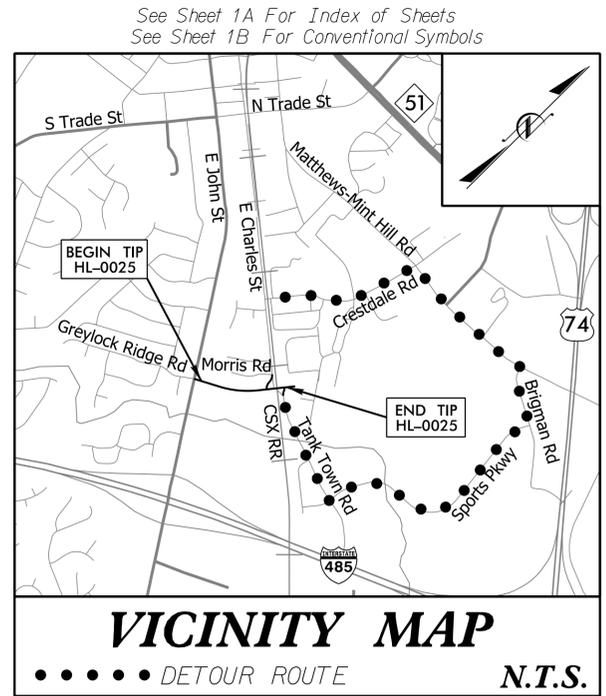


09\_08/2019

10/31/2025  
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amorgan

**TIP PROJECT: HL-0025**

**CONTRACT: C205013**



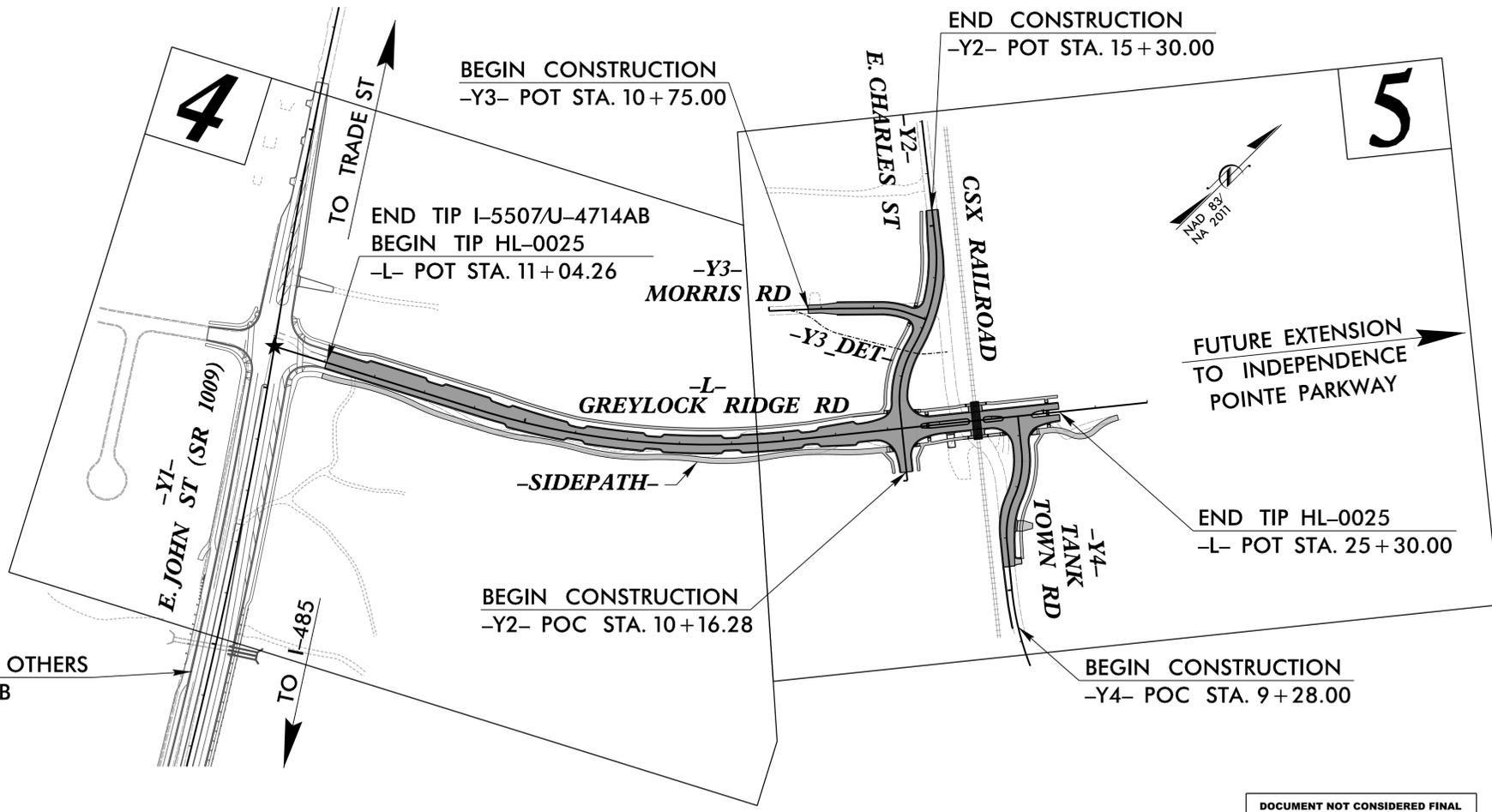
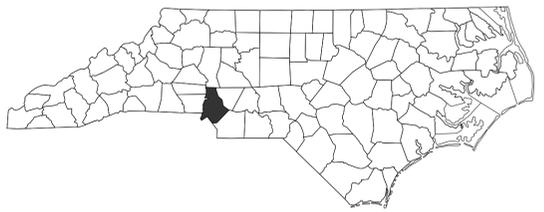
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**MECKLENBURG COUNTY**

**LOCATION: GREYLOCK RIDGE ROAD EXTENSION  
FROM E. JOHN ST. TO TANK TOWN  
RD. IN MATTHEWS, NC**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HL-0025	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
49491.1.1		PE	
49491.2.1		ROW	
49491.2.2		UTL	
49491.3.1		CONSTR.	

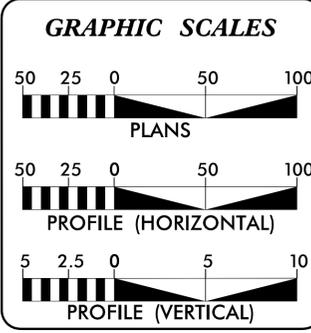


CONSTRUCTION BY OTHERS  
TIP I-5507 /U-4714AB

★ PROPOSED SIGNAL

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

HYDRAULIC DESIGN  
**MCCORMICK TAYLOR**  
5400 TRINITY ROAD  
SUITE 102  
RALEIGH, NC 27607  
919.223.8965 NC LIC. NO. F-1285



**DESIGN DATA**

ADT 2025 =	9,240
ADT 2040 =	11,600
K =	9 %
D =	55 %
T =	3 % *
V =	30 MPH
* TTST = 1%	DUALS = 2%
FUNC CLASS =	LOCAL
SUB-REGIONAL TIER	

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT HL-0025	=	0.270 MILES
TOTAL LENGTH TIP PROJECT HL-0025	=	0.270 MILES

PLANS PREPARED BY:

**AMT**  
A. MORTON THOMAS AND ASSOCIATES, INC.  
10735 DAVID TAYLOR DRIVE, SUITE 310 • CHARLOTTE, NC 28262  
(704) 595-9975 • NC LICENSE NO. F-1049  
WWW.AMTENGINEERING.COM

2024 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
NOVEMBER 19, 2024

**LETTING DATE:**  
MARCH 17, 2026

**STEVE KARNIS, P.E.**  
PROJECT ENGINEER

**DAN MORGAN, E.I.**  
PROJECT DESIGN ENGINEER

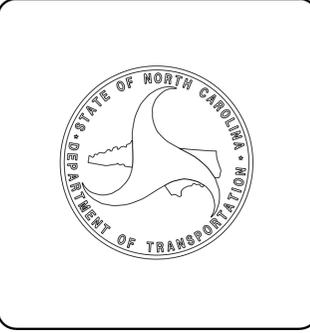
**TERRY BURLESON**  
NCDOT CONTACT - DIVISION 10

**HYDRAULICS ENGINEER**

Signed by: **B. Grupp**  
E73881A4F22A4E  
P.E. 12/17/2025

**ROADWAY DESIGN ENGINEER**

Signed by: **Steve Karnis**  
8DD15E63D58B48D0  
P.E. 12/17/2025



8/17/2026  
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# INDEX OF SHEETS, LIST OF STANDARD DRAWINGS, & GENERAL NOTES

PROJECT REFERENCE NO. <i>HL-0025</i>	SHEET NO. <i>1A</i>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

## INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-5	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1 THRU 2B-15	ROADWAY DETAILS
2C-1 THRU 2C-7	SPECIAL DETAILS
2G-1 THRU 2G-2	GEOTECHNICAL DETAILS
3B-1 THRU 3B-2	ROADWAY QUANTITY SUMMARIES
3D-1 THRU 3D-2	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 5	PLAN SHEETS
4A THRU 5A	ROW & EASEMENT DETAILS
6 THRU 8	PROFILE SHEETS
RW-01 THRU RW-05	RIGHT OF WAY PLANS
TMP-1 THRU TMP-7	WORKZONE TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
SIG-1.0 THRU SIG-1.6	SIGNAL PLANS
SCP-1 THRU SCP-4	SIGNAL COMMUNICATION PLANS
UC-1 THRU UC-7	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-3	UTILITY BY OTHERS PLANS
X-1A	CROSS-SECTION INDEX SHEET
X-1B	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-16	CROSS-SECTION SHEETS

## LIST OF 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
<b>DIVISION 2 - EARTHWORK</b>	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
240.01	Guide for Berm Ditch Construction
<b>DIVISION 3 - PIPE CULVERTS</b>	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
310.02	Parallel Pipe End Section - Precast Concrete Section for 15" to 24" Pipe
310.03	Cross Pipe End Section - Precast Concrete Section for 18" to 30" Pipe
310.10	Driveway Pipe Construction
<b>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</b>	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
<b>DIVISION 6 - ASPHALT BASES AND PAVEMENTS</b>	
654.01	Pavement Repairs
<b>DIVISION 8 - INCIDENTALS</b>	
815.02	Subsurface Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk (Use Detail in Lieu of Standard for Sheet 1 of 1)
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.06	Curb Ramp (Use Details in Lieu of Standards for Sheets 9 and 10 of 13)
848.07	Concrete Sidepath / Shared Use Path / Greenway Construction
850.01	Concrete Paved Ditches
850.10	Guide for Berm Drainage Outlet - 15" and 18" Pipe
852.01	Concrete Islands
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 12, and 14 of 15)
862.02	Guardrail Installation
876.01	Rip Rap in Channels and Ditches
876.02	Guide for Rip Rap at Pipe Outlets

## GENERAL NOTES

**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.

**BERM DITCHES:**  
BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

**DRIVEWAYS:**  
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADIUS OR RADIUS AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

**STREET TURNOUT:**  
STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADIUS 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.

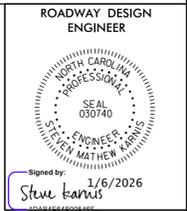
**TEMPORARY SHORING:**  
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

**UTILITIES:**  
UTILITY OWNERS ON THIS PROJECT ARE:  
DUKE ENERGY      CHARLOTTE WATER      SPRINT      PIEDMONT NATURAL GAS  
VERIZON      WINDSTREAM      SPECTRUM

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 OTHERS.

**CURB RAMPS:**  
CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.06.



# 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)	○
Computed Property Corner	×
Existing Concrete Monument (ECM)	□
Parcel/Sequence Number	(123)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-
Existing Historic Property Boundary	-HPB-
Known Contamination Area: Soil	⊗-s-⊗-s-
Potential Contamination Area: Soil	-⊗-s-⊗-s-
Known Contamination Area: Water	⊗-w-⊗-w-
Potential Contamination Area: Water	-⊗-w-⊗-w-
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	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⊗
Proposed Lateral, Tail, Head Ditch	▬
False Sump	▽

### RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
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	▬
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	-C-
Proposed Slope Stakes Fill	-F-
Proposed Curb Ramp	○
Existing Metal Guardrail	▬
Proposed Guardrail	▬
Existing Cable Guiderail	▬
Proposed Cable Guiderail	▬
Equality Symbol	⊕
Pavement Removal	▬
VEGETATION:	
Single Tree	○
Single Shrub	⊗
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	-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	⊕
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	⊕

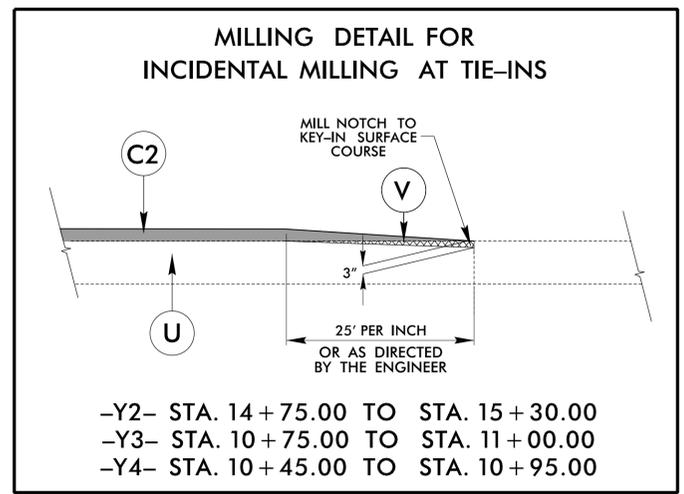
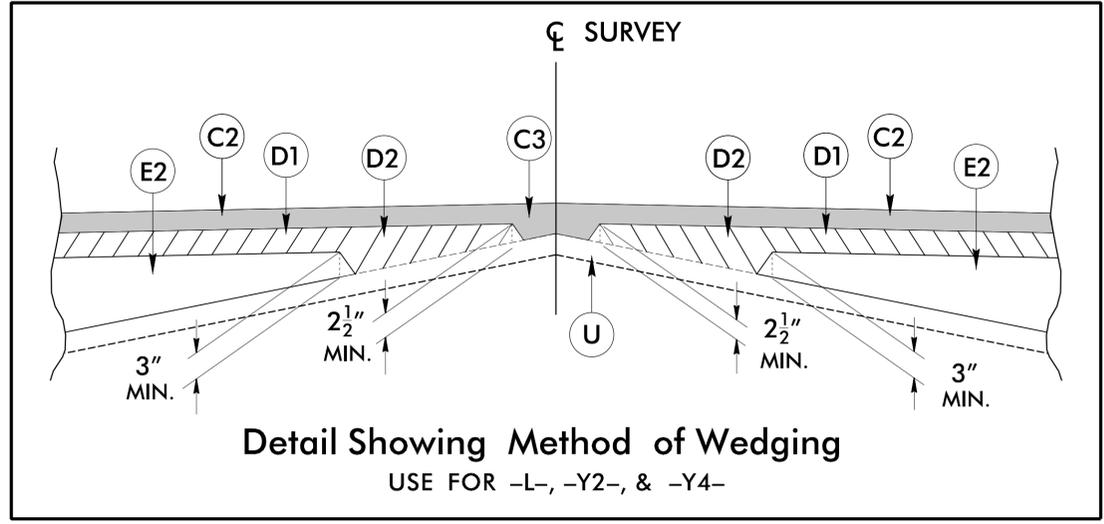
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## PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	R1	2'-6" CONCRETE CURB AND GUTTER
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R2	1'-6" CONCRETE CURB AND GUTTER
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	S1	4" CONCRETE SIDEWALK
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S2	4.0" CONCRETE SIDE PATH WITH WELDED WIRE MESH
D2	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.	T	EARTH MATERIAL
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
E2	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 5.5" IN DEPTH.	V	INCIDENTAL MILLING
J1	PROP. 6" AGGREGATE BASE COURSE	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAILS)
J2	PROP. 8" AGGREGATE BASE COURSE	NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.	

PROJECT REFERENCE NO. <i>HL-0025</i>	SHEET NO. <i>2A-1</i>
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 
Signed by: <i>Steve Karnis</i> 1/7/2026	Signed by: <i>Joseph Pelland</i> 1/7/2026
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



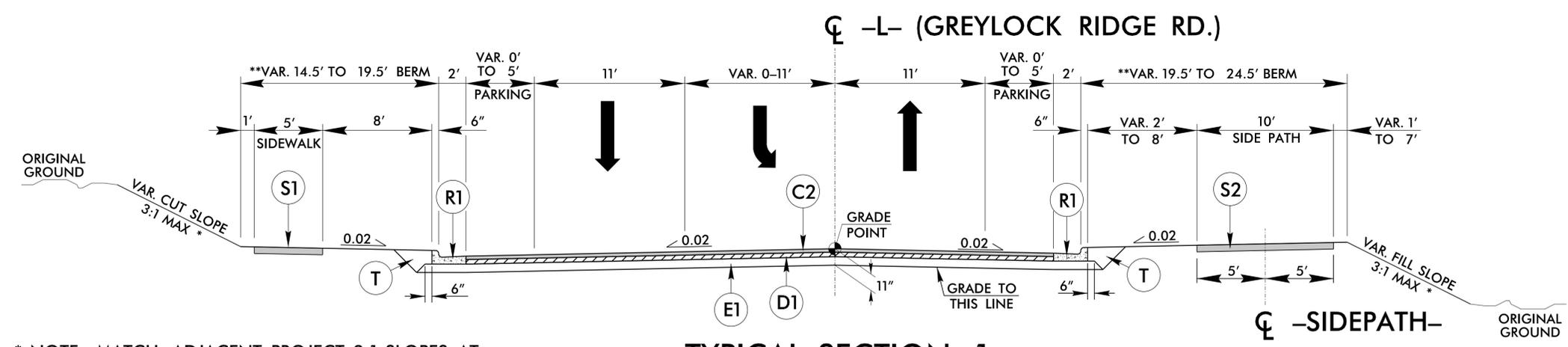
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6/2/2025

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1 1/2" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
D1	4" I19.0C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
J1	6" ABC
J2	8" ABC
R1	2'-6" C&G
R2	1'-6" C&G
S1	4" CONC. SW
S2	4" CONC. SIDE PATH W/ WELDED WIRE MESH
T	EARTH MATERIAL
U	EXIST. PAVE.
V	INCD. MILL.
W	WEDGING

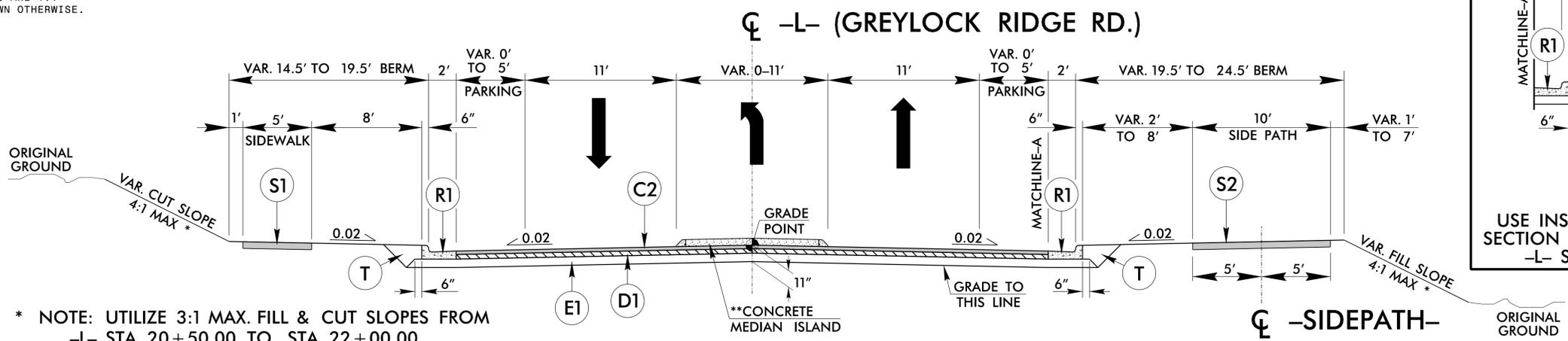
NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO. HL-0025	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 
Signed by: Steve Kanis 1/7/2026	Signed by: Joseph Holman 1/7/2026
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



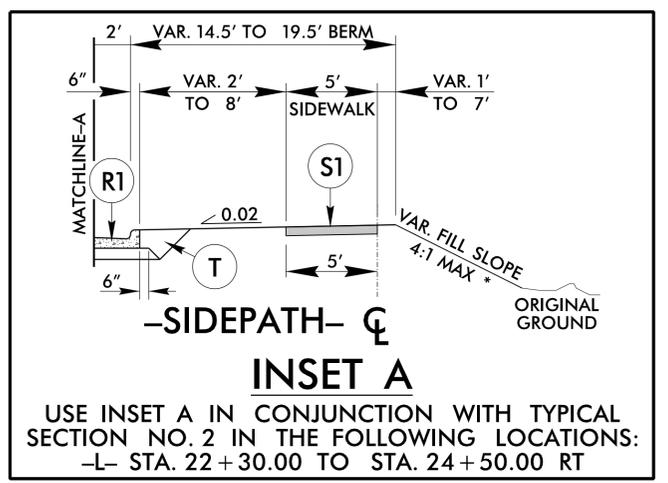
**TYPICAL SECTION 1**  
FROM -L- STA. 11+04.26 TO STA. 20+50.00

- \* NOTE: MATCH ADJACENT PROJECT 2:1 SLOPES AT -L- STA. 11+04.26 AND THEN TRANSITION SLOPE TO 3:1. SEE CROSS-SECTIONS FOR MORE INFORMATION.
- \*\* NOTE: TIE PROPOSED BERM TO EXISTING BERM AT -L- STA. 11+04.26.

