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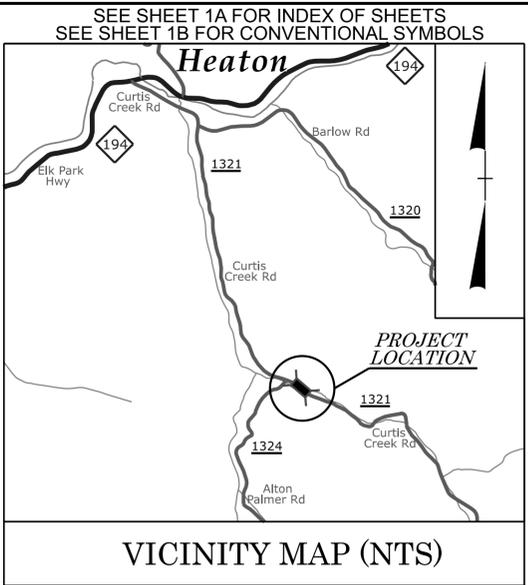
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09/08/25

CONTRACT: DK00438 TIP PROJECT: DF18311.2006186.PR



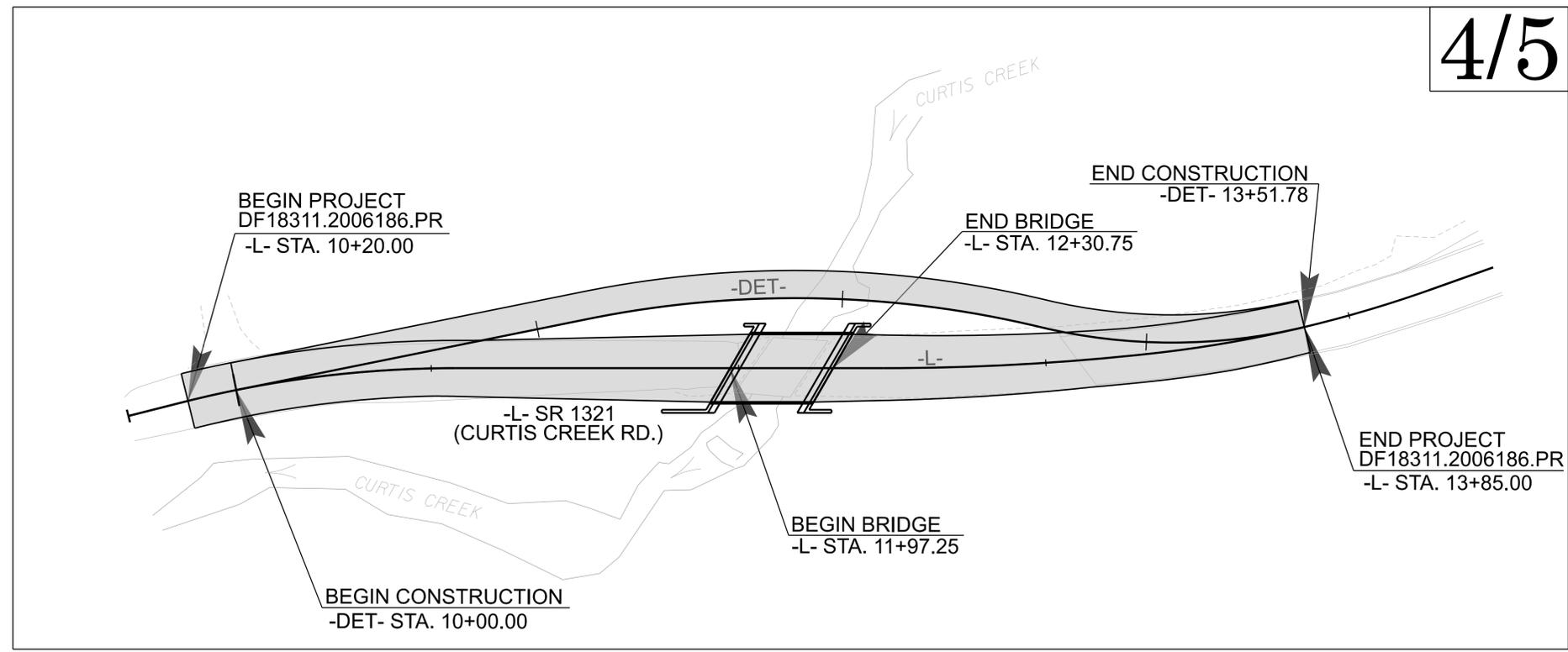
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

AVERY COUNTY

LOCATION: REPLACE BRIDGE #050030 ON SR 1321 (CURTIS CREEK RD.) OVER CURTIS CREEK
TYPE OF WORK: GRADING, DRAINAGE, PAVING, & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18311.2006186.PR	1	X
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
DF18311.2006186.PR	N/A	PE	
DF18311.2006186.PR	N/A	ROW	
DF18311.2006186.PR	N/A	UTIL	
DF18311.2006186.PR	N/A	CON	

100% PLAN SET

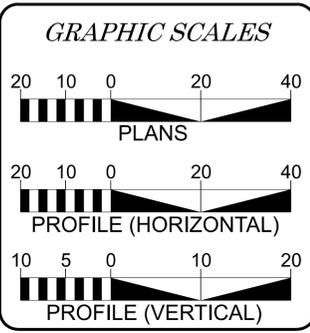


4/5

DEAD END

THIS PROJECT DOES NOT FALL WITHIN ANY JURISDICTIONAL LIMITS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA
ADT 2026 = 450
ADT 2046 = 450
V = 45 MPH
FUNC CLASS = LOCAL

AASHTO LOW VOLUME
ROADS DESIGN
GUIDELINES

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT DF18311.2006186.PR = 0.063 MILES
LENGTH STRUCTURE TIP PROJECT DF18311.2006186.PR = 0.006 MILES
TOTAL LENGTH TIP PROJECT DF18311.2006186.PR = 0.069 MILES

NCDOT CONTACT: ROB WEISZ, PE
DIV. 11 BRIDGE PROGRAM MANAGER

PREPARED IN THE OFFICE OF:

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

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 2, 2025

LETTING DATE: FEBRUARY 19, 2026

SPENCER MERRITT, PE
PROJECT ENGINEER

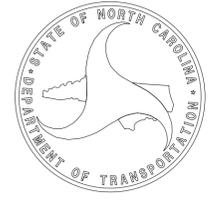
JOSHUA JERNIGAN, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
12/18/2025

Signed by: He Yang P.E.

ROADWAY DESIGN ENGINEER
12/18/2025

Signed by: Joshua Jernigan P.E.



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

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SUBSURFACE DRAINS:

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

TEMPORARY SHORING:

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

END BENTS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE MOUNTAIN ELECTRIC, SPECTRUM, AND AT&T.
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

INDEX OF SHEETS
SHEET NUMBER SHEET

1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1 THRU 2C-2	ROADWAY SPECIAL DETAILS
3B-1	ROADWAY SUMMARIES
3D-1 THRU 3D-2	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
4 THRU 6	PLAN AND PROFILE SHEET
RW-1 THRU RW-3	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENT AND PROPERTY TIES
TMP-1 THRU TMP-5	TRAFFIC MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLANS
EC-1 THRU EC- 6	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL
SIGN-1	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS
X-1	CROSS-SECTION INDEX
X-2 THRU X-17	CROSS-SECTIONS
S-1 THRU S-19	STRUCTURE PLANS
SN	STANDARD NOTES

2024 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD.NO. TITLE

DIVISION 2 - EARTHWORK

- 200.03 Method of Clearing - Method III
- 225.02 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

- 423.02 Bridge Approach Fills - Type 1A Alternate Approach Fill for Integral Bridge Abutment

DIVISION 5 - SUBGRADE, BASES AND SHOULDERS

- 560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I

DIVISION 8 - INCIDENTALS

- 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



DO NOT SIGN OR SEAL THIS DOCUMENT UNLESS ALL SIGNATURES ARE COMPLETED

PLANS PREPARED BY:



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

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	○
Computed Property Corner	×
Existing Concrete Monument (ECM)	◻
Parcel / Sequence Number	123
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	◻
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-w-lb-
Proposed Wetland Boundary	-w-lb-
Existing Endangered Animal Boundary	-eab-
Existing Endangered Plant Boundary	-epb-
Existing Historic Property Boundary	-hpb-
Known Contamination Area: Soil	-s-s-
Potential Contamination Area: Soil	-s-s-
Known Contamination Area: Water	-w-w-
Potential Contamination Area: Water	-w-w-
Contaminated Site: Known or Potential	☠ ?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
Small Mine	✕
Foundation	◻
Area Outline	◻
Cemetery	+
Building	◻
School	◻
Church	◻
Dam	▬

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	●
Secondary Horiz and Vert Control Point	◆
Vertical Benchmark	⊠
Existing Right of Way Monument	△
Proposed Right of Way Monument (Rebar and Cap)	▲
Proposed Right of Way Monument (Concrete)	▲
Existing Permanent Easement Monument	◇
Proposed Permanent Easement Monument (Rebar and Cap)	◇
Existing C/A Monument	▲
Proposed C/A Monument (Rebar and Cap)	▲
Proposed C/A Monument (Concrete)	▲
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Existing Control of Access Line	-----
Proposed Control of Access Line	-----
Proposed ROW and CA Line	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage/Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	-----
Pavement Removal	-----
VEGETATION:	
Single Tree	-----
Single Shrub	-----
Hedge	-----

CONVENTIONAL PLAN SHEET SYMBOLS

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

EXISTING STRUCTURES:

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

UTILITIES:

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

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

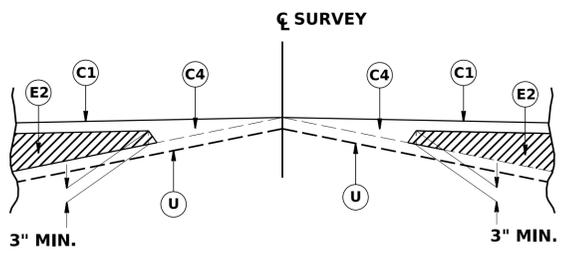
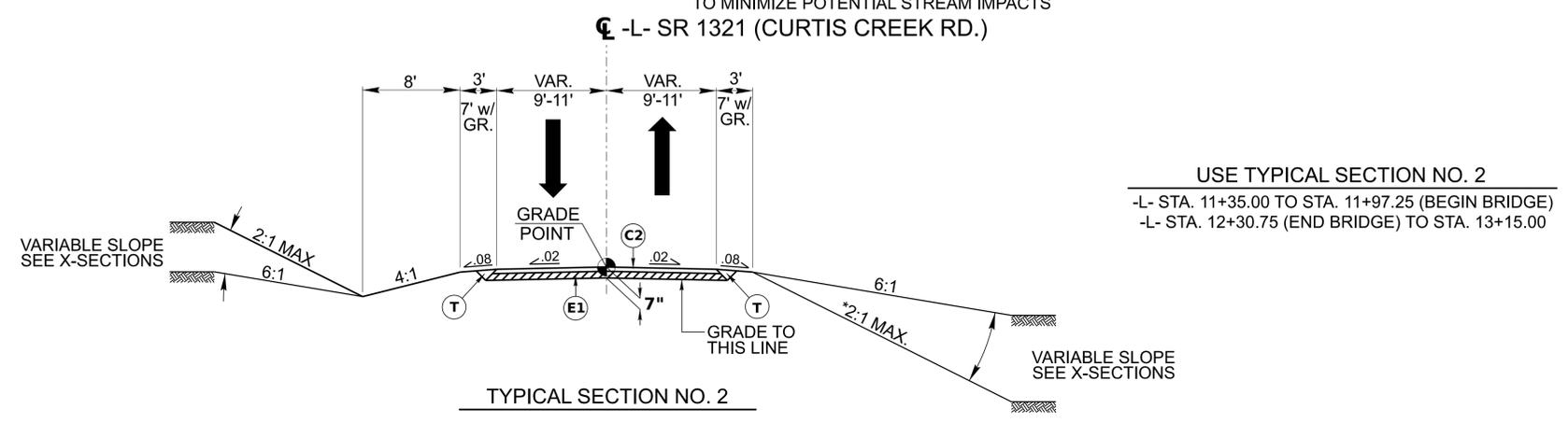
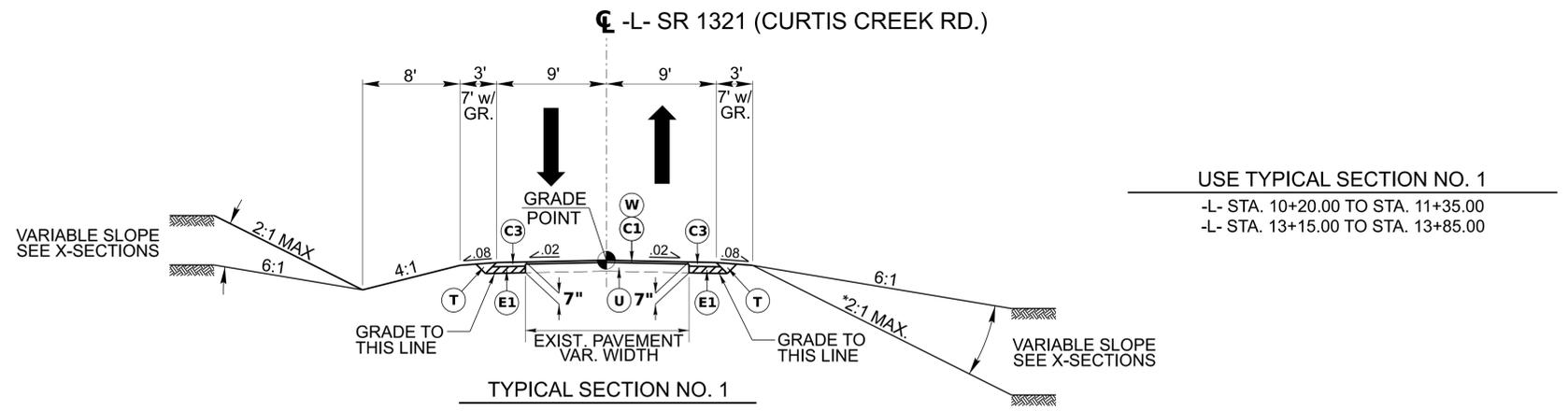
Sanitary Sewer Manhole	-----
Sanitary Sewer Cleanout	-----
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Force Main Line Test Hole (SUE - LOS A)*	-----
SS Force Main Line (SUE - LOS B)*	-----
SS Force Main Line (SUE - LOS C)*	-----
SS Force Main Line (SUE - LOS D)*	-----

MISCELLANEOUS:

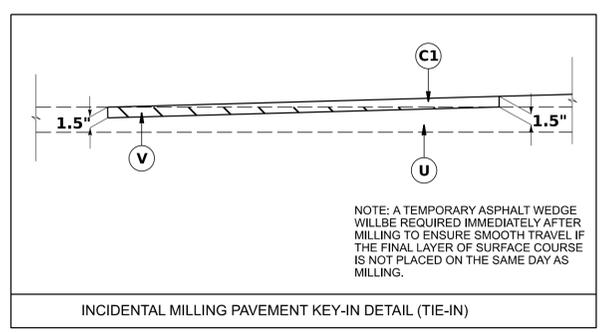
Utility Pole	-----
Utility Pole with Base	-----
Utility Located Object	-----
Utility Traffic Signal Box	-----
Utility Unknown U/G Line (SUE - LOS B)*	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	-----
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	-----
Abandoned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

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	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.
C4	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.
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
P1	PRIME COAT AT THE RATE OF 0.35 GAL. PER SQ. YARD.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING (VARIABLE DEPTH 0"-1.5").
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON THIS SHEET)

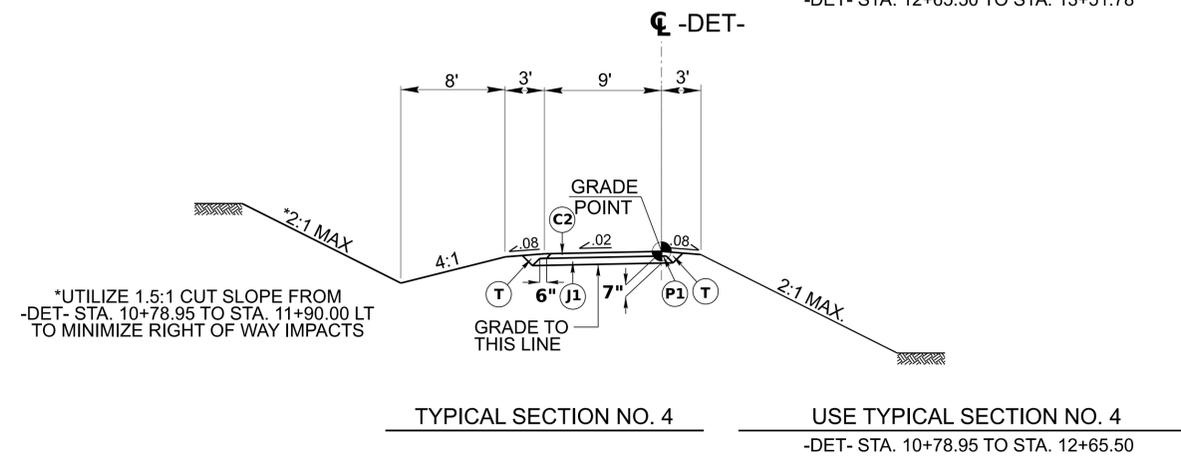
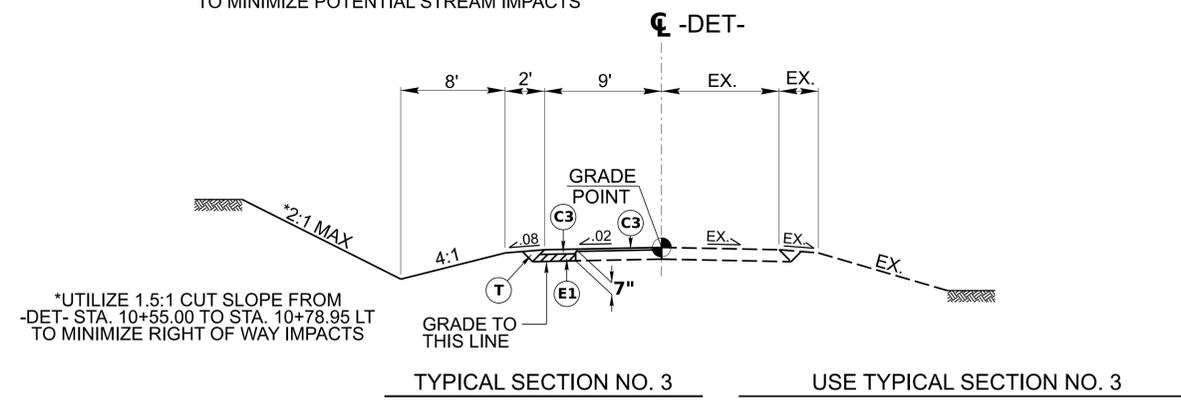
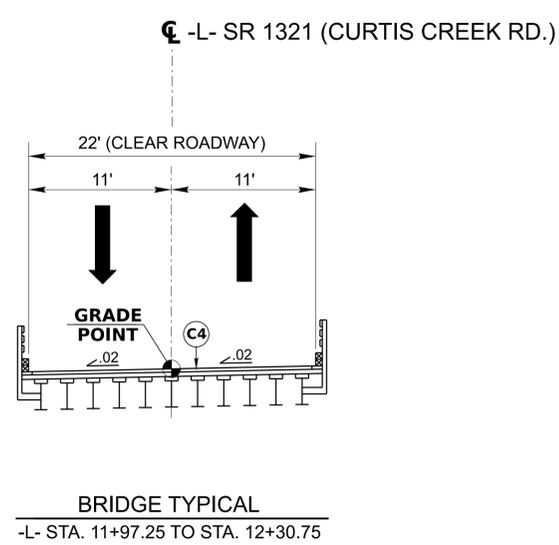
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



W Detail Showing Method of Wedging



-L- Sta. 10+20.00 TO Sta. 10+57.50
-L- Sta. 13+47.50 TO Sta. 13+85.00
STATION RANGES ARE APPROXIMATE ONLY.
GRADE MAY BE ADJUSTED BY ENGINEER
TO ENSURE A PROPER TIE-IN.



DF18311.2006186.PR
2A-1
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
AVERY COUNTY

ROADWAY DESIGN
ENGINEER
12/16/2025

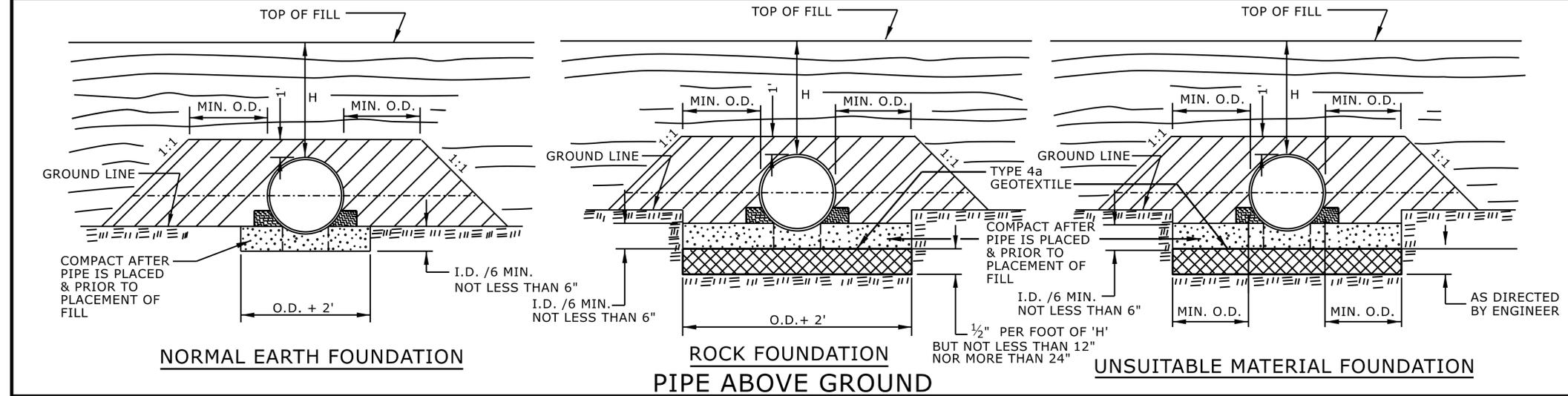
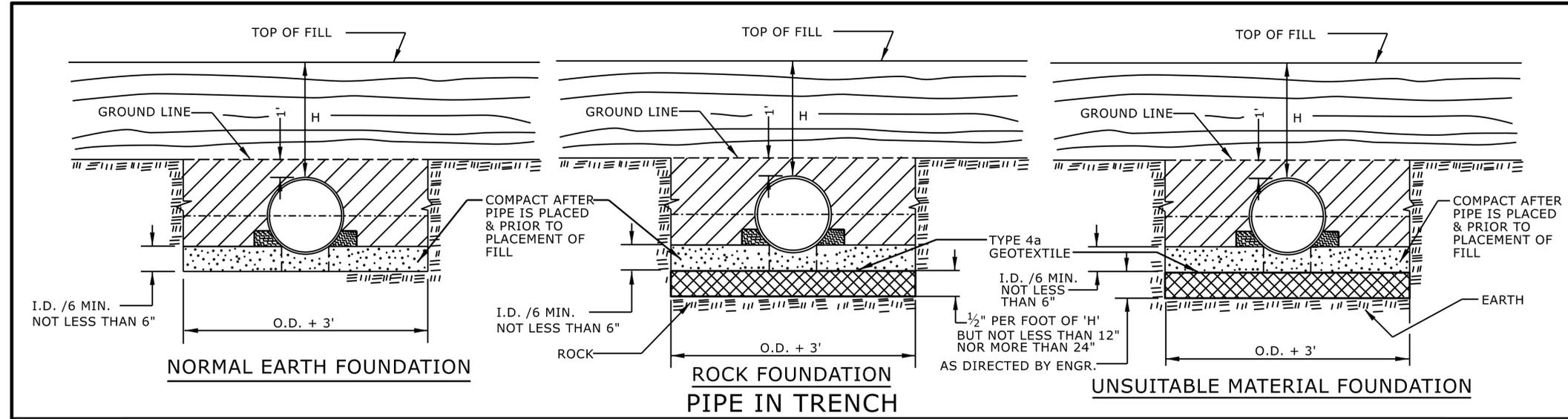
SEAL
053483
ENGINEER W. MERRITT

PAVEMENT DESIGN
ENGINEER
12/16/2025

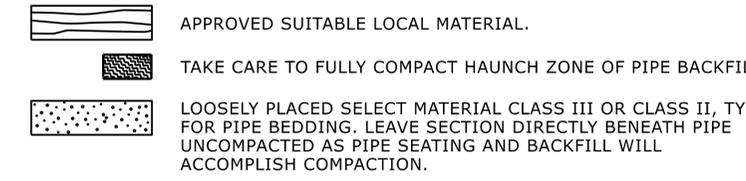
SEAL
049851
ENGINEER R. SHAW

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)

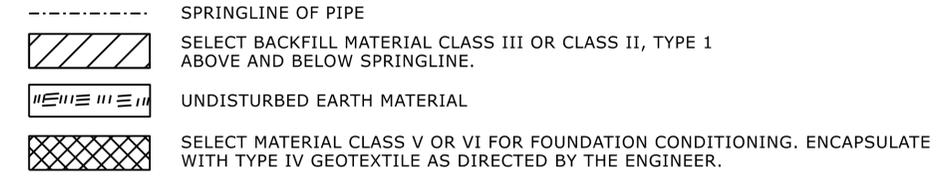


GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.



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.



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

ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
FLEXIBLE PIPE



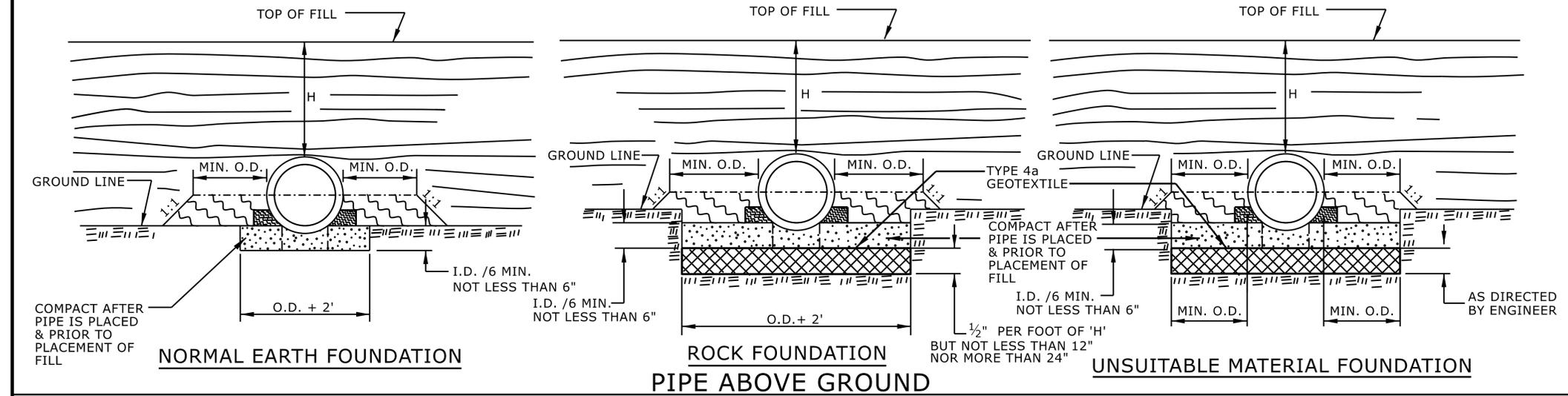
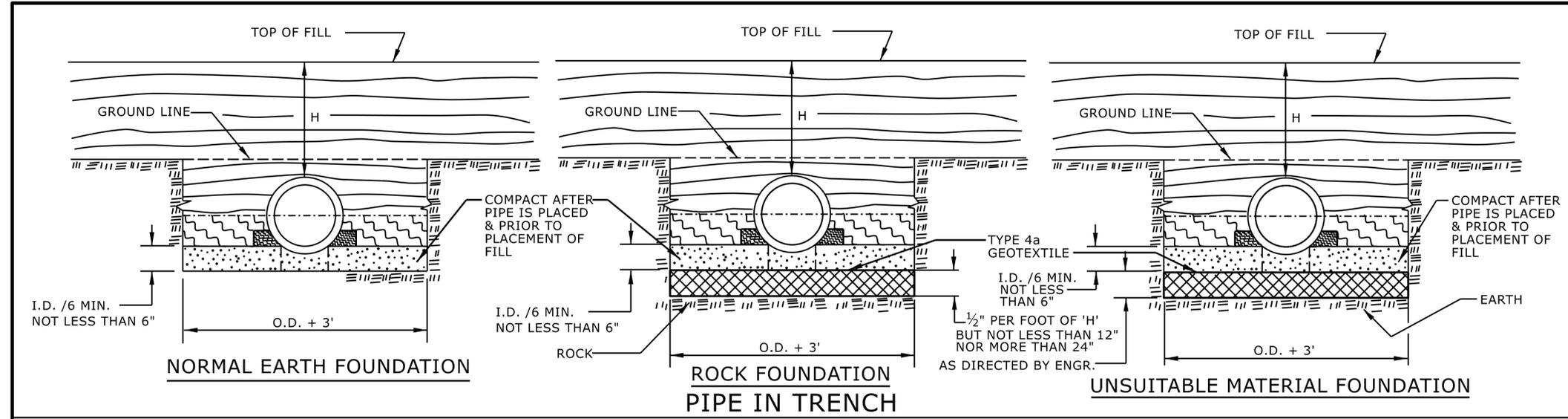
SHEET 1 OF 2
300.01

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

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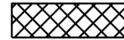
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.:



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

 APPROVED SUITABLE LOCAL MATERIAL.
 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.
 REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

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

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.
 ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
 RIGID PIPE

SHEET 2 OF 2
300.01



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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.: _____

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

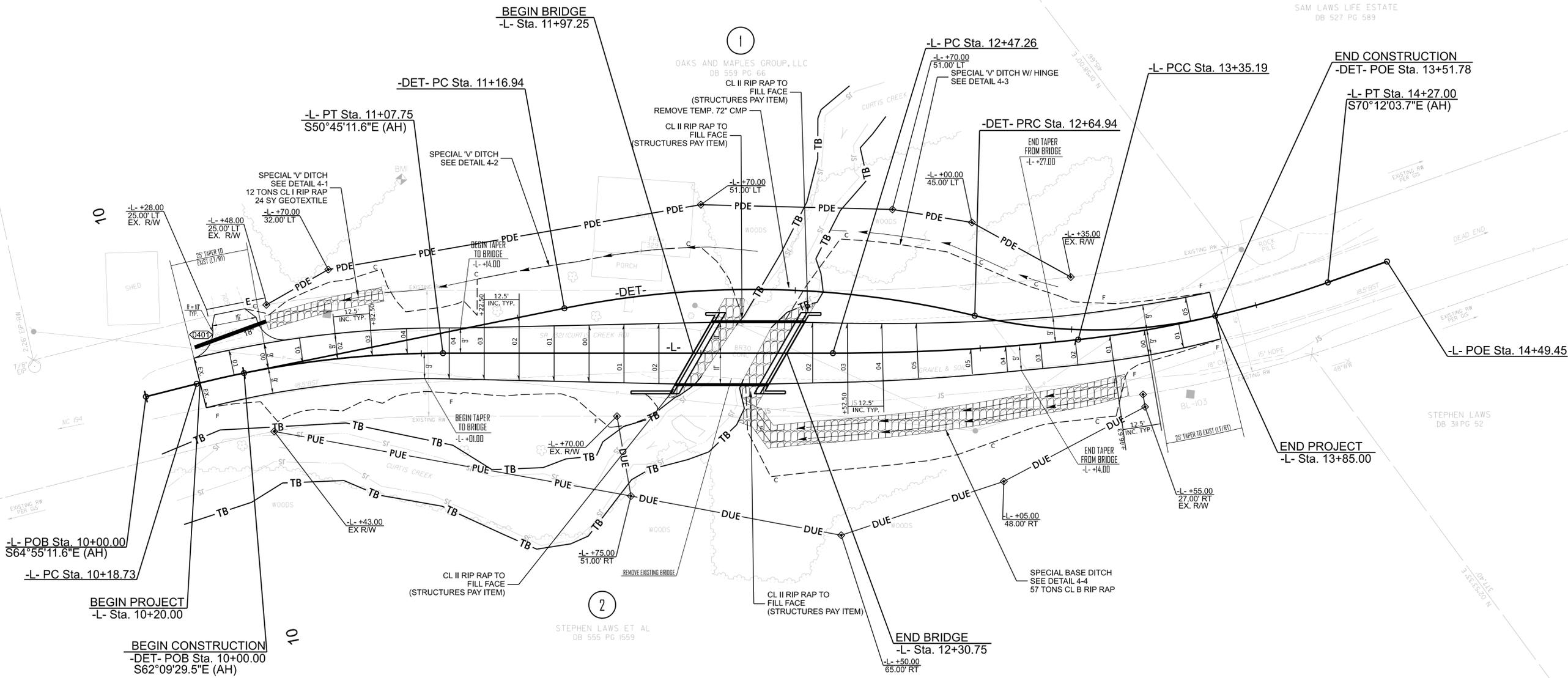
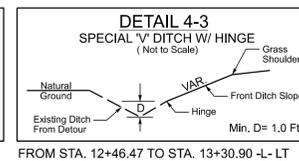
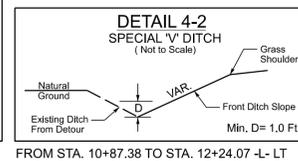
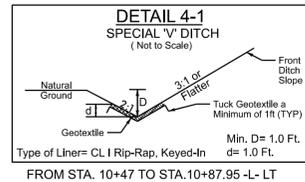
STATION	STATION	UNCL. EXCAV.	UNDERCUT EXCAV.	EMBANK. +%	BORROW	WASTE
-L- 10+20.00	-L- 11+97.25	118		59		59
-L- 12+30.75	-L- 13+85.00	242		174		68
	SUBTOTAL:	360		233		128
-DET- 10+00.00	-DET- 13+51.78	264		315	51	
	SUBTOTAL:	264		315	51	
SHEET TOTAL:		624		547	51	128
LOSS DUE TO CLEARING AND GRUBBING:						
EARTH WASTE IN LIEU OF BORROW:					(-51)	(-51)
GRAND TOTALS:		624		547		77
SAY:		630				

NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, CLEARING AND GRUBBING, FINE GRADING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".

