

**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.**

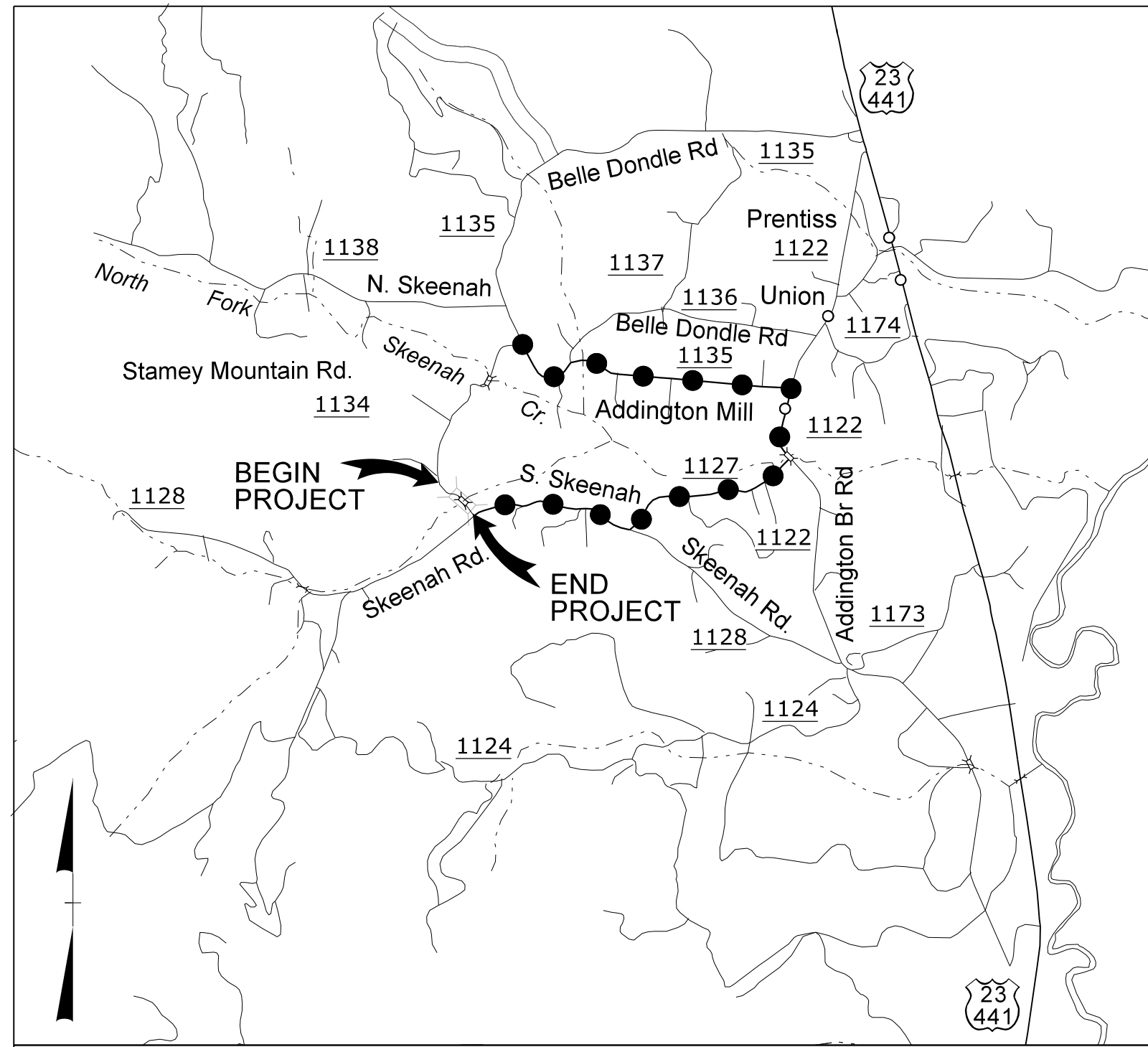
**This file or an individual page
shall not be considered a certified document.**

09/20/21/21

PROJECT: 17BP.14.R.112

CONTRACT: DN00278

See Sheet 1-A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP NTS



NCDOT CONTACT:
GARRETT HIGDON
HIGHWAY DIVISION 14
ASSISTANT BRIDGE MANAGER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

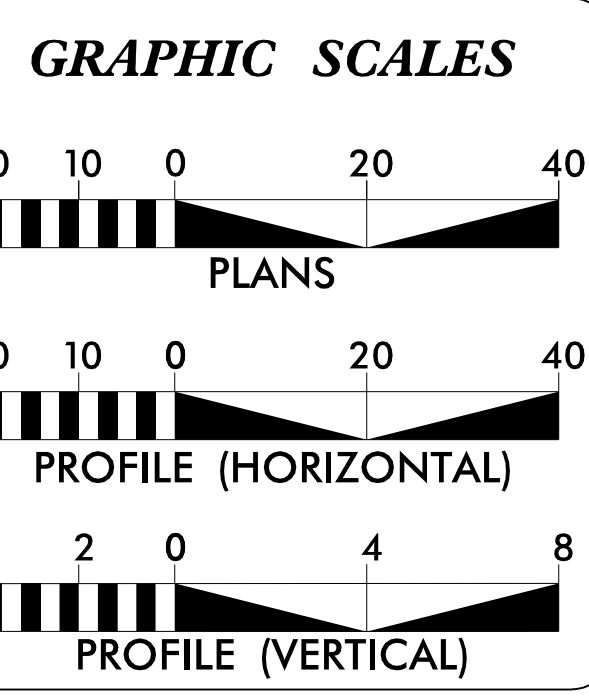
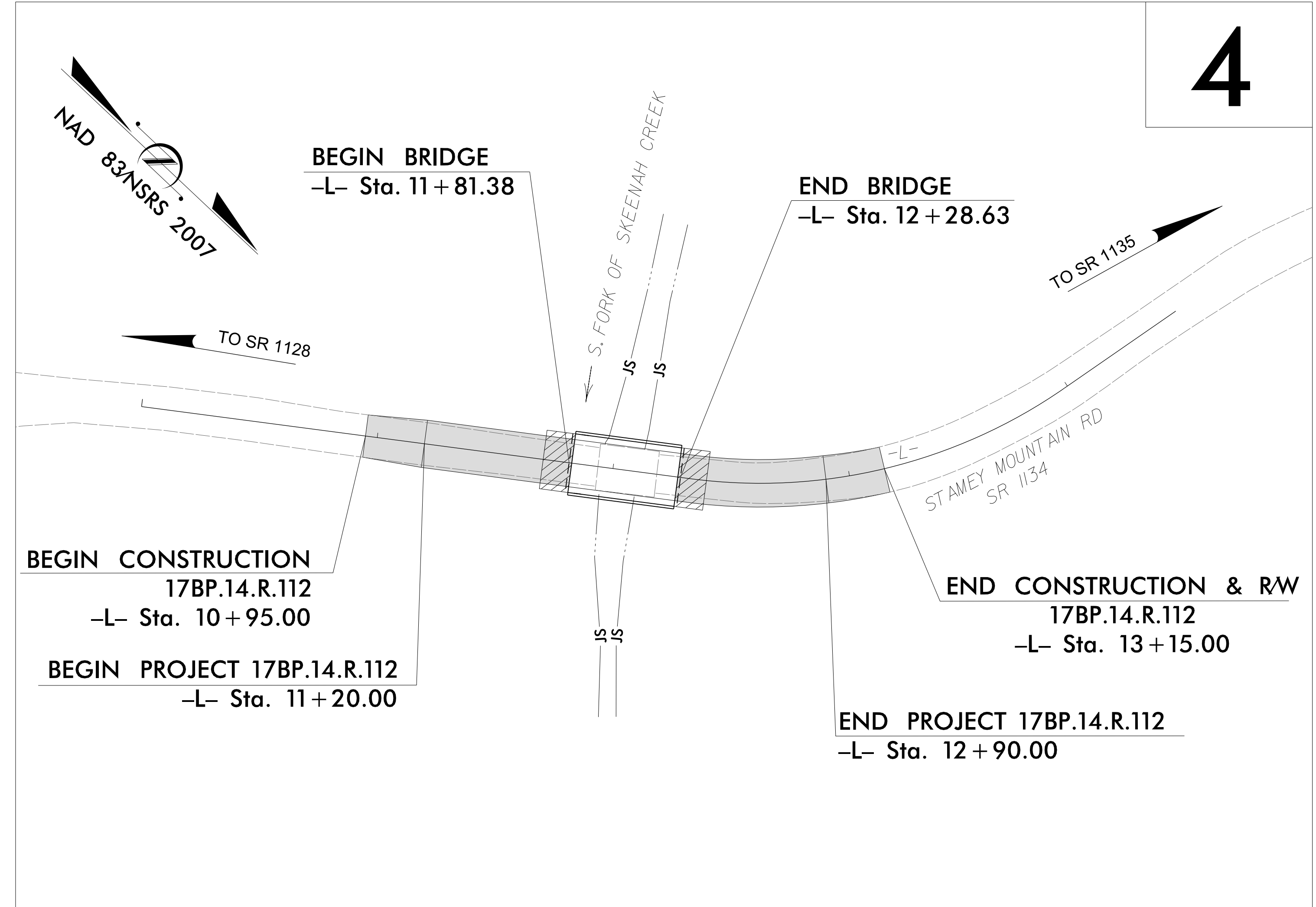
MACON COUNTY

LOCATION: BRIDGE NO. 223 ON SR 1134 (STAMEY MOUNTAIN RD) OVER SOUTH FORK OF SKEENAH CREEK

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.112	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.14.PE.112	N/A	PE	
17BP.14.ROW.112	N/A	RIGHT-OF-WAY	
17BP.14.R.112	N/A	CONSTRUCTION	

FINAL PLANS



DESIGN DATA

ADT 2008 = 200
V = 25 MPH

FUNC CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT 17BP.14.R.112 = 0.033 MILES
LENGTH STRUCTURES PROJECT 17BP.14.R.112 = 0.009 MILES
TOTAL LENGTH PROJECT 17BP.14.R.112 = 0.042 MILES

PREPARED IN THE OFFICE OF:
wsp
WSP USA
434 DAVENPVILLE STREET
DURHAM, NC 27601
TEL: 919.836.4040
FAX: 919.836.4099
LICENSE NO. E-0165

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 16, 2014

LETTING DATE: APRIL, 13 2021

DAVID BASS, PE
PROJECT ENGINEER

BRIAN PEASE, EI
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by:
Charles Heafner
SIGNATURE: 3/3/2021

ROADWAY DESIGN ENGINEER

DocuSigned by:
David W. Bass
SIGNATURE: 3/3/2021

Professional Engineer Seals for Charles W. Heafner and David W. Bass.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO. 17BP14R112	SHEET NO. 1A
RW SHEET NO.	
DocuSigned by: David W. Bass 571C021D4866422	DocuSigned by: Charles Heafner 56932E85C45864

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C	SURVEY CONTROL
2A-1	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2B-1	ROCK VANE DETAIL
3A-1	SUMMARIES OF EARTHWORK & GUARDRAIL
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-3	TRAFFIC CONTROL PLANS
PMP-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1 THRU RF-3	REFORESTATION PLANS
X-1 THRU X-5	CROSS-SECTIONS
S-1 THRU S-14	STRUCTURE PLANS
SN	STANDARD NOTE SHEET

GENERAL NOTES

GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 01-16-18
REVISED:

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

CLEARING:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 11.

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

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

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

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

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

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

UTILITIES:
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

ROADWAY ENGLISH STANDARD DRAWINGS

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	
200.02	Method of Clearing - Method 11
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
DIVISION 4 - MAJOR STRUCTURES	
422.02	Bridge Approach Fills - Type II Modified Approach Fill
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method 1
DIVISION 8 - INCIDENTALS	
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
866.02	Woven Wire Fence - with Wood Post
876.04	Drainage Ditches with Class 'B' Rip Rap

REVISIONS

3/2/2021 3:40:28 PM
\$FILEL\$
\$PENTBL\$

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for railroads: Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

RIGHT OF WAY:

Table listing symbols for right of way: Baseline Control Point, Existing Right of Way Marker, Existing Right of Way Line, Proposed Right of Way Line, Proposed Right of Way Line with Iron Pin and Cap Marker, Proposed Right of Way Line with Concrete or Granite Marker, Existing Control of Access, Proposed Control of Access, Existing Easement Line, 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:

Table listing symbols for 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.

VEGETATION:

Table listing symbols for vegetation: Single Tree, Single Shrub, Hedge, Woods Line.

Table listing symbols for orchard and vineyard.

EXISTING STRUCTURES:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for gas: Gas Valve, Gas Meter, Recorded U/G Gas Line, Designated U/G Gas Line (S.U.E.*), Above Ground Gas Line.

SANITARY SEWER:

Table listing symbols for 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:

Table listing symbols for 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.

SURVEY CONTROL SHEET 55-0223

-FINAL-

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		523775.5798	680243.4704	2114.95	OUTSIDE PROJECT LIMITS	
2	BL-2		524043.0962	680090.4682	2103.82	12+28.86	11.27 RT
3	BL-3		524137.4223	679977.0285	2107.00	13+70.05	17.00 RT
4	BL-4		524168.9392	679782.9802	2119.94	OUTSIDE PROJECT LIMITS	

-FINAL- ROW MARKER PERMANENT EASEMENT -E

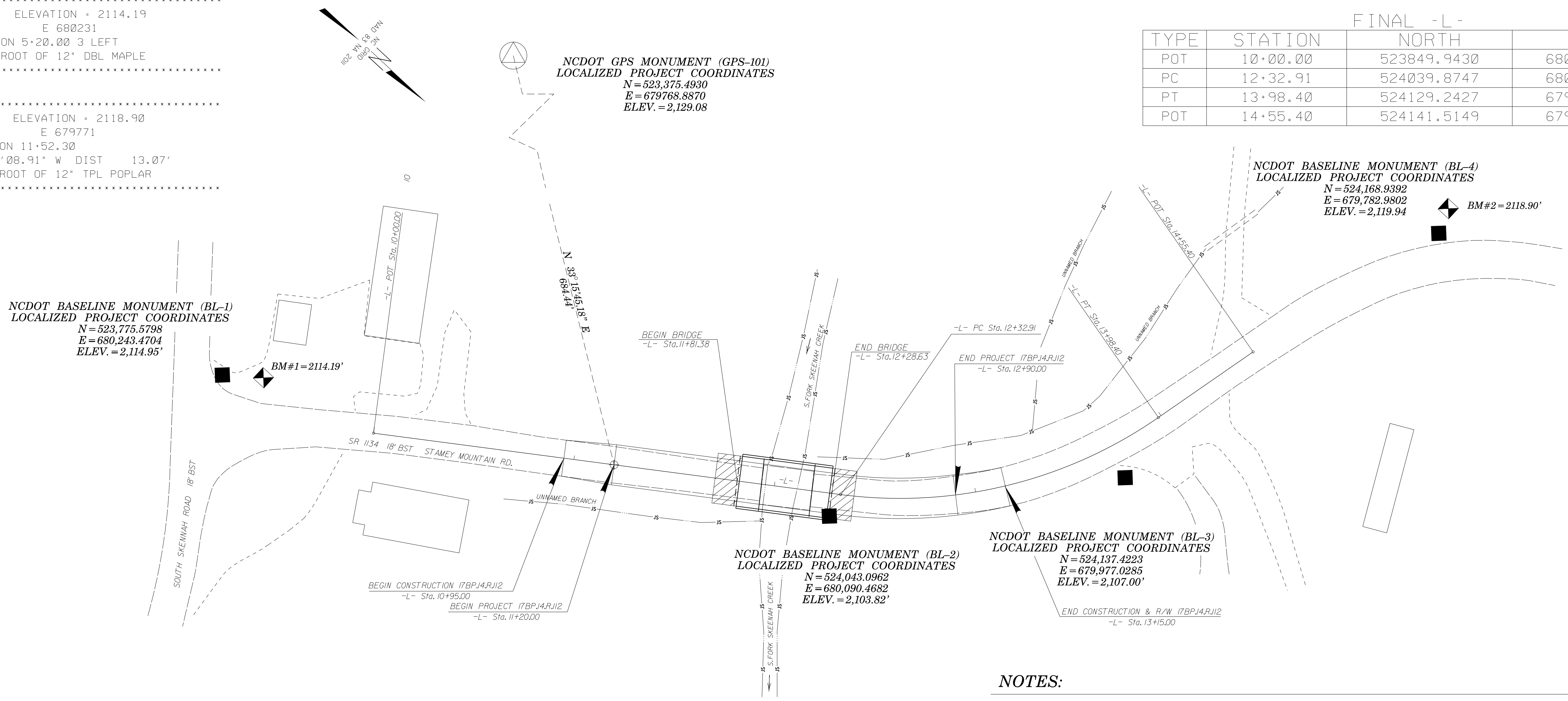
ALIGN	STATION	OFFSET	NORTH	EAST
L	12+07.89	-30.00	524002.1055	680068.9513
L	12+08.78	-45.00	523994.1501	680056.2035
L	13+20.00	-30.00	524074.1574	680000.1000

.....
 BM1 ELEVATION = 2114.19
 N 523791 E 680231
 BL STATION 5+20.00 3 LEFT
 NAIL IN ROOT OF 12" DBL MAPLE

 BM2 ELEVATION = 2118.90
 N 524164 E 679771
 BL STATION 11+52.30
 S 68°11'08.91" W DIST 13.07'
 NAIL IN ROOT OF 12" TPL POPLAR

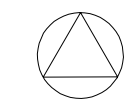
FINAL -L-

TYPE	STATION	NORTH	EAST
POT	10+00.00	523849.9430	680213.7432
PC	12+32.91	524039.8747	680078.9320
PT	13+98.40	524129.2427	679944.0822
POT	14+55.40	524141.5149	679888.4197



NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 55-0223_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.



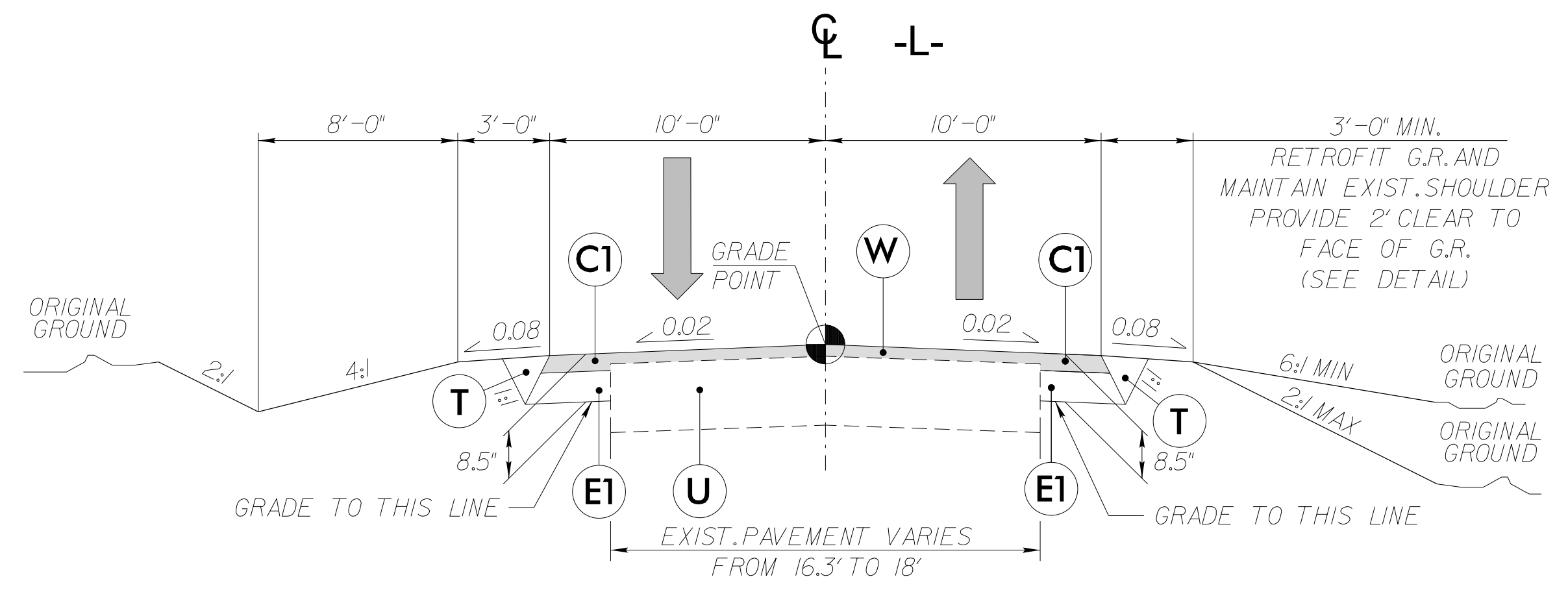
INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-101"
 WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 523375.4930(+) EASTING: 679768.8870(+) ELEVATION: 2129.08(++)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9997787381
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-101" TO -L- STATION 11+20.00 IS
 N 33°15'45.18" E 684.44'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

