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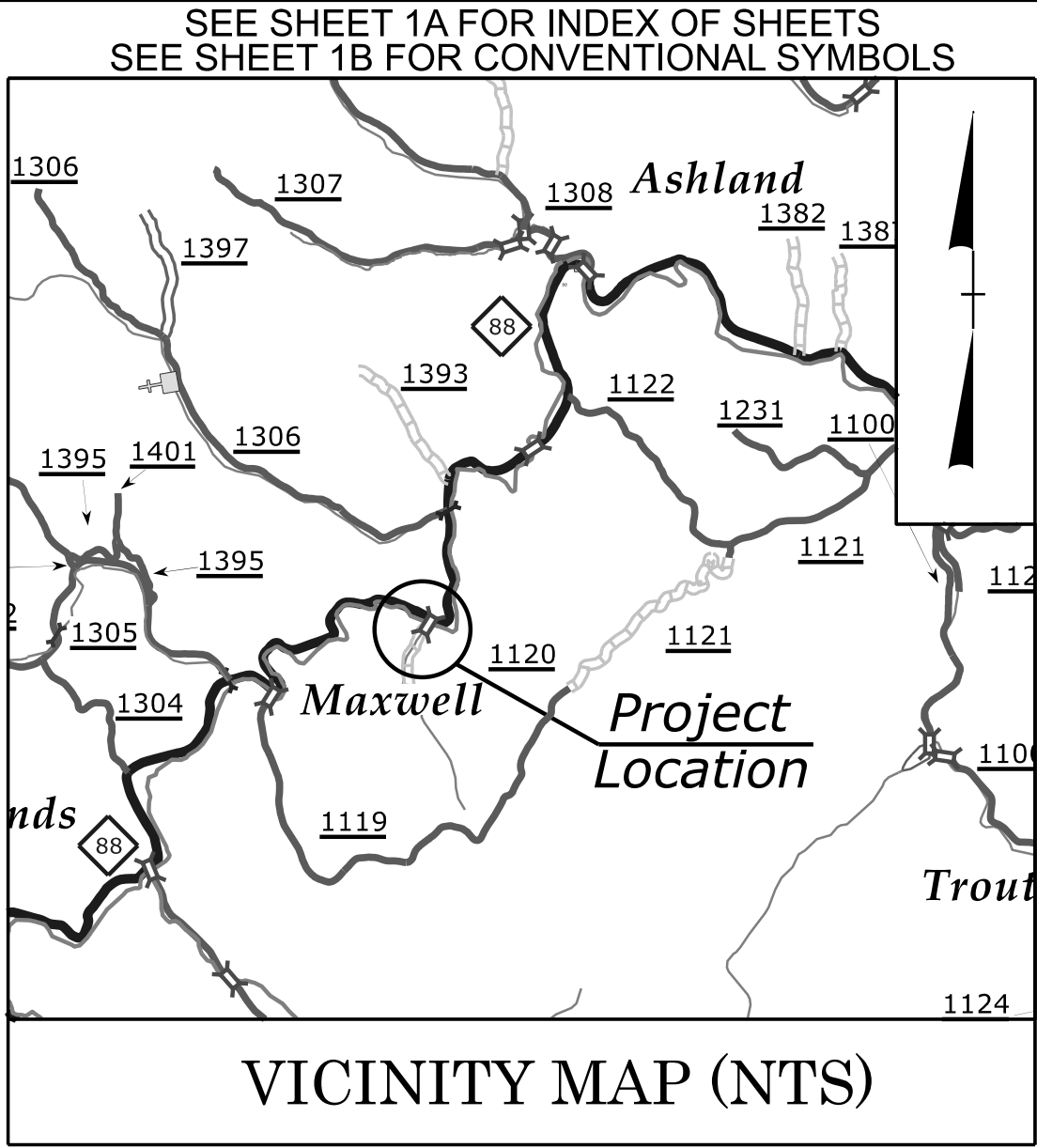
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09/08/99

PROJECT: DF18311.2005335.PR

CONTRACT: DK00476



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

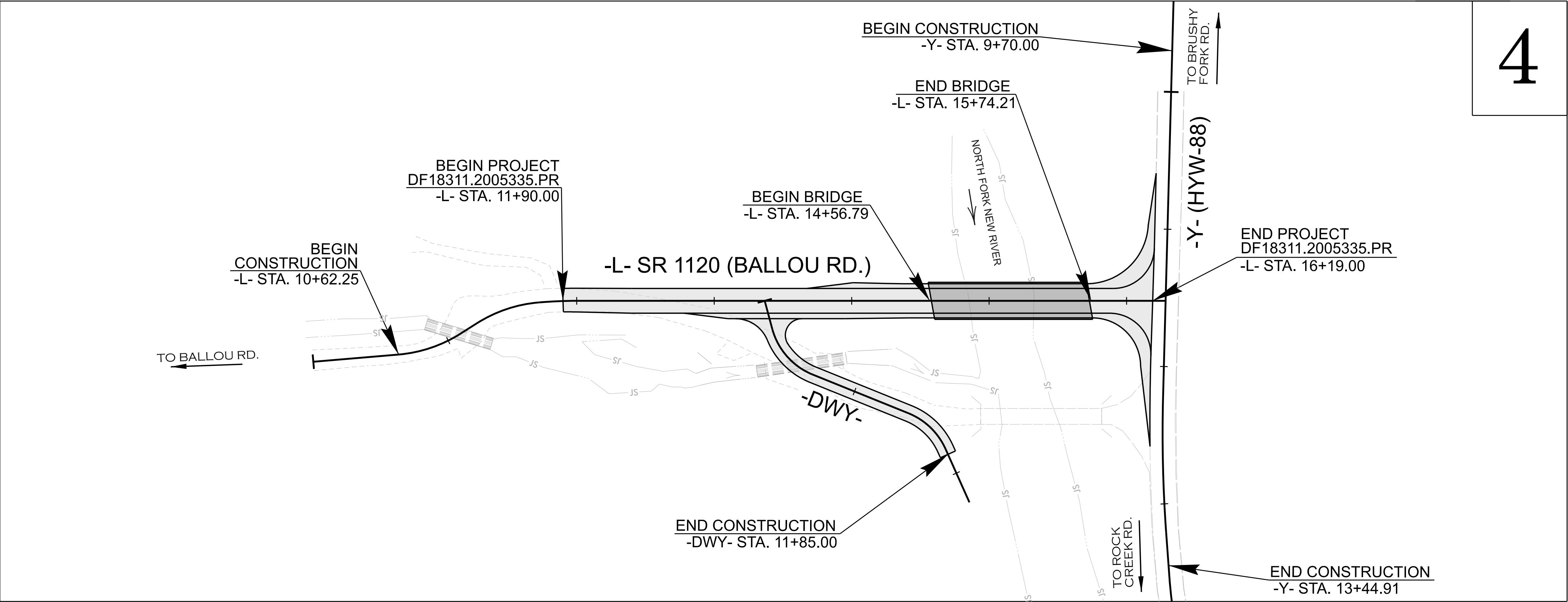
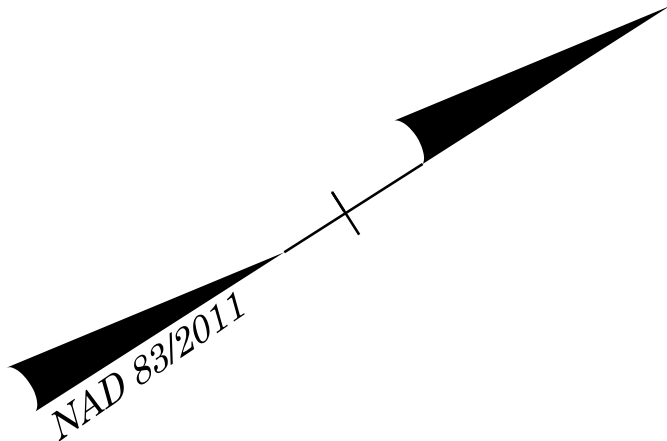
ASHE COUNTY

LOCATION: *REPLACE BRIDGE #040439 ON SR 1120 (BALLOU RD.)
OVER NORTH FORK NEW RIVER*

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18311.2005335.PR	1	X
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION
DF18311.2005335.PR		N/A	PE
DF18311.2005335.PR		N/A	ROW/UTIL
DF18311.2005335.PR		N/A	CON

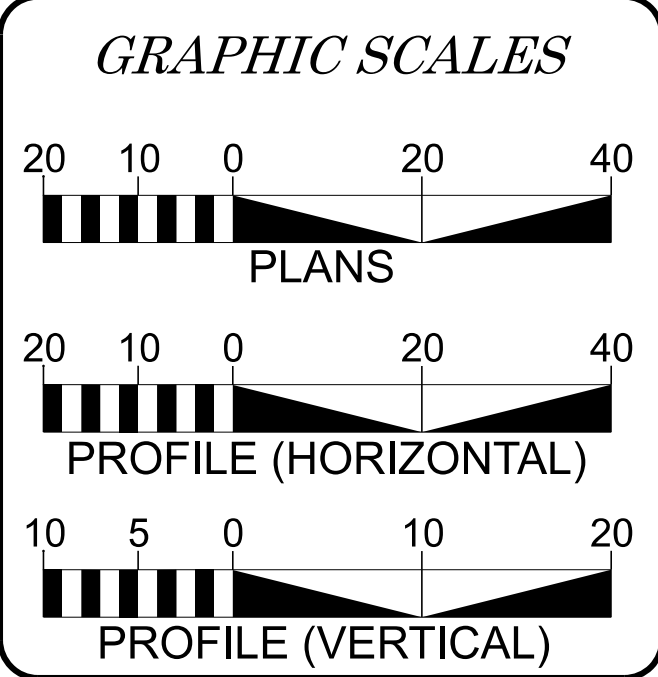
100% PLAN SET



4

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DESIGN DATA

ADT 2026 = 100
ADT 2046 = 100
V = 25 MPH
FUNC CLASS = LOCAL

SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT DF18311.2005335.PR
= 0.059 MILES

LENGTH STRUCTURE PROJECT DF18311.2005335.PR
= 0.022 MILES

TOTAL LENGTH PROJECT DF18311.2005335.PR
= 0.081 MILES

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

PREPARED IN THE OFFICE OF:

SUMMIT
DESIGN AND ENGINEERING SERVICES
FIRM NO. C-3179

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

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 23, 2026

LETTING DATE:
OCTOBER 15, 2026

SPENCER MERRITT, PE
PROJECT ENGINEER

JOSHUA JERNIGAN, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

8/28/2026

Signed by: He Yang
06739623A7F4406
P.E.

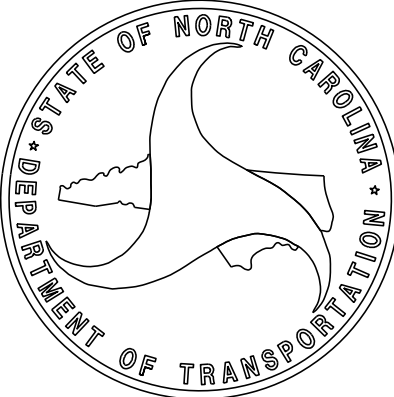
SIGNATURE:

ROADWAY DESIGN ENGINEER

8/28/2026

Signed by: Joshua L. Jernigan
AASB0803B49E48D
P.E.

SIGNATURE:



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-6	ROADWAY SPECIAL DETAILS
3B-1	ROADWAY SUMMARIES
3D-1	DRAINAGE SUMMARIE
4 THRU 5	PLAN AND PROFILE SHEET
RW-01 THRU RW-04	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS, AND PROPERTY TIES
TMP-1 THRU TMP-4	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLAN
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION INDEX SHEET
X-1A	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-36	CROSS-SECTIONS
S-1 THRU S-23	STRUCTURE PLANS

EFF. 01-16-2024 REV.	
2024 ROADWAY ENGLISH STANDARD DRAWINGS	
The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:	
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.04	Method of Obtaining Superelevation - Two Lane Pavement
275.01	Rock Plating
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.24	Frames and Narrow Slot Sag Grates
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 12, and 14 of 15)
862.02	Guardrail Installation
862.03	Structure Anchor Units (Use Detail in Lieu of Standard for Sheet 8 of 9)
876.02	Guide for Rip Rap at Pipe Outlets

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

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

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

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 BLUE RIDGE EMC AND SKYLINE.

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.

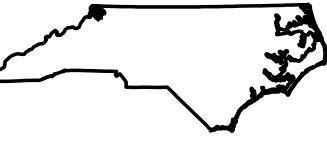
ROCK

ROCK IS ANTICIPATED BETWEEN -L- 11+90 AND -L- 14+75. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

DF18311.2005335.PR

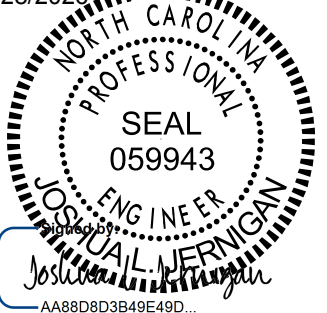
TSH-1A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHF COUNTY



ROADWAY DESIGN
ENGINEER

8/28/2026



JOSEPH M. JEFFERSON
-A48B0D3B4E4D0

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PLANS PREPARED BY:

SUMMIT
DESIGN AND ENGINEERING SERVICES

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

Note: Not to Scale

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent Easement Monument (Rebar and Cap)	
Existing C/A Monument	
Proposed C/A Monument (Rebar and Cap)	
Proposed C/A Monument (Concrete)	
Existing Right of Way Line	
Proposed Right of Way Line	
Existing Control of Access Line	
Proposed Control of Access Line	
Proposed ROW and CA Line	
Existing Easement Line	
Proposed Temporary Construction Easement	
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	

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

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:

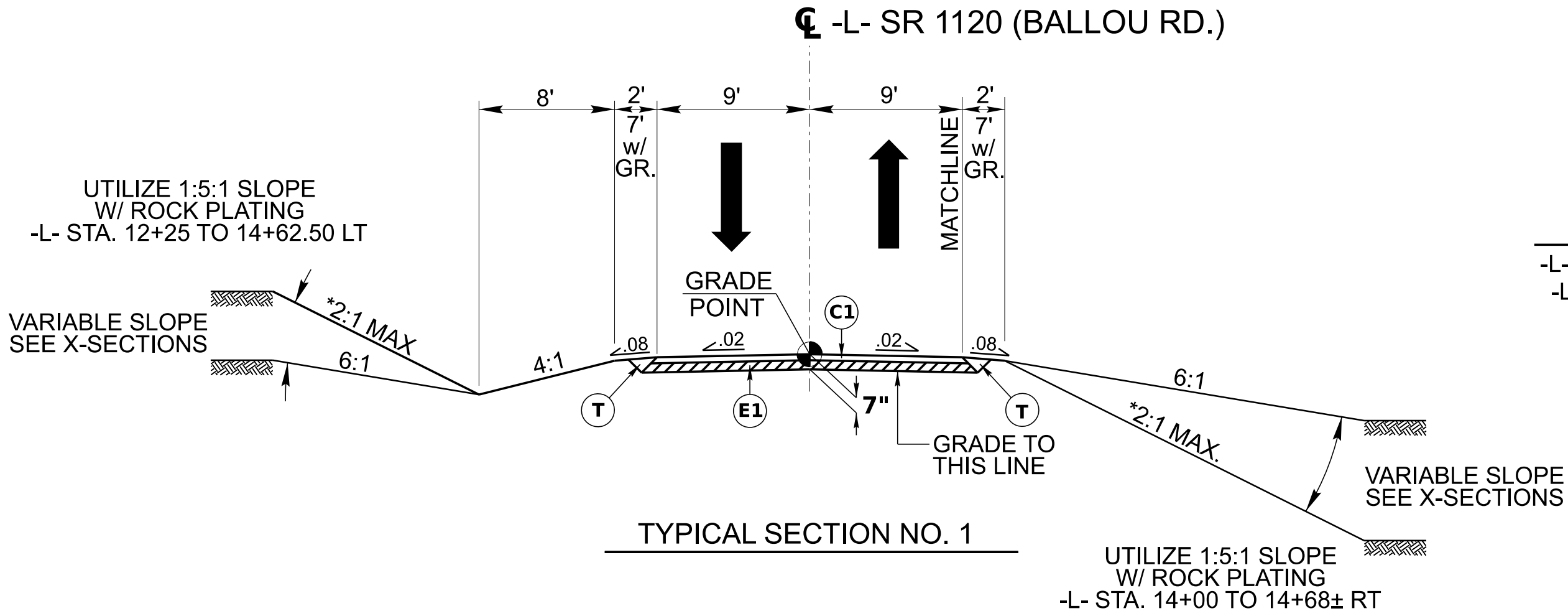
Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Force Main Line Test Hole (SUE - LOS A)*	
SS Force Main Line (SUE - LOS B)*	
SS Force Main Line (SUE - LOS C)*	
SS Force Main Line (SUE - LOS D)*	

MISCELLANEOUS:

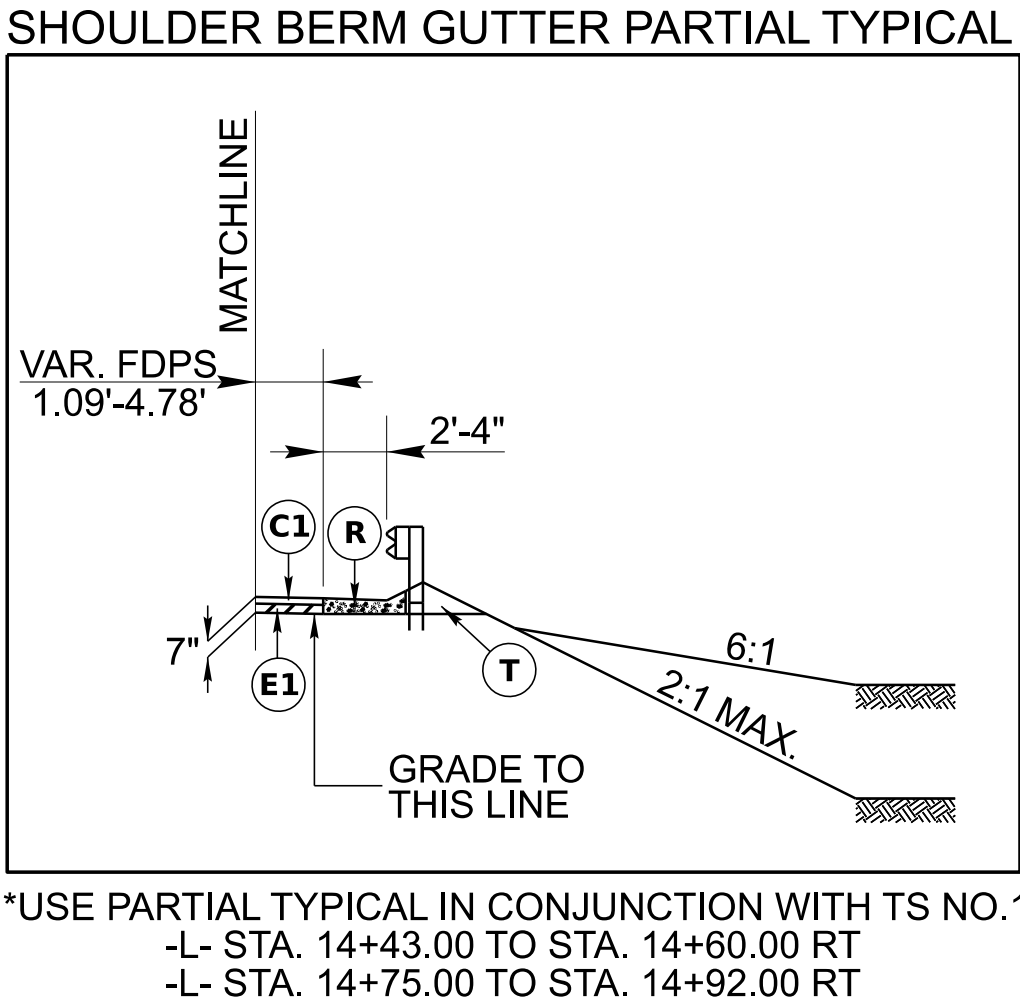
Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown U/G Line (SUE - LOS B)*	
U/G Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
A/G Tank; Water, Gas, Oil	
Geoenviromental Boring	
Abandoned According to Utility Records	
End of Information	

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	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.
C2	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.
J1	6" AGGREGATE BASE COURSE
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT

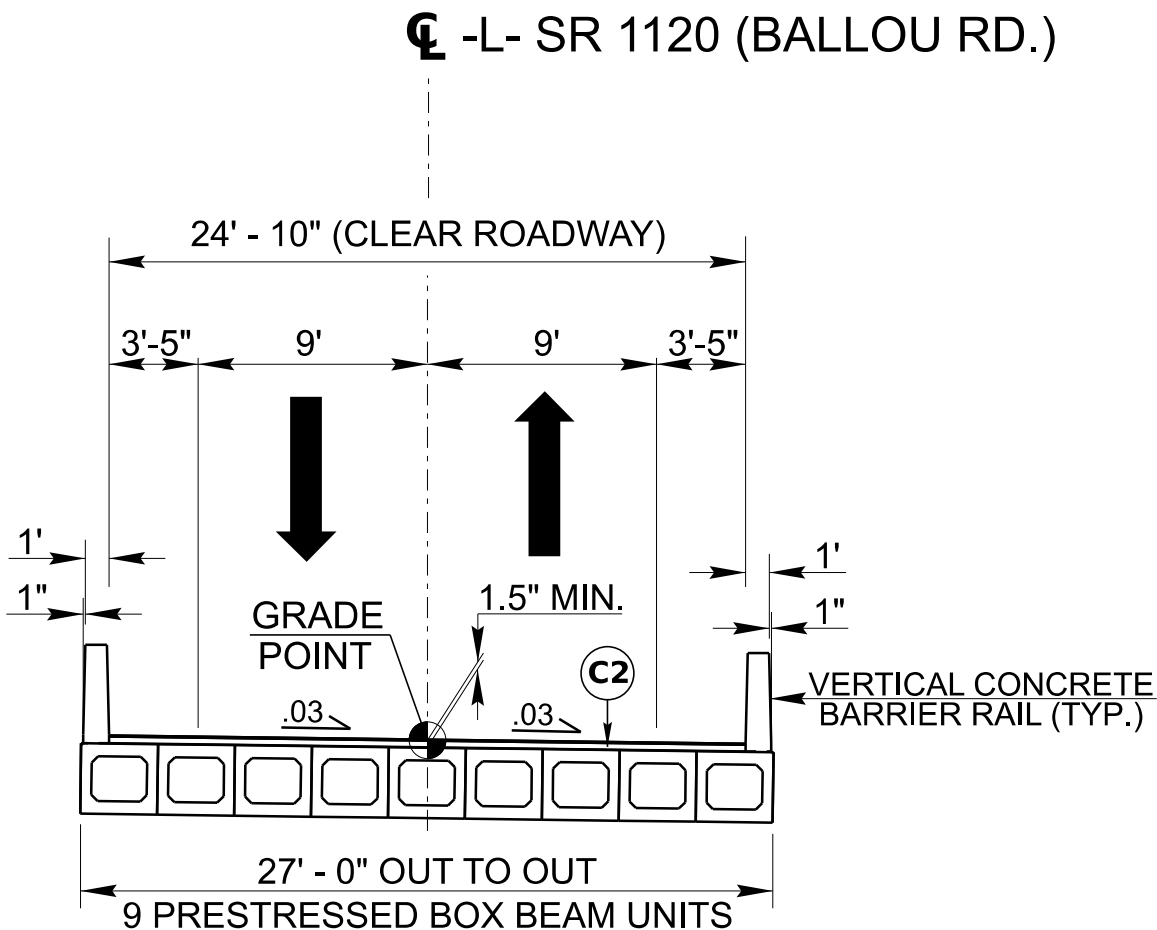
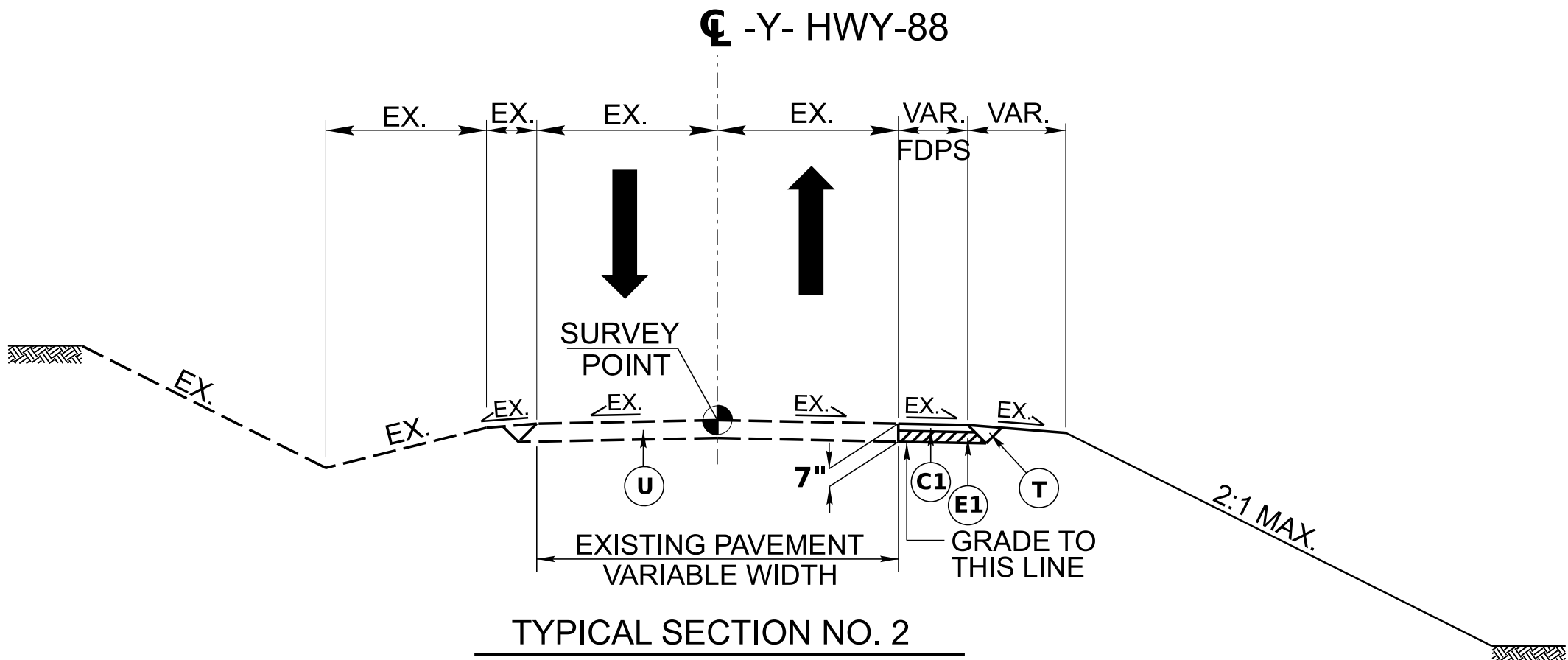
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



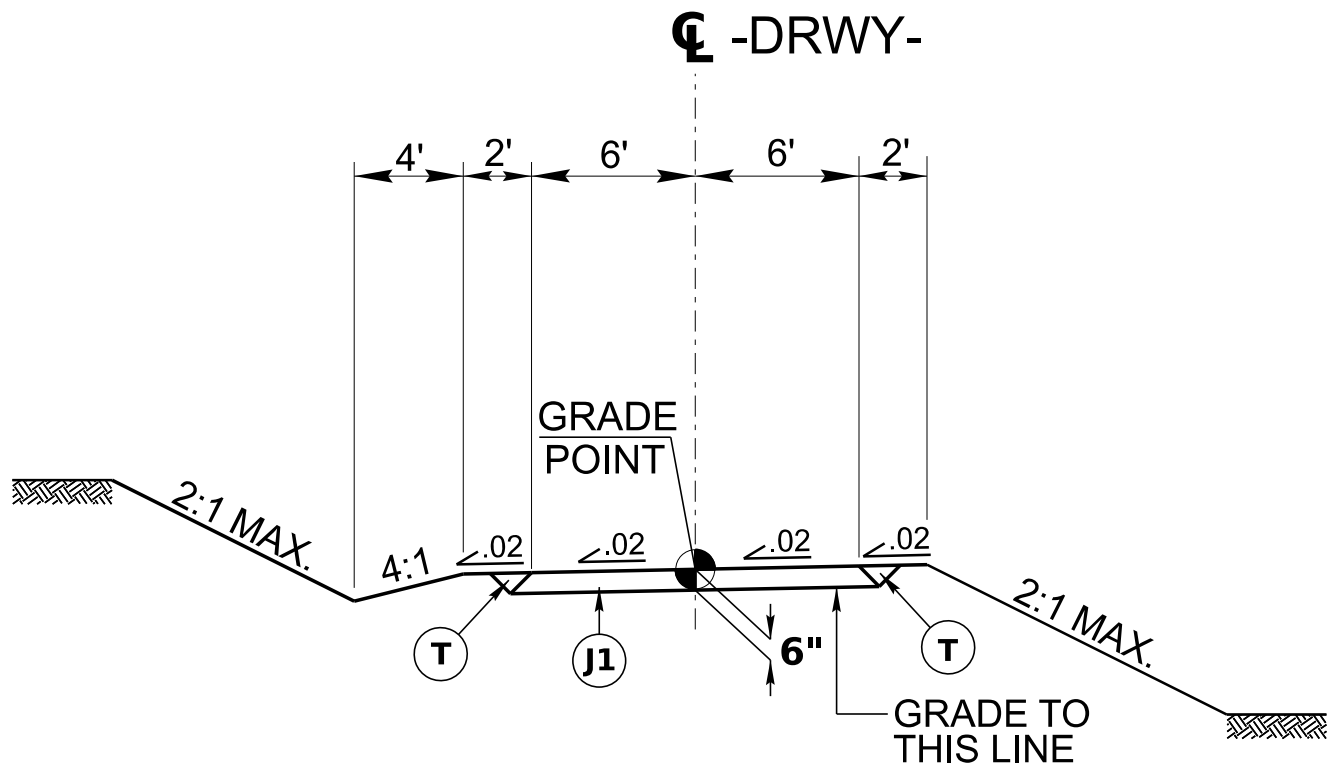
USE TYPICAL SECTION NO. 1
-L- STA. 11+90.00 TO STA. 14+56.79 (BEGIN BRIDGE)
-L- STA. 15+74.21 (END BRIDGE) TO STA. 16+19.00



USE TYPICAL SECTION NO. 2
-Y- STA. 10+00.00 TO STA. 12+75.00



USE BRIDGE TYPICAL
-L- STA. 14+56.79 TO STA. 15+74.21



USE TYPICAL SECTION NO. 3
-DWY- STA. 10+13.46 TO STA. 11+85.00

NOTE: PLACE FDPS TO FACE OF GUARDRAIL UNLESS SHOWN OTHERWISE ON PLAN.

DF18311.2005335.PR

RDY

2A-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHE COUNTY

ROADWAY DESIGN
ENGINEER

8/24/2026

PROFESSIONAL
SEAL
059943
JOSHUA L. JERNIGAN
ENGINEER

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PAVEMENT DESIGN
ENGINEER

8/24/2026

PROFESSIONAL
SEAL
049851
RAMON A. SHAW
ENGINEER

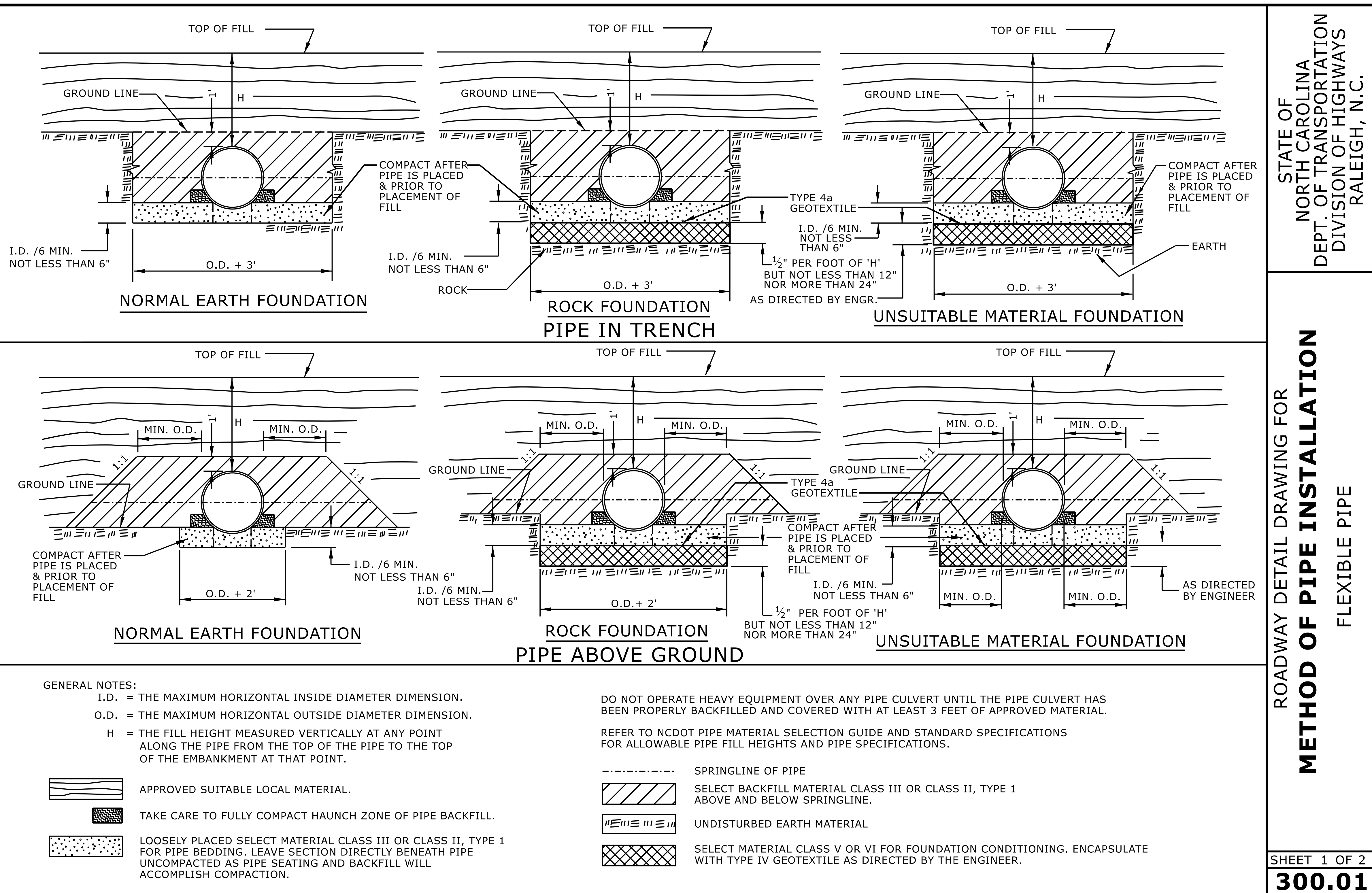
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PLANS PREPARED BY:

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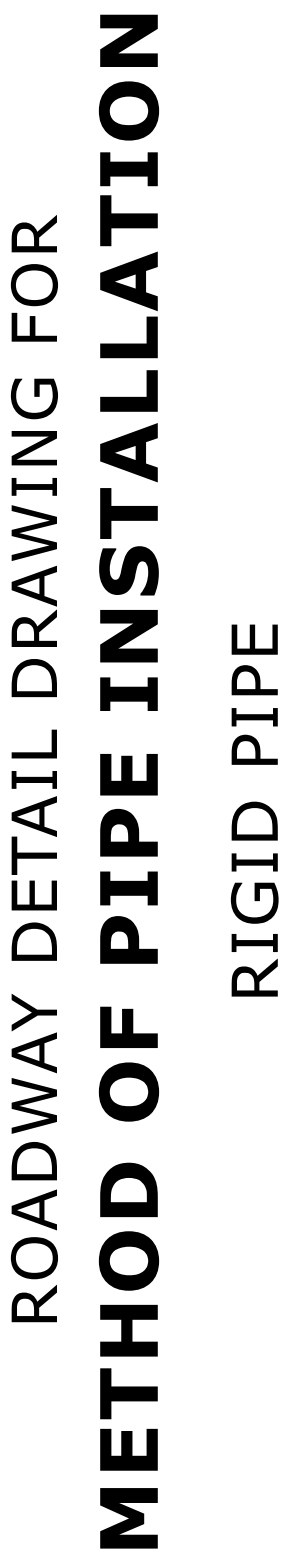
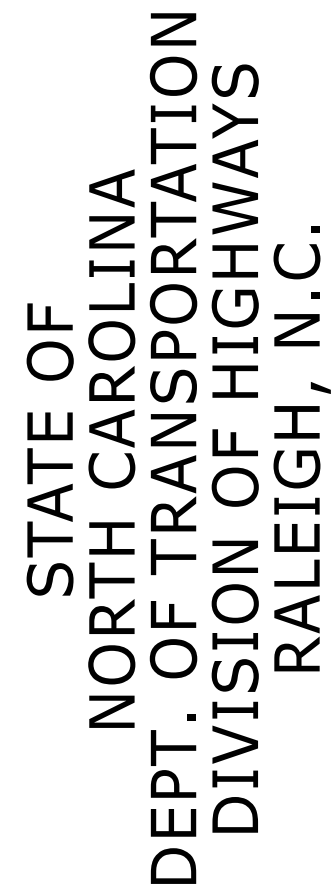


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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
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SEE TITLE BLOCK

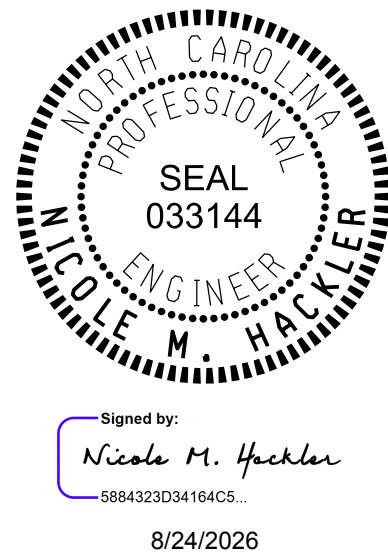
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: _____



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.



SHEET 2 OF 2

300.01

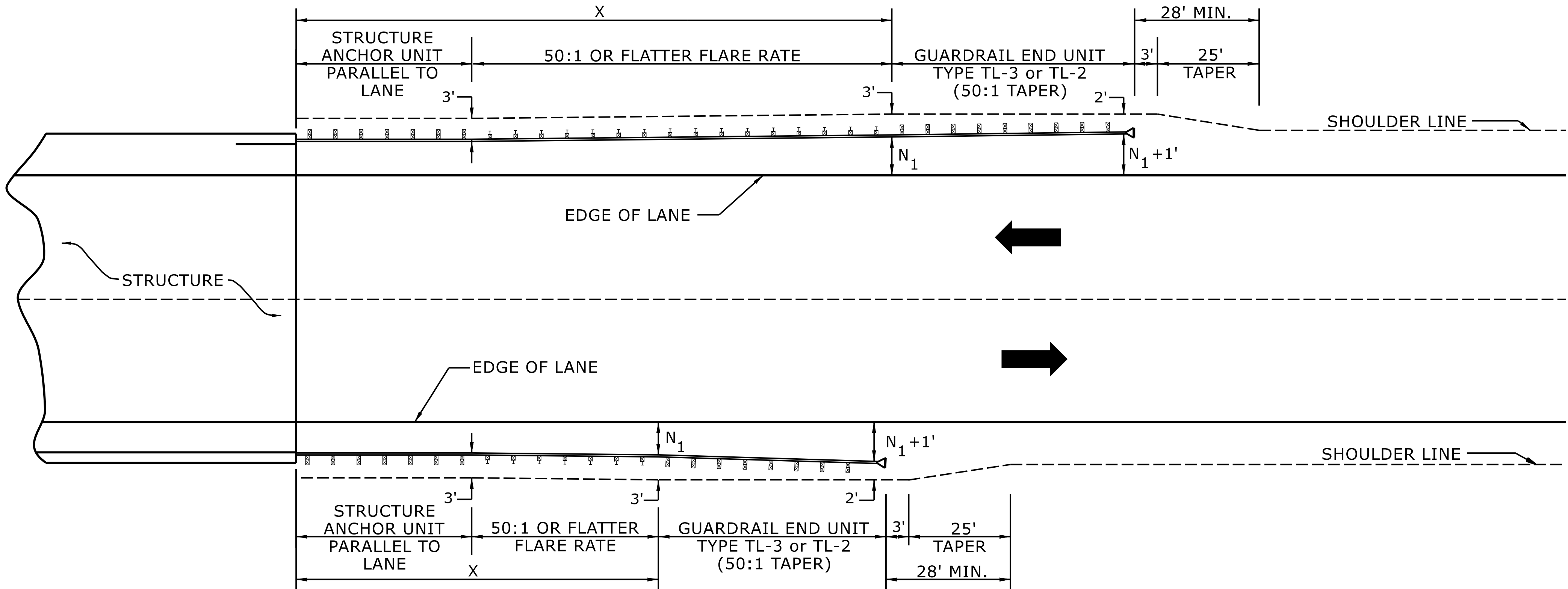
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CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

PROJECT REFERENCE NO.	SHEET NO.
DF18311.2005335.PR	2C-3



USE FLARE RATE AS THE CONTROL IF THE "N₁" DISTANCE IS NOT OBTAINED.
("N₁" IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)

SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

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

GUARDRAIL LENGTH OF NEED (X) IS CALCULATED BASED ON THE AASHTO ROADSIDE DESIGN GUIDE.

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

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 4 OF 15

862D01



Signed by:
Nicole M. Hacker
5884323D34164C5...