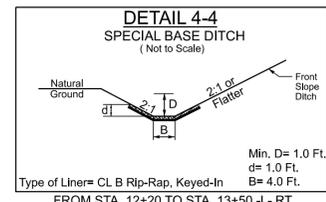
PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/ RT/ CL	YD ²
-L-	11+35.00	12+00.64	CL	116.00
-DET-	10+00.00	13+51.78	CL	246.20
TOTAL:				362.20
SAY:				370

CUR DATA -DET- Plc 11+92.12 Δc = 24°52'04.0" (RT) D = 16°48'08.2" Lc = 148.00 Tc = 75.19 R = 341 SE = 03 RO = 37.5' DS = 15 MPH	CUR DATA -DET- Plc 13+09.18 Δc = 26°53'42.7" (LT) D = 30°58'14.5" Lc = 86.84 Tc = 44.24 R = 185 SE = 04 RO = 50' DS = 15 MPH
---	--



CUR DATA -L- Plc 10+63.47 Δc = 14°10'00.0" (RT) D = 15°54'55.8" Lc = 89.01 Tc = 44.73 R = 360 SE = RC RO = 25' DS = 25 MPH	CUR DATA -L- Plc 12+91.27 Δc = 06°17'49.9" (LT) D = 07°09'43.1" Lc = 87.93 Tc = 44.01 R = 800 SE = 05 RO = 62.5' DS = 35 MPH	CUR DATA -L- Plc 13+81.29 Δc = 13°09'02.2" (LT) D = 14°19'26.2" Lc = 91.81 Tc = 46.11 R = 400 SE = EX. RO = N/A
--	--	--



DF18311.2006186.PR
RDY 004
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
AVERY COUNTY

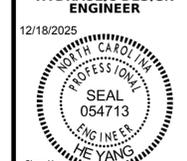
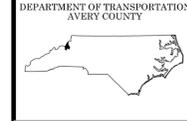
ROADWAY DESIGN ENGINEER
12/18/2025
SEAL 053483
ENGINEER
W. MEYER W. MEYER

HYDRAULIC DESIGN ENGINEER
12/18/2025
SEAL 054713
ENGINEER
HE YANG

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) 732-8676 (FAX)

FOR -L- PFL, SEE SHEET 6

CUR DATA -DET- Plc 11+92.12 $\Delta c = 24^{\circ}52'04.0''$ (RT) D = 16°48'08.2" Lc = 148.00 Tc = 75.19 R = 341 SE = 03 RO = 37.5' DS = 15 MPH	CUR DATA -DET- Plc 13+09.18 $\Delta c = 26^{\circ}53'42.7''$ (LT) D = 30°58'14.5" Lc = 86.84 Tc = 44.24 R = 185 SE = 04 RO = 50' DS = 15 MPH
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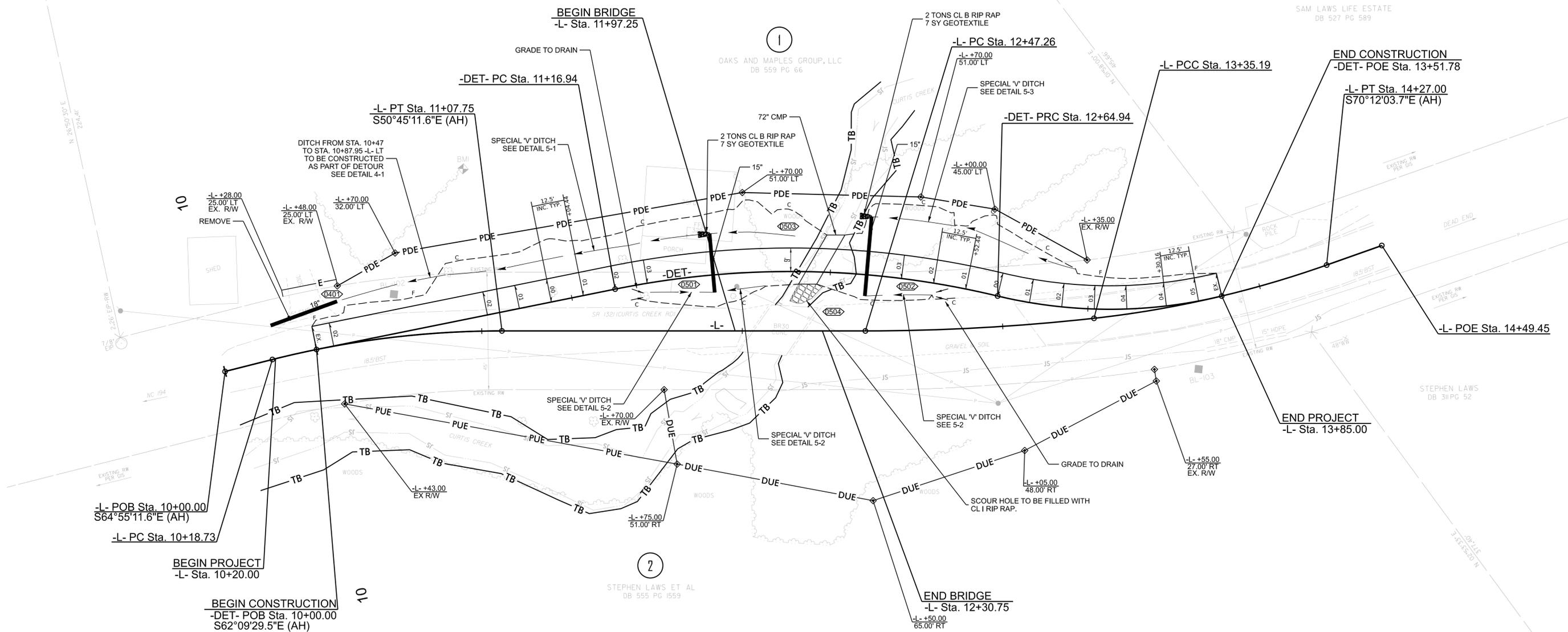


SAM LAWS LIFE ESTATE
DB 527 PG 589

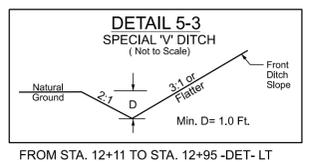
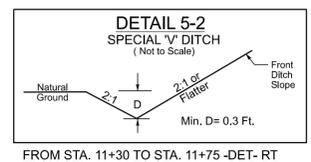
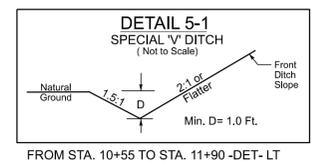
OAKS AND MAPLES GROUP, LLC
DB 559 PG 66

STEPHEN LAWS
DB 311 PG 52

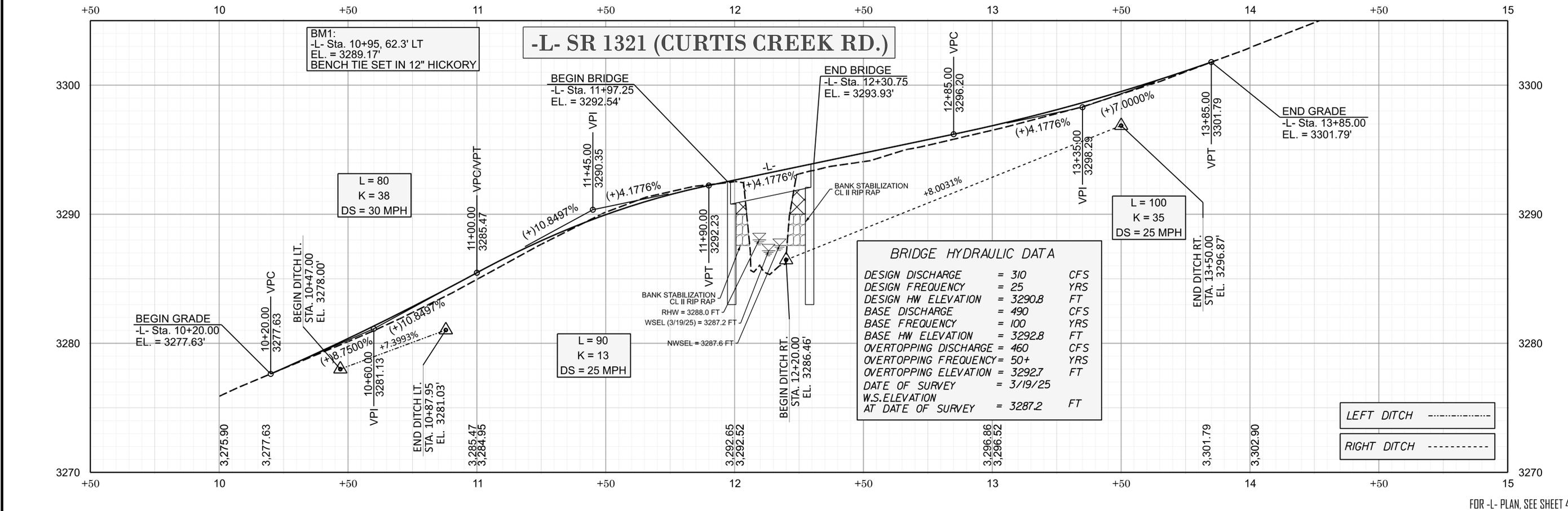
STEPHEN LAWS ET AL
DB 555 PG 1559



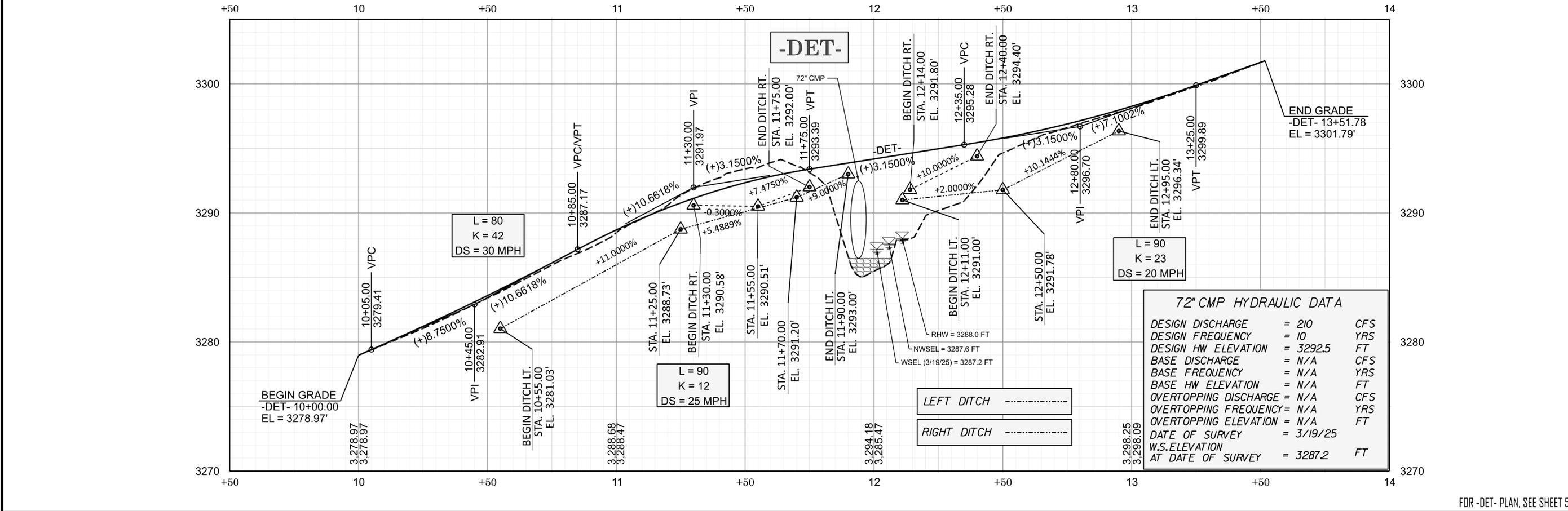
CUR DATA -L- Plc 10+63.47 $\Delta c = 14^{\circ}10'00.0''$ (RT) D = 15°54'55.8" Lc = 89.01 Tc = 44.73 R = 360 SE = RC RO = 25' DS = 25 MPH	CUR DATA -L- Plc 12+91.27 $\Delta c = 06^{\circ}17'49.9''$ (LT) D = 07°09'43.1" Lc = 87.93 Tc = 44.01 R = 400 SE = 05 RO = 62.5' DS = 35 MPH	CUR DATA -L- Plc 13+81.29 $\Delta c = 13^{\circ}09'02.2''$ (LT) D = 14°19'26.2" Lc = 91.81 Tc = 46.11 R = 400 SE = EX. RO = N/A DS = 25 MPH
--	--	---



FOR -DET- PFL, SEE SHEET 6



FOR -L- PLAN, SEE SHEET 4



FOR -DET- PLAN, SEE SHEET 5

DF18311.2006186.PR

RDY | 006

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
AVERY COUNTY

ROADWAY DESIGN
ENGINEER

12/18/2025

SEAL
053483
ENGINEER
W. MERRILL

Signed by: *[Signature]*

HYDRAULIC DESIGN
ENGINEER

12/18/2025

SEAL
054713
ENGINEER
HE YANG

Signed by: *[Signature]*

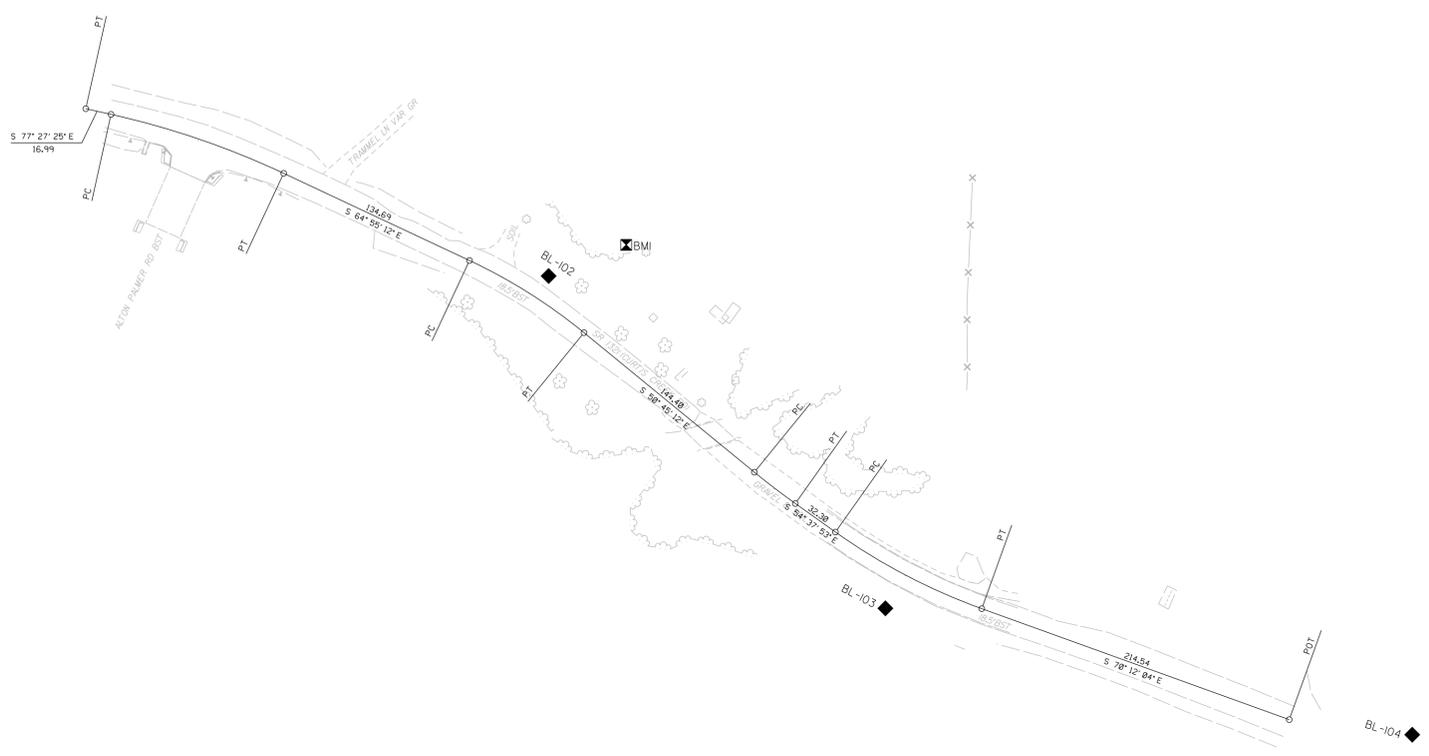
NC FIRM LICENSE No: C-5176
1000 Social St., Suite 800
Raleigh, NC 27609
(919) 732-3883
(919) 732-8676 (FAX)

↑ **SUMMIT**
DESIGN AND ENGINEERING SERVICES

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
30	RW02C-1
Location and Surveys	
	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SEE SHEET RW02C-3
FOR FURTHER
ALIGNMENT DETAILS

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

Class of survey: **AA**
 Type of GPS field procedure: RTN
 Dates of survey: 11/07/2024-3/13/2025
 Datum/Epoch: NAD 83/NA 2011
 Published/Fixed-control use: N/A
 Localized around: AVERY057-1
 Northing: 888765.7400
 Easting: 1134580.6900
 Combined grid factor: 0.9998405214
 Geoid model: Geoid18
 Units: US Survey Feet

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 11/07/2024 to 3/13/2025, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 14th day of March, 2025.

DocuSigned by:

 Sarah Vincent
 Professional Land Surveyor L-5617

AVERY057-1

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

I4-MAR-2025 08:56
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 USL672784 AT 42HYHW3

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
30	RW02C-2
Location and Surveys	
	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

Class of survey: AA
 Type of GPS field procedure: RTN
 Dates of survey: 11/07/2024-3/13/2025
 Datum/Epoch: NAD 83/NA 2011
 Published/Fixed-control use: N/A
 Localized around: AVERY057-1
 Northing: 888765.7400
 Easting: 1134580.6900
 Combined grid factor: 0.9998405214
 Geoid model: Geoid18
 Units: US Survey Feet

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This 14th day of March, 2025.

DocuSigned by:

 Professional Land Surveyor L-5617

BL	POINT	DESC.	NORTH	EAST	ELEVATION
2		AVERY057-2	888514.7400	1134941.9500	3428.24
1		AVERY057-1	888765.7400	1134580.6900	3378.35
104		BL - 104	889013.9000	1134205.8700	3328.18
103		BL - 103	889096.6800	1133860.0100	3301.54
102		BL - 102	889314.3100	1133638.9500	3280.73

 BM1 ELEVATION = 3289.17
 N 889335 E 1133690
 BENCH TIE SET IN 12" HICKORY

NOTES:

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REVISIONS

14-MAR-2025 08:58
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 USL672784 AT 42HYHW3

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
30	RW02C-3
Location and Surveys	
	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

Class of survey: AA
 Type of GPS field procedure: RTN
 Dates of survey: 11/07/2024-3/13/2025
 Datum/Epoch: NAD 83/NA 2011
 Published/Fixed-control use: N/A
 Localized around: AVERY057-1
 Northing: 888765.7400
 Easting: 1134580.6900
 Combined grid factor: 0.9998405214
 Geoid model: Geoid18
 Units: US Survey Feet

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This 14th day of March, 2024.

DocuSigned by:

 39054128AS4404
 Professional Land Surveyor L-5617

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	889423.853	1133335.109	S 77°27'24.5" E	16.99					
LINE									
PC	889420.164	1133351.690	S 71°11'18.1" E	119.74	12°32'12.9"(RT)	10°26'58.8"	119.97	60.23	548.30
CURVE									
PT	889381.555	1133465.029	S 64°55'11.6" E	134.69					
LINE									
PC	889324.460	1133587.024	S 57°50'11.6" E	88.79	14°10'00.0"(RT)	15°54'55.8"	89.01	44.73	360.00
CURVE									
PT	889277.196	1133662.184	S 50°45'11.6" E	144.40					
LINE									
PC	889185.838	1133774.013	S 52°41'32.5" E	33.84	03°52'41.7"(LT)	11°27'33.0"	33.84	16.93	500.00
CURVE									
PT	889165.330	1133800.927	S 54°37'53.3" E	32.30					
LINE									
PC	889146.635	1133827.264	S 62°24'58.5" E	108.36	15°34'10.3"(LT)	14°19'26.2"	108.70	54.68	400.00
CURVE									
PT	889096.459	1133923.308	S 70°12'03.7" E	214.54					
LINE									
POT	889023.791	1134125.163							

REVISIONS

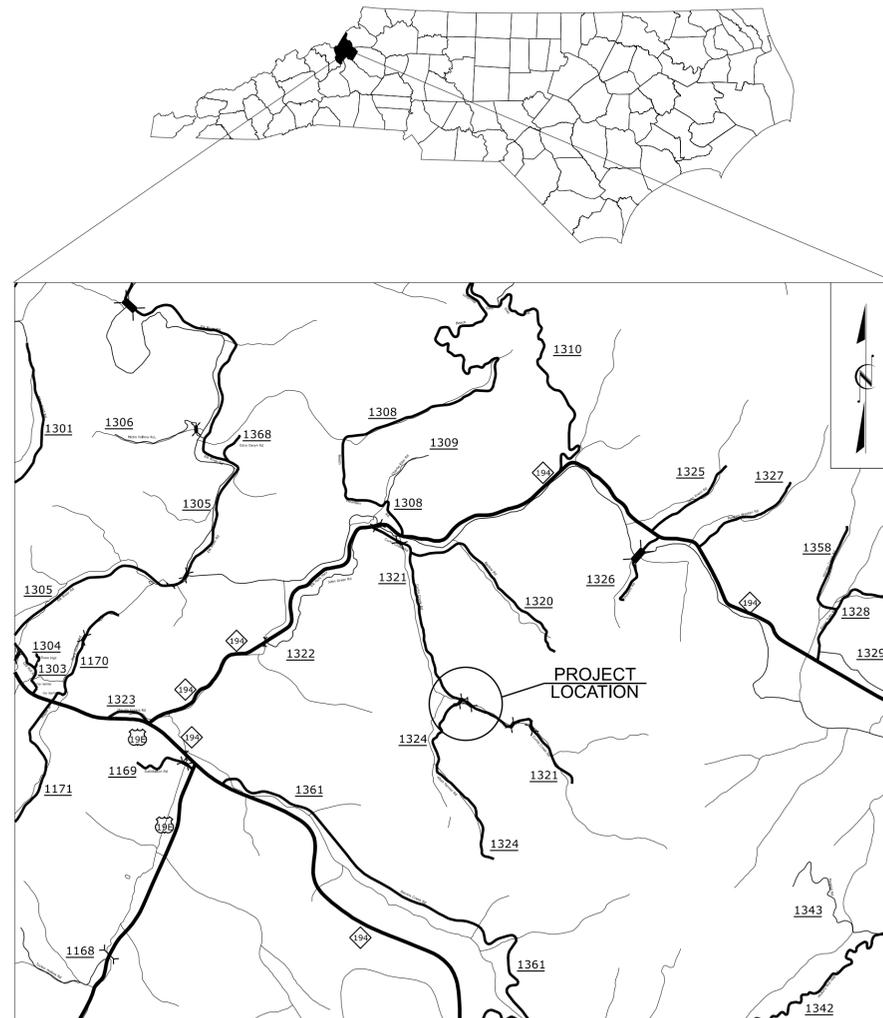
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 USL672784 AT 42HYH3

NOTES:

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

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS TRANSPORTATION MANAGEMENT PLAN AVERY COUNTY

LOCATION: *REPLACE BRIDGE #050030 ON SR 1321 (CURTIS CREEK RD.) OVER CURTIS CREEK*
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, & STRUCTURE*



SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)
TMP-2	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, NOTES, AND PHASING)
TMP-3	TEMPORARY TRAFFIC CONTROL PHASE I DETAIL
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE III DETAIL

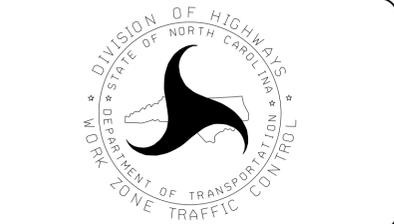
SHEET NO.
TMP-1

11/5/2025
N:\2024\24-0190\002\Infrastructure Design\Work Zone Traffic Control\TCP\Avery30_TC_TMP_1.dgn
User:zoe.zwick



PLANS PREPARED BY:
JOSHUA JERNIGAN, PE
TRAFFIC CONTROL DESIGN ENGINEER
SPENCER MERRITT, PE
TRAFFIC CONTROL ENGINEER

NCDOT CONTACTS:
ROB WEISZ, PE
PROJECT MANAGER - DIVISION 11
IVAN DISHMAN, PE
DIVISION CONSTRUCTION ENGINEER



PREPARED IN THE OFFICE OF:
SUMMIT
DESIGN AND ENGINEERING SERVICES
FORM NO. C6176
1000 South Street, Suite 800
Raleigh, NC 27609
Voice: (919) 752-3983
Fax: (919) 752-9779
www.summitdso.com

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

APPROVED:
DATE: 12/18/2025

SEAL

TIP PROJECT: DF18311.2006186.PR

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.
-  TEMP. SHORING (LOCATION PURPOSES ONLY)

 WORK AREA

 REMOVAL

SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

TRAFFIC CONTROL DEVICES

-  BARRICADE (TYPE III)
-  CONE
-  DRUM
-  SKINNY DRUM
-  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  FLASHING ARROW BOARD
-  FLAGGER
-  LAW ENFORCEMENT
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

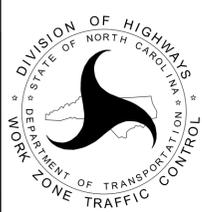
PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
PAINT (4")	
P1	WHITE EDGELINE
P13	YELLOW DOUBLE CENTER LINE
PAINT (24")	
P61	WHITE STOPBAR

11/5/2025
 N:\2024\24-0190.002\Infrastructure Design\Work Zone Traffic Control\TCP\Avery30_TC_TMP_1A.dgn
 User:zoe.zwock

APPROVED:  DATE: 12/18/2025 SEAL DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			ROADWAY STANDARD DRAWINGS & LEGEND
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GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

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

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTION
SR 1321 (CURTIS CREEK RD.)	SEE CONTRACT

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME:
SR 1321 (CURTIS CREEK RD.)

HOLIDAY

1. FOR ANY UNEXPECTED OCCURANCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2. FOR NEW YEAR'S BETWEEN THE HOURS OF 6:00 AM DECEMBER 31ST TO 7:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 PM THE FOLLOWING TUESDAY.

3. FOR EASTER, BETWEEN THE HOURS OF 6:00 AM THURSDAY AND 7:00 PM MONDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY TO 7:00 PM TUESDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 AM THE DAY BEFORE INDEPENDENCE DAY, AND 7:00 PM THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY, AND 7:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY AND 7:00 PM TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 AM TUESDAY TO 7:00 PM MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

HAULING

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

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

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

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

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

H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 100 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

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

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

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

TRAFFIC CONTROL DEVICES

O) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

Q) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	NONE

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

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

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

V) ALL TEMPORARY PORTABLE TRAFFIC SIGNAL SYSTEMS SHALL BE ACTUATED, NOT PRETIMED. THE SIGNALS ARE TO REST IN ALL RED OR AS DIRECTED BY THE ENGINEER.

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User:zoe.zwack

<p>APPROVED: </p> <p>Signed by: _____ 230953378259485</p> <p>DATE: 12/18/2025</p> <p>SEAL </p> <p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>		<p align="center">TRANSPORTATION OPERATIONS PLAN</p>
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MANAGEMENT STRATEGIES

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:

- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- ONE-LANE, TWO WAY OPERATION (SIGNALIZED)
- ON-SITE DETOURS

WORK ZONE SAFETY & MOBILITY STRATEGIES:

- TEMPORARY TRAFFIC SIGNALS

NOTES

COMPLETE ANY PROPOSED PAVEMENT CONSTRUCTION IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

THE TERM RSD DENOTES "ROADWAY STANDARD DRAWING".

LOCAL ACCESS TO ALL RESIDENCES WILL BE MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS DURING CONSTRUCTION.

PHASING

PHASE I (SEE TMP-3)

STEP 1:
USING ROADWAY STANDARD DRAWING NO. 1101.01 (SHEET 3 OF 3), INSTALL ALL ADVANCED WORK ZONE WARNING SIGNS ON -L- (SR-1321).

STEP 2:
USING RSD 1101.02 SHEET 1 AS NEEDED, CONSTRUCT THE DETOUR STRUCTURE AND APPROACHES FROM -DET- STA 10+15 TO STA 13+50 UP TO THE EDGE AND ELEVATION OF THE EXISTING PAVEMENT (SEE TMP-3).

PHASE II (TMP-4)

NOTE: COMPLETE THE WORK REQUIRED IN PHASE II, STEP 1 IN A CONTINUOUS OPERATION.

STEP 1:
USING RSD 1101.02 SHEET 1 (ALTERNATING LANE CLOSURES), RDWY STD 1101.03 SHEET 3, AND RSD 1102.02 SHEET 17, INSTALL TEMPORARY SIGNALS, TRAFFIC CONTROL DEVICES AND ANY TEMPORARY PAVEMENT MARKINGS TO SET UP ONE-LANE, TWO-WAY ONSITE DETOUR. USING TEMPORARY SIGNALS, SHIFT SR 1321 TRAFFIC ONTO THE DETOUR. OBLITERATE ANY CONFLICTING MARKINGS. (SEE TMP-4)

STEP 2:
USING RSD 1101.03 SHEET 3, CONSTRUCT THE PROPOSED STRUCTURE AND APPROACHES FROM -L- STA 10+20 TO STA 13+85 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

PHASE III (TMP-5)

STEP 1: (NOT SHOWN)
USING RSD 1101.02 SHEET 1 (ALTERNATING LANE CLOSURES), REMOVE TEMPORARY SIGNALS, PLACE TEMPORARY MARKINGS IN FINAL PATTERN AND SHIFT SR 1321 TRAFFIC INTO FINAL PATTERN. OBLITERATE ANY CONFLICTING MARKINGS.

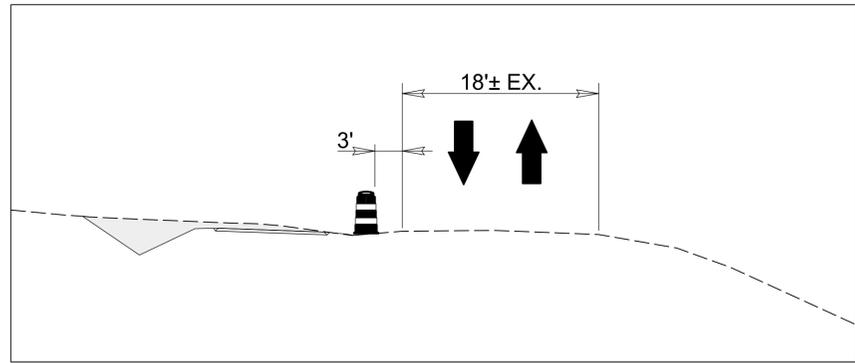
STEP 2:
USING RSD STD 1101.02 SHEET 1, REMOVE THE DETOUR STRUCTURE, APPROACHES, AND CONSTRUCT REMAINING SHOULDER FROM 10+20.00 TO 11+16.71 AND 13+06.82 TO 13+85.00.

STEP 3:
USING RSD 1101.02 SHEET 1 (ALTERNATING LANE CLOSURES), PLACE THE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS FROM -L- STA 10+25 TO STA 17+50. (SEE FINAL PAVEMENT MARKING PLAN)

STEP 4:
REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES AND OPEN THE ROAD TO TRAFFIC.

11/5/2025
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SECTION A-A
-L- STA. 11+50.00



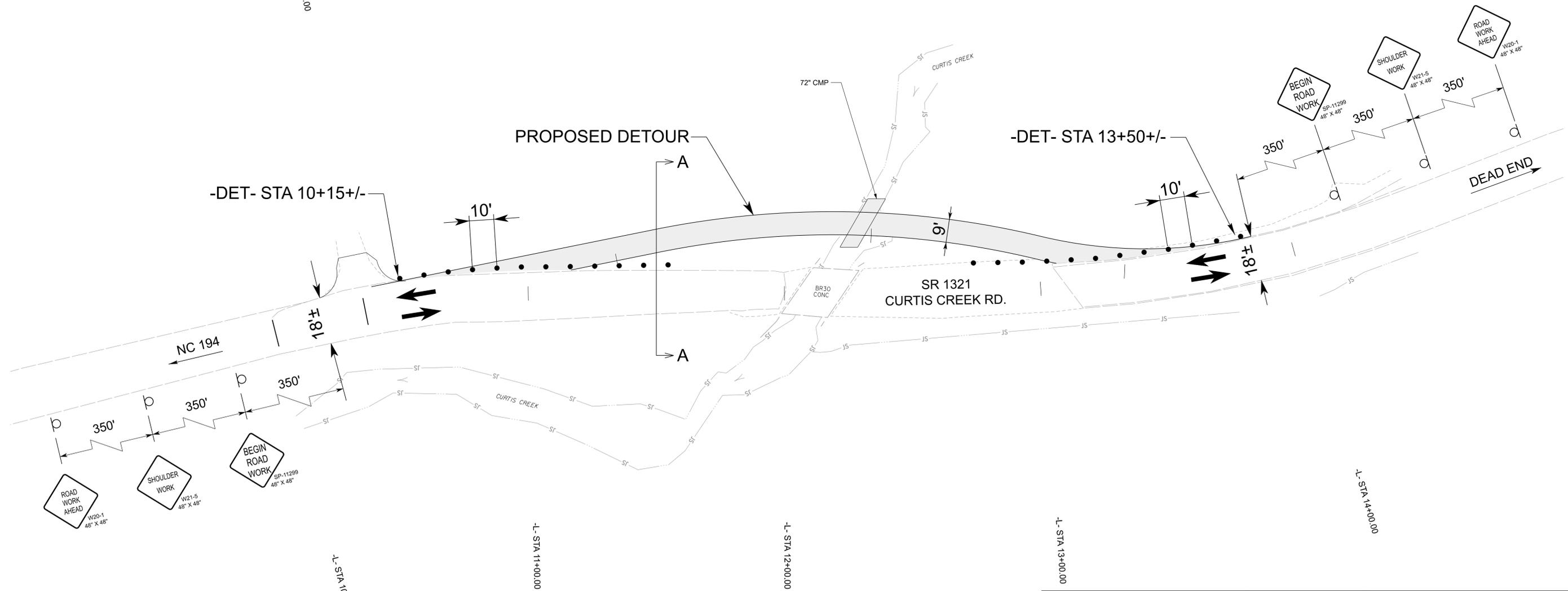
-DET- STA 10+00.00

-DET- STA 11+00.00

-DET- STA 12+00.00

-DET- STA 13+00.00

-DET- STA 13+151.78



PROPOSED DETOUR

-DET- STA 13+50+/-

-DET- STA 10+15+/-

SR 1321
CURTIS CREEK RD.

