

09/08/19

TIP PROJECT: HB-0035

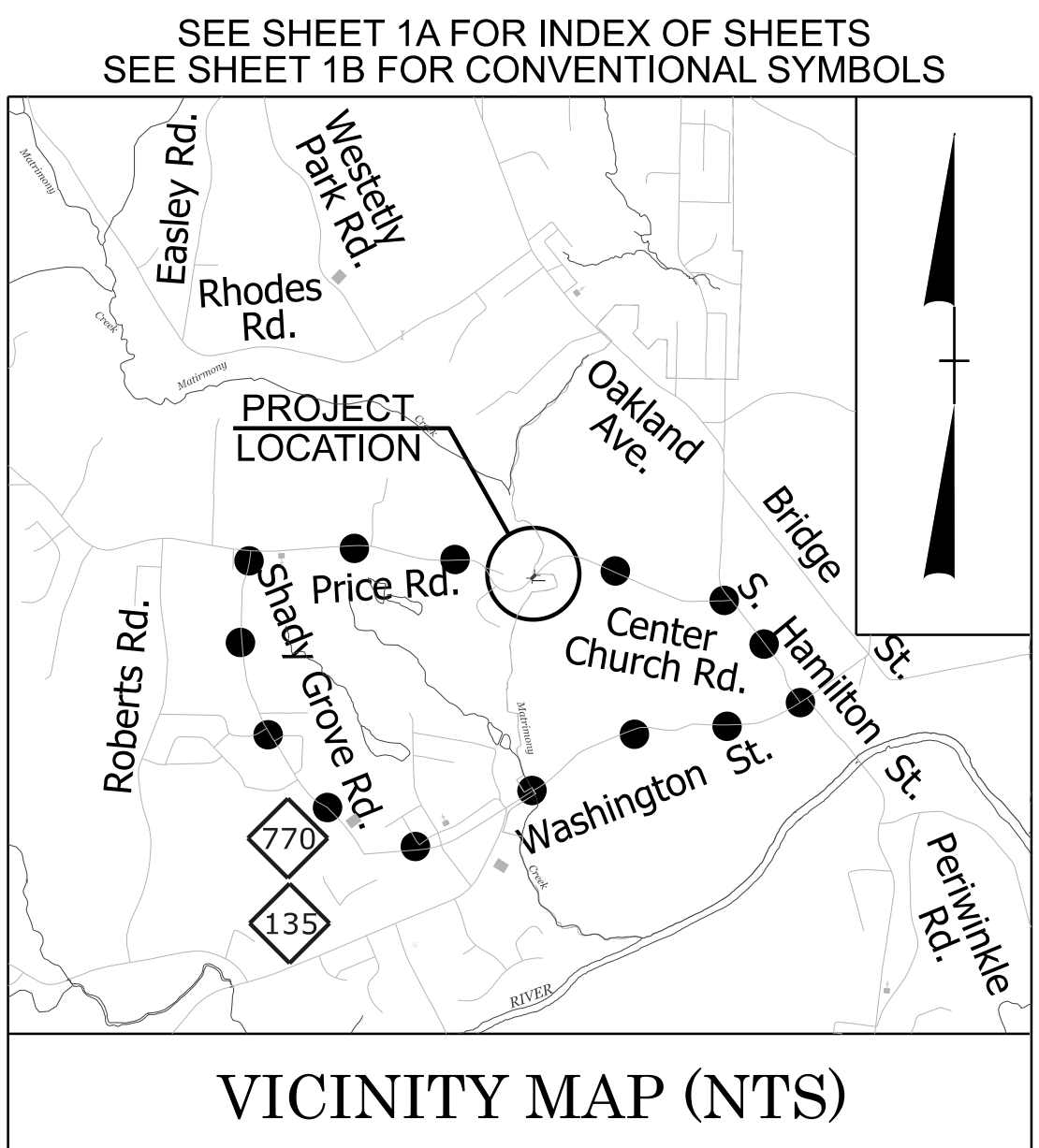
CONTRACT: C205194

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HB-0035	1	X
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
50639.1.1	N/A	PE	
50639.2.1	5063901	R/W	
50639.2.2	5063901	UTIL.	
50639.3.1	5063901	CON.	

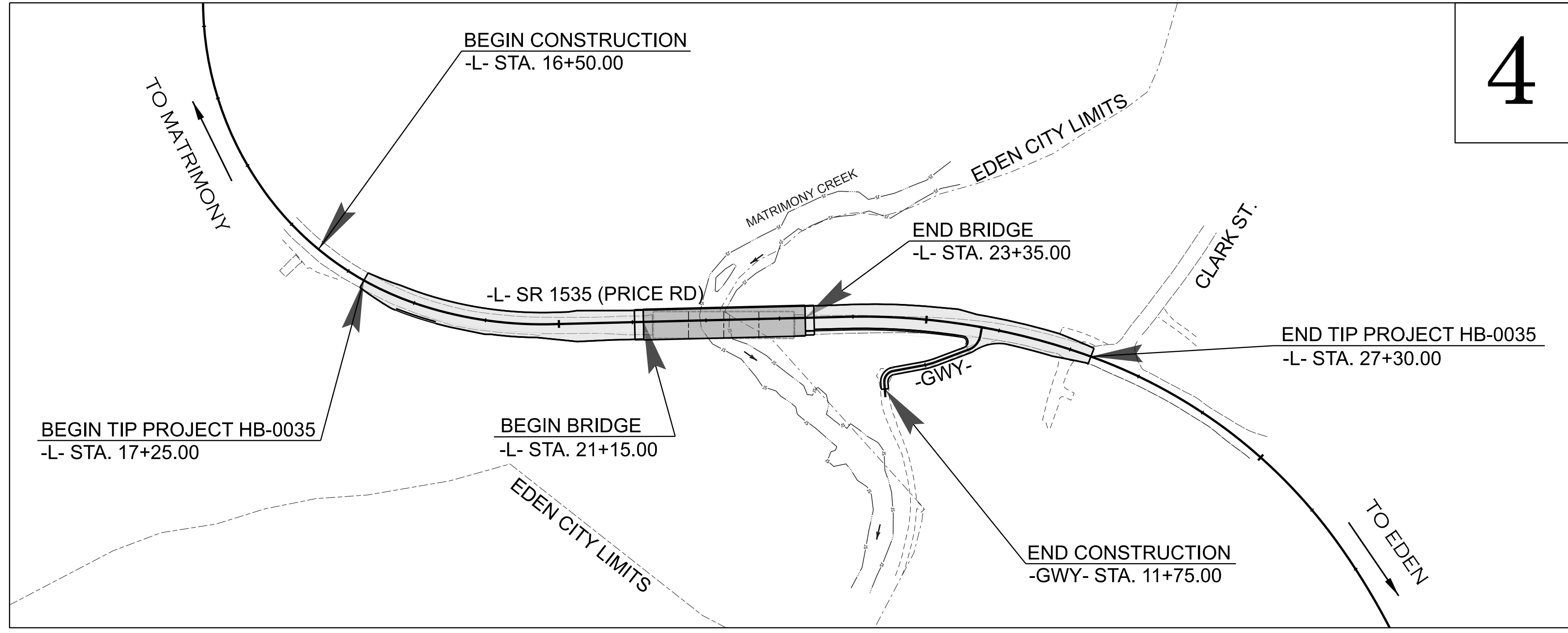
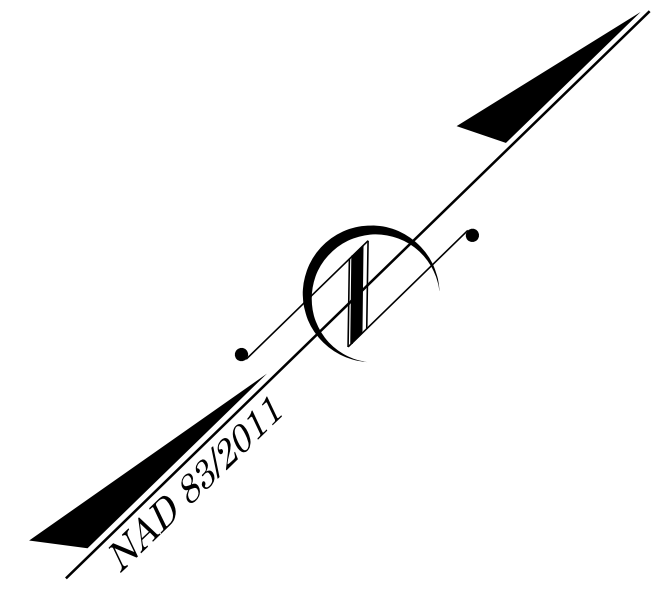
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY

LOCATION: *REPLACE BRIDGE #780177 OVER MATRIMONY CREEK
ON SR 1535 (PRICE ROAD).*
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, & STRUCTURE*

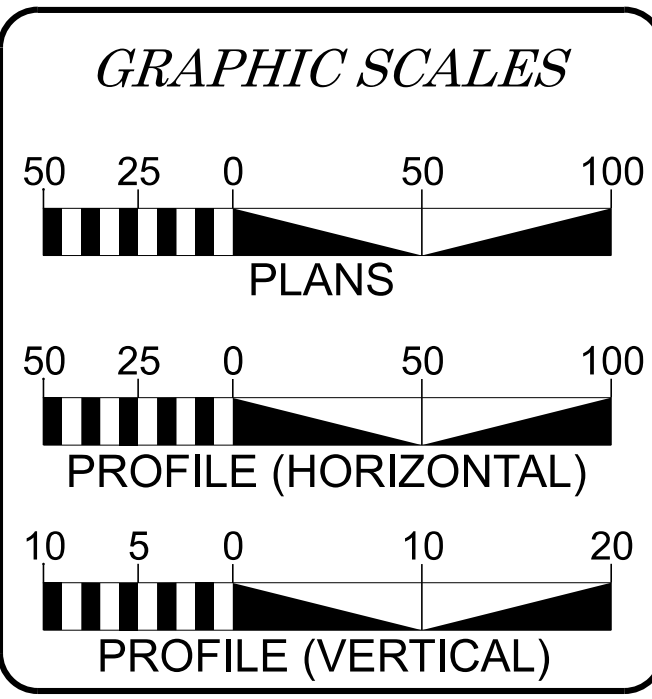


● OFFSITE DETOUR ROUTE



THIS IS NOT A CONTROLLED ACCESS PROJECT.
THIS PROJECT IS WITHIN THE JURISDICTIONAL LIMITS OF THE CITY OF EDEN.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA
ADT 2026 = 2440
ADT 2046 = 2820
V = 40 MPH
FUNC CLASS = MINOR COLLECTOR
SUBREGIONAL TIER

PROJECT LENGTH
LENGTH ROADWAY TIP PROJECT HB-0035 = 0.148 MILES
LENGTH STRUCTURE TIP PROJECT HB-0035 = 0.042 MILES
TOTAL LENGTH TIP PROJECT HB-0035 = 0.190 MILES

NCDOT CONTACT: EMILY FERREIRA, PE
PROJECT MANAGER - NCDOT PMU

PREPARED IN THE OFFICE OF:
SUMMIT
DESIGN AND ENGINEERING SERVICES
2024 STANDARD SPECIFICATIONS
FIRM NO. C-3176

1000 Social St. Suite 800.
Raleigh, NC 27609
Voice: (919) 732-3883
Fax: (919) 732-6776
www.summitde.net

RIGHT OF WAY DATE:
JANUARY 24, 2025

LETTING DATE:
JULY 21, 2026

FAITH JAHNKE, PE
PROJECT ENGINEER

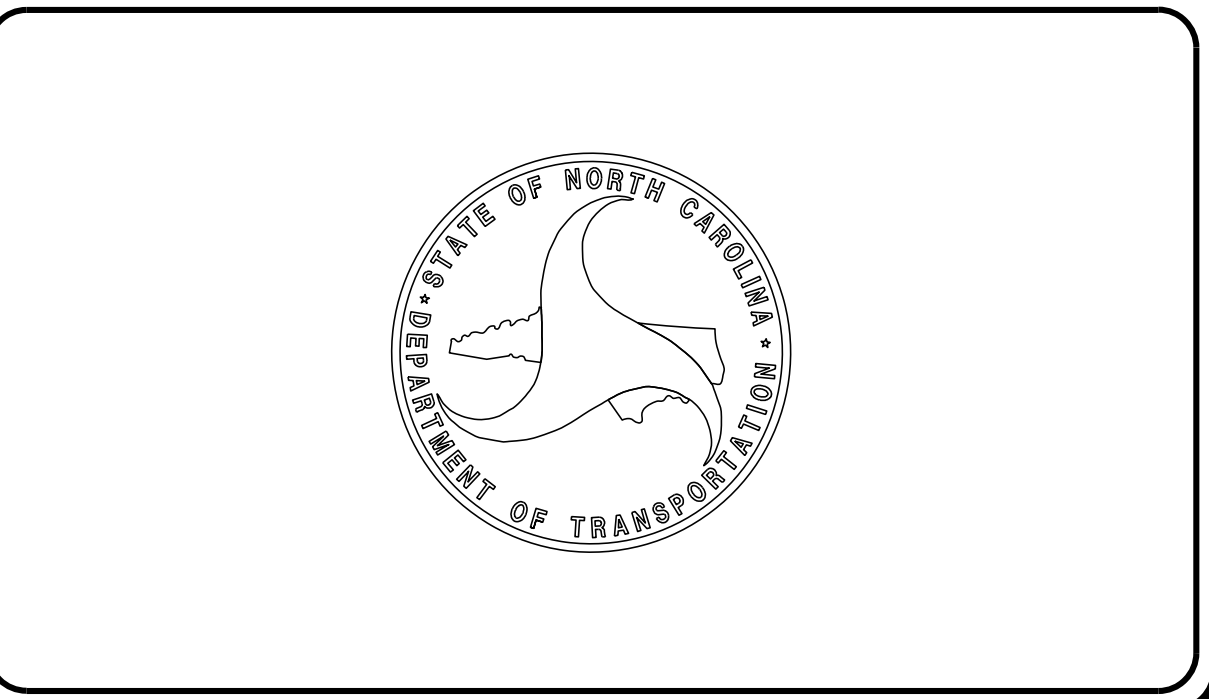
JOSHUA JERNIGAN, PE
PROJECT DESIGNER

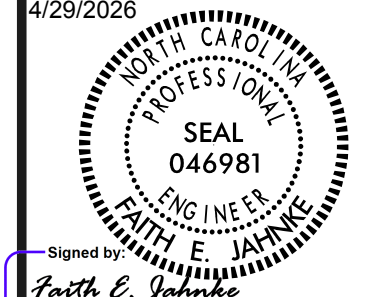
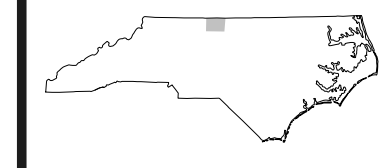
HYDRAULICS ENGINEER

DocuSigned by:
Patrick Hestnett
4/30/2026 P.E.