8/24/2026

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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

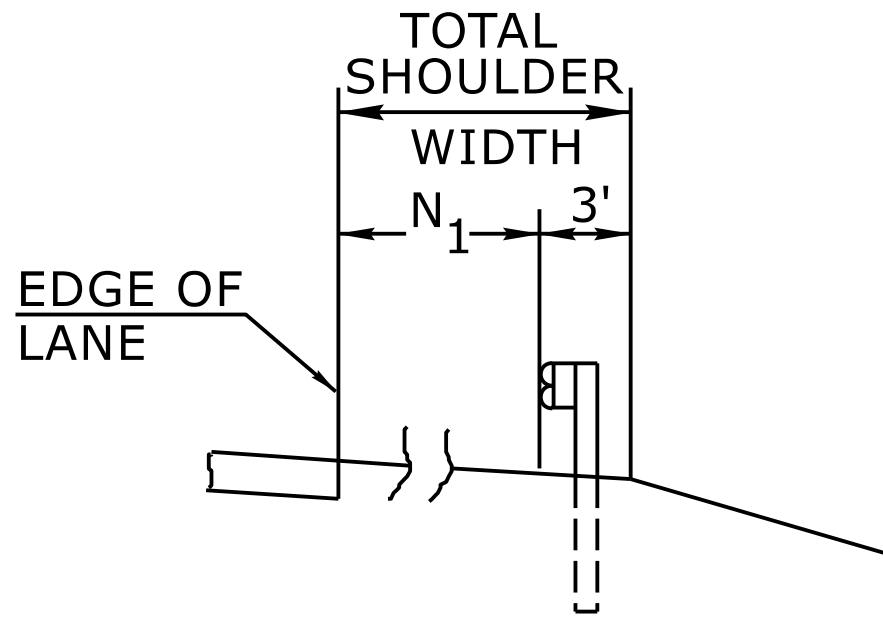
Office 919-707-6950

FAX 919-250-4119

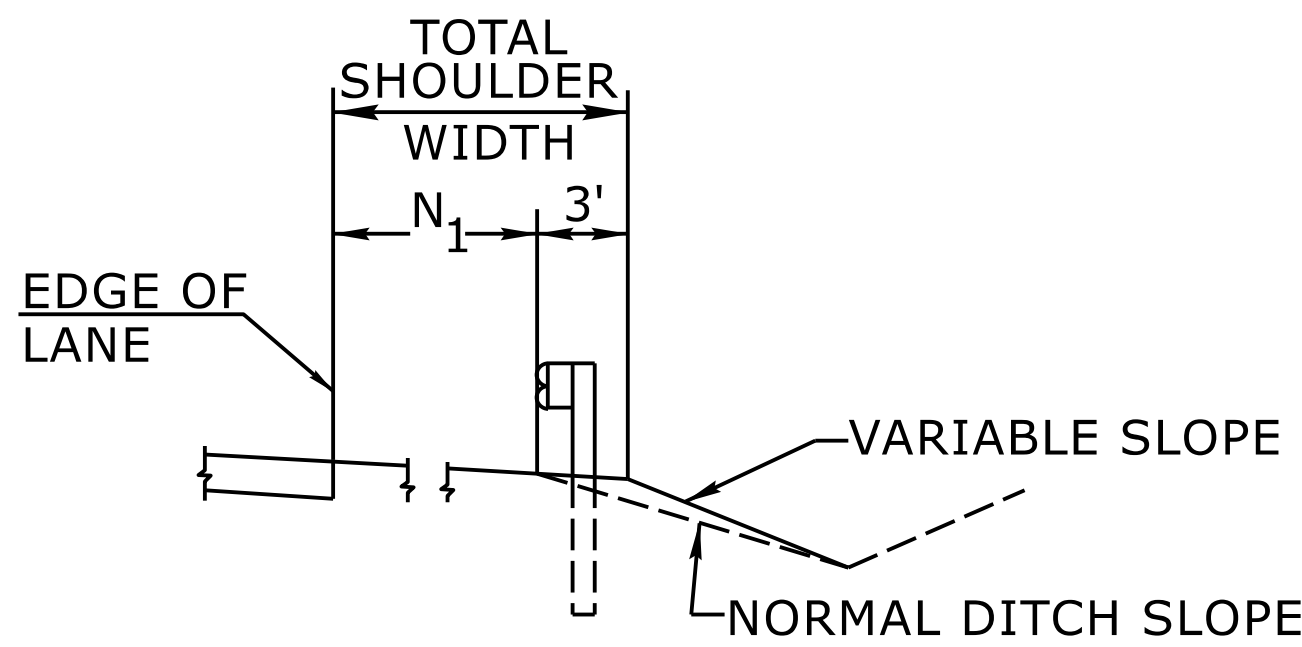
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FILE SPEC.:

PROJECT REFERENCE NO.	SHEET NO.
DF18311.2005335.PR	2C-4

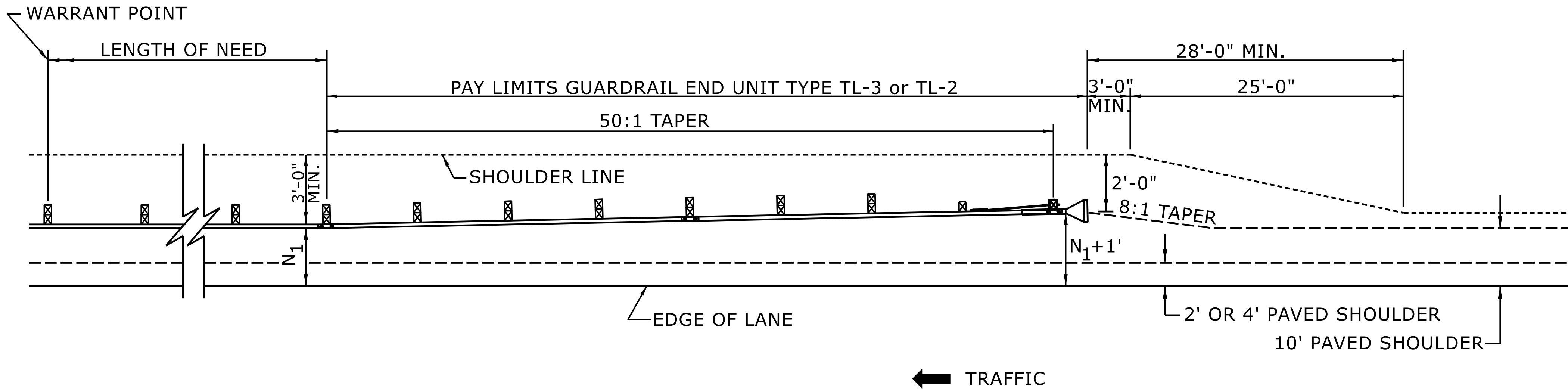


FILL SECTION



CUT SECTION

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



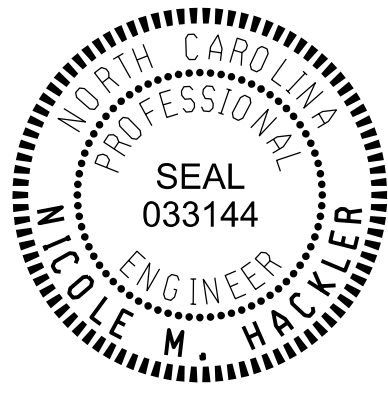
FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15
862D01

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



Signed by:
Nicole M. Hackler
5884323D34164C5...

8/24/2026

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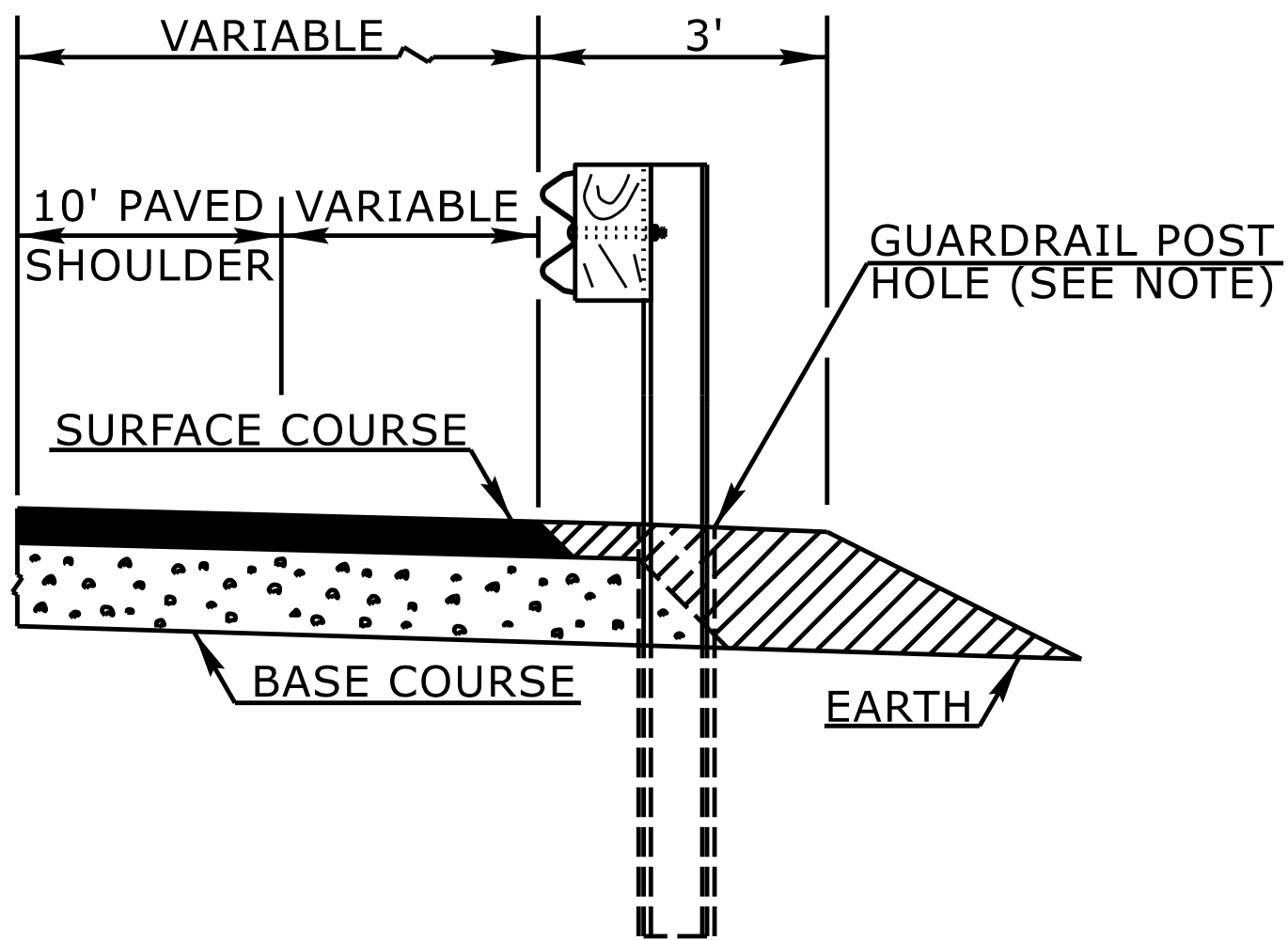
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

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

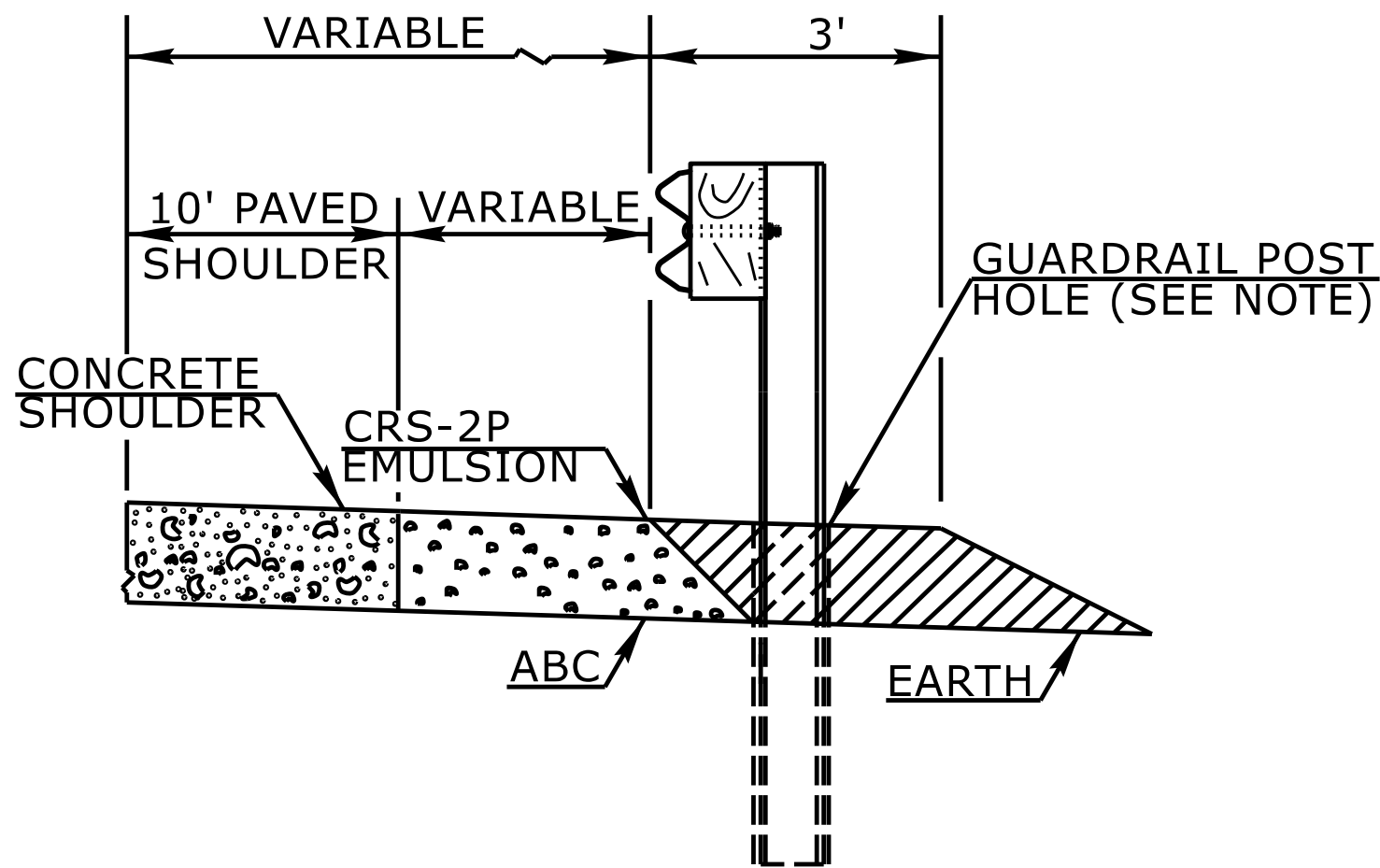
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MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: DATE:

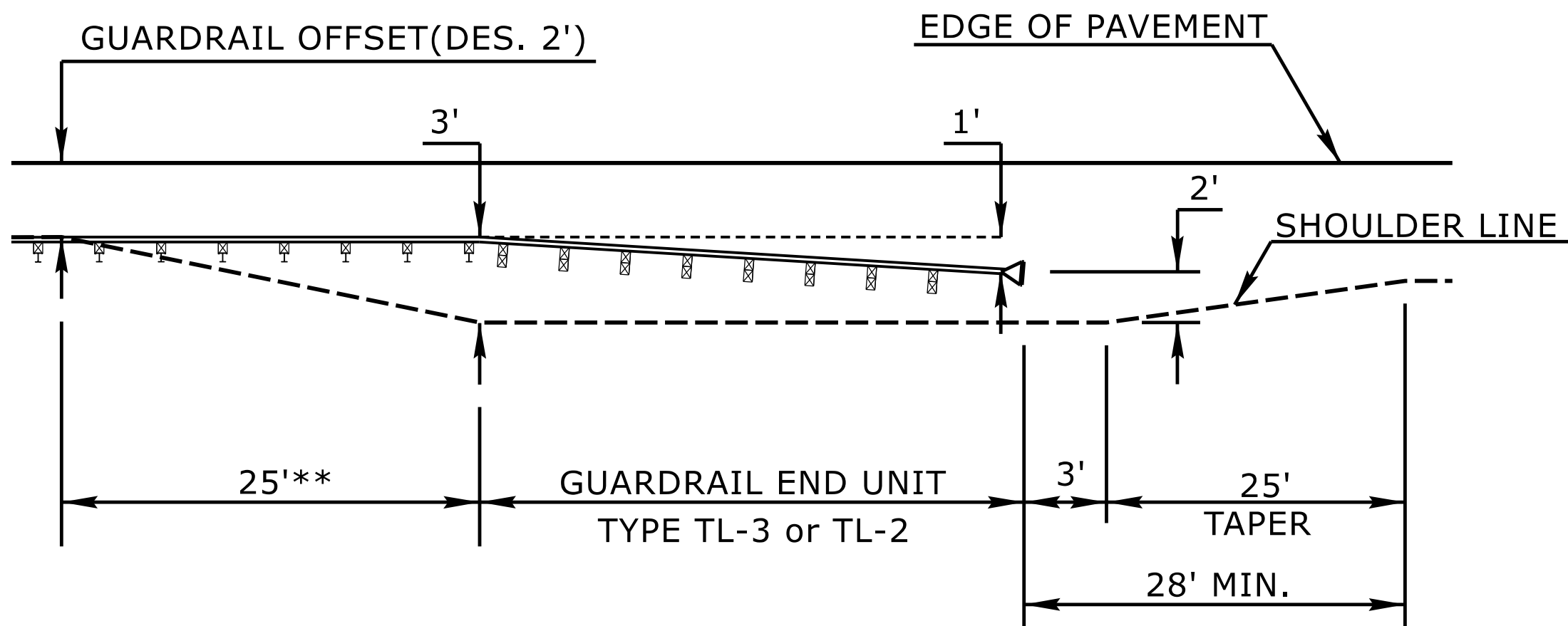
PROJECT REFERENCE NO.	SHEET NO.
DF18311.2005335.PR	2C-5



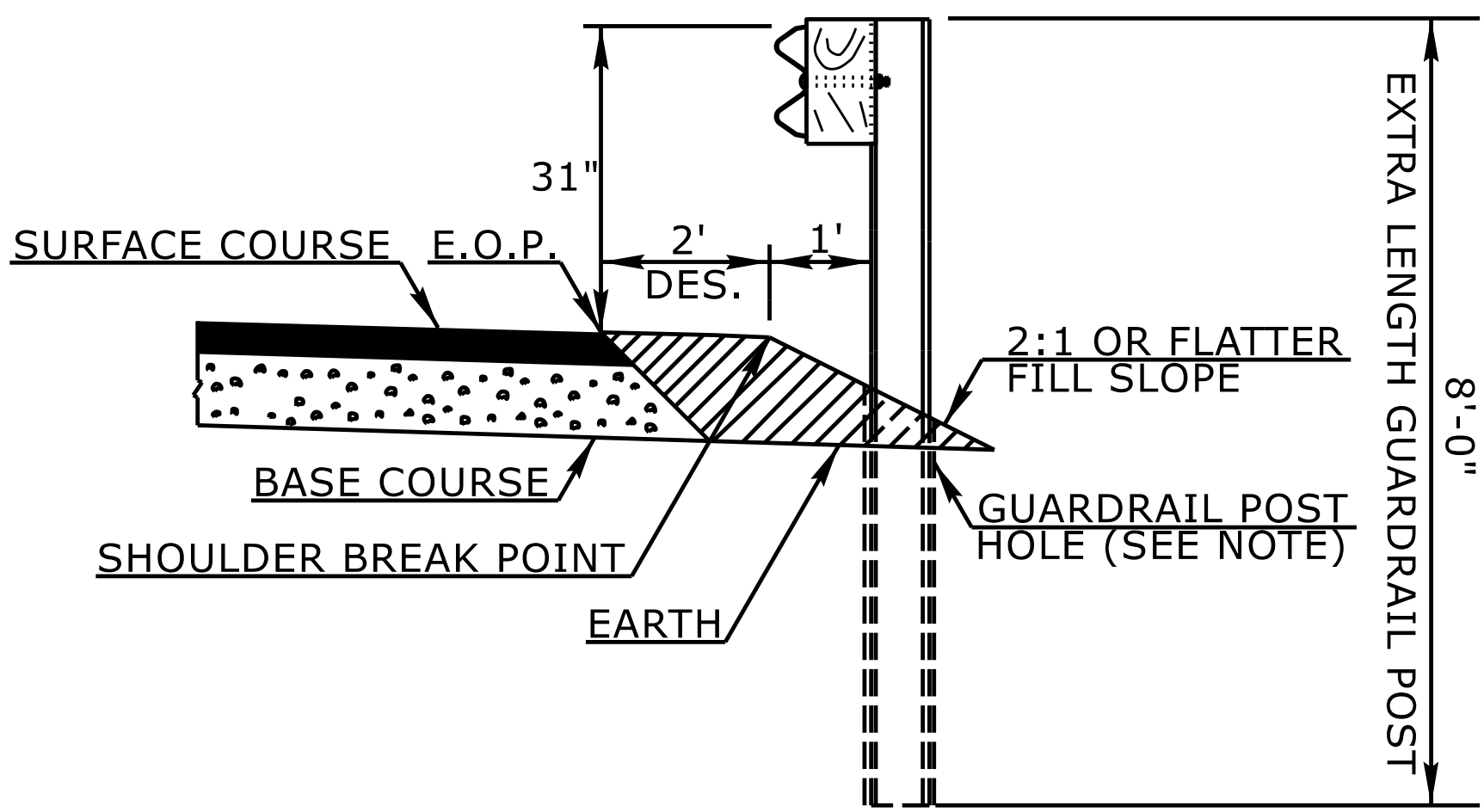
FLEXIBLE PAVED SHOULDER



CONCRETE PAVED SHOULDER



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



8' GUARDRAIL POST ON 2:1 SLOPE*

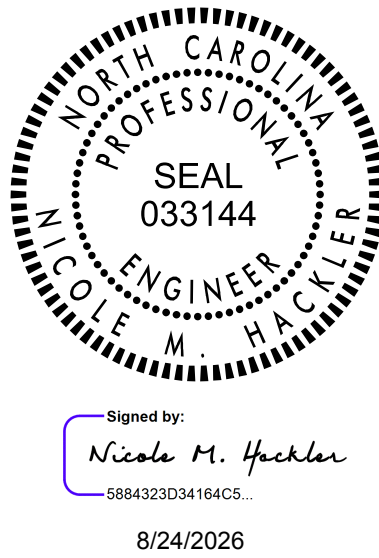
- * THE 8' GUARDRAIL POST ON 2:1 SLOPE DETAIL IS INTENDED FOR USE ONLY IN SEVERELY CONSTRAINED AREAS WITH A POSTED SPEED $\leq$ 60 MPH. GUARDRAIL END UNITS MAY NOT BE PLACED ON THE 2:1 SLOPE AND MUST TRANSITION TO THE SHOULDER.
- ** 8' GUARDRAIL POST SHOULD BE USED IN THIS RANGE

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

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 11 OF 15
862D01



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

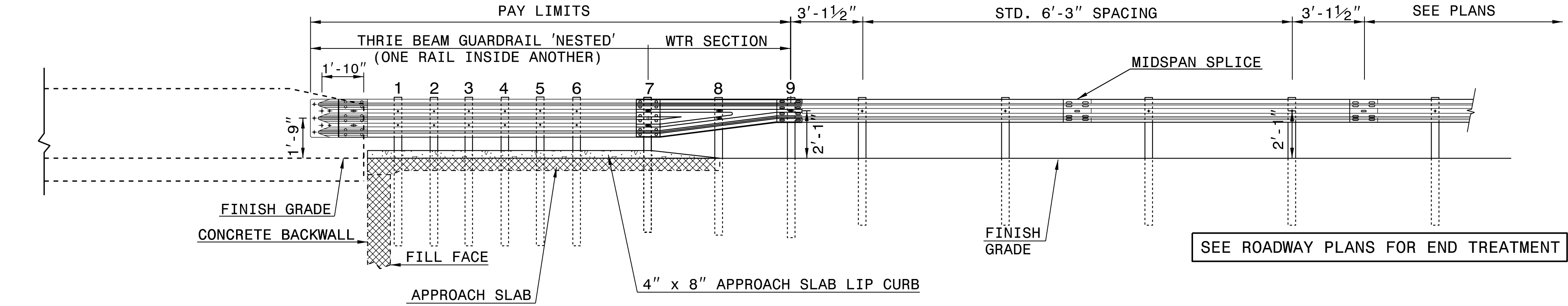
SEE TITLE BLOCK

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

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

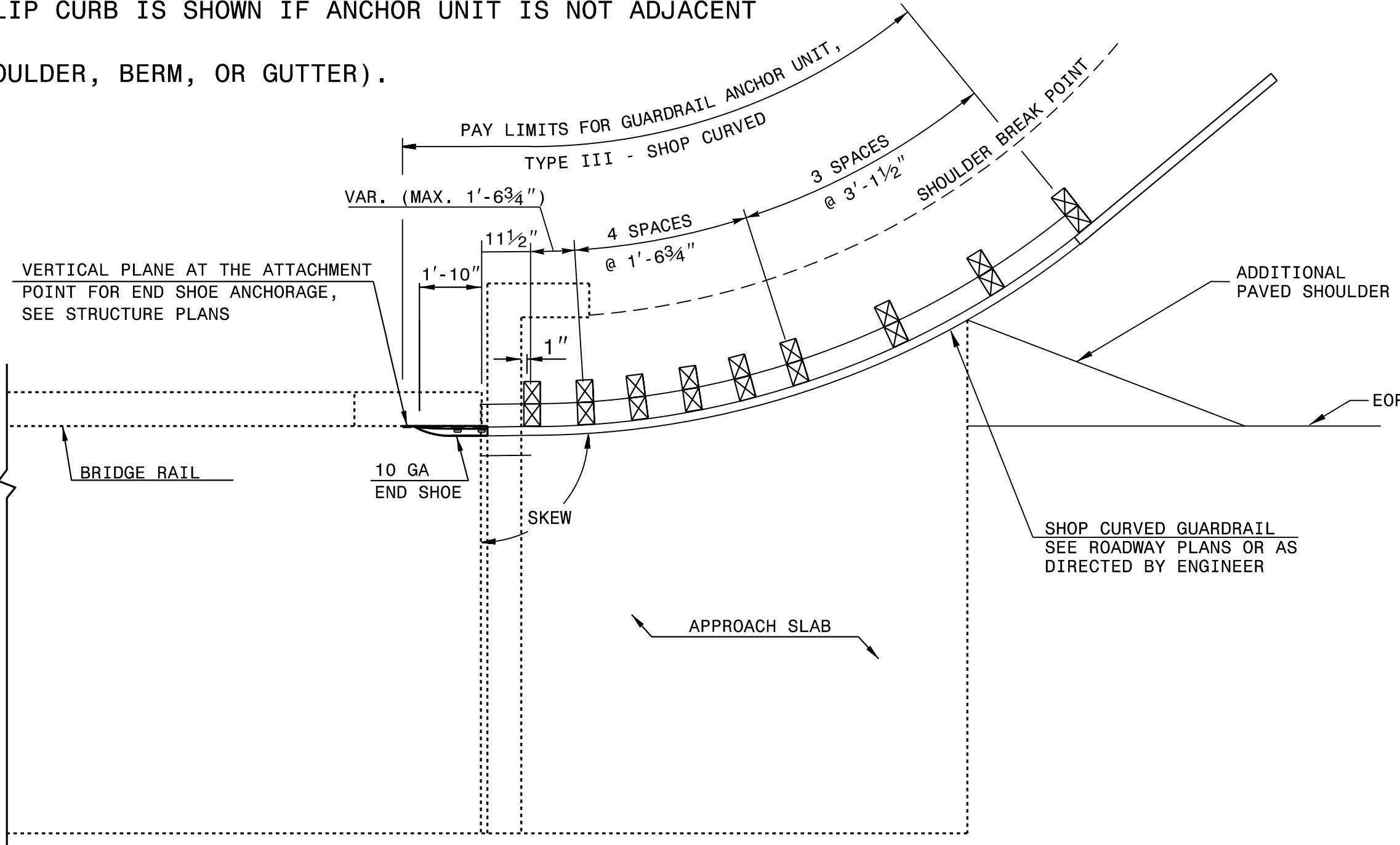
ENGLISH DETAIL DRAWING FOR
**TYPE III - SHOP CURVED
STRUCTURE ANCHOR UNIT**

SHEET 1 OF 1
TYPE III SC



ELEVATION

- NOTE:
- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 - *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.
 - SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
 - MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
 - USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
 - LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 - SEE STANDARD 862.03 SHEET 4 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

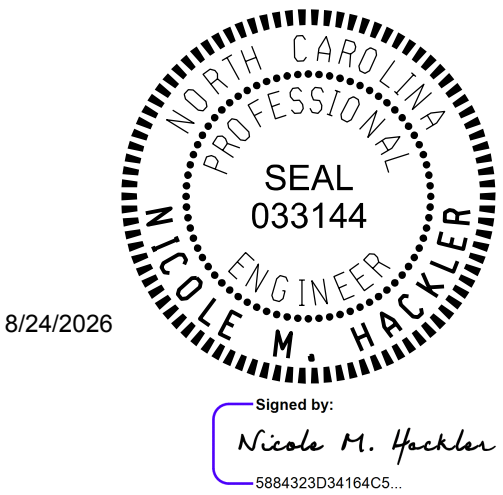
**GUARDRAIL ANCHOR UNIT, TYPE III - SHOP CURVED
FOR ATTACHMENT TO RAIL ON BRIDGE**

PROJECT REFERENCE NO.	SHEET NO.
DF18311.2005335.PR	2C-6

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

ENGLISH DETAIL DRAWING FOR
**TYPE III - SHOP CURVED
STRUCTURE ANCHOR UNIT**

SHEET 1 OF 1
TYPE III SC



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UNLESS ALL SIGNATURES COMPLETED

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

SEE PLATE FOR TITLE

ORIGINAL BY: E.E.Ward DATE: 4-4-02
MODIFIED BY: T.S.Spell DATE: 5-29-09
CHECKED BY: DATE:
FILE SPEC.: ward\usr\details\stand\862stds\typeiiisc.dgn

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS									IMPACT ATTENUATOR TYPE 350	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GREU TL-2	GRAU TYPE III SC	GRAU TYPE III	CAT-1	VI MOD	BIC	AT-1	EA	G	NG		
-L-	13+99.56	14+55.81	LT	56.25'				14+55.81	4'-0"	7'-0"		37.5'		0.75'			1		1									
-L-	13+70.00	14+60.19	RT	93.75'			14+25.00		4'-0"	7'-0"	75'		1.09'				1		1									
-L-	15+70.81	16+15.81	LT		75.0'		15+70.81		4'-0"	7'-0"								1				1						SHOP CURVE R = 45'
-L-	15+75.19	16+10.19	RT		75.0'			15+75.19	4'-0"	7'-0"								1				1						SHOP CURVE R = 35'
			SUBTOTAL:	150'	150.0'												2	2	2				2					
			(-) LESS ANCHOR DEDUCTIONS:																									
			(2) GREU TL-2 @ 25.0' EA.	50'																								
			(4) GRAU TYPE III @ 18.75' EA.	37.5'	37.5'																							
			(2) GREU AT-1 @ 6.25' EA.		12.5'																							
			TOTAL:	62.5'	100'																							
			PROJECT TOTALS:	62.5'	100'												2	2	2				2					

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	UNDERCUT EXCAV.	EMBANK. +%	BORROW	WASTE
-L- 11+90.00	-L- 14+56.79	992		366		626
-L- 15+74.21	-L- 16+19.00			1,390	1,390	
	SUBTOTAL:	977		1,756	1,390	626
-Y- 10+00.00	-Y- 12+75.00	70		268	198	
	SUBTOTAL:	70		268	198	
-DWY- 10+13.46	-DWY- 11+85.00	58		91	33	
	SUBTOTAL:	58		91	33	
SHEET TOTAL:		1,120		2,115	1,621	626
LOSS DUE TO CLEARING AND GRUBBING:						
EARTH WASTE IN LIEU OF BORROW:					(-626)	(-626)
PROJECT TOTAL:		1,120		2,115	995	
EST. 5% TO REPLACE TOP SOIL:					50	
GRAND TOTALS:		1,120			1,045	
SAY:		1,120			1,050	

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

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGNER. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNIAL ENGINEERING UNIT.

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/ RT/ CL	LF
-L-	14+43	14+60	RT	17.0
-L-	15+75	15+92	RT	17.0
TOTAL:				34
SAY:				35

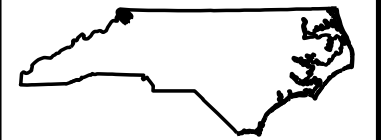
PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/ RT/ CL	YD ²
-Y-	12+11.85	12+76.72	RT	107.04
TOTAL:				107.04
SAY:				110.0

DF18311.2005335.PR

38-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHE COUNTY

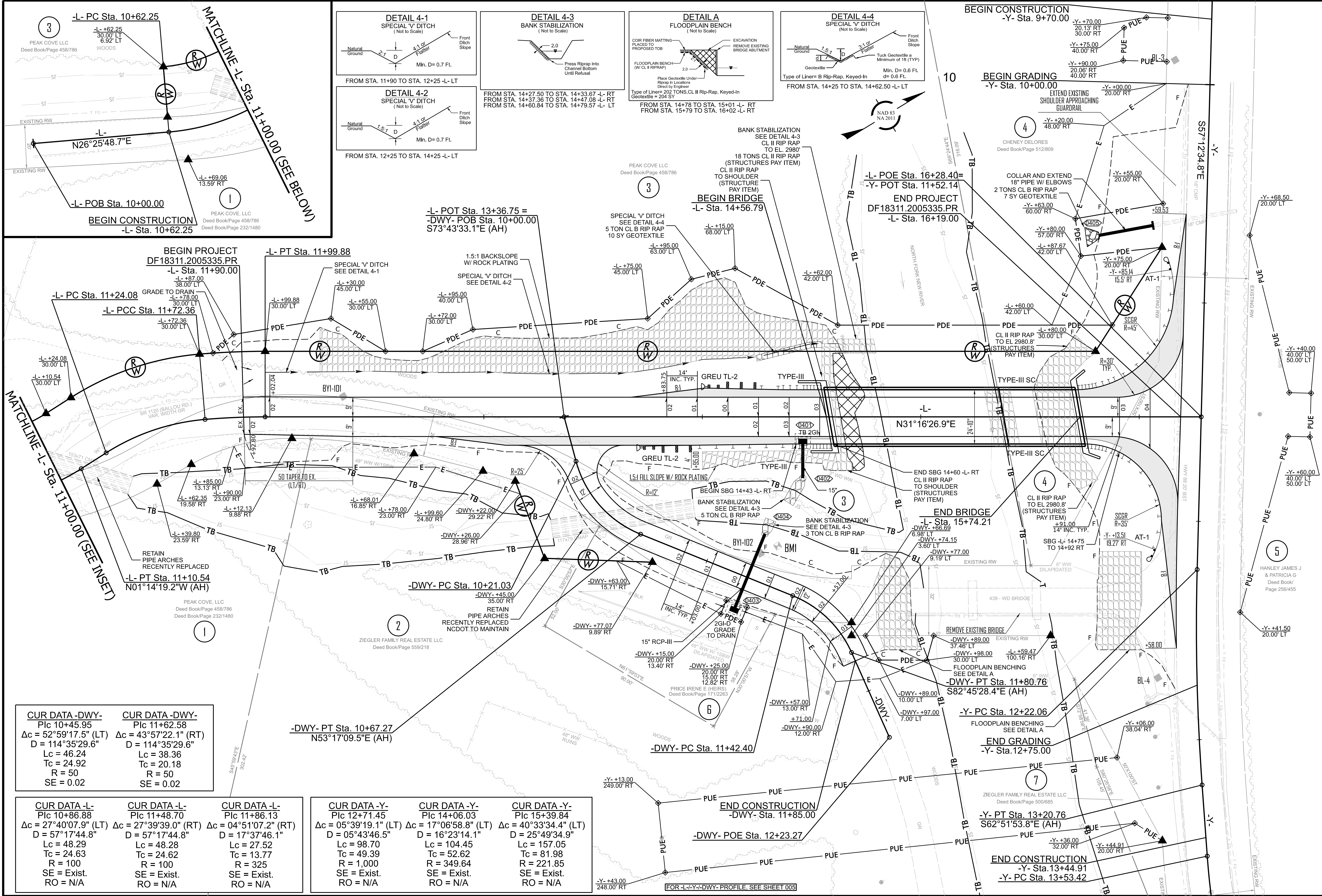


PLANS PREPARED BY:



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

11/14/23



CUR DATA-DWY-	CUR DATA-DWY-
Pic 10+45.95	Pic 11+62.58
$\Delta c = 52^{\circ}59'17.5''$ (LT)	$\Delta c = 43^{\circ}57'22.1''$ (RT)
$D = 114^{\circ}35'29.6''$	$D = 114^{\circ}35'29.6''$
$Lc = 46.24$	$Lc = 38.36$
$Tc = 24.92$	$Tc = 20.18$
$R = 50$	$R = 50$
$SE = 0.02$	$SE = 0.02$

CUR DATA-L-	CUR DATA-L-	CUR DATA-L-
Pic 10+86.88	Pic 11+48.70	Pic 11+86.13
$\Delta c = 27^{\circ}40'07.9''$ (LT)	$\Delta c = 27^{\circ}39'39.0''$ (RT)	$\Delta c = 04^{\circ}51'07.2''$ (RT)
$D = 57^{\circ}17'44.8''$	$D = 57^{\circ}17'44.8''$	$D = 17^{\circ}37'46.1''$
$Lc = 48.29$	$Lc = 48.28$	$Lc = 27.52$
$Tc = 24.63$	$Tc = 24.62$	$Tc = 13.77$
$R = 100$	$R = 100$	$R = 325$
$SE = Exist.$	$SE = Exist.$	$SE = Exist.$
$RO = N/A$	$RO = N/A$	$RO = N/A$

CUR DATA-Y-	CUR DATA-Y-	CUR DATA-Y-
Pic 12+71.45	Pic 14+06.03	Pic 15+39.84
$\Delta c = 05^{\circ}39'19.1''$ (LT)	$\Delta c = 17^{\circ}06'58.8''$ (LT)	$\Delta c = 40^{\circ}33'34.4''$ (LT)
$D = 05^{\circ}43'46.5''$	$D = 16^{\circ}23'14.1''$	$D = 25^{\circ}49'34.9''$
$Lc = 98.70$	$Lc = 104.45$	$Lc = 157.05$
$Tc = 49.39$	$Tc = 52.62$	$Tc = 81.98$
$R = 1,000$	$R = 349.64$	$R = 221.85$
$SE = Exist.$	$SE = Exist.$	$SE = Exist.$
$RO = N/A$	$RO = N/A$	$RO = N/A$

DF18311.2005335.PR

RDY 004

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHE COUNTY

ROADWAY DESIGN
ENGINEER

8/28/2026

SEAL
059943

Joshua L. Jernigan

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UNLESS ALL SIGNATURES COMPLETED

HYDRAULIC DESIGN
ENGINEER

8/28/2026

SEAL
054713

He Yang

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UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:

SUMMIT
DESIGN AND ENGINEERING SERVICES

NC FIRM LICENSE No: C-5176
1000 Social Street, Suite 800
Raleigh, NC 27609
(919) 732-3883
(919) 732-6876 (FAX)



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

09/08/99

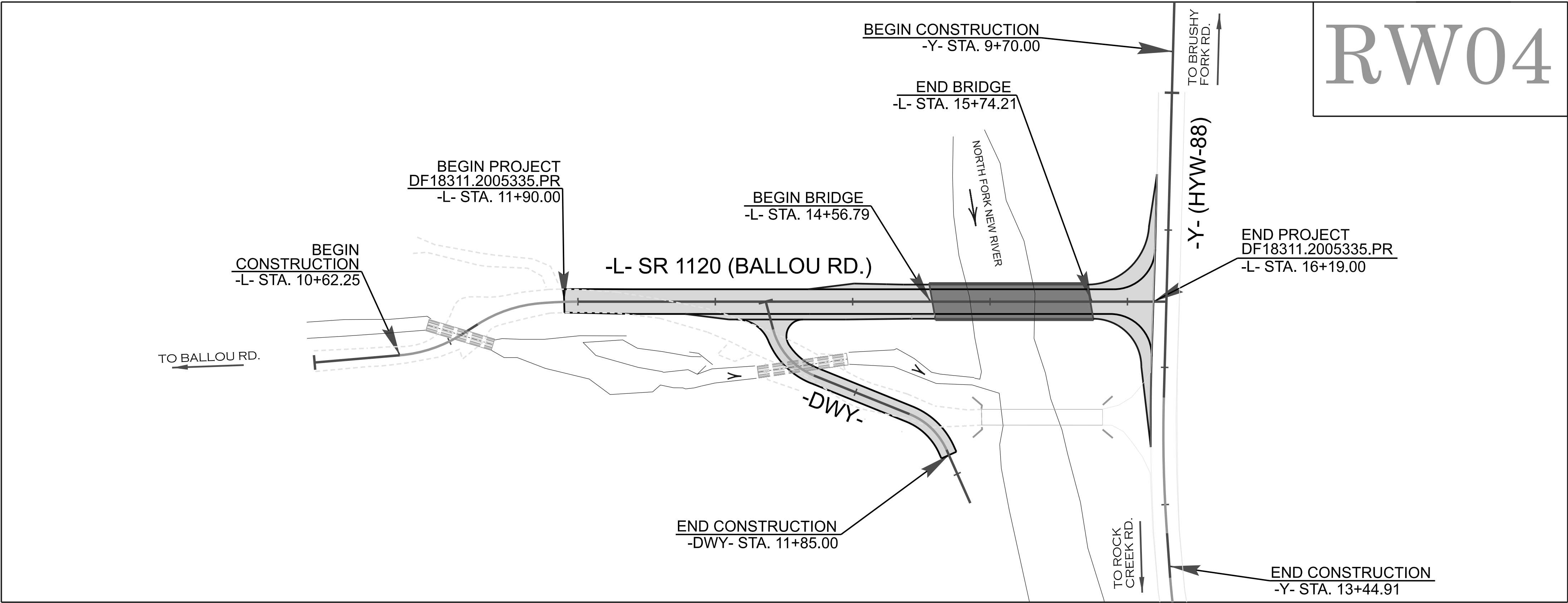
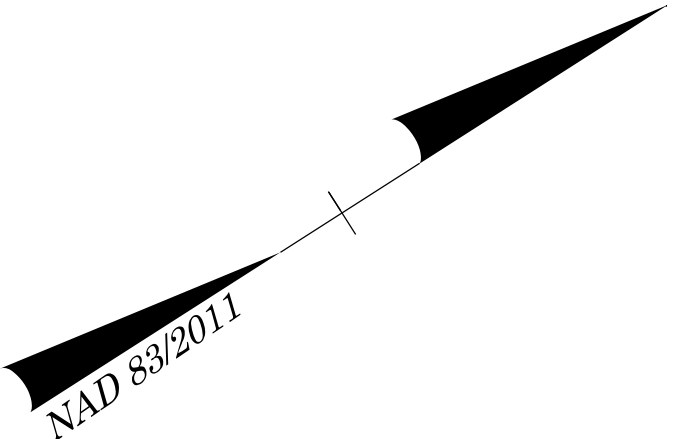
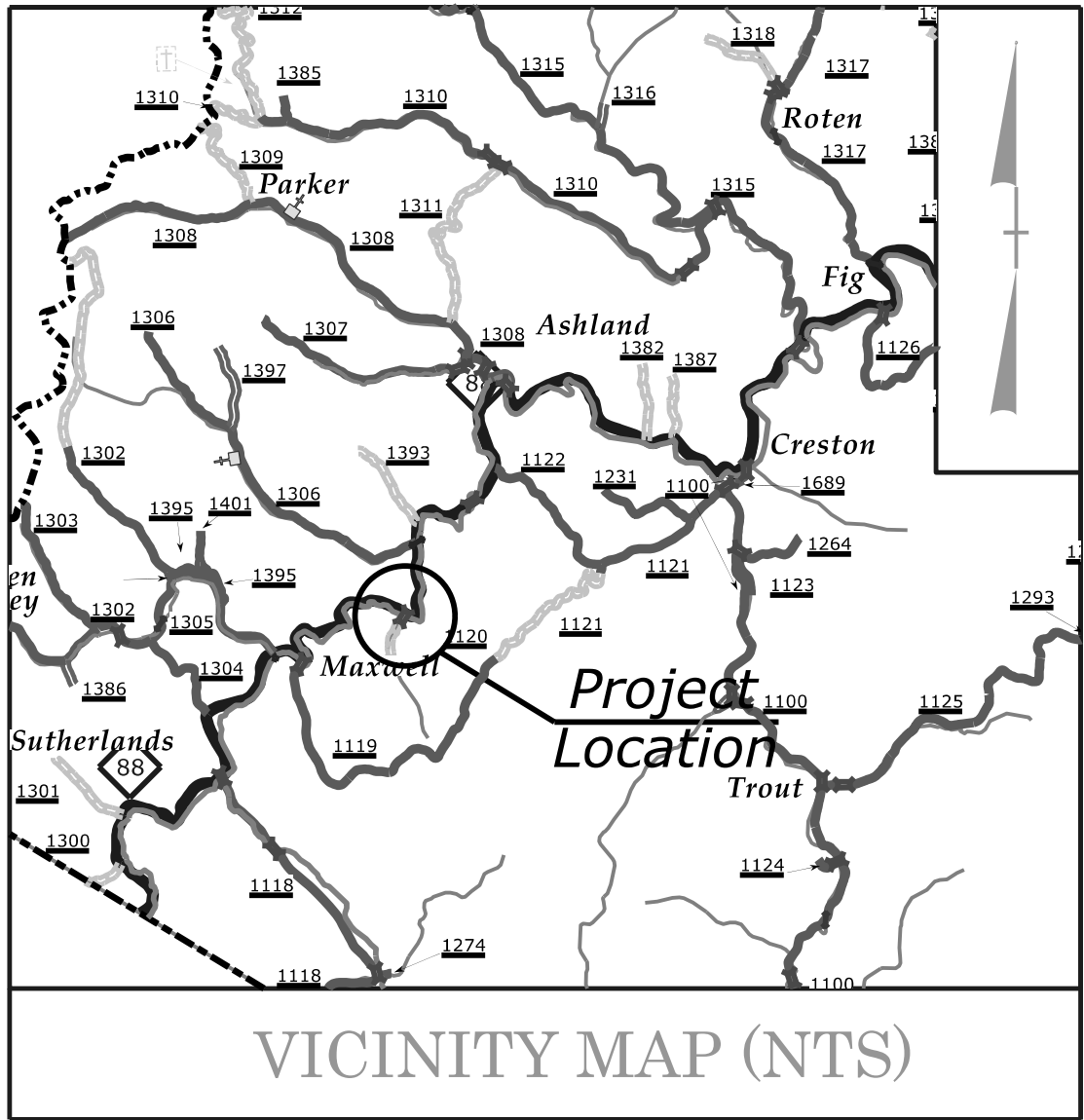
TIP PROJECT: DF18311.2005335.PR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES,
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

ASHE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18311.2005335.PR	RW01	7



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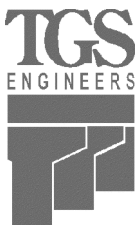
GRAPHIC SCALES



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCDOT FOR MONUMENT ASHE439-1
WITH NAD83/2011 STATE PLANE GRID COORDINATES OF
NORTHING: 979845.9621 EASTING: 1215717.7008
ELEVATION: 2977.85
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.9998624251
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:



TGS ENGINEERS
201 WEST MARION STREET
SUITE 200
SHELBY, NC 28150
PH. (704) 476-0003
CORP. LICENSE NO.: C-0275

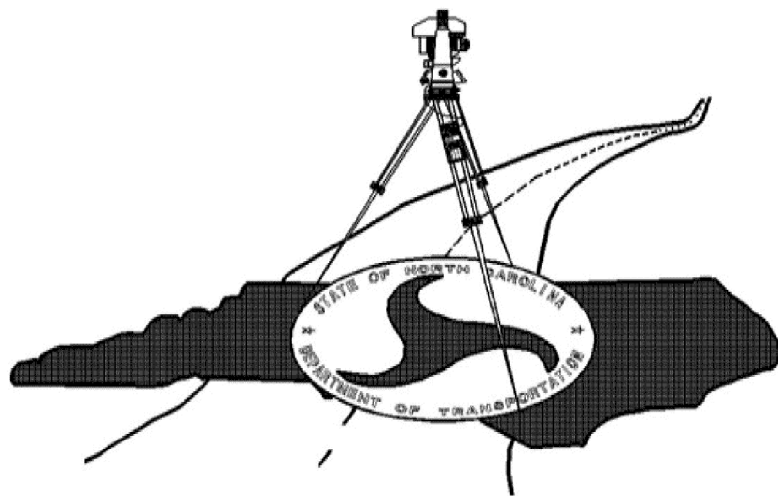
PROFESSIONAL LAND
SURVEYOR



Signed by:
Matthew Cornwell
FSD35P11475E475
SIGNATURE:

5/11/2026

DATE:



PROPOSED ALIGNMENT CONTROL SHEET

I, MATTHEW T. CORNWELL, PLS, CERTIFY THAT THE DATA COMPILED CAME FROM AVAILABLE SURVEYS/MAPPING PERFORMED BY OTHERS AND PROVIDED TO ME BY NCDOT AND DO NOT CERTIFY TO THE ACCURACY OR QUALITY OF THE INDIVIDUAL DATA SOURCES.

