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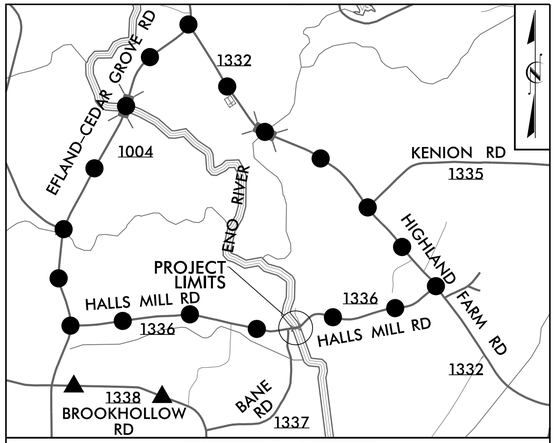
This file or an individual page shall not be considered a certified document.

09/08/99

WBS PROJECT: BP7–R009

CONTRACT: DG0683

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



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

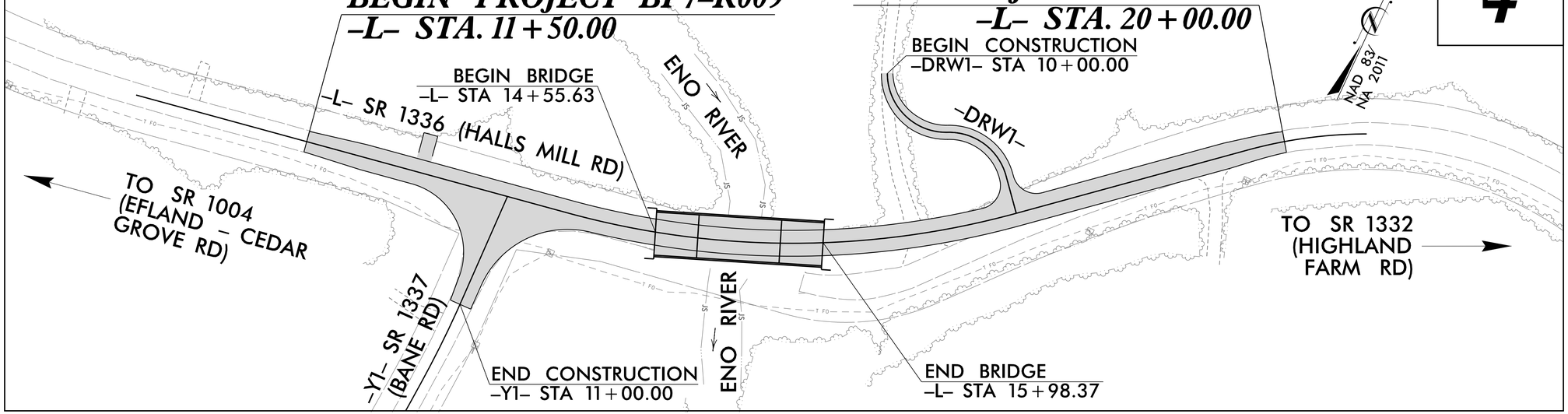
ORANGE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP7–R009	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
BP7.R009.1		PE
BP7.R009.2		ROW & UTIL
BP7.R009.3		CONST

LOCATION: REPLACE BRIDGE NO. 011 OVER ENO RIVER ON SR 1336 (HALLS MILL RD)

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



DESIGN EXCEPTIONS APPROVED FOR: MAXIMUM GRADE, MIN. HORIZONTAL CURVE RADIUS, & HORIZONTAL SSD

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2026 = 330
ADT 2046 = 400
K = 10%
D = 60%
T = 6%
V = 60 MPH
* TTST=2% DUAL=4%
FUNC CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT BP7–R009 = 0.134 MI

LENGTH OF STRUCTURES PROJECT BP7–R009 = 0.027 MI

TOTAL LENGTH OF PROJECT BP7–R009 = 0.161 MI

Prepared In the Office of:
HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 22, 2023

LETTING DATE:
APRIL 16, 2026

BRIAN P. BLACKWELL, PE
PROJECT ENGINEER

ROY H. TELLIER, PE
PROJECT DESIGN ENGINEER

DANIEL R. DAGENHART
NCDOT CONTACT

HYDRAULICS ENGINEER

Signed by: Paul Cameron 037E387AD97F426...
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 40801 ENGINEER PAUL W. CAMERON
P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by: Brian Blackwell 9C4D73BE1E8D4B7...
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 043122 ENGINEER BRIAN P. BLACKWELL
P.E. 2/10/2026

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

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HNTB

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043122 ENGINEER BRIAN BLADEN HOWELL
DocuSigned by: Brian Howell
0C4D738E1444499...
2/23/2026

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SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES & LIST OF STANDARDS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1 THRU 2C-4	SPECIAL DETAILS
2D-1	DRAINAGE DETAILS
3B-1	ROADWAY SUMMARIES
3D-1	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
4 THRU 5	PLAN & PROFILE SHEETS
RW01 THRU RW04	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENT AND PROPERTY TIES
TMP-1 THRU TMP-2A	TRAFFIC MANAGEMENT PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-4	SIGNING & PAVEMENT MARKING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION INDEX
X-1A	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-11	CROSS-SECTIONS
S-1 THRU S-24	STRUCTURE PLANS

GENERAL NOTES:

2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
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 II.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

GUARDRAIL:

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

TEMPORARY SHORING:

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

END BENTS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

POWER - PIEDMONT EMC

TELECOMMUNICATIONS - BRIGHTSPEED

TELECOMMUNICATIONS - LUMOS

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

EFF. 08-11-2025
REV. 11-26-2025

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
423.01	Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.04	Concrete Open Throat Catch Basin - 12" thru 48" Pipe
840.05	Brick Open Throat Catch Basin - 12" thru 48" Pipe
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.36	Traffic Bearing Grated Drop Inlet - for Steel (840.37) Double Frame and Grates
840.37	Steel Grate and Frame
840.55	Manhole Frame and Cover (Flush with Slab for Open Throat Catch Basin)
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 11, 12, and 14 of 15)
862.02	Guardrail Installation (Use Detail in Lieu of Standard for Sheet 5 of 9)
862.03	Structure Anchor Units (Use Detail in Lieu of Standards for Sheet 6 and 8 of 9)
862.04	Anchoring End of Guardrail - for B-77 and B-83 Anchor Units
876.01	Rip Rap in Channels and Ditches
876.04	Drainage Ditches with Class "B" Rip Rap

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HNTB

9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP) — EIP
- Computed Property Corner
- Existing Concrete Monument (ECM) — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- 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 — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Existing Control of Access Line — CA
- Proposed Control of Access Line — CA
- Proposed ROW and CA Line — RW CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage/Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE

ROADS AND RELATED FEATURES:

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

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

** SUE – Subsurface Utility Engineering*
LOS – Level of Service – A,B,C or D (Accuracy)

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H–Frame Pole
- U/G Power Line Test Hole (SUE – LOS A)*
- U/G Power Line (SUE – LOS B)* — P
- U/G Power Line (SUE – LOS C)* — P
- U/G Power Line (SUE – LOS D)* — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Test Hole (SUE – LOS A)*
- U/G Telephone Cable (SUE – LOS B)* — T
- U/G Telephone Cable (SUE – LOS C)* — T
- U/G Telephone Cable (SUE – LOS D)* — T
- U/G Telephone Conduit (SUE – LOS B)* — TC
- U/G Telephone Conduit (SUE – LOS C)* — TC
- U/G Telephone Conduit (SUE – LOS D)* — TC
- U/G Fiber Optics Cable (SUE – LOS B)* — T FO
- U/G Fiber Optics Cable (SUE – LOS C)* — T FO
- U/G Fiber Optics Cable (SUE – LOS D)* — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line Test Hole (SUE – LOS A)*
- U/G Water Line (SUE – LOS B)* — W
- U/G Water Line (SUE – LOS C)* — W
- U/G Water Line (SUE – LOS D)* — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Test Hole (SUE – LOS A)*
- U/G TV Cable (SUE – LOS B)* — TV
- U/G TV Cable (SUE – LOS C)* — TV
- U/G TV Cable (SUE – LOS D)* — TV
- U/G Fiber Optic Cable (SUE – LOS B)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS C)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS D)* — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE – LOS A)*
- U/G Gas Line (SUE – LOS B)* — G
- U/G Gas Line (SUE – LOS C)* — G
- U/G Gas Line (SUE – LOS D)* — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Force Main Line Test Hole (SUE – LOS A)*
- SS Force Main Line (SUE – LOS B)* — FSS
- SS Force Main Line (SUE – LOS C)* — FSS
- SS Force Main Line (SUE – LOS D)* — FSS

MISCELLANEOUS:

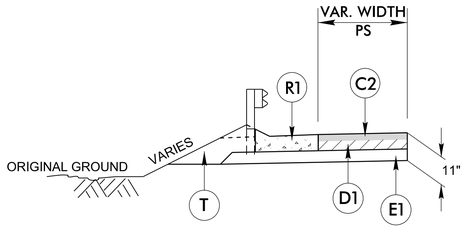
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line (SUE – LOS B)* — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

6/2/99

FINAL PAVEMENT SCHEDULE

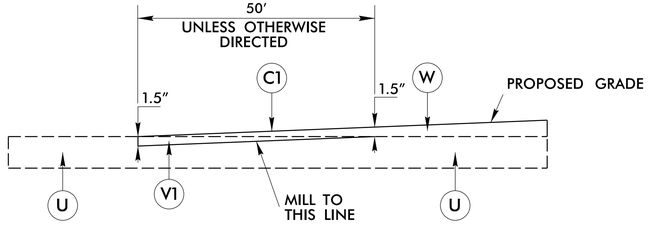
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.
C3	PROP. VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 110 LBS. PER SQ. YARD PER INCH. DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
D2	PROP. VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER INCH. DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
E2	PROP. VARIABLE DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER INCH. DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J	8" AGGREGATE BASE COURSE
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
V1	INCIDENTAL MILLING
V2	1.5" MILLING
U	EXISTING PAVEMENT
W	WEDGING

ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

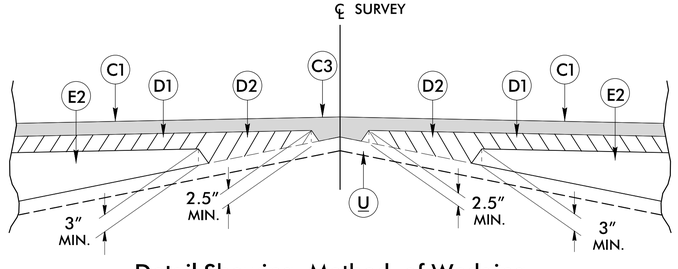


DETAIL FOR SHOULDER BERM GUTTER

–L– STA 14+13.00 LT TO STA 14+43.08 LT



DETAIL FOR INCIDENTAL MILLING



Detail Showing Method of Wedging

HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
BP7–R009	2A–1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043122 ENGINEER BRIAN E. BLACKWELL