NC 194

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zoe.zwack AT 411NFA062025A

-L- STA 10+00.00

-L- STA 11+00.00

-L- STA 12+00.00

-L- STA 13+00.00

-L- STA 14+00.00



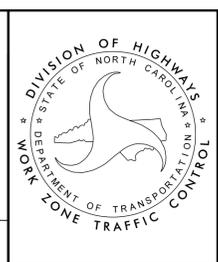
PLANS

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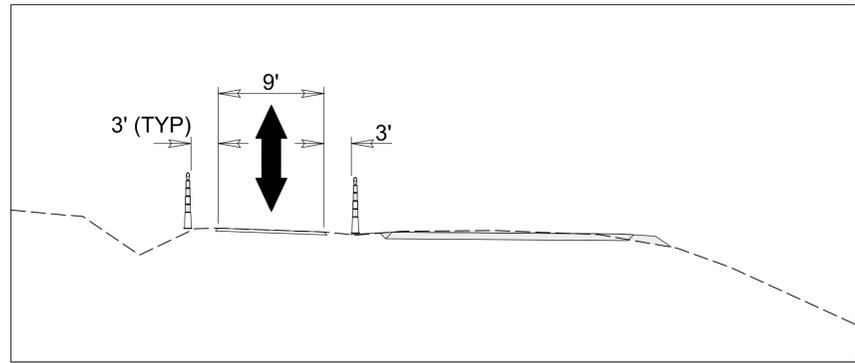
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UNLESS ALL SIGNATURES COMPLETED



PHASE 1 DETAIL
DRAWING



SECTION A-A
-L- STA. 11+50.00

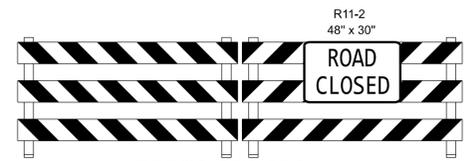
-DET- STA 10+00.00

-DET- STA 11+00.00

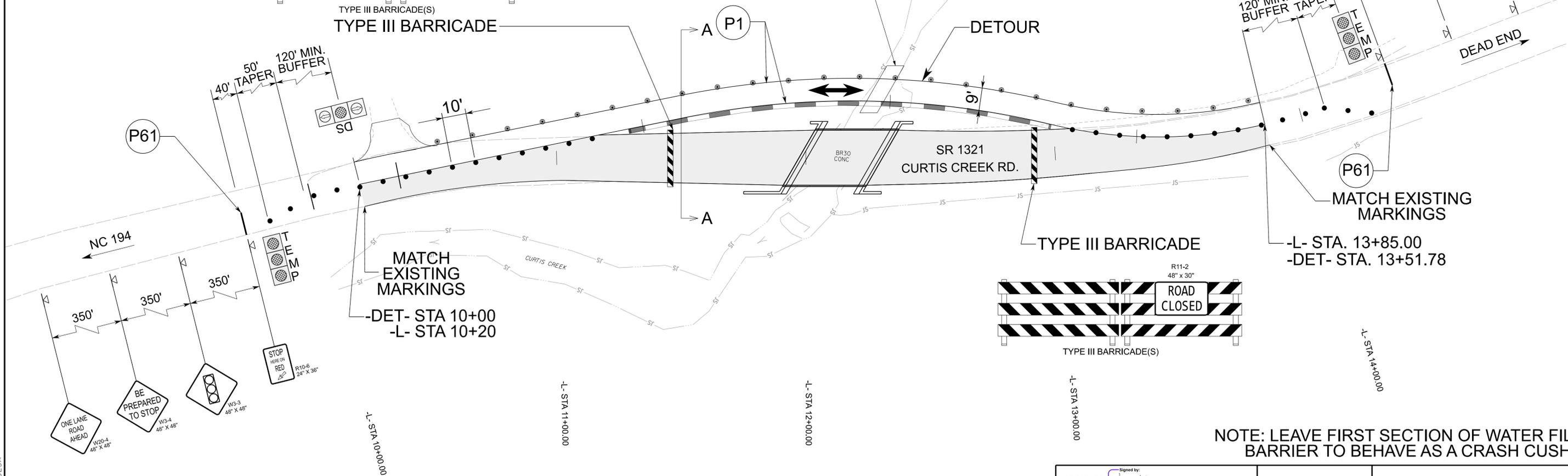
-DET- STA 12+00.00

-DET- STA 13+00.00

-DET- STA 13+51.78

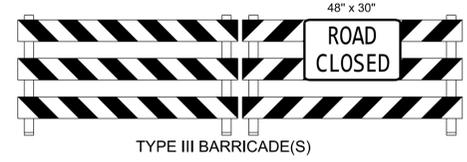


TYPE III BARRICADE(S)



MATCH EXISTING MARKINGS
-DET- STA 10+00
-L- STA 10+20

MATCH EXISTING MARKINGS
-L- STA. 13+85.00
-DET- STA. 13+51.78



TYPE III BARRICADE(S)

NOTE: LEAVE FIRST SECTION OF WATER FILLED BARRIER TO BEHAVE AS A CRASH CUSHION.

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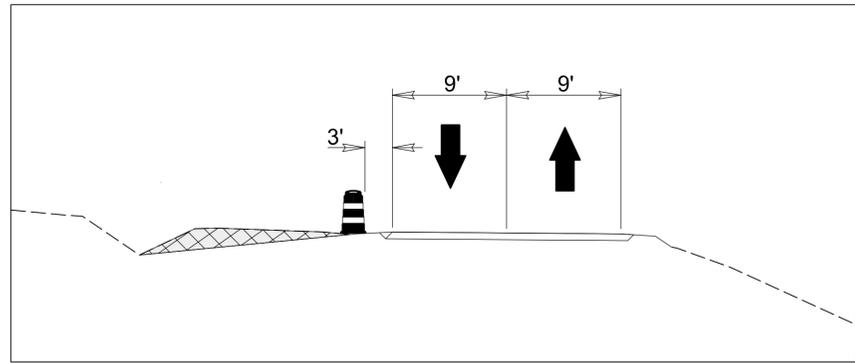
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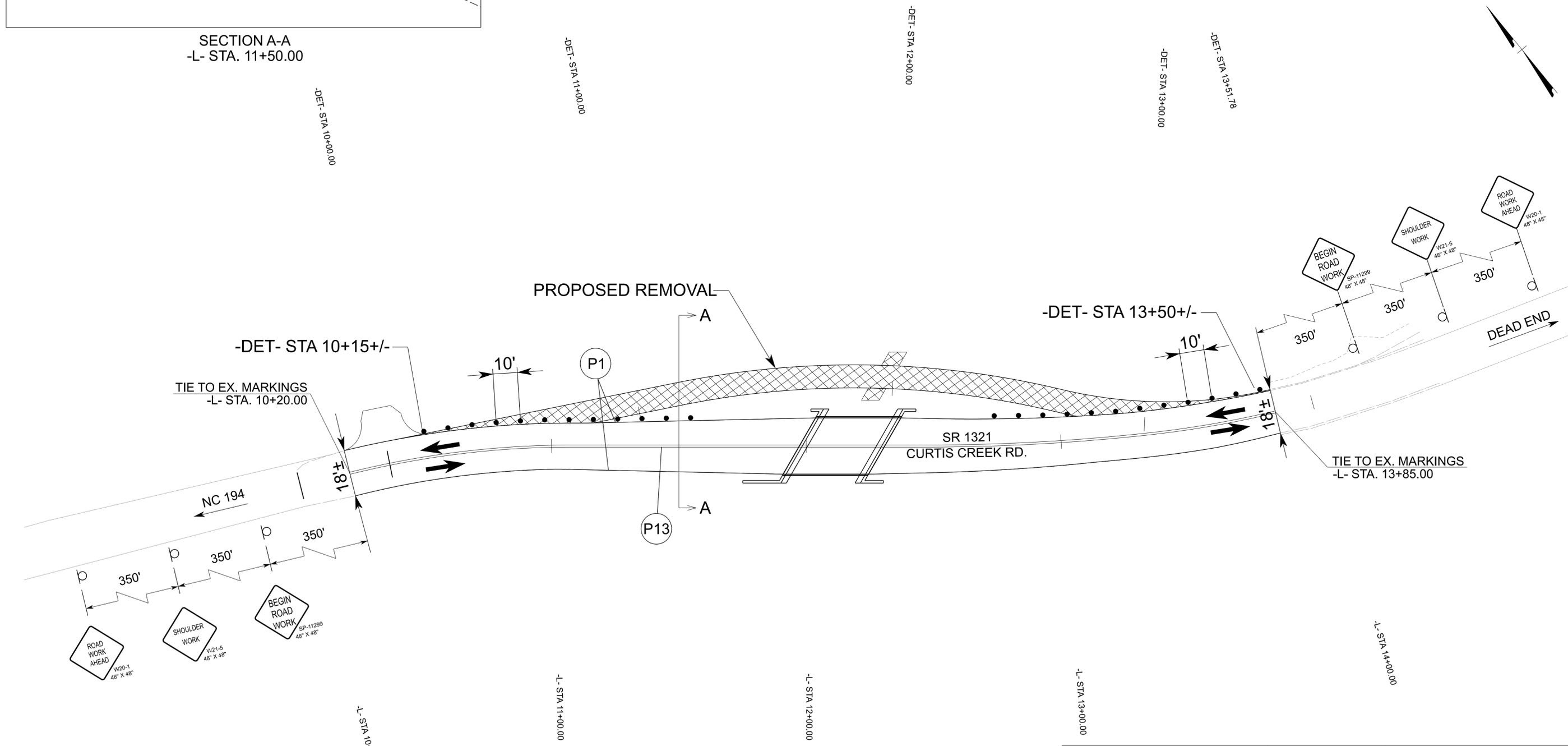
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UNLESS ALL SIGNATURES COMPLETED

PHASE 2 DETAIL
DRAWING

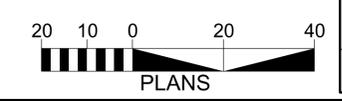




SECTION A-A
-L- STA. 11+50.00



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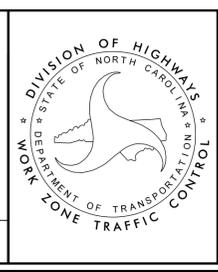


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DATE: 12/18/2025

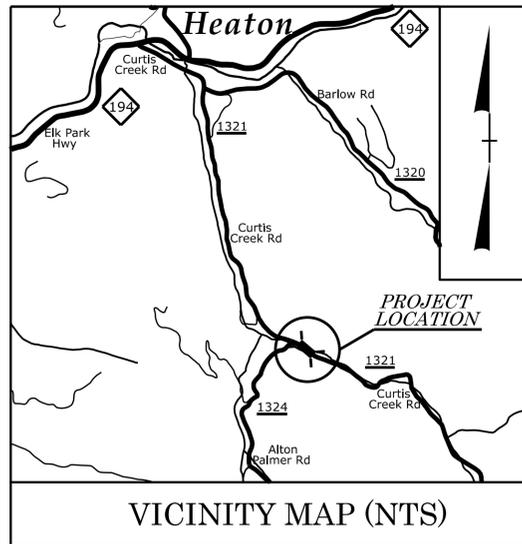
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**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



PHASE 3 DETAIL
DRAWING

TIP PROJECT: DF18311.2006186

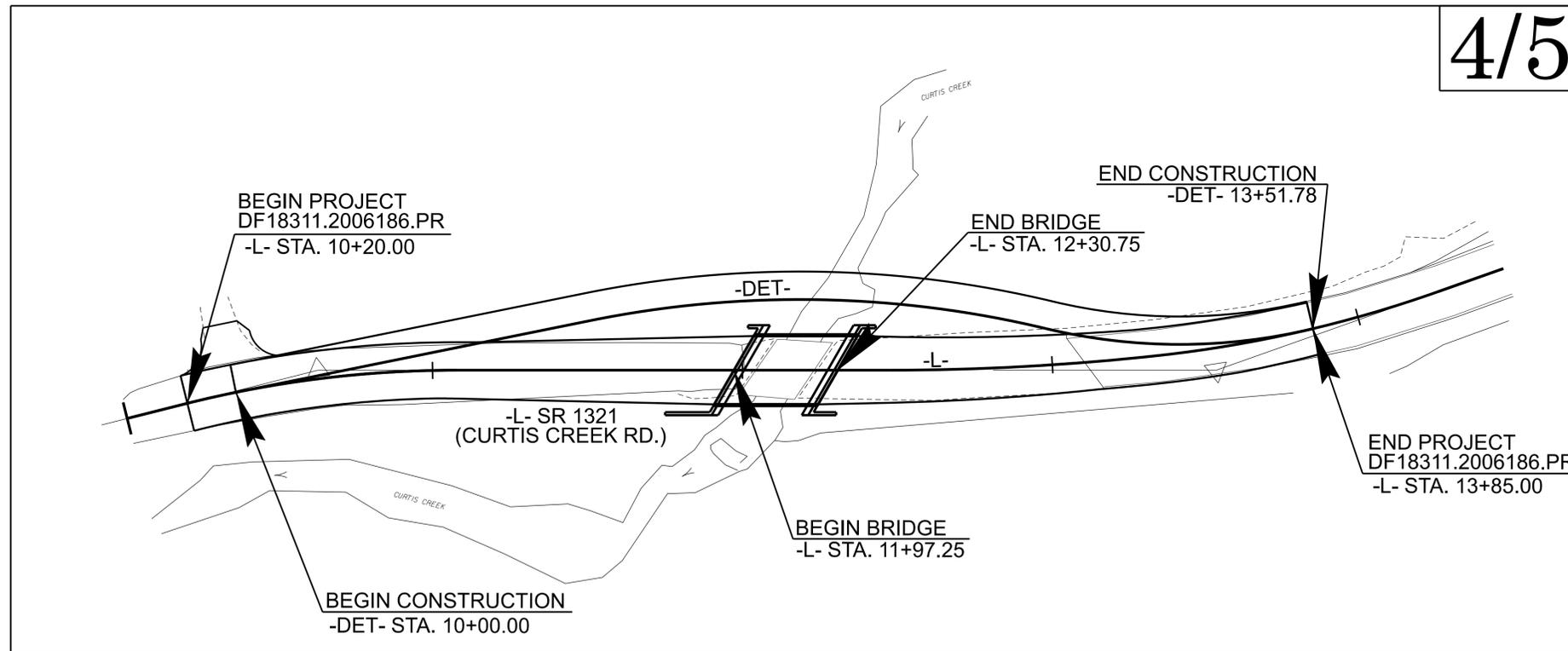


STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL
AVERY COUNTY

LOCATION: REPLACE BRIDGE #050030 ON SR 1321 (CURTIS CREEK RD.) OVER CURTIS CREEK

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

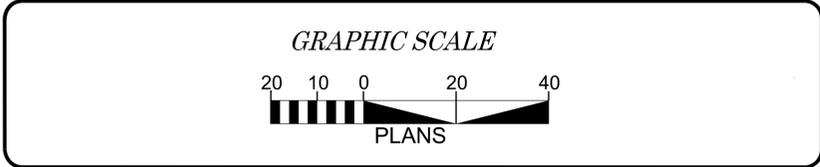
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18311.2006186	EC-11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	



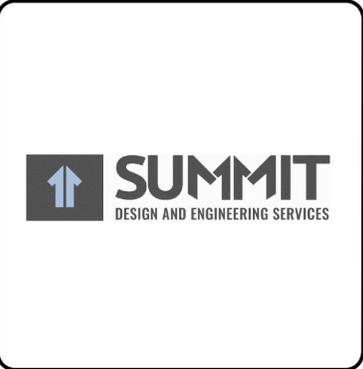
THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
 Refer To E. C. Special Provisions for Special Considerations.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL STORMWATER CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES.



Prepared in the Office of
Summit Design
 And Engineering Services
 320 Executive Ct.
 Hillsborough, NC 27278-8551
 Voice: (919) 732-3883
 Fax: (919) 732-6776
 www.summitde.net
 Designed by:
HE YANG 4408
 NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings
 The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

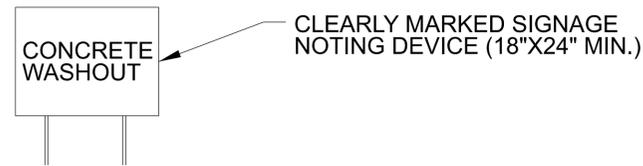
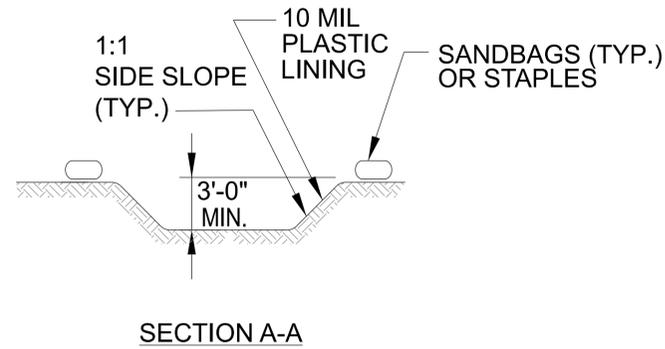
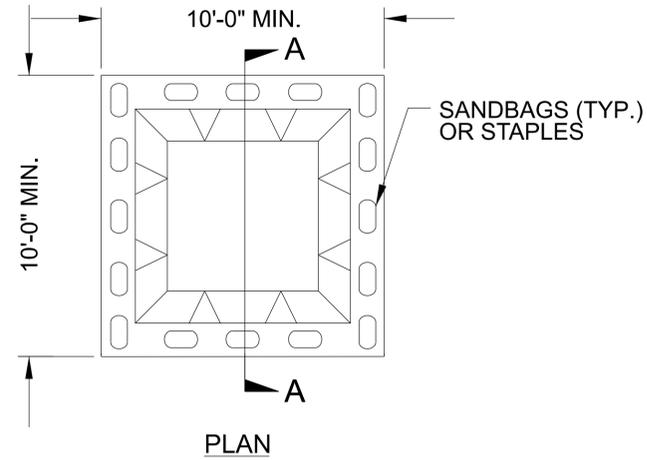
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

EROSION & SEDIMENT CONTROL LEGEND



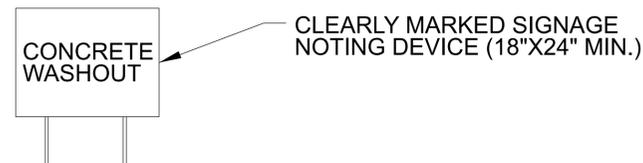
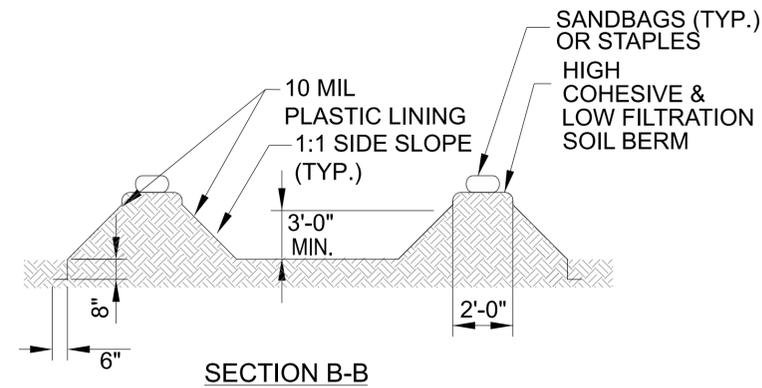
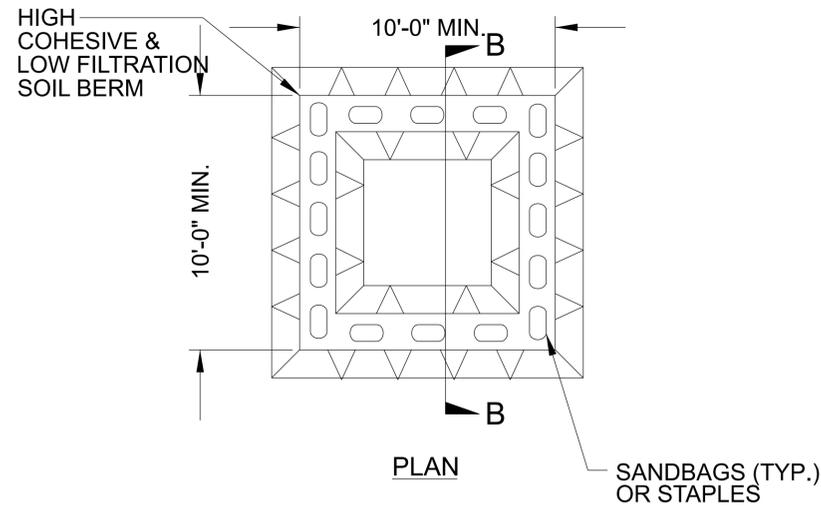
Std. #	Description	Symbol	Std. #	Description	Symbol
1605.01	Temporary Silt Fence		1633.01	Temporary Rock Silt Check Type A	XXXX
1606.01	Special Sediment Control Fence	/ / / / /	1633.02	Temporary Rock Silt Check Type B	▶
1622.01	Temporary Berms and Slope Drains	┌─┐ └─┘	1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	(XXXX)
1630.02	Silt Basin Type B	▨	1634.01	Temporary Rock Sediment Dam Type A	XXXX
1630.03	Temporary Silt Ditch	—TSD—	1634.02	Temporary Rock Sediment Dam Type B	◐
1630.04	Stilling Basin	▭	1635.01	Rock Pipe Inlet Sediment Trap Type A	A U
1630.05	Temporary Diversion	→ TD →	1635.02	Rock Pipe Inlet Sediment Trap Type B	B U
1630.06	Special Stilling Basin	▭	1636.01	Excelsior Wattle Check	C
1630.07	Skimmer Basin	▭	1636.01	Excelsior Wattle Check with Flocculant	(C)
1630.08	Tiered Skimmer Basin	▭	1636.01	Coir Fiber Wattle Check	◀
1630.09	Earthen Dam with Skimmer	▭	1636.01	Coir Fiber Wattle Check with Flocculant	(◀)
	Infiltration Basin	▭	1636.02	Silt Fence Excelsior Wattle Break	EW
	Rock Inlet Sediment Trap:			Silt Fence Coir Fiber Wattle Break	CFW
1632.01	Type A	A ◻	1636.03	Excelsior Wattle Barrier	—EW—EW—EW—
1632.02	Type B	B ◻	1636.03	Coir Fiber Wattle Barrier	—CFW—CFW—CFW—
1632.03	Type C	C ◻			

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



ABOVE GRADE WASHOUT STRUCTURE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

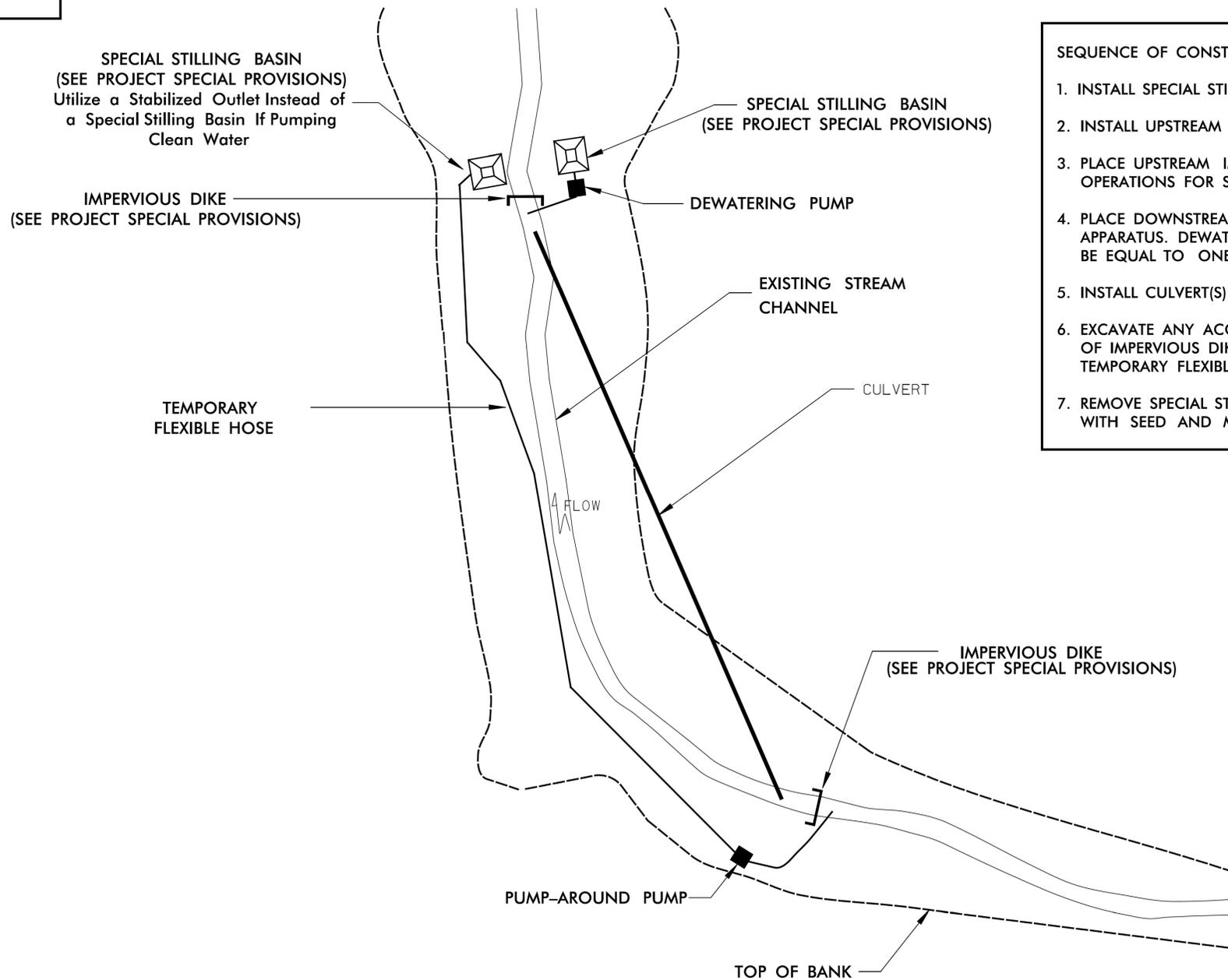


EXAMPLE OF PUMP-AROUND OPERATION



NOTES:

- 1) All excavation shall be performed in only dry or isolated areas of the work zone.
- 2) Impervious dikes are to be used to isolate work from stream flow when necessary.
- 3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
- 4) Pumps and hoses shall be of sufficient size to dewater the work area.



SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

DF18311.2006186

EC-3
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
AVERY COUNTY



PLANS PREPARED BY:
SUMMIT
DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Court
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES

CUR DATA -DET-	CUR DATA -DET-
Plc 11+92.12	Plc 13+09.18
$\Delta c = 24^{\circ}52'04.0''$ (RT)	$\Delta c = 26^{\circ}53'42.7''$ (LT)
D = 16°48'08.2"	D = 30°58'14.5"
Lc = 148.00	Lc = 86.84
Tc = 75.19	Tc = 44.24
R = 341	R = 185
SE = 03	SE = 04
RO = 37.5'	RO = 50'
DS = 15 MPH	DS = 15 MPH

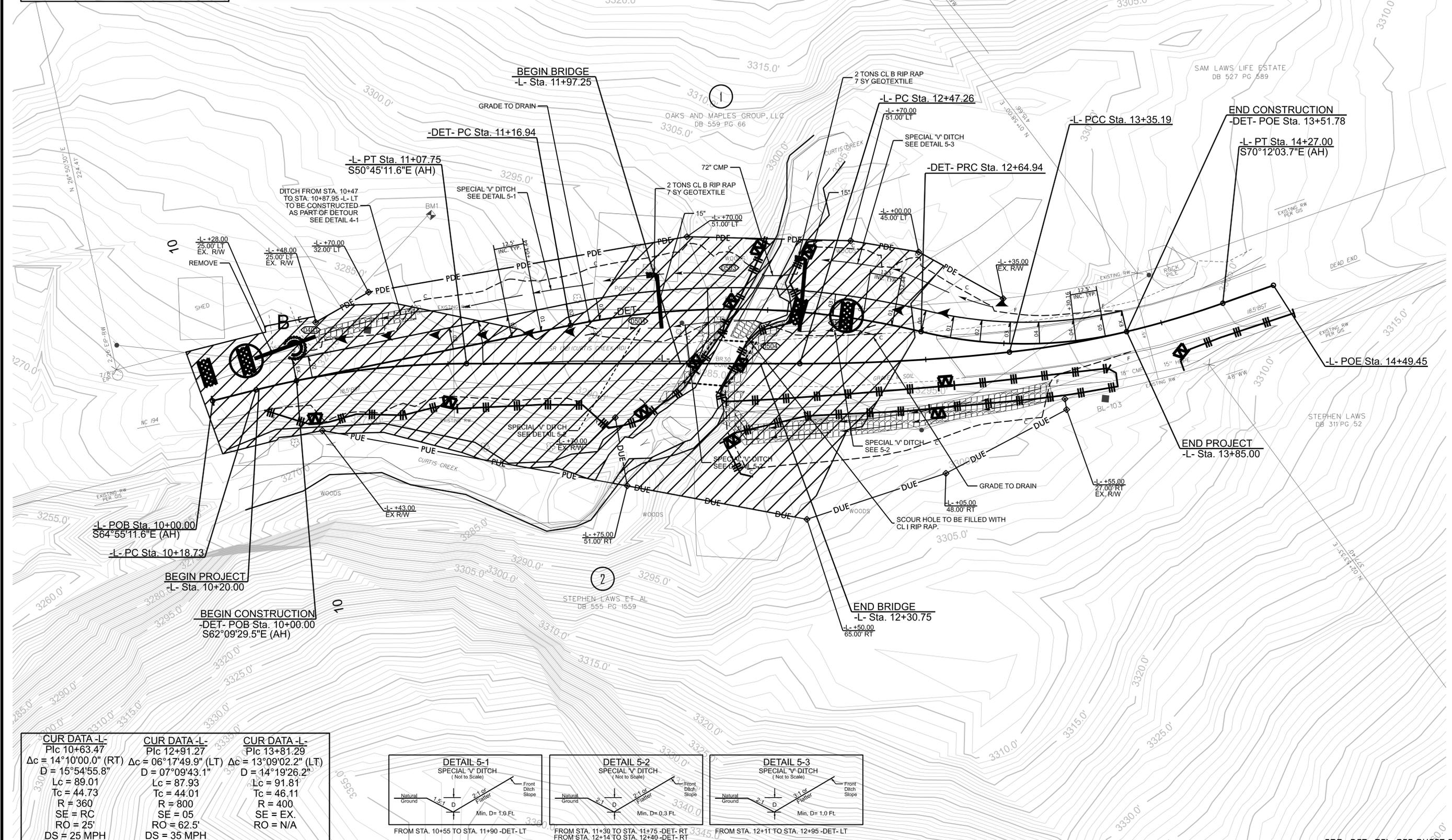
NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

 ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

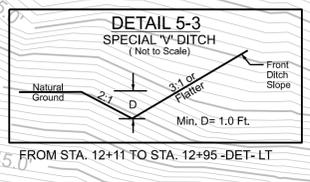
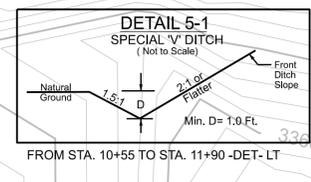
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

NOTE: UTILIZE TEMPORARY PUMP AROUND FOR INSTALLATION OF 72" CMP. SEE SHEET EC-2B FOR PUMP AROUND DETAIL.