ROADWAY DESIGN ENGINEER

Signed by:
Faith E. Jahnke
4/29/2026 P.E.





Signed by: *Faith E. Jahnke*

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:



NC FIRM LICENSE No: C-5176
1000 Social St, Suite 800,
Raleigh, NC 27609
(919) 732-5883
(919) 732-6676 (FAX)

GENERAL NOTES: 2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

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.

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 DAN RIVER WATER, CITY OF EDEN, DUKE, AND BRIGHTSPEED.

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.

ROCK

ROCK IS ANTICIPATED BETWEEN L 18+25 to 19+25 LT. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

INDEX OF SHEETS

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:

SHEET NUMBER	SHEET	STD.NO.	TITLE
1	TITLE SHEET		
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS		
1B	CONVENTIONAL SYMBOLS		
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS	200.02	Method of Clearing - Method II
2B-1	ROADWAY DETAIL	225.02	Guide for Grading Subgrade - Secondary and Local
2C-1 THRU 2C-7	SPECIAL DETAILS	225.04	Method of Obtaining Superelevation - Two Lane Pavement
3B-1	ROADWAY SUMMARIES		DIVISION 3 - PIPE CULVERTS
3D-1	DRAINAGE SUMMARIES	300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
3G-1	GEOTECHNICAL SUMMARIES	310.10	Driveway Pipe Construction
4 THRU 5	PLAN AND PROFILE SHEET		DIVISION 4 - MAJOR STRUCTURES
TMP-1 THRU TMP- 3	TRAFFIC MANAGEMENT PLANS	423.02	Bridge Approach Fills - Type 1A Alternate Approach Fill for Integral Bridge Abutment
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS		DIVISION 5 - SUBGRADE, BASES AND SHOULDERS
EC-1 THRU EC-5	EROSION CONTROL PLANS	560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
SIGN-1 THRU SIGN-3	SIGNING PLANS		DIVISION 6 - ASPHALT BASES AND PAVEMENTS
UC-1 THRU UC-5	UTILITIES CONSTRUCTION PLANS	654.01	Pavement Repairs
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS		DIVISION 8 - INCIDENTALS
X-1	CROSS-SECTION SUMMARY SHEET	815.02	Subsurface Drain
X-2 THRU X-15	CROSS-SECTIONS	840.00	Concrete Base Pad for Drainage Structures
S-1 THRU S-36	STRUCTURE PLANS	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
		840.29	Frames and Narrow Slot Flat Grates
		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
		846.01	Concrete Curb, Gutter and Curb & Gutter
		848.01	Concrete Sidewalk (Use Detail in Lieu of Standard for Sheet 1 of 1)
		848.06	Curb Ramp (Use Details in Lieu of Standards for Sheets 9 and 10 of 13)
		862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 11, 12, and 14 of 15)
		862.02	Guardrail Installation
		862.03	Structure Anchor Units (Use Detail in Lieu of Standard for Sheet 8 of 9)
		867.02	Steel Bollards
		876.02	Guide for Rip Rap at Pipe Outlets
		876.04	Drainage Ditches with Class 'B' Rip Rap

Note: Not to Scale

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

HB-0035
RDY | IB

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	○ EIP
Computed Property Corner	×
Existing Concrete Monument (ECM)	◻ ECM
Parcel / Sequence Number	⑫
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	○ S
Well	○ W
Small Mine	✕
Foundation	▭
Area Outline	▭
Cemetery	▭ +
Building	▭
School	▭
Church	▭
Dam	▭

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	Z
Disappearing Stream	→
Spring	W
Wetland	⌵
Proposed Lateral, Tail, Head Ditch	← FLOW
False Sump	◊

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	◻
Primary Horiz and Vert Control Point	◆
Secondary Horiz and Vert Control Point	◆
Vertical Benchmark	⊠
Existing Right of Way Monument	△
Proposed Right of Way Monument (Rebar and Cap)	▲
Proposed Right of Way Monument (Concrete)	▲
Existing Permanent Easement Monument	◇
Proposed Permanent Easement Monument (Rebar and Cap)	◇
Existing C/A Monument	△
Proposed C/A Monument (Rebar and Cap)	▲
Proposed C/A Monument (Concrete)	▲
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
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	-C-
Proposed Slope Stakes Fill	-F-
Proposed Curb Ramp	CR
Existing Metal Guardrail	T T T T
Proposed Guardrail	T T T T
Existing Cable Guiderail	▭ ▭ ▭
Proposed Cable Guiderail	▭ ▭ ▭
Equality Symbol	⊕
Pavement Removal	⊠

VEGETATION:

Single Tree	☼
Single Shrub	☼

Hedge	-----
Woods Line	-----
Orchard	☼ ☼ ☼ ☼
Vineyard	▭ Vineyard

EXISTING STRUCTURES:

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

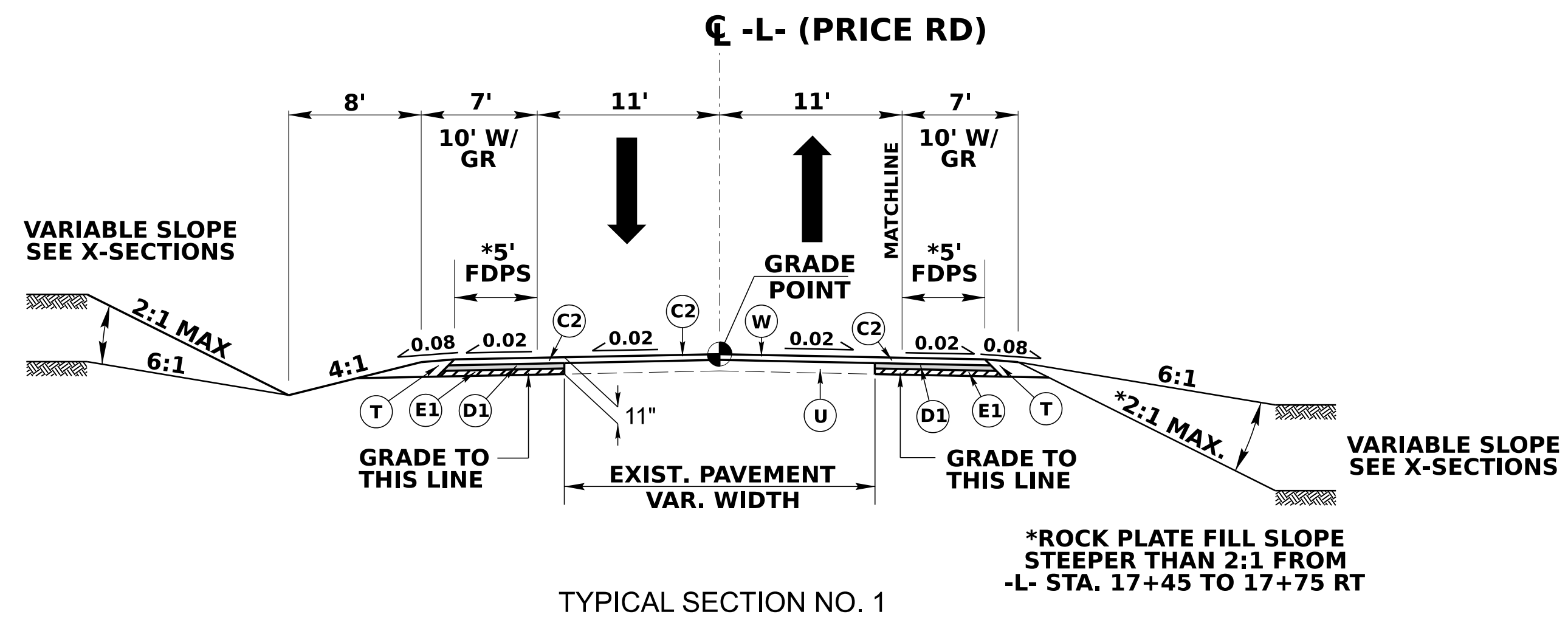
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Force Main Line Test Hole (SUE - LOS A)*	⊕
SS Force Main Line (SUE - LOS B)*	-----
SS Force Main Line (SUE - LOS C)*	-----
SS Force Main Line (SUE - LOS D)*	-----

MISCELLANEOUS:

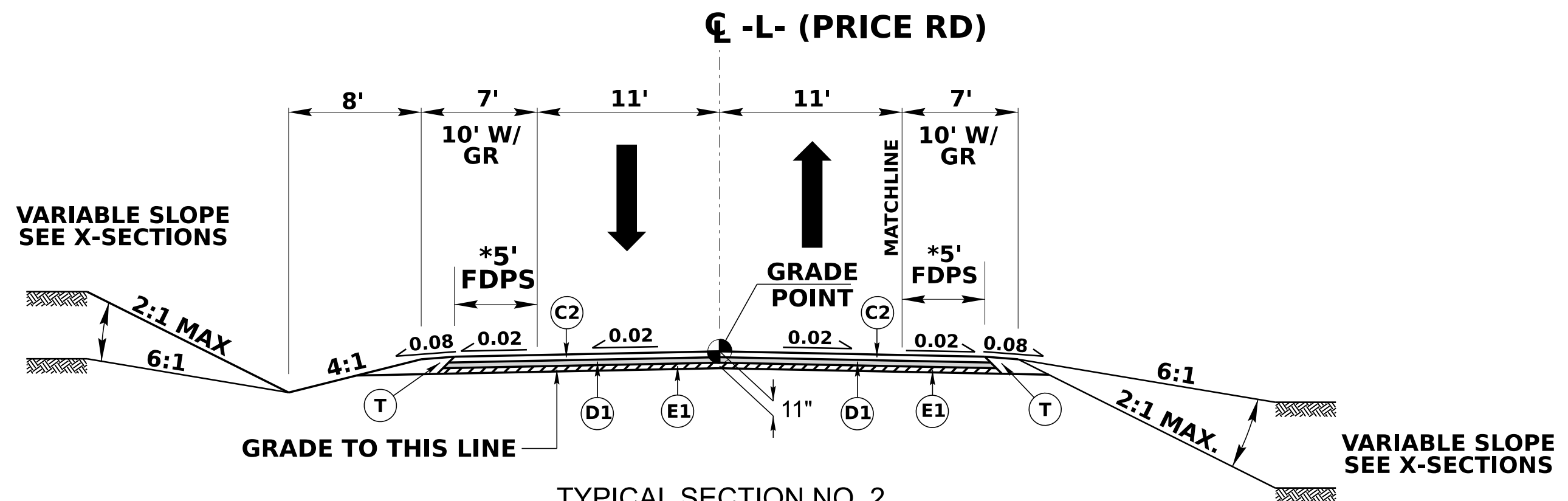
Utility Pole	●
Utility Pole with Base	⊕
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line (SUE - LOS B)*	-----
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⊕
Abandoned According to Utility Records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

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
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.
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.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
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" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
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 GREATER THAN 5½" IN DEPTH OR LESS THAN 3" IN DEPTH.
J1	PROP 6" AGGREGATE BASE COURSE
K1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SUBGRADE STABILIZATION
R1	SHOULDER BERM GUTTER
R2	2'-6" CURB AND GUTTER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING (VARIABLE DEPTH 0"-3").
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON THIS SHEET)

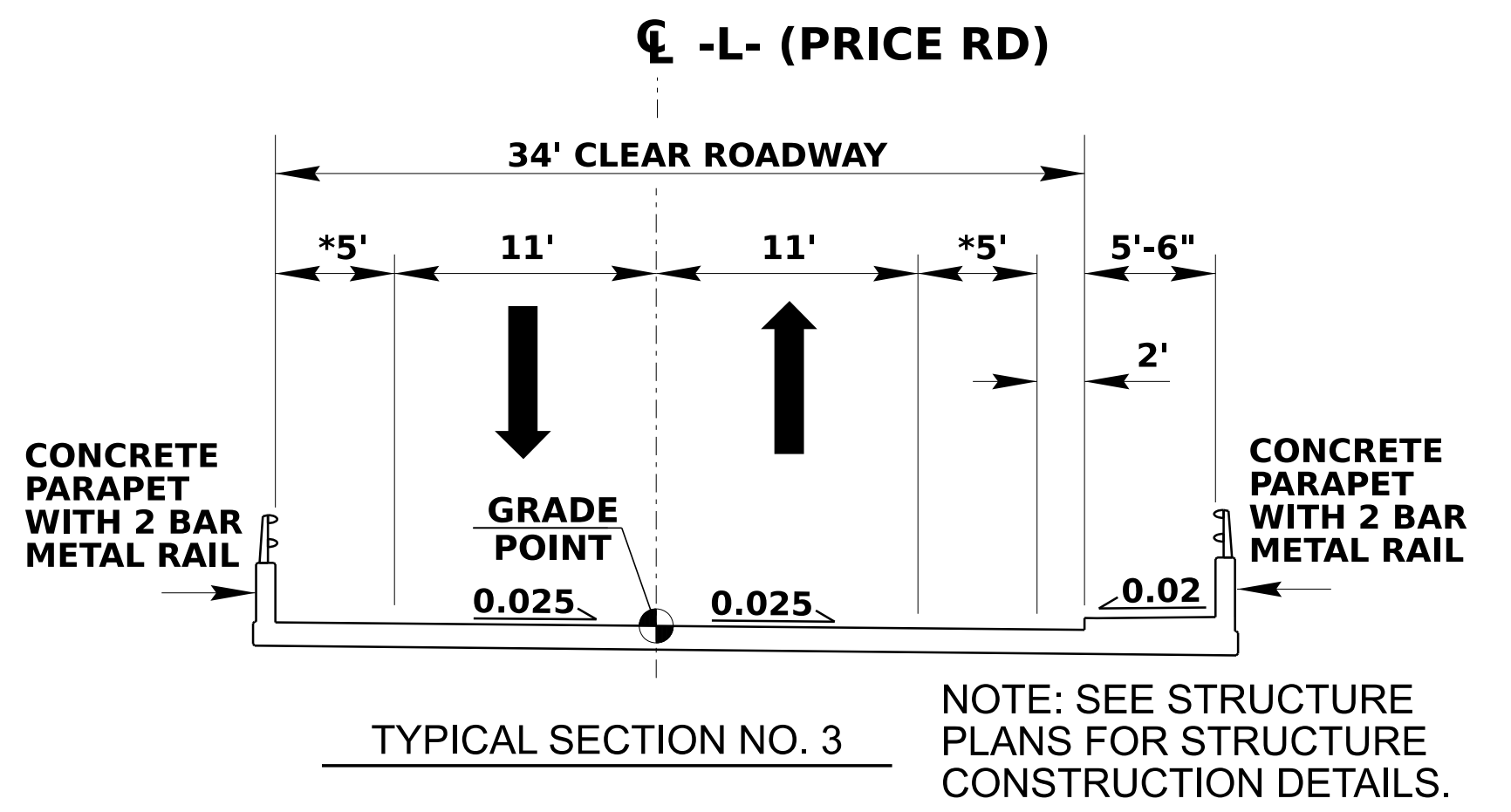
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