Brian Blackwell
0C4D73BE1E8D4A2...
2/16/2026

PAVEMENT DESIGN ENGINEER

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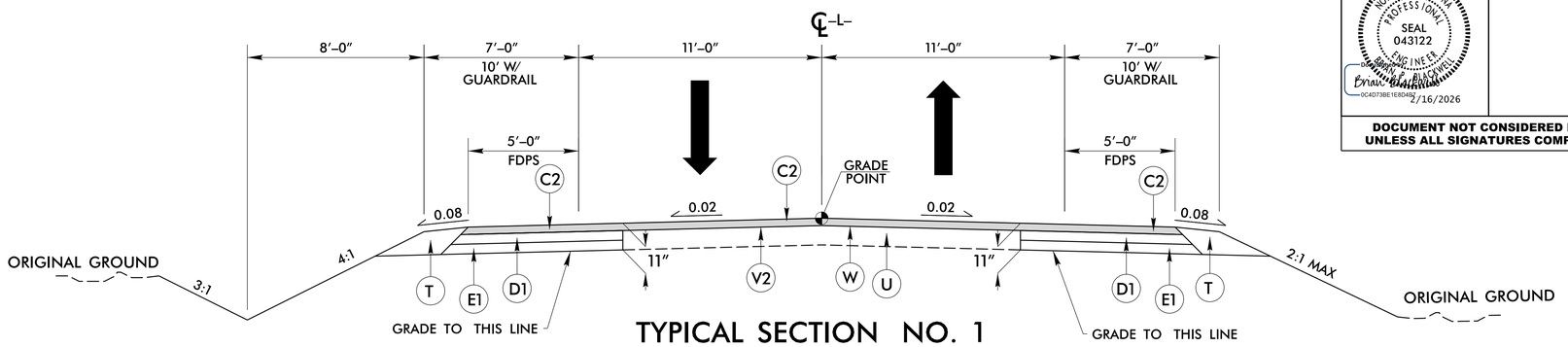
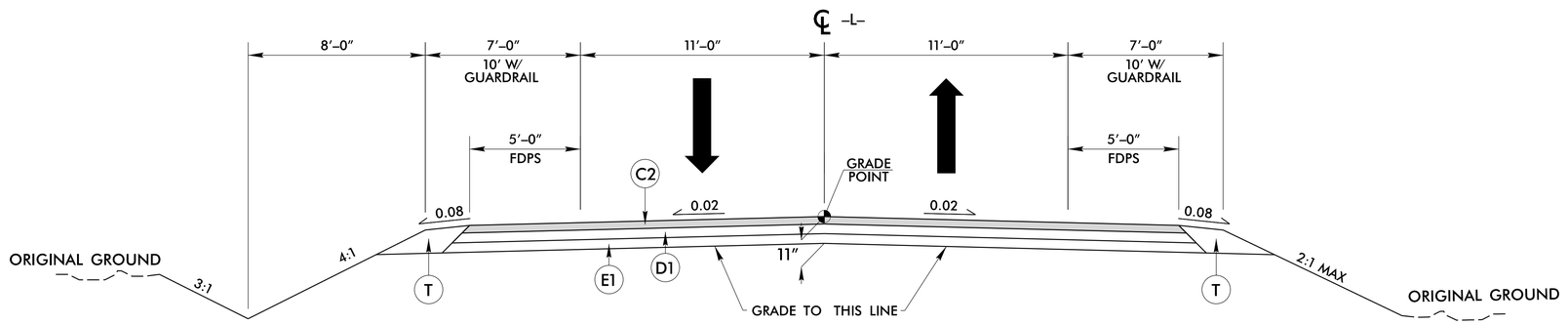


TYPICAL SECTION NO. 1

–L– SR 1336 (HALLS MILL RD)

USE TYPICAL SECTION NO. 1 FROM:

–L– STA 11+50.00 TO STA 12+80.00
–L– STA 18+50.00 TO STA 20+00.00

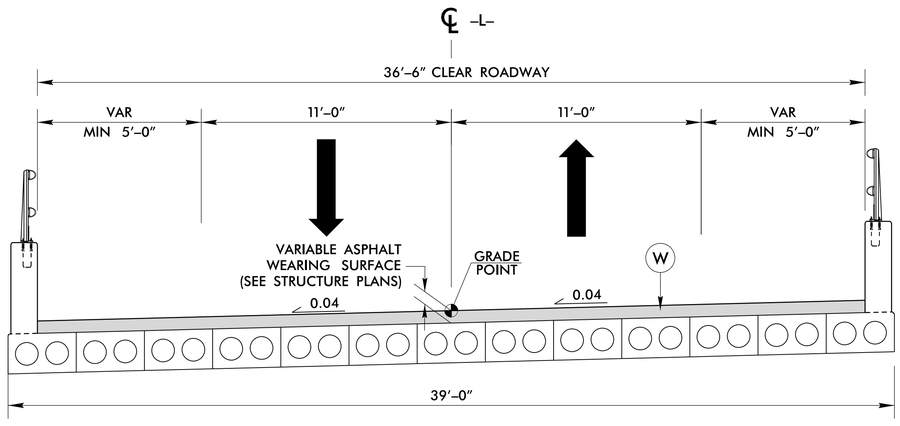


TYPICAL SECTION NO. 2

–L– SR 1336 (HALLS MILL RD)

USE TYPICAL SECTION NO. 2 FROM:

–L– STA 12+80.00 TO STA 14+55.63 (BEGIN BRIDGE)
–L– STA 15+98.37 (END BRIDGE) TO STA 18+50.00



TYPICAL SECTION NO. 3

–L– SR 1336 (HALLS MILL RD)
CORED SLAB BRIDGE

USE TYPICAL SECTION NO. 3 FROM:

–L– STA 14+55.63 (BEGIN BRIDGE) TO STA 15+98.37 (END BRIDGE)

(SEE STRUCTURE PLANS FOR CONSTRUCTION DETAILS)

6/2/99

FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.
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D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
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R1	SHOULDER BERM GUTTER
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ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	2A-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043122 ENGINEER BRIAN K. BLACKWELL

Brian K. Blackwell
DC4D73BE1E6D4E1...
2/16/2026

PAVEMENT DESIGN ENGINEER

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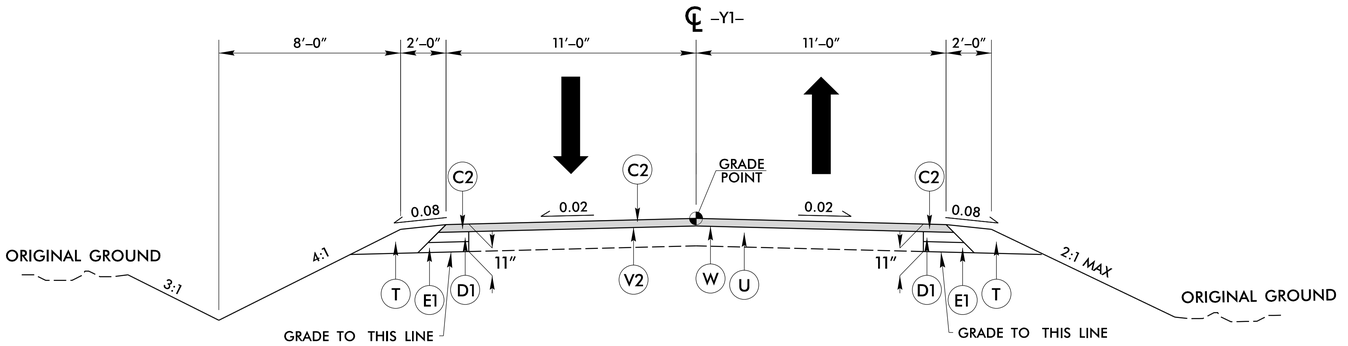
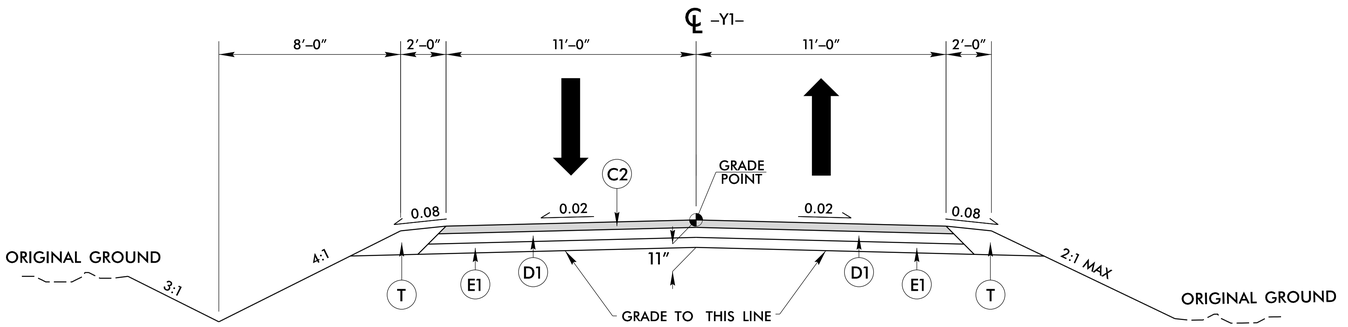


TYPICAL SECTION NO. 4

-Y1- SR 1337 (BANE RD)

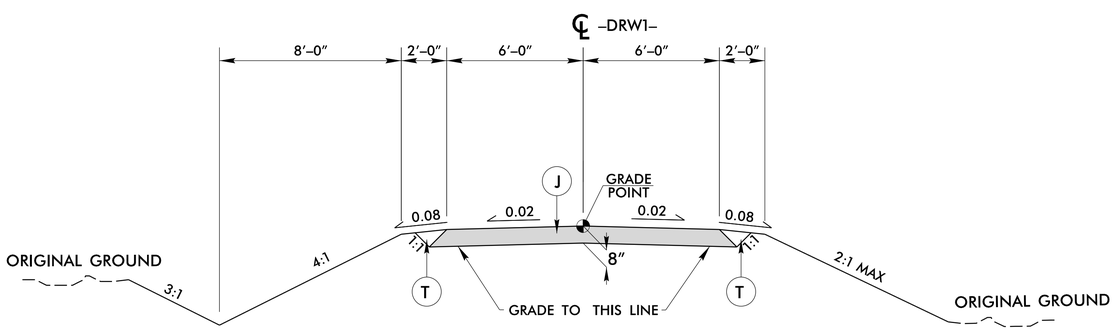
USE TYPICAL SECTION NO. 4 FROM:
-Y1- STA 10+50.00 TO STA 11+00.00



TYPICAL SECTION NO. 5

-Y1- SR 1337 (BANE RD)

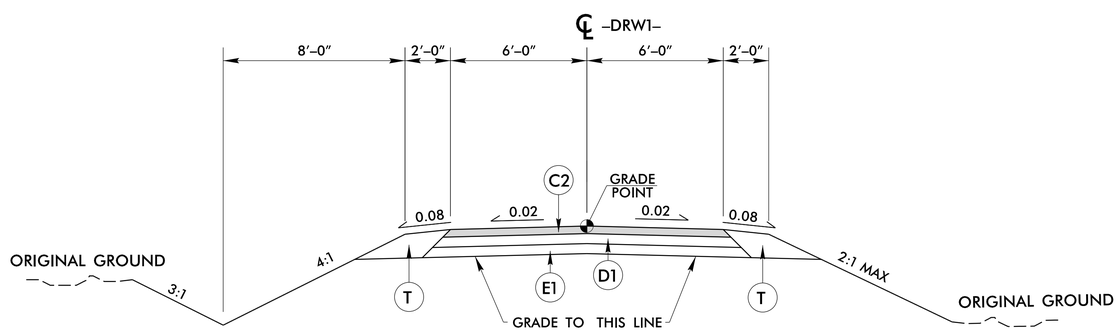
USE TYPICAL SECTION NO. 5 FROM:
-Y1- STA 10+11.12 TO STA 10+50.00



TYPICAL SECTION NO. 6

-DRW1-

USE TYPICAL SECTION NO. 6 FROM:
-DRW1- STA 10+00.00 TO STA 11+49.05

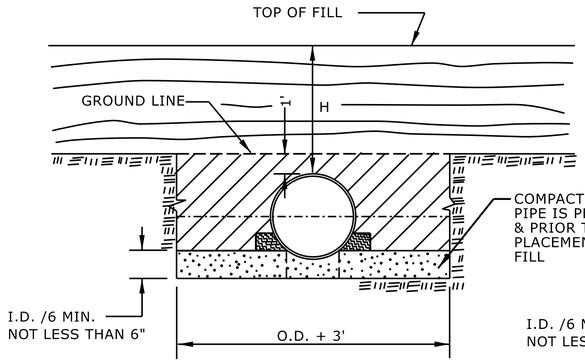


TYPICAL SECTION NO. 7

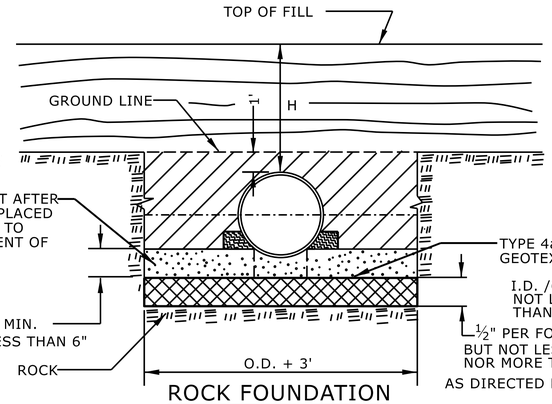
-DRW1-

USE TYPICAL SECTION NO. 7 FROM:
-DRW1- STA 11+49.05 TO STA 11+68.05

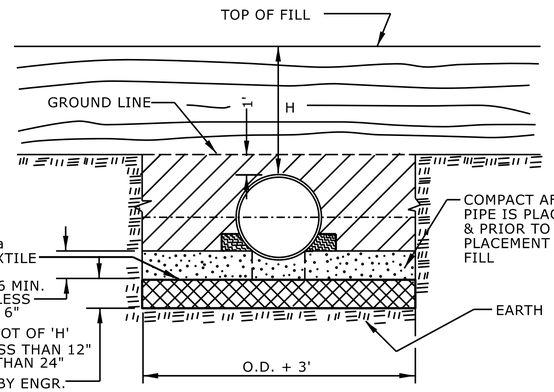
PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	2C-1