CUR DATA -L-	CUR DATA -L-	CUR DATA -L-
Plc 10+63.47	Plc 12+91.27	Plc 13+81.29
$\Delta c = 14^{\circ}10'00.0''$ (RT)	$\Delta c = 06^{\circ}17'49.9''$ (LT)	$\Delta c = 13^{\circ}09'02.2''$ (LT)
D = 15°54'55.8"	D = 07°09'43.1"	D = 14°19'26.2"
Lc = 89.01	Lc = 87.93	Lc = 91.81
Tc = 44.73	Tc = 44.01	Tc = 46.11
R = 360	R = 800	R = 400
SE = RC	SE = 05	SE = EX
RO = 25'	RO = 62.5'	RO = N/A
DS = 25 MPH	DS = 35 MPH	



FOR -DET- PFL, SEE SHEET 6



ROADWAY DESIGN ENGINEER

INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION

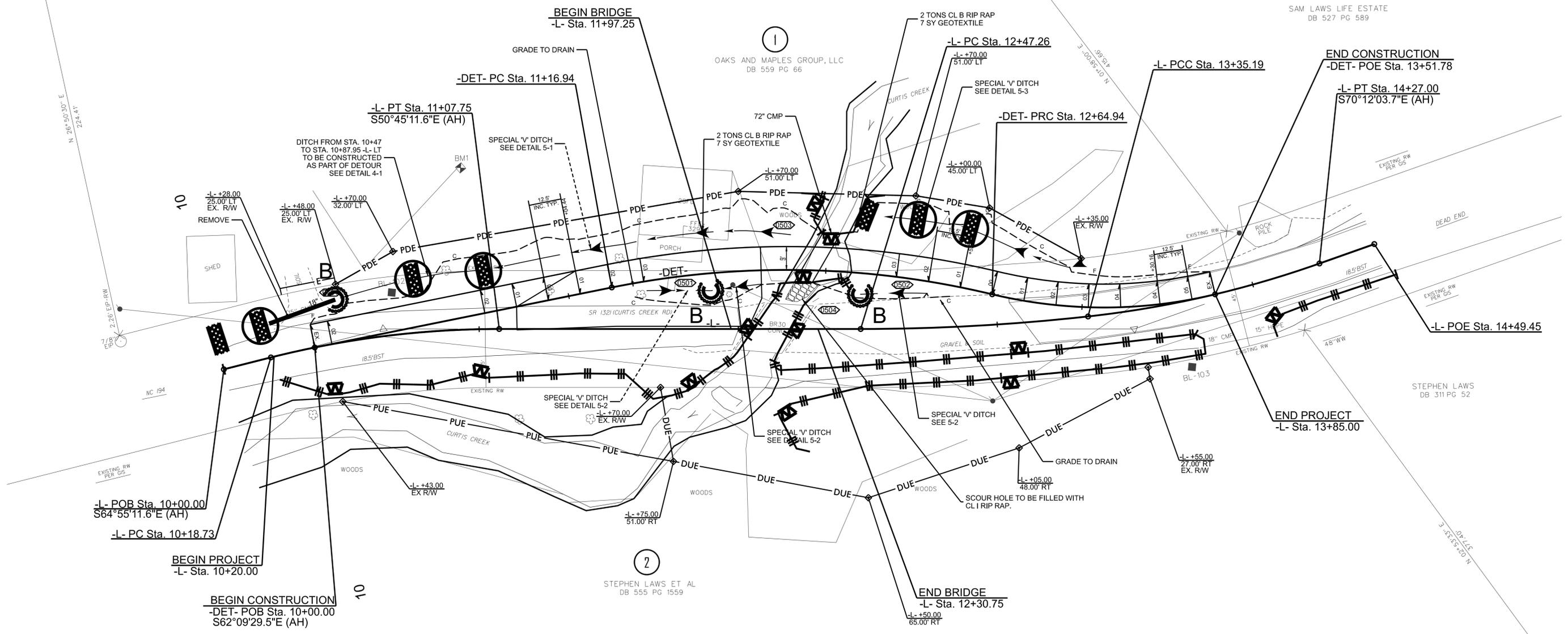
HYDRAULIC DESIGN ENGINEER

INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION

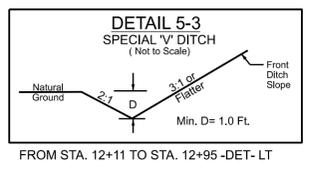
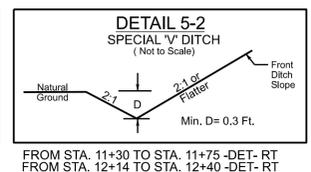
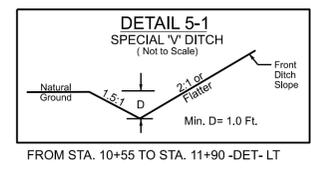
PLANS PREPARED BY: SUMMIT DESIGN AND ENGINEERING SERVICES NC FIRM LICENSE No: P-0339 320 Executive Court Hillsborough, NC 27278 (919) 732-3883 (919) 732-8676 (FAX)

CUR DATA -DET-	CUR DATA -DET-
Plc 11+92.12	Plc 13+09.18
$\Delta c = 24^{\circ}52'04.0''$ (RT)	$\Delta c = 26^{\circ}53'42.7''$ (LT)
D = 16°48'08.2"	D = 30°58'14.5"
Lc = 148.00	Lc = 86.84
Tc = 75.19	Tc = 44.24
R = 341	R = 185
SE = 03	SE = 04
RO = 37.5'	RO = 50'
DS = 15 MPH	DS = 15 MPH

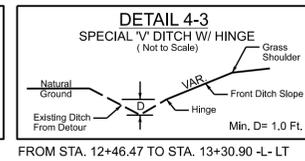
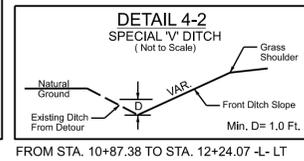
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



CUR DATA -L-	CUR DATA -L-	CUR DATA -L-
Plc 10+63.47	Plc 12+91.27	Plc 13+81.29
$\Delta c = 14^{\circ}10'00.0''$ (RT)	$\Delta c = 06^{\circ}17'49.9''$ (LT)	$\Delta c = 13^{\circ}09'02.2''$ (LT)
D = 15°54'55.8"	D = 07°09'43.1"	D = 14°19'26.2"
Lc = 89.01	Lc = 87.93	Lc = 91.81
Tc = 44.73	Tc = 44.01	Tc = 46.11
R = 360	R = 400	R = 400
SE = RC	SE = 05	SE = EX.
RO = 25'	RO = 62.5'	RO = N/A
DS = 25 MPH	DS = 35 MPH	DS = 35 MPH



FOR -DET- PFL, SEE SHEET 6



NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



DF18311.2006186.PR
EC/CONST.006/004
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
AVERY COUNTY

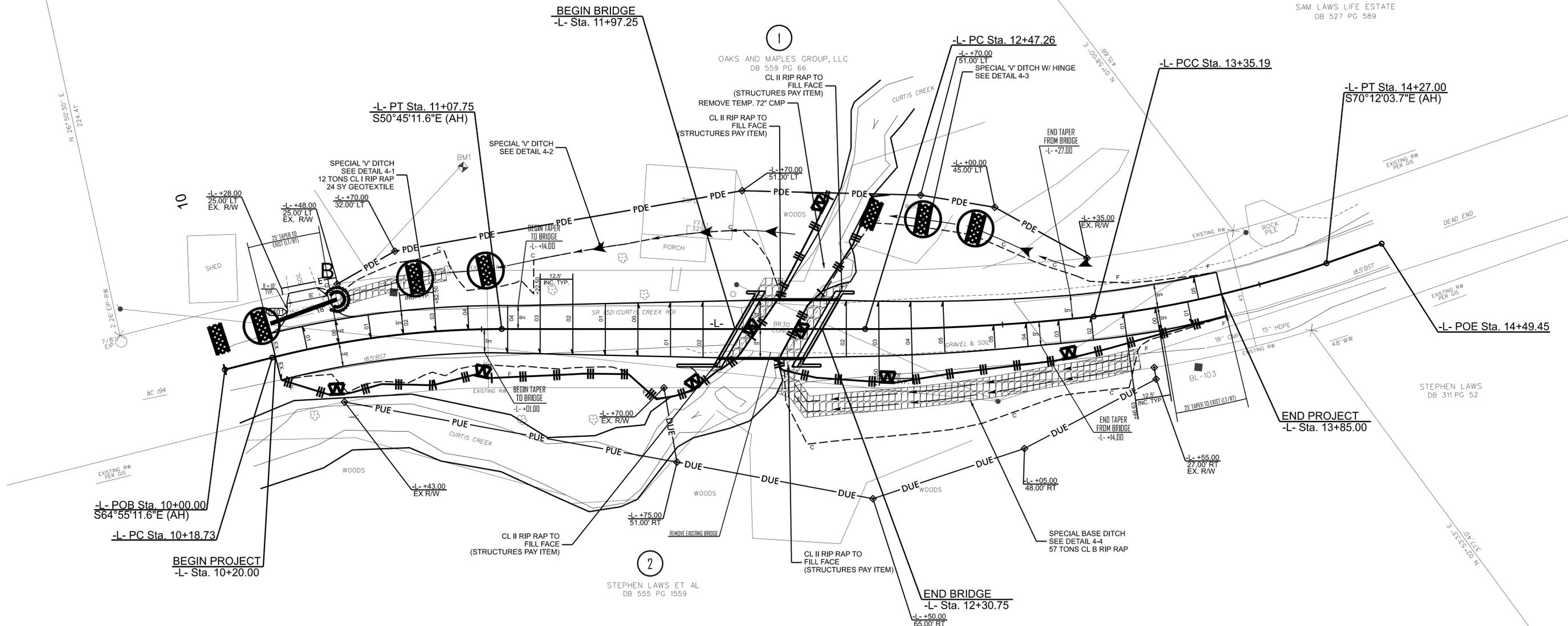
ROADWAY DESIGN
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

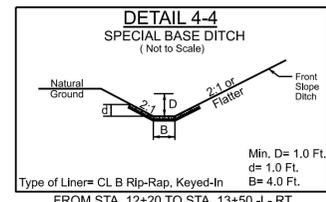
HYDRAULIC DESIGN
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PLANS PREPARED BY:
SUMMIT
DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Court
Hillsborough, NC 27278
(919) 732-3883
(919) 732-8676 (FAX)



CUR DATA -L-	CUR DATA -L-	CUR DATA -L-
P/c 10+63.47	P/c 12+91.27	P/c 13+81.29
$\Delta c = 14^\circ 10'00.0''$ (RT)	$\Delta c = 06^\circ 17'49.9''$ (LT)	$\Delta c = 13^\circ 09'02.2''$ (LT)
D = 15°54'55.8"	D = 07°09'43.1"	D = 14°19'26.2"
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Tc = 44.73	Tc = 44.01	Tc = 46.11
R = 360	R = 800	R = 400
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RO = 25'	RO = 62.5'	RO = N/A
DS = 25 MPH	DS = 35 MPH	



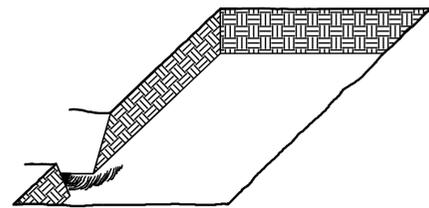
FOR -L- PFL, SEE SHEET 6

PLANTING DETAILS

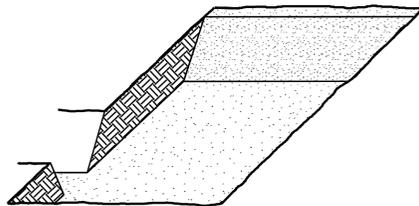
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

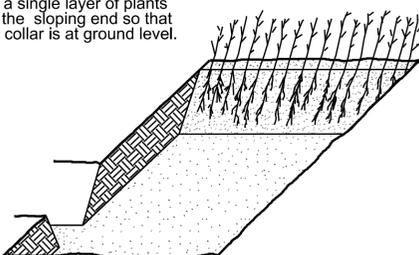
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



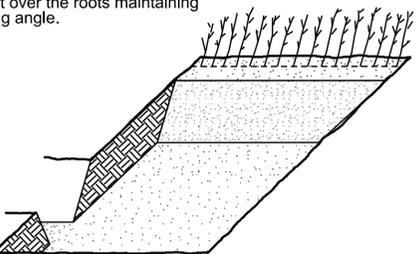
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

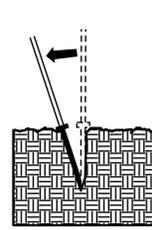


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.



6. Repeat layers of plants and sawdust as necessary and water thoroughly.

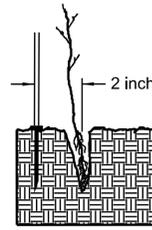
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



1. Insert planting bar as shown and pull handle toward planter.



2. Remove planting bar and place seedling at correct depth.



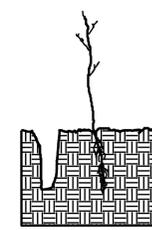
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

34% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
33% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR
33% BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

CONTRACT: TIP PROJECT: DF18311.2006186.PR

CITY OF SALISBURY NORTH CAROLINA

SIGNING PLAN AVERY COUNTY

TYPE OF WORK: *GRADING, DRAINAGE, PAVING & STRUCTURE*

TIP NO. DF18311.2006186.PR	SHEET NO. SIGN-1
APPROVED:  230953376258465	
DATE: 12/18/2025	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

GENERAL NOTES

WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.

WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.

THE BACKGROUND FOR TYPE 'D' AND 'E' SIGNS SHALL BE TYPE 'C' REFLECTIVE SHEETING.

CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE THE ACTUAL DATE THE DEPARTMENT SIGNS WILL BE REQUIRED.

ANY SIGNS THAT ARE DAMAGED DURING CONSTRUCTION SHOULD BE REPLACED IN KIND.

ROADWAY STANDARD DRAWING

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

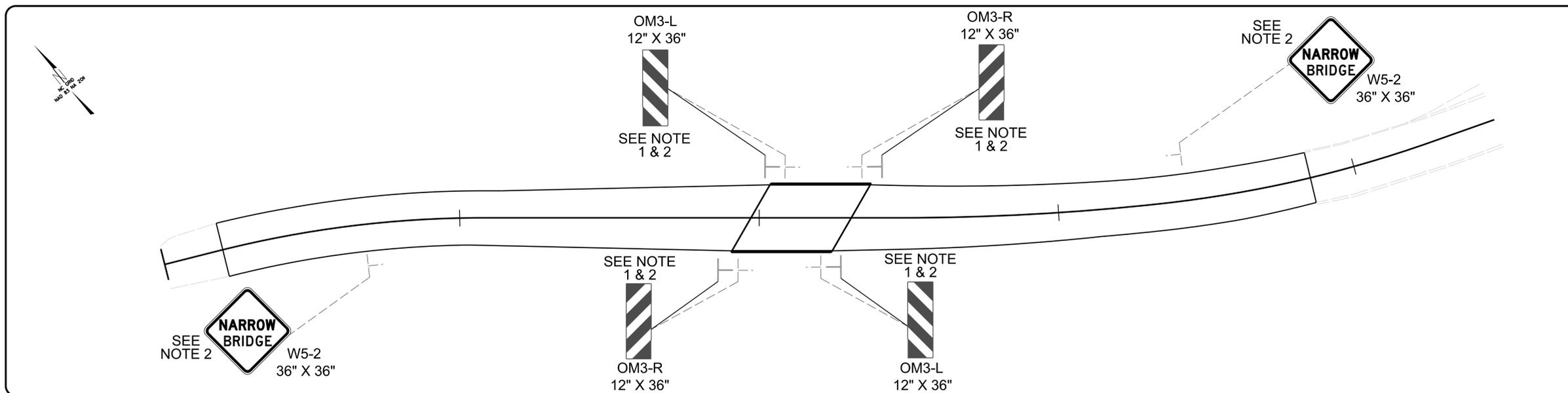
STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SUMMARY OF QUANTITIES

ITEM NO.	DESC. NO.	SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	40	LF
	4102000000-N	904	SIGN ERECTION, TYPE E	4	EA
	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	3	EA
	4158000000-N	907	DISPOSAL OF SIGN SYSTEM, WOOD	1	EA

PAY ITEM NOTES

- SIGN ERECTION, TYPE E (GROUND MOUNTED)
- DISPOSAL OF SIGN SYSTEM, TYPE E



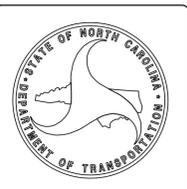
Prepared In the Office of:



1000 South St. Ste. 400
Raleigh, NC 27278
Voice: (919) 732-3883
Fax: (919) 732-4776
www.summitde.net

SPENCER MERRITT, PE PROJECT ENGINEER

JOSHUA JERNIGAN, PE PROJECT DESIGNER



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PLAN SUBMITTED TO: N.C.D.O.T DIVISION II

ROB WEISZ, PE NCDOT DIVISION II BRIDGE PROGRAM MANAGER



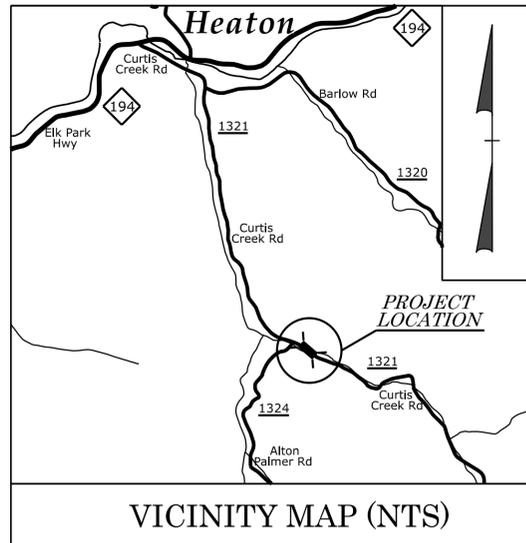
CONTRACT: DK00438 TIP PROJECT: DF18311.2006186.PR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
AVERY COUNTY**

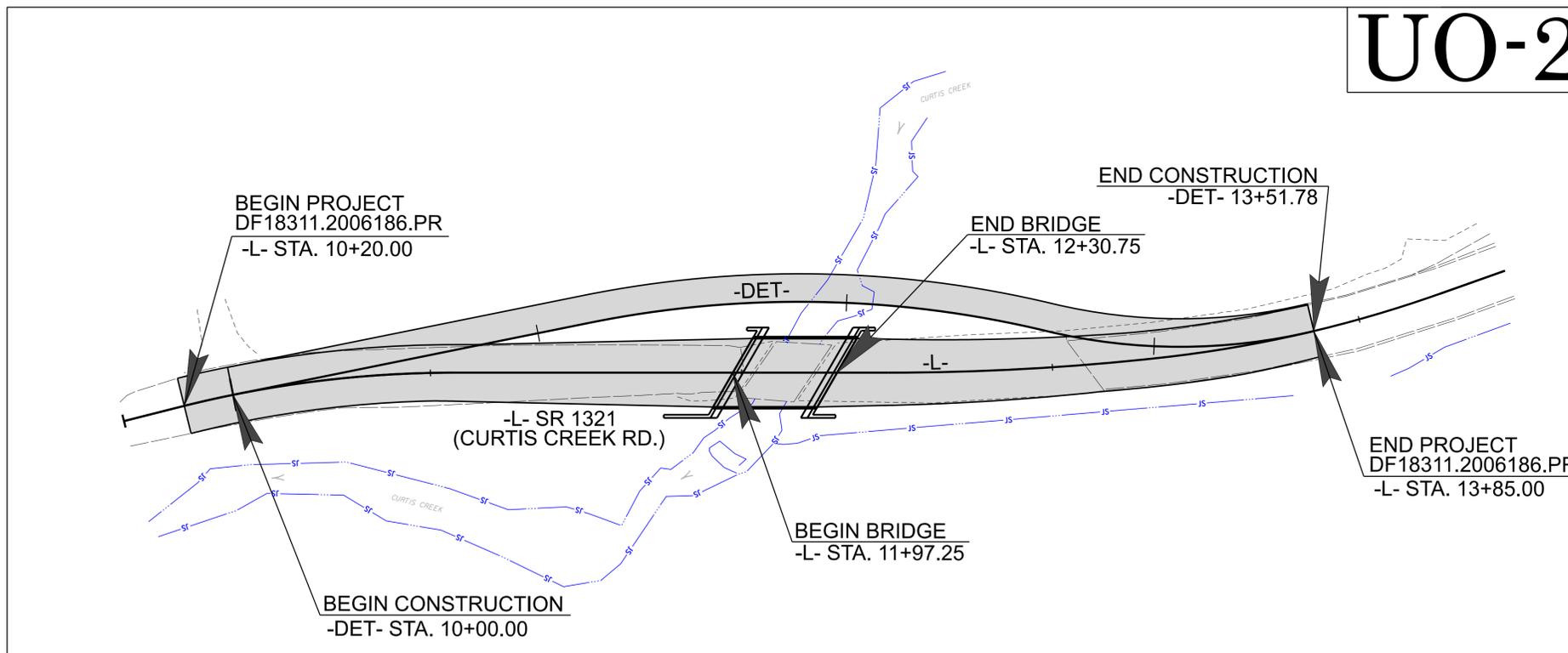
**LOCATION: BRIDGE #050030 OVER CURTIS CREEK
ON SR 1321 (CURTIS CREEK ROAD)**

TYPE OF WORK: POWER AND COMMUNICATIONS

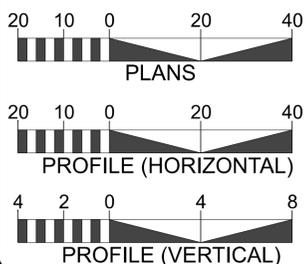


T.I.P. NO.	SHEET NO.
DF18311.2006186.PR	UO-1

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

- (A) POWER - MOUNTAIN ELECTRIC
- (B) COMMUNICATIONS - SPECTRUM
- (C) COMMUNICATIONS - AT&T

PREPARED IN THE OFFICE OF



TELICS

1598 WESTBROOK PLAZA DR.
SUITE 202
WINSTON SALEM, NC 27103
(336) 705 - 8844



DIVISION OF HIGHWAYS
DIVISION II
801 STATESVILLE RD.
NORTH WILKESBORO NC 28659
PHONE (336) 903-9101
FAX (336) 667-4549

CORY WOOD UTILITY PROJECT MANAGER
CORY WOOD UTILITY COORDINATOR

BRANDON GREER DIVISION UTILITIES ENGINEER

02/02/22

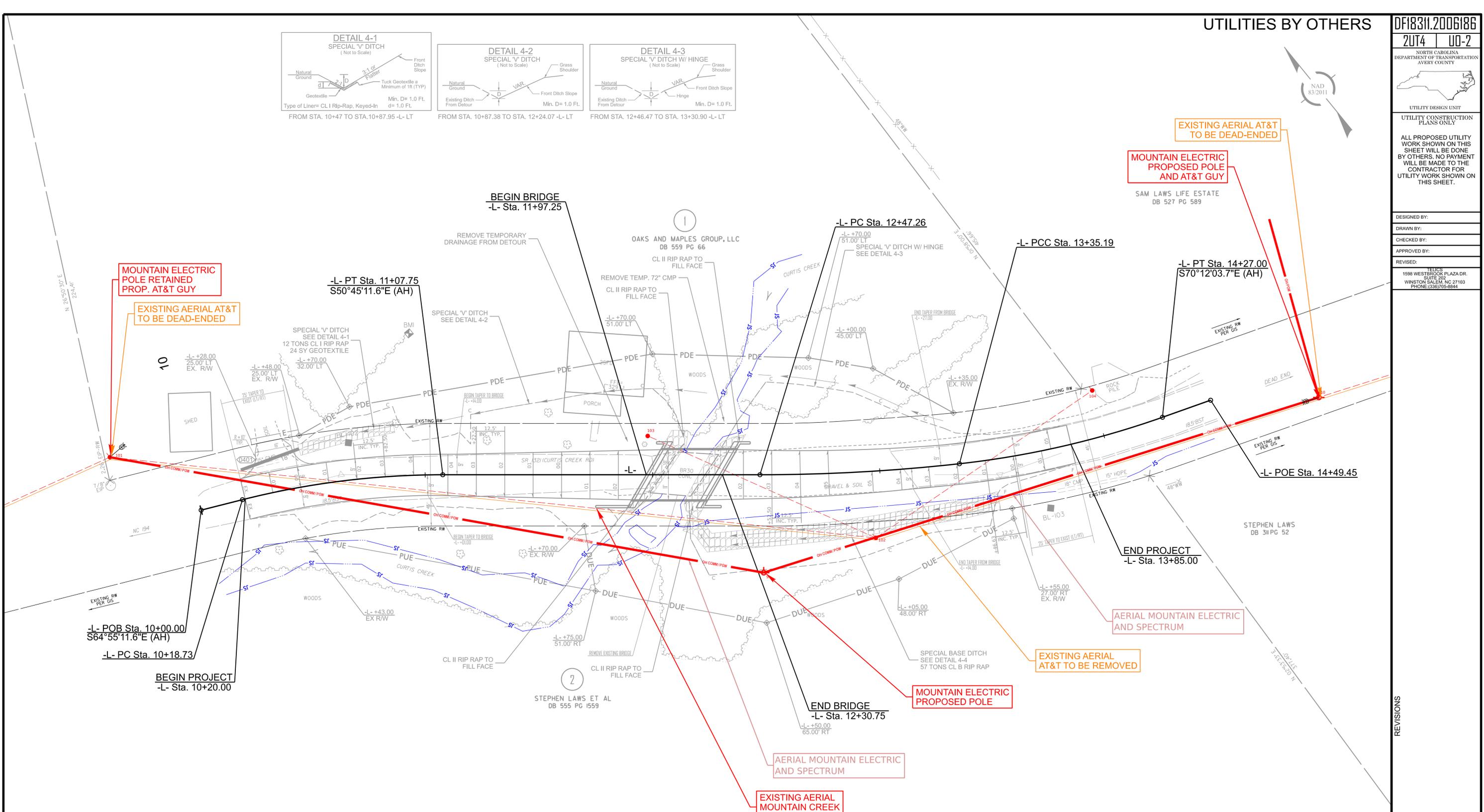
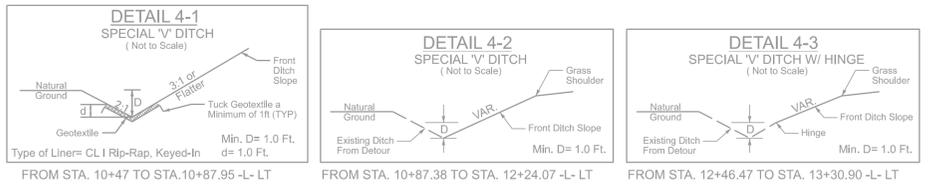
UTILITIES BY OTHERS

DF18311.2006186

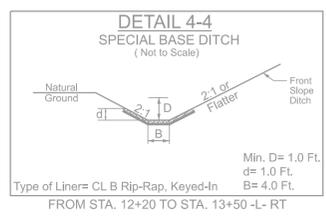
2024 00-2
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
AVERY COUNTY

UTILITY DESIGN UNIT
UTILITY CONSTRUCTION
PLANS ONLY
ALL PROPOSED UTILITY
WORK SHOWN ON THIS
SHEET WILL BE DONE
BY OTHERS. NO PAYMENT
WILL BE MADE TO THE
CONTRACTOR FOR
UTILITY WORK SHOWN ON
THIS SHEET.

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
REVISED:
1598 WESTBROOK PLAZA DR.
SUITE 200
WINSTON SALEM, NC 27103
PHONE (336)705-8844



CUR DATA -L- P/c 10+63.47	CUR DATA -L- P/c 12+91.27	CUR DATA -L- P/c 13+81.29
$\Delta c = 14^{\circ}10'00.0''$ (RT)	$\Delta c = 06^{\circ}17'49.9''$ (LT)	$\Delta c = 13^{\circ}09'02.2''$ (LT)
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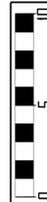
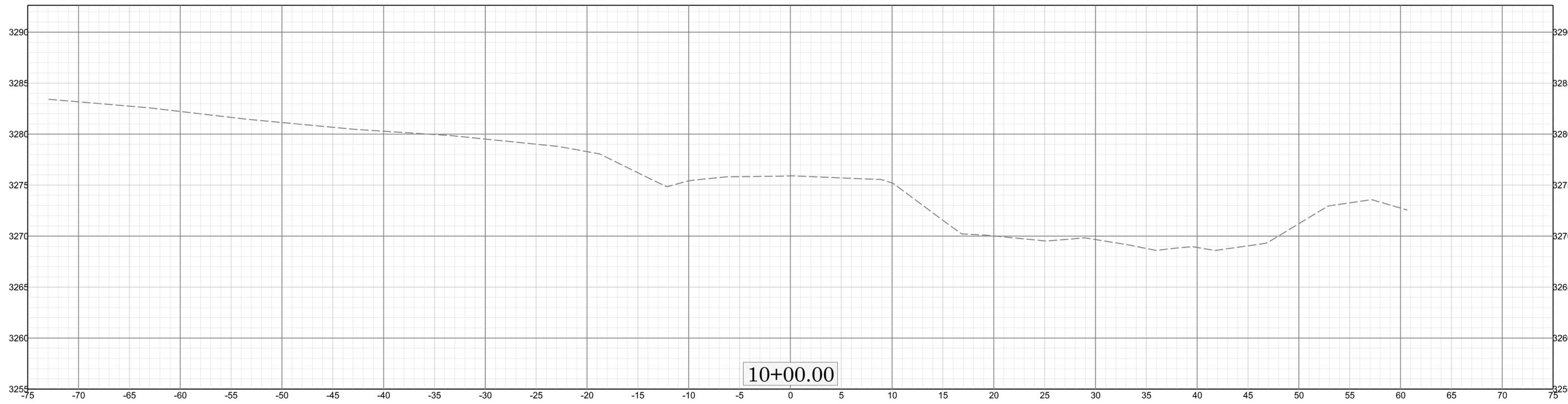
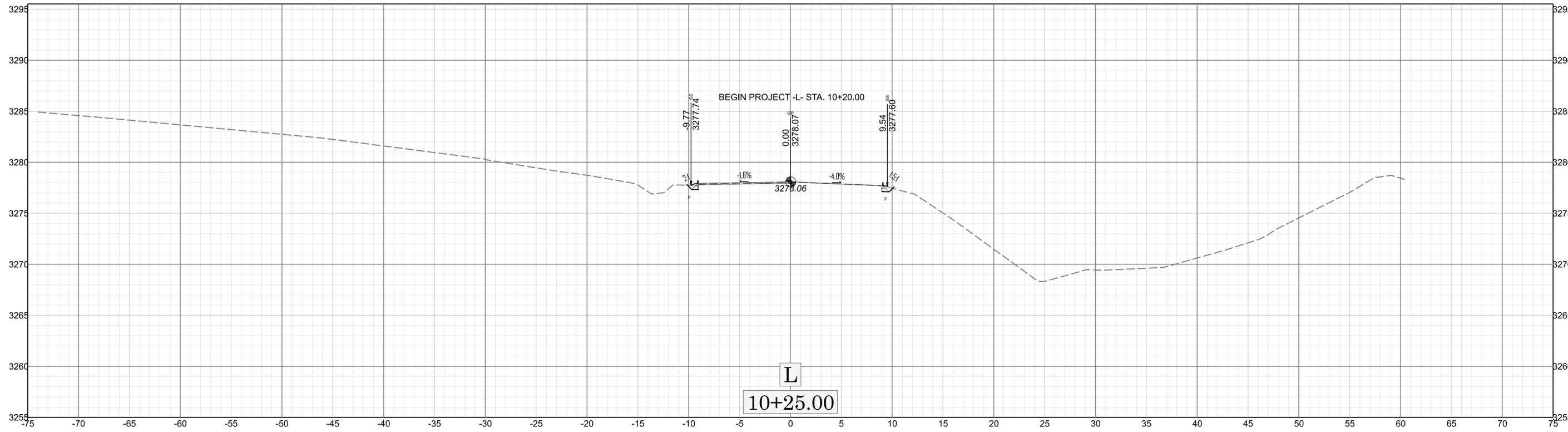


REVISIONS



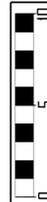
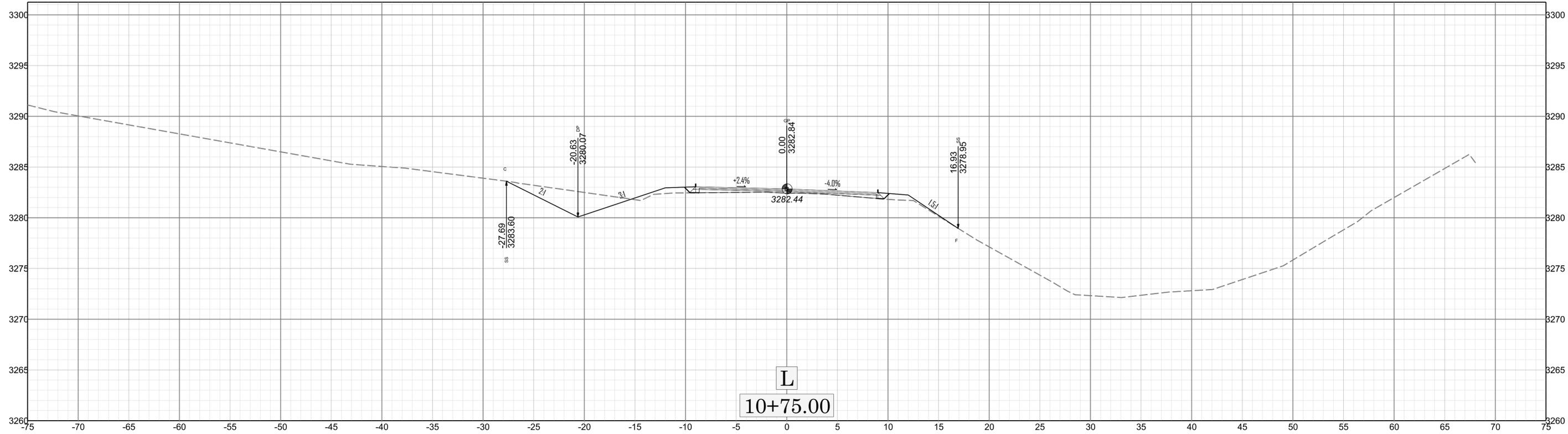
DF18311.2006186.PR CROSS-SECTIONS INDEX OF SHEETS

-L-X-2 THRU X-9
-DET-X-10 THRU X-17

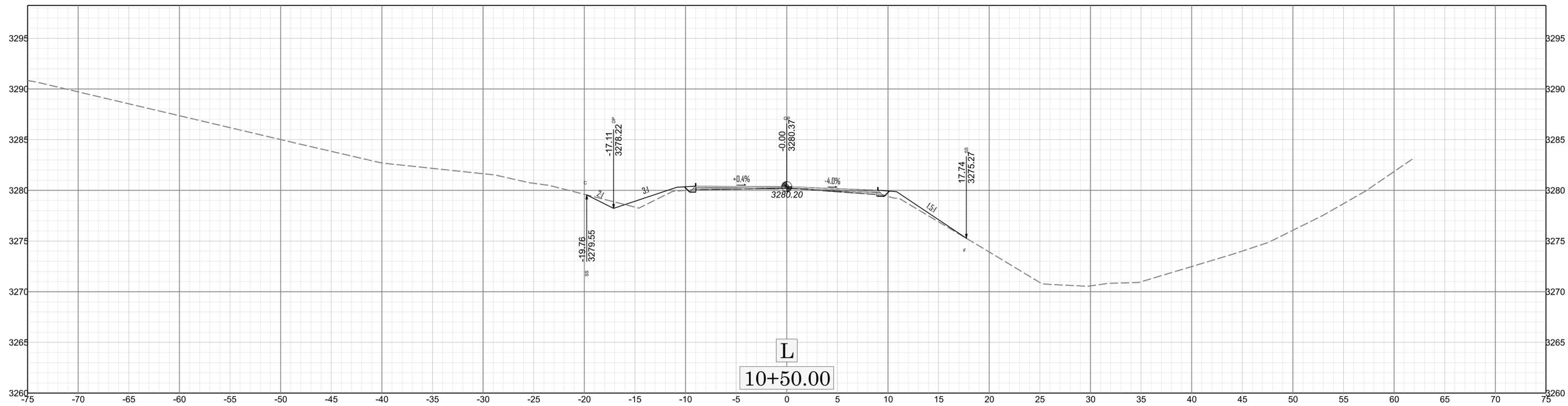


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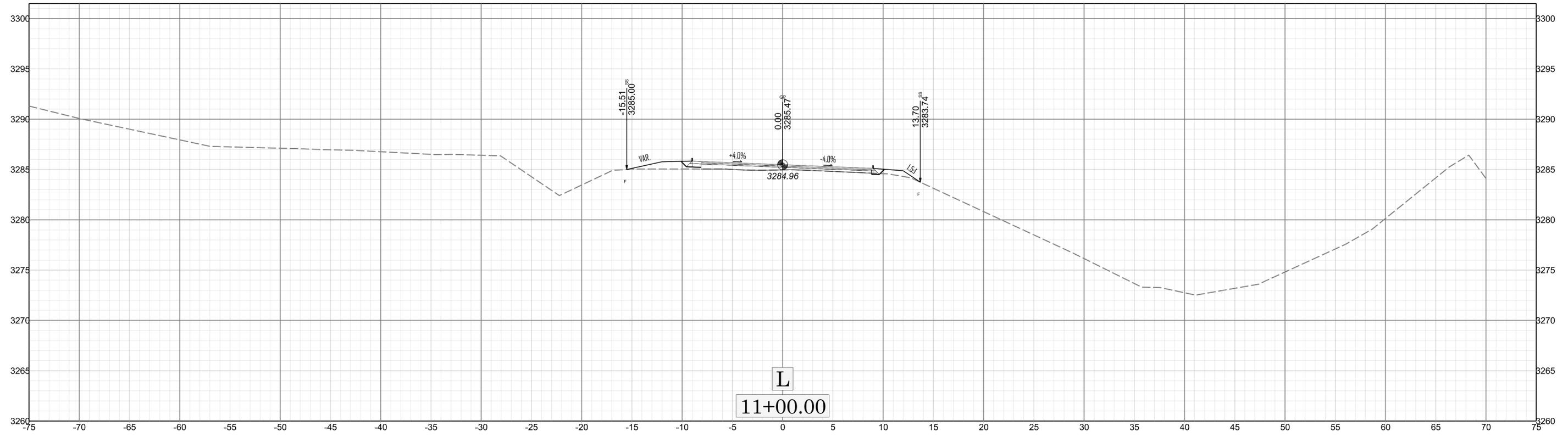
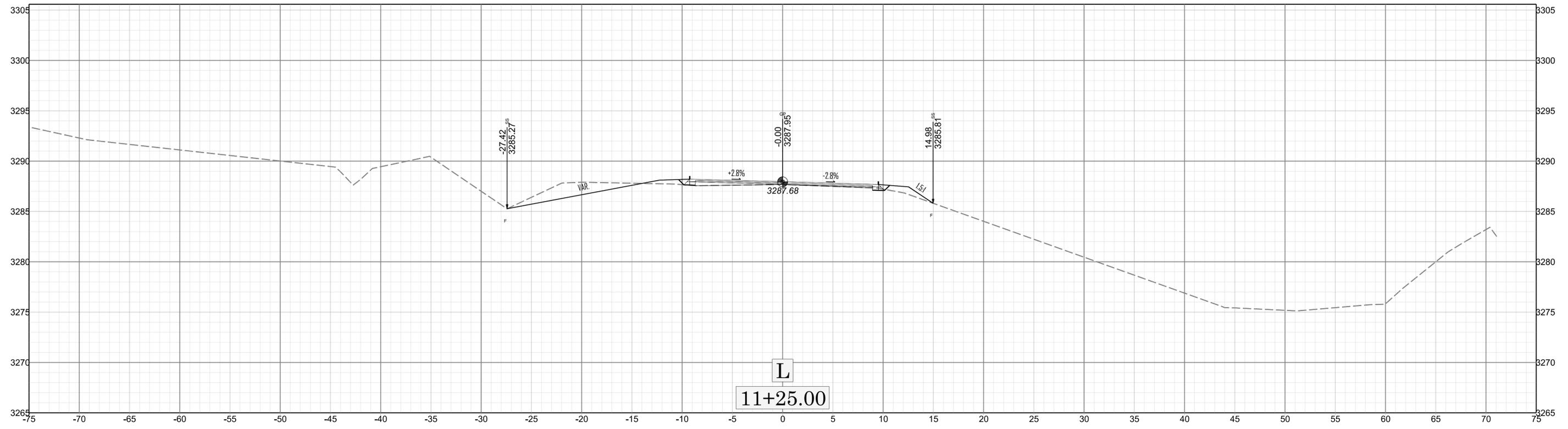
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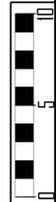
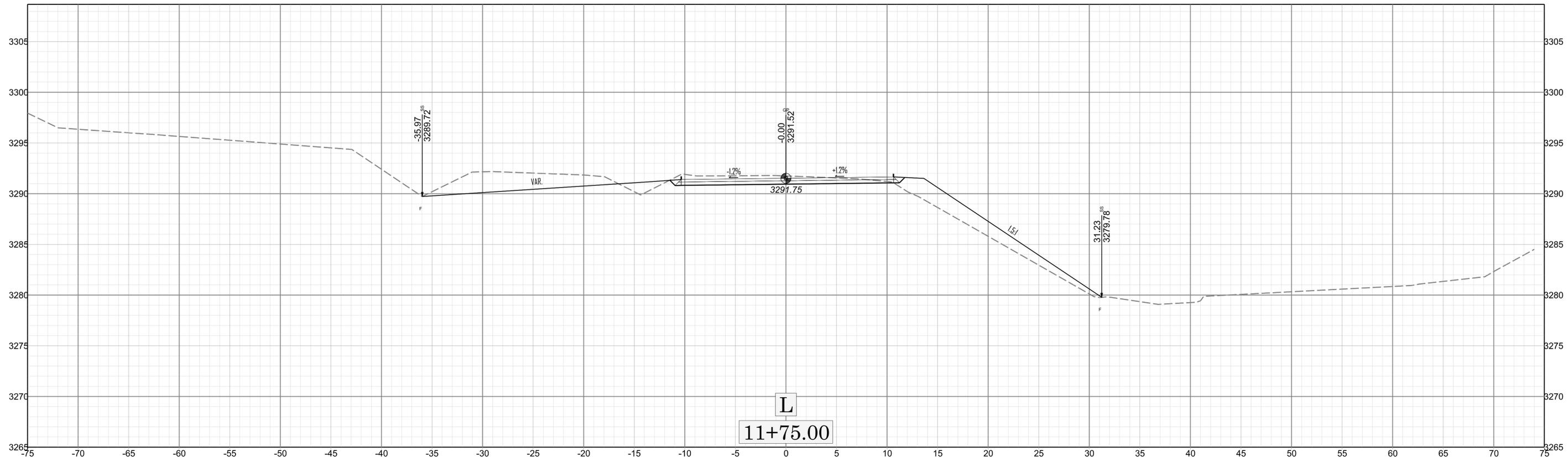


