL SHOWING METHOD OF WEDGING).

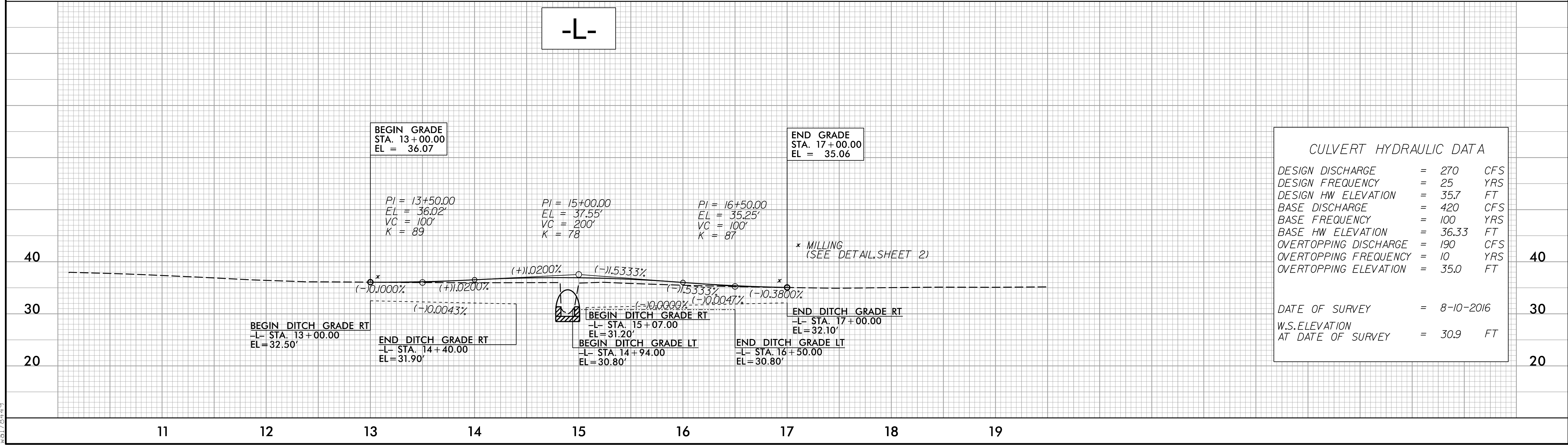
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

wa178449
 R:\Roadway\17BP.2.R.73\159_rdy_tjpb.dgn
 1/23/2018 11:20:00 AM

PROJECT REFERENCE		SHEET NO.	
17BP.2.R.73 - LENOIR 159		4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of: MOTT MACDONALD, I & E, LLC License No. F-06697			
MOTT MACDONALD, I & E, LLC PO Box 700 Fuquay-Varina, NC 27526 www.mottmac.com/americas			
243 NORTH FRONT STREET WILMINGTON, NORTH CAROLINA 28401 TEL: (910) 343-1048 FAX: (910) 706-0292			
VERTICAL SCALE		HORIZONTAL SCALE	
0 5' 10'		0 25' 50'	



-L-



DESIGN DISCHARGE	=	270	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	35.7	FT
BASE DISCHARGE	=	420	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	36.33	FT
OVERTOPPING DISCHARGE	=	190	CFS
OVERTOPPING FREQUENCY	=	10	YRS
OVERTOPPING ELEVATION	=	35.0	FT
DATE OF SURVEY	=	8-10-2016	
W.S. ELEVATION AT DATE OF SURVEY	=	30.9	FT

9/29/2017 11:55:05 AM
 R:\Roadway\17BP.2.R.73\17BP.2.R.73.dwg
 17BP.2.R.73.dwg

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

STD.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
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

GENERAL NOTES

NCDOT FORCES WILL BE RESPONSIBLE FOR SET-UP, MAINTAINENCE AND REMOVAL OF DETOURS.

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.

TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER FOURTEEN (14) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- B) PROVIDE PERMANENT SIGNING.
- C) 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.

- D) 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.

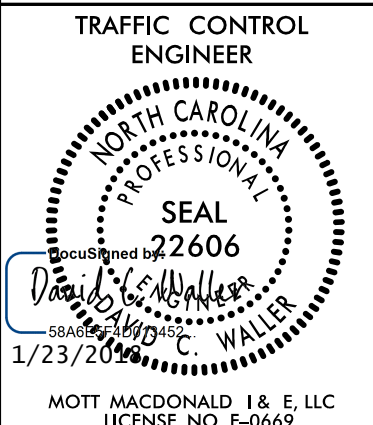
- E) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

- G) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE.

PROJECT REFERENCE	SHEET NO.
17BP.2.R.73	TMP-1
TRAFFIC CONTROL ENGINEER  MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of:	M MOTT MACDONALD I & E, LLC PO Box 700 Fuquay-Varina, NC 27526 www.mottmcc.com/america

PHASING

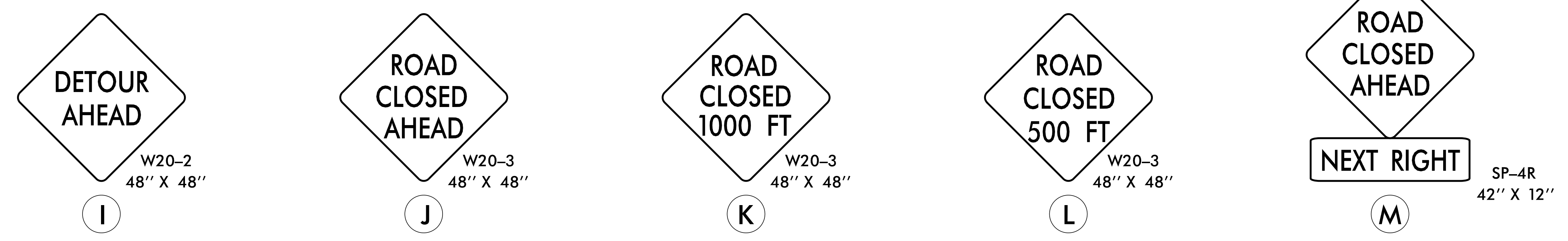
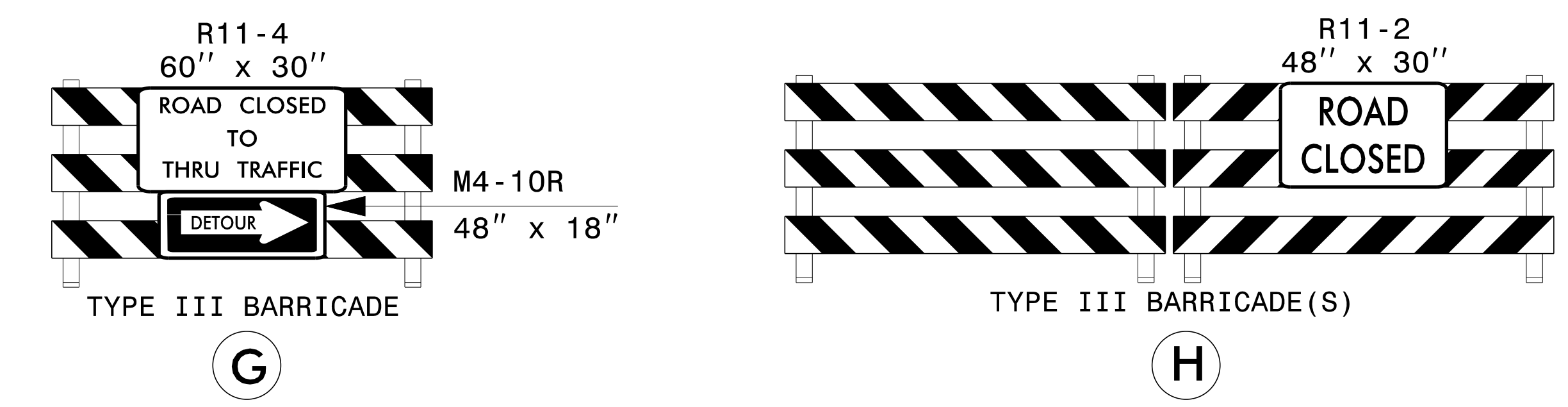
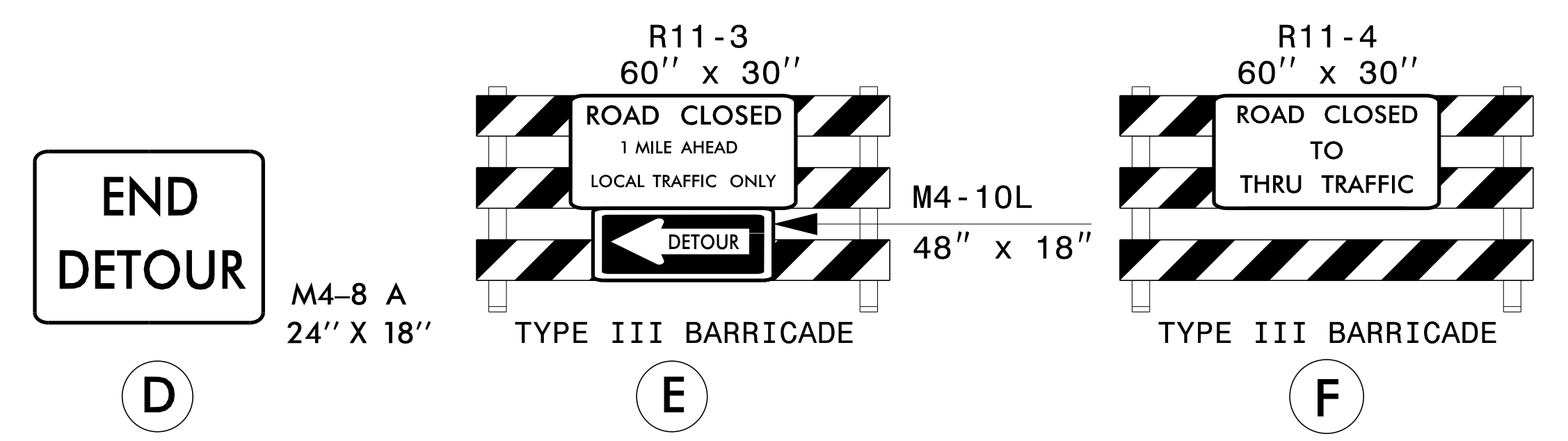
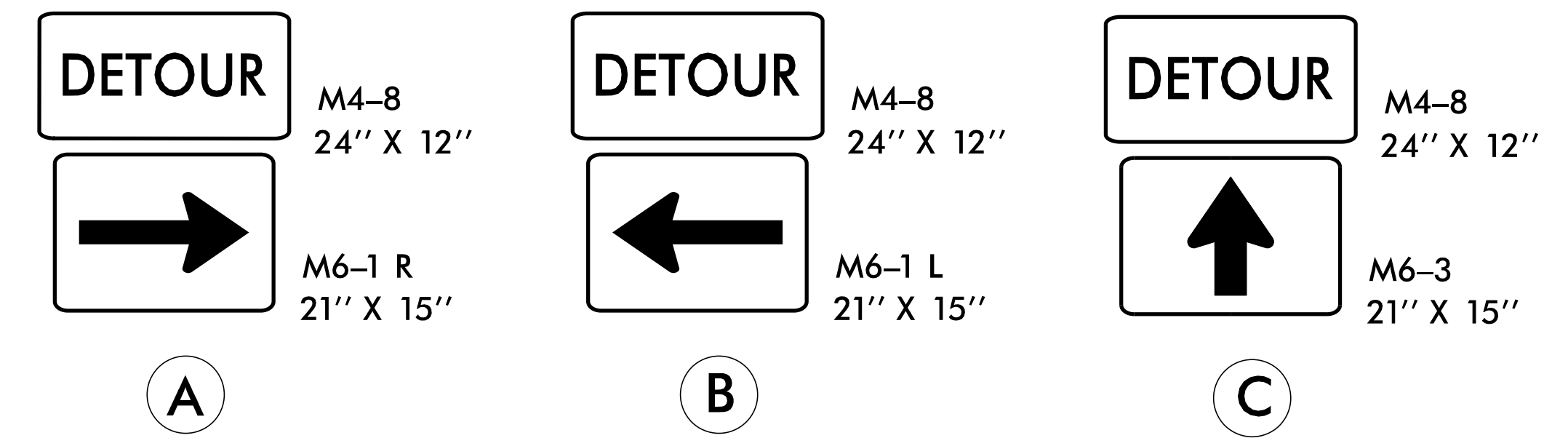
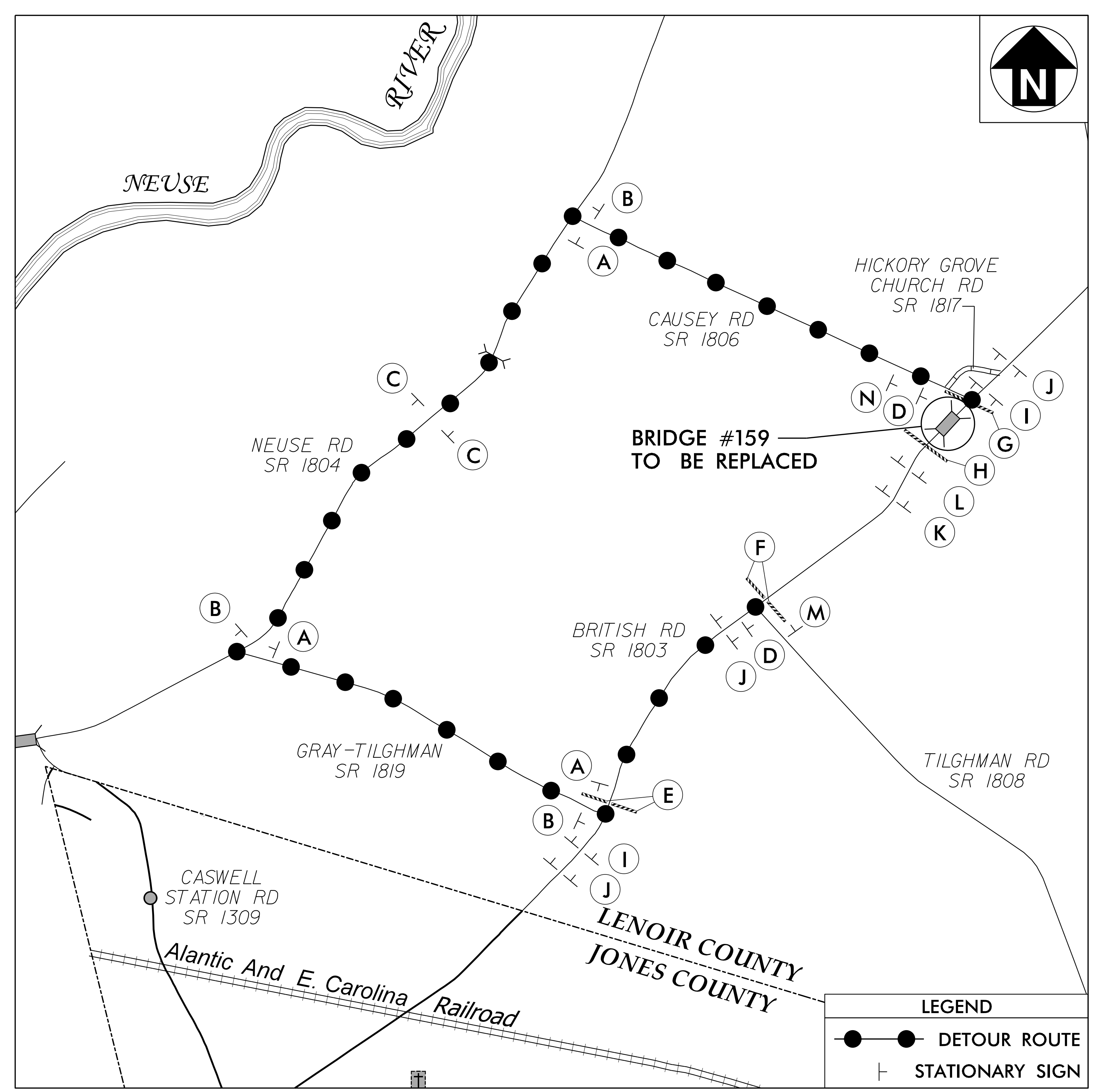
- STEP 1: USING ROADWAY STANDARD DRAWING NUMBER 1101.03, SHEET 1 OF 9, AND SHEET TMP-2, PERFORM THE FOLLOWING:
 – INSTALL ALL ROAD CLOSURE AND DETOUR SIGNING INCLUDING BARRICADES
 – CLOSE SR 1803 (BRITISH ROAD)
 – PLACE TRAFFIC ONTO OFF- SITE DETOUR
- STEP 2: REMOVE EXISTING BRIDGE #159 AND CONSTRUCT THE PROPOSED CULVERT AND APPROACHES AS SHOWN IN THE CONSTRUCTION PLANS.
- STEP 3: INSTALL FINAL PAVEMENT MARKINGS.
- STEP 4: REMOVE ALL TRAFFIC CONTROL SIGNING AND DEVICES AND RE-OPEN SR 1803 (BRITISH ROAD) TO THE FINAL TRAFFIC PATTERN.