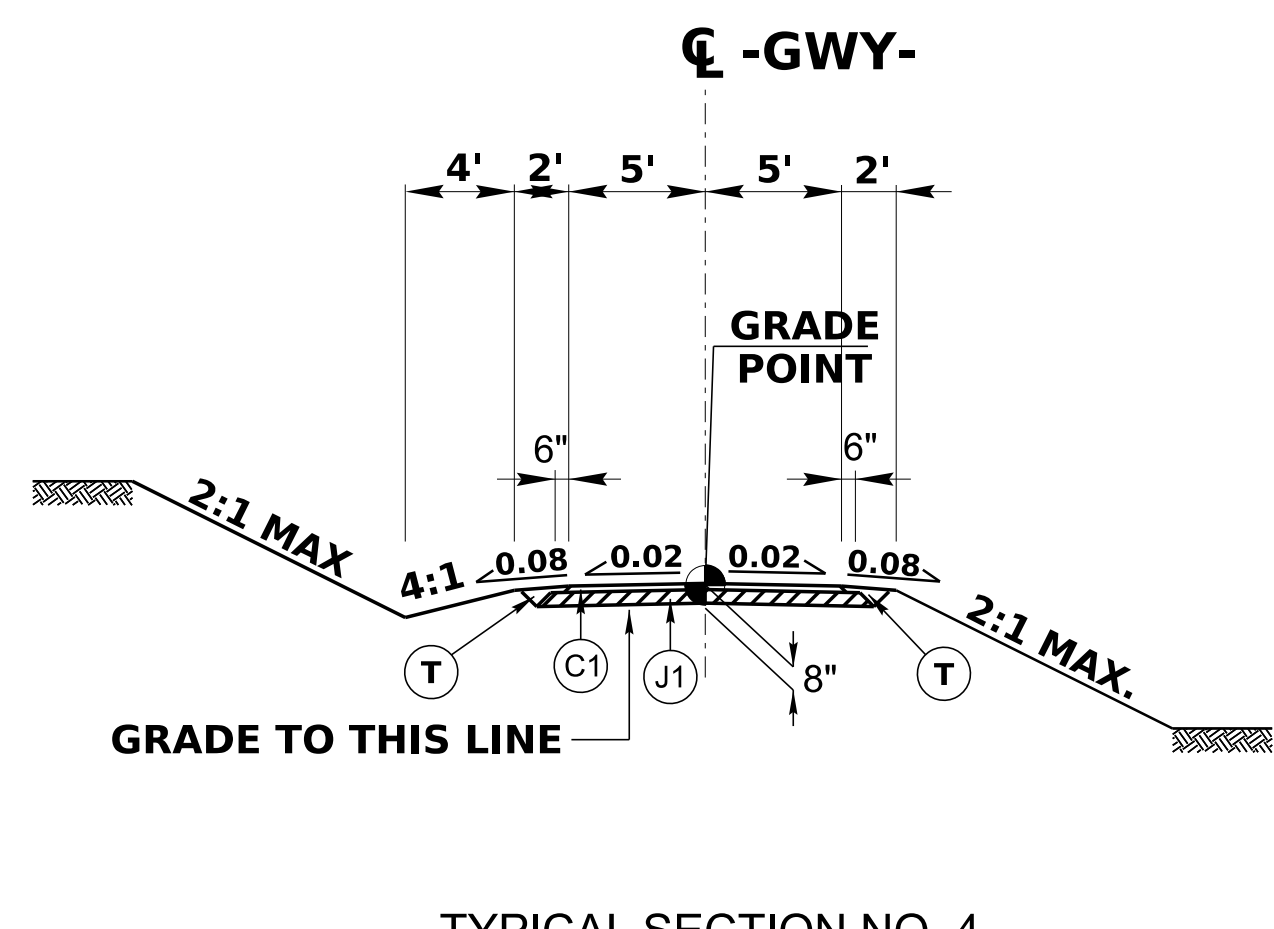
TYPICAL SECTION NO. 1
USE TYPICAL SECTION NO. 1
-L- STA. 17+25.00 TO STA. 19+25.00
-L- STA. 25+80.00 TO STA. 27+30.00



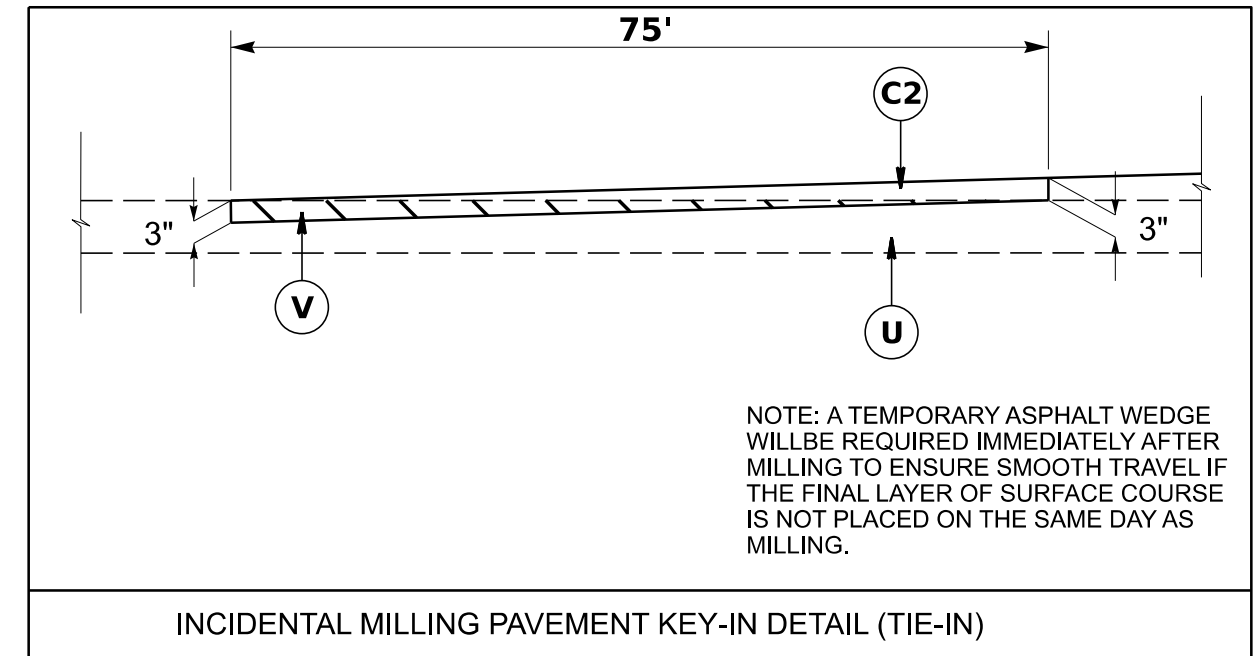
TYPICAL SECTION NO. 2
USE TYPICAL SECTION NO. 2
-L- STA. 19+25.00 TO STA. 21+15.00 (BEGIN BRIDGE)
-L- STA. 23+35.00 (END BRIDGE) TO STA. 25+80.00



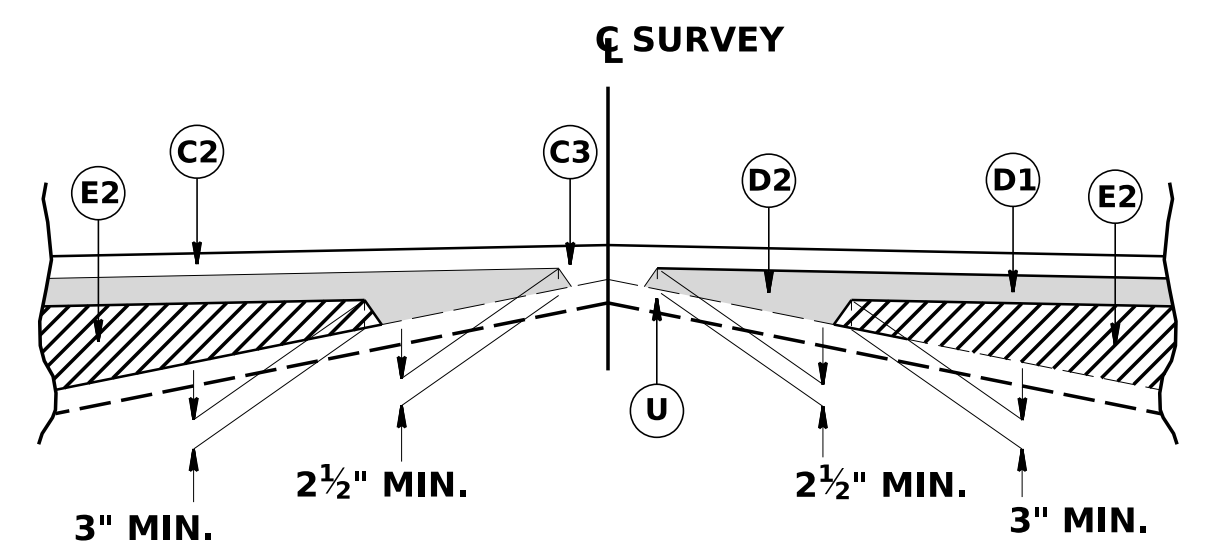
TYPICAL SECTION NO. 3
USE TYPICAL SECTION NO. 3
-L- STA. 21+15.00 (BEGIN BRIDGE) TO STA. 23+35.00 (END BRIDGE)



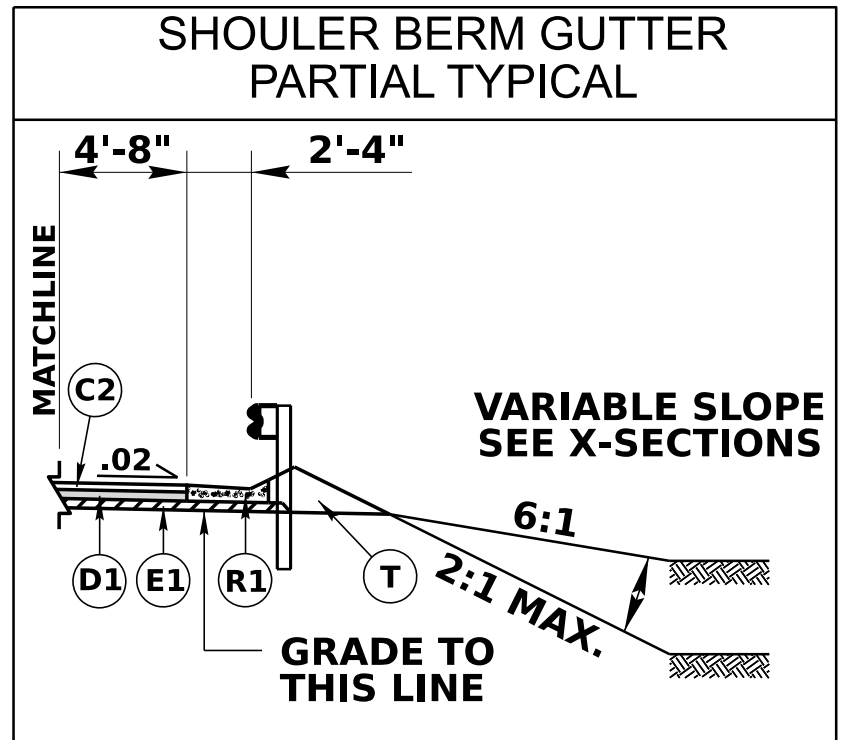
TYPICAL SECTION NO. 4
USE TYPICAL SECTION NO. 4
-GWY- STA. 10+11.00 TO STA. 11+75.00



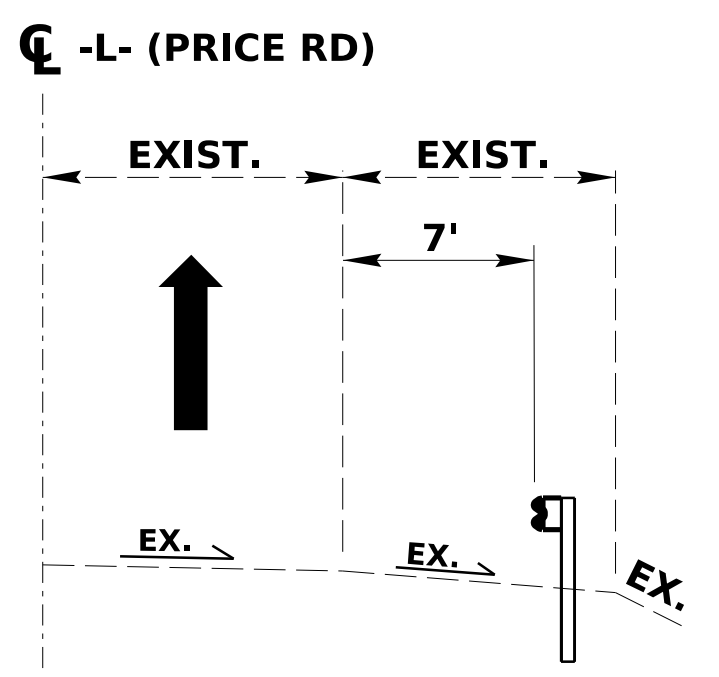
-L- Sta. 17+25.00 TO Sta. 18+00.00
-L- Sta. 26+55.00 TO Sta. 27+30.00



