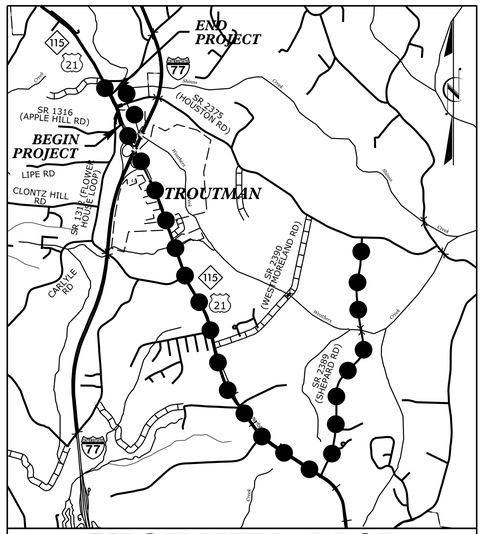
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05/30/17

TIP PROJECT: R-5711

CONTRACT: C205235

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See RW Sheet Series For Survey Control



VICINITY MAP

NOT TO SCALE

●●●●● OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

IREDELL COUNTY

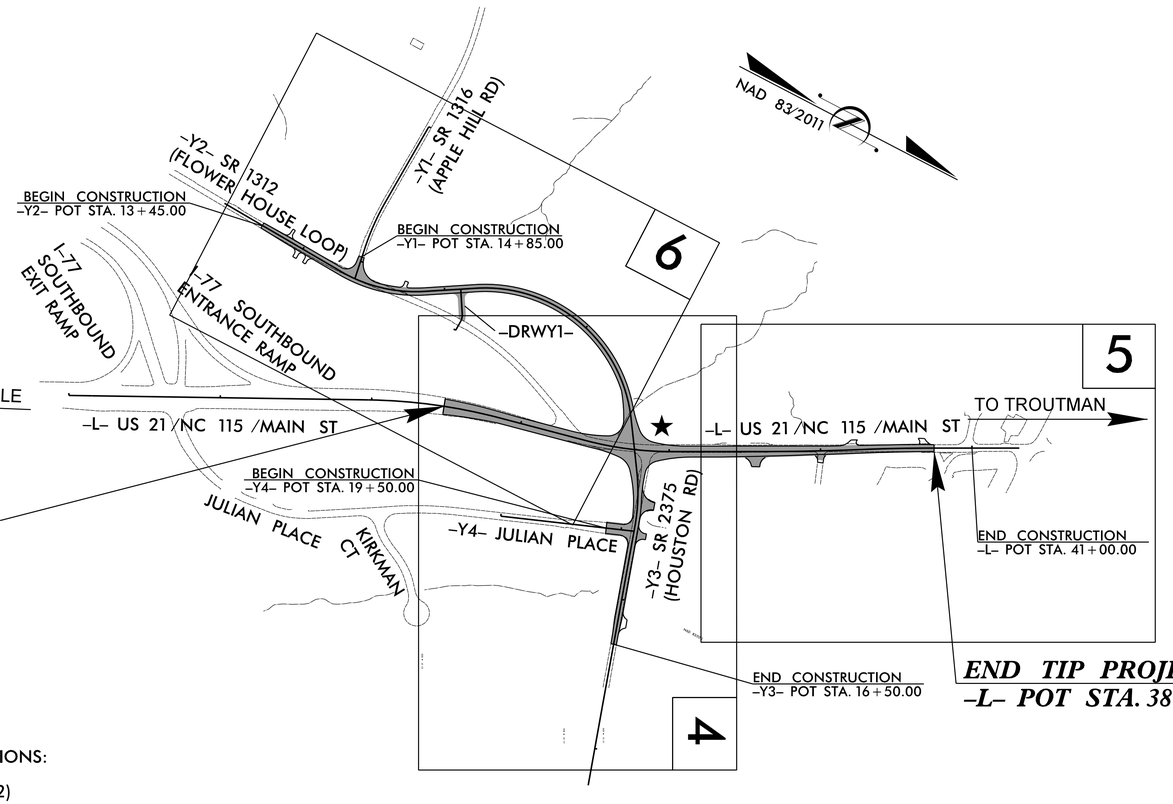
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5711	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50207.1.1	N/A	PE
50207.2.1	N/A	R/W
50207.2.2	N/A	UTILITIES
50207.3.1	N/A	CONST.

LOCATION: INTERSECTION IMPROVEMENTS AT US 21 AND SR 1312 (FLOWER HOUSE LOOP)/ SR 2375 (HOUSTON ROAD)

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





BEGIN TIP PROJECT R-5711
-L- POC STA. 22+40.00

END TIP PROJECT R-5711
-L- POT STA. 38+75.00

★ PROPOSED SIGNAL

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF TROUTMAN

THIS PROJECT REQUIRES THE FOLLOWING DESIGN EXCEPTIONS:
MIN. HORIZONTAL CURVE RADIUS = 485' ON -Y2-
(DESIGN EXCEPTION APPROVED BY NCDOT – DIVISION 12)

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 = 16,667
ADT 2046 = 20,000
K = 7 %
D = 50 %
T = 17 % *
V = 50 MPH
(*TTST=9% DUAL=8%)
FUNC CLASS =
MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT R-5711 ..... 0.310 mi

TOTAL LENGTH OF TIP PROJECT R-5711 ..... 0.310 mi

PLANS PREPARED BY:

DRMP
ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS

DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

FOR:
NCDOT - DIVISION 12

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 14, 2019

LETTING DATE:
DECEMBER 15, 2026

CHRISTOPHER K. HAIRE, PE
PROJECT ENGINEER
TIMOTHY A. KLOTZ, PE
PROJECT DESIGN ENGINEER
NCDOT CONTACT:
BRYAN K. SOWELL, PE
DIVISION 12 PROJECT ENGINEER

HYDRAULICS ENGINEER

Signed by: Ryan P. Mitchell
A7A7DB2307794AC...
P.E.
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 044113 ENGINEER RYAN P MITCHELL

ROADWAY DESIGN ENGINEER

DocuSigned by: Christopher K. Haire
E39A24D2EE94BD...
P.E.
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 019740 ENGINEER CHRISTOPHER KENT HAIRE

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

9/18/2026 9:18:33 AM
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-5711	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 CHRISTOPHER KENT HUME

10/1/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES & LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-3	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	INTERSECTION DETAIL - A
2B-2	DOMINION ENERGY NORTH CAROLINA TEMPORARY DRIVEWAY DETAIL
2C-1 THRU 2C-2	PIPE INSTALLATION DETAILS
2C-3	GUARDRAIL DETAILS
2C-4	CONVERT EXISTING OPEN THROAT CATCH BASIN TO GRATED DROP INLET DETAIL
3B-1	ROADWAY SUMMARIES
3D-1	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 6	PLAN SHEETS
7 THRU 9	PROFILE SHEETS
RW01 THRU RW06	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENT AND PROPERTY TIES
TMP-1 THRU TMP-23	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-4	PAVEMENT MARKING PLANS
EC-1 THRU EC-9	EROSION CONTROL PLANS
SGN-01 THRU SGN-05	SIGNING PLANS
SIG 1.0 THRU SIG 2.2	SIGNAL PLANS
SCP-1	WIRELESS COMMUNICATION PLANS
UC-1 THRU UC-7	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-4	UTILITY BY OTHERS PLANS
X-1	CROSS SECTION INDEX SHEET
X-1A	CROSS SECTION SUMMARY SHEET
X-2 THRU X-19	CROSS-SECTIONS

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 III.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

SUBSURFACE DRAINS

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

STREET TURNOUT

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY, PSNC, AT&T,

CHARTER-SPECTRUM, SPIRIT COMMUNICATIONS, CITY OF TROUTMAN

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

RIGHT-OF-WAY MARKERS:

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

EFF. 01-16-2024
REV.

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	
200.03	METHOD OF CLEARING - METHOD III
225.01	GUIDE FOR GRADING SUBGRADE - INTERSTATE AND FREEWAY
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 SHEET 1 AND 2 OF 2)
310.10	DRIVEWAY PIPE CONSTRUCTION
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD I
DIVISION 8 - INCIDENTALS	
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
840.16	DROP INLET FRAME AND GRATES - FOR USE WITH STD. DWG 840.14 AND 840.15
840.18	CONCRETE GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.20	FRAMES AND WIDE SLOT FLAT GRATES
840.22	FRAMES AND WIDE SLOT SAG GRATES
840.25	ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST
840.27	BRICK GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.35	TRAFFIC BEARING GRATED DROP INLET - FOR CAST IRON DOUBLE FRAME AND GRATES
840.45	PRECAST DRAINAGE STRUCTURE
840.46	TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE
840.66	DRAINAGE STRUCTURE STEPS
840.72	PIPE COLLAR
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
846.04	DROP INLET INSTALLATION IN SHOULDER BERM GUTTER
848.04	STREET TURNOUT
862.01	GUARDRAIL PLACEMENT (USE DETAIL IN LIEU OF STANDARDS FOR SHEET 6 OF 15)
862.02	GUARDRAIL INSTALLATION
876.01	RIP RAP IN CHANNELS AND DITCHES
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
876.04	DRAINAGE DITCHES WITH CLASS 'B' RIP RAP

9/30/2026
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05/29/25

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

R-5711
1B

Note: Not to Scale

BOUNDARIES AND PROPERTY:
- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Existing Concrete Monument (ECM)
- Parcel / Sequence Number
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Existing Historic Property Boundary
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:
- Gas Pump Vent or U/G Tank Cap
- Sign
- Well
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:
- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream
- Buffer Zone 1
- Buffer Zone 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

RAILROADS:
- Standard Gauge
- RR Signal Milepost
- Switch
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & 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
- Existing Control of Access Line
- Proposed Control of Access Line
- Proposed ROW and CA Line
- Existing Easement Line
- Proposed Temporary Construction Easement
- Permanent Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement
- Proposed Permanent Drainage/Utility Easement
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement
- Proposed Aerial Utility Easement

ROADS AND RELATED FEATURES:
- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Curb Ramp
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:
- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard

EXISTING STRUCTURES:
MAJOR:
- Bridge, Tunnel or Box Culvert
- Bridge Wing Wall, Head Wall and End Wall

MINOR:
- Head and End Wall
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB
- Paved Ditch Gutter
- Storm Sewer Manhole
- Storm Sewer

UTILITIES:
** 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
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line Test Hole (SUE - LOS A)*
- U/G Power Line (SUE - LOS B)*
- U/G Power Line (SUE - LOS C)*
- U/G Power Line (SUE - LOS D)*

TELEPHONE:
- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Test Hole (SUE - LOS A)*
- U/G Telephone Cable (SUE - LOS B)*
- U/G Telephone Cable (SUE - LOS C)*
- U/G Telephone Cable (SUE - LOS D)*
- U/G Telephone Conduit (SUE - LOS B)*
- U/G Telephone Conduit (SUE - LOS C)*
- U/G Telephone Conduit (SUE - LOS D)*
- U/G Fiber Optics Cable (SUE - LOS B)*
- U/G Fiber Optics Cable (SUE - LOS C)*
- U/G Fiber Optics Cable (SUE - LOS D)*

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

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

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

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

MISCELLANEOUS:
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box
- Utility Unknown U/G Line (SUE - LOS B)*
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc.
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records
- End of Information

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6/2/9

PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN

C1	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.	R2	SHOULDER BERM GUTTER
C2	PROP. APPROX. 2″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	E2	PROP. APPROX. 7½″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, IN TWO LAYERS. PLACE FIRST LAYER OF 4″ AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD. PLACE SECOND LAYER OF 3½″ AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD.	T	EARTH MATERIAL.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2″ IN DEPTH.	E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5½″ IN DEPTH.	U	EXISTING PAVEMENT.
D1	PROP. APPROX. 2½″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	K	CLASS IV SUBGRADE STABILIZATION	V1	MILLING BITUMINOUS PAVEMENT. 1½″ DEPTH.
D2	PROP. APPROX. 3″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	N	GEOTEXTILE FOR SOIL STABILIZATION	V2	INCIDENTAL MILLING (SEE INCIDENTAL MILLING DETAIL No. 2 SHEET No. 2A-1)
D3	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R1	2′-6″ CONCRETE CURB AND GUTTER.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-1)
D4	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.				