PAVEMENT MARKING

PAINT WHITE EDGELINE (4") 800 LF
 PAINT YELLOW DOUBLE CENTER (4") 800 LF

NOTE: QUANTITY INCLUDES 2 APPLICATIONS OF EACH

PROJECT REFERENCE 17BP.2.R.73	SHEET NO. TMP-2
TRAFFIC CONTROL ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 22606 David Walker 9/28/2017 MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of:	MOTT MACDONALD I & E, LLC PO Box 700 Fuquay-Varina, NC 27526 www.mottmac.com/americas



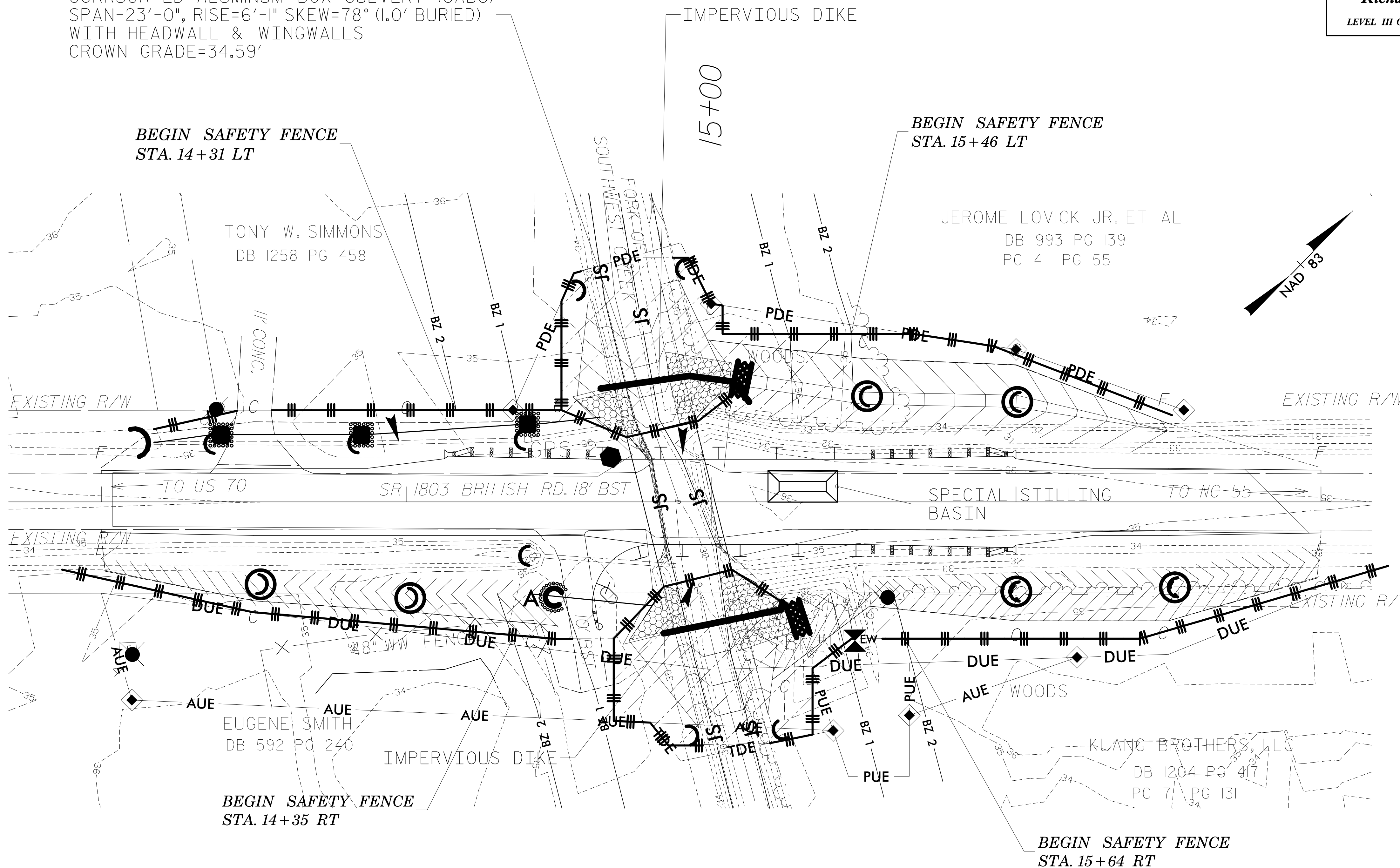
wa178449
 R:\Roadway\Proj\530159_rdy_tme2.dgn
 9/27/2017 10:38:46 AM

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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.

☐ STA. 14+89.41-L-
CORRUGATED ALUMINUM BOX CULVERT (CABC)
SPAN-23'-0", RISE=6'-1" SKEW=78° (1.0' BURIED)
WITH HEADWALL & WINGWALLS
CROWN GRADE=34.59'



REVISIONS

GENERAL EROSION CONTROL NOTES:

INSTALL EROSION/SEDIMENT CONTROL MEASURES ACCORDING TO PLANS, CONTRACT, AND SPECIAL PROVISIONS.

TEMPORARY SILT FENCE SHALL BE INSTALLED AT ROW AS SHOWN. SILT FENCE OUTLETS MUST ALLOW FOR SEDIMENT TO DISCHARGE WITHIN ROW AND NOT OFFSITE.

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

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

SEED ALL DISTURBED AREAS ACCORDING TO THE SITE STABILIZATION TIMEFRAMES.

INSTALLATION SCHEDULE:

INSTALL PROJECT EROSION CONTROL MEASURES.

INSTALL TEMPORARY IMPERVIOUS DIKE PER SPECIAL PROVISIONS.

INSTALL TEMPORARY BYPASS PUMPING OPERATION.

INSTALL TEMPORARY SPECIAL STILLING BASIN FOR WATER PUMPED FROM WITHIN THE CULVERT WORK AREA.

PREPARE CULVERT FOUNDATION WHILE LIMITING MATERIAL AND SEDIMENT FROM ENTERING THE CHANNEL.

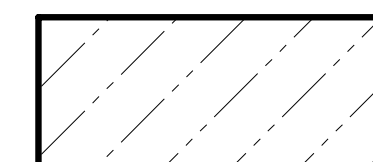
PREPARE CULVERT INLET AND OUTLET GRADING AS SHOWN AND COVER WITH COIR FIBER MATTING.

INSTALL PROPOSED ALUMINUM BOX CULVERT, HEADWALLS, AND WINGWALLS.

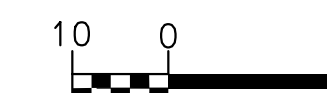
COMPLETE BACKFILL OF PROPOSED ALUMINUM BOX CULVERT AND INSTALL SILT FENCE ALONG EACH HEADWALL AS SHOWN TO PREVENT BACKFILL FROM ENTERING CHANNEL.

REMOVE ALL SEDIMENT CONTROL DEVICES AFTER PERMANENT VEGETATIVE COVER HAS BEEN ESTABLISHED.