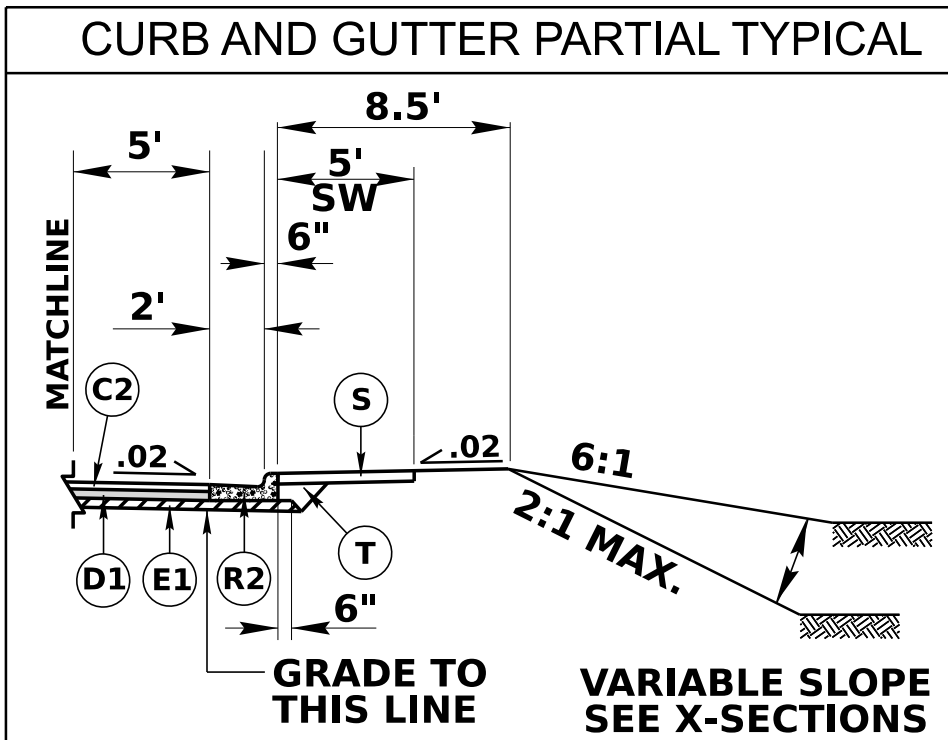
(W) Detail Showing Method of Wedging



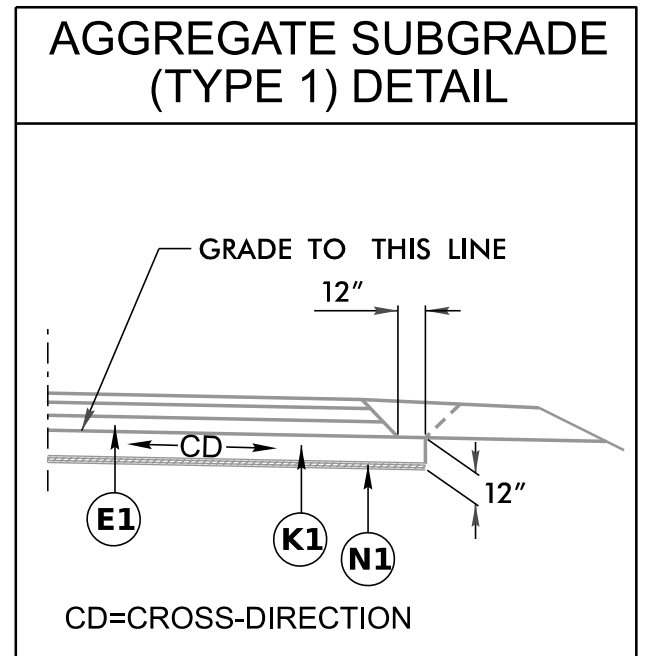
USE IN CONJUNCTION WITH TS NO. 1
-L- STA. 17+80.00 TO 18+35.00



PARTIAL TYPICAL FOR GUARDRAIL INSTALLATION
-L- STA. 16+65.00 TO STA. 17+25.00 RT



USE IN CONJUNCTION WITH TS NO. 1 & 2
-L- STA. 23+47.00 TO 25+58.66



USE IN CONJUNCTION WITH TS NO. 2 & 3 -L- STA. 23+25.00 TO 25+25.00

NOTE: PLACE FDPS TO FACE OF GUARDRAIL UNLESS SHOWN OTHERWISE ON PLAN.
*5' PAVED SHOULDERS TO ACCOMODATE BIKE ROUTE

HB-0035
2A-1
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROCKINGHAM COUNTY

ROADWAY DESIGN ENGINEER

4/29/2026
NORTH CAROLINA PROFESSIONAL SEAL 046981
PAVEMENT DESIGN ENGINEER
Faith E. Jahnke

4/29/2026
NORTH CAROLINA PROFESSIONAL SEAL 044590
PAVEMENT DESIGN ENGINEER
Andrew D. Warr

PLANS PREPARED BY:
SUMMIT
DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: C-5176
1000 Social St. Suite 800, Raleigh, NC 27609
(919) 732-3883
(919) 732-6676 (FAX)

STATION RANGES ARE APPROXIMATE ONLY. GRADE MAY BE ADJUSTED BY ENGINEER TO ENSURE A PROPER TIE-IN.

ASPHALT WEDGE DETAIL

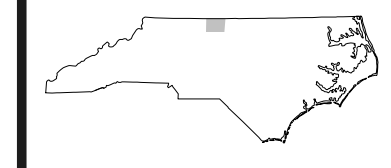
FOR PLAN, SEE SHEET 4



HB-0035

2B-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROCKINGHAM COUNTY



ROADWAY DESIGN
ENGINEER

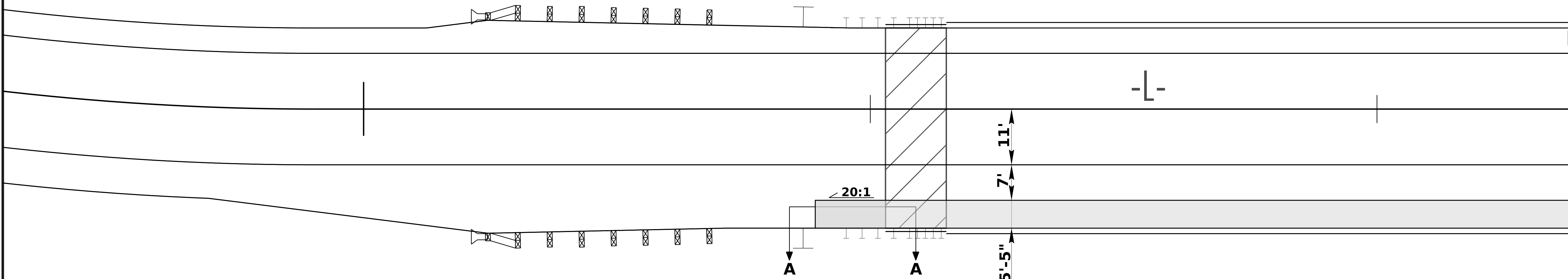
4/29/2026



PLANS PREPARED BY:

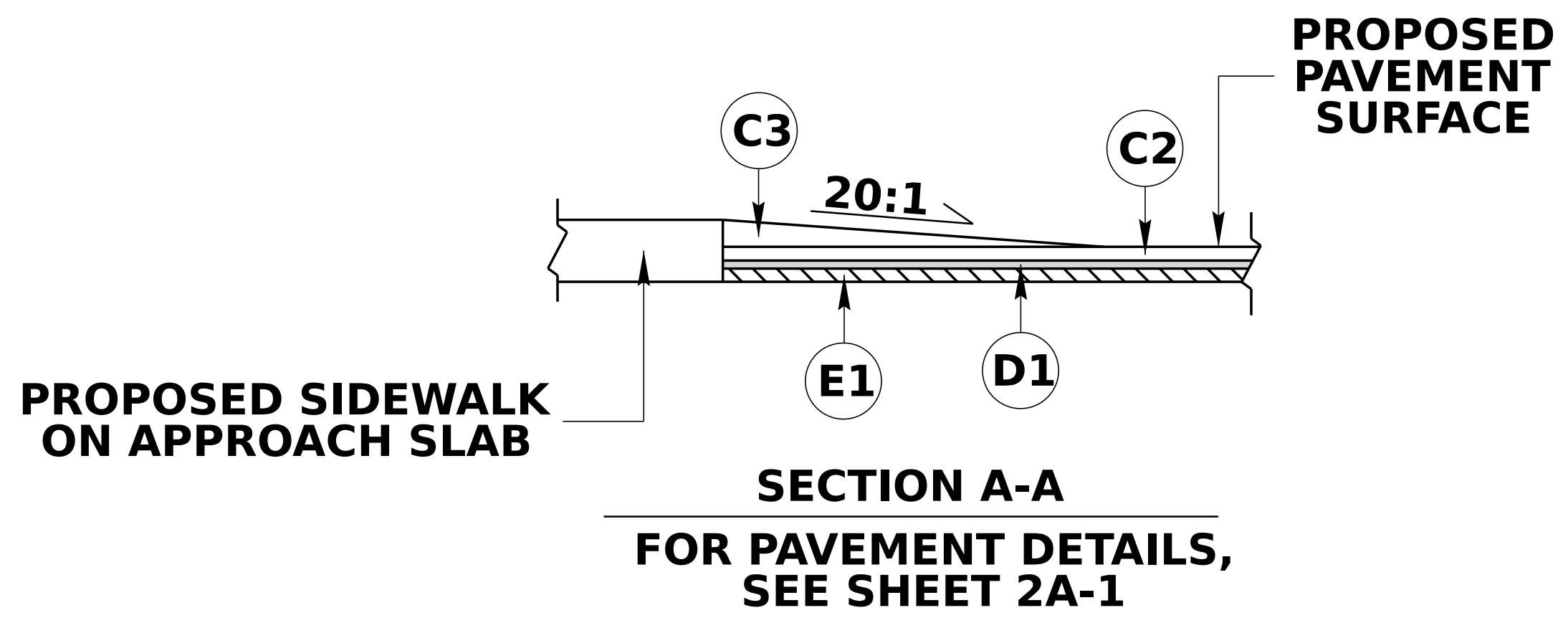


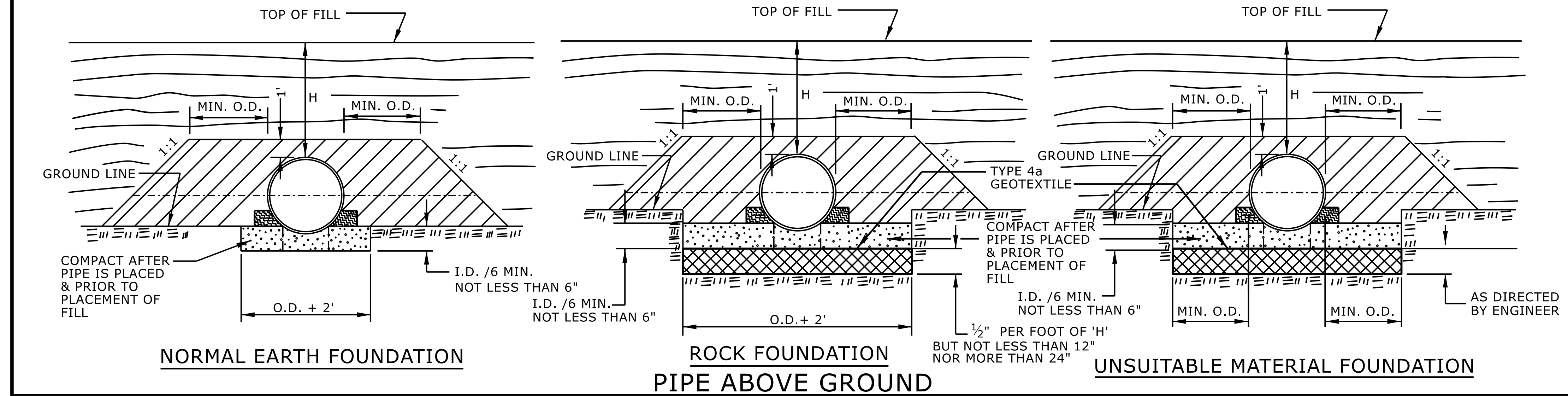
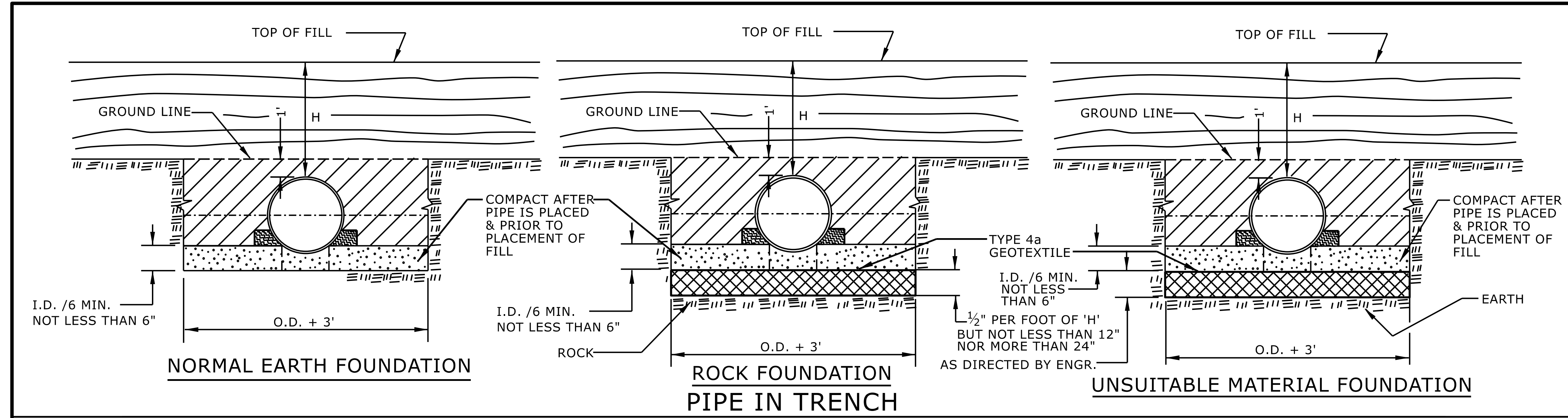
NC FIRM LICENSE No: C-5176
1000 Social St. Suite 800
Raleigh, NC 27609
(919) 732-3883
(919) 732-6676 (FAX)





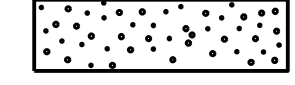
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)

C2	3" S9.5B,
C3	VAR. S9.5B
D1	4" I19.0C
E1	4" B25.0C,



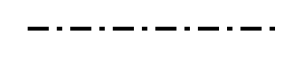
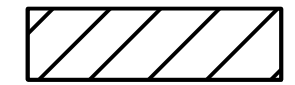
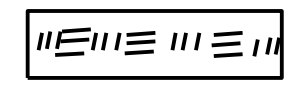



GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

 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

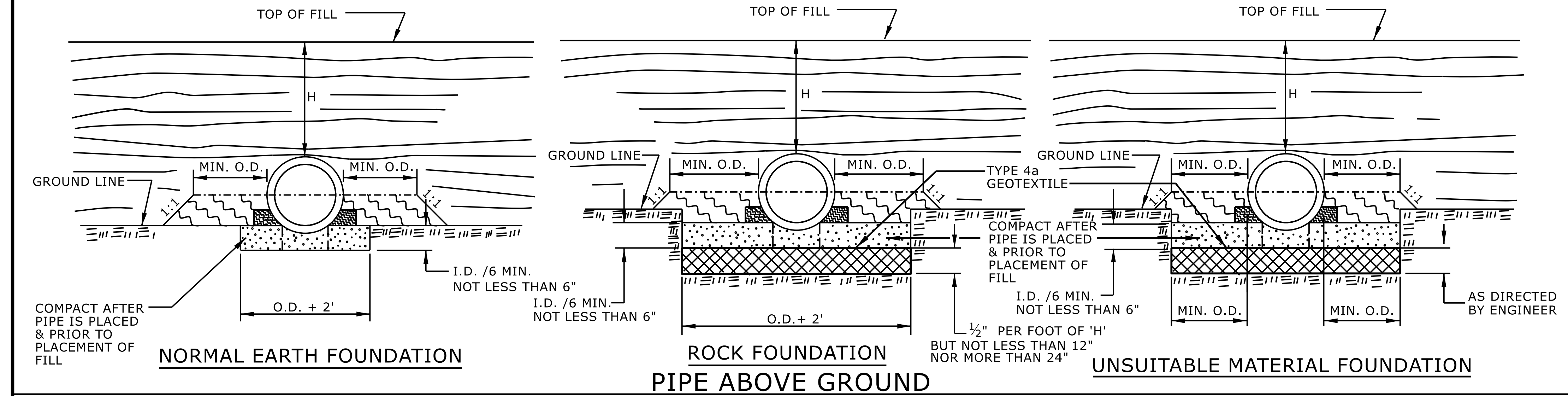
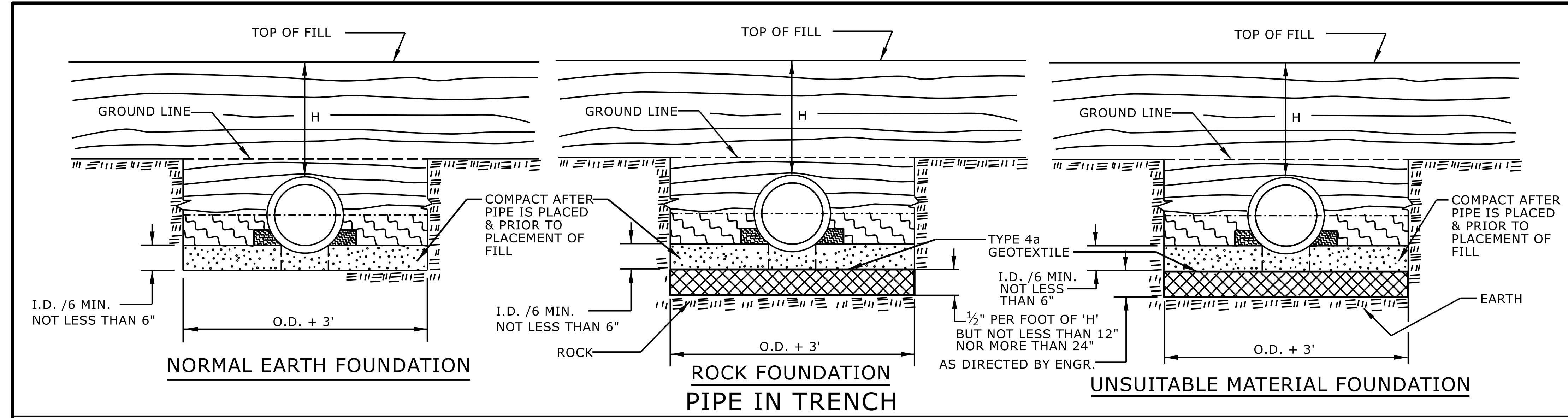


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 UNLESS ALL SIGNATURES COMPLETED




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

SEE TITLE BLOCK

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

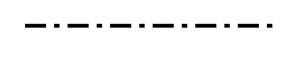

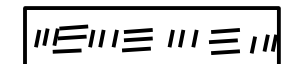



GENERAL NOTES:
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 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

-  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

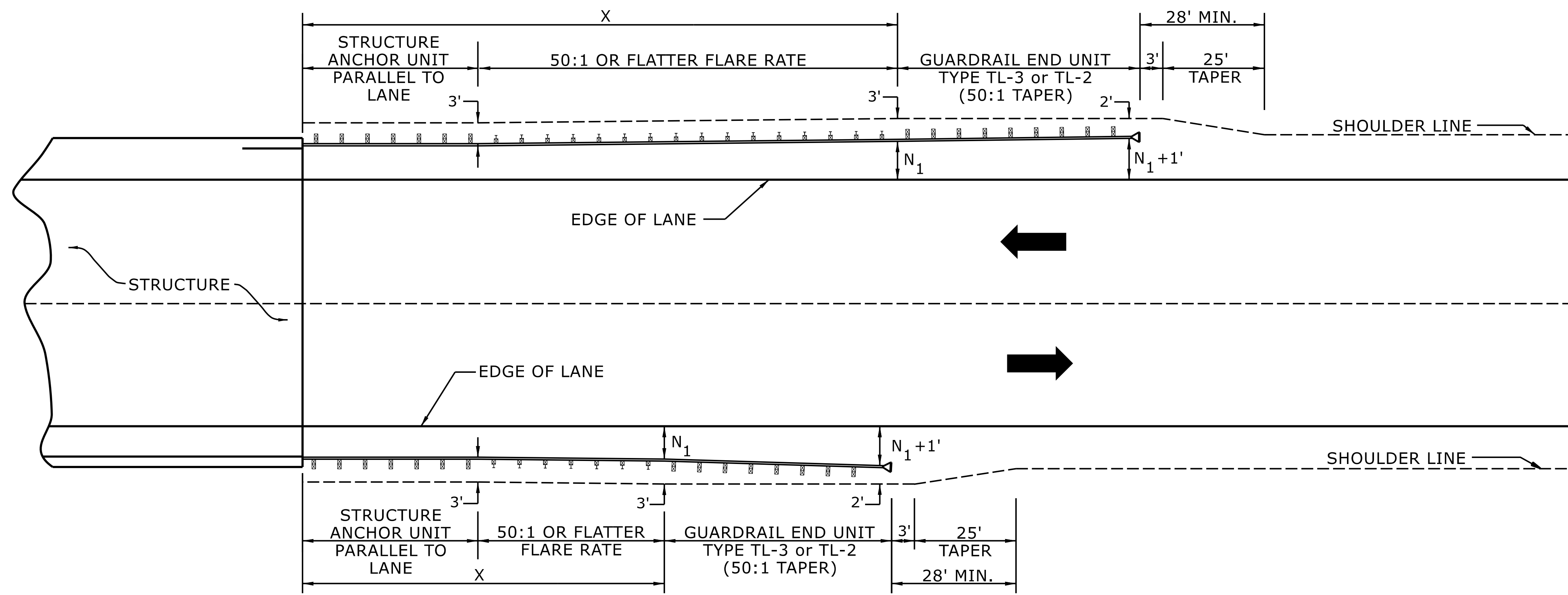


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USE FLARE RATE AS THE CONTROL IF THE "N₁" DISTANCE IS NOT OBTAINED.
 ("N₁" IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)
 SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS
 FOR POSTED SPEEDS ≥ 45MPH USE GREU TYPE TL-3
 FOR POSTED SPEEDS < 45MPH USE GREU TYPE TL-2
 GUARDRAIL LENGTH OF NEED (X) IS CALCULATED BASED ON THE AASHTO ROADSIDE DESIGN GUIDE.

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

STATE OF
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 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 4 OF 15
862D01

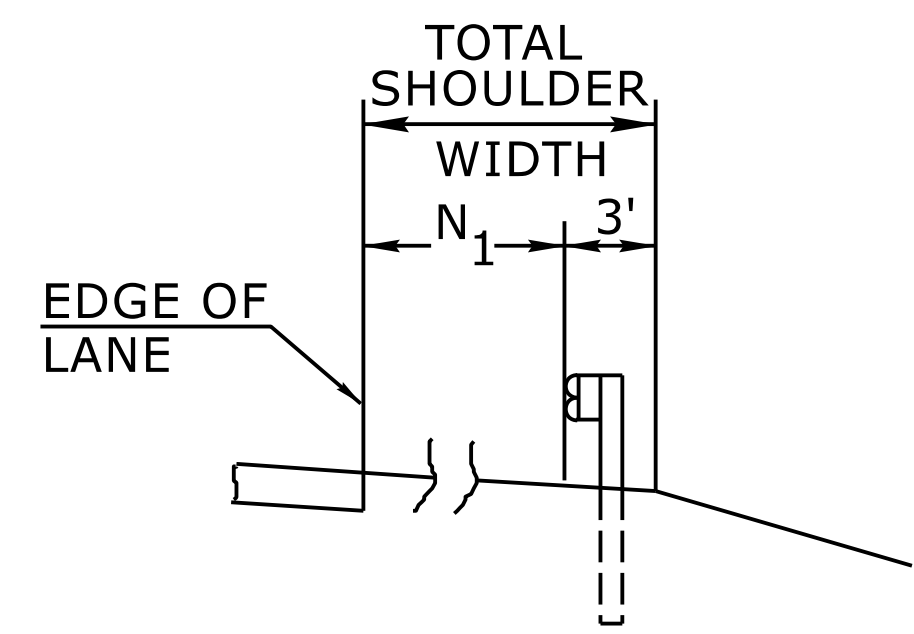


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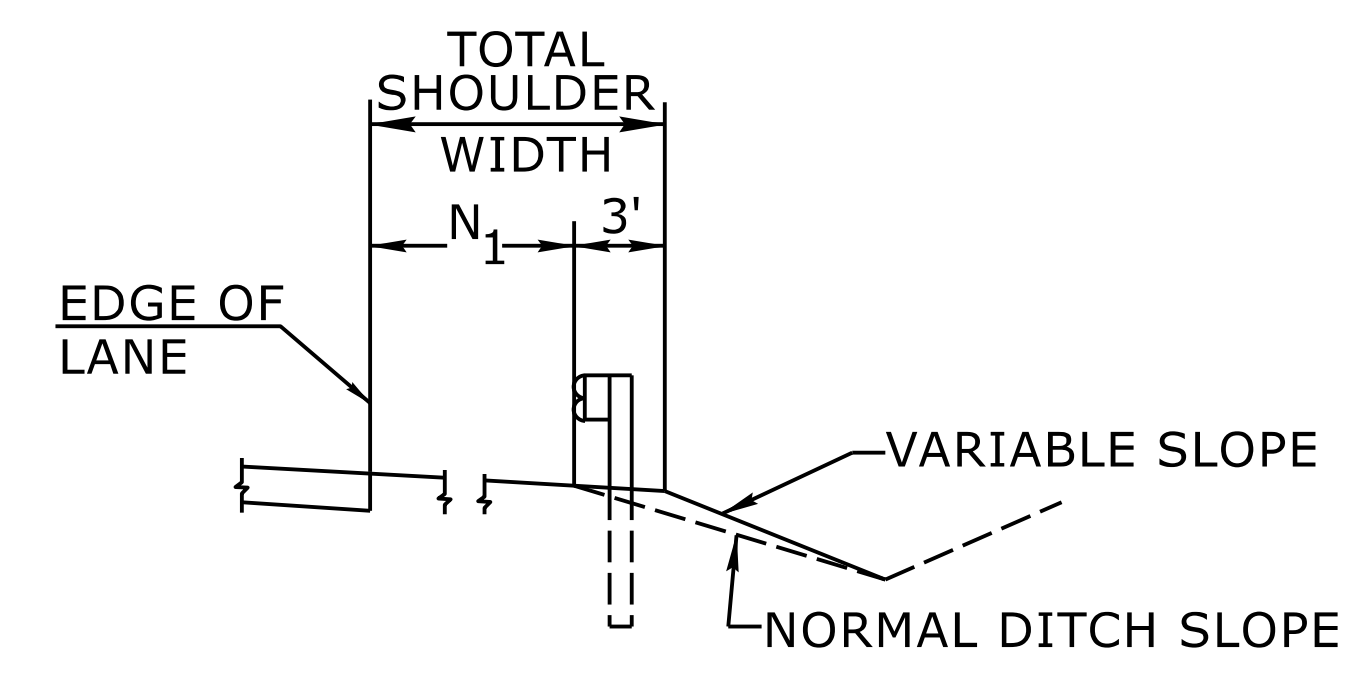
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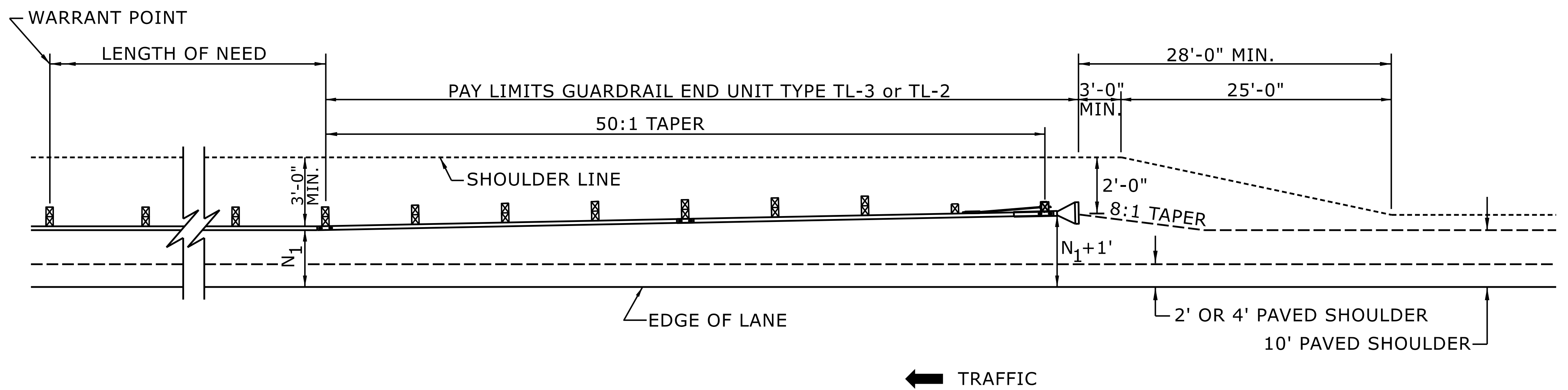