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

PROJECT REFERENCE NO.	SHEET NO.
R-5711	2A-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA — Docusigned by: Christopher K. Hire — SEAL 019740 — ENGINEER — CHRISTOPHER KENT HIRE

10/2/2026

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA — Docusigned by: Shihai Zhang — SEAL 038176 — ENGINEER — SHIHAI ZHANG

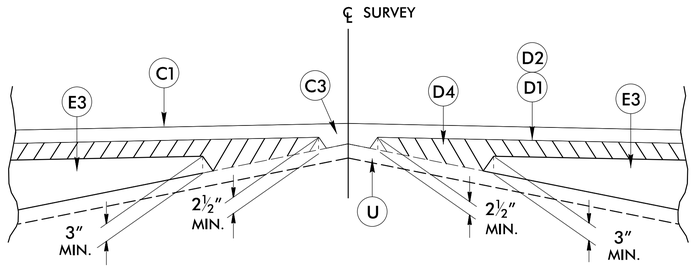
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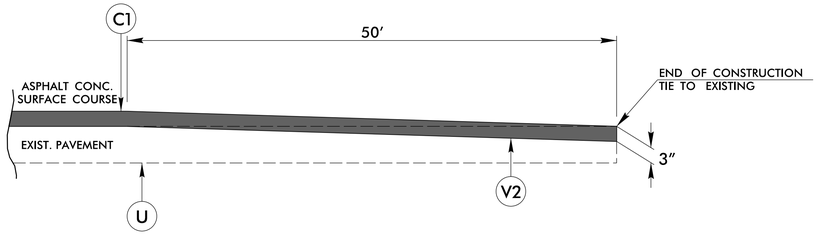
PLANS PREPARED BY:

DRMP

DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

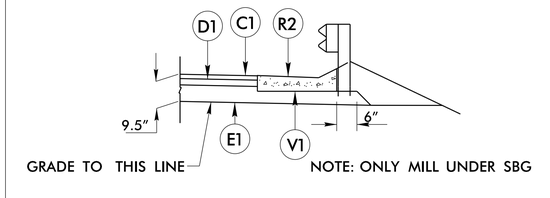


Detail No. 1 Showing Method of Wedging
*Note: D2 to be used along –L–



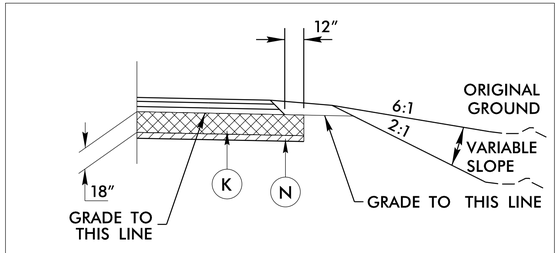
DETAIL NO. 2 INCIDENTAL MILLING DETAIL

–L– STA. 22+40.00 TO –L– STA. 22+90.00
–L– STA. 38+25.00 TO –L– STA. 38+75.00
–Y1– STA. 14+85.00 TO –Y1– STA. 15+35.00
–Y2– STA. 13+45.00 TO –Y2– STA. 13+95.00
–Y3– STA. 16+00.00 TO –Y3– STA. 16+50.00
–Y4– STA. 19+50.00 TO –Y4– STA. 20+00.00



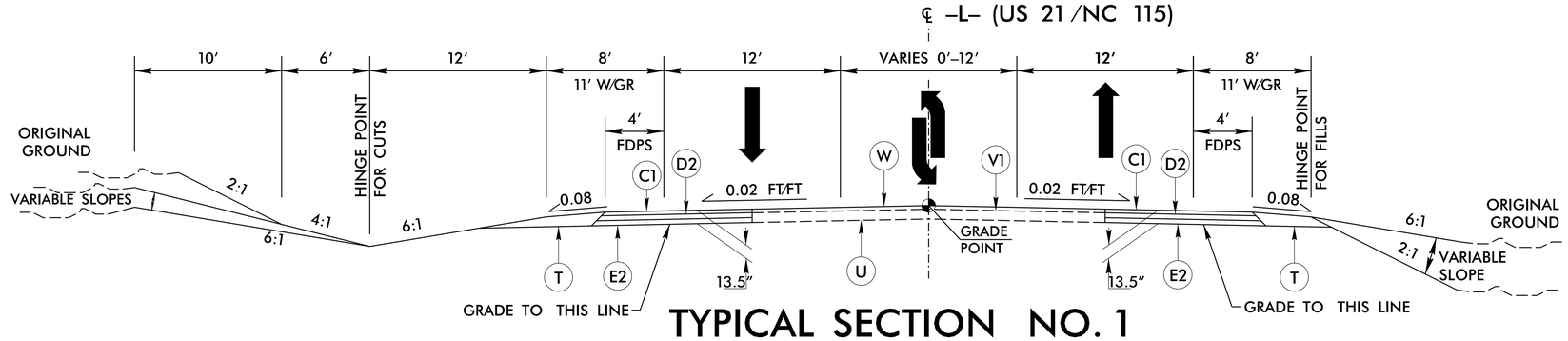
DETAIL NO. 3 SHOULDER BERM GUTTER (SBG)

–Y2– STA. 27+42.00 RT TO –L– STA. 27+91.00 RT



DETAIL NO. 4 SHALLOW UNDERCUT

–L– STA. 31+75.00 TO –L– STA. 38+75.00



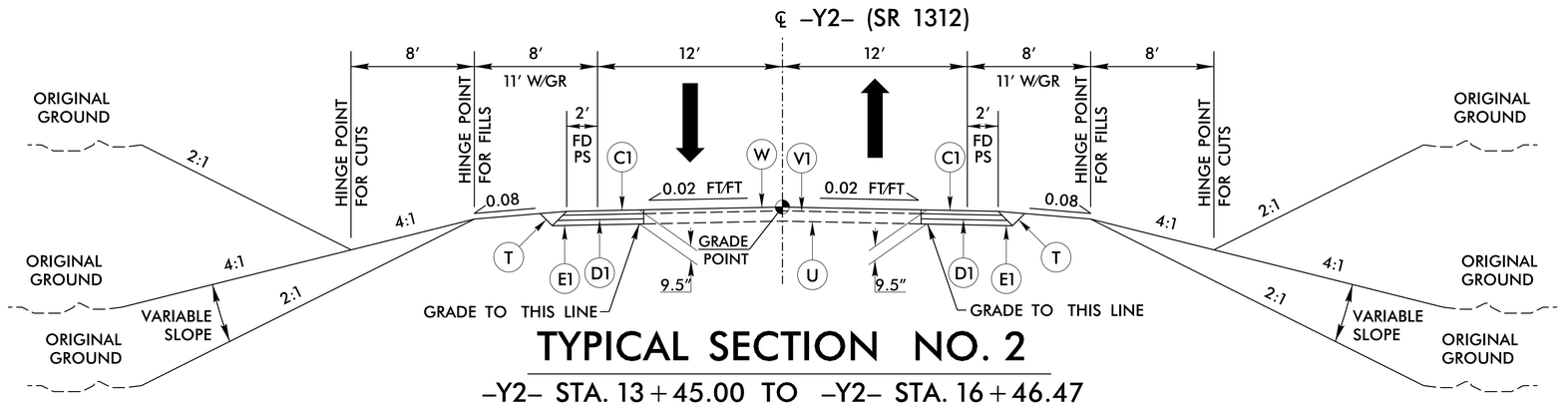
TYPICAL SECTION NO. 1

–L– STA. 22+40.00 TO –L– STA. 38+75.00

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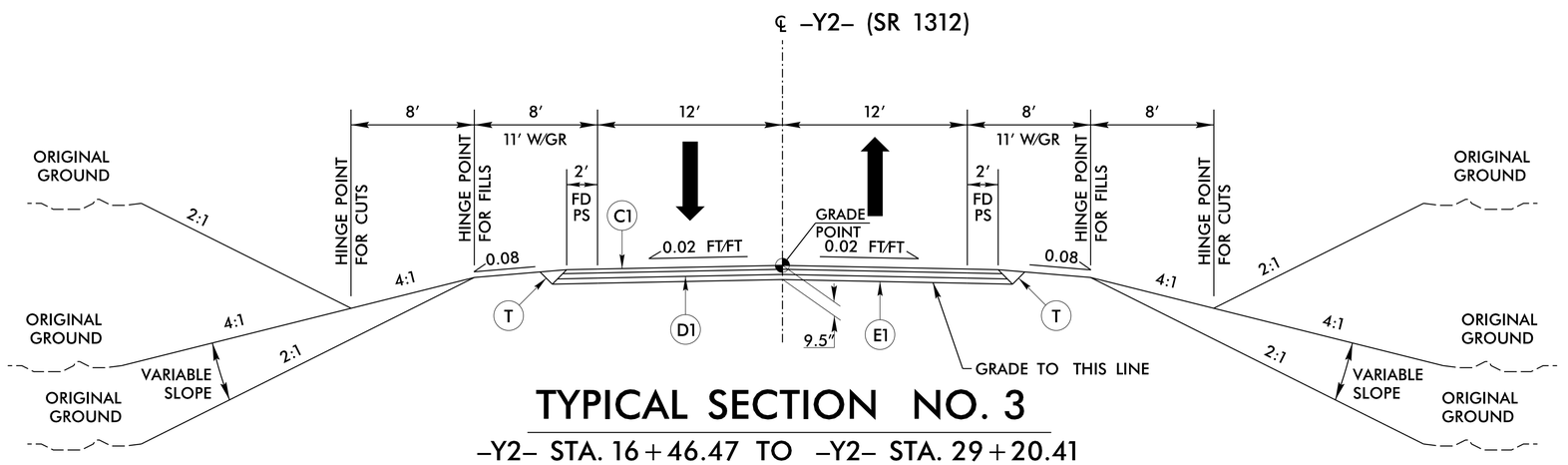
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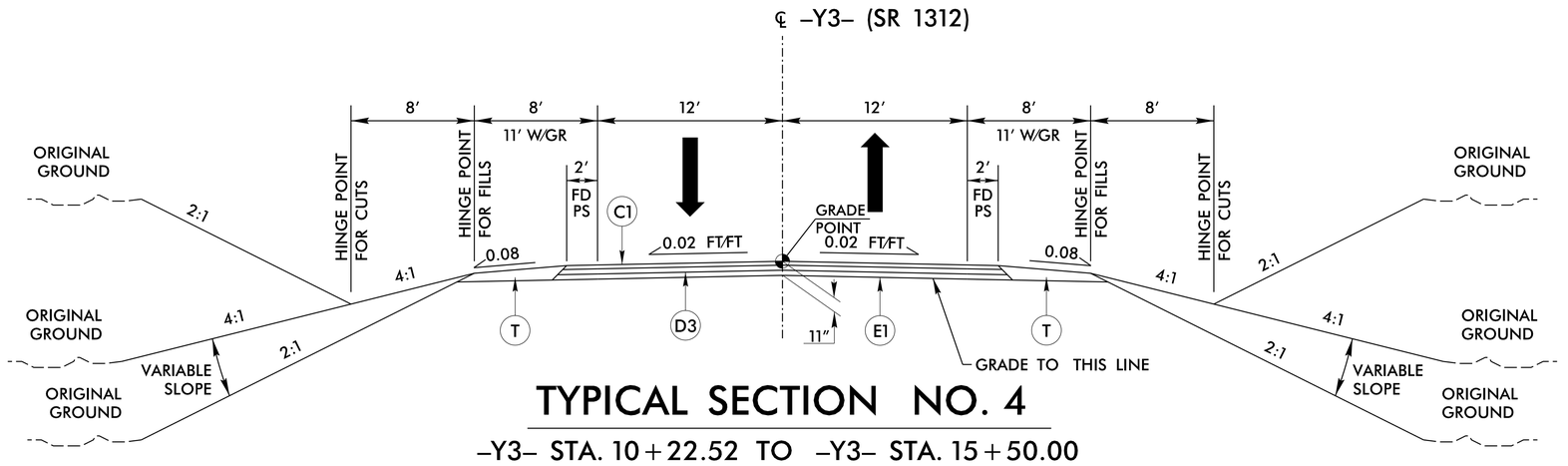
TYPICAL SECTION NO. 2

–Y2– STA. 13+45.00 TO –Y2– STA. 16+46.47



TYPICAL SECTION NO. 3

–Y2– STA. 16+46.47 TO –Y2– STA. 29+20.41



TYPICAL SECTION NO. 4

–Y3– STA. 10+22.52 TO –Y3– STA. 15+50.00

PROJECT REFERENCE NO.	SHEET NO.
R-5711	2A-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 CHRISTOPHER KENT HIRE

10/1/2026

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038176 SHIHTAI ZHANG

10/1/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:

DRMP

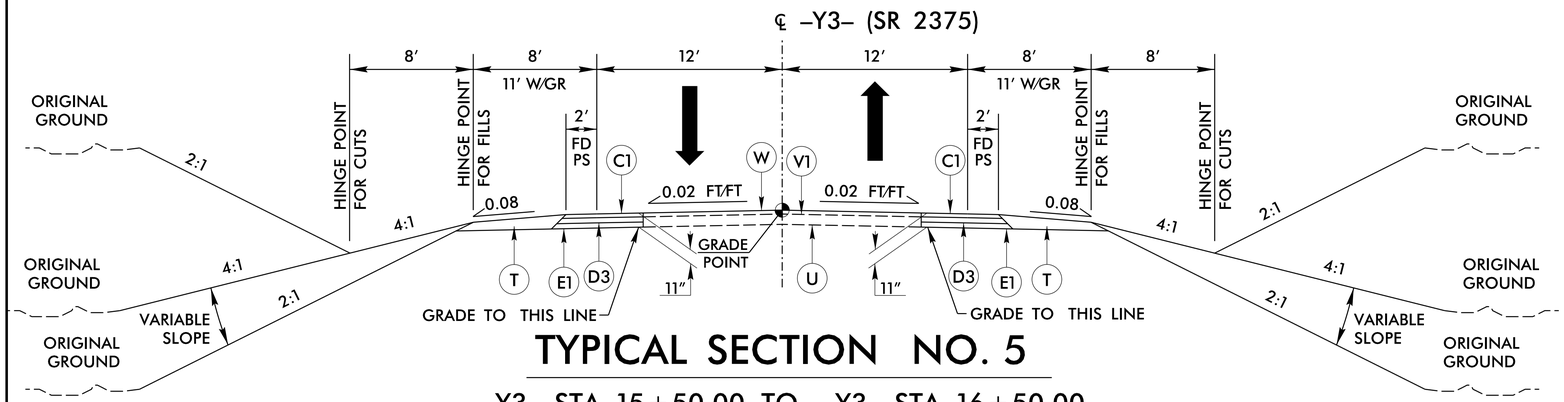
DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	3″ S9.5C
C2	2″ S9.5C
C3	VAR. S9.5C
D1	2½″ I19.0C
D2	3″ I19.0C
D3	4″ I19.0C
D4	VAR. I19.0C
E1	4″ B25.0C
E2	7½″ B25.0C
E3	VAR. B25.0C
K	CLASS IV SUB. STABILIZATION
N	GEOTEXTILE
R1	2′-6″ C & G
R2	SBG
T	EARTH MATERIAL
U	EXISTING PVMT
V1	1½″ MILLING
V2	INCIDENTAL MILLING
W	WEDGING

10/30/2026
R-5711
tklotz
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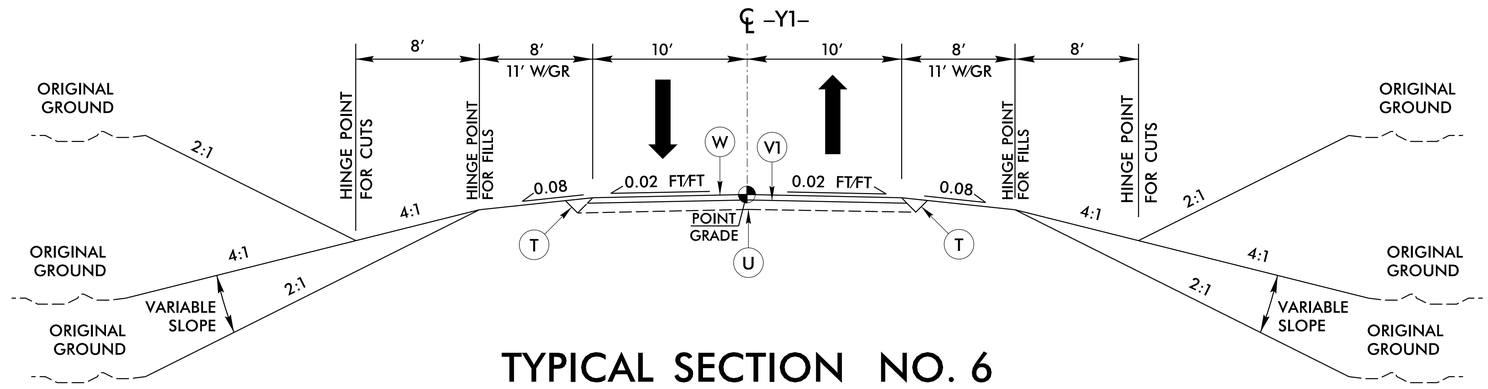
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6/2/95



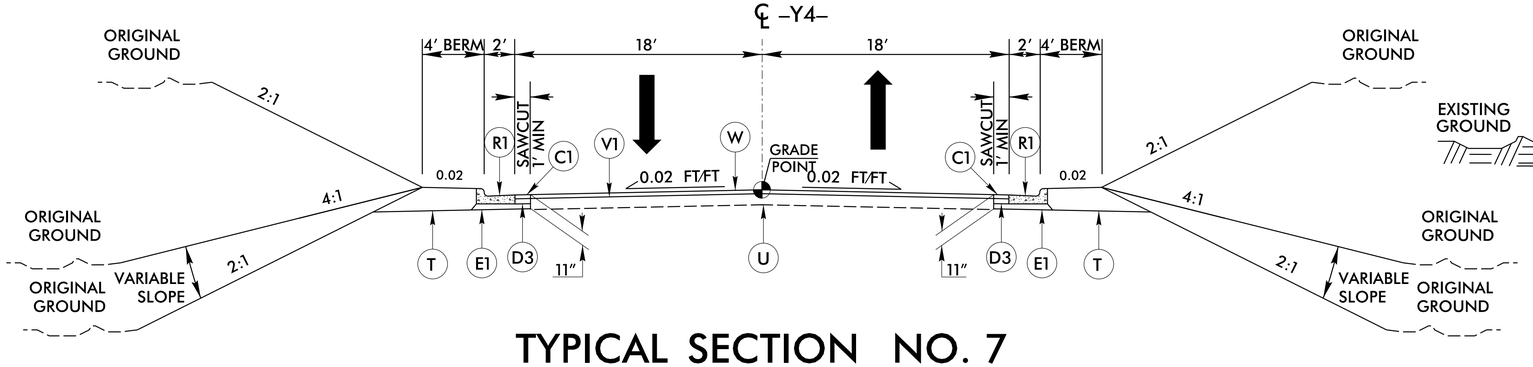
TYPICAL SECTION NO. 5

–Y3– STA. 15+50.00 TO –Y3– STA. 16+50.00



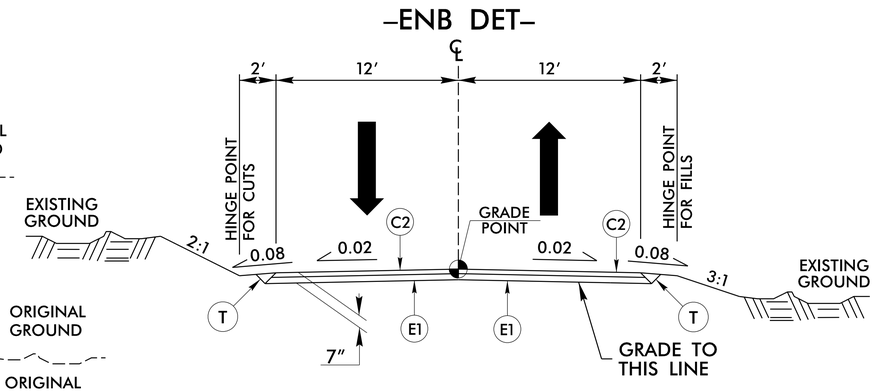
TYPICAL SECTION NO. 6

–Y1– STA. 14+85.00 TO –Y1– STA. 15+48.09



TYPICAL SECTION NO. 7

–Y4– STA. 19+50.00 TO –Y4– STA. 20+30.64



TYPICAL SECTION NO. 8

–ENB DET– STA. 10+00.00 TO –ENB DET– STA. 11+54.67

PROJECT REFERENCE NO.	SHEET NO.
R-5711	2A-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 ENGINEER CHRISTOPHER KENT HIRE
10/1/2026

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038176 ENGINEER SHIHAI ZHANG
10/1/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:

DRMP

DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	3″ S9.5C
C2	2″ S9.5C
C3	VAR. S9.5C
D1	2½″ I19.0C
D2	3″ I19.0C
D3	4″ I19.0C
D4	VAR. I19.0C
E1	4″ B25.0C
E2	7½″ B25.0C
E3	VAR. B25.0C
K	CLASS IV SUB. STABILIZATION
N	GEOTEXTILE
R1	2′-6″ C & G
R2	SBG
T	EARTH MATERIAL
U	EXISTING PVMT
V1	1½″ MILLING
V2	INCIDENTAL MILLING
W	WEDGING

8/30/2026
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tklotz

Docusign Envelope ID: 82BA1E60-C94E-84B8-83A3-F506C78DBEA6

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5711	2B-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA
DOCUSIGNED BY: Christopher K. Hayes
SEAL
019740
ENGINEER
CHRISTOPHER KENT HAYES
10/1/2026

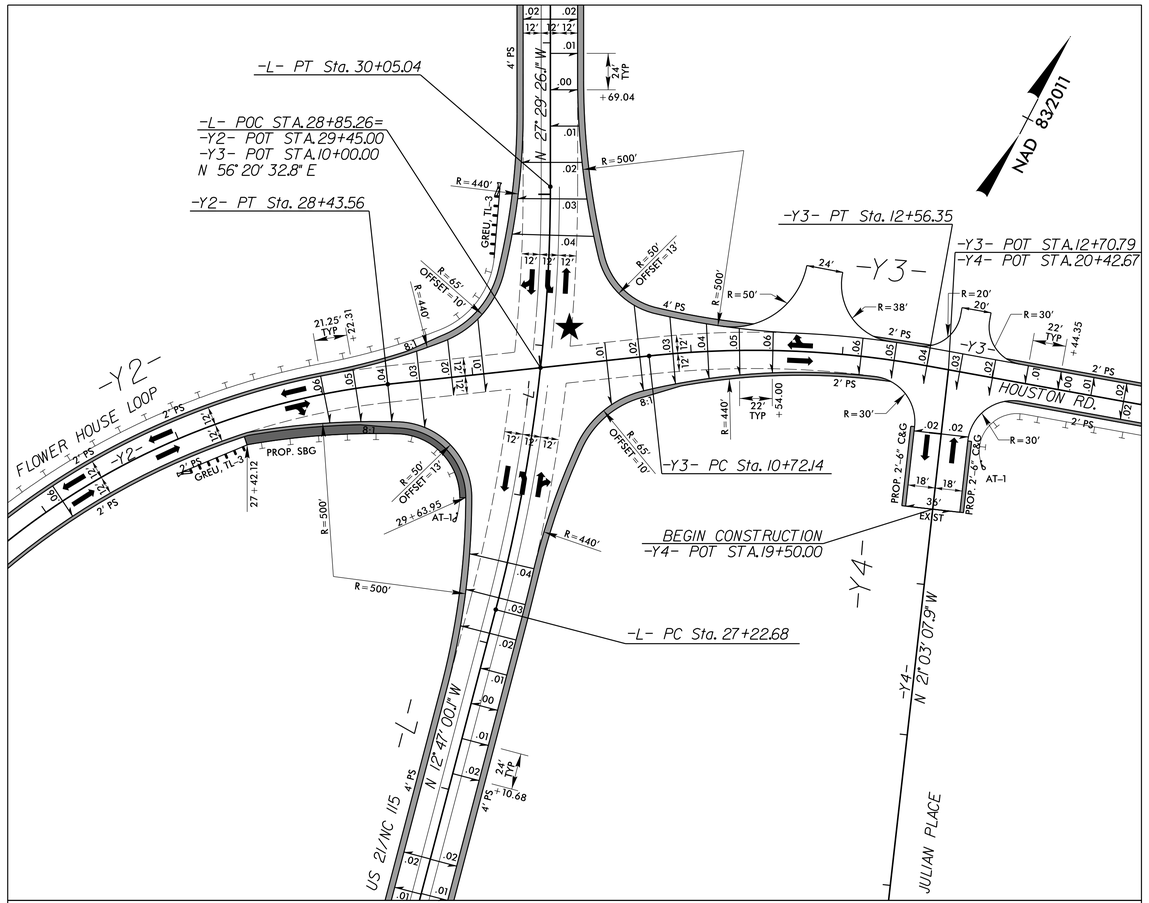
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:

DRMP

DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

–L– US 21/NC 115, –Y2–, –Y3–, & –Y4–



INTERSECTION DETAIL – A

SCALE: 1"=50'

FOR PLAN VIEW SEE SHEET 4
FOR –L– PROFILE SEE SHEET 7
FOR –Y2– & –Y3– PROFILE SEE SHEET 8
FOR –Y4– PROFILE SEE SHEET 9

★ PROPOSED SIGNAL

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DOMINION ENERGY NORTH CAROLINA TEMPORARY DRIVEWAY DETAIL

PROJECT REFERENCE NO.	SHEET NO.
R-5711	2B-2
RW SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 CHRISTOPHER KENT HARE
10/1/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044113 RYAN P. MITCHELL
10/1/2026

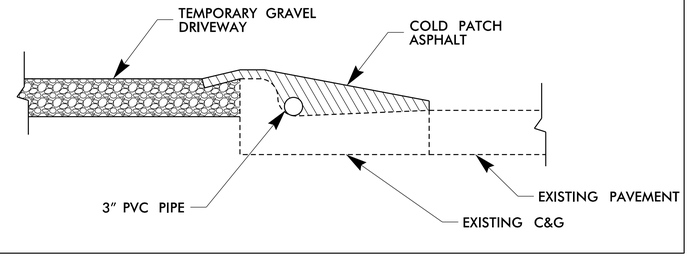
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:
DRMP
DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1324 (919) 872-5115

REVISIONS
8/17/99



CURB DETAIL



GENERAL NOTES FOR TEMPORARY DRIVEWAYS:

1. TEMPORARY ACCESS SHALL NOT ALTER OR IMPEDE EXISTING DRAINAGE.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRACKOUT AND DUST CONTROL.
3. CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR RESTORING CURB AND GUTTER TO ORIGINAL CONDITION.
4. TEMPORARY ACCESS SHALL BE REMOVED WHEN NO LONGER REQUIRED.
5. REMOVE GRAVEL, GRADE, AND RESEED ONCE HOUSTON RD. IS REOPENED.

