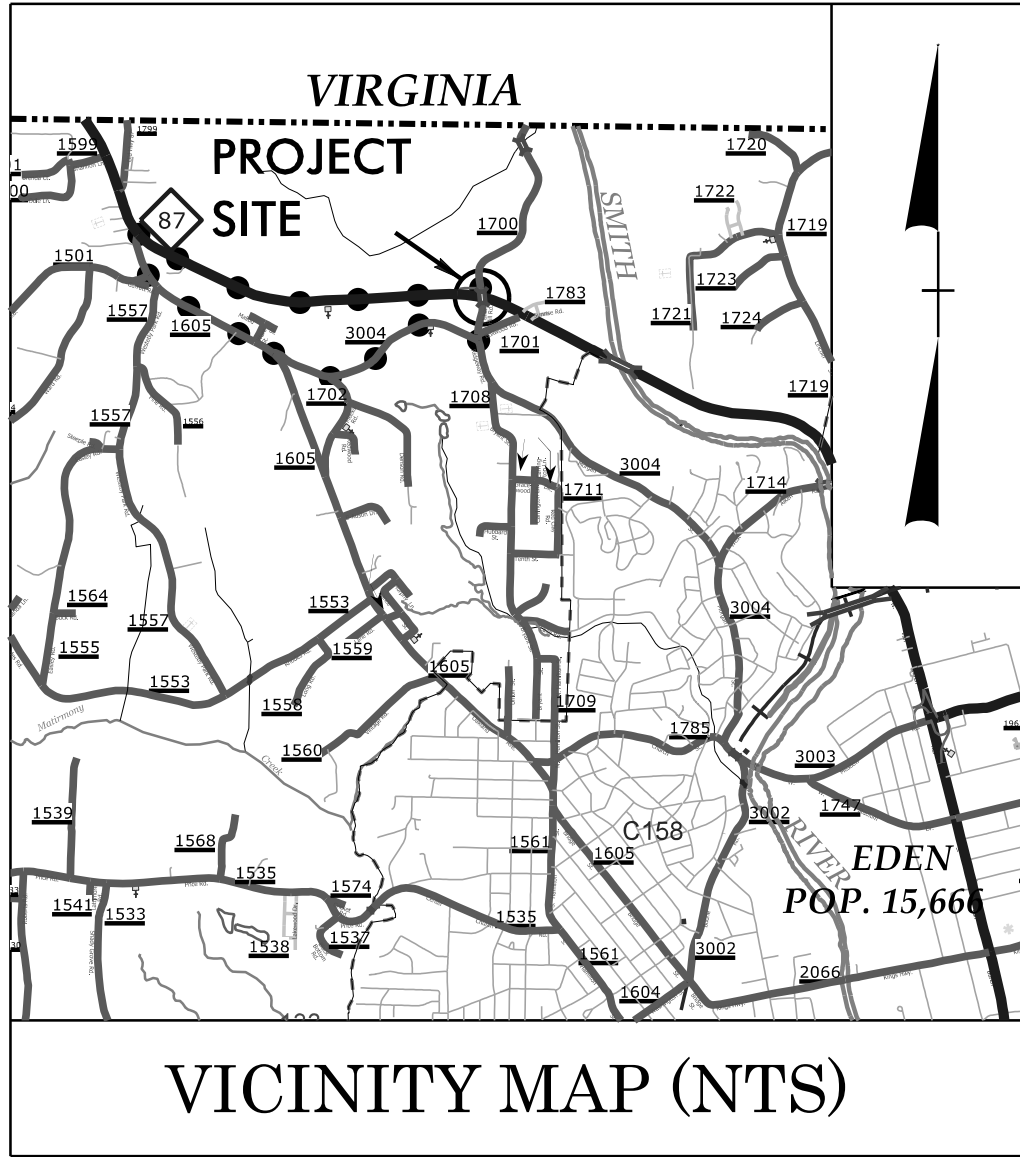


08/12/2021

TIP PROJECT: BR-0096

CONTRACT: C205128

See Sheet 1A For Index of Sheets  
See Sheet 1B For Conventional Symbols



VICINITY MAP (NTS)

Offsite Detour

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROCKINGHAM COUNTY

LOCATION: *REPLACE BRIDGE #780176 ON  
SR 1700 (FISHER HILL RD) OVER NC 14/ NC 87*

TYPE OF WORK: *DRAINAGE, GRADING, PAVING, STRUCTURES.*

BEGIN CONSTRUCTION  
-Y- STA. 14 + 63.14

BEGIN TIP PROJECT BR-0096  
-L- STA. 12 + 50.00

BEGIN BRIDGE  
-L- STA. 14 + 92.90

BEGIN CONSTRUCTION  
-Y1- STA. 12 + 50.00

END TIP PROJECT BR-0096  
-L- STA. 18 + 00.00

BEGIN CONSTRUCTION  
-L- STA. 12 + 39.28

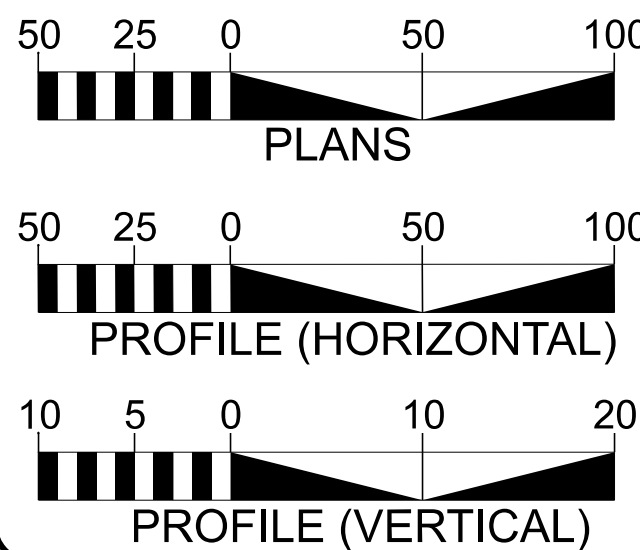
END CONSTRUCTION  
-Y- STA. 18 + 48.93

END BRIDGE  
-L- STA. 15 + 51.90

THIS PROJECT HAS NO CONTROLLED ACCESS.  
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2026 = 643  
ADT 2046 = 1063  
K = 10 %  
D = 55 %  
T = 3 % \*  
V = 40 MPH  
\* TTST = 2 DUAL 1  
FUNC CLASS =  
RURAL LOCAL  
SUB-REGIONAL-TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BR-0096 = 0.093 MI  
LENGTH STRUCTURE TIP PROJECT BR-0096 = 0.011 MI  
TOTAL LENGTH OF TIP PROJECT BR-0096 = 0.104 MI

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

2024 STANDARD SPECIFICATIONS

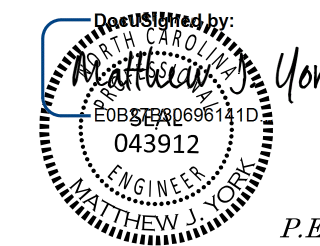
RIGHT OF WAY DATE:  
AUGUST 31, 2023

LETTING DATE:  
JANUARY 20, 2026

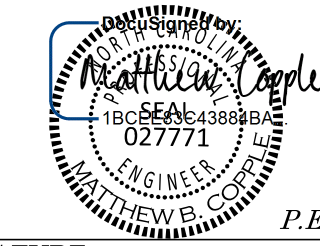
EMILY A. FERREIRA, PE  
PROJECT MANAGER

MATTHEW B. COPPLE, PE  
PROJECT TEAM LEAD

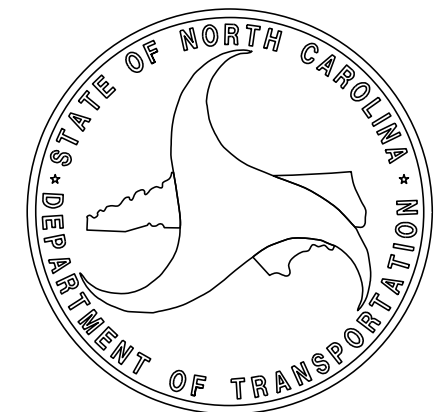
HYDRAULICS ENGINEER



SIGNATURE: ROADWAY DESIGN ENGINEER



SIGNATURE: P.E. 11/06/2025



| 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-2     | PAVEMENT SCHEDULE AND TYPICAL SECTIONS                                        |
| 2C-1 THRU 2C-3     | METHOD OF PIPE INSTALLATION DETAILS                                           |
| 2C-3 THRU 2C-4     | GUARDRAIL PLACEMENT DETAILS                                                   |
| 2G-1               | TEMPORARY SHORING DETAIL                                                      |
| 3B-1               | ROADWAY SUMMARIES                                                             |
| 3D-1               | DRAINAGE SUMMARIES                                                            |
| 3G-1               | GEOTECHNICAL SUMMARIES                                                        |
| 4                  | PLAN SHEET                                                                    |
| 5                  | PROFILE SHEET                                                                 |
| RW-1 THRU RW-4     | SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASMENT AND PROPERTY TIES |
| TMP-1 THRU TMP-4   | TRAFFIC MANAGEMENT PLANS                                                      |
| PMP-1 THRU PMP-2   | PAVEMENT MARKING PLANS                                                        |
| EC-1 THRU EC-5     | EROSION CONTROL PLANS                                                         |
| SIGN-1 THRU SIGN-5 | SIGNING PLANS                                                                 |
| UC-1 THRU UC-5     | UTILITIES CONSTRUCTION PLANS                                                  |
| UO-1 THRU UO-2     | UTILITIES BY OTHERS PLANS                                                     |
| X-1                | CROSS-SECTION INDEX                                                           |
| X-1A               | CROSS-SECTION SUMMARY SHEET                                                   |
| X-1 THRU X-15      | CROSS-SECTIONS                                                                |
| S-1 THRU S- 24     | STRUCTURE PLANS                                                               |
| W-1 THRU W- 4      | WALL PLANS                                                                    |

|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERAL NOTES:                                     | 2024 SPECIFICATIONS<br>EFFECTIVE: 01-16-2024<br>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.                                                                                                                                                        |
| 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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".                                                                                                                                                                                                                                                              |
| END BENTS:                                         | THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.                                                                                                                                                                                                                       |
| UTILITIES:                                         | UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY,<br><br>CHARTER / SPECTRUM, BRIGHTSPEED, AND DAN RIVER WATER INC.<br><br>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.                                                                                                                                                                                                                                                                                                                                 |

|                                                                                                                                                                                                                                                                                              |                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| EFF. 01-16-2024<br>REV.                                                                                                                                                                                                                                                                      | 2024 ROADWAY ENGLISH STANDARD DRAWINGS                                                   |
| The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans: |                                                                                          |
| STD.NO.                                                                                                                                                                                                                                                                                      | TITLE                                                                                    |
| DIVISION 2 - EARTHWORK                                                                                                                                                                                                                                                                       |                                                                                          |
| 200.02                                                                                                                                                                                                                                                                                       | Method of Clearing - Method II                                                           |
| 225.02                                                                                                                                                                                                                                                                                       | Guide for Grading Subgrade - Secondary and Local                                         |
| 225.04                                                                                                                                                                                                                                                                                       | Method of Obtaining Superelevation - Two Lane Pavement                                   |
| DIVISION 3 - PIPE CULVERTS                                                                                                                                                                                                                                                                   |                                                                                          |
| 300.01                                                                                                                                                                                                                                                                                       | Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)   |
| 310.10                                                                                                                                                                                                                                                                                       | Driveway Pipe Construction                                                               |
| DIVISION 4 - MAJOR STRUCTURES                                                                                                                                                                                                                                                                |                                                                                          |
| 423.03                                                                                                                                                                                                                                                                                       | Bridge Approach Fills - Type 2 Approach Fill for Bridge Abutment with MSE Wall           |
| DIVISION 5 - SUBGRADE, BASES AND SHOULDERS                                                                                                                                                                                                                                                   |                                                                                          |
| 560.01                                                                                                                                                                                                                                                                                       | Method of Shoulder Construction - High Side of Superelevated Curve - Method I            |
| DIVISION 6 - ASPHALT BASES AND PAVEMENTS                                                                                                                                                                                                                                                     |                                                                                          |
| 610.04                                                                                                                                                                                                                                                                                       | Guide for Paving Shoulders Under Bridges - Method IV                                     |
| 654.01                                                                                                                                                                                                                                                                                       | Pavement Repairs                                                                         |
| DIVISION 8 - INCIDENTALS                                                                                                                                                                                                                                                                     |                                                                                          |
| 840.00                                                                                                                                                                                                                                                                                       | Concrete Base Pad for Drainage Structures                                                |
| 840.04                                                                                                                                                                                                                                                                                       | Concrete Open Throat Catch Basin - 12" thru 48" Pipe                                     |
| 840.05                                                                                                                                                                                                                                                                                       | Brick Open Throat Catch Basin - 12" thru 48" Pipe                                        |
| 840.14                                                                                                                                                                                                                                                                                       | Concrete Drop Inlet - 12" thru 30" Pipe                                                  |
| 840.15                                                                                                                                                                                                                                                                                       | Brick Drop Inlet - 12" thru 30" Pipe                                                     |
| 840.16                                                                                                                                                                                                                                                                                       | Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15                    |
| 840.25                                                                                                                                                                                                                                                                                       | Anchorage for Frames - Brick or Concrete or Precast                                      |
| 840.29                                                                                                                                                                                                                                                                                       | Frames and Narrow Slot Flat Grates                                                       |
| 840.31                                                                                                                                                                                                                                                                                       | Concrete Junction Box - 12" thru 66" Pipe                                                |
| 840.32                                                                                                                                                                                                                                                                                       | Brick Junction Box - 12" thru 66" Pipe                                                   |
| 840.35                                                                                                                                                                                                                                                                                       | Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates                |
| 840.45                                                                                                                                                                                                                                                                                       | Precast Drainage Structure                                                               |
| 840.46                                                                                                                                                                                                                                                                                       | Traffic Bearing Precast Drainage Structure                                               |
| 840.54                                                                                                                                                                                                                                                                                       | Manhole Frame and Cover                                                                  |
| 840.55                                                                                                                                                                                                                                                                                       | Manhole Frame and Cover (Flush with Slab for Open Throat Catch Basin)                    |
| 840.66                                                                                                                                                                                                                                                                                       | Drainage Structure Steps                                                                 |
| 840.71                                                                                                                                                                                                                                                                                       | Concrete and Brick Pipe Plug                                                             |
| 846.01                                                                                                                                                                                                                                                                                       | Concrete Curb, Gutter and Curb & Gutter                                                  |
| 846.04                                                                                                                                                                                                                                                                                       | Drop Inlet Installation in Shoulder Berm Gutter                                          |
| 857.01                                                                                                                                                                                                                                                                                       | Precast Reinforced Concrete Barrier - 41" Single Faced                                   |
| 862.01                                                                                                                                                                                                                                                                                       | Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 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)                 |
| 862.04                                                                                                                                                                                                                                                                                       | Anchoring End of Guardrail - for B-77 and B-83 Anchor Units                              |
| 876.01                                                                                                                                                                                                                                                                                       | Rip Rap in Channels and Ditches                                                          |
| 876.02                                                                                                                                                                                                                                                                                       | Guide for Rip Rap at Pipe Outlets                                                        |
| 876.04                                                                                                                                                                                                                                                                                       | Drainage Ditches with Class 'B' Rip Rap                                                  |