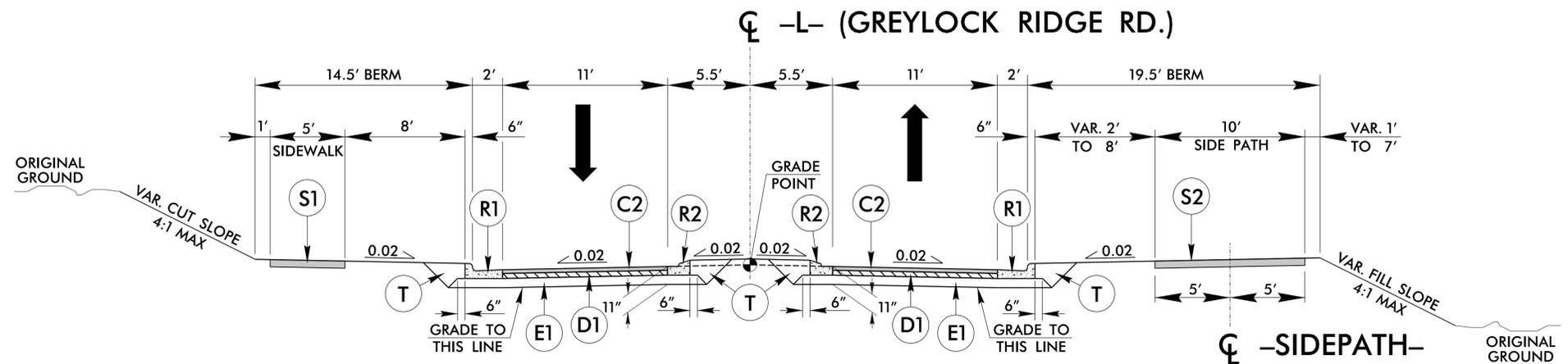


**TYPICAL SECTION 2**  
FROM -L- STA. 20+50.00 TO STA. 23+57.46  
FROM -L- STA. 23+83.46 TO STA. 24+76.61

- \* NOTE: UTILIZE 3:1 MAX. FILL & CUT SLOPES FROM -L- STA. 20+50.00 TO STA. 22+00.00
- \*\* NOTE: PROPOSED CONCRETE MEDIAN FROM -L- STA. 22+63 TO 23+57.46 AND -L- STA. 23+83.71 TO 24+22.67



**INSET A**  
USE INSET A IN CONJUNCTION WITH TYPICAL SECTION NO. 2 IN THE FOLLOWING LOCATIONS:  
-L- STA. 22+30.00 TO STA. 24+50.00 RT



**TYPICAL SECTION 3**  
FROM -L- STA. 24+76.61 TO STA. 25+30.00

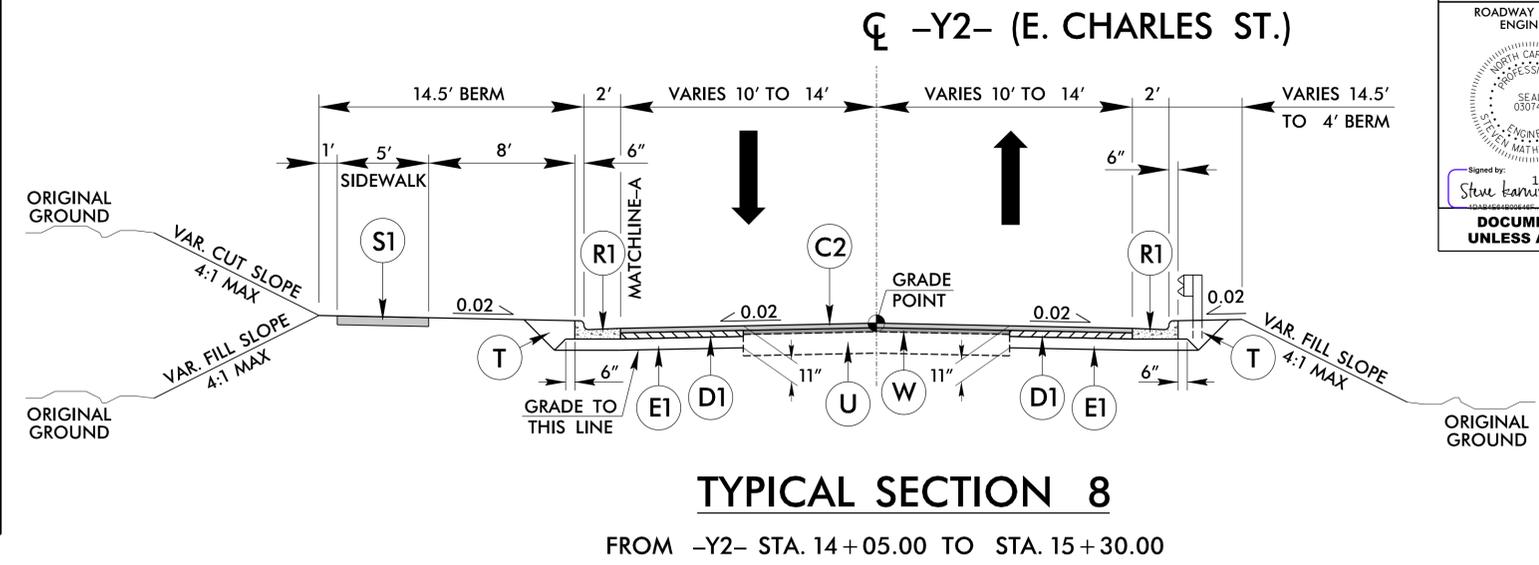
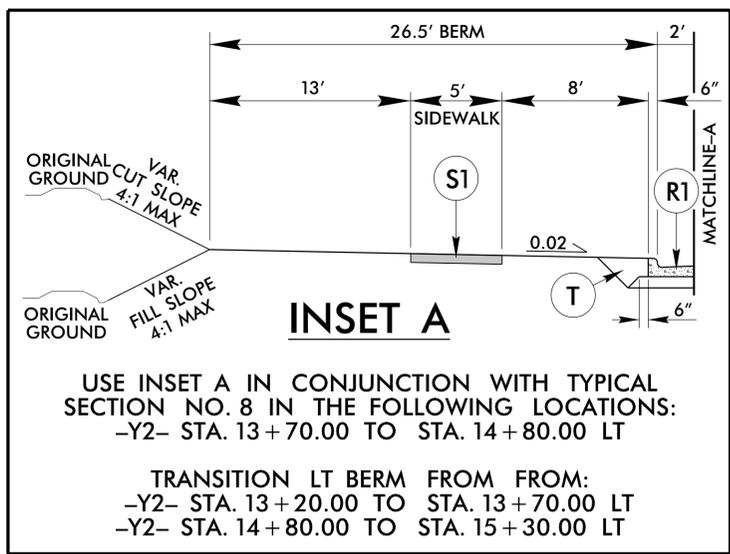
NOTE: SEE PLANS FOR LOCATION OF ON-STREET PARKING



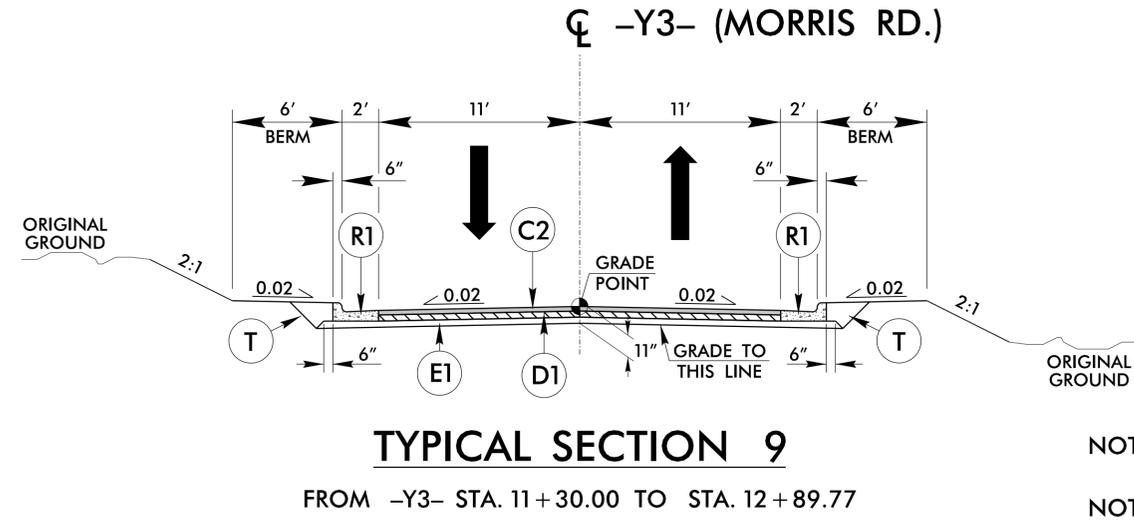
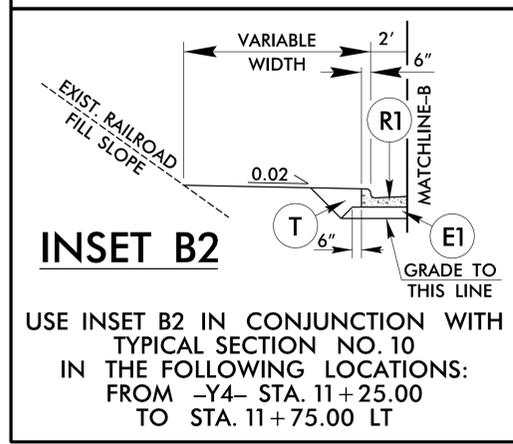
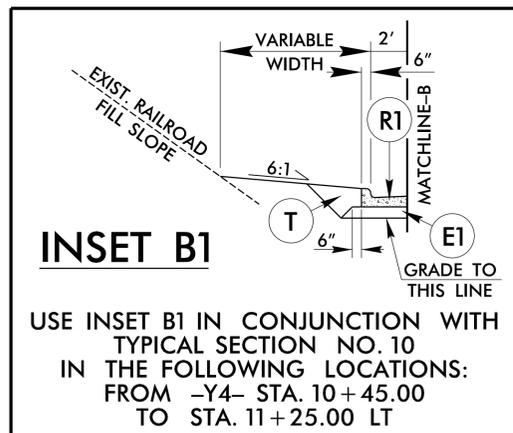
6/2/2019

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1 1/2" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
D1	4" I19.0C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
J1	6" ABC
J2	8" ABC
R1	2'-6" C&G
R2	1'-6" C&G
S1	4" CONC. SW
S2	4" CONC. SIDE PATH W/ WELDED WIRE MESH
T	EARTH MATERIAL
U	EXIST. PAVE.
V	INCD. MILL.
W	WEDGING

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

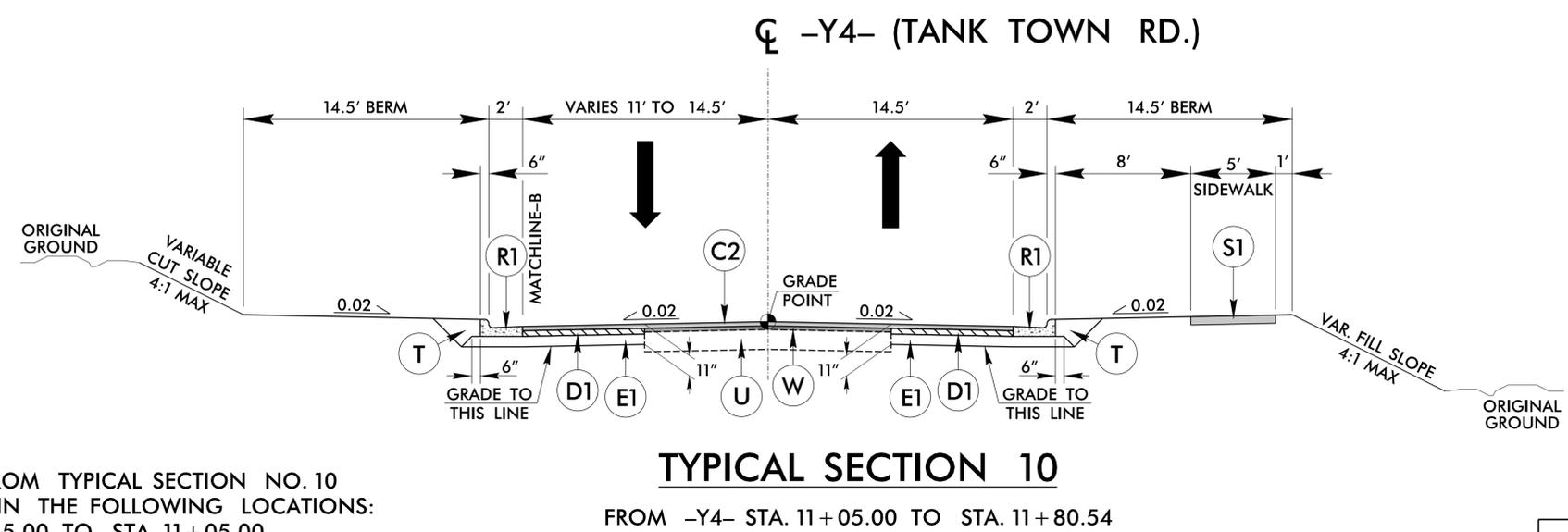


PROJECT REFERENCE NO. HL-0025	SHEET NO. 2A-4
ROADWAY DESIGN ENGINEER STEVE BANIS SEAL 030740 1/7/2026	PAVEMENT DESIGN ENGINEER JOSEPH HOLLAND SEAL 024964 1/7/2026
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



NOTE: MILL 1.5" AND REPLACE WITH C1 FROM -Y3- STA. 10+75.00 TO STA. 11+00.00

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 9 IN THE FOLLOWING LOCATIONS:  
 -Y3- STA. 11+00.00 TO STA. 11+30.00



NOTE: TRANSITION FROM TYPICAL SECTION NO. 10 TO EXISTING IN THE FOLLOWING LOCATIONS:  
 -Y4- STA. 10+45.00 TO STA. 11+05.00

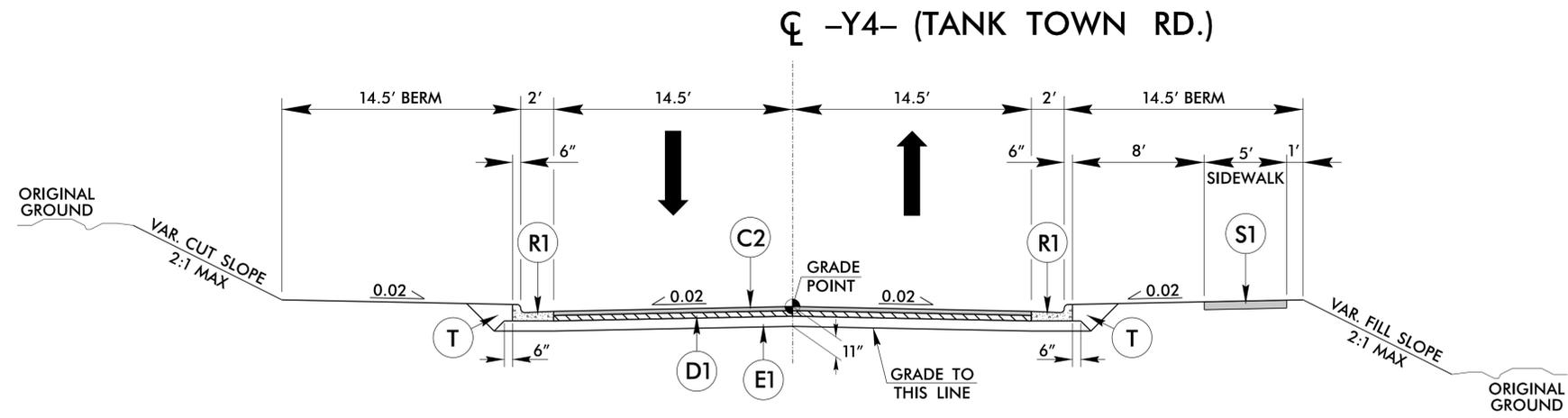
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 1/5/2026 11:17:11 AM

6/2/2025

PAVEMENT SCHEDULE <small>(FINAL PAVEMENT DESIGN)</small>	
C1	1 1/2" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
D1	4" I19.0C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
J1	6" ABC
J2	8" ABC
R1	2'-6" C&G
R2	1'-6" C&G
S1	4" CONC. SW
S2	4" CONC. SIDE PATH
T	EARTH MATERIAL
U	EXIST. PAVE.
V	INCD. MILL.
W	WEDGING

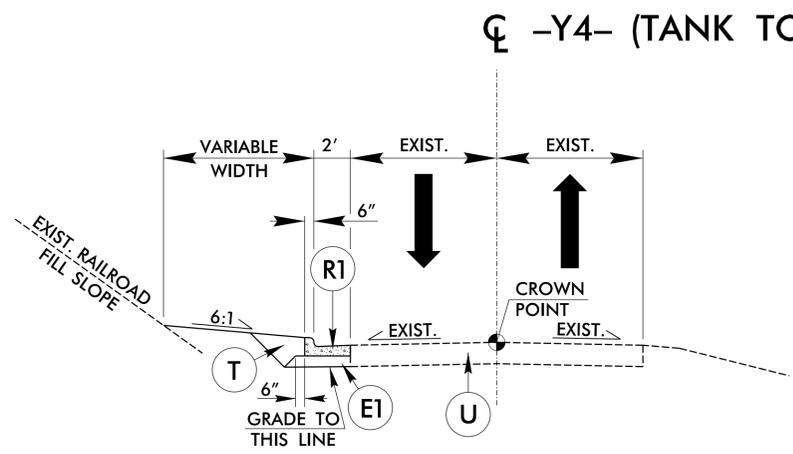
NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO. <i>HL-0025</i>	SHEET NO. <i>2A-5</i>
ROADWAY DESIGN ENGINEER <i>Steve Harris</i> NORTH CAROLINA PROFESSIONAL SEAL 030740 ENGINEER JOHN MATHIAS KANN	PAVEMENT DESIGN ENGINEER <i>Joseph Holland</i> NORTH CAROLINA PROFESSIONAL SEAL 024964 ENGINEER JOSEPH T. HOLLAND
Signed by: <i>1/7/2026</i>	
<p><b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b></p>	



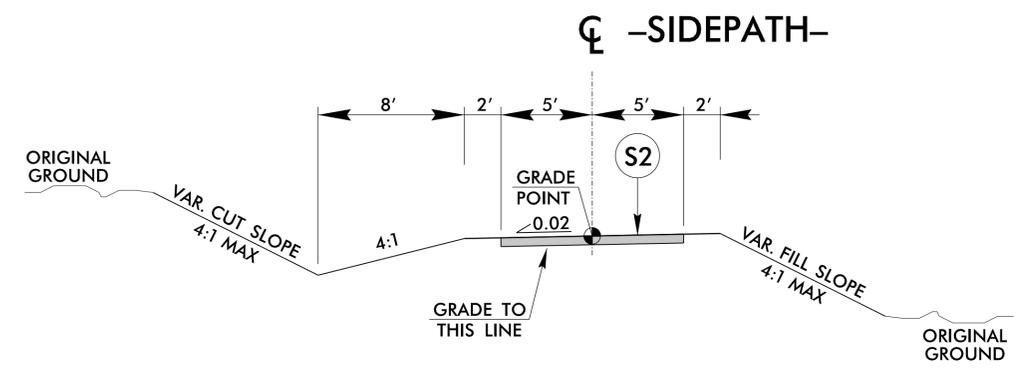
**TYPICAL SECTION 11**

FROM -Y4- STA. 11+80.54 TO STA. 13+20.35



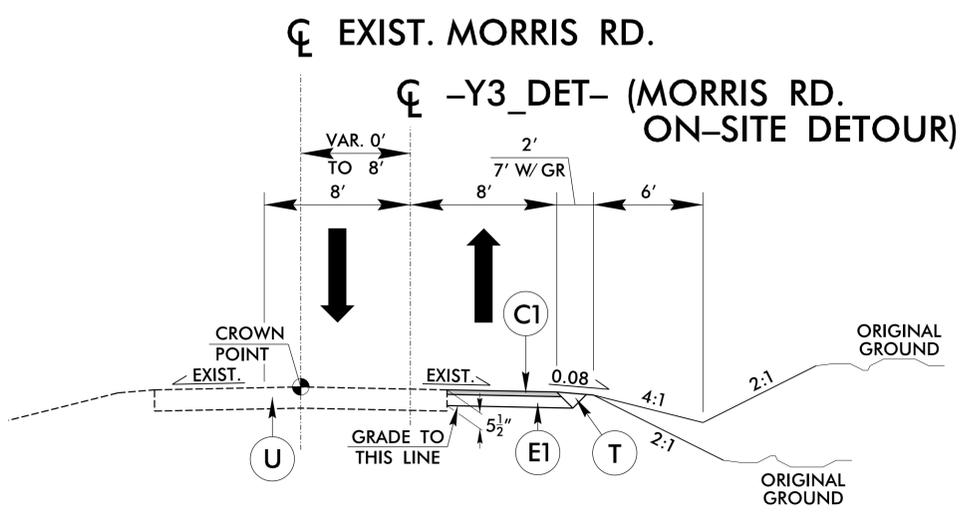
**TYPICAL SECTION 12**

FROM -Y4- STA. 9+28.00 TO STA. 10+45.00



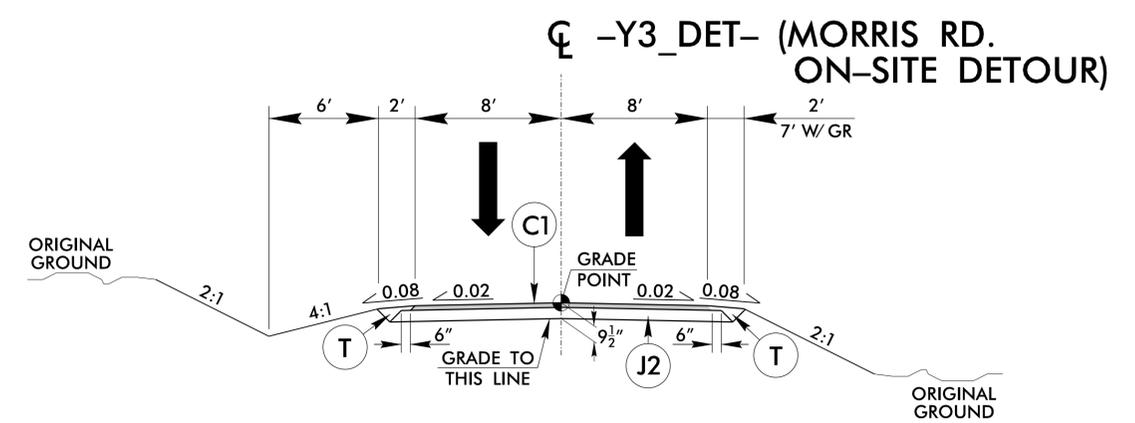
**TYPICAL SECTION 13**

FROM -SIDEPATH- STA. 25+30.00 TO STA. 26+65.00



**TYPICAL SECTION 14**

FROM -Y3\_DET- STA. 10+24.72 TO STA. 10+64.34



**TYPICAL SECTION 15**

FROM -Y3\_DET- STA. 10+64.34 TO STA. 12+72.16  
FROM -Y3\_DET- STA. 13+00.99 TO STA. 13+47.10

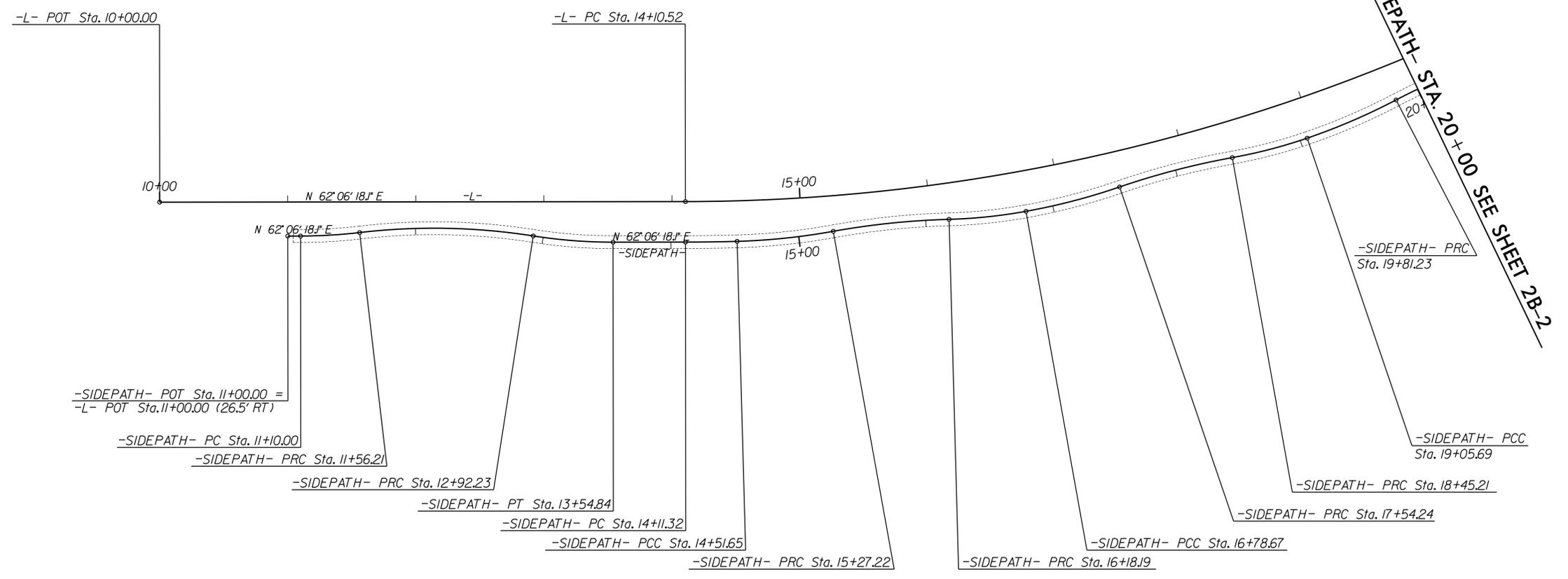
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# -SIDEPATH- ALIGNMENT DETAIL