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User: bpolis

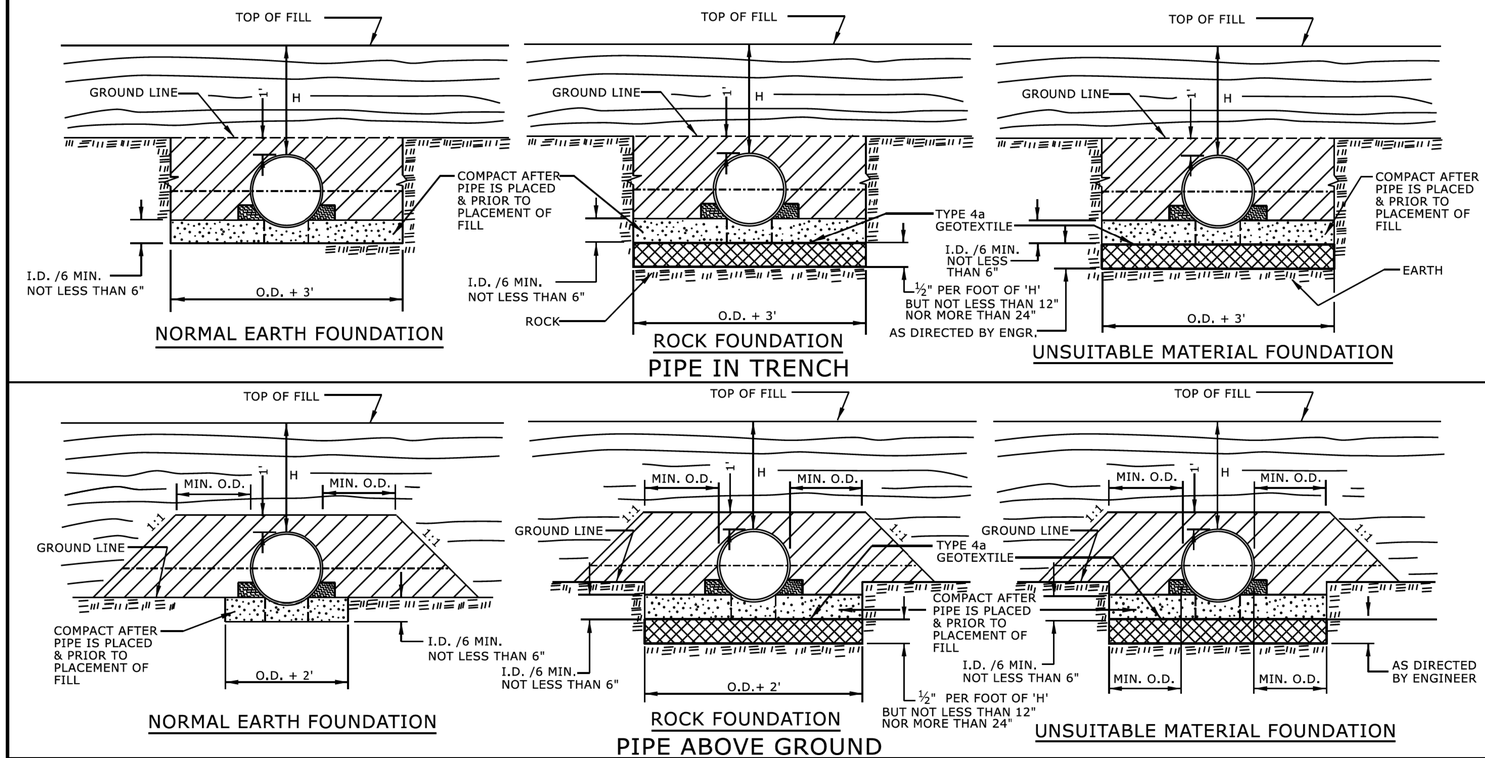
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PROJECT REFERENCE NO.	SHEET NO.
R-5711	2C-1
R/W SHEET NO.	

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PLANS PREPARED BY:
DRMP
DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

PROJECT REFERENCE NO.	SHEET NO.



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 ENGINEER SEAL 033144 NICOLE M. HACKLER

10/1/2026

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.:

REVISIONS 8/17/99

12/3/2025
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User:rhesbitt

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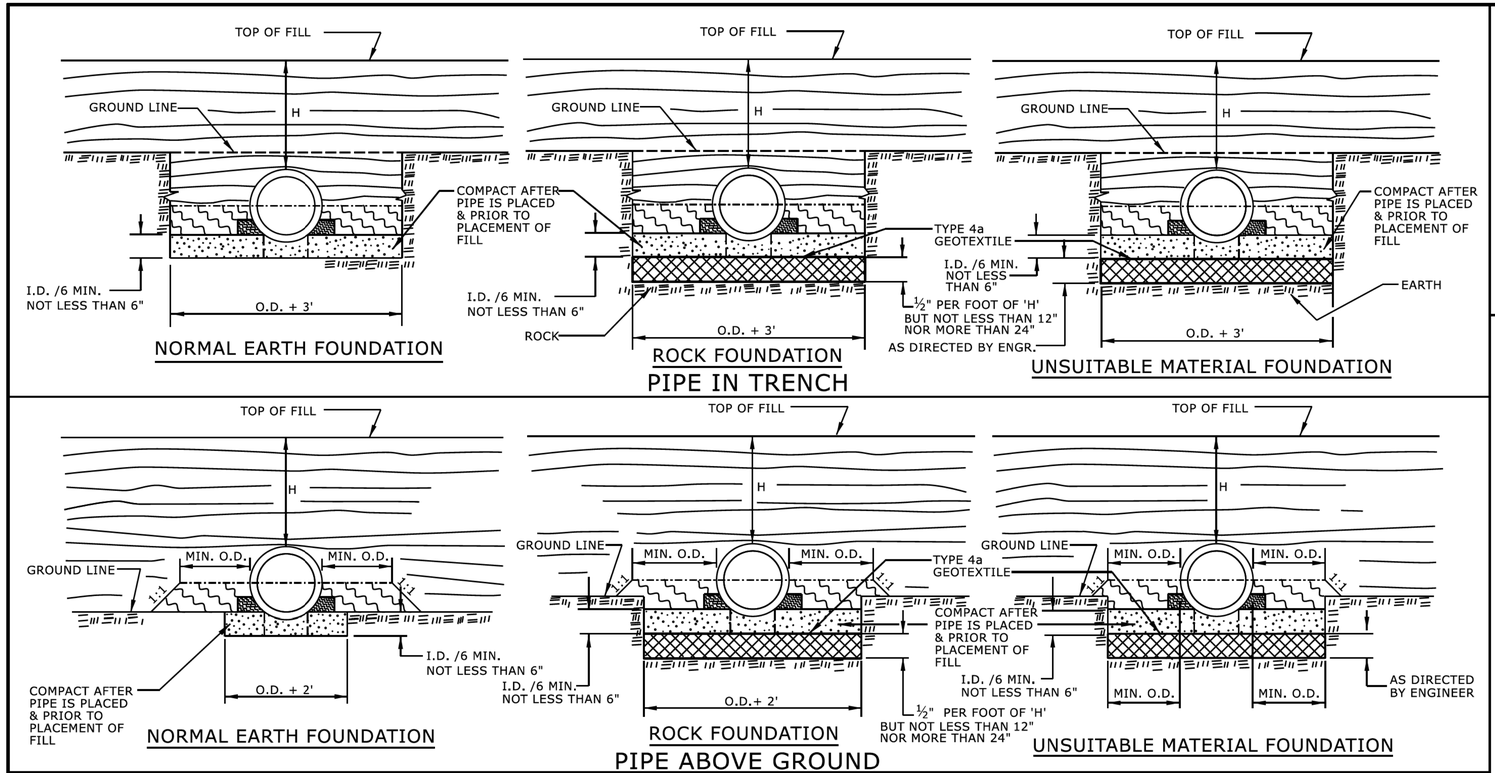
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5711	2C-2
R/W SHEET NO.	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:
DRMP
DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

PROJECT REFERENCE NO.	SHEET NO.



GENERAL NOTES:

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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



10/1/2026

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.: _____

12/3/2025
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User:rnesbitt

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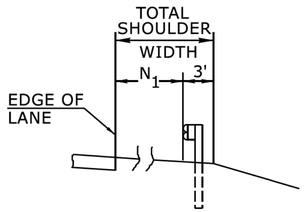
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5711	2C-3
R/W SHEET NO.	

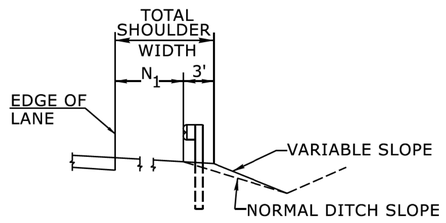
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:
DRMP
DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

PROJECT REFERENCE NO.	SHEET NO.

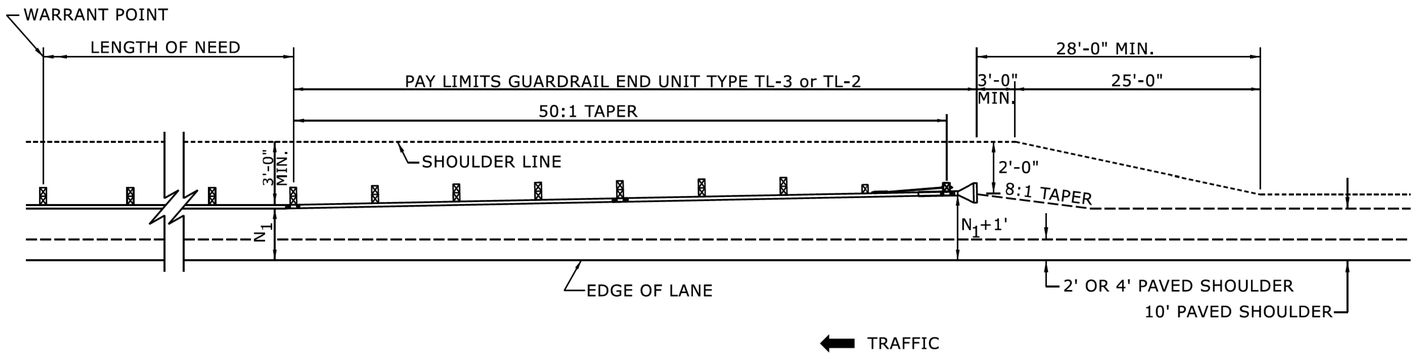


FILL SECTION



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
DEPT. OF TRANSPORTATION
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
10/1/2026

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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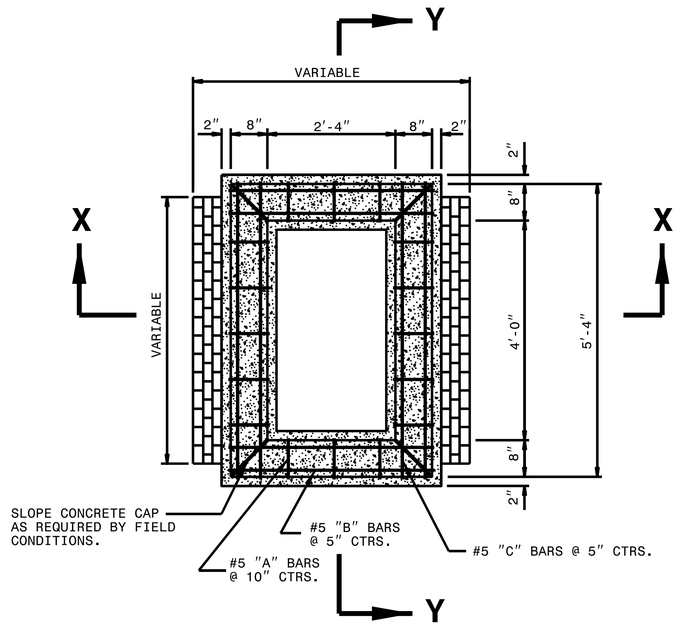
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MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