*Note: Not to Scale*

**BOUNDARIES AND PROPERTY:**

|                                       |  |
|---------------------------------------|--|
| State Line                            |  |
| County Line                           |  |
| Township Line                         |  |
| City Line                             |  |
| Reservation Line                      |  |
| Property Line                         |  |
| Existing Iron Pin (EIP)               |  |
| Computed Property Corner              |  |
| Existing Concrete Monument (ECM)      |  |
| Parcel / Sequence Number              |  |
| Existing Fence Line                   |  |
| Proposed Woven Wire Fence             |  |
| Proposed Chain Link Fence             |  |
| Proposed Barbed Wire Fence            |  |
| Existing Wetland Boundary             |  |
| Proposed Wetland Boundary             |  |
| Existing Endangered Animal Boundary   |  |
| Existing Endangered Plant Boundary    |  |
| Existing Historic Property Boundary   |  |
| Known Contamination Area: Soil        |  |
| Potential Contamination Area: Soil    |  |
| Known Contamination Area: Water       |  |
| Potential Contamination Area: Water   |  |
| Contaminated Site: Known or Potential |  |
| <b>BUILDINGS AND OTHER CULTURE:</b>   |  |
| Gas Pump Vent or U/G Tank Cap         |  |
| Sign                                  |  |
| Well                                  |  |
| Small Mine                            |  |
| Foundation                            |  |
| Area Outline                          |  |
| Cemetery                              |  |
| Building                              |  |
| School                                |  |
| Church                                |  |
| Dam                                   |  |
| <b>HYDROLOGY:</b>                     |  |
| Stream or Body of Water               |  |
| Hydro, Pool or Reservoir              |  |
| Jurisdictional Stream                 |  |
| Buffer Zone 1                         |  |
| Buffer Zone 2                         |  |
| Flow Arrow                            |  |
| Disappearing Stream                   |  |
| Spring                                |  |
| Wetland                               |  |
| Proposed Lateral, Tail, Head Ditch    |  |
| False Sump                            |  |

# STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

## CONVENTIONAL PLAN SHEET SYMBOLS

**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  |  |
| Proposed Slope Stakes Fill |  |
| Proposed Curb Ramp         |  |
| Existing Metal Guardrail   |  |
| Proposed Guardrail         |  |
| Existing Cable Guiderail   |  |
| Proposed Cable Guiderail   |  |
| Equality Symbol            |  |
| Pavement Removal           |  |
| <b>VEGETATION:</b>         |  |
| Single Tree                |  |
| Single Shrub               |  |
| Hedge                      |  |

|            |  |
|------------|--|
| Woods Line |  |
| Orchard    |  |
| Vineyard   |  |

**EXISTING STRUCTURES:**

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

**UTILITIES:**

|                                                                                                  |  |
|--------------------------------------------------------------------------------------------------|--|
| <i>* SUE - Subsurface Utility Engineering<br/>LOS - Level of Service - A,B,C or D (Accuracy)</i> |  |
| <b>POWER:</b>                                                                                    |  |
| 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:**

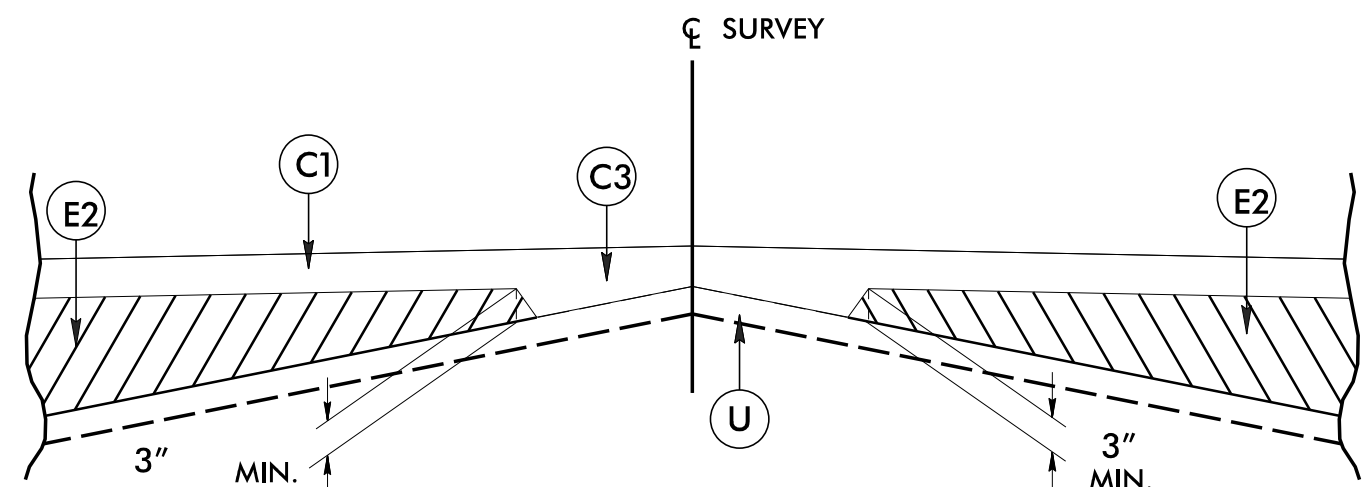
|                                             |  |
|---------------------------------------------|--|
| Sanitary Sewer Manhole                      |  |
| Sanitary Sewer Cleanout                     |  |
| U/G Sanitary Sewer Line                     |  |
| Above Ground Sanitary Sewer                 |  |
| 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:**

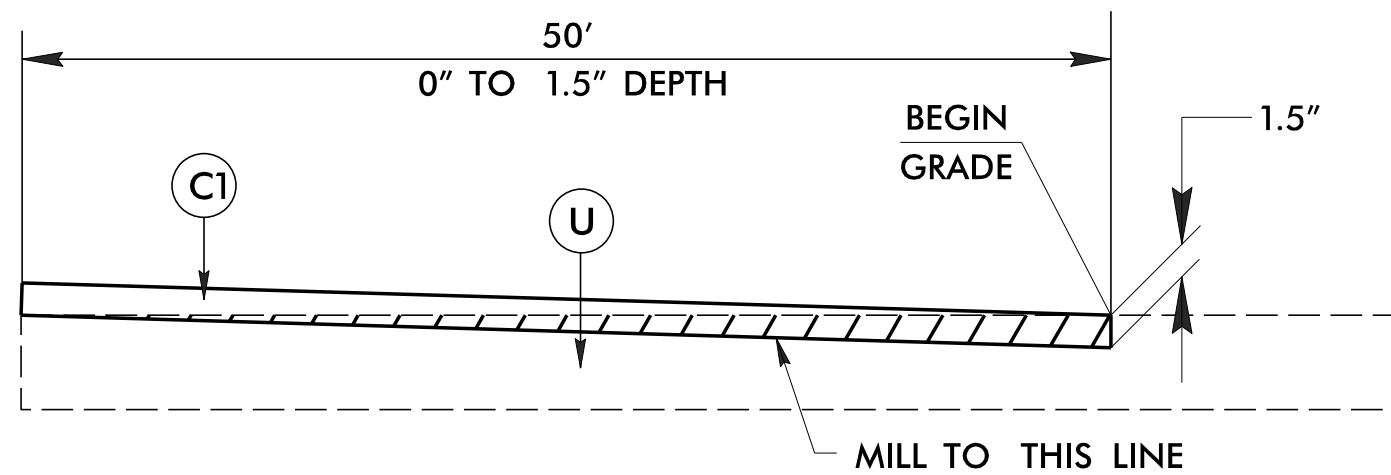
|                                         |  |
|-----------------------------------------|--|
| Utility Pole                            |  |
| Utility Pole with Base                  |  |
| Utility Located Object                  |  |
| Utility Traffic Signal Box              |  |
| Utility Unknown U/G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

| PAVEMENT SCHEDULE |                                                                                                                                                                                                     |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C1                | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.                                                                                          |
| 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.                                                                                      |
| 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 LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH. |
| R                 | SHOULDER BERM GUTTER                                                                                                                                                                                |
| T                 | EARTH MATERIAL.                                                                                                                                                                                     |
| U                 | EXISTING PAVEMENT.                                                                                                                                                                                  |
| V1                | MILLING EXISTING ASPHALT PAVEMENT, 1.5"                                                                                                                                                             |
| W                 | VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)                                                                                                                                                |

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

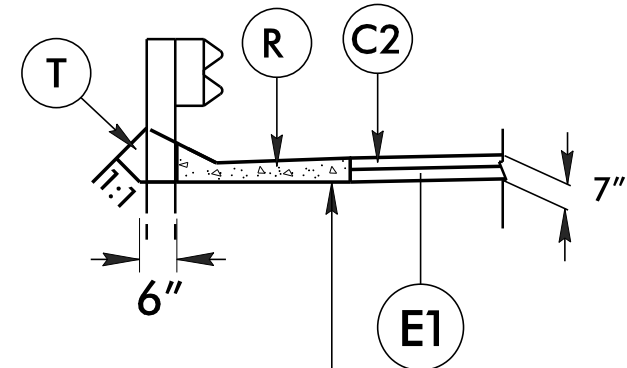


Detail Showing Method of Wedging



Detail of Milling at Pavement Tie-ins

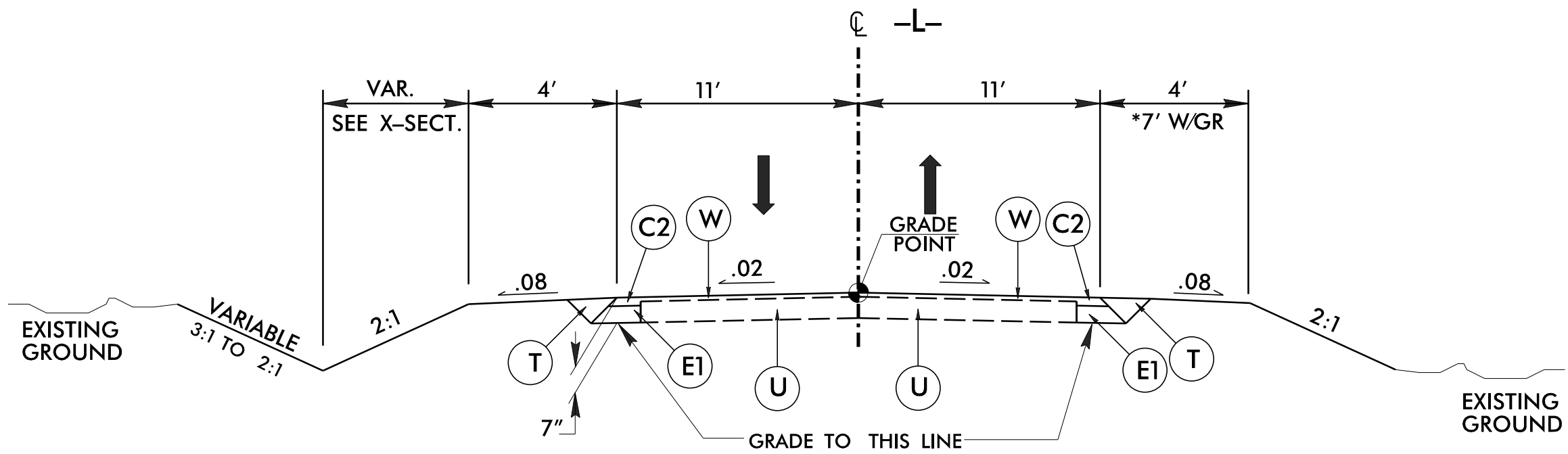
- L- STA. 12+50.00 TO -L- STA. 13+00.00
- L- STA. 17+50.00 TO -L- STA. 18+00.00
- Y1- STA. 12+50.00 TO -Y1- STA. 13+00.00