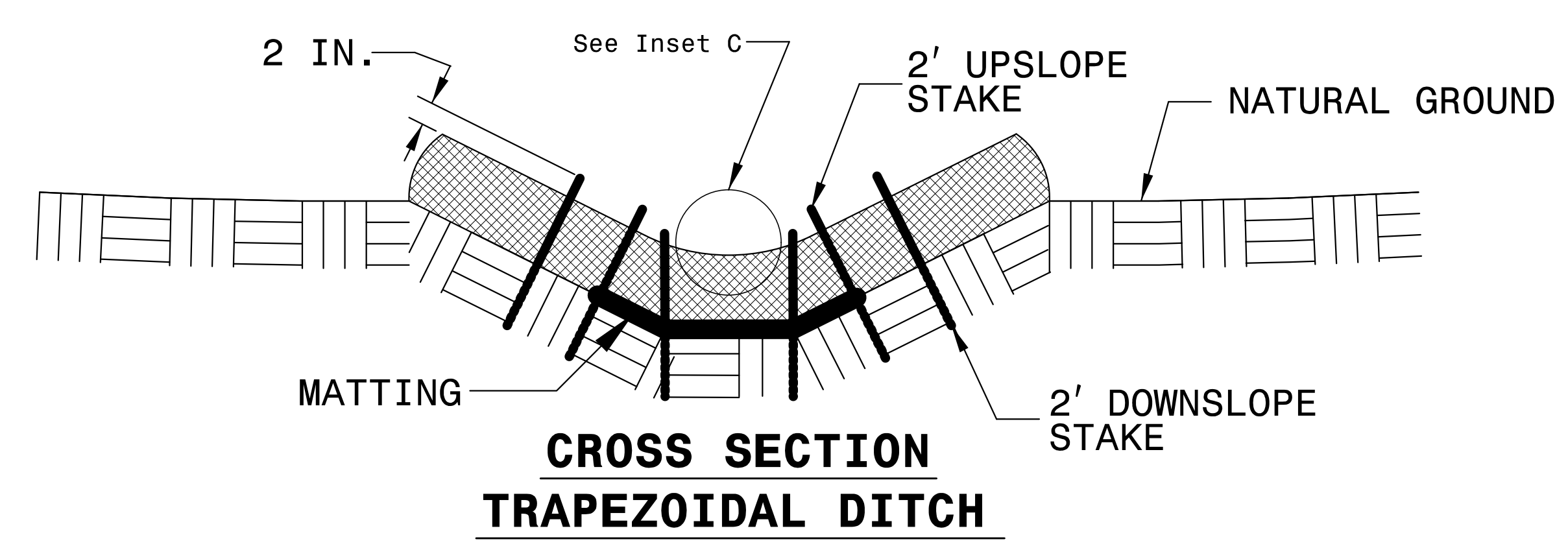
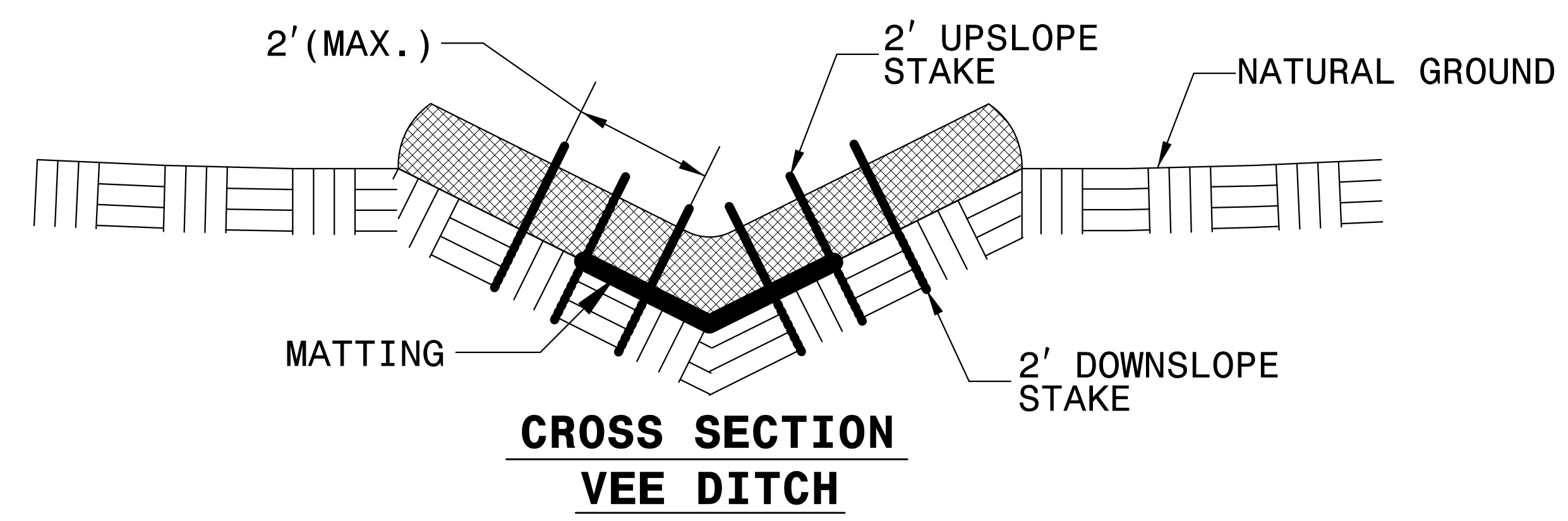
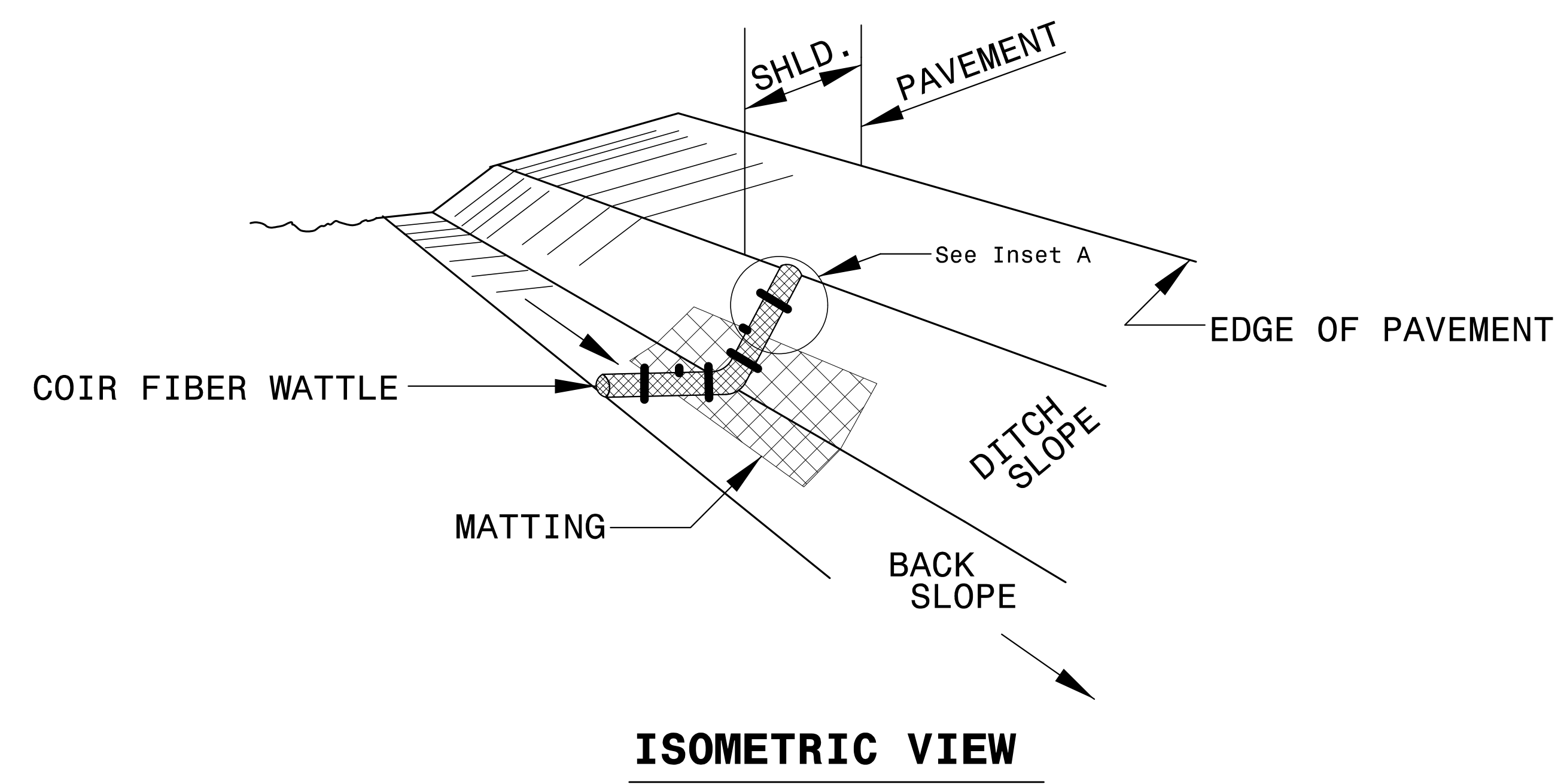
THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

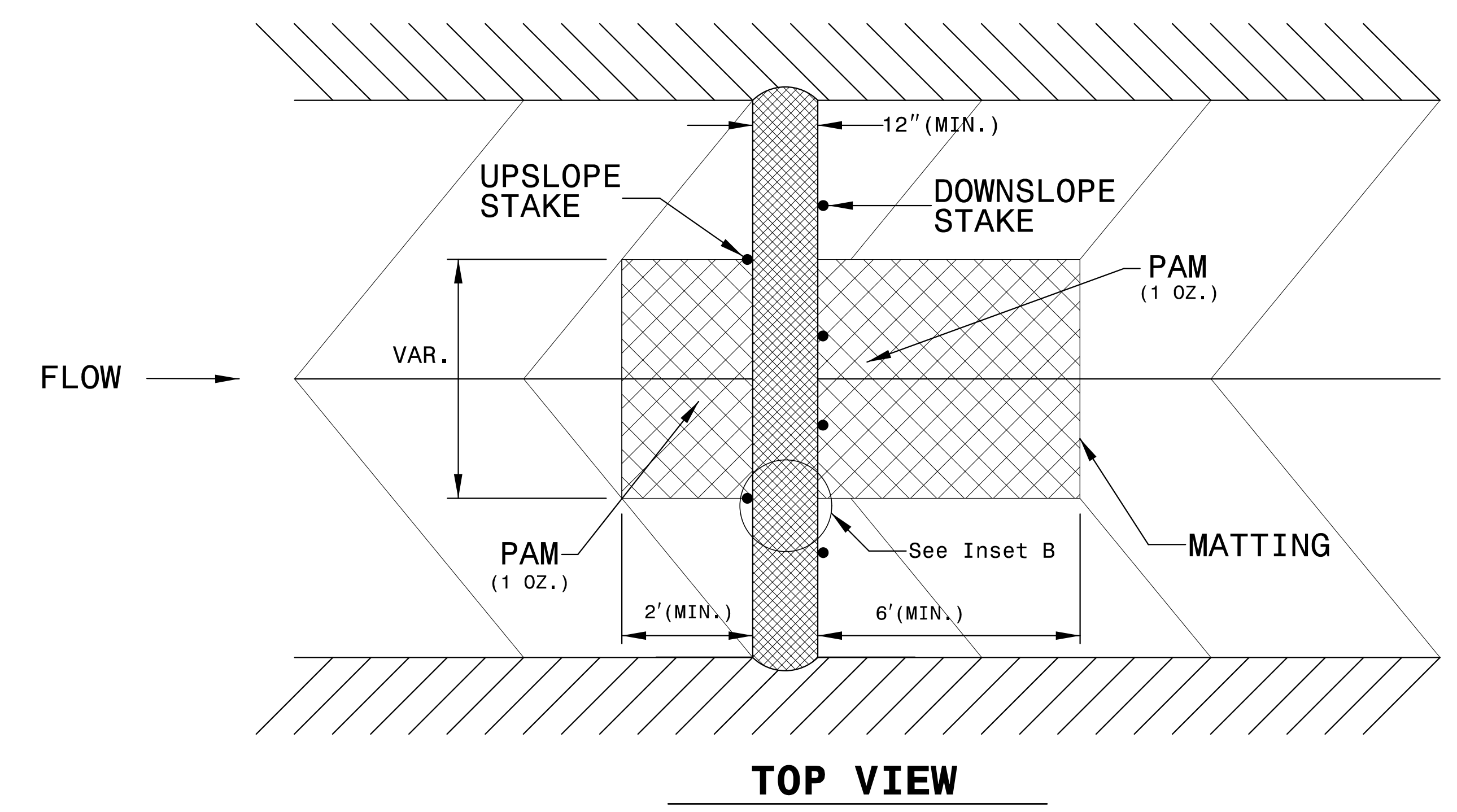
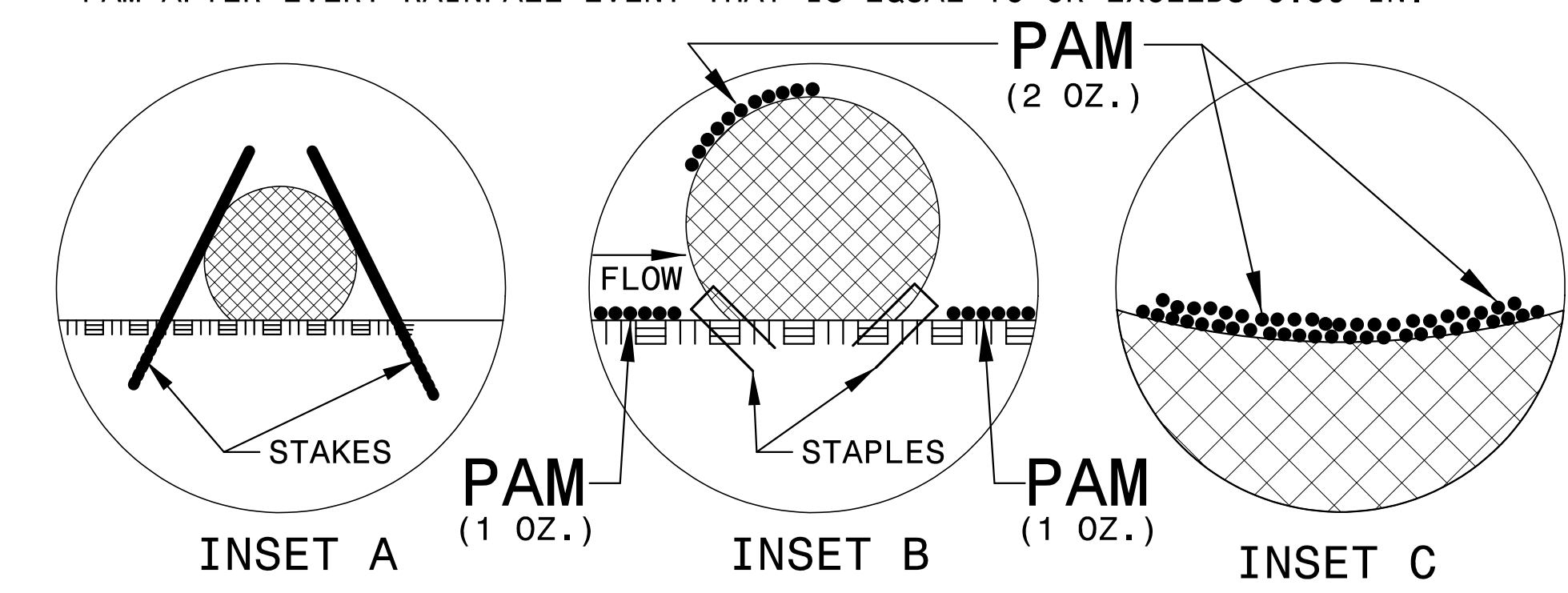


COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

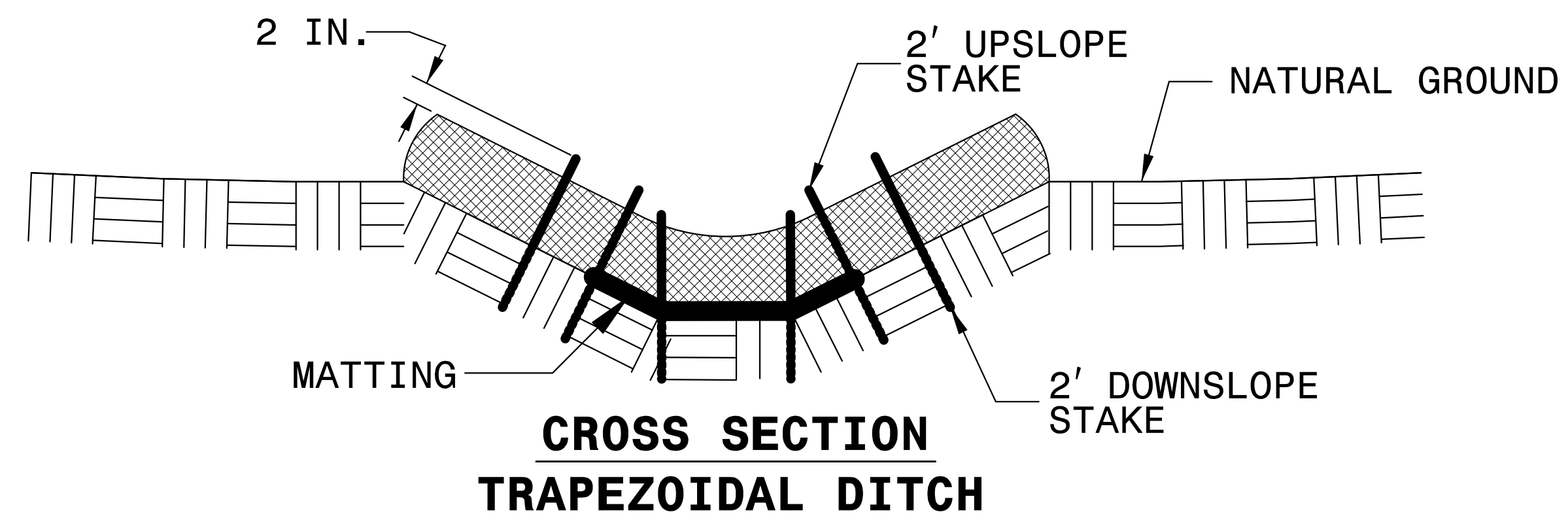
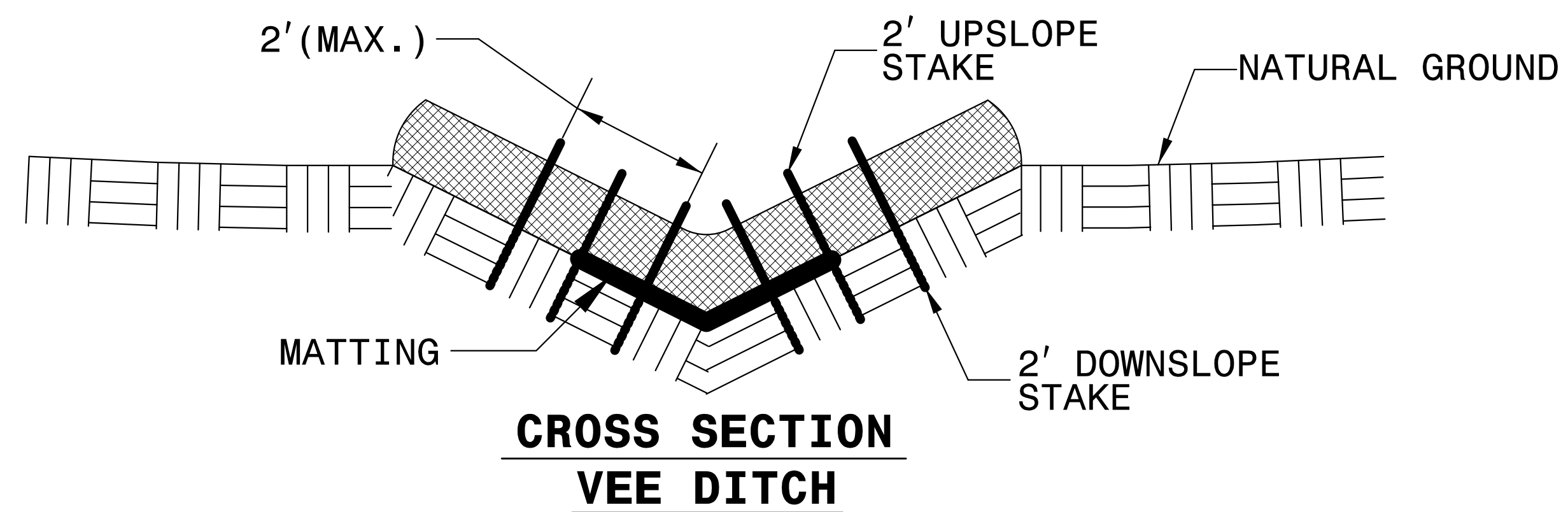
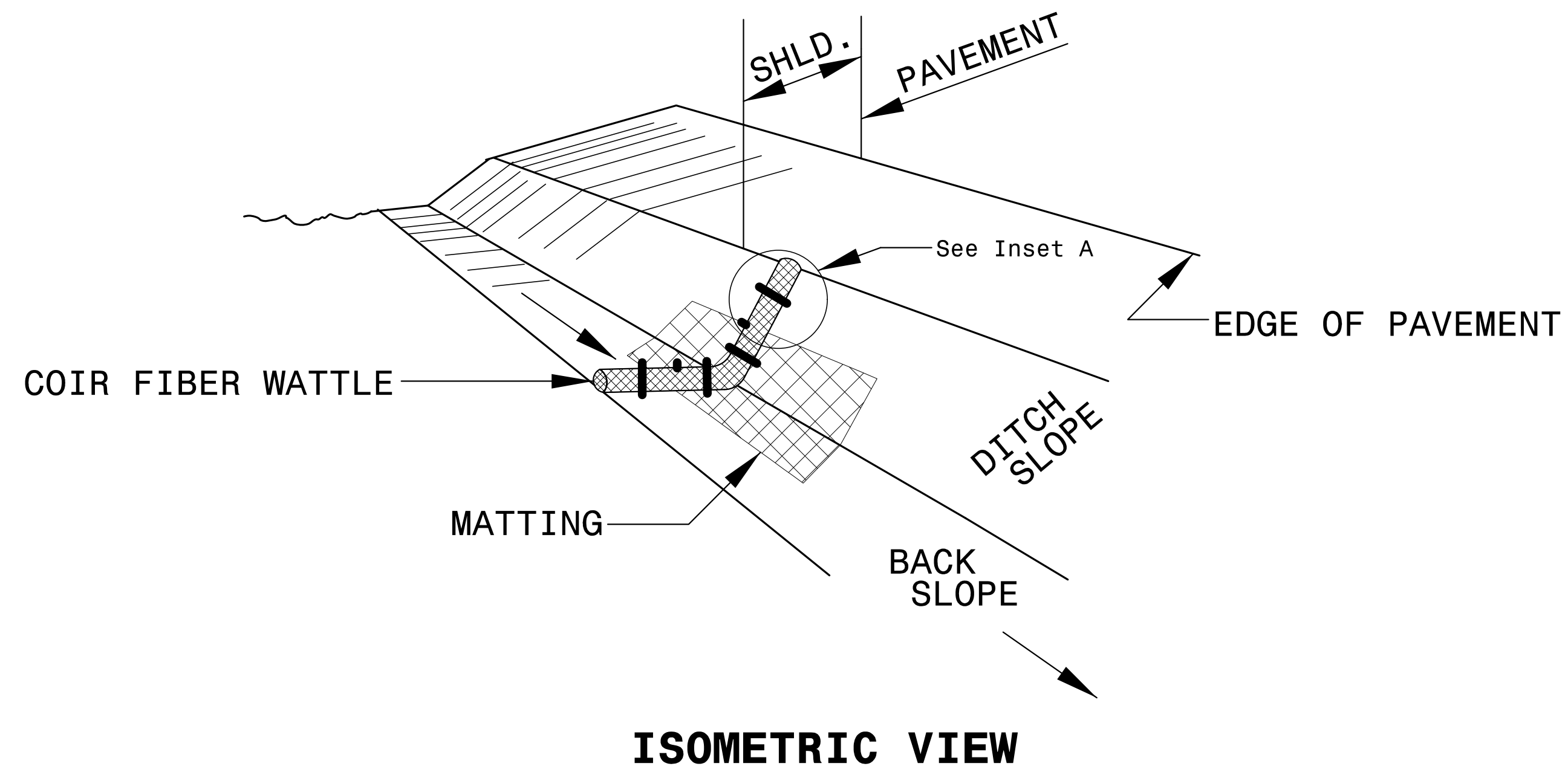


NOTES:

- 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 MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



COIR FIBER WATTLE 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.