NORMAL EARTH FOUNDATION

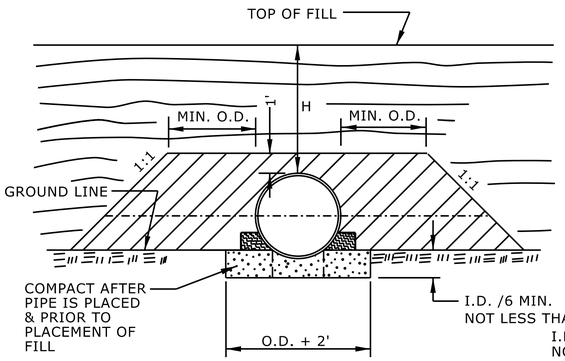


ROCK FOUNDATION

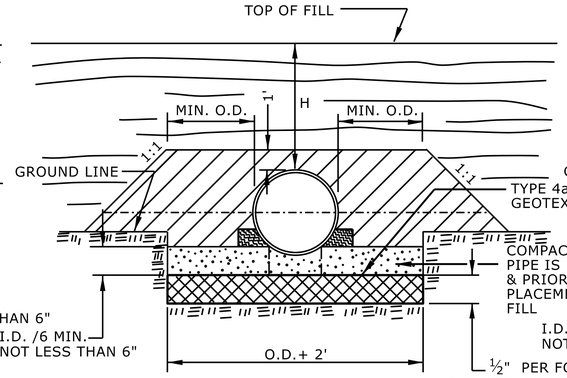


UNSUITABLE MATERIAL FOUNDATION

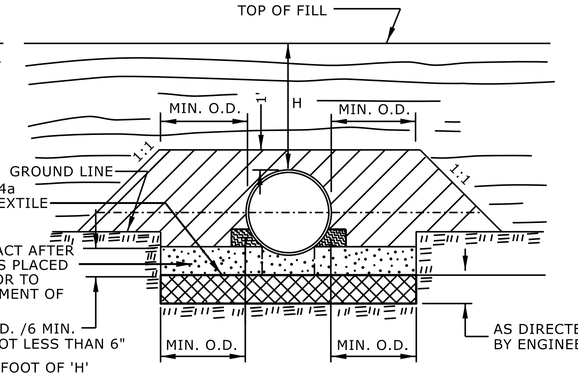
PIPE IN TRENCH



NORMAL EARTH FOUNDATION



ROCK FOUNDATION



UNSUITABLE MATERIAL FOUNDATION

PIPE ABOVE GROUND

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

FLEXIBLE PIPE

SHEET 1 OF 2

300.01

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE MARIE HALKER
Signature
Nicole Halker
58843230D34164C5...
2/16/2026

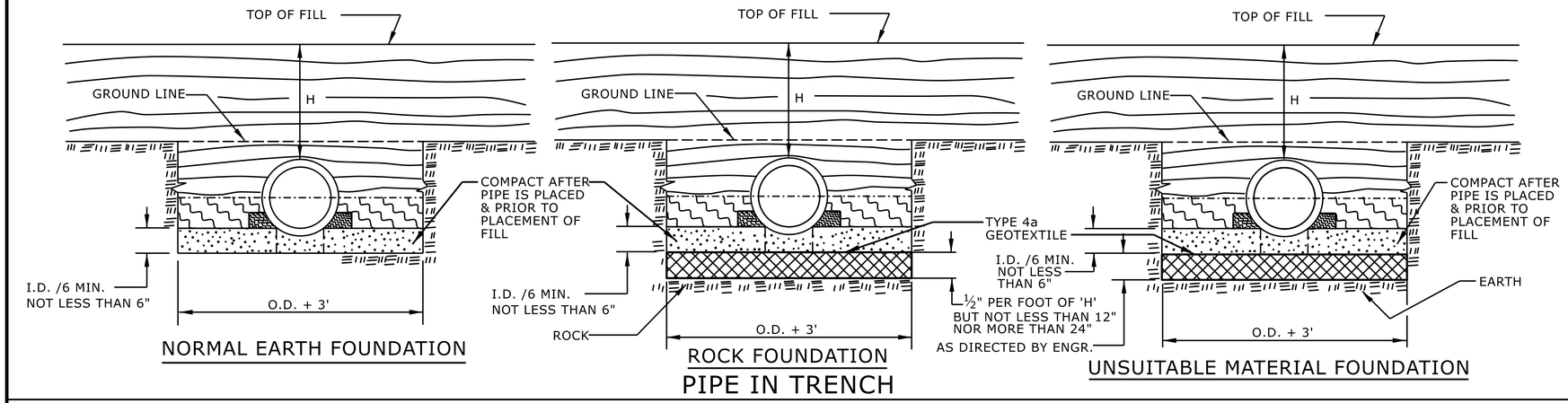
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	2C-2



GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

RIGID PIPE

SHEET 2 OF 2

300.01

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE MARIE HACKLER
5884323D3416AC5...
2/16/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

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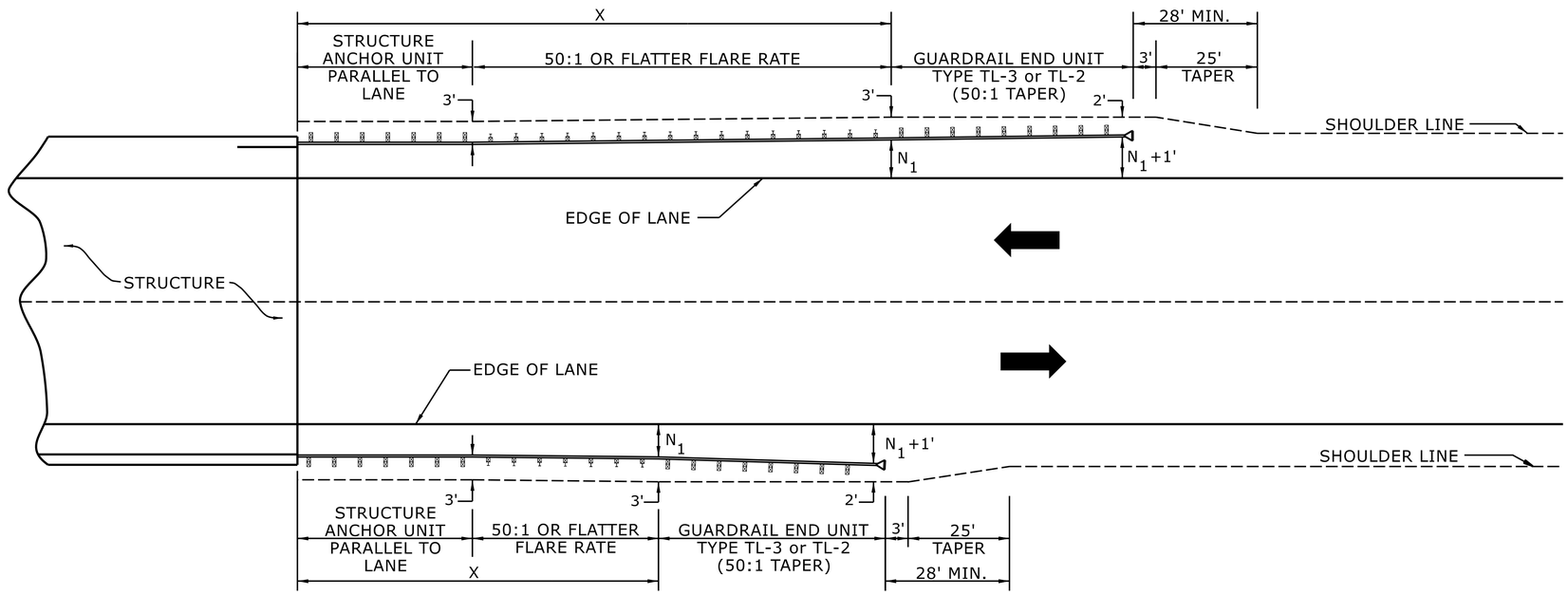
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	2C-3



USE FLARE RATE AS THE CONTROL IF THE "N_1" DISTANCE IS NOT OBTAINED.
("N_1" IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)

SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

FOR POSTED SPEEDS ≥ 45MPH USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45MPH USE GREU TYPE TL-2

GUARDRAIL LENGTH OF NEED (X) IS CALCULATED BASED ON THE AASHTO ROADSIDE DESIGN GUIDE.

LENGTHS AND OFFSETS FOR PROPOSED GUARDRAIL AT TWO LANE - TWO WAY LOCATIONS

STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 4 OF 15

862D01

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M HACKLER
Signed by: Nicole Hackler
588432D34164C5...
2/16/2026

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AND DEVELOPMENT UNIT
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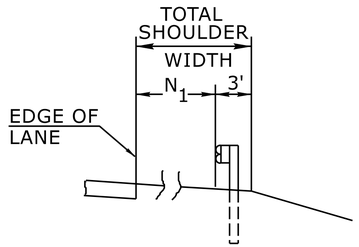
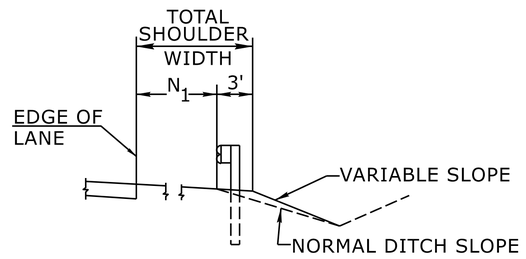
SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	2C-4

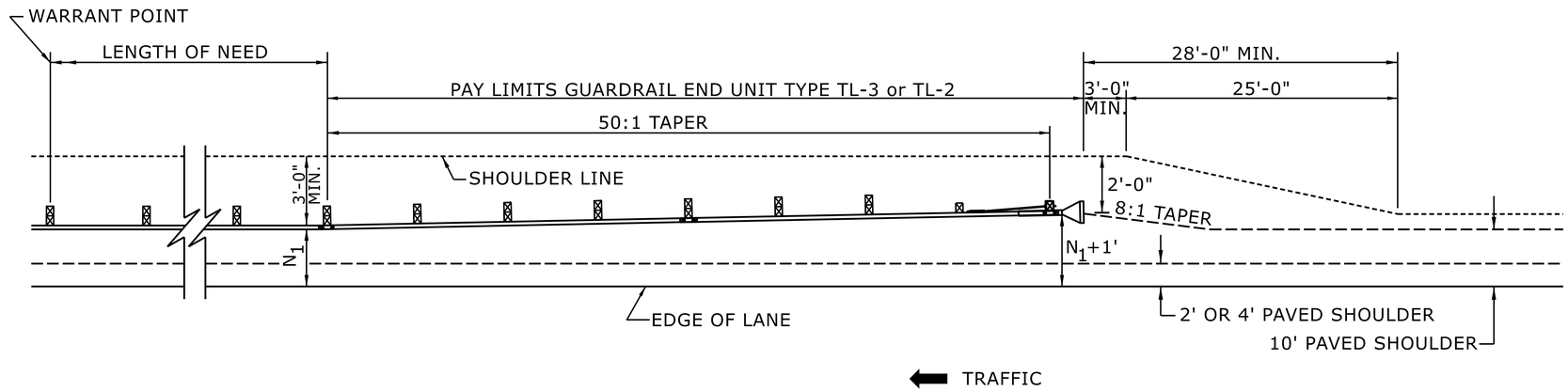


FILL SECTION



CUT SECTION

"N_1"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15

862D01

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033144 NICOLE M. HACKLER

Signed by: Nicole M. Hackler 5884323D3416405...