GEOID MODEL - G12NC
NOTE: DRAWING NOT TO SCALE

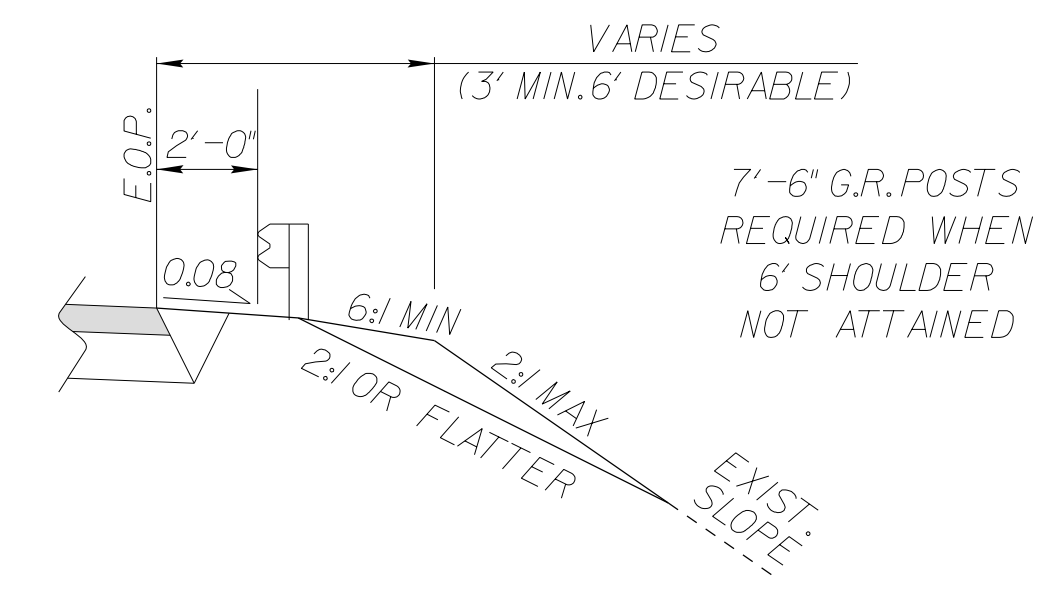
PROJECT REFERENCE NO. 17BP14.R.112	SHEET NO. 2A-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 1/26/2021	PAVEMENT DESIGN ENGINEER

N.T.S

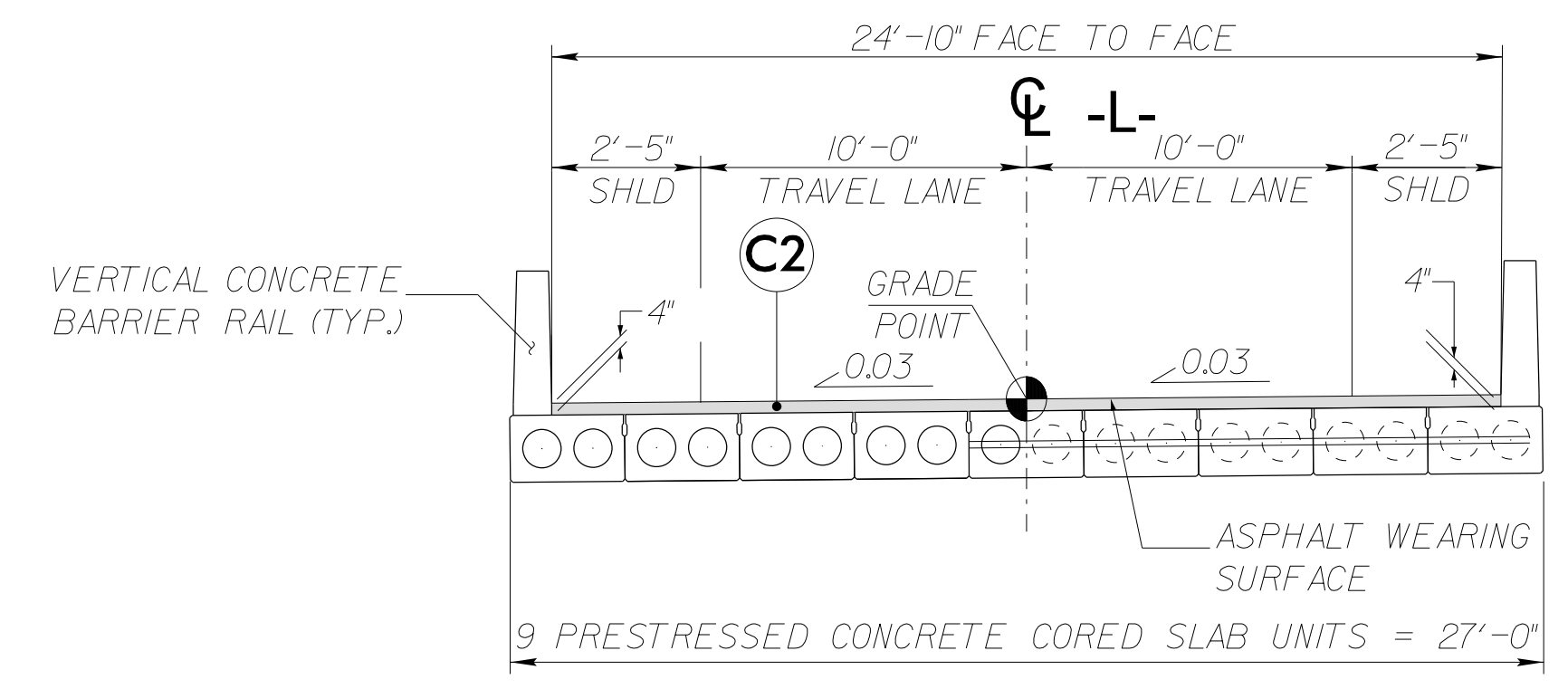


TYPICAL SECTION

-L- STA 11+20.00 TO -L- STA 11+81.38 (BEGIN BRIDGE)
 -L- STA 12+28.63 (END BRIDGE) TO -L- STA 12+90.00

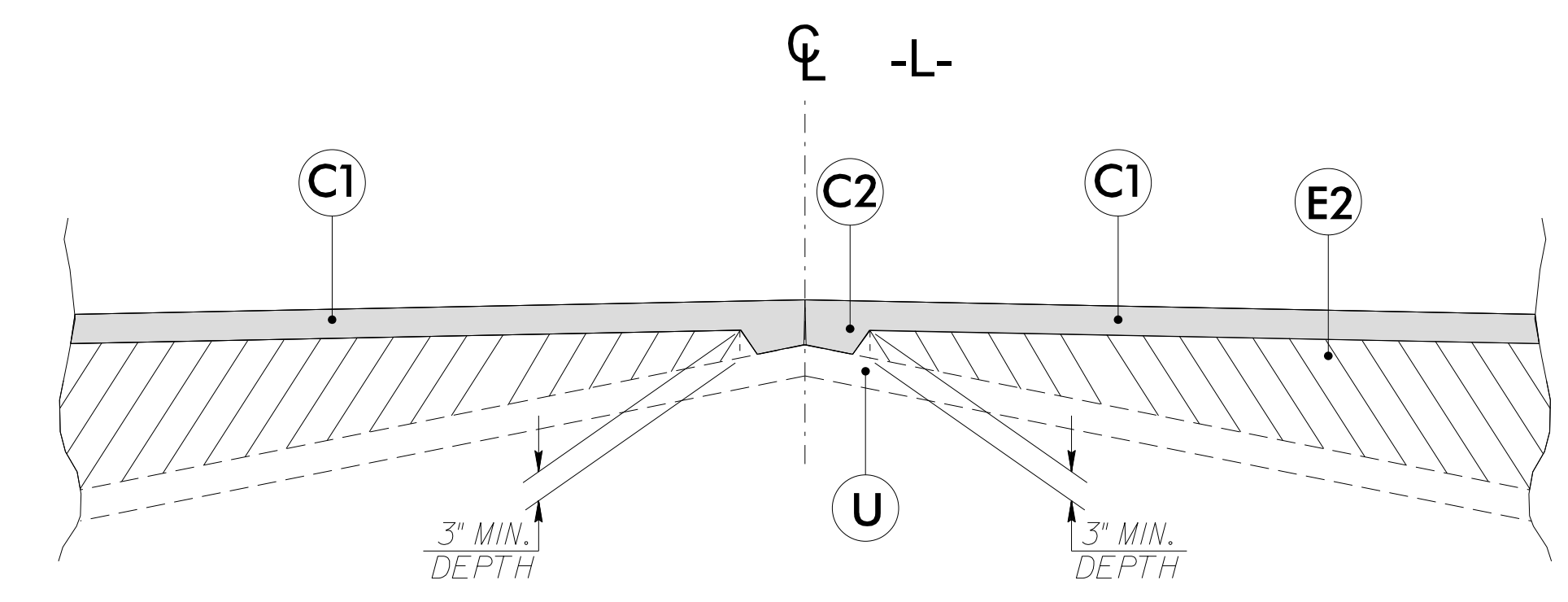


DETAIL SHOWING GUARDRAIL PLACEMENT



TYPICAL SECTION ON STRUCTURE

-L- STA 11+81.38 (BEGIN BRIDGE) TO -L- STA 12+28.63 (END BRIDGE)



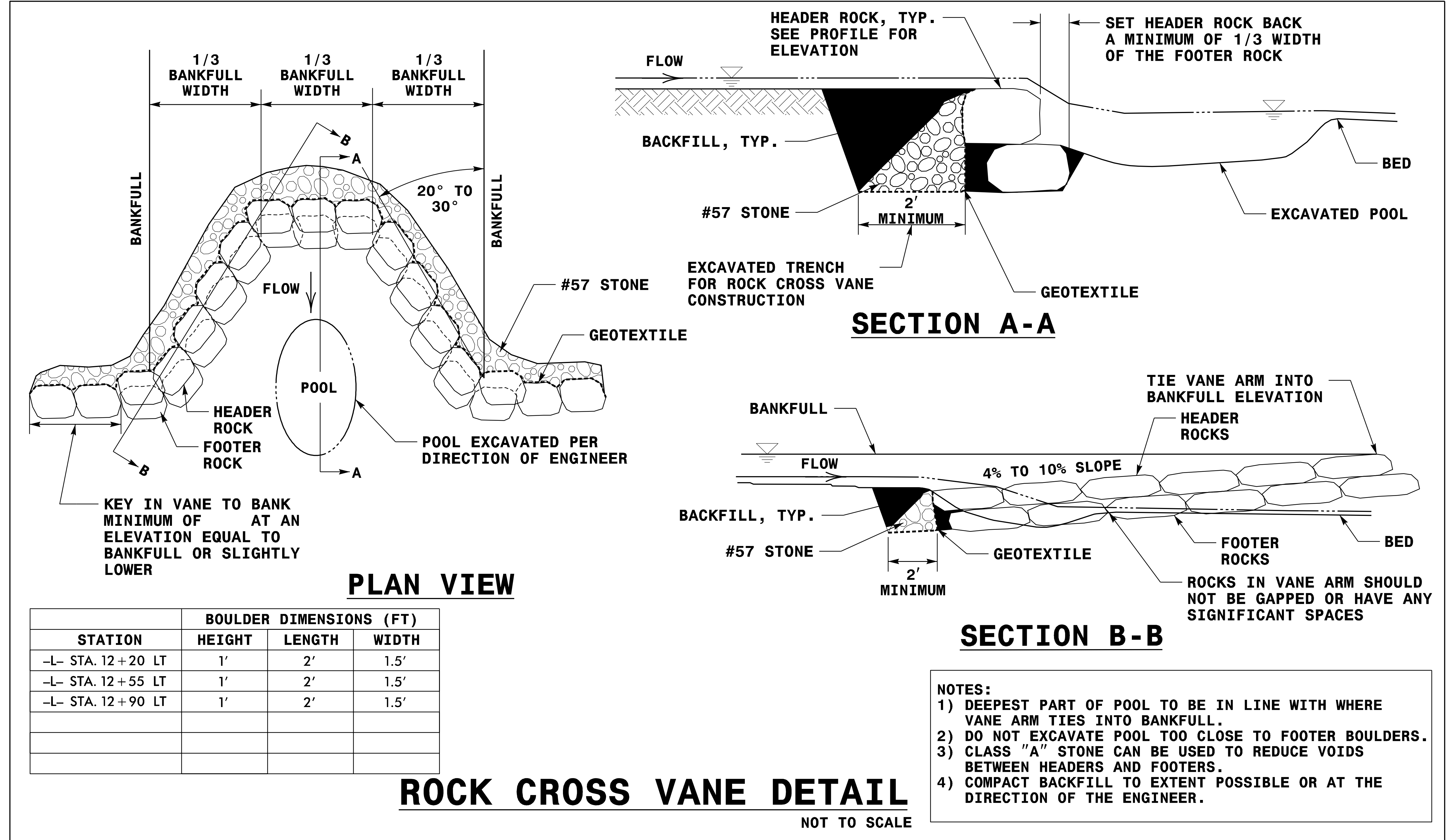
DETAIL SHOWING METHOD OF WEDGING

PAVEMENT SCHEDULE	
ITEM	DESCRIPTION
C1	Prop. Approx 3.0" Asphalt Concrete Surface Course, Type S9.5C, at an Average Rate of 168 lbs. Per sq. yard in each of two layers.
C2	Prop. Var. Depth Asphalt Concrete Surface Course, Type S9.5C, at an Average Rate of 112 lbs. Per sq. yard Per 1" Depth, to be placed in layers not less than 1.5" or greater than 2" in depth.
E1	Prop. Approx 5.5" Asphalt Concrete Base Course, Type B25.0C, at an Average Rate of 627 lbs. Per sq. yard.
E2	Prop. Var. Depth Asphalt Concrete Base Course, Type B25.0C, at an Average Rate of 114 lbs. Per sq. yard Per 1" Depth, to be placed in layers not less than 4" or greater than 5.5" in depth.
T	Earth Material
U	Existing Pavement
W	Var. Depth Asphalt Pavement

Note: Pavement edge slopes are 1:1 unless shown otherwise.

1/26/2021 1:31:54 PM
 FILED \$
 \$PENTBL\$

REVISIONS



STATION	BOULDER DIMENSIONS (FT)		
	HEIGHT	LENGTH	WIDTH
-L- STA. 12+20 LT	1'	2'	1.5'
-L- STA. 12+55 LT	1'	2'	1.5'
-L- STA. 12+90 LT	1'	2'	1.5'

- NOTES:**
- 1) DEEPEST PART OF POOL TO BE IN LINE WITH WHERE VANE ARM TIES INTO BANKFULL.
 - 2) DO NOT EXCAVATE POOL TOO CLOSE TO FOOTER BOULDERS.
 - 3) CLASS "A" STONE CAN BE USED TO REDUCE VOIDS BETWEEN HEADERS AND FOOTERS.
 - 4) COMPACT BACKFILL TO EXTENT POSSIBLE OR AT THE DIRECTION OF THE ENGINEER.

\$DATE\$
 \$FILEL\$
 \$PENTBL\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

"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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS								
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GREU TL-2	M-350	TYPE-III	CAT-1	VI MOD	B-77	AT-1	EA						G	NG						
-L-	11+38.75	11+82.50	LT	43.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-L-	11+38.75	11+82.50	RT	43.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-L-	12+27.50	12+71.25	LT	43.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-L-	12+27.50	12+71.25	RT	43.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SUB-TOTAL				175'																																	
DEDUCTIONS FOR GUARDRAIL ANCHOR UNITS				175'																																	
TOTAL				0'																																	
SAY				0'																																	
															DEDUCTIONS FOR GUARDRAIL ANCHOR UNITS																						
															GREU TL-2										4 @ 25.00' =	100'											
															TYPE III										4 @ 18.75' =	75'											
															TOTAL =										175'												

REVISIONS

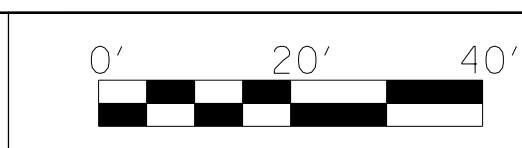
**SUMMARY OF EARTHWORK
(IN CUBIC YARDS)**

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-L- 11+20.00	11+82.50	9	16	7	-
-L- 12+27.50	13+00.00	7	69	62	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
PROJECT TOTALS:		16	85	69	-
LOSS DUE TO CLEARING & GRUBBING		-5	-	-	-
DDE IN LIEU OF BORROW		-	-	-69	-
		-	-	-	-
		-	-	-	-
		-	-	-	-
GRAND TOTALS:		11	85	0	-
		-	-	-	-
SAY:		15	-	0	-

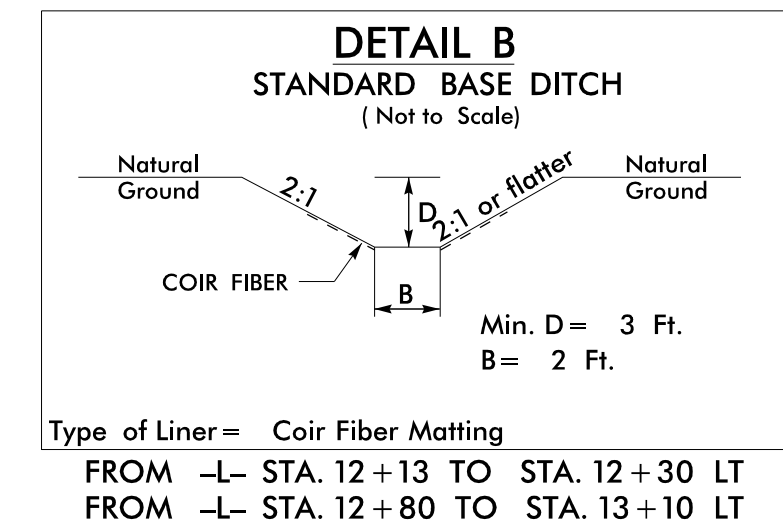
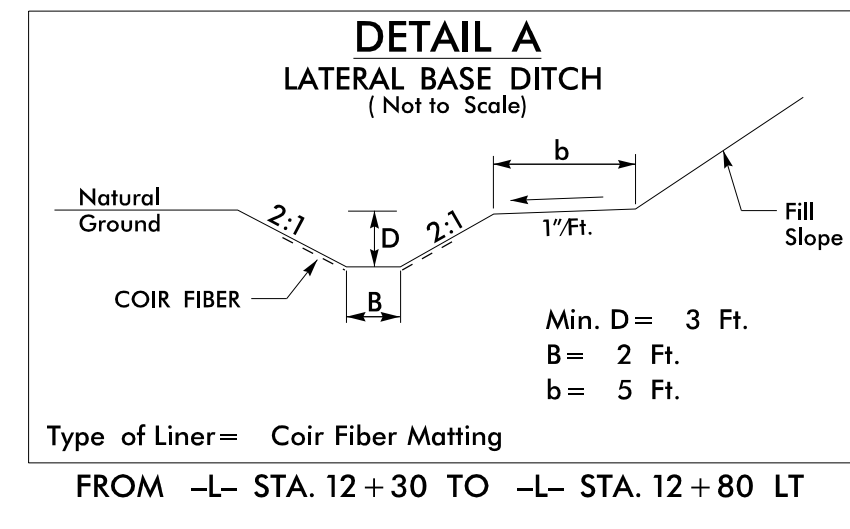
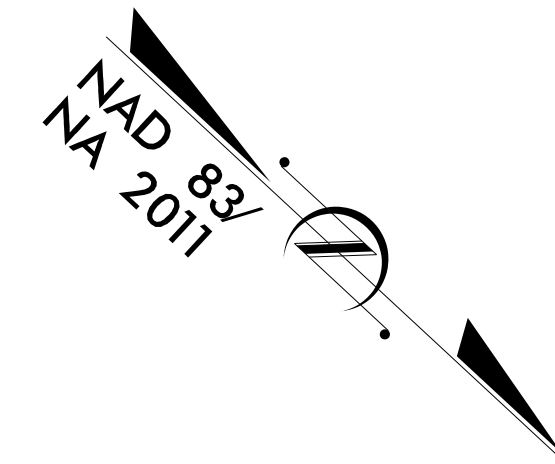
DDE = 85 CY
CONTINGENCY ITEMS
UNDERCUT EXCAVATION 50 CY
SELECT GRANULAR MATERIAL 50 CY
GEOTEXTILE FOR SOIL STABILIZATION 50 CY
CLASS IV SUBGRADE STABILIZATION 50 CY
INCIDENTAL STONE BASE 50 TON

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, and Clearing and Grubbing will be paid for at the contract lump sum price for "Grading."