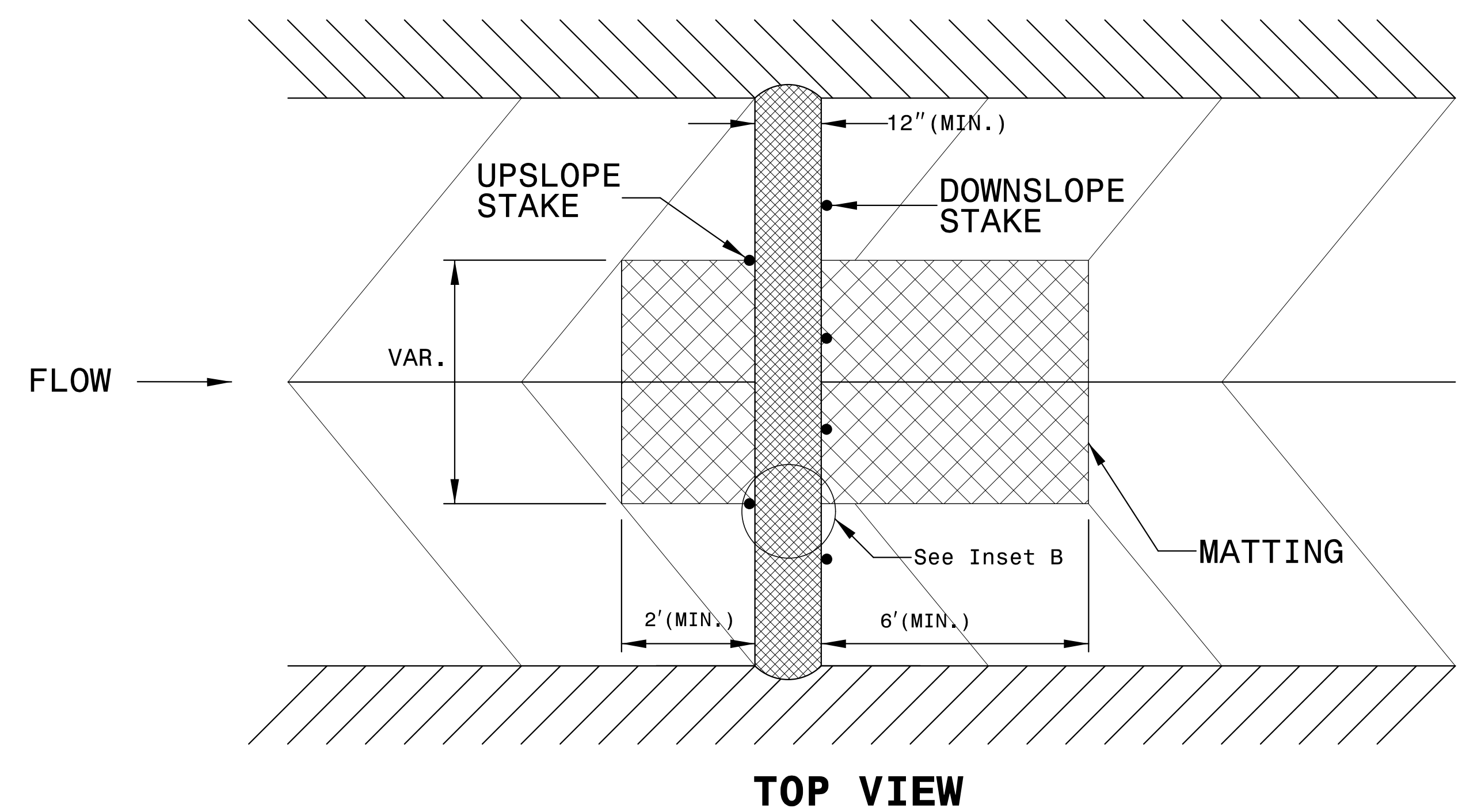
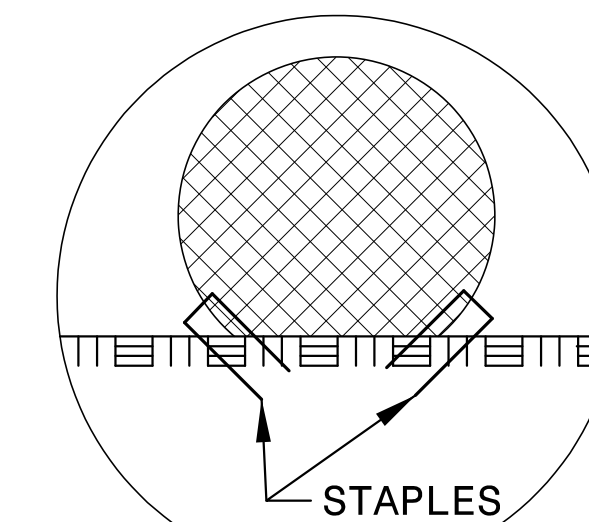
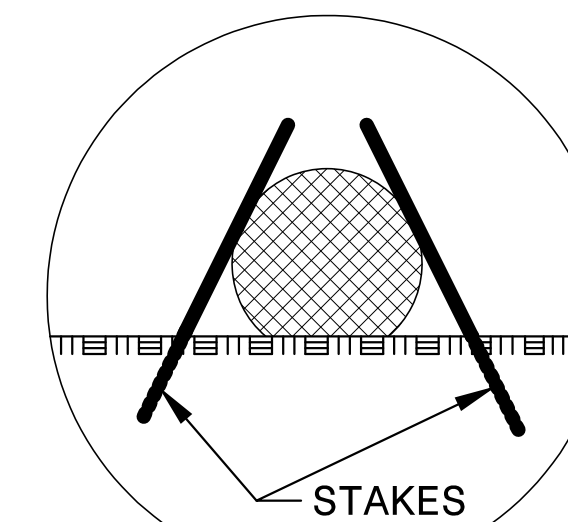
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

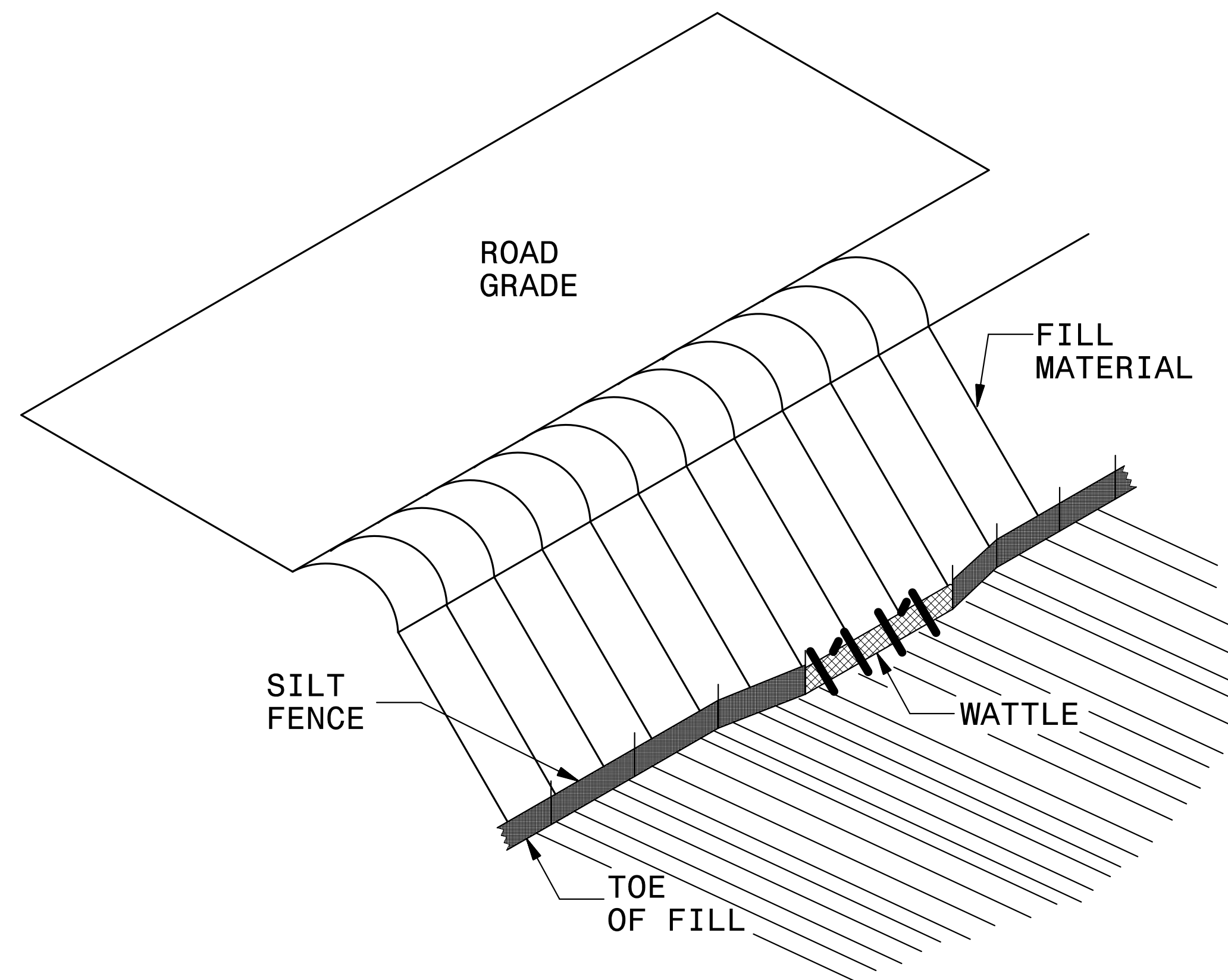
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

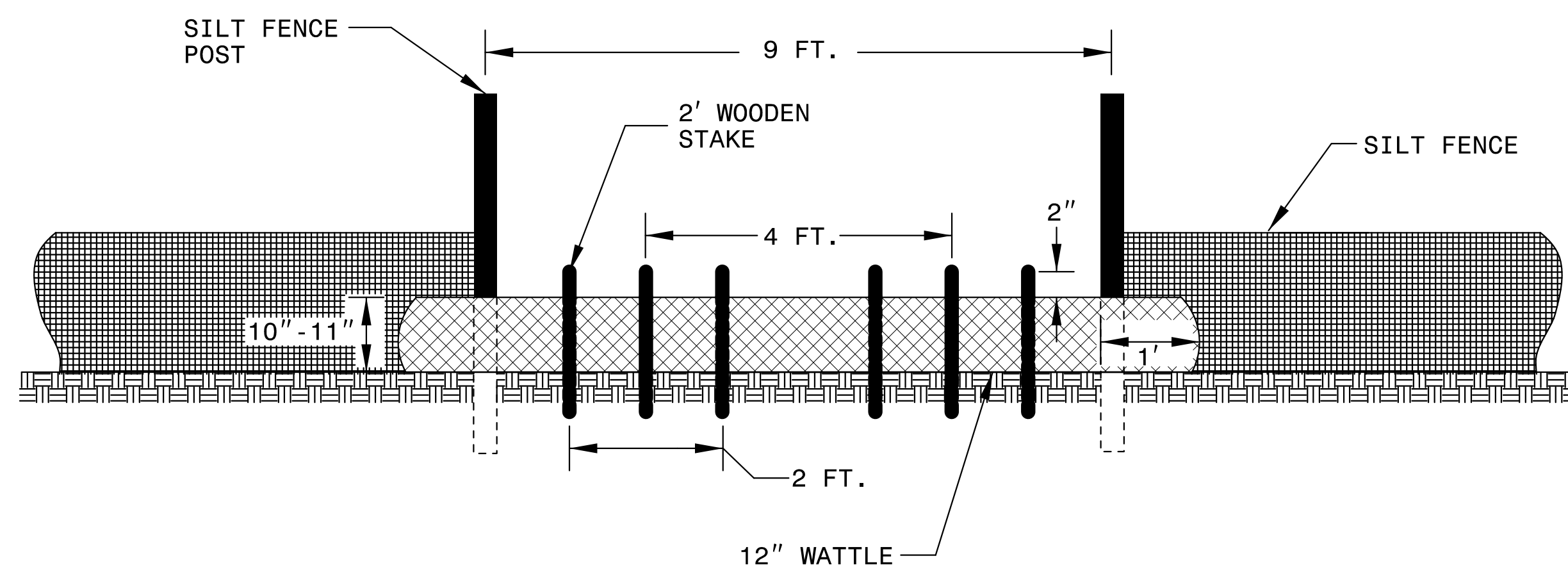
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