-L-  
 PI Sta 17+13.57  
 $\Delta = 23^{\circ}13'14.4''$  (LT)  
 $D = 3^{\circ}53'04.1''$   
 $L = 597.78'$   
 $T = 303.05'$   
 $R = 1,475.00'$



PROJECT REFERENCE NO. HL-0025	SHEET NO. 2B-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
Signed by Steven Mathew Harris 12/17/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-SIDEPATH-			
PI Sta 11+33.13 $\Delta = 6^{\circ}37'10.7''$ (LT) $D = 14^{\circ}19'26.2''$ $L = 46.21'$ $T = 23.13'$ $R = 400.00'$	PI Sta 12+24.65 $\Delta = 15^{\circ}35'12.5''$ (RT) $D = 11^{\circ}27'33.0''$ $L = 136.02'$ $T = 68.43'$ $R = 500.00'$	PI Sta 13+23.60 $\Delta = 8^{\circ}58'01.9''$ (LT) $D = 14^{\circ}19'26.2''$ $L = 62.60'$ $T = 31.37'$ $R = 400.00'$	PI Sta 14+31.49 $\Delta = 1^{\circ}32'01.2''$ (LT) $D = 3^{\circ}48'11.7''$ $L = 40.33'$ $T = 20.16'$ $R = 1,506.50'$
PI Sta 14+89.51 $\Delta = 8^{\circ}39'34.3''$ (LT) $D = 11^{\circ}27'33.0''$ $L = 75.57'$ $T = 37.86'$ $R = 500.00'$	PI Sta 15+72.79 $\Delta = 8^{\circ}41'15.5''$ (RT) $D = 9^{\circ}32'57.5''$ $L = 90.98'$ $T = 45.58'$ $R = 600.00'$	PI Sta 16+48.49 $\Delta = 8^{\circ}39'43.5''$ (LT) $D = 14^{\circ}19'26.2''$ $L = 60.47'$ $T = 30.29'$ $R = 400.00'$	PI Sta 17+16.52 $\Delta = 8^{\circ}39'34.3''$ (LT) $D = 11^{\circ}27'33.0''$ $L = 75.57'$ $T = 37.86'$ $R = 500.00'$
PI Sta 17+99.81 $\Delta = 8^{\circ}41'15.5''$ (RT) $D = 9^{\circ}32'57.5''$ $L = 90.98'$ $T = 45.58'$ $R = 600.00'$	PI Sta 18+75.51 $\Delta = 8^{\circ}39'43.5''$ (LT) $D = 14^{\circ}19'26.2''$ $L = 60.47'$ $T = 30.29'$ $R = 400.00'$	PI Sta 19+43.53 $\Delta = 8^{\circ}39'25.7''$ (LT) $D = 11^{\circ}27'33.0''$ $L = 75.55'$ $T = 37.85'$ $R = 500.00'$	PI Sta 20+47.10 $\Delta = 12^{\circ}31'49.0''$ (RT) $D = 9^{\circ}32'57.5''$ $L = 131.22'$ $T = 65.87'$ $R = 600.00'$

10/31/2025  
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 8/17/99

FOR -SIDEPATH- PLAN SEE SHEETS 4 & 5.  
 FOR -SIDEPATH- PROFILE SEE SHEET 8.

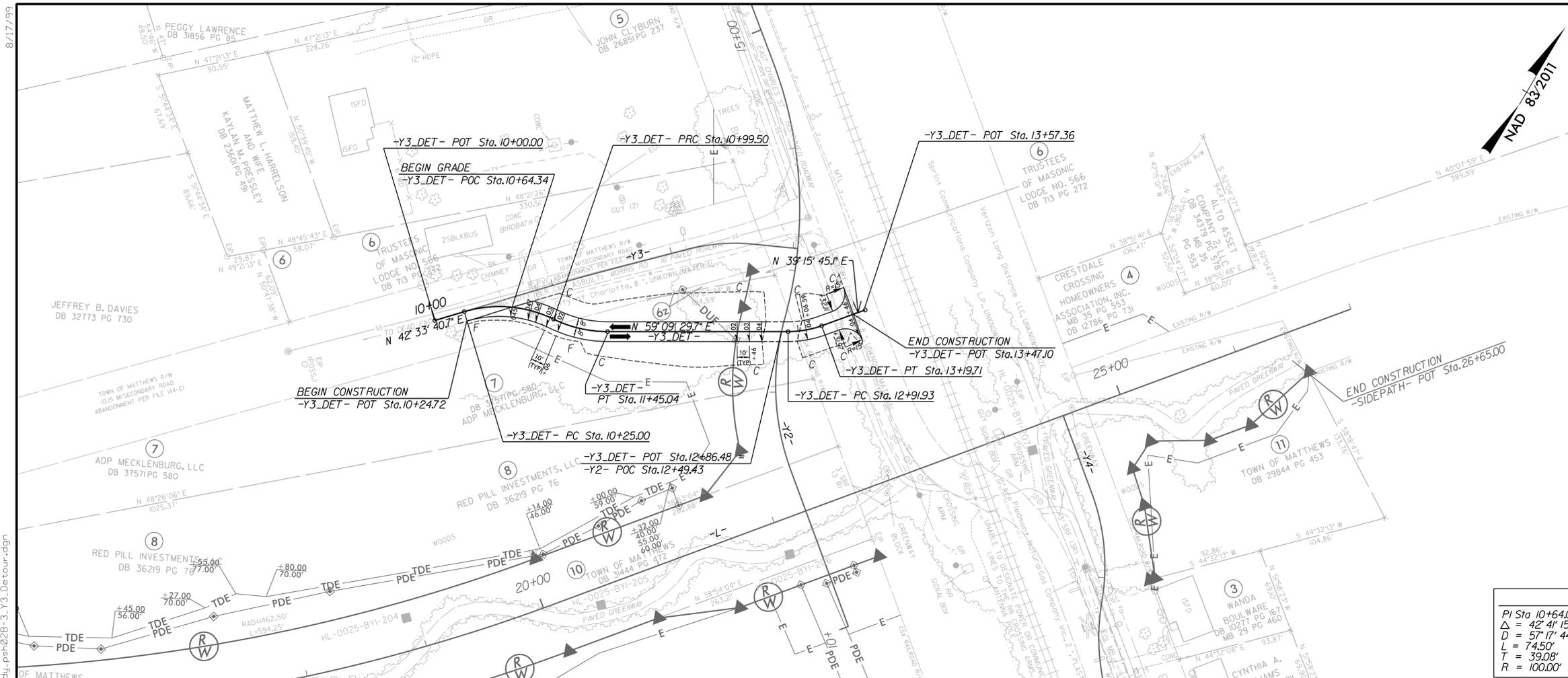




PROJECT REFERENCE NO. <b>HL-0025</b>	SHEET NO. <b>2B-3</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
Signed by: <b>Steve Karris</b> 12/17/2025	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

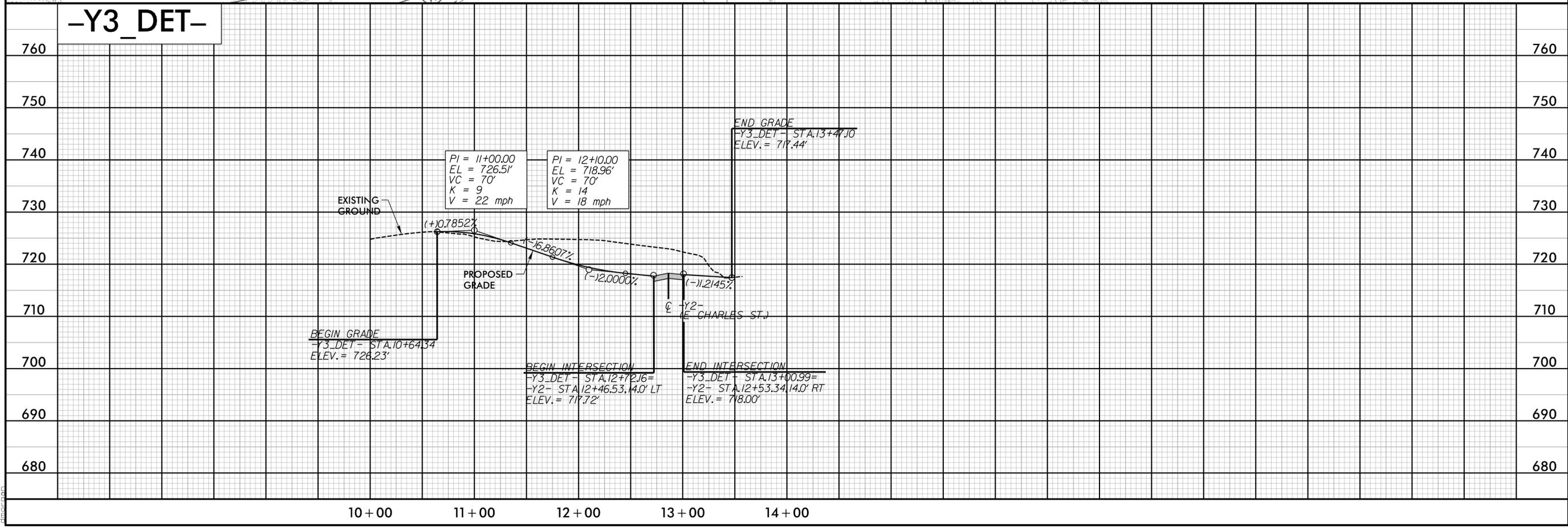
**ROADWAY DESIGN**

**AMT** A. MORTON THOMAS AND ASSOCIATES, INC.  
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(704) 595-9975 • NC LICENSE NO. F-1049  
WWW.AMTEngineering.com



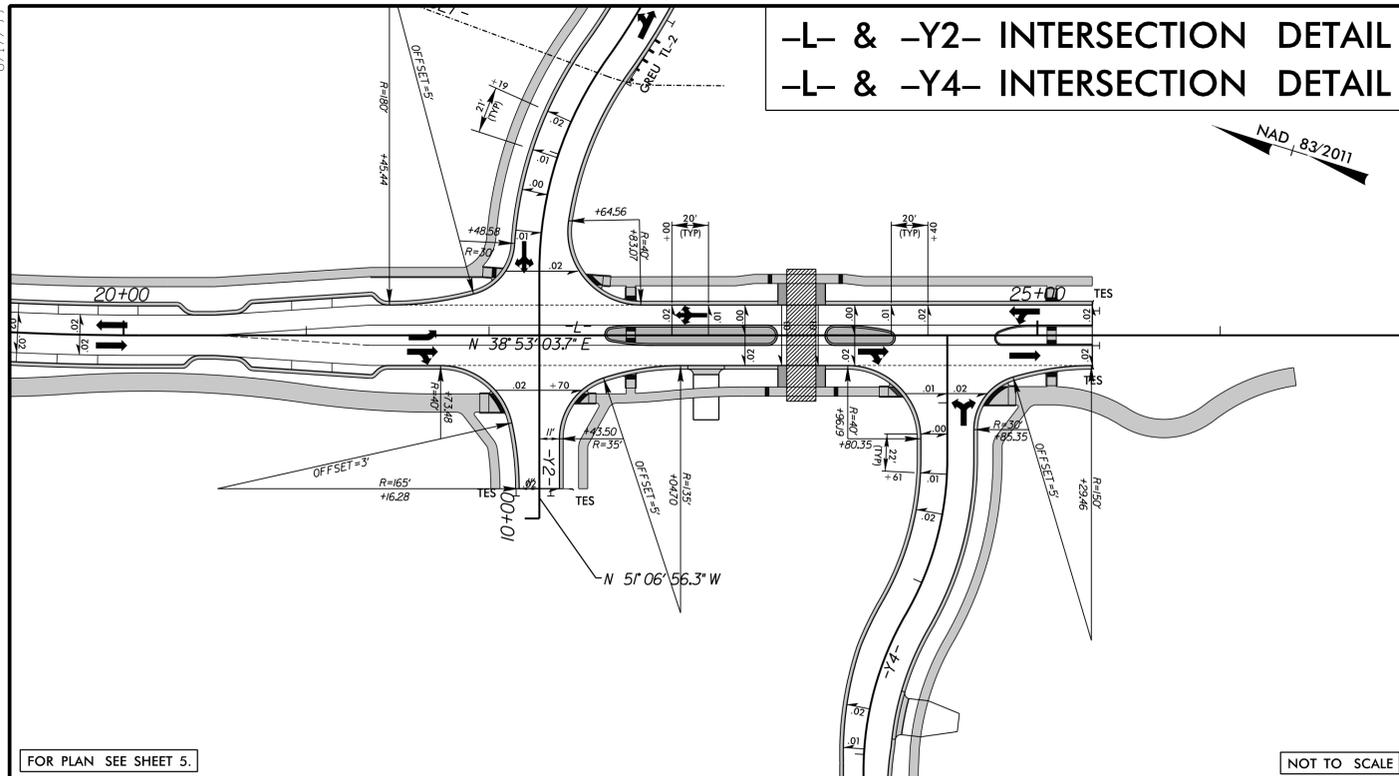
FOR -Y2- & -Y3- DESIGNS SEE SHEET 5.

-Y3_DET-		
PI Sta 10+64.08	PI Sta 11+22.67	PI Sta 13+05.96
$\Delta = 42' 41'' 15.9''$ (RT)	$\Delta = 26' 05'' 26.9''$ (LT)	$\Delta = 19' 53'' 44.5''$ (LT)
D = 57' 17'' 44.8"	D = 57' 17'' 44.8"	D = 71' 37'' 11.0"
L = 74.50'	L = 45.54'	L = 27.78'
T = 39.08'	T = 23.17'	T = 14.03'
R = 100.00'	R = 100.00'	R = 80.00'



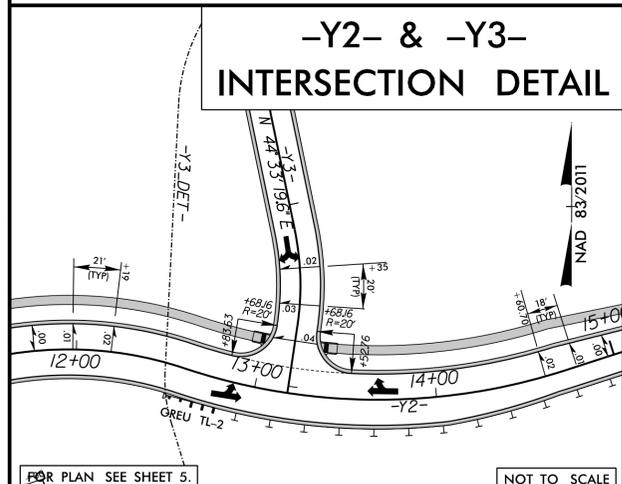
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 10/17/2025

8/17/19  
12/30/2025  
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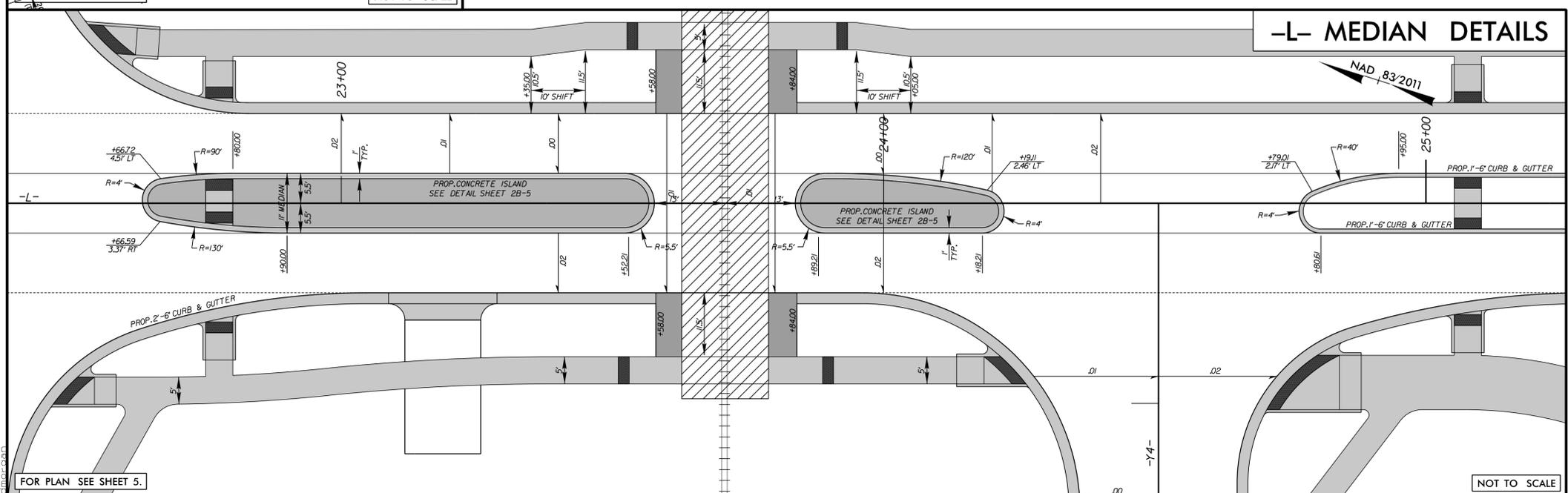
FOR PLAN SEE SHEET 5.

NOT TO SCALE



FOR PLAN SEE SHEET 5.

NOT TO SCALE



FOR PLAN SEE SHEET 5.

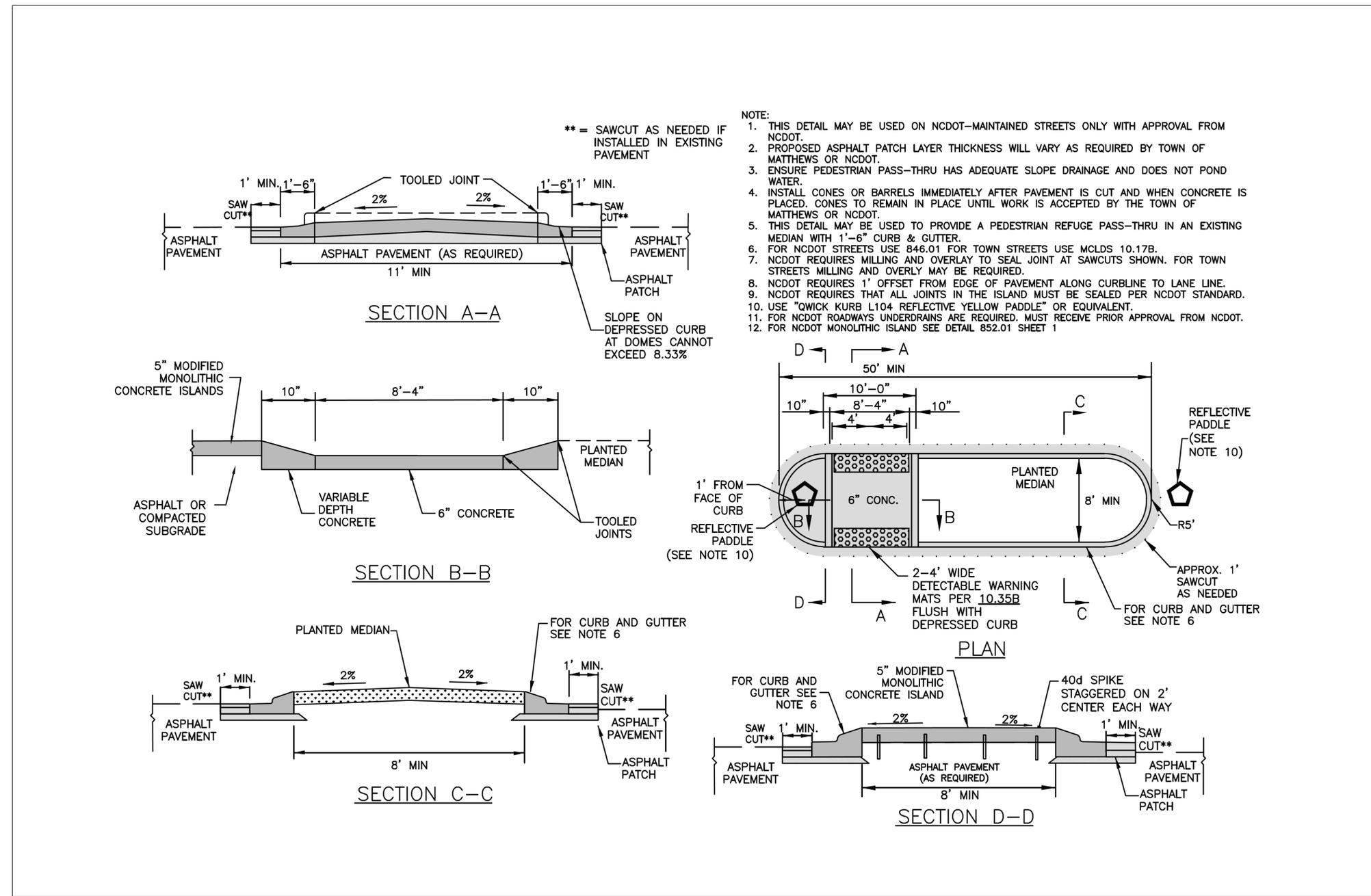
NOT TO SCALE

PROJECT REFERENCE NO. HL-0025	SHEET NO. 2B-4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
Signed by: Steve Eamus 1/6/2026	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NOTE: USE STANDARD METHOD OF ENDING CURB & GUTTER DETAIL ON SHEET 2B-8 AT THE FOLLOWING LOCATIONS:  
 -L- STA. 23+58.00 RT & LT  
 -L- STA. 23+84.00 RT & LT



\* NOT TO SCALE



### PEDESTRIAN REFUGE DETAIL

Signed by: *Steve Kanis* 1/6/2026

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 (704) 595-9975 • NC LICENSE NO. E-10495  
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 8/16/2025

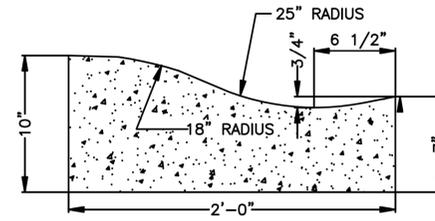
PROJECT REFERENCE NO.	SHEET NO.
HL-0025	2B-7
RW SHEET NO.	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

\* NOT TO SCALE

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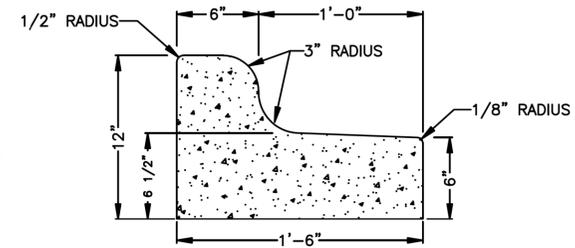
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8/17/2025  
A. MORTON THOMAS AND ASSOCIATES, INC.  
STEVE KAMIS

2'-0" VALLEY GUTTER



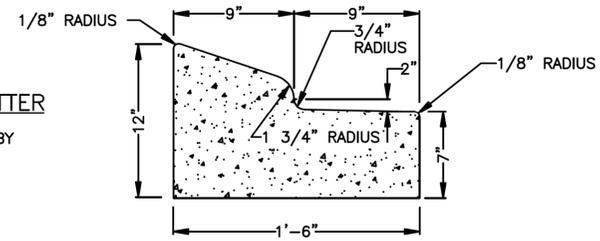
1'-6" MEDIAN CURB AND GUTTER

TO BE USED IN MEDIANS WHEN LANES ARE SLOPED FROM ISLAND OR AS SPECIFIED BY THE ENGINEER.