12/3/2025
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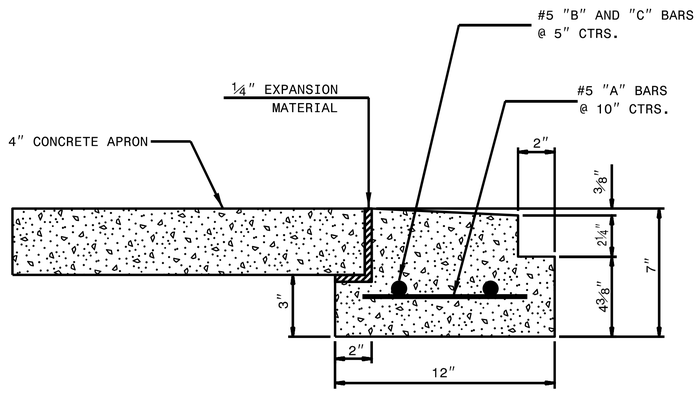
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PROJECT REFERENCE NO.	SHEET NO.
R-5711	2C-4



PLAN VIEW
APRON NOT SHOWN

NOTES:
- USE CLASS 'B' CONCRETE.
- DIMENSIONS MAY BE ADJUSTED TO SUIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

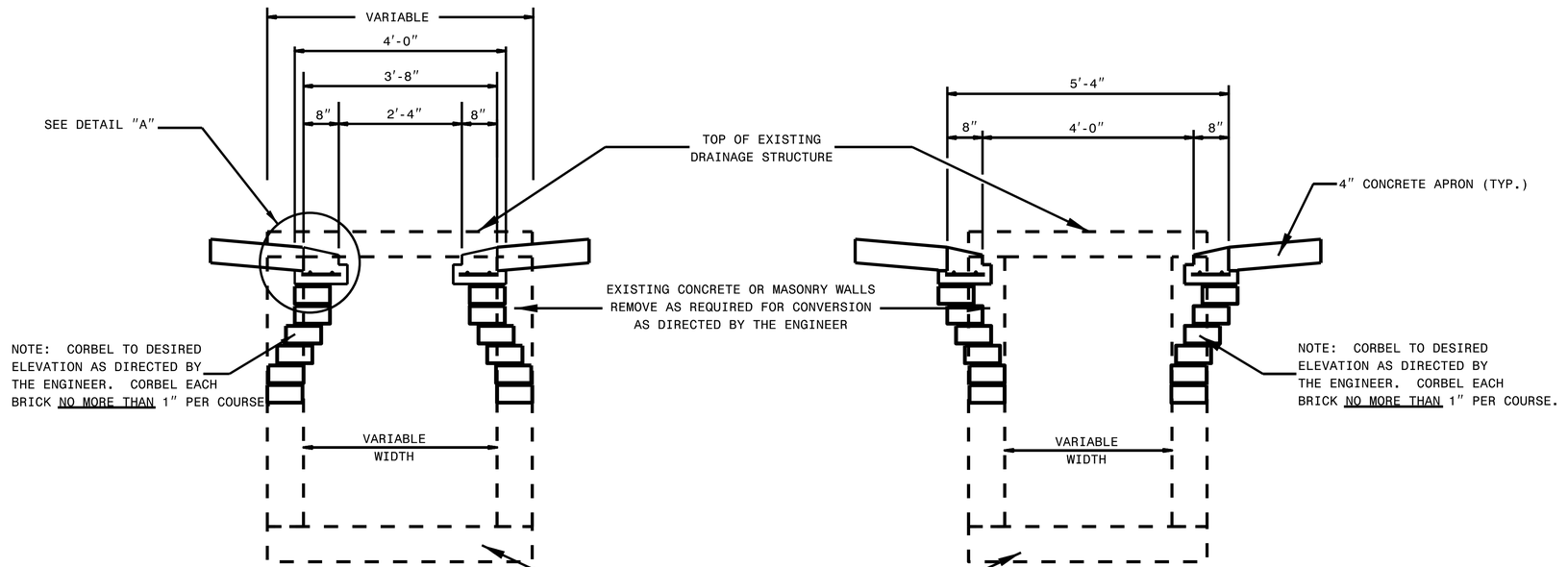


DETAIL "A"
CONCRETE CAP WITH APRON

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	WEIGHT
A	16	5	9"	13
B	4	5	3'-5"	14
C	4	5	5'-1"	21
TOTAL REINF. STEEL (lbs.)				48
BRICK MASONRY (per ft. ht.) (cu. yds.)				0.38
CLASS "B" CONC. (cu. yds.)				0.23

FRAME AND GRATES	STD. NO.
PREFERRED:	840.22
	840.24
ACCEPTABLE:	840.20
	840.29
	840.33



SECTION X-X **SECTION Y-Y**

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23144 NICOLE M. WACKLER
10/1/2026

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-250-4128 FAX 919-250-4119

CONVERT EXISTING OPEN THROAT CB TO MEDIAN DROP INLET

ORIGINAL BY: L.M.LEWIS DATE: 3/97
MODIFIED BY: E.E.WARD DATE: 7/03
CHECKED BY: DATE:
FILE SPEC.: s:usr\details\stand\cbto2gi.dgn

16-NOV-2010 10:43
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$$$$USERNAME$$$$

COMPUTED BY: TAK DATE: 9/14/2026
CHECKED BY: CKH DATE: 9/14/2026

PROJECT NO.	SHEET NO.
R-5711	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Station	Station	Uncl. Excav.	Embank.	Borrow CY	Waste CY
TMP Phase 1 Step 2					
-L- STA. 22+40.00	-L- STA. 38+75.00	1,977	725		1,253
-Y1- STA. 14+85.00	-Y1- STA. 15+00.00	13	1		12
-Y2- STA. 13+45.00	-Y2- STA. 15+50.00	164	248	84	
-Y2- STA. 19+50.00	-Y2- STA. 29+00.00	14,712	12,371		2,341
-Y3- STA. 10+50.00	-Y3- STA. 16+50.00	86	1,619	1,533	
-Y4- STA. 19+50.00	-Y4- STA. 20+00.00	15	10		5
SUBTOTALS:		16,967	14,974	1,617	3,610
TMP Phase 1 Step 3					
-Y3- STA. 10+50.00	-Y3- STA. 16+50.00	54	1,080	1,026	
SUBTOTALS:		54	1,080	1,026	
TMP Phase 1 Step 5					
-Y2- STA. 15+50.00	-Y2- STA. 19+50.00	37	1,875	1,838	
SUBTOTALS:		37	1,875	1,838	
TOTALS:		17,058	17,929	4,481	3,610
MATERIAL FOR SHOULDER CONSTRUCTION			909	909	
LOSS DUE TO CLEARING & GRUBBING		-1,550		1,550	
WASTE IN LIEU OF BORROW				-3,060	550
PROJECT TOTALS:		15,508	18,837	3,879	550
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				194	
GRAND TOTALS:		15,508	18,837	4,073	550
SAY:		**15,600**		**4,100**	

Note: Approximate quantities only. Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for grading.

Note: Earthwork quantities are calculated by the Roadway Design Engineer. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

DDE = 450 CY
CONTINGENCY UNDERCUT EXCAVATION = 450 CY
SELECT GRANULAR MATERIAL = 400 CY

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL (SY)
-Y2-	18+20	20+40	RT	460
-Y2-	20+46	28+97	RT	1,266
-ENB DET-	10+00	11+55	CL	510
		TOTAL:		2,236
		SAY:		2,240

SHOULDER BERM GUTTER SUMMARY

LINE	Station	Station	LENGTH (LF)
-Y2-& -L-	27+42.00 (Y2 -RT)	27+91.00 (L -LT)	165.13
		TOTAL:	165.13
		SAY:	170

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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 TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS									IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III	B-77	GREU, TL-3	GREU, TL-2	CAT-1	AT-1	Type III SC	B-77 SC		G	NG				
-Y2-	17+20	19+67	RT	250	56.25		17+50		8	11	0	50	0	1			1			1									
-Y2-	19+33	25+76	LT	662.5	0			19+00	8	11	50	50	1	1			2												
-Y2/L-	26+29	30+08	LT	312.5	62.5			20+50	8	11	50	50	1	1			2												
-Y2/L-	26+90	27+75	RT	150	81.25		27+50		8	11	50	0	1	0			1			1									
-Y4/Y3-	19+80	15+27	RT	175	200		13+50		8	11	0	0	0	0			1			1									
	SUBTOTAL			1,550.00	400.00																								
	LESS ANCHOR DEDUCTIONS																												
	GREU-350, TL-3		7 @ 50.00' =	-350.00																									
	AT-1		3 @ 6.25' =		-18.75																								
	ADDITIONAL GUARDRAIL POSTS = 10 EACH																												
			TOTAL	1,200.00	381.25												7			3									
			SAY	1212.50	387.50																								

301-PW(MKM)WEL

COMPUTED BY:	SEAN V. MCCARTHY, EI	**DATE:**	10/01/2026
CHECKED BY:	TIMOTHY J. LOWE, PE	**DATE:**	10/01/2026

PROJECT NO.	SHEET NO.
R5711	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, HDPE, PVC, or PP PIPE) SIZE: 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE | DO NOT USE PVC | DO NOT USE PP PIPE | R. C. PIPE CLASS III 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R. C. PIPE CLASS IV 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | STRUCTURAL PLATE PIPE 60 | 66 | 72 | QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) A: 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. 852.06 | 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 | CONCRETE BRIDGE APPROACH D.I. STD. 840.13 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26 | G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27 | G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28 | G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20 | G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22 | G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | 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 | CONVERT EXISTING O.T.C.B. TO 2 G.I. | ADJUST D.I. | 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 |
|---|---|---|---

COMPUTED BY: M. L. Hartman DATE: 9/4/18
CHECKED BY: S.S Laney DATE: 9/4/18

(5-15-18)

PROJECT NO.	SHEET NO.
R-5711	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	200
				TOTAL LF:	200

*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

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
L	31+75	38+75	ASU(1/2)	18	850	1700	1750		
CONTINGENCY			ASU(1/2)	18	200	200	200		
			TOTAL CY/TONS/SY:		1050	1900**	1950**	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.

PROJ. REFERENCE NO.	SHEET NO.
R-5711	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	S+S FAMILY LPD PARTNERSHIP
2	4	HWG DEV. CO. LLC
2	6	HWG DEV. CO. LLC
3	4	RONNIE H. YEE
4	4	JOHN & ESTER KURTI
5	4	STEPHEN B. HUBBARD
5	6	STEPHEN B. HUBBARD
6	4	C. LYNN & SUSAN SHERRILL
7	4	REGINALD K. OSTWALP
7	6	REGINALD K. OSTWALP
8	4	DOUGLAS A. HANELINE
9	4	PUBLIC SERVICE COMPANY OF NC
9	5	PUBLIC SERVICE COMPANY OF NC
10	5	DOUGLAS A. HANELINE
11	5	TIMELESS CUSTOM GARAGE LLC
12	5	MOTORSPORTS PROPERTIES INC.
13	5	TERRY F. BRIDGERS
14	5	STEVEN & DIANA ROGERS
15	5	TOWN & COUNTRY STORAGE TROUTMAN LLC
16	5	RONALD COMPTON
17	5	AMITY COMMERCIAL II LLC
18	5	RONALD COMPTON
19	6	JOHHNY R. DAGENHART & ERIC W. DAGENHART
20	6	HOWARD J. CULBRETH & SHARON M. CULBRETH
21	6	MOUNTAIN STATE INV. LLC
22	6	COLEN P. MILLER
23	4	ONSRUD PROPERTIES
24	4	MOUNTAIN STATE INV. LLC
25	5	PRESTIGE OFFICE BUILDING