GRADE TO THIS LINE

DETAIL SHOWING SHOULDER BERM GUTTER

- L- STA. 14+66.00 TO -L- STA. 14+87.49 (LT)
- L- STA. 14+66.00 TO -L- STA. 14+76.45 (RT)
- L- STA. 15+68.35 TO -L- STA. 15+80.00 (LT)
- L- STA. 15+57.31 TO -L- STA. 15+80.00 (RT)



TYPICAL SECTION NO. 1

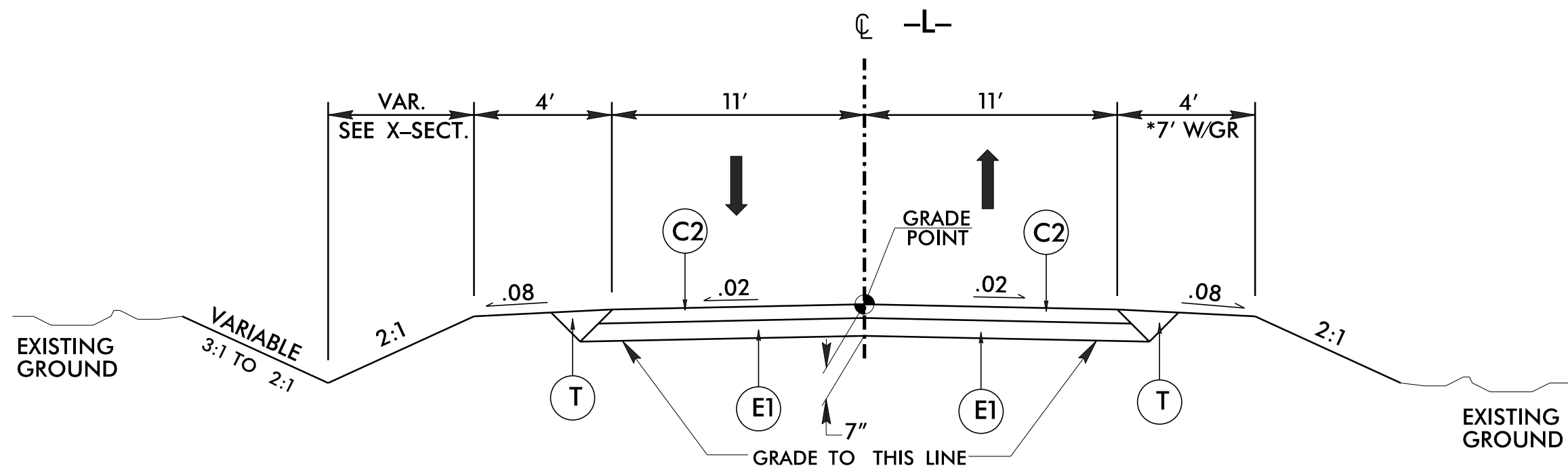
USE TYPICAL SECTION NO. 1

TRANSITION FROM EXISTING AT -L- STA. 12+50.00 TO TYPICAL SECTION NO. 1 AT -L- STATION 13+00.00

- L- STA. 13+00.00 TO -L- STA. 13+72.00
- L- STA. 17+30.00 TO -L- STA. 17+50.00

TRANSITION FROM TYPICAL SECTION NO. 1 AT 17+50.00 TO EXISTING AT -L- STA. 18+00.00

\* PAVE TO THE FACE OF GUARDRAIL

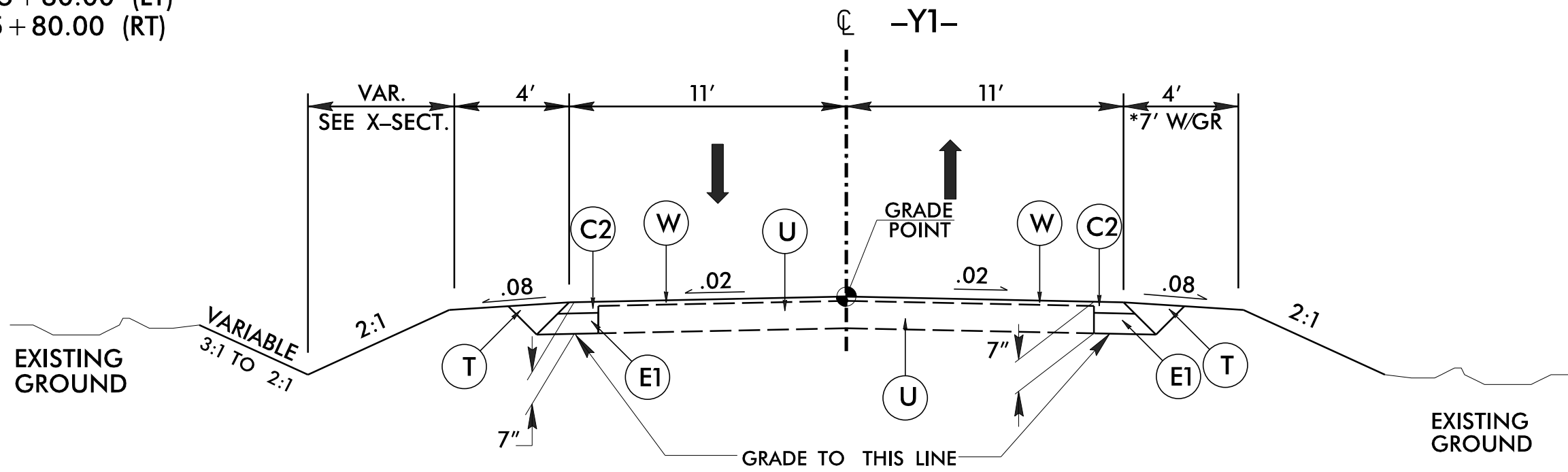


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

- L- STA. 13+72.00 TO STA. 14+92.90 (BEGIN BRIDGE)
- L- STA. 15+51.90 (END BRIDGE) TO STA. 17+30.00

\* PAVE TO THE FACE OF GUARDRAIL



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

- Y1- STA. 12+50.00 TO STA. 13+43.61

\* PAVE TO THE FACE OF GUARDRAIL

BR-0096

FP 2A-1

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
ROCKINGHAM COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN  
ENGINEER

SEAL  
027771  
MATTHEW B. COPELAND  
ENGINEER  
11/14/2025

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

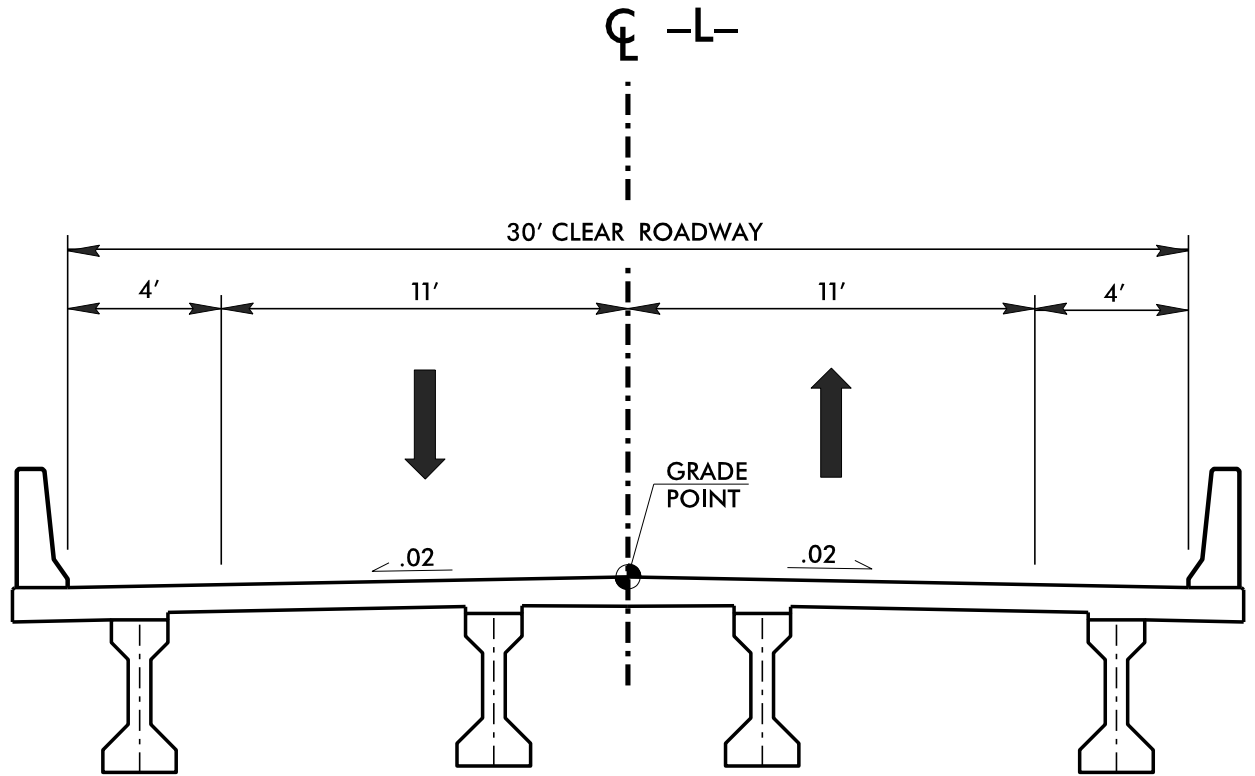
PAYMENT  
ENGINEER

SEAL  
038176  
SHIHAI ZHANG  
ENGINEER  
11/14/2025

REVISIONS

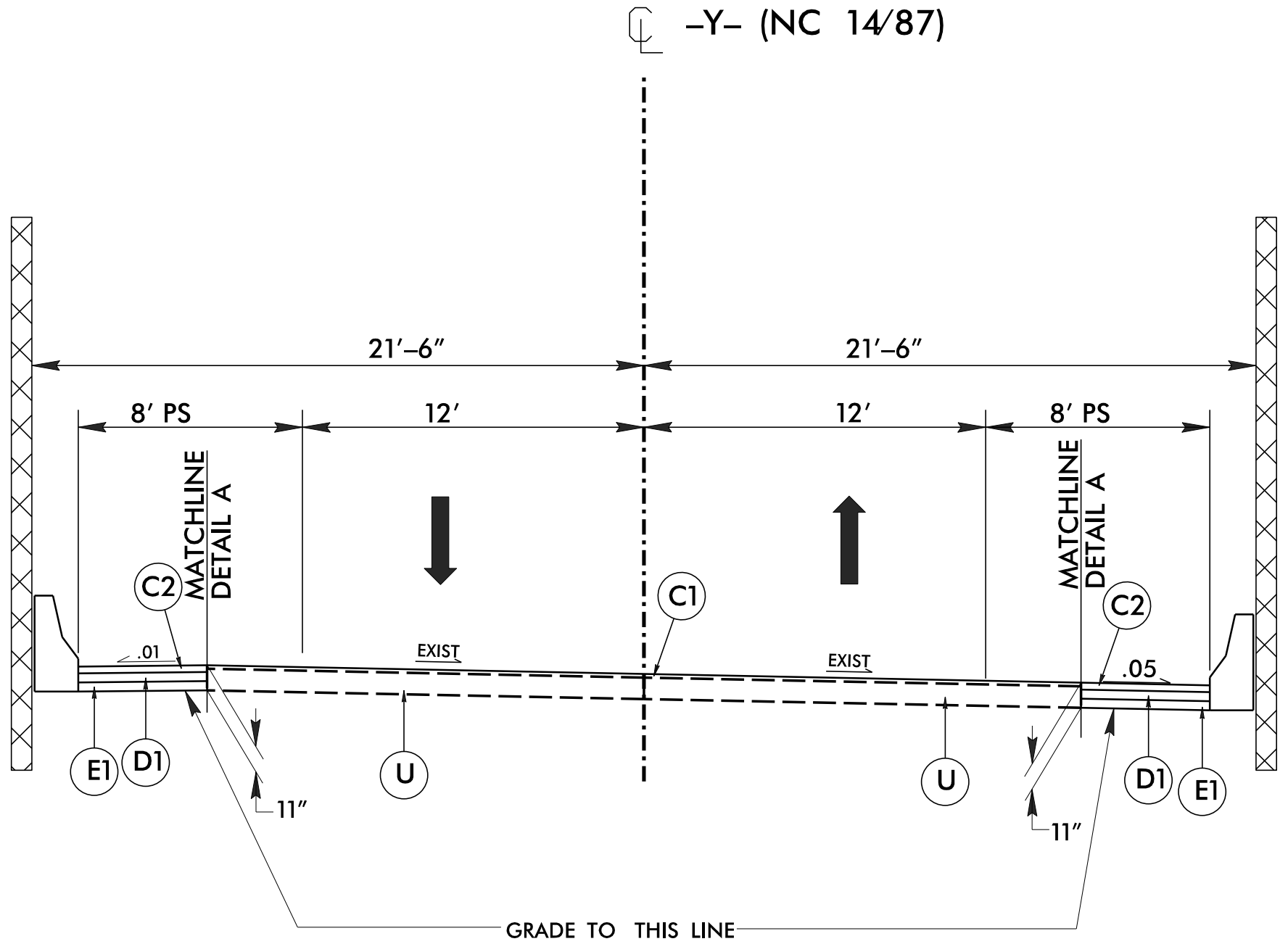
| PAVEMENT SCHEDULE |                |
|-------------------|----------------|
| C1                | 1.5" S9.5B     |
| C2                | 3" S9.5B       |
| C3                | VAR S9.5B      |
| D1                | 4" I19.0C      |
| E1                | 4" B25.0C      |
| E2                | VAR B25.0C     |
| R                 | SBG            |
| T                 | EARTH MATERIAL |
| U                 | EXISTING PVMNT |
| V1                | 1.5" MILLING   |
| W                 | WEDGING        |