THIS 5/11/2026

Signed by: Matthew Cornwell
EBD39F11473E475
PROFESSIONAL LAND SURVEYOR L-4775

PROPOSED ALIGNMENT: L												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	979267.4576	1214887.0002	N26°25'48.7"E	62.25							
PC	10+62.25	979323.2025	1214914.7088	N12°35'44.8"E	47.82	27°40'07.9"	57°17'44.8"	48.29	24.63	100.00		
PT	11+10.54	979369.8749	1214925.1377	N01°14'19.2"W	13.54							
PC	11+24.08	979383.4084	1214924.8451	N12°35'30.3"E	47.81	27°39'39.0"	57°17'44.8"	48.28	24.62	100.00		
PCC	11+72.36	979430.0683	1214935.2678	N28°50'53.4"E	27.51	04°51'07.2"	17°37'46.1"	27.52	13.77	325.00		
PT	11+99.88	979454.1677	1214948.5429	N31°16'26.9"E	428.52							
END	16+28.40	979820.4241	1215171.0040									

PROPOSED ALIGNMENT: Y												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	9+00.00	979956.9731	1214959.0430	S57°12'34.8"E	322.06							
PC	12+22.06	979782.5555	1215229.7862	S60°02'14.3"E	98.66	05°39'19.1"	05°43'46.5"	98.70	49.39	1000.00		
PT	13+20.76	979733.2794	1215315.2634	S62°51'53.8"E	32.65							
PC	13+53.42	979718.3864	1215344.3231	S71°25'23.2"E	104.06	17°06'58.8"	16°23'14.1"	104.45	52.62	349.64		
PCC	14+57.87	979685.2350	1215442.9622	N79°44'20.2"E	153.79	40°33'34.4"	25°49'34.9"	157.05	81.98	221.85		
PT	16+14.91	979712.6298	1215594.2910	N56°16'30.0"E	12.37							
END	16+27.28	979719.4954	1215604.5759									

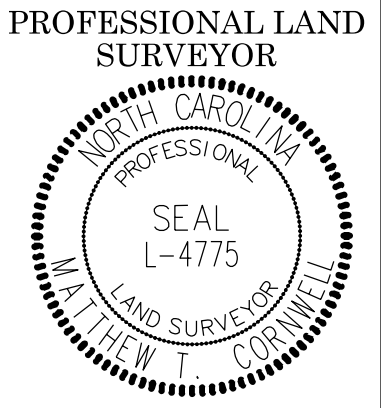
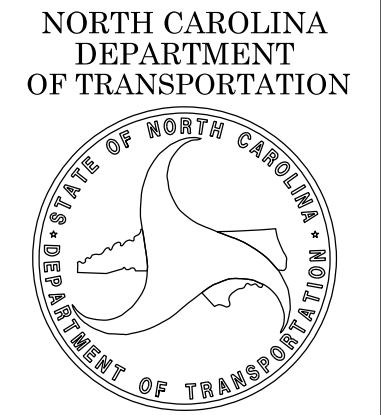
PROPOSED ALIGNMENT: DWY												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	979571.1526	1215019.5986	S73°43'33.1"E	21.03							
PC	10+21.03	979565.2587	1215039.7879	N79°46'48.2"E	44.61	52°59'17.5"	114°35'29.6"	46.24	24.92	50.00		
PT	10+67.27	979573.1738	1215083.6906	N53°17'09.5"E	75.12							
PC	11+42.40	979618.0847	1215143.9123	N75°15'50.5"E	37.43	43°57'22.1"	114°35'29.6"	38.36	20.18	50.00		
PT	11+80.76	979627.6043	1215180.1065	S82°45'28.4"E	42.51							
END	12+23.27	979622.2451	1215222.2798									

NOTES:

1. THE PROPOSED ALIGNMENT 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.

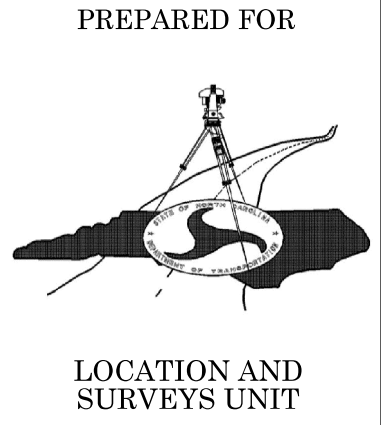
DF18311.2005335.PR

R/W 020-I



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FINAL UNLESS ALL SIGNATURES
ARE COMPLETED

TIP PROJECT: DF18311.2005335.PR
County: Ashe



RIGHT OF WAY & PERMANENT EASEMENT CONTROL SHEET

PERMANENT ROW MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
10+62.25	-30.0000	979336.5557	1214887.8445
10+62.25	-6.9186	979326.2820	1214908.5134
10+69.06	13.5942	979324.1905	1214930.0869
11+10.54	-30.0000	979369.2264	1214895.1447
11+24.08	-30.0000	979382.7599	1214894.8521
11+39.80	23.5852	979395.8963	1214949.1079
11+62.35	19.5757	979413.9815	1214949.5831
11+72.36	-30.0000	979443.4177	1214908.4016
11+99.88	-30.0000	979469.7417	1214922.9021
12+12.13	9.8757	979459.5089	1214963.3418
12+68.01	16.8495	979503.6504	1214998.3124
12+99.60	24.8041	979526.5246	1215021.5130
15+59.47	100.1551	979709.5156	1215220.8217
15+80.00	-30.0000	979794.6286	1215120.2358

MAGNAIL

PERMANENT ROW MARKER IRON PIN AND CAP: Y			
STATION	OFFSET	NORTH	EAST
10+75.00	20.0000	979845.3858	1215095.3268
13+44.91	20.0000	979704.4690	1215327.6280

PERMANENT ROW MARKER IRON PIN AND CAP: DWY			
STATION	OFFSET	NORTH	EAST
10+22.00	29.2224	979536.7917	1215033.0751
10+45.00	35.0000	979529.8716	1215070.2966
10+77.07	9.8852	979571.1065	1215097.4538
11+69.66	-6.9778	979634.7207	1215168.3640
11+74.15	-3.6033	979631.6056	1215173.4919

PERMANENT EASEMENT MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
11+78.00	-30.0000	979448.9139	1214911.1923
11+87.00	-38.0000	979461.4556	1214908.8425
12+30.00	-45.0000	979503.2731	1214925.7186
12+55.00	-30.0000	979516.8534	1214951.5174
12+72.00	-30.0000	979531.3832	1214960.3427
12+95.00	-40.0000	979556.2324	1214963.7358
13+75.00	-45.0000	979627.2036	1215000.9930
13+95.00	-63.0000	979653.6418	1214995.9912
14+15.00	-68.0000	979673.3314	1215002.1004
14+62.00	-42.0000	979700.0045	1215048.7217
15+87.67	-42.0000	979807.4140	1215113.9614

PERMANENT EASEMENT MARKER IRON PIN AND CAP: DWY			
STATION	OFFSET	NORTH	EAST
11+15.00	20.0000	979585.6735	1215133.9065
11+15.00	13.4020	979590.9627	1215129.9621
11+25.00	12.8196	979597.4078	1215137.6302
11+25.00	20.0000	979591.6518	1215141.9228
11+77.00	-9.1867	979637.1121	1215176.8371
11+89.00	-37.4644	979663.7306	1215193.0076
11+89.00	-10.0000	979636.4853	1215189.5454
11+98.00	-30.0000	979655.1912	1215200.9948

PERMANENT EASEMENT MARKER IRON PIN AND CAP: Y			
STATION	OFFSET	NORTH	EAST
9+70.00	20.1315	979902.1397	1215006.9865
9+70.00	30.0000	979893.8437	1215001.6420
9+75.00	40.0000	979882.7293	1215000.4297
9+90.00	40.0000	979874.6058	1215013.0395
9+90.00	20.0457	979891.3806	1215023.8461
10+55.00	20.0000	979856.2171	1215078.5136
10+63.00	60.0000	979818.2583	1215063.5762
10+68.50	-20.0000	979882.5323	1215111.5252
10+80.00	57.0000	979811.5736	1215079.4921
11+40.00	-50.0000	979869.0300	1215187.8792
11+40.00	-40.0000	979860.6234	1215182.4635
11+60.00	-40.0000	979849.7921	1215199.2767
11+60.00	-50.0000	979858.1987	1215204.6924
12+41.50	-20.0000	979789.2081	1215256.7314
13+06.00	38.0422	979706.5151	1215284.3254
13+13.00	249.0000	979516.1425	1215193.0837
13+36.00	32.0000	979697.8529	1215314.2270
13+43.00	248.0000	979502.4345	1215221.9412

MAGNAIL

MAGNAIL

MAGNAIL

I, MATTHEW T. CORNWELL, PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN 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 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 5/4/2026 TO 5/8/2026, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 5/11/2026

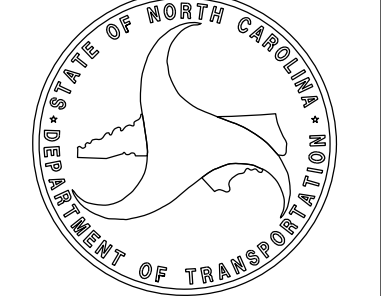
Signed by: Matthew Cornwell EBD38F11473E475.

PROFESSIONAL LAND SURVEYOR L-4775

DF18311.2005335.PR

R/W 03E-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION



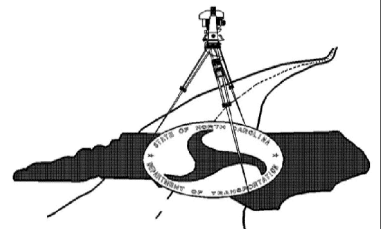
PROFESSIONAL LAND SURVEYOR



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

TIP PROJECT: DF18311.2005335.PR
County: Ashe

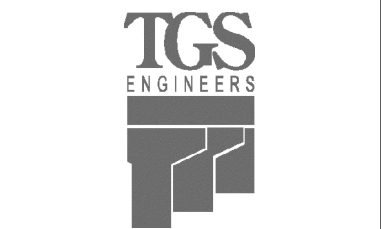
PREPARED FOR



LOCATION AND SURVEYS UNIT

PREPARED BY

TGS ENGINEERS
201 WEST MARION ST.
SUITE 200
SHELBY, NC 28150
704-476-0003

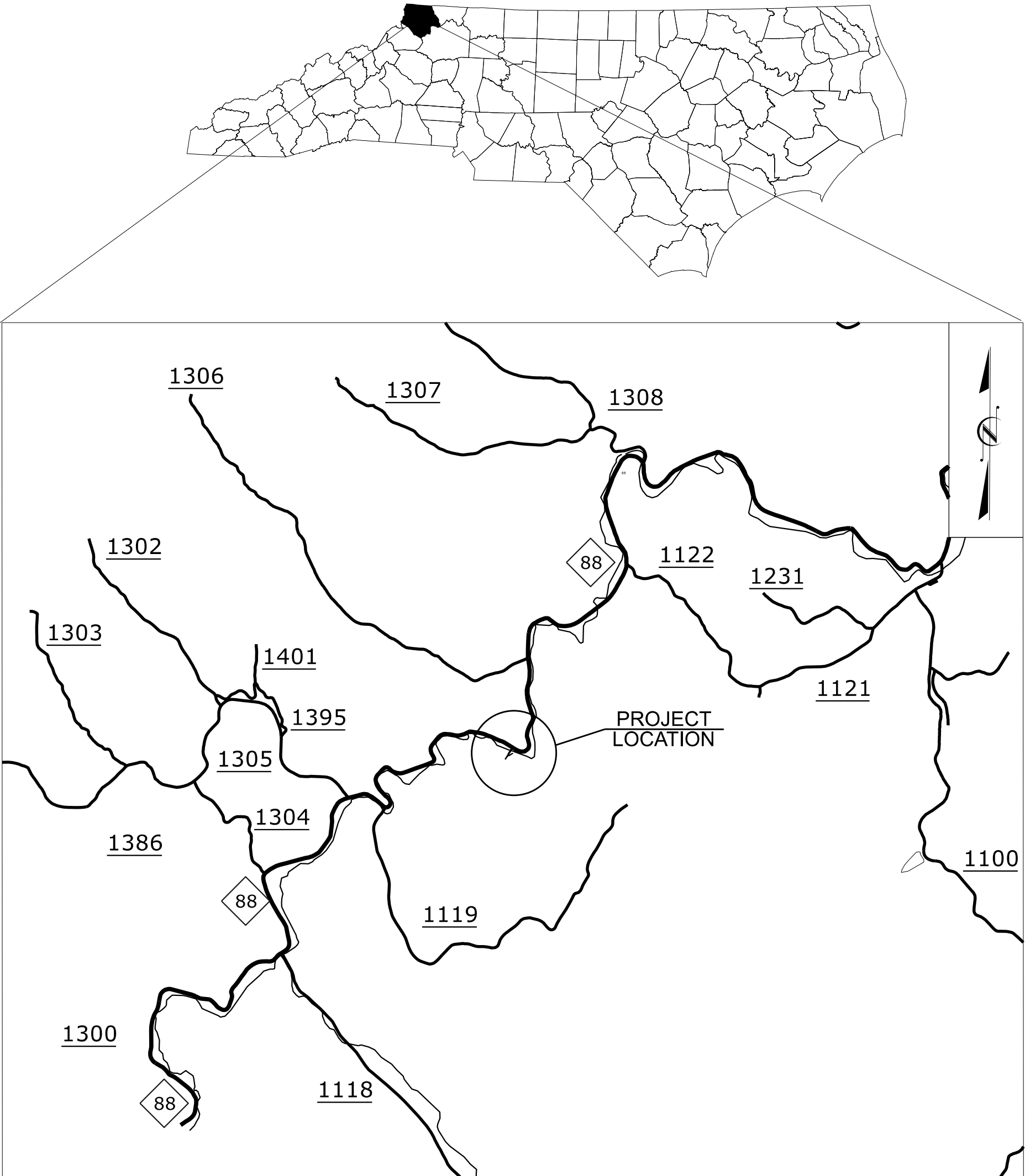


NOTES:

- 1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

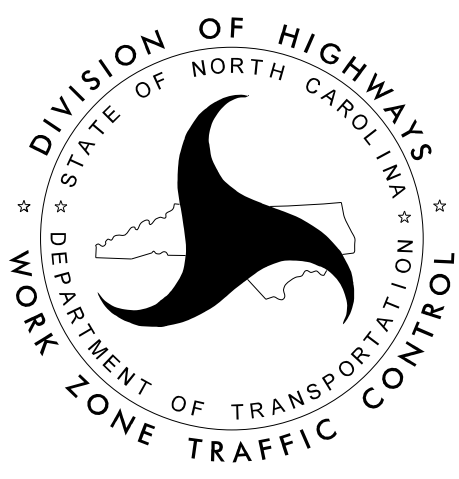
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
TRANSPORTATION MANAGEMENT PLAN
ASHE COUNTY

LOCATION: *REPLACE BRIDGE #040439 ON SR 1120 (BALLOU RD)
OVER NORTH FORK NEW RIVER*
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, & STRUCTURE*



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

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



PREPARED IN THE OFFICE OF:



1000 Sycamore Street, Suite 800
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Voice: (919) 732-3883
Fax: (919) 732-9779
www.summitde.com

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UNLESS ALL SIGNATURES COMPLETED

APPROVED: *Joshua L. Jernigan*
DATE: 8/28/2026

SEAL



SHEET NO.
TMP-1

TIP PROJECT: DF18311.2005335.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:

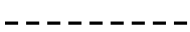
STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMP
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1205.15	PAVEMENT MARKINGS - REDUCED CONFLICT INTERSECTIONS
1205.16	BICYCLE FACILITIES
1205.17	PAVEMENT MARKINGS - SIDE-BY-SIDE/ADJACENT ON/OFF RAMP
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION
1266.01	RAISED PAVEMENT MARKERS - TUBULAR MARKERS
1267.01	FLEXIBLE DELINEATORS - INSTALLATION
1267.02	FLEXIBLE DELINEATORS - SPACING TABLES
1267.03	FLEXIBLE DELINEATORS - INTERCHANGE PLACEMENT

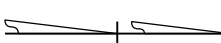
LEGEND

GENERAL

 DIRECTION OF TRAFFIC FLOW

 DIRECTION OF PEDESTRIAN TRAFFIC FLOW

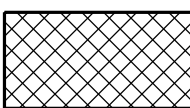
 EXIST. PVMT.

 NORTH ARROW

 PROPOSED PVMT.

 TEMP. SHORING (LOCATION PURPOSES ONLY)

 WORK AREA

 REMOVAL

SIGNALS

 EXISTING

 PROPOSED

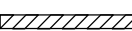
 TEMPORARY

PAVEMENT MARKINGS

 EXISTING LINES

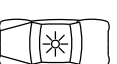
 TEMPORARY LINES

TRAFFIC CONTROL DEVICES

 BARRICADE (TYPE III)

 DRUM

 TEMPORARY CRASH CUSHION

 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

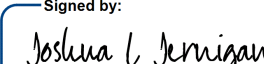
PAVEMENT MARKING SYMBOLS

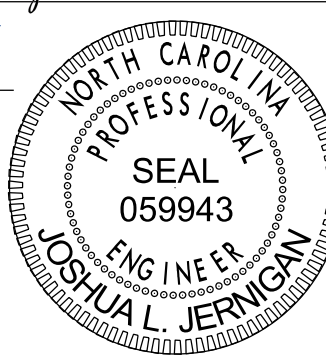
 PAVEMENT MARKING SYMBOLS

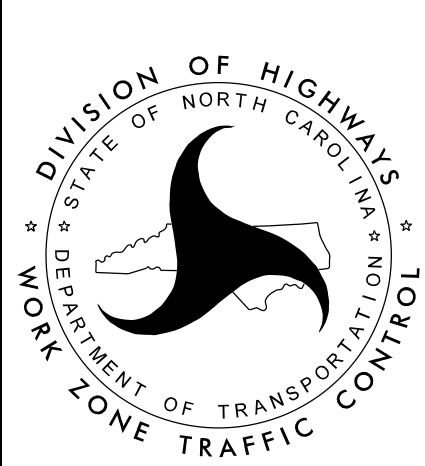
TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
PAINT (4")	
P1	WHITE EDGELINE
P5	2 FT. - 6 FT./ SP WHITE MINISKIP
P13	YELLOW DOUBLE CENTER LINE

8-MAY-2026 16:07
N:\2024\24-090.004\Infrastructure Design\Design\Work Zone Traffic Control\BPILR02_TMP_1A.dgn
benjamin.bundy AT ITS\AP07202A

APPROVED: 
DATE: 8/28/2026

SEAL




ROADWAY STANDARD
DRAWINGS & LEGEND

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) 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.
- B) 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.
- C) 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.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 10 FT OF AN OPEN TRAVEL LANE ON A DIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

- D) 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

- E) 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.

- F) 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) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- H) 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.
- I) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- J) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- K) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	NONE

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

- P) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

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

MISCELLANEOUS

- R) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) AND RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

MANAGEMENT STRATEGIES

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

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:
FULL ROADWAY CLOSURES
SHOULDER CLOSURES
ON-SITE DETOURS
FLAGGING OPERATION

PHASING

PHASE I (SEE TMP-3)

STEP 1:
USING ROADWAY STANDARD DRAWING NO. 1101.01 (SHEET 3 OF 3) AND SHEET TMP-3, INSTALL ALL ADVANCE WORK ZONE SIGNS AND TEMPORARY TRAFFIC CONTROL DEVICES/SIGNING ON -L- (SR 1120) AND -Y- (HWY-88).

STEP 2:
WHILE MAINTAINING TRAFFIC IN THE EXISTING PATTERN AND USING LANE CLOSURE/FLAGGING OPERATIONS AS SHOWN IN RSD NO. 1101.02 (SHEET 1 OF 19) WHEN NEEDED, CONSTRUCT PROPOSED BRIDGE, PROPOSED DRAINAGE INCLUDING 18" PIPE EXTENSION ALONG -Y-, AND AS MUCH OF ROADWAY APPROACHES AS POSSIBLE UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE ALONG -L- (SR 1120) AND -Y- (HWY-88).

PHASE II (SEE TMP-4)

STEP 1:
INSTALL ALL APPLICABLE TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNING AS SHOWN ON SHEET TMP -4. USING LANE CLOSURE/FLAGGING OPERATIONS AND SHORT DURATION ROAD CLOSURES (NOT TO EXCEED 30 MINUTES AT A TIME) AS SHOWN IN RSD NO. 1101.02 (SHEET 1 OF 19) AND RSD NO. 1101.03 (SHEET 8 OF 9) WHEN NEEDED, COMPLETE THE TIE IN OF PROPOSED PAVEMENT UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE, PLACE TEMPORARY PAINT PAVEMENT MARKINGS, AND SHIFT TRAFFIC TO THE PROPOSED CONFIGURATION.

STEP 2:
USE EXISTING BRIDGE TO MAINTAIN EXISTING DRIVEWAY ACCESS. USING LANE CLOSURE/FLAGGING OPERATIONS AS SHOWN IN RSD NO. 1101.02 (SHEET 1 OF 19) AS NEEDED, INSTALL PROPOSED DRAINAGE AND COMPLETE DRIVEWAY CONSTRUCTION.

STEP 3:
SHIFT DRIVEWAY ACCESS INTO THE PROPOSED CONFIGURATION, AND USING LANE CLOSURE/FLAGGING OPERATIONS SHOWN IN RSD NO. 1101.02 (SHEET 1 OF 19) WHEN NEEDED, REMOVE EXISTING BRIDGE AND COMPLETE ANY REMAINING ROADWAY GRADING ALONG -L- RT AND -Y- RT.

STEP 4:
WITH TRAFFIC IN THE PROPOSED PATTERN AND USING LANE CLOSURE/FLAGGING OPERATIONS AS SHOWN IN RSD NO. 1101.02 (SHEET 1 OF 19), PLACE THE FINAL SURFACE COURSE AND THE FINAL PAVEMENT MARKINGS ALONG -L- AND -Y-.

STEP 5:
REMOVE ALL TRAFFIC CONTROL DEVICES.

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.

APPROVED:

Signed by:

Joshua L. Jernigan

AA8B08D3B4E4E49D...

DATE: 8/28/2026

SEAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SEAL

059943

ENGINEER

JOSHUA L. JERNIGAN

PROFESSIONAL

NORTH CAROLINA

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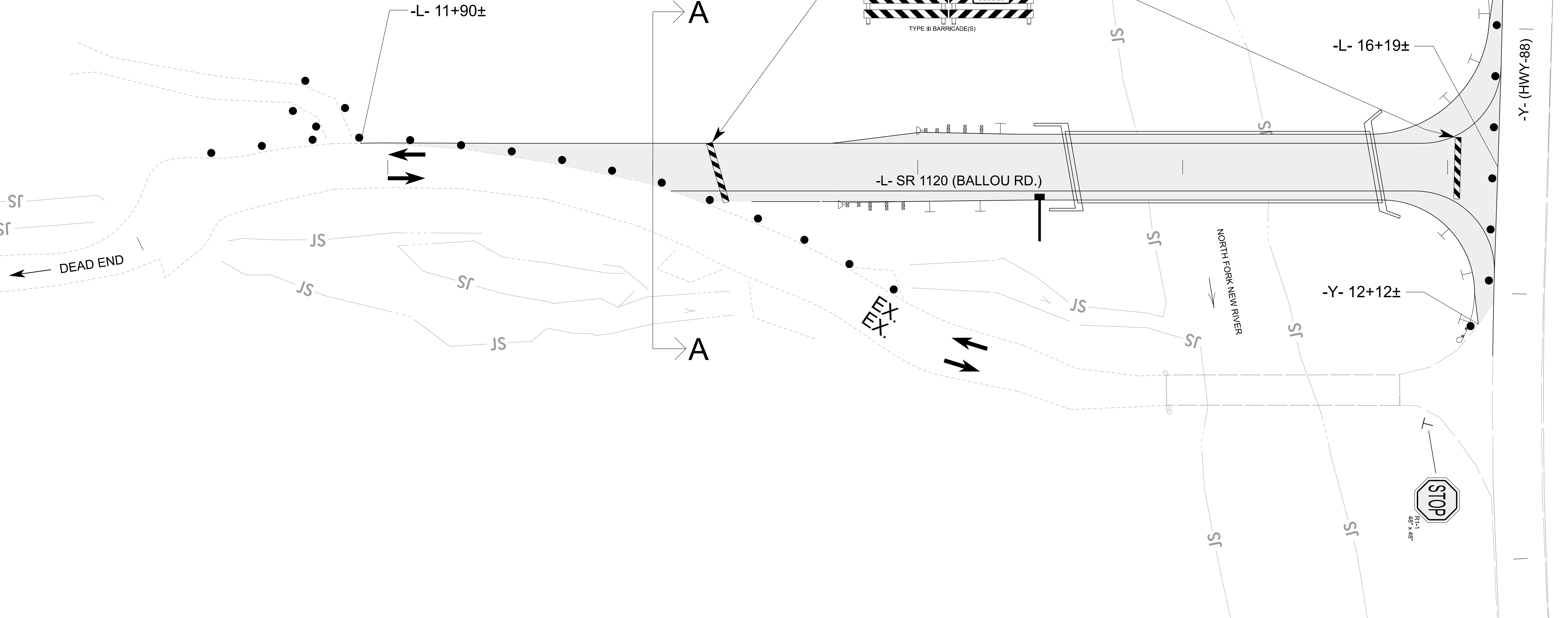
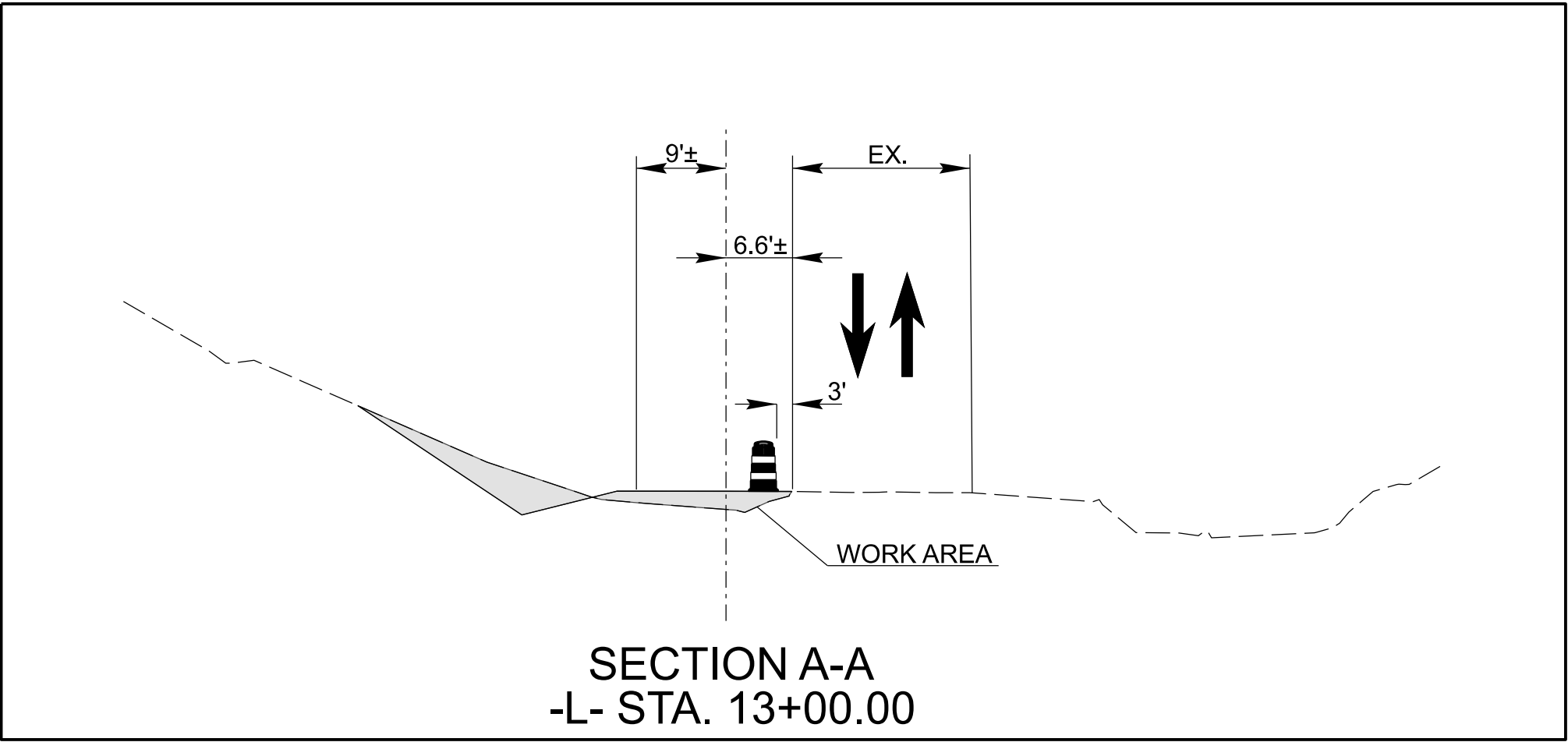
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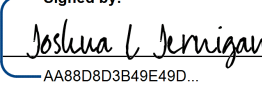
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JoshJernigan AT CIVIL02024B



APPROVED: 
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DATE: 8/28/2026

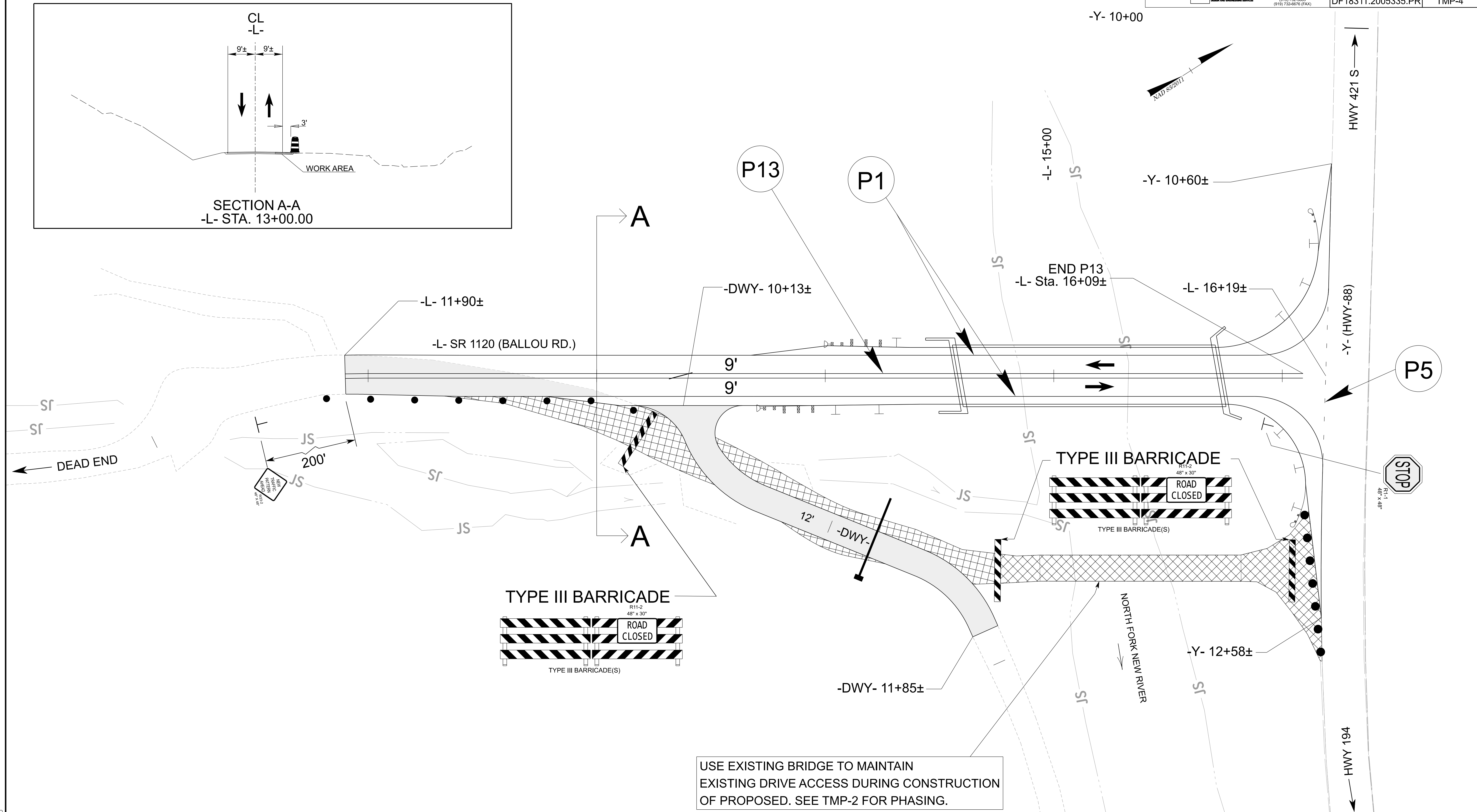
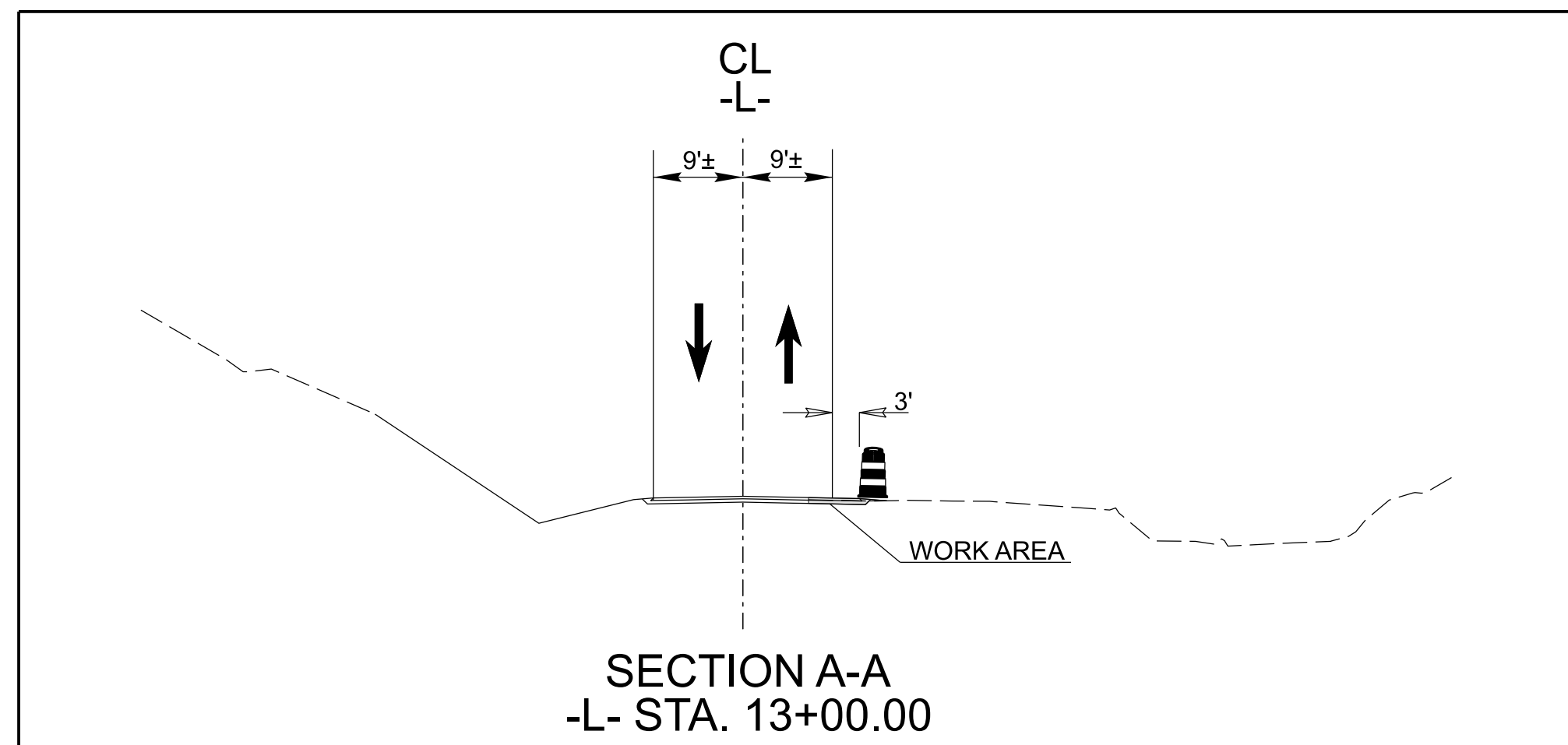
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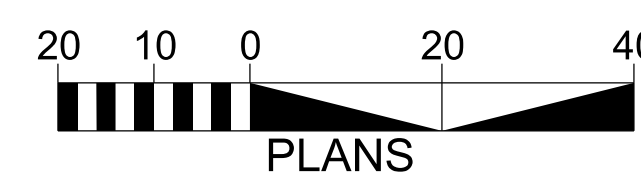


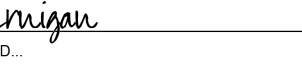
PHASE 1 DETAIL
DRAWING

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SEE FINAL PAVEMENT MARKING PLANS FOR
PROPOSED MARKING LINETYPES AND DIMENSIONS.



APPROVED: <u><i>Josua L. Jernigan</i></u> AA880803049E49D		PHASE 2 DETAIL DRAWING
DATE: <u>8/28/2026</u>		
SEAL 		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PROJECT: DF18311.2005335.PR

CONTRACT: DK00476

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASHE COUNTY

LOCATION: *REPLACE BRIDGE #040439 ON SR 1120*

(BALLOU RD) OVER NORTH FORK NEW RIVER

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

GENERAL NOTES

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.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
-L- (SR 1120)	INTEGRATED MULTIPOLYMER	NONE
-Y- (HWY-88)	INTEGRATED MULTIPOLYMER	NONE

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

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

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

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

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

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

I) IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.