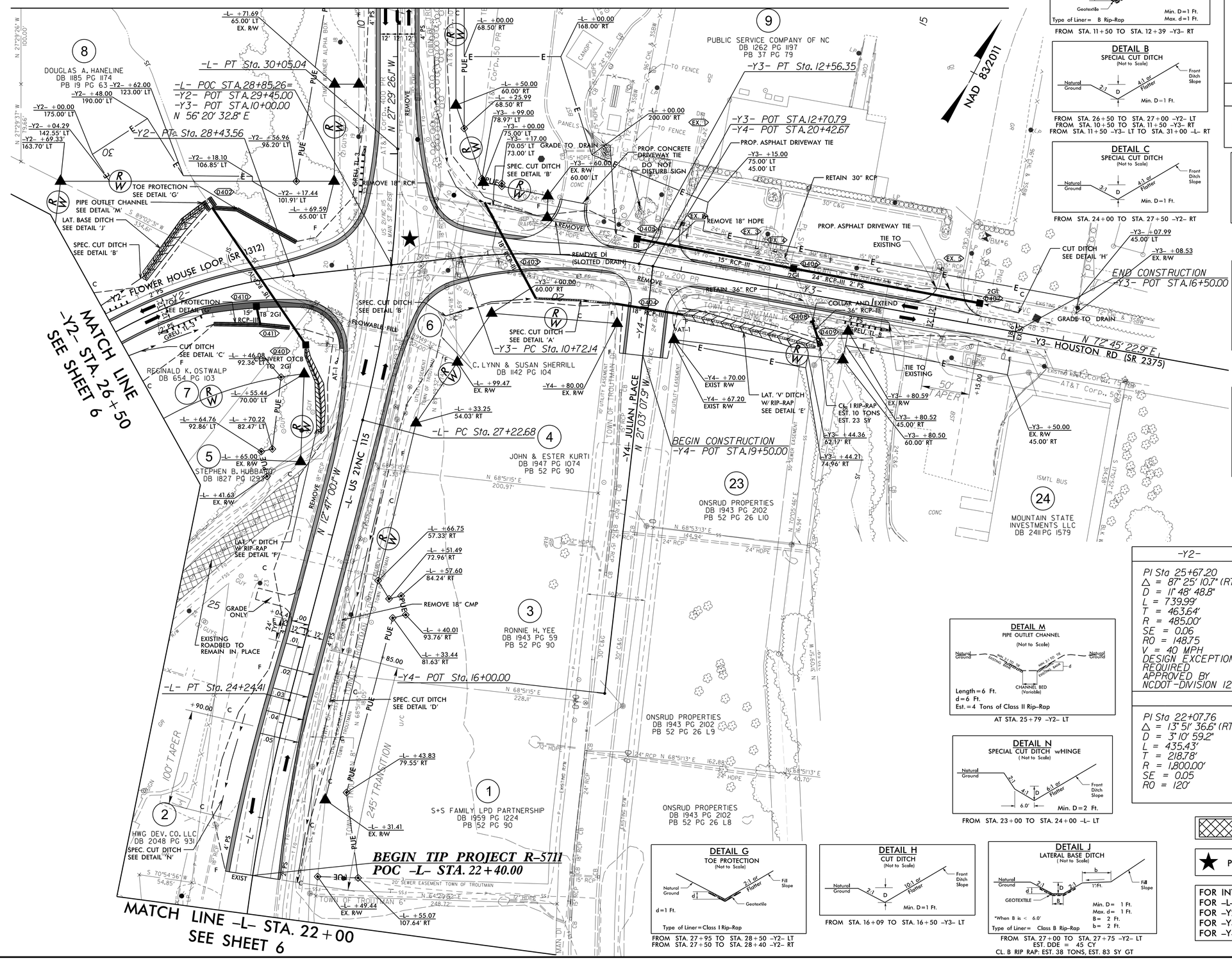
PARCEL No.	SHEET No.	PROPERTY OWNER NAME

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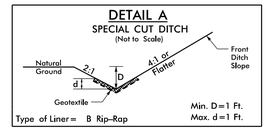
8/17/99

REVISIONS

MATCH LINE –L– STA. 31+50 SEE SHEET 5



DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



Type of Liner = B Rip–Rap
Min. D = 1 Ft.
Max. d = 1 Ft.

FROM STA. 11+50 TO STA. 12+39 –Y3– RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1 Ft.

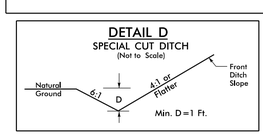
FROM STA. 26+50 TO STA. 27+00 –Y2– LT
FROM STA. 10+50 TO STA. 11+50 –Y3– RT
FROM STA. 11+50 –Y3– LT TO STA. 31+00 –L– RT

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1 Ft.

FROM STA. 24+00 TO STA. 27+50 –Y2– RT

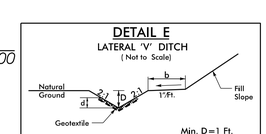
DETAIL D
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.

FROM STA. 22+40 TO STA. 26+50 –L– RT

DETAIL E
LATERAL 'V' DITCH
(Not to Scale)

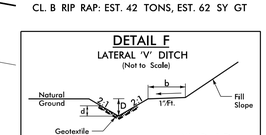


Min. D = 1 Ft.
Max. d = 1 Ft.
b = 5 Ft.

Type of Liner = Class B Rip–Rap

FROM STA. 13+10 TO STA. 14+50 –Y3– RT
EST. DDE = 75 CY
CL. B RIP RAP: EST. 42 TONS, EST. 62 SY GT

DETAIL F
LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1 Ft.
Max. d = 1 Ft.
b = 5 Ft.

Type of Liner = Class I Rip–Rap

FROM STA. 27+00 TO STA. 27+85 –L– LT
EST. DDE = 35 CY
CL. I RIP RAP: EST. 28 TONS, EST. 38 SY GT

DETAIL G
TOE PROTECTION
(Not to Scale)

d = 1 Ft.

Type of Liner = Class I Rip–Rap

FROM STA. 27+95 TO STA. 28+50 –Y2– LT
FROM STA. 27+50 TO STA. 28+40 –Y2– RT

DETAIL H
CUT DITCH
(Not to Scale)

Min. D = 1 Ft.

FROM STA. 16+09 TO STA. 16+50 –Y3– LT

DETAIL J
LATERAL BASE DITCH
(Not to Scale)

Min. D = 1 Ft.
Max. d = 1 Ft.
B = 2 Ft.
b = 2 Ft.

*When B is < 6.0'

Type of Liner = Class B Rip–Rap

FROM STA. 27+00 TO STA. 27+75 –Y2– LT
EST. DDE = 45 CY
CL. B RIP RAP: EST. 38 TONS, EST. 83 SY GT

DETAIL M
PIPE OUTLET CHANNEL
(Not to Scale)

Length = 6 Ft.
d = 6 Ft.
Est. = 4 Tons of Class II Rip–Rap

AT STA. 25+79 –Y2– LT

DETAIL N
SPECIAL CUT DITCH w/HINGE
(Not to Scale)

Min. D = 2 Ft.

FROM STA. 23+00 TO STA. 24+00 –L– LT

–Y2–	–Y3–
PI Sta 25+67.20 △ = 87° 25' 10.7" (RT) D = 11° 48' 48.8" L = 739.99' T = 463.64' R = 485.00' SE = 0.06 RO = 148.75 V = 40 MPH DESIGN EXCEPTION REQUIRED APPROVED BY NCDOT –DIVISION 12	PI Sta 11+64.88 △ = 16° 24' 50.1" (RT) D = 8° 54' 38.5" L = 184.20' T = 92.74' R = 643.00' SE = 0.06 RO = 132'
–L–	
PI Sta 22+07.76 △ = 13° 51' 36.6" (RT) D = 3° 10' 59.2" L = 435.43' T = 218.78' R = 1,800.00' SE = 0.05 RO = 120'	PI Sta 28+64.64 △ = 14° 42' 26.0" (LT) D = 5° 12' 31.3" L = 282.36' T = 141.96' R = 1,100.00' SE = 0.04 RO = 96'

PAVEMENT REMOVAL

PROPOSED SIGNAL

FOR INTERSECTION DETAIL SEE SHEET 2B–1
FOR –L– PROFILE SEE SHEET 7
FOR –Y2– PROFILE SEE SHEET 8
FOR –Y3– PROFILE SEE SHEET 8
FOR –Y4– PROFILE SEE SHEET 9

PROJECT REFERENCE NO.	SHEET NO.
R–5711	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 CHRISTOPHER KENT HINE
10/1/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044113 RYAN P. MITCHELL
10/1/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:
DRMP
DRMP, INC.
5808 FARRINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO.: F-1524 (919) 872-5115

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tkilpatrick

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PROJECT REFERENCE NO.	SHEET NO.
R-5711	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 CHRISTOPHER KENT HINE
10/1/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044113 RYAN P. MITCHELL
10/1/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:
DRMP
DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO.: F-1524 (919) 872-5115

8/17/99

REVISIONS

MATCH LINE –L– STA. 31+50 SEE SHEET 4

NAD 83/2011

PC Sta. 33+03.11

PRC Sta. 36+31.83

PT Sta. 38+73.43

POT Sta. 41+56.30

END CONSTRUCTION
POT –L– STA. 41+00.00

END TIP PROJECT R-5711
POT –L– STA. 38+75.00

–L– US 21/NC 115

5.5' LANE SHIFT (SB ONLY)

10 DOUGLAS A. HANELINE DB 9011 PG 1356 PB 19 PG 63

12 MOTORSPORTS PROPERTIES INC. DB 1015 PG 697 PB 19 PG 63

14 STEVEN & DIANA ROGERS DB 760 PG 314 PB 19 PG 63 L9

16 RONALD COMPTON DB 777 PG 724 PB 19 PG 63 L10

18 RONALD COMPTON DB 779 PG 331 PB 19 PG 63 L11

25 PRESTIGE OFFICE BUILDING DB 2510 PG 1105 PB 19 PG 63 L12

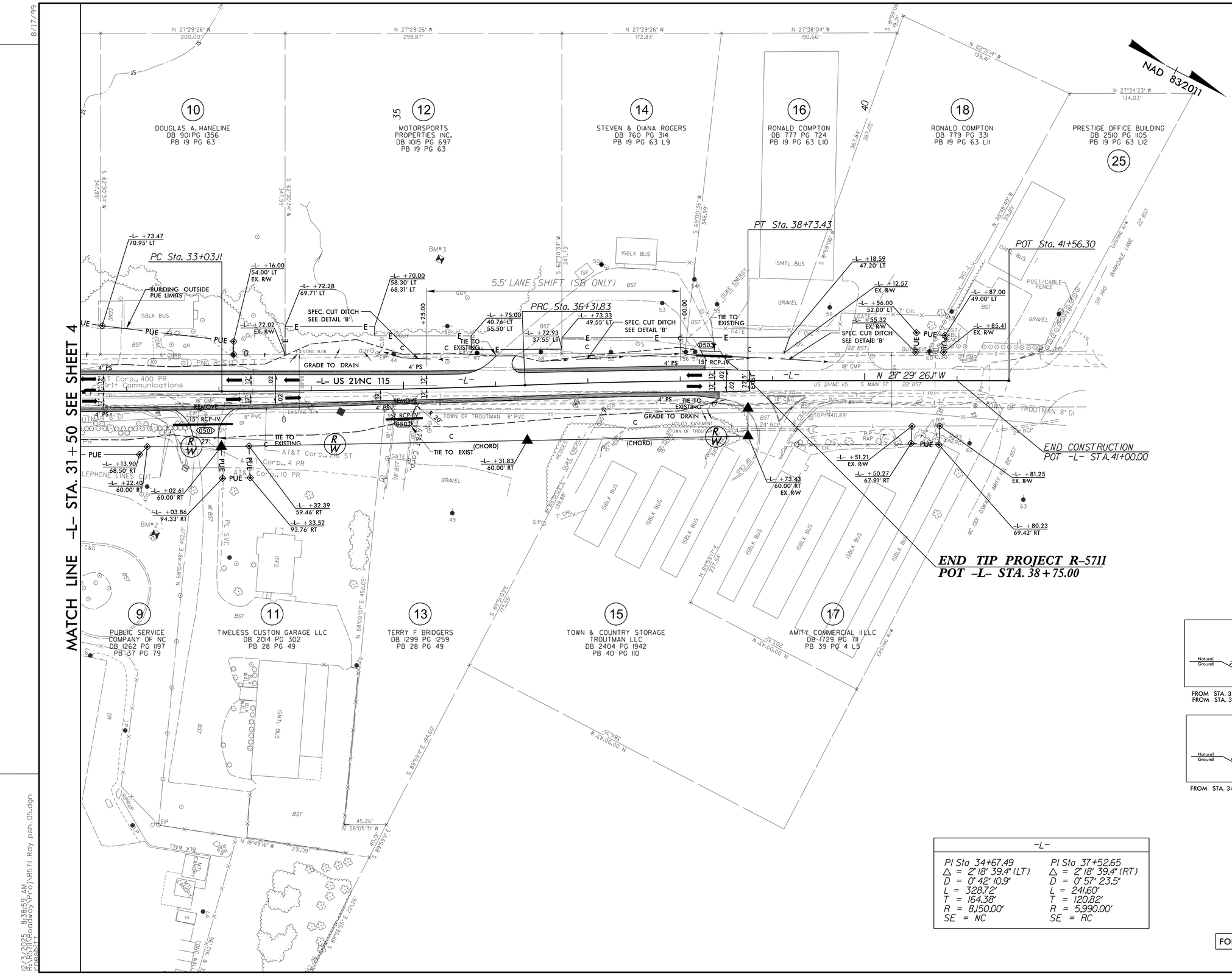
9 PUBLIC SERVICE COMPANY OF NC DB 1262 PG 1197 PB 37 PG 79