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



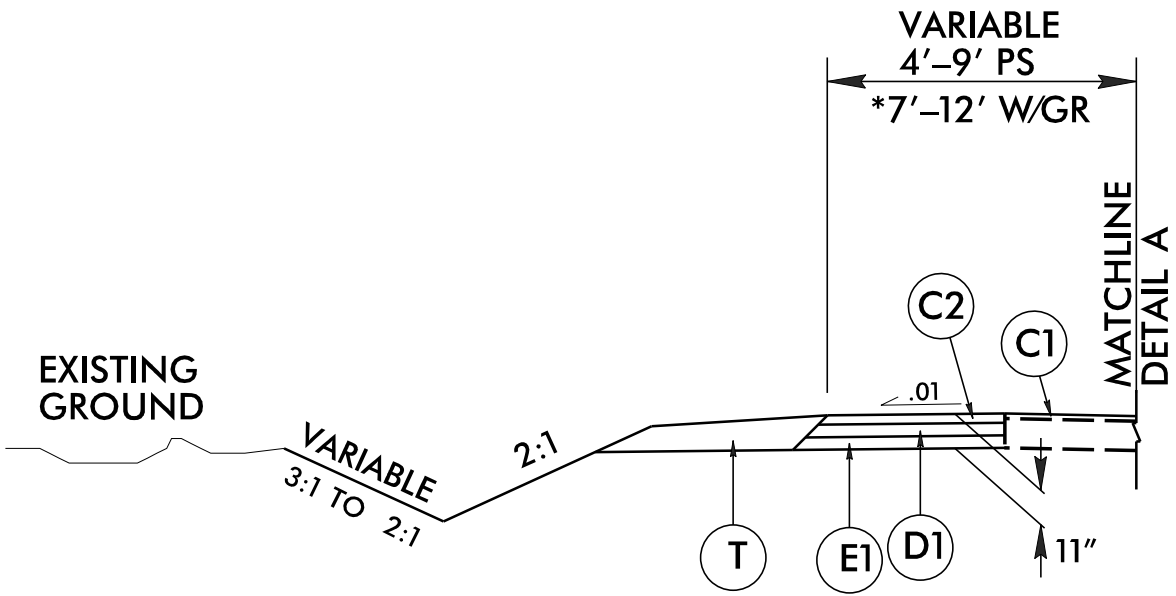
TYPICAL SECTION ON STRUCTURE

(SEE STRUCTURE PLANS FOR STRUCTURE CONSTRUCTION DETAILS)



TYPICAL SECTION NO.4

-Y- STA. 14 + 63.14 TO STA. 18 + 48.93



DETAIL A

### USE DETAIL A

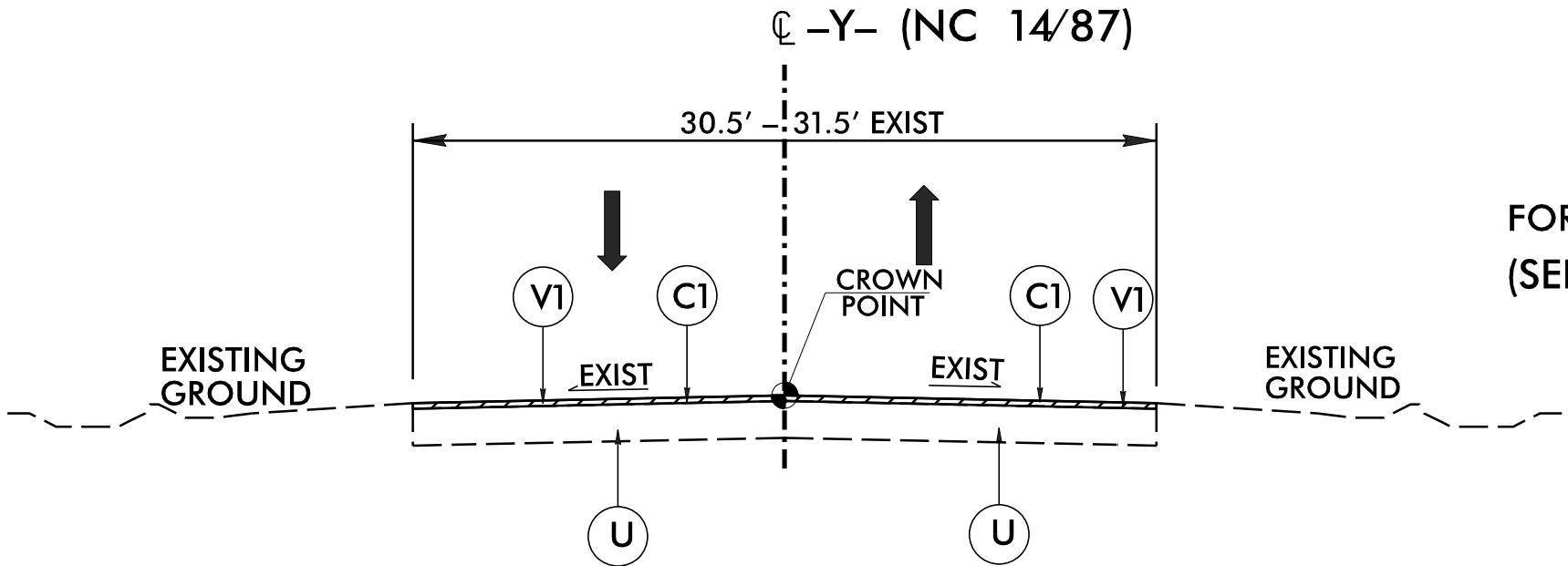
-Y- STA. 14 + 63.14 TO STA. 15 + 88.31  
-Y- STA. 16 + 98.11 TO STA. 18 + 25.57

#### MIRROR DETAIL

-Y- STA. 15 + 66.58 TO STA. 16 + 13.12  
-Y- STA. 17 + 23.43 TO STA. 18 + 48.93

\* MATCH EXISITING CROSS SLOPE ON DETAIL MIRROR

\* PAVE TO THE FACE OF GUARDRAIL



DETAIL B

### USE DETAIL B

FOR 250'± OUTSIDE OF CONSTRUCTION LIMITS  
(SEE SHEET 4 AND TMP PLANS FOR DETAILS)

BR-0096  
FP 2A-2

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
ROCKINGHAM COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN  
ENGINEER

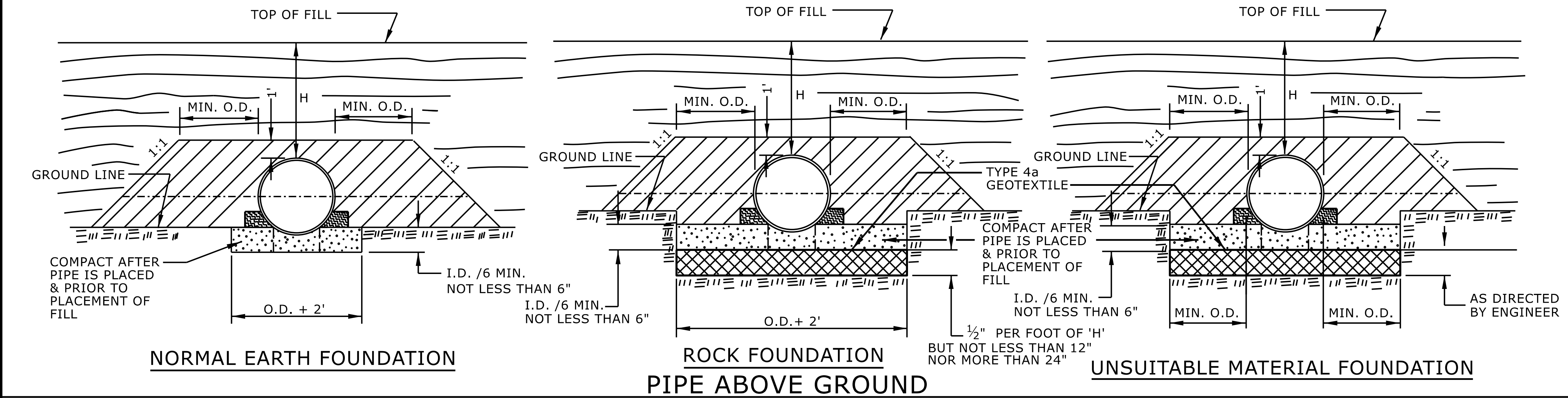
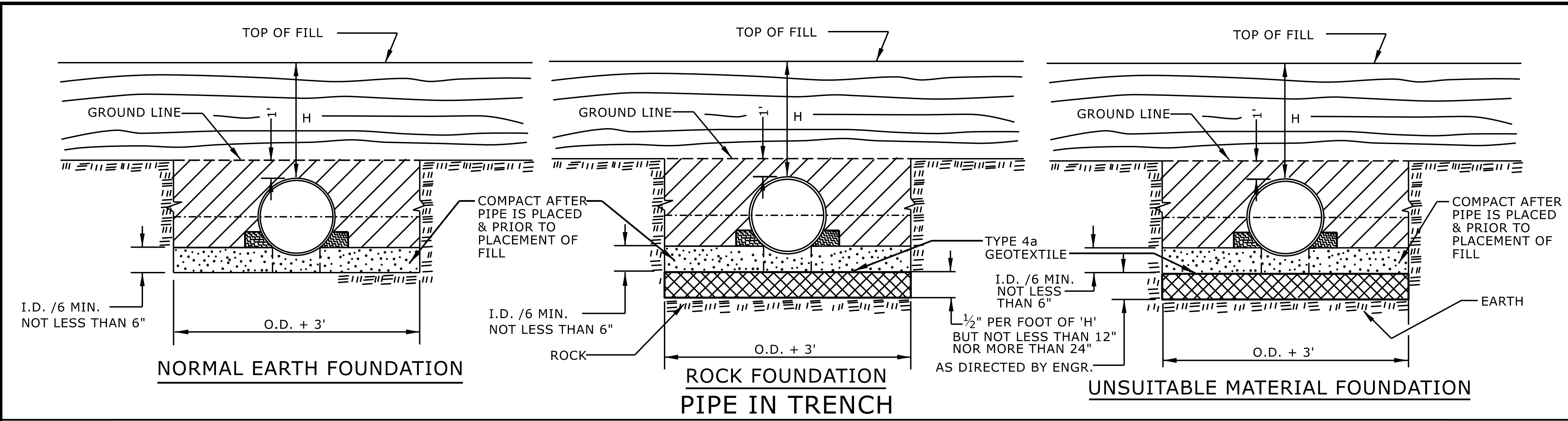
SEAL  
MATTHEW B. COPELAND  
ENGINEER  
027771  
11/14/2025

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UNLESS ALL SIGNATURES COMPLETED