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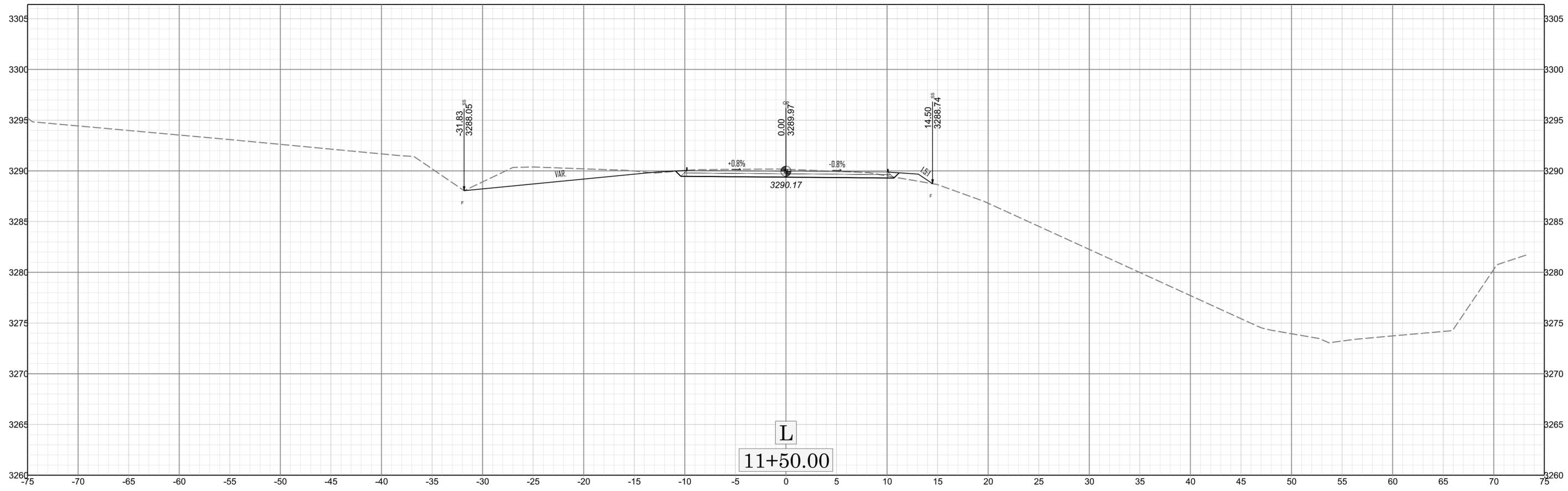


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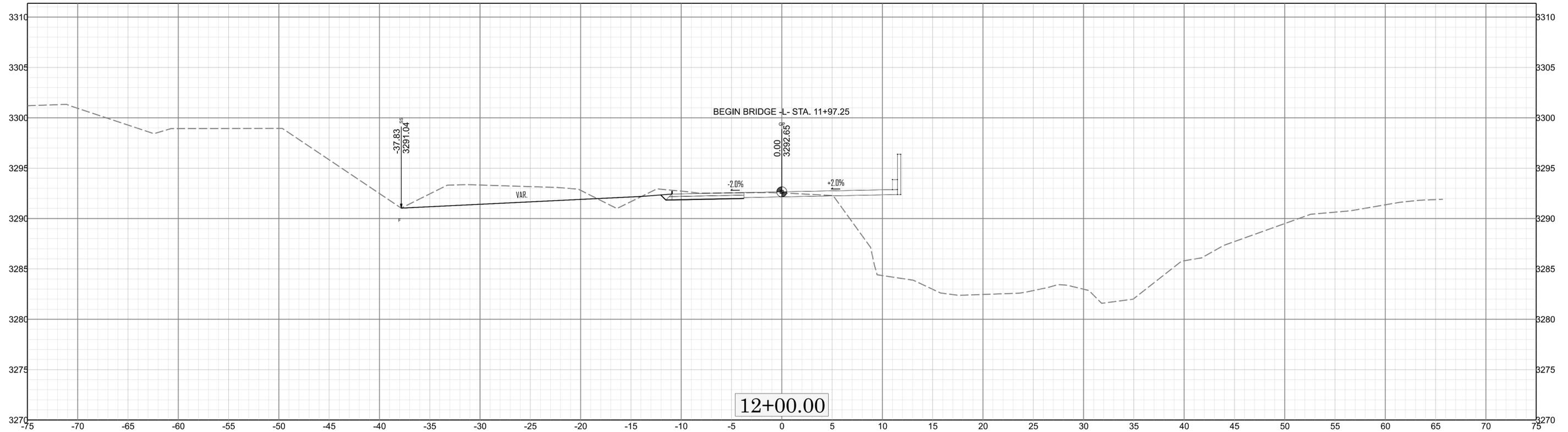
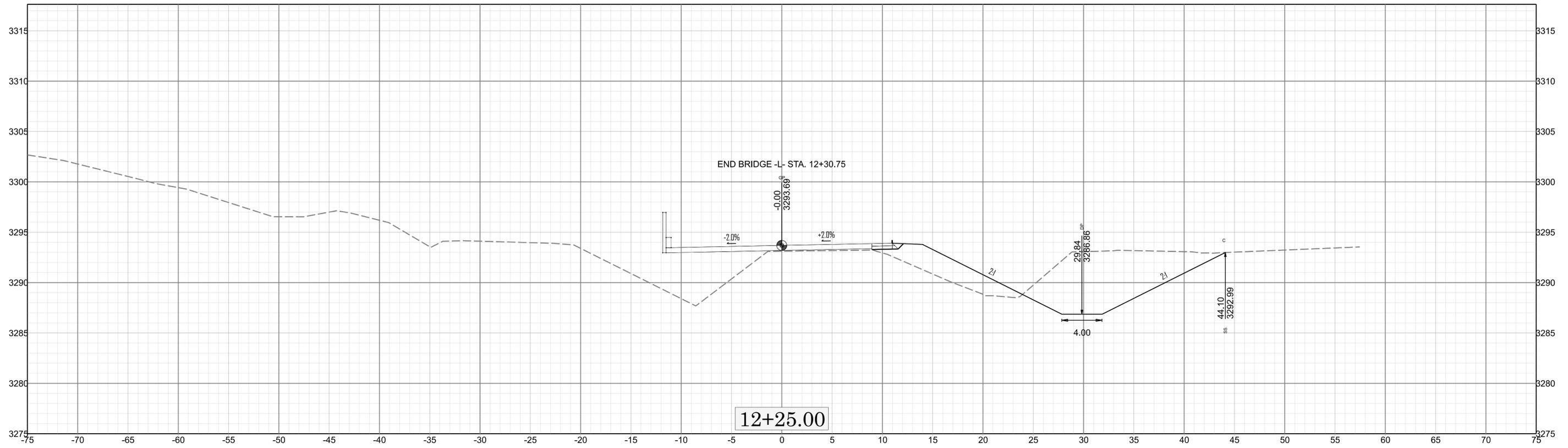
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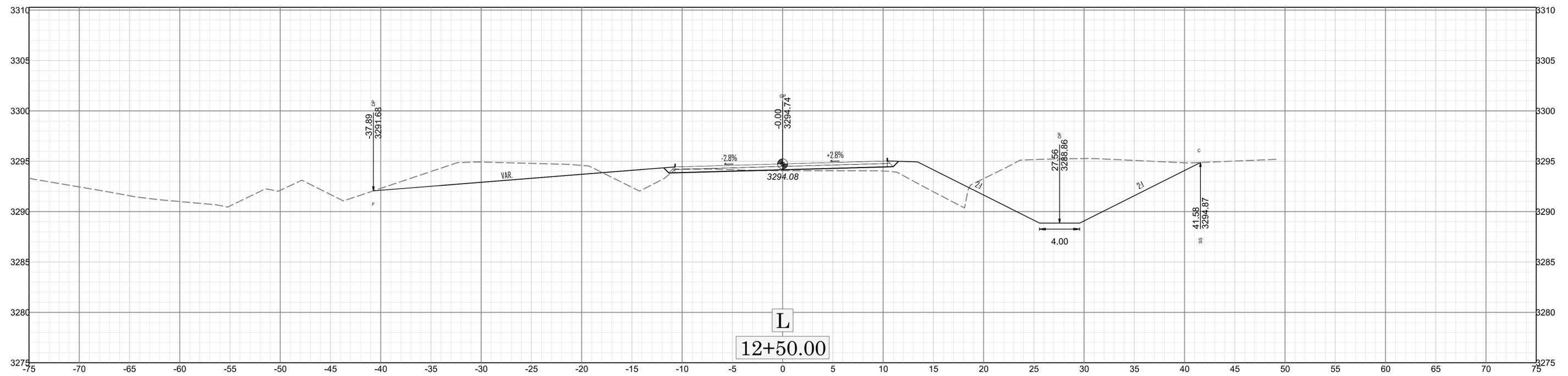
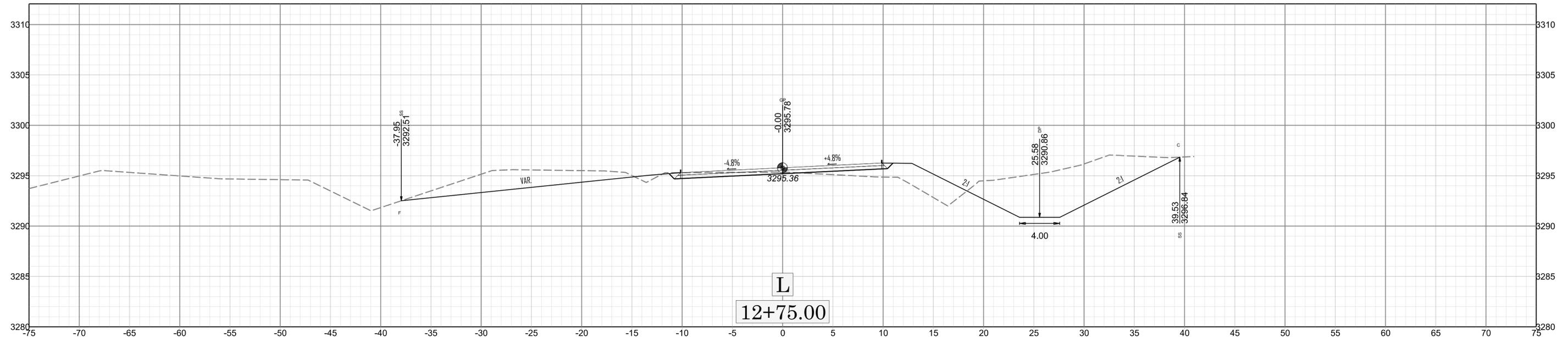


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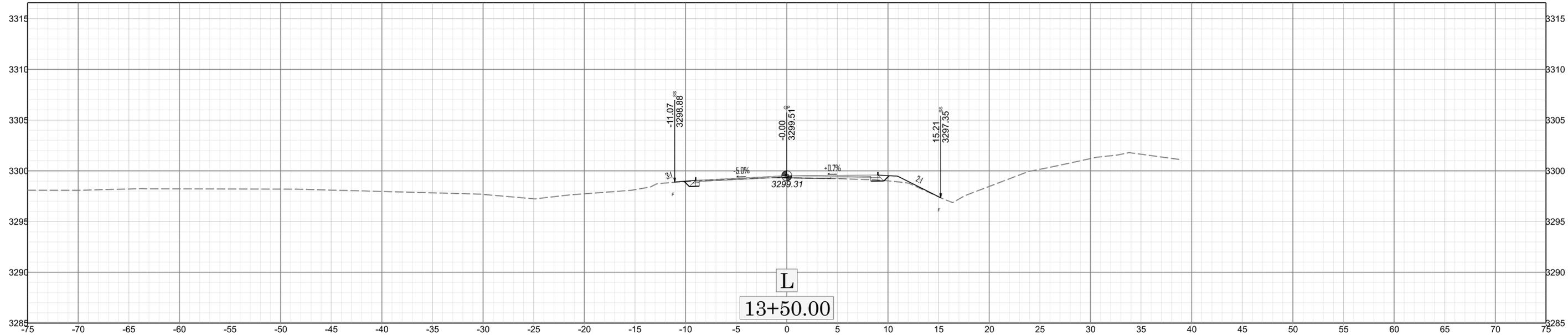
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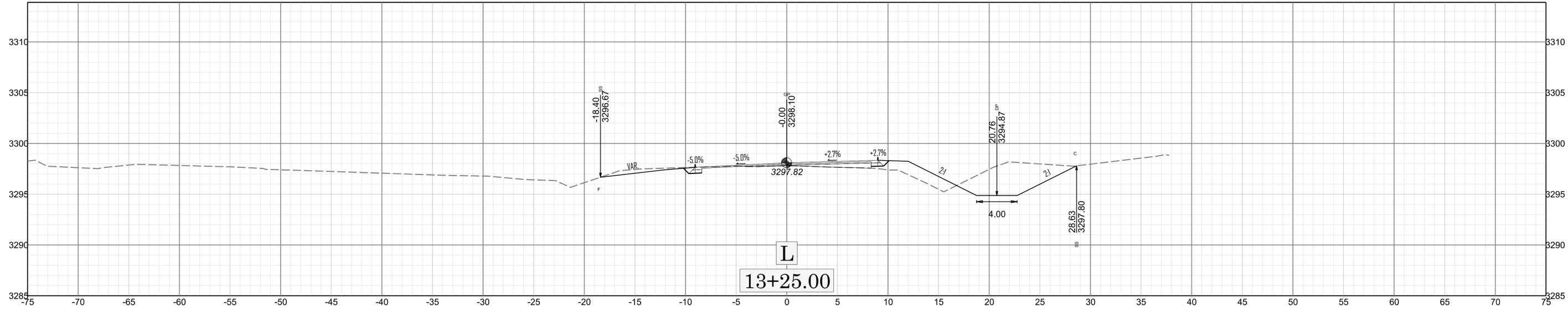


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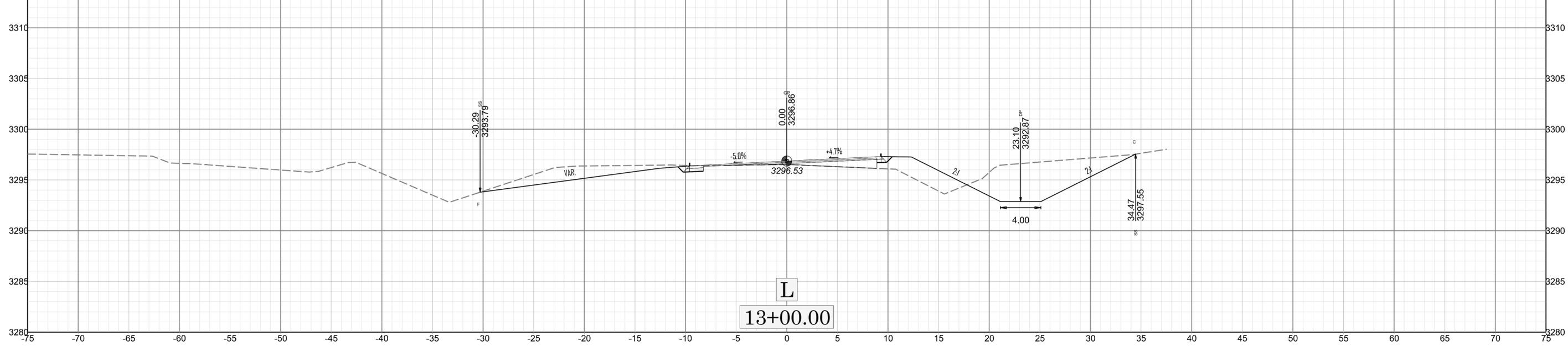
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13+50.00



13+25.00

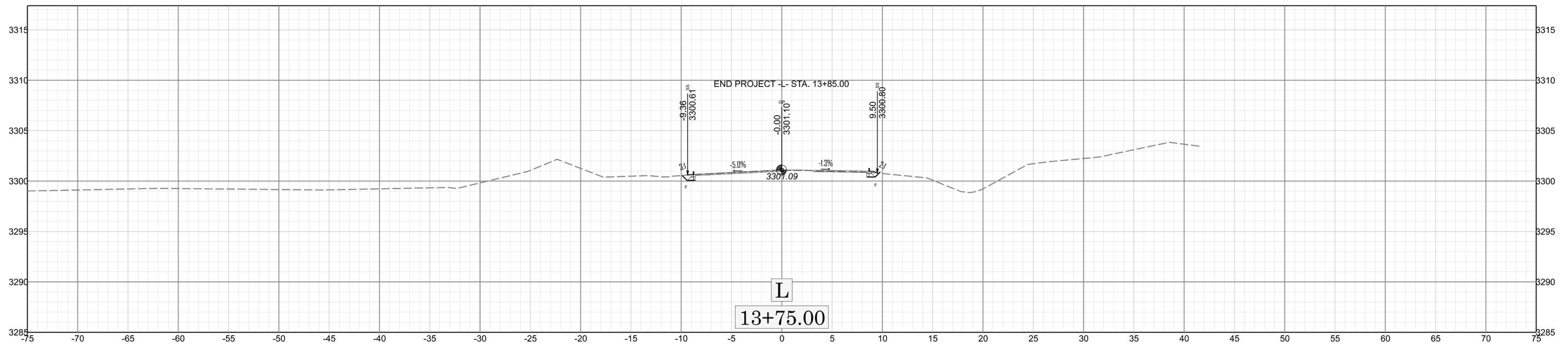
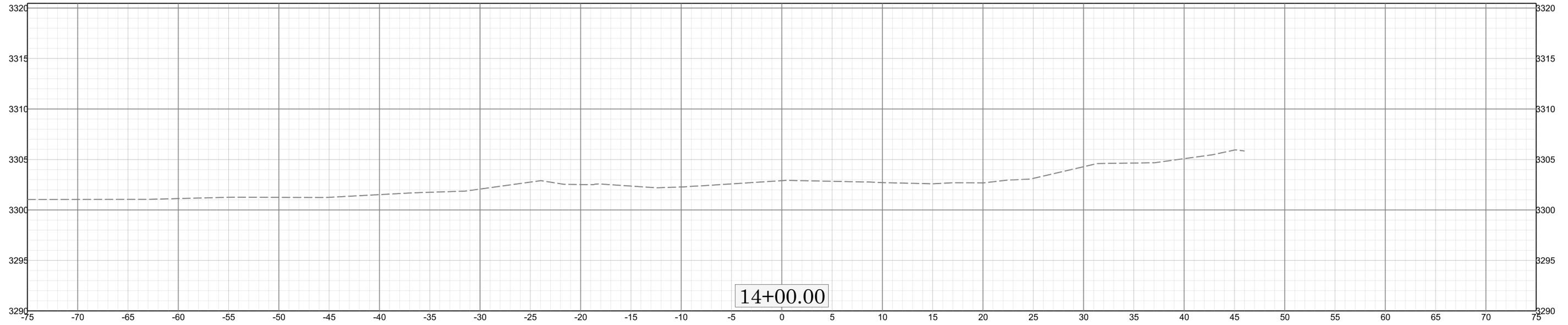


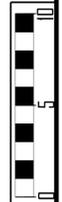
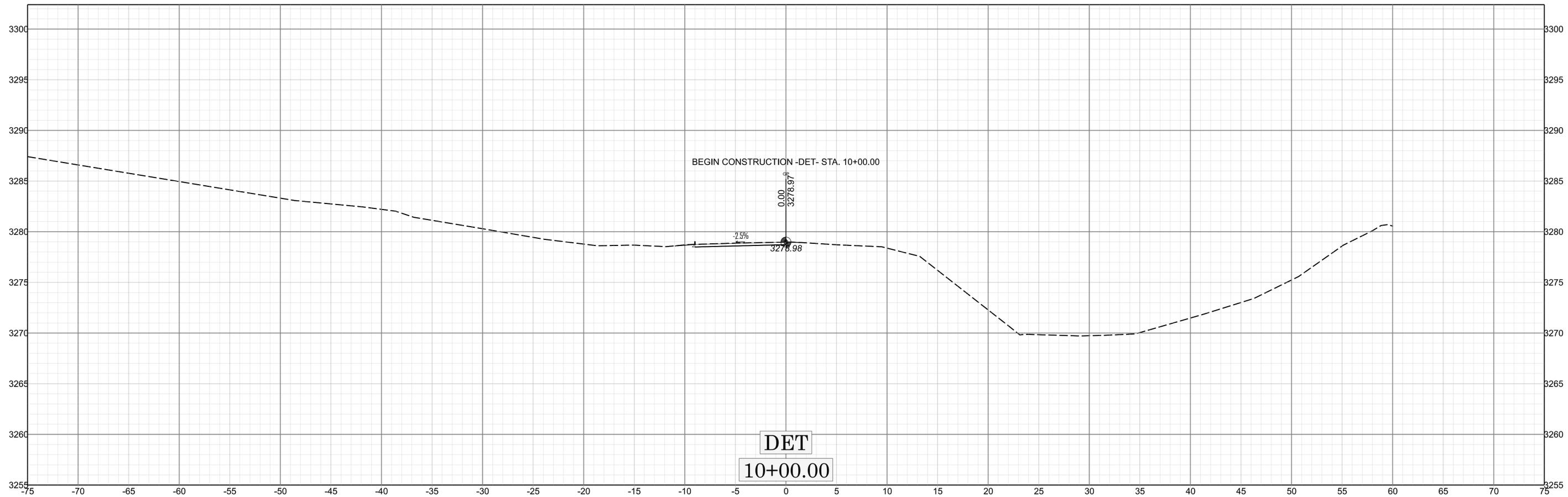
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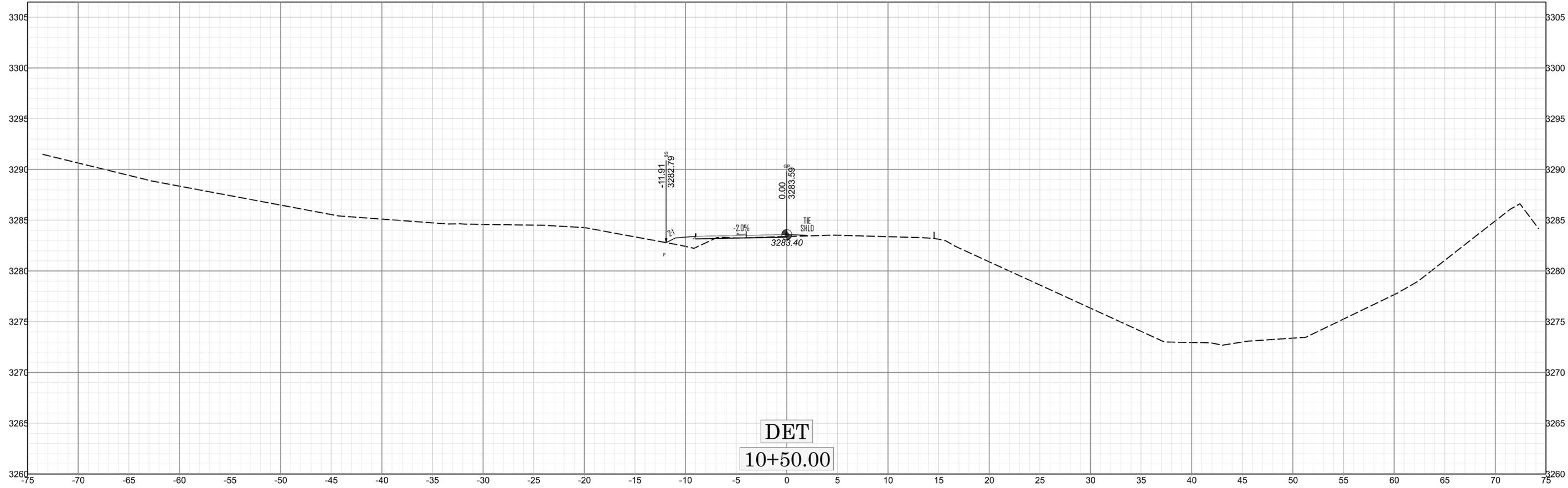
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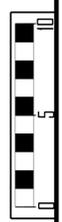


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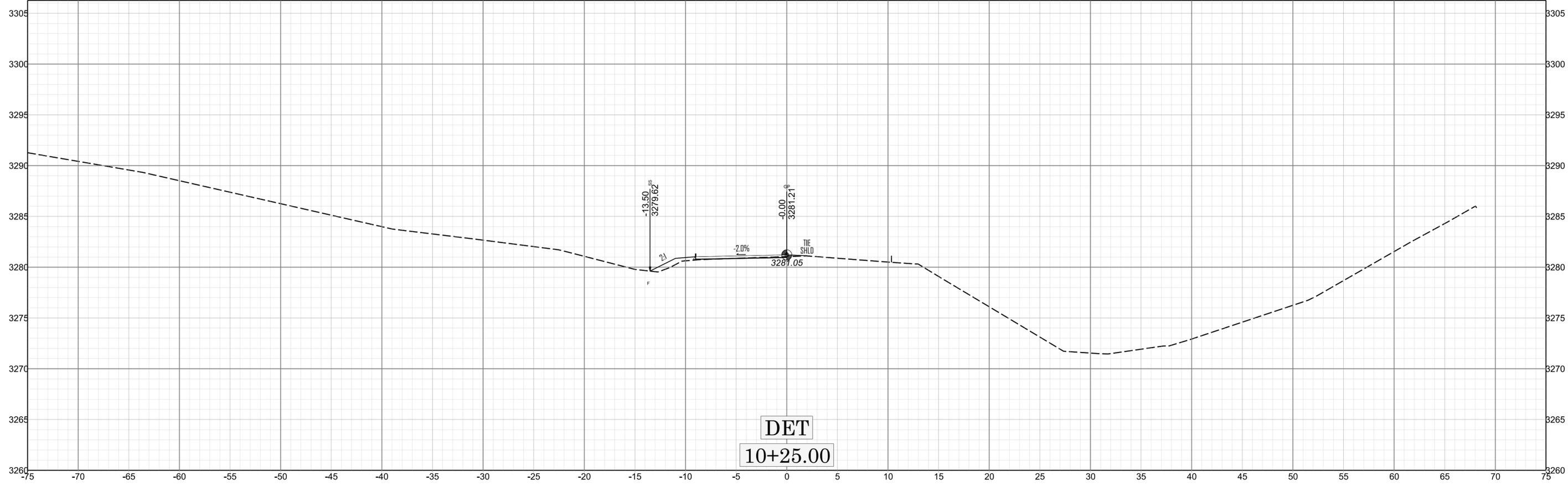
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DET
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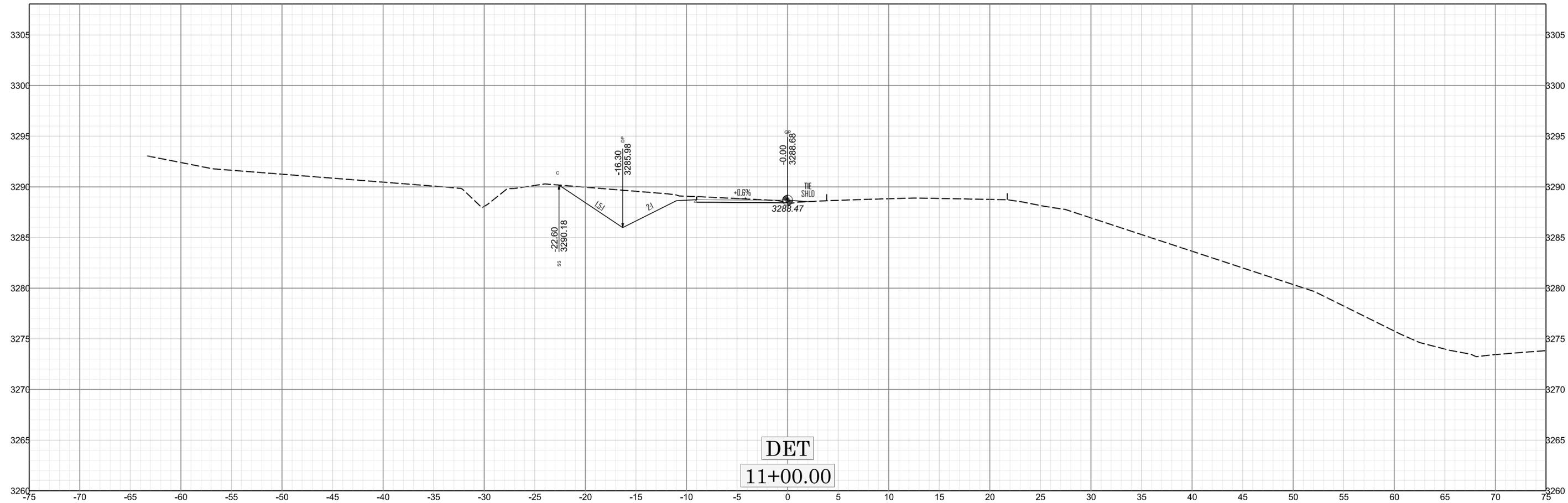


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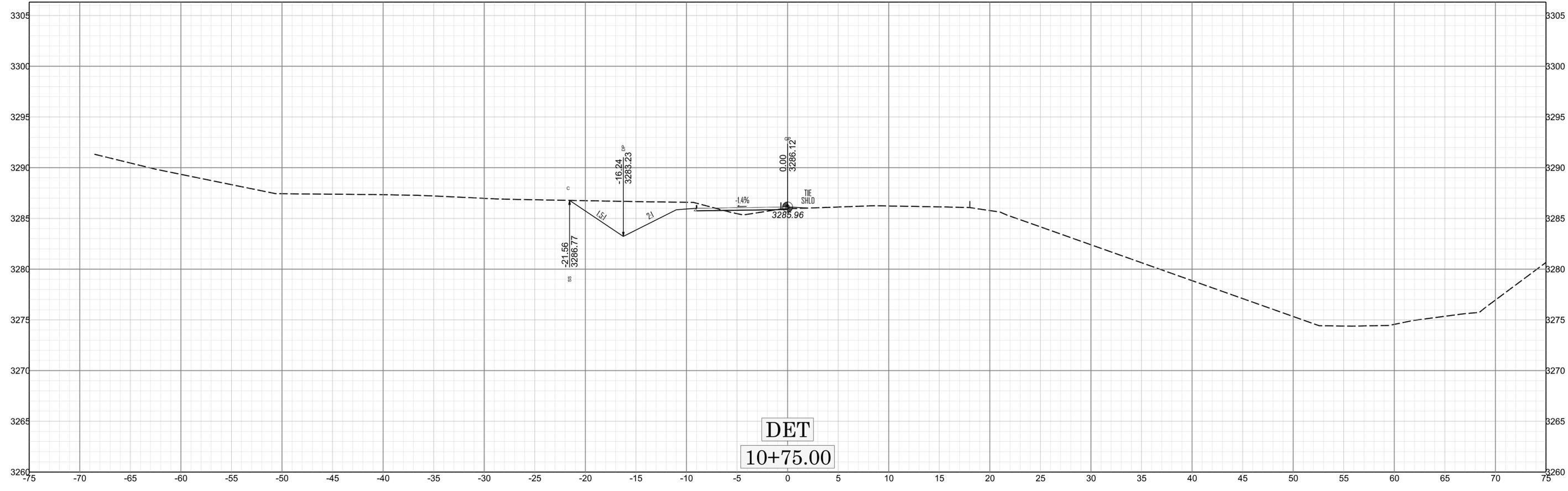