FILL SECTION



CUT SECTION

"N₁" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



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

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

STATE OF NORTH CAROLINA
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ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15
862D01

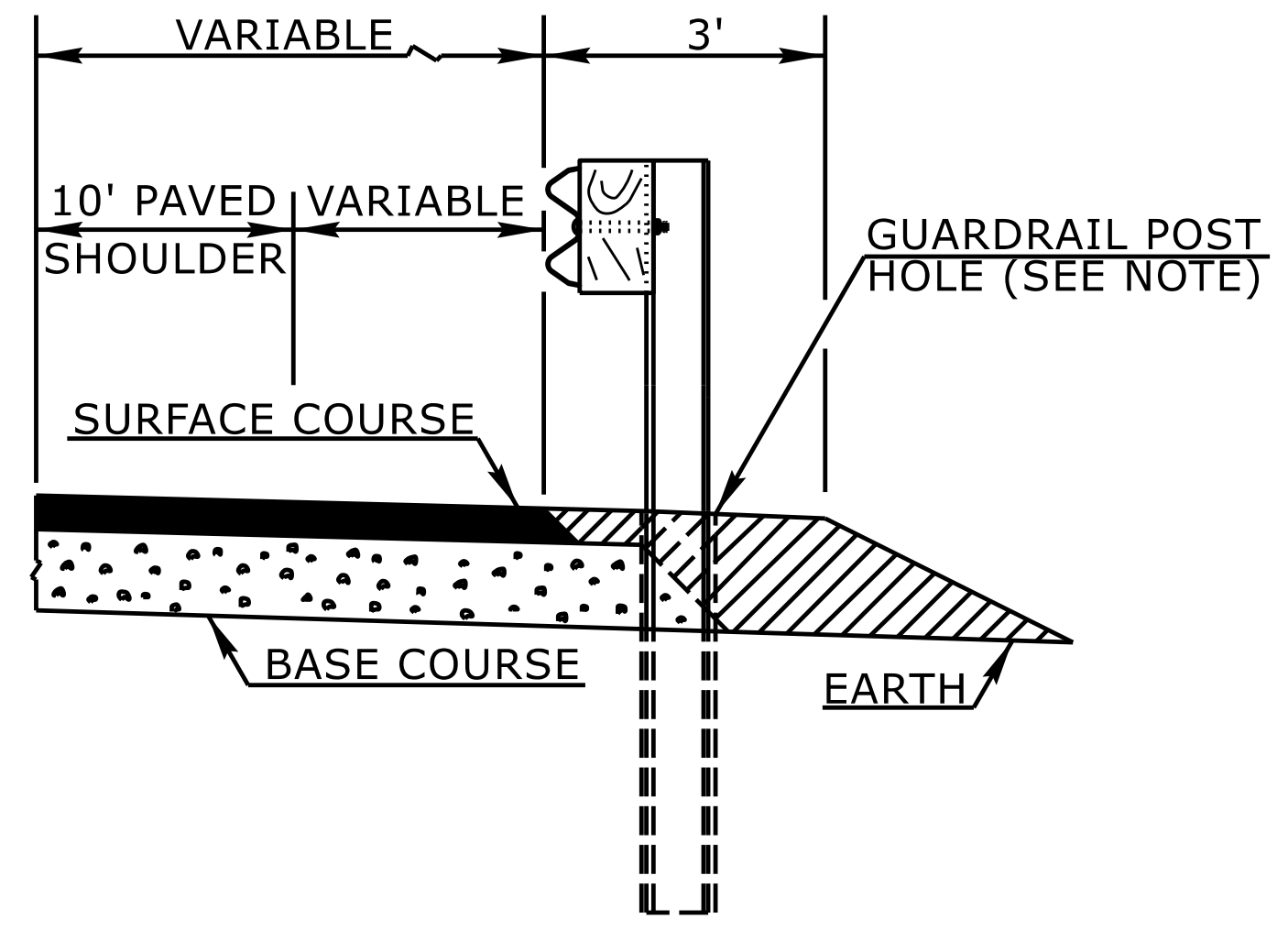


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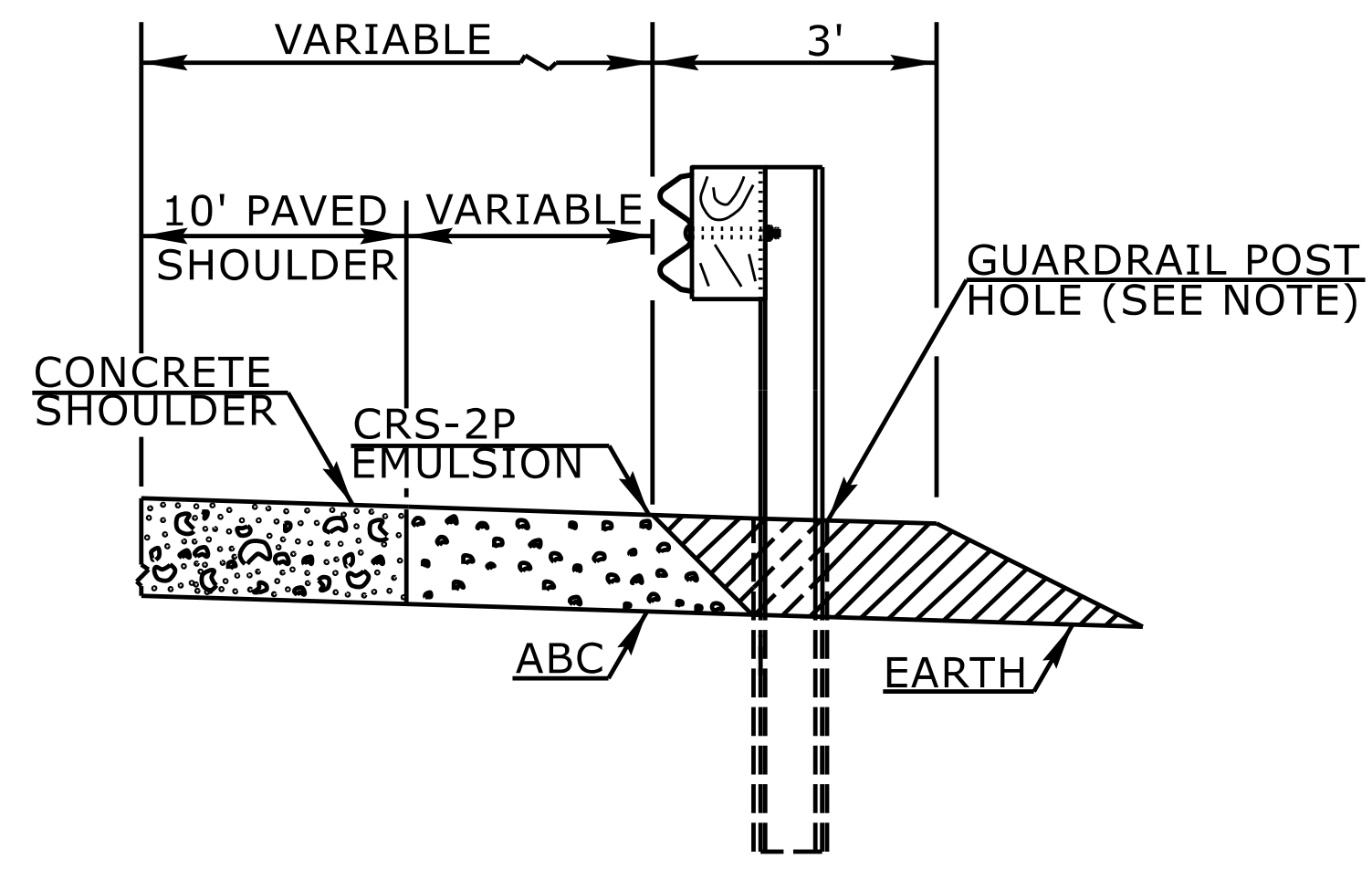
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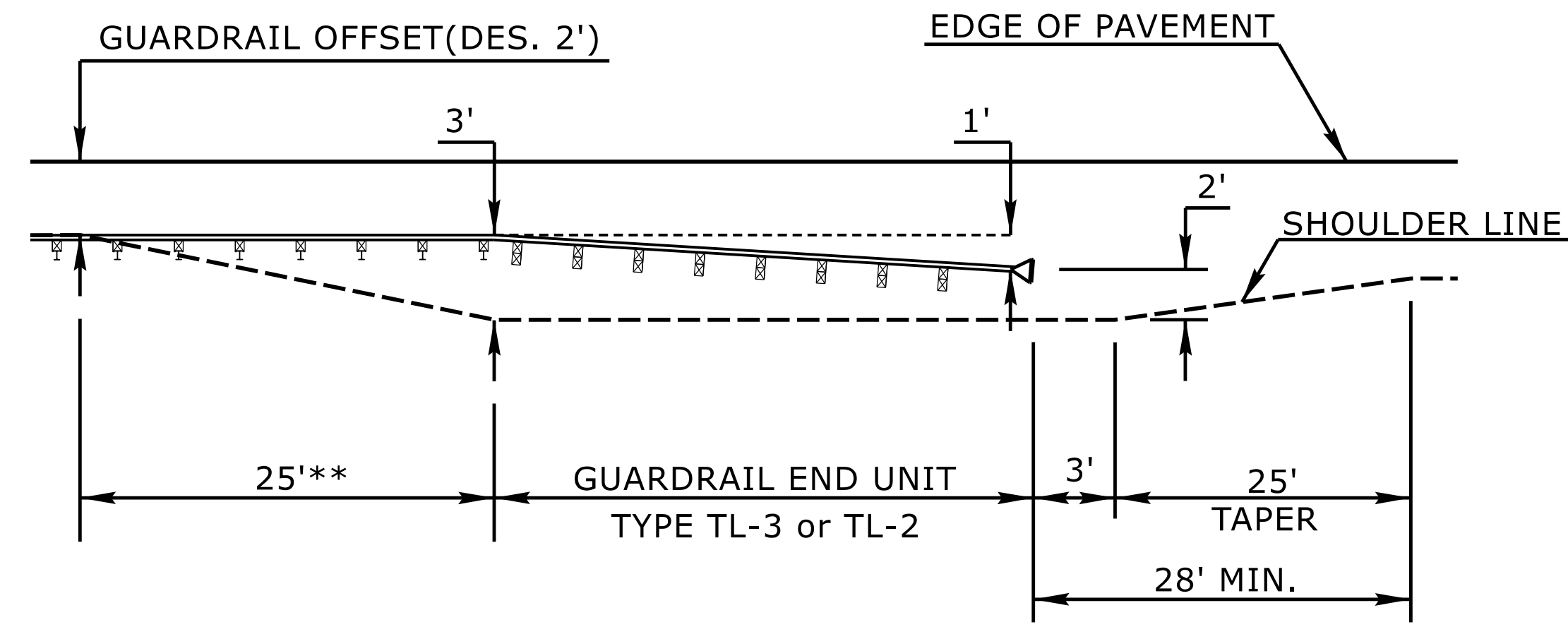
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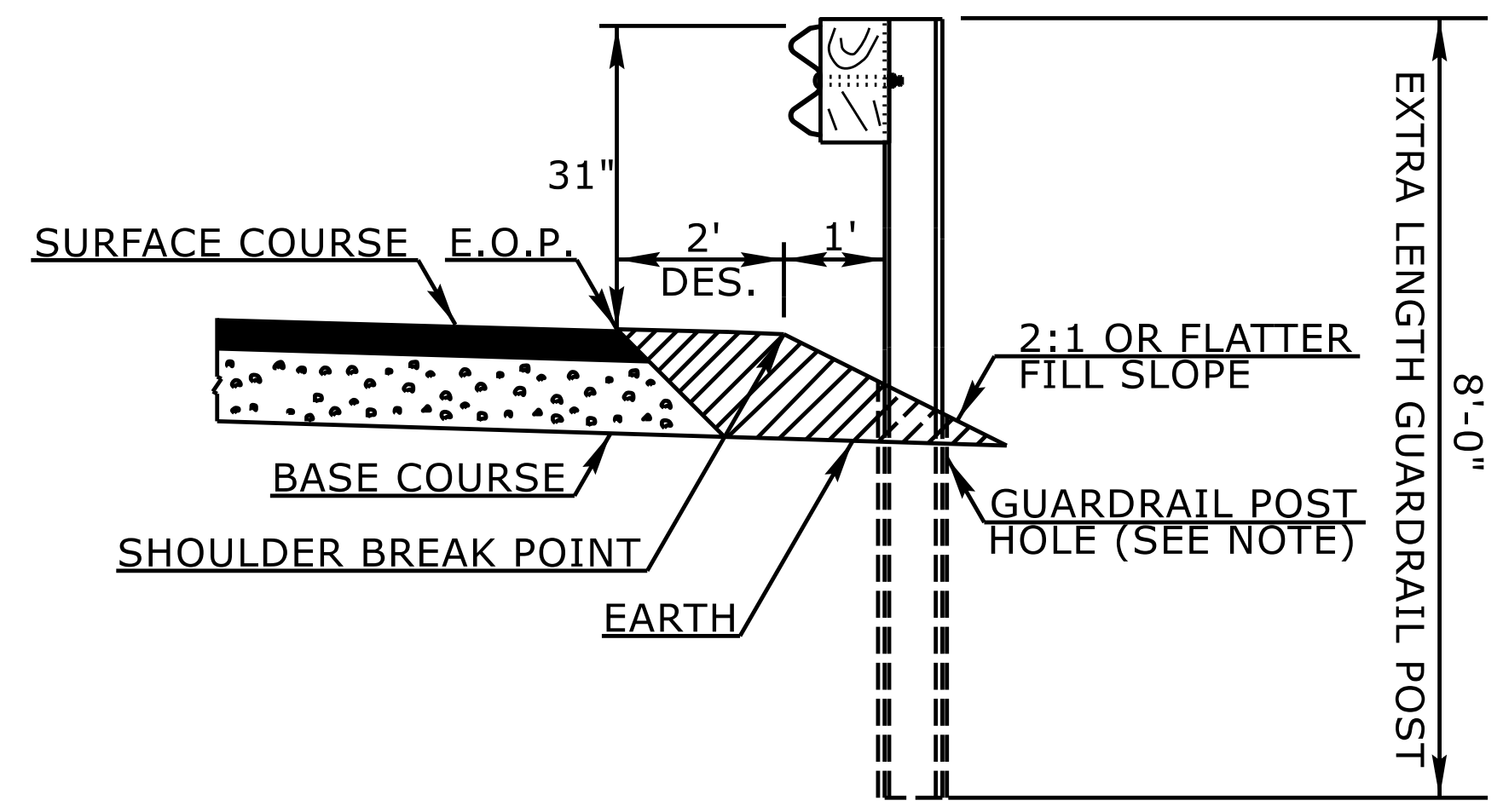
FLEXIBLE PAVED SHOULDER



CONCRETE PAVED SHOULDER



8' GUARDRAIL POST ON 2:1 SLOPE-END UNIT TRANSITION*
PLAN VIEW



8' GUARDRAIL POST ON 2:1 SLOPE*

* THE 8' GUARDRAIL POST ON 2:1 SLOPE DETAIL IS INTENDED FOR USE ONLY IN SEVERELY CONSTRAINED AREAS WITH A POSTED SPEED ≤ 60 MPH. GUARDRAIL END UNITS MAY NOT BE PLACED ON THE 2:1 SLOPE AND MUST TRANSITION TO THE SHOULDER.
** 8' GUARDRAIL POST SHOULD BE USED IN THIS RANGE

NOTE:
WHEN WOODEN GUARDRAIL POSTS ARE USED, DRILL HOLES THROUGH EARTH MATERIAL AND BASE COURSE. THE POST MAY THEN BE DRIVEN TO THE PROPER DEPTH. DRILL THE HOLE OF SUFFICIENT SIZE TO ACCOMMODATE THE PARTICULAR POST BEING USED. BACKFILL AND TAMP HOLES USING THE EXCAVATED MATERIAL.