2/16/2026

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UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

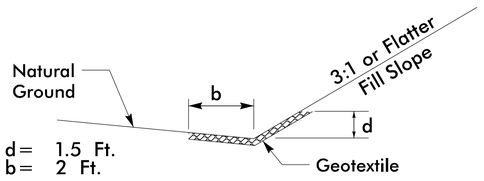
PROJECT REFERENCE NO.	SHEET NO.
BP7–R009	2D–1

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 40801 ENGINEER Paul Emmanuel Cameron 037E3B7A0B9F4A0...
2/16/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DETAIL TP1
TOE PROTECTION
(Not to Scale)

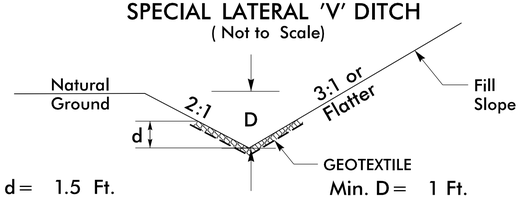


d = 1.5 Ft.
b = 2 Ft.

Type of Liner = Class 'B' Rip–Rap

FROM –DRW1– STA. 10+80 LT TO STA. 11+30 LT

DETAIL SLV1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

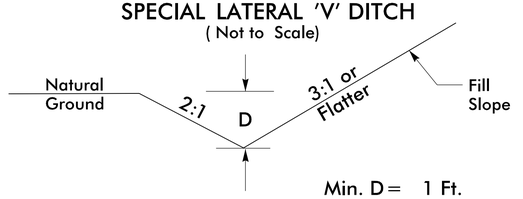


d = 1.5 Ft.
Min. D = 1 Ft.

Type of Liner = CL B Rip–Rap

FROM –L– STA. 11+50 RT TO STA. 12+80 RT
FROM –L– STA. 17+10 RT TO STA. 20+00 RT
FROM –L– STA. 11+50 LT TO STA. 13+15 LT

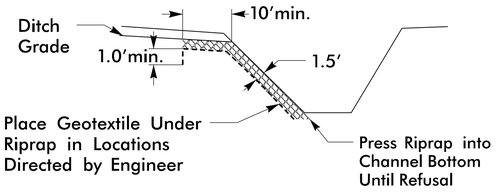
DETAIL SLV2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1 Ft.

FROM –DRW1– STA. 10+20 LT TO STA. 10+80 LT

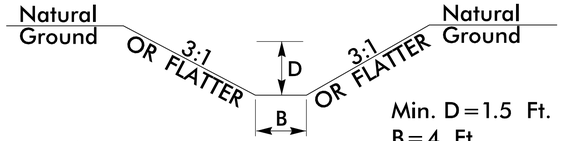
DETAIL EB1
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = CL II Rip–Rap, Keyed–In

FROM –L– STA. 14+90 TO STA. 15+05 LT
FROM –L– STA. 15+45 TO STA. 15+60 LT

DETAIL SBGS1
STANDARD BASE GRASSED SWALE
(Not to Scale)

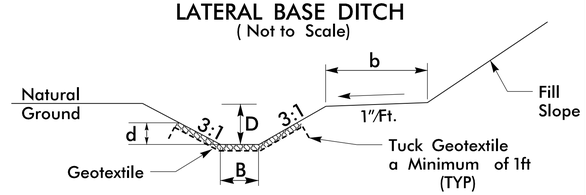


Min. D = 1.5 Ft.
B = 4 Ft.

*NOTES:
1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%.
2) MODIFICATIONS MAY BE NEEDED, AS APPROVED BY ENGINEER.

FROM –L– STA. 15+50 LT TO STA. 16+20 LT

DETAIL LB2
LATERAL BASE DITCH
(Not to Scale)

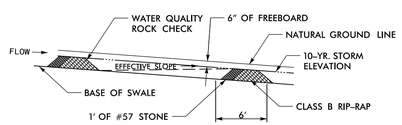


Min. D = 1.5 Ft.
d = 1.5 Ft.
B = 4 Ft.
b = 5 Ft.

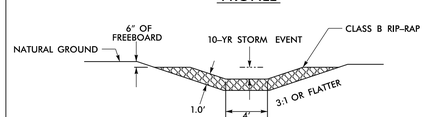
Type of Liner = Class I Rip–Rap

FROM STA. –L– STA. 16+20 LT TO STA. 16+80 LT

DETAIL RC1
TRAPEZOIDAL GRASSED SWALE
w/ROCK CHECK DAM
(Not to Scale)



PROFILE



NOTES:

TYPICAL SECTION

1) DO NOT USE INSIDE CLEAR RECOVERY AREA.
2) NOT PRACTICAL TO USE ON SLOPES > 5%.
3) FOR PERMANENT STRUCTURES IN GRASS SWALE.
4) CHECK DAMS SHOULD BE SPACED SUCH THAT THE BASE OF THE UPSTREAM CHECK IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM CHECK.

FROM –L– STA. 14+18 TO STA. 14+75 LT

12/06/07

COMPUTED BY: TAR DATE: 3/15/2023
CHECKED BY: AJM DATE: 3/21/2023

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
BP7–R009	3B–1

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
–L– STA 11+50.00	–L– STA 14+55.63 (BRIDGE)	120	1586	1466	
–L– STA 15+98.37 (BRIDGE)	–L– STA 20+00.00	241	4151	3910	
–Y1– STA 10+50.00	–Y1– STA 11+00.00	4	2		2
–DRW1– STA 10+00.00	–DRW1– STA 11+50.00	14	1196	1182	
TOTALS:		379	6935	6558	43
MATERIAL FOR SHOULDER CONSTRUCTION			204	204	
LOSS DUE TO CLEARING AND GRUBBING		–50		50	
WASTE IN LIEU OF BORROW:				–2	
PROJECT TOTALS:		329	7139	6810	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				341	
GRAND TOTALS:		329	7139	7151	
SAY:		400		7200	

Note: Quantities are approximate only. The Resident Engineer will use methods including but not limited to recross-sectioning, truck measurements, and aerial surveys to compute final quantities which the contractor will be paid

Earthwork quantities are calculated by the roadway designer. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

EST. DDE = 340 CY

EST. SHALLOW UNDERCUT = 100 CY (BY CONTINGENCY)
PER GEOTECH RECOMMENDATIONS, ESTIMATED 200 CY OF UNDERCUT EXCAVATION TO BE USED IN THE DISCRETION OF THE ENGINEER

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD²
–L–	12+80.00	13+73.00	CL	330
–L–	15+77.00	17+01.00	RT	126
–L–	18+00.00	18+50.00	CL	107
			TOTAL:	563
			SAY:	570

ROW AREA DATA SUMMARY

PARCEL NO.	PROPERTY OWNERS NAMES	PROP. R/W	PERM. UTILITY EASE.	PERM. DRAIN. EASE.	PERM. DRAIN. & UTILITY EASE.	CONST. EASE.
1	D. SCOTT & JOAN D. PASLEY	1341.01 SF		0.15 AC		
2	DALE WASSON & KIMBERLY VAN NOORT	0.17 AC		0.41 AC	1254.00 SF	3625.01 SF
3	BERNADETTE BOHMANN & WILLIAM C. COLEMAN		2471.48 SF		3925.99 SF	
4	ROBERT T. GOLAN & DIANA MONTGOMERY				3012.72 SF	3773.09 SF
5	HEALING JUSTICE CENTER					0.11 AC

BREAKING OF EXISTING PAVEMENT SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD²
–L–	13+20.00	14+66.00	CL	324
–L–	15+81.00	18+00.00	CL	383
			TOTAL:	707
			SAY:	710

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH (FT)
–L– (LT)	14+13.00	14+43.08	30.44
		TOTAL:	30.44
		SAY:	35

GUARDRAIL SUMMARY

"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 TL–3
NG = NON–GATING IMPACT ATTENUATOR TL–3

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	ANCHORS TYPE III	ANCHORS GREU TL–3	ANCHORS M–350	ANCHORS XIII	ANCHORS CAT–1	ANCHORS VI MOD	ANCHORS BIC	ANCHORS AT–1	IMPACT ATTENUATOR TYPE 350 EA	IMPACT ATTENUATOR TYPE 350 G	IMPACT ATTENUATOR TYPE 350 NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
–L–	13+52.28	14+53.92 (BRIDGE)	LT	106.25′				14+53.92 (BRIDGE)	7′	10′		50′		1.0′		1	1													
–L–	13+72.42	14+57.52 (BRIDGE)	RT	93.75′			14+60.02 (BRIDGE)		7′	10′	50′		1.0′			1	1													
–L–	16+00.08 (BRIDGE)	17+31.98	LT	131.25′	56.25′		16+00.50 (BRIDGE)		7′	10′						1							1							
–L–	15+96.48 (BRIDGE)	16+87.77	RT	93.75′				15+96.48 (BRIDGE)	7′	10′		50′		1.0′		1	1													
		SUBTOTAL:		425.00′												4	3													
		GREU TL–3: 3@50′		–150′																										
		TYPE III: 4@18.75′		–75′																										
		AT–1: 1@6.25′			–6.25′																									
		TOTAL:		200.00′	50.00′											4	3													
		SAY:		200′	50′											4	3													
		5 ADDITIONAL POST																												

COMPUTED BY:	BG	DATE:	1/9/2026	PROJECT NO.	SHEET NO.
CHECKED BY:	RH	DATE:	1/9/2026	BP7-R009	3D-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, or HDPE)							C. S. PIPE				R. C. PIPE CLASS IV						
SIZE									12	15	18	24	30	36	42	12	15	18	24	12	15	18	24	30	36	42
THICKNESS OR GAUGE																.064	.064	.064	.064							
L 14+18	15	LT	0401		581.0																					
			0401	0402		577.8	563.4										48									
13+00	0	CL	0403	0404		578.0	574.8															84				
L 13+17	35	LT	0404		577.1																					
			0404	0405		574.8	563.4				104															
DRWY1 10+31	0	CL	0406			567.0	565.7						60													
L 19+31	26	RT	0407							28																
L 12+51	27	LT	0408							28																
Y1 10+45	0	CL																								
L 16+66	64	LT																								
L 19+34	20	RT																								
SHEET TOTALS (48" or Less)										56	104		60				48					84				
PROJECT TOTALS (48" or Less)										56	104		60				48					84				

LINE & STATION	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54
L 14+18	15	LT	0401					1											1							1					
			0401	0402																											
13+00	0	CL	0403	0404																											
L 13+17	35	LT	0404					1										1													
			0404	0405																											
DRWY1 10+31	0	CL	0406																												
L 19+31	26	RT	0407																												
L 12+51	27	LT	0408																												
Y1 10+45	0	CL																													
L 16+66	64	LT																													
L 19+34	20	RT																													
SHEET TOTALS (48" or Less)								2										1	1							1					
PROJECT TOTALS (48" or Less)								2										1	1							1					

LINE & STATION	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	CONVERT EXISTING J.B. TO C.B.	CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING C.B. TO J.B.	CONVERT EXISTING C.B. TO D.I.	CONVERT EXISTING D.I. TO J.B.	CONVERT EXISTING J.B. TO D.I.	CONVERT EXISTING C.B. TO J.B. W/ MH	CONVERT EXISTING D.I. TO J.B. W/ MH	CONVERT EXISTING J.B. TO 2G.I.	CONVERT EXISTING M.H. TO D.I.	CONVERT EXISTING OTCB TO 2G.I.	CONVERT EXISTING G.I. TO J.B. W/ MH	CONVERT EXISTING M.H. TO D.I.	ADJUST C.B.	ADJUST D.I.	ADJUST J.B.	ADJUST M.H.	ADJUST 2G.I.	15" C.S. ELBOW	SPRING BOX STD. 840.41	BERM DITCH OUTLET STD. 850.10 (PER EACH)	BERM DITCH OUTLET STD. 850.11 (PER EACH)	MODIFIED CONC. FLUME	PREFORMED SCOUR HOLE (PER EACH)	ENERGY DISSIPATION BASIN		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
L 14+18	15	LT	0401																																
			0401	0402																			2												
13+00	0	CL	0403	0404																															
L 13+17	35	LT	0404																																
			0404	0405																															
DRWY1 10+31	0	CL	0406																																
L 19+31	26	RT	0407																																
L 12+51	27	LT	0408																																
Y1 10+45	0	CL																																66	Remove 18" RCP
L 16+66	64	LT																																31	Remove 15" RCP
L 19+34	20	RT																																21	Remove 15" RCP
SHEET TOTALS (48" or Less)																							2											118	
PROJECT TOTALS (48" or Less)																							2											118	

