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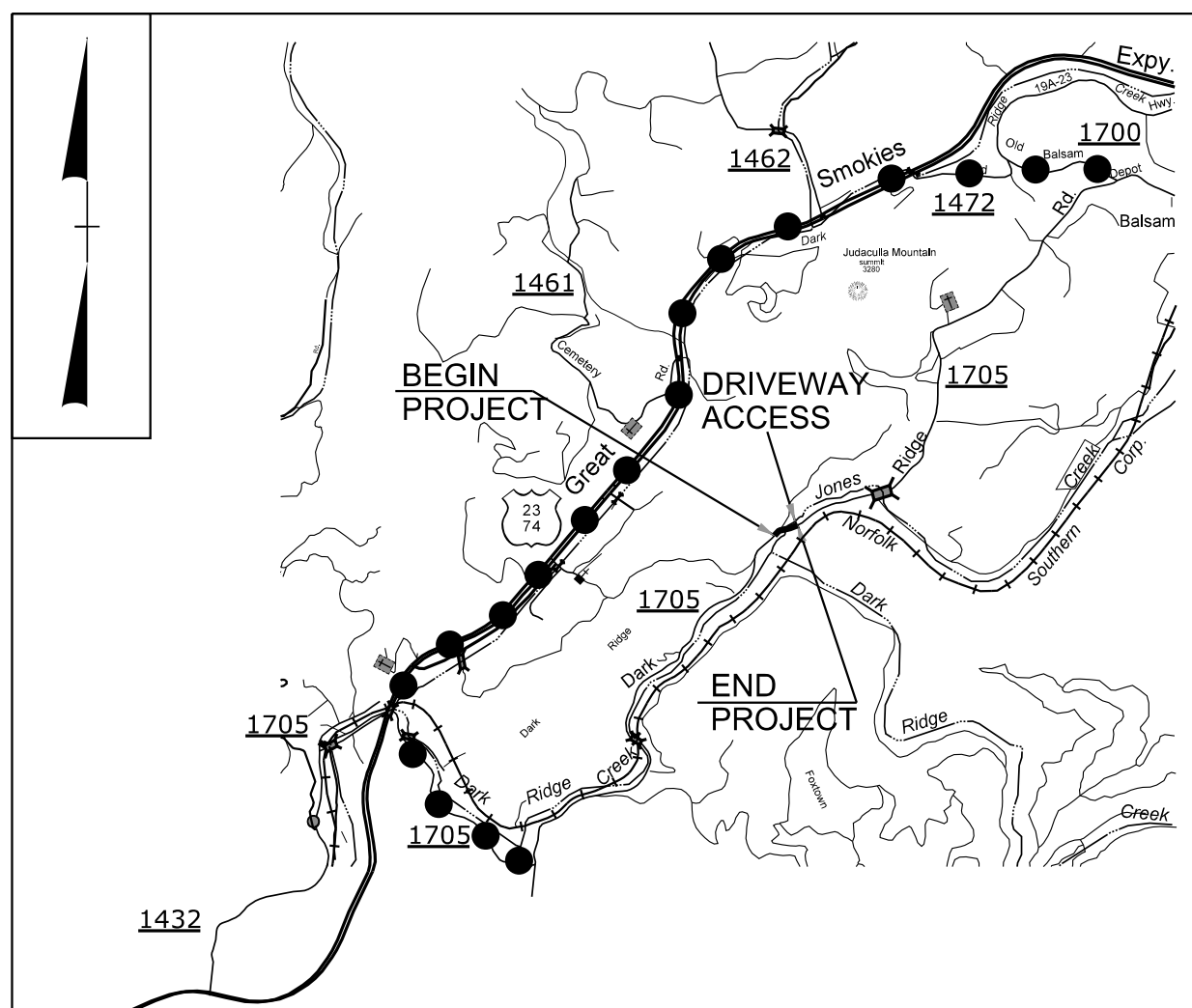
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shall not be considered a certified document.**

**PROJECT: 17BP.14.R.149**

**CONTRACT: DN00468**

See Sheet 1A For Index of Sheets



VICINITY MAP  
 ●●●● OFF-SITE DETOUR

**100% PLANS**

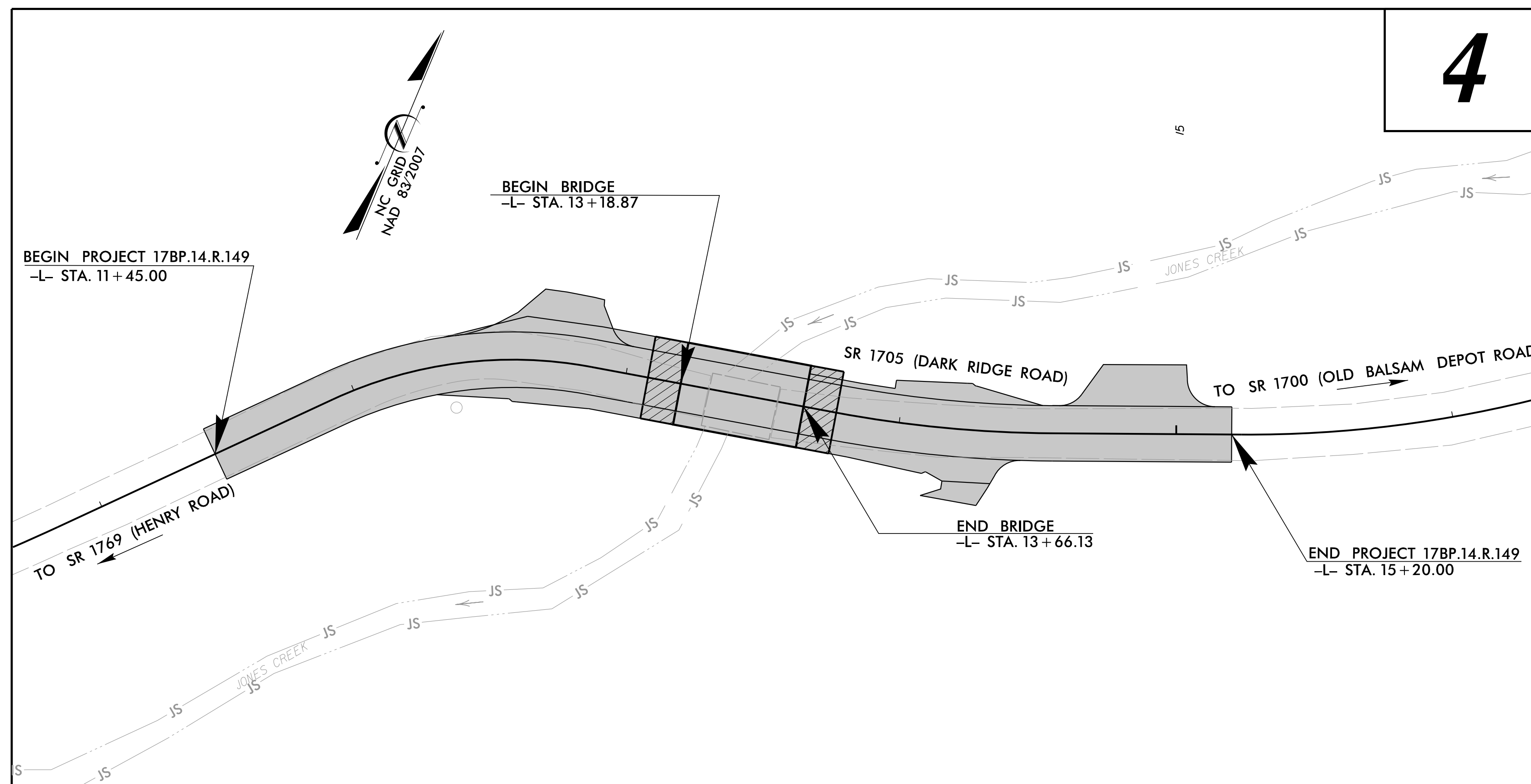
STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS

**JACKSON COUNTY**

**LOCATION: REPLACE BRIDGE NO. 490185 OVER JONES CREEK  
 ON SR 1705 (DARK RIDGE ROAD)**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.149	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.14.PE.149	N/A	PE	
17BP.14.ROW.149	N/A	R/W	
17BP.14.R.149	N/A	CONST.	



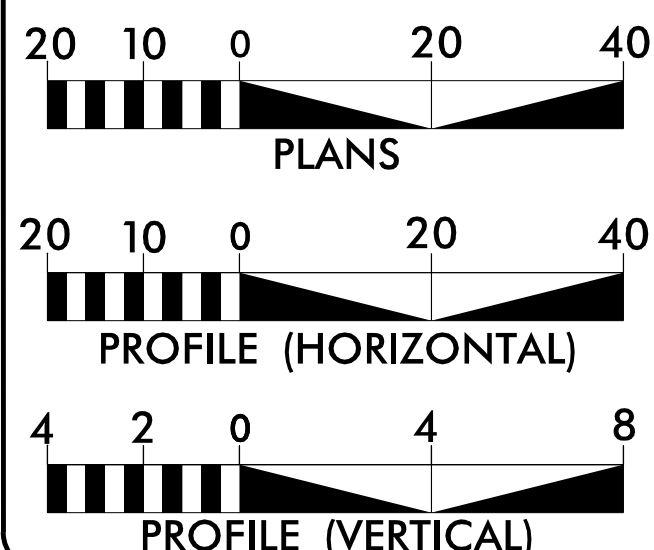
**4**

**V&M**  
**Vaughn & Melton**  
 Consulting Engineers  
 Asheville, North Carolina  
 828-253-2796

Boone, NC 828-355-9933  
 Tri-Cities, TN 423-467-9400  
 Knoxville, TN 865-546-5800  
 Spartanburg, SC 864-574-4775  
 Charleston, SC 843-974-5650  
 Middleboro, KY 606-248-6600  
 Raleigh, NC 919-977-9455  
 Charlotte, NC 704-357-0488  
 Atlanta, GA 478-827-3529  
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 UNLESS ALL SIGNATURES COMPLETED

**GRAPHIC SCALES**



**DESIGN DATA**

ADT (2011) = 470  
 ADT (2031) = 700  
 T = 6% \*  
 V = 30 MPH

FUNC CLASS = LOCAL  
 SUBREGIONAL TIER

**PROJECT LENGTH**

LENGTH OF ROADWAY PROJECT 17BP.14.R.149 = 0.062 MI  
 LENGTH OF STRUCTURE PROJECT 17BP.14.R.149 = 0.009 MI  
 TOTAL LENGTH OF PROJECT 17BP.14.R.149 = 0.071 MI

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

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
 APRIL 11, 2017

LETTING DATE:  
 OCTOBER 26, 2021

**JOHN LANSFORD, PE**  
 PROJECT ENGINEER

**ALEX M. FITZPATRICK**  
 PROJECT DESIGN ENGINEER

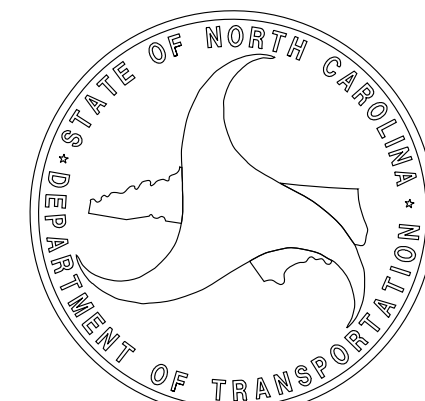
NCDOT CONTACT:  
**GARRETT HIGDON**  
 DIVISION 14 BRIDGE PROJECT MANAGER

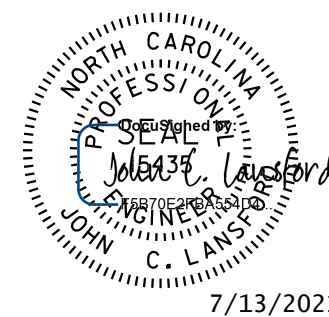
**HYDRAULICS ENGINEER**

DocuSigned by:  
  
 SEAL 31977  
 ENGINEER  
 JOHN B. ALTFORD  
 P.E.  
 9/7/2021

**ROADWAY DESIGN ENGINEER**

DocuSigned by:  
  
 SEAL 15435  
 ENGINEER  
 JOHN C. LANSFORD  
 P.E.  
 9/7/2021



PROJECT REFERENCE NO. 17BPJ4.RJ49	SHEET NO. 1A
ROADWAY DESIGN ENGINEER	
	
7/13/2021	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

<p>INDEX OF SHEETS</p> <p>SHEET NUMBER      SHEET</p> <p>1                      TITLE SHEET</p> <p>1A                     INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS</p> <p>1B                     CONVENTIONAL SYMBOLS</p> <p>1C-1                  SURVEY CONTROL SHEET</p> <p>2A-1                  PAVEMENT SCHEDULE AND TYPICAL SECTIONS</p> <p>2B-1                  TYPE III SHOP CURVED ANCHOR UNIT DETAIL</p> <p>2D-1                  DRAINAGE DETAILS</p> <p>3B-1                  ROADWAY SUMMARY</p> <p>3D-1                  DRAINAGE SUMMARY</p> <p>4                      PLAN AND PROFILE SHEET</p> <p>TMP-1 THRU TMP-3      TRAFFIC CONTROL PLANS</p> <p>PMP-1 THRU PMP-2      PAVEMENT MARKING PLANS</p> <p>EC-1 THRU EC-5        EROSION CONTROL PLANS</p> <p>RF-1                  REFORESTATION DETAIL SHEET</p> <p>UO-1 THRU UO-2        UTILITIES BY OTHERS</p> <p>X-1A                  CROSS-SECTION SUMMARY</p> <p>X-1 THRU X-5          CROSS-SECTIONS</p> <p>S-1 THRU S-13         STRUCTURE PLANS</p>	<p>GENERAL NOTES:</p> <p>2018 SPECIFICATIONS EFFECTIVE: 01-16-2018 REVISED:</p> <p>GRADING AND SURFACING:</p> <p>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.</p> <p>CLEARING:</p> <p>CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.</p> <p>SUPERELEVATION:</p> <p>ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.</p> <p>SHOULDER CONSTRUCTION:</p> <p>ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.02</p> <p>SIDE ROADS:</p> <p>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.</p> <p>GUARDRAIL:</p> <p>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.</p> <p>TEMPORARY SHORING:</p> <p>SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.</p> <p>SUBSURFACE PLANS:</p> <p>NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.</p> <p>END BENTS:</p> <p>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.</p> <p>UTILITIES:</p> <p>UTILITY OWNERS ON THIS PROJECT ARE Duke Energy and Frontier Communication</p>	<p>EFF. 01-16-2018 REV.</p> <p>2018 ROADWAY ENGLISH STANDARD DRAWINGS</p> <p>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:</p> <table border="0"> <tr> <td>STD.NO.</td> <td>TITLE</td> </tr> <tr> <td colspan="2">DIVISION 2 - EARTHWORK</td> </tr> <tr> <td>200.02</td> <td>METHOD OF CLEARING - METHOD II</td> </tr> <tr> <td>225.02</td> <td>GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL</td> </tr> <tr> <td>225.04</td> <td>METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT</td> </tr> <tr> <td colspan="2">DIVISION 3 - PIPE CULVERTS</td> </tr> <tr> <td>300.01</td> <td>METHOD OF PIPE INSTALLATION</td> </tr> <tr> <td colspan="2">DIVISION 4 - MAJOR STRUCTURES</td> </tr> <tr> <td>422.02</td> <td>BRIDGE APPROACH FILLS - TYPE II MODIFIED APPROACH FILL</td> </tr> <tr> <td colspan="2">DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</td> </tr> <tr> <td>560.01</td> <td>METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD I</td> </tr> <tr> <td colspan="2">DIVISION 8 - INCIDENTALS</td> </tr> <tr> <td>840.00</td> <td>CONCRETE BASE PAD FOR DRAINAGE STRUCTURES</td> </tr> <tr> <td>840.25</td> <td>ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST</td> </tr> <tr> <td>840.29</td> <td>FRAMES AND NARROW SLOT FLAT GRATES</td> </tr> <tr> <td>840.35</td> <td>TRAFFIC BEARING GRATED DROP INLET - FOR CAST IRON DOUBLE FRAME AND GRATES</td> </tr> <tr> <td>840.46</td> <td>TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE</td> </tr> <tr> <td>840.66</td> <td>DRAINAGE STRUCTURE STEPS</td> </tr> <tr> <td>846.01</td> <td>CONCRETE CURB, GUTTER AND CURB &amp; GUTTER</td> </tr> <tr> <td>846.04</td> <td>DROP INLET INSTALLATION IN SHOULDER BERM GUTTER</td> </tr> <tr> <td>862.01</td> <td>GUARDRAIL PLACEMENT</td> </tr> <tr> <td>862.02</td> <td>GUARDRAIL INSTALLATION</td> </tr> <tr> <td>862.03</td> <td>STRUCTURE ANCHOR UNITS</td> </tr> <tr> <td>876.02</td> <td>GUIDE FOR RIP RAP AT PIPE OUTLETS</td> </tr> <tr> <td>876.04</td> <td>DRAINAGE DITCHES WITH CLASS 'B' RIP RAP</td> </tr> </table>	STD.NO.	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12/2/2016

# STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

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

## BUILDINGS AND OTHER CULTURE:

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

## HYDROLOGY:

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

## RAILROADS:

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

## RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	---
Primary Horiz Control Point	---
Primary Horiz and Vert Control Point	---
Exist Permanent Easement Pin and Cap	---
New Permanent Easement Pin and Cap	---
Vertical Benchmark	△
Existing Right of Way Marker	---
Existing Right of Way Line	---
New Right of Way Line	---
New Right of Way Line with Pin and Cap	---
New Right of Way Line with Concrete or Granite R/W Marker	---
New Control of Access Line with Concrete CA Marker	---
Existing Control of Access	---
New Control of Access	---
Existing Easement Line	---
New Temporary Construction Easement	---
New Temporary Drainage Easement	---
New Permanent Drainage Easement	---
New Permanent Drainage /Utility Easement	---
New Permanent Utility Easement	---
New Temporary Utility Easement	---
New Aerial Utility Easement	---

## ROADS AND RELATED FEATURES:

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

## VEGETATION:

Single Tree	☀
Single Shrub	☁

Note: Not to Scale

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

Hedge	-----
Woods Line	-----
Orchard	☀ ☀ ☀ ☀
Vineyard	□ Vineyard

## EXISTING STRUCTURES:

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

## UTILITIES:

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

## TELEPHONE:

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

## WATER:

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

## TV:

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

## GAS:

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

## SANITARY SEWER:

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

## MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line LOS B (S.U.E.*)	---
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.