1'-6" MOUNTABLE CURB AND GUTTER

TO BE USED IN MEDIANS ONLY: WHEN SPECIFIED BY THE ENGINEER.



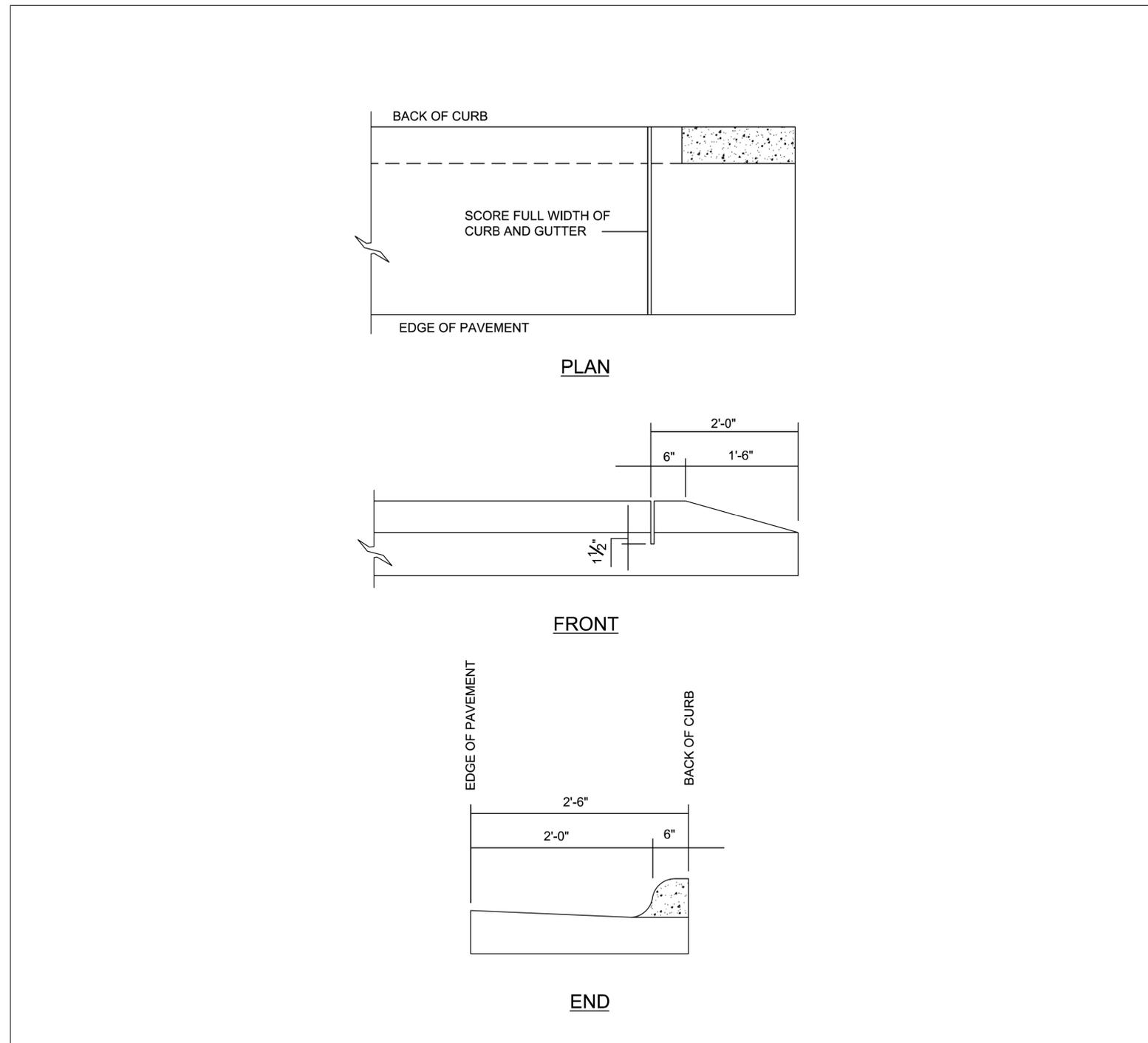
**1'-6" CURB AND GUTTER DETAIL**

Signed by  
 Steve Kamis 1/6/2026

**AMT** A. MORTON THOMAS AND ASSOCIATES, INC.  
 10735 DAVID TAYLOR DRIVE, SUITE 310 • CHARLOTTE, NC 28262  
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PROJECT REFERENCE NO.	SHEET NO.
HL-0025	2B-8
RW SHEET NO.	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

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8/17/99

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1/30/2025  
A. Morton Thomas  
1/6/2026

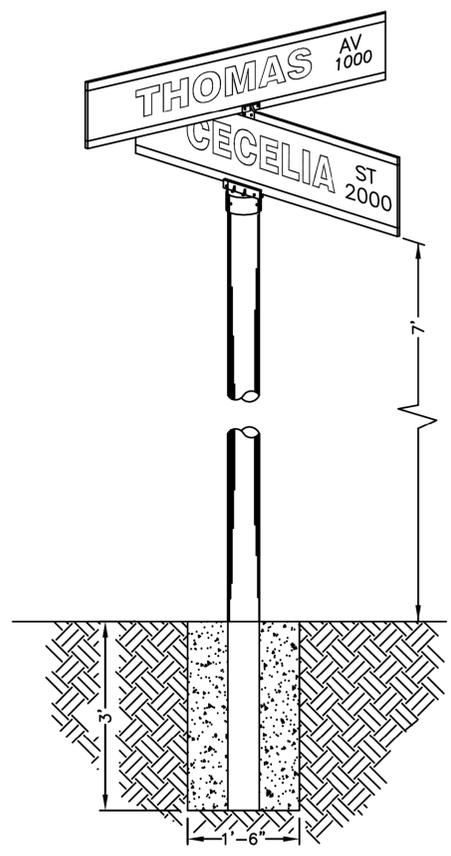


**METHOD OF ENDING CURB AND GUTTER DETAIL**

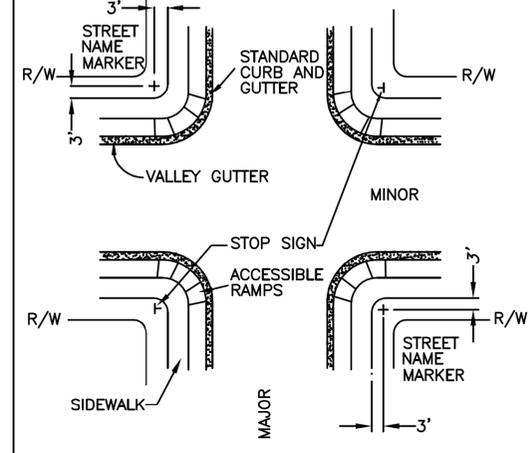
**AMT** A. MORTON THOMAS AND ASSOCIATES, INC.  
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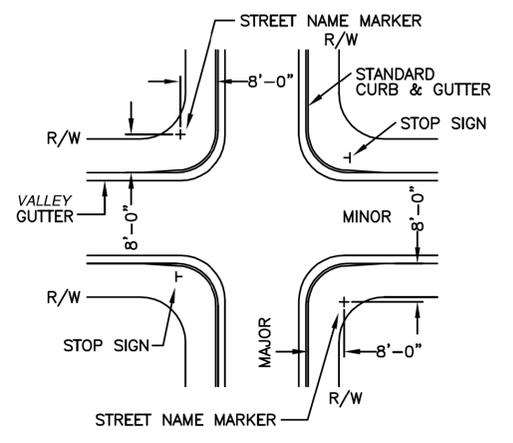
### INSTALLATION OF STREET NAME SIGN



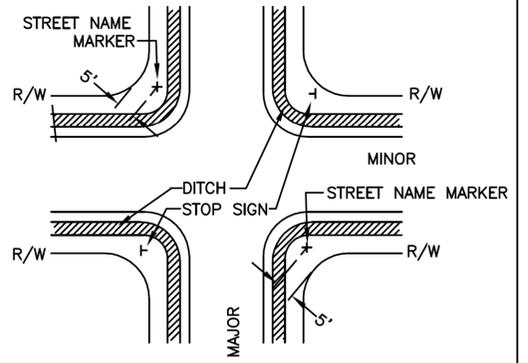
### INTERSECTION with SIDEWALK, CURB, and GUTTER



### INTERSECTION with CURB and GUTTER



### INTERSECTION with DITCHES, and NO CURB and GUTTER



### NOTES

1. TWO STREET NAME MARKERS ARE REQUIRED IF THE MAJOR STREET HAS 3 OR MORE LANES.
2. ANY VARIANCE FROM THIS STANDARD MUST BE APPROVED BY THE TOWN AND/OR COUNTY.

8/17/99

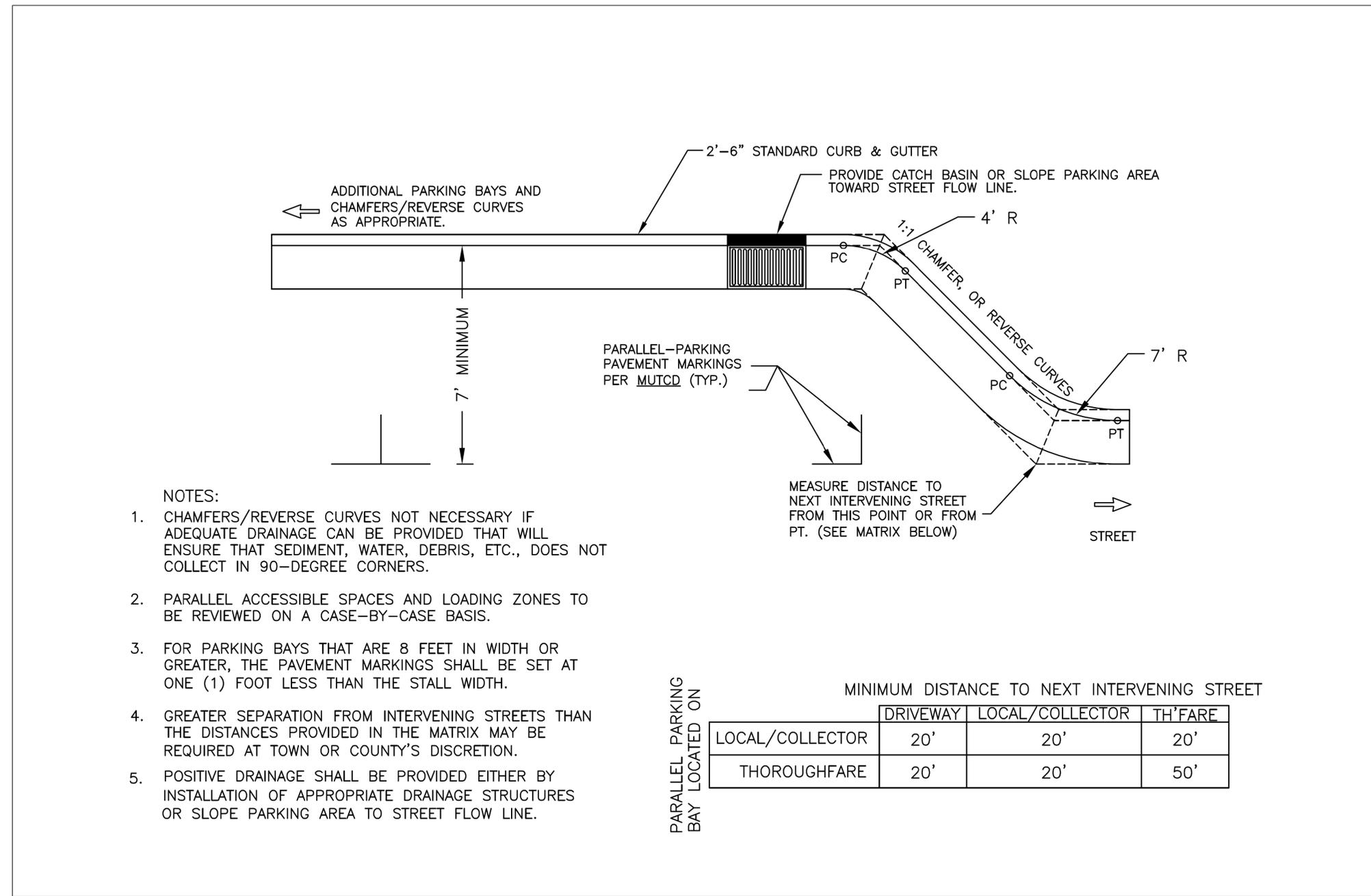
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dimorcan

Signed by: *Steve Kanis* 1/6/2026

**STREET NAME SIGN  
INSTALLATION DETAIL**

**AMT** A. MORTON THOMAS AND ASSOCIATES, INC.  
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(704) 595-9975 • NC LICENSE NO. F-10493  
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\* NOT TO SCALE



- NOTES:
1. CHAMFERS/REVERSE CURVES NOT NECESSARY IF ADEQUATE DRAINAGE CAN BE PROVIDED THAT WILL ENSURE THAT SEDIMENT, WATER, DEBRIS, ETC., DOES NOT COLLECT IN 90-DEGREE CORNERS.
  2. PARALLEL ACCESSIBLE SPACES AND LOADING ZONES TO BE REVIEWED ON A CASE-BY-CASE BASIS.
  3. FOR PARKING BAYS THAT ARE 8 FEET IN WIDTH OR GREATER, THE PAVEMENT MARKINGS SHALL BE SET AT ONE (1) FOOT LESS THAN THE STALL WIDTH.
  4. GREATER SEPARATION FROM INTERVENING STREETS THAN THE DISTANCES PROVIDED IN THE MATRIX MAY BE REQUIRED AT TOWN OR COUNTY'S DISCRETION.
  5. POSITIVE DRAINAGE SHALL BE PROVIDED EITHER BY INSTALLATION OF APPROPRIATE DRAINAGE STRUCTURES OR SLOPE PARKING AREA TO STREET FLOW LINE.

PARALLEL PARKING BAY LOCATED ON

	MINIMUM DISTANCE TO NEXT INTERVENING STREET		
	DRIVEWAY	LOCAL/COLLECTOR	TH'FARE
LOCAL/COLLECTOR	20'	20'	20'
THOROUGHFARE	20'	20'	50'

8/17/99

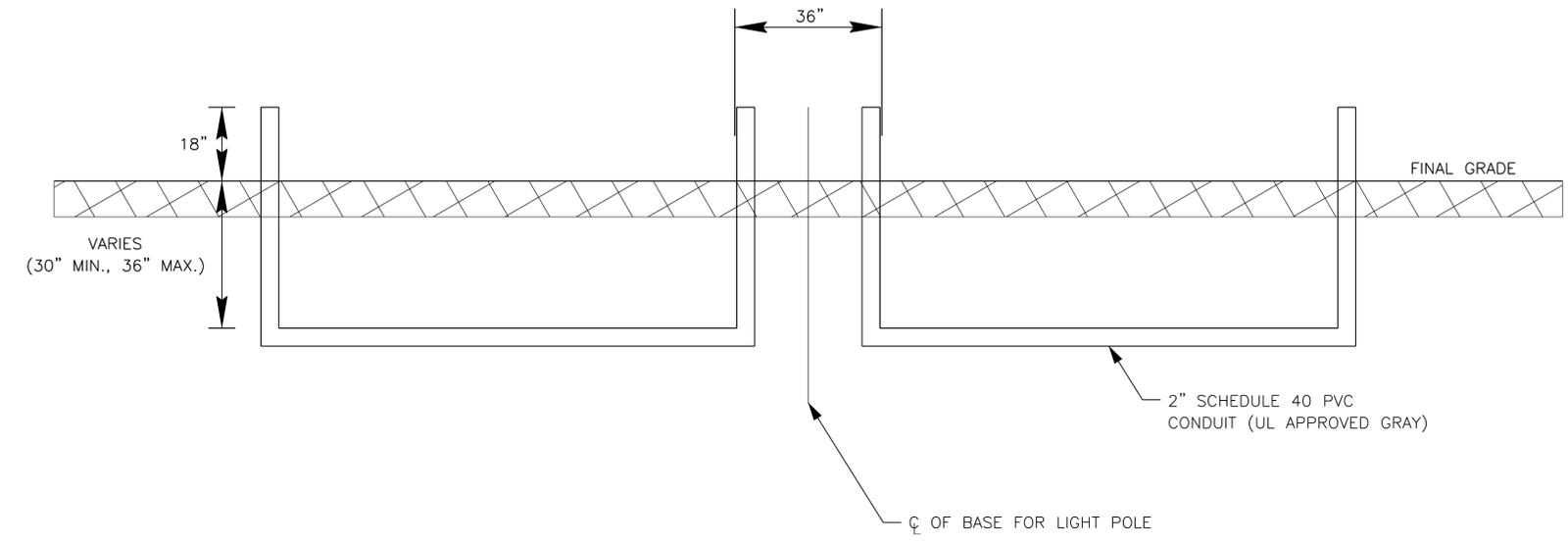
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Signed by: **Steve Kanis** 1/6/2026

**PARALLEL PARKING  
DETAIL**

**AMT** A. MORTON THOMAS AND ASSOCIATES, INC.  
 10735 DAVID TAYLOR DRIVE, SUITE 310 • CHARLOTTE, NC 28262  
 (704) 585-9975 • NC LICENSE NO. E-1045  
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PROJECT REFERENCE NO.	SHEET NO.
HL-0025	2B-II
RW SHEET NO.	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
* NOT TO SCALE	



- NOTES:**
- 1) TAPE ALL ENDS OF CONDUIT & PROVIDE PULL STRING.
  - 2) CONTRACTOR TO STAKE CENTER LINE OF BASE.
  - 3) PVC MARKERS ARE INCIDENTAL TO COST OF THE ELECTRICAL DUCT.

8/17/99

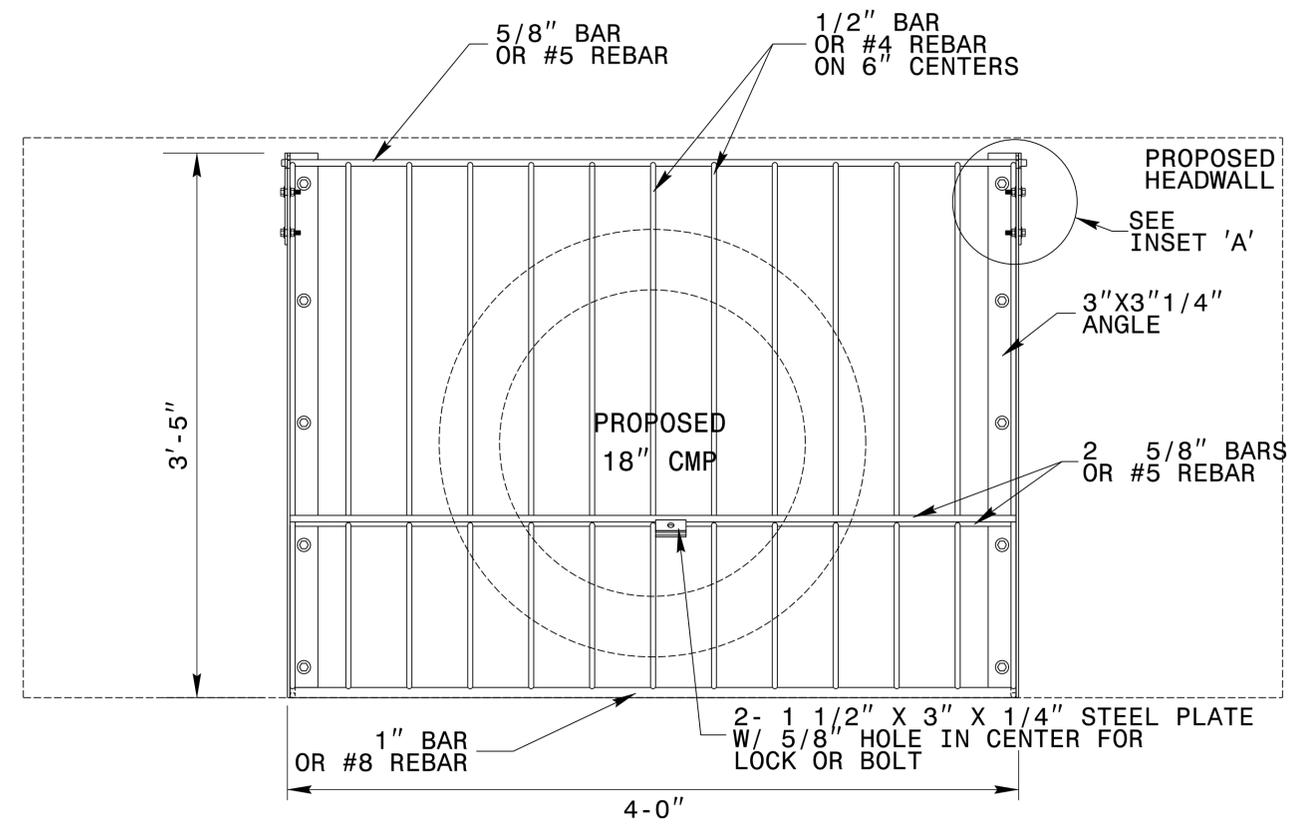
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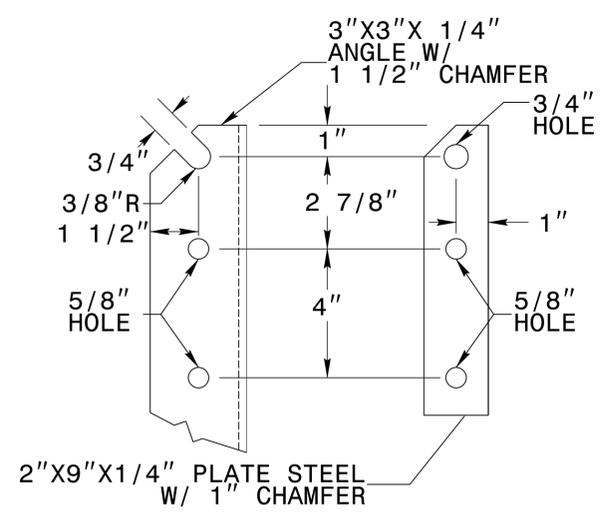
Signed by: *Steve Kamis* 1/6/2026