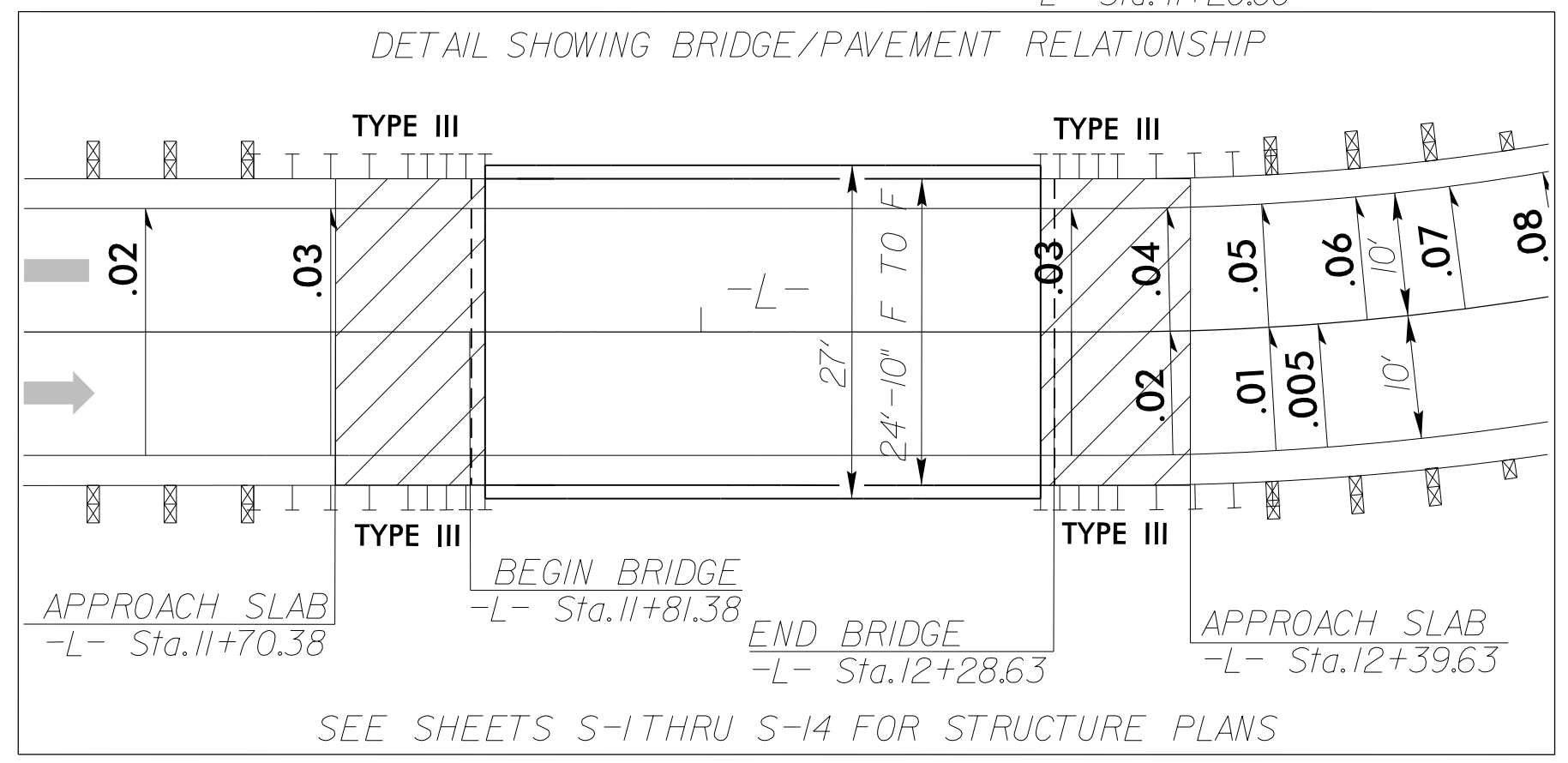
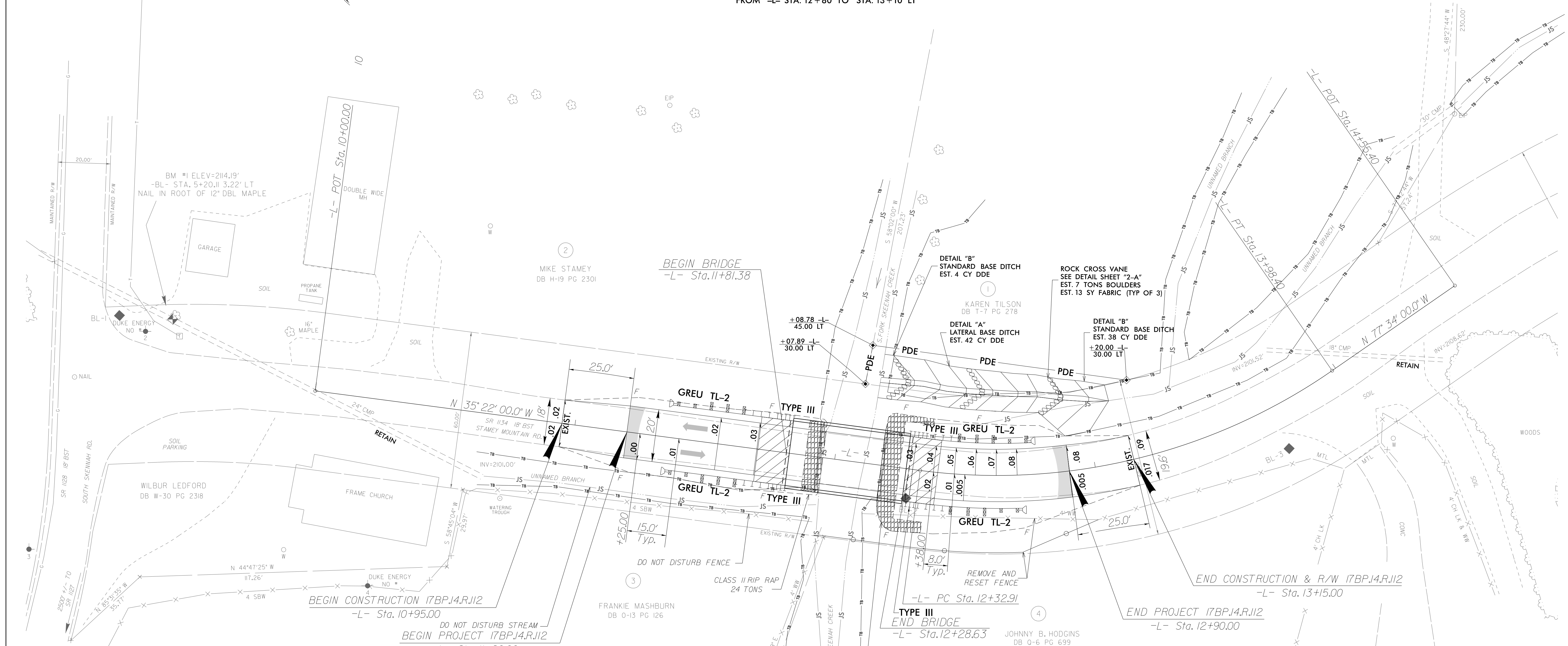
1/25/2021 11:48:19 AM \$FILEL\$ \$PENTBL\$



PROJECT REFERENCE NO. 17BPJ4.RJ12	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/3/2021	HYDRAULICS ENGINEER 3/3/2021



REVISIONS



CURVE DATA FOR -L-
 P1 Sta. 13+19.61
 $\Delta = 42^\circ 12' 00.0''$ (LT)
 $D = 25^\circ 30' 00.0''$
 $L = 165.49'$
 $T = 86.70'$
 $R = 224.69'$
 $RO = 64'$
 $Se = EXIST.$

SEE SHEET 5 FOR PROFILE

3/3/2021 1:34:22 PM
 \$FILEL\$
 \$PENTBL\$

wsp WSP USA
 424 FAYETTEVILLE STREET
 SUITE 100
 FAYETTEVILLE, NC 27401
 TEL: 704.336.4040
 FAX: 704.336.4099
 LICENSE NO. F-0165

ROADWAY PLANS

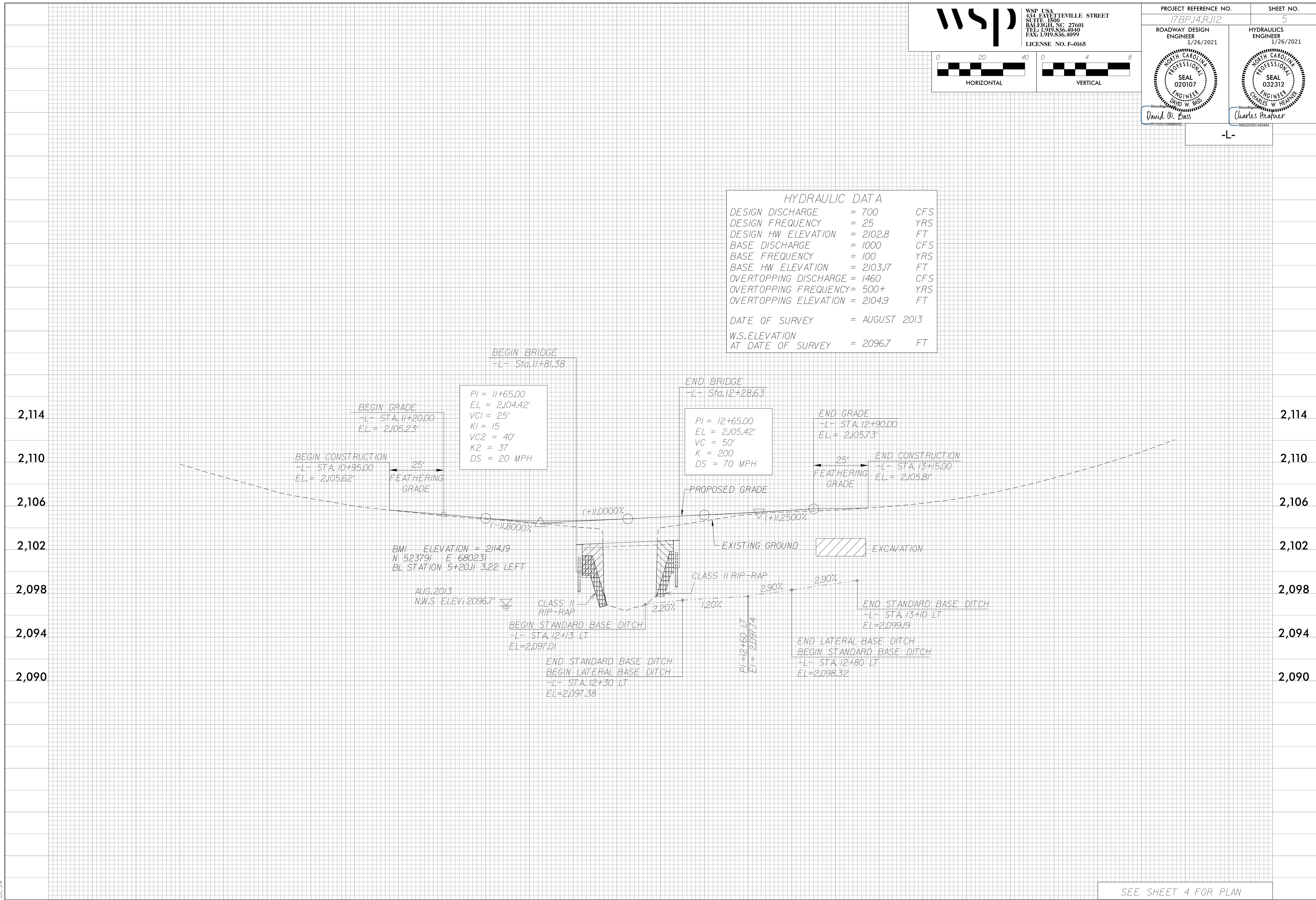
WSP
 WSP USA
 434 FAYETTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
 TEL: 1.919.836.4040
 FAX: 1.919.836.4099
 LICENSE NO. F-0165

0 20 40
 HORIZONTAL

0 4 8
 VERTICAL

PROJECT REFERENCE NO. 17BPJ4.RJ12	SHEET NO. 5
ROADWAY DESIGN ENGINEER 1/26/2021	HYDRAULICS ENGINEER 1/26/2021
David W. Bass	Charles W. Heafner

HYDRAULIC DATA		
DESIGN DISCHARGE	= 700	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 2102.8	FT
BASE DISCHARGE	= 1000	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2103.17	FT
OVERTOPPING DISCHARGE	= 1460	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 2104.9	FT
DATE OF SURVEY	= AUGUST 2013	
W.S. ELEVATION AT DATE OF SURVEY	= 2096.7	FT

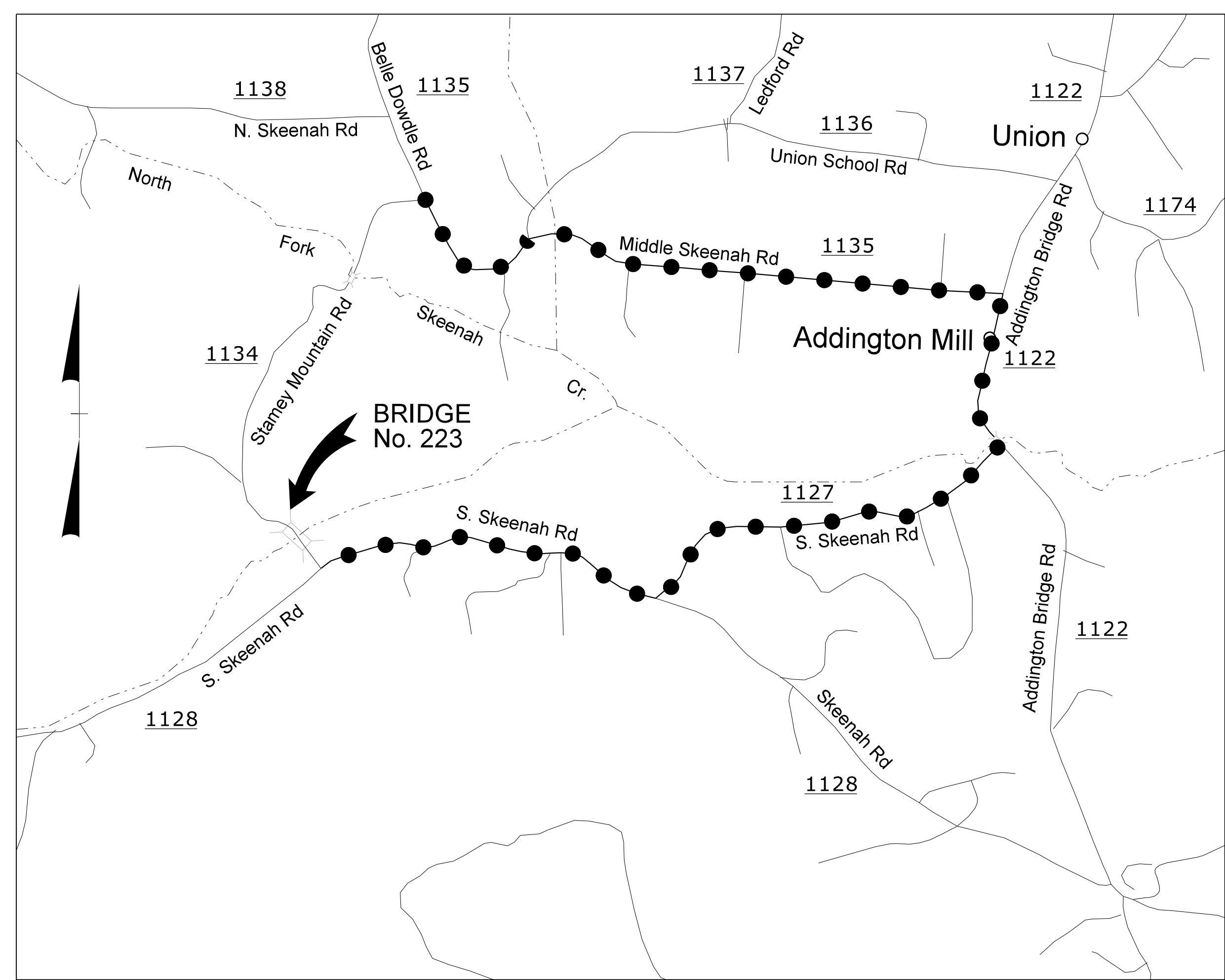
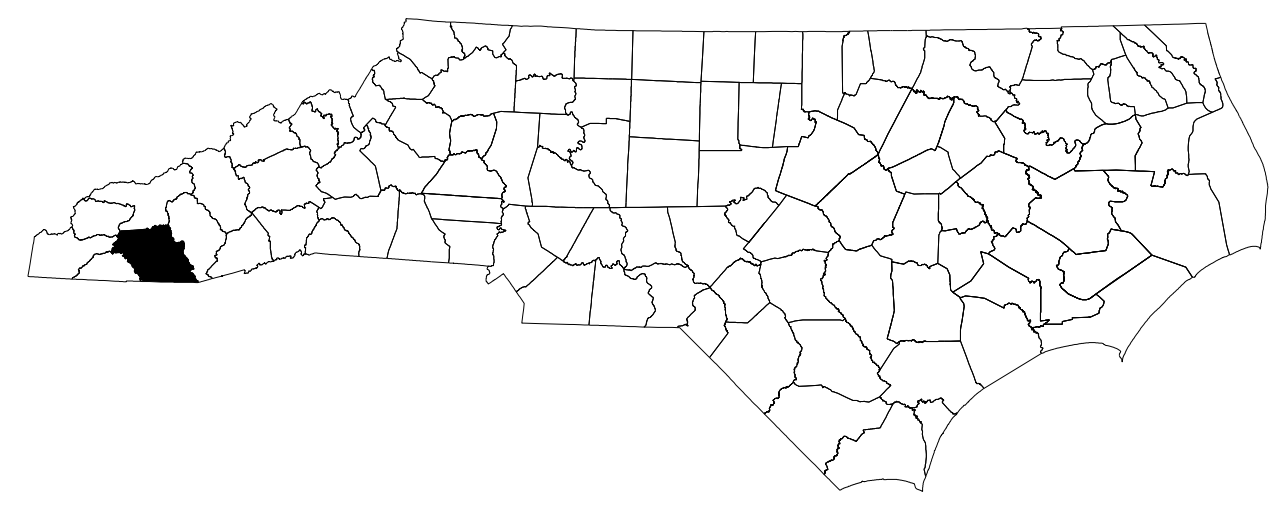


SEE SHEET 4 FOR PLAN

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

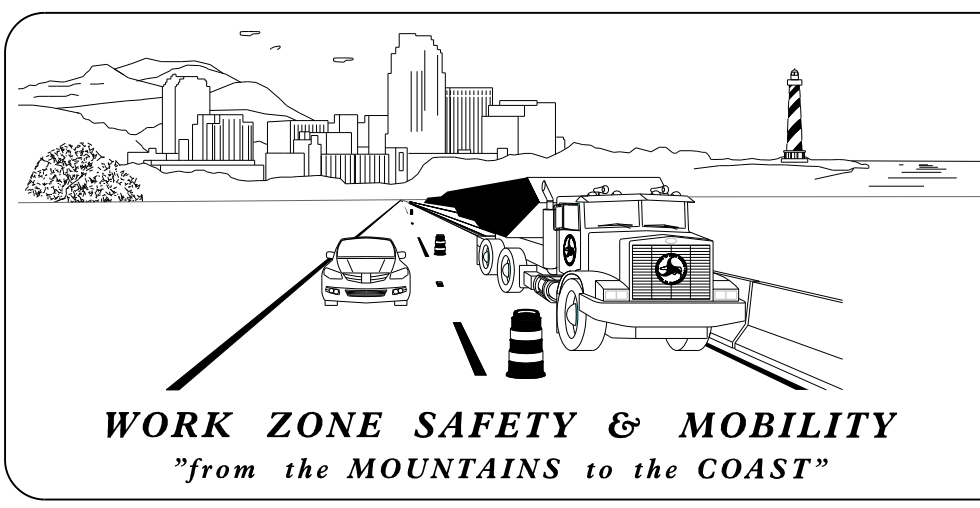
MACON COUNTY



VICINITY MAP NTS

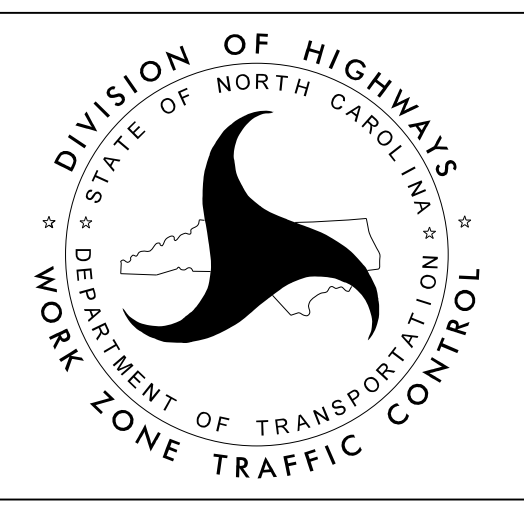
●●●●● OFF-SITE DETOUR

LOCATION: BRIDGE NO. 223 ON SR 1134 (STAMEY MOUNTAIN RD.) OVER SOUTH FORK OF SKEENAH CREEK



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. E. HUMMER STATE TRAFFIC MANAGEMENT ENGINEER
D. HATFIELD, P.E. TRAFFIC CONTROL PROJECT ENGINEER
W. TILLITT TRAFFIC CONTROL PROJECT DESIGN ENGINEER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, GENERAL NOTES, AND TRANSPORTATION OPERATIONS
TMP-2	SPECIAL SIGN DESIGN
TMP-3	TEMPORARY TRAFFIC CONTROL DETAIL, PHASING NOTES, OFFSITE DETOUR SIGNING AND ROAD CLOSURE

SHEET NO.
TMP-1

2/19/2021 2:45:13 PM
8F1E1E16
8F5E1E16

Prepared in the Office of:
wsp
WSP ASSOCIATES
3411 W. LITTENILLE STREET
RALEIGH, NC 27601
TEL: 919.836.4000
FAX: 919.836.4099
LICENSE NO. F-2068

RICHARD ODYNSKI, PE
PROJECT ENGINEER

BRIAN PEASE, EI
PROJECT DESIGN ENGINEER

APPROVED: *Richard Odynski*
DATE: 2/18/2021

SEAL

PROJECT: 17BP.14.R.112

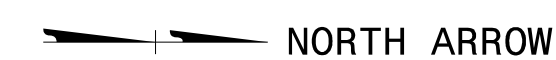
ROADWAY STANDARD DRAWINGS

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

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1130.01	DRUMS
1145.01	BARRICADES
1150.01	FLAGGERS

LEGEND

GENERAL



TRAFFIC CONTROL DEVICES



TEMPORARY SIGNING



TEMPORARY PAVEMENT MARKING

N/A

TRANSPORTATION OPERATIONS

CONSTRUCTION

REMOVE AND REPLACE EXISTING STRUCTURE AND APPROACHES ALONG THE EXISTING ROADWAY ALIGNMENT AS SHOWN IN THE CONSTRUCTION PLANS.