11 TIMELESS CUSTON GARAGE LLC DB 2014 PG 302 PB 28 PG 49

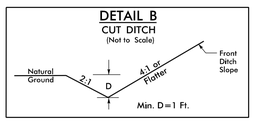
13 TERRY F BRIDGERS DB 1299 PG 1259 PB 28 PG 49

15 TOWN & COUNTRY STORAGE TROUTMAN LLC DB 2404 PG 1942 PB 40 PG 110

17 AMITY COMMERCIAL II LLC DB 1729 PG 711 PB 39 PG 4 L5

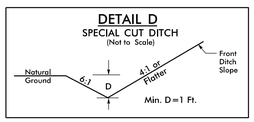


DETAIL B
CUT DITCH
(Not to Scale)



FROM STA. 36+50 TO STA. 38+18 –L– LT
FROM STA. 38+57 TO STA. 39+61 –L– LT

DETAIL D
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 34+79 TO STA. 35+50 –L– LT

–L–	
PI Sta 34+67.49	PI Sta 37+52.65
Δ = 2° 18' 39.4" (LT)	Δ = 2° 18' 39.4" (RT)
D = 0° 42' 10.9"	D = 0° 57' 23.5"
L = 328.72'	L = 241.60'
T = 164.38'	T = 120.82'
R = 8,150.00'	R = 5,990.00'
SE = NC	SE = RC

FOR –L– PROFILE SEE SHEET 7

12/3/2025 8:38:59 AM
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cnash

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8/17/99

REVISIONS

-Y1-	-Y2-		-DRW1-
PI Sta 13+70.70	PI Sta 17+94.37	PI Sta 25+67.20	PI Sta 10+45.99
Δ = 12° 02' 39.3" (LT)	Δ = 33° 54' 58.7" (LT)	Δ = 87° 25' 10.7" (RT)	Δ = 32° 41' 21.7" (LT)
D = 6° 50' 21.8"	D = 11° 48' 48.8"	D = 11° 48' 48.8"	D = 114° 35' 29.6"
L = 176.10'	L = 287.10'	L = 739.99'	L = 28.53'
T = 88.38'	T = 147.89'	T = 463.64'	T = 14.66'
R = 837.73'	R = 485.00'	R = 485.00'	R = 50.00'
	SE = 0.06	SE = 0.06	
	RO = 148.75'	RO = 148.75'	
	V = 40 MPH	V = 40 MPH	
	DESIGN EXCEPTION REQUIRED (APPROVED BY NCDOT-DIVISION 12)		

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
R-5711	6
RW SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 CHRISTOPHER KENT HINE
10/1/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044113 IAN P MITCHELL
10/1/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:
DRMP
DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO.:F-1324 (919) 872-5115

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D=1 Ft.
FROM STA. 13+45 -Y2- LT TO STA. 14+85 -Y1- RT
FROM STA. 17+50 TO STA. 18+50 -Y2- LT
FROM STA. 24+00 TO STA. 25+00 -Y2- LT
FROM STA. 13+62 TO STA. 16+00 -Y2- RT

DETAIL K
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, d, D, 4:1 or Flatter, Front Ditch Slope, Geotextile
Min. D=1 Ft. Max. d=1 Ft.
Type of Liner=Class B Rip-Rap
FROM STA. 22+00 TO STA. 24+00 -Y2- RT

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D=1 Ft.
FROM STA. 24+00 TO STA. 27+50 -Y2- RT
FROM STA. 19+50 TO STA. 22+00 -Y2- RT

DETAIL L
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 4:1 or Flatter, Front Ditch Slope
Min. D=1 Ft.
B=2 Ft.
FROM STA. 23+50 TO STA. 24+00 -Y2- LT

DETAIL I
LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, b, 1'-0" Ft., Fill Slope
Min. D=2 Ft.
B=2 Ft.
b=5 Ft.
FROM STA. 22+85 TO STA. 23+50 -Y2- LT
DDE = 295 CY

-Y1- POT Sta. 10+00.00
-Y1- PC Sta. 12+82.32
-DRW1- POT Sta. 11+40.96=
-Y2- POT Sta.20+53.19
-Y2- PC Sta. 21+03.57
-Y1- PT Sta. 14+58.42
N 80° 29' 58.4" E
-Y2- PT Sta. 19+33.57
N 31° 04' 37.9" W
BEGIN CONSTRUCTION
-Y1- POT
STA.14+85.00
BEGIN CONSTRUCTION
-Y2- POT
STA.13+45.00
-Y2- PC Sta. 16+46.47
-Y1- POT Sta. 15+60.17=
-Y2- POC Sta.16+97.57
PT Sta. 10+59.85
S 58° 55' 22.1" W
PC Sta. 10+31.32
POT Sta. 10+00.00
N 88° 23' 16.2" W
PC Sta. 19+88.98
-L- US 2/NC 115
-Y2- FLOWER HOUSE LOOP (SR 1312)
-Y1- APPLE HILL RD (SR 1316)
S 87° 27' 22.3" E
S 00°35'17" W 245.97'
N 88°40'18" W 232.47'
S 88°16'02" W 120.97'
N 2° 50' 20.7" E
S 86°21'12" E 302.17'
N 10°57'37" E 541.75'
N 04°00'41" E 97.99'
S 32°19'43" E 186.69'
N 38°25'31" E 253.78'
S 86°21'12" E 302.17'
S 00°00'58" W 300.98'

7 REGINALD K. OSTWALP DB 654 PG 103
20 HOWARD J. CULBRETH & SHARON M. CULBRETH DB 1626 PG 2045
22 COLEN P. MILLER DB 2248 PG 1588
2 HWG DEV. CO. LLC DB 2048 PG 931
5 STEPHEN B. HUBBARD DB 1827 PG 1293
19 JOHNNY R. DAGENHART & ERIC W. DAGENHART WB 076 PG 975
21 MOUNTAIN STATE INV. LLC DB 1668 PG 1022

-Y2- +97.00 165.00 LT
-Y2- +41.00 139.00 LT
-Y2- +23.60 88.00 LT
-Y2- +65.00 88.00 LT
-Y2- +50.00 CL. B RIP-RAP EST. 4 TONS EST. 13 SY
LAT. BASE DITCH SEE DETAIL 'I'
SPEC. CUT BASE DITCH SEE DETAIL 'L' CL. B RIP-RAP EST. 5 TONS EST. 14 SY
SPEC. CUT DITCH SEE DETAIL 'B'
-Y2- +25.00 88.00' LT
-Y2- +03.57 37.50' LT
-Y2- +46.43 46.33' LT (CHORD)
-Y2- +58.00 52.00' LT
-Y2- +31.00 67.00' LT
-Y2- +49.36 37.50' LT
-Y2- +20.65 37.50' LT
-Y2- +14.35 37.50' LT
-Y2- +33.57 37.50' LT
-Y1- +97.25 EX. R/W
-Y1- +25.28 EX. R/W
-Y1- +03.52 63.02' LT TIE TO EXISTING
-Y2- +53.11 42.70' LT
-Y1- +10.29 EX. R/W
-Y2- +85.21 EX. R/W
-Y2- +84.92 45.00' LT
-Y2- +25.00 EXIST R/W
-Y2- +25.00 40.00' RT
-Y2- +86.94 EX. R/W
-Y2- +86.80 40.00' RT
-Y2- +84.07 EX. R/W
-Y2- +83.48 55.00' RT
-Y2- +83.78 40.00' RT
-Y2- +12.00 58.03' RT
-Y2- +51.03 67.80' RT
-Y2- +36.00 65.00' RT 70.00' RT
-Y2- +93.58 EX. R/W
-Y2- +19.00 67.00' RT
-Y2- +58.00 EX. R/W 98.00' LT CL. B RIP-RAP EST. 3 TONS EST. 10 SY
-Y2- +89.00 EX. R/W
PROP. CONCRETE DRIVEWAY
TIE TO EXISTING
REMOVE 12" CMP
REMOVE
RETAIN
RETAIN
SPEC. CUT DITCH SEE DETAIL 'B'
CUT DITCH SEE DETAIL 'C'
SPEC. CUT DITCH W/ RIP-RAP SEE DETAIL 'K'
GRADE ONLY
EXISTING ROADBED TO REMAIN IN PLACE
WELL NOT TO BE DISTURBED
TV LINES ARE CUT AT POLE
100' TAPER
MATCH LINE -Y2- STA. 26+50 SEE SHEET 4
MATCH LINE -L- STA. 22+00 SEE SHEET 4
PAVEMENT REMOVAL
FOR -Y1- PROFILE SEE SHEET 9
FOR -Y2- PROFILE SEE SHEET 8

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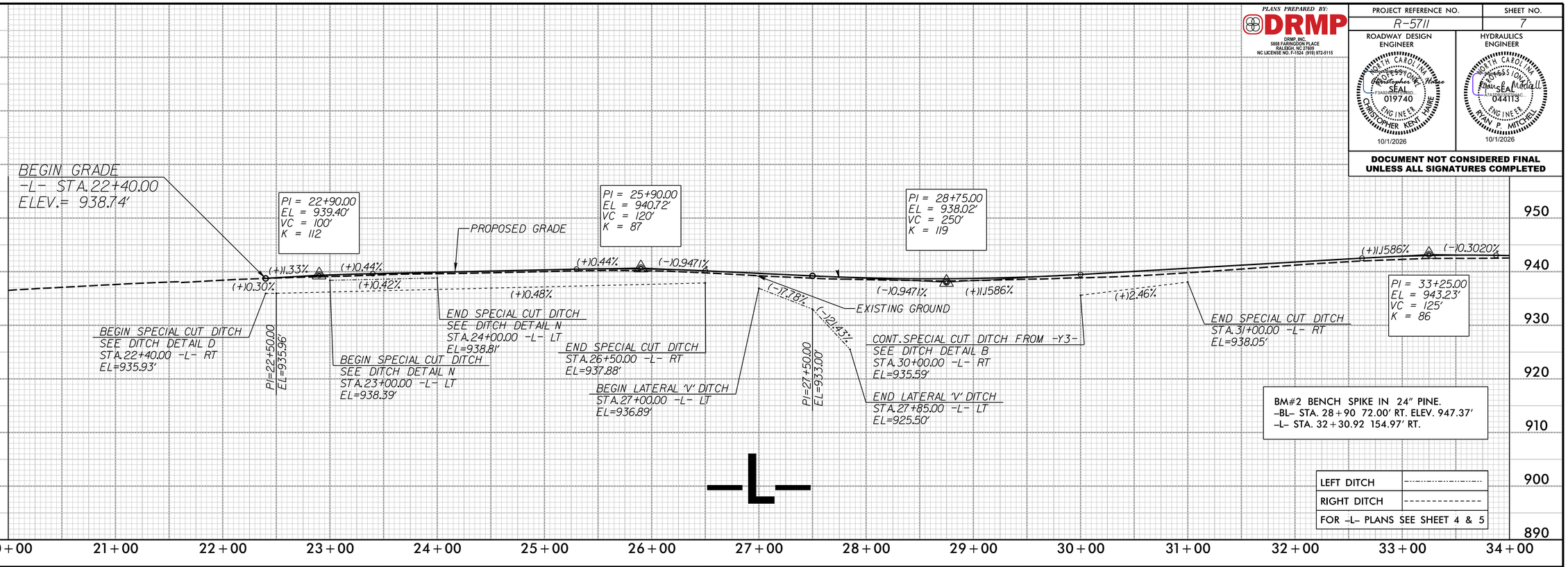
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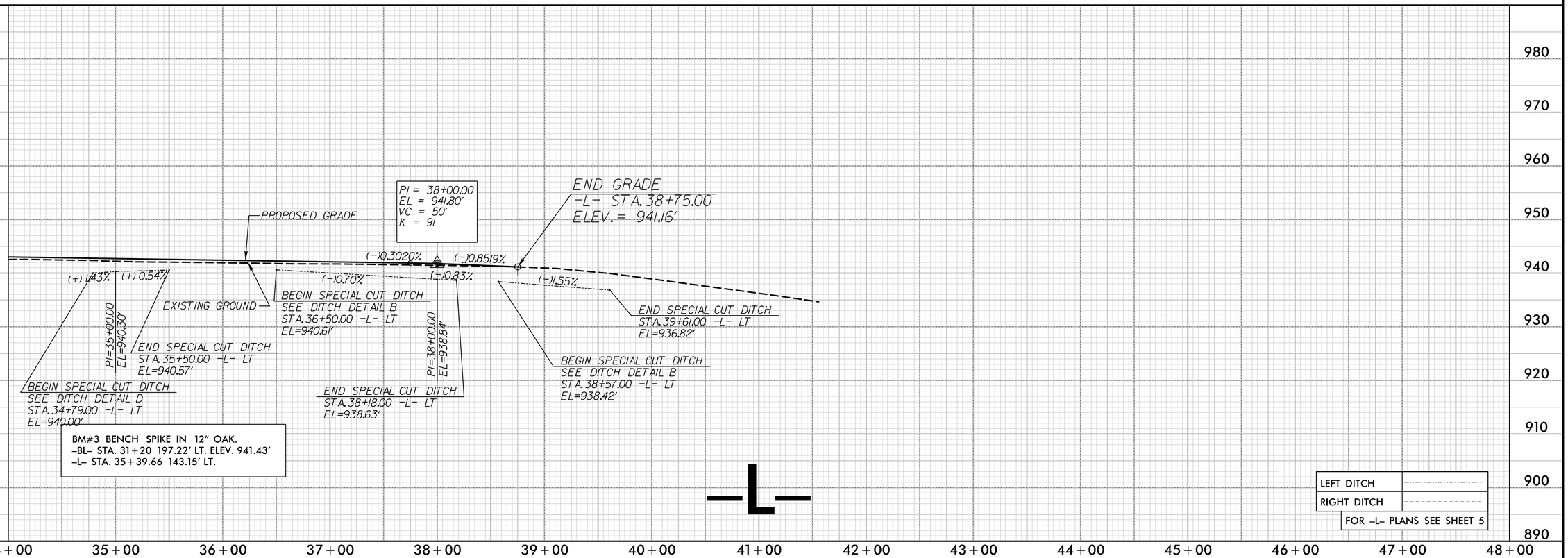
PROJECT REFERENCE NO.	SHEET NO.
R-5711	7