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	**TRAFFIC BEARING DROP INLET**
T.B.J.B.	**TRAFFIC BEARING JUNCTION BOX**
W.S.	**WIDE SLOT**

COMPUTED BY: K. PLUMMER DATE: 1/7/2025
CHECKED BY: A. RIGGS, JR. DATE: 1/7/2025

(9-17-24)

PROJECT NO.	SHEET NO.
BP7-R009	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU(1)	12"	100	200	300		
			TOTAL CY/TONS/SY:		100	200**	300**	0	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
*AST = Aggregate Stabilization
**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
BP7–R009	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 043122 ENGINEER
Brandon Bowerman
0C4D738E1E8D4BF...
2/23/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 40801 ENGINEER
Paul Lawrence Lambeth
037E387ADF7F4D...
2/23/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

8/17/99

REVISIONS

-L- PI Sta 15+77.24 | △ = 30° 32' 57.0" (LT) | D = 7° 57' 27.9" | L = 383.89' | T = 196.63' | R = 720.00' | SE = 4% | R0 = 88' | V = 45 MPH

-L- PI Sta 20+19.68 | △ = 15° 12' 22.6" (RT) | D = 14° 58' 30.8" | L = 101.54' | T = 51.07' | R = 382.60' | SE = EXIST

-Y1- PI Sta 11+31.75 | △ = 4° 32' 18.5" (RT) | D = 6° 35' 26.7" | L = 68.86' | T = 34.45' | R = 869.34' | SE = EXIST

-L- PI Sta 12+26.98 | △ = 3° 08' 58.4" (RT) | D = 2° 35' 25.0" | L = 121.59' | T = 60.81' | R = 2,211.97' | SE = EXIST

-DRW1- PI Sta 10+51.09 | △ = 91° 14' 02.0" (LT) | D = 114° 35' 29.6" | L = 79.62' | T = 51.09' | R = 50.00'

-L- PI Sta 11+18.76 | △ = 76° 06' 49.6" (RT) | D = 114° 35' 29.6" | L = 66.42' | T = 39.14' | R = 50.00'

BEGIN PROJECT BP7–R009
–L– STA. 11+50.00

END PROJECT BP7–R009
–L– STA. 20+00.00
–L– PC Sta. 19+68.61

–L– POT Sta. 10+00.00
–L– PC Sta. 13+80.62
–L– POT Sta. 13+26.54 = –Y1– POT Sta. 10+00.00
–Y1– PC Sta. 10+97.30
–Y1– PCC Sta. 11+66.17
–Y1– POC Sta. 11+00.00
–L– PT Sta. 20+70.15
–L– PT Sta. 17+64.51 = –DRW1– POT Sta. 11+79.05
–DRW1– PC Sta. 10+00.00
–DRW1– PRC Sta. 10+79.62
–DRW1– PT Sta. 11+46.04

BEGIN CONSTRUCTION
–DRW1– PC Sta. 10+00.00

BEGIN APPROACH SLAB
–L– Sta. 14+44.83, 1.16' RT
CL "II" RIPRAP TO SHOULDER (TYP) (STRUCTURES PAY ITEM)

END CONSTRUCTION
–Y1– POC Sta. 11+00.00

BEGIN BRIDGE
–L– Sta. 14+55.63
DO NOT DISTURB 36" POPLAR

END BRIDGE
–L– Sta. 15+98.37
CL "II" RIPRAP TO SHOULDER (TYP) (STRUCTURES PAY ITEM)
EX. BRIDGE #670011 TO BE REMOVED

END APPROACH SLAB
–L– Sta. 16+09.17, 1.16' RT

BEGIN SPECIAL LATERAL 'V' DITCH
SEE DETAIL SLV2

TOE PROTECTION
SEE DETAIL TP1
EST. 25 TONS
EST. 40 SYGF

RIP RAP AT EMBANKMENT
EST. 30 TONS
EST. 40 SYGF
SEE DETAIL EB1

RIP RAP AT EMBANKMENT
EST. 20 TONS
EST. 30 SYGF
SEE DETAIL EB1

4' BASE GRASSED SWALE W/ROCK CHECKS
EST. 12 TONS
EST. 12 SYGF
EST. DDE = 200 CY
SEE DETAIL RC1

CLASS B RIP RAP
EST. 5 TONS
EST 17 SYGF

LATERAL 4' BASE DITCH W/CLASS I RIP-RAP
EST. 50 TONS
EST. 70 SYGF
EST. DDE = 80 CY
SEE DETAIL LB2

4' BASE GRASSED SWALE
EST. DDE = 60 CY
SEE DETAIL SBGS1

SPECIAL LATERAL 'V' DITCH W/CLASS 'B' RIP-RAP
EST. 65 TONS
EST. 95 SYGF
SEE DETAIL SLV1

SPECIAL LATERAL 'V' DITCH W/CLASS 'B' RIP-RAP
EST. 95 TONS
EST. 135 SYGF
SEE DETAIL SLV1

SPECIAL LAT. 'V' DITCH W/CLASS 'B' RIP-RAP
EST. 160 TONS
EST. 235 SYGF
SEE DETAIL SLV1

CLASS B RIP-RAP
EST. 50 TONS
EST. 70 SYGF

EXCAVATION TO ELEV. 570' (TYP.)
EST. 62 SY

15" CSP W/ TWO ELBOWS

REMOVE

1 D. SCOTT & JOAN D. PASLEY
DB 3925 PG 82
DB 4364 PG 243
PB 98 PG 196
PB 102 PG 128

2 DALE WASSON & KIMBERLY VAN NOORT
DB 6218 PG 529
PB 84 PG 149

3 BERNADETTE BOHMANN & WILLIAM C. COLEMAN
DB 2067 PG 507
DB 1419 PG 311
PB 85 PG 118
PB 74 PG 47

4 ROBERT T. COLAN & DIANA MONTGOMERY
DB 1590 PG 50

5 HEALING JUSTICE CENTER
DB 6683 PG 2074
PB 122 PG 95

DALE WASSON & KIMBERLY VAN NOORT
DB 6346 PG 452
PB 49 PG 48

DALE WASSON & KIMBERLY VAN NOORT
DB 6346 PG 452
PB 97 PG 43

DESIGN EXCEPTIONS APPROVED FOR: MAXIMUM GRADE, MIN. HORIZONTAL CURVE RADIUS, & HORIZONTAL SSD

FOR DRAINAGE DETAILS, SEE SHEET 2D–1
FOR STRUCTURE PLANS, SEE SHEETS S–1 THRU S–24
FOR –Y1– & –DRW1– PROFILES, SEE SHEET 5

-L-

PI = 12+95.00
EL = 581.28'
K = 26
VC = 190'
V = 25 MPH

BEGIN GRADE
–L– STA. 11+50.00
ELEV = 591.30'

BEGIN SPECIAL LATERAL 'V' DITCH
STA –L– 11+50 (RT)
ELEV = 589.00'

BEGIN SPECIAL LATERAL 'V' DITCH
STA –L– 11+50 (LT)
ELEV = 588.66'

END SPECIAL LATERAL 'V' DITCH
STA –L– 12+80.00 (RT)
ELEV = 578.00'

END SPECIAL LATERAL 'V' DITCH
STA –L– 13+15 (LT)
ELEV = 577.10'

BEGIN 4' BASE GRASSED SWALE
STA –L– 14+18 (LT)
ELEV = 563.39'

END 4' BASE GRASSED SWALE
STA –L– 15+00 (LT)
ELEV = 562.00'

BEGIN 4' BASE GRASSED SWALE
STA –L– 15+50 (LT)
ELEV = 562.00'

END 4' BASE GRASSED SWALE
BEGIN 4' LATERAL BASE DITCH
STA –L– 16+20
ELEV = 562.21'

END 4' LATERAL BASE DITCH
STA –L– 16+80 (LT)
ELEV = 565.70'

BEGIN SPECIAL LATERAL 'V' DITCH
STA –L– 17+10 (RT)
ELEV = 576.00'

END SPECIAL LATERAL 'V' DITCH
STA –L– 20+00.00 (RT)
ELEV = 591.36'

PI
STA –L– 18+00
ELEV = 581.93'

PI = 17+20.00
EL = 582.56'
K = 40
VC = 150'
V = 30 MPH

BM1
60D NAIL IN A 12" ASH
–L– STA. 17+84.54, 73.86' LT
EL=575.57'

END GRADE
–L– STA. 20+00.00
ELEV = 594.01'

–L– STA 13+26.54 = –Y1– STA 10+00.00
–L– STA 17+64.51 = –DRW1– STA 11+79.05

EX. BRIDGE TO BE REMOVED
LOW CHORD
1.5:1 SLOPE (TYP.) NORMAL TO CAP (CL II RIP RAP) (STRUCTURES PAY ITEMS)
1.5:1 SLOPE (TYP.) NORMAL TO CAP (CL II RIP RAP) (STRUCTURES PAY ITEM)
WS EL.= 558.6' ON 08-31-2022

(–)7.1006% (–)6.9082% (–)18.4615% (+)0.3000% (+)0.3000% (+)14.0903% (+)6.5889% (+)4.7150% (–)11.8951% (+)5.8167%

DITCH LEGEND
LEFT DITCH
RIGHT DITCH

BRIDGE HYDRAULIC DATA
–L– 15+27

DRAINAGE AREA	= 26.8	SQ MI
DESIGN DISCHARGE	= 3900	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 571.4	FT
BASE DISCHARGE	= 5500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 573.3	FT
OVERTOPPING DISCHARGE	= 17000+	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 581.98	FT
DATE OF SURVEY	= 8-31-2022	
W.S. ELEVATION AT DATE OF SURVEY	= 558.6	FT

620 610 600 590 580 570 560 550 540

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00

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HNTB

5/28/99

-Y1-

HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	5

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 043122 ENGINEER BRIAN P. BLACKWELL
Brian Blackwell 0C4D73BE1E8D48D... 2/16/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 40801 ENGINEER PAUL M. HOLCOMBE
Paul Holcombe 037E387AD97F47... 2/16/2026

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630 620 610 600 590 580 570 560 550 540

PI = 10+70.00
EL = 580.82'
K = 30
VC = 60'
V = 25 MPH

END GRADE
-Y1- STA. 11+00.00
ELEV = 580.73'

(-)2.3308% (-)0.3000%

BEGIN GRADE
-Y1- STA. 10+11.12 =
-L- STA. 13+24.90, 11.00' RT
ELEV = 582.19'

10+00 11+00 12+00

FOR -Y1- PLAN, SEE SHEET 4

-DRW1-

630 620 610 600 590 580 570 560 550 540

PI = 11+35.00
EL = 581.72'
K = 44
VC = 50'

END GRADE
-DRW1- STA. 11+68.05 =
-L- STA. 17+64.51, 11.00' LT
ELEV = 584.20'

BEGIN GRADE
-DRW1- STA. 10+00.00
ELEV = 573.28'

(+)7.5000%
(+)18.6493%
(-)4.3000%
(-)15.0000%

PI = 10+25.00
EL = 572.21'
K = 4
VC = 50'
V = <15 MPH

END SPECIAL LATERAL 'V' DITCH
STA -DRW1- 10+80 (LT)
ELEV = 567.00'

BEGIN SPECIAL LATERAL 'V' DITCH
STA -DRW1- 10+20 (LT)
ELEV = 570.00'