TMP PARAMETERS

TRAFFIC WILL BE DETOURED OFF-SITE DURING THE CONSTRUCTION PERIOD ALONG A ROUTE DETERMINED BY NCDOT.

THE OFF-SITE DETOUR WILL INCLUDE SR 1135 (MIDDLE SKEENAH ROAD), SR 1122 (ADDINGTON BRIDGE ROAD), SR 1127 (S. SKEENAH ROAD), AND SR 1128 (SKEENAH ROAD).

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 UNDESIRE 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 TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- B) 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.

- C) 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.

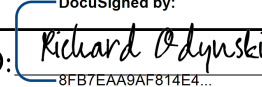
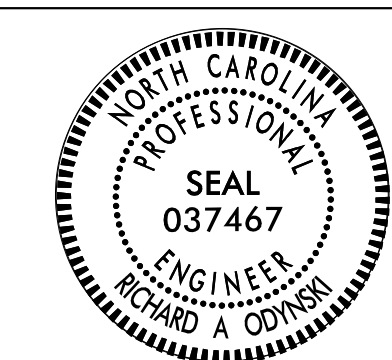
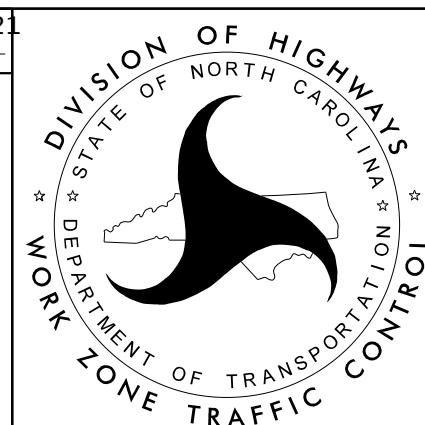
- D) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

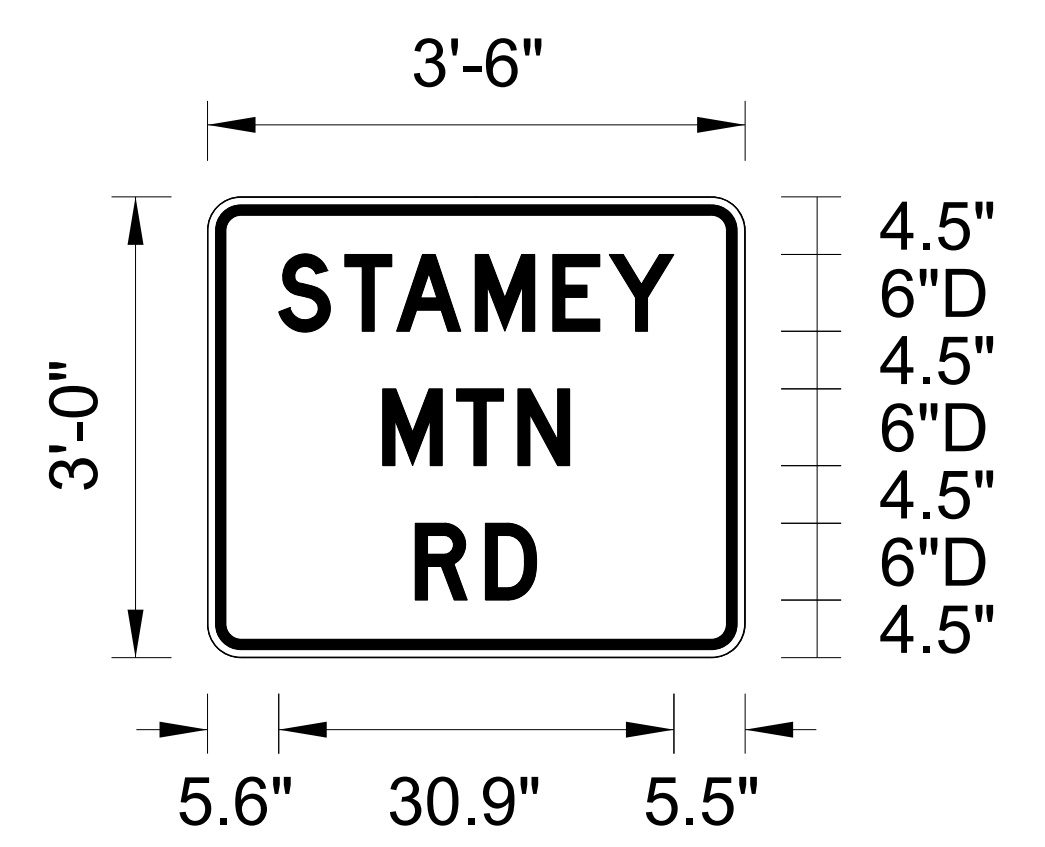
- E) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

- F) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

<p>APPROVED:  DATE: 1/25/2021</p>			<p>LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, GENERAL NOTES, AND TRANSPORTATION OPERATIONS</p>
--	---	---	--

SPECIAL SIGN DETAIL



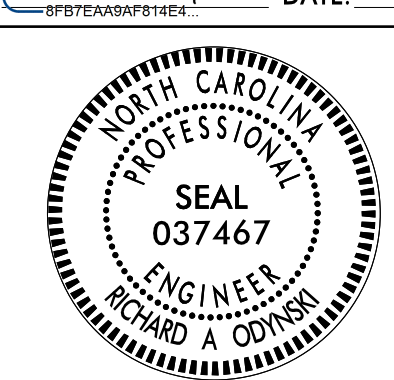
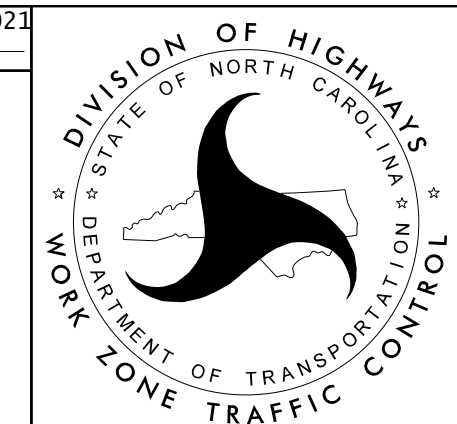
BORDER
 R=2"
 TH=0.83"
 IN=0.63"
 BLACK ON FLUORESCENT ORANGE

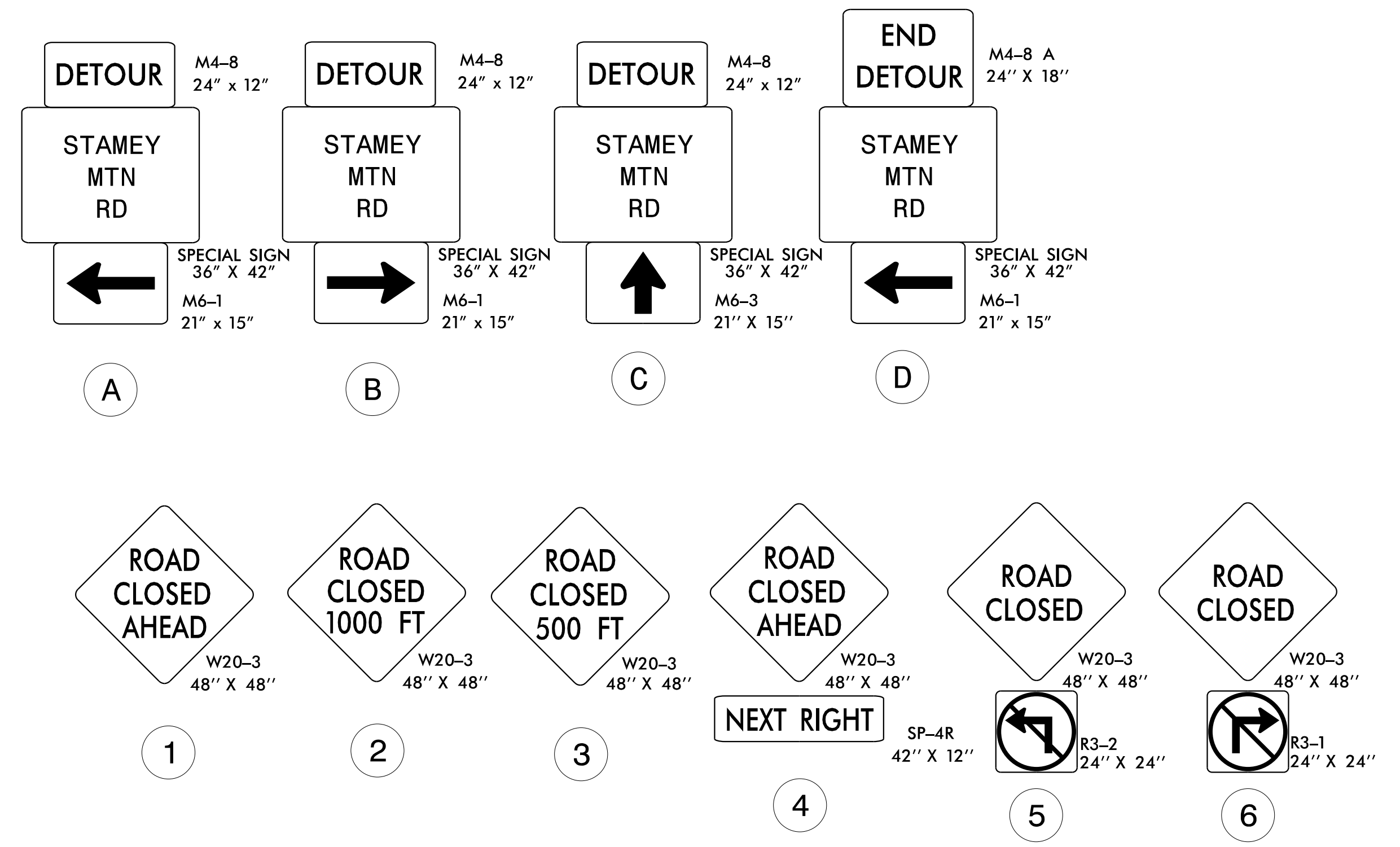
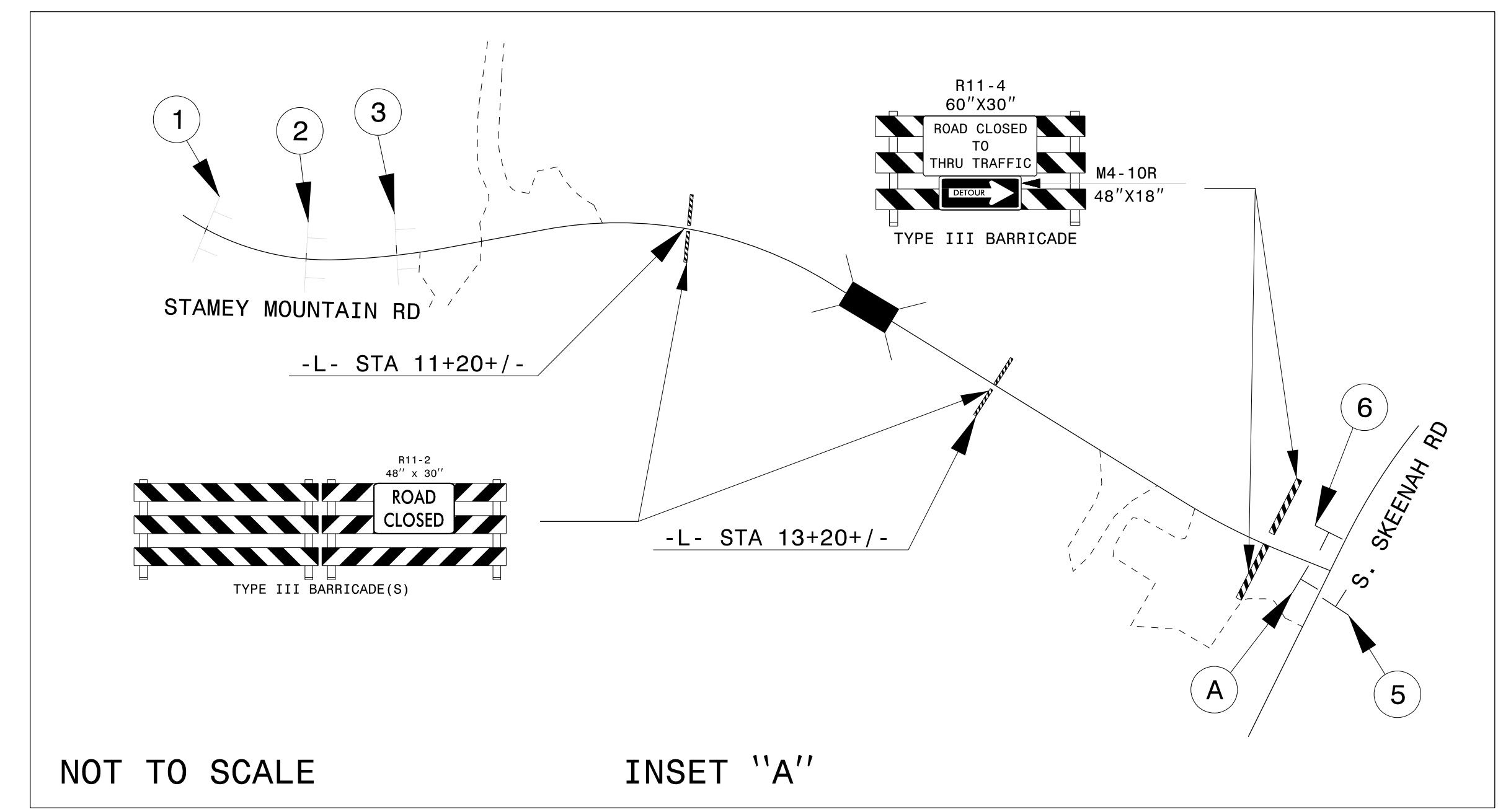
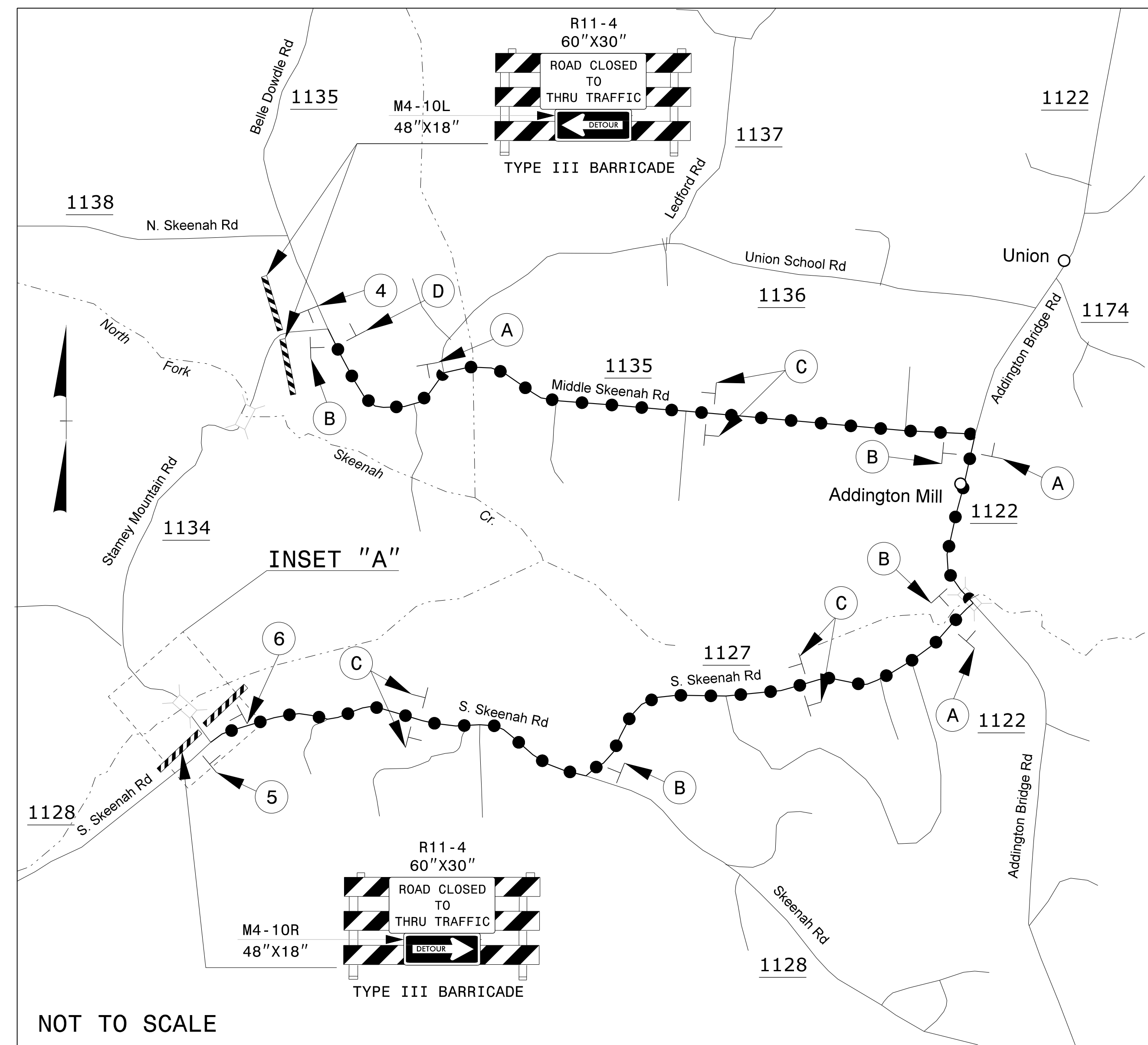
LETTER POSITIONS

	S	T	A	M	E	Y	
5.6	5.1	4.1	6.1	6.1	4.4	5.1	5.5
	M	T	N				
13.7	5.8	4.8	4	13.7			
	R	D					
16.2	5.5	4	16.3				

- NOTE:
1. LETTER SPACINGS ARE TO START OF NEXT LETTER.
 2. LEGEND AND BORDER SHALL BE DIRECT APPLIED BLACK NON-REFLECTIVE SHEETING.
 3. BACKGROUND SHALL BE TYPE VII, VIII, OR IX (PRISMATIC) FLUORESCENT ORANGE RETRORÉFLECTIVE SHEETING.

1/25/2021 12:32:39 PM
 \$PENTL\$.

APPROVED: <i>Richard A. Odynski</i> DATE: 1/25/2021 SEAL 		<h3 style="margin: 0;">SPECIAL SIGN DESIGN</h3>
--	---	---



PROJECT PHASING

- STEP 1:**
 - INSTALL OFF SITE DETOUR AND ROAD CLOSURE SIGNING (PROVIDED BY CONTRACTOR).
 - USING RDWY STD 1101.03, SHEET 1 AND 2 OF 9, CLOSE SR 1134 (STAMEY MOUNTAIN ROAD) TO THRU TRAFFIC FROM -L- STA. 11+20+/- TO -L- STA. 13+20+/- AND PLACE TRAFFIC ONTO OFF SITE DETOUR AS SHOWN ABOVE.
- STEP 2:**
 - REMOVE EXISTING BRIDGE No. 223 AND APPROACHES AND CONSTRUCT THE PROPOSED STRUCTURE AND ROADWAY UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA. 11+20+/- TO -L- STA. 13+20+/- . PLACE FINAL PAVEMENT MARKINGS ON SR 1134 (STAMEY MOUNTAIN ROAD) FROM -L- STA. 11+20+/- TO -L- STA. 13+20+/- . (SEE CONSTRUCTION PLANS).
- STEP 3:**
 - REMOVE ALL TRAFFIC CONTROL DEVICES, SIGNING AND DETOUR ROUTE SIGNING. OPEN SR 1134 (STAMEY MOUNTAIN ROAD) TO FINAL TRAFFIC PATTERN.