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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS
1261.02	GUARDRAIL AND BARRIER DELINEATORS
1262.01	GUARDRAIL END DELINEATION

PROJECT DF18311.2005335.PR FINAL
PAVEMENT MARKING SCHEDULE

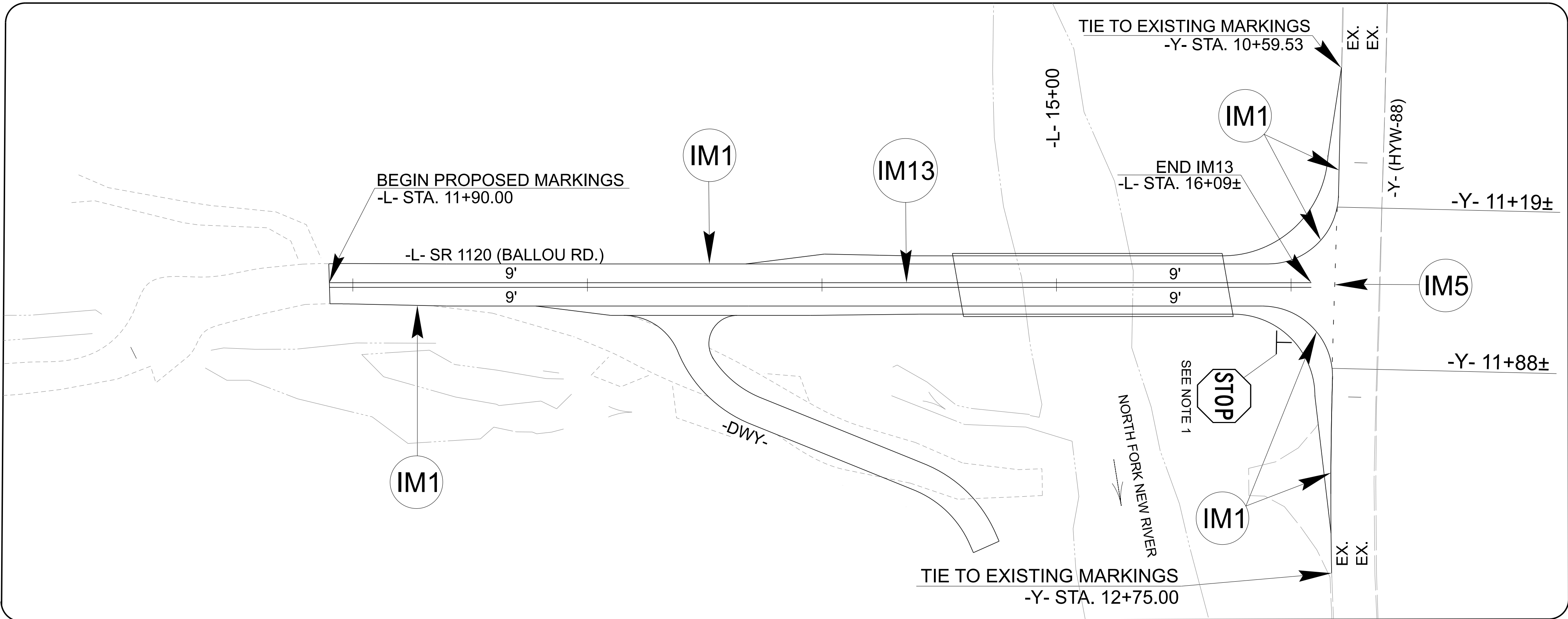
SYMBOL	DESCRIPTION
INTEGRATED MULTIPOLYMER (4", 90 MIL)	
IM1	WHITE EDGE
IM5	2 FT. - 6 FT./SP WHITE MINISKIP
IM13	YELLOW DOUBLE CENTER LINE

SUMMARY OF QUANTITIES

DESC. NO.	SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	10	LF
4116100000-N	904	SIGN ERECTION, RELOCATE TYPE E (GROUND MOUNTED)	1	EA
4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	7	EA
4192000000-N	907	DISPOSAL OF SUPPORT, U-CHANNEL	1	EA

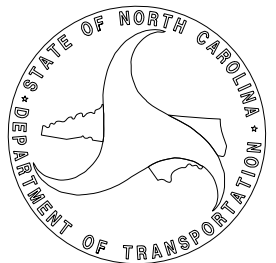
PAY ITEM NOTES

- SIGN ERECTION, RELOCATE TYPE E (GROUND MOUNTED)
- DISPOSAL OF SUPPORT, U-CHANNEL
- DISPOSAL OF SIGN SYSTEM, U-CHANNEL (EXISTING (2) WEIGHT RESTRICTION, (4) CHEVRONS, AND (1) ONE LANE BRIDGE)



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

ROB WEISZ, PE NCDOT DIVISION II BRIDGE PROGRAM MANAGER



INDEX

PMP-1	SIGNING & PAVEMENT MARKING PLAN, TITLE, SCHEDULE, NOTES, AND STANDARDS.
PMP-2	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS

Prepared in the Office of:



JOSHUA JERNIGAN, PE PROJECT ENGINEER

BENJAMIN BUNDY PROJECT DESIGNER

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

PROJECT REFERENCE NO.	SHEET NO.
DF18311.2005335.PR	PMP-2

CONTINUOUS LINES EDGE LINE YELLOW OR WHITE 4" / 6" LANE LINE WHITE 4" / 6" CENTER LINE YELLOW 4" / 6" GORE LINE WHITE 8" / 12" DIAGONAL LINE YELLOW OR WHITE 12" 45 MPH OR HIGHER 8" LESS THAN 45 MPH 4"-6" FOR BICYCLE FACILITIES CROSSWALK LINE WHITE 8" TRANSVERSE 24" LONGITUDINAL RxR LINE WHITE 16" STOP OR TRANSVERSE BAR WHITE 24"	10'-30'/SP SKIP LINE UNLESS OTHERWISE SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES. 10' 30' 4" / 6" YELLOW OR WHITE	2'-6'/SP MINI-SKIP LINE UNLESS OTHERWISE SHOWN, USE 2'-6'/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND BICYCLE LANE EXTENSIONS. 2' 6' 4" / 6" YELLOW OR WHITE	STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
	3'-3'/SP MINI-SKIP LINE UNLESS OTHERWISE SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS. 3' 3' 8" / 12" WHITE	3'-9'/SP MINI-SKIP LINE UNLESS OTHERWISE SHOWN, USE 3'-9'/SP MINI-SKIPS FOR MINI-SKIP LANE LINES, LINE EXTENSIONS THROUGH TAPERS, AND MINI-SKIPS USED FOR BICYCLE LANE LINES. 3' 9' 4" / 6" WHITE	
GENERAL NOTES: 1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER. 2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE. 3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.		ROADWAY DETAIL DRAWING FOR PAVEMENT MARKINGS LINE TYPES AND OFFSETS	

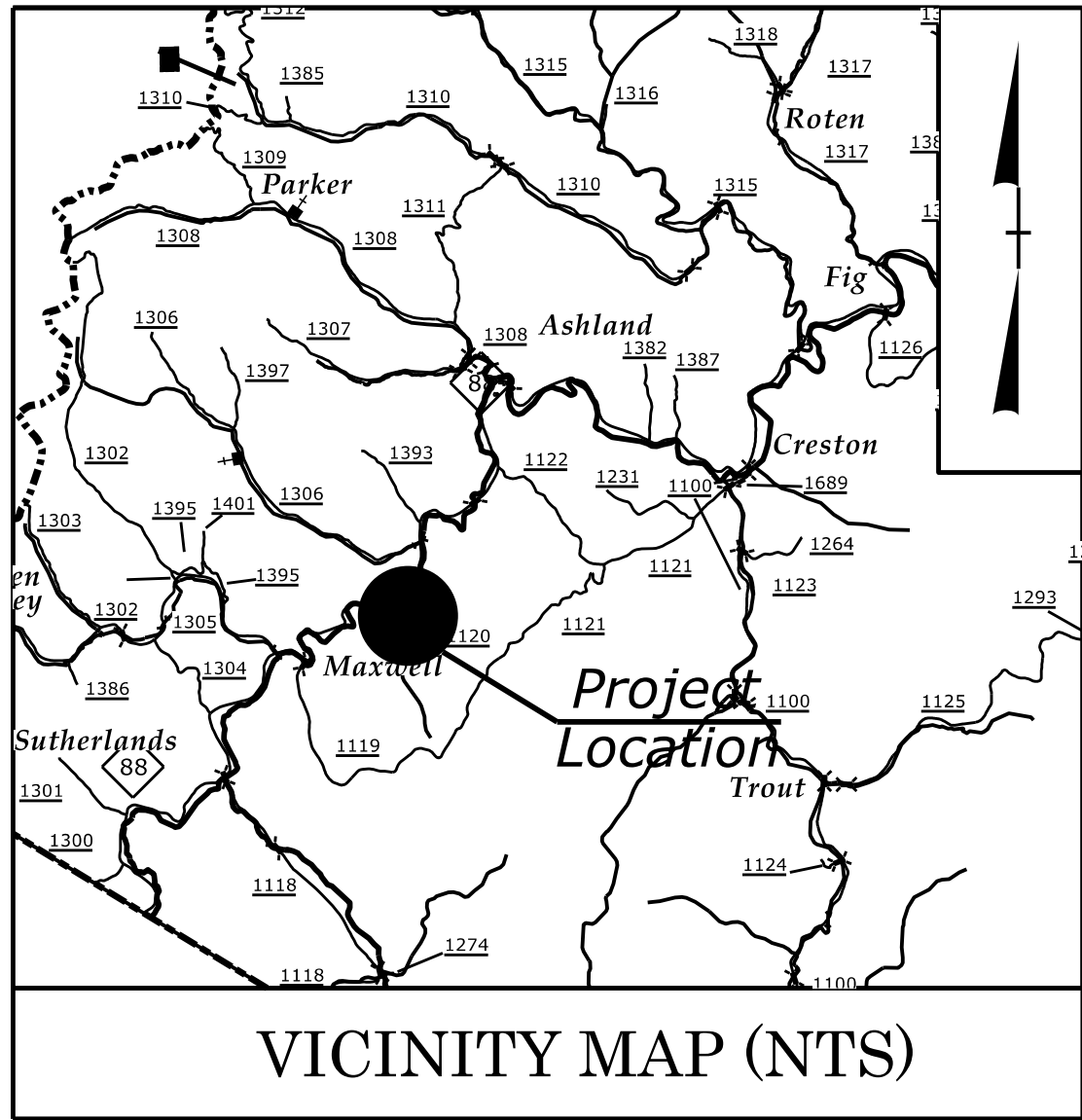


Signed by:
Matthew V. Springer
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8/31/2026

CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-8950	FAX 919-250-4119
SEE TITLE BLOCK	
ORIGINAL BY: M.V. SPRINGER	DATE: 2-15-24
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

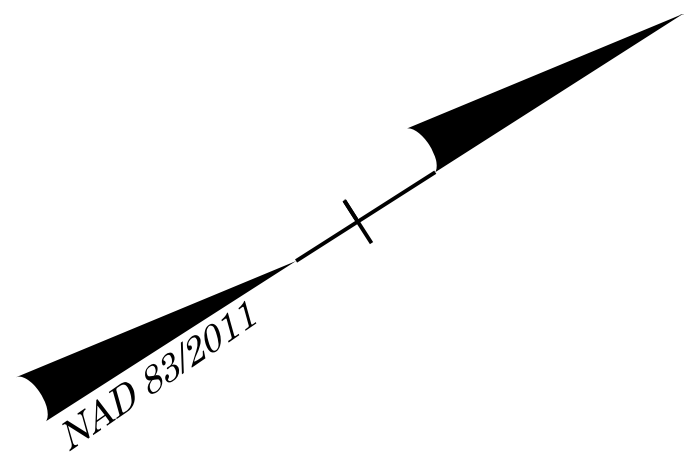
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PROJECT: DF18311.2005335.PR

TIP PROJECT: DF18311.2005335.PR

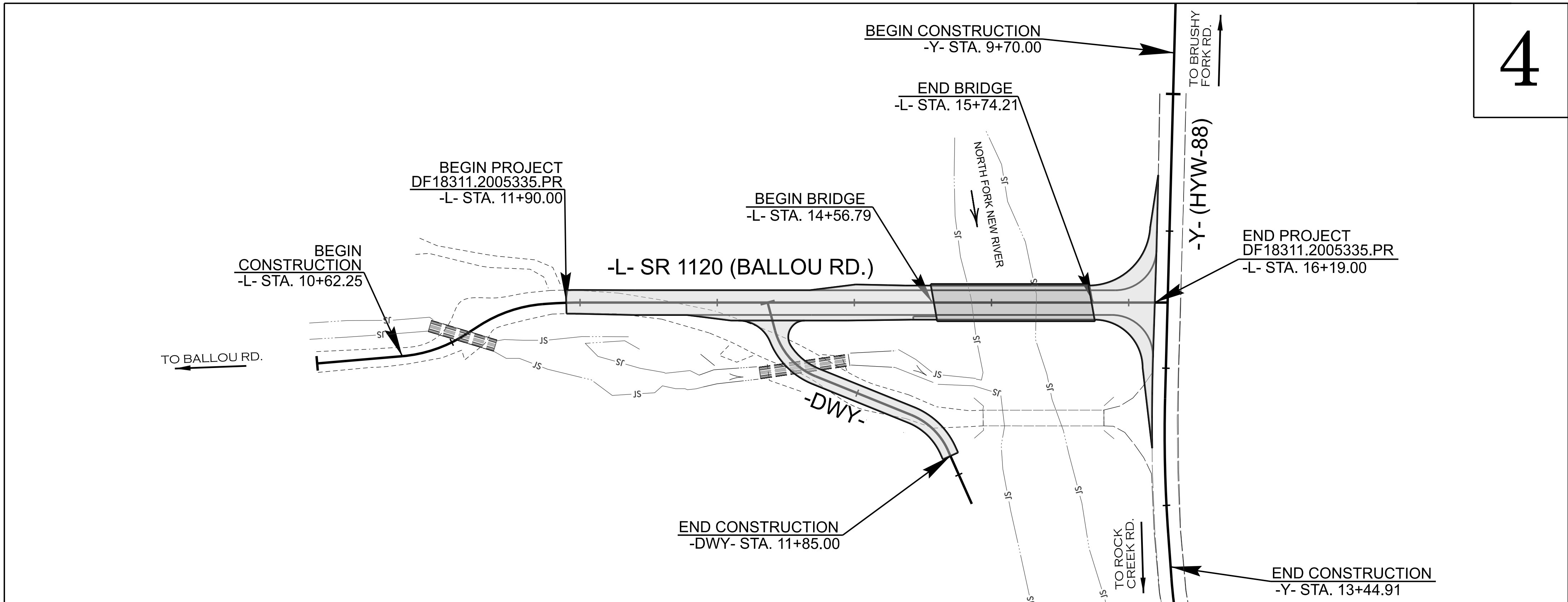


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
ASHE COUNTY

LOCATION: REPLACE BRIDGE #040439 ON SR 1120 (BALLOU RD.)
OVER NORTH FORK NEW RIVER
TYPE OF WORK: GRADING, DRAINAGE, PAVING, & STRUCTURE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18311.2005335.PR	EC-11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
DF18311.2005335.PR	N/A	PE	



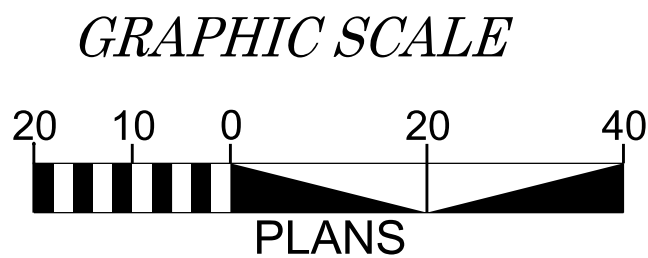
THIS IS NOT A CONTROLLED ACCESS PROJECT.
THIS PROJECT DOES NOT FALL WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING AND GRUBBING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

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.

HIGH QUALITY WATER(S) EXIST
ON THIS PROJECT
*High Quality Water Zone(s) Exist
From Sta. Begin Project
to Sta. End Project
Refer To E. C. Special Provisions
for Special Considerations.*



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**
1000 Social Street, Suite 800
Raleigh, NC 27609

Voice: (919) 732-3883
Fax: (919) 732-6676
www.summitde.com

Designed by:

HE YANG
NAME

4408
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
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	
1630.04	Stilling Basin	
1630.05	Temporary Diversion	
1630.06	Special Stilling Basin	
1630.07	Skimmer Basin	
1630.08	Tiered Skimmer Basin	
1630.09	Earthen Dam with Skimmer	
	Infiltration Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	
1632.02	Type B	
1632.03	Type C	

Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet Sediment Trap Type A	
1635.02	Rock Pipe Inlet Sediment Trap Type B	
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	
	Silt Fence Coir Fiber Wattle Break	
1636.03	Excelsior Wattle Barrier	
1636.03	Coir Fiber Wattle Barrier	

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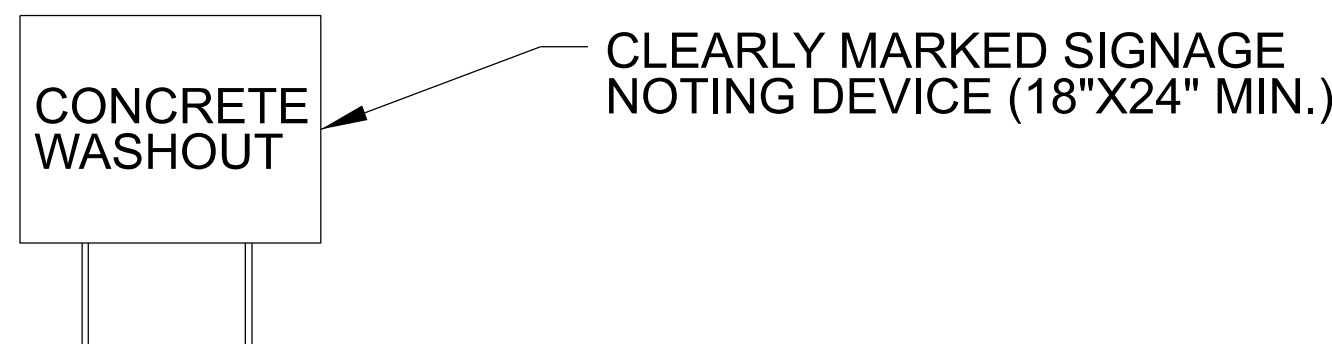
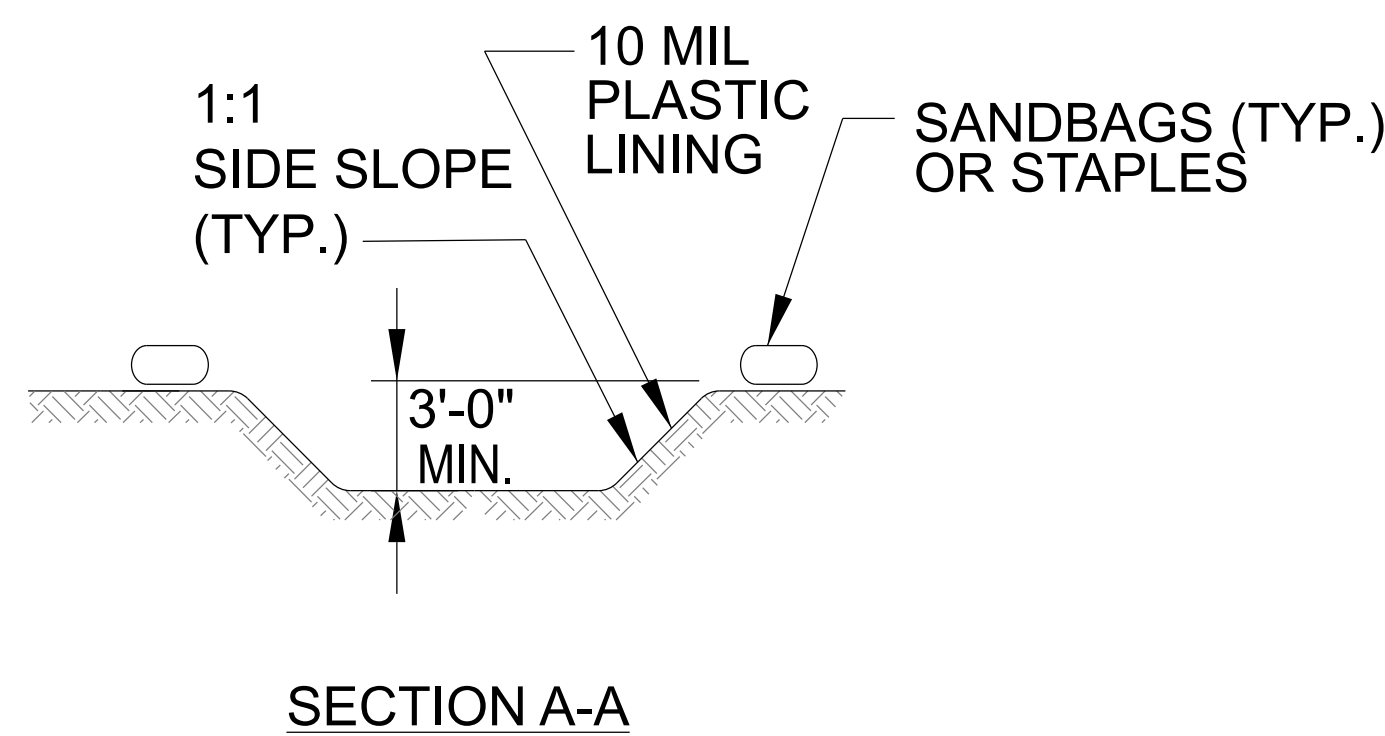
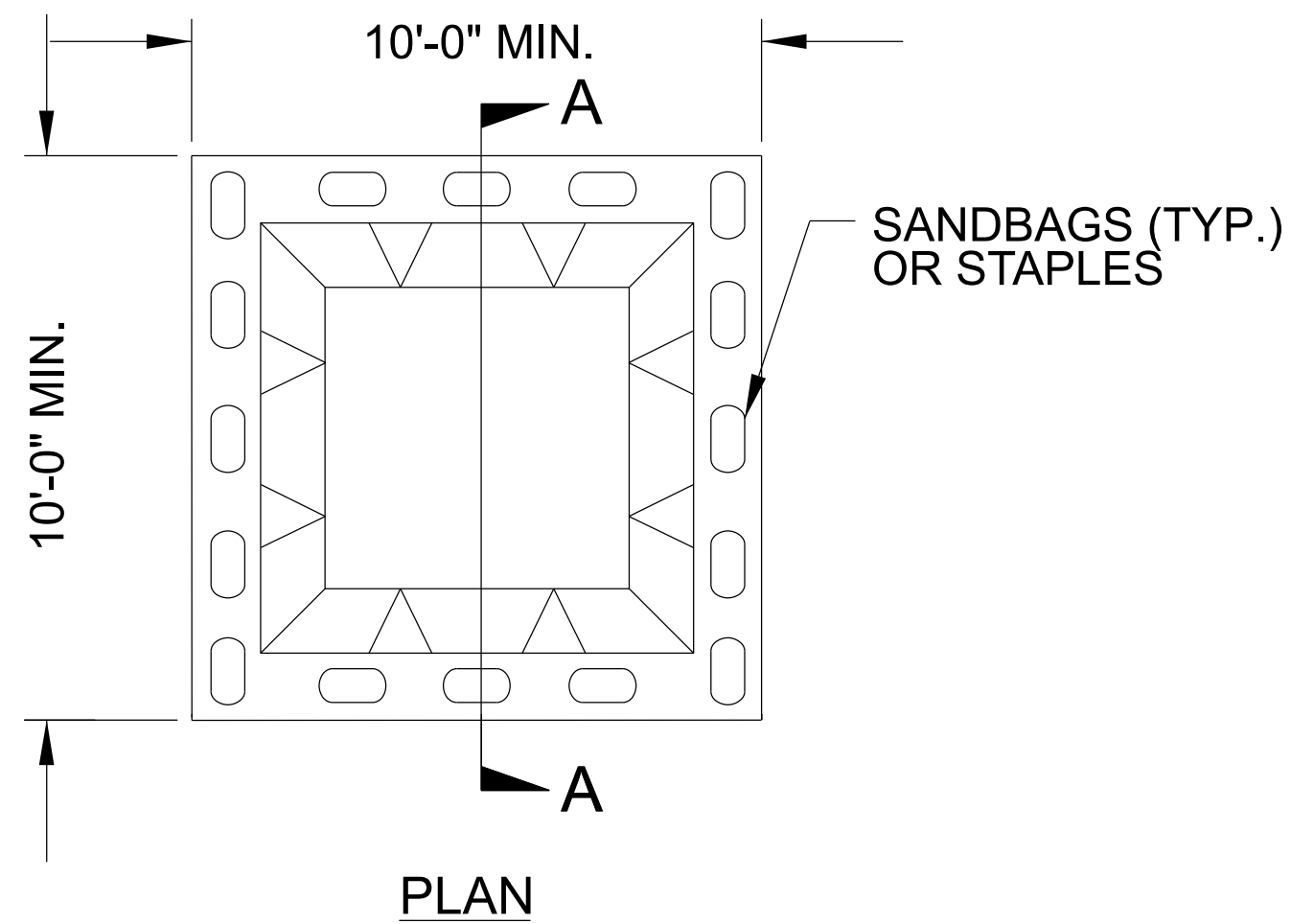
EC-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHG COUNTY

PLANS PREPARED BY:
SUMMIT
DESIGN AND ENGINEERING SERVICES

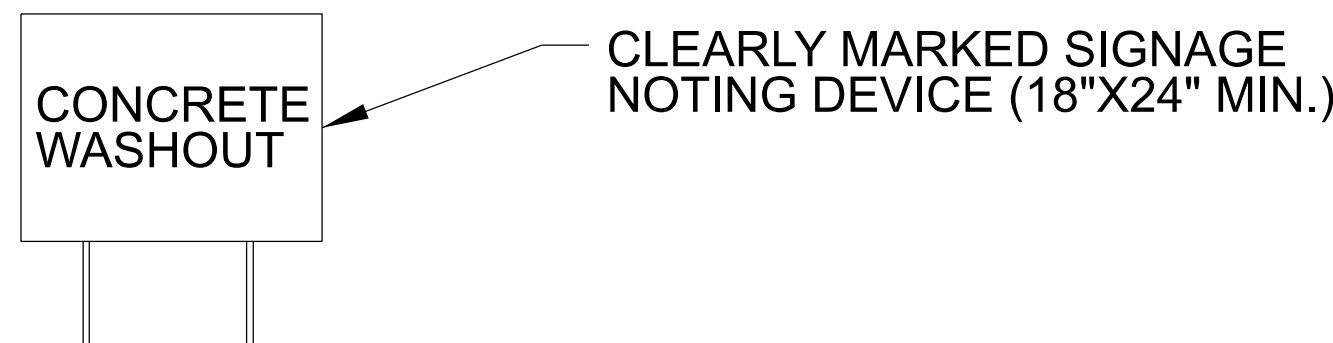
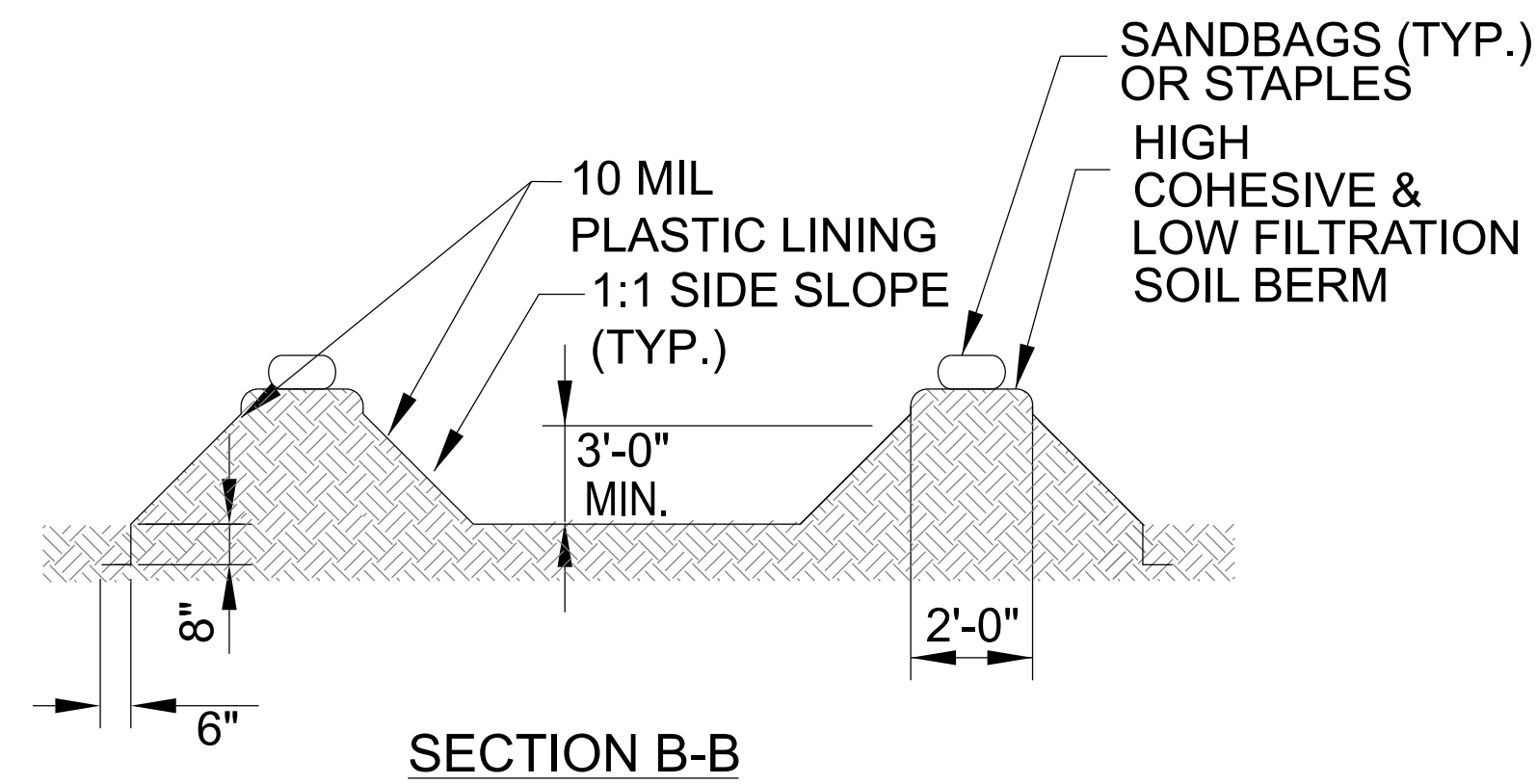
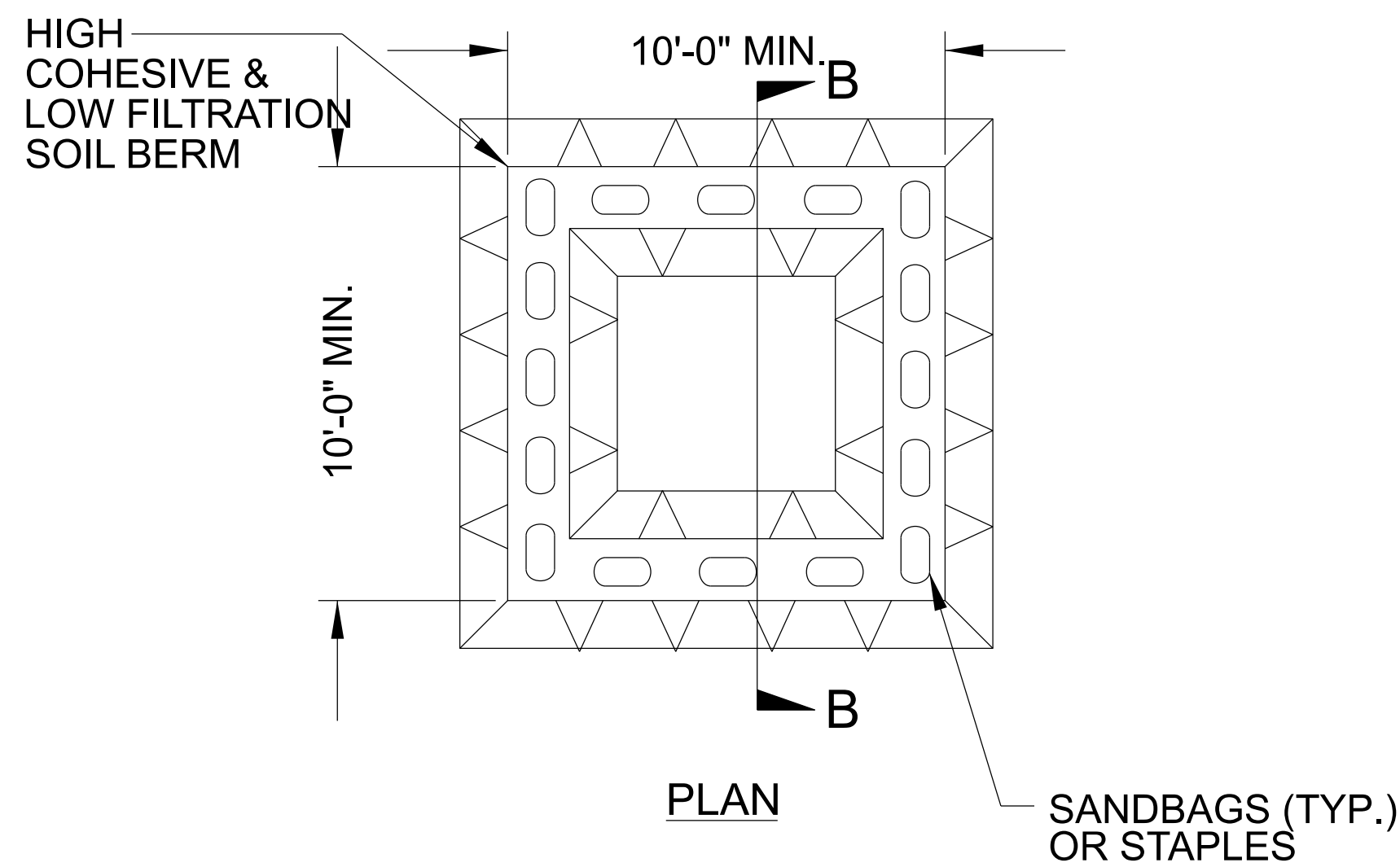
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(919) 732-3883
(919) 732-6676 (FAX)

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.

SLOPE MATTING FOR EROSION CONTROL

[illegible]

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

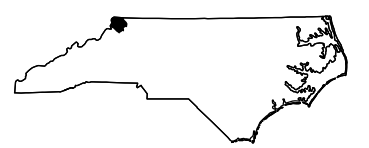
SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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

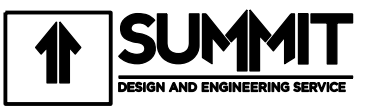
DF18311.2005335.PR

EC-3A

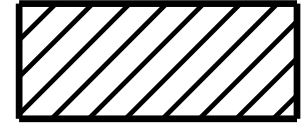
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHG COUNTY



PLANS PREPARED BY:



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

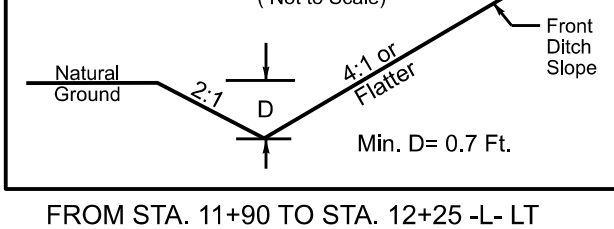


ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

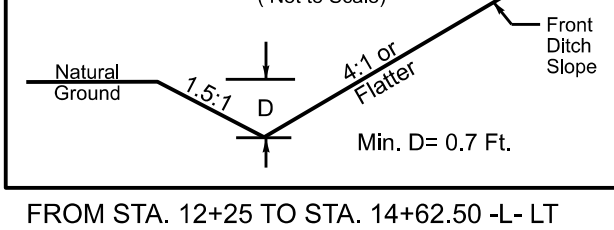
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

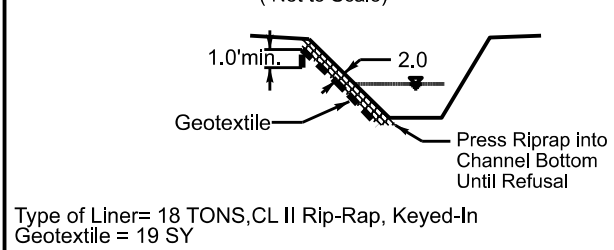
DETAIL 4-1
SPECIAL "V" DITCH
(Not to Scale)



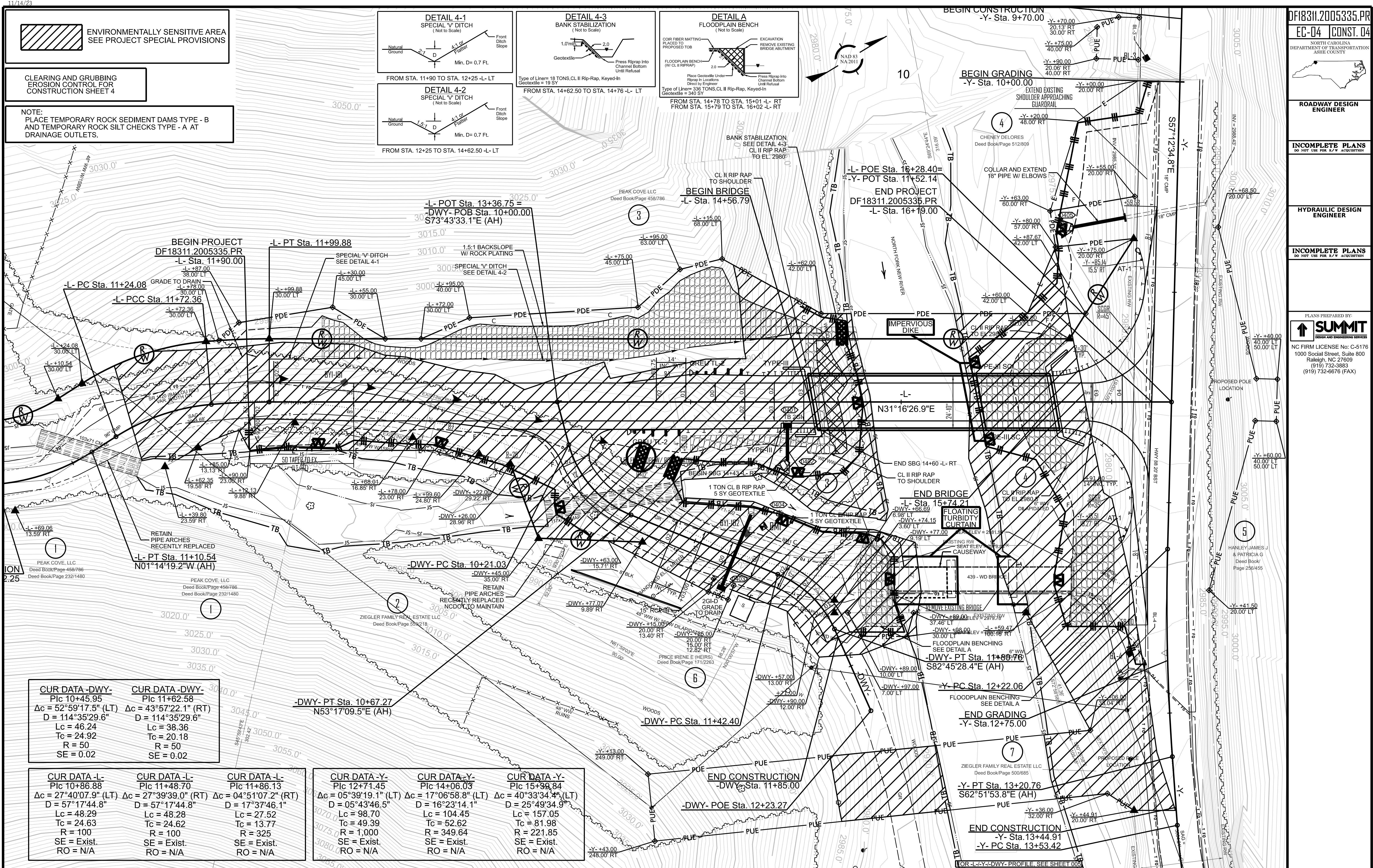
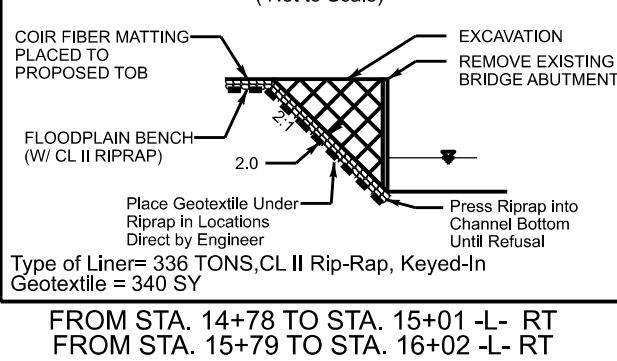
DETAIL 4-2
SPECIAL "V" DITCH
(Not to Scale)



DETAIL 4-3
BANK STABILIZATION
(Not to Scale)



DETAIL A
FLOODPLAIN BENCH
(Not to Scale)

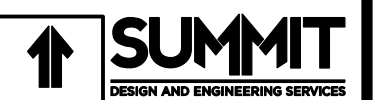


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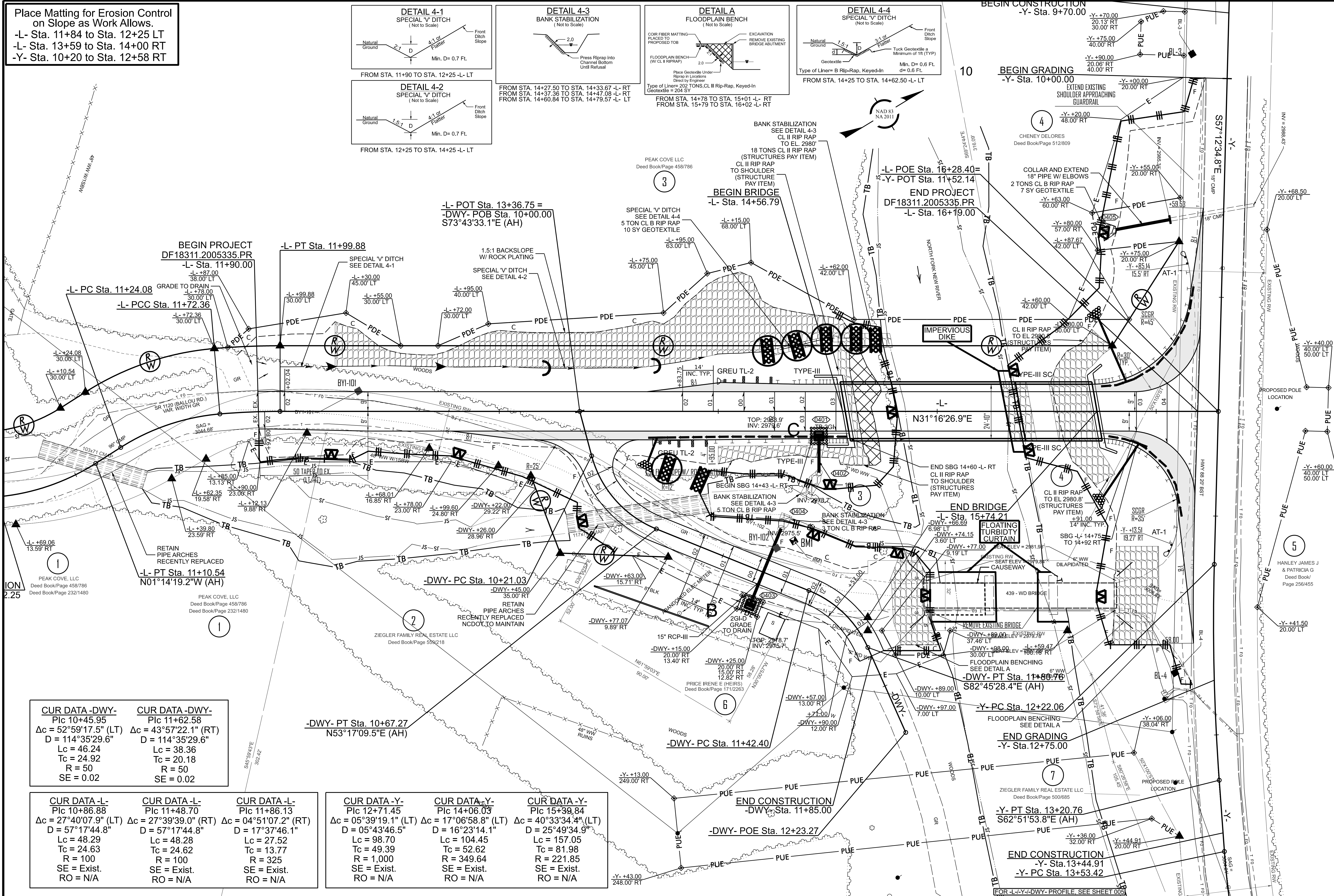
EC-04 CONST. 04

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHE COUNTYROADWAY DESIGN
ENGINEERINCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITIONHYDRAULIC DESIGN
ENGINEERINCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PLANS PREPARED BY:



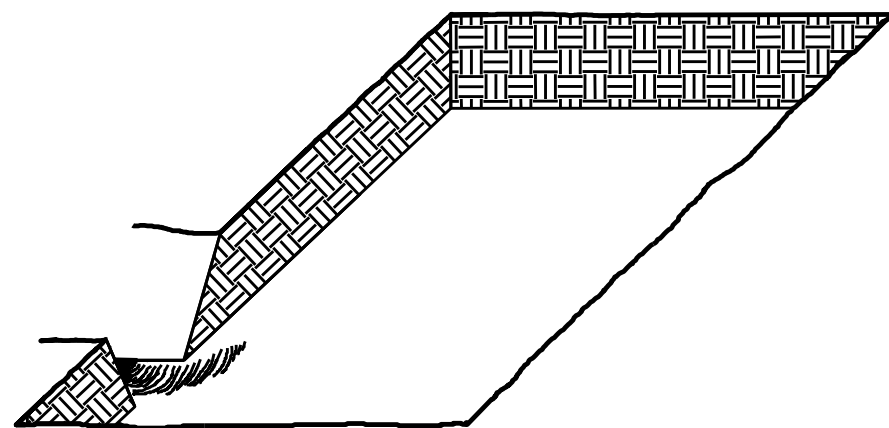
NC FIRM LICENSE No: C-5176
1000 Social Street, Suite 800
Raleigh, NC 27609
(919) 732-3883
(919) 732-6876 (FAX)



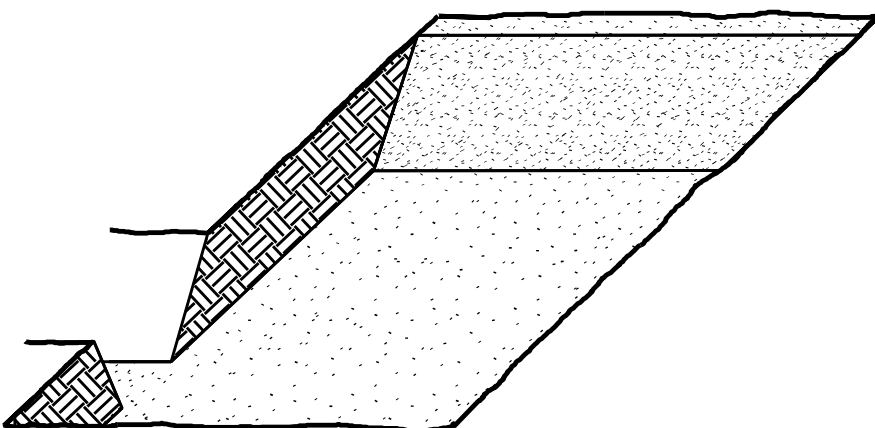
PLANTING DETAILS
SEEDLING / LINER BARERROOT PLANTING DETAIL

HEALING IN

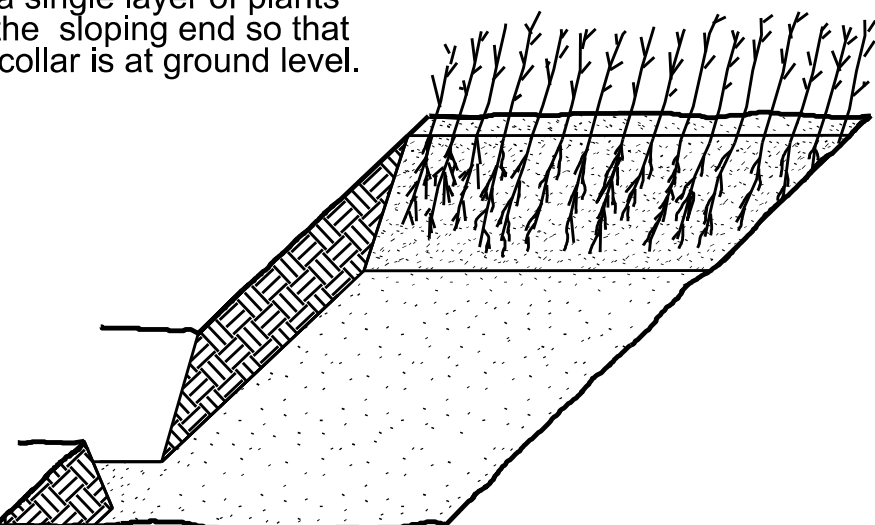
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



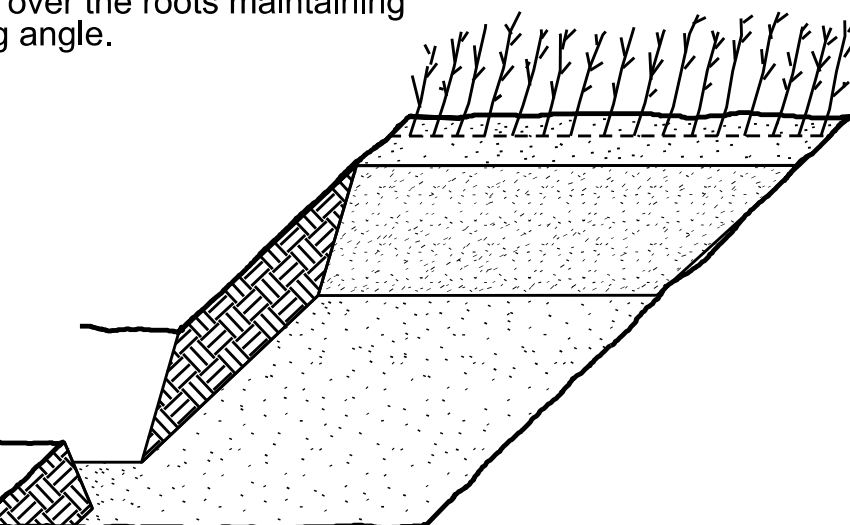
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

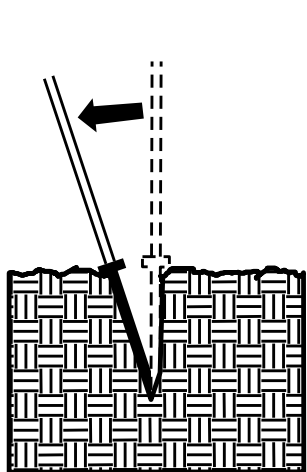


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

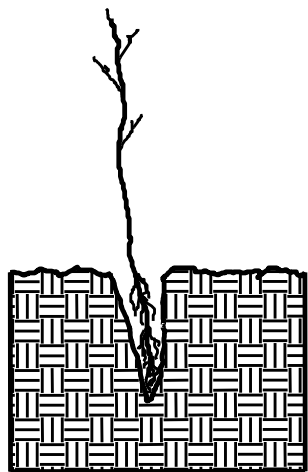


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

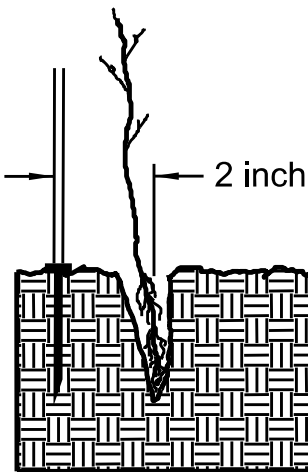
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



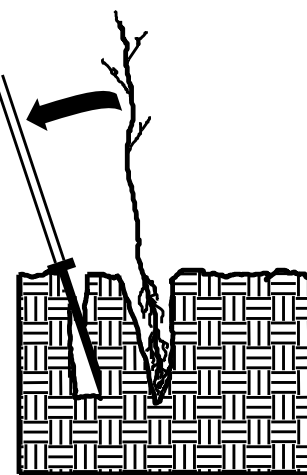
1. Insert planting bar as shown and pull handle toward planter.



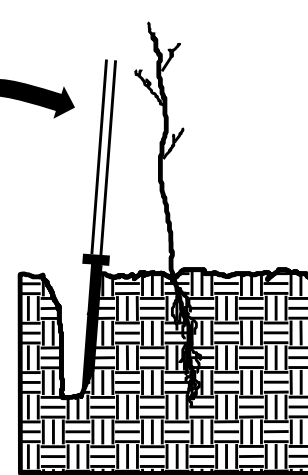
2. Remove planting bar and place seedling at correct depth.



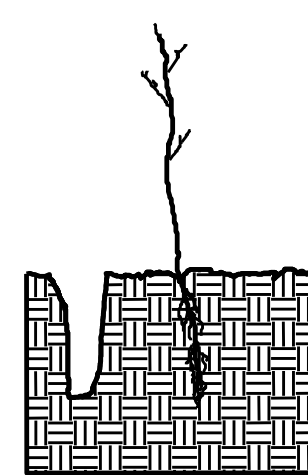
3. Insert planting bar 2 inches toward planter from seedling.



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



5. Push handle forward firming soil at top.



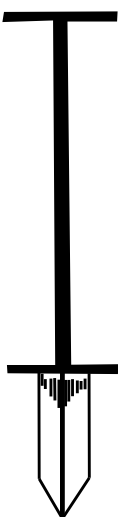
6. Leave compaction hole open. Water thoroughly.

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

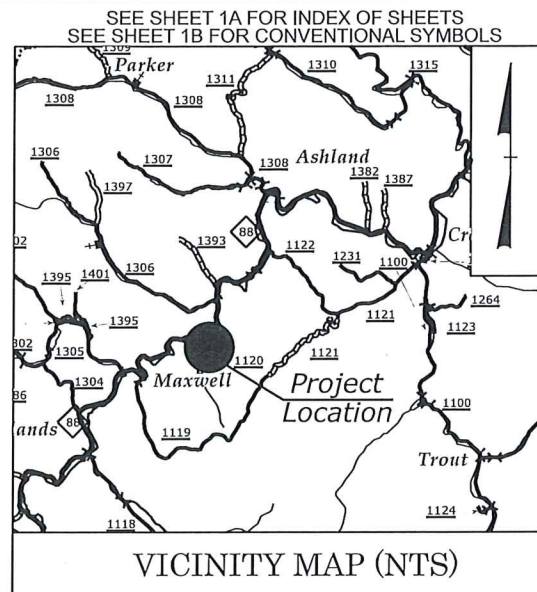
MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

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

09/05/99

PROJECT: DF18311.2005335.PR

CONTRACT:



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
ASHE COUNTY

LOCATION: REPLACE BRIDGE #040439 OVER NORTH FORK NEW RIVER
ON SR 1120 (BALLOU ROAD)

TYPE OF WORK: POWER & COMMUNICATIONS

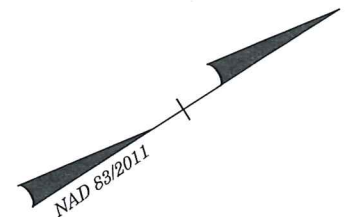
T.I.P. NO.

SHEET NO.

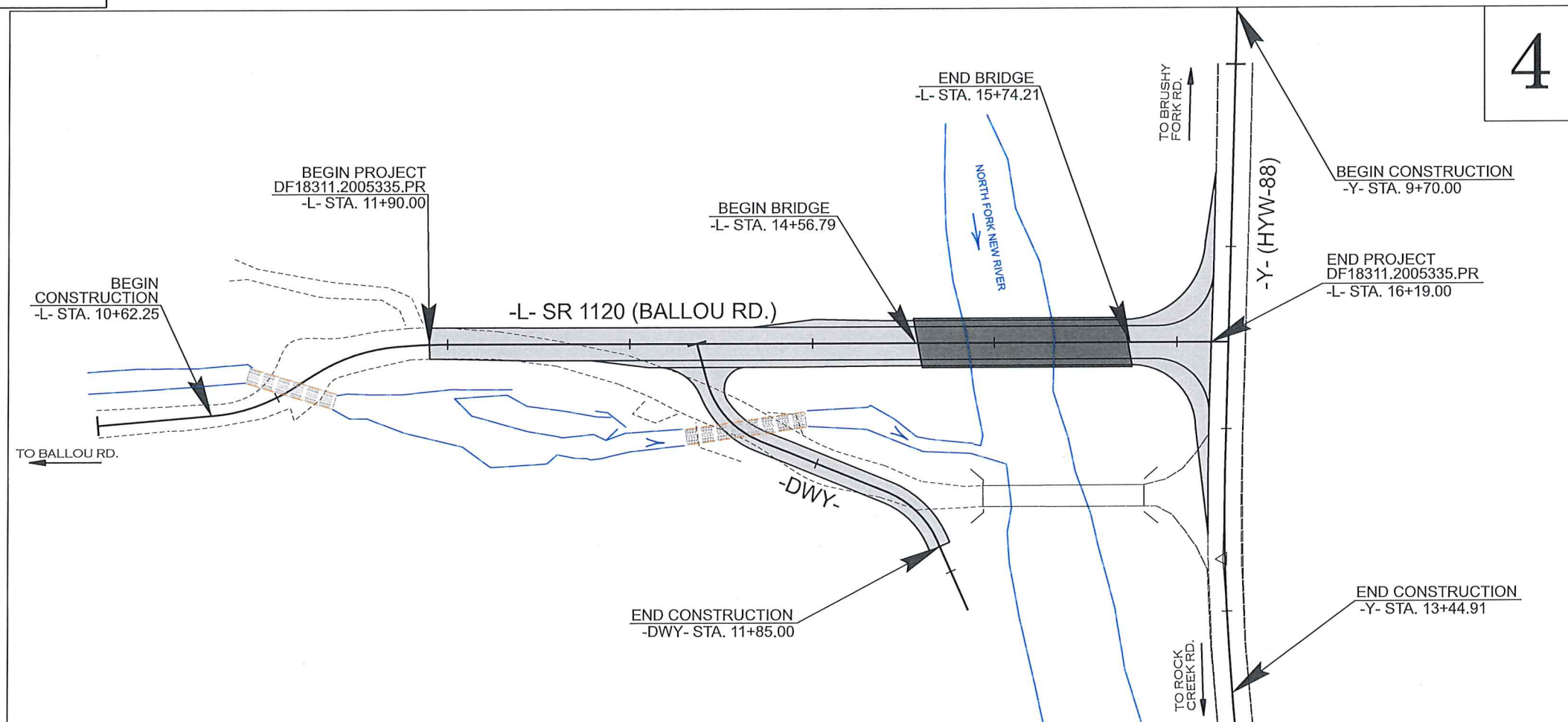
DF18311.2005335.PR

UO-1

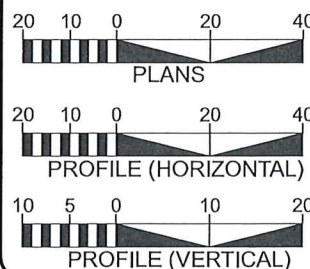
NOTE:
ALL UTILITY WORK SHOWN ON THIS
SHEET WILL BE DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO
THE CONTRACTOR FOR UTILITY WORK
SHOWN ON THIS SHEET.



4



GRAPHIC SCALES



INDEX OF SHEETS

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

UTILITY OWNERS WITH CONFLICTS

- (A) POWER - BLUE RIDGE EMC
(B) COMMUNICATIONS - SKYLINE

PREPARED IN THE OFFICE OF



TELICS

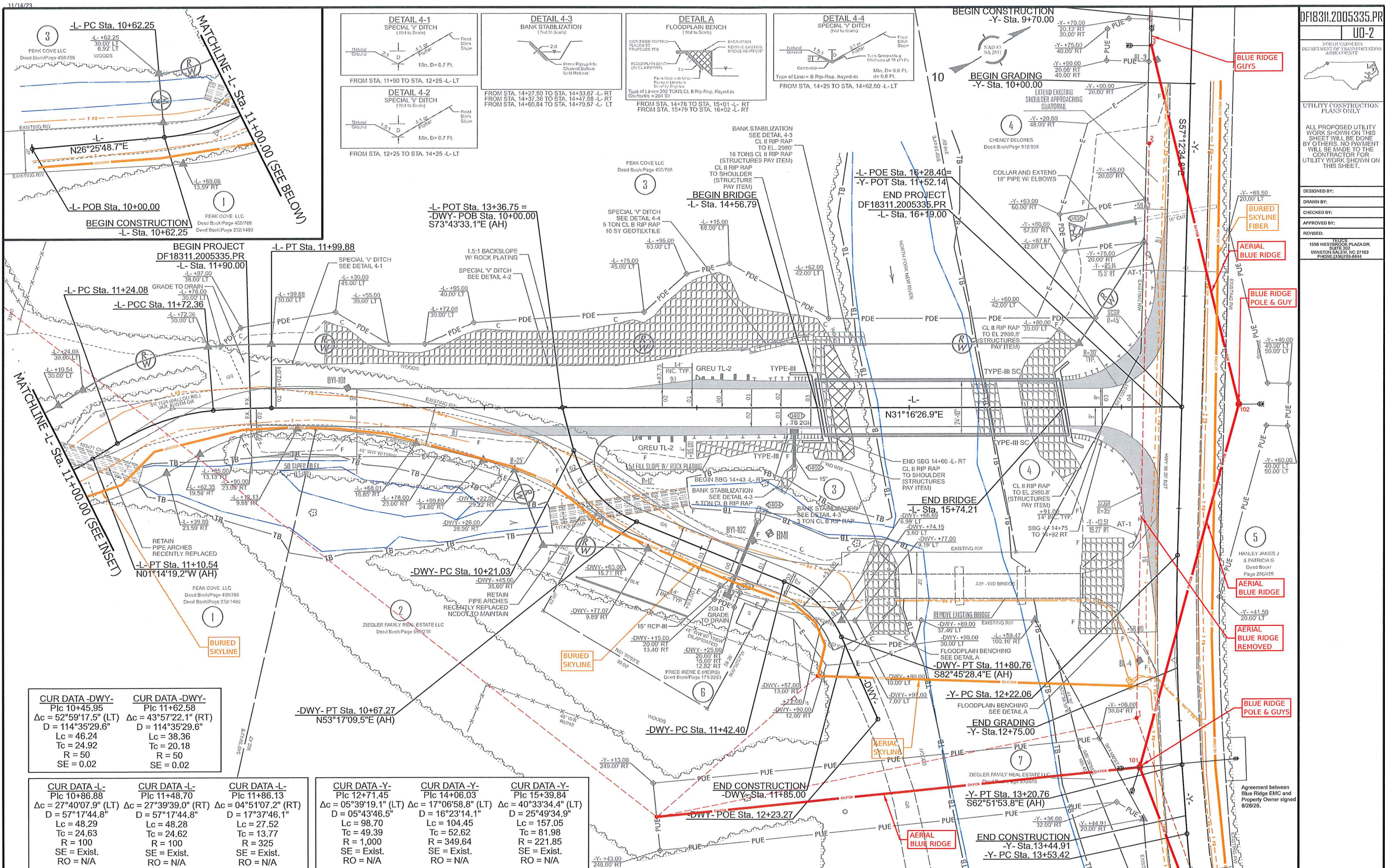
119 BROOKSTOWN AVE.
SUITE 305
WINSTON SALEM, NC 27101
(336) 705 - 8844



DIVISION OF HIGHWAYS
DIVISION II
801 STATESVILLE RD
NORTH WILKESBORO NC 28659
PHONE (336) 903-9100
FAX (336) 667-4549

BRANDON GREER DIVISION UTILITY ENGINEER

CORY WOOD UTILITY PROJECT MANAGER
CORY WOOD UTILITY COORDINATOR



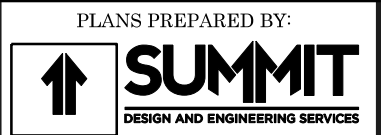
CROSS SECTION INDEX
PROJECT DF18311.2005335.PR

ALIGNMENT	SHEET NUMBER
-L-	X-002 TO X-017
-Y-	X-018 TO X-029
-DWY-	X-030 TO X-036

DF18311.2005335.PR

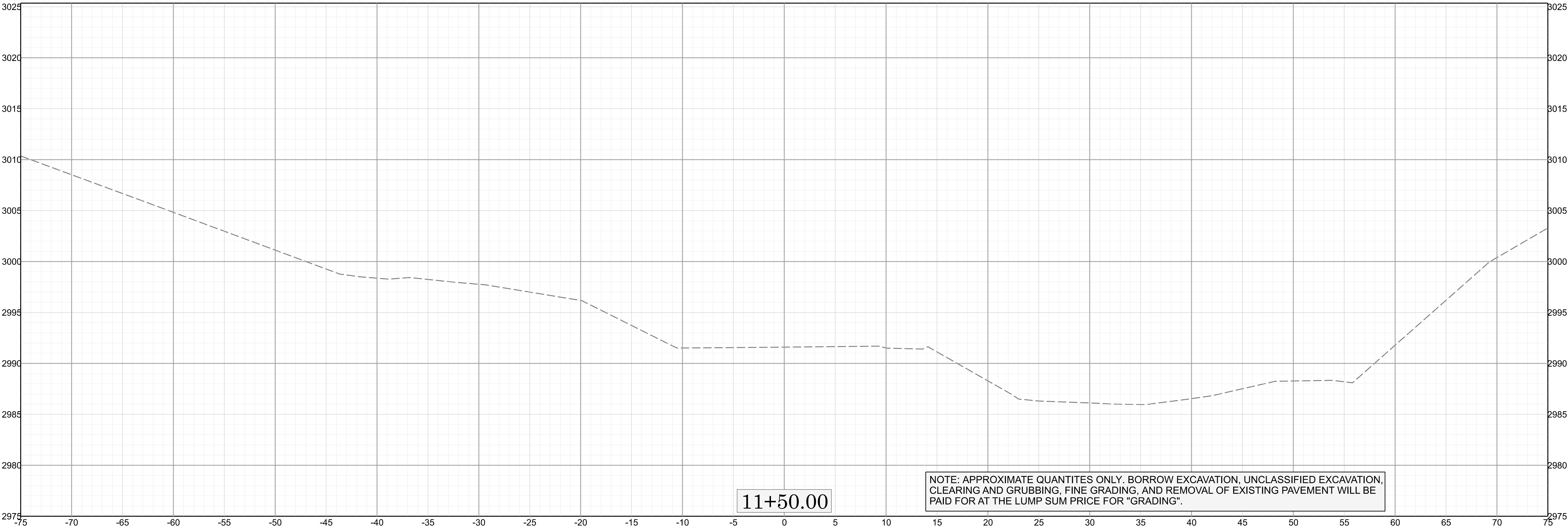
RDY	X-I
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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHE COUNTY



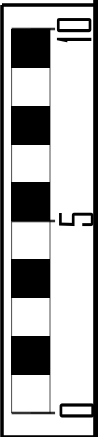
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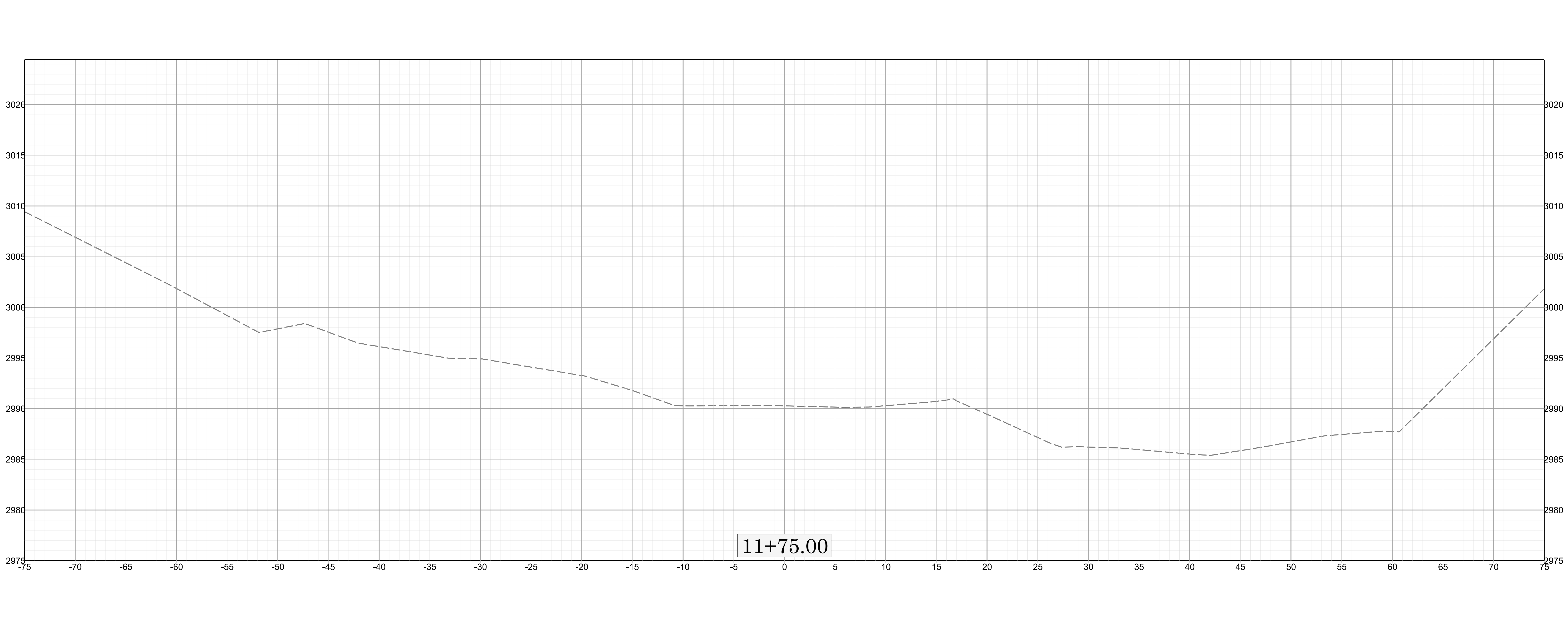
11+50.00

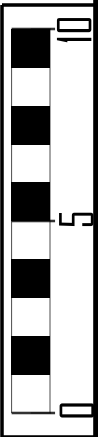
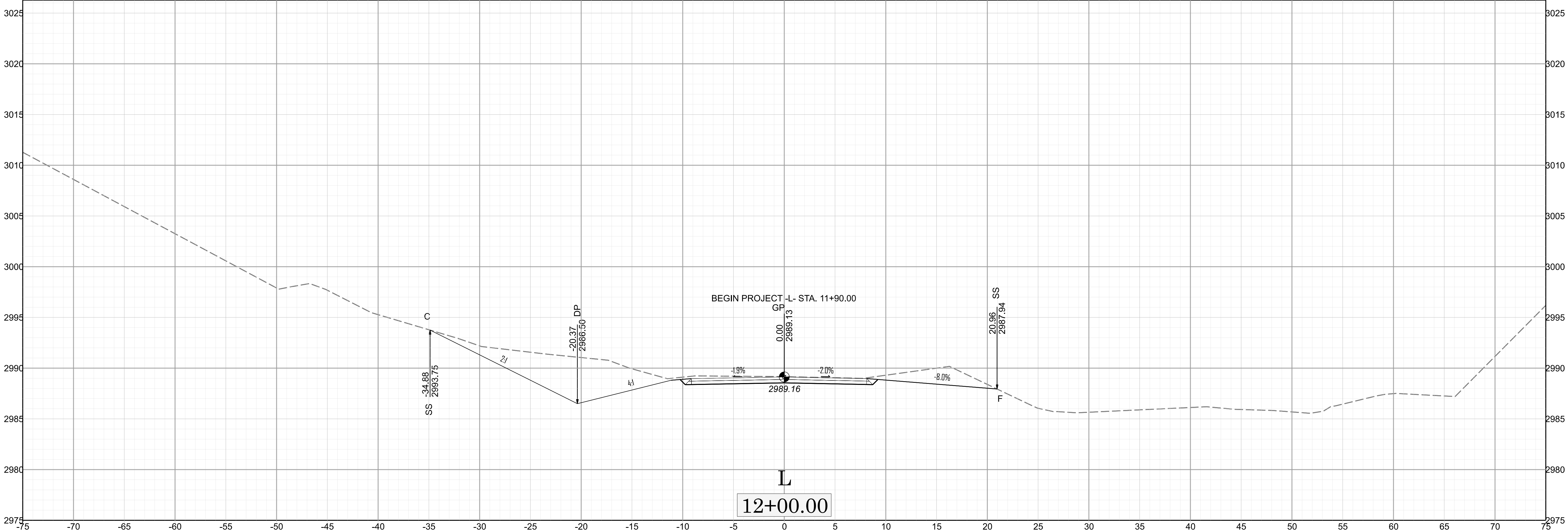
NOTE: APPROXIMATE QUANTITIES ONLY. BORROW EXCAVATION, UNCLASSIFIED EXCAVATION, CLEARING AND GRUBBING, FINE GRADING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".



X 002

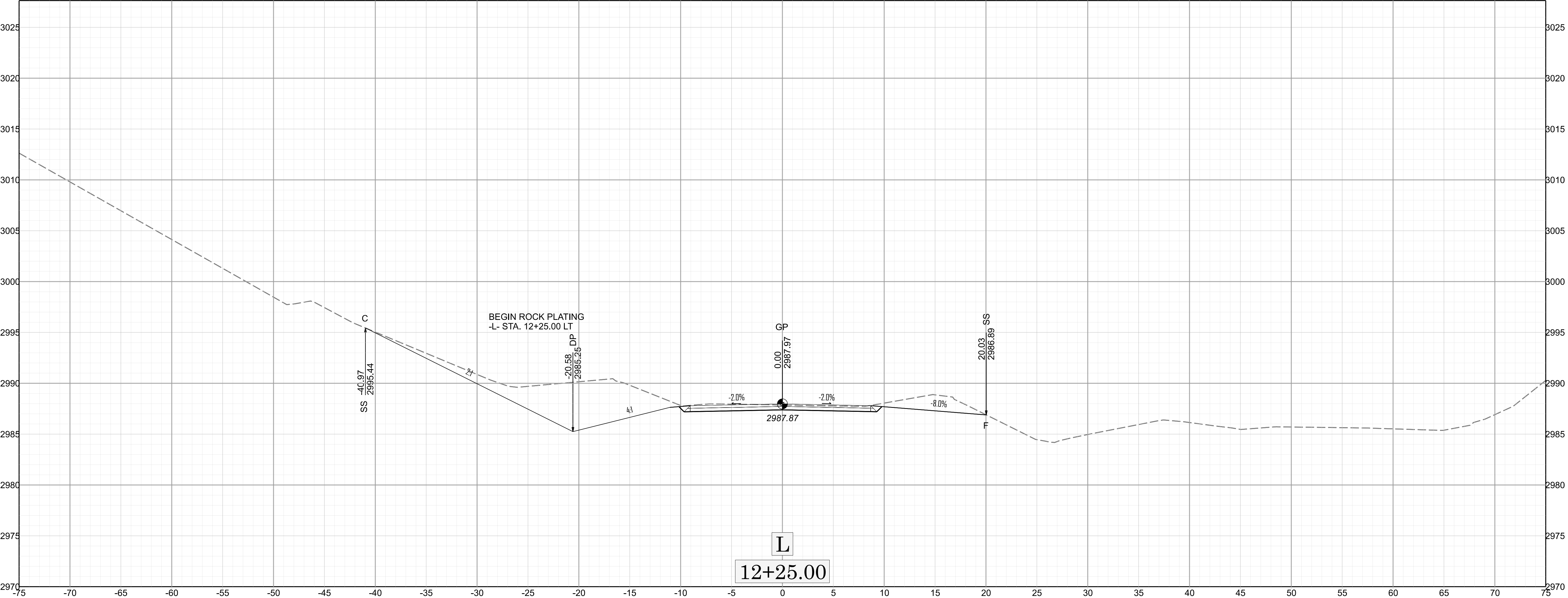
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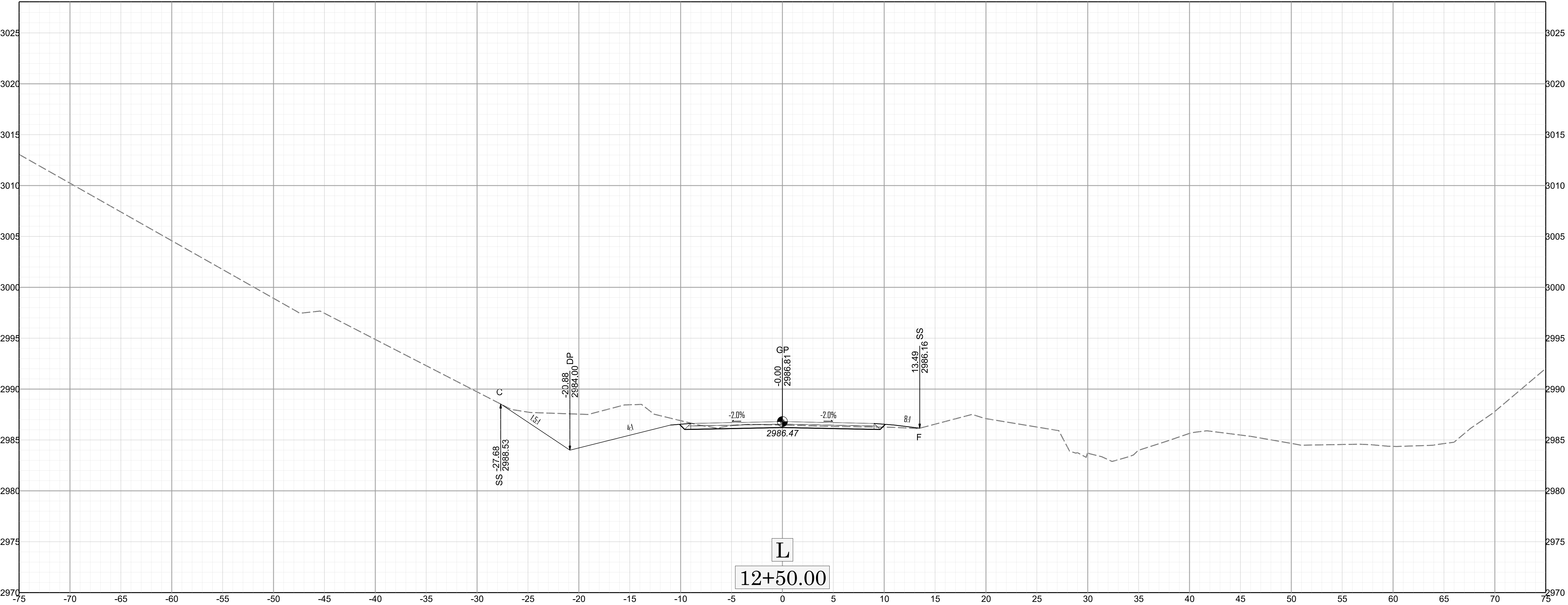


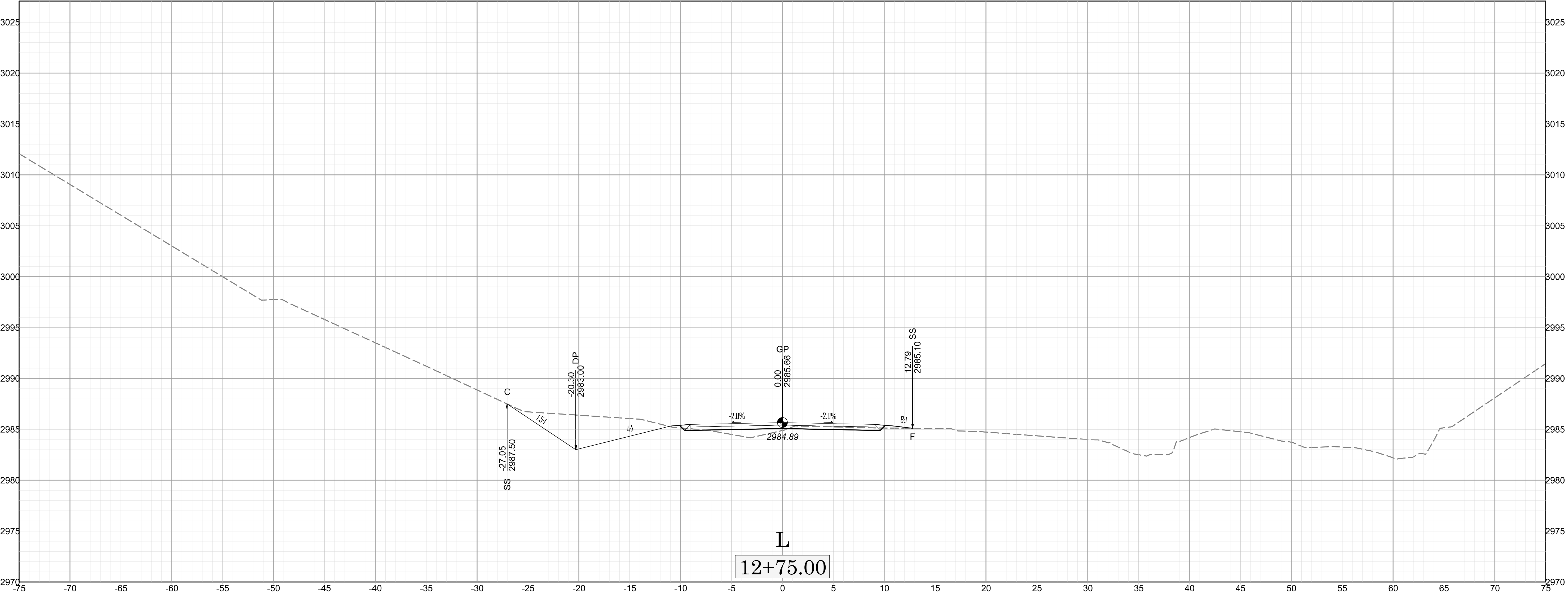


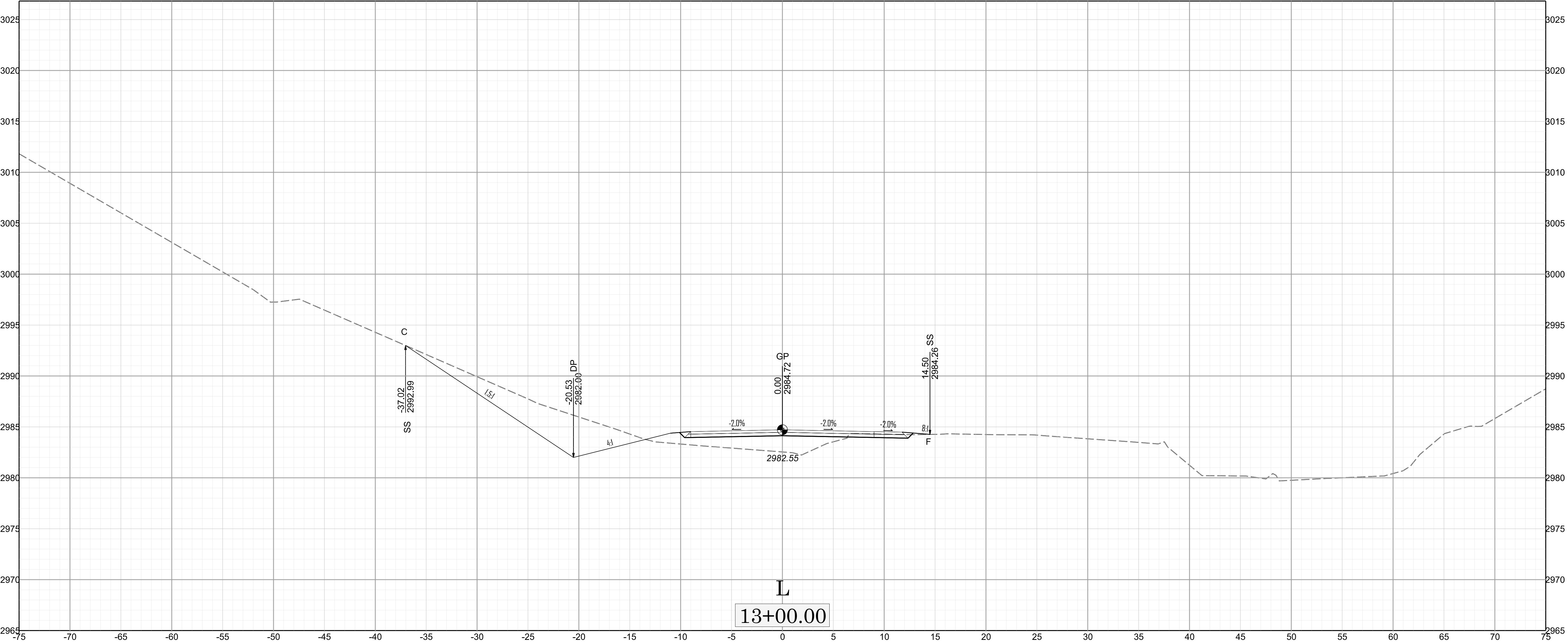
X 004

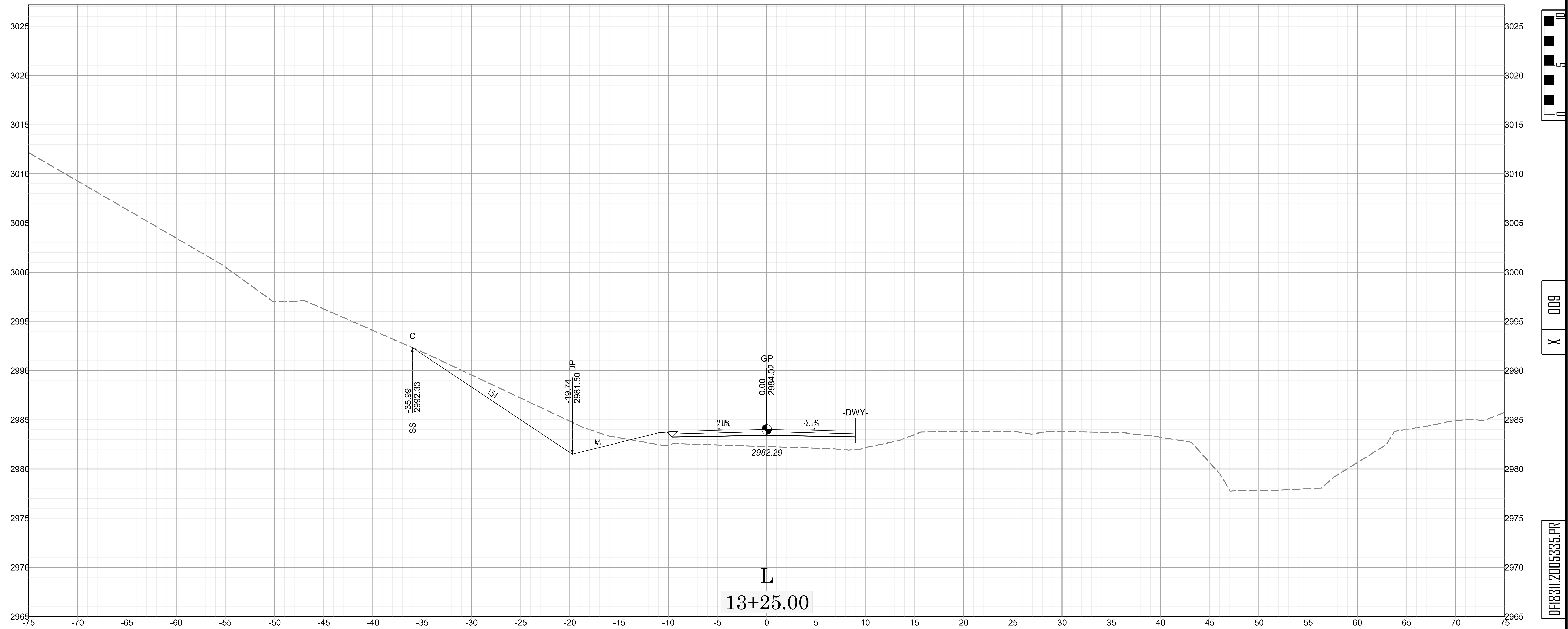
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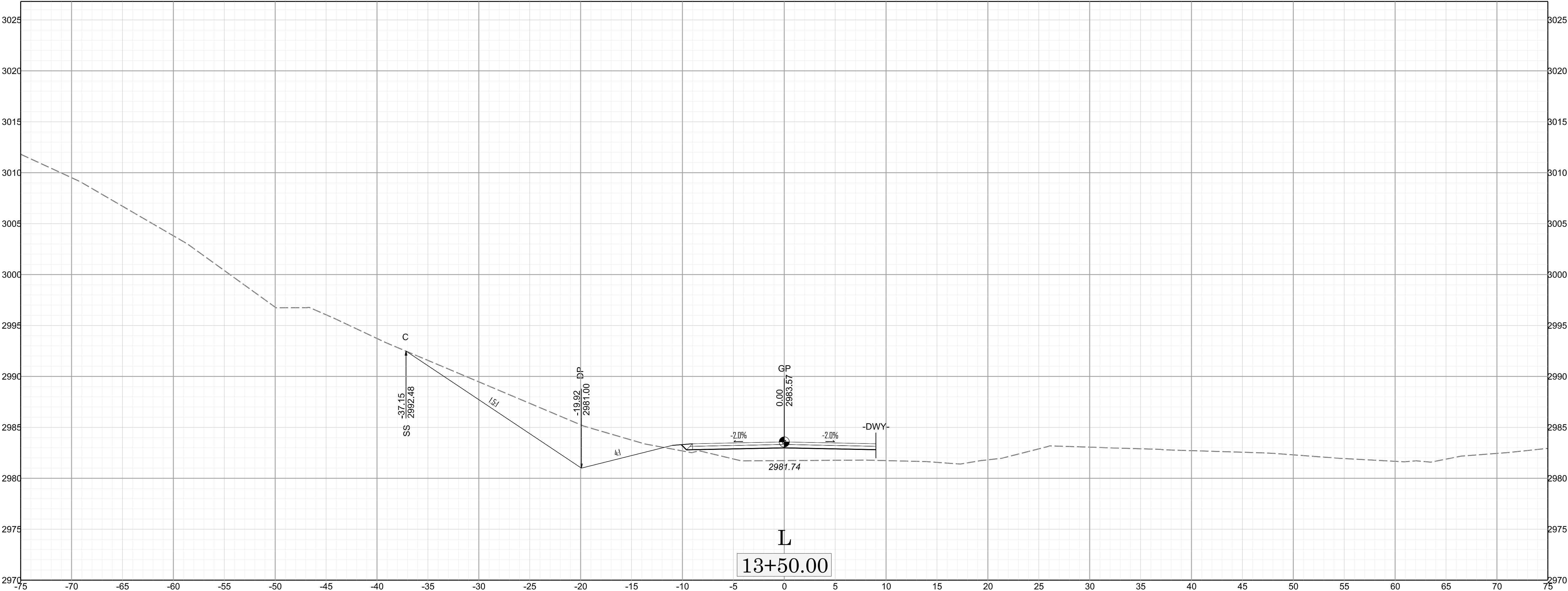