STATE OF NORTH CAROLINA
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ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 11 OF 15
862D01

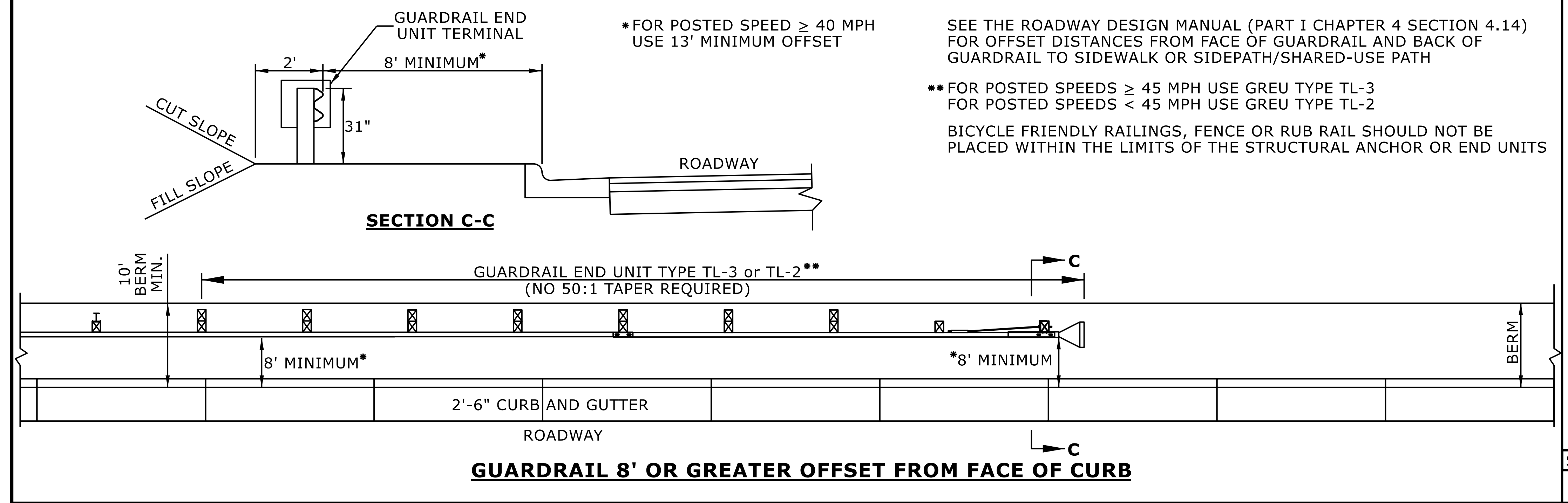
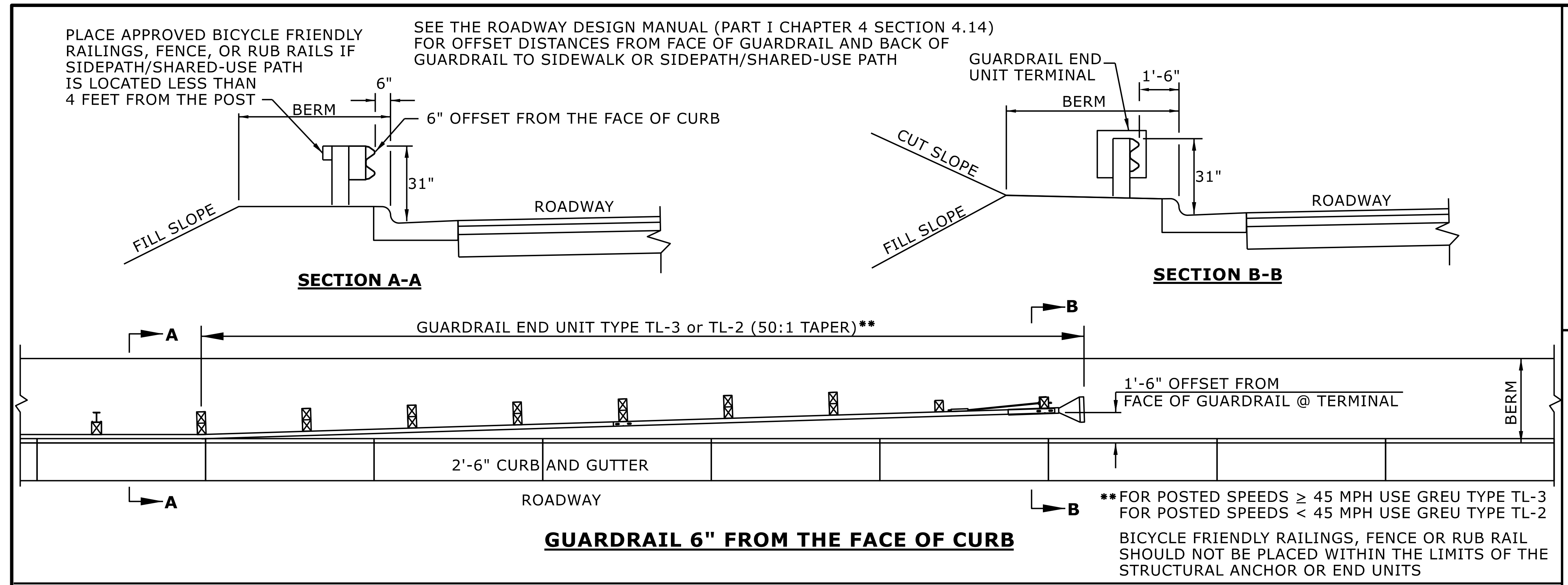


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ORIGINAL BY: L.SMITH DATE: 10-14-2025
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FILE SPEC.: DATE:



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

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



SHEET 12 OF 15
862D01

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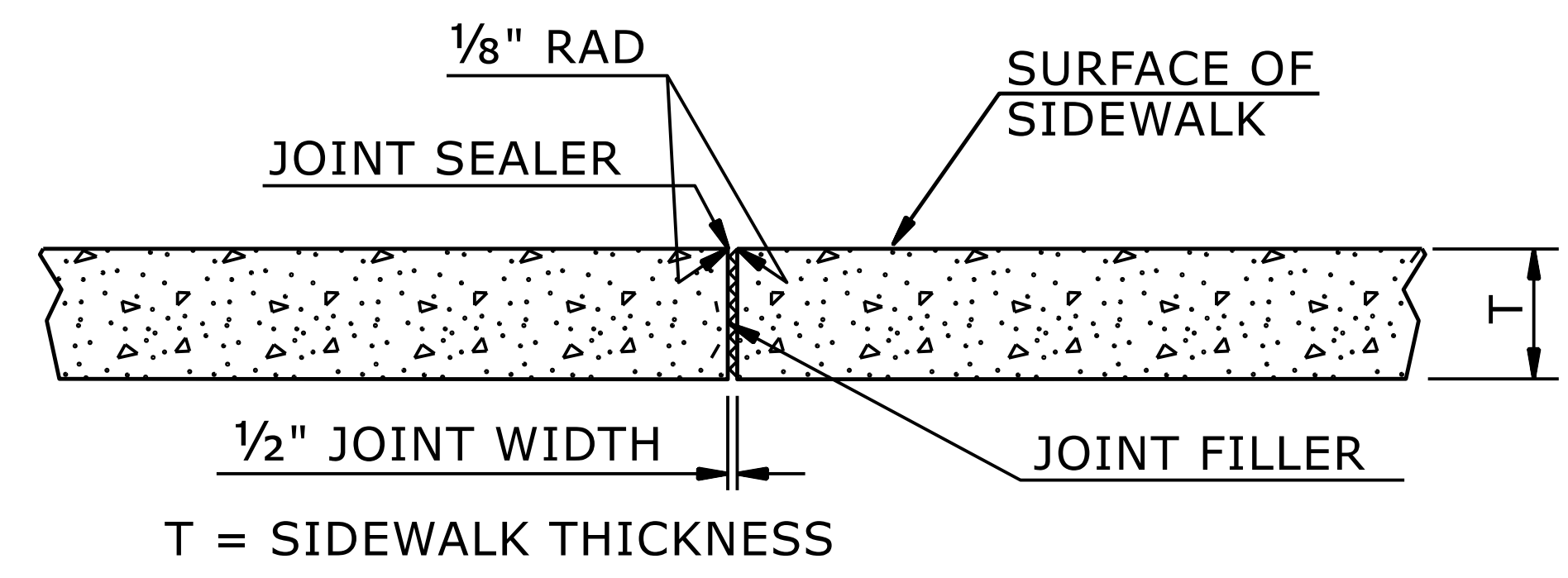
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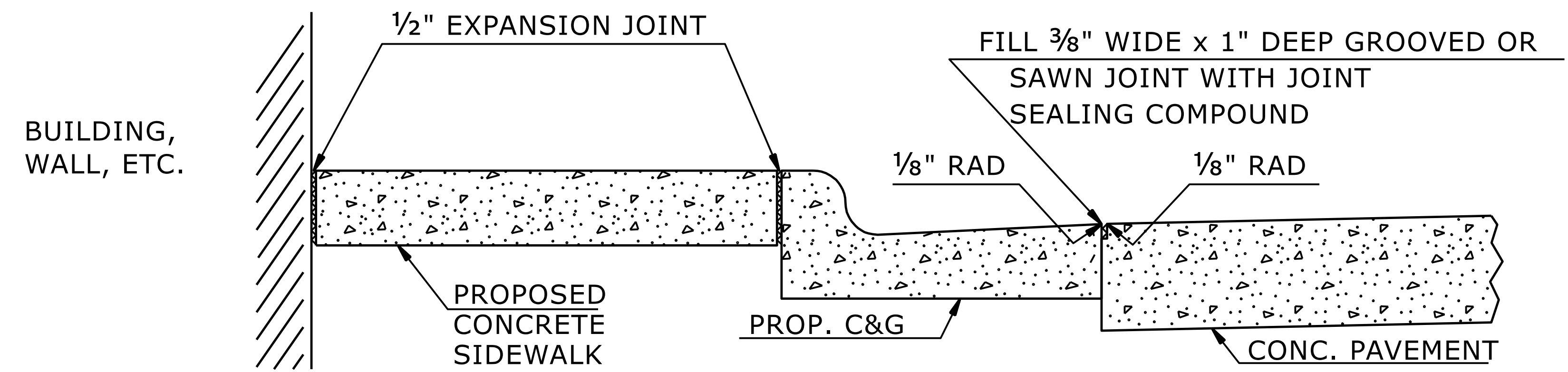
CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

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

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

ROADWAY DETAIL DRAWING FOR
CONCRETE SIDEWALK

SHEET 1 OF 1
848D01



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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
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CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

COMPUTED BY : SEM DATE : 10/16/2024
 CHECKED BY : LAC DATE : 10/16/2024
 REVISED BY : TTZ DATE : 4/8/2026

(9-17-24)

PROJECT NO. HB-0035	SHEET NO. 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

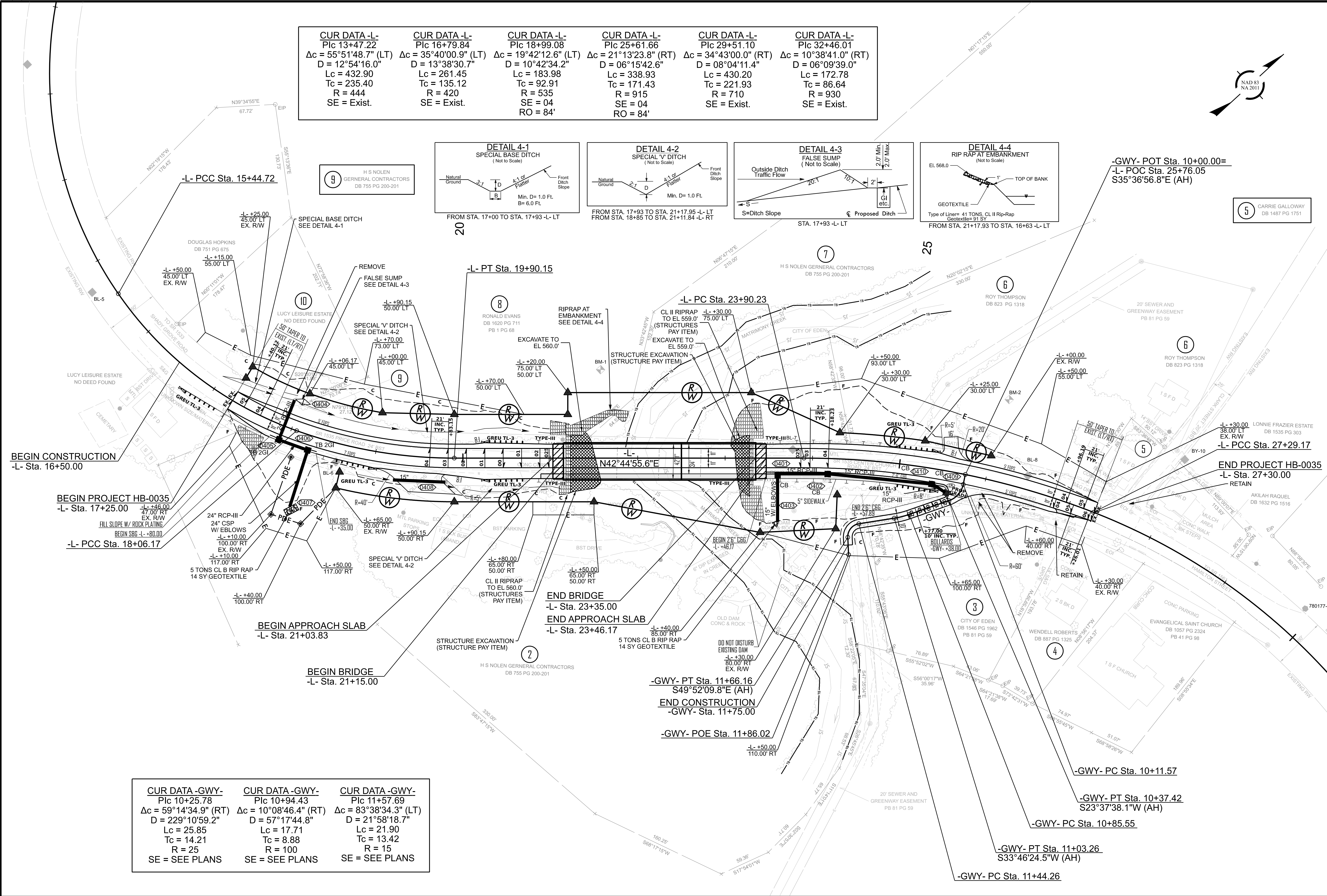
LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
-L-	23+25	25+25	ASU 1	12	-	627	961	-	-
CONTINGENCY			ASU (1)	12	100	200	300		
					TOTAL CY/TONS/SY:	100	827**	1261**	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.