NOTE:
 - ALL DETOUR SIGNS LOCATIONS ARE APPROXIMATE.
 - ALL DETOUR SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE NOTED.
 - TRAFFIC CONTROL DEVICES A THRU D SHALL BE INSTALLED AS PER ENGINEER'S INSTRUCTIONS AND AS SHOWN.
 - TRAFFIC CONTROL DEVICES 1 THRU 6 SHALL BE INSTALLED ACCORDING TO ROADWAY STANDARD DRAWING 1101.03 SHEET 1 AND 2 OF 9.

1/25/2021 12:34:11 PM SPENTL \$

Prepared in the Office of:

APPROVED: *Richard A. Odynski* DATE: 1/25/2021

SEAL

WSP

WSP CONSULTANTS
 321 DUNFRAVILL STREET
 RALEIGH, NC 27601
 TEL: 919.836.4040
 FAX: 919.836.4099
 LICENSE NO. E-0068

**TEMPORARY TRAFFIC CONTROL
 DETAIL, PHASING NOTES, OFFSITE
 DETOUR SIGNING AND
 ROAD CLOSURE**

PROJECT REFERENCE NO. 17BPJ4.R.112	SHEET NO. PMP-1
2/19/2021	
DocuSigned by: David W. Bass ST10021D4806432	

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLANS MACON COUNTY

**LOCATION: BRIDGE NO. 223 ON SR 1134 (STAMEY MOUNTAIN RD.)
OVER SOUTH FORK OF SKEENAH CREEK**

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES

PAVEMENT MARKING SCHEDULE

ASPHALT PAVEMENT DESIGN
(AS SHOWN)

PAVEMENT MARKING LINES

PA - PAINT - WHITE EDGELINE (4")
PI - PAINT - YELLOW DOUBLE CENTER (4")

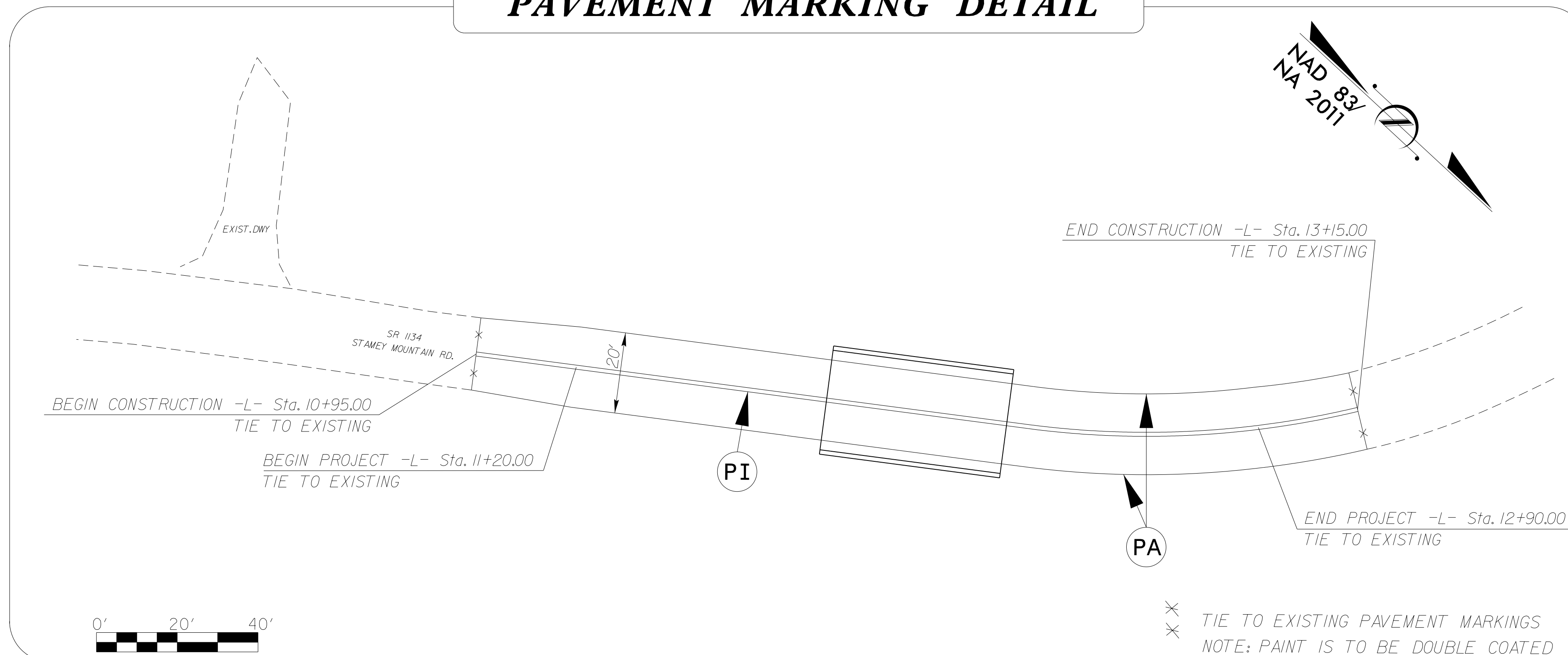
GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
STAMEY MOUNTAIN ROAD	PAINT	NONE
- B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE, PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.
- C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- D) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

PAVEMENT MARKING DETAIL



INDEX

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

REVISIONS

2/19/2021 2:35:21 PM
\$FILEL\$
\$FENIBL\$

09/28/2021

TIP PROJECT: 17BP.14.R.112

See Sheet 1-A For Index of Sheets
See Sheet 1B For Conventional Symbols

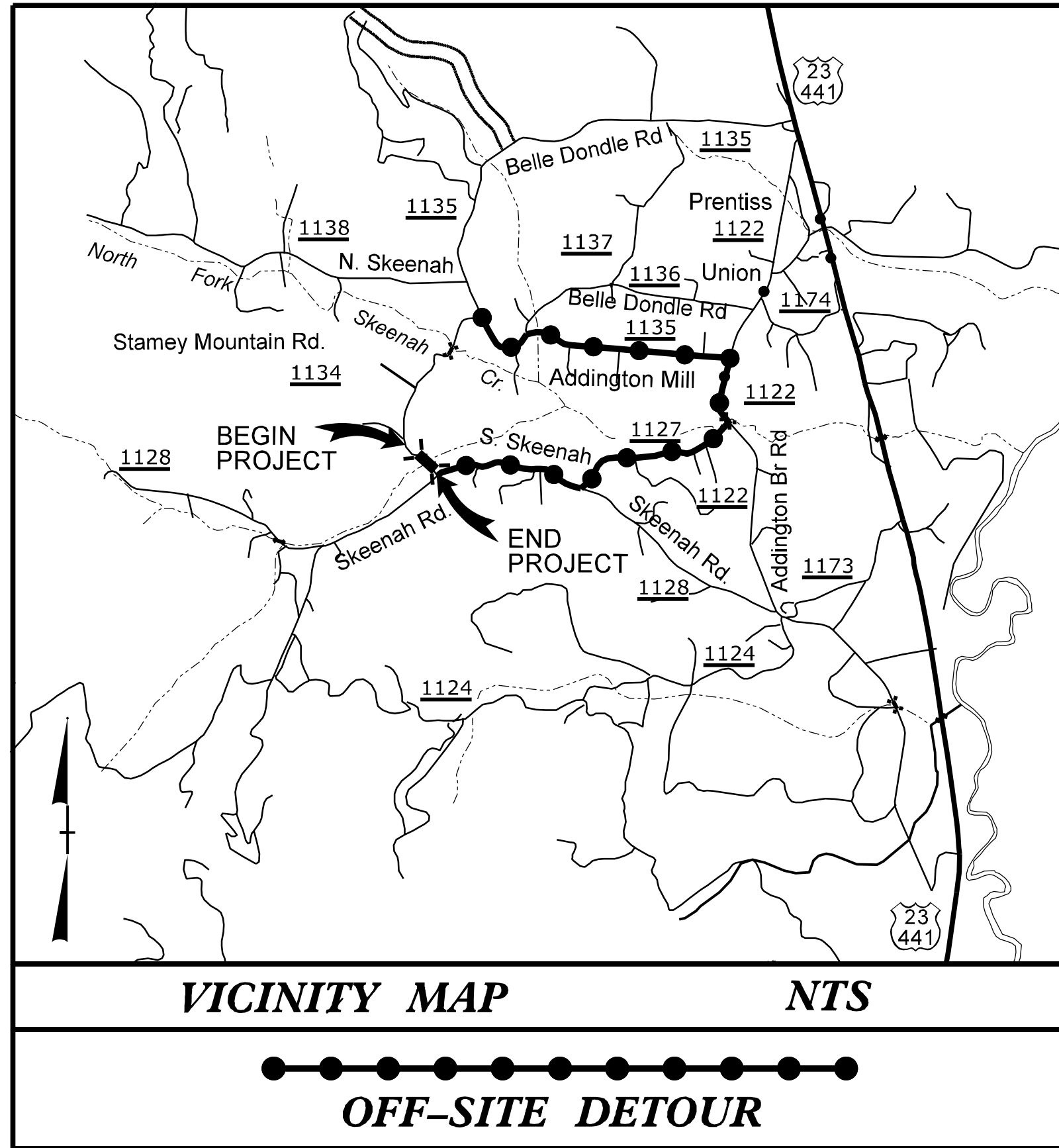
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MACON COUNTY

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

LOCATION: BRIDGE NO. 223 ON SR 1134 (STAMEY MOUNTAIN RD) OVER
SOUTH FORK OF SKEENAH CREEK
TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNING, AND STRUCTURE

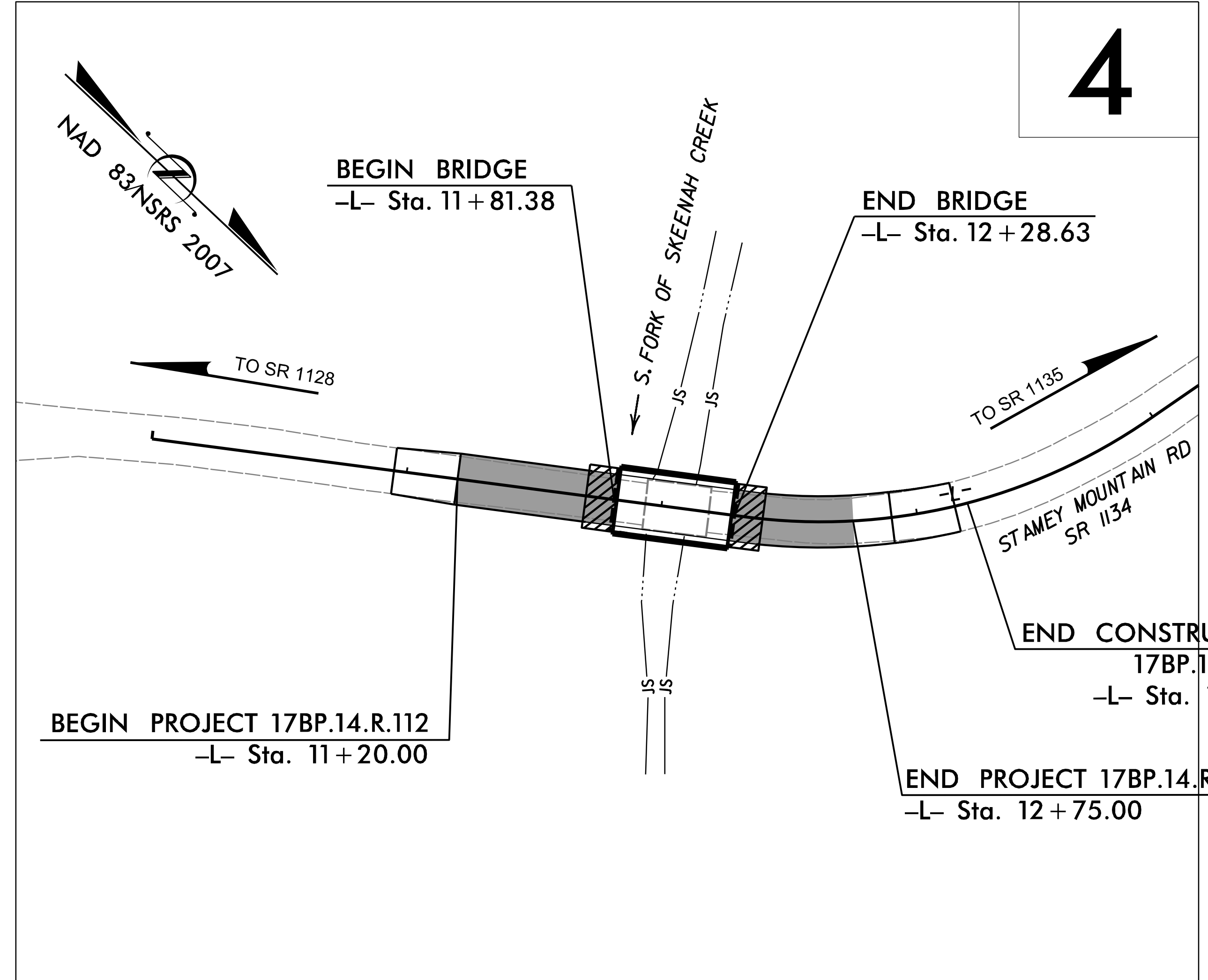
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.112	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.14.PE.112	N/A	PE	
17BP.14.ROW.112	N/A	RIGHT-OF-WAY	
17BP.14.R.112	N/A	CONSTRUCTION	



VICINITY MAP NTS
OFF-SITE DETOUR



FINAL PLANS



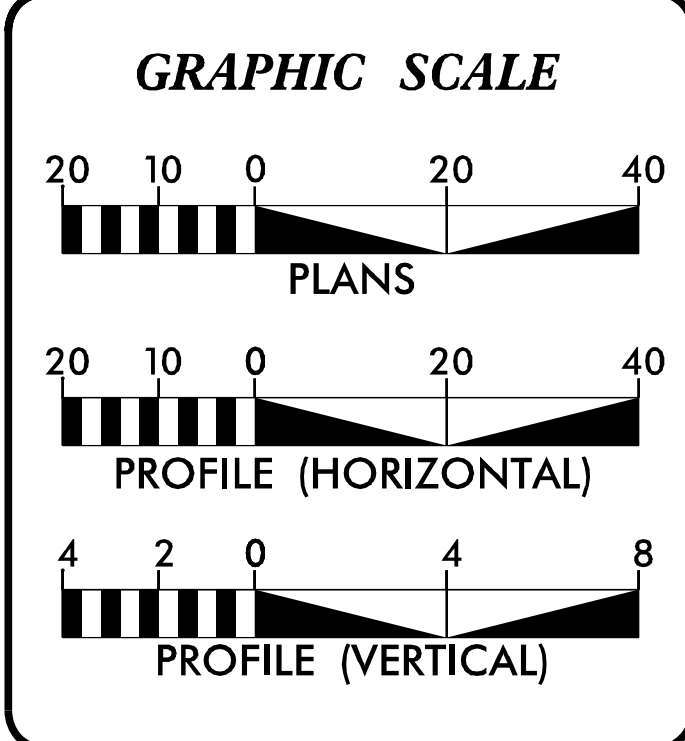
THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SSCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Coir Fiber Wattle	CFW
	Coir Fiber Wattle with Polyacrylamide (PAM)	CFW-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDB
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISTRA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISTRB
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	RA
1632.02	Type B	RB
1632.03	Type C	RC
	Skimmer Basin	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB

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

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
Refer To E. C. Special Provisions for Special Considerations.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared in the Office of:

WSP

1001 MOREHEAD SQUARE DRIVE
SUITE 610
CHARLOTTE, NC 28203
NC LIC. NO. F-0165

Designed by:

CHARLES W. HEAFNER, PE 3440
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:

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

2018 STANDARD SPECIFICATIONS

Reviewed by:

REID WHITEHEAD, PE

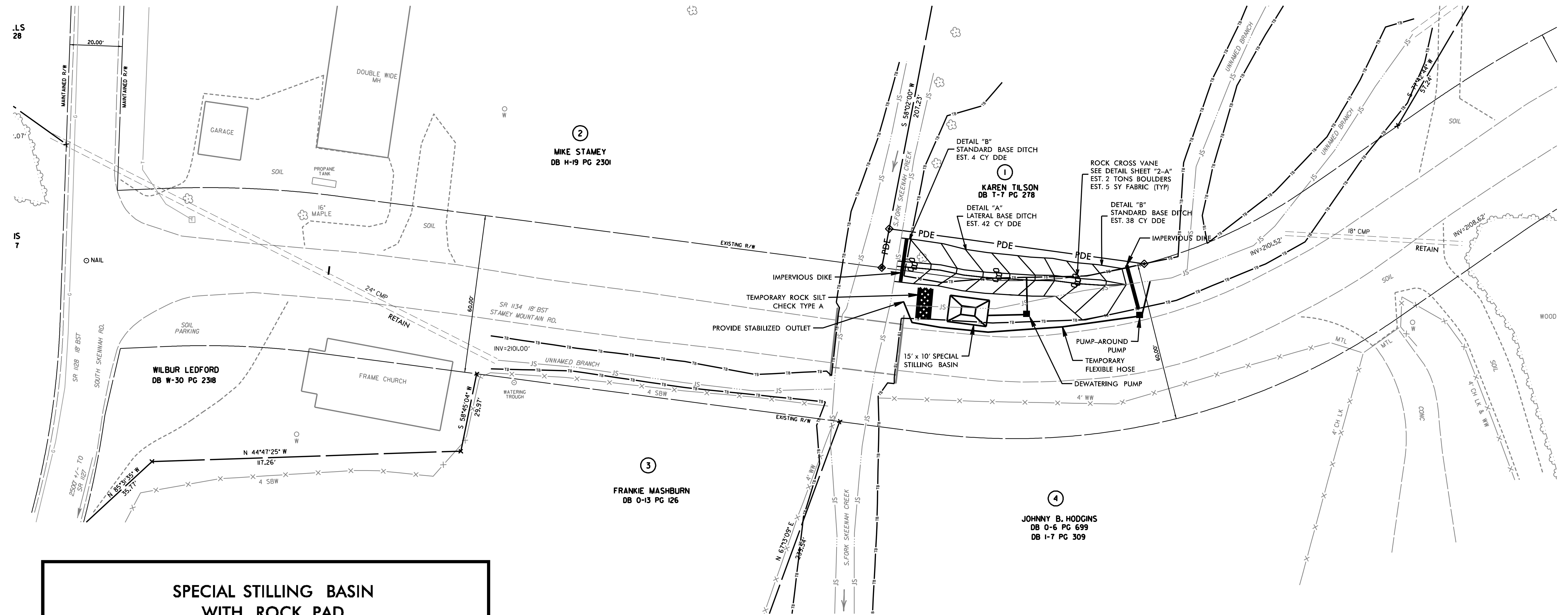
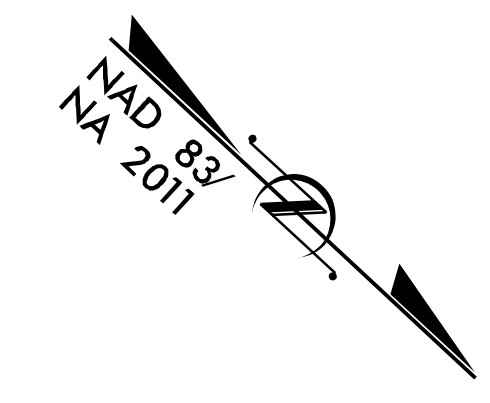
Roadway Standard Drawings

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

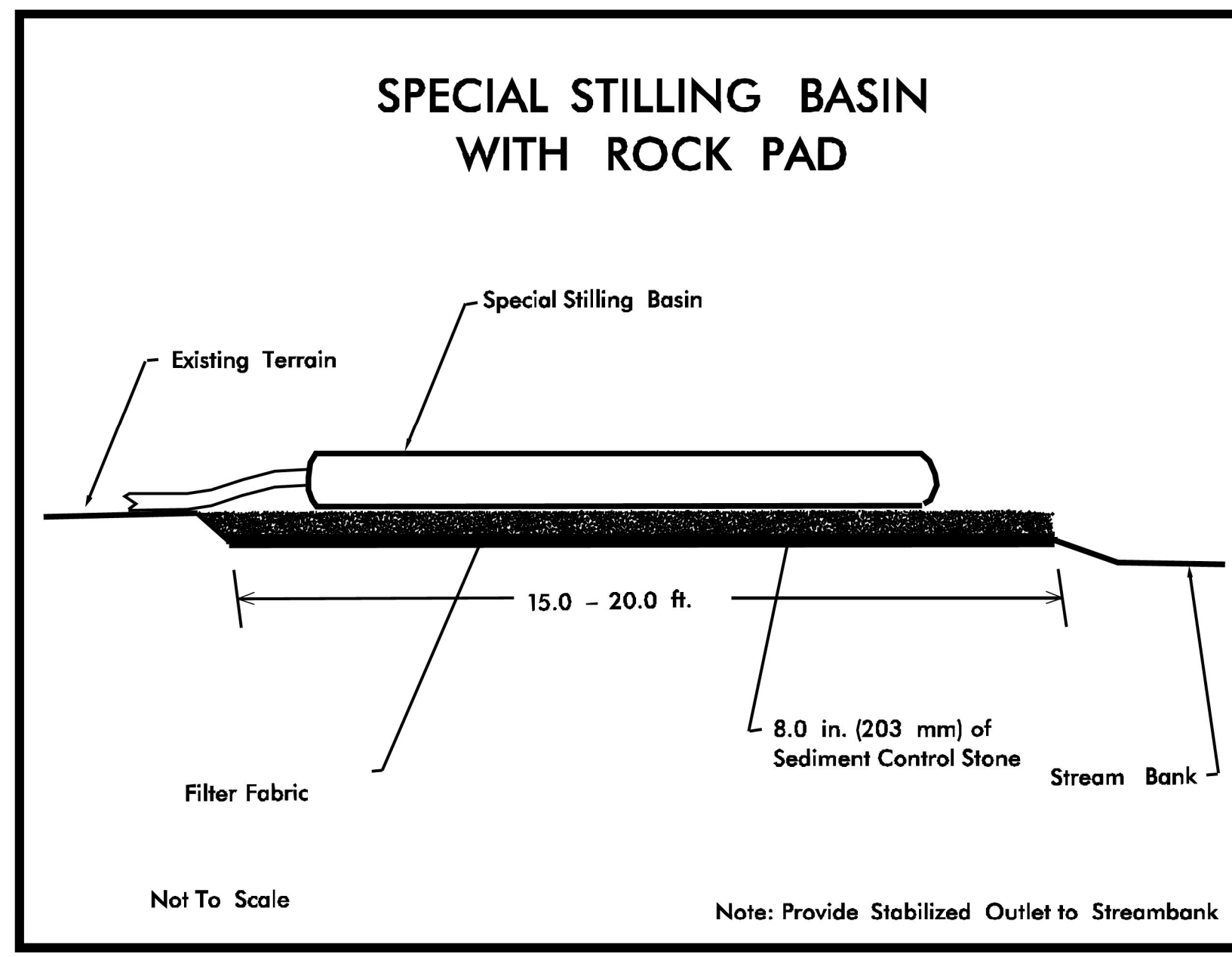
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type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

EROSION CONTROL

DITCH DIVERSION PUMP AROUND DETAIL



REVISIONS



- DITCH DIVERSION SEQUENCE**
- DITCH DIVERSION MUST BE COMPLETE PRIOR TO REPLACEMENT OF EXISTING BRIDGE.
 - INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
 - PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
 - INSTALL TYPE A SILT CHECK, FILL IN EXISTING STREAM AND INSTALL SPECIAL STILLING BASIN.
 - PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS TO DEWATER ENTRAPPED AREA.
 - GRADE PROPOSED BASE DITCH.
 - DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS AND TEMPORARY FLEXIBLE HOSE (DOWNSTREAM IMPERVIOUS DIKES FIRST).
 - ALL GRADING AND STABILIZATION MUST BE COMPLETED IN ONE DAY WITHIN THE PUMP AROUND AREAS BETWEEN THE IMPERVIOUS DIKES.
 - INSTALL CLEARING AND GRUBBING EROSION CONTROL MEASURES AND COMPLETE ROADWAY AND BRIDGE CONSTRUCTION ACCORDING TO APPROVED PLANS.