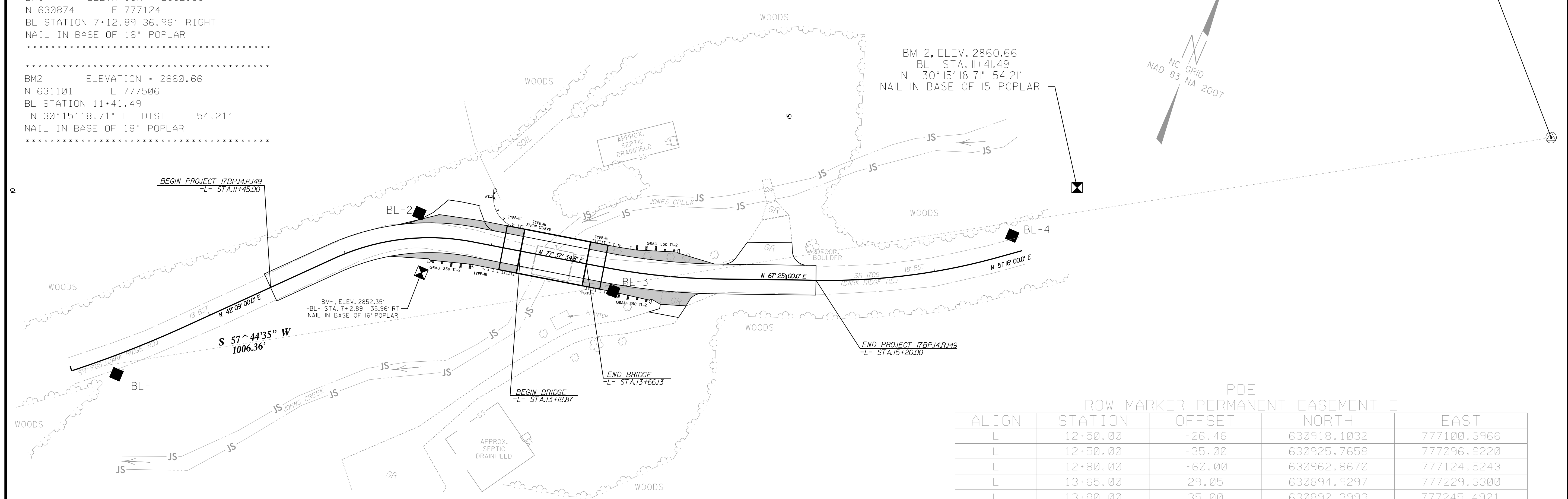


# SURVEY CONTROL SHEET

BL	POINT	DESC.	NORTH	EAST	ELEVATION	EL STATION	OFFSET
1	BL-1		630730.2822	776962.4629	2861.22	10+27.42	12.11 RT
2	BL-2		630910.1561	777106.5422	2857.19	12+51.98	15.20 LT
3	BL-3		630913.6970	777246.8502	2852.66	13+86.14	11.46 RT
4	BL-4		631053.8669	777478.4018	2863.47	16+57.96	11.50 LT

.....  
 BM1 ELEVATION = 2852.35  
 N 630874 E 777124  
 BL STATION 7+12.89 36.96' RIGHT  
 NAIL IN BASE OF 16" POPLAR  
 .....  
 BM2 ELEVATION = 2860.66  
 N 631101 E 777506  
 BL STATION 11+41.49  
 N 30°15'18.71" E DIST 54.21'  
 NAIL IN BASE OF 18" POPLAR  
 .....

**NCDOT GPS MONUMENT (GPS-100)  
 LOCALIZED PROJECT COORDINATES**  
 N = 631257.643  
 E = 777784.938  
 ELEV. = 2893.99'



PDE ROW MARKER PERMANENT EASEMENT - E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	12+50.00	-26.46	630918.1032	777100.3966
L	12+50.00	-35.00	630925.7658	777096.6220
L	12+80.00	-60.00	630962.8670	777124.5243
L	13+65.00	29.05	630894.9297	777229.3300
L	13+80.00	35.00	630892.3993	777245.4921
L	13+85.00	-40.00	630966.5732	777233.3365
L	14+50.00	50.00	630900.9686	777323.1454
L	14+50.00	-40.00	630984.4803	777289.5925
L	15+05.00	-30.00	630996.1552	777343.7791
L	15+05.00	-25.00	630991.5386	777345.6992
L	15+10.00	25.00	630947.2926	777369.5172

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-100" WITH NAD 83/NA 2007 STATE PLANE GRID COORDINATES OF NORTHING: 631257.643(±) EASTING: 777784.938(±) ELEVATION: 2893.99(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987665

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-100" TO -L- STATION 10+00.00 IS S 57°44'35" W 1006.36'

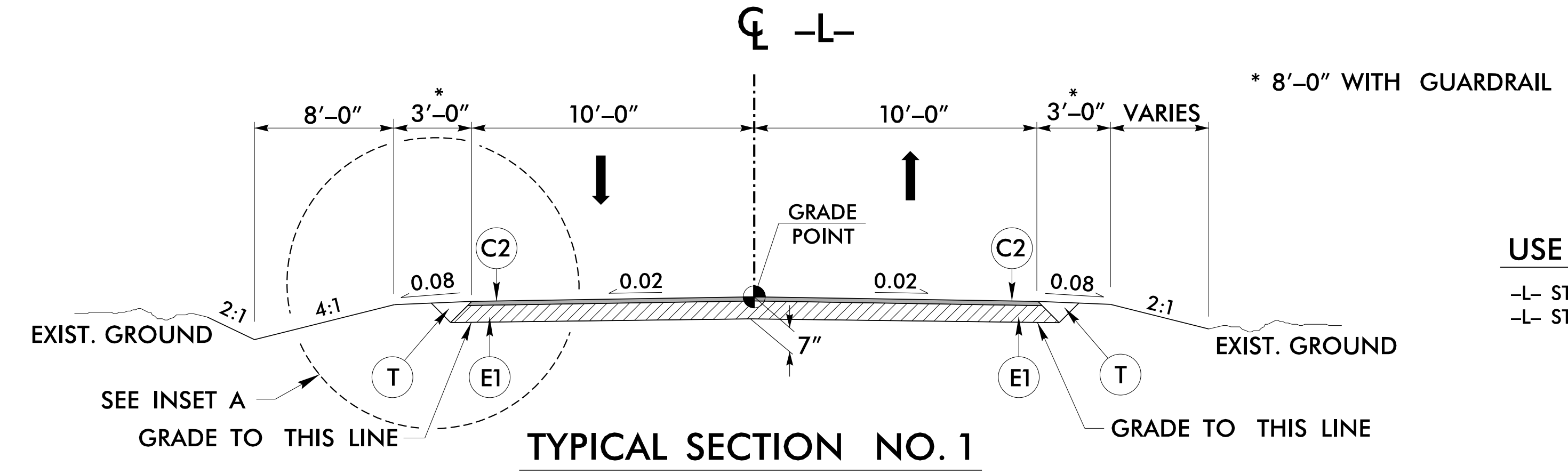
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

TYPE	STATION	NORTH	EAST
PC	10+00.00	630720.5350	776933.8981
PT	10+82.43	630778.4268	776478.0645
PC	11+91.88	630859.5658	777065.9667
PT	12+87.23	630906.6432	777147.1407
PC	13+76.93	630925.8640	777234.7542
PT	14+55.33	630949.3816	777309.4399
PC	15+23.51	630975.5641	777372.3911
PT	16+43.14	631036.3636	777474.9589
POT	16+60.65	631087.7014	777459.3839

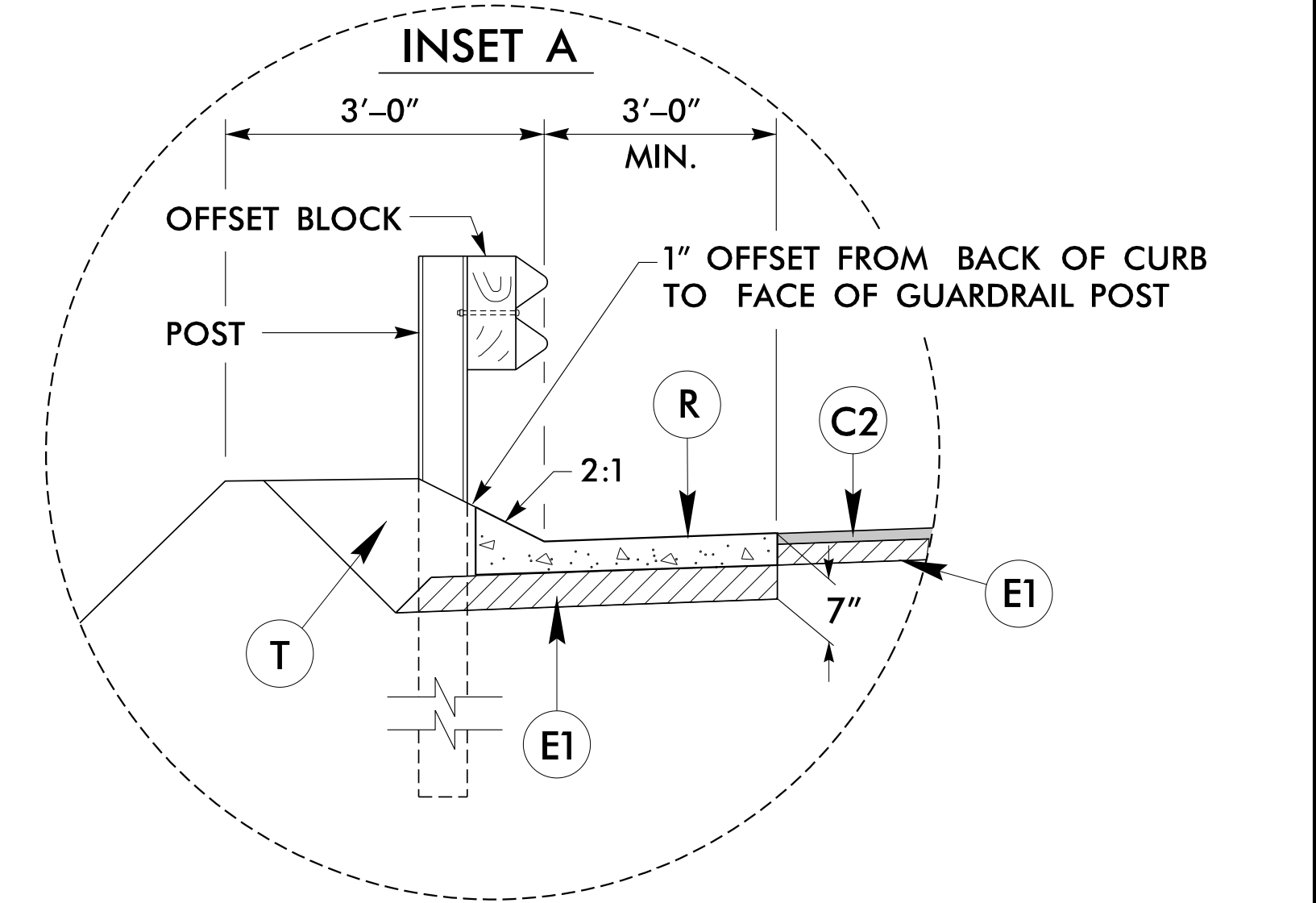
**NOTES:**

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:  
 490185\_LS\_CONTROL.TXT  
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER CONTROL INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- ⊗ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT BY THE NCDOT LOCATION AND SURVEYS UNIT.  
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

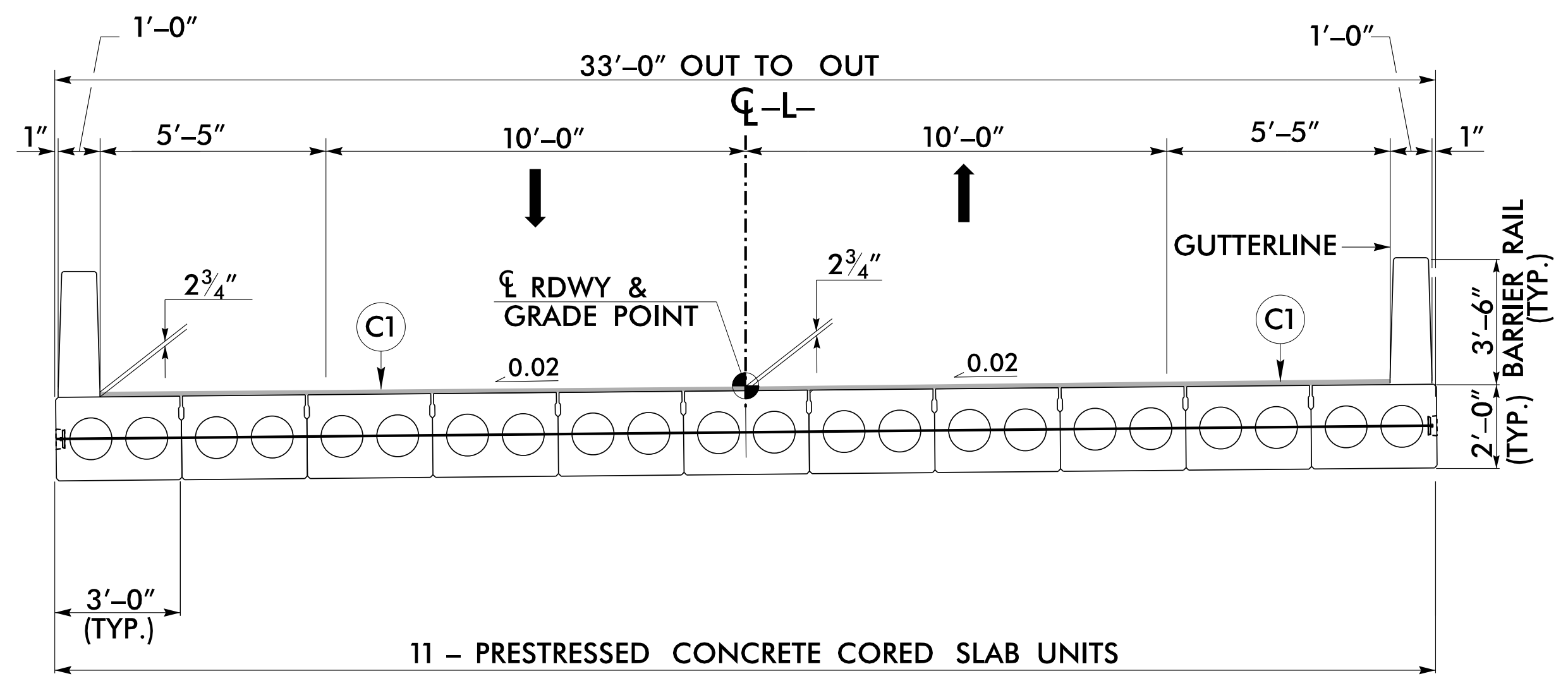
PROJECT REFERENCE NO. 17BPJ4RJ49	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER JAMES LAWRENCE 7/13/2021	PAVEMENT DESIGN ENGINEER RECE M. SCHULZ 7/13/2021
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