PAVEMENT  
ENGINEER

SEAL  
SHIHAI ZHANG  
ENGINEER  
038176  
11/14/2025

REVISIONS



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**

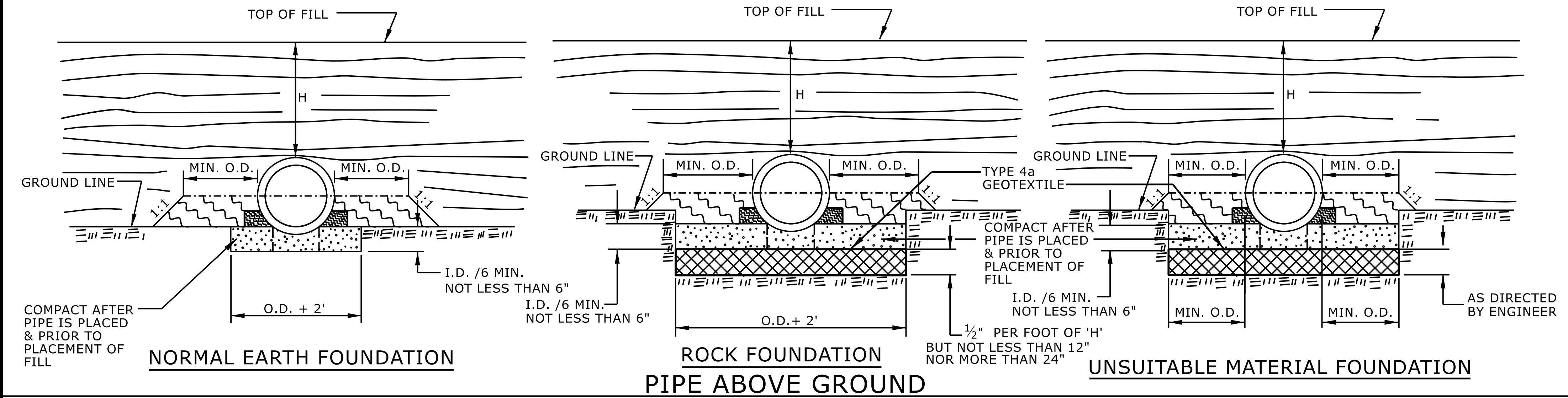
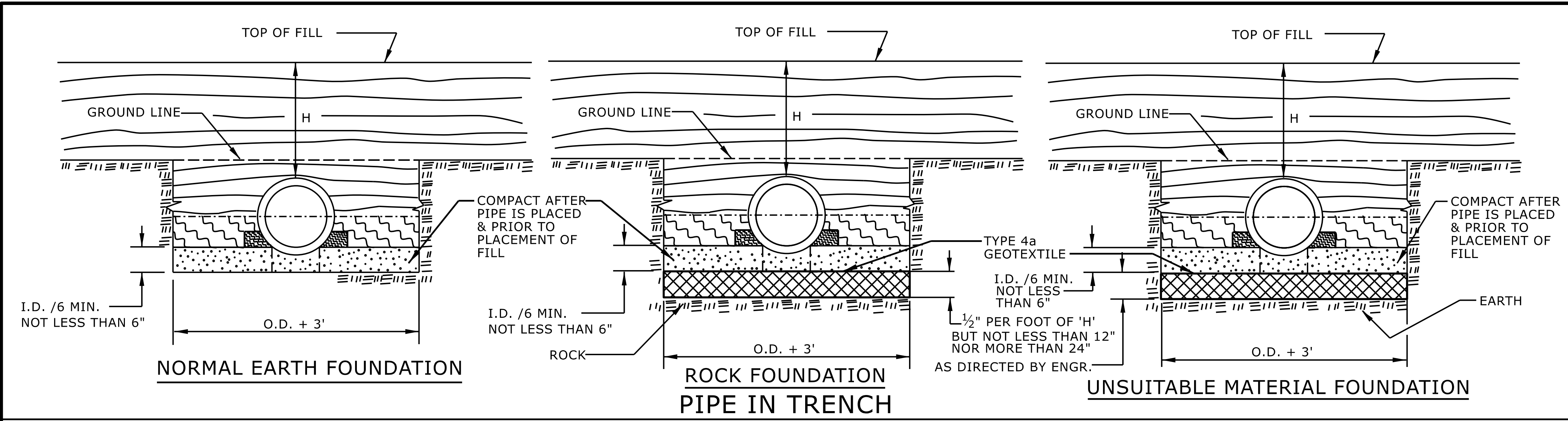
Signed by: *Michael M. Hackler*  
SEAL  
033144  
11/05/2025

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UNLESS ALL SIGNATURES COMPLETED

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

**SEE TITLE BLOCK**

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



GENERAL NOTES:

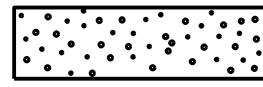
I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

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

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

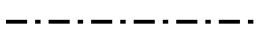
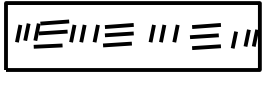
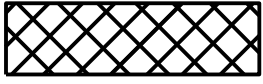
 APPROVED SUITABLE LOCAL MATERIAL.

 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

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

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

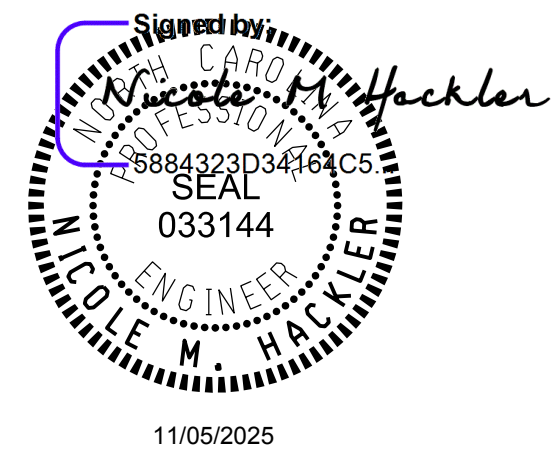
REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

-  SPRINGLINE OF PIPE
-  SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.
-  UNDISTURBED EARTH MATERIAL
-  SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF  
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ROADWAY DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
RIGID PIPE

SHEET 2 OF 2  
**300.01**

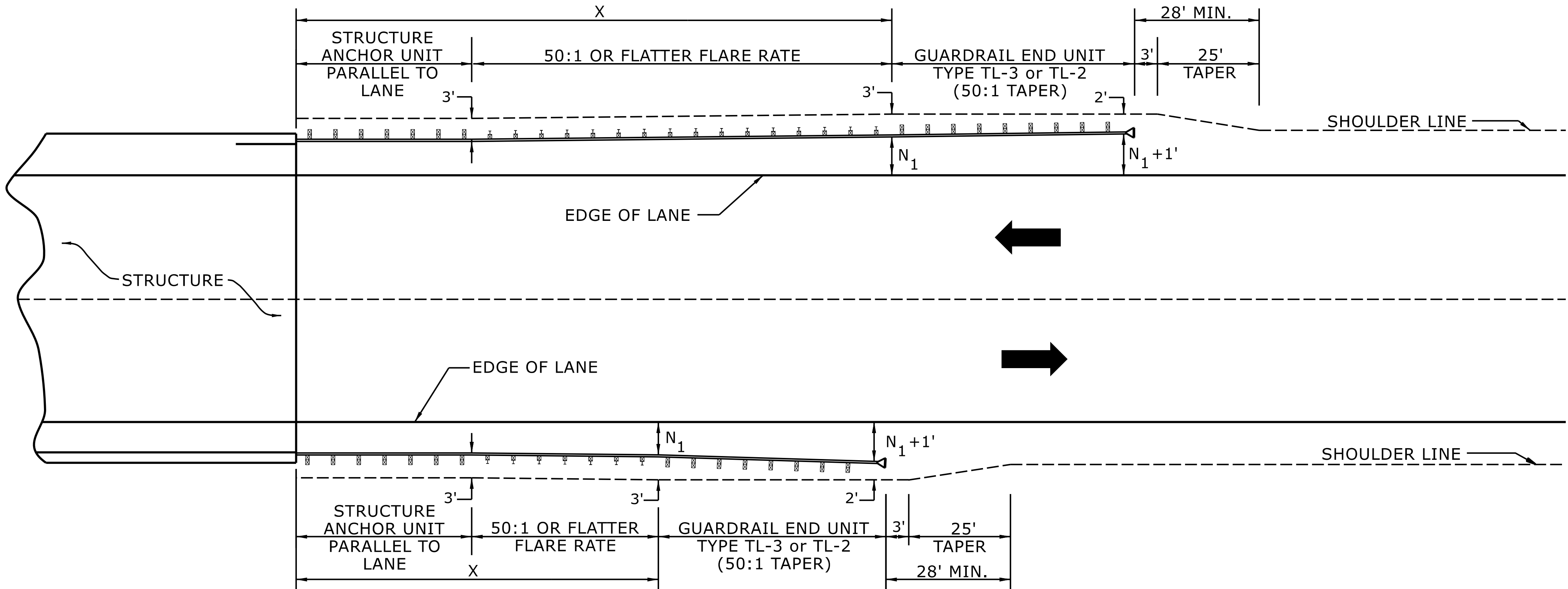


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CONTRACTS STANDARDS  
AND DEVELOPMENT UNIT  
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**SEE TITLE BLOCK**

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



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

SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

FOR POSTED SPEEDS  $\geq$  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**

Signed by:  
*Nicole M. Hackler*  
Professional Engineer  
SEAL  
033144  
N. COLE M. HACKLER  
11/05/2025

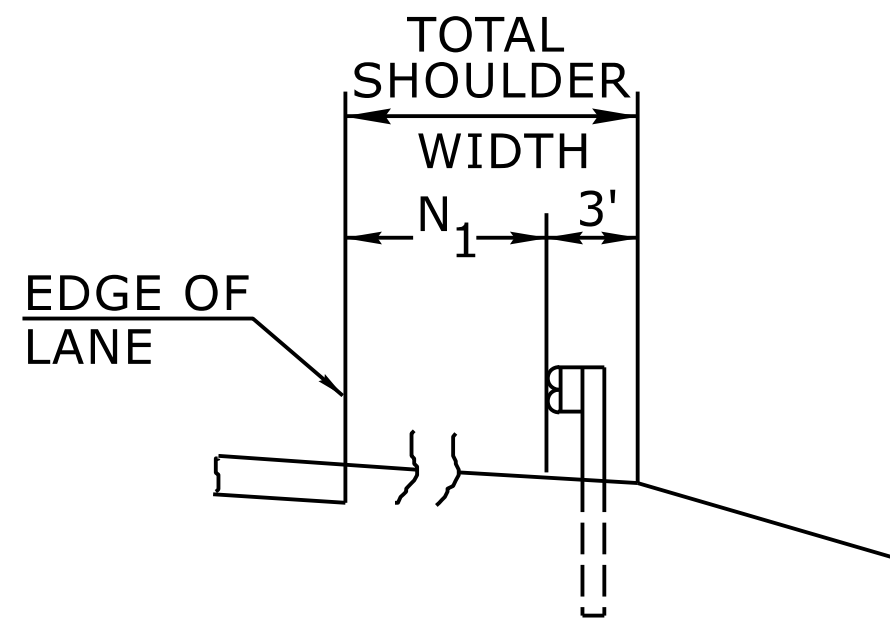
DOCUMENT NOT CONSIDERED FINAL  
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**CONTRACTS STANDARDS  
AND DEVELOPMENT UNIT**