- Notes:**
- All excavation shall be performed in only dry or isolated areas of the work zone.
 - Impervious dikes are to be used to isolate work from stream flow when necessary.
 - Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps, and hoses.
 - Pumps and hoses shall be of sufficient size to dewater the work area.
 - All graded areas shall be stabilized within 24 hours.
 - The contractor shall not pump sediment-laden water directly into the stream. For dewatering of culvert sites, the contractor shall filter sediment-laden water through special stilling basin(s).
 - Special stilling basins must be installed behind erosion control measures.

1/26/2021 3:57:18 PM \$FILEL\$ \$PENTIBL\$

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
<i>PERIMETER DIKES, SWALES, DITCHES AND SLOPES</i>	<i>7 DAYS</i>	<i>NONE</i>
<i>HIGH QUALITY WATER (HOW) ZONES</i>	<i>7 DAYS</i>	<i>NONE</i>
<i>SLOPES STEEPER THAN 3:1</i>	<i>7 DAYS</i>	<i>IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.</i>
<i>SLOPES 3:1 OR FLATTER</i>	<i>14 DAYS</i>	<i>7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.</i>
<i>ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1</i>	<i>14 DAYS</i>	<i>NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.</i>

REVISIONS

12/6/2019 12:30:17 PM

\$FILEL\$
\$FENTIBL\$

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

SOIL STABILIZATION SUMMARY SHEET

COIR FIBER MAT

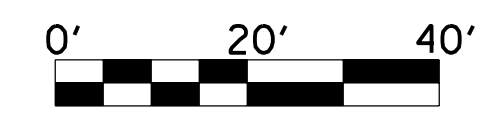
MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
EC-5	-L-	12+13	13+10	LT	170
				SUBTOTAL	170
	ADDITIONAL PSRM MATTING TO BE INSTALLED				-
				TOTAL	170
				SAY	170

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
				SUBTOTAL	
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				1500
				TOTAL	1500
				SAY	1500

REVISIONS

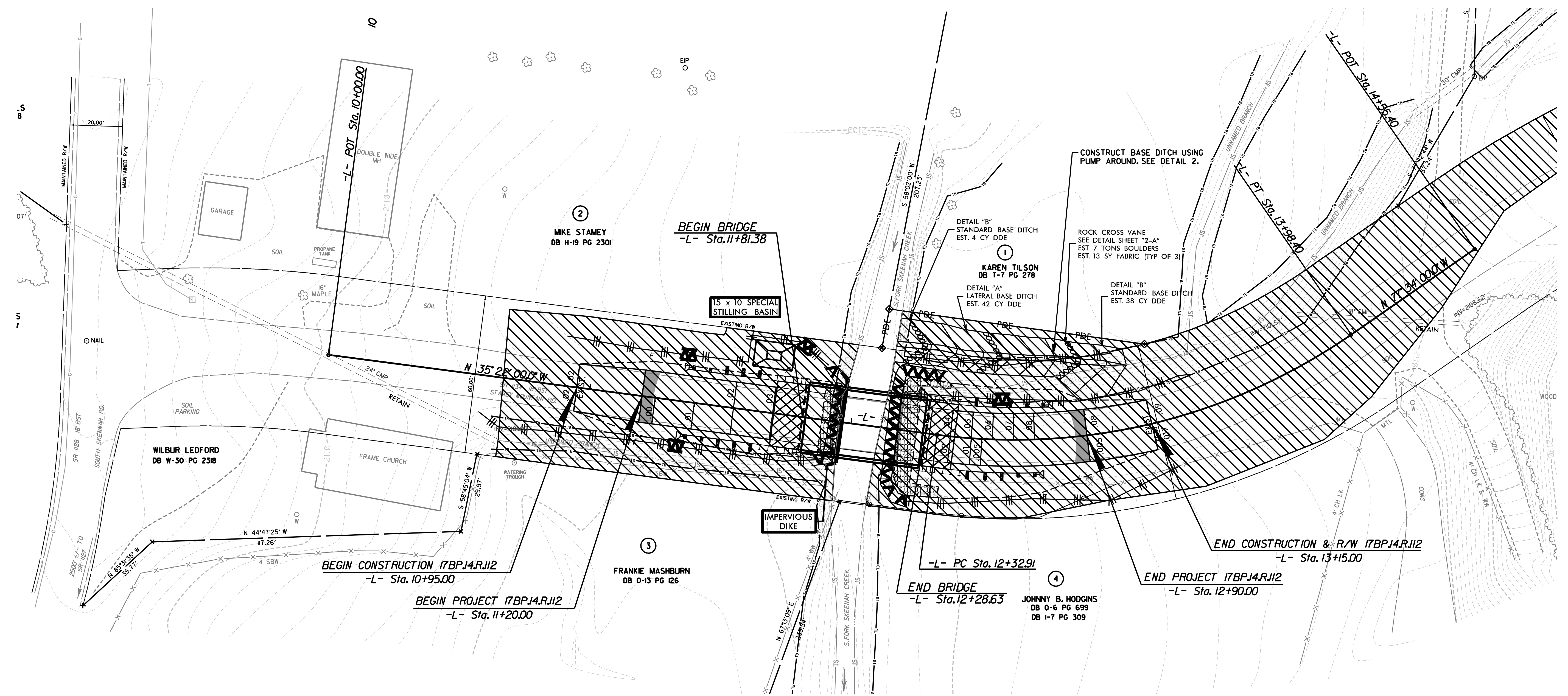
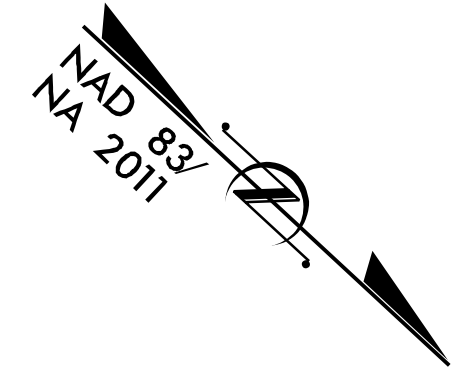
12/6/2019 12:34:11PM
\$FILEL\$
\$PENTBL\$



EROSION CONTROL

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

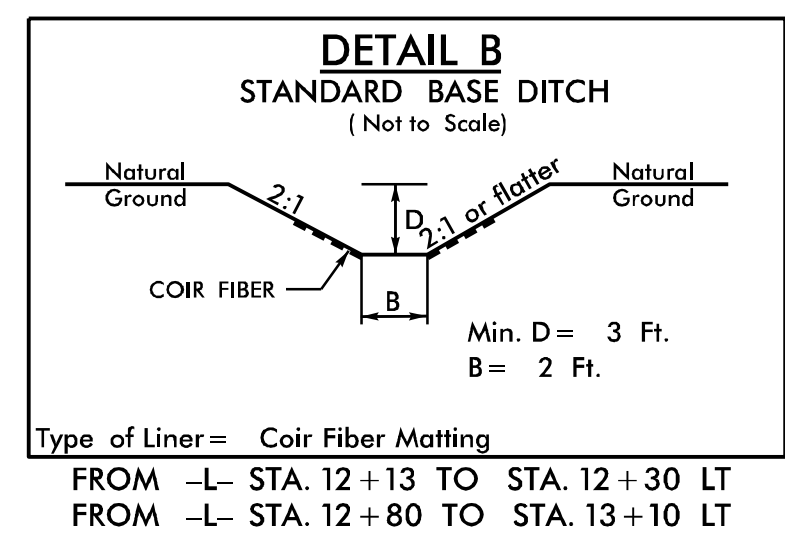
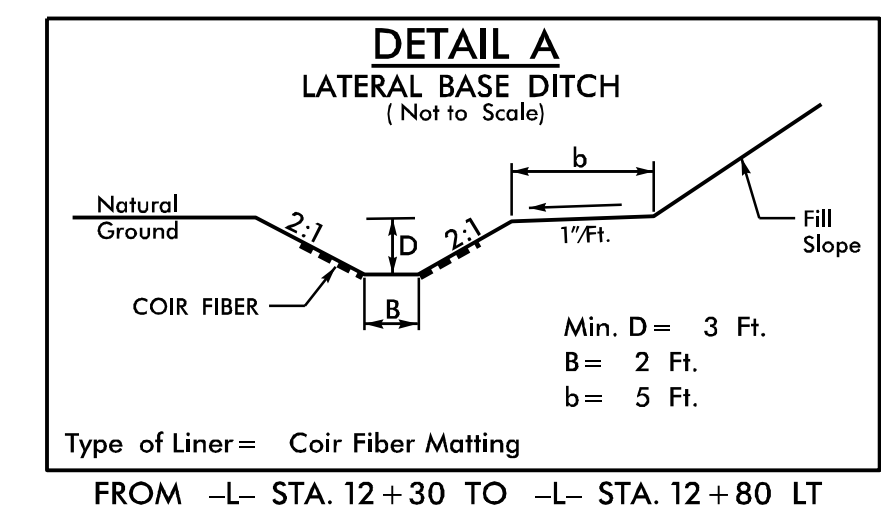
ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.



REVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

TROUT STREAM
BUFFER ZONE

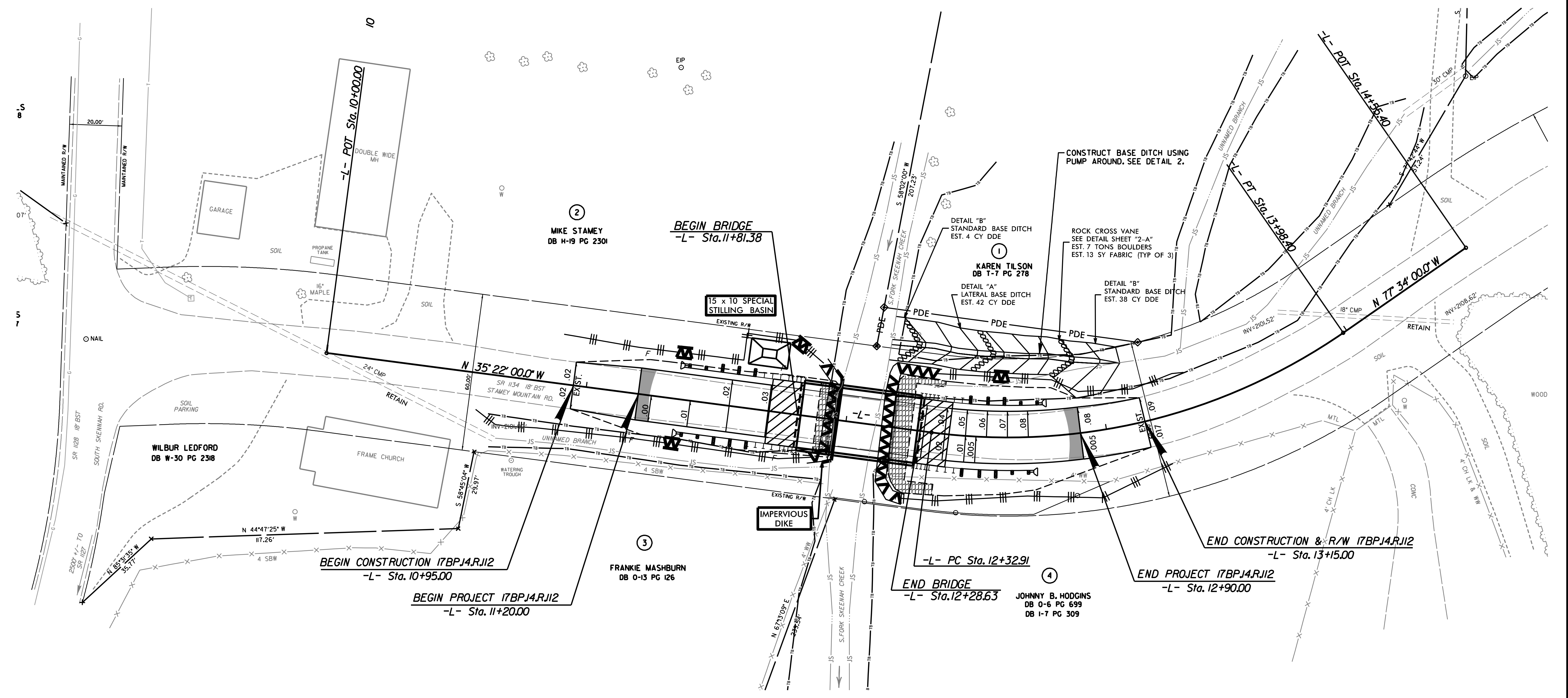
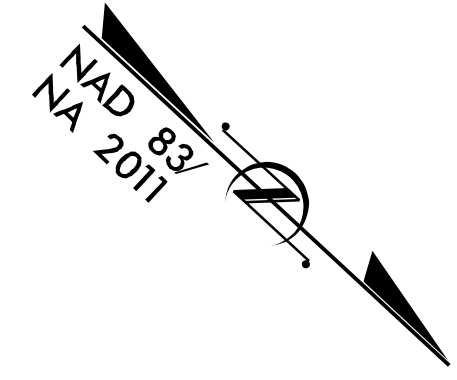


SEE RF-1, RF-2, RF-3 AND PROJECT SPECIAL PROVISIONS

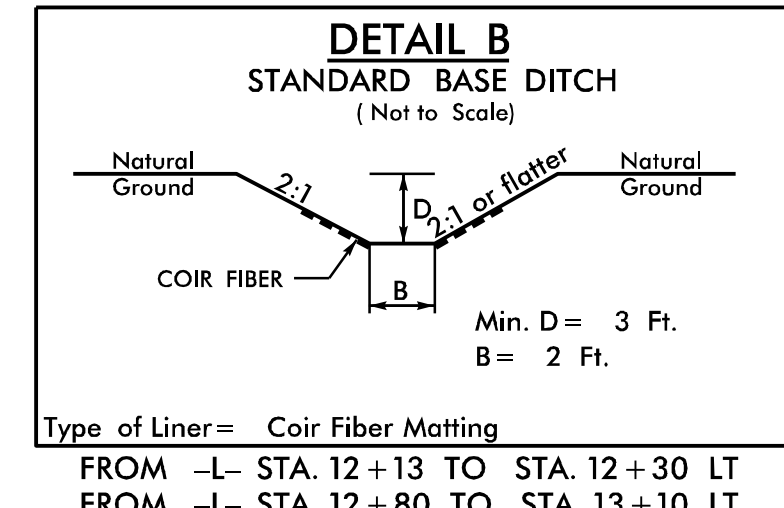
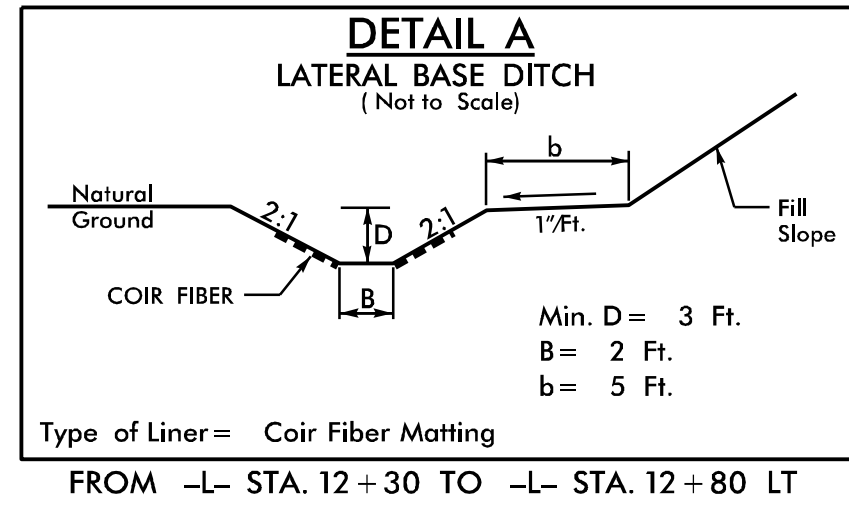
3/3/2021 11:35:55 AM
\$FILEL\$
\$PENTIBL\$

NOTES: 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.