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

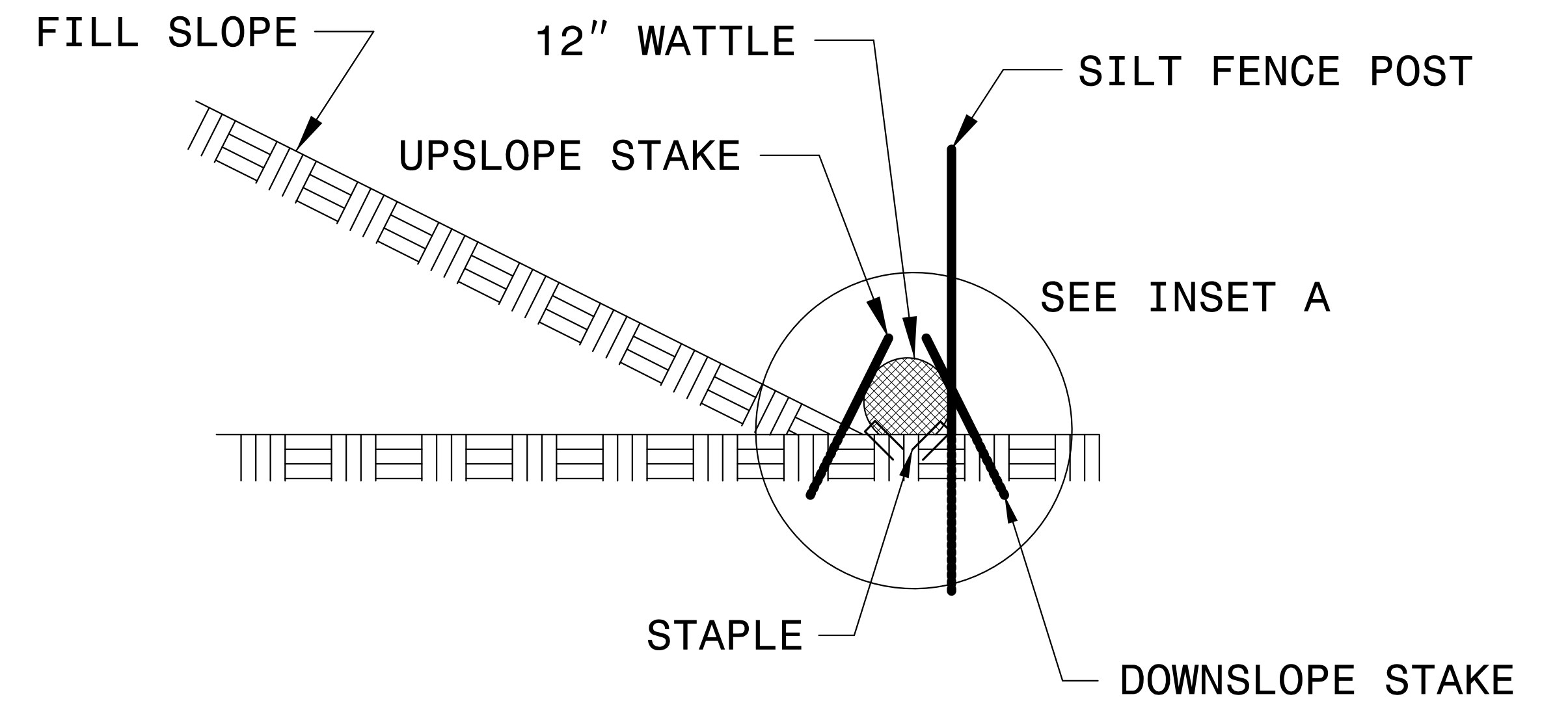
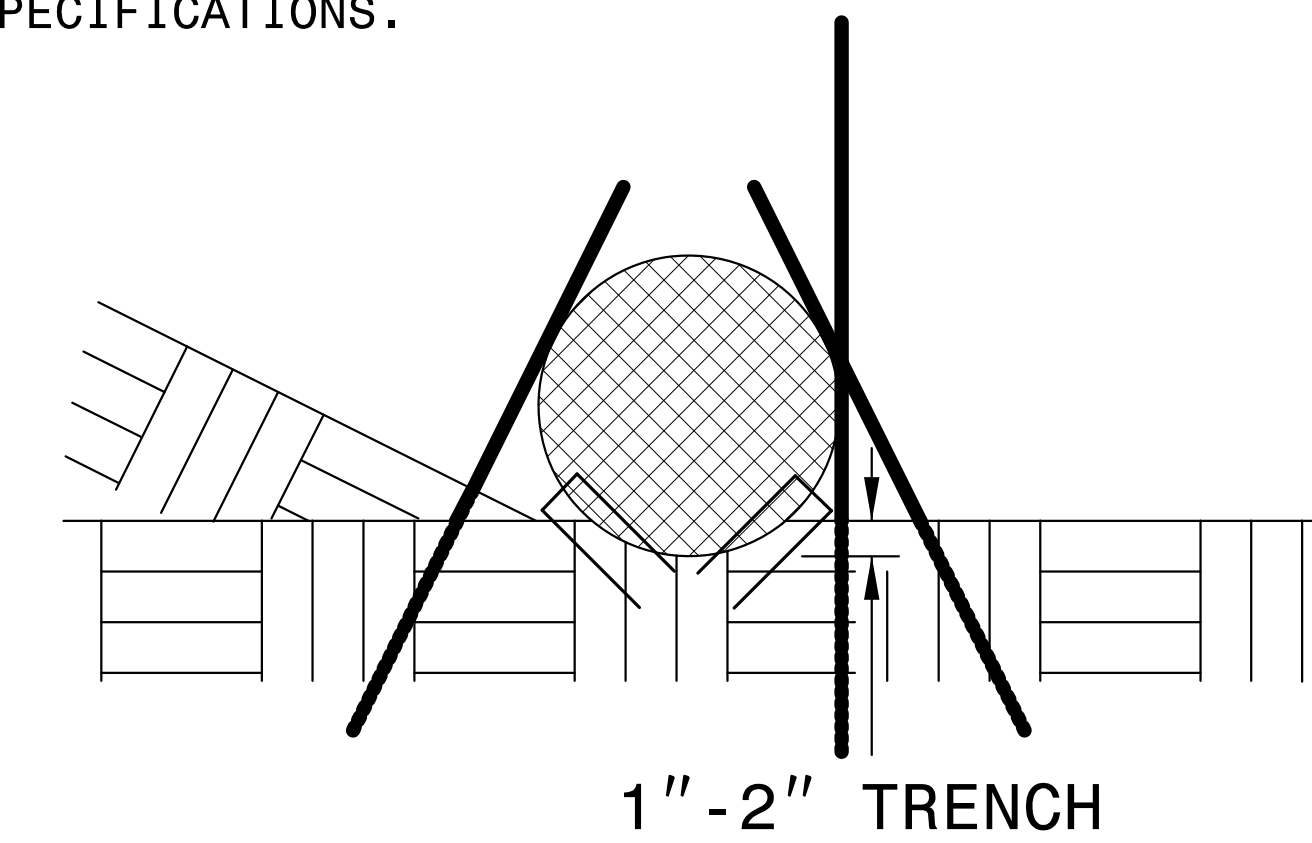
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

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

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

INSET A



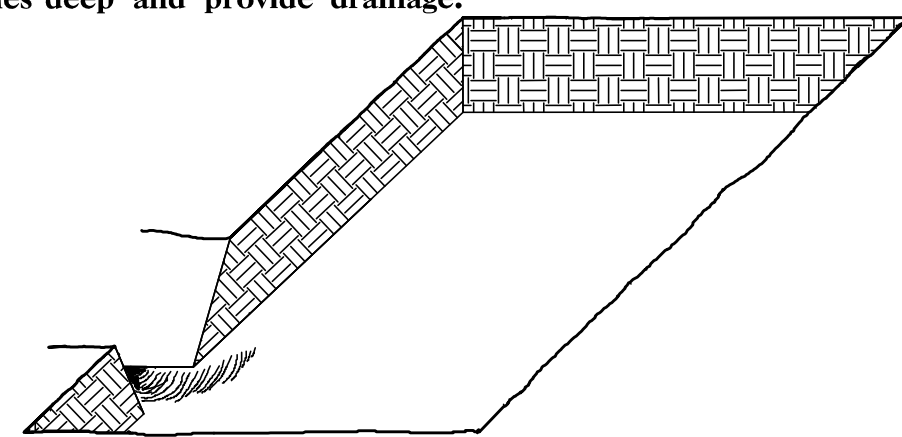
SIDE VIEW

PLANTING DETAILS

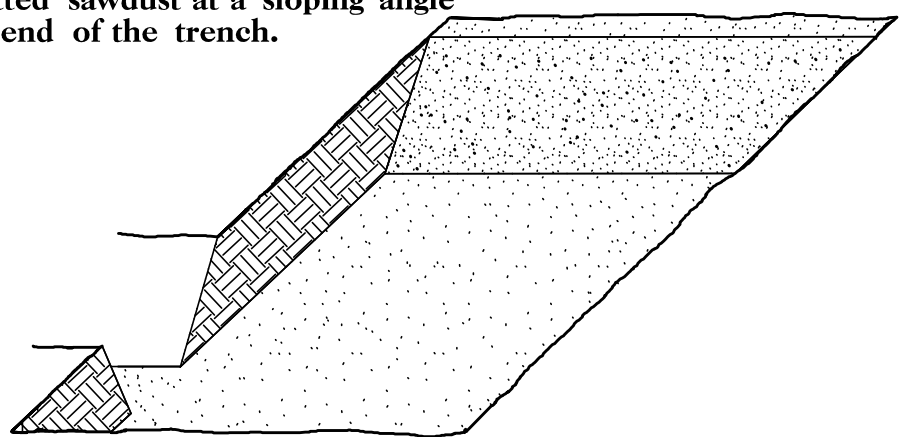
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

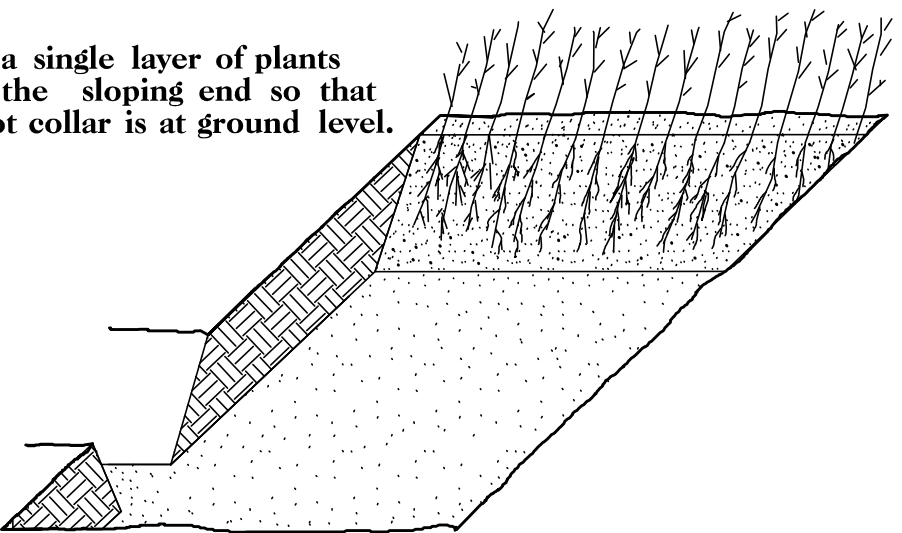
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



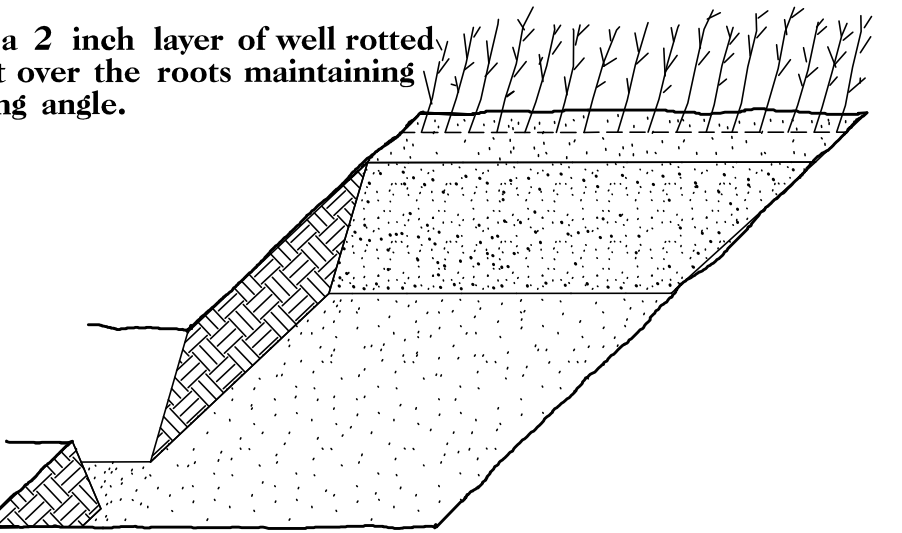
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