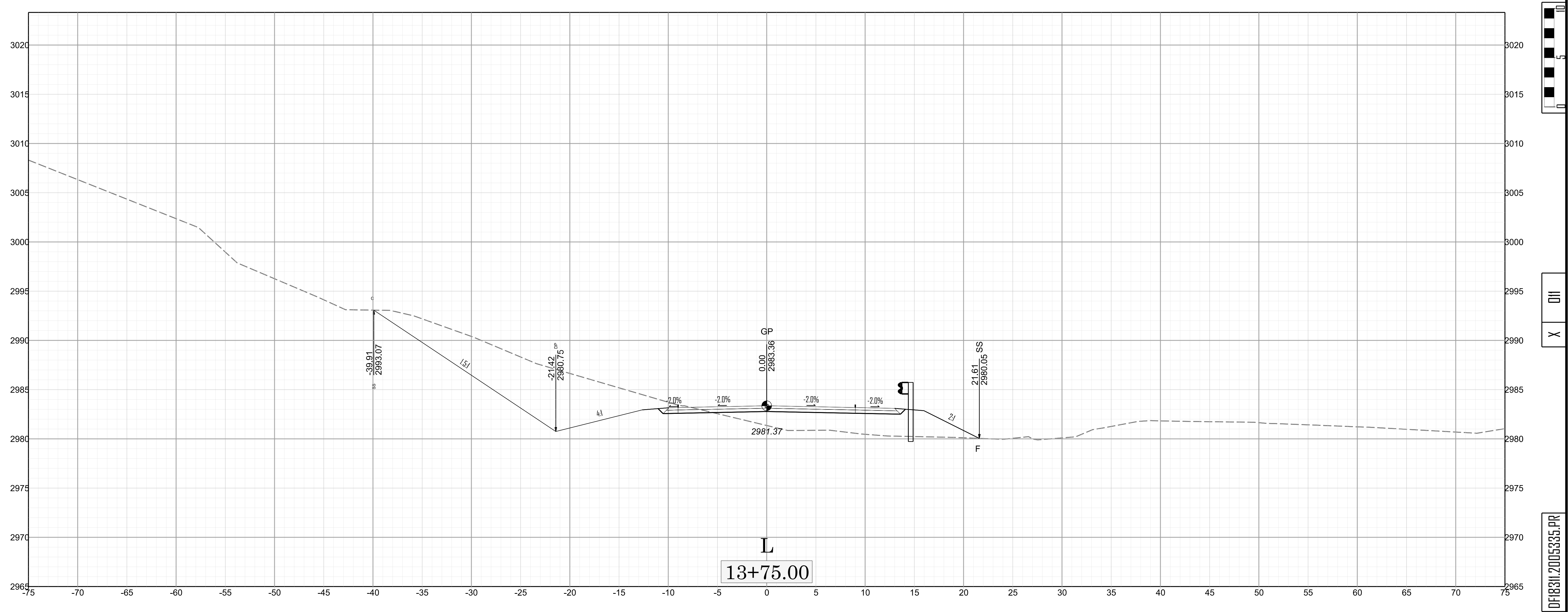


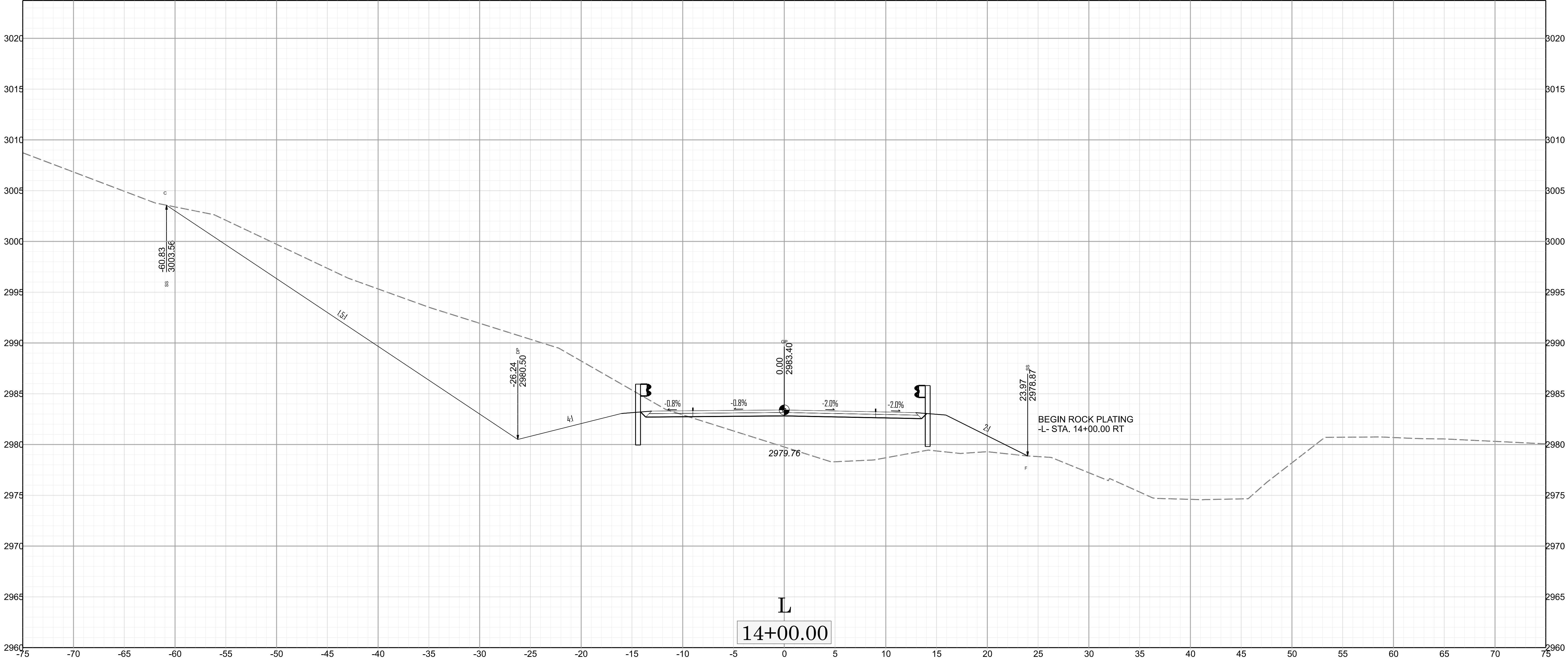


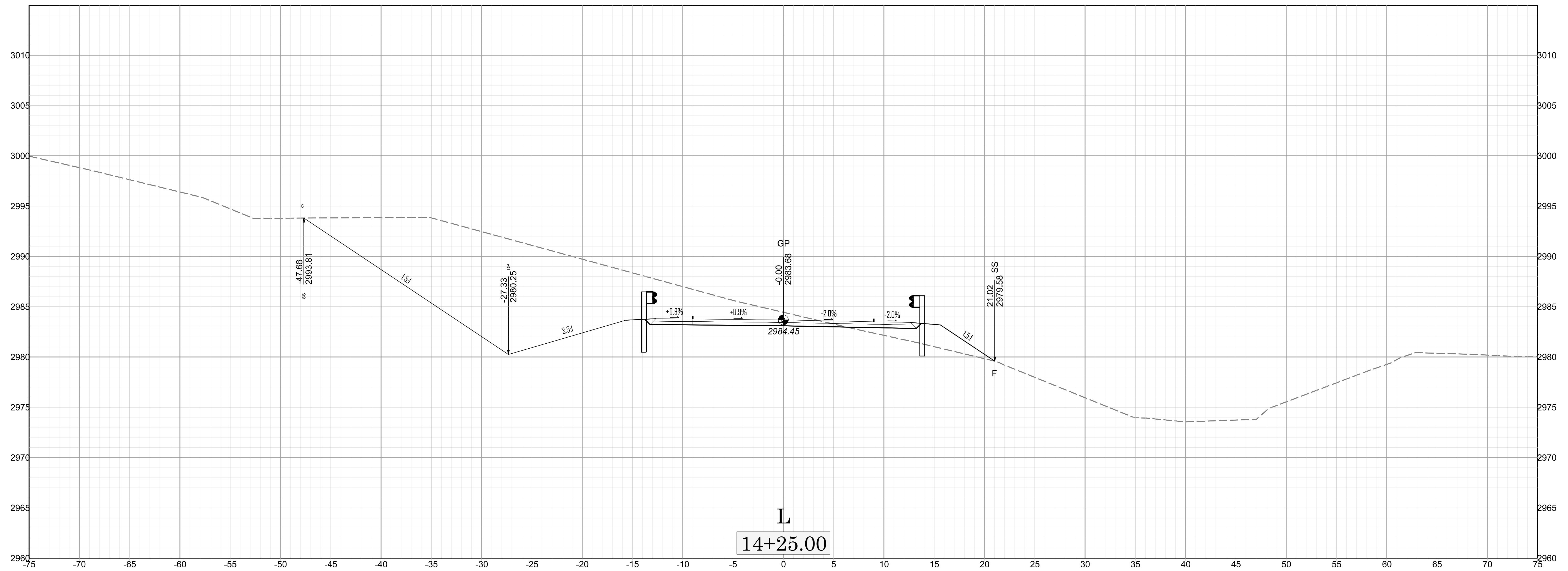
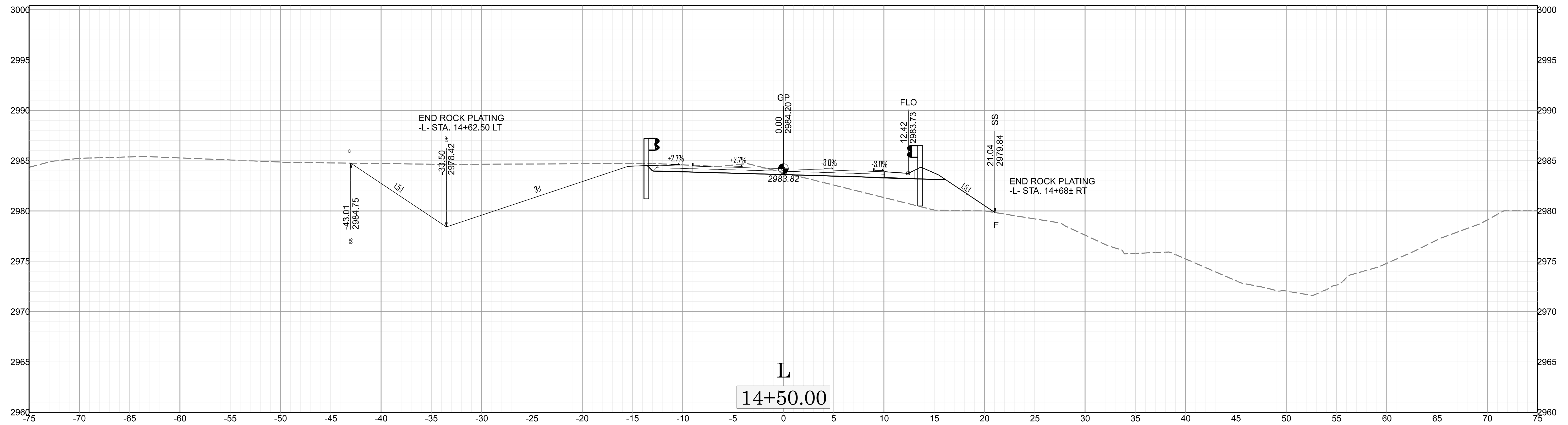


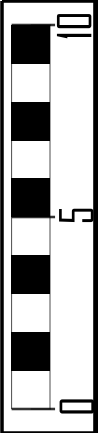
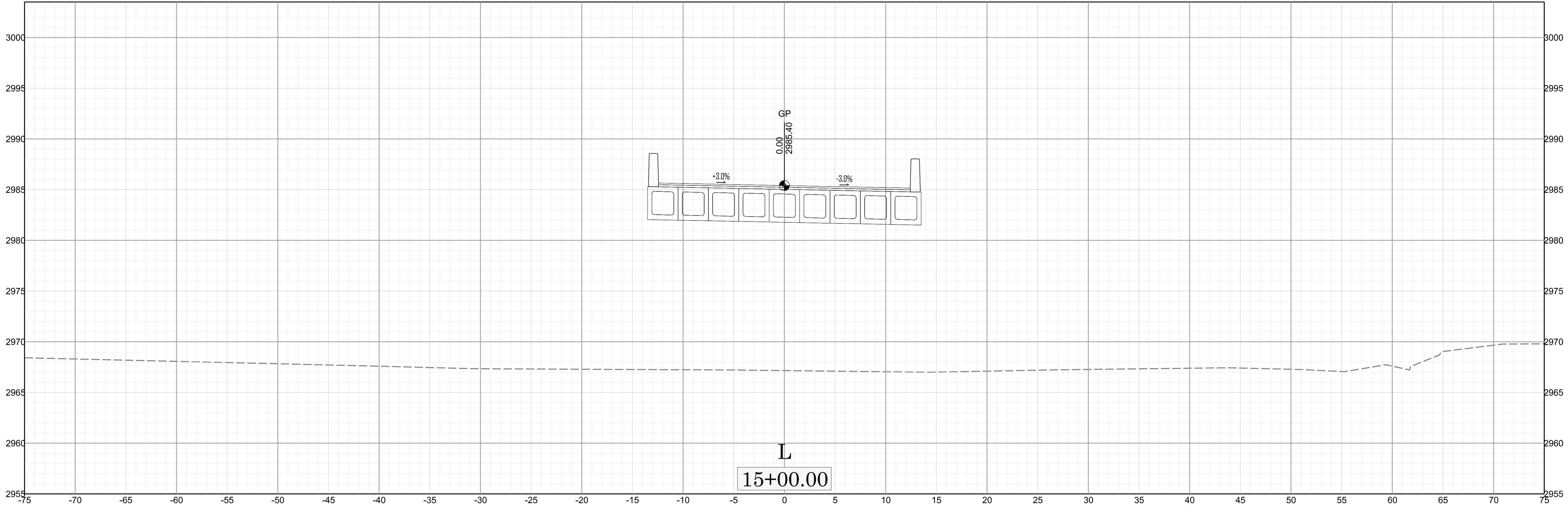




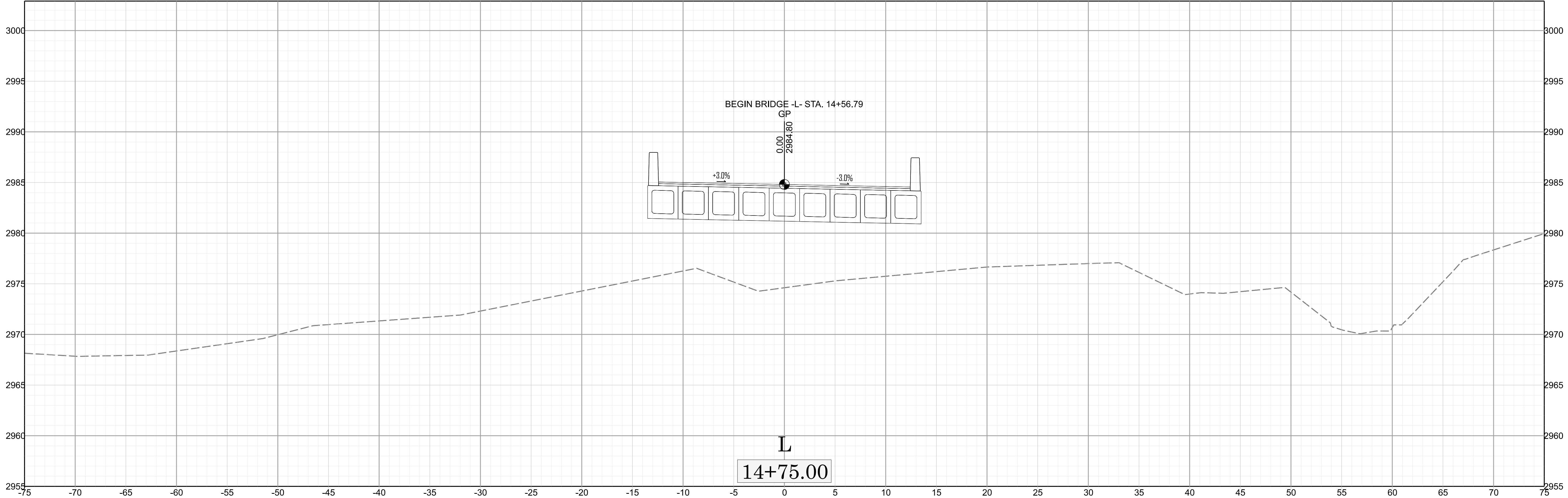




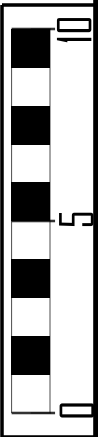
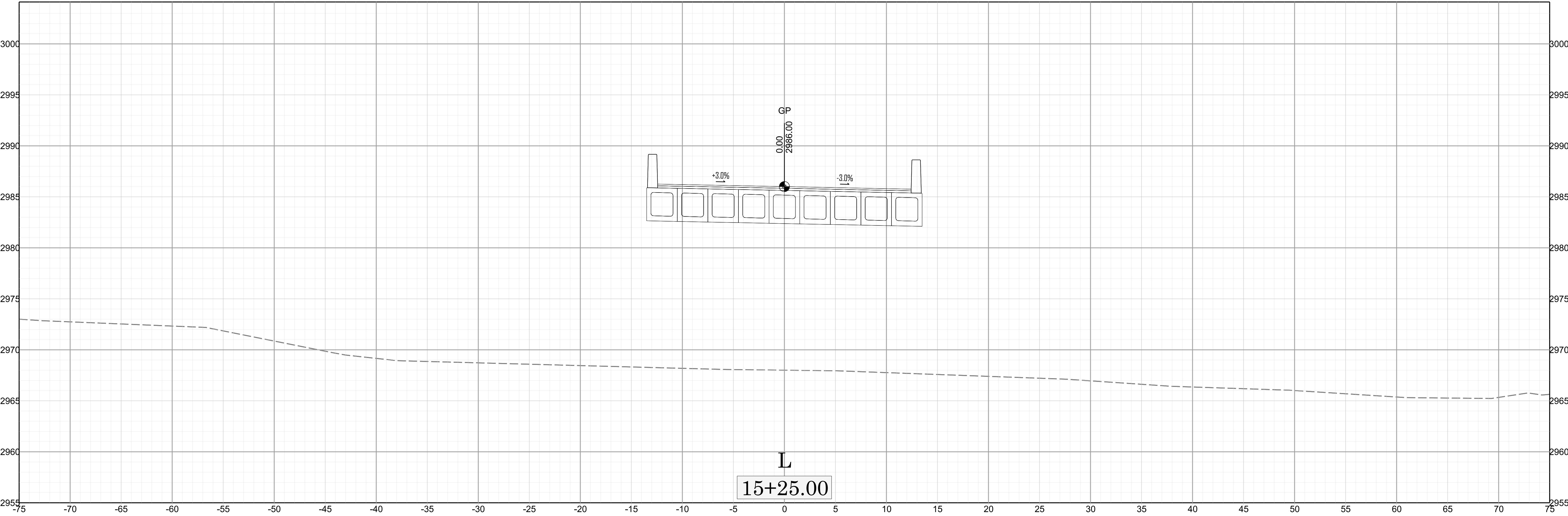




X D14

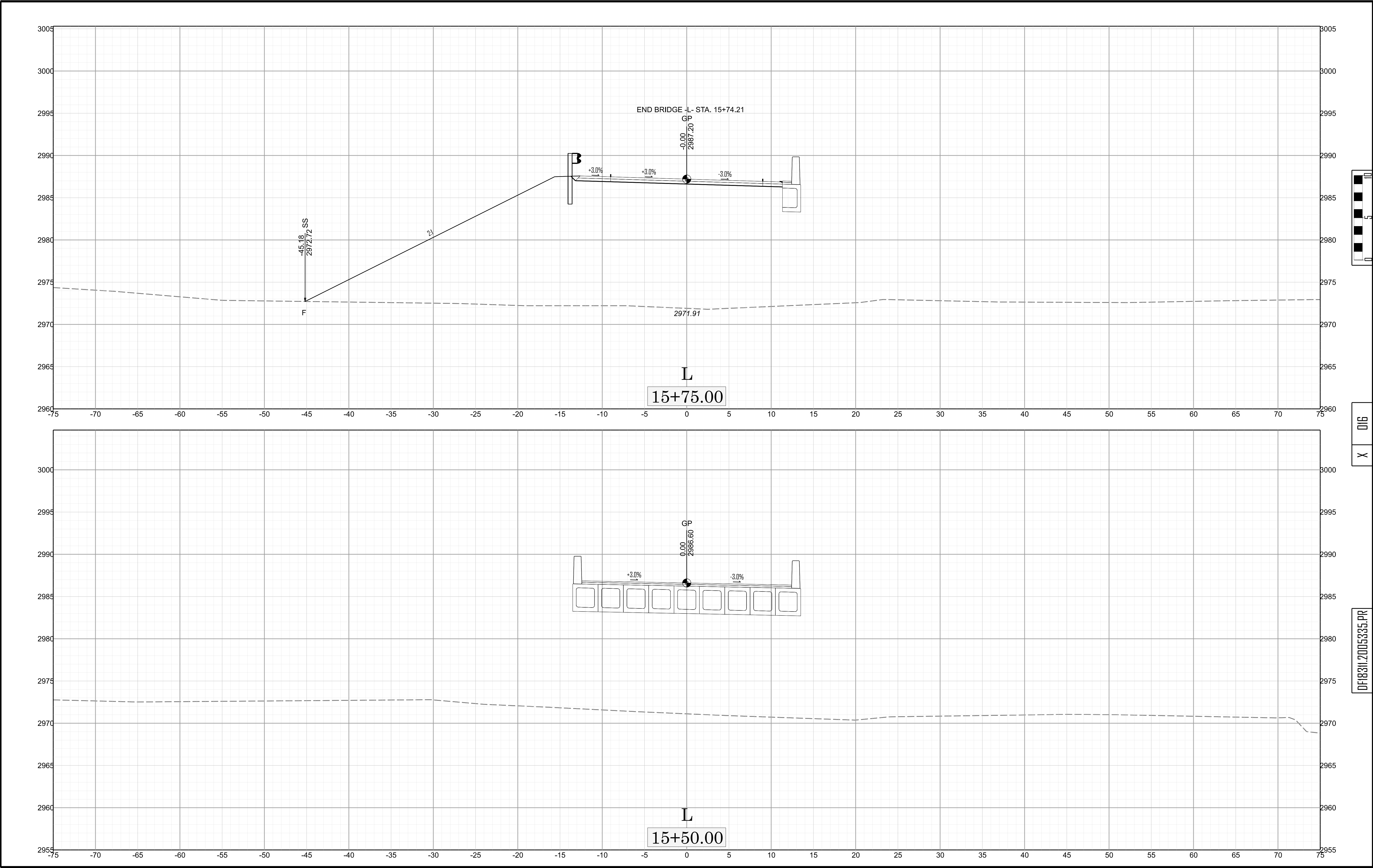


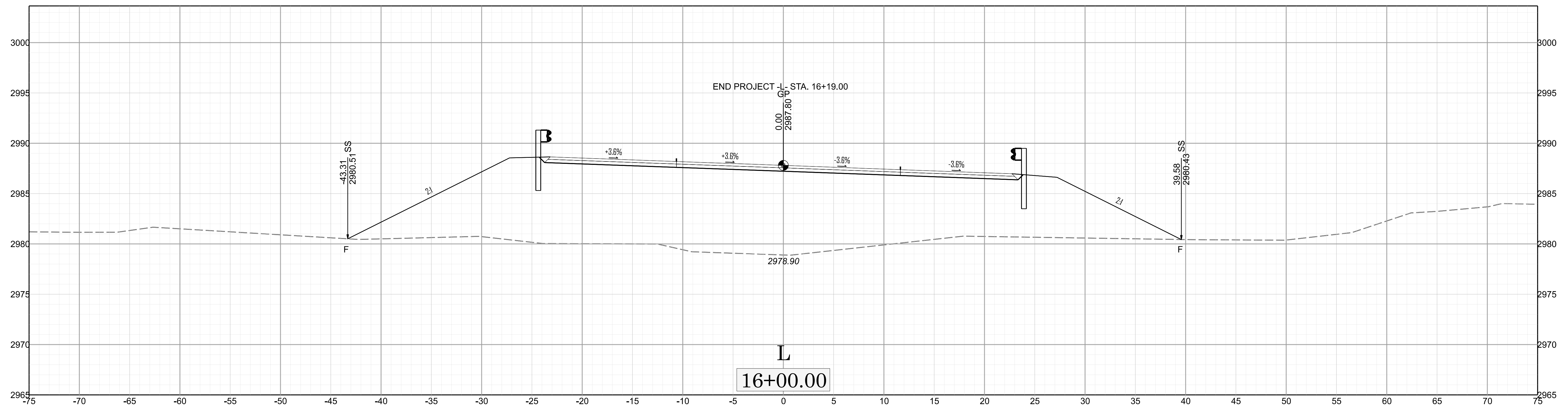
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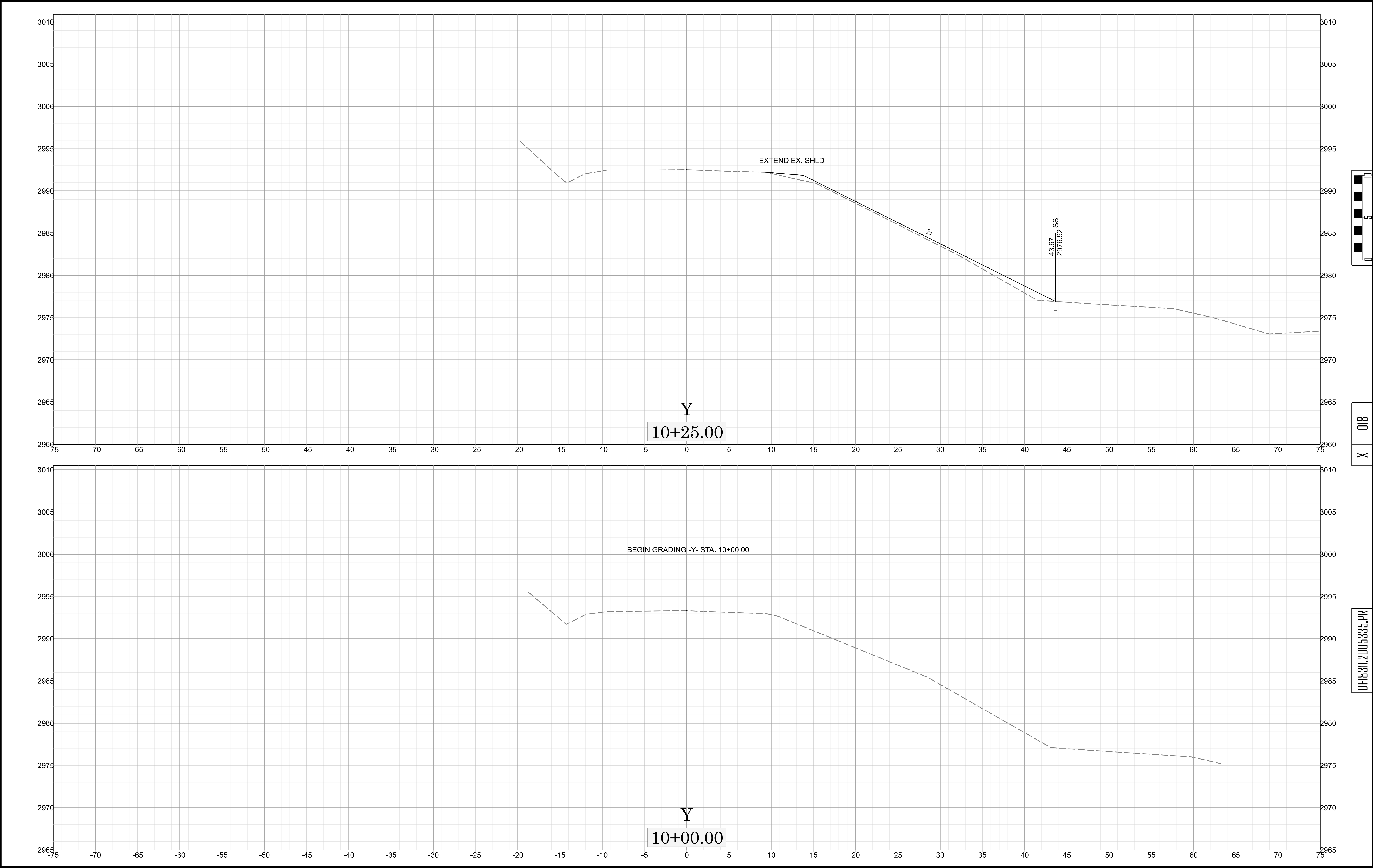


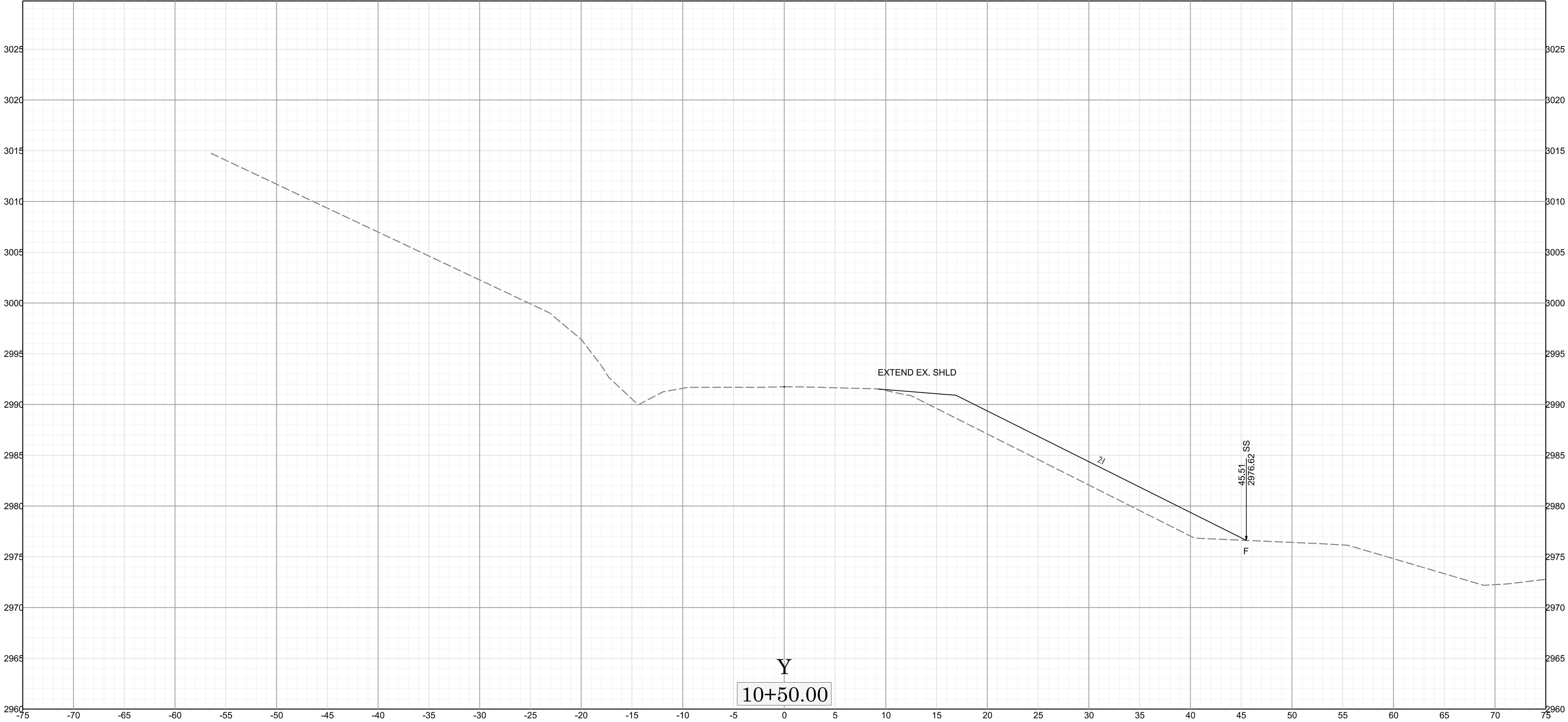
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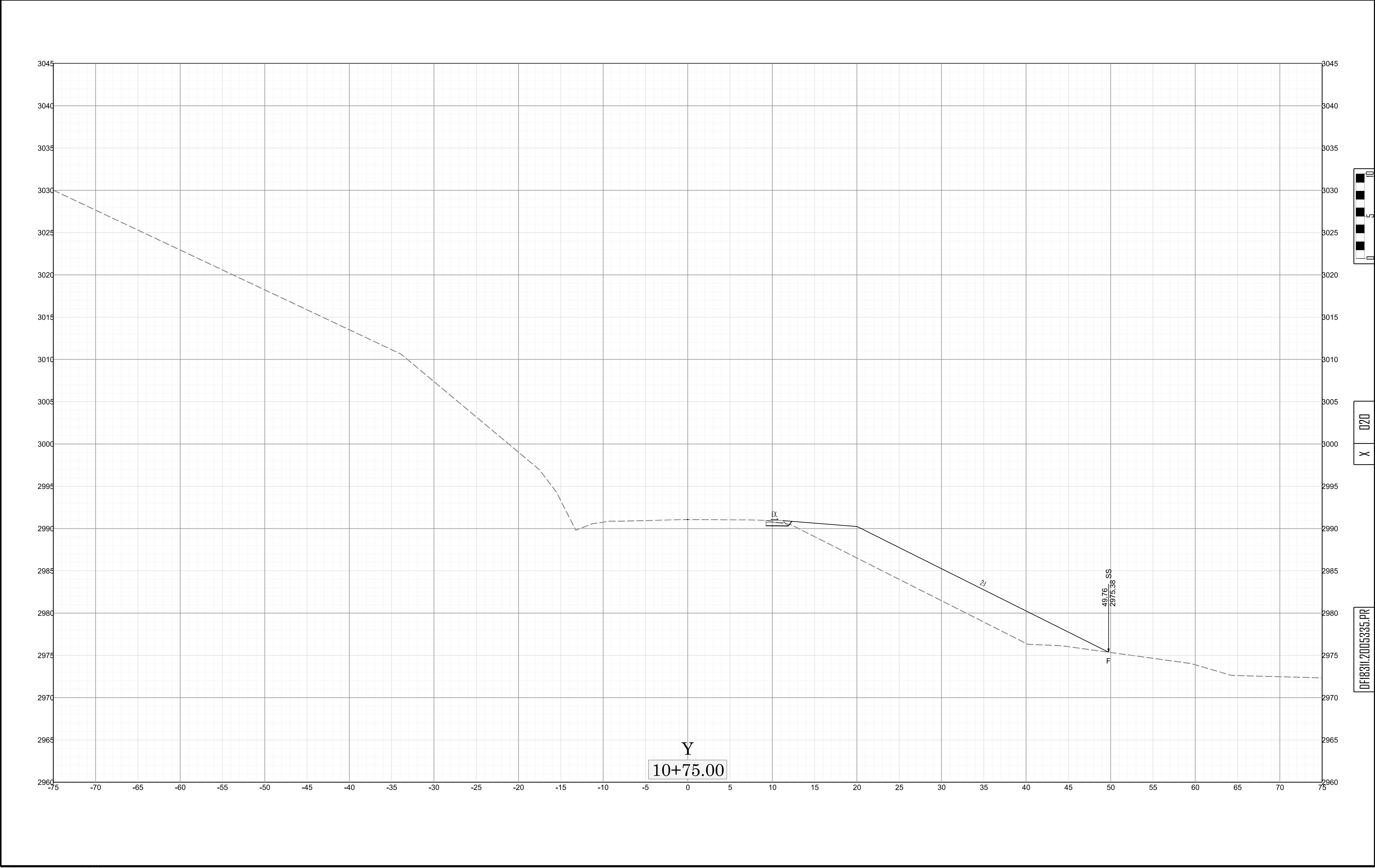
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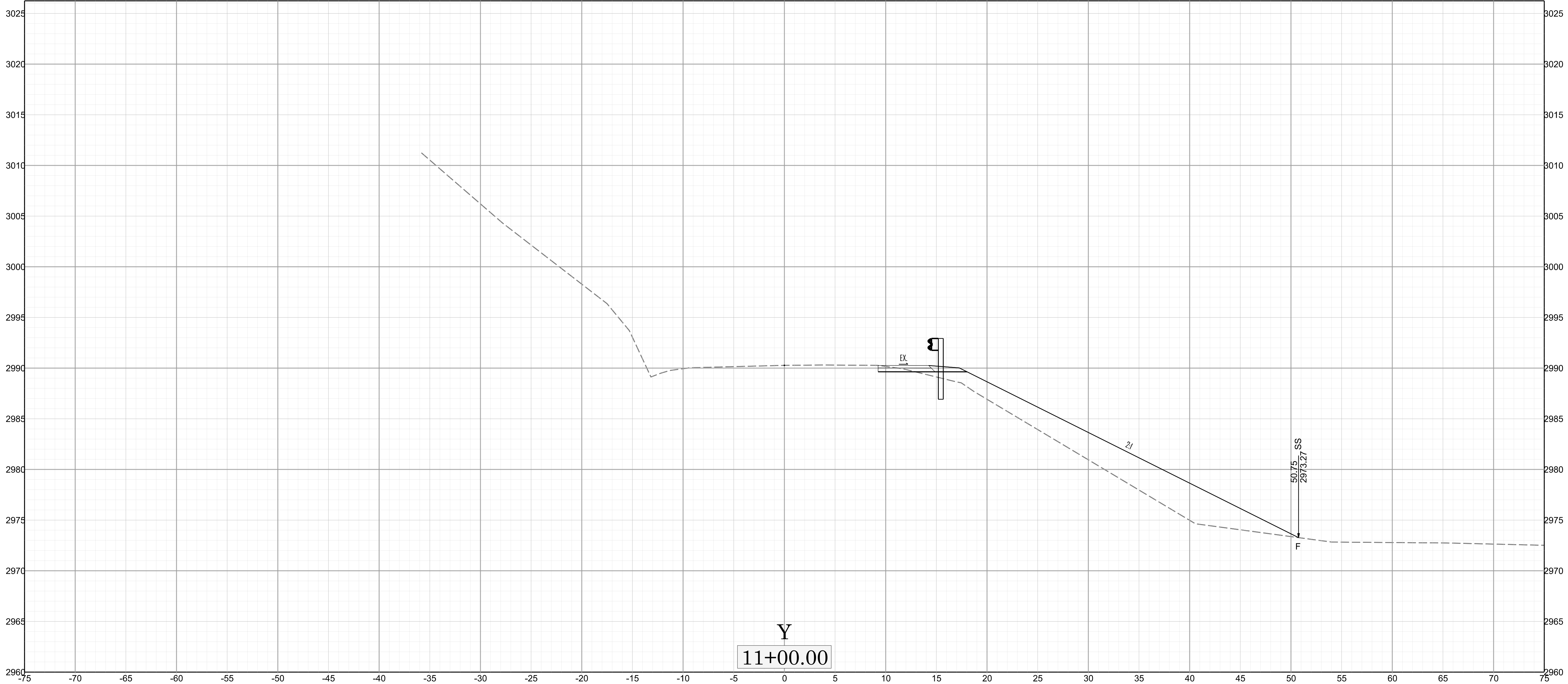