EROSION CONTROL



REVISIONS



SEE RF-1, RF-2, RF-3 AND PROJECT SPECIAL PROVISIONS

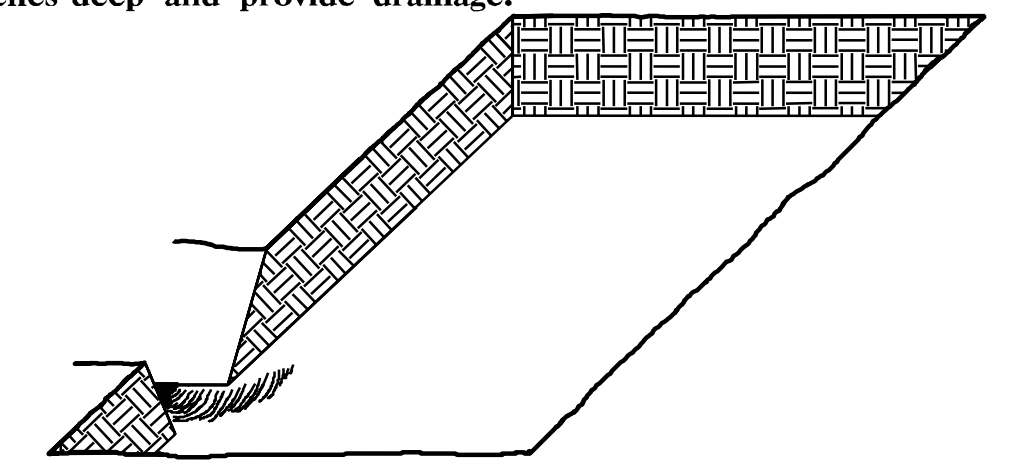
3/3/2021 11:29:21 AM \$FILEL\$ \$PENTBL\$

PLANTING DETAILS

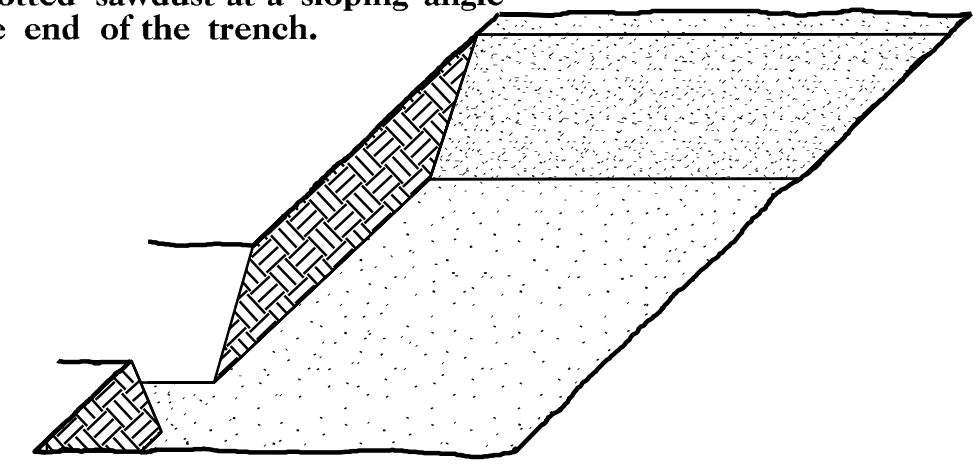
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

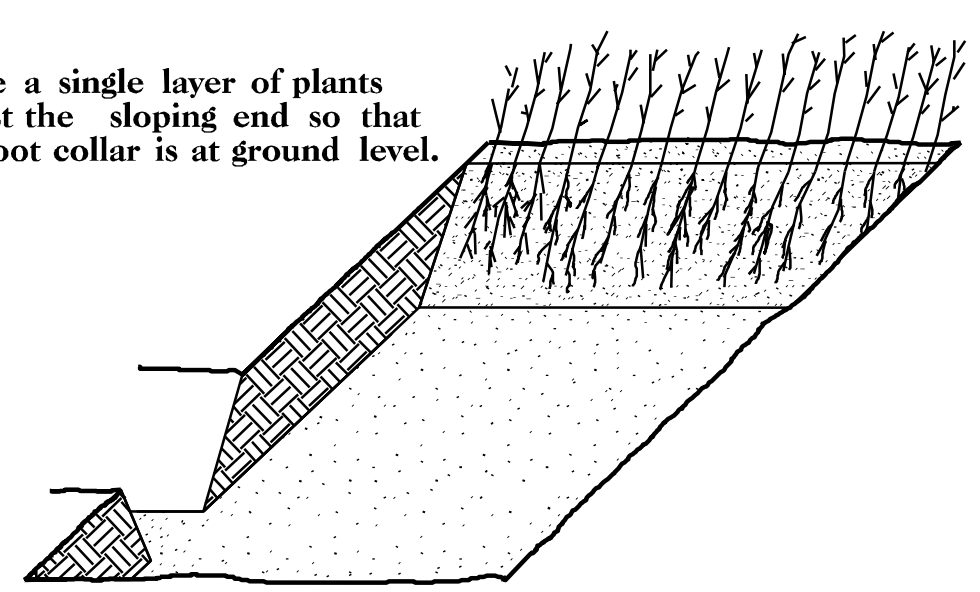
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



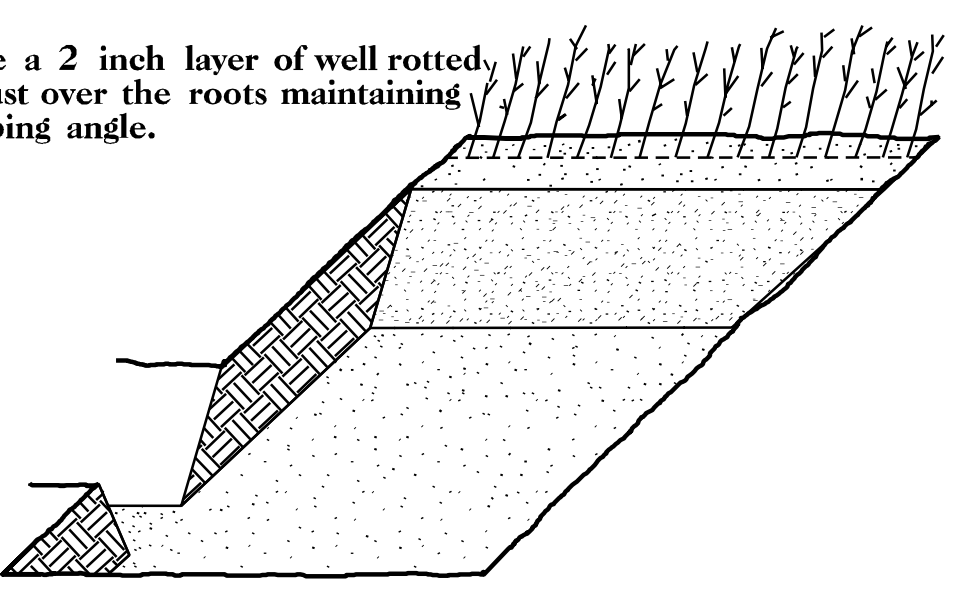
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

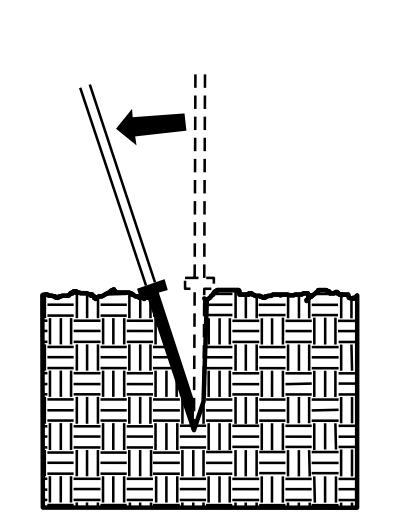


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

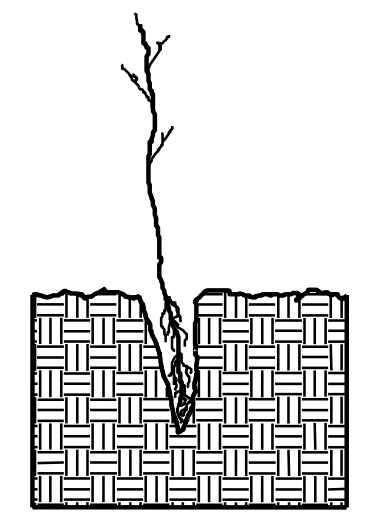


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

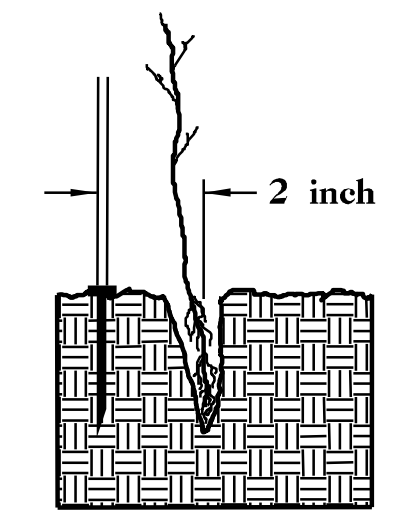
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



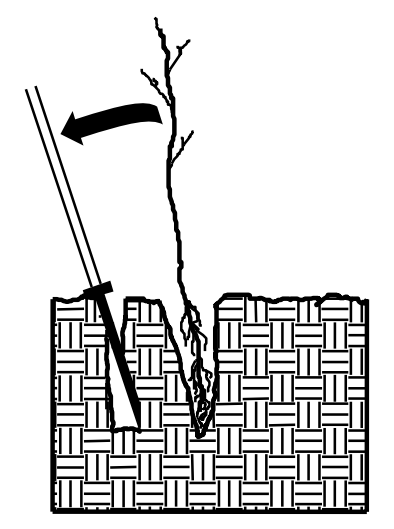
1. Insert planting bar as shown and pull handle toward planter.



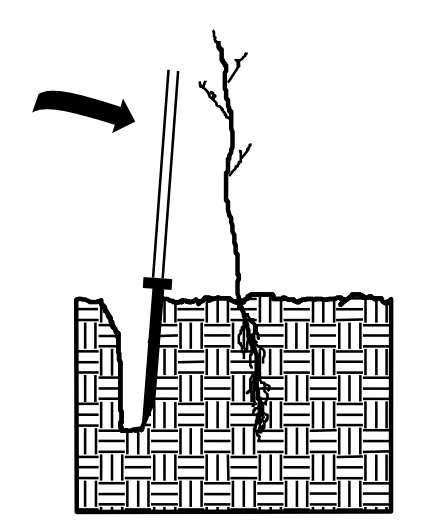
2. Remove planting bar and place seedling at correct depth.



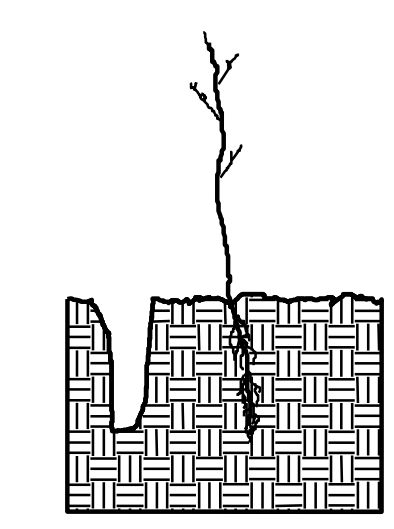
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



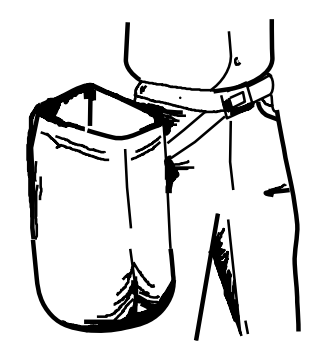
5. Push handle forward firming soil at top.



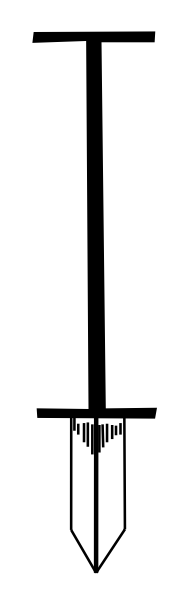
6. Leave compaction hole open. Water thoroughly.

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

Reforestation:

Reforestation will be planted within interchanges and along the outside borders of the road, and in other areas as directed. Reforestation is not shown on the plan sheets.

All non-maintained riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated with native woody species.

The entire Reforestation operation shall comply with the requirements of Section 1670 of the Standard Specifications.

Reforestation shall be bare root seedlings 12"-18" tall.

Reforestation shall be planted as soon as practical following permanent Seeding and Mulching. The seedlings shall be planted in a 16-foot wide swath adjacent to mowing pattern line, or as directed.

Root dip: The roots of reforestation seedlings shall be coated with a slurry of water, and either a fine clay (kaolin) or a superabsorbent that is designated as a bare root dip. The type, mixture ratio, method of application, and the time of application shall be submitted to the Engineer for approval.

With the approval of the Engineer, seedlings may be coated before delivery to the job or at the time of planting, but at no time shall the roots of the seedlings be allowed to dry out. The roots shall be moistened immediately prior to planting.

Seasonal Limitations: Reforestation shall be planted from November 15 through March 15.

Payment for Reforestation will be included in the contract bid price for Lump Sum for Erosion Control.

REFORESTATION DETAIL SHEET

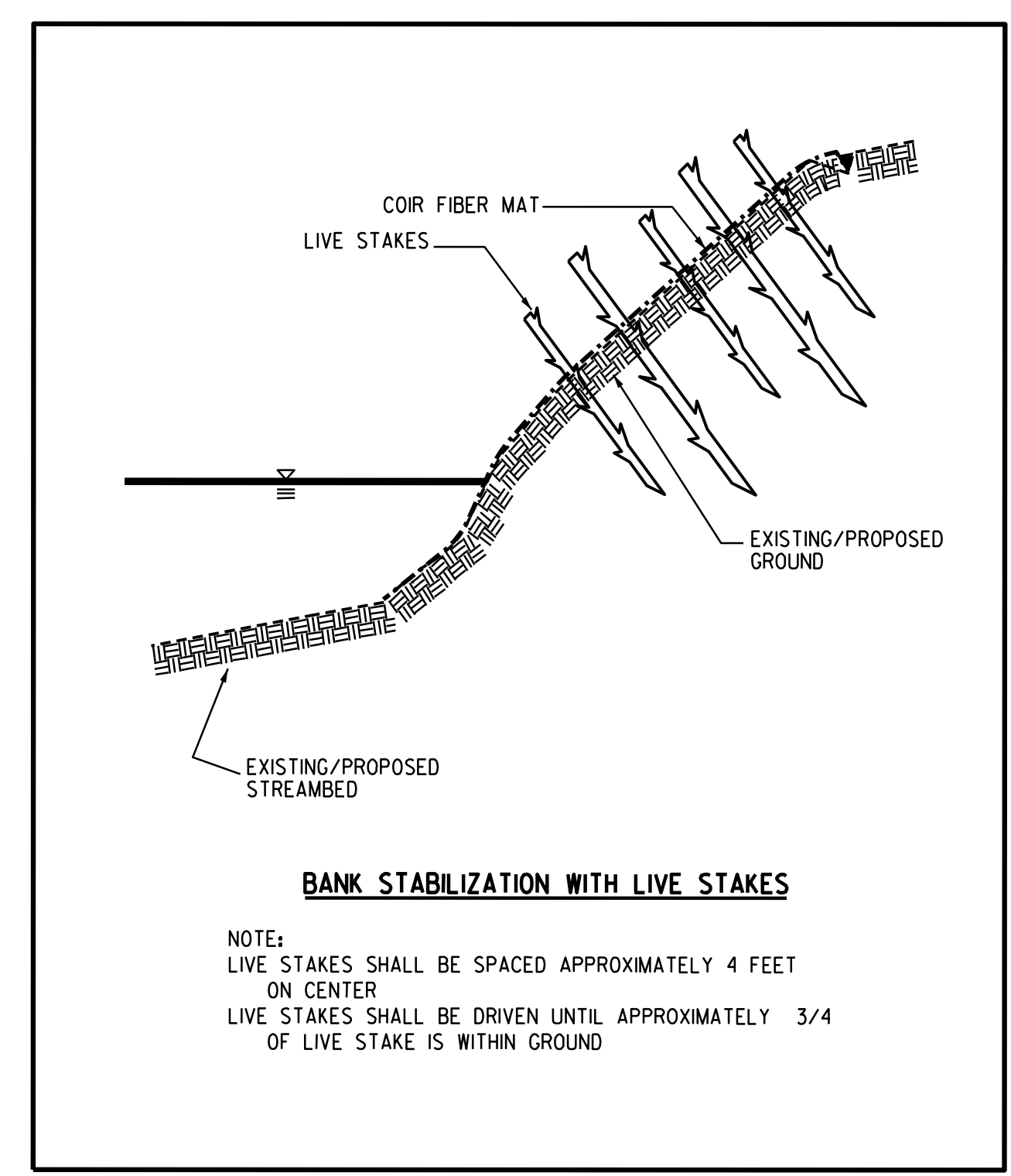
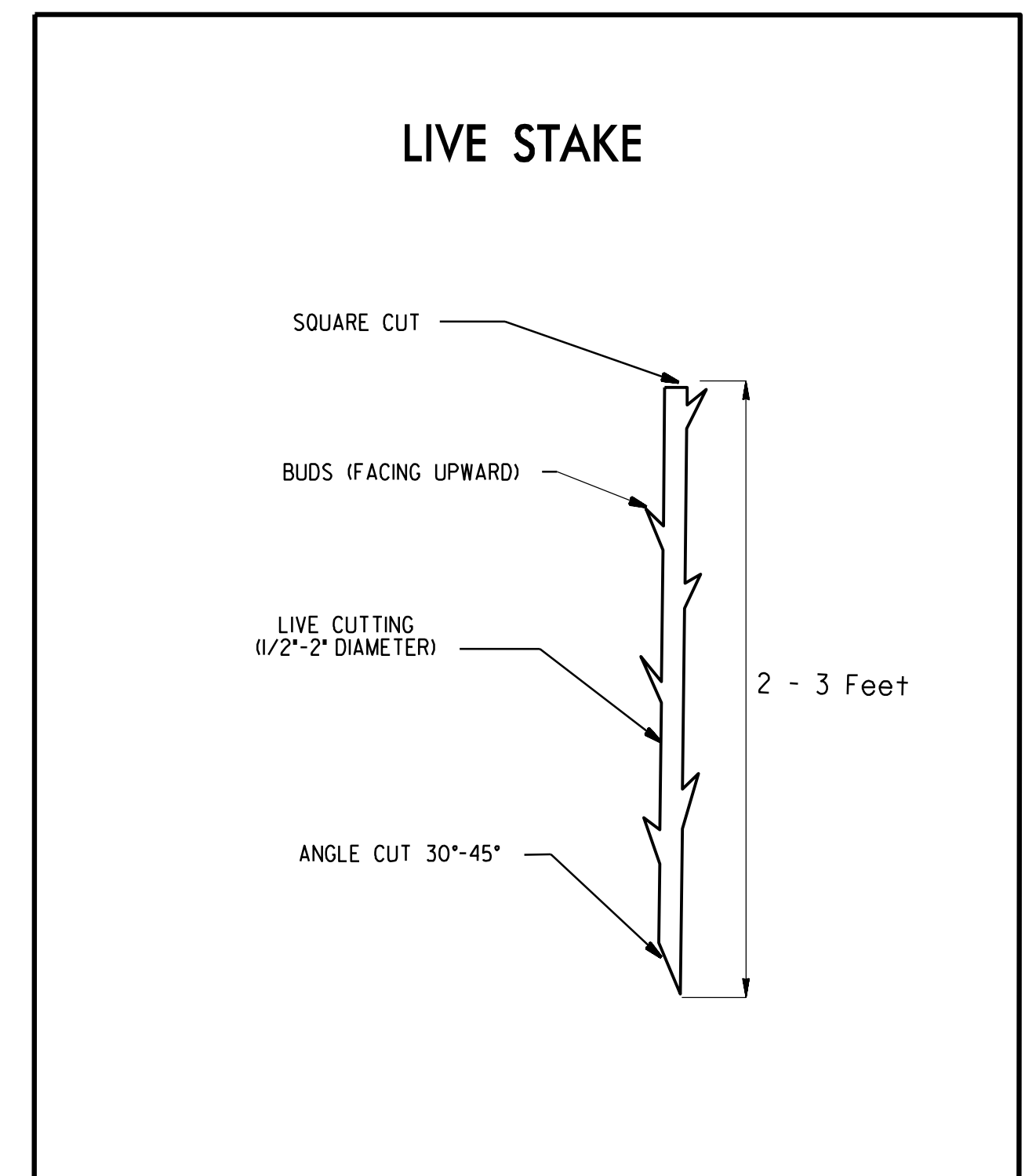
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

REVISIONS

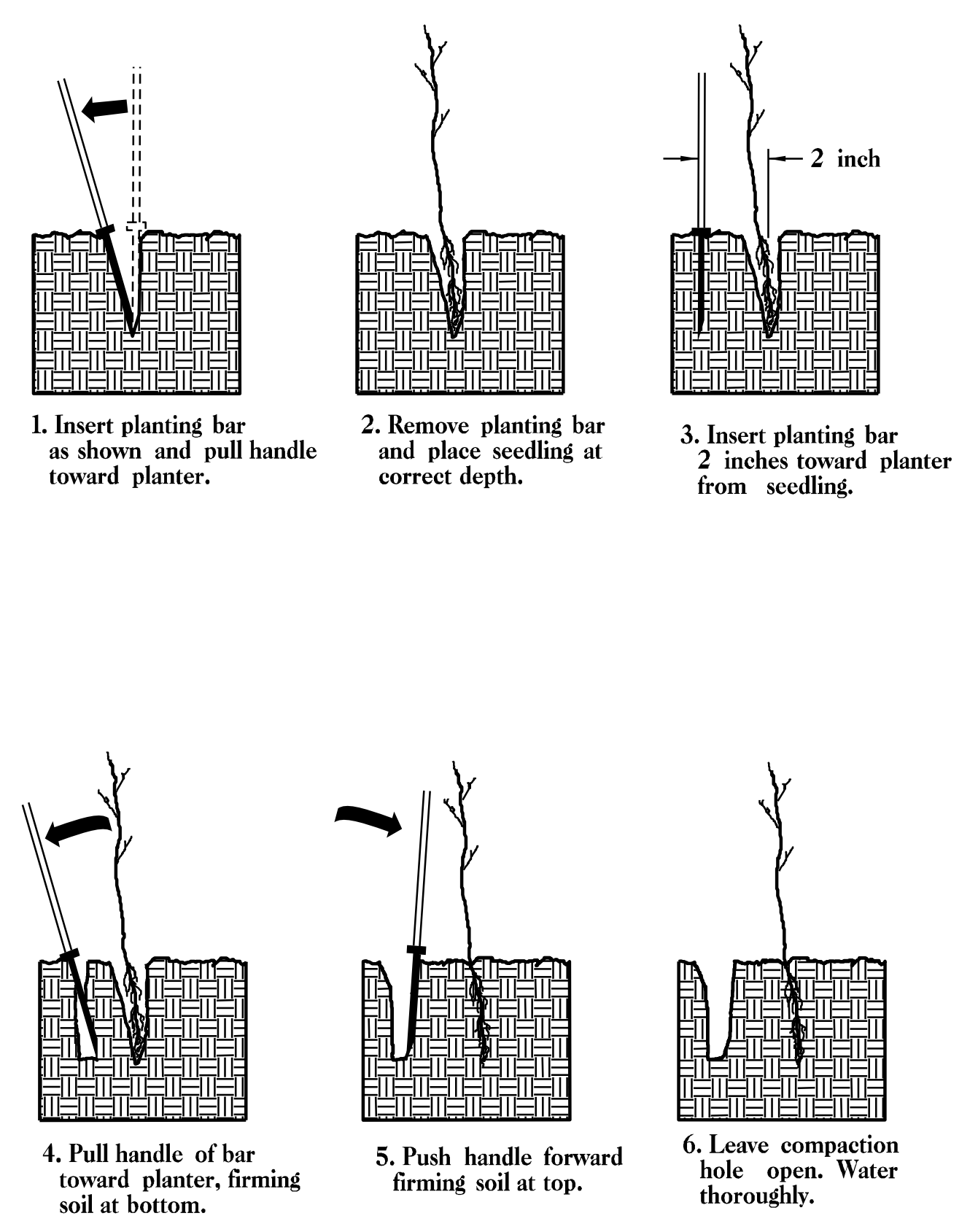
12/6/2019 12:40:01 PM
 \$FILEL\$
 \$PENTBL\$