**USE TYPICAL SECTION NO. 1**  
 -L- STA. 11+45.00 TO -L- STA. 13+18.87 (BEGIN BRIDGE)  
 -L- STA. 13+97.00 TO -L- STA. 15+20.00



**-L- STA. 13+78.13 (END APPROACH SLAB) TO -L- STA. 13+97.00 LT**



**USE TYPICAL SECTION NO. 2**  
 -L- STA. 13+18.87 (BEGIN BRIDGE) TO  
 -L- STA. 13+66.13 (END BRIDGE)

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2 3/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 154 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
R	SHOULDER BERM GUTTER (NCDOT STD. DWG. 846.01)
T	EARTH MATERIAL

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

STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

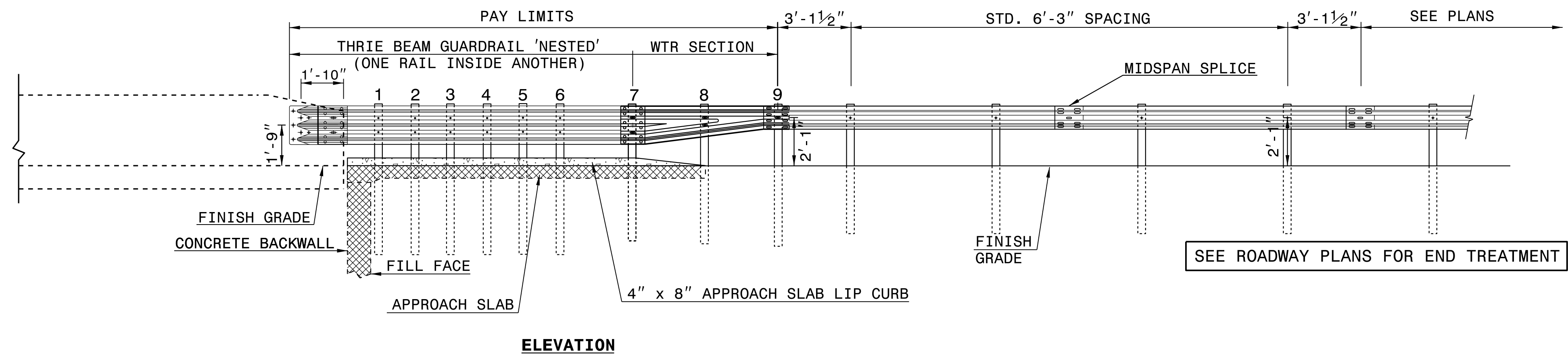
ENGLISH DETAIL DRAWING FOR  
**TYPE III - SHOP CURVED  
STRUCTURE ANCHOR UNIT**

SHEET 1 OF 1  
**TYPE III SC**

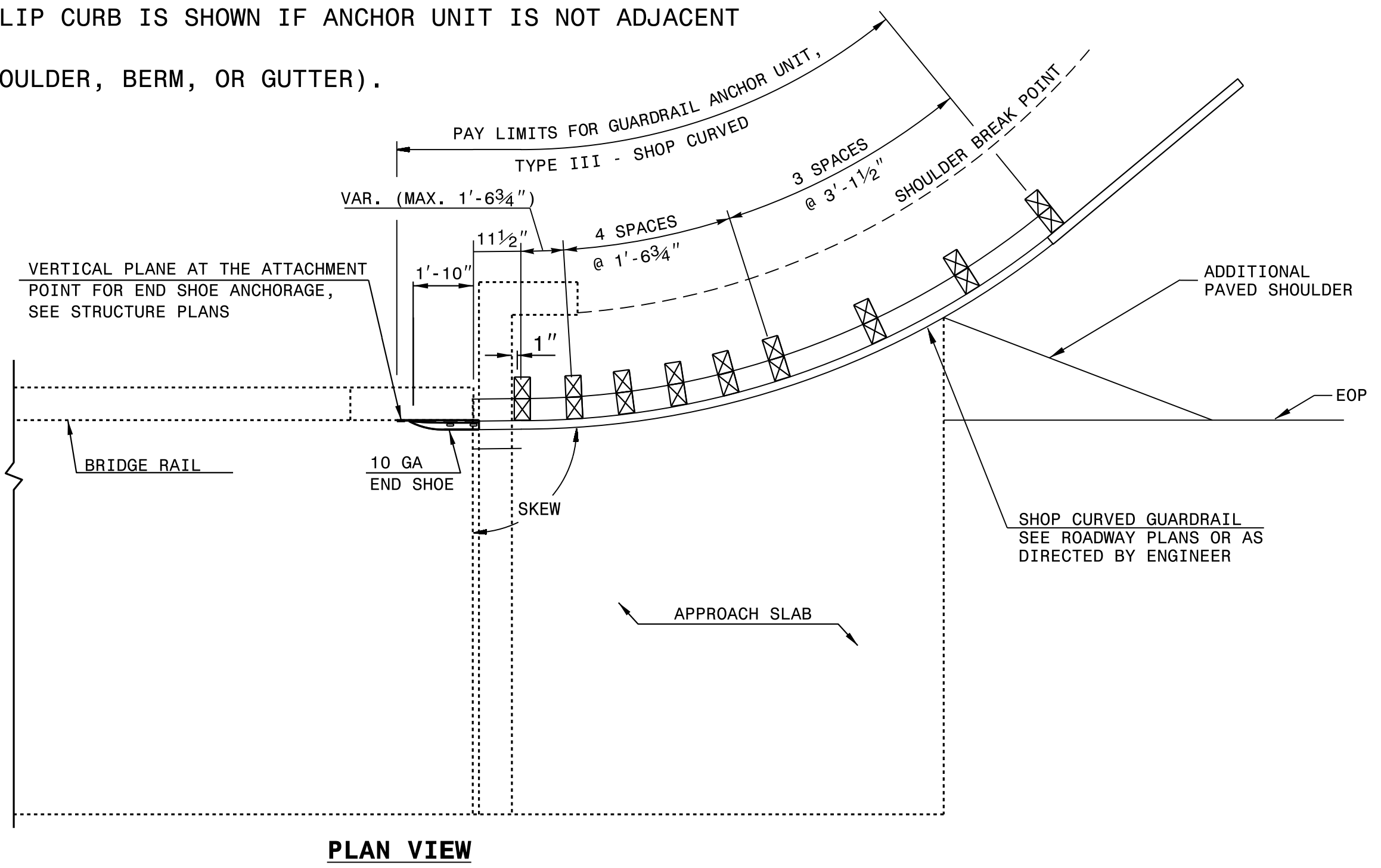
STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**TYPE III - SHOP CURVED  
STRUCTURE ANCHOR UNIT**

SHEET 1 OF 1  
**TYPE III SC**

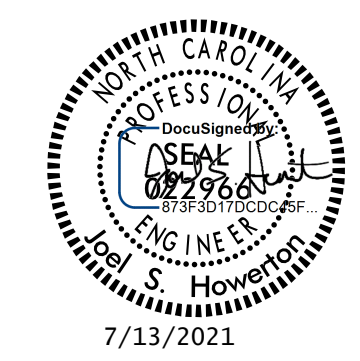


- NOTE:
- \*\*POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
  - \*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.
  - SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
  - MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
  - USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
  - LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
  - SEE STANDARD 862.03 SHEET 4 FOR POST SECTIONS 1 THRU 9.



**GUARDRAIL ANCHOR UNIT, TYPE III - SHOP CURVED  
FOR ATTACHMENT TO RAIL ON BRIDGE**

01-FEB-2018 09:49 S:\Contracts\Special Details\howerton\Guardrail\31 inch Guardrail\type\_iii.sc.dgn Jhowerton AT CSD-292595



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS  
AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**SEE PLATE FOR TITLE**

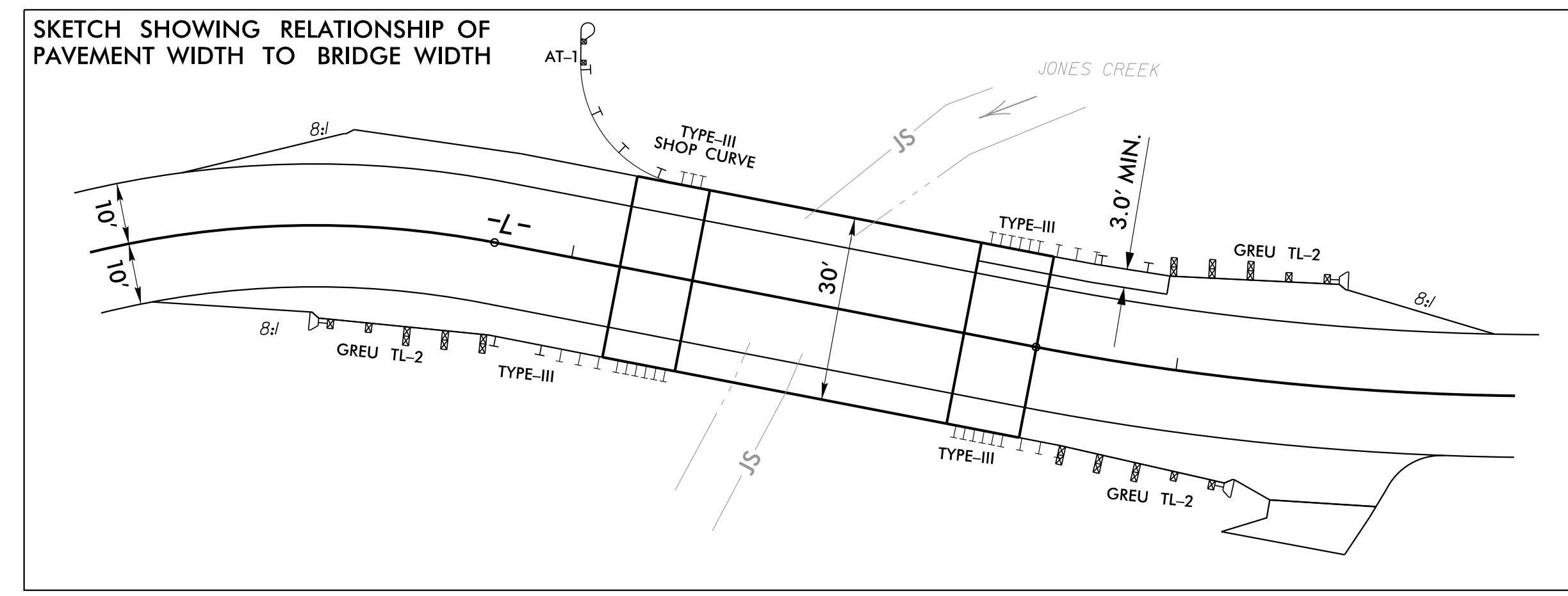
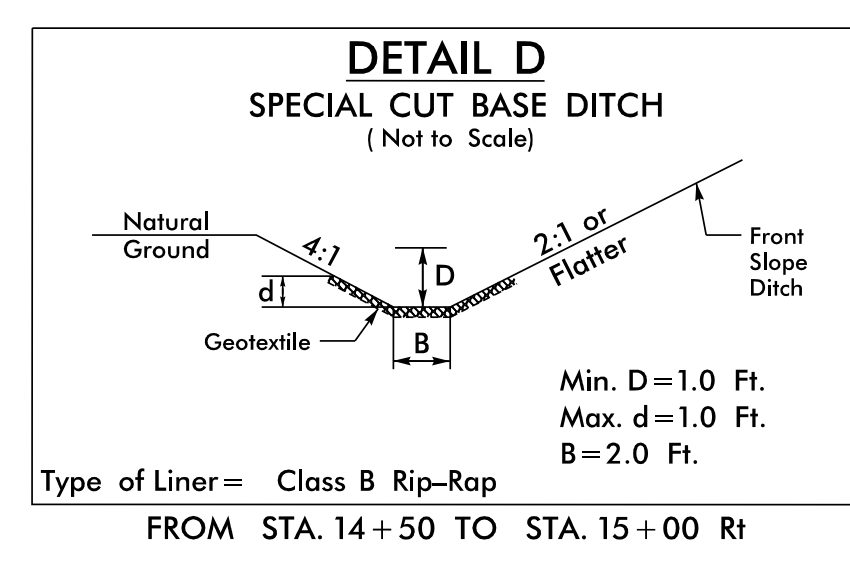
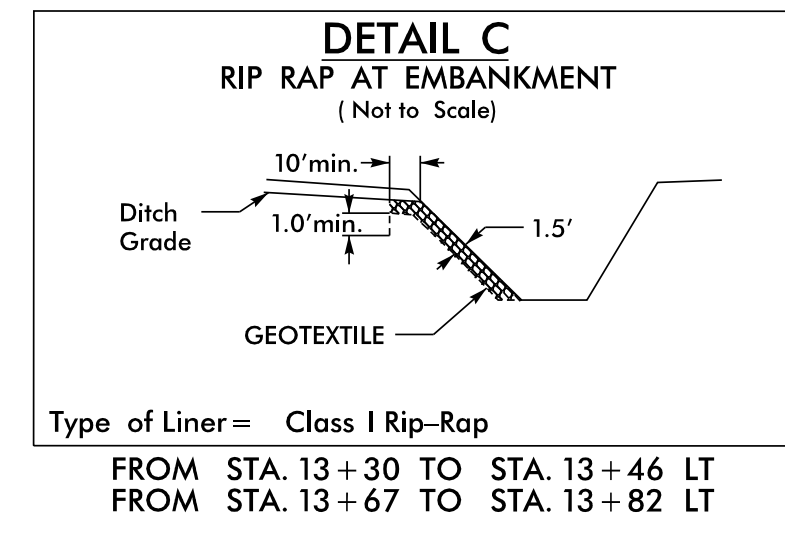
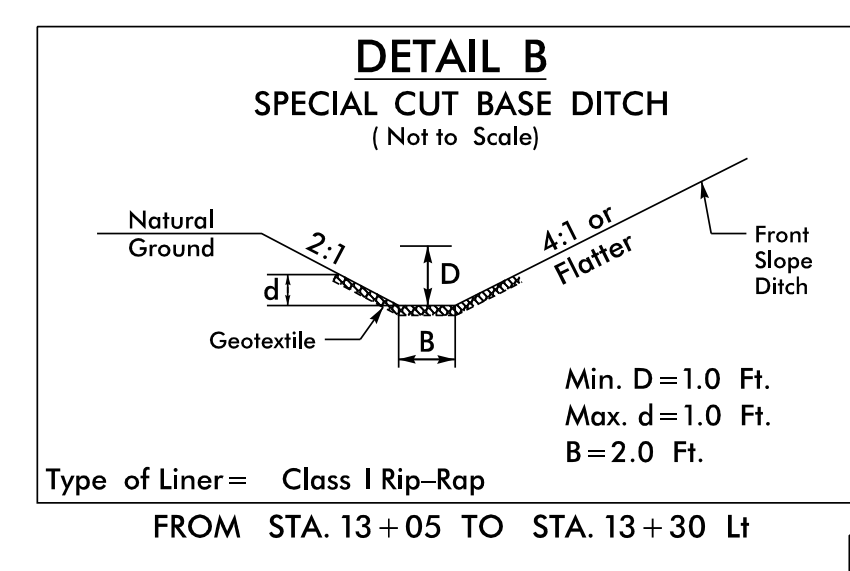
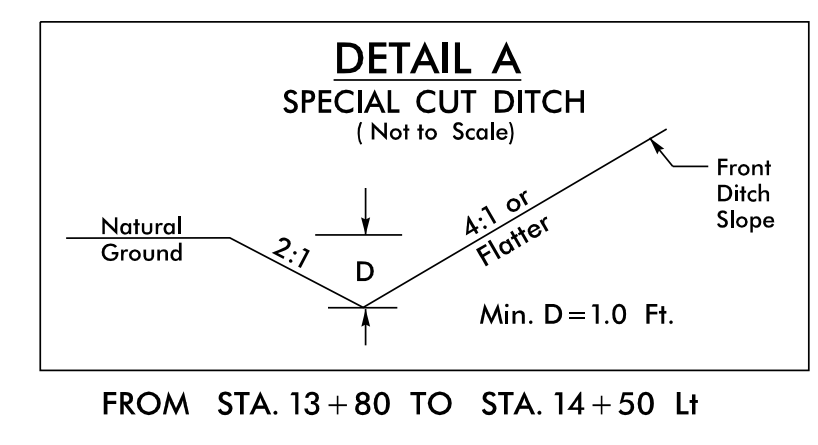
ORIGINAL BY: E.E.Ward DATE: 4-4-02  
 MODIFIED BY: T.S.Spell DATE: 2-01-18  
 CHECKED BY: DATE:  
 FILE SPEC.: jhowerton\guardrail\31inguardrail\typeiiiisc.dgn