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 CHRISTOPHER KENT HARP
10/1/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044113 RYAN P. MITCHELL
10/1/2026

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PROJECT REFERENCE NO.	SHEET NO.
R-5711	8

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 CHRISTOPHER KENT HIRE
10/1/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044113 RYAN P MITCHELL
10/1/2026

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BEGIN GRADE
-Y2- STA.13+45.00
ELEV.= 957.07'

PROPOSED GRADE

BEGIN SPECIAL CUT DITCH
SEE DITCH DETAIL B
STA.13+45.00 -Y2- LT
EL=954.37'

BEGIN SPECIAL CUT DITCH
SEE DITCH DETAIL B
STA.13+62.00 -Y2- RT
EL=955.66'

(+)1.48%
(+)1.38%
(+)1.06%
(+)2.48%
(+)3.27%
(+)1.16%
(+)5.51%
(+)2.69%
(+)3.30%
(-)4.435%
(-)1.55%
(-)3.75%
(-)4.46%
(-)5.43%
(+)3.28%

PI=14+00.00
EL=955.13'

PI=14+50.00
EL=955.66' (LT)
EL=956.96' (RT)

PI=15+00.00
EL=957.29' (LT)
EL=958.20' (RT)

EXISTING GROUND

END SPECIAL CUT DITCH
STA.16+00 -Y2- RT
EL=961.57

CONT.SPECIAL CUT DITCH ON -Y1
STA.16+50.00 -Y2- LT
EL=961.33'

CONT.SPECIAL CUT DITCH FROM -Y1-
SEE DITCH DETAIL B
STA.17+50.00 -Y2- LT
EL=961.09'

END SPECIAL CUT DITCH
STA.18+50.00 -Y2- LT
EL=959.54'

PI = 17+80.00
EL = 971.43'
VC = 650'
K = 84
V = 50 mph

END SPECIAL CUT DITCH
BEGIN SPECIAL CUT DITCH
SEE DITCH DETAIL K
STA.22+00.00 -Y2- RT
EL=947.06'

18" RCP

BEGIN SPECIAL CUT DITCH
SEE DITCH DETAIL C
STA.19+50.00 -Y2- RT
EL=957.63'

PI=21+00.00
EL=952.00'

PI=21+50.00
EL=949.77'

BEGIN LATERAL BASE DITCH
SEE DITCH DETAIL I
STA.22+85.00 -Y2- LT
EL=954.37'

(+)3.28%

PI=23+00.00
EL=932.49'

BM#5 BENCH SPIKE IN 15" PINE.
-BY1- STA. 5+00 36.75' RT. ELEV. 966.59'
-Y21- STA. 15+97.17 318.39' LT.

BM#1 BENCH SPIKE IN 12" MAPLE.
-BL- STA. 5+00 168.00' LT. ELEV. 947.57'
-Y21- STA. 16+5.11 353.24' RT.

-Y2-

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

FOR -Y2- PLANS SEE SHEET 6

BEGIN GRADE
-Y3- STA.10+22.52=
-L- STA.28+90.01, 22.00' RT
ELEV.= 939.57'

END GRADE
-Y2- STA.29+20.41 =
-L- STA.28+79.86, 24.00' LT
ELEV.= 937.72'

PI = 26+10.00
EL = 934.61'
VC = 450'
K = 83
V = 45 mph

END SPECIAL CUT DITCH
BEGIN SPECIAL CUT DITCH
SEE DITCH DETAIL K
STA.24+00.00 -Y2- RT
EL=936.20'

END SPECIAL CUT DITCH
STA.25+00.00 -Y2- LT
EL=939.13'

24" RCP

PROPOSED GRADE

(-)5.43%
(+)3.28%
(+)1.23%
(+)3.36%
(+)0.30%
(-)2.14%
(-)4.44%
(-)2.74%
(-)1.54%
(-)5.94%
(-)1.60%
(+)1.00%
(-)5.00%
(-)3.90%
(-)26.00%

PI=23+00.00
EL=932.49'

PI=24+00.00
EL=936.20'

PI=24+50.00
EL=936.82'

PI=25+00.00
EL=936.97'

PI=25+50.00
EL=935.60'

PI=26+00.00
EL=934.53'

PI=26+50.00
EL=933.76'

PI=27+00.00
EL=932.96'

PI=27+50.00
EL=913.00'

END SPECIAL CUT DITCH
STA.27+50.00 -Y2- RT
EL=930.46'
18" RCP

EXISTING GROUND

END SPECIAL CUT BASE DITCH
BEGIN SPECIAL CUT DITCH
SEE DITCH DETAIL L
STA.24+00.00 -Y2- LT
EL=935.77'

BEGIN SPECIAL CUT DITCH
SEE DITCH DETAIL C
STA.26+50.00 -Y2- LT
EL=935.92'

END LATERAL BASE DITCH
BEGIN SPECIAL CUT BASE DITCH
SEE DITCH DETAIL L
STA.23+50.00 -Y2- LT
EL=934.13'

END SPECIAL CUT DITCH
BEGIN LATERAL BASE DITCH
SEE DITCH DETAIL J
STA.27+00.00 -Y2- LT
EL=932.95'

END LATERAL BASE DITCH
STA.27+75.00 -Y2- LT
EL=906.50'

-Y2-

FOR -Y2- PLANS SEE SHEET 4 & 6

BM#6 BENCH SPIKE IN 12" MAPLE.
-BY- STA. 26+60 64.00' LT. ELEV. 936.11'
-Y3- STA. 16+03.73 90.84' RT.

END GRADE
-Y3- STA.16+50.00
ELEV.= 933.33'

PI = 16+00.00
EL = 932.06'

PI = 10+85.00
EL = 938.92'
VC = 124'
K = 45
V = 40 mph

PI = 13+60.00
EL = 928.46'
VC = 340'
K = 64
V = 40 mph

(-)1.0507%
(-)3.8041%
(-)1.54%
(+)0.40%
(-)3.8041%
(+)1.50%
(+)1.50%
(+)2.55%
(+)2.75%
(-)4.55%
(-)18.30%
(-)4.20%

18" RCP

EXISTING GROUND

BEGIN SPECIAL CUT DITCH
SEE DITCH DETAIL H
STA.16+09.00 -Y3- LT
EL=931.00'

END SPECIAL CUT DITCH
STA.16+50.00 -Y3- LT
EL=932.13'

PI=13+50.00
EL=921.54'

BEGIN LATERAL 'V' DITCH
STA.13+10.00 -Y3- RT
EL=924.86'

END LATERAL 'V' DITCH
STA.14+50.00 -Y3- RT
EL=917.34'

BEGIN SPECIAL CUT DITCH
SEE DITCH DETAIL B
STA.10+50.00 -Y3- RT
EL=932.50'

CONT.SPECIAL CUT DITCH FROM -L-
SEE DITCH DETAIL B
STA.11+00.00 -Y3- LT
EL=932.38'

PI=11+00.00
EL=931.53'

END SPECIAL CUT DITCH
STA.11+50.00 -Y3- LT
EL=932.58'

END SPECIAL CUT DITCH
STA.12+39.00 -Y3- RT
EL=925.20'

-Y3-

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

FOR -Y3- PLANS SEE SHEET 4

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ROADWAY DESIGN ENGINEER

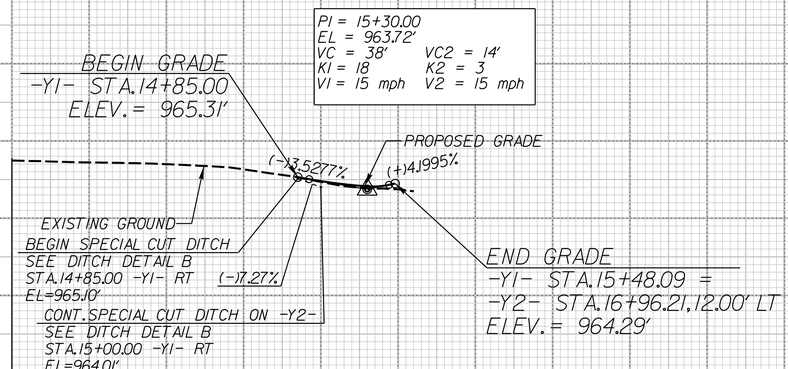
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019740 CHRISTOPHER KENT HIRE
Christopher K. Hire
10/1/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044113 RYAN P MITCHELL
Ryan P. Mitchell
10/1/2026

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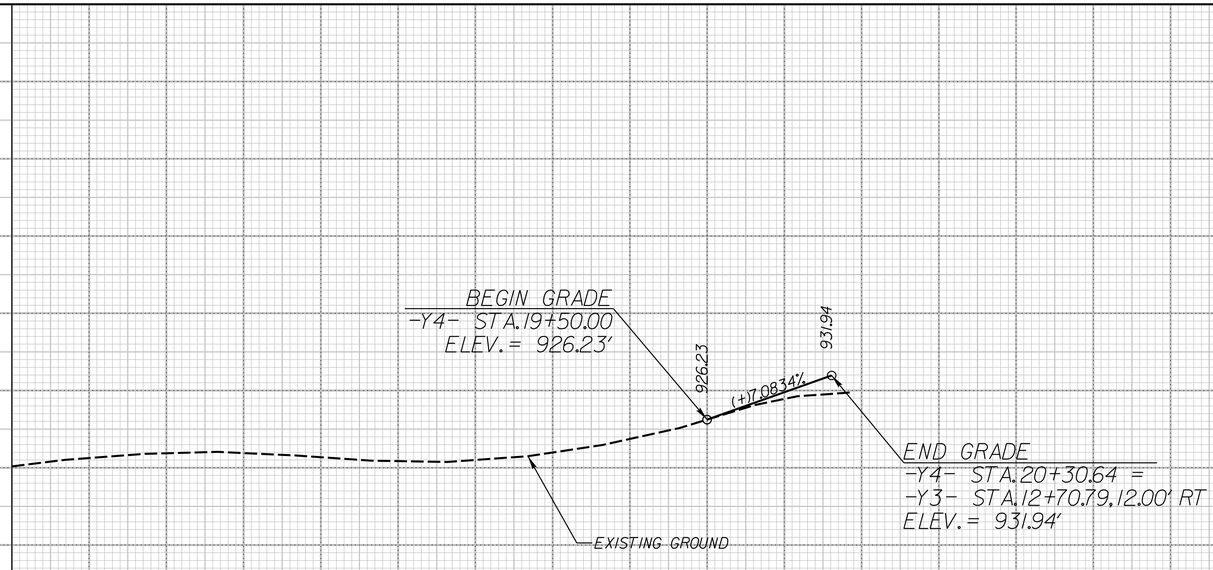
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-Y1-

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

FOR -Y1- PLANS SEE SHEET 6



-Y4-

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

FOR -Y4- PLANS SEE SHEET 4

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