PLANTING DETAILS

LIVE STAKES PLANTING DETAIL



BAREROOT PLANTING DETAIL DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR

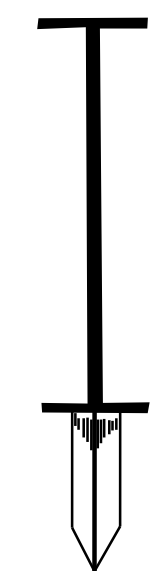


PLANTING NOTES:

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

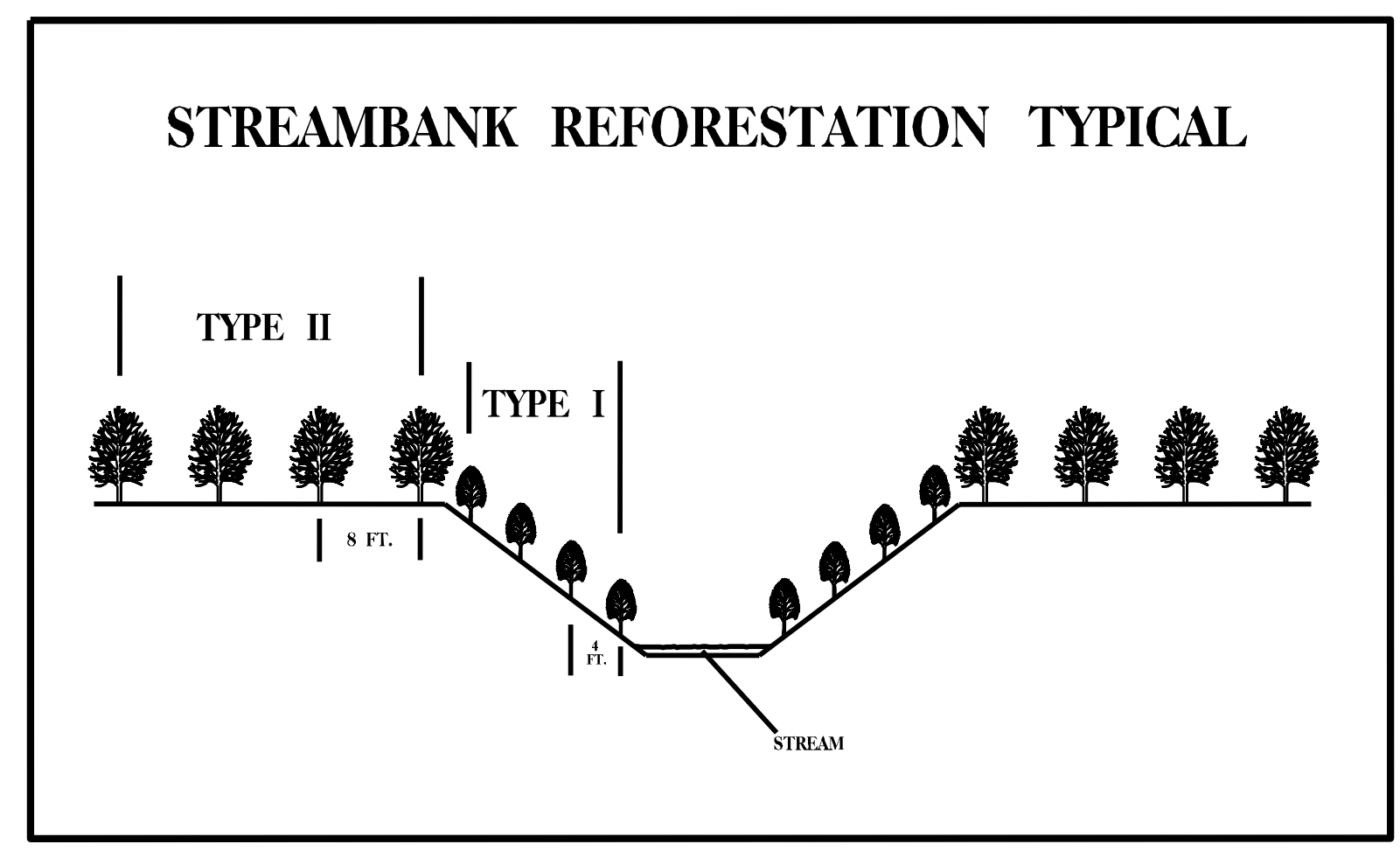


KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



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

- TYPE 1 STREAMBANK REFORESTATION SHALL BE PLANTED 3 FT. TO 5 FT. ON CENTER, RANDOM SPACING, AVERAGING 4 FT. ON CENTER, APPROXIMATELY 2724 PLANTS PER ACRE.
- TYPE 2 STREAMBANK REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.
- NOTE: TYPE 1 AND TYPE 2 STREAMBANK REFORESTATION SHALL BE PAID FOR AS "STREAMBANK REFORESTATION"



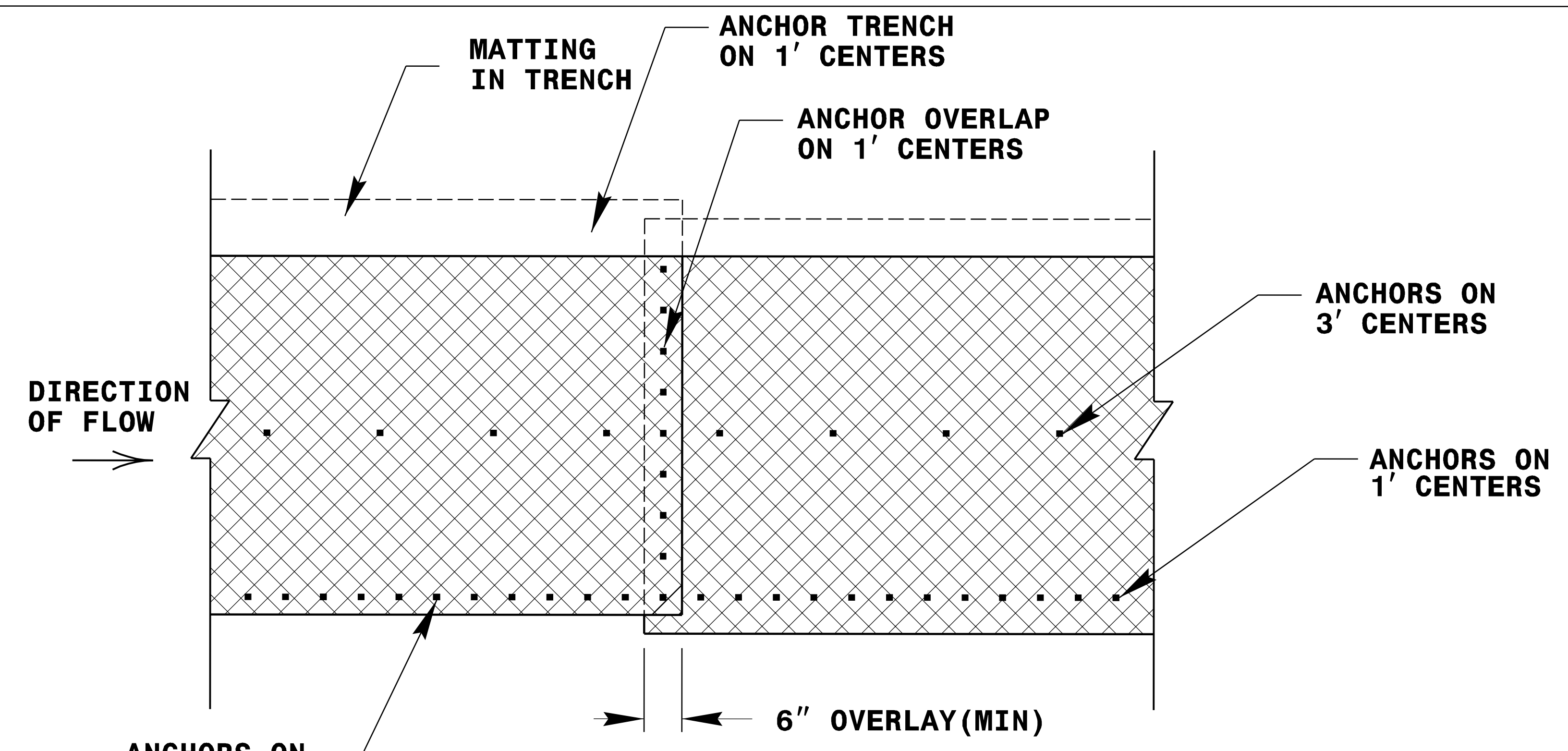
STREAMBANK REFORESTATION		
MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:		
TYPE 1		
50% SALIX NIGRA	BLACK WILLOW	2 ft - 3 ft LIVE STAKES
50% CORNUS AMOMUM	SILKY DOGWOOD	2 ft - 3 ft LIVE STAKES
TYPE 2		
25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
25% PLATANUS OCCIDENTALIS	SYCAMORE	12 in - 18 in BR
25% PRUNUS SEROTINA	BLACK CHERRY	12 in - 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

SEE PLAN SHEETS FOR AREAS TO BE PLANTED

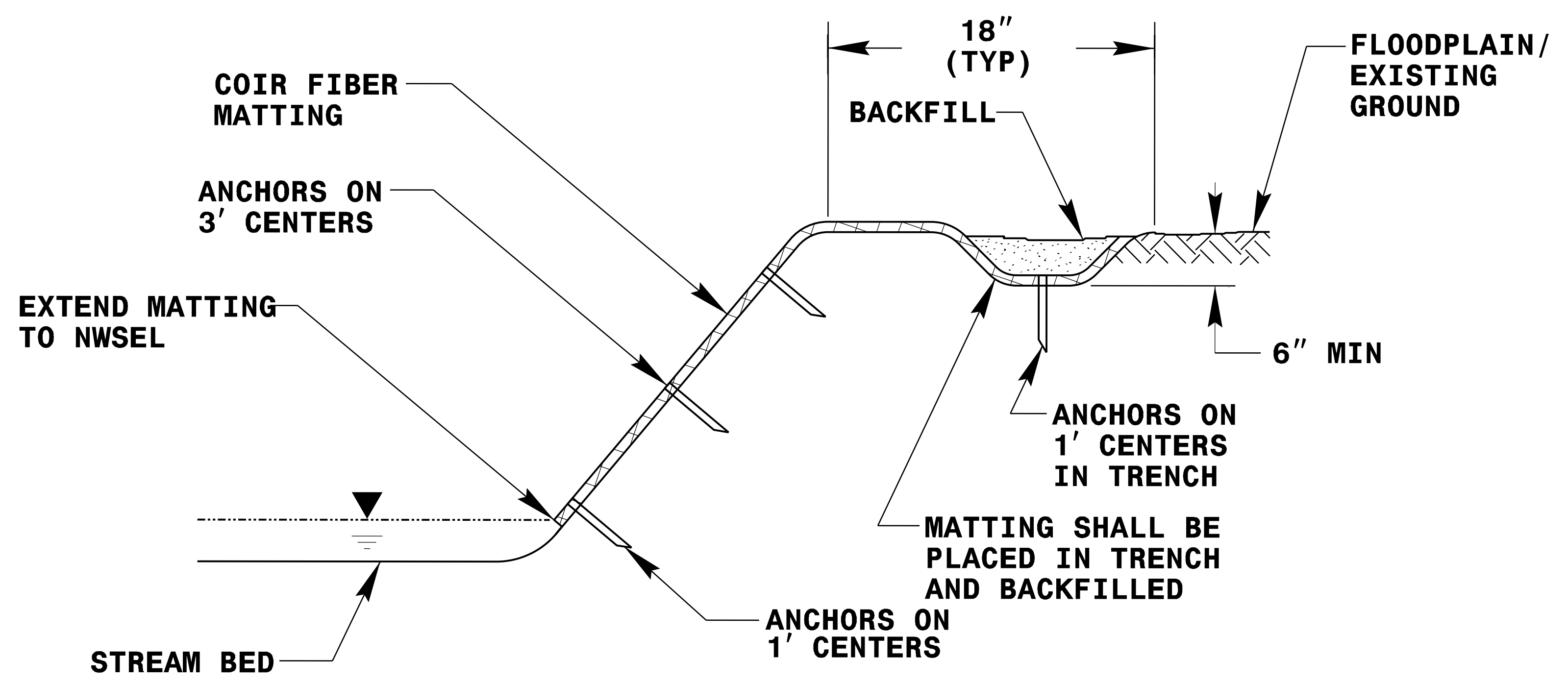
**STREAMBANK REFORESTATION
DETAIL SHEET 1 OF 2**
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

REVISIONS

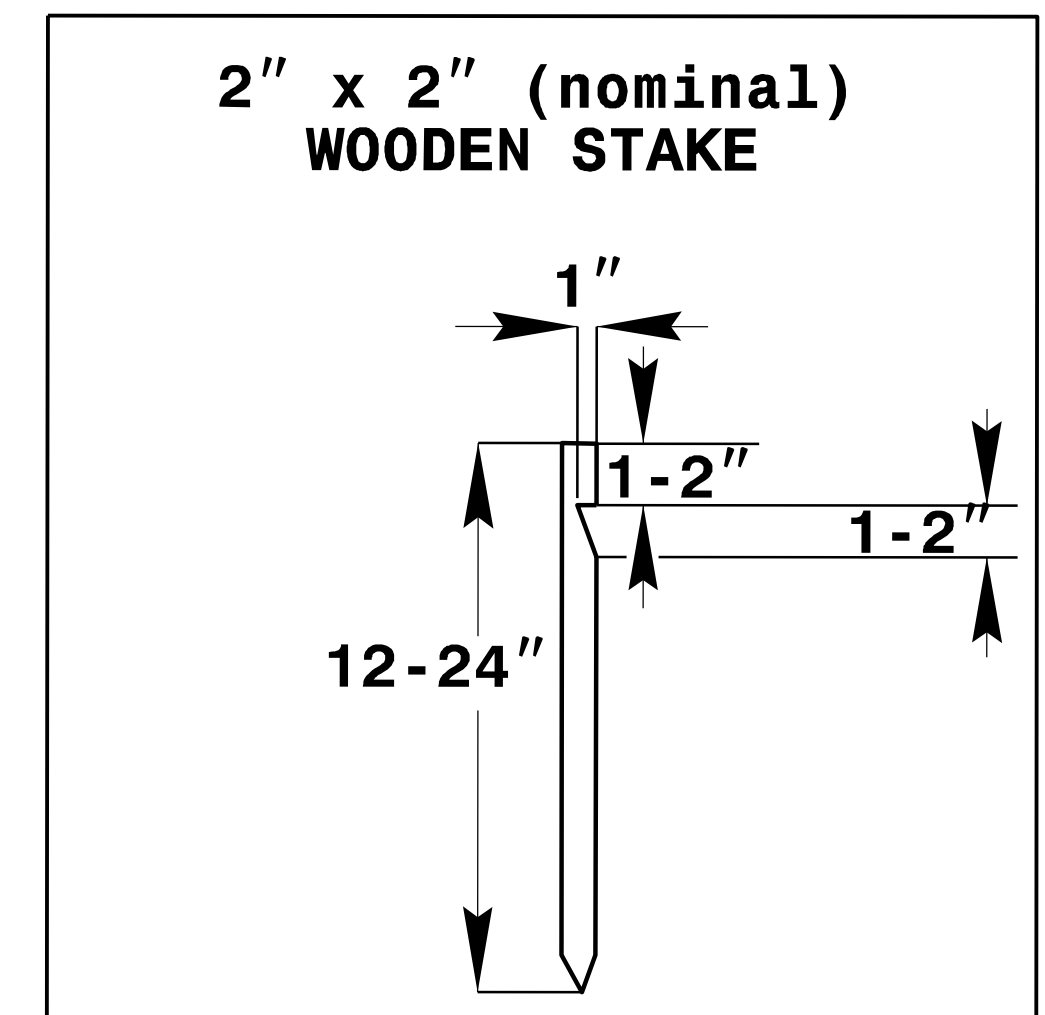
12/6/2019 12:41:32 PM
\$FILEL\$
\$PENTBL\$



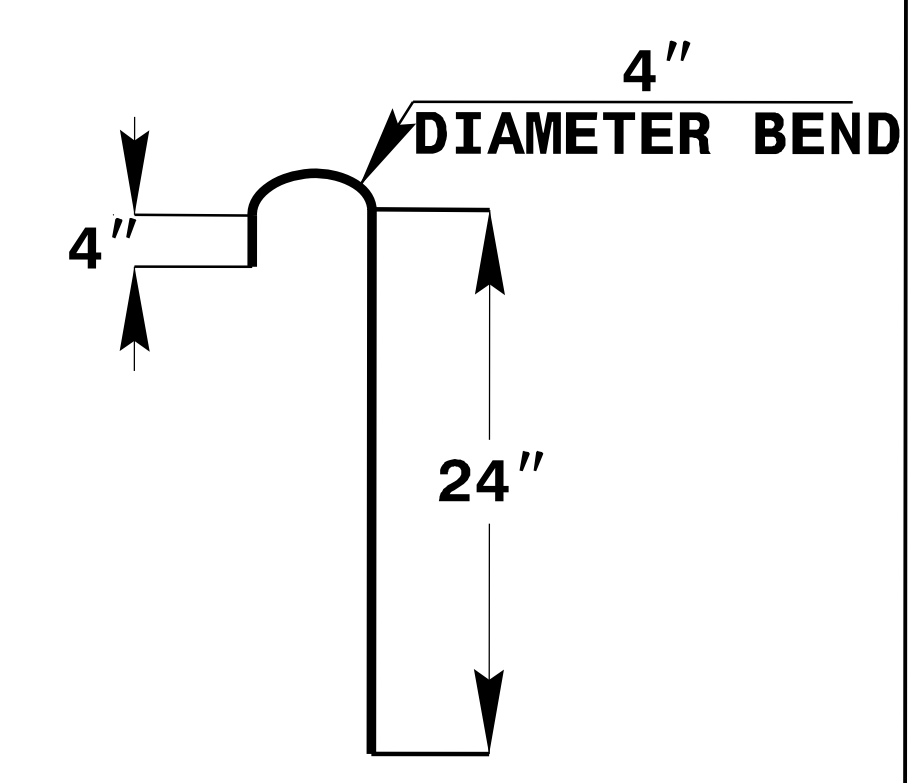
PLAN VIEW



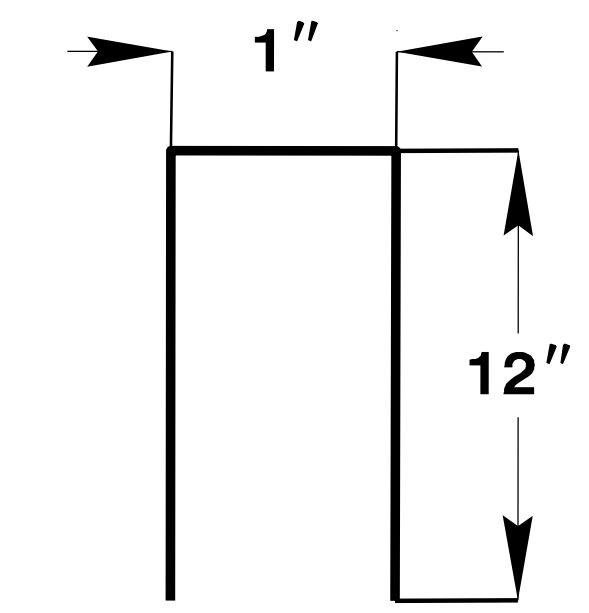
TYPICAL CROSS SECTION



#10 STEEL REINFORCEMENT BAR



1\"/>



ANCHOR OPTIONS

COIR FIBER MATTING DETAIL

NOT TO SCALE

**STREAMBANK REFORESTATION
DETAIL SHEET 2 OF 2**
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

REVISIONS

12/6/2019 12:43:16 PM
\$FILEL\$
\$PENTBL\$