5/14/99

PROJECT REFERENCE NO. <b>17BP.14.R.149</b>	SHEET NO. <b>2D-1</b>
ROADWAY DESIGN ENGINEER <i>John C. Laney</i>	HYDRAULICS ENGINEER <i>John B. Alford</i>
7/13/2021	7/13/2021

## SHOULDER BERM GUTTER END BRIDGE TO -L- STA. 13+97 LT.



4/15/2021 10:18:36 AM sheet2D-1.dgn



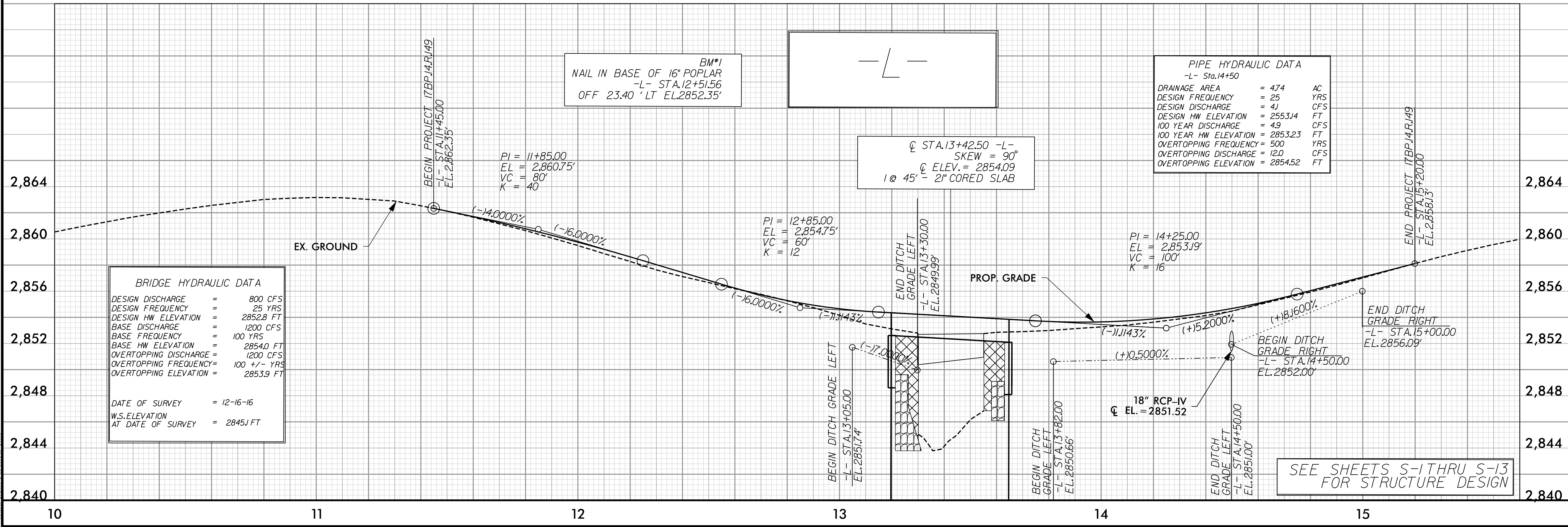
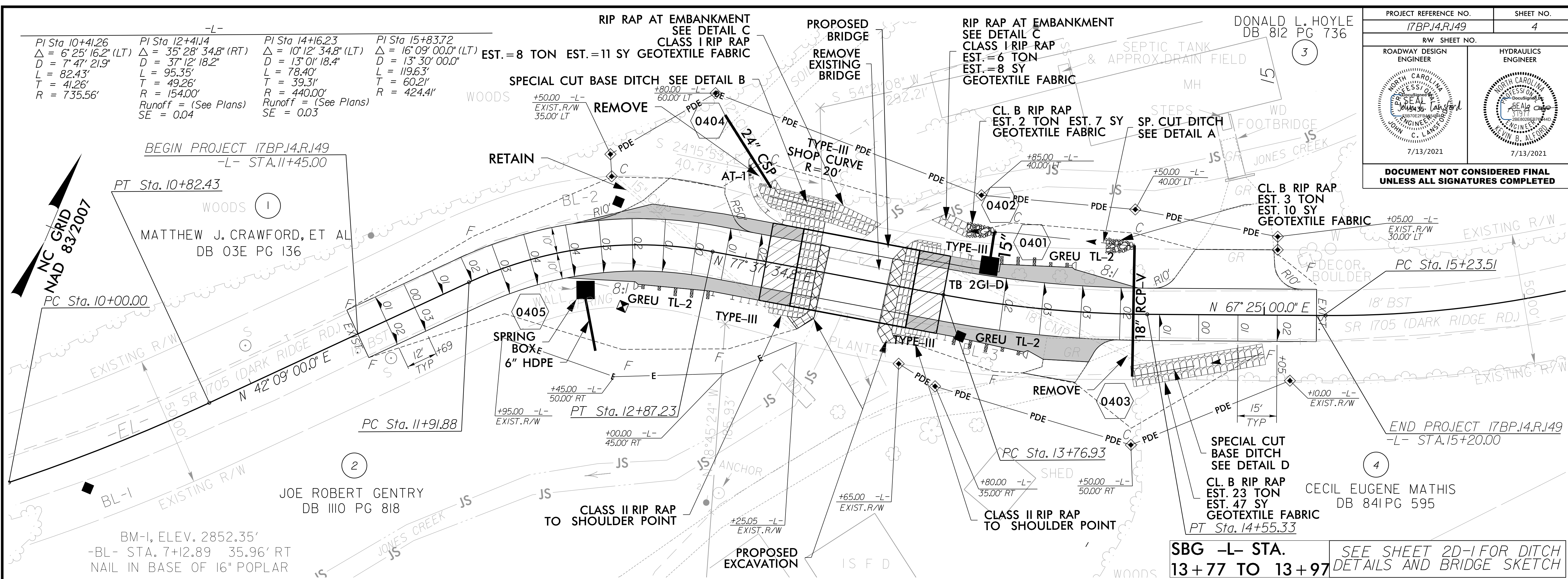




8/17/19

PROJECT REFERENCE NO. 17BP14.R149	SHEET NO. 4
ROADWAY DESIGN ENGINEER MATTHEW J. CRAWFORD	HYDRAULICS ENGINEER CECIL EUGENE MATHIS
7/13/2021	7/13/2021

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



SEE SHEETS S-1 THRU S-13 FOR STRUCTURE DESIGN

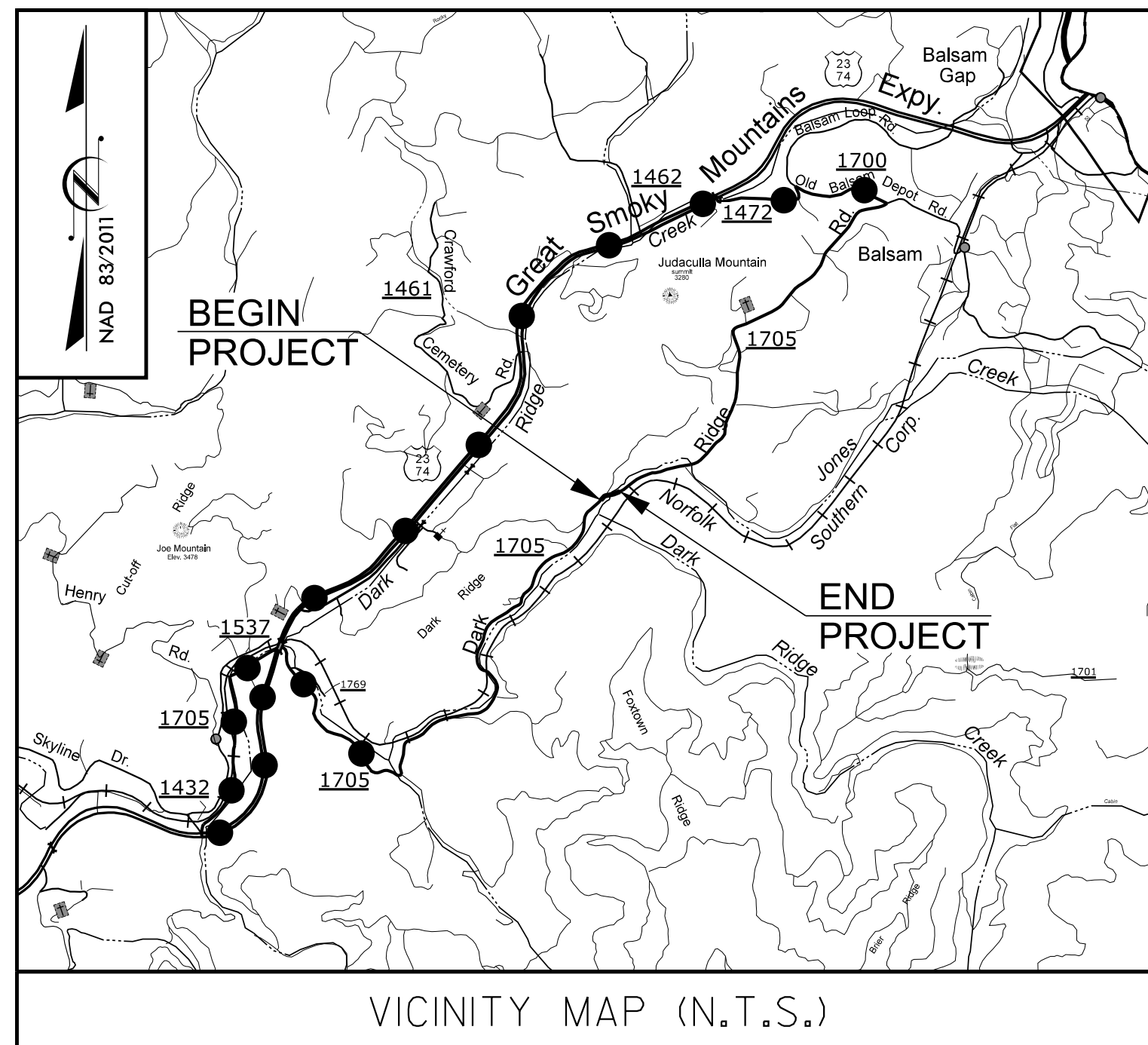
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User: jackson



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**JACKSON COUNTY**  
**DIVISION 14**



● ● ● DETOUR ROUTE

**LOCATION: REPLACE BRIDGE NO. 490185 OVER JONES CREEK  
ON SR 1705 (DARK RIDGE RD.)**

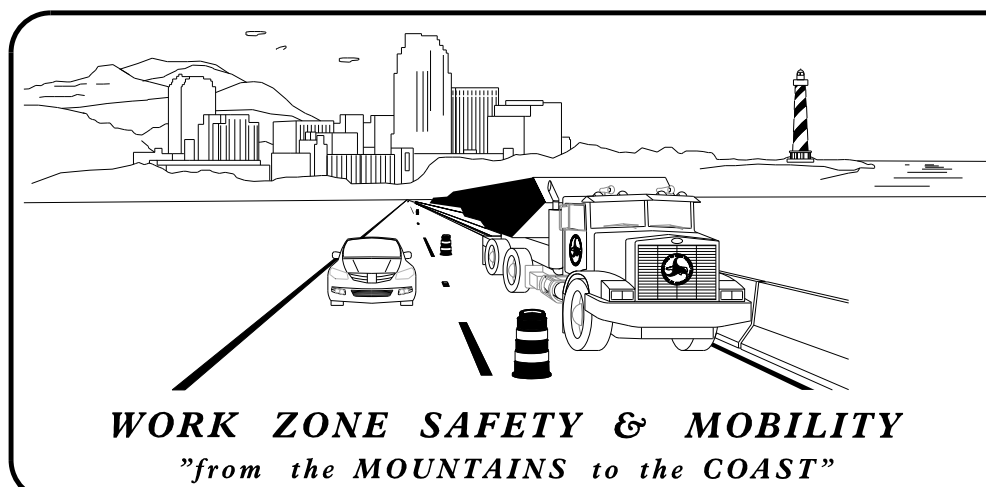
**INDEX OF SHEETS**

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

SHEET NO.  
TMP-1

**PROJECT: 17BP.14.R.149**

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



**PLANS PREPARED BY:**

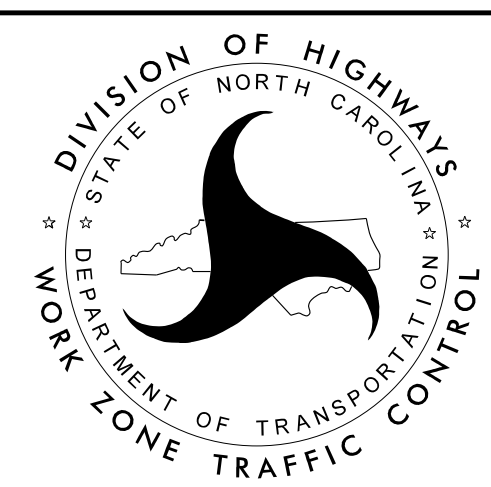
LLOYD D. BROWN, P.E., P.L.S.  
PROJECT ENGINEER

C. GONZALEZ-MARTELL  
PROJECT DESIGN ENGINEER

**NCDOT CONTACTS:**

JOSEPH E. HUMMER, P.E.  
STATE TRAFFIC MANAGEMENT ENGINEER

DON A. PARKER, P.E.  
WESTERN WZTC ENGINEER



**V&M**  
Vaughn & Melton  
Consulting Engineers

Asheville, North Carolina  
828-253-2796

- Boone, NC 828-355-9933
- Tri-Cities, TN 423-467-8401
- Knoxville, TN 865-545-5800
- Spartanburg, SC 864-574-4775
- Charleston, SC 843-974-5650
- Middlesboro, KY 606-248-6600
- Raleigh, NC 919-977-9455
- Charlotte, NC 704-357-0488
- Atlanta, GA 770-627-3509

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APPROVED: Lloyd D. Brown  
33954DF17F57468

DATE: 9/7/2021

SEAL

9/3/2021 9:52:06 AM  
...\\TCP\490185\_TMP-1.dgn  
User: samfitzpatrick

# ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
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

## TRANSPORTATION OPERATIONS

### CONSTRUCTION

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

### TMP DESIGN PARAMETERS

TRAFFIC WILL BE DETOURED OFF SITE DURING THE CONSTRUCTION PERIOD.


THE OFF-SITE DETOUR WILL INCLUDE SR 1705 (DARK RIDGE RD), SR 1700 (OLD BALSAM DEPOT RD), SR 1472 (BALSAM LOOP RD), SR 1432 (OLD 19-23 HWY), US 23-74 AND SR 1707 (SUGAR LOAD RD) (GREAT SMOKY MOUNTAINS EXPY) (SEE SHEET TMP-3).

## LOCAL NOTES

1. NOTIFY JACKSON COUNTY EMERGENCY SERVICES AND PUBLIC SCHOOLS AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.

## LEGEND

### GENERAL

 NORTH ARROW

### TRAFFIC CONTROL DEVICES

 BARRICADE (TYPE III)

### TEMPORARY SIGNING

 STATIONARY SIGN

# GENERAL NOTES

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

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

### TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.
- B) MAINTAIN DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION.

### SIGNING

- C) PROVIDE TEMPORARY SIGNING.
- D) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- E) PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.
- F) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- G) COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- H) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

### TRAFFIC CONTROL DEVICES

- I) PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGN R-11-2 ATTACHED OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

### PAVEMENT MARKINGS AND MARKERS

- J) INSTALL PAVEMENT MARKINGS (PAINT) ON THE FINAL SURFACE OF THE ENTIRE PROJECT.
- K) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- L) FINAL PAVEMENT MARKING APPLICATIONS OF PAINT SHALL BE PLACED IN TWO APPLICATIONS.