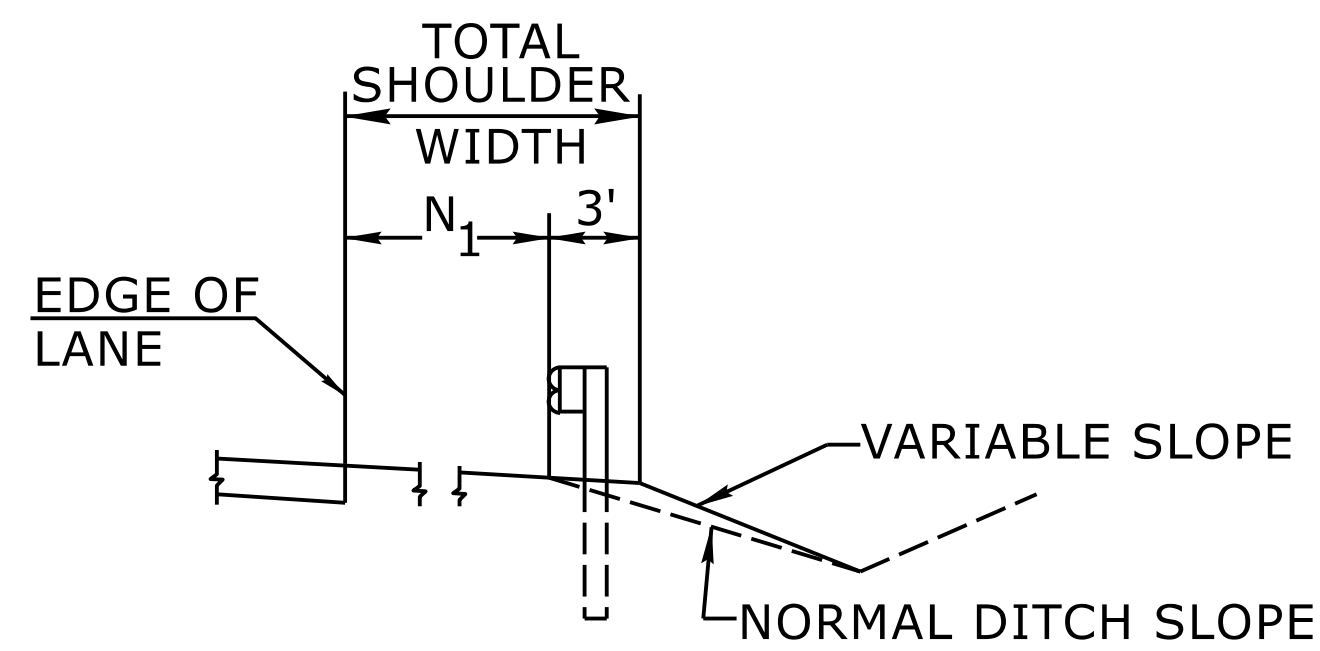
Office 919-707-6950 FAX 919-250-4119

**SEE TITLE BLOCK**

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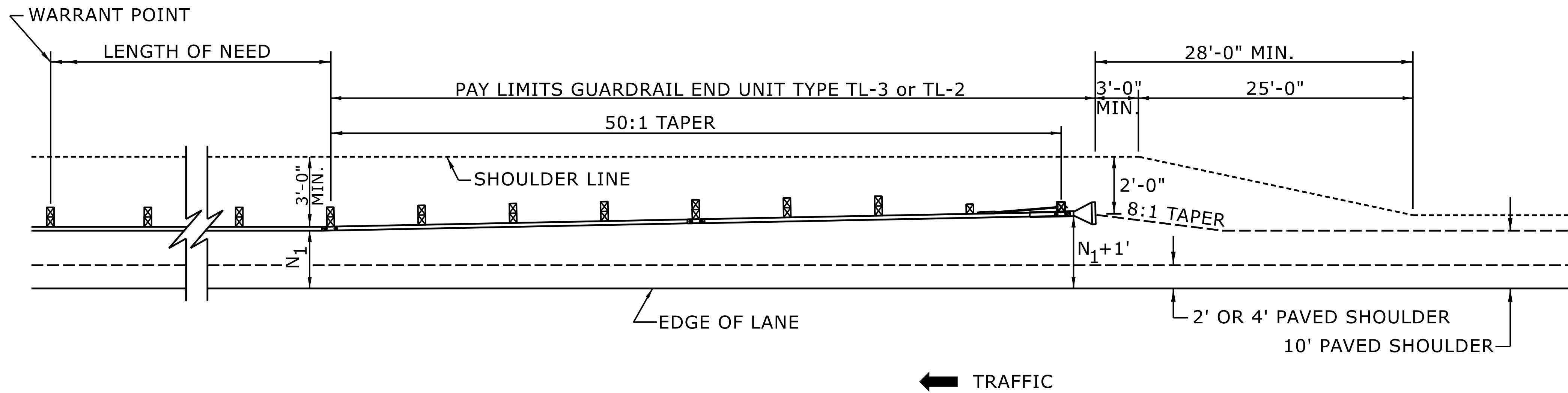


FILL SECTION



CUT SECTION

"N<sub>1</sub>"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



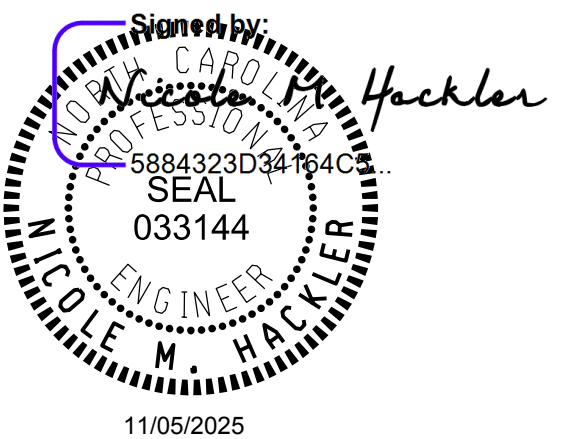
FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3  
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL PLACEMENT**

SHEET 6 OF 15  
**862D01**

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



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

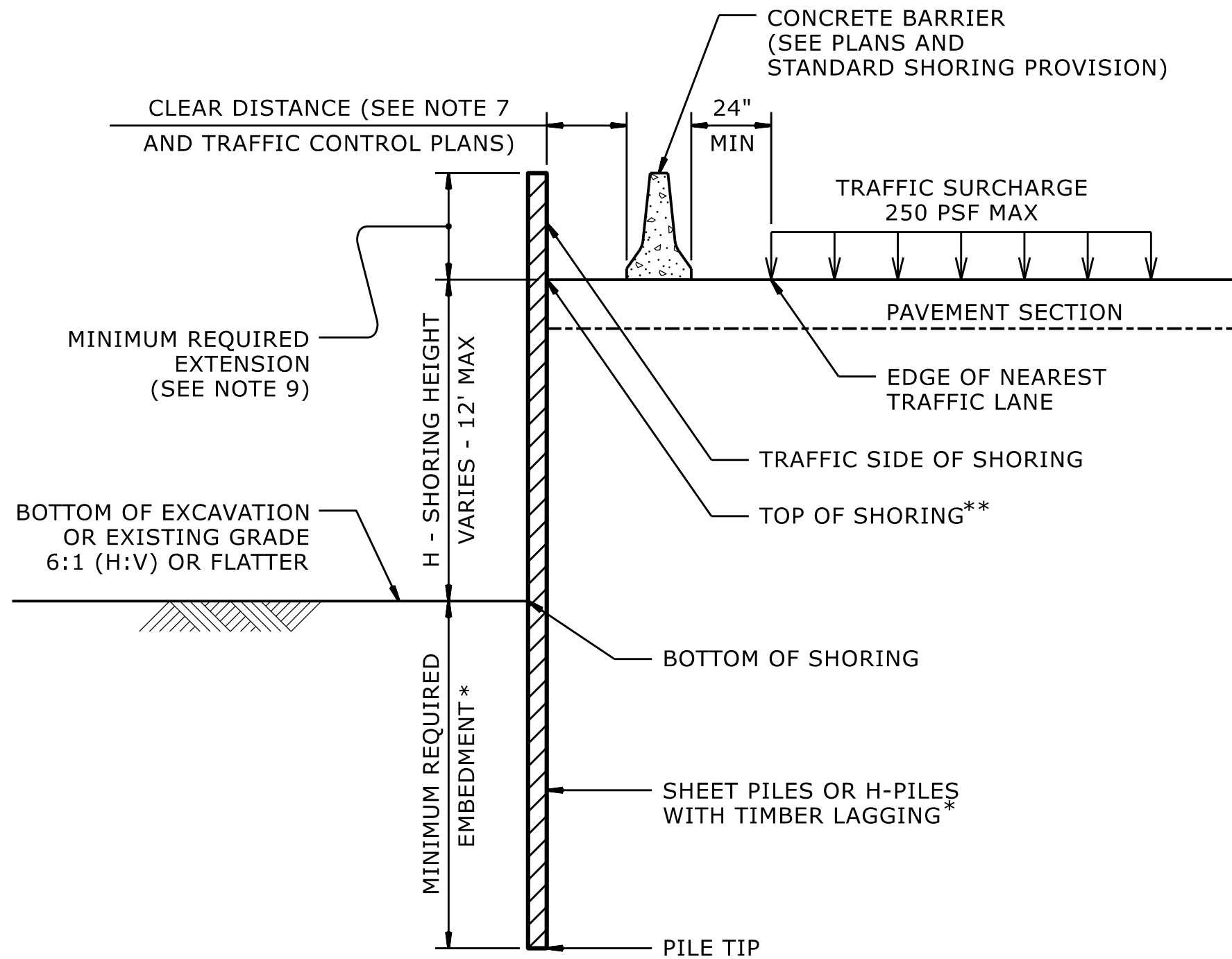
**SEE TITLE BLOCK**

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

| GROUNDWATER<br>CONDITION<br>(SEE NOTE 6)                              | H<br>SHORING<br>HEIGHT<br>(FT) | SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT |                                                              |                                                       |          |          | SURCHARGE CASE WITH TRAFFIC IMPACT       |                                                              |                                                       |          |          |
|-----------------------------------------------------------------------|--------------------------------|------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------|----------|----------|------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------|----------|----------|
|                                                                       |                                | SHEET PILES                                    |                                                              | H-PILES WITH TIMBER LAGGING                           |          |          | SHEET PILES                              |                                                              | H-PILES WITH TIMBER LAGGING                           |          |          |
|                                                                       |                                | MINIMUM<br>REQUIRED<br>EMBEDMENT<br>(FT)       | MINIMUM REQUIRED<br>SECTION MODULUS<br>(IN <sup>4</sup> /FT) | MINIMUM REQUIRED EMBEDMENT *<br>(FT)<br>(SEE NOTE 10) |          |          | MINIMUM<br>REQUIRED<br>EMBEDMENT<br>(FT) | MINIMUM REQUIRED<br>SECTION MODULUS<br>(IN <sup>4</sup> /FT) | MINIMUM REQUIRED EMBEDMENT *<br>(FT)<br>(SEE NOTE 10) |          |          |
|                                                                       |                                |                                                |                                                              | HP 10x42                                              | HP 12x53 | HP 14x73 |                                          |                                                              | HP 10x42                                              | HP 12x53 | HP 14x73 |
| GROUNDWATER<br>ELEVATION BETWEEN<br>BOTTOM OF SHORING<br>AND PILE TIP | < 6                            | 11.5                                           | 4.5                                                          | 11.5                                                  | 11.5     | 11.5     | 16.0                                     | 12.0                                                         | 13.0                                                  | 13.0     | 13.0     |
|                                                                       | 7                              | 13.0                                           | 7.0                                                          | 13.0                                                  | 13.0     | 13.0     | 17.0                                     | 14.5                                                         | 14.5                                                  | 14.5     | 14.5     |
|                                                                       | 8                              | 15.0                                           | 10.0                                                         | --                                                    | 15.0     | 15.0     | 18.0                                     | 17.0                                                         | --                                                    | 15.5     | 15.5     |
|                                                                       | 9                              | 17.0                                           | 14.0                                                         | --                                                    | 17.0     | 17.0     | 19.0                                     | 20.0                                                         | --                                                    | 17.0     | 17.0     |
|                                                                       | 10                             | 18.5                                           | 19.5                                                         | --                                                    | --       | 18.5     | 20.0                                     | 23.5                                                         | --                                                    | --       | 18.5     |
|                                                                       | 11                             | 20.5                                           | 26.0                                                         | --                                                    | --       | --       | 21.0                                     | 28.0                                                         | --                                                    | --       | 20.0     |
|                                                                       | 12                             | 22.5                                           | 33.0                                                         | --                                                    | --       | --       | 22.0                                     | 33.0                                                         | --                                                    | --       | 21.5     |
| GROUNDWATER<br>ELEVATION BELOW<br>PILE TIP                            | < 6                            | 7.5                                            | 3.0                                                          | 8.0                                                   | 8.0      | 8.0      | 11.0                                     | 10.0                                                         | 9.5                                                   | 9.5      | 9.5      |
|                                                                       | 7                              | 8.5                                            | 4.5                                                          | 9.5                                                   | 9.5      | 9.5      | 12.0                                     | 12.0                                                         | 10.5                                                  | 10.5     | 10.5     |
|                                                                       | 8                              | 10.0                                           | 6.5                                                          | 10.5                                                  | 10.5     | 10.5     | 12.5                                     | 14.0                                                         | 11.5                                                  | 11.5     | 11.5     |
|                                                                       | 9                              | 11.0                                           | 9.5                                                          | --                                                    | 12.0     | 12.0     | 13.5                                     | 16.5                                                         | --                                                    | 12.5     | 12.5     |
|                                                                       | 10                             | 12.5                                           | 13.0                                                         | --                                                    | --       | 13.5     | 14.0                                     | 19.5                                                         | --                                                    | 13.5     | 13.5     |
|                                                                       | 11                             | 13.5                                           | 17.0                                                         | --                                                    | --       | 14.5     | 15.0                                     | 22.5                                                         | --                                                    | --       | 14.5     |
|                                                                       | 12                             | 15.0                                           | 21.5                                                         | --                                                    | --       | 16.0     | 16.0                                     | 25.5                                                         | --                                                    | --       | 15.5     |