DET
10+25.00

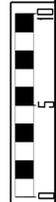
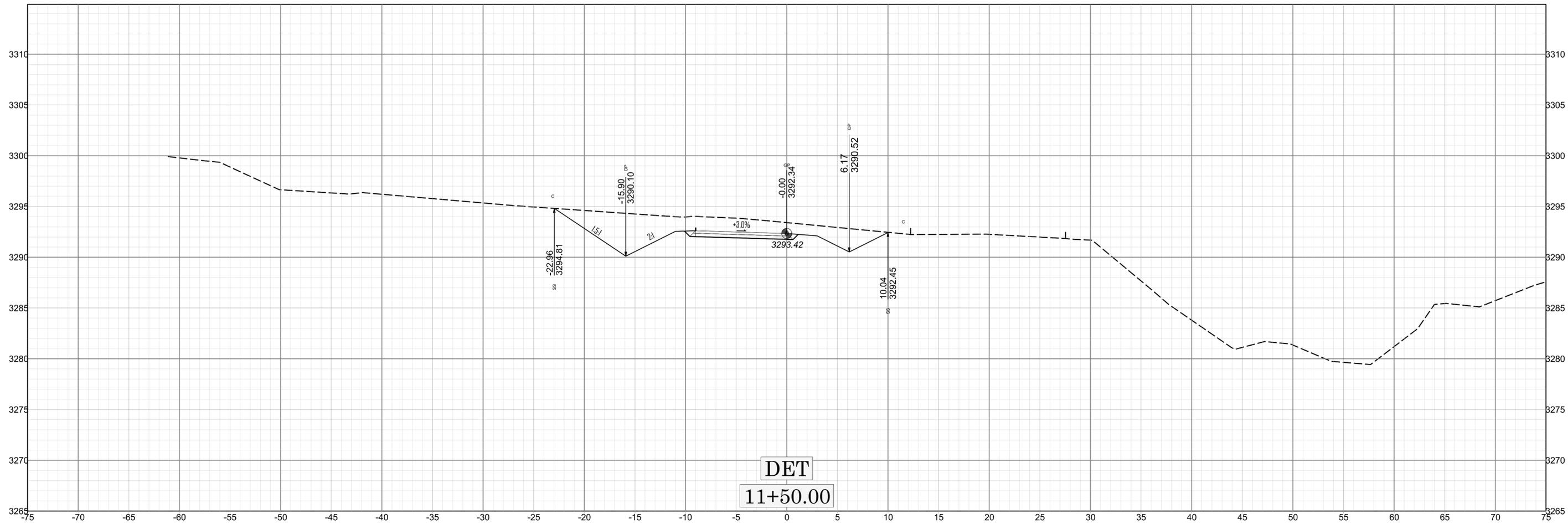
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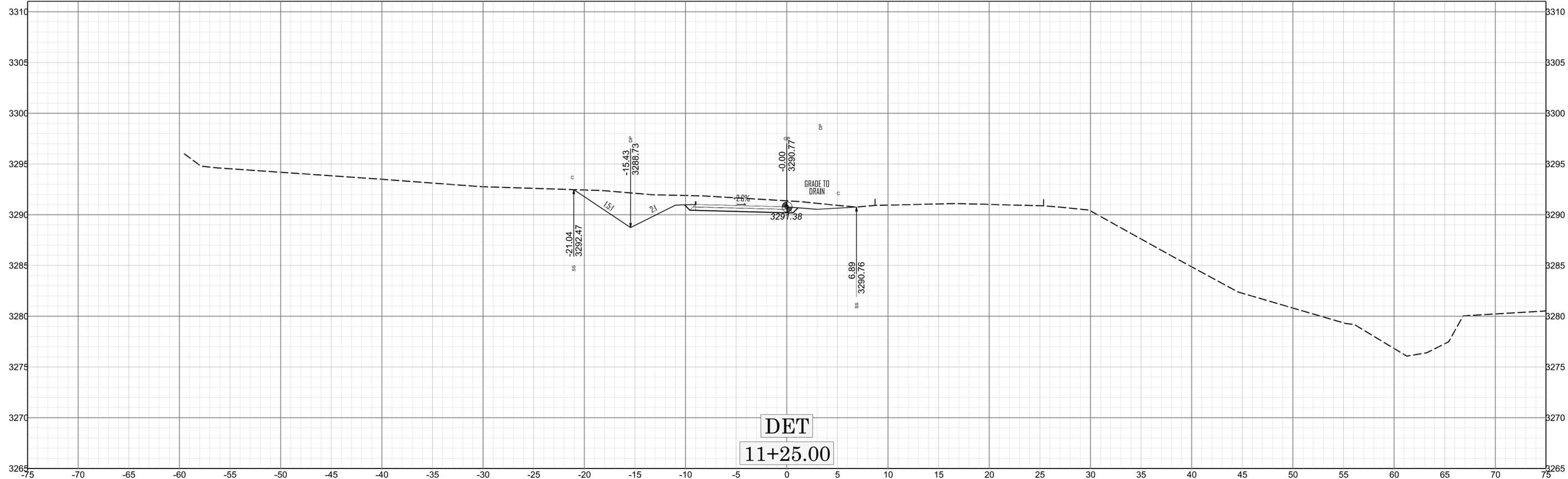
DET
11+00.00



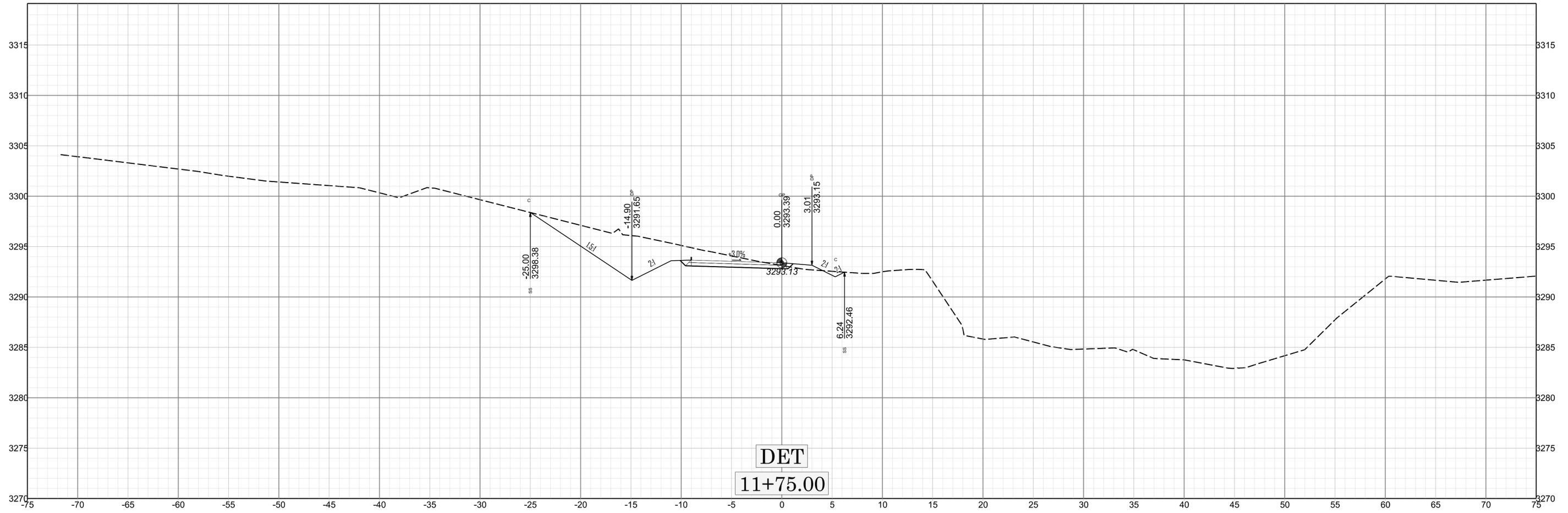
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10+75.00



X 013

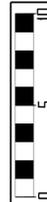
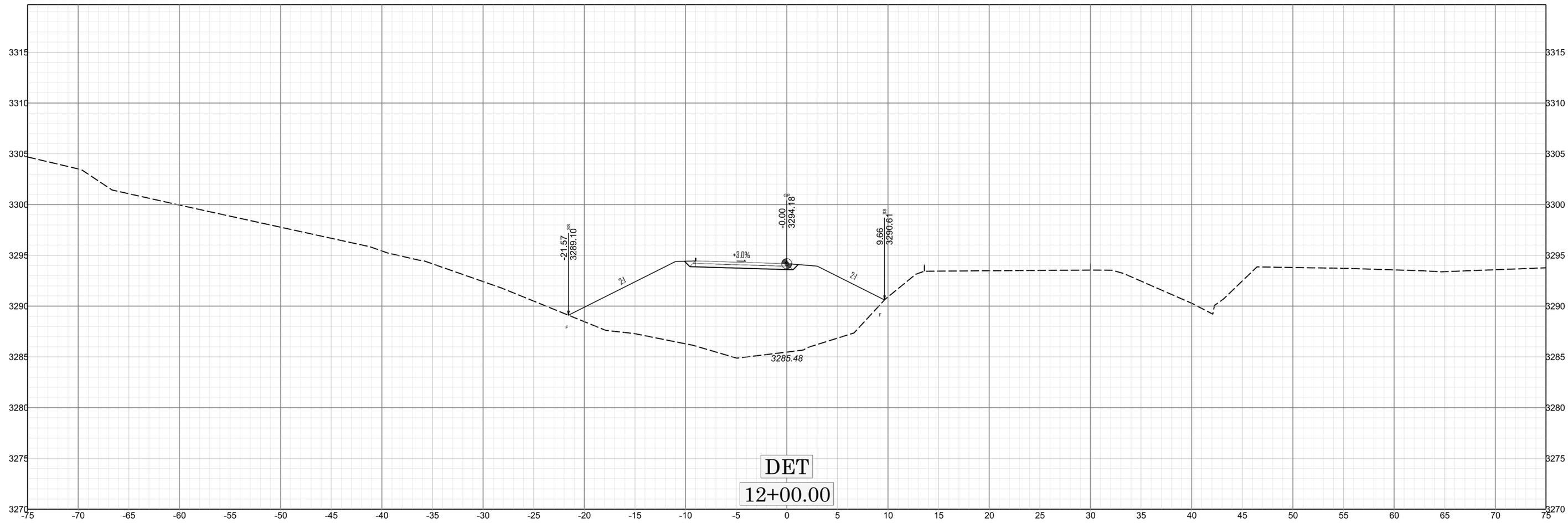
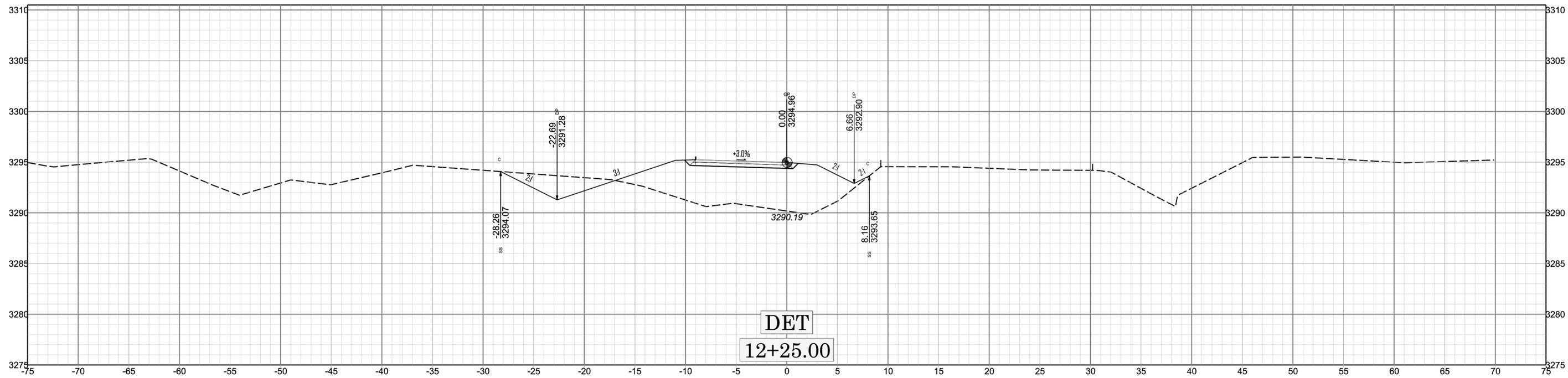


DF18311.2006186.PPR



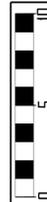
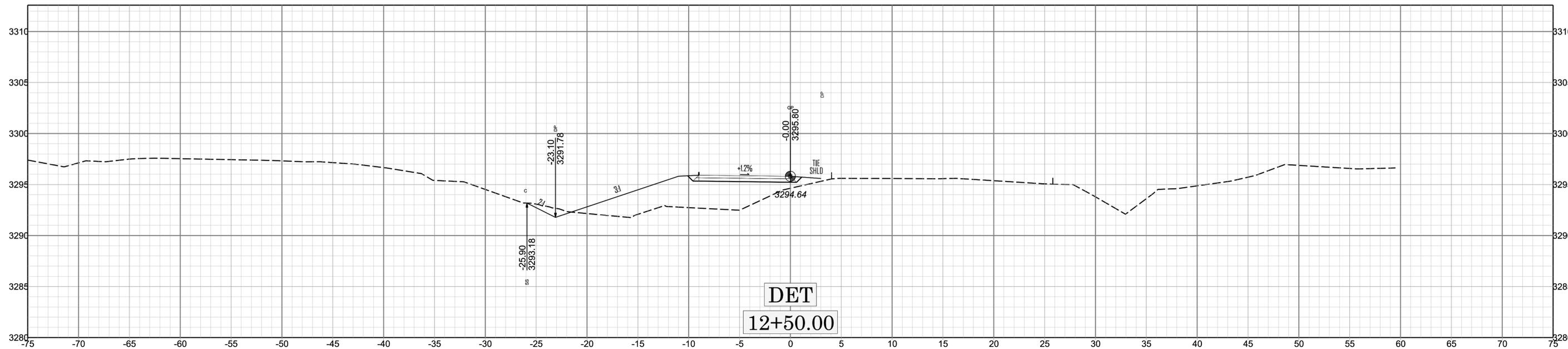
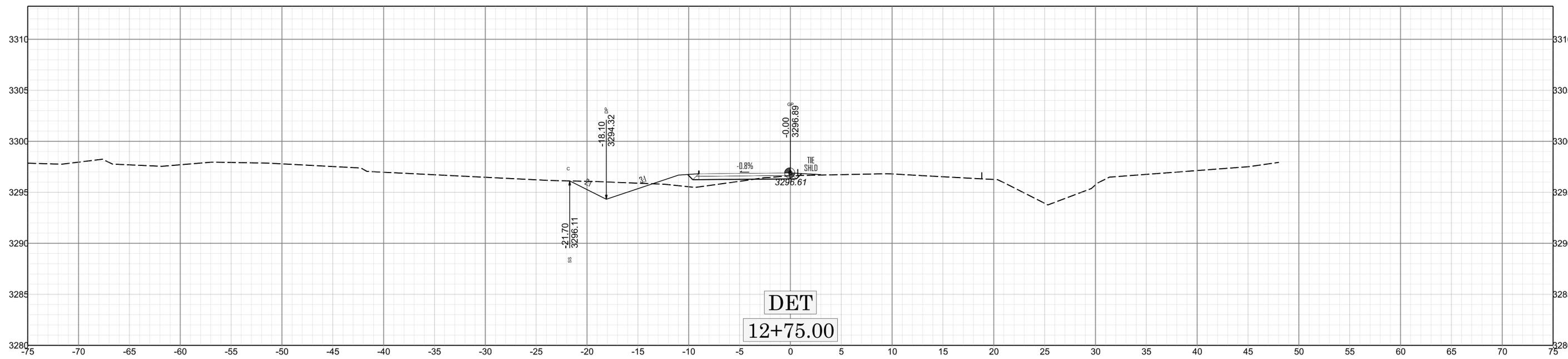
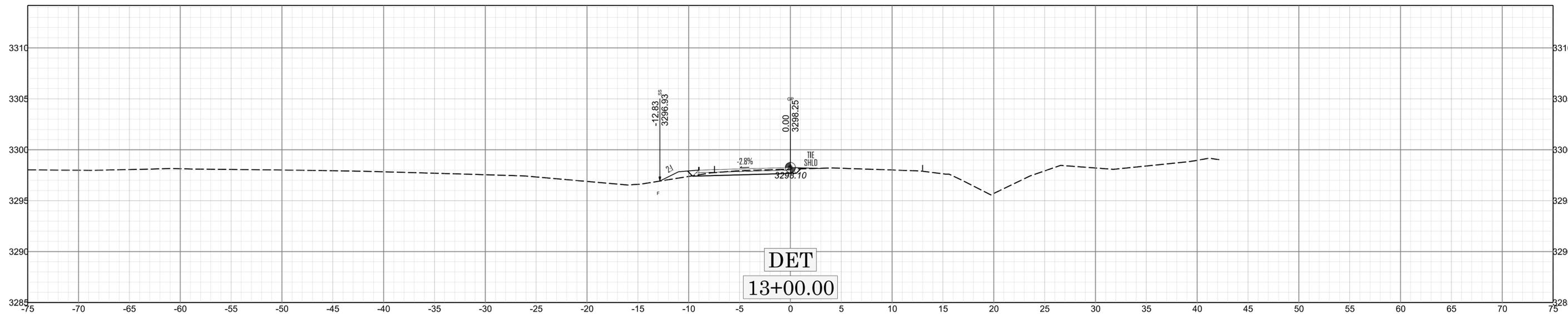
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DF831.2006186.PR



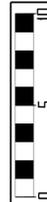
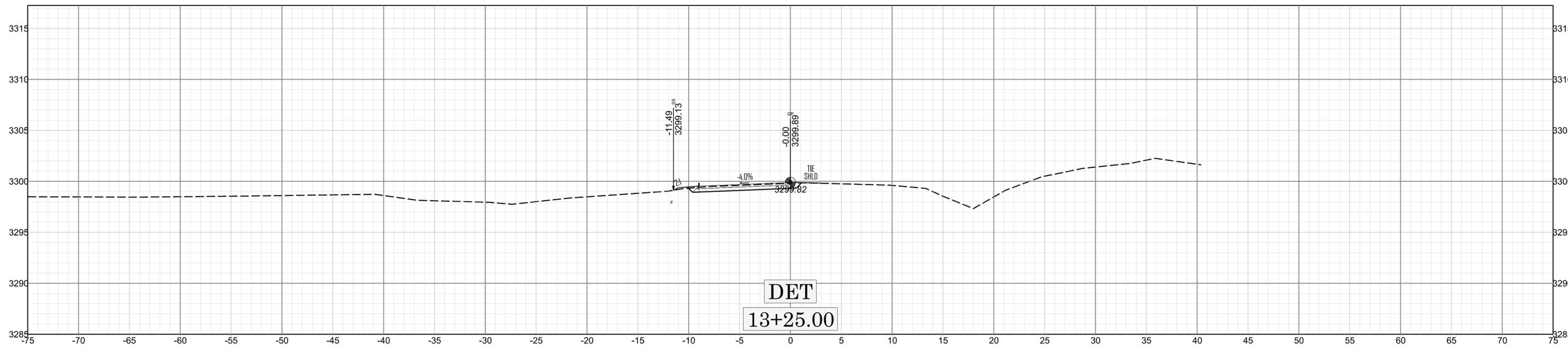
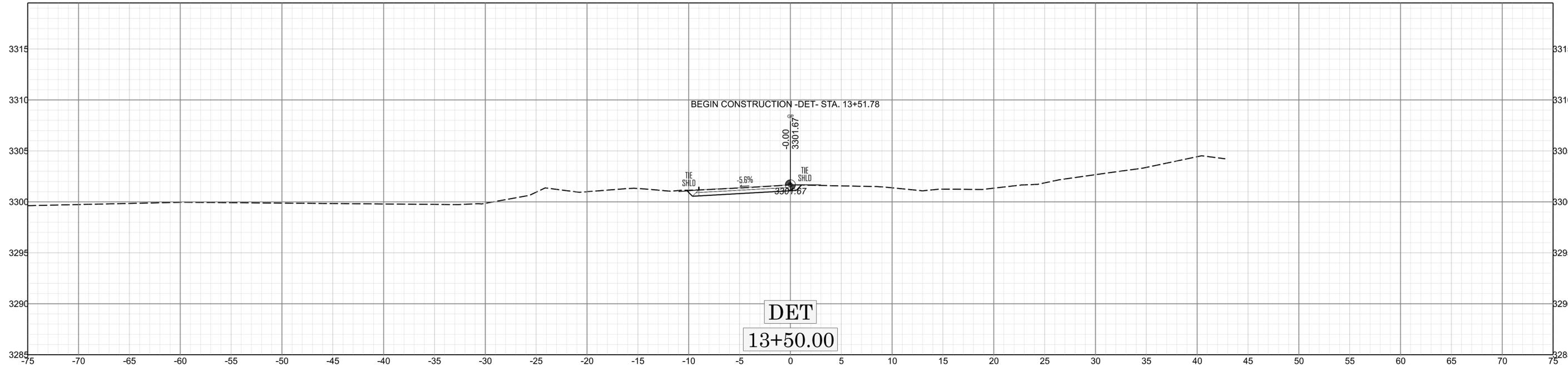
X 015

DFRSH.2006186.PR



X DIG

DF18311.2006186.PR



X 017

DFR311-2006186.PR

SUMMARY OF SPREAD FOOTING INFORMATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No. Footing(s) #(-#) (e.g., "Bent 1, Footing 1-2")	Factored Bearing Resistance KSF	Footing Dimensions (Length x Width) FT x FT	Required Bearing Resistance KSF	Scour Critical Elevation FT	Minimum Bottom of Footing (Footing No Higher Than) Elevation FT
End Bent 1, Footing 1	5.5	8 x 30	4		3281.98
End Bent 2, Footing 1	5.5	8 x 30	4		3282.03

PROJECT NO. DF18311.2006186

AVERY COUNTY

STATION: 12+14.00 -L-

SHEET 3 OF 4

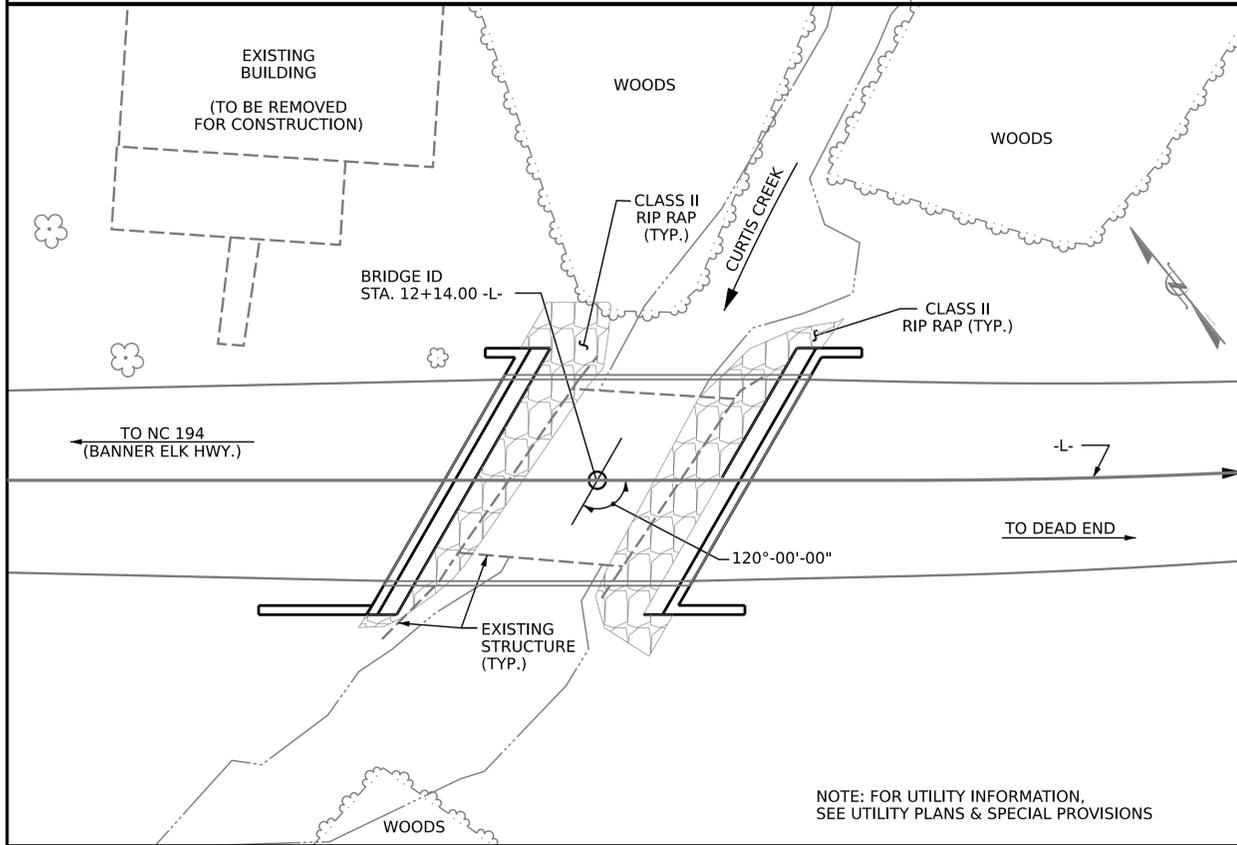
NOTES:

- The Micropile and Spread Footing Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Robert D. Botzenmayer, #044443) on 09-08-2025.

 DocuSigned by: <i>Greg Dickey</i> 541E8AC09741C 12/18/2025 SIGNATURE DATE	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH MICROPILE AND SPREAD FOOTING FOUNDATION TABLES						SHEET NO. S-3 TOTAL SHEETS 19
	REVISIONS						
DOCUMENT NOT CONSIDERED	NO.	BY:	DATE:	NO.	BY:	DATE:	
FINAL UNLESS ALL	1			3			
SIGNATURES COMPLETED	2			4			

DRAWN BY: <u>J. R. MCROY</u>	DATE: <u>09/2025</u>
CHECKED BY: <u>G. W. DICKEY</u>	DATE: <u>09/2025</u>
DESIGN ENGINEER OF RECORD: <u>G. W. DICKEY</u>	DATE: <u>09/2025</u>

B M 1: BENCH TIE SET IN 12" HICKORY, 62.33' LT. @ STA. 10+95.03 -L-, EL. 3289.17



LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE	= 310 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25 YR.
DESIGN HIGH WATER ELEVATION	= 3290.8 FT.
DRAINAGE AREA	= 1.15 SQ.MI.
BASE DISCHARGE (Q100)	= 490 C.F.S.
BASE HIGH WATER ELEVATION	= 3292.8 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 460 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 50+ YR.
OVERTOPPING FLOOD ELEVATION	= 3292.7 FT.

WS. EL. TAKEN AT RIVER STATION 225

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE @ STA. 12+14.00 -L-	ASBESTOS ASSESSMENT	FOUNDATION EXCAVATION FOR END BENTS @ STA. 12+14.00 -L-	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	REINFORCING STEEL	APPROX. 21,450 LBS. STRUCTURAL STEEL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	TIMBER DECK SYSTEM	TIMBER BRIDGE RAIL SYSTEM	POURABLE SILICONE JOINT SEALANT
	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	CU. YDS.	LBS.	LUMP SUM	TONS	SQ. YDS.	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.
SUPERSTRUCTURE												61.0	53.1
ABUTMENT 1					51.8	6,457		44	25				
ABUTMENT 2					55.0	6,062		52	30				
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	106.8	12,519	LUMP SUM	96	55	LUMP SUM	LUMP SUM	61.0	53.1

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF 1 SIMPLE SPAN @ 18'-6" WITH A CLEAR ROADWAY WIDTH OF 19'-5" CARRIED ON A TIMBER DECK WITH ASPHALT OVERLAY SUPPORTED BY STEEL ROLLED BEAMS ON TIMBER CAPS AND POSTS, SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 40 FT EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50 AND PAINTED IN ACCORDANCE WITH SYSTEM 1 OR GALVANIZED OF THE STRUCTURAL STEEL SHOP COATING PROGRAM AND ARTICLE 442-8 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

COATING APPLICATION FOR ALL STRUCTURAL STEEL SHALL NOT BE PERFORMED UNTIL SHOP FABRICATION INCLUDING CUTTING, DRILLING AND WELDING HAS BEEN COMPLETED.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

ALL TIMBER AND LUMBER MEMBERS SHALL BE TREATED SOUTHERN PINE AND CONFORM TO SECTION 1082 OF THE STANDARD SPECIFICATIONS.

ALL TIMBER DIMENSIONS SHOWN ON THE PLANS ARE NOMINAL DIMENSIONS.

WHEN FIELD CUTTING TIMBER MEMBERS, TREAT NEWLY EXPOSED SURFACES WITH EITHER A BITUMINOUS ASPHALT-BASED ROOFING CEMENT, COPPER NAPHTHENATE PASTE, OR APPROVED PRESERVATIVE SYSTEM BEFORE INSTALLING.

TREAT ALL DRILLED OR NEWLY EXPOSED HOLES IN TIMBER MEMBERS BY PUMPING WITH BITUMINOUS ASPHALT-BASED ROOFING CEMENT, OR APPROVED PRESERVATIVE SYSTEM BEFORE INSTALLING HARDWARE.

PRE-DRILL HOLES IN TIMBER AND LUMBER MEMBERS ACCEPTING BOLTS TO ELIMINATE SPLITTING.

PRIOR TO INSTALLING TIMBER NAILERS, PLACE A SELF-ADHERING HIGH-DENSITY POLYETHYLENE RUBBERIZED ASPHALT ADHESIVE FLASHING MEMBRANE ON THE TOP FLANGE OF THE STEEL BEAMS.

PRIOR TO INSTALLING TIMBER DECKING MEMBERS, PLACE A SELF-ADHERING HIGH-DENSITY POLYETHYLENE RUBBERIZED ASPHALT ADHESIVE FLASHING MEMBRANE TO THE TOP SIDE ON THE TIMBER NAILERS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATION, UNLESS OTHERWISE NOTED ON THE PLANS.

DO NOT DRIVE LAD/STRUCTURAL SCREWS WITH A HAMMER, SCREW OR TORQUE LAS/STRUCTURAL SCREWS.

SCREWS SHALL HAVE SUFFICIENT LENGTH SO THAT SCREW SHANK WILL PENETRATE RECEIVING MEMBERS.

FOR TIMBER BRIDGE RAIL SYSTEM INCLUDING LUMBER, DELINEATORS, HARDWARE FOR BOLT CONNECTIONS, HARDWARE FOR SCREW CONNECTIONS AND ALUMINUM DRIP EDGE, SEE TIMBER BRIDGE SUPERSTRUCTURE ON STEEL BEAMS SPECIAL PROVISION.

FOR ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.

FOR TIMBER BRIDGE DECK SYSTEM INCLUDING HARDWARE FOR BOLT CONNECTIONS AND HARDWARE FOR SCREW CONNECTIONS, SEE TIMBER BRIDGE SUPERSTRUCTURE ON STEEL BEAMS SPECIAL PROVISION.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 12+14.00 -L-".

FOR POURABLE SILICONE JOINT SEALS, SEE SPECIAL PROVISIONS.

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DocuSigned by:
Greg Dickey
541E8AC807741C

PROJECT NO. DF18311.2006186

AVERY COUNTY

STATION: 12+14.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE OVER CURTIS CREEK
ON SR 1321 (CURTIS CREEK RD.)
BETWEEN NC 194 AND DEAD END

REVISIONS

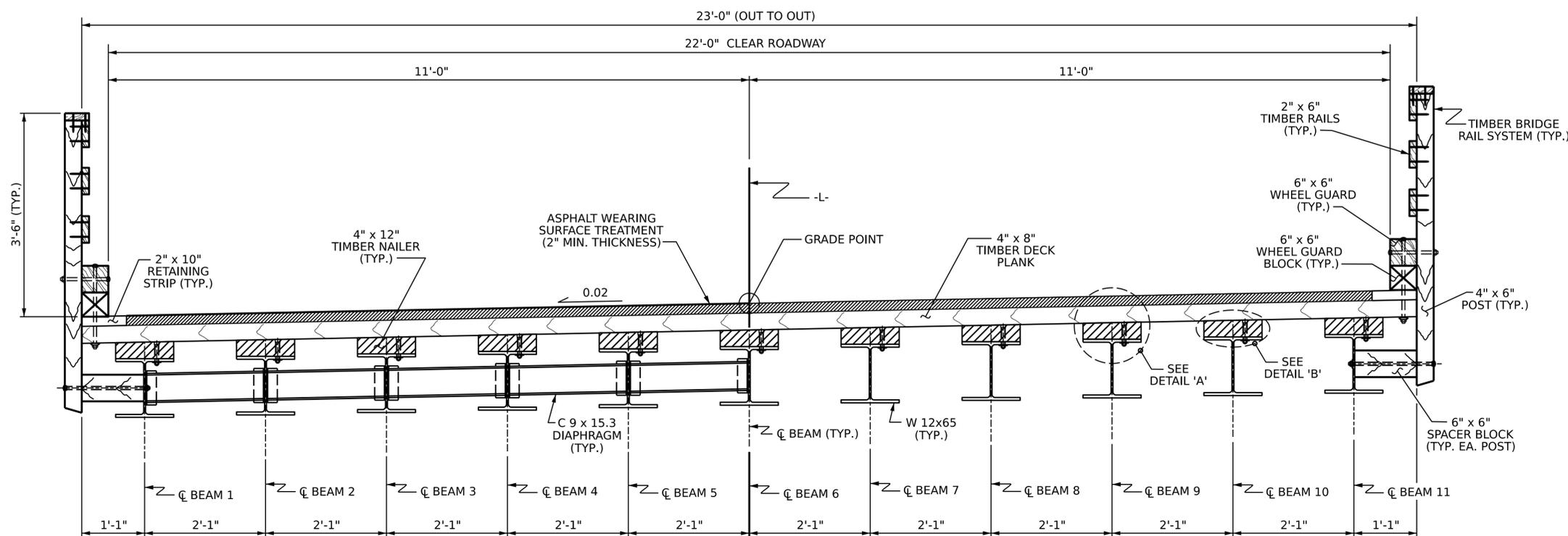
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1			3			S-4
2			4			TOTAL SHEETS
						19

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DRAWN BY : M.K. BEARD DATE : 09/2025
CHECKED BY : G.W. DICKEY DATE : 09/2025
DESIGN ENGINEER OF RECORD: G.W. DICKEY DATE : 09/2025

NOTES

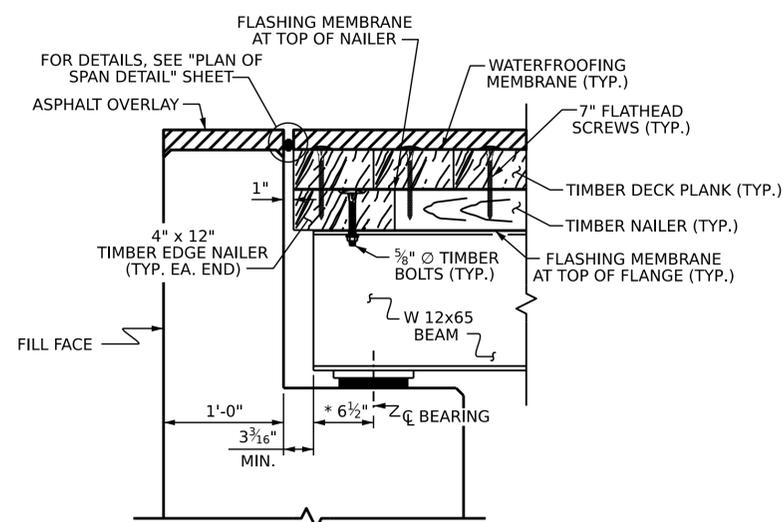
- FOR TIMBER BRIDGE DECK SYSTEM DETAILS, SEE PLAN OF SPAN.
- FOR TIMBER BRIDGE RAIL SYSTEM DETAILS, SEE "TIMBER BRIDGE RAIL SYSTEM" SHEET.
- PRIOR TO PLACING TIMBER BEAM NAILER AND EDGE NAILER MEMBERS, PLACE A SELF-ADHERING HIGH DENSITY RUBBERIZED ASPHALT FLASHING MEMBRANE ON THE TOP SIDE OF THE STEEL BEAMS.
- FOR BEAM AND DIAPHRAGM DETAILS, SEE FRAMING PLAN SHEET.
- FOR SECTION A-A, SEE "PLAN OF SPAN DETAILS" SHEET



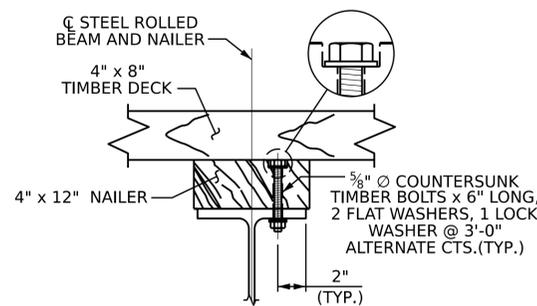
HALF-SECTION AT INTERMEDIATE DIAPHRAGM
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)

HALF-SECTION
(RIGHT SIDE SHOWN, LEFT SIDE SIMILAR)

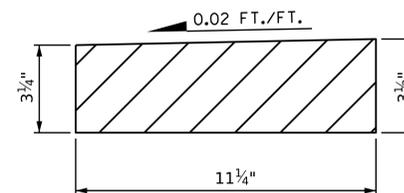
TYPICAL SECTION



SECTION AT ABUTMENT
* MEASURED ALONG CL OF BEAM



DETAIL 'A'



DETAIL 'B'

BEVEL 4 x 12 NAILER FULL LENGTH

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AVERY COUNTY
STATION: 12+14.00 -L-



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
TYPICAL SECTION

DRAWN BY : K. D. LAYNE DATE : 04/2025
CHECKED BY : G. DICKEY DATE : 09/2025
DESIGN ENGINEER OF RECORD: G. DICKEY DATE : 09/2025

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2			4		

S-6
TOTAL SHEETS
19

NOTES

NO SALVAGED BEAMS SHALL BE USED, UNLESS OTHERWISE NOTED ON THE PLANS.