## CONDUIT DETAIL

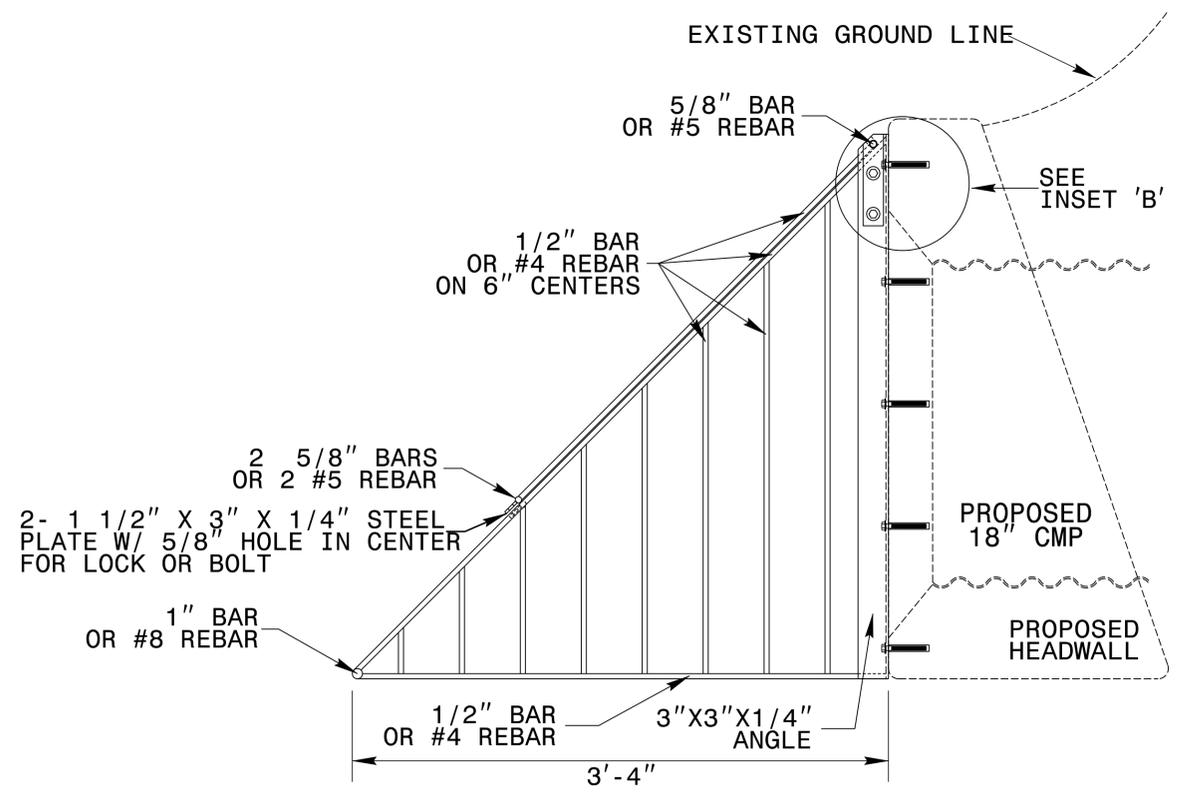
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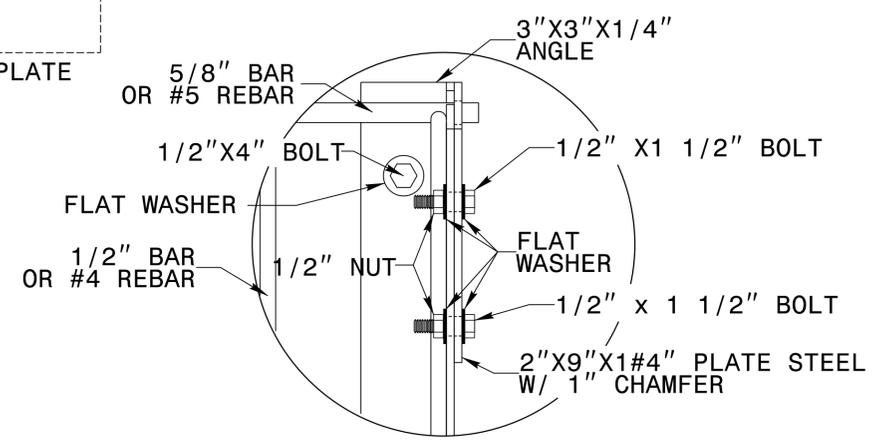
**ELEVATION**



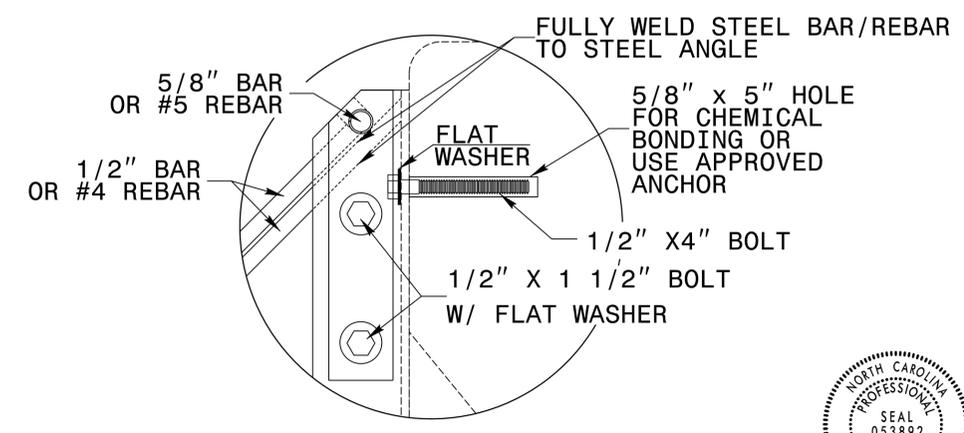
**INSET 'A'**



**END ELEVATION**



**INSET 'A'**



**INSET 'B'**

- GENERAL NOTES:**
1. ALL STEEL/REBAR JOINTS SHALL BE FULLY WELDED AROUND JOINT WITH A MINIMUM OF A 3/16" BEAD.
  2. IF BOLTS ARE CHEMICALLY ANCHORED, FOLLOW STD. DWG. 862.04 FOR ANCHORING PROCEDURE.
  3. RACK AND HARDWARE ARE TO BE GALVANIZED IN ACCORDANCE WITH ASTM 153 OR CONSTRUCTED FROM STAINLESS STEEL.
  4. AFTER ALL HARDWARE IS TIGHTENED, DEFORM THREADS SO NUT WILL REMAIN TIGHT TO PROHIBIT REMOVAL.
  5. DIMENSIONS MAY ADJUSTED DUE TO FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

**TOTALS:**

#4 REBAR LENGTH	57'-0"
WEIGHT	38 LBS
#5 REBAR LENGTH	12'-0"
WEIGHT	13 LBS
#8 REBAR LENGTH	4'-0"
WEIGHT	11 LBS
3" x 3" x 1/4" ANGLE LENGTH	7'-0"
WEIGHT	35 LBS
<b>TOTAL WEIGHT</b>	<b>97 LBS</b>

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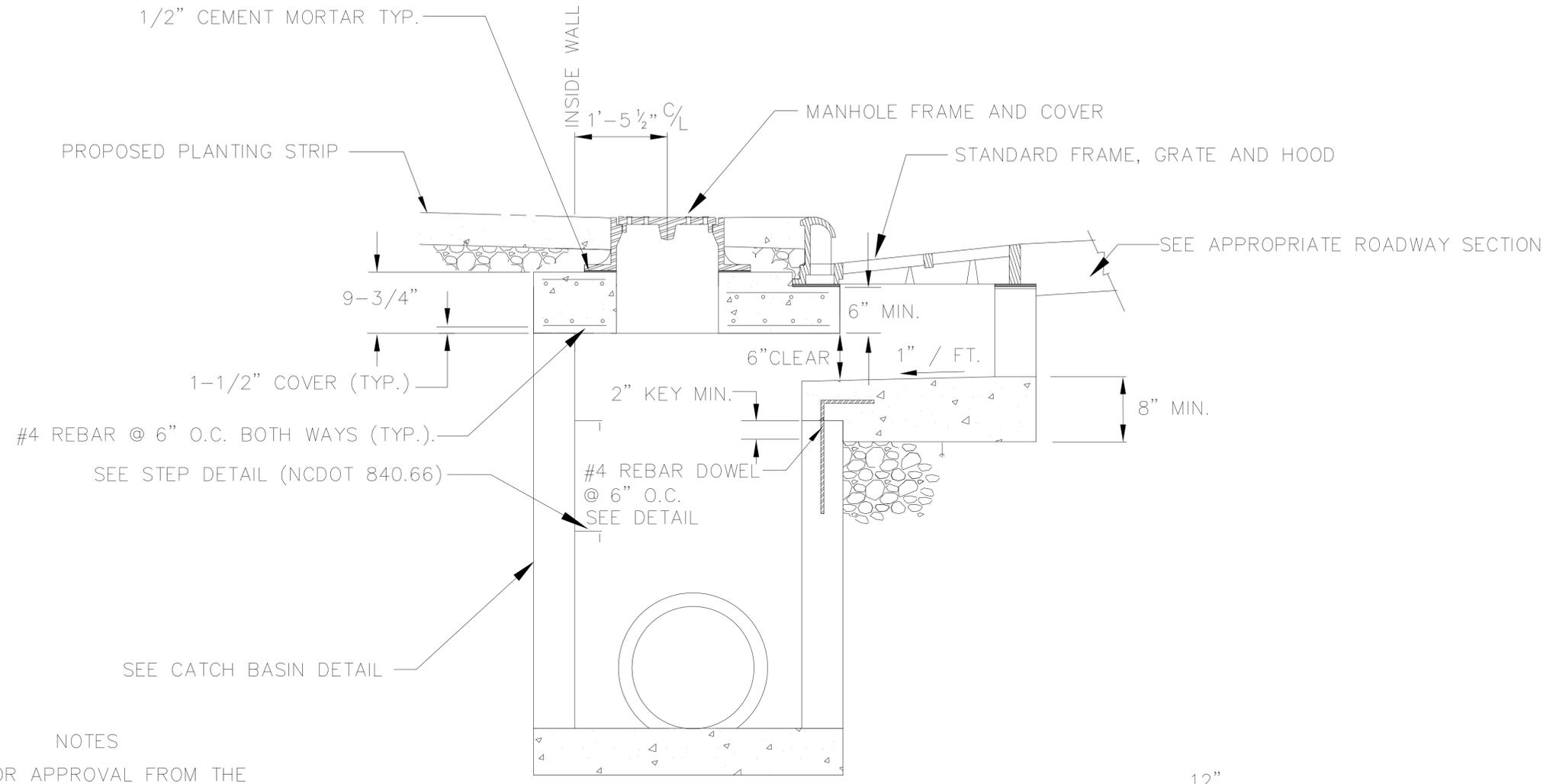
Signed by:  
 B. Gregory Adolph 1/6/2026  
 781E20428C4540B

**HEADWALL TRASH RACK**

McCormick & Taylor  
 5400 TRINITY ROAD  
 SUITE 102  
 RALEIGH, NC 27607  
 Office 919-223-8965 NC LIC. NO. F-1285

PROJECT REFERENCE NO. HL-0025	SHEET NO. 2B-13
RW SHEET NO.	
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\* NOT TO SCALE



#4 REBAR @ 6" O.C. BOTH WAYS (TYP.).

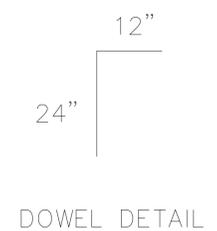
SEE STEP DETAIL (NCDOT 840.66)

SEE CATCH BASIN DETAIL

NOTES

1. PRIOR APPROVAL FROM THE COUNTY ENGINEER IS REQUIRED.
2. THIS STRUCTURE IS TO ONLY BE USED ON TOWN MAINTAINED STREETS AND NOT ON NCDOT STREETS WITHOUT THEIR PERMISSION.

OFFSET CATCH BASIN



DOWEL DETAIL

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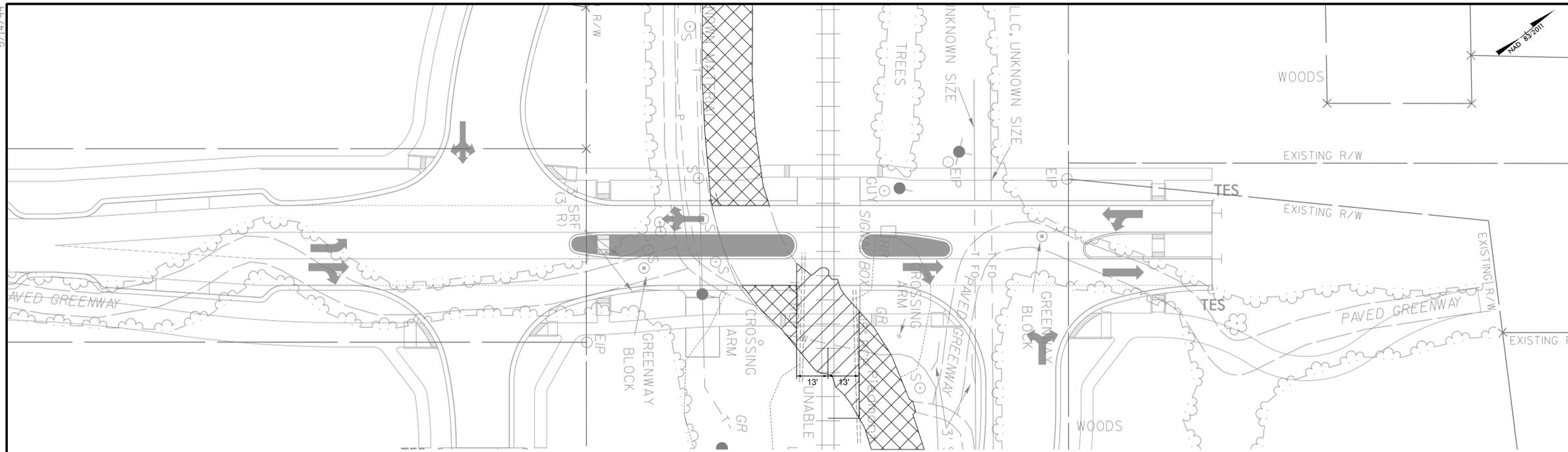


Signed by: 3/6/2026  
*B. Gregory Adolph*  
 7812200004008

<b>OFFSET CATCH BASIN</b>	
	5400 TRINITY ROAD SUITE 102 RALEIGH, NC 27607 NC LIC. NO. F-1285
Office 919-223-8965	

5/14/2026

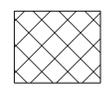
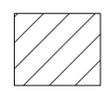
PROJECT REFERENCE NO. <i>HL-0025</i>	SHEET NO. <i>2B-14</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
Signed by: <i>Steve Harris</i> /6/2026	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

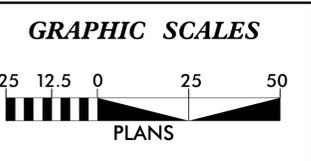


**NOTES:**

**NOTE: ALL WORK WITHIN CSX CORRIDOR TO BE COORDINATED WITH NCDOT AND CSX.**

- CONTACT THE NCDOT RESIDENT ENGINEER TO SCHEDULE THE CLOSURE OF TANK TOWN ROAD /E. CHARLES ST ROAD AT-GRADE CROSSING.
- THE EXISTING PAVEMENT WITHIN THE CSX RAILROAD BALLAST LINES TO BE REMOVED BY OTHERS. THE EXISTING CROSSBUCKS, GATES, AND FLASHERS WILL BE REMOVED BY OTHERS.
- CONTRACTOR SHALL STABILIZE THE DISTURBED AREA OUTSIDE THE RAILROAD BALLAST LINE. ANY CONTRACTOR WORK WITHIN 25 FEET OF THE RAIL CENTERLINE WILL REQUIRE A CSX FLAGMAN.
- CONTRACTOR SHALL CONTACT NORTH CAROLINA 811 TO LOCATE ALL UNDERGROUND UTILITIES IN THE WORK AREA. CONTRACTOR SHALL ALSO CONTACT CSX RAILROAD TO LOCATE ANY UNDERGROUND RAILROAD UTILITIES IN THE WORK AREA PRIOR TO COMMENCEMENT OF WORK WITHIN THE CSX RIGHT-OF-WAY.
- CONTRACTOR SHALL REMOVE EXISTING HIGHWAY ROADBED AND GRADE AREA TO MATCH ADJACENT TOPOGRAPHY. ANY EXISTING CULVERTS IN THE RAILROAD DITCHES SHALL BE REMOVED AND GRADE EXISTING DITCHES TO DRAIN. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER ON HAULING AWAY ANY ASPHALT LEFT BY THE REMOVAL BY OTHERS. ALL PAVEMENT WITHIN THE CSX RAILROAD RIGHT-OF-WAY CORRIDOR IS TO BE REMOVED PRIOR TO THE CONCLUSION OF THE PROJECT.
- PROVIDE PERMANENT SIGNING AS SHOWN IN THE SIGNING PLANS.
- PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC MANAGEMENT PLANS.
- ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERNATING ANY TRAFFIC PATTERN.
- TOP OF RAIL ELEVATIONS SHALL BE CHECKED AND VERIFIED TO MATCH PLAN SET BEFORE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF CSX. FIELD VERIFY TOP OF RAIL ELEVATIONS POST NEW CROSSING PANEL INSTALLATION. CONTRACTOR TO FIELD ADJUST PROFILE AT DIRECTION OF ENGINEER AT TIE-INS TO THE NEW CROSSING SURFACE PANEL AS THE ELEVATION MAY CHANGE.
- ANY SOIL EXCAVATED ON CSX ROW SHALL BE DONE IN CONFORMANCE WITH THE SOIL AND WATER MANAGEMENT POLICY IN THE CSX PUBLIC PROJECT MANUAL.

	PAVEMENT REMOVAL BY CONTRACT
	PAVEMENT REMOVAL BY OTHERS



# CROSSING CLOSURE DETAIL

TANK TOWN / E. CHARLES RD

FOR -L- DESIGN SEE SHEET 5.



A. MORTON THOMAS AND ASSOCIATES, INC.  
10735 DAVID TAYLOR DRIVE, SUITE 310 • CHARLOTTE, NC 28262  
(704) 595-9975 • NC LICENSE NO. F-1049  
WWW.AMTENGINEERING.COM

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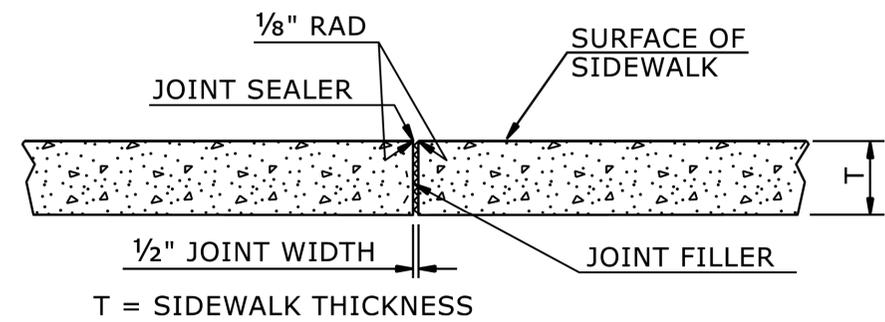


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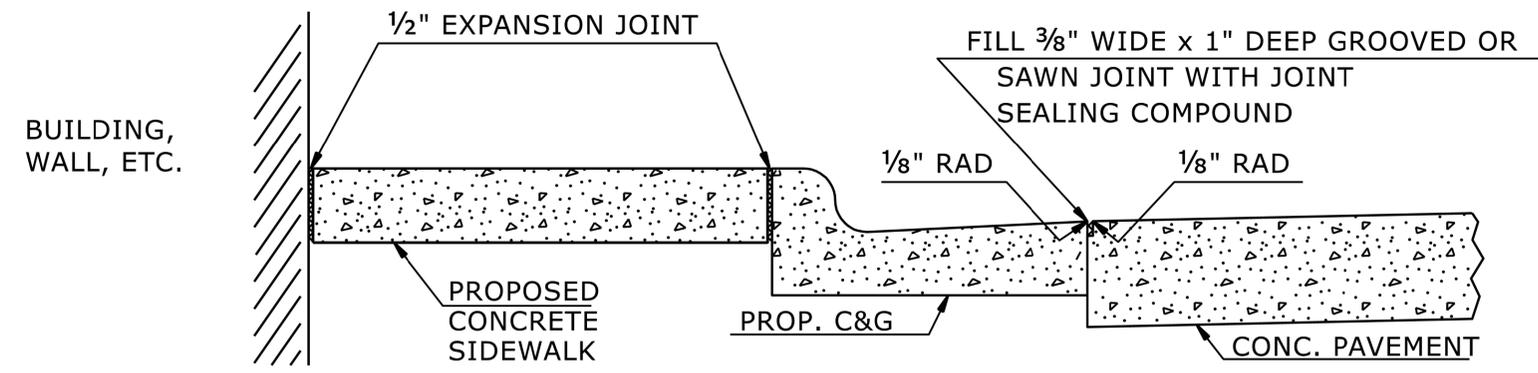
CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

SEE STD. DWG. 848.06 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



TRANSVERSE EXPANSION JOINT IN SIDEWALK



DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

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DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**CONCRETE SIDEWALK**

SHEET 1 OF 1  
**848D01**



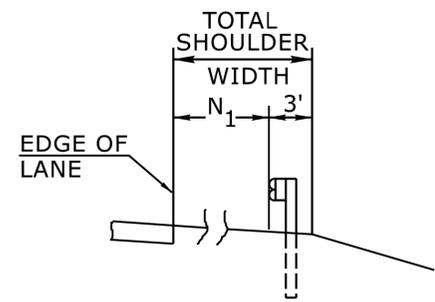
**CONTRACTS STANDARDS AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**SEE TITLE BLOCK**