DITCH LEGEND	
LEFT DITCH	-----------
RIGHT DITCH	-----------

10+00 11+00

FOR -DRW1- PLAN, SEE SHEET 4

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HNTB

09/08/99

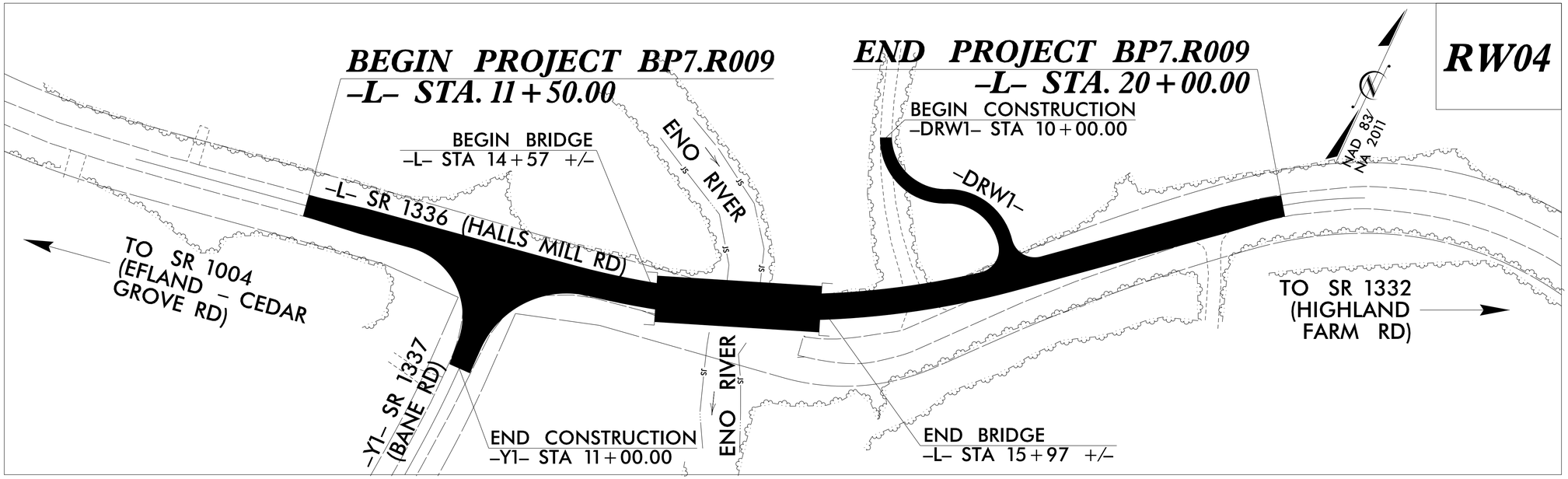
TIP PROJECT: BP7–R009

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP7-R009	RW01	7

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES,
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

ORANGE COUNTY



GRAPHIC SCALE

50 25 0 50 100
PLANS

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCDOT FOR MONUMENT "B5720-2"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 864272.278(ft) EASTING: 1956148.367(ft)
ELEVATION: 630.72(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.99996286
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"BL-3" TO -L- STATION 11+50.00 IS
S 76-17'09" X 176.07(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88/ GEOID G12NC

Prepared in the Office of:

Dewberry
Dewberry Engineers Inc.
551 PINEY FOREST ROAD
DANVILLE, VA 24540
PHONE: 434.797.4497
FAX: 434.797.4341
NCBELS #F-0929

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:	LETTING DATE:
SEPT. 22, 2023	APR. 16, 2026

PROFESSIONAL LAND SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4980 LAND SURVEYOR ADAM C. HALES

DocuSigned by: Adam Hales E91DDBC1163E43D...
1/19/2026
SIGNATURE: Date:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

16-JAN-2026 14:58
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bcollins AT PT4B3TX6

6/2/99

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	RW02C-1

Location and Surveys

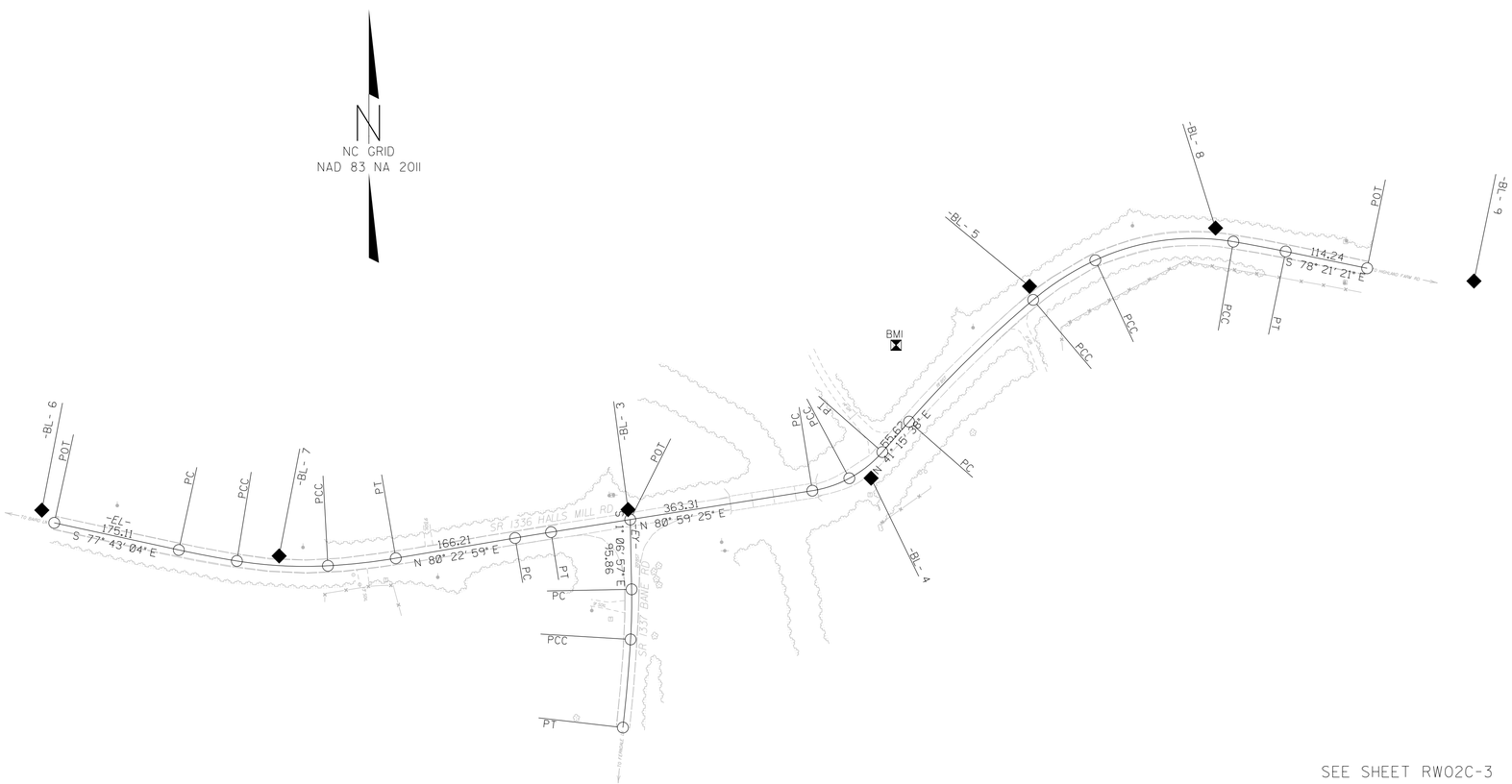
Dewberry
Dewberry Engineers Inc.
551 PINEY FOREST ROAD
DANVILLE, VA 24540
PHONE: 434.797.4497
FAX: 434.797.4341
NCBELS #F-0929

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-3453 LAND SURVEYOR ROBERT H. BENGTSON

6/15/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



I, Robert H. Bengtson, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: *AA*
Type of GPS field procedure: RTN
Dates of survey: 4/12/22 TO 5/5/22
Datum/Epoch:NAD 83/2011
Published/Fixed-control use: N/A
Localized around: B5720-2
Northing:864272.278
Easting:1956148.367
Combined grid factor:0.99996286
Geoid model:G12NC
Units:US SURVEY FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 4/12/22 to 5/5/22 , and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 15th day of June, 2022.

DocuSigned by:
Robert H. Bengtson
EA79E7CA33894F1...

Professional Land Surveyor L-3453

SEE SHEET RW02C-3
FOR FURTHER
ALIGNMENT DETAILS

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

15-JUN-2022 07:42
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bpowell AT PF2SGW9R

6/2/99

REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	RW02C-2

Location and Surveys

Dewberry®
Dewberry Engineers Inc.
551 PINEY FOREST ROAD
DANVILLE, VA 24540
PHONE: 434.797.4497
FAX: 434.797.4341
NCBELS #F-0929

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-3453 LAND SURVEYOR ROBERT H. BENGTSON
6/15/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BASELINE CONTROL

BL

POINT	DESC.	NORTH	EAST	ELEVATION
6	BL-6	863919.0895	1953197.6672	618.15
7	BL-7	863856.2124	1953523.5551	609.22
3	BL-3	863919.9113	1954002.7581	579.12
4	BL-4	863963.0944	1954336.4927	576.59
5	BL-5	864226.6217	1954554.1478	592.12
8	BL-8	864306.6799	1954809.5477	603.20
9	BL-9	864233.8529	1955164.4725	602.70
2	B5720-2	864272.2775	1956148.3670	630.72
1	B5720-1	864569.9775	1957338.9177	646.55

BENCHMARKS

* *

BM1 ELEVATION = 575.57
N 864146 E 1954371
BL STATION 18+15.00 90 LEFT
60D NAIL IN A 12"ASH

* *

I, Robert H. Bengtson, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: *AA*
Type of GPS field procedure: RTN
Dates of survey: 4/12/22 TO 5/5/22
Datum/Epoch:NAD 83/2011
Published/Fixed-control use: N/A
Localized around: B5720-2
Northing:864272.278
Easting:1956148.367
Combined grid factor:0.99996286
Geoid model:G12NC
Units:US SURVEY FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 4/12/22 to 5/5/22 , and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 15th day of June, 2022.

DocuSigned by:
Robert H. Bengtson
[EA79E7CA33894F1...

Professional Land Surveyor L-3453

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

15-JUN-2022 07:45
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bpowell AT PF2SGW9R

6/2/99

REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	RW02C-3

Location and Surveys

Dewberry®
Dewberry Engineers Inc.
551 PINEY FOREST ROAD
DANVILLE, VA 24540
PHONE: 434.797.4497
FAX: 434.797.4341
NCBELS #F-0929

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-3453 LAND SURVEYOR ROBERT H. BENGTSON

6/15/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ALIGNMENT DATA

EL

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	863901.708	1953214.745							
LINE			S 77°43'04.3" E	175.11					
PC	863864.457	1953385.850							
CURVE			S 79°16'14.9" E	81.15	03°06'21.3"(LT)	03°49'37.0"	81.16	40.59	1497.17
PCC	863849.350	1953465.581							
CURVE			S 86°57'48.4" E	125.19	12°16'45.7"(LT)	09°47'24.2"	125.43	62.95	585.24
PCC	863842.718	1953590.592							
CURVE			N 83°38'23.7" E	93.80	06°30'50.1"(LT)	06°56'26.9"	93.85	46.98	825.49
PT	863853.109	1953683.814							
LINE			N 80°22'58.6" E	166.21					
PC	863880.877	1953847.690							
CURVE			N 80°41'11.8" E	50.00	00°36'26.5"(RT)	01°12'53.0"	50.00	25.00	4716.77
PT	863888.968	1953897.030							
LINE			N 80°59'25.1" E	363.31					
PC	863945.863	1954255.857							
CURVE			N 71°24'34.4" E	53.63	19°09'41.3"(LT)	35°33'51.1"	53.88	27.19	161.11
PCC	863962.960	1954306.687							
CURVE			N 51°32'40.8" E	57.91	20°34'06.0"(LT)	35°19'43.9"	58.22	29.43	162.18
PT	863998.973	1954352.034							
LINE			N 41°15'37.7" E	55.62					
PC	864040.782	1954388.713							
CURVE			N 45°32'49.7" E	238.80	08°34'23.9"(RT)	03°35'12.7"	239.02	119.73	1597.38
PCC	864208.017	1954559.172							
CURVE			N 57°26'12.9" E	101.25	15°12'22.6"(RT)	14°58'30.8"	101.54	51.07	382.60
PCC	864262.510	1954644.502							
CURVE			N 82°19'58.5" E	191.25	34°35'08.7"(RT)	17°48'40.2"	194.18	100.15	321.68
PCC	864288.025	1954834.038							
CURVE			S 79°21'54.0" E	73.15	02°01'06.4"(RT)	02°45'33.7"	73.15	36.58	2076.42
PT	864274.526	1954905.926							
LINE			S 78°21'20.8" E	114.24					
POT	864251.468	1955017.816							

EY

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	863906.214	1954005.797							
LINE			S 01°06'57.3" E	95.86					
PC	863810.376	1954007.664							
CURVE			S 01°09'12.0" W	68.84	04°32'18.5"(RT)	06°35'26.7"	68.86	34.45	869.34
PCC	863741.546	1954006.278							
CURVE			S 04°59'50.4" W	121.58	03°08'58.4"(RT)	02°35'25.0"	121.59	60.81	2211.97
PT	863620.432	1953995.688							

I, Robert H. Bengtson, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: *AA*
Type of GPS field procedure: RTN
Dates of survey: 4/12/22 TO 5/5/22
Datum/Epoch:NAD 83/2011
Published/Fixed-control use: N/A
Localized around: B5720-2
Northing:864272.278
Easting:1956148.367
Combined grid factor:0.99996286
Geoid model:G12NC
Units:US SURVEY FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 4/12/22 to 5/5/22 , and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 15th day of June, 2022.