ALL STRUCTURAL STEEL SHALL BE GRADE 50 AND PAINTED WITH SYSTEM 1 OR GALVANIZED IN ACCORDANCE WITH THE STRUCTURAL STEEL COATINGS PROGRAM AND SECTION 442-8 OF THE STANDARD SPECIFICATIONS, UNLESS OTHERWISE NOTED ON THE PLANS.

A CHARPY V-NOTCH TEST IS REQUIRED ON ALL BEAM SECTIONS, AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH ARTICLE 1072-7 OF THE STANDARD SPECIFICATIONS.

NO SHOP CAMBER REQUIRED, TURN NATURAL MILL CAMBER UP.

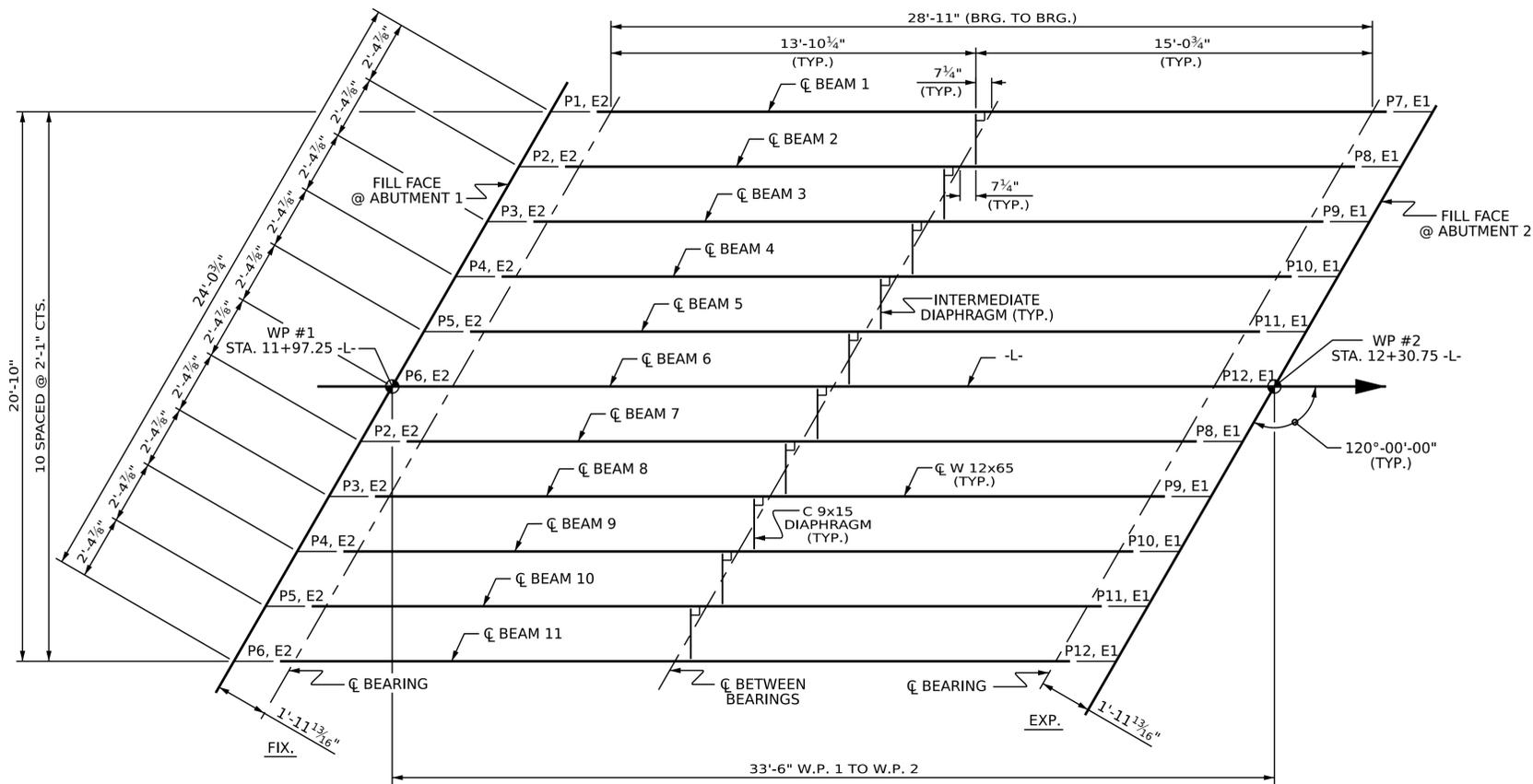
ALL STRUCTURAL STEEL FIELD CONNECTIONS SHALL BE 5/8" DIA. GALVANIZED HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

BEAMS SHALL BE PLACED PARALLEL TO THE CHORD.

CONTRACTORS OPTION TO WELD CONNECTOR TO BEAM PRIOR TO SHOP COATING.

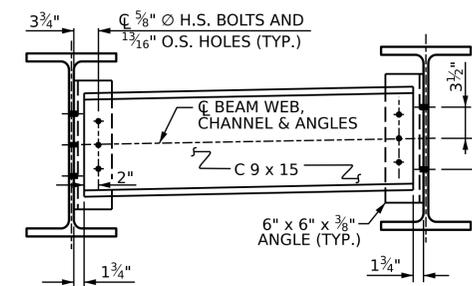
SEE GENERAL DRAWING NOTES FOR COATING.

* FOR SIZE AND LOCATION OF OPTIONAL BOLTED SOLE PLATE, SEE BEARING DETAILS SHEET.

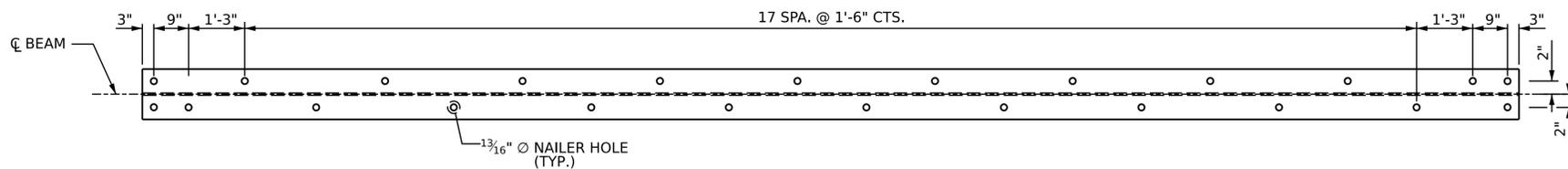


FRAMING PLAN

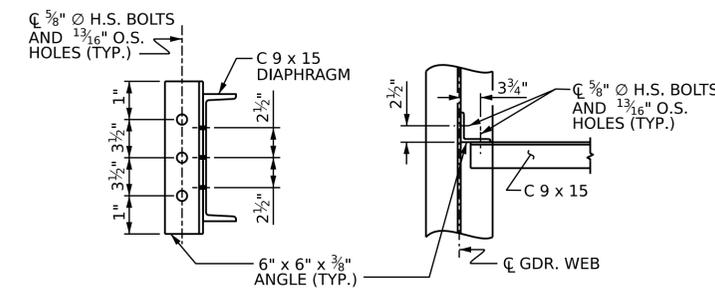
FOR BEARING PADS AND SOLE PLATES, SEE "BEARING DETAILS" SHEET AND "SOLE PLATE DETAILS" SHEET



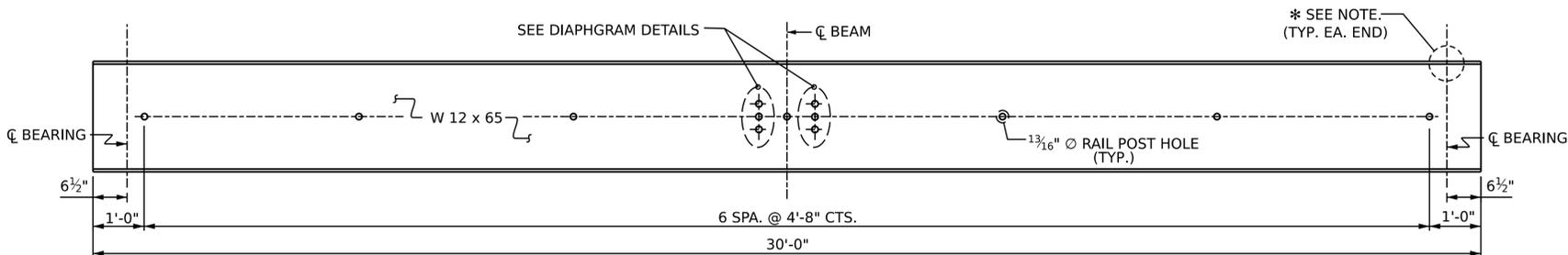
INTERIOR DIAPHRAGM DETAIL



TOP FLANGE



ELEVATION



BEAM DETAILS

(SHOWING RAIL POST HOLES FOR EXTERIOR BEAMS
INTERIOR BEAMS ARE SIMILAR BUT WITHOUT RAIL POST HOLES)

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DocuSigned by: Greg Dickey 12/11/2025

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
**FRAMING PLAN FOR
30' BEAM LENGTH**
120° SKEW

DRAWN BY : K. D. LAYNE DATE : 04/2025
CHECKED BY : G. DICKEY DATE : 09/2025
DESIGN ENGINEER OF RECORD: G. DICKEY DATE : 09/2025

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REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

S-9
TOTAL SHEETS
19

NOTES

ELASTOMER IN ALL BEARINGS SHALL BE 50 DUROMETER HARDNESS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

AT ALL SUPPORTS, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL BEARING PLATES SHALL BE AASHTO M270 GRADE 36.

ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLTS, NUTS, AND WASHERS. SHOP INSPECTION IS REQUIRED.

AT THE APPROVAL OF THE ENGINEER, SOLE PLATES AT THE EXPANSION END MAY BE FIELD WELDED.

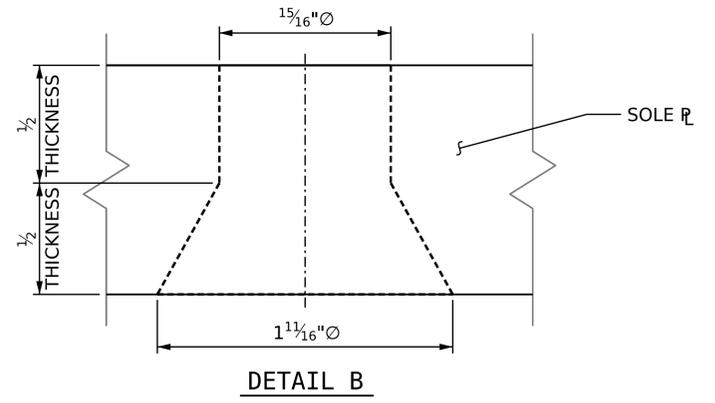
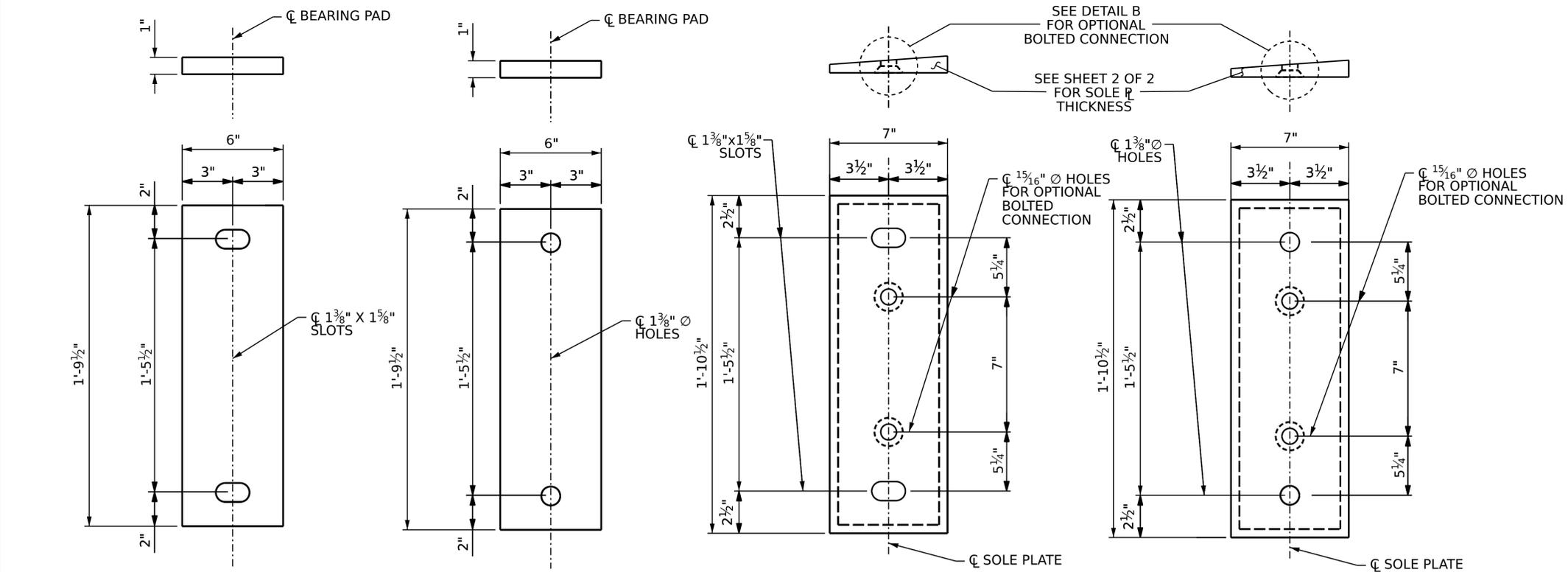
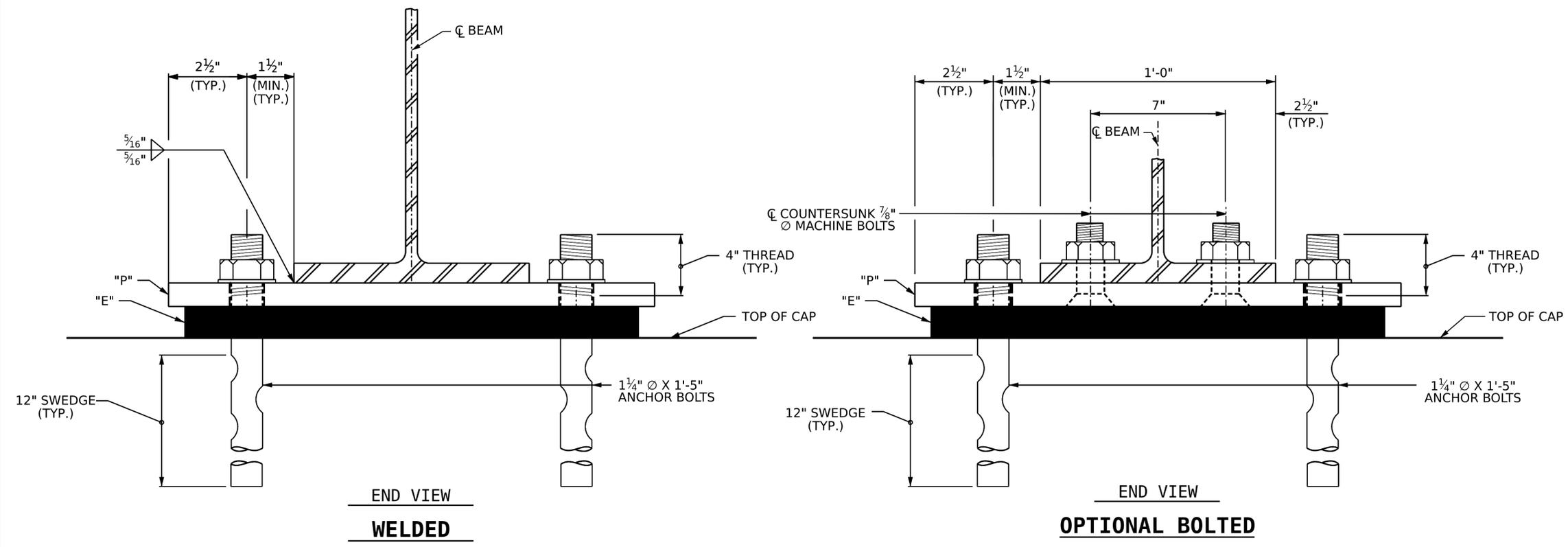
WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300° F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

AT NO ADDITIONAL COST TO THE DEPARTMENT, THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF CAST-IN-PLACE ANCHORS. LEVEL 1 FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE ANCHOR BOLT IS 30 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

ADHESIVELY ANCHORED ANCHOR BOLTS SHALL BE THREADED FULL LENGTH.

AT THE APPROVAL OF THE ENGINEER, THE OPTIONAL BOLTED SOLE PLATE MAY BE USED AT NO ADDITIONAL COST TO THE DEPARTMENT.



E1 ELASTOMERIC BEARING DETAILS
(11 REQ'D)
EXPANSION

E2 ELASTOMERIC BEARING DETAILS
(11 REQ'D)
FIXED

P7-P12 SOLE PLATE DETAILS
(P7=1, P8=2, P9=2, P10=2,
P11=2, P12=2 REQ'D)
EXPANSION

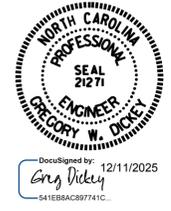
P1-P6 SOLE PLATE DETAILS
(P1=1, P2=2, P3=2, P4=2,
P5=2, P6=2 REQ'D)
FIXED

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AVERY COUNTY

STATION: 12+14.00 -L-

SHEET 1 OF 2



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

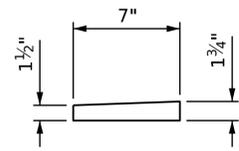
**BEARING DETAILS
TYPE IV**

ASSEMBLED BY: K. D. LAYNE	DATE: 04/2025
CHECKED BY: G. DICKEY	DATE: 09/2025
DESIGN ENGINEER OF RECORD: G. DICKEY	DATE: 09/2025
DRAWN BY: GA	10/2024
CHECKED BY: JDH	11/2024

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

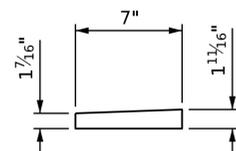
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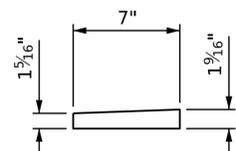
UP STATION

P1
(BEAM 1)
FIXED



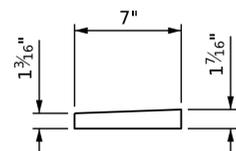
UP STATION

P2
(BEAM 2 & BEAM 7)
FIXED



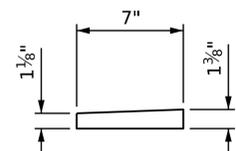
UP STATION

P3
(BEAM 3 & BEAM 8)
FIXED



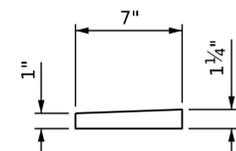
UP STATION

P4
(BEAM 4 & BEAM 9)
FIXED



UP STATION

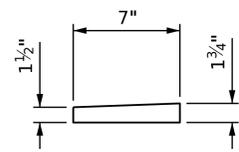
P5
(BEAM 5 & BEAM 10)
FIXED



UP STATION

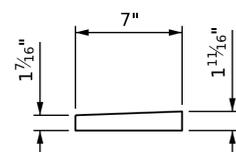
P6
(BEAM 6 & BEAM 11)
FIXED

ABUTMENT 1 SOLE PLATES



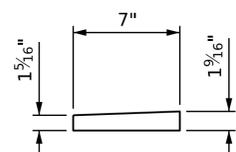
UP STATION

P7
(BEAM 1)
EXPANSION



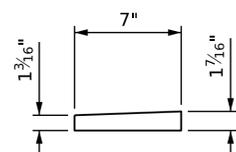
UP STATION

P8
(BEAM 2 & BEAM 7)
EXPANSION



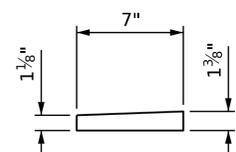
UP STATION

P9
(BEAM 3 & BEAM 8)
EXPANSION



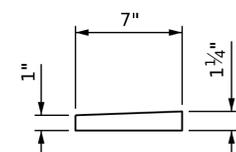
UP STATION

P10
(BEAM 4 & BEAM 9)
EXPANSION



UP STATION

P11
(BEAM 5 & BEAM 10)
EXPANSION



UP STATION

P12
(BEAM 6 & BEAM 11)
EXPANSION

ABUTMENT 2 SOLE PLATES

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SHEET 2 OF 2



Designed by: *Greg Dickey*
12/11/2025
541EB8AC897741C...

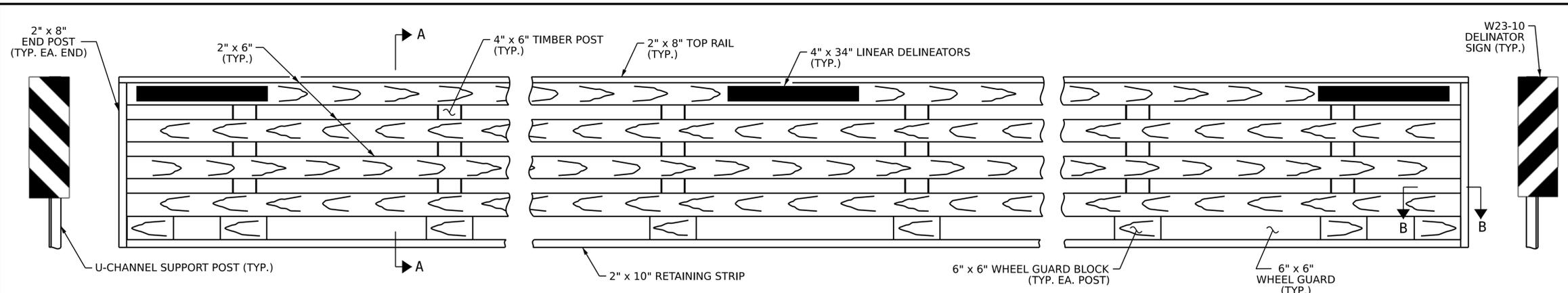
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SOLE PLATE
DETAILS**

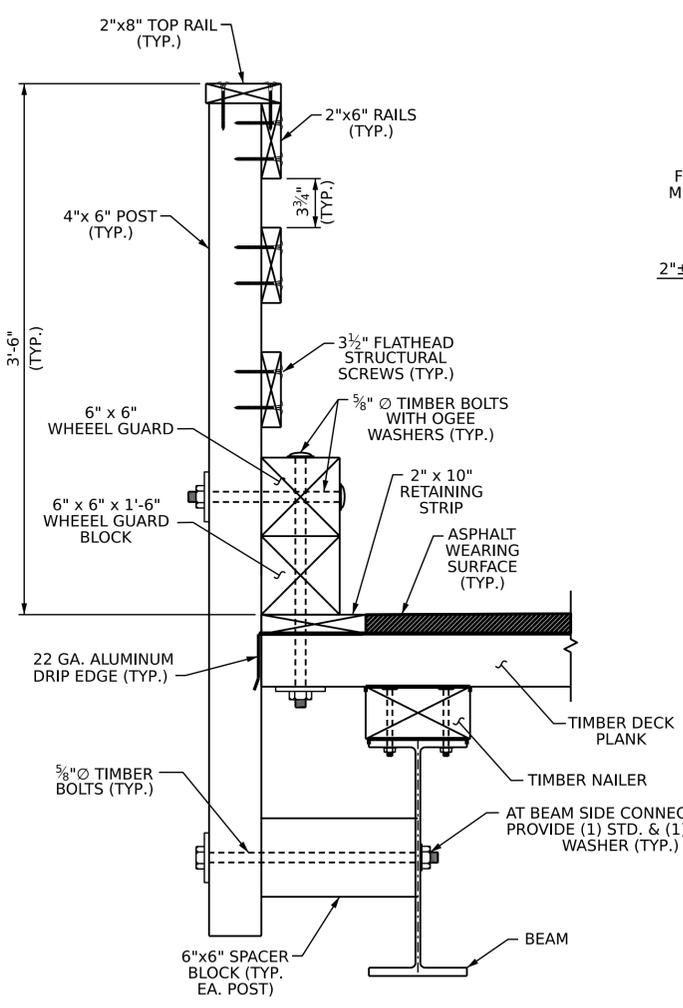
DRAWN BY : M.K. BEARD DATE : 04/2025
CHECKED BY : G. DICKEY DATE : 09/2025
DESIGN ENGINEER OF RECORD: G. DICKEY DATE : 09/2025

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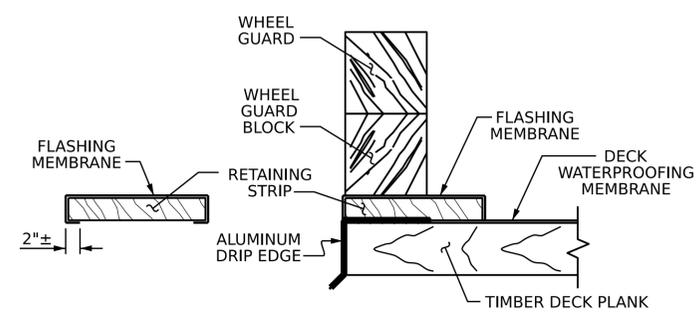
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			19



BILL OF MATERIAL FOR ONE RAIL 30 FT (2 REQ.D)			
TREATED LUMBER			
ITEM	SIZE	LIN. FT.	
RAILS	2"x 6"	90.00	
RAIL POSTS	4"x6"	42.00	
TOP RAIL	2"x8"	30.50	
WHEEL GUARD	6"x6"	30.50	
WHEEL GUARD BLOCK	6"x6"	10.50	
RETAINER STRIP	2"x10"	30.50	
END POSTS	2"x8"	12.00	
SPACER BLOCK	6"x6"	7.00	
FLASHING MEMBRANE			
ITEM	SIZE	LIN. FT.	
MEMBRANE FOR RETAINER STRIP	1'-6"	30.50	
HARDWARE			
ITEM	No.	SIZE	LBS.
TIMBER BOLTS (WHEEL GUARD)	7	5/8" Ø	9.80
TIMBER BOLTS (SPACE BLOCK)	7	5/8" Ø	9.80
TIMBER BOLTS (RAIL)	7	5/8" Ø	16.10
HEAVY HEX NUTS	21	5/8"	2.52
FLATHEAD STR. SCREWS	158	3 1/2"	2.00
STANDARD WASHER	7	5/8" Ø	1.00
LOCK WASHER	7	5/8" Ø	1.00
OGEE WASHERS	14	5/8" Ø	8.68
HARDWARE FOR CONNECTIONS			APPROX. 50.90 LBS.
ACCESSORIES			
ITEM	No.		
4 X 34 LINEAR DELINEATOR	4		
W23-10 12x36 DELINEATOR	2		
U-CHANNEL SUPPORT POST	2		
PAY LENGTH =		30.5 LIN. FT.	

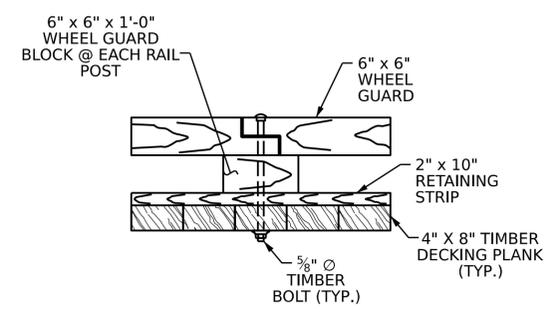


VIEW A-A

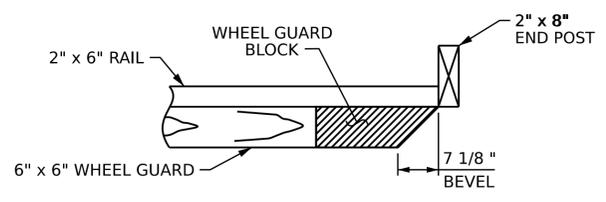


RETAINING STRIP DETAILS

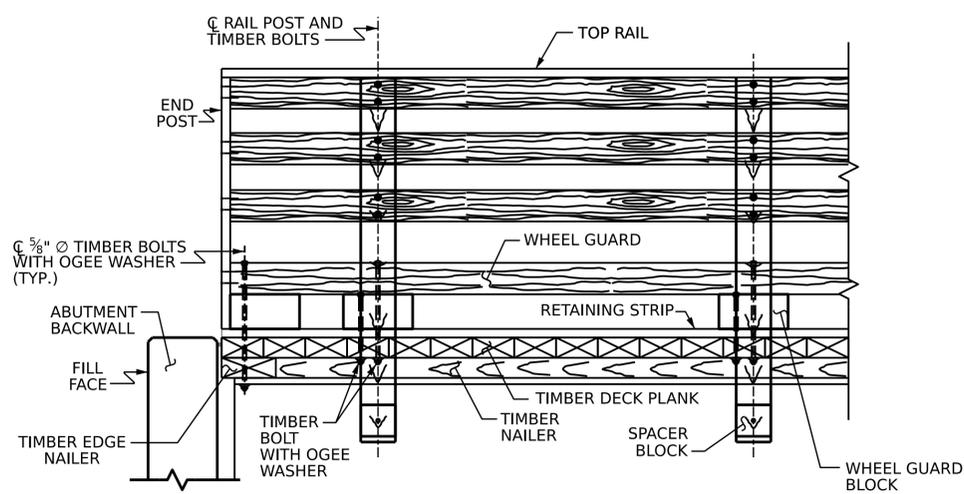
POST AND BOLTS NOT SHOWN FOR CLARITY



WHEEL GUARD SPLICE DETAIL



VIEW B-B



RAIL DETAIL AT ABUTMENTS

NOTES

THE TIMBER BRIDGE RAIL SYSTEM SHALL NOT BE ATTACHED TO THE TIMBER BRIDGE DECK SYSTEM PRIOR TO THE TIMBER DECK WATERPROOFING MEMBRANE BEING INSTALLED.

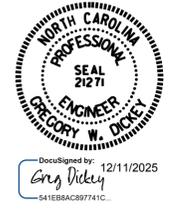
BRIDGE RAILS SHALL BE CONTINUOUS FROM END POST TO END POST WITH NO GAPS. RAIL LUMBER LENGTHS SHALL BE ATTACHED TO A MINIMUM OF THREE POSTS.

TREAT ALL DRILLED OR NEWLY EXPOSED HOLES IN TIMBER MEMBERS BY PUMPING WITH BITUMINOUS ASPHALT-BASED ROOFING CEMENT, OR APPROVED PRESERVATIVE SYSTEM BEFORE INSTALLING HARDWARE.

SEE PLAN OF SPAN SHEET FOR NUMBER OF POSTS AND POST SPACING.