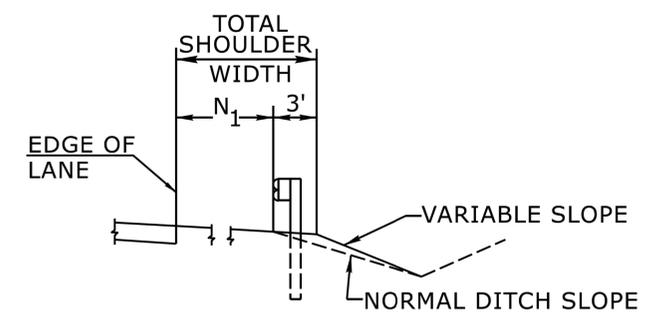
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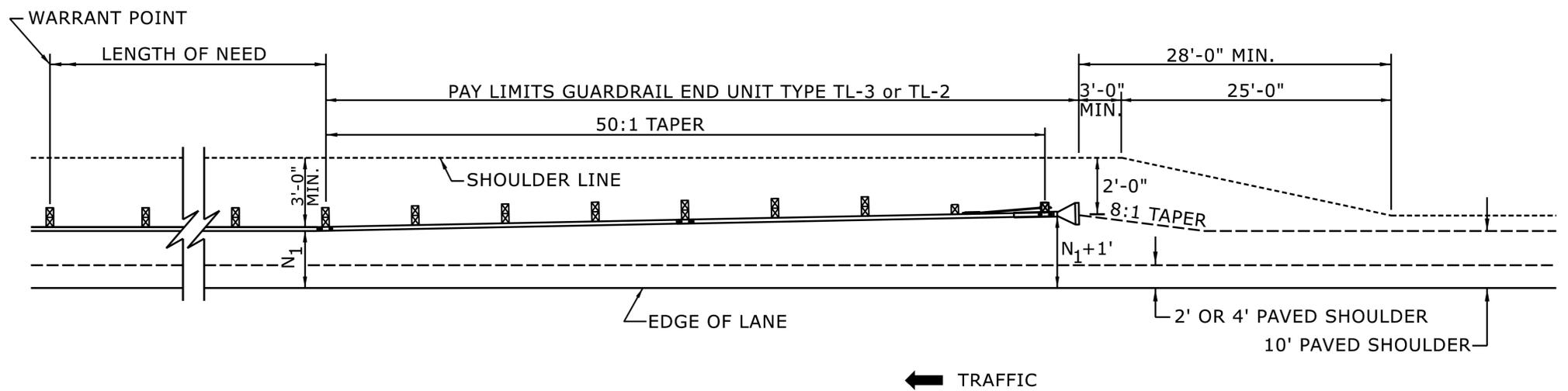


**FILL SECTION**



**CUT SECTION**

"N<sub>1</sub>" = 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  
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DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL PLACEMENT**



Signed by: *Nicole M. Hacker* 12/9/2025  
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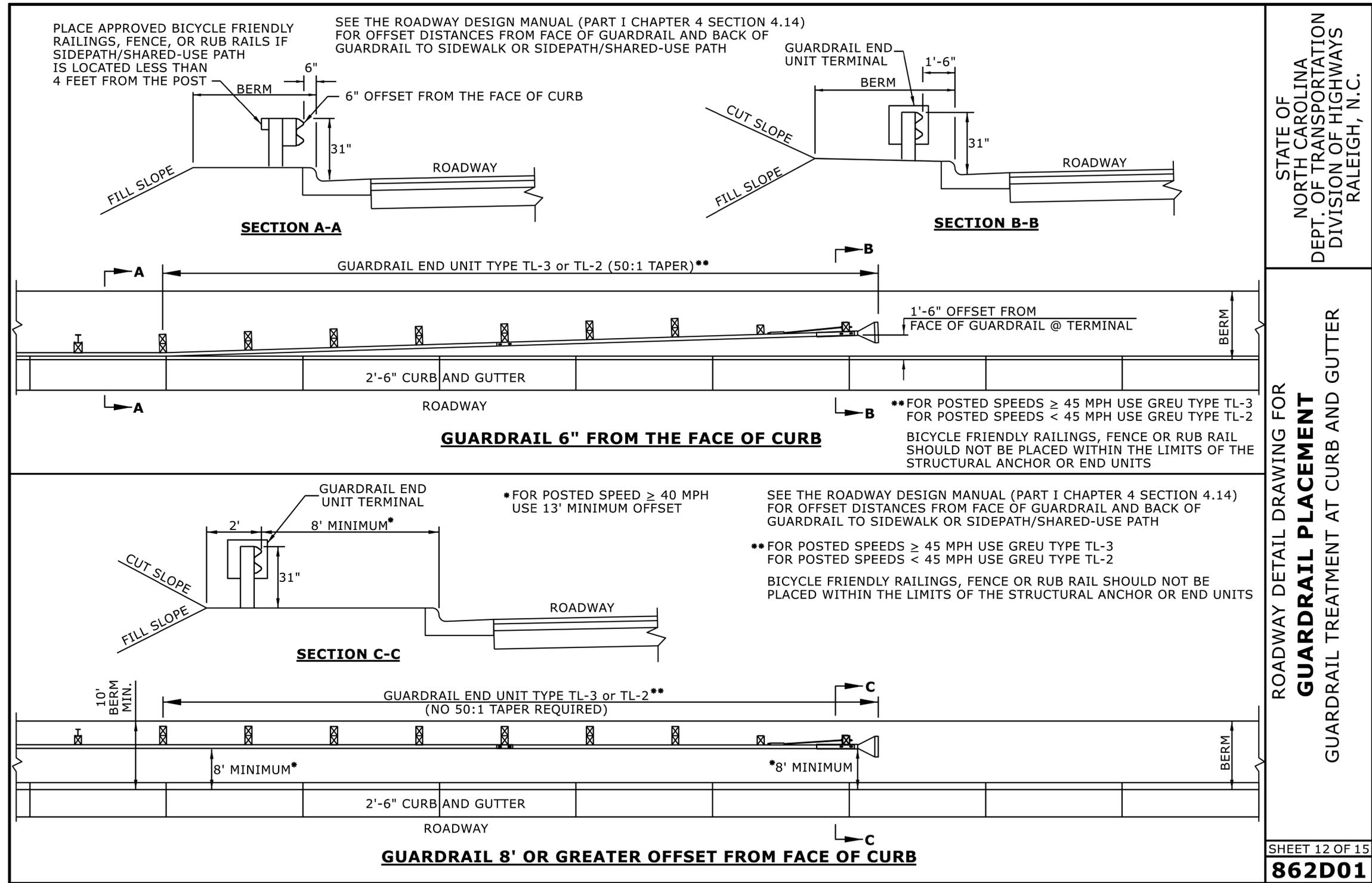
SHEET 6 OF 15  
**862D01**

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STATE OF  
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DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL PLACEMENT**  
GUARDRAIL TREATMENT AT CURB AND GUTTER



Signed by:  
Nicole M. Hacker  
12/9/2025

SHEET 12 OF 15  
**862D01**

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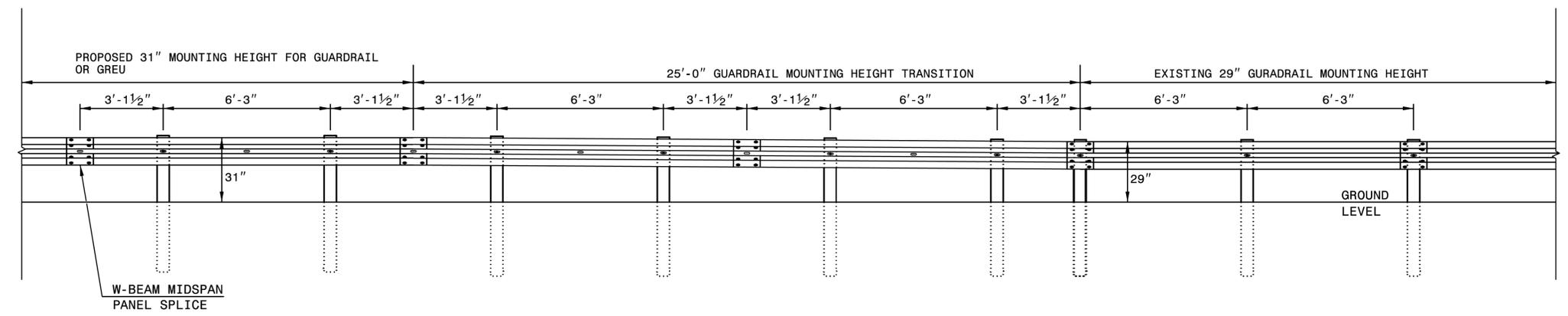
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**NOTE: IF EXISTING GUARDRAIL IS LOWER THAN 29", USE AN ADDITIONAL 12'-6" LONG SECTION OF GUARDRAIL, FOR EVERY 1" OF HEIGHT DIFFERENCE, TO TRANSITION FROM EXISTING GUARDRAIL TO PROPOSED 31" GUARDRAIL.**



**ELEVATION VIEW**

**TRANSITION FROM 29" TO 31" W-BEAM GUARDRAIL MOUNTING HEIGHT**

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DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 5 OF 9  
**862D02**



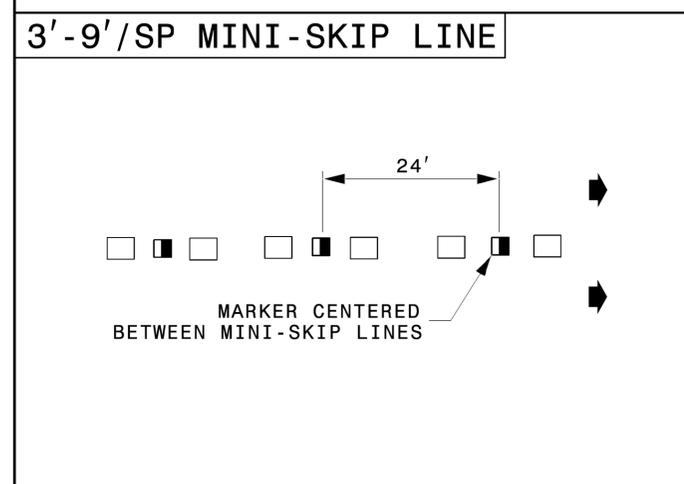
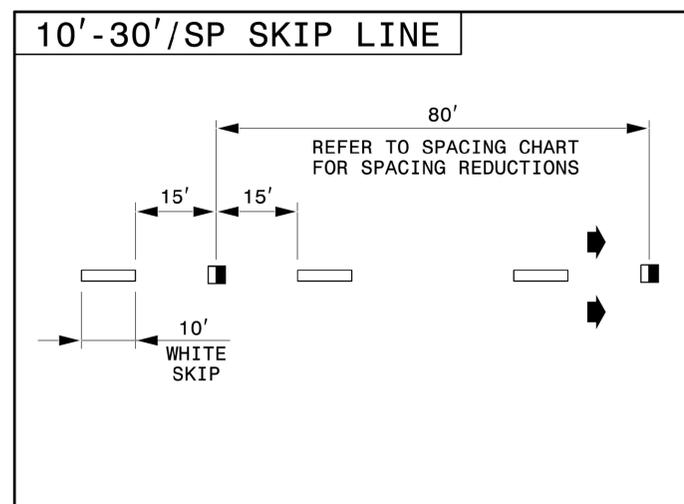
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*Nicole M. Hacker*  
12/9/2025  
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AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

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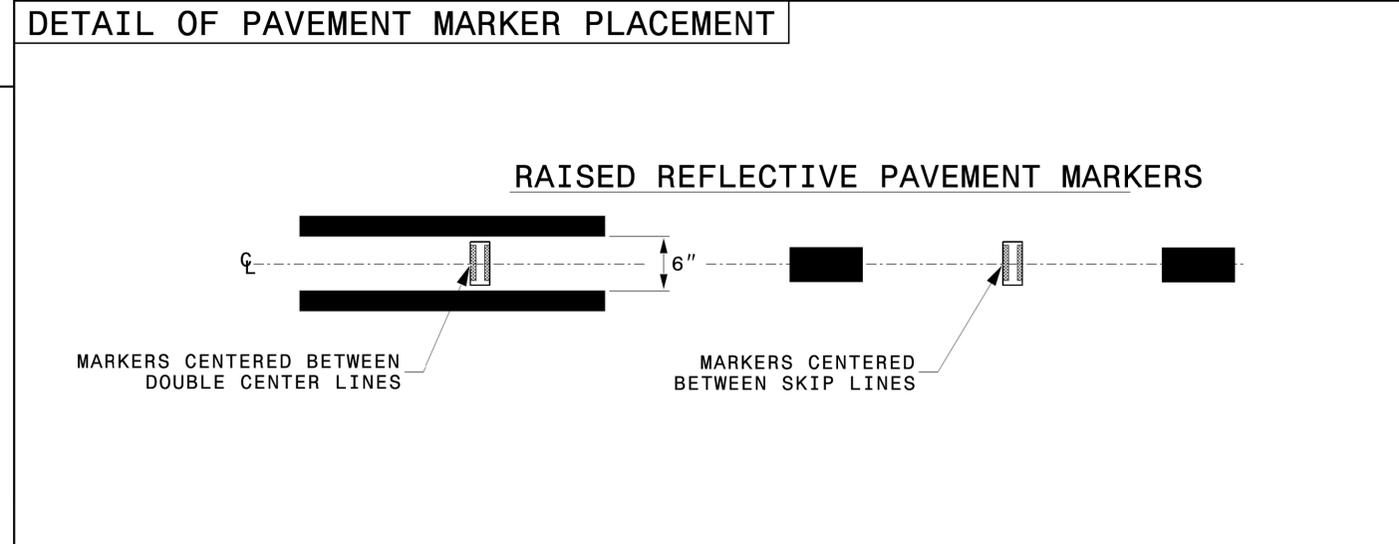
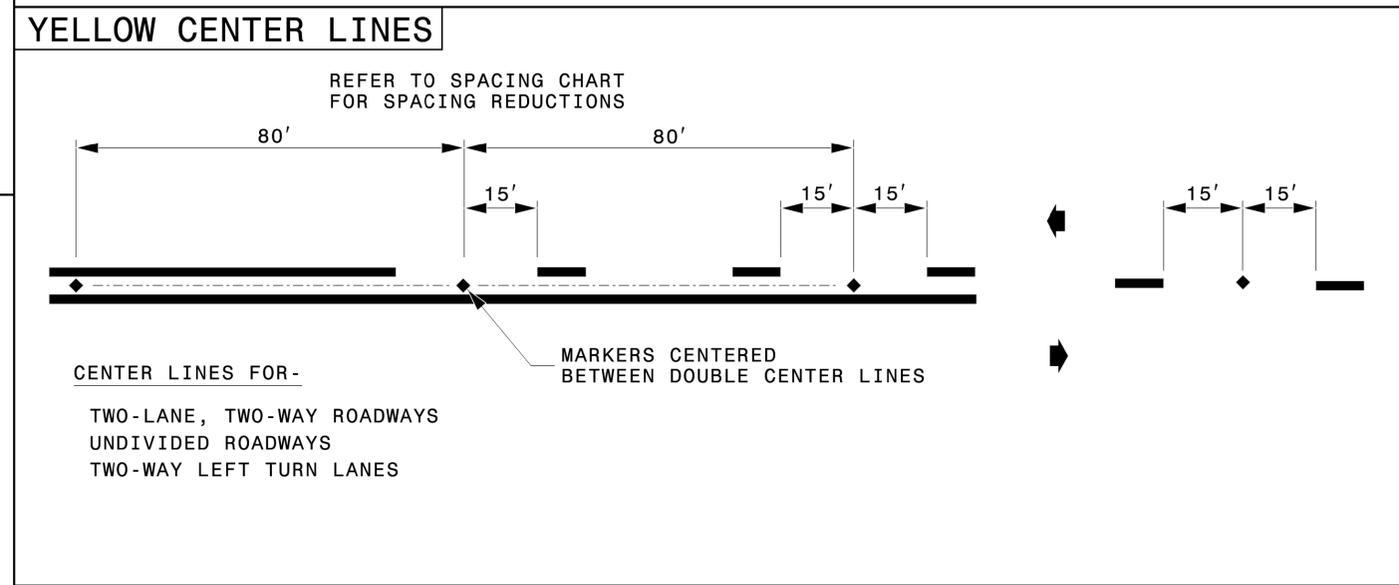
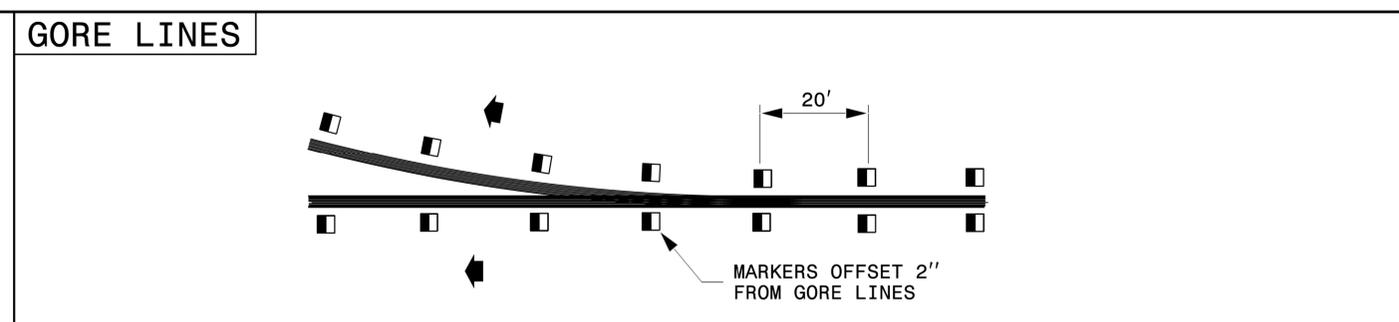
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**LEGEND**

- CRYSTAL/RED PAVEMENT MARKER
- YELLOW/YELLOW PAVEMENT MARKER
- DIRECTION OF TRAFFIC FLOW



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

ROADWAY DETAIL DRAWING FOR  
**RAISED PAVEMENT MARKERS**  
INSTALLATION SPACING

SHEET 2 OF 3  
**1250D01**



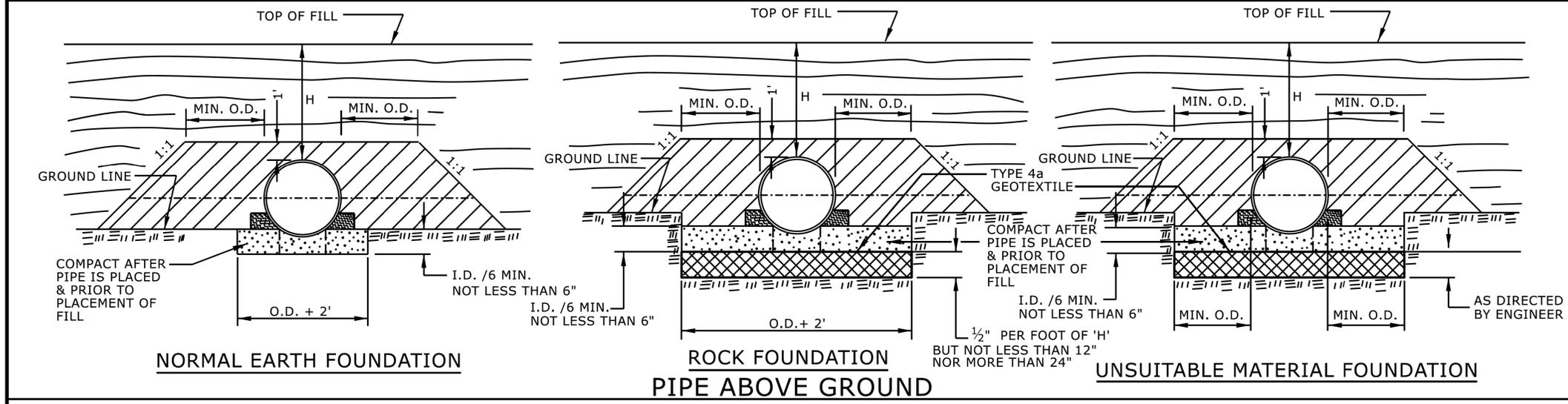
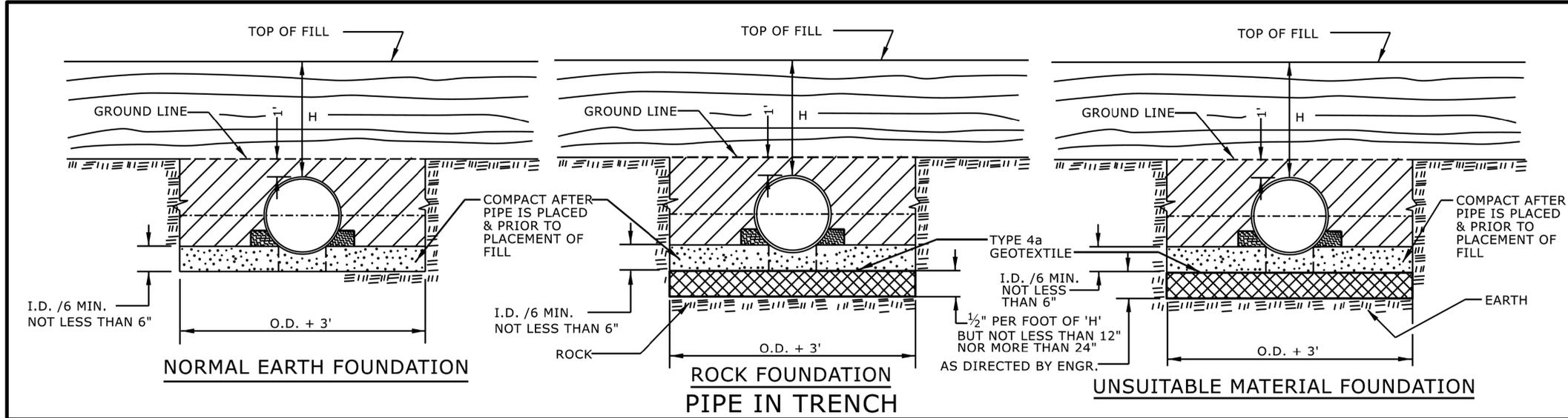
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STATE OF  
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DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
FLEXIBLE PIPE