## PHASING

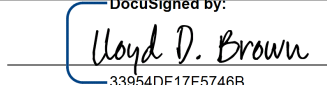
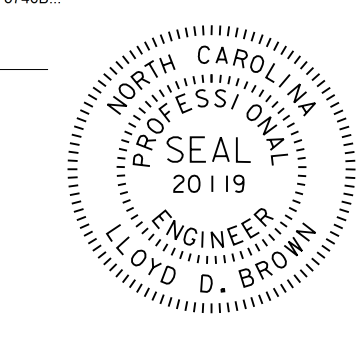
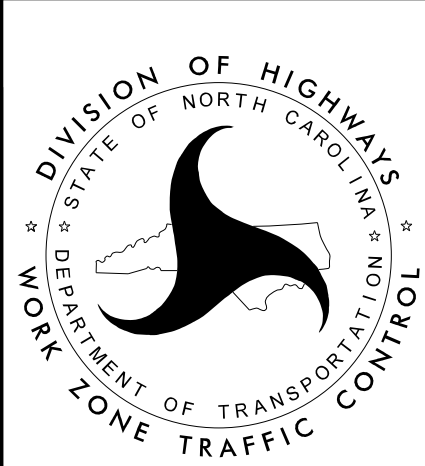
STEP 1: - USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, INSTALL ROAD CLOSURE AND DETOUR SIGN ASSEMBLIES, PLACE TYPE III BARRICADES FOR THE CLOSING OF SR 1705 (DARK RIDGE ROAD, -L-) TO THROUGH TRAFFIC, AND DETOUR TRAFFIC OFF-SITE.

NOTE: INSTALL TYPE III BARRICADES TO CLOSE SR 1705 (DARK RIDGE ROAD, -L-) AT -L- STA. 11+45 ± AND AT -L- STA. 15+20 ±.

STEP 2: - AWAY FROM TRAFFIC, REMOVE THE EXISTING STRUCTURE AND CONSTRUCT THE PROPOSED STRUCTURE AND ROADWAY UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE AND PLACE FINAL PAVEMENT MARKINGS ON SR 1705 ( DARK RIDGE ROAD, -L- ) FROM -L- STA. 11+45 ± TO -L- STA. 15+20 ± . (SEE CONSTRUCTION PLANS).

STEP 3: - ONCE ALL CONSTRUCTION IS COMPLETE, REMOVE OFF-SITE DETOUR SIGNS AND ALL REMAINING TRAFFIC CONTROL DEVICES.

STEP 4: - OPEN SR 1705 ( DARK RIDGE ROAD, -L- ) TO FINAL TRAFFIC PATTERN.

APPROVED:  DATE: 7/15/2021			ROADWAY STANDARD DRAWINGS, GENERAL NOTES, LOCAL NOTES, TRANSPORTATION OPERATIONS, LEGEND, AND PHASING
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			



SIGN NUMR: DARK RIDGE RD      BACKG. COLOR: Orange      DESIGN BY: CGM      CHK BY: LDB  
 TYPE:D    Ground      COPY COLOR: Black      PROJECT ID: 17BP.14.R.149      DIV: 14      DATE: Jan 31, 2017  
 QUANTITY: See Plans

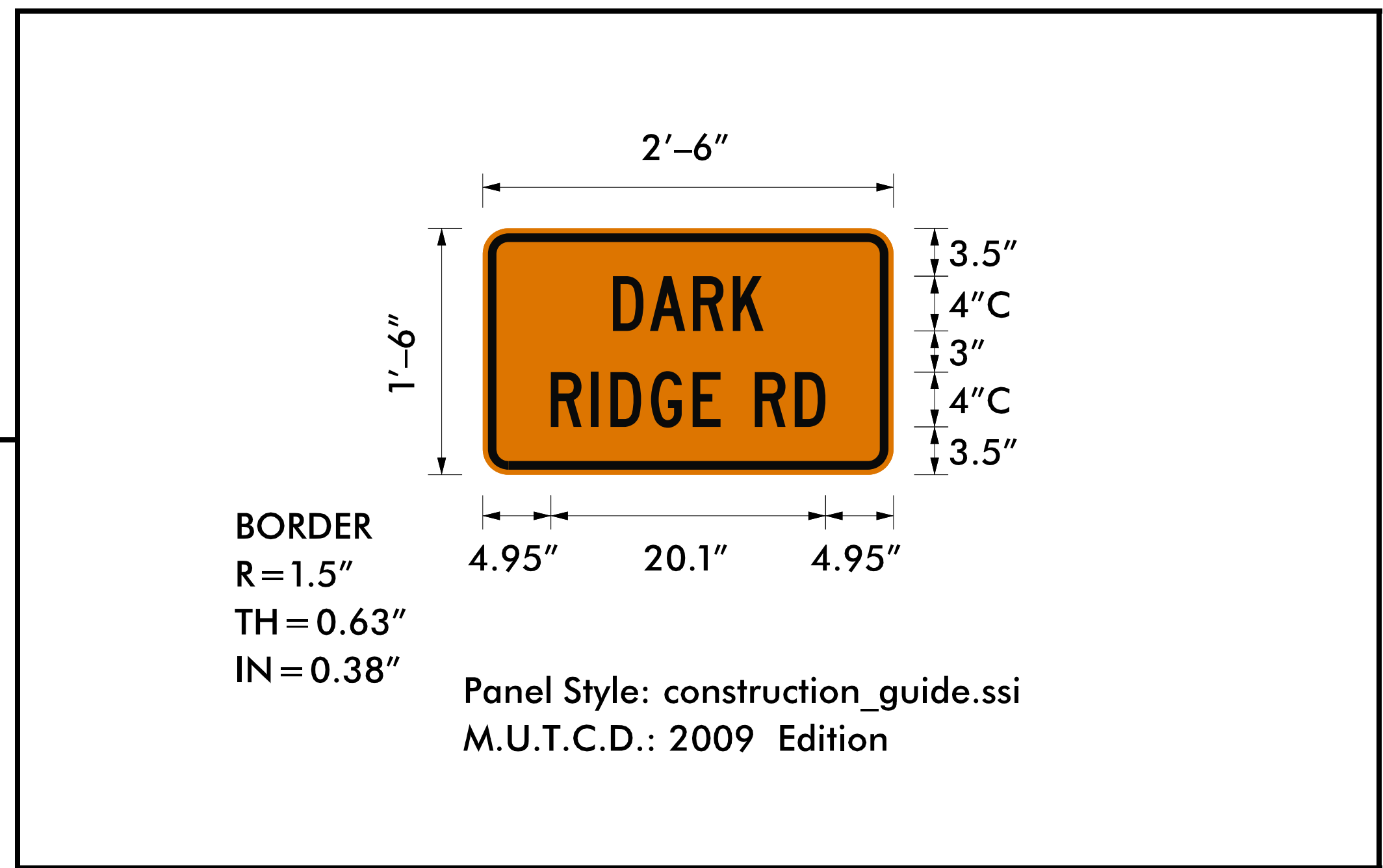
SIGN WIDTH: 2'-6"  
 HEIGHT: 1'-6"  
 TOTAL AREA: 3.8 Sq. Ft.

MAT'L: 0.063 in. (1.6 mm) ALUMINUM

BORDER TYPE: FLUSH  
 RECESS: 0.38"  
 WIDTH: 0.63"  
 RADII: 1.5"

NO. Z BARS:  
 LENGTH: in.

SYMBOL	X	Y	WID	HT



USE NOTES: 1,3,4

- Legend and border shall be direct applied encapsulated lens reflective sheeting.
- Legend and border shall be direct applied enclosed lens reflective sheeting.
- Shields shall be encapsulated lens reflective sheeting on 0.8mm aluminum and demountable.
- Background shall be encapsulated lens reflective sheeting.
- Background shall be enclosed lens reflective sheeting.

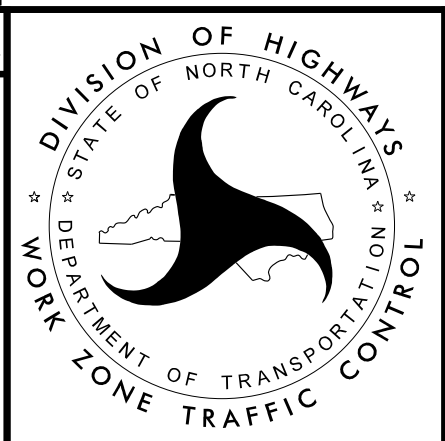
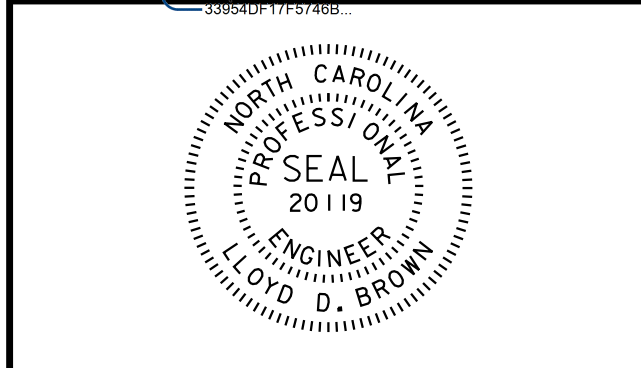
**Letter spacings are to start of next letter**

											Series/Size
											Text Length
	D	A	R	K							C 2000/4
9.5	2.7	3.1	2.9	2.2	9.5						11
	R	I	D	G	E	R	D				C 2000/4
5	2.9	1.4	3	3	2	2.5	2.9	2.2	5		20.1

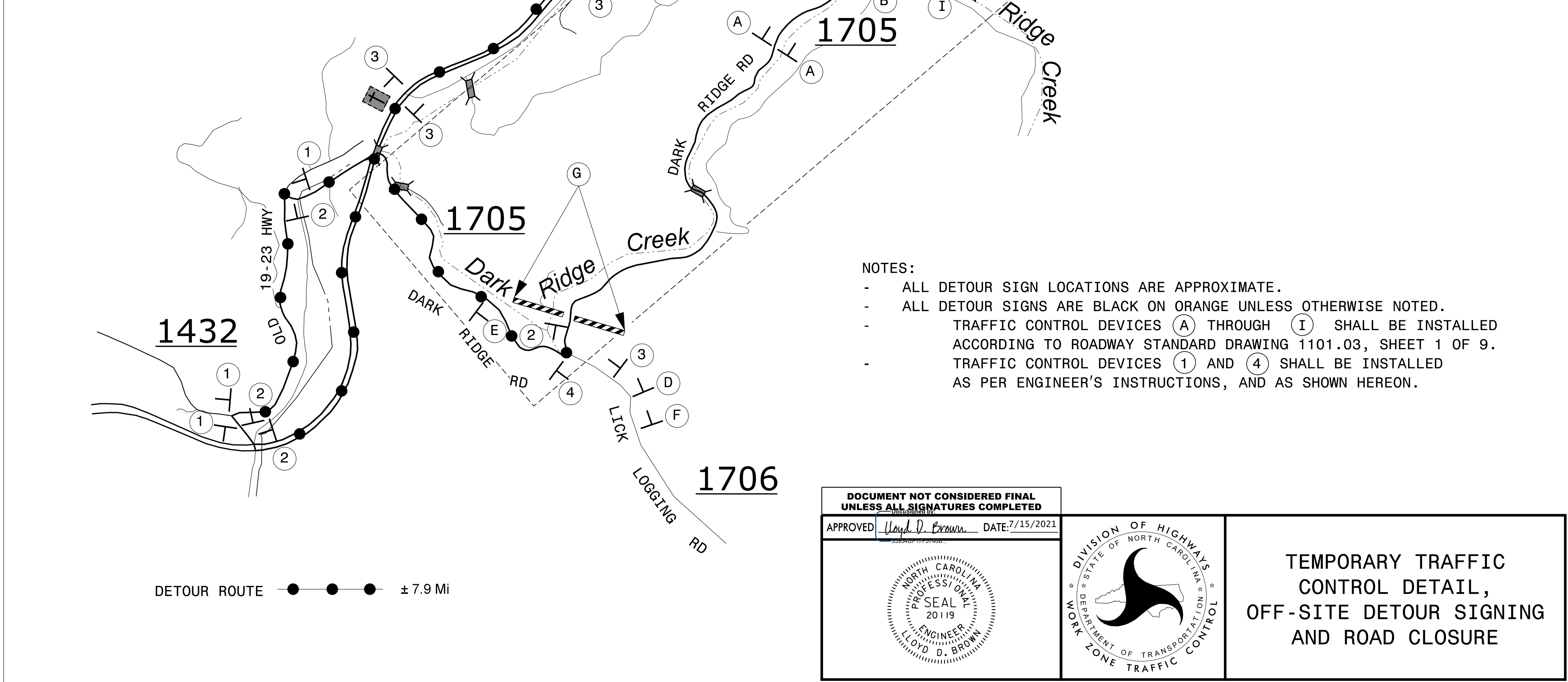
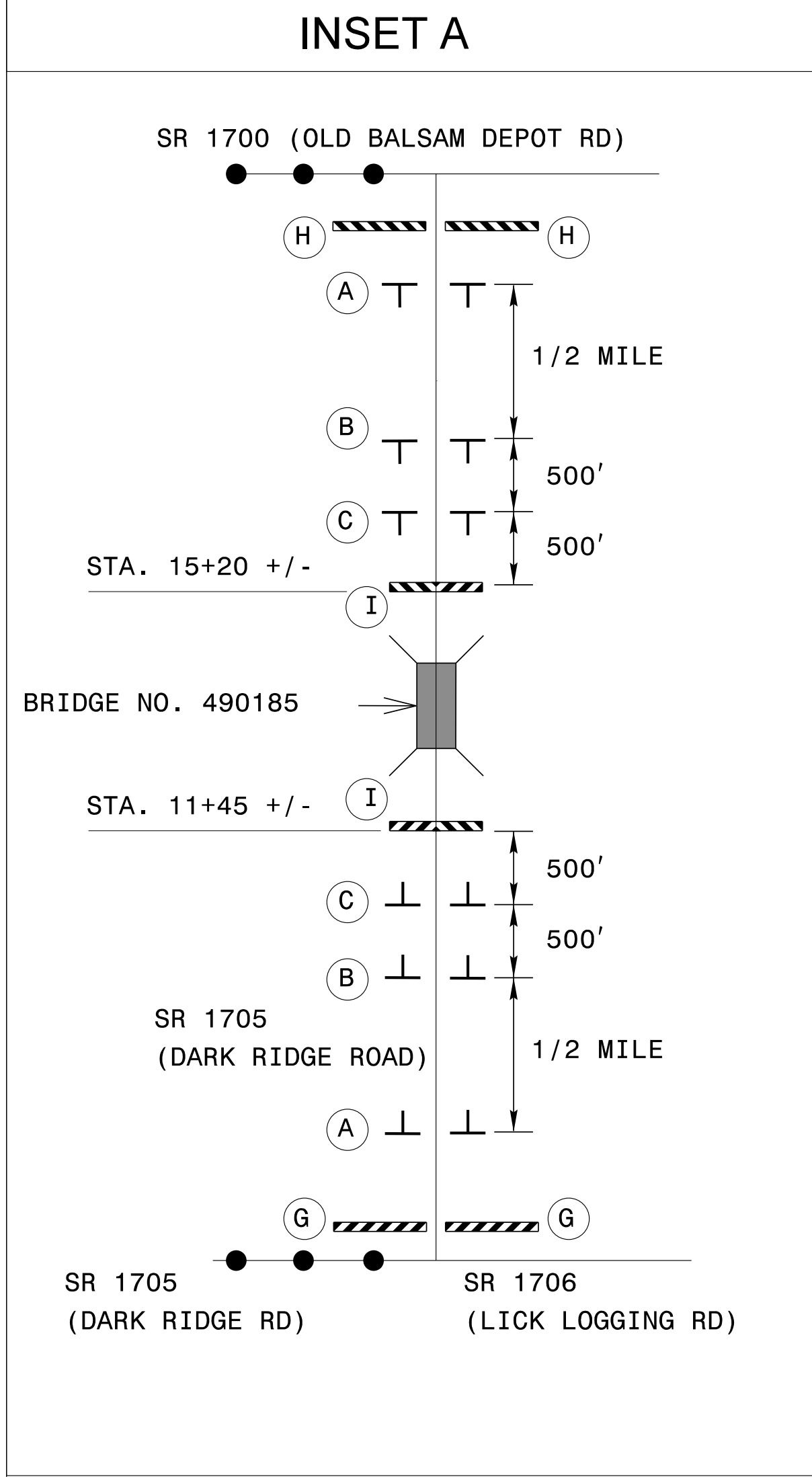
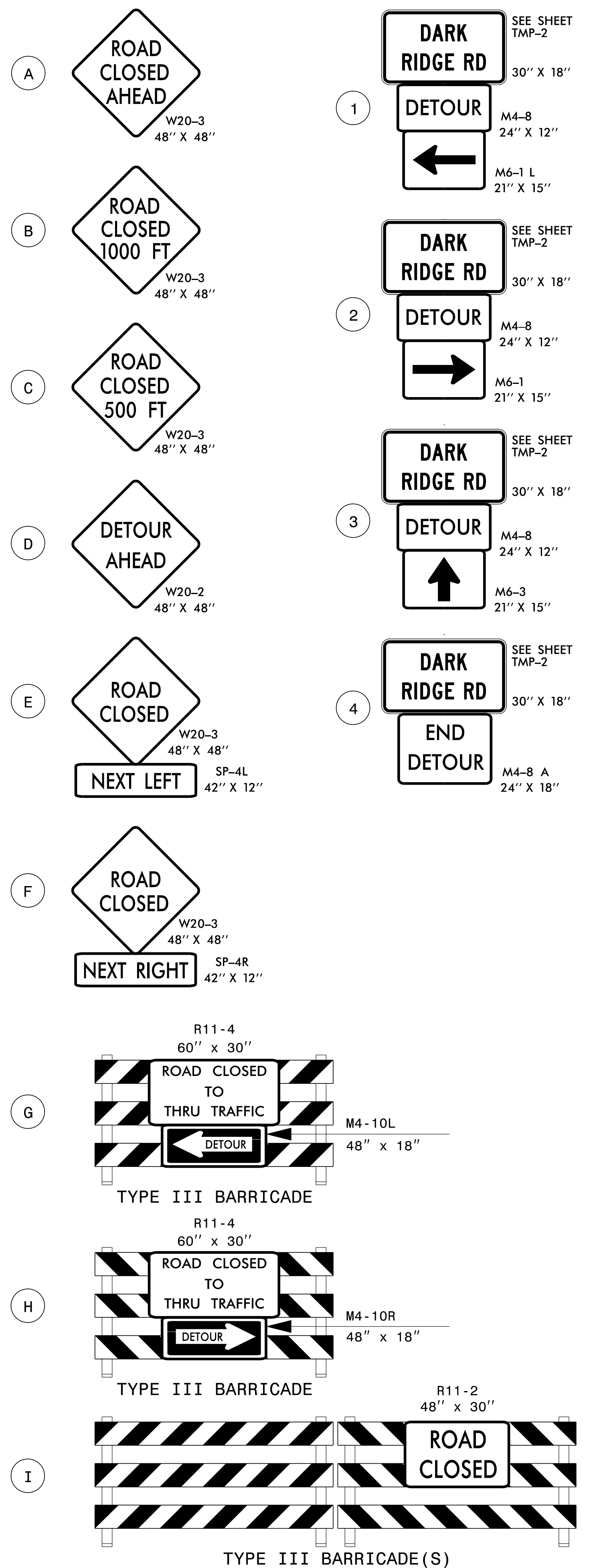
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DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED

APPROVED: Lloyd D. Brown DATE: 7/15/2021



SPECIAL SIGN  
 DESIGN

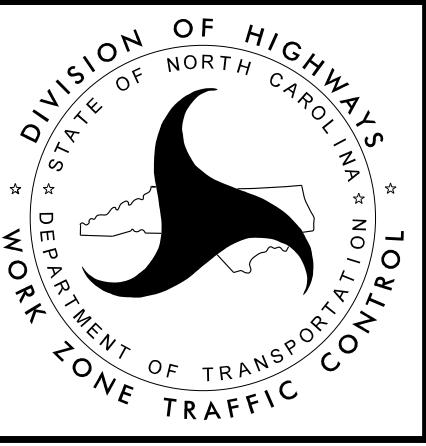


- NOTES:**
- ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.
  - ALL DETOUR SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE NOTED.
  - TRAFFIC CONTROL DEVICES (A) THROUGH (I) SHALL BE INSTALLED ACCORDING TO ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9.
  - TRAFFIC CONTROL DEVICES (1) AND (4) SHALL BE INSTALLED AS PER ENGINEER'S INSTRUCTIONS, AND AS SHOWN HEREON.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED *Lloyd D. Brown* DATE: 7/15/2021

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER LLOYD D. BROWN 20119



**TEMPORARY TRAFFIC CONTROL DETAIL, OFF-SITE DETOUR SIGNING AND ROAD CLOSURE**

7/15/2021 7:56:35 AM  
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 User: samfitzpatrick



7/1/2021 11:49:54 AM  
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User:dmf11zpdtrflick

09.08/99


**PROJECT: 17BP.14.R.149**

**CONTRACT: DN00468**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**PAVEMENT MARKING PLAN**  
**JACKSON COUNTY**  
**LOCATION : BRIDGE NO. 490185 OVER JONES CREEK**  
**ON SR 1705 (DARK RIDGE ROAD)**

TIP NO. <b>17BP.14.R.149</b>	SHEET NO. <b>PMP-1</b>
APPROVED: <u>Lloyd D. Brown</u> <small>3334DPT1F07406...</small>	
DATE: 7/15/2021	



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

**ROADWAY STANDARD DRAWING**

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

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES & MOUNTING
1262.01	GUARDRAIL END DELINEATION

**GENERAL NOTES**

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

A) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE

ROAD NAME:	MARKING	MARKER
SR 1705 (DARK RIDGE 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.


E) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

**INDEX**


SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE SHEET
PMP-2	PAVEMENT MARKING DETAIL AND SCHEDULE


**LEGEND**

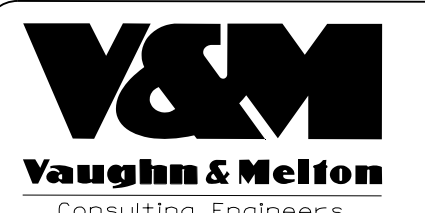
**GENERAL**

 NORTH ARROW

**PAVEMENT MARKINGS**

 EXISTING LINES

 PERMANENT LINES



Asheville, North Carolina  
828-253-2796

- Boone, NC 828-355-9933
- Tri-Cities, TN 423-467-8401
- Knoxville, TN 865-546-5800
- Spartanburg, SC 864-574-4775
- Charleston, SC 843-574-5650
- Middlesboro, KY 606-248-6600
- Raleigh, NC 919-977-9455
- Charlotte, NC 704-357-0488
- Atlanta, GA 770-627-3509

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**TRANSPORTATION ENGINEER** LLOYD D. BROWN, P.E.

**TRANSPORTATION DESIGN ENGINEER** C. GONZALEZ-MARTELL

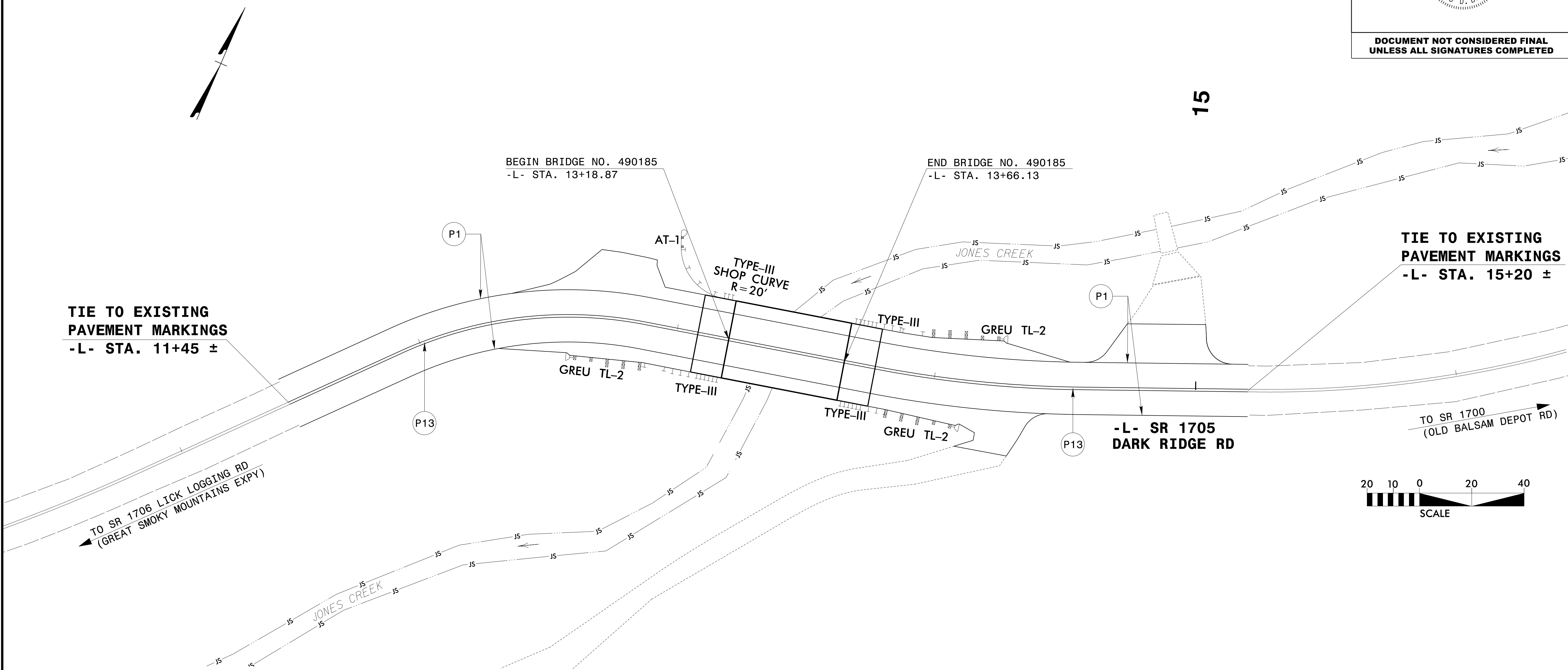


8/17/99  
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V:\Asheville\transportation\31631-06 Jackson 185 - 17BP.14.R.149\TrafficControl\TCP\_490185\_PMP-2.dgn  
Jasent@hzn.com

# PAVEMENT MARKING DETAIL AND SCHEDULE

TIP NO. <b>17BP.14.R.149</b>	SHEET NO. <b>PMP-2</b>
APPROVED: <i>Lloyd D. Brown</i> <small>3384051757495</small>	
DATE: 7/15/2021	

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

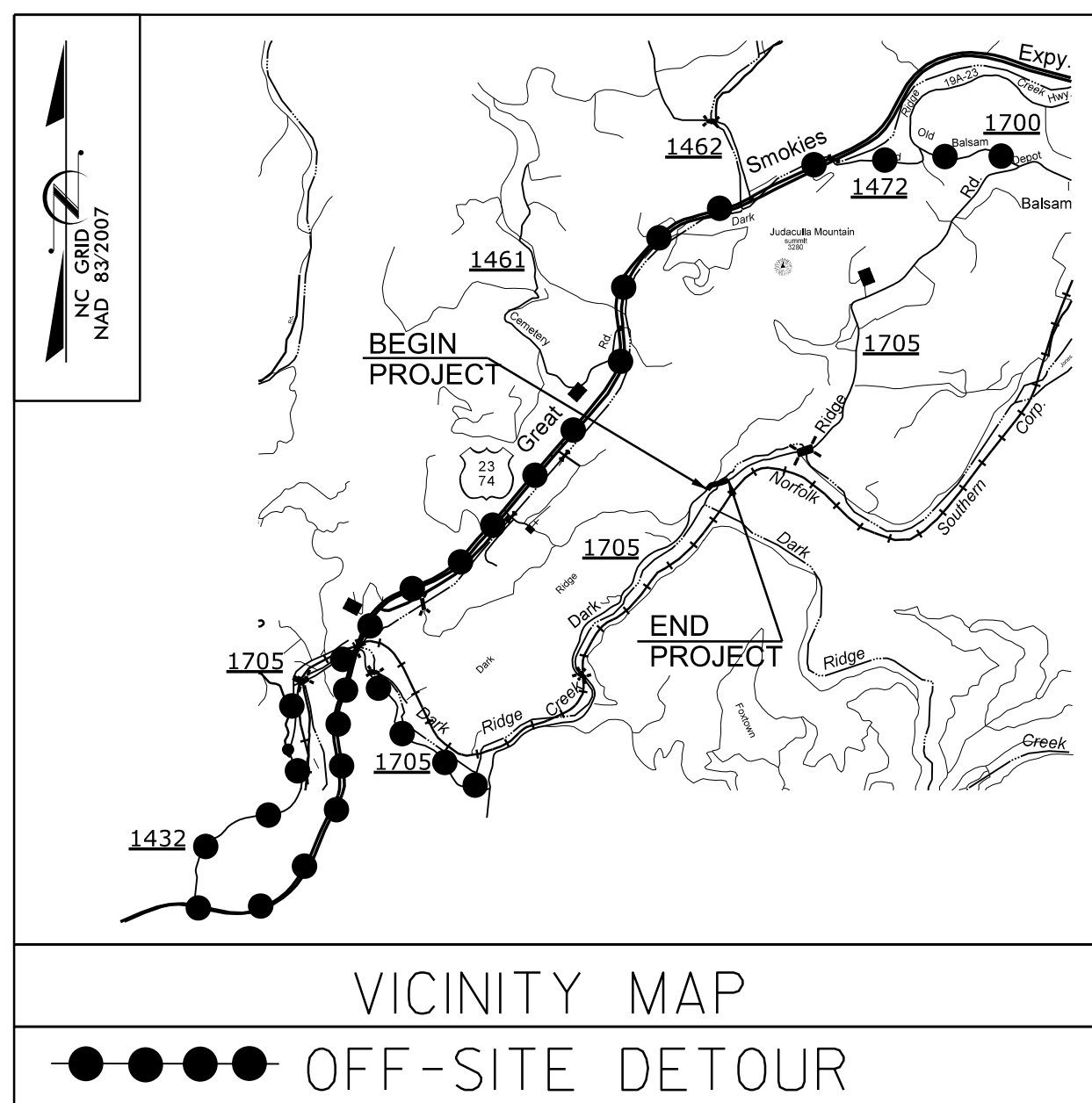


<b>PAVEMENT MARKING SCHEDULE</b>				
SYMBOL	DESCRIPTION	QUANTITY BREAKDOWN	PAY ITEM	TOTAL QUANTITY
P1	WHITE EDGELINE	750 FT	PAINT (4", 2 COATS)	1,500 FT
P13	YELLOW DOUBLE CENTER	750 FT	PAINT (4", 2 COATS)	1,500 FT

**PROJECT: 17BP.14.R.145**

**CONTRACT: DN00468**

See Sheet 1A For Index of Sheets



**ROADSIDE ENVIRONMENTAL UNIT**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
RALEIGH, N.C.  
**2018 STANDARD SPECIFICATIONS**

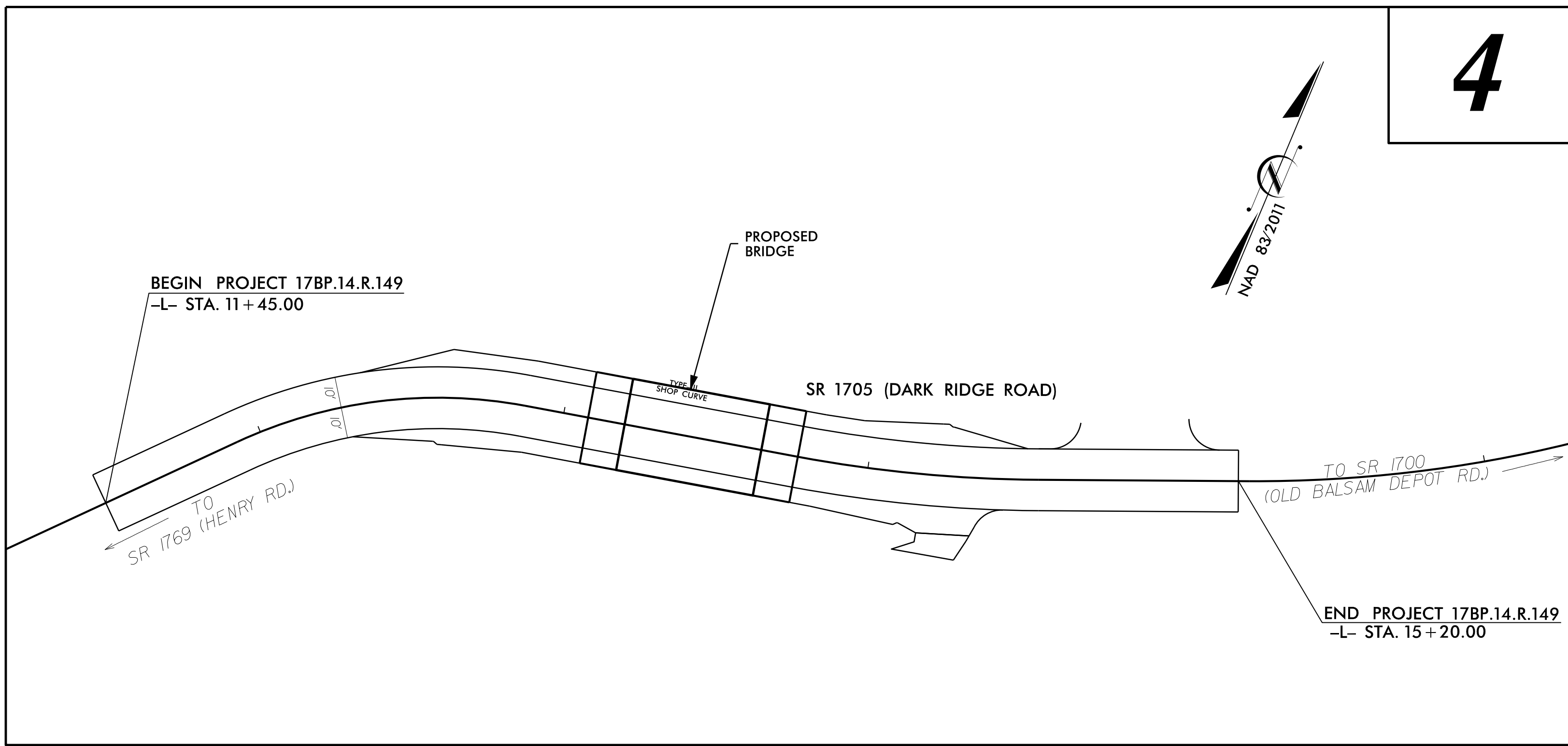
# STATE OF NORTH CAROLINA

## DIVISION OF HIGHWAYS

### PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

### JACKSON COUNTY

LOCATION: REPLACE BRIDGE NO. 490185 OVER JONES CREEK  
 ON SR 1705 (DARK RIDGE RD.)  
 TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.149	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.14.R.145	N/A	PE	
17BP.14.R.145	N/A	RW	
17BP.14.R.145	N/A	CONST.	