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PROJECT NO. DF18311.2006186
 AVERY COUNTY
 STATION: 12+14.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

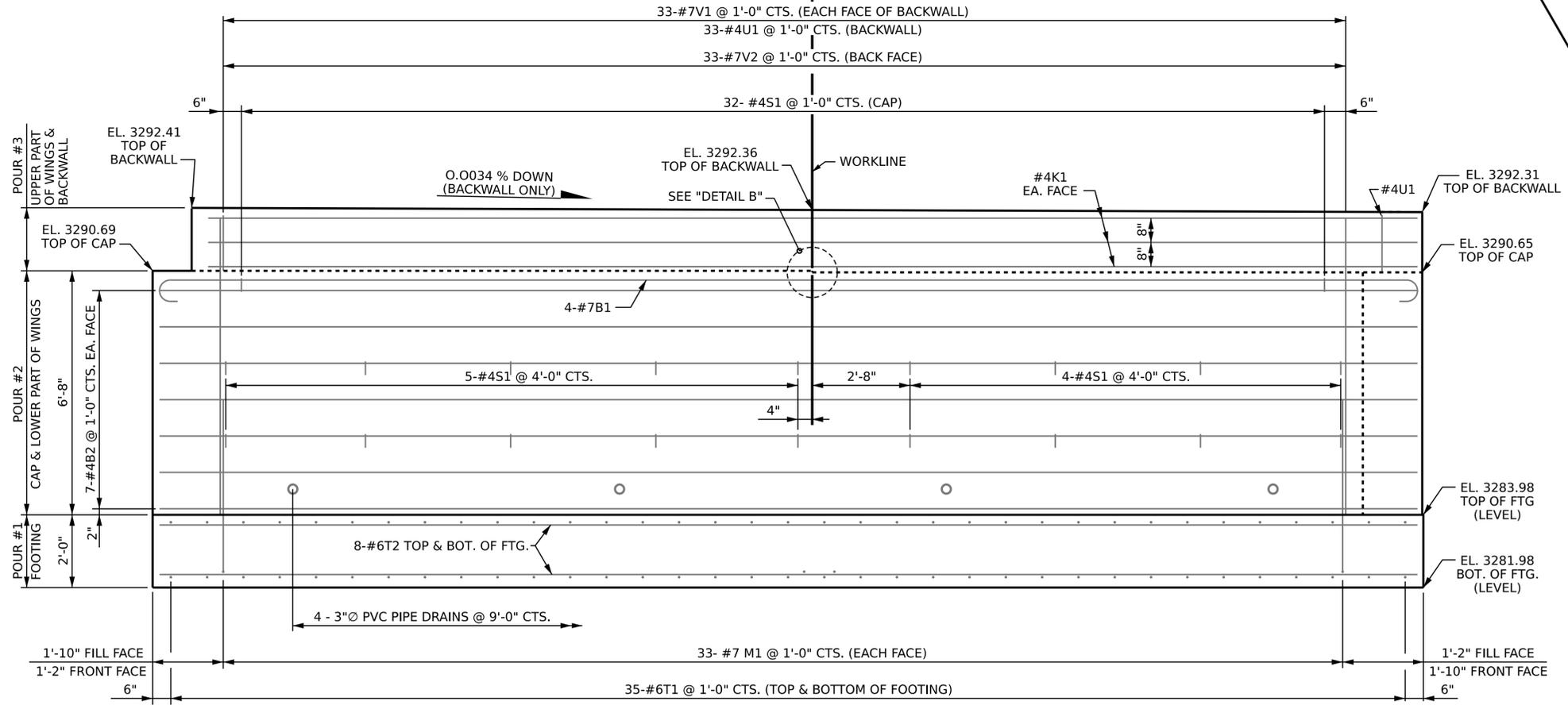
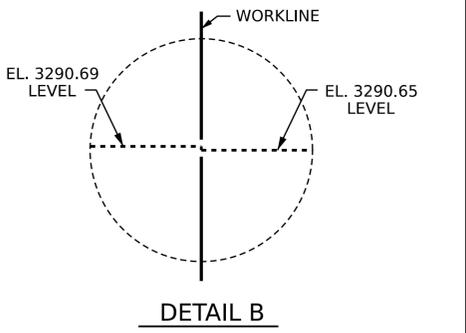
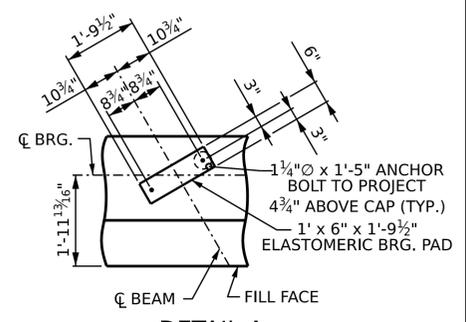
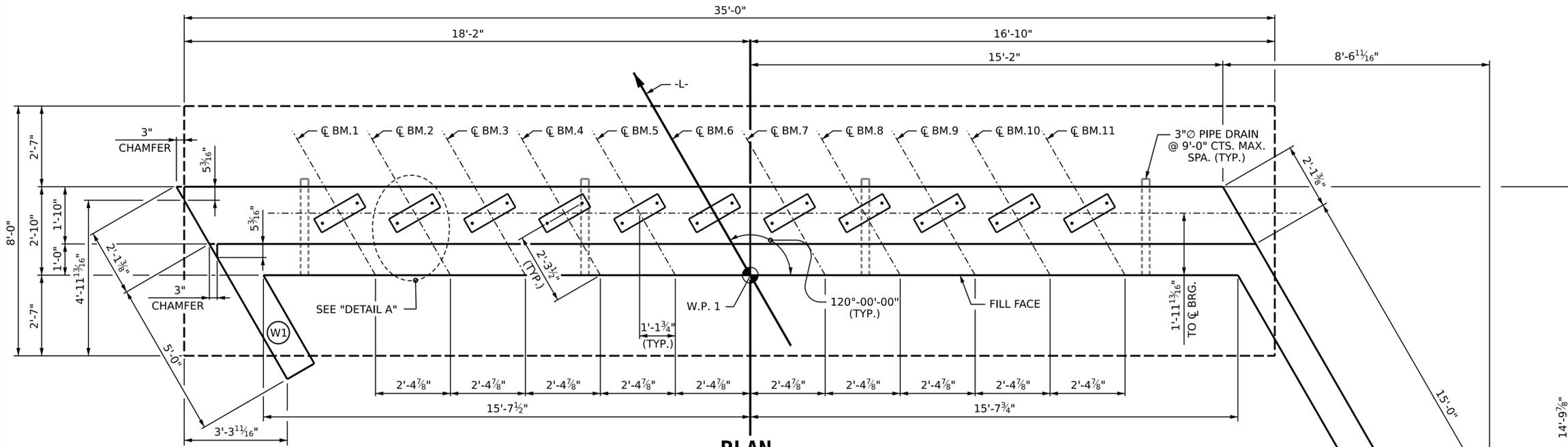
TIMBER BRIDGE RAIL SYSTEM

DRAWN BY : K. D. LAYNE DATE : 04/2025
 CHECKED BY : G. DICKEY DATE : 09/2025
 DESIGN ENGINEER OF RECORD: G. DICKEY DATE : 09/2025

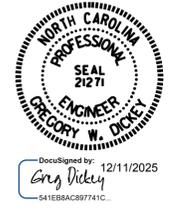
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			19

NOTES
 STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
 FOR WING DETAILS, SEE SHEET 2 OF 3.
 PIPE DRAINS MAY BE SHIFTED AS NECESSARY TO CLEAR REINFORCING STEEL.
 THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCING (#7MI BAR) FOR CAP IS DETAILED WITH 3 FEET OF EXTRA LENGTH.



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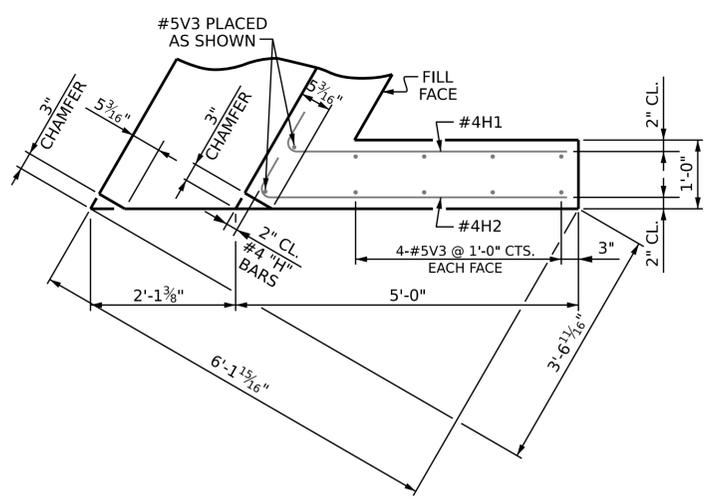
PROJECT NO. DF18311.2006186
AVERY COUNTY
 STATION: 12+14.00 -L-
 SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
ABUTMENT #1

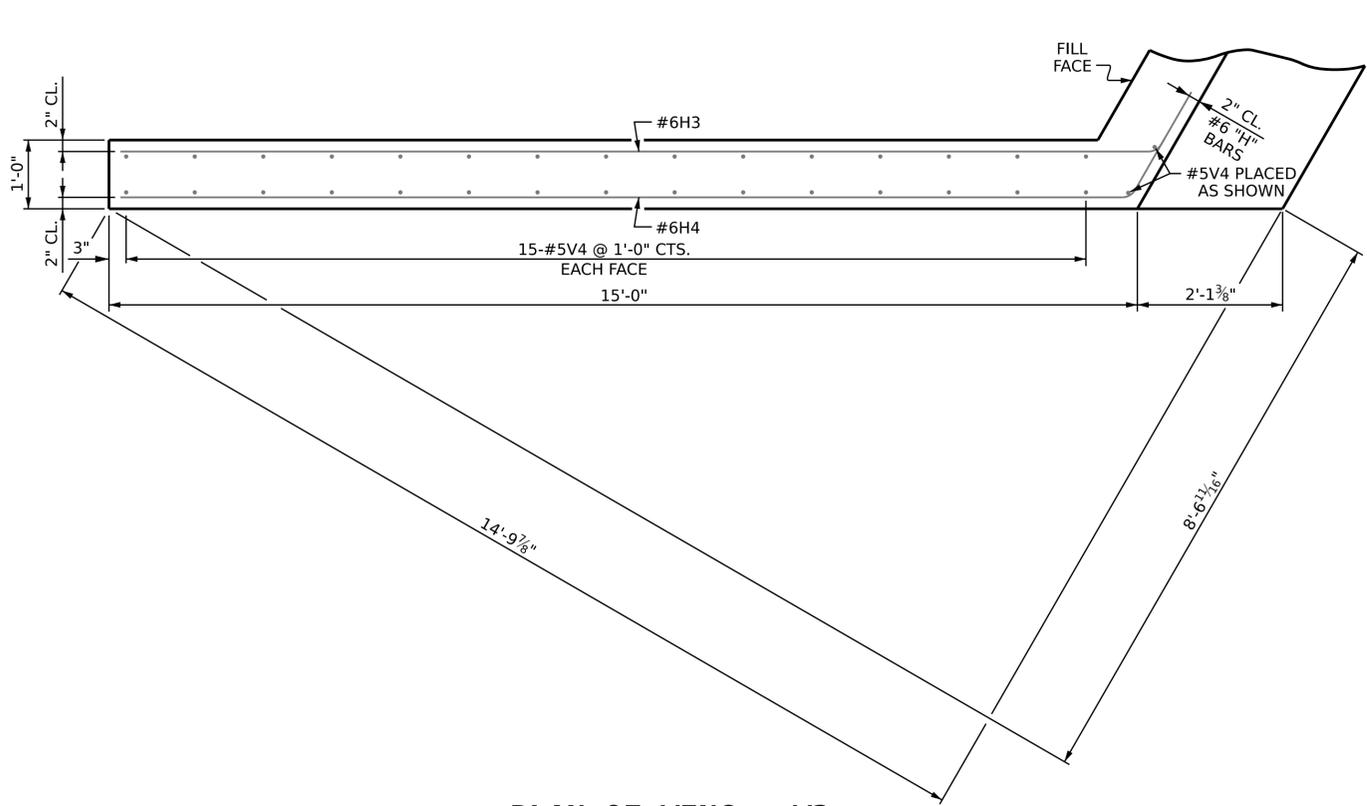
DRAWN BY : K. D. LAYNE DATE : 08/2025
 CHECKED BY : G. DICKEY DATE : 09/2025
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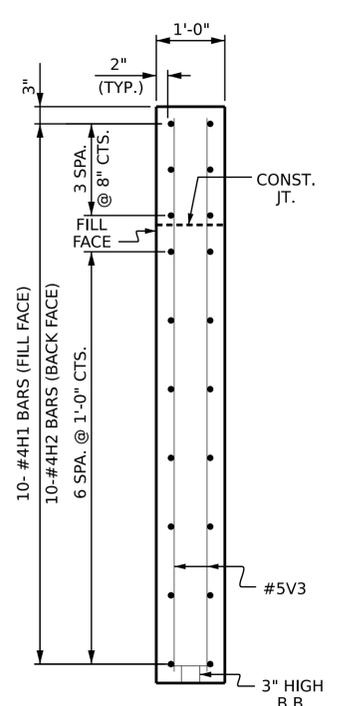
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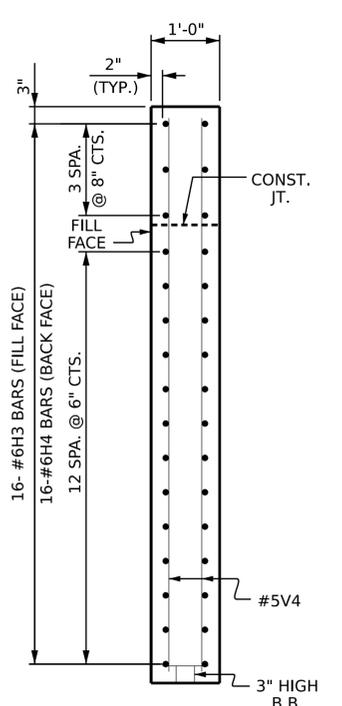
PLAN OF WING - W1



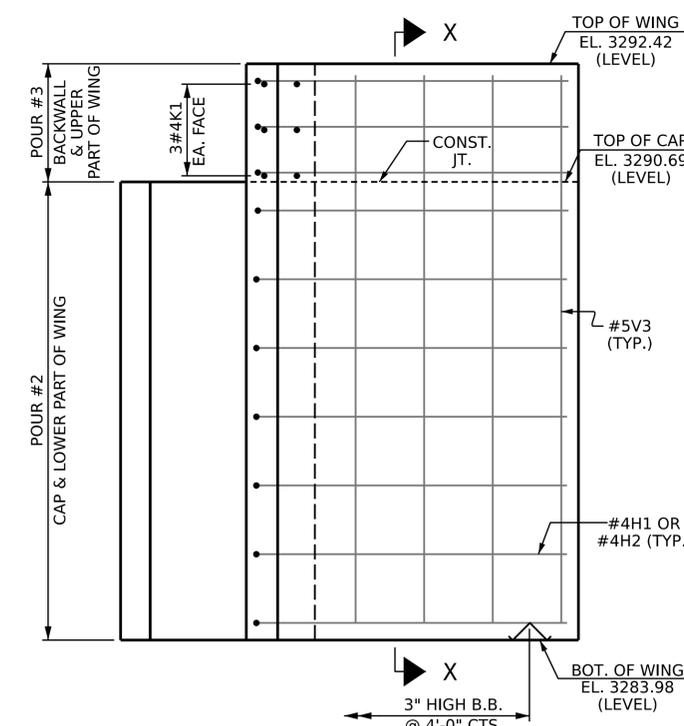
PLAN OF WING - W2



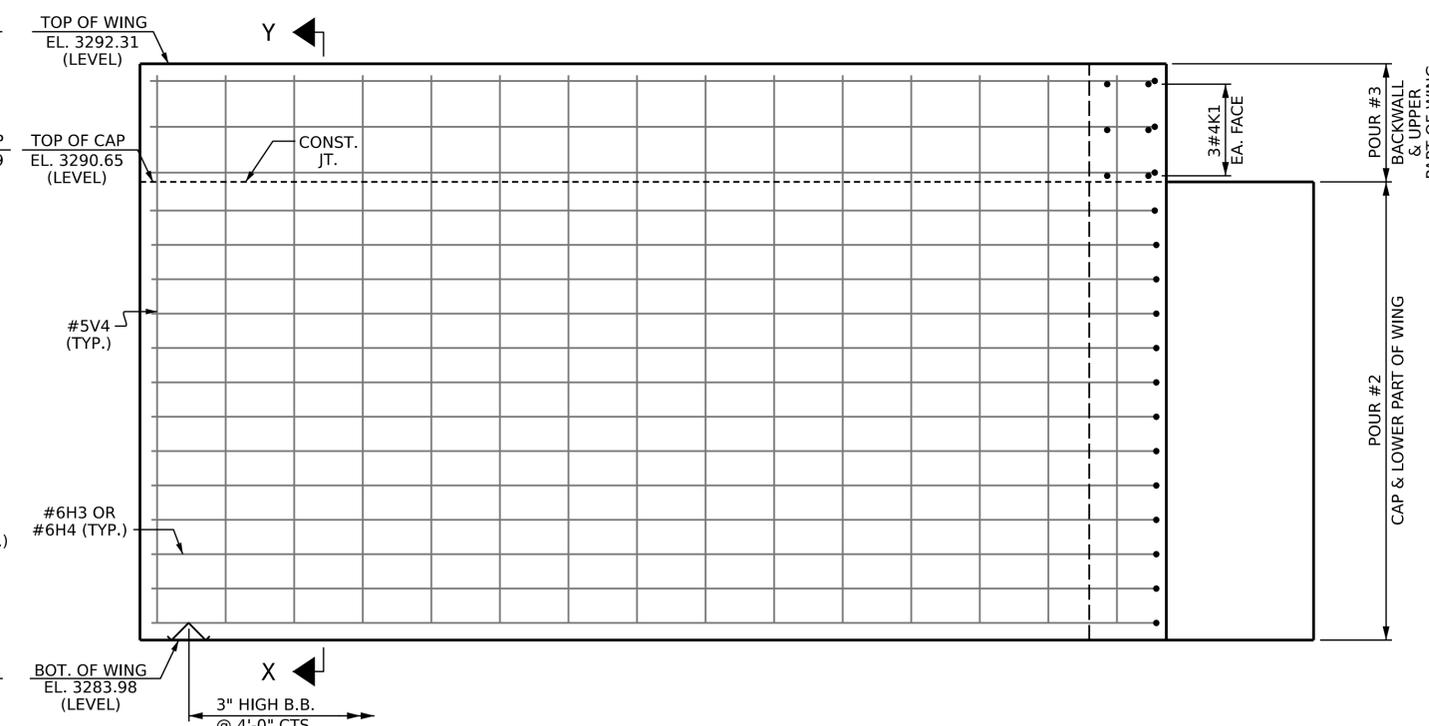
SECTION X-X



SECTION Y-Y



ELEVATION OF WING - W1

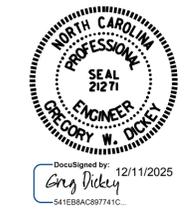


ELEVATION OF WING - W2

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 SHEET 2 OF 3

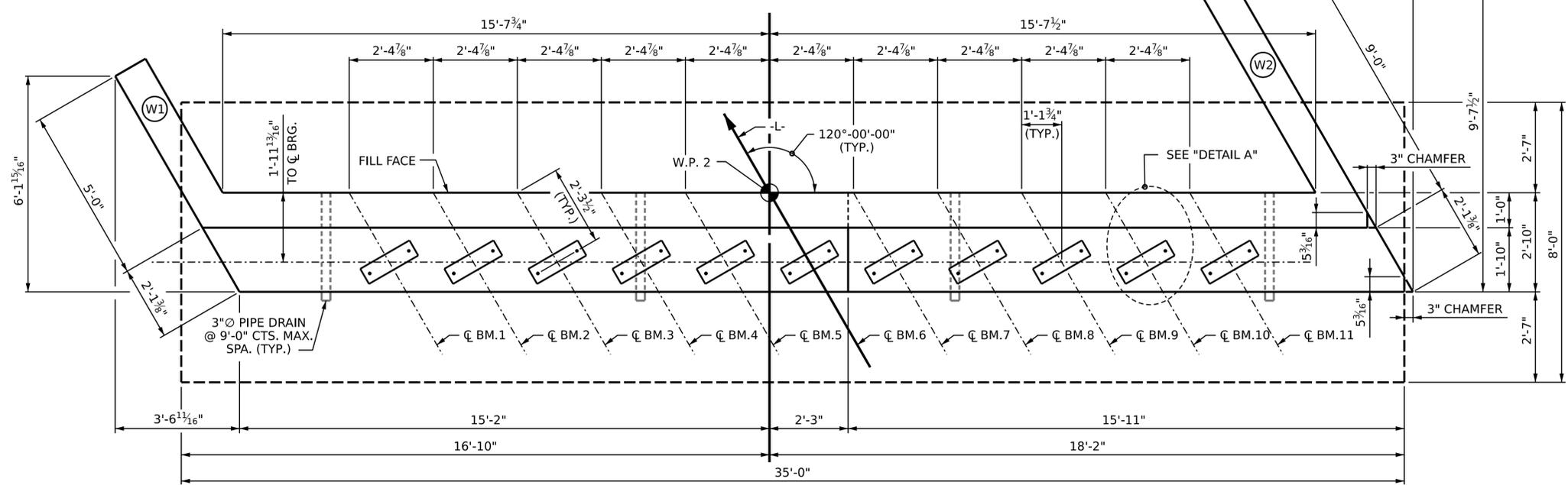


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
**ABUTMENT #1
 WING DETAILS**

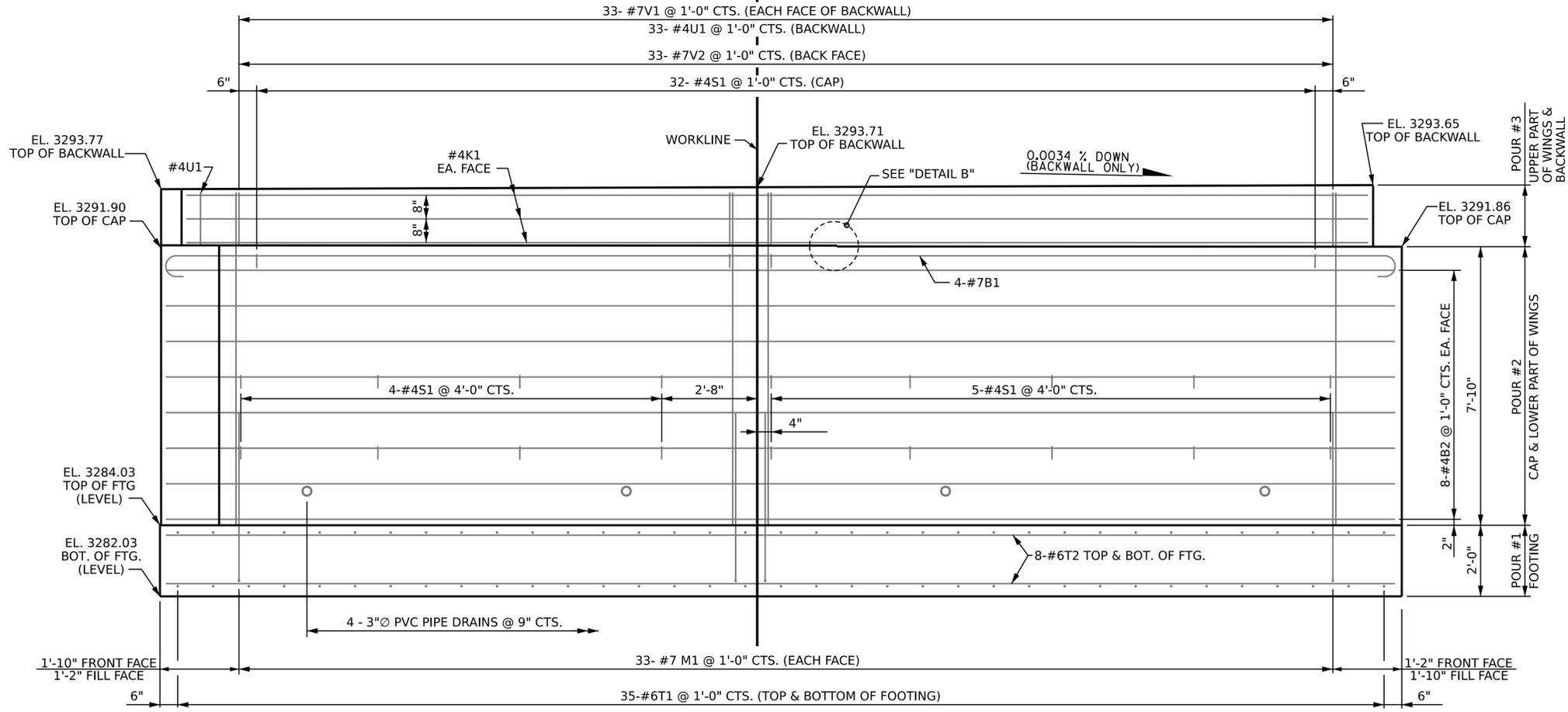
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 CHECKED BY : G. DICKEY DATE : 09/2025
 DESIGN ENGINEER OF RECORD: G. DICKEY DATE : 09/2025

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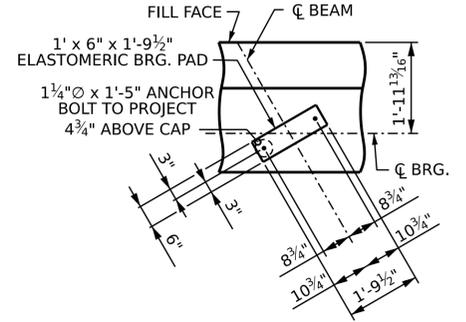


PLAN

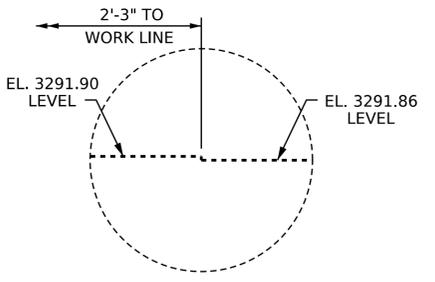


ELEVATION

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 FOR WING DETAILS, SEE SHEET 2 OF 3.
 PIPE DRAINS MAY BE SHIFTED AS NECESSARY TO CLEAR REINFORCING STEEL.

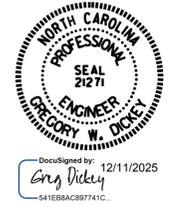


DETAIL A
(TYP. EA. BRG.)



DETAIL B

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 SHEET 1 OF 3

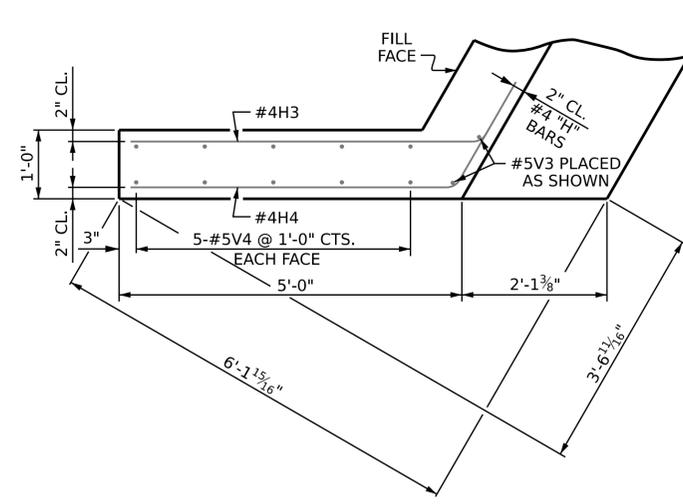
STATE OF NORTH CAROLINA
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 RALEIGH
 SUBSTRUCTURE
ABUTMENT #2

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 CHECKED BY : G. DICKEY DATE : 09/2025
 DESIGN ENGINEER OF RECORD: G. DICKEY DATE : 09/2025

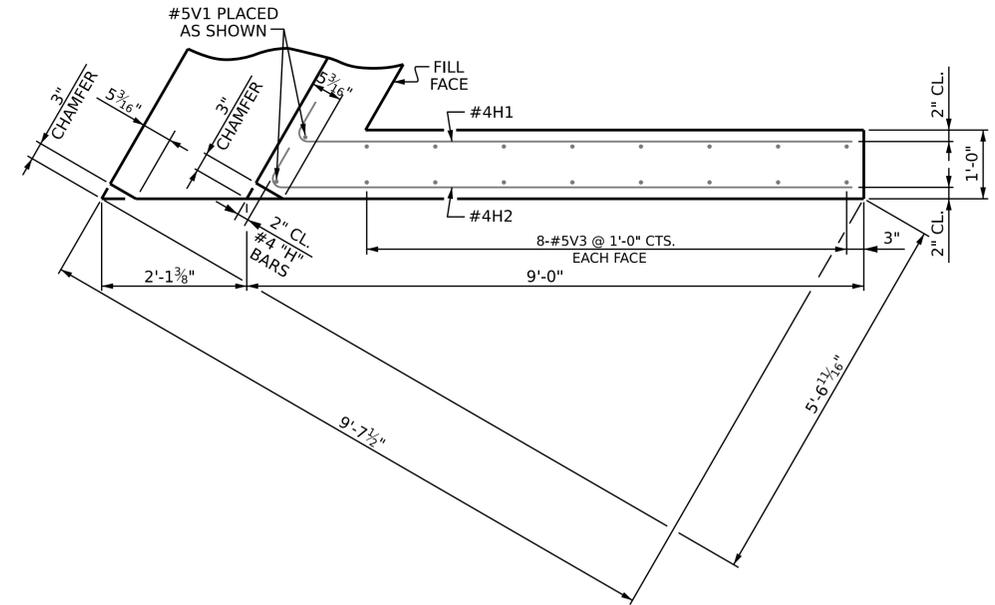
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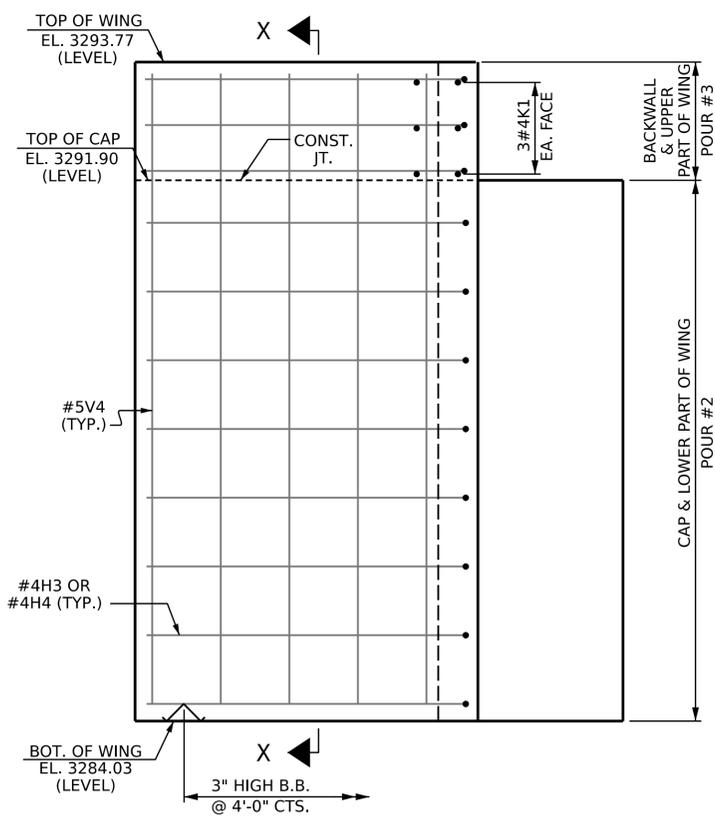
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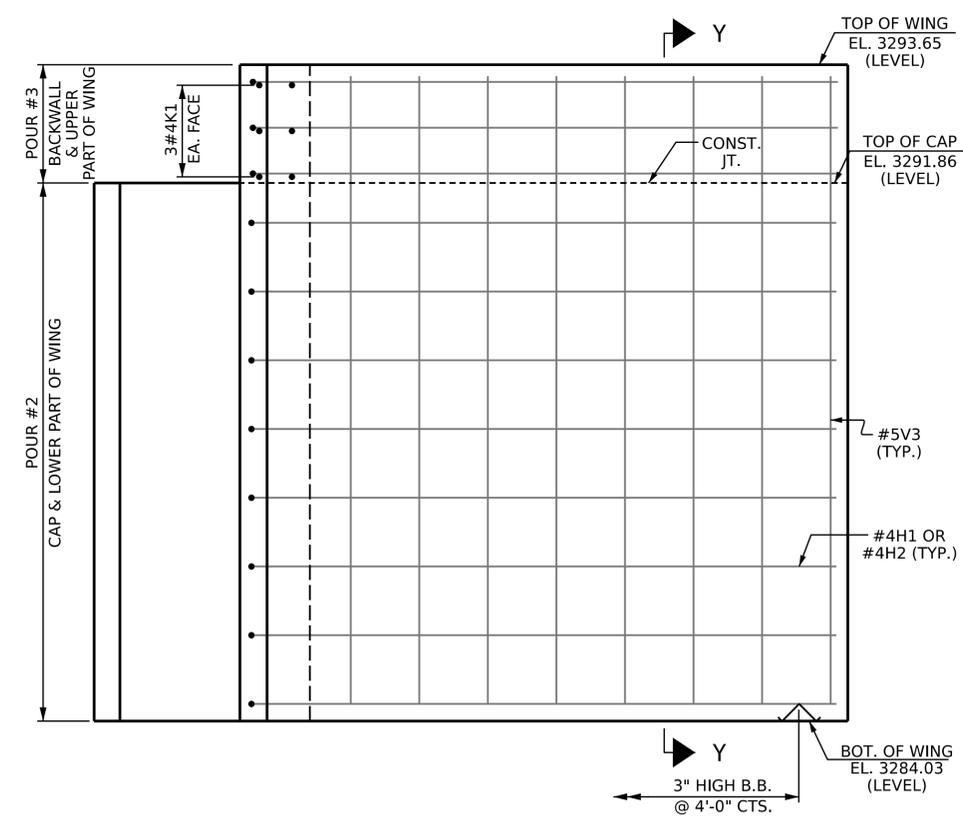
PLAN OF WING - W1



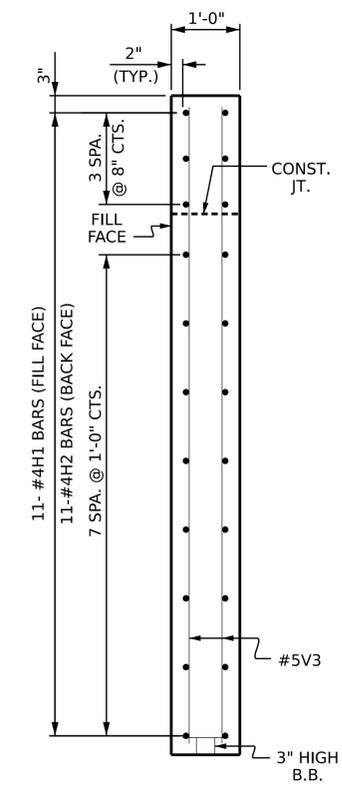
PLAN OF WING - W2



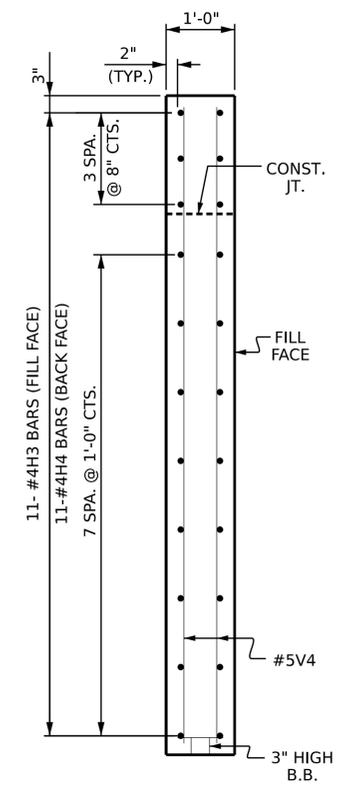
ELEVATION OF WING - W1



ELEVATION OF WING - W2



SECTION Y-Y



SECTION X-X

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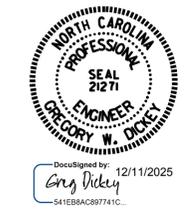
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AVERY COUNTY

STATION: 12+14.00 -L-

SHEET 2 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
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ABUTMENT #2
WING DETAILS

DRAWN BY : K. D. LAYNE DATE : 08/2025
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