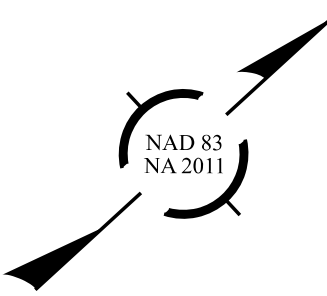
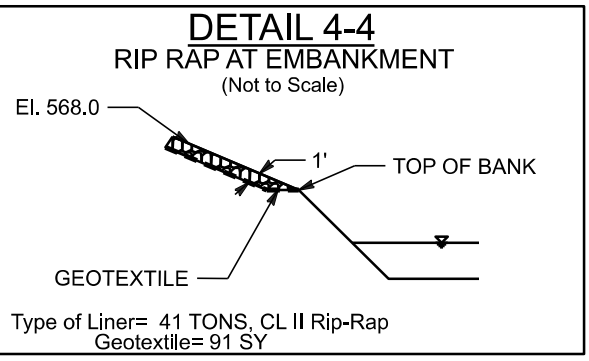
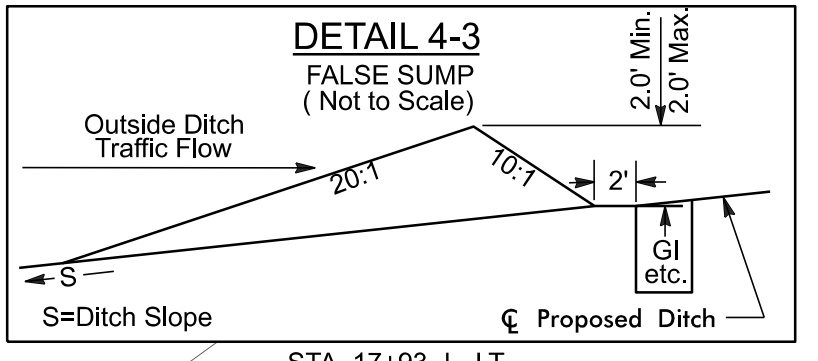
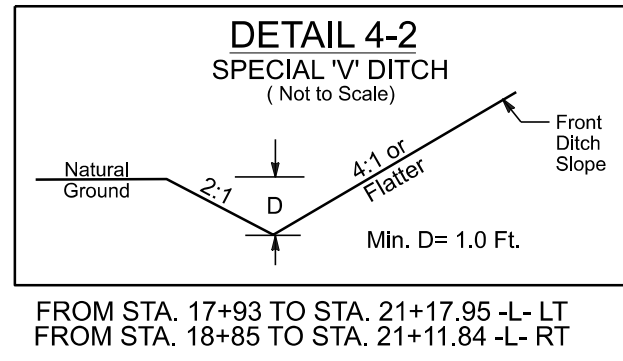
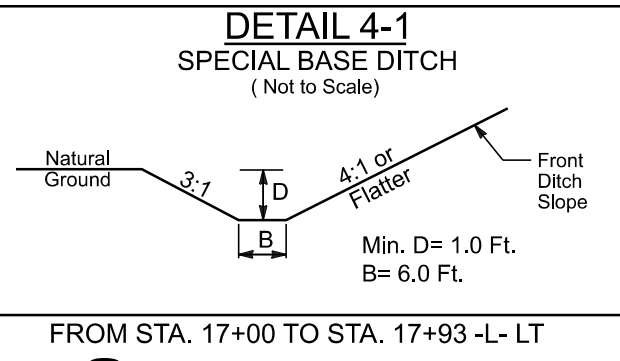
SUMMARY OF ROCK PLATING

LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
-L-	1.75:1	17+45	1.75:1	17+75	RT	1	*	80
							TOTAL SY:	80

*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.



CUR DATA -L- Plc 13+47.22 Δc = 55°51'48.7" (LT) D = 12°54'16.0" Lc = 432.90 Tc = 235.40 R = 444 SE = Exist.	CUR DATA -L- Plc 16+79.84 Δc = 35°40'00.9" (LT) D = 13°38'30.7" Lc = 261.45 Tc = 135.12 R = 420 SE = Exist.	CUR DATA -L- Plc 18+99.08 Δc = 19°42'12.6" (LT) D = 10°42'34.2" Lc = 183.98 Tc = 92.91 R = 535 SE = 04 RO = 84'	CUR DATA -L- Plc 25+61.66 Δc = 21°13'23.8" (RT) D = 06°15'42.6" Lc = 338.93 Tc = 171.43 R = 915 SE = 04 RO = 84'	CUR DATA -L- Plc 29+51.10 Δc = 34°43'00.0" (RT) D = 08°04'11.4" Lc = 430.20 Tc = 221.93 R = 710 SE = Exist.	CUR DATA -L- Plc 32+46.01 Δc = 10°38'41.0" (RT) D = 06°09'39.0" Lc = 172.78 Tc = 86.64 R = 930 SE = Exist.
---	---	--	---	---	--



9 H S NOLEN
GENERAL CONTRACTORS
DB 755 PG 200-201

5 CARRIE GALLOWAY
DB 1487 PG 1751

HB-0035
RDY 004

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROCKINGHAM COUNTY

ROADWAY DESIGN ENGINEER

4/29/2026

PROFESSIONAL SEAL
046981
PAUL E. JANKINS
ENGINEER

Signed by
Paul E. Jankins

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HYDRAULIC DESIGN ENGINEER

4/30/2026

PROFESSIONAL SEAL
053755
PATRICK HASTWELL
ENGINEER

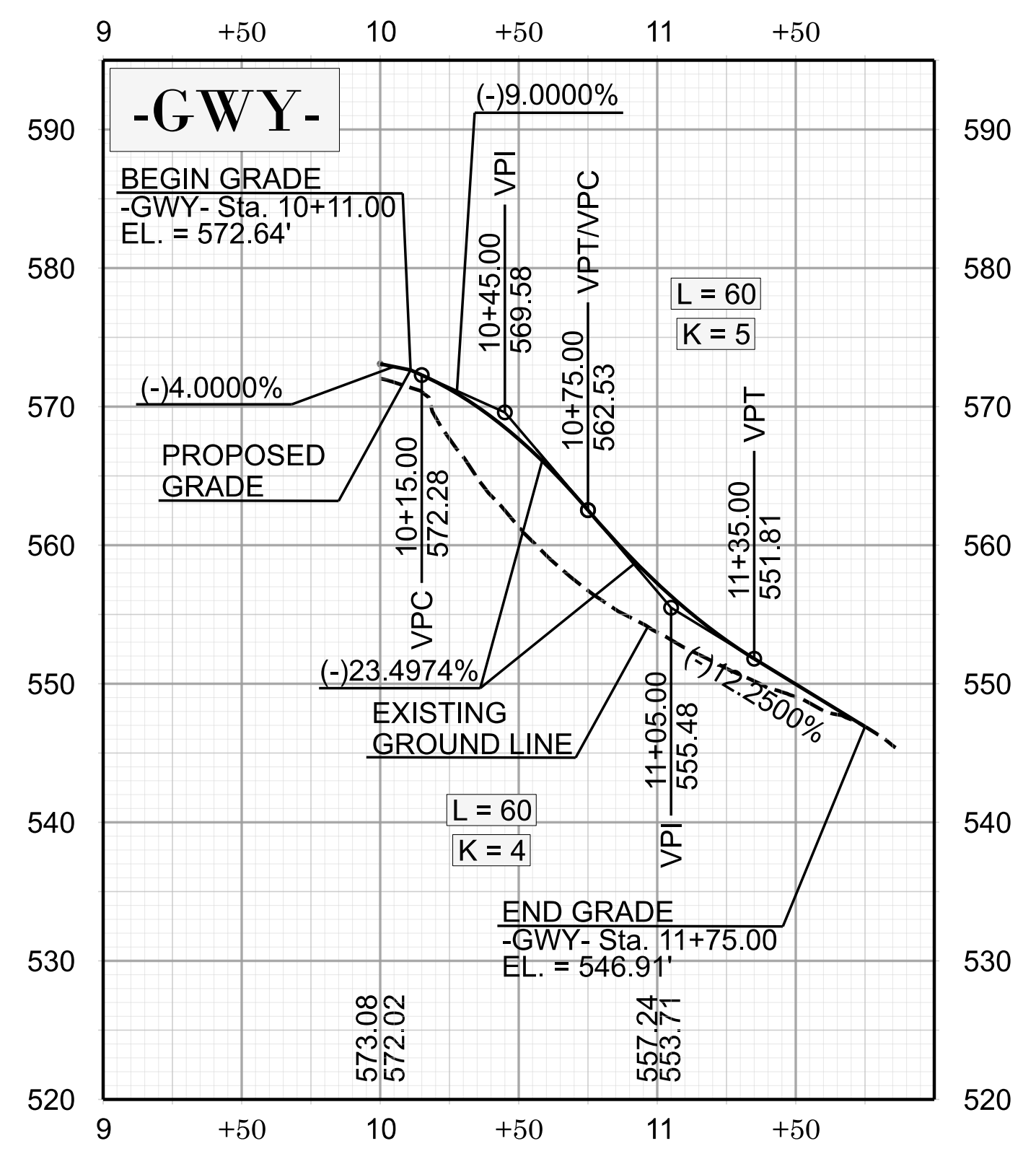
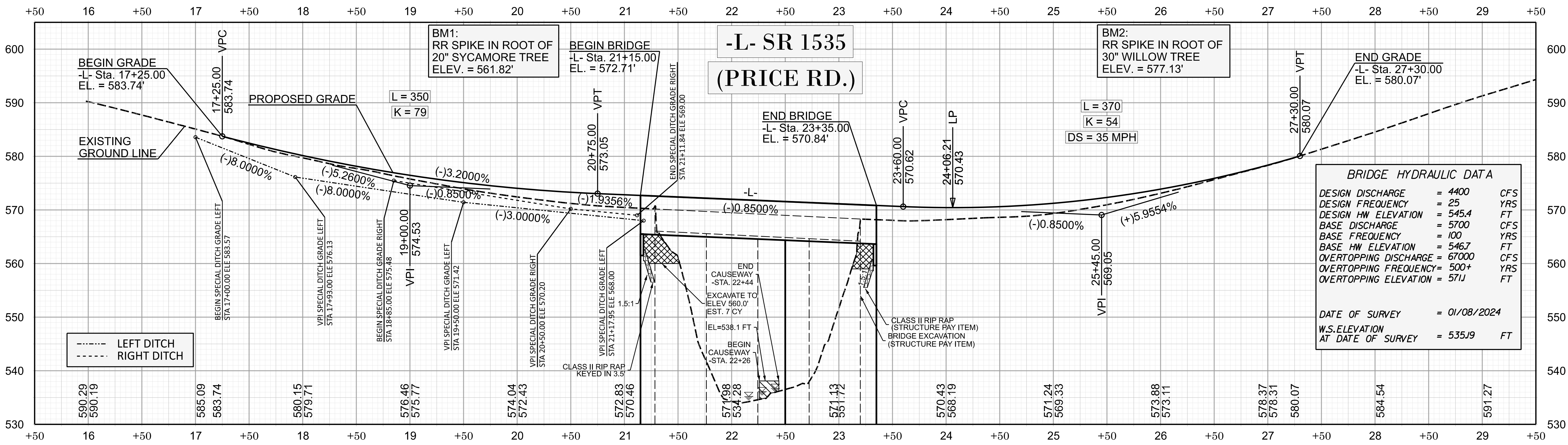
Signed by
Patrick Hastwell

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PLANS PREPARED BY:
SUMMIT
DESIGN AND ENGINEERING SERVICES

NC FIRM LICENSE No: C-5176
1000 Social St. Suite 800.
Raleigh, NC 27609
(919) 732-3553
(919) 732-8676 (FAX)

CUR DATA -GWY- Plc 10+25.78 Δc = 59°14'34.9" (RT) D = 229°10'59.2" Lc = 25.85 Tc = 14.21 R = 25 SE = SEE PLANS	CUR DATA -GWY- Plc 10+94.43 Δc = 10°08'46.4" (RT) D = 57°17'44.8" Lc = 17.71 Tc = 8.88 R = 100 SE = SEE PLANS	CUR DATA -GWY- Plc 11+57.69 Δc = 83°38'34.3" (LT) D = 21°58'18.7" Lc = 21.90 Tc = 13.42 R = 15 SE = SEE PLANS
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HB-0035
RDY 005

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROCKINGHAM COUNTY

ROADWAY DESIGN ENGINEER

4/29/2026

 Faith E. Jahnke
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HYDRAULIC DESIGN ENGINEER

4/30/2026

 Patrick M. Heston
 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:

SUMMIT
 DESIGN AND ENGINEERING SERVICES

NC FIRM LICENSE No: C-5176
 1000 Social St. Suite 800.
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 (919) 732-3853
 (919) 732-8676 (FAX)