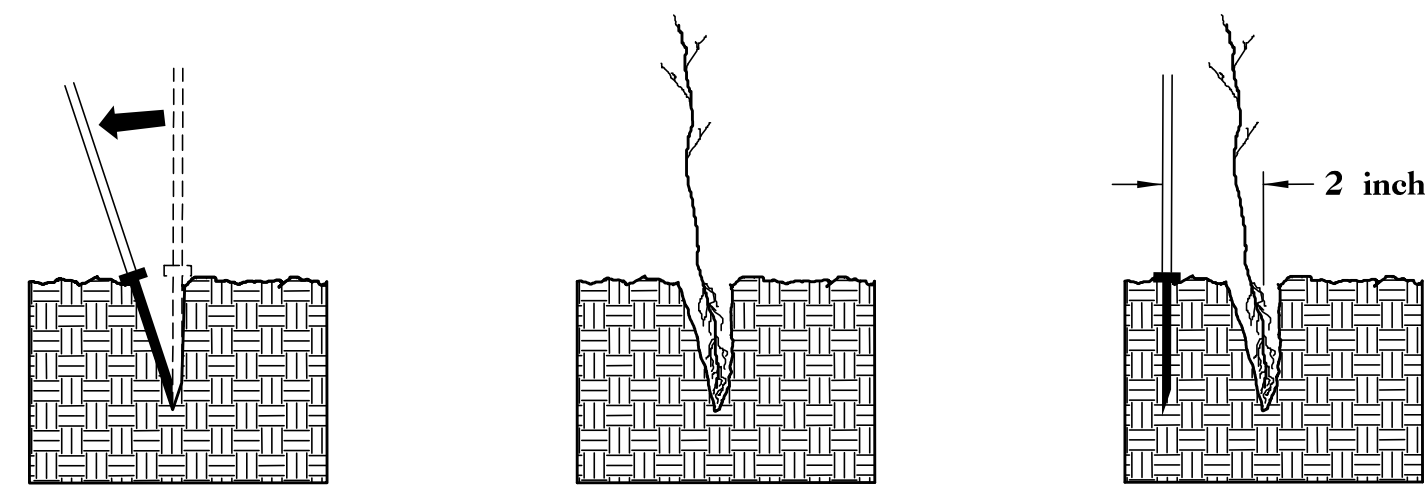


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

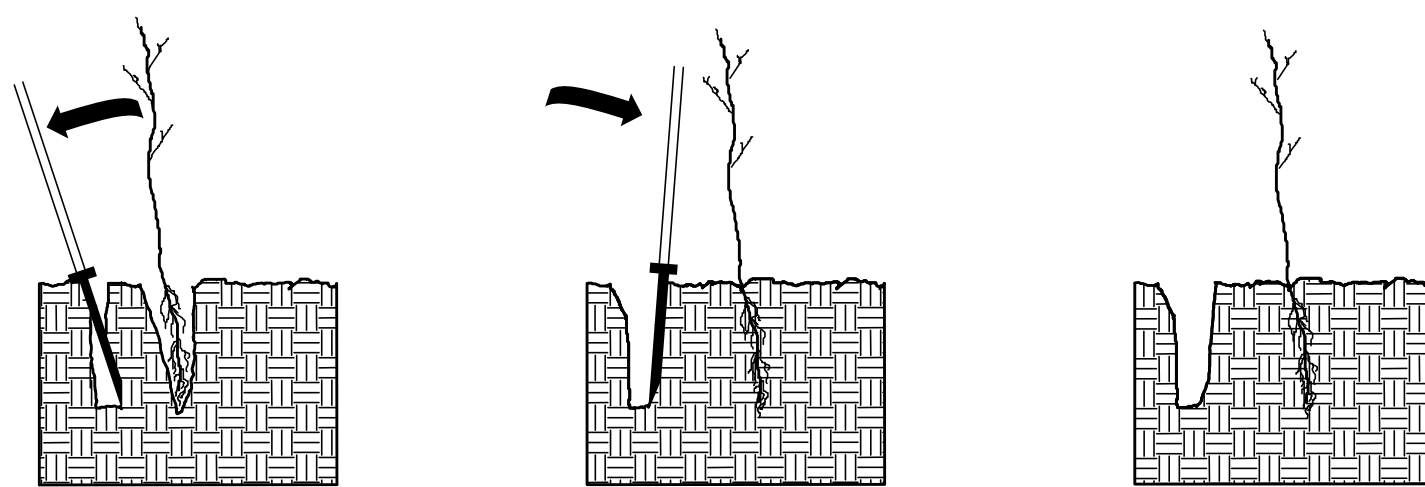


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

DOUBLE PLANTING METHOD USING THE K3C 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.



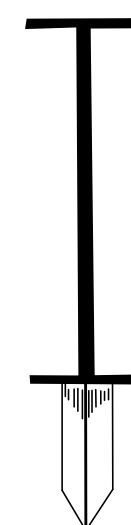
4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

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.



K3C 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

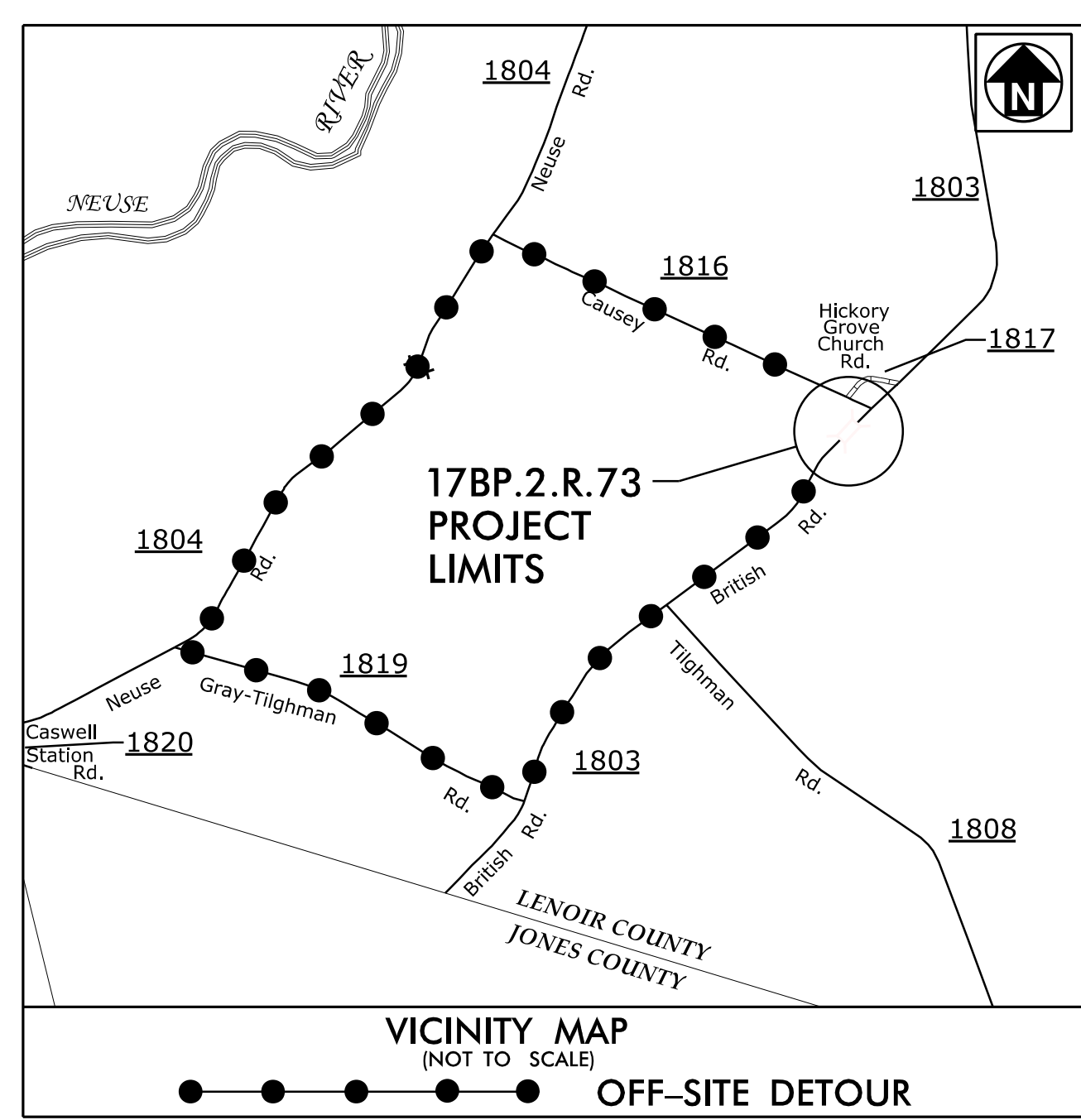
MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

25%	LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in 3R
25%	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in 3R
25%	FRAXINUS PENNSYLVANICA	GREEN ASH	12 in - 18 in 3R
25%	BETULA NIGRA	RIVER BIRCH	12 in - 18 in 3R

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

TIP PROJECT: 17BP.2.R.73

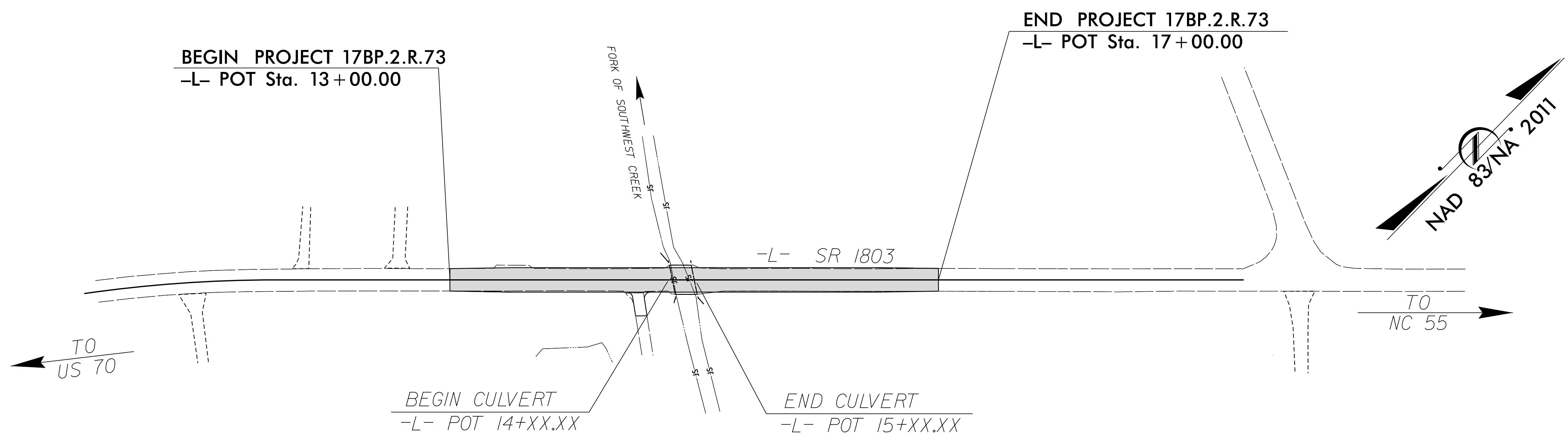


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

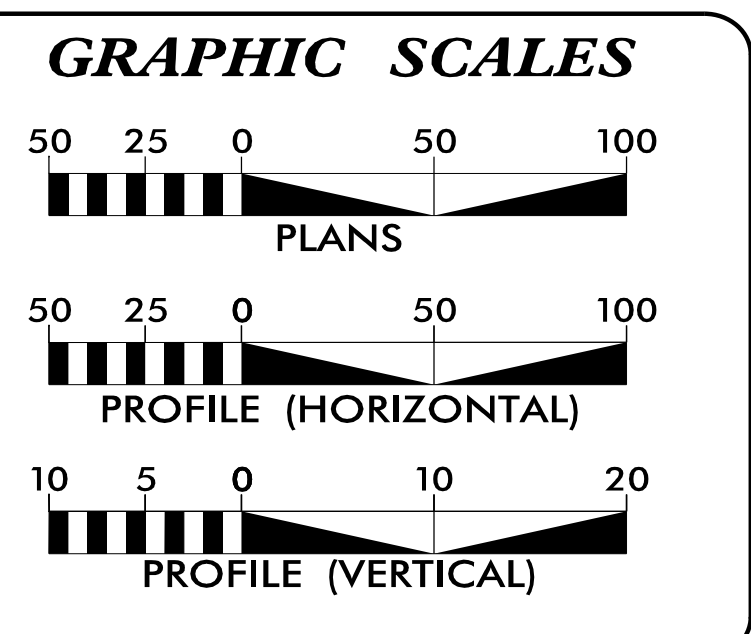
**UTILITIES BY OTHERS PLANS
LENOIR COUNTY**

**LOCATION: BRIDGE NO. 159 ON SR 1803 (BRITISH ROAD)
OVER FORK OF SOUTHWEST CREEK**

TYPE OF WORK: UTILITY BY OTHERS RELOCATION



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



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

- (A) WATER - NORTH LENOIR WATER CORPORATION
- (B) POWER - DUKE ENERGY PROGRESS
- (C) COMMUNICATIONS - CENTURYLINK

PREPARED BY:

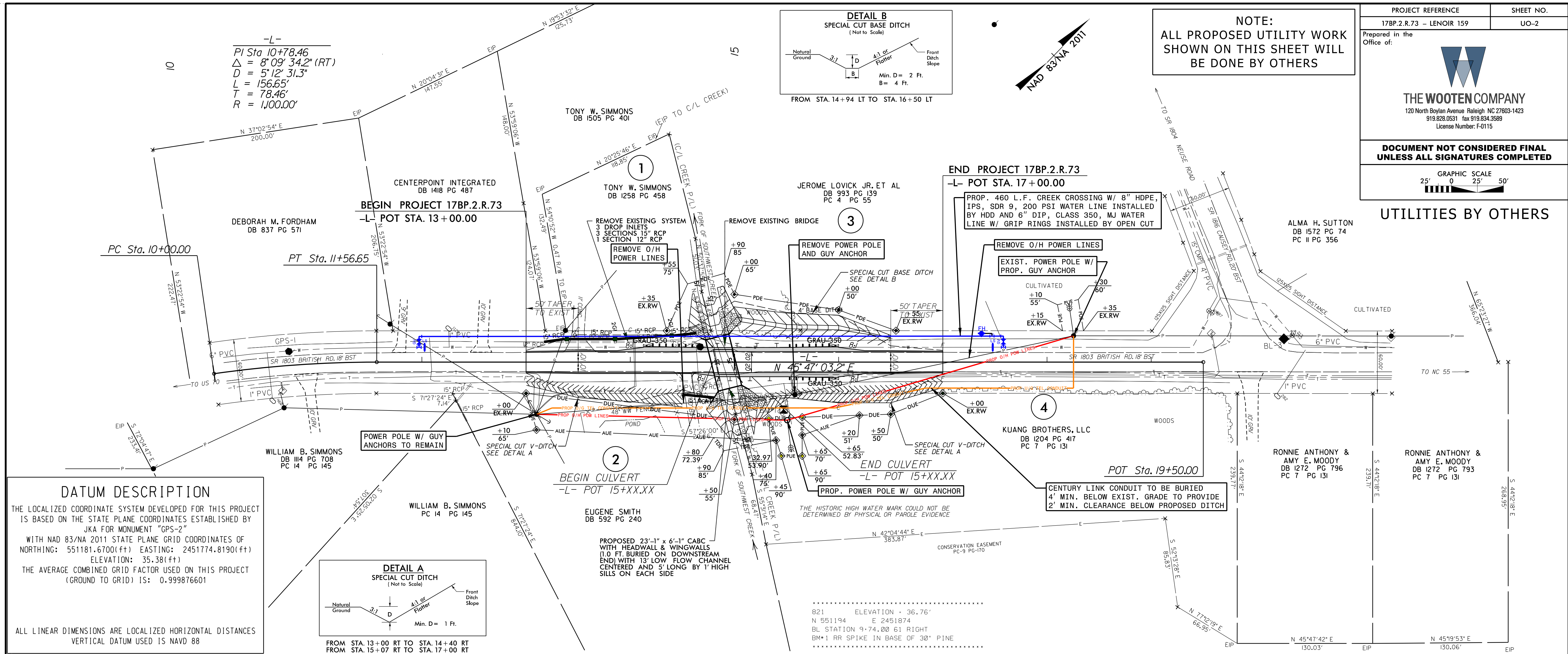
THE WOOTEN COMPANY
120 North Boylan Avenue, Raleigh, NC 27603-1423
919.828.0531 fax 919.834.2689
License Number: F-0115

NCDOT PROJECT ENGINEER:
HON YEUNG, P.E.
NCDOT DIVISION BRIDGE PROGRAM MANAGER

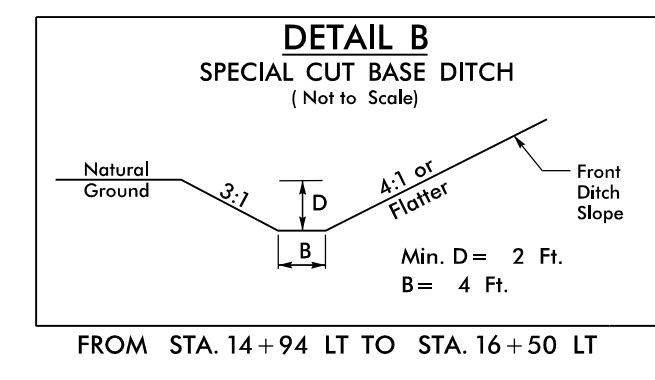
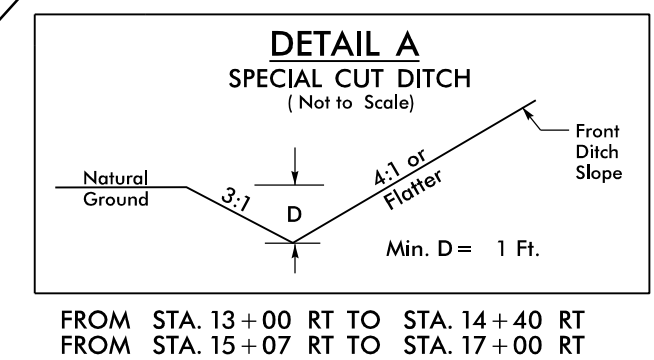
PREPARED FOR:
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION BRIDGE PROGRAM

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

UTILITIES BY OTHERS

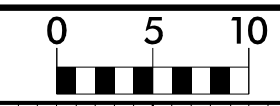


DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY JKA FOR MONUMENT "GPS-2"
 WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 551181.6700(ft) EASTING: 2451774.8190(ft)
 ELEVATION: 35.38(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999876601
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88



.....
 821 ELEVATION = 36.76'
 N 551194 E 2451874
 BL STATION 9+74.00 61 RIGHT
 BM=1 RR SPIKE IN BASE OF 30" PINE

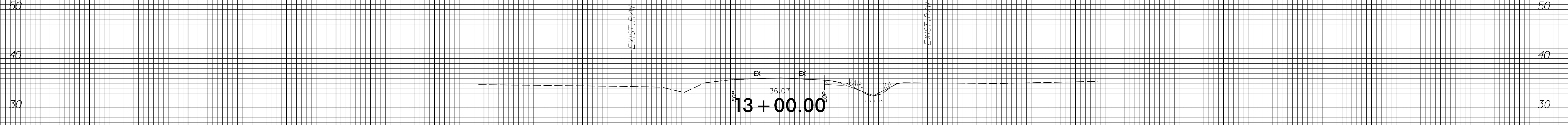
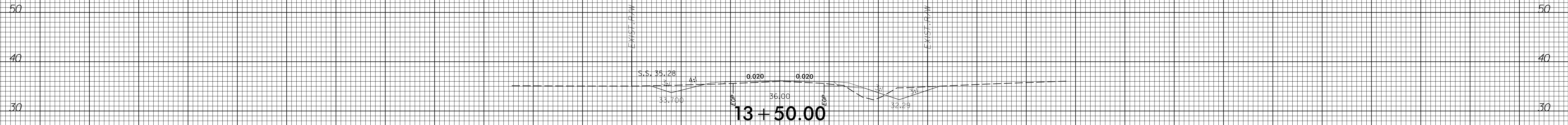
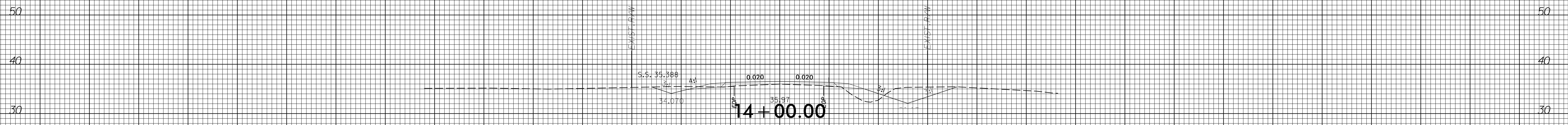
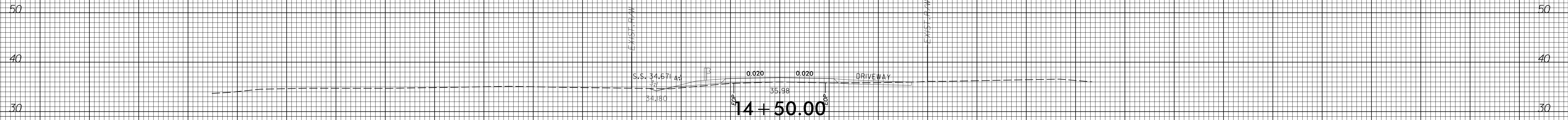
8/23/99



PROJ. REFERENCE NO.
17BP.2.R.73

SHEET NO.
X-1

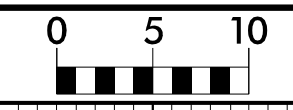
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

12:55:46 PM
R:\1599\proj\1530159_rdu_xpl.dgn

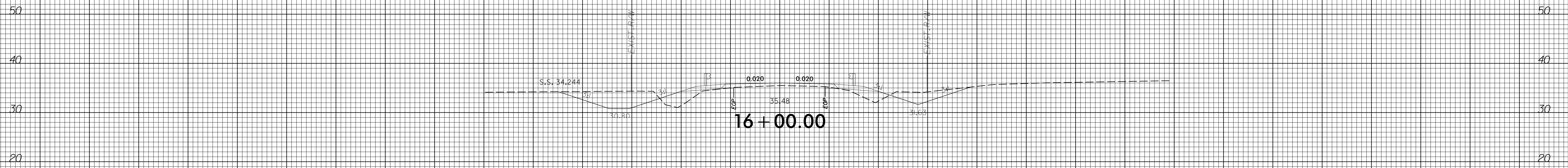
8/23/99



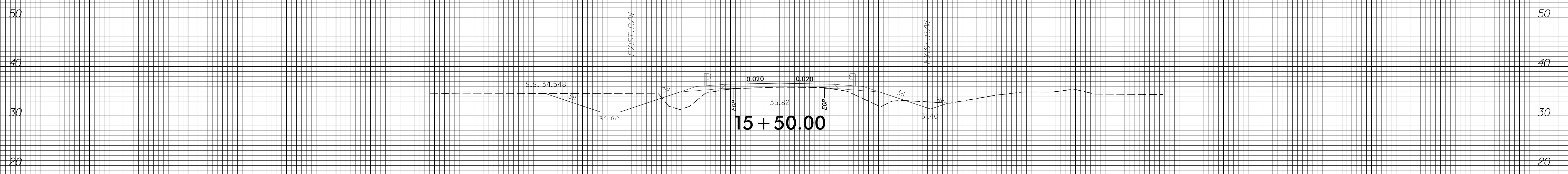
PROJ. REFERENCE NO.
17BP.2.R.73

SHEET NO.
X-2

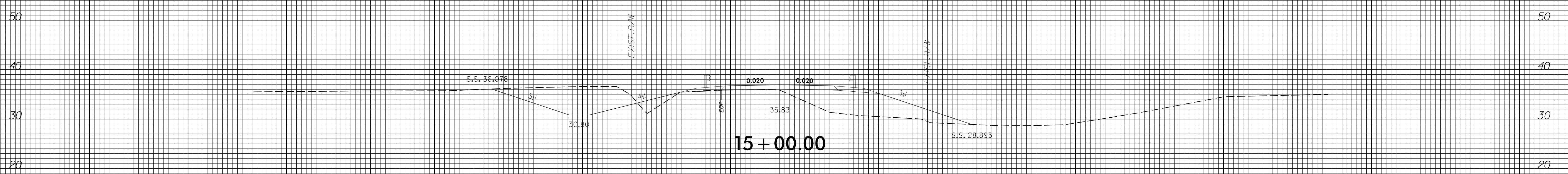
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



16 + 00.00



15 + 50.00

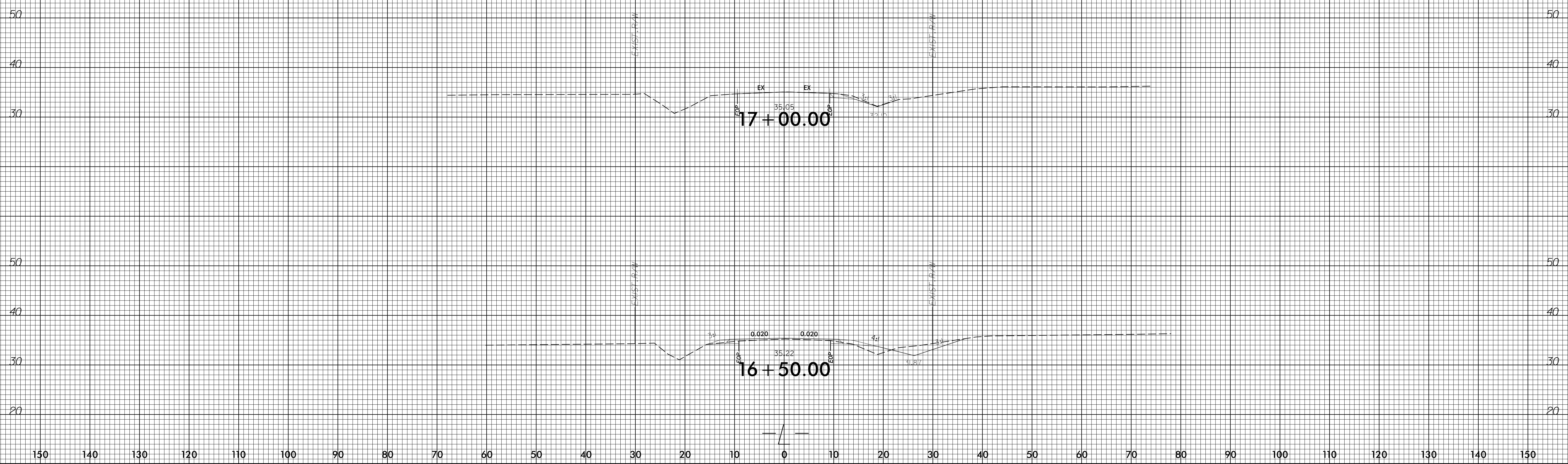


15 + 00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

12:56:22 PM
R:\1599\1599\Xsec\Xpl\1530159_rdu_xpl.dgn
1530159

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150