**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.

SHEET 1 OF 2  
**300.01**



Signed by:  
Nicole M. Hickler 6/2026  
588423034164C5

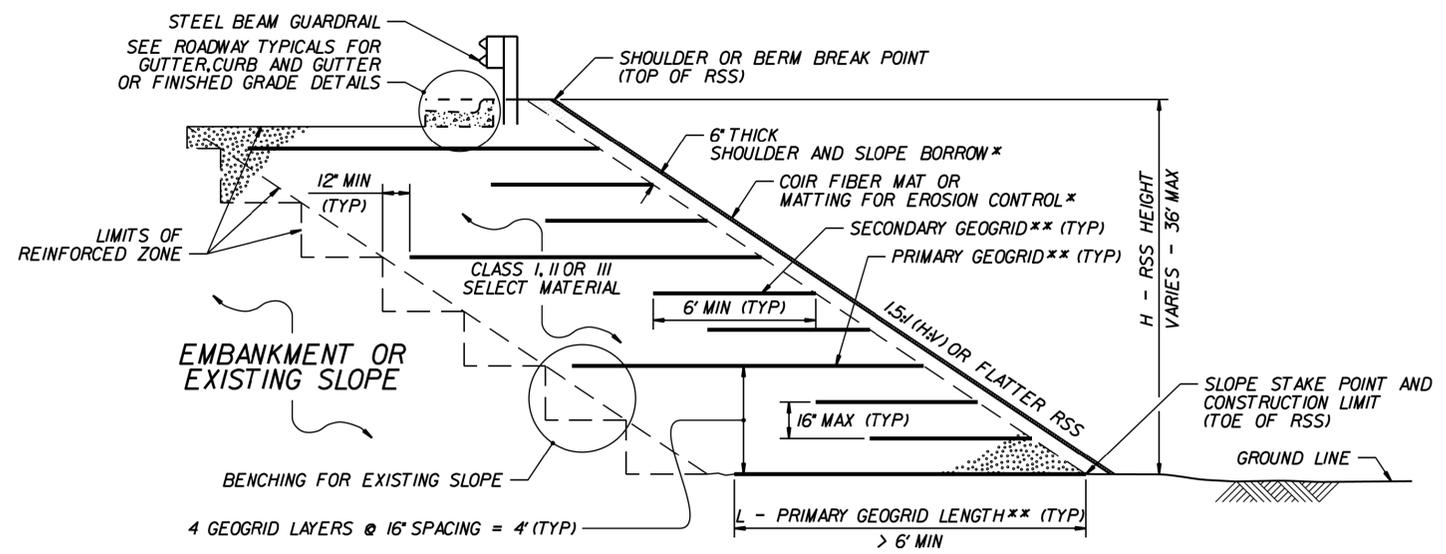
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AND DEVELOPMENT UNIT  
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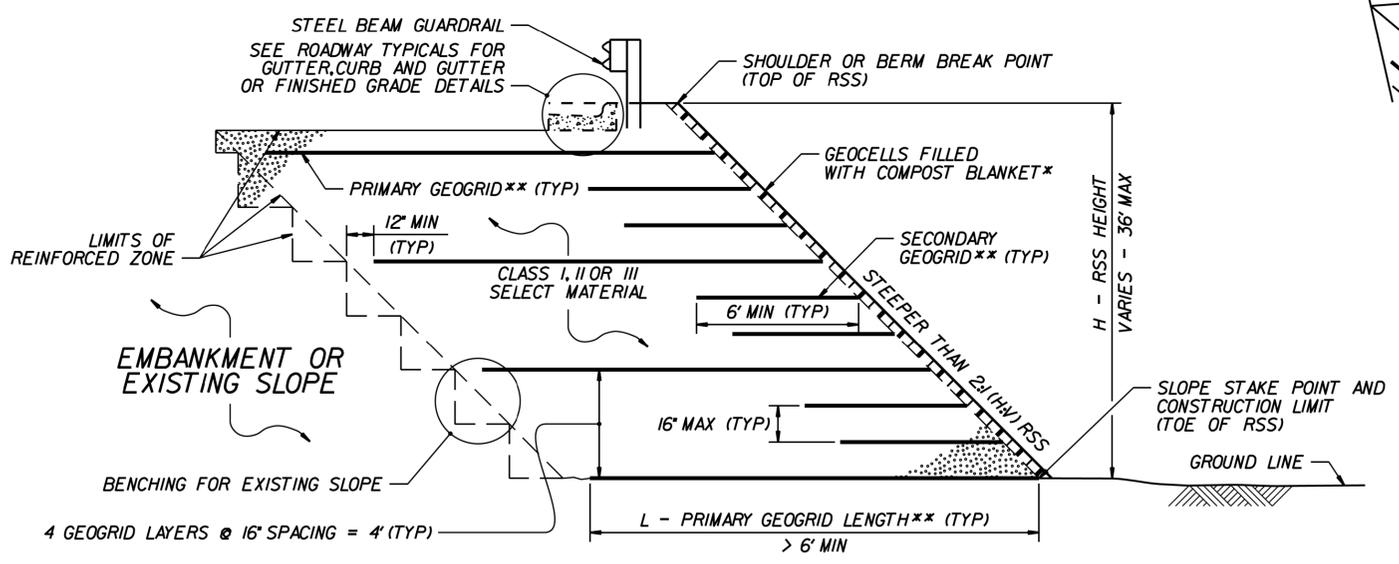
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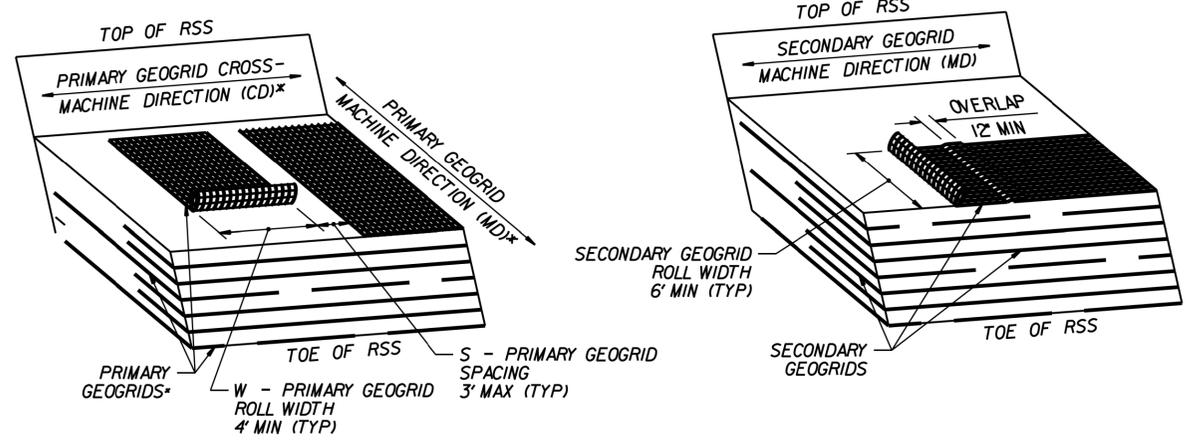


**MATTING WITH SHOULDER AND SLOPE BORROW**  
 \*SEE NOTES 3 AND 10 ON SHEET 2.



**GEOCELLS WITH COMPOST BLANKET**  
 \*SEE NOTES 3 AND 10 ON SHEET 2.

**STANDARD REINFORCED SOIL SLOPE (RSS)**  
 \*\*SEE TABLES ON SHEET 2 AND GEOGRID PLACEMENT DETAILS.  
 IF RSS ANGLE IS 2:1 (H:V) OR FLATTER, REPLACE PRIMARY GEOGRID WITH SECONDARY GEOGRID PLACED AS SHOWN IN THE GEOGRID PLACEMENT DETAILS.



**GEOGRID PLACEMENT DETAILS**  
 $(\% \text{ COVERAGE} = \frac{W}{W+S} \times 100 \geq 75\%)$   
 \*SEE NOTE 8 ON SHEET 2. DO NOT OVERLAP PRIMARY GEOGRIDS IN ANY DIRECTION.

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 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS <b>GEOTECHNICAL ENGINEERING UNIT</b>	STANDARD DETAIL NO. 1802.02
	STANDARD REINFORCED SOIL SLOPE (RSS) WITH LOW GROUNDWATER SHEET 1 OF 2 DATE: 12-17-19

PROJECT REFERENCE NO. <i>HL-0025</i>	SHEET NO. <i>26-2</i>
GEOTECHNICAL ENGINEER  DocuSigned by: <i>Shane Clark</i> 6/10/2025	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

H (FT)	0 - < 12		12 - 24		> 24 - 36	
	I	II OR III	I	II OR III	I	II OR III
1:1 TO < 1.5:1 (H:V) RSS	900	500	1200	900	1800	1200
1.5:1 TO 1.75:1 (H:V) RSS	500	500	900	500	1400	1000
> 1.75:1 TO < 2:1 (H:V) RSS	500	500	600	500	1000	800

**MINIMUM REQUIRED PRIMARY GEOGRID  
LONG-TERM DESIGN STRENGTH (LTDS, LB/FT) IN MACHINE DIRECTION (MD)**  
(LTDS IS BASED ON 100% COVERAGE FOR PRIMARY GEOGRID.  
SEE NOTE 8 FOR LESS THAN 100% COVERAGE.)

**NOTES:**

- SEE EROSION CONTROL AND ROADWAY PLANS AND SUMMARY SHEETS FOR REINFORCED SOIL SLOPE (RSS) AND SLOPE EROSION CONTROL LOCATIONS.
- FOR STANDARD REINFORCED SOIL SLOPES, SEE REINFORCED SOIL SLOPES PROVISION, FOR STEEL BEAM GUARDRAIL, SEE SECTION 862 OF THE STANDARD SPECIFICATIONS.
- FOR SHOULDER AND SLOPE BORROW, SEE ARTICLE 1019-2 OF THE STANDARD SPECIFICATIONS. FOR GEOCELLS, SEE CELLULAR CONFINEMENT SYSTEMS PROVISION, FOR COIR FIBER MAT, MATTING FOR EROSION CONTROL AND COMPOST BLANKET, SEE EROSION CONTROL PROVISIONS, SECTION 1631 OF THE STANDARD SPECIFICATIONS AND ROADWAY STANDARD DRAWING NO. 1631.01.
- STANDARD RSS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:  
UNIT WEIGHT,  $\gamma = 120$  PCF  
FRICTION ANGLE,  $\phi = 30$  DEGREES  
COHESION,  $c = 0$  PSF
- DO NOT USE STANDARD RSS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR DEPTH TO GROUNDWATER IS LESS THAN 7 FT.
- DO NOT USE STANDARD RSS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW RSS.
- PRIMARY GEOGRIDS ARE APPROVED FOR LTDS FOR A 75-YEAR DESIGN LIFE IN THE MD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM: [connect.ncdot.gov/resources/Geological/Pages/Products.aspx](http://connect.ncdot.gov/resources/Geological/Pages/Products.aspx)  
DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SELECT MATERIAL AS FOLLOWS:

MATERIAL TYPE	SELECT MATERIAL
BORROW	CLASS I SELECT MATERIAL
FINE AGGREGATE	CLASS II OR III SELECT MATERIAL

- FOR PRIMARY GEOGRIDS WITH 100% COVERAGE, PLACE PRIMARY GEOGRIDS SO GEOGRIDS ARE ADJACENT TO EACH OTHER IN THE CD. FOR PRIMARY GEOGRIDS WITH 75% TO LESS THAN 100% COVERAGE,  

$$\text{MINIMUM REQUIRED PRIMARY GEOGRID LTDS} = \text{LTDS BASED ON 100\% COVERAGE} \times (W + S) / W$$
 SEE TABLE FOR LTDS BASED ON 100% COVERAGE AND GEOGRID PLACEMENT DETAILS FOR PRIMARY GEOGRID ROLL WIDTH (W) AND SPACING (S). FOR PRIMARY GEOGRIDS WITH LESS THAN 100% COVERAGE, STAGGER PRIMARY GEOGRIDS SO GEOGRIDS ARE CENTERED OVER GAPS IN THE PRIMARY GEOGRID LAYER BELOW. DO NOT USE LESS THAN 75% COVERAGE FOR PRIMARY GEOGRIDS.
- DO NOT PLACE ANY GEOGRIDS UNTIL EXCAVATION DIMENSIONS AND IN-SITU MATERIAL ARE APPROVED.
- FOR SLOPE EROSION CONTROL, USE GEOCELLS OR MATTING ON SLOPE FACES OF RSS AS FOLLOWS:

RSS ANGLE	SLOPE EROSION CONTROL
1:1 TO < 1.5:1 (H:V)	GEOCELLS WITH COMPOST BLANKET
1.5:1 TO < 2:1 (H:V)	GEOCELLS WITH COMPOST BLANKET OR COIR FIBER MAT WITH SHOULDER AND SLOPE BORROW*
2:1 (H:V) OR FLATTER	MATTING FOR EROSION CONTROL WITH SHOULDER AND SLOPE BORROW

\*SEE REINFORCED SOIL SLOPES AND SLOPE EROSION CONTROL SUMMARY TABLE IN THE ROADWAY SUMMARY SHEETS FOR SLOPE EROSION CONTROL ON SLOPE FACES OF RSS 1.5:1 (H:V) TO STEEPER THAN 2:1.

H (FT)	0 - < 12		12 - 24		> 24 - 36	
	I	II OR III	I	II OR III	I	II OR III
1:1 TO < 1.5:1 (H:V) RSS	1.10	1.00	0.90	0.85	0.85	0.80
1.5:1 TO 1.75:1 (H:V) RSS	0.90	0.80	0.75	0.70	0.75	0.70
> 1.75:1 TO < 2:1 (H:V) RSS	0.75	0.70	0.65	0.60	0.65	0.60

**PRIMARY GEOGRID LENGTH / RSS HEIGHT (L/H) RATIO (L > 6' MIN)**  
(IF  $L \leq 6'$ , USE SECONDARY GEOGRID INSTEAD OF PRIMARY GEOGRID.)



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**GEOTECHNICAL  
ENGINEERING UNIT**

STANDARD DETAIL NO. 1802.02

STANDARD  
REINFORCED SOIL SLOPE (RSS)  
WITH LOW GROUNDWATER  
SHEET 2 OF 2

DATE: 12-17-19

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

## SUMMARY OF EARTHWORK

IN CUBIC YARDS

ALIGNMENT	STATION	STATION	EXCAVATION		EMBANKMENT	BORROW	TOTAL WASTE
			TOTAL UNCLASS.	UNDERCUT			
-L-	11+04.26	23+70.00	15,877		9,994		5,884
-Y2-	10+16.28	10+83.50			122	122	
-Y2-	11+16.50	15+30.00	2,412		186		2,226
-Y3-	11+00.00	12+89.77	997		5		992
		<b>SUBTOTAL</b>	19,286		10,306	121	9,102
-L-	23+70.00	25+34.40	145		55		90
-SIDEPATH-	25+44.51	26+65.00	4		93	89	
-Y4-	9+28.00	13+20.35	54		635	581	
		<b>SUBTOTAL</b>	203		783	669	90
-Y3_DET-	10+24.72	12+72.16	1,227		7		1,220
-Y3_DET-	13+01.00	13+47.10	210				210
		<b>SUBTOTAL</b>	1,437		6		1,430
<b>TOTAL</b>			20,926		11,095	790	10,622
LOSS DUE TO CLEARING & GRUBBING			-1,300				-1,300
BACKFILL -Y3_DET-					1,653	1,653	
WASTE IN LIEU OF BORROW						-2,443	-2,443
<b>PROJECT TOTAL</b>			19,626		12,748		6,879
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT							
<b>GRAND TOTAL</b>			19,626		12,748		6,879
<b>SAY</b>			<b>19,700</b>				

NOTES: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGNER. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.  
 QUANTITIES ARE APPROXIMATE ONLY. THE RESIDENT ENGINEER WILL USE METHODS INCLUDING BUT NOT LIMITED TO RE-CROSS-SECTIONING, TRUCK MEASUREMENTS, AND AERIAL SURVEYS TO COMPUTE FINAL QUANTITIES WHICH THE CONTRACTOR WILL BE PAID.

TOTAL EST DDE = 430 CY  
 TOTAL EST SHALLOW UNDERCUT = 100 CY  
 CLASS IV SUBGRADE STABILIZATION = 200 TN  
 GEOTEXTILE FOR SOIL STABILIZATION = 400 SY  
 GEOTEXTILE FOR SUBGRADE STABILIZATION = 200 SY  
 SELECT GRANULAR MATERIAL FOR EMBANKMENT/BACKFILL = 400 CY  
 PER GEOTECH RECOMMENDATION, ESTIMATED 750 CUBIC YARDS OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER.

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COMPUTED BY: Hunsberger, W. S. DATE: 03/24/23  
 CHECKED BY: Crockett, S. C. DATE: 03/24/23

(2-3-23)

**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
				<b>TOTAL LF:</b>	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
CONTINGENCY			ASU(1)	12	100	200	200		
					<b>TOTAL CY/TONS/SY:</b>	100	200**	200**	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.

**SUMMARY OF REINFORCED SOIL SLOPES AND SLOPE EROSION CONTROL**

LINE	Beginning Slope/ RSS (H:V)	Approx. Station	Ending Slope/ RSS (H:V)	Approx. Station	Location LT/RT	Reinforced Soil Slope (RSS) SY	Geocells SY	Coir Fiber Mat SY	Matting for Erosion Control SY
						<b>TOTAL SY:</b>	250	250	0*

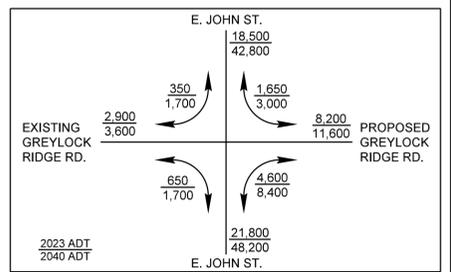
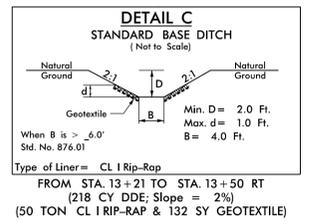
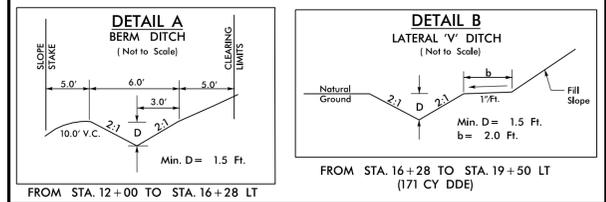
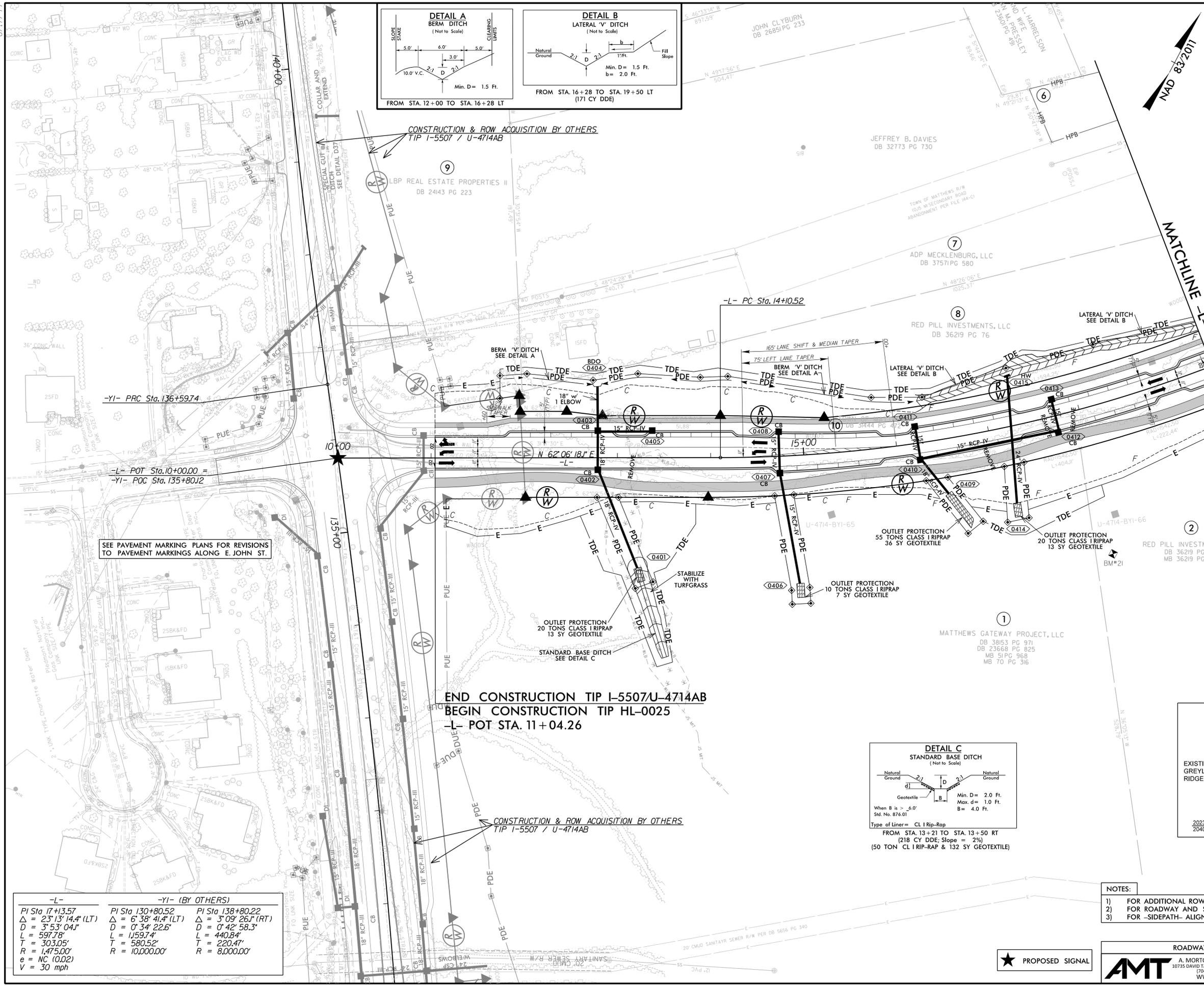
\*Total square yards of "Coir Fiber Mat" is only the estimated quantity for slopes steeper than 2:1 (H:V) and may only represent a portion of the coir fiber mat quantity shown in the Item Sheets of the Proposal.  
 \*\*Total square yards of "Matting for Erosion Control" is only the estimated quantity for RSS and may only represent a portion of the matting quantity shown in the Item Sheets of the Proposal.

8/17/99  
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# PARCEL INDEX TABLE

PARCEL NO.	SHEET NO.	PROPERTY OWNER NAME
1	4 & 5	MATTHEWS GATEWAY PROJECT, LLC
2	4 & 5	RED PILL INVESTMENTS, LLC
3	5	WANDA BOULWARE
4	5	CRESTDALE CROSSING HOMEOWNERS ASSOCIATION , INC.
5	5	JOHN CLYBURN
6	5	TRUSTEES OF MASONIC LODGE NO. 566
7	4 & 5	ADP MECKLENBURG, LLC
8	4 & 5	RED PILL INVESTMENTS, LLC
9	4	LBP REAL ESTATE PROPERTIES II
10	4 & 5	TOWN OF MATTHEWS
11	5	TOWN OF MATTHEWS

PROJECT REFERENCE NO. <i>HL-0025</i>		SHEET NO. <i>4</i>	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Signed by: <i>Steve Eamus</i> 1/6/2026		Signed by: <i>B. Gregory Adams</i> 1/1/2026	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			



-L-		-YI- (BY OTHERS)	
PI Sta 17+13.57	PI Sta 130+80.52	PI Sta 138+80.22	
$\Delta = 23' 13" 14.4" (LT)$	$\Delta = 6' 38" 41.4" (LT)$	$\Delta = 3' 09" 26.1" (RT)$	
$D = 3' 53" 04.1"$	$D = 0' 34" 22.6"$	$D = 0' 42" 58.3"$	
$L = 597.78'$	$L = 1159.74'$	$L = 440.84'$	
$T = 303.05'$	$T = 580.52'$	$T = 220.47'$	
$R = 1,475.00'$	$R = 10,000.00'$	$R = 8,000.00'$	
$e = NC (0.02)$			
$V = 30 \text{ mph}$			

**END CONSTRUCTION TIP I-5507/U-4714AB**  
**BEGIN CONSTRUCTION TIP HL-0025**  
**-L- POT STA. 11+04.26**

- NOTES:
- 1) FOR ADDITIONAL ROW & EASEMENT INFORMATION SEE SHEET 4A.
  - 2) FOR ROADWAY AND SIDEWALK PROFILES SEE SHEETS 6 THRU 8.
  - 3) FOR -SIDEWALK- ALIGNMENT DETAIL SEE SHEETS 2B-1 & 2B-2.