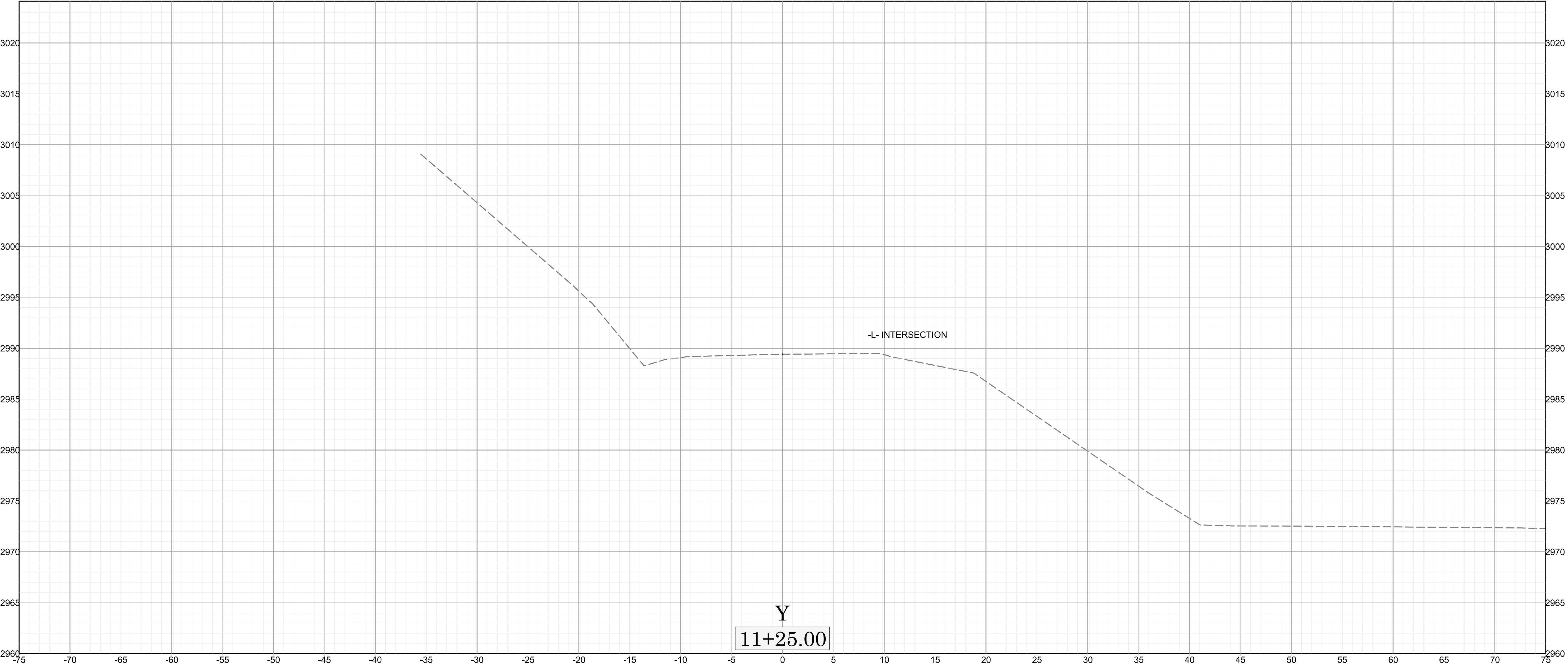


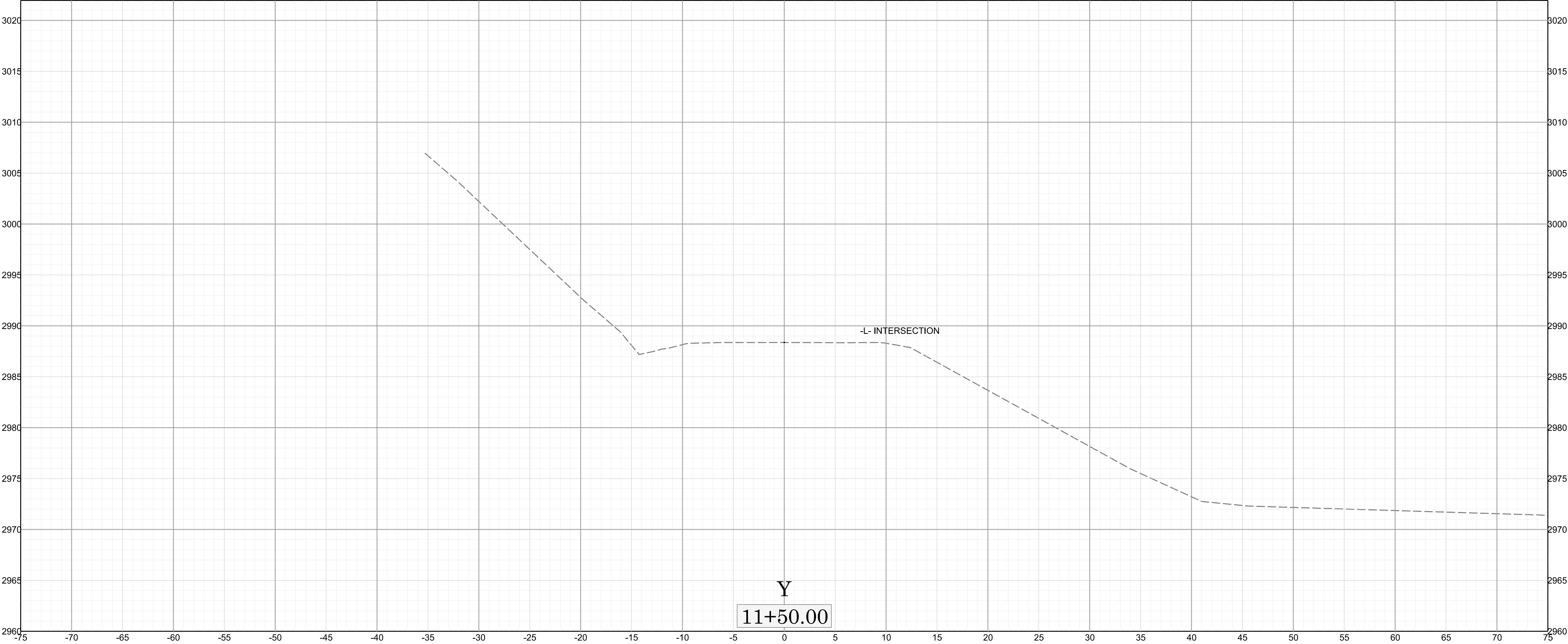


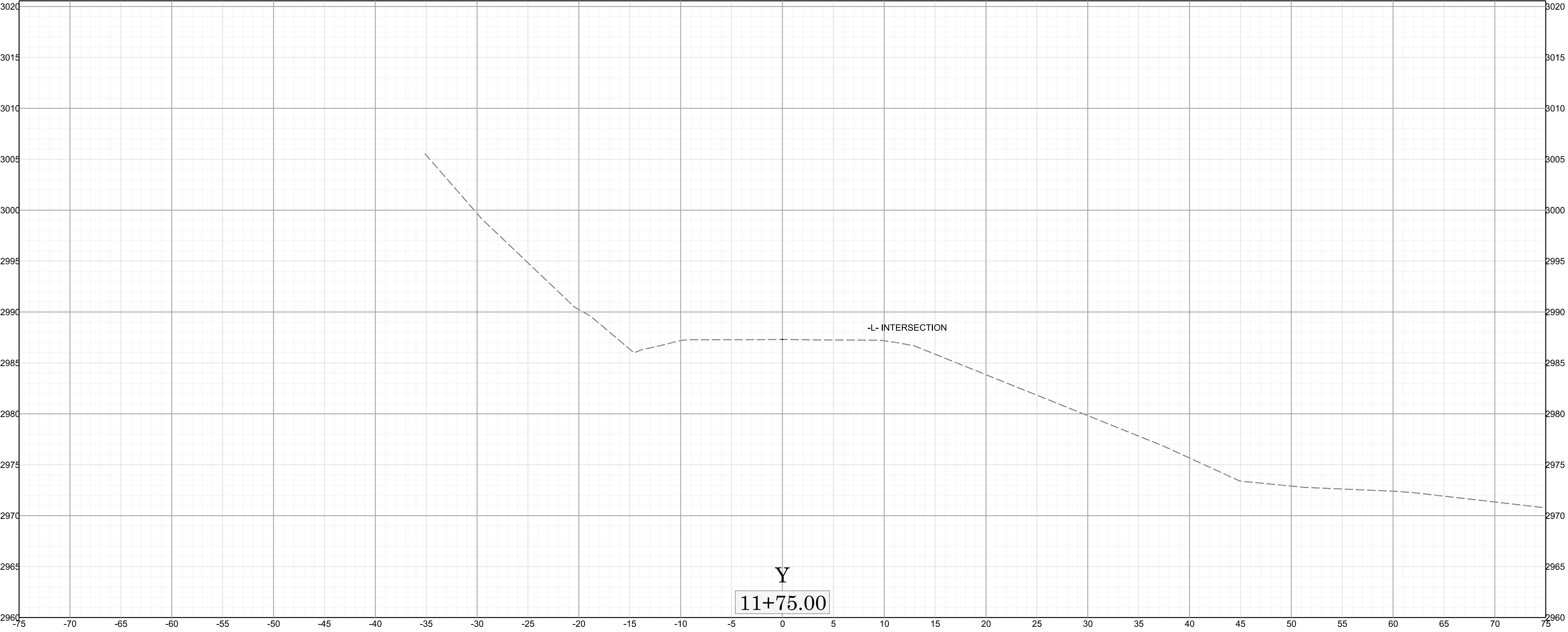


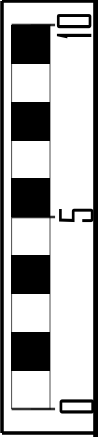
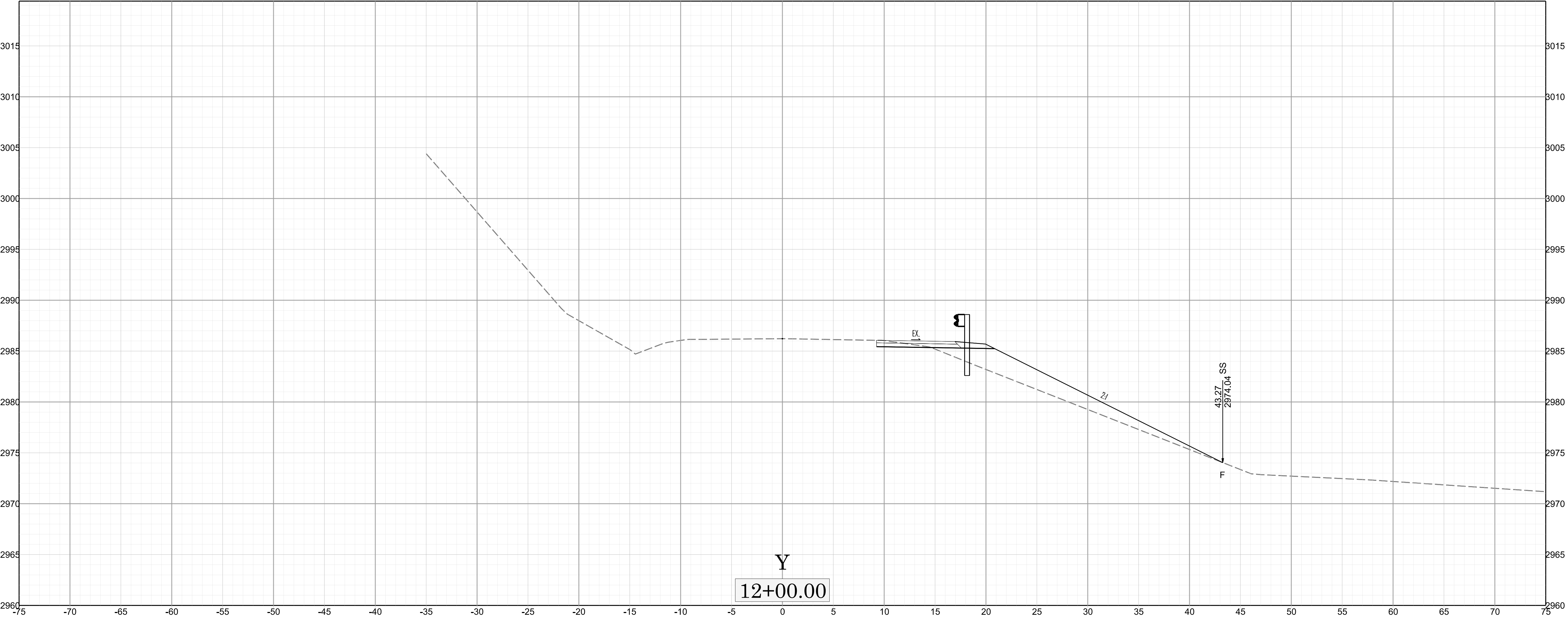






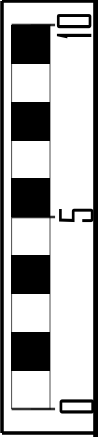
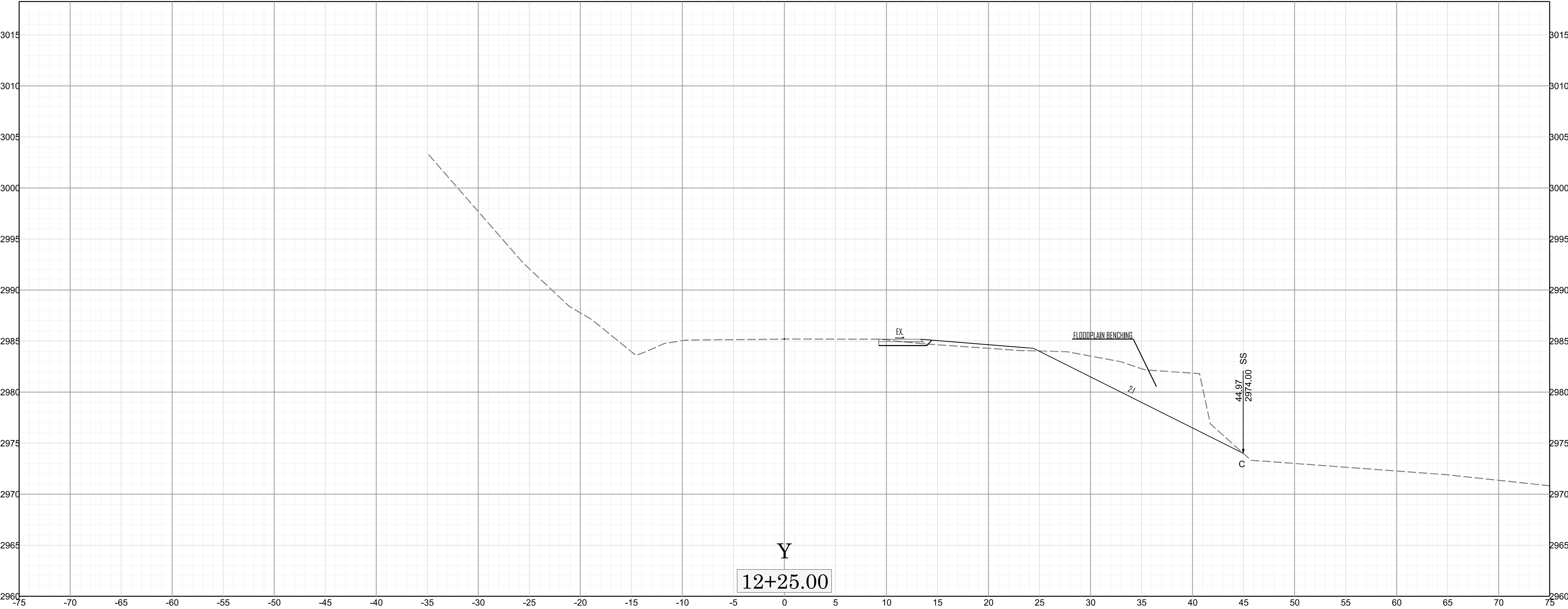






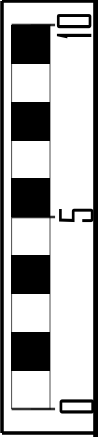
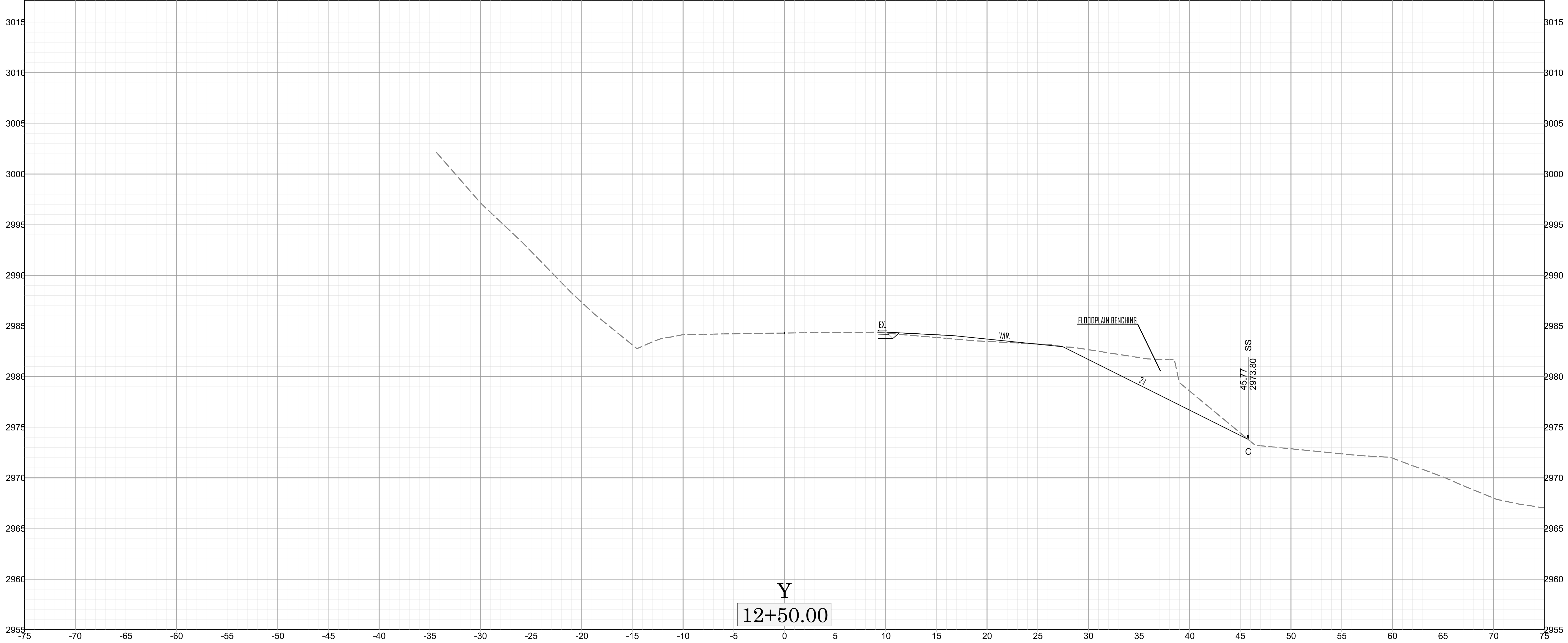
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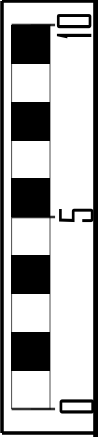
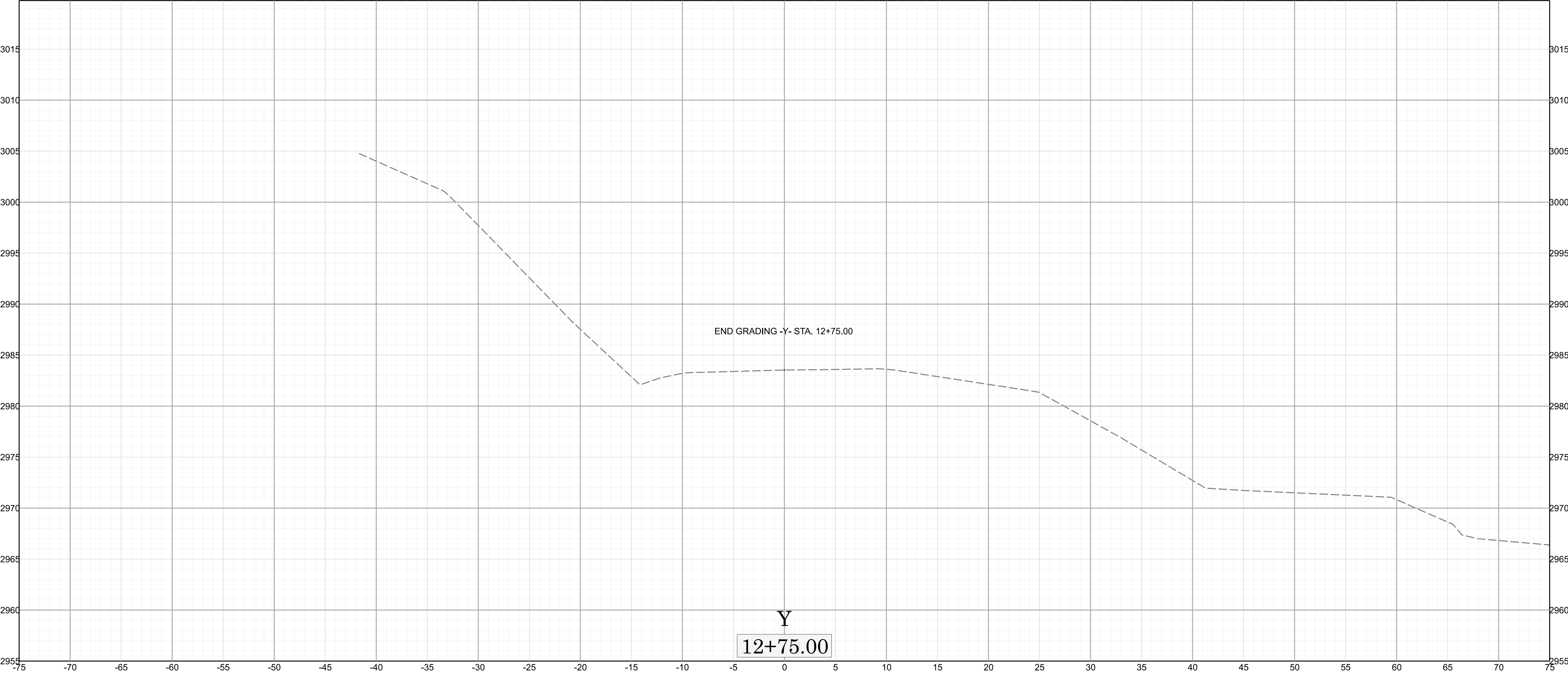
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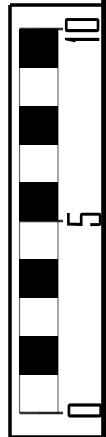
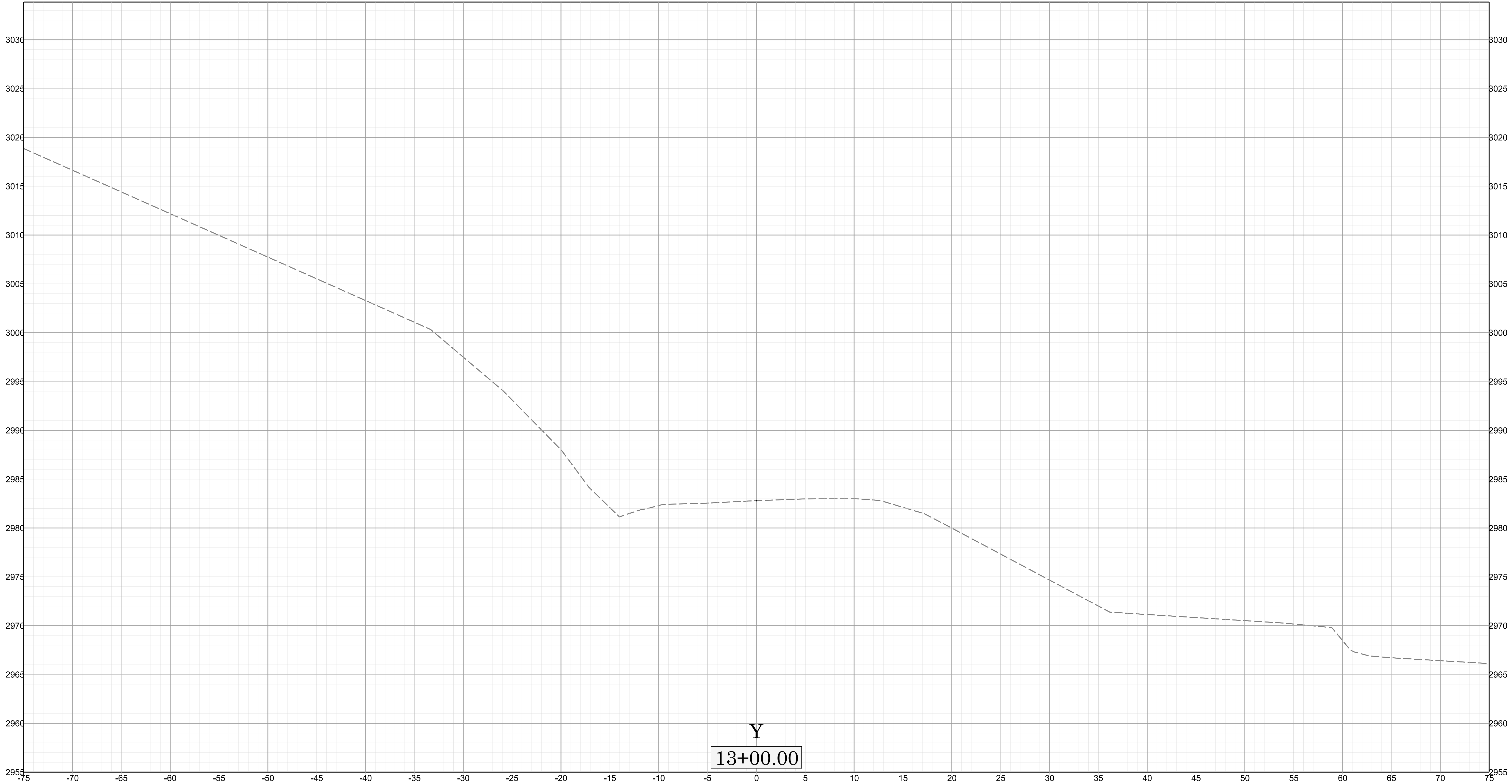
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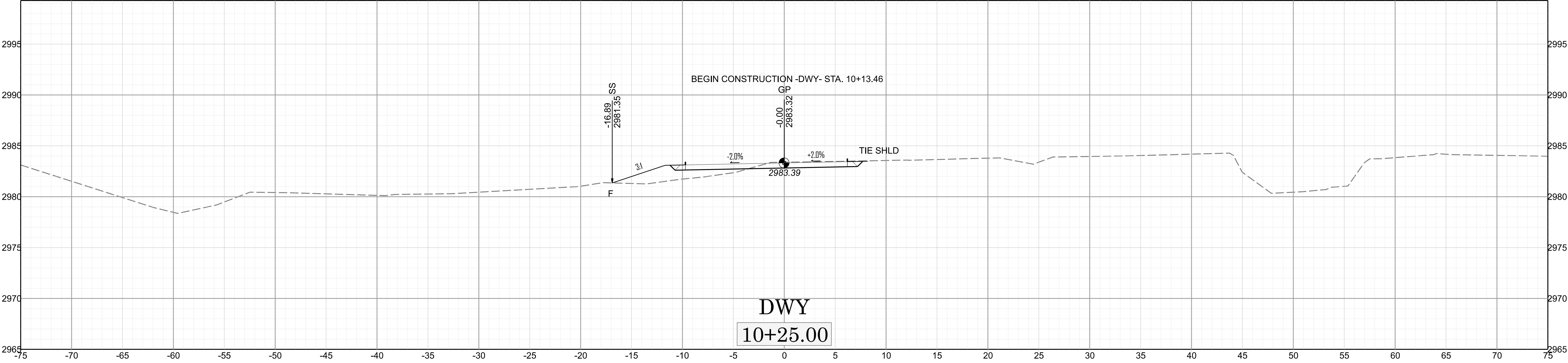
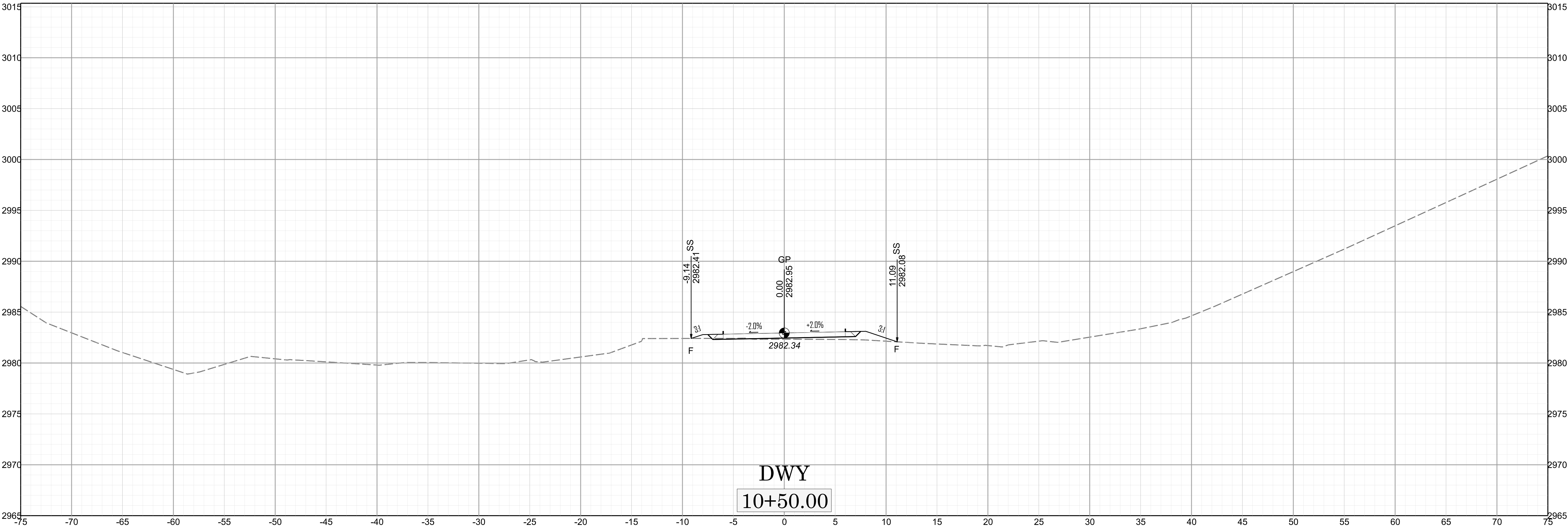
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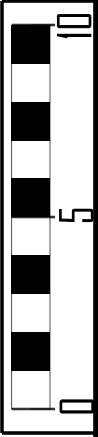
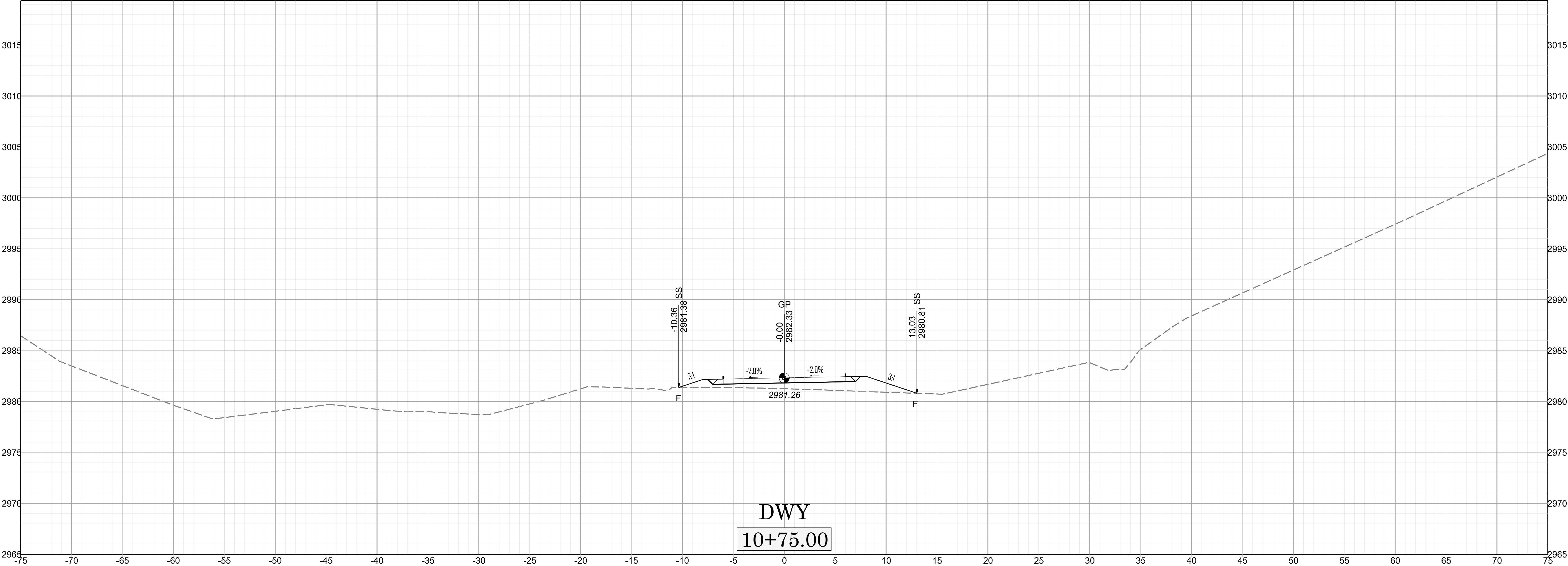
DF1831.2005335.PR



X 029

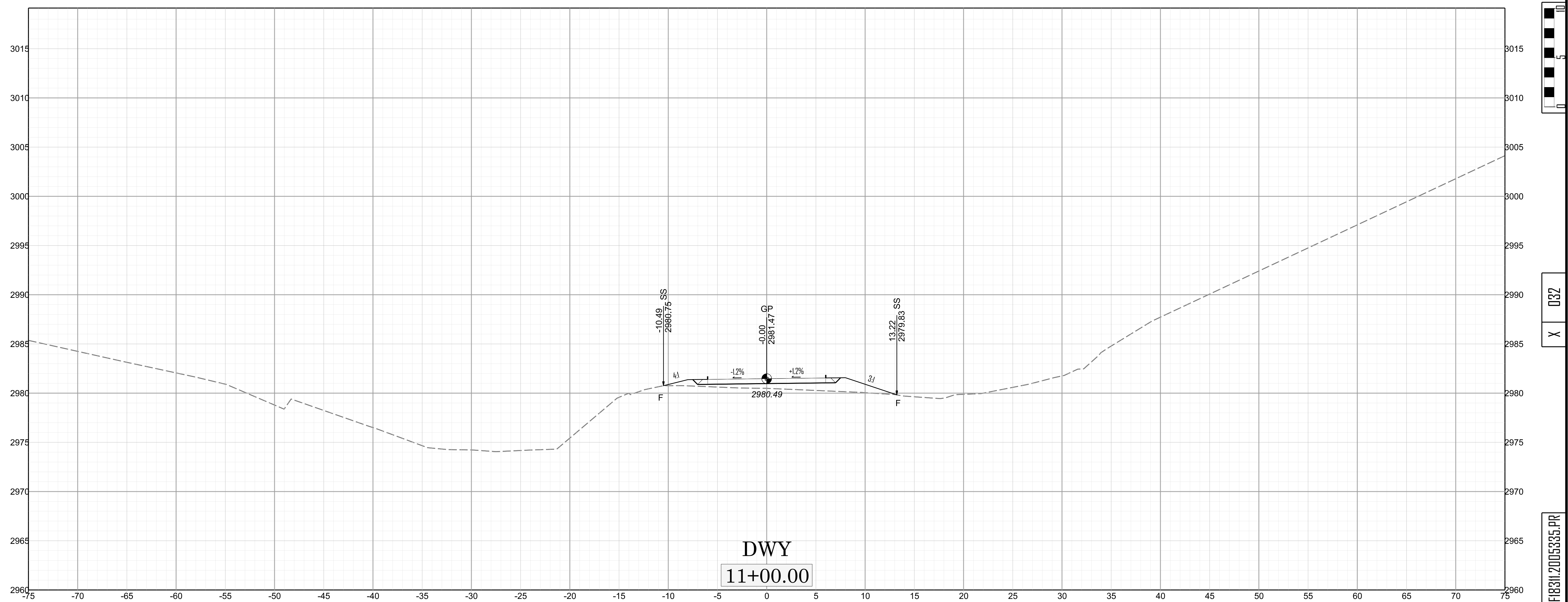
DF1831/2005335.PR

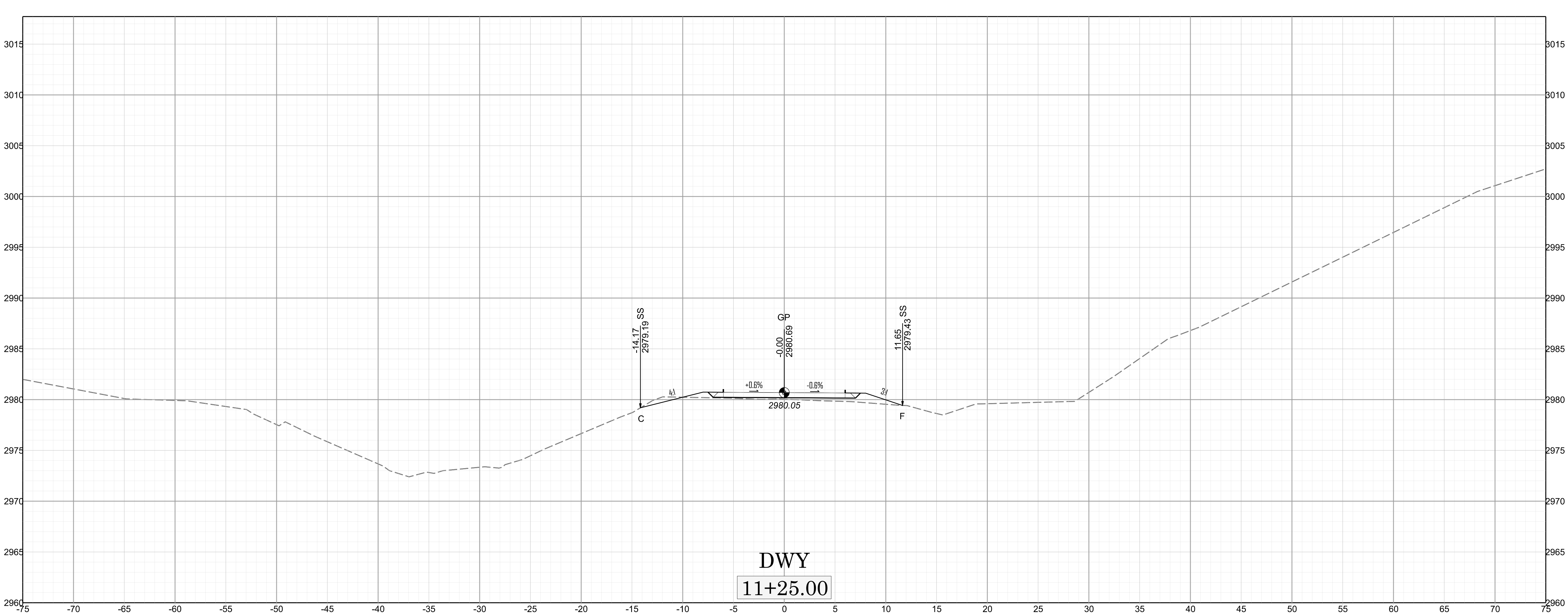


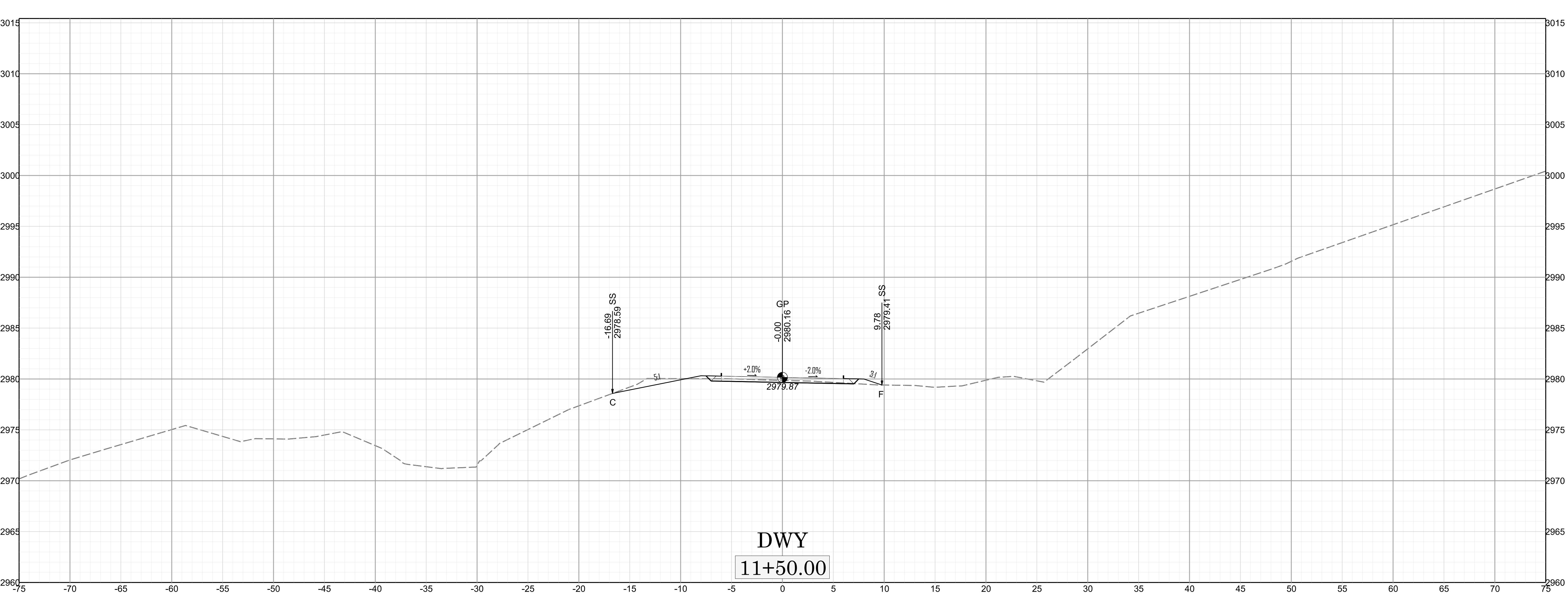


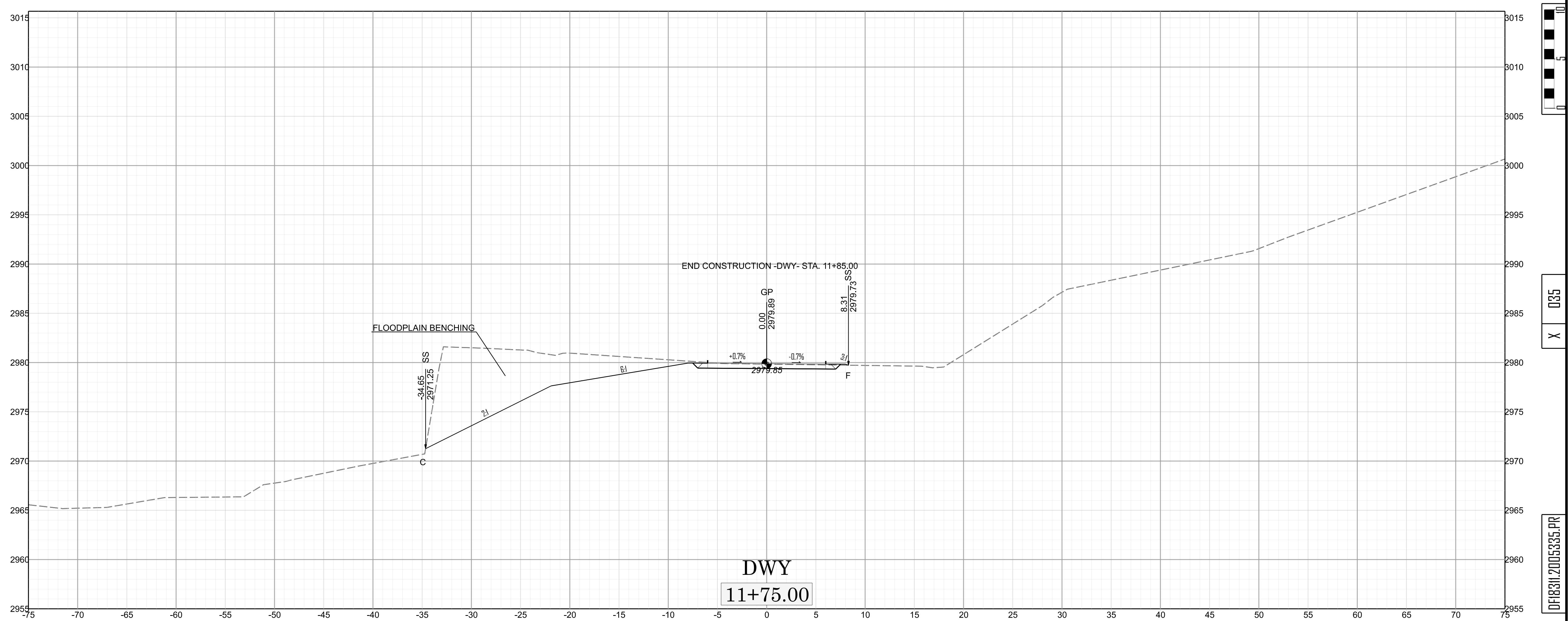
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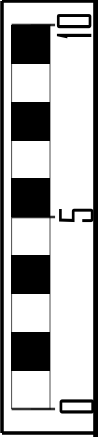
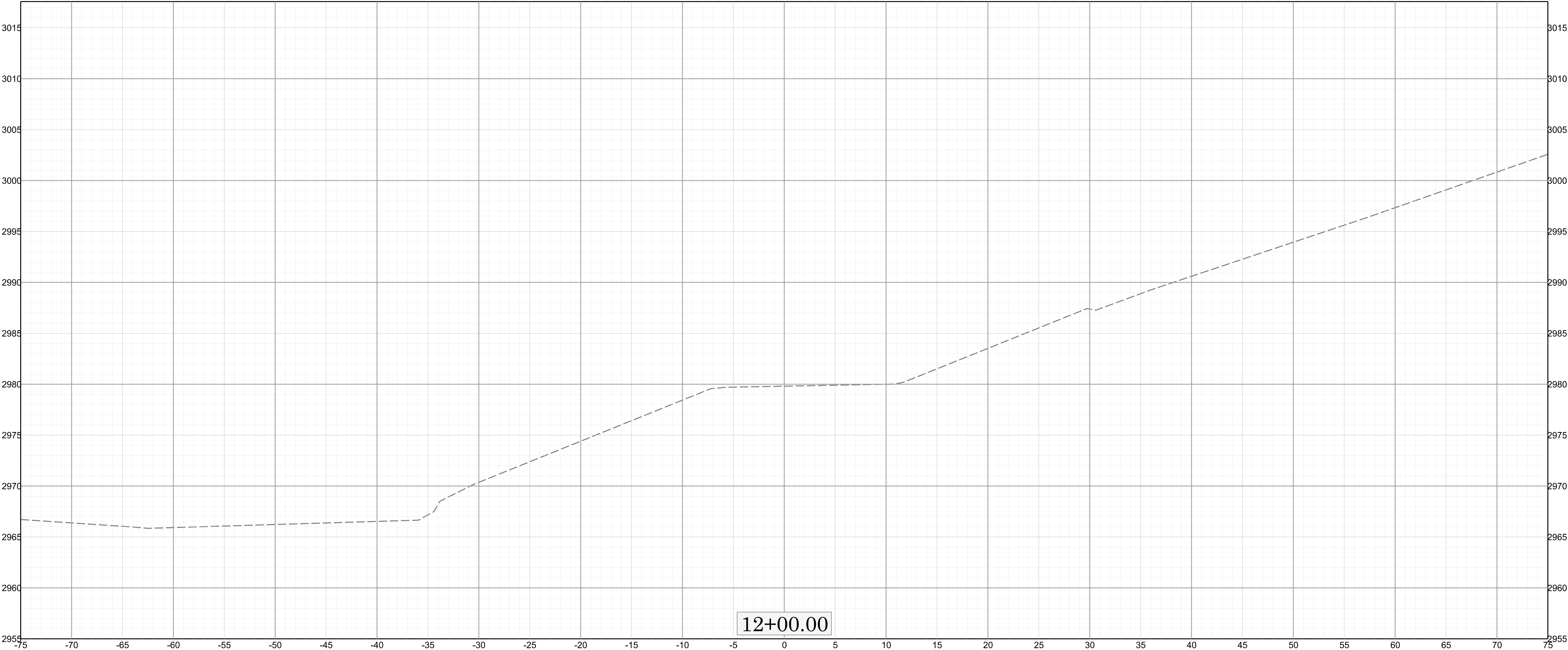
DF1831.200535.PR