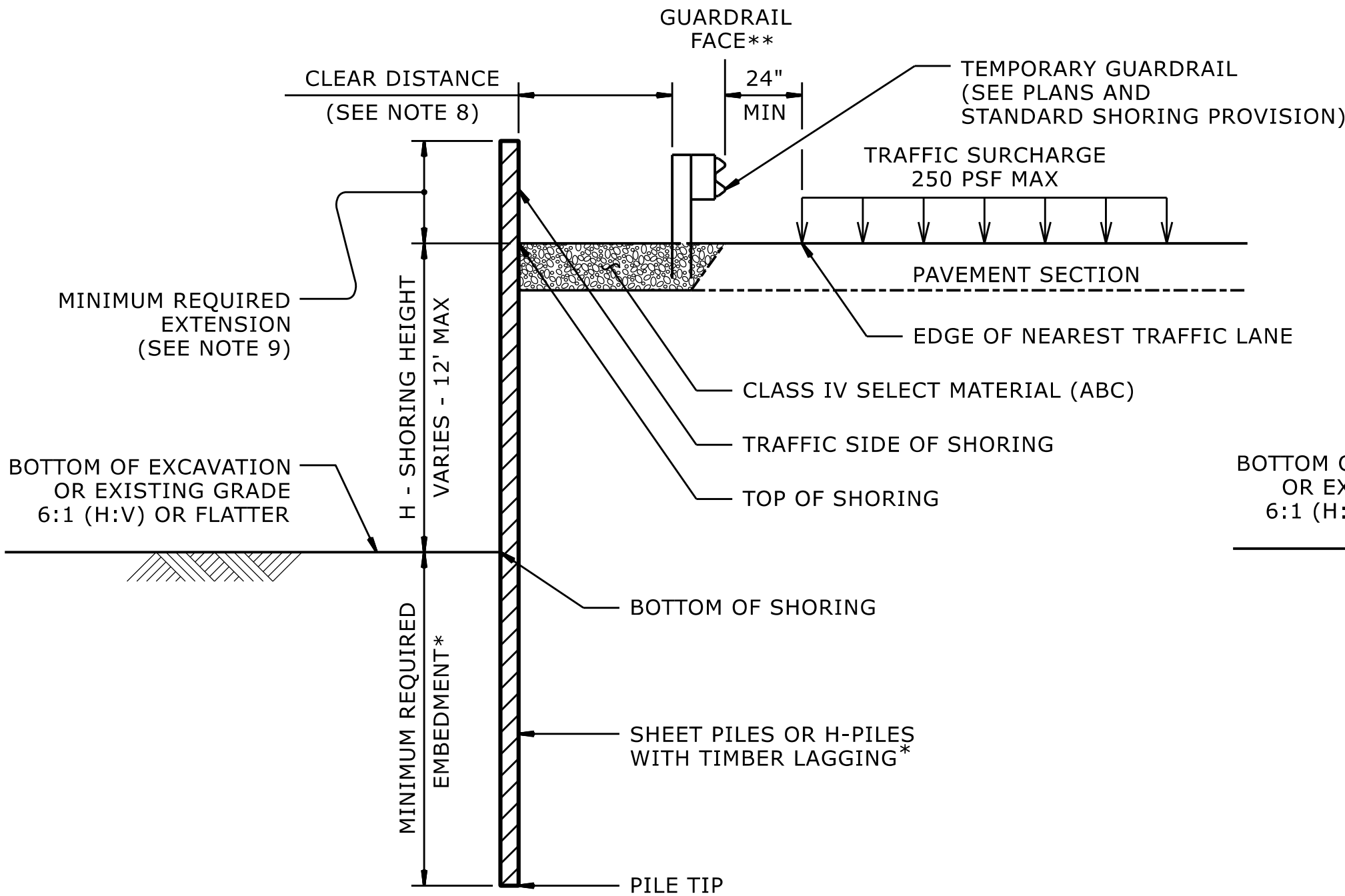
MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

\*DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "---".



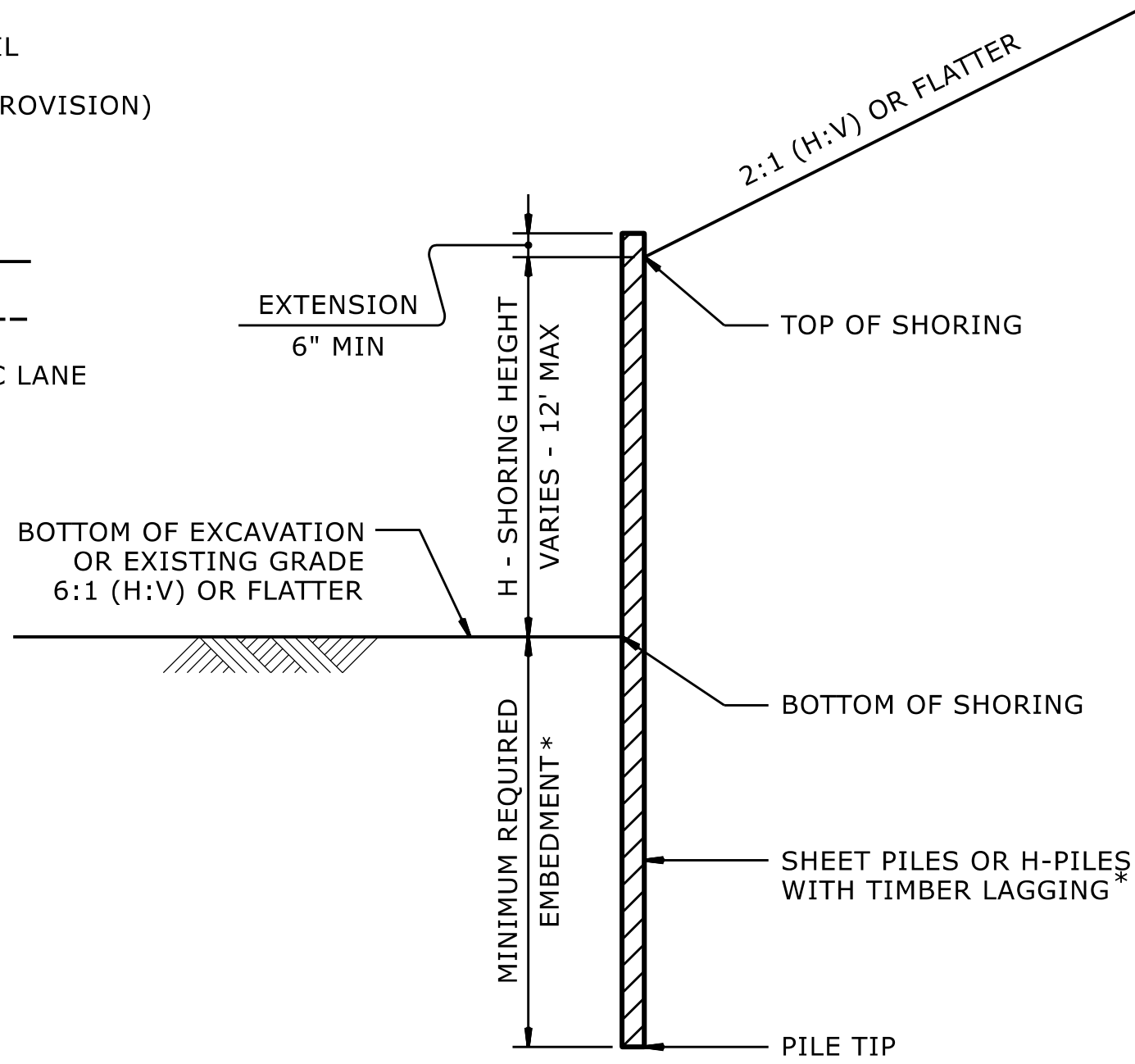
CONCRETE BARRIER

\*\*TOP OF SHORING =  
EDGE OF PAVEMENT



TEMPORARY GUARDRAIL

\*\*GUARDRAIL FACE =  
EDGE OF PAVEMENT



STANDARD TEMPORARY SHORING

(SLOPE CASE)  
\*SEE TABLE ABOVE.

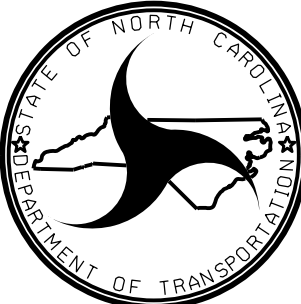
NOTES:

1. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
2. FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
3. STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:  
UNIT WEIGHT,  $\gamma$  = 120 PCF  
FRICTION ANGLE,  $\phi$  = 30 DEGREES  
COHESION,  $c$  = 0 PSF
4. DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
5. DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
6. USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
7. AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
8. AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
9. MINIMUM REQUIRED EXTENSION IS 6" FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32" FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
10. MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
11. SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM:  
[connect.ncdot.gov/resources/Geological/Pages/Geotech\\_Forms\\_Details.aspx](http://connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx)
12. CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.

BR-0096

2G-1 -

NORTH CAROLINA  
DEPARTMENT  
OF TRANSPORTATION



GEOTECHNICAL  
ENGINEERING UNIT

GEOTECHNICAL  
ENGINEER

Scott A. Hidden 10/21/2025



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UNLESS ALL SIGNATURES COMPLETED

STANDARD  
DETAIL NO. 1801.01

GEOTECHNICAL STANDARD DETAIL FOR  
TEMPORARY SHORING





CHECKED BY: \_\_\_\_\_WPA\_\_\_\_\_ DATE: \_\_9/6/2022\_\_

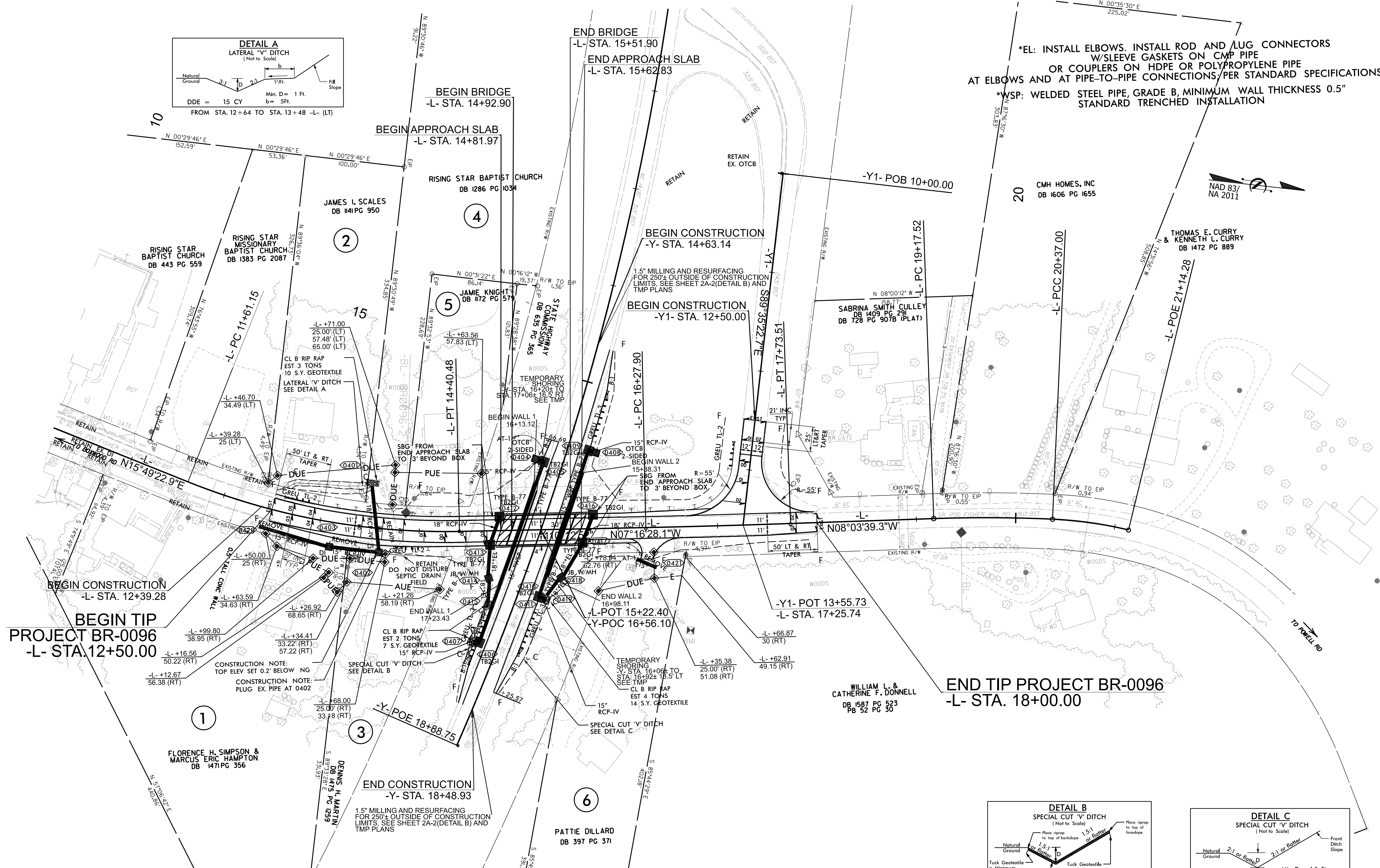
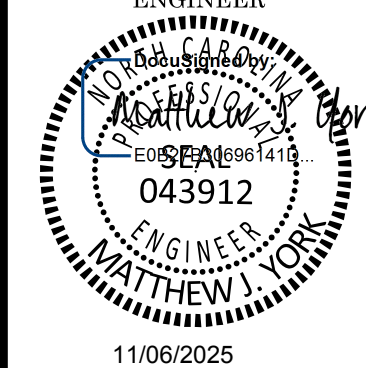
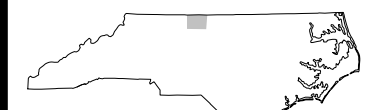
## STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