DocuSigned by:
Robert H. Bengtson
EA79E7CA33894F1...

Professional Land Surveyor L-3453

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

15-JUN-2022 07:48
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bpowell AT PF2SGW4R

6/2/99

REVISIONS

PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
BP7–R009	RW02D

Location and Surveys

Dewberry®
Dewberry Engineers Inc.
551 PINEY FOREST ROAD
DANVILLE, VA 24540
PHONE: 434.797.4497
FAX: 434.797.4341
NCBELS #F-0929

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4980 LAND SURVEYOR ADAM C. HALES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I, Adam C. Hales, PLS, certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

This 19th day of January, 2026.

DocuSigned by:
Adam Hales
E91DDBC1163E43D...

Professional Land Surveyor L-4980

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	863853.1089	1953683.8142
PC	13+80.62	863916.6958	1954059.0831
PT	17+64.51	864076.3702	1954403.2036
PC	19+68.61	864208.0166	1954559.1725
PT	20+70.15	864262.5096	1954644.5018

Y1

TYPE	STATION	NORTH	EAST
POT	10+00.00	863907.6621	1954005.7690
PC	10+97.30	863810.3755	1954007.6640
PCC	11+66.17	863741.5462	1954006.2784
PT	12+87.76	863620.4319	1953995.6879

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

jb UN-2026 (46)
ps USE-2140 (CO)
bcollins
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6/2/99

REVISIONS

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	RW03E

Location and Surveys

Dewberry®
Dewberry Engineers Inc.
551 PINEY FOREST ROAD
DANVILLE, VA 24540
PHONE: 434.797.4497
FAX: 434.797.4341
NCBELS #F-0929

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4980 LAND SURVEYOR ADAM C. HALES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I , Adam C. Hales , certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 12/23 to 2/26, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 11th day of February, 2026.

DocuSigned by:
Adam Hales

Professional Land Surveyor L-4980

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	11+66.21	-30.00	863910.4551	1953842.6784
L	13+80.62	-30.00	863946.2742	1954054.0713
L	17+64.51	-30.00	864099.2955	1954383.8534
L	19+68.61	-30.00	864230.9419	1954539.8222

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+40.00	30.00	863830.2130	1953728.2639
L	10+40.00	55.00	863805.5644	1953732.4404
L	11+40.00	30.00	863846.9192	1953826.8585
L	11+40.00	54.43	863822.8330	1953830.9398
L	12+52.00	-40.00	863934.6465	1953925.5902
L	14+39.00	71.00	863859.9595	1954133.6788
L	14+39.00	35.14	863894.7151	1954124.8436
L	14+50.00	-85.00	864013.6128	1954104.6284
L	16+75.00	-90.00	864098.4738	1954282.3194
L	17+10.00	-140.00	864156.3286	1954278.3072
L	18+10.00	-59.00	864150.7978	1954399.9104
L	18+10.00	-30.00	864128.6367	1954418.6156
L	18+63.00	-67.00	864191.0966	1954435.2517
L	18+63.00	-30.00	864162.8221	1954459.1169
L	18+96.00	-30.00	864184.1074	1954484.3348
L	18+96.00	-69.00	864213.9102	1954459.1795

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	10+61.00	-25.00	863847.1605	1954031.9523
Y1	10+66.00	25.00	863841.1877	1953982.0591

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 12/23 TO 2/26 .

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cadkins At BPTYW94

6/2/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
BP7-R009	RW04

Location and Surveys

Dewberry
Dewberry Engineers Inc.
551 PINEY FOREST ROAD
DANVILLE, VA 24540
PHONE: 434.797.4497
FAX: 434.797.4341
NCBELS #F-0929

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL LAND SURVEYOR SEAL L-4980 ADAM C. HALES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I , Adam C. Hales , certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 12/23 to 2/26, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 11th day of February, 2026.

DocuSigned by:
Adam Hales

Professional Land Surveyor L-4980

NAD 83/NA 2011

BEGIN PROJECT BP7.R009
-L- STA. 11+50.00

-L-
PI Sta 15+77.24
△ = 30° 32' 57.0" (LT)
D = 7° 57' 27.9"
L = 383.89'
T = 196.63'
R = 720.00'
SE = 4%
R0 = 88'
V = 45 MPH

PI Sta 20+19.68
△ = 15° 12' 22.6" (RT)
D = 14° 58' 30.8"
L = 101.54'
T = 51.07'
R = 382.60'
SE = EXIST

-Y1-
PI Sta 11+31.75
△ = 4° 32' 18.5" (RT)
D = 6° 35' 26.7"
L = 68.86'
T = 34.45'
R = 869.34'
SE = EXIST

PI Sta 12+26.98
△ = 3° 08' 58.4" (RT)
D = 2° 35' 25.0"
L = 121.59'
T = 60.81'
R = 2,211.97'
SE = EXIST

-DRW1-
PI Sta 10+51.09
△ = 91° 14' 02.0" (LT)
D = 114° 35' 29.6"
L = 79.62'
T = 51.09'
R = 50.00'

PI Sta 11+18.76
△ = 76° 06' 49.6" (RT)
D = 114° 35' 29.6"
L = 66.42'
T = 39.14'
R = 50.00'

1 D. SCOTT & JOAN D. PASLEY
DB 3925 PG 82
DB 4364 PG 243
PB 98 PG 196
PB 102 PG 128

2 DALE WASSON & KIMBERLY VAN NOORT
DB 6218 PG 529
PB 84 PG 149

DALE WASSON & KIMBERLY VAN NOORT
DB 6346 PG 452
PB 49 PG 48

DALE WASSON & KIMBERLY VAN NOORT
DB 6346 PG 452
PB 97 PG 43

3 BERNADETTE BOHMANN & WILLIAM C. COLEMAN
DB 2067 PG 507
DB 1475 PG 311
PB 85 PG 118
PB 74 PG 47

4 ROBERT T. GOLAN, & DIANA MONTGOMERY
DB 1590 PG 50

5 RYAN T. WEBER & SARABETH P. WEBER
DB 6821 PG 1255
PB 126 PG 38

-L- PC Sta. 13+80.62
-L- POT Sta. 13+26.54 =
-Y1- POT Sta. 10+00.00
+52.00 -L- 40.00' LT
+66.21 -L- 30.00' LT
-L- POT Sta. 10+00.00
+40.00 -L- 55.00' RT EXIST R/W
+40.00 -L- 54.43' RT 30.00' RT
-Y1- PC Sta. 10+97.30
+66.00 -Y1- 25.00' RT
-Y1- PCC Sta. 11+66.17
+61.00 -Y1- 25.00' LT
+75.00 -Y1- 65.00' LT
+39.00 -L- 90.00' RT 71.00' RT 35.14' RT
+18.00 -Y1- 68.00' LT 25.00' LT BEGIN BRIDGE
-L- Sta. 14+57 +/-
END CONSTRUCTION
-Y1- POC Sta. 11+00.00
15+00 -L-
BEGIN CONSTRUCTION
-DRW1- PC Sta. 10+00.00
-DRW1- PRC Sta. 10+79.62
+10.00 -L- 140.00' LT
+41.00 -L- 149.00' LT
+47.00 -L- 92.74' LT
+75.00 -L- 90.00' LT
END BRIDGE
-L- Sta. 15+97 +/-
-DRW1- PT Sta. 11+46.04
+64.51 -L- 30.00' LT
+10.00 -L- 59.00' LT 30.00' LT
+63.00 -L- 67.00' LT 43.00' LT 30.00' LT
+96.00 -L- 69.00' LT 30.00' LT
+07.57 -L- 35.00' LT
-L- PT Sta. 17+64.51 =
-DRW1- POT Sta. 11+79.05
+44.34 -L- 82.00' RT
20+00 -L-
+68.61 -L- 35.00' LT 30.00' LT
+00.00 -L- 35.00' RT 30.00' RT
-L- PT Sta. 19+68.61
-L- PT Sta. 20+70.15
END PROJECT BP7.R009
-L- STA. 20+00.00

N 80° 22' 58.6" E
S 41° 06' 53" E
N 63° 27' 09" W 126.09'
N 28° 00' 46" W 70.63'
S 40° 09' 58.4" E
N 49° 50' 01.6" E
S 79° 32' 43" E 42.82'
S 79° 38' 45" W 67.57' TOTAL
N 52° 06' 18" E 12.63'
N 16° 39' 55" W 6.24'
S 64° 16' 50" E 86.80'
N 63° 27' 09" W 126.09'
L=93.73' R=382.60'
L=28.67' R=382.60'
L=137.54' R=869.34'
L=71.75' R=869.34'
L=50.12' R=869.34'
L=45.07' R=869.34'

PROPERTY LINE FOLLOWS THE CENTER OF THE END RIP

NOTES:

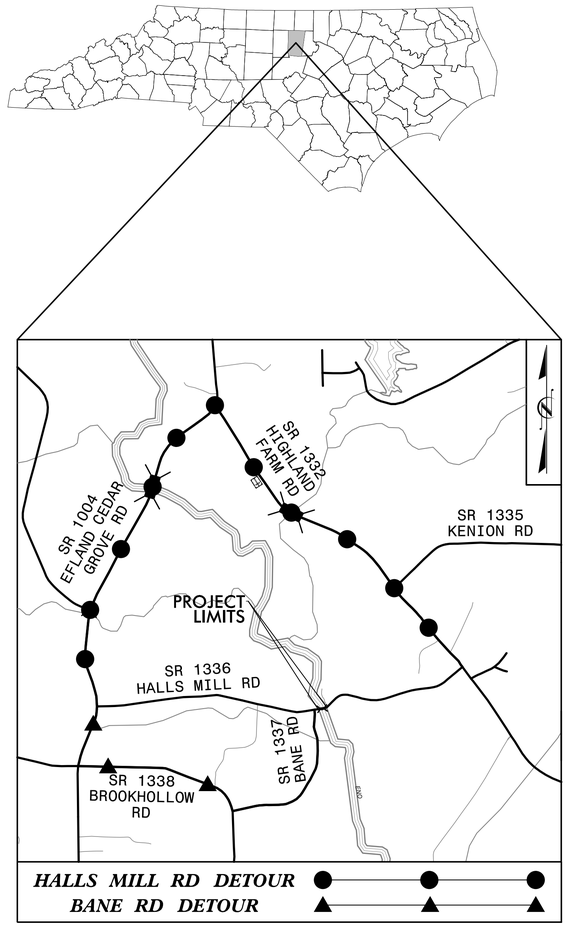
1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 12/23 TO 2/26.

09-FEB-2026 06:29
P:\Projects\230\Survey\BP7R009_LS_RW04_260211.dgn
cadkins
Alt BP7YW04

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ORANGE COUNTY



LOCATION: REPLACE BRIDGE NO. 011 OVER ENO RIVER ON SR 1336 (HALLS MILL RD)

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

PLANS PREPARED BY: HNTB	*NCDOT CONTACTS:*	
H. SHYU, P.E. *PROJECT ENGINEER*	DANIEL DAGENHART *PROJECT MANAGER*	
G. RODRIGUEZ, E.I.T. *PROJECT DESIGN ENGINEER*		

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-2	GENERAL NOTES, PHASING, AND DETOUR
TMP-2A	TEMPORARY SIGN DESIGN

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" CONTRACT STANDARDS AND DEVELOPMENT UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C. DATED JAN 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

LEGEND

GENERAL

NORTH ARROW

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

STATIONARY SIGN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

APPROVED: DocuSigned by: Helen Shyu 0F15075A05E44EF...