#### EROSION AND SEDIMENT CONTROL MEASURES

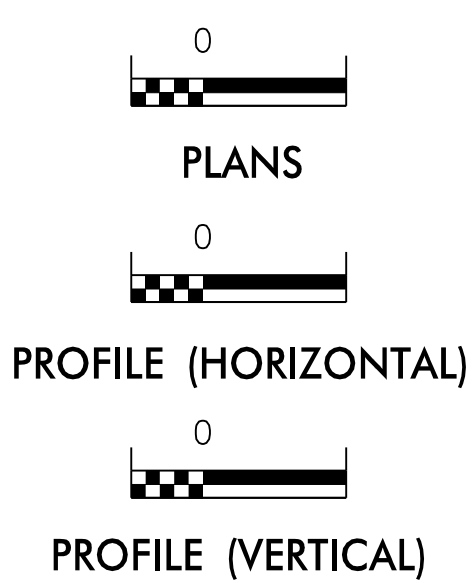
Std. #	Description	Symbol
1630.05	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	—
1630.02	Silt Basin Type B	□
1633.01	Temporary Rock Silt Check Type-A	□
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	□
1633.02	Temporary Rock Silt Check Type-B	□
	Wattle / Coir Fiber Wattle	—
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	—
1634.01	Temporary Rock Sediment Dam Type-A	□
1634.02	Temporary Rock Sediment Dam Type-B	□
1635.01	Rock Pipe Inlet Sediment Trap Type-A	□
1635.02	Rock Pipe Inlet Sediment Trap Type-B	□
1630.04	Stilling Basin	□
1630.06	Special Stilling Basin	□
	Rock Inlet Sediment Trap:	
1632.01	Type A	A □
1632.02	Type B	B □
1632.03	Type C	C □
	Skimmer Basin	□
	Tiered Skimmer Basin	□
	Infiltration Basin	□

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

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.

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.

**GRAPHIC SCALE**



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:  
**WETHERILL ENGINEERING**  
 1223 JONES FRANKLIN ROAD  
 RALEIGH, NC 27606  
**2018 STANDARD SPECIFICATIONS**  
Designed by:  
**MATTHEW HARVEY** 3487  
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
 1 South Wilmington St.  
 Raleigh, NC 27611  
**2018 STANDARD SPECIFICATIONS**

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	

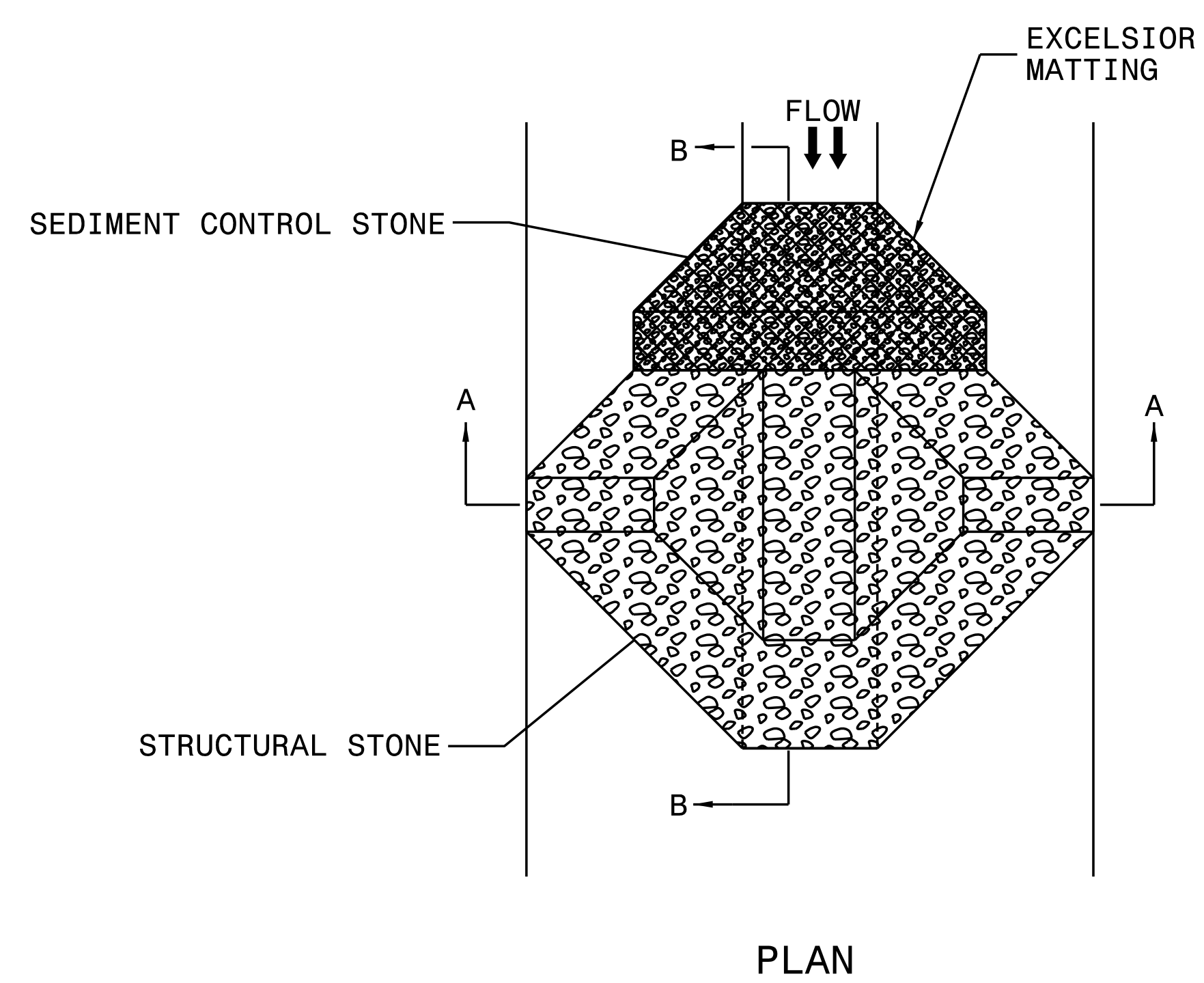
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

***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.



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



PLAN

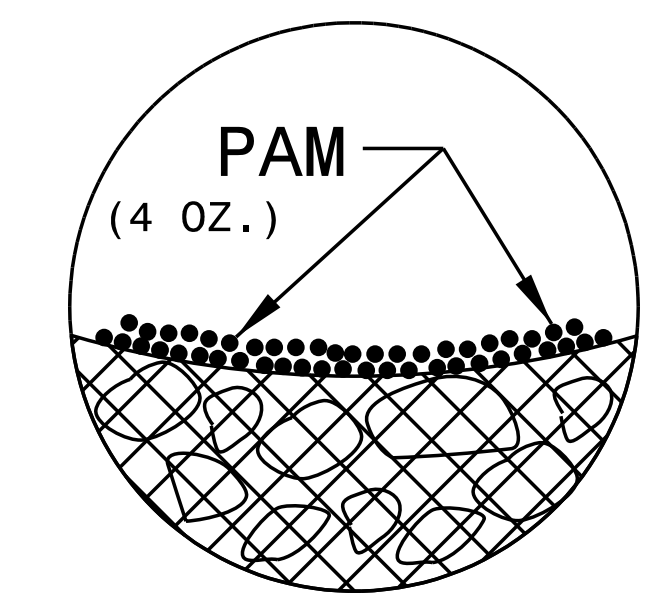
**NOTES:**

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

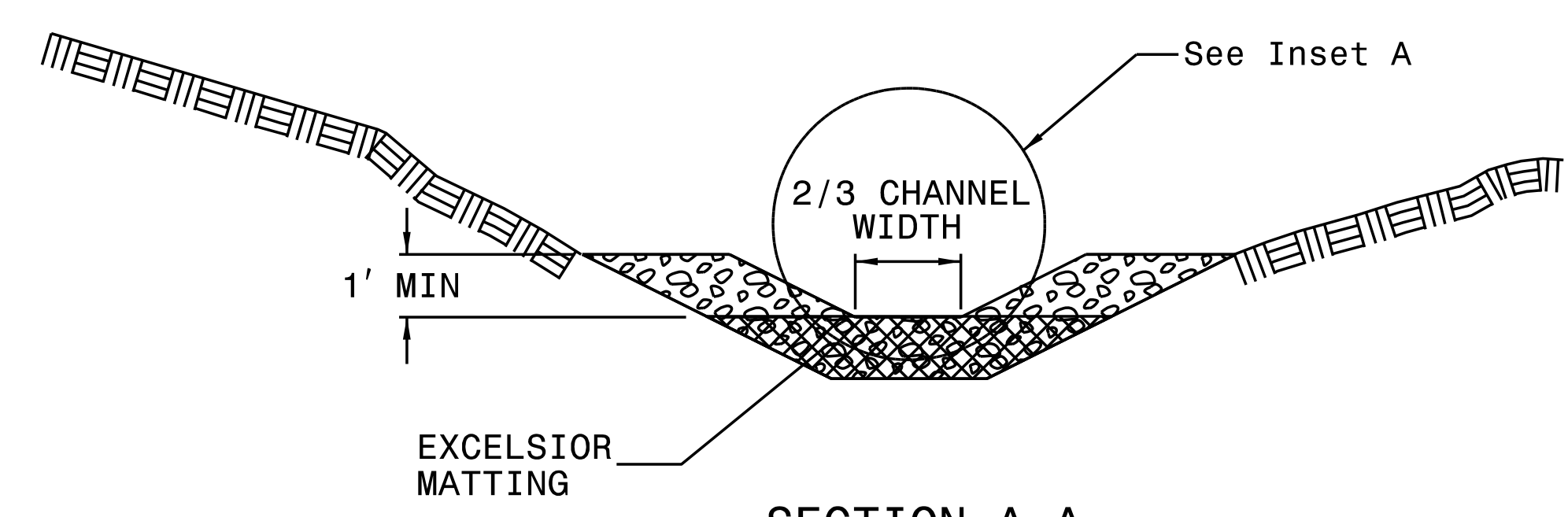
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

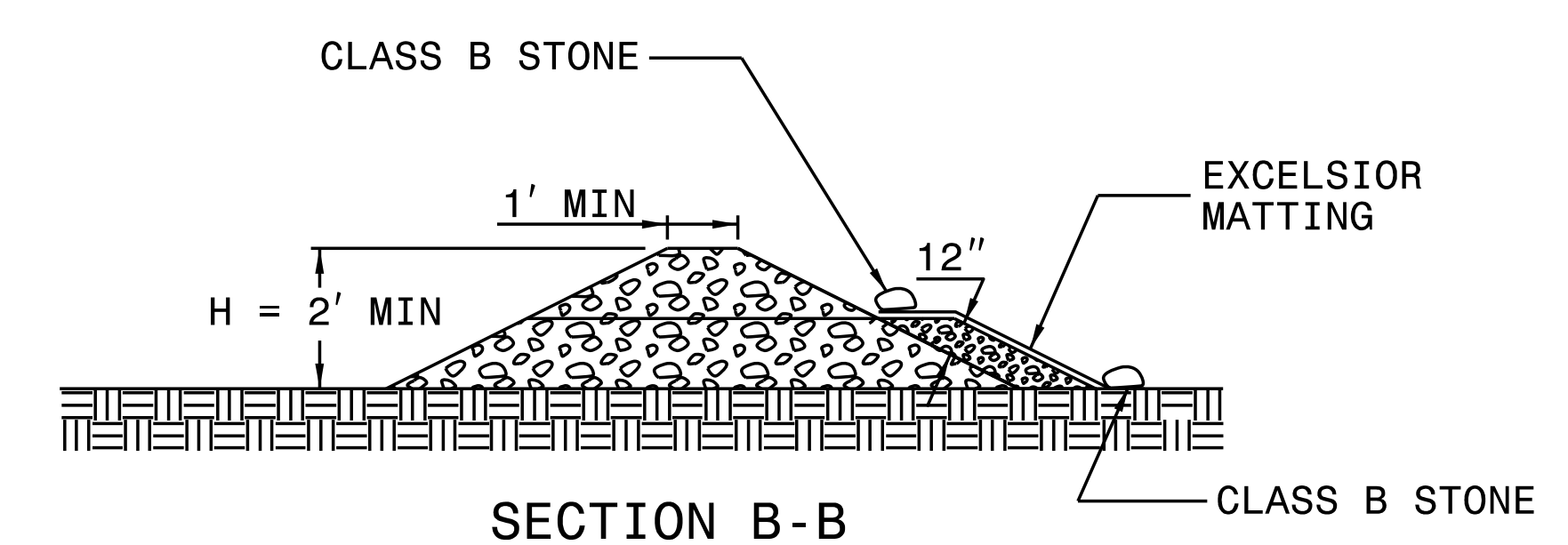
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE









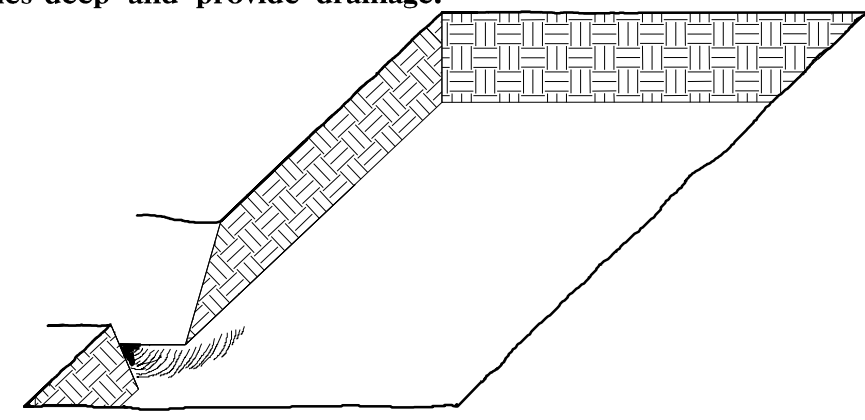
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.139	RF-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

## PLANTING DETAILS

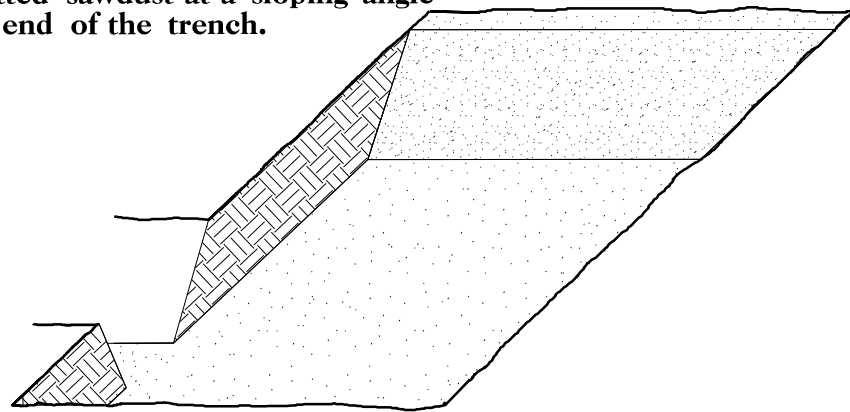
### SEEDLING / LINER BAREROOT PLANTING DETAIL