ROADWAY DESIGN

A. MORTON THOMAS AND ASSOCIATES, INC.  
 10735 DAVID TAYLOR DRIVE, SUITE 310 • CHARLOTTE, NC 28262  
 (704) 595-9975 • NC LICENSE NO. F-1049  
 WWW.AMTEngineering.COM

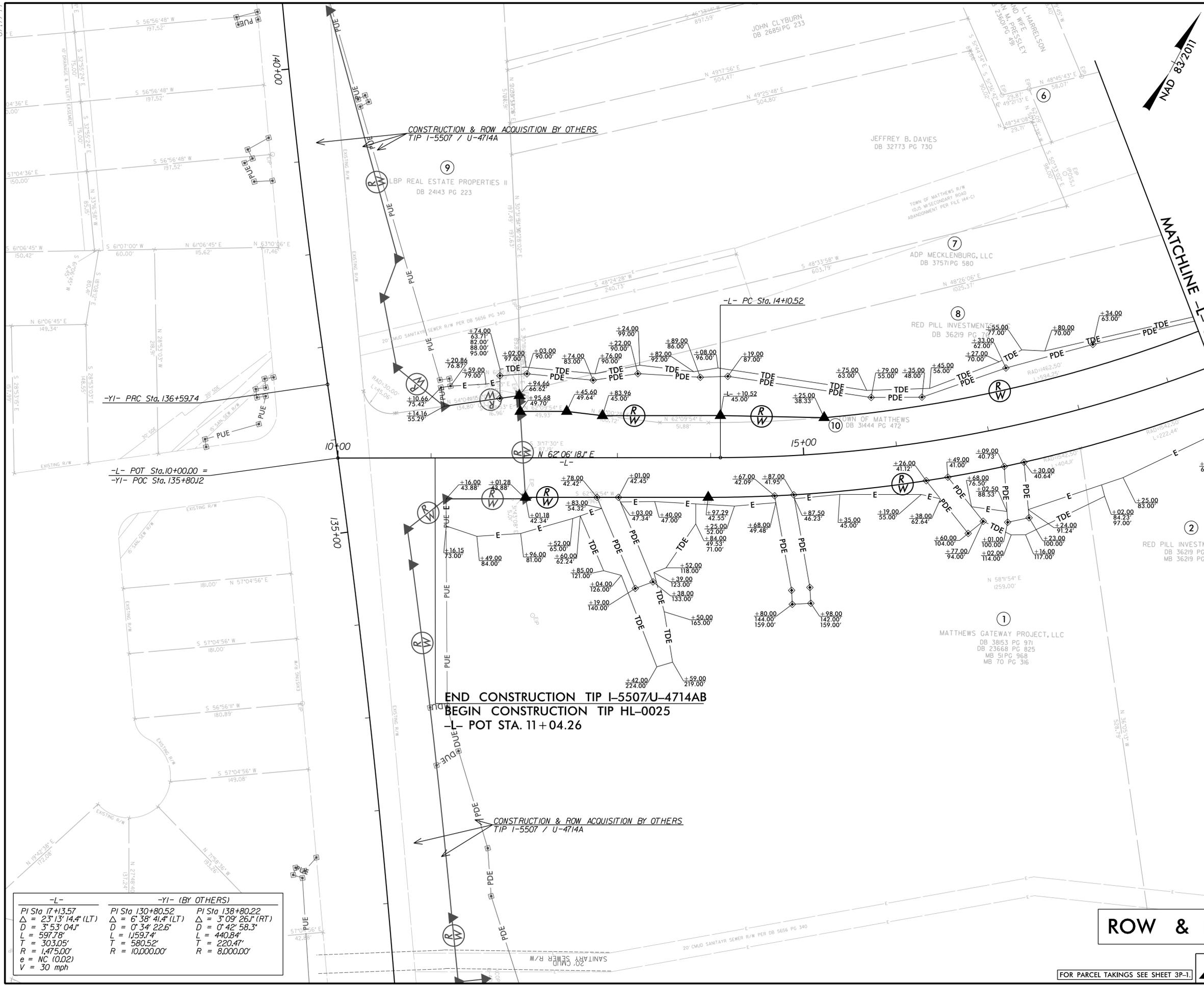
HYDRAULIC DESIGN

5400 TRINITY ROAD  
 SUITE 302  
 RALEIGH, NC 27607  
 919.223.8965 NC LIC. NO. F-1285

PROJECT REFERENCE NO. <i>HL-0025</i>	SHEET NO. <i>4A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
Signed by: <i>Steve Kamin</i> 12/17/2025	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



MATCHLINE - L- STA 19 + 50 SEE SHEET 3A



-L-	-YI- (BY OTHERS)	
PI Sta 17+3.57	PI Sta 130+80.52	PI Sta 138+80.22
$\Delta = 23^{\circ}13'14.4''$ (LT)	$\Delta = 6^{\circ}38'41.4''$ (LT)	$\Delta = 3^{\circ}09'26.1''$ (RT)
$D = 3^{\circ}53'04.1''$	$D = 0^{\circ}34'22.6''$	$D = 0^{\circ}42'58.3''$
$L = 597.78'$	$L = 1159.74'$	$L = 440.84'$
$T = 303.05'$	$T = 580.52'$	$T = 220.47'$
$R = 1,475.00'$	$R = 10,000.00'$	$R = 8,000.00'$
$e = NC$ (0.02)		
$V = 30$ mph		

# ROW & EASEMENT LABELS

FOR PARCEL TAKINGS SEE SHEET 3P-1

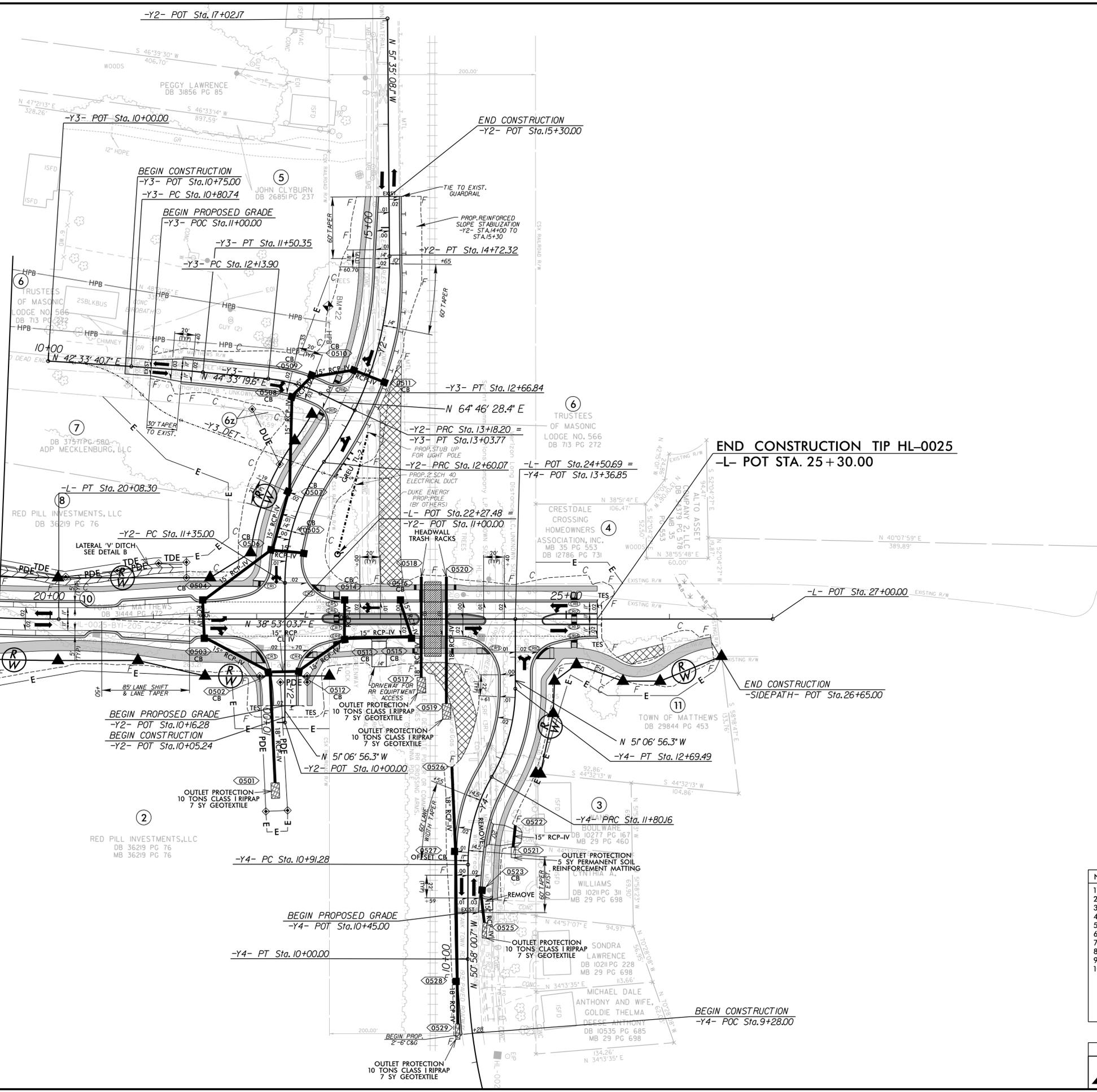
A. MORTON THOMAS AND ASSOCIATES, INC.  
10735 DAVID TAYLOR DRIVE, SUITE 310 • CHARLOTTE, NC 28262  
(704) 595-9975 • NC LICENSE NO. F-1049  
WWW.AMTENGINEERING.COM

8.17.2026

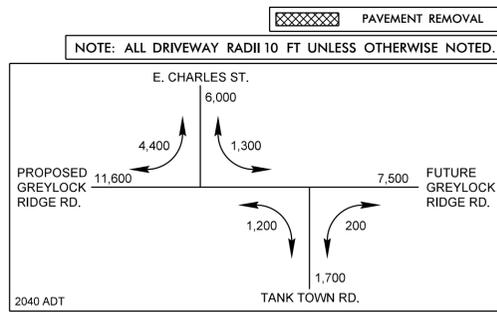
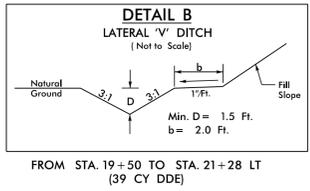
PROJECT REFERENCE NO. HL-0025		SHEET NO. 5	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Signed by: Steve Eavis 1/6/2026		Signed by: Gregory Adkins 1/6/2026	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			



MATCHLINE -L- STA. 19 + 50 SEE SHEET 4



-L-	-Y2-	-Y4-	-Y3-
PI Sta 17+13.57 $\Delta = 23' 13" 14.4" (LT)$ $D = 3' 53" 04.1"$ $L = 597.78'$ $T = 303.05'$ $R = 1,475.00'$ $e = NC (0.02)$ $V = 30 \text{ mph}$	PI Sta 11+99.66 $\Delta = 35' 49" 51.8" (RT)$ $D = 28' 38" 52.4"$ $L = 125.07'$ $T = 64.66'$ $R = 200.00'$ $e = NC (0.02)$ $V = 25 \text{ mph}$	PI Sta 13+69.90 $\Delta = 36' 18" 03.6" (LT)$ $D = 17' 06" 11.6"$ $L = 212.25'$ $T = 109.82'$ $R = 335.00'$ $e = NC (0.02)$ $V = 30 \text{ mph}$	PI Sta 12+25.88 $\Delta = 30' 06" 20.6" (LT)$ $D = 33' 42" 12.2"$ $L = 89.33'$ $T = 45.72'$ $R = 170.00'$ $e = NC (0.02)$ $V = 25 \text{ mph}$
PI Sta 9+25.47 $\Delta = 15' 37" 34.0" (RT)$ $D = 10' 25" 02.7"$ $L = 150.00'$ $T = 75.47'$ $R = 550.00'$	PI Sta 11+36.76 $\Delta = 29' 57" 25.0" (RT)$ $D = 33' 42" 12.2"$ $L = 88.88'$ $T = 45.48'$ $R = 170.00'$ $e = NC (0.02)$ $V = 25 \text{ mph}$	PI Sta 12+40.65 $\Delta = 20' 13" 08.7" (RT)$ $D = 38' 11" 49.9"$ $L = 52.93'$ $T = 26.74'$ $R = 150.00'$ $e = RC (0.02)$ $V = 20 \text{ mph}$	PI Sta 11+15.54 $\Delta = 1' 59" 38.9" (RT)$ $D = 2' 51" 53.2"$ $L = 69.61'$ $T = 34.81'$ $R = 2,000.00'$

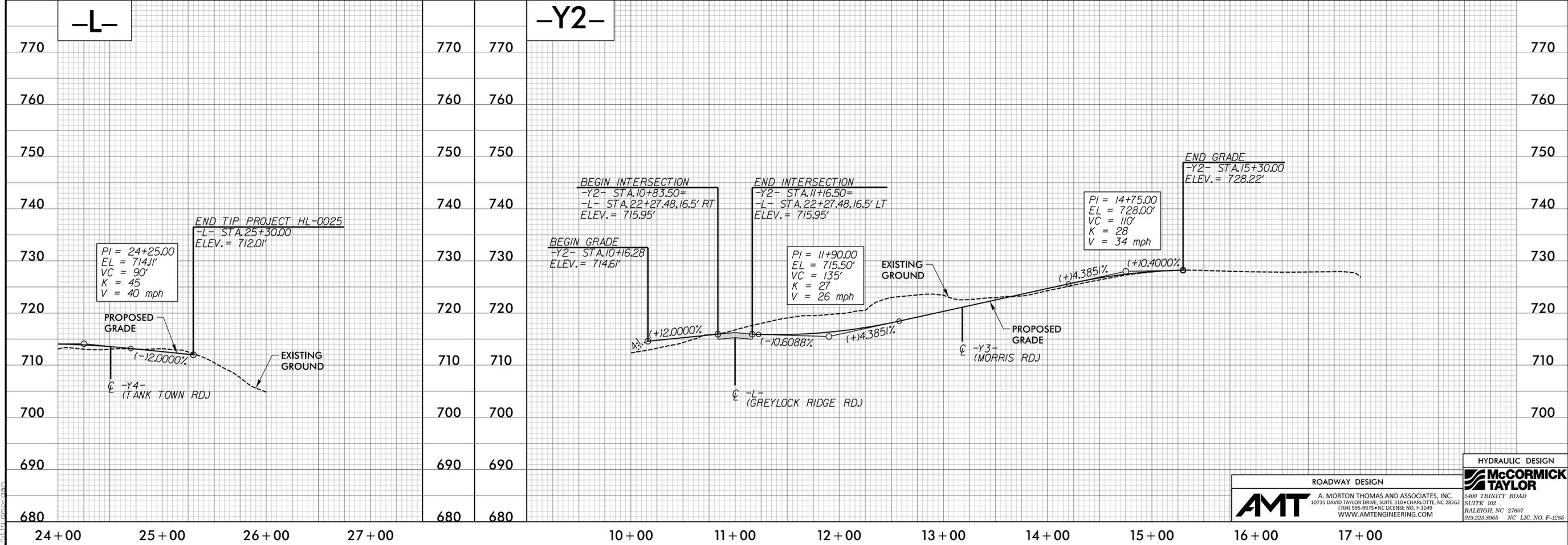
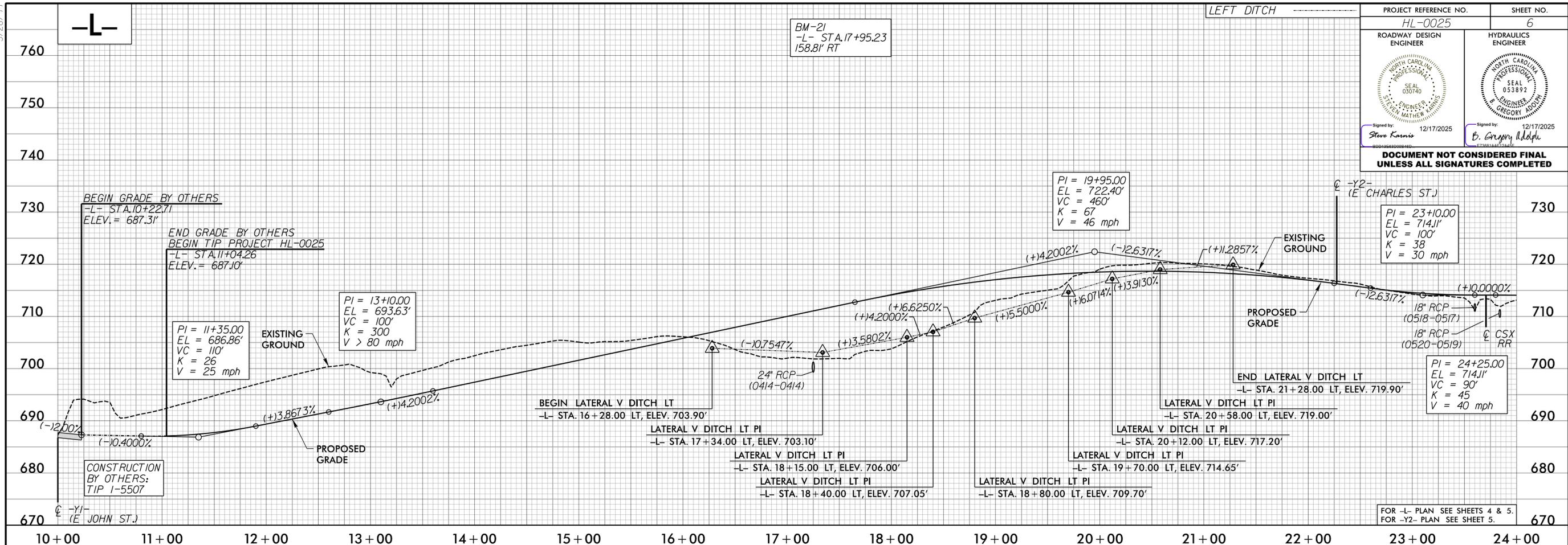


- NOTES:
- 1) FOR ADDITIONAL ROW & EASEMENT INFORMATION SEE SHEET 5A.
  - 2) FOR ROADWAY AND SIDEPTH PROFILES SEE SHEETS 6 THRU 8.
  - 3) FOR -SIDEPTH- ALIGNMENT DETAIL SEE SHEETS 2B-1 & 2B-2.
  - 4) FOR -Y3 DET- SEE SHEET 2B-3.
  - 5) FOR INTERSECTION DETAILS SEE SHEET 2B-4.
  - 6) FOR -L- MEDIAN DETAILS SEE SHEET 2B-4.
  - 7) FOR HEADWALL TRACK RACK DETAIL SEE SHEET 2B-12.
  - 8) FOR RAILROAD CROSSING DETAIL SEE SHEET 2B-14 & 2B-15.
  - 9) FOR CONDUIT DETAIL SEE SHEET 2B-11.
  - 10) TOP OF RAIL ELEVATIONS SHALL BE CHECKED AND VERIFIED TO MATCH PLAN SET BEFORE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF CSX. FIELD VERIFY TOP OF RAIL ELEVATIONS POST NEW CROSSING PANEL INSTALLATION. CONTRACTOR TO FIELD ADJUST PROFILE AT DIRECTION OF ENGINEER AT TIE-INS TO THE NEW CROSSING SURFACE PANEL AS THE ELEVATION MAY CHANGE.

	ROADWAY DESIGN	HYDRAULIC DESIGN
A. MORTON THOMAS AND ASSOCIATES, INC. 10735 DAVID TAYLOR DRIVE, SUITE 310 • CHARLOTTE, NC 28262 (704) 595-9975 • NC LICENSE NO. F-1049 WWW.AMTENGINEERING.COM		5400 TRINITY ROAD SUITE 302 RALEIGH, NC 27607 919.223.8965 NC LIC. NO. F-1285



5/28/99



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**HYDRAULIC DESIGN**

**McCormick Taylor**

**AMT** A. MORTON THOMAS AND ASSOCIATES, INC.  
10735 DAVID TAYLOR DRIVE, SUITE 310 • CHARLOTTE, NC 28262  
TEL: 704.585.9974 • FAX: 704.585.9975 • WWW.AMTENGINEERING.COM

5400 TRINITY ROAD  
SUITE 102  
RALEIGH, NC 27607  
919.223.8965 NC LIC. NO. P-1285



5/28/24

# -SIDEPATH-

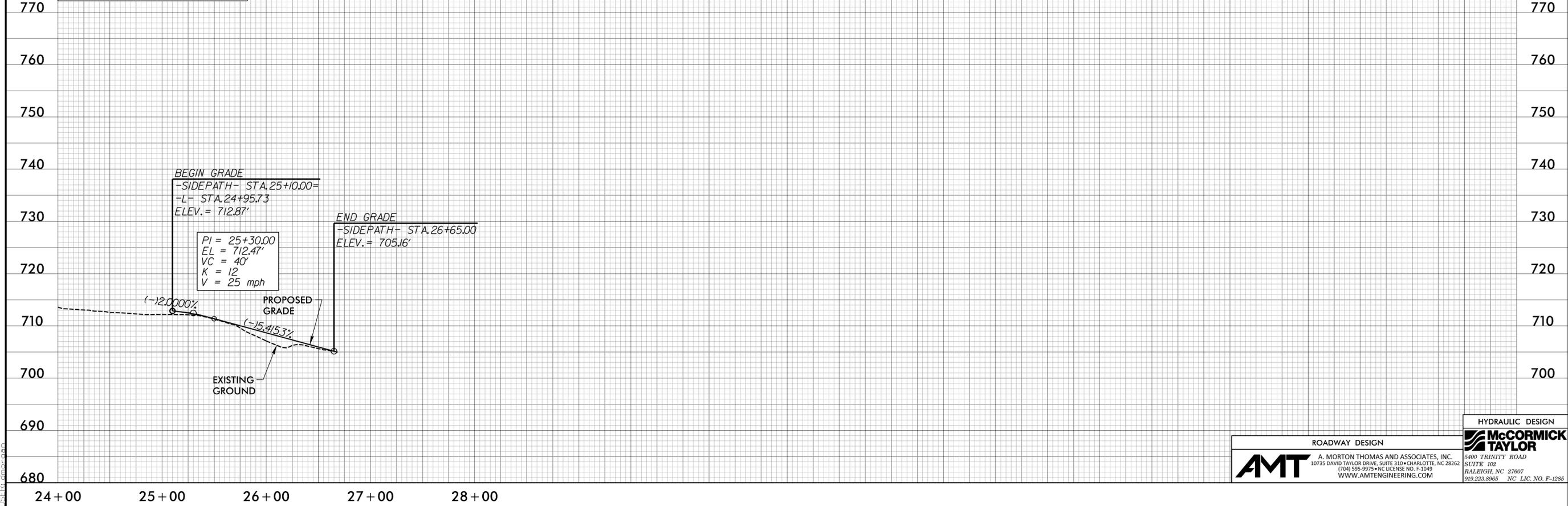
FOR -SIDEPATH- PLAN SEE SHEETS 4 & 5.  
FOR -SIDEPATH- ALIGNMENT SEE SHEETS 2B-1 & 2B-2.  
-SIDEPATH- PROFILE TO FOLLOW -L- PROFILE AND TYPICAL SECTIONS.

PROJECT REFERENCE NO. <i>HL-0025</i>	SHEET NO. <i>8</i>
ROADWAY DESIGN ENGINEER <i>Steve Karris</i> 12/17/2025	HYDRAULICS ENGINEER <i>B. Gregory Adolph</i> 12/17/2025
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



# -SIDEPATH-

FOR -SIDEPATH- PLAN SEE SHEETS 4 & 5.  
FOR -SIDEPATH- ALIGNMENT SEE SHEETS 2B-1 & 2B-2.  
-SIDEPATH- PROFILE TO FOLLOW -L- PROFILE AND TYPICAL SECTIONS.



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<b>AMT</b>	ROADWAY DESIGN	HYDRAULIC DESIGN
	<b>McCORMICK TAYLOR</b> A. MORTON THOMAS AND ASSOCIATES, INC. <small>10735 DAVID TAYLOR DRIVE, SUITE 310 • CHARLOTTE, NC 28262          (704) 585-9974 • NC LICENSE NO. F-1049          WWW.AMTEngineering.COM</small>	

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