BR-0096

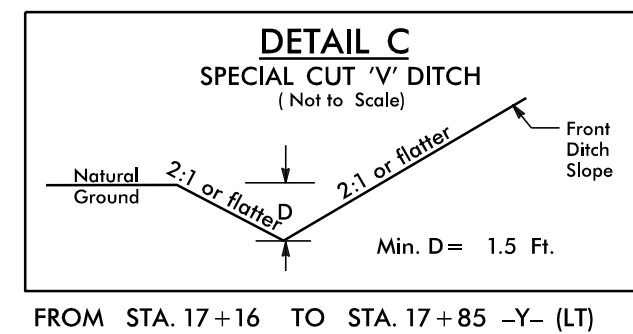
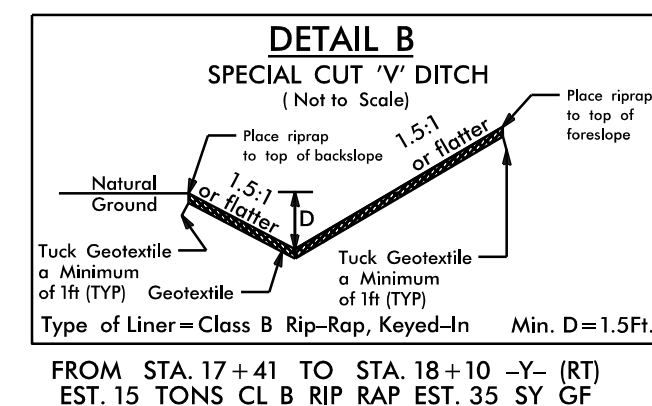
3G-1

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

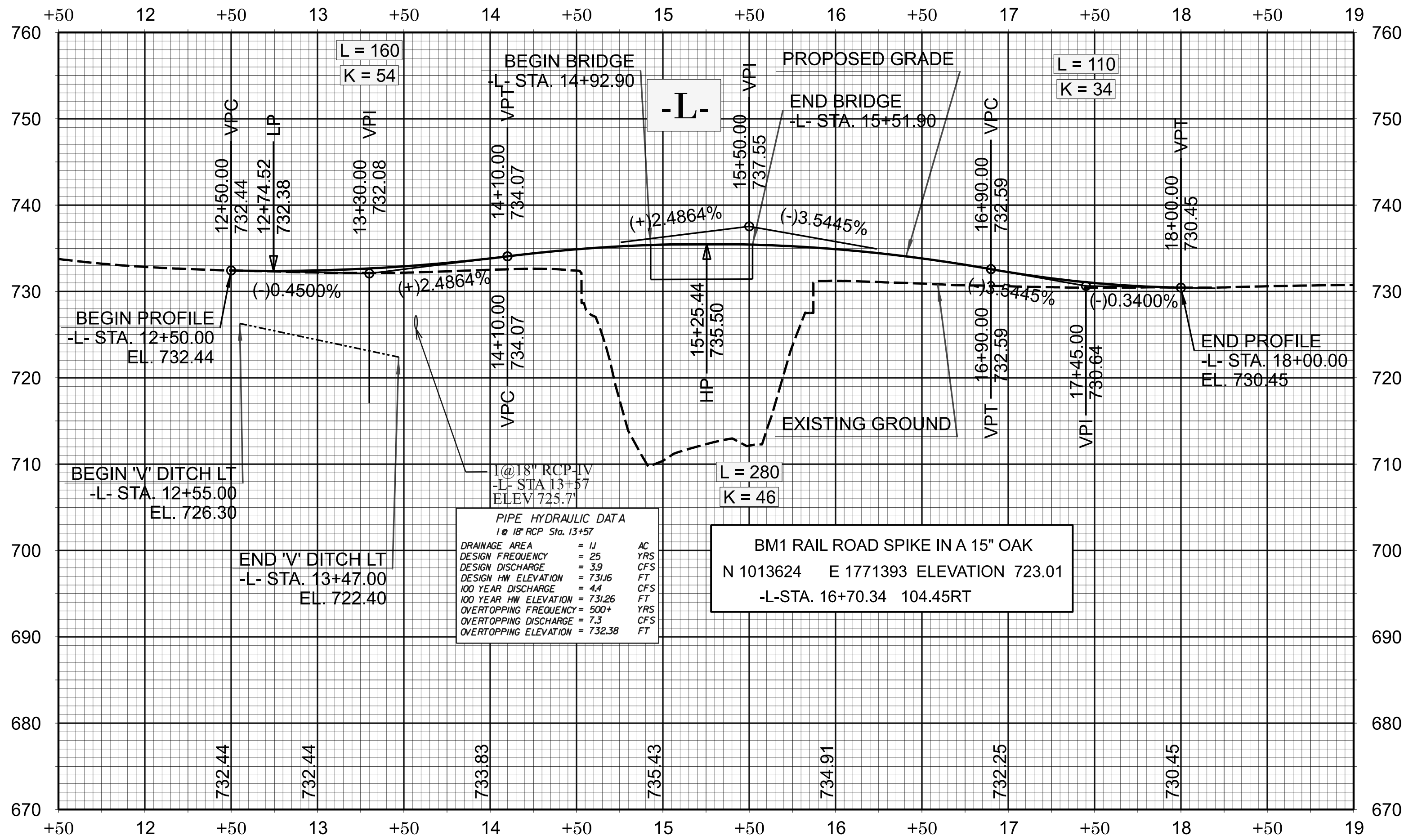
**\*\*Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.**



| CUR DATA -L-                          |  |  |  |  | CUR DATA -Y-                          |  |  |  |  |
|---------------------------------------|--|--|--|--|---------------------------------------|--|--|--|--|
| P/c 13+02.74                          |  |  |  |  | P/c 17+00.71                          |  |  |  |  |
| $\Delta c = 23^{\circ}05'51.0''$ (LT) |  |  |  |  | $\Delta c = 04^{\circ}47'11.2''$ (LT) |  |  |  |  |
| $D = 08^{\circ}16'07.5''$             |  |  |  |  | $D = 00^{\circ}32'24.3''$             |  |  |  |  |
| $Lc = 279.34$                         |  |  |  |  | $Lc = 145.62$                         |  |  |  |  |
| $Tc = 141.59$                         |  |  |  |  | $Tc = 72.81$                          |  |  |  |  |
| $R = 692.92$                          |  |  |  |  | $R = 10,608.84$                       |  |  |  |  |
| $SE = 0.040$                          |  |  |  |  | $SE = 0.020$                          |  |  |  |  |
| P/c 19+77.29                          |  |  |  |  | P/c 20+75.76                          |  |  |  |  |
| $\Delta c = 04^{\circ}31'31.3''$ (RT) |  |  |  |  | $\Delta c = 11^{\circ}08'32.4''$ (RT) |  |  |  |  |
| $D = 03^{\circ}47'14.8''$             |  |  |  |  | $D = 14^{\circ}25'07.8''$             |  |  |  |  |
| $Lc = 119.48$                         |  |  |  |  | $Lc = 77.28$                          |  |  |  |  |
| $Tc = 59.77$                          |  |  |  |  | $Tc = 38.76$                          |  |  |  |  |
| $R = 1,512.79$                        |  |  |  |  | $R = 397.37$                          |  |  |  |  |
| $SE = 0.000$                          |  |  |  |  | $SE = 0.000$                          |  |  |  |  |
| P/c 20+75.76                          |  |  |  |  | P/c 14+47.84                          |  |  |  |  |
| $\Delta c = 17^{\circ}27'10.4''$ (RT) |  |  |  |  | $\Delta c = 01^{\circ}57'49.5''$      |  |  |  |  |
| $D = 01^{\circ}57'49.5''$             |  |  |  |  | $Lc = 888.75$                         |  |  |  |  |
| $Lc = 888.75$                         |  |  |  |  | $Tc = 447.84$                         |  |  |  |  |
| $Tc = 447.84$                         |  |  |  |  | $R = 2,917.65$                        |  |  |  |  |
| $R = 2,917.65$                        |  |  |  |  | $SE = 0.000$                          |  |  |  |  |
| $SE = 0.000$                          |  |  |  |  |                                       |  |  |  |  |

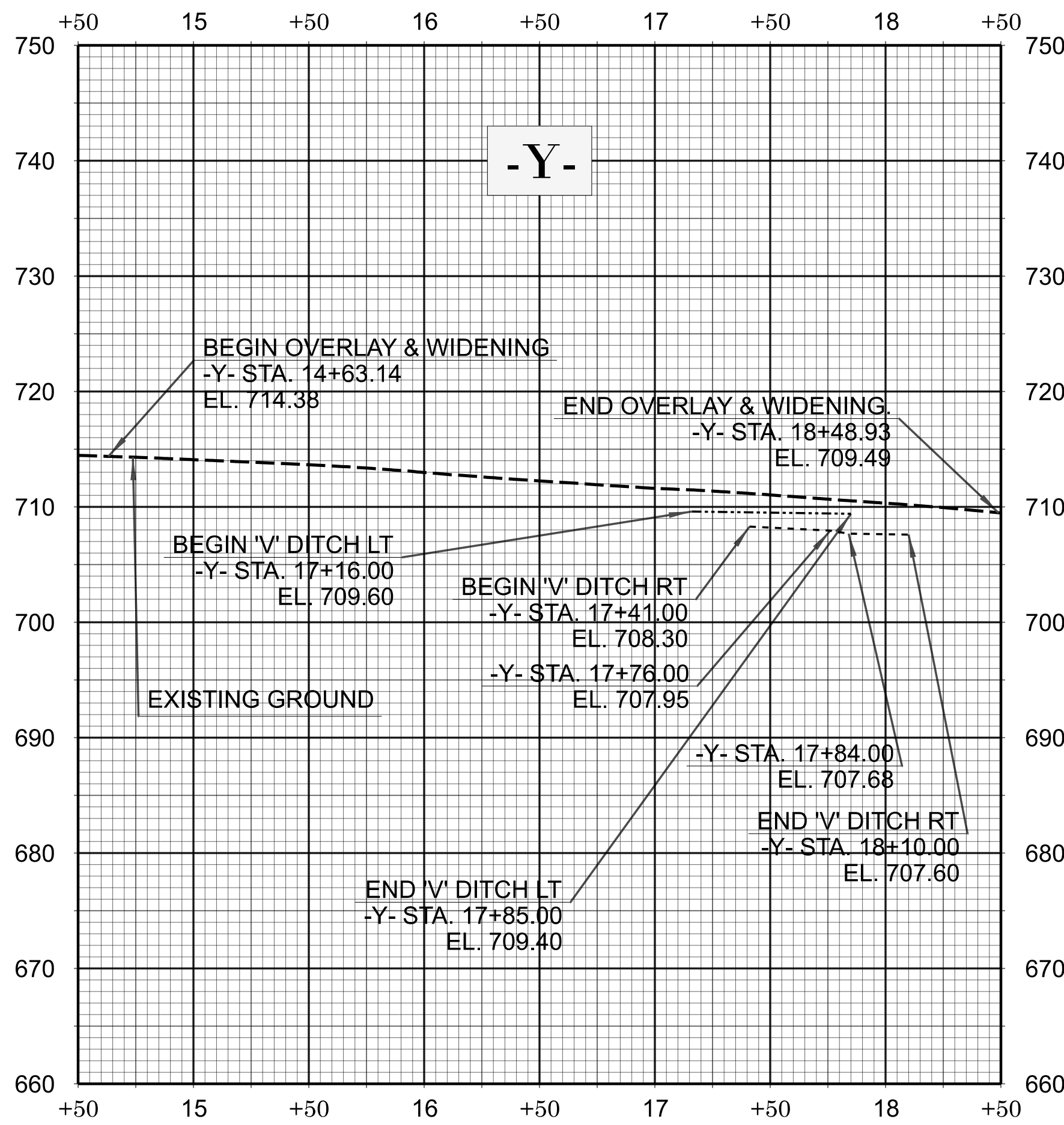


FOR -L-, -Y-, Y1- PROFILE, SEE SHEET 08  
FOR STRUCTURE PLANS, SEE SHEETS S-1 THROUGH S-24  
FOR WALL PLANS, SEE SHEETS W-1 THROUGH W-4



LEFT DITCH

FOR-L- PLAN, SEE SHEET 04



LEFT DITCH

RIGHT DITCH

FOR-Y-, Y1- PLAN, SEE SHEET 04

BR-0096

FP5

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
ROCKINGHAM COUNTY

ROADWAY DESIGN UNIT  
ROADWAY DESIGN  
ENGINEER

Matthew J. York

027771

11/06/2025

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

Matthew J. York

043912

11/06/2025

HYDRAULICS  
ENGINEER

REVISIONS