#### HEALING IN

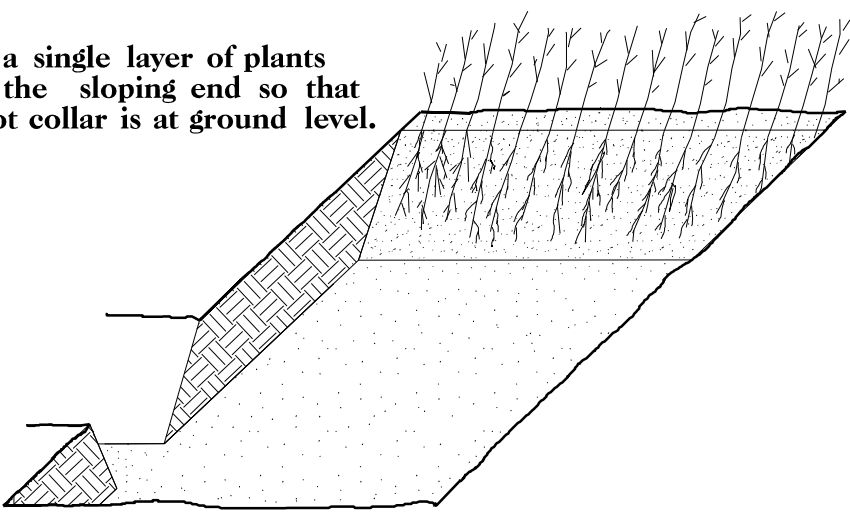
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



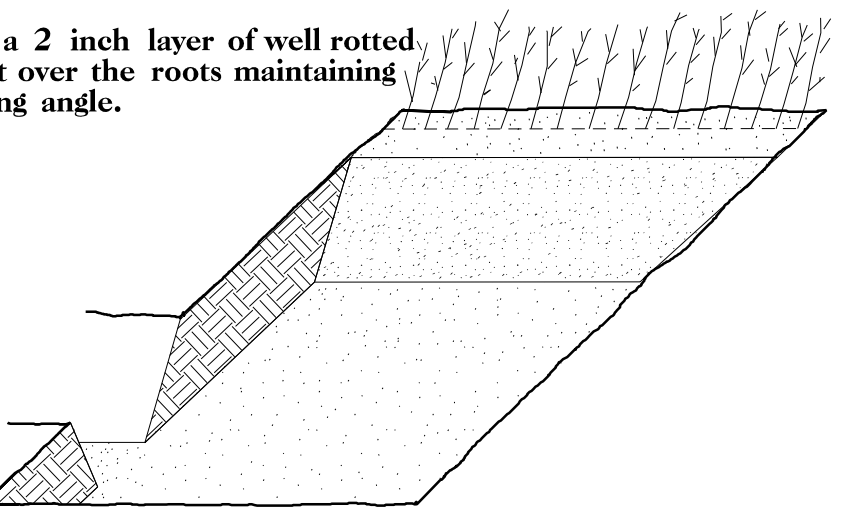
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

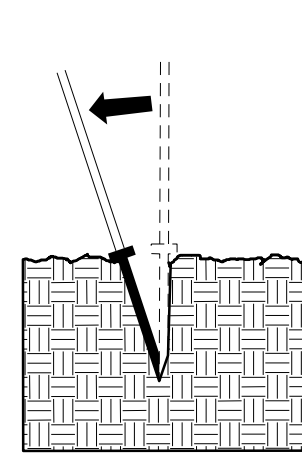


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

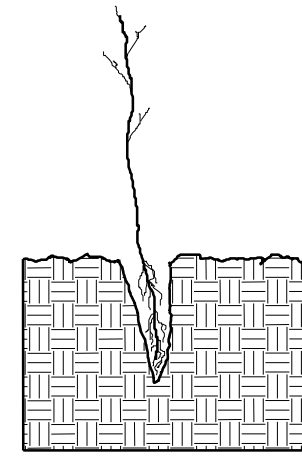


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

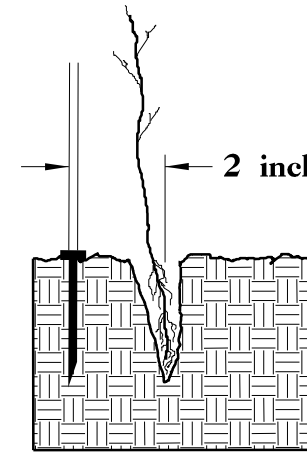
#### DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



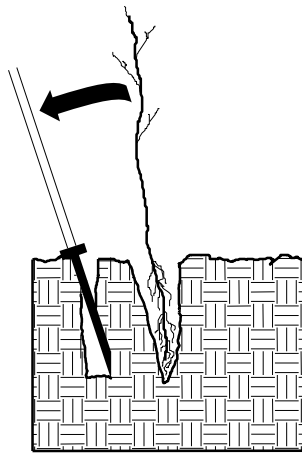
1. Insert planting bar as shown and pull handle toward planter.



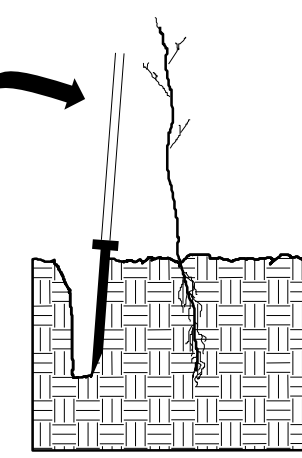
2. Remove planting bar and place seedling at correct depth.



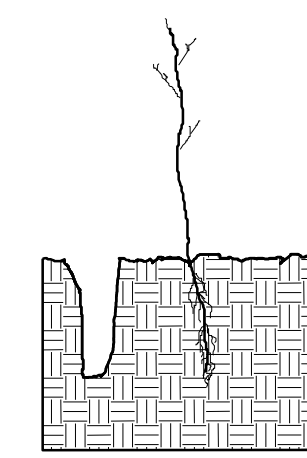
3. Insert planting bar 2 inches toward planter from seedling.



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



5. Push handle forward firming soil at top.



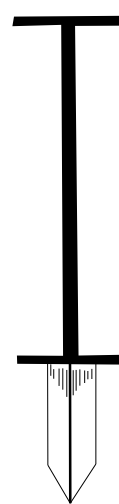
6. Leave compaction hole open. Water thoroughly.

#### 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	AMERICAN 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 DETAIL SHEET

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

12/4/17

**PROJECT: 17BP.14.R.149**

**CONTRACT: DN00468**

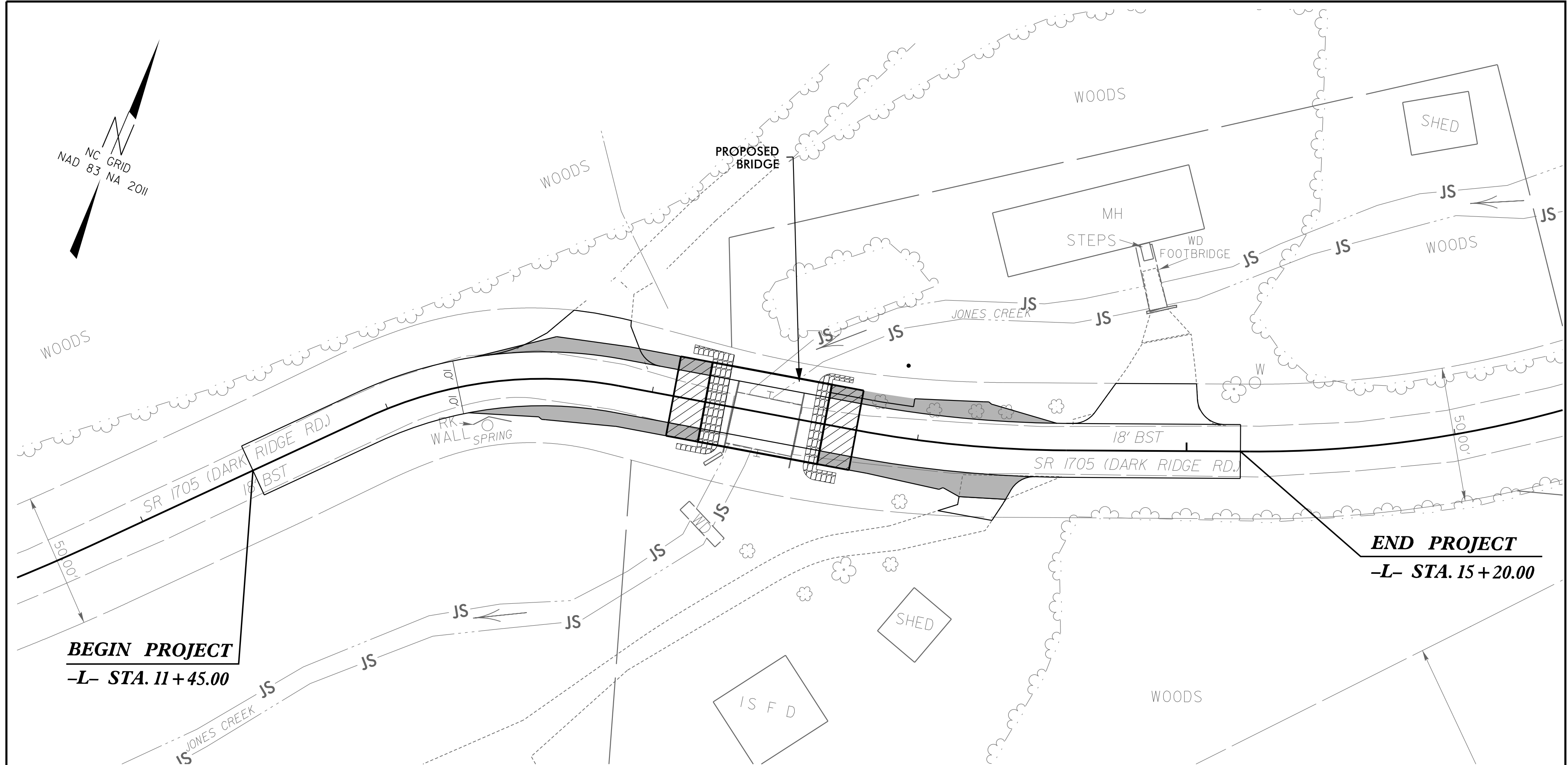
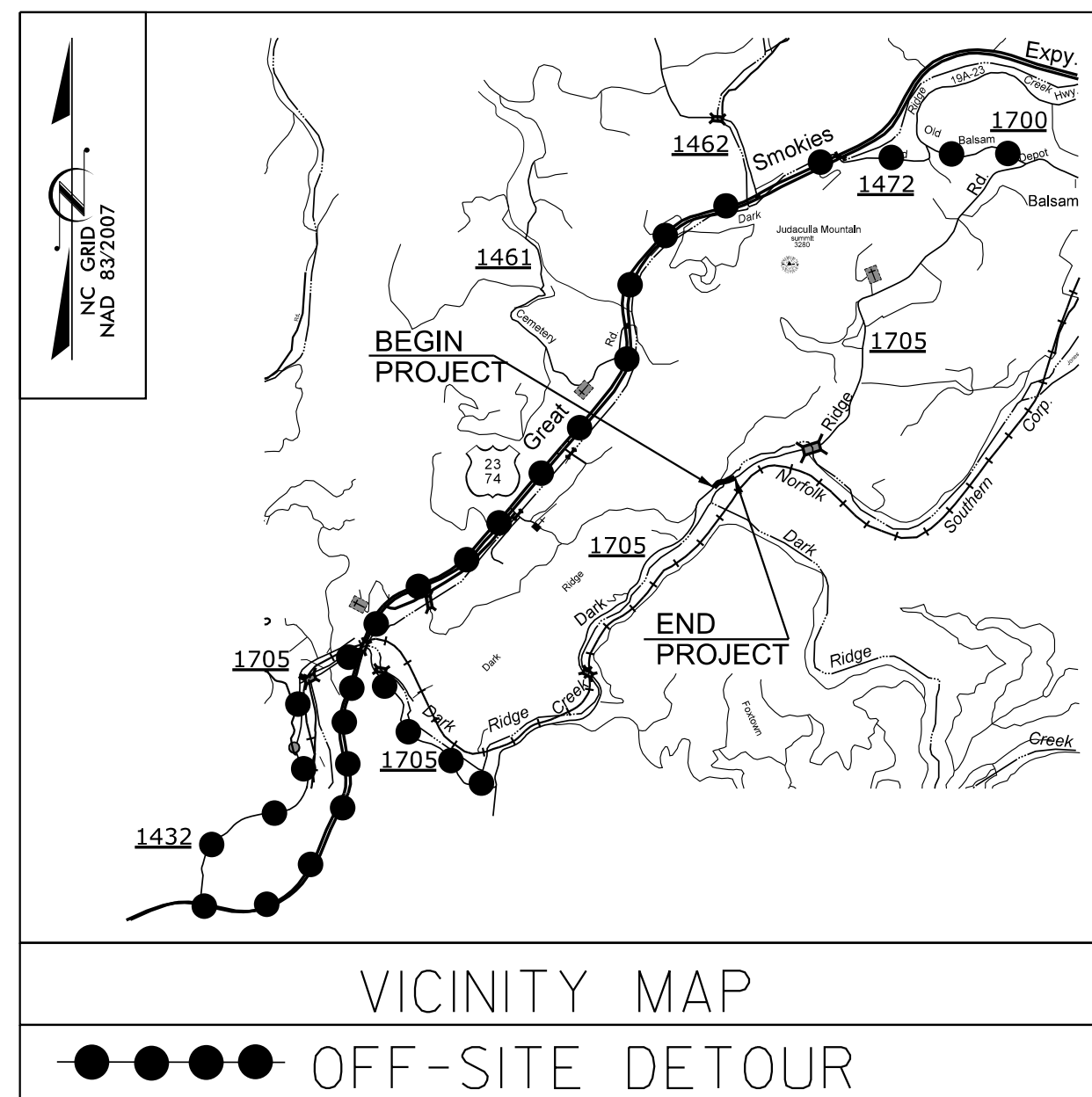
PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.149	UO-1

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# UTILITIES BY OTHERS JACKSON COUNTY

LOCATION: BRIDGE NO. 490185 OVER JONES CREEK  
ON SR 1705 (DARK RIDGE ROAD)

TYPE OF WORK: AERIAL & BURIED TELEPHONE

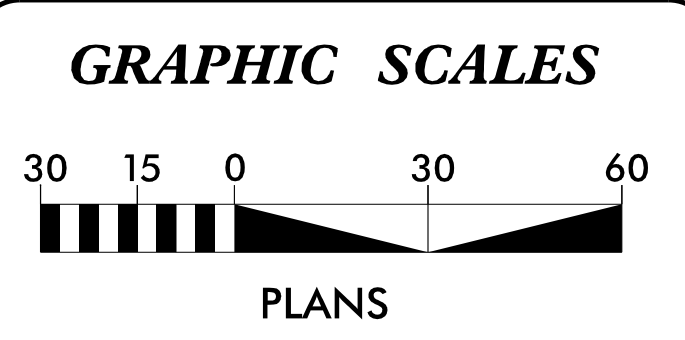


**V&M**  
Vaughn & Melton  
Consulting Engineers

Charlotte, North Carolina 704-357-0488  
Tri-Cities, Tennessee 423-467-8401  
Knoxville, Tennessee 865-546-5800  
Middlesboro, Kentucky 606-248-6600  
Spartanburg, South Carolina 864-574-4775

Asheville, North Carolina 828-253-2796

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**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITIES BY OTHERS PLAN SHEET

**UTILITY OWNERS ON PROJECT**

(1) POWER - DUKE ENERGY  
(2) TELEPHONE - FRONTIER COMM.

**PLANS PREPARED BY:**

**V&M**  
Vaughn & Melton  
Consulting Engineers  
1318-F Patton Ave.  
Asheville, NC 28806  
828-253-2796

PREPARED FOR THE OFFICE OF:  
**DIVISION OF HIGHWAYS  
UTILITIES ENGINEERING  
SECTION**

1591 MAIL SERVICES CENTER  
RALEIGH, NC 27699-1591  
PHONE (919) 250-4128  
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**Robert Golding** DIVISION 14 UTILITY ENGINEER  
**Lynn Mann, P.G.** V&M-UTILITIES PROJECT COORDINATOR