DATE: 2/12/2026

SEAL

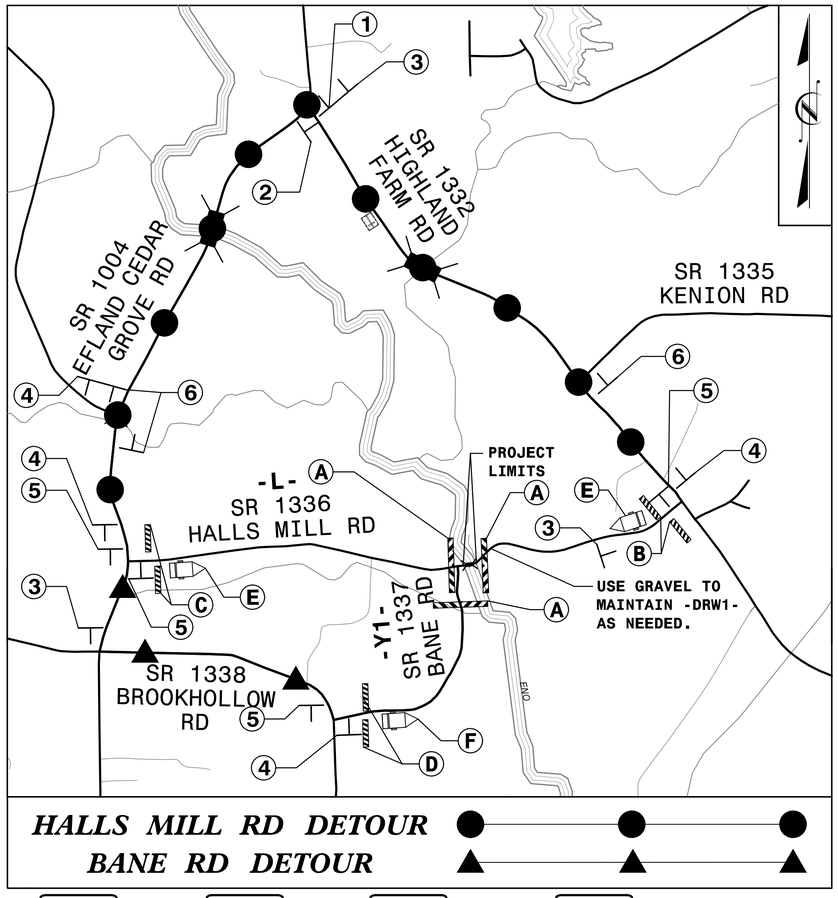
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042517 HELEN SHYU

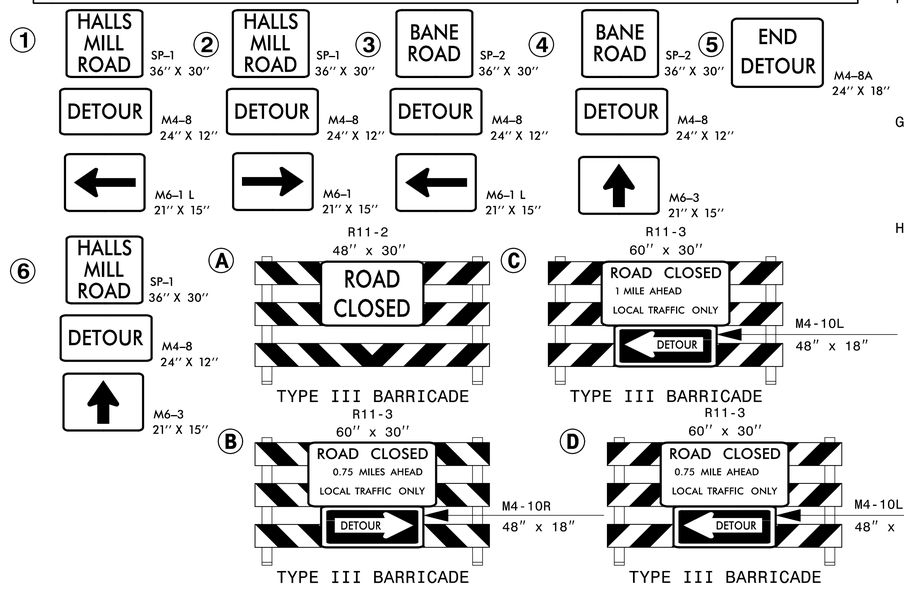
SHEET NO.
TMP-1

BP7-R009

TIP PROJECT:

PROJ. REFERENCE NO.	SHEET NO.
BP7-R009	TMP-2





E

MESSAGE NO. 1	MESSAGE NO. 2
HALLS MILL RD CLOSED	XX-XX-XX TO XX-XX-XX

CHANGEABLE MESSAGE SIGN

*** ACTIVATE CMS TWO WEEKS IN ADVANCE OF ROAD CLOSURE.**

F

MESSAGE NO. 1	MESSAGE NO. 2
BANE ROAD CLOSED	XX-XX-XX TO XX-XX-XX

CHANGEABLE MESSAGE SIGN

*** ACTIVATE CMS TWO WEEKS IN ADVANCE OF ROAD CLOSURE.**

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 THE DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATIONS MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

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

LANE AND SHOULDER CLOSURE REQUIREMENTS

A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 5 FT OF AN OPEN TRAVEL LANE OF AN UNDIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAINS WITHIN THE CLOSED TRAVEL LANE.

TRAFFIC PATTERN ALTERATIONS

E) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

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

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN ON THIS SHEET.

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

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

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

SEE RSD 1101.03 SHEET 1 OF 9 FOR ADDITIONAL TRAFFIC CONTROL DEVICES

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

J) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
-L- (HALLS MILL ROAD)	PAINT	TEMPORARY RAISED
-Y1- (BANE ROAD)	PAINT	TEMPORARY RAISED

K) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

L) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

M) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

N) COORDINATE WITH ORANGE COUNTY EMERGENCY SERVICES AND ORANGE COUNTY SCHOOL TRANSPORTATION BEFORE CONSTRUCTION BEGINS.

PHASING

STEP 1: PRIOR TO ANY CONSTRUCTION OPERATIONS, PLACE AND COVER OFF-SITE DETOUR SIGNS AS SHOWN ON THIS SHEET AND IN ACCORDANCE WITH RSD 1101.03 (SHEET 1 OF 9).

COMPLETE THE REQUIREMENTS OF STEPS 2 AND 3 BETWEEN MAY 13, 2026 AND DECEMBER 15, 2026. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)

STEP 2: UNCOVER DETOUR SIGNS, CLOSE -L- AND -Y1- TO TRAFFIC. CONSTRUCT PROPOSED BRIDGE AND ROADWAY UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. USE GRAVEL AS NEEDED TO MAINTAIN -DRW1- ACCESS.

STEP 3: APPLY TEMPORARY PAVEMENT MARKINGS AND MARKERS IN ACCORDANCE TO RSD 1205.01, 1205.02, 1205.04, 1250.01, AND 1251.01. OPEN BRIDGE AND -Y1- TO TRAFFIC.

STEP 4: COMPLETE ALL REMAINING WORK, THEN USE RSD 1101.02 (SHEET 1 OF 19) TO APPLY FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS AND MARKERS PER PMP. REMOVE ALL TRAFFIC CONTROL DEVICES.

HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

APPROVED: Docusigned by: Helen Shyu 0F15975A95E44EF...

DATE: 3/20/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 042517 ENGINEER HELEN SHYU

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRANSPORTATION MANAGEMENT PLAN

GENERAL NOTES, PHASING, AND DETOUR

3:32:08 PM
...\BP7_R009_tc_TCP_02_detour.dgn
3/20/2026

PROJ. REFERENCE NO.	SHEET NO.
BP7-R009	TMP-2A

SIGN NUMBER: SP-1
TYPE: D
QUANTITY: 5

SIGN WIDTH: 3′-0″
HEIGHT: 2′-6″
TOTAL AREA: 7.5 Sq.Ft.

BORDER TYPE: RECESSED
RECESS: 0.38″
WIDTH: 0.38″
RADII: 1.5″

NO. Z BARS: N/A
LENGTH: N/A

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

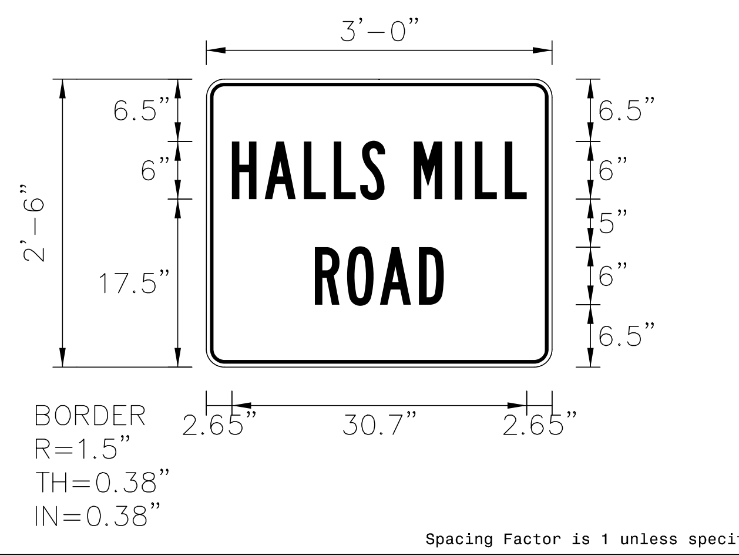
SYMBOL	X	Y	WID	HT

MAT′L: 0.063″ ALUMINUM

DESIGN BY: TRT
PROJECT ID: BP7.R009
CHECKED BY: ADK
DIV: 07
DATE: January 2026

NOTES:

1. Legend and border shall be direct applied non-reflective sheeting.
2. Background shall be Grade B, fluorescent orange, reflective sheeting.
3. To be mounted with Detour signing.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																												Series/Size Text Length
		H	A	L	L	S		M	I	L	L																	B 2000
	2.6	3.4	4.1	3.1	2.8	2.6	3	4.3	2.1	3.1	2.3	2.6																30.7
		R	O	A	D																							B 2000
	11.3	3.4	3.4	4.1	2.6	11.3																						13.4

SIGN NUMBER: SP-2
TYPE: D
QUANTITY: 7

SIGN WIDTH: 3′-0″
HEIGHT: 2′-6″
TOTAL AREA: 7.5 Sq.Ft.

BORDER TYPE: RECESSED
RECESS: 0.38″
WIDTH: 0.38″
RADII: 1.5″

NO. Z BARS: N/A
LENGTH: N/A

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

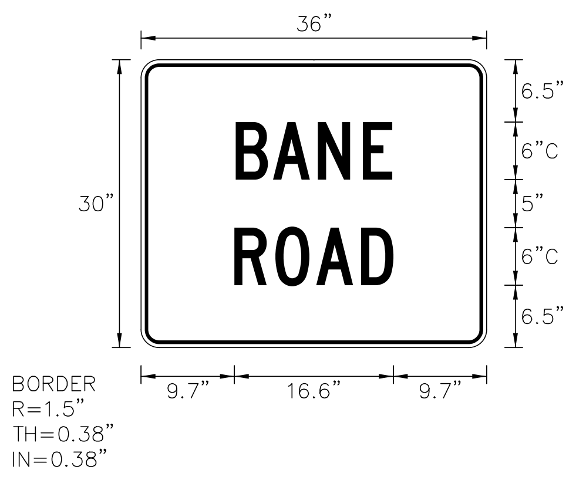
SYMBOL	X	Y	WID	HT

MAT′L: 0.125″ ALUMINUM

DESIGN BY: TRT
PROJECT ID: BP7.R009
CHECKED BY: ADK
DIV: 07
DATE: January 2026

NOTES:

1. Legend and border shall be direct applied non-reflective sheeting.
2. Background shall be Grade B, fluorescent orange, reflective sheeting.
3. To be mounted with Detour signing.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																												Series/Size Text Length
		B	A	N	E																							C 2000
	9.8	3.9	4.7	4.7	3.1	9.8																						16.3
		R	O	A	D																							C 2000
	9.7	4.3	4.3	4.7	3.4	9.7																						16.6

HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

DocuSigned by:
APPROVED: Helen Shyu
0F15975A95E44EF...

DATE: 2/12/2026

SEAL

SEAL
042517
HELEN SHYU

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

TRANSPORTATION
MANAGEMENT PLAN

TEMPORARY SIGN
DESIGN

11:08 AM
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1/20/2026