X 036

DF1831/2005335.PR

PROJECT NO. <u>DF18311.2005335.PR</u>	ASHE	COUNTY
STATION: <u>15+15.50 -L-</u>		
SHEET 1 OF 4		
REPLACES BRIDGE No. 040439		

STATE OF NORTH CAROLINA

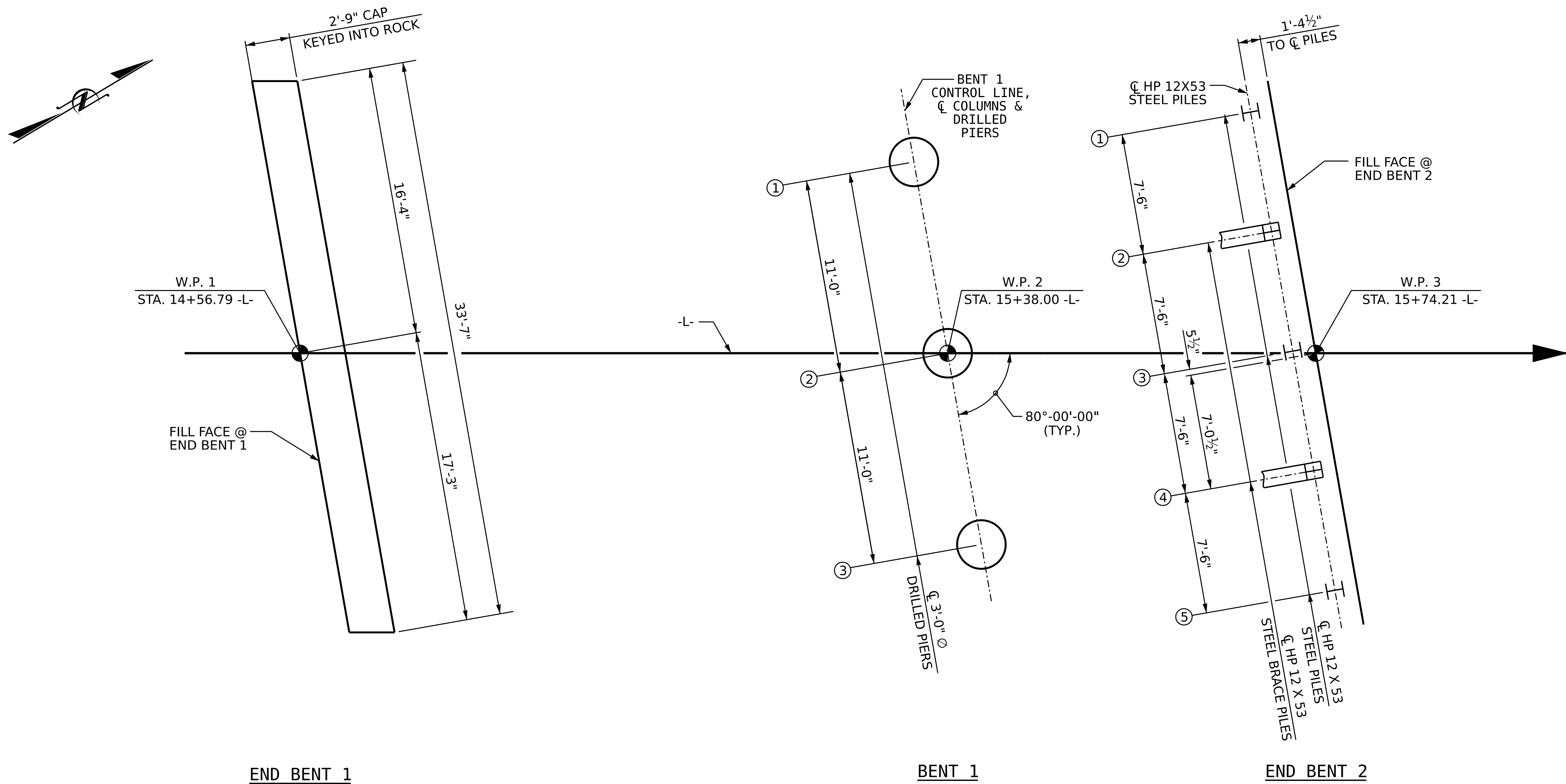
DEPARTMENT OF TRANSPORTATION

RALEIGH

GENERAL DRAWING

**FOR BRIDGE OVER NORTH
FORK NEW RIVER ON SR 1120
(BALLOU RD.) BETWEEN
DEAD END & NC 88**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1 TOTAL SHEETS 23
1			3			
2			4			



FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES AND DRILLED PIERS ARE SHOWN TO THE CENTERLINE OF EACH

NOTES

FOR FOUNDATION EXCAVATION, SEE SECTION 410 OF THE STANDARD SPECIFICATIONS.

FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

FOR BRIDGE ABUTMENTS, SEE SECTION 420 OF THE STANDARD SPECIFICATIONS.

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

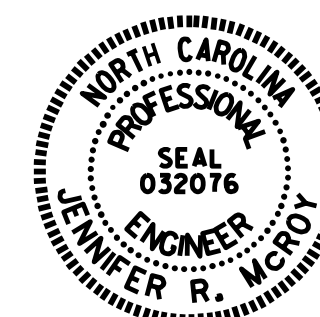
SPREAD FOOTING AT END BENT NO. 1 MUST BE KEYED IN A MINIMUM DEPTH OF 12" IN WEATHERED ROCK OR 6" IN CRYSTALLINE ROCK TO RESIST SLIDING

RECOMMENDED MINIMUM BOTTOM OF FOOTING AT END BENT NO. 1 WITH ROCK KEYWAY SHALL BE EL. 2976.38 FT.

Prepared in the Office of:



NC FIRM LICENSE No: C-5176
1000 Social St., Suite 800
Raleigh, NC 27609
(919)322-0115
www.summitde.com



Signed by:
Jennifer R. McKay
E21A12F88CDB40B...

7/23/2026

PROJECT NO. DF18311.2005335.PR

ASHE COUNTY

STATION: 15+15.50 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

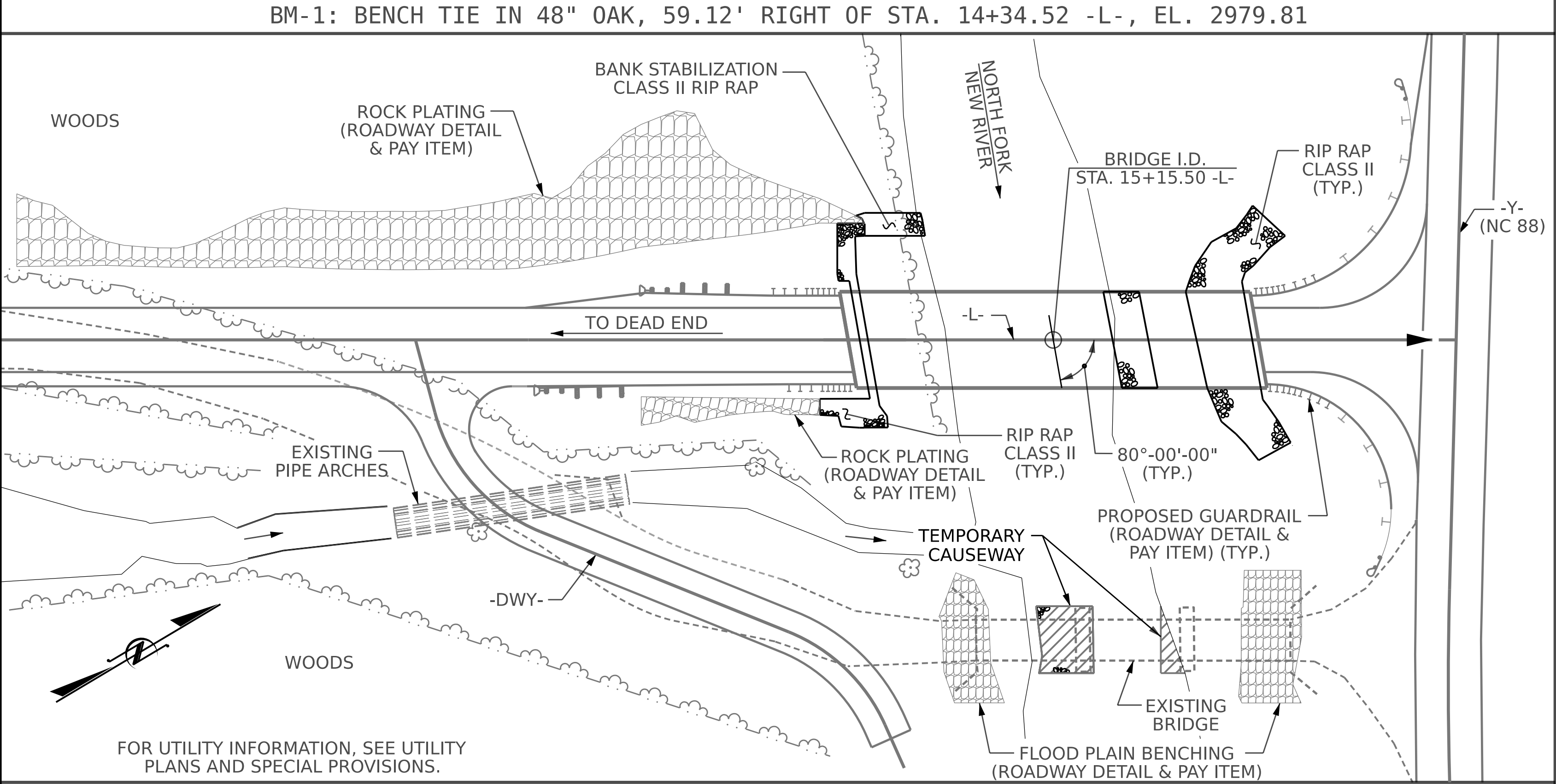
GENERAL DRAWING

FOR BRIDGE OVER NORTH
FORK NEW RIVER ON SR 1120
(BALLOU RD.) BETWEEN
DEAD END & NC 88

REVISIONS						SHEET NO. S-2
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 23
2			4			

DRAWN BY : M.K. BEARD DATE : 03/2026
 CHECKED BY : J.R. MCROY DATE : 03/2026
 DESIGN ENGINEER OF RECORD: J.R. MCROY DATE : 07/2026

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED



LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD HL-93 OR ALTERNATE LOADING.

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

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

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

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES."

THE EXISTING STRUCTURE CONSISTING OF 3 SPAN; 1 @ 29'-9", 1 @ 29'-3" AND 1 @ 29'-7" WITH A TIMBER FLOOR ON I-BEAMS; TIMBER CAPS ON TIMBER PILES; AND A CLEAR ROADWAY OF 11'-0" LOCATED APPROXIMATELY 85' DOWNSTREAM OF THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT.

AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIP RAP USED IN THE CAUSEWAY MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STA. 15+15.50 -L-.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. 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.

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.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 30' OF THE LEFT SIDE AND 25' RIGHT SIDE OF CENTERLINE ROADWAY AT END BENT 1 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.

THE SCOUR CRITICAL ELEVATION FOR BENT 1, PIERS 1 & 2 IS ELEVATION 2963.0 AND FOR BENT 1, PIER 3 IN 2965.0. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISION.

FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS, SEE SPECIAL PROVISIONS.

HYDRAULIC DATA

DESIGN DISCHARGE	= 3500 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= 2975.7 FT.
DRAINAGE AREA	= 24.5 SQ. MI.
BASE DISCHARGE (Q100)	= 5100 C.F.S.
BASE HIGH WATER ELEVATION	= 2977.5 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 11000 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 2985.1 FT.

W.S. EL. TAKEN @ RIVER STATION 220491

TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMP ACCESS @ STA. 15+15.50 -L-	REMOVAL OF EXISTING STRUCTURE @ STA. 15+15.50 -L-	ASBESTOS ASSESSMENT	3'-0" Ø DRILLED PIERS	PERMANENT STEEL CASING FOR 3'-0" Ø DRILLED PIER	SID INSPECTIONS	SPT TESTING	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION @ STA. 15+15.50 -L-	CLASS A CONCRETE	REINFORCING STEEL
	LUMP SUM	LUMP SUM	LUMP SUM	LIN.FT.	LIN.FT.	EA.	EA.	EA.	LUMP SUM	CU.YDS.	LBS.
SUPERSTRUCTURE	LUMP SUM	LUMP SUM	LUMP SUM						LUMP SUM		
END BENT 1										22.7	4,204
BENT 1				40.75	14.85	1	1	1		16.2	8,682
END BENT 2										21.1	3,069
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	40.75	14.85	1	1	1	LUMP SUM	60.0	15,955

	SPIRAL COLUMN REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES		STEEL PILE POINTS	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-9" PRESTRESSED CONCRETE BOX BEAMS	
	LBS.	EA.	NO.	LIN.FT.	EA.	LIN.FT.	TON	SQ.YDS.	LUMP SUM	NO.	LIN.FT.
SUPERSTRUCTURE						230.0			LUMP SUM	18	1,035.0
END BENT 1							81	92			
BENT 1	1,282						32	35			
END BENT 2		5	5	100	5		280	310			
TOTAL	1,282	5	5	100	5	230.0	393	437	LUMP SUM	18	1,035.0

DRAWN BY : M.K BEARD DATE : 02/2026
CHECKED BY : J.R. MCROY DATE : 03/2026
DESIGN ENGINEER OF RECORD: J.R. MCROY DATE : 07/2026

Prepared in the Office of:



NC FIRM LICENSE No: C-5176
1000 Social St., Suite 800
Raleigh, NC 27609
(919)322-0115
www.summitde.com



Signed by:
Jennifer R. McRoy

7/23/2026

PROJECT NO. DF18311.2005335.PR

ASHE COUNTY

STATION: 15+15.50 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER NORTH
FORK NEW RIVER ON SR 1120
(BALLOU RD.) BETWEEN
DEAD END & NC 88

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-4 TOTAL SHEETS 23
2			4			

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE BOX BEAMS																								
LOAD TYPE	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING ⬢#	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE						COMMENT NUMBER		
						LIVE-LOAD FACTORS (γ LL)	MOMENT				SHEAR				LIVE-LOAD FACTORS (γ LL)	MOMENT								
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD	HL-93 (INVENTORY)	N/A	⬢1	1.179	--	1.75	0.268	1.75	A	EL	39.224	0.584	1.27	A	EL	7.845	0.80	0.268	1.18	A	EL	39.224		
	HL-93 (OPERATING)	N/A		1.644	--	1.35	0.268	2.27		EL	39.224	0.584	1.64		EL	7.845	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	⬢2	1.564	56.305	1.75	0.268	2.33	A	EL	39.224	0.584	1.60	A	EL	7.845	0.80	0.268	1.56	A	EL	39.224		
	HS-20 (OPERATING)	36.000		2.077	74.771	1.35	0.268	3.02		EL	39.224	0.584	2.08		EL	7.845	N/A	--	--	--	--	--		
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		3.580	48.335	1.4	0.268	6.66	A	EL	39.224	0.584	4.81	A	EL	7.845	0.80	0.268	3.58	A	EL	39.224	
		SNGARBS2	20.000		2.647	52.933	1.4	0.268	4.92	A	EL	39.224	0.584	3.41	A	EL	7.845	0.80	0.268	2.65	A	EL	39.224	
		SNAGRIS2	22.000		2.498	54.946	1.4	0.268	4.64	A	EL	39.224	0.584	3.16	A	EL	7.845	0.80	0.268	2.50	A	EL	39.224	
		SNCOTTS3	27.250		1.781	48.534	1.4	0.268	3.31	A	EL	39.224	0.584	2.40	A	EL	7.845	0.80	0.268	1.78	A	EL	39.224	
		SNAGGRS4	34.925		1.480	51.695	1.4	0.268	2.75	A	EL	39.224	0.584	1.98	A	EL	7.845	0.80	0.268	1.48	A	EL	39.224	
		SNS5A	35.550		1.448	51.477	1.4	0.268	2.69	A	EL	39.224	0.584	2.00	A	EL	7.845	0.80	0.268	1.45	A	EL	39.224	
		SNS6A	39.950		1.325	52.939	1.4	0.268	2.46	A	EL	39.224	0.584	1.82	A	EL	7.845	0.80	0.268	1.33	A	EL	39.224	
		SNS7B	42.000		1.262	52.996	1.4	0.268	2.35	A	EL	39.224	0.584	1.79	A	EL	7.845	0.80	0.268	1.26	A	EL	39.224	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.615	53.292	1.4	0.268	3.00	A	EL	39.224	0.584	2.17	A	EL	7.845	0.80	0.268	1.61	A	EL	39.224	
		TNT4A	33.075		1.621	53.618	1.4	0.268	3.01	A	EL	39.224	0.584	2.12	A	EL	7.845	0.80	0.268	1.62	A	EL	39.224	
		TNT6A	41.600		1.322	55.003	1.4	0.268	2.46	A	EL	39.224	0.584	1.89	A	EL	7.845	0.80	0.268	1.32	A	EL	39.224	
		TNT7A	42.000		1.327	55.736	1.4	0.268	2.47	A	EL	39.224	0.584	1.86	A	EL	7.845	0.80	0.268	1.33	A	EL	39.224	
		TNT7B	42.000		1.369	57.481	1.4	0.268	2.54	A	EL	39.224	0.584	1.75	A	EL	7.845	0.80	0.268	1.37	A	EL	39.224	
		TNAGRIT4	43.000		1.305	56.120	1.4	0.268	2.43	A	EL	39.224	0.584	1.69	A	EL	7.845	0.80	0.268	1.31	A	EL	39.224	
		TNAGT5A	45.000		1.232	55.443	1.4	0.268	2.29	A	EL	39.224	0.584	1.68	A	EL	7.845	0.80	0.268	1.23	A	EL	39.224	
		TNAGT5B	45.000	⬢3	1.218	54.832	1.4	0.268	2.27	A	EL	39.224	0.584	1.61	A	EL	7.845	0.80	0.268	1.22	A	EL	39.224	
EMERGENCY VEHICLE (EV)	EV2	28.750		2.258	64.921	1.3	0.268	3.80	A	EL	39.224	0.584	2.50	A	EL	7.845	0.80	0.268	2.26	A	EL	39.224		
	EV3	43.000	⬢4	1.481	63.698	1.3	0.268	2.49	A	EL	39.224	0.584	1.68	A	EL	7.845	0.80	0.268	1.48	A	EL	39.224		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ DC	γ DW
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

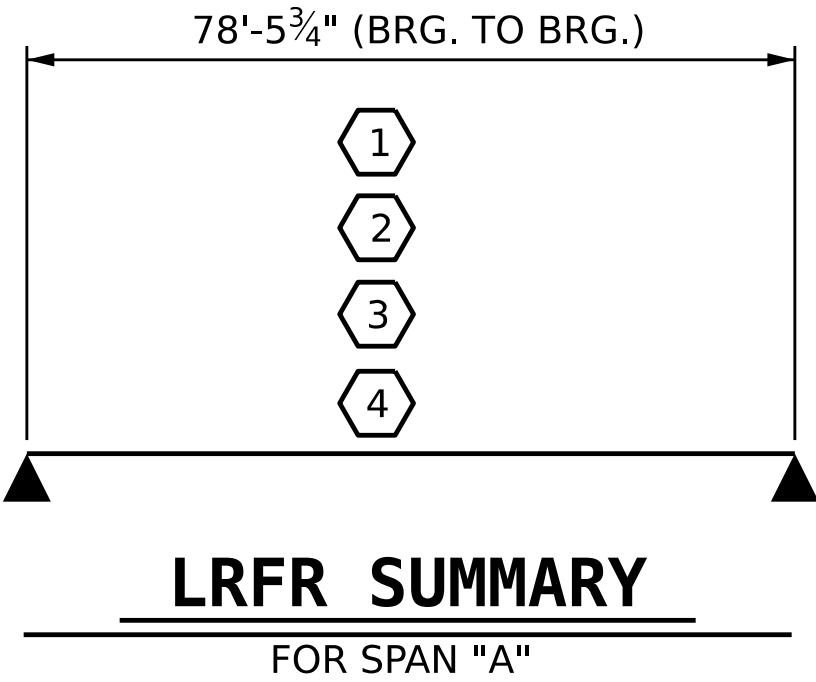
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

1.
2.
3.
4.

⬡#	CONTROLLING LOAD RATING
⬡1	DESIGN LOAD RATING (HL-93)
⬡2	DESIGN LOAD RATING (HS-20)
⬡3	LEGAL LOAD RATING * *
⬡4	EMERGENCY VEHICLE LOAD RATING **
* * SEE CHART FOR VEHICLE TYPE	
GIRDER LOCATION	
I - INTERIOR GIRDER EL - EXTERIOR LEFT GIRDER ER - EXTERIOR RIGHT GIRDER	



ASSEMBLED BY: M.K. BEARD		02/2026
CHECKED BY : J.R. MCROY		DATE : 02/2026
DRAWN BY : TMG II/II	REV. 06/23	AKP/AAI
CHECKED BY : AAC II/II		

Prepared in the Office of:

↑

SUMMIT

DESIGN AND ENGINEERING SERVICES

NC FIRM LICENSE No: C-5176
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Raleigh, NC 27609
(919)322-0115
www.summitde.com

Seal of Jennifer R. McRoy

7/23/2026

ENGINEER

JENNIFER R. MCROY

Signed by:

Jennifer R. McRoy

F21A12FB8CD840B...

PROJECT NO. DF18311.2005335.PR
ASHE COUNTY
STATION: 15+15.50 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
STANDARD						
LRFR SUMMARY FOR						
80' BOX BEAM UNIT						
80° SKEW						
(NON-INTERSTATE TRAFFIC)						
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			23

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE BOX BEAMS																								
LOAD TYPE	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING Ⓢ	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE											SERVICE III LIMIT STATE						COMMENT NUMBER	
						LIVE-LOAD FACTORS (γ LL)	MOMENT					SHEAR					LIVE-LOAD FACTORS (γ LL)	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		
DESIGN LOAD	HL-93 (INVENTORY)	N/A	Ⓢ1	3.40	--	1.75	0.290	5.69	35'	EL	16.75	0.610	3.40	35'	EL	27.25	0.80	0.290	5.65	35'	EL	16.75		
	HL-93 (OPERATING)	N/A		4.45	--	1.35	0.290	7.38	35'	EL	16.75	0.610	4.45	35'	EL	27.25	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	Ⓢ2	3.88	139.68	1.75	0.290	7.44	35'	EL	20.25	0.610	3.88	35'	EL	27.25	0.80	0.290	7.41	35'	EL	20.25		
	HS-20 (OPERATING)	36.000		5.08	182.88	1.35	0.290	9.64	35'	EL	20.25	0.610	5.08	35'	EL	27.25	N/A	--	--	--	--	--		
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		9.64	130.14	1.4	0.290	16.23	35'	EL	16.75	0.610	9.64	35'	EL	27.25	0.80	0.290	12.89	35'	EL	16.75	
		SNGARBS2	20.000		7.45	149.00	1.4	0.290	13.60	35'	EL	20.25	0.610	7.45	35'	EL	27.25	0.80	0.290	10.84	35'	EL	20.25	
		SNAGRIS2	22.000		7.19	158.18	1.4	0.290	13.52	35'	EL	20.25	0.610	7.19	35'	EL	27.25	0.80	0.290	10.77	35'	EL	20.25	
		SNCOTTS3	27.250		4.79	130.53	1.4	0.290	8.13	35'	EL	16.75	0.610	4.79	35'	EL	27.25	0.80	0.290	6.46	35'	EL	16.75	
		SNAGGRS4	34.925		4.70	164.15	1.4	0.290	7.91	35'	EL	16.75	0.610	4.70	35'	EL	27.25	0.80	0.290	6.28	35'	EL	16.75	
		SNS5A	35.550		4.69	166.73	1.4	0.290	7.32	35'	EL	16.75	0.610	4.69	35'	EL	27.25	0.80	0.290	5.81	35'	EL	16.75	
		SNS6A	39.950		4.41	176.18	1.4	0.290	7.05	35'	EL	16.75	0.610	4.41	35'	EL	27.25	0.80	0.290	5.60	35'	EL	16.75	
		SNS7B	42.000		4.50	189.00	1.4	0.290	6.74	35'	EL	16.75	0.610	4.50	35'	EL	27.25	0.80	0.290	5.35	35'	EL	16.75	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		5.29	174.57	1.4	0.290	8.75	35'	EL	16.75	0.610	5.29	35'	EL	27.25	0.80	0.290	6.95	35'	EL	16.75	
		TNT4A	33.075		4.90	162.07	1.4	0.290	8.70	35'	EL	16.75	0.610	4.90	35'	EL	27.25	0.80	0.290	6.91	35'	EL	16.75	
		TNT6A	41.600		4.71	195.64	1.4	0.290	7.65	35'	EL	16.75	0.610	4.71	35'	EL	27.25	0.80	0.290	6.07	35'	EL	16.75	
		TNT7A	42.000		4.50	189.00	1.4	0.290	7.86	35'	EL	20.25	0.610	4.50	35'	EL	27.25	0.80	0.290	6.26	35'	EL	20.25	
		TNT7B	42.000		4.39	184.38	1.4	0.290	7.75	35'	EL	16.75	0.610	4.39	35'	EL	27.25	0.80	0.290	6.15	35'	EL	16.75	
		TNAGRIT4	43.000		4.25	182.75	1.4	0.290	7.73	35'	EL	20.25	0.610	4.25	35'	EL	27.25	0.80	0.290	6.16	35'	EL	20.25	
		TNAGT5A	45.000		4.59	206.55	1.4	0.290	7.29	35'	EL	16.75	0.610	4.59	35'	EL	27.25	0.80	0.290	5.79	35'	EL	16.75	
		TNAGT5B	45.000	Ⓢ3	3.99	179.55	1.4	0.290	7.02	35'	EL	16.75	0.610	3.99	35'	EL	27.25	0.80	0.290	5.58	35'	EL	16.75	
EMERGENCY VEHICLE (EV)	EV2	28.750		5.68	163.30	1.3	0.290	10.55	35'	EL	20.25	0.610	5.68	35'	EL	27.25	0.80	0.290	7.80	35'	EL	20.25		
	EV3	43.000	Ⓢ4	3.84	165.12	1.3	0.290	6.99	35'	EL	16.75	0.610	3.84	35'	EL	27.25	0.80	0.290	5.15	35'	EL	16.75		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ DC	γ DW
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

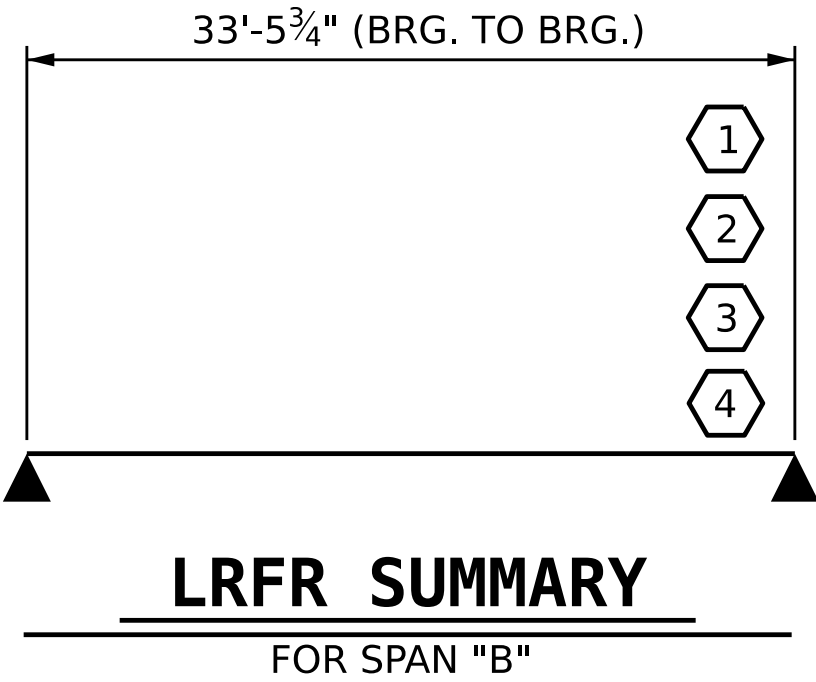
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

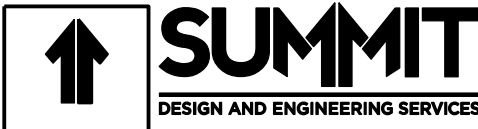
COMMENTS:

1.
2.
3.
4.

⬡#	CONTROLLING LOAD RATING
⬡1	DESIGN LOAD RATING (HL-93)
⬡2	DESIGN LOAD RATING (HS-20)
⬡3	LEGAL LOAD RATING **
⬡4	EMERGENCY VEHICLE LOAD RATING **
** SEE CHART FOR VEHICLE TYPE	
GIRDER LOCATION	
I - INTERIOR GIRDER EL - EXTERIOR LEFT GIRDER ER - EXTERIOR RIGHT GIRDER	



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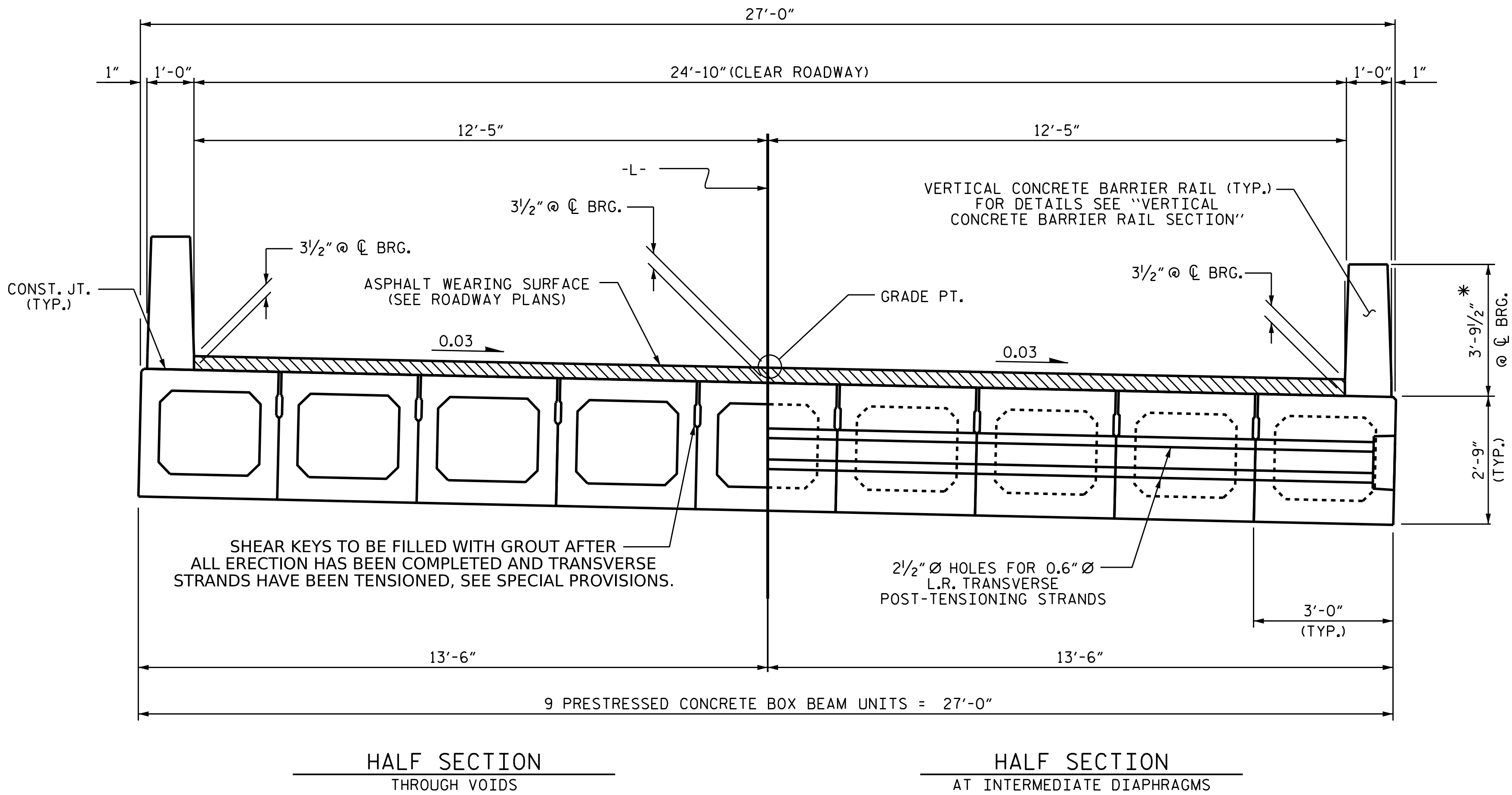
Signed by: Jennifer R. McRoy 7/23/2026
F21A12FB8CD8408...

PROJECT NO. DF18311.2005335.PR
ASHE COUNTY
STATION: 15+15.10 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
LRFR SUMMARY FOR 35' BOX BEAM UNIT 80° SKEW (NON-INTERSTATE TRAFFIC)						
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			23

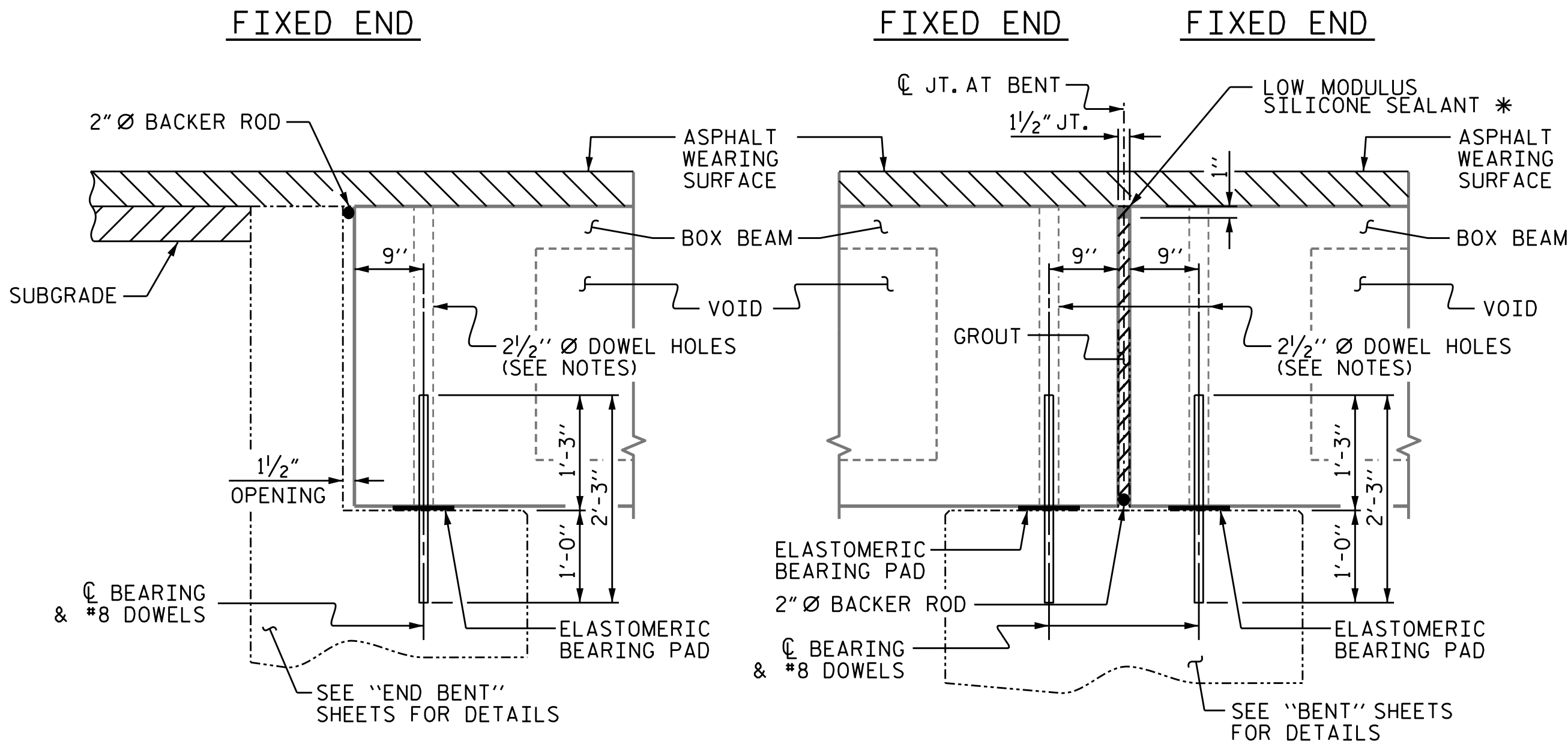
ASSEMBLED BY: B.M. WILSON DATE : 02/2026
CHECKED BY : J.R. MCROY DATE : 02/2026
DESIGN ENGINEER OF RECORD : J.R. MCROY DATE : 02/2026

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SIGNATURES COMPLETED



TYPICAL SECTION

* THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS, SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.

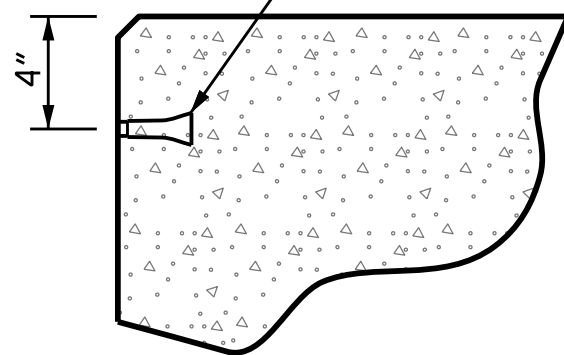


SECTION AT END BENT

SECTION AT BENT

* LOW MODULUS SILICONE SEALANT SHALL BE A PRODUCT ON THE APPROVED PRODUCTS LIST AND SHALL BE INCIDENTAL TO THE COST OF THE CORED SLAB PAY ITEM

PERMITTED THREADED INSERT CAST IN OUTSIDE FACE OF EXTERIOR UNIT AND RECESSED 3/8". SIZE TO BE DETERMINED BY CONTRACTOR.



THREADED INSERT DETAIL

NOTES:

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE BOX BEAM SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE BOX BEAMS.

FLAME CUTTING OF THE TRANSVERSE POST-TENSIONING STRAND IS NOT ALLOWED.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF BOX BEAM SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT.

THE BACKER RODS SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER, SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE BOX BEAM UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 6000 PSI FOR SPAN "A" AND 4000 PSI FOR SPAN "B".

ALL REINFORCING STEEL IN VERTICAL CONCRETE BARRIER RAILS SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE BOX BEAM UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO BOX BEAM UNIT ENDS.

VERTICAL GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A VERTICAL CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

THE LOCATION OF THE VOID DRAINS MAY BE SHIFTED SLIGHTLY WHERE NECESSARY TO CLEAR PRESTRESSING STRANDS OR TRANSVERSE REINFORCING STEEL.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

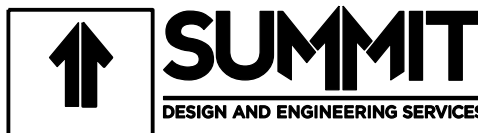
THE PERMITTED THREADED INSERTS ARE DETAILED AS AN OPTION FOR THE CONTRACTOR TO ATTACH FALSEWORK AND FORMWORK DURING CONSTRUCTION.

THE PERMITTED THREADED INSERTS IN THE EXTERIOR UNITS SHALL BE SIZED BY THE CONTRACTOR, SPACED AT 4'-0" CENTERS AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. STAINLESS STEEL THREADED INSERTS MAY BE USED AS AN ALTERNATE.

THE PERMITTED THREADED INSERTS SHALL BE GROUTED BY THE CONTRACTOR IMMEDIATELY FOLLOWING REMOVAL OF THE FALSEWORK.

THE COST OF THE PERMITTED THREADED INSERTS SHALL BE INCLUDED IN THE PRICE BID FOR THE PRECAST UNITS.

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7/23/2026

PROJECT NO. DF18311.2005335.PR

ASHES COUNTY

STATION: 15+15.50 -L-

SHEET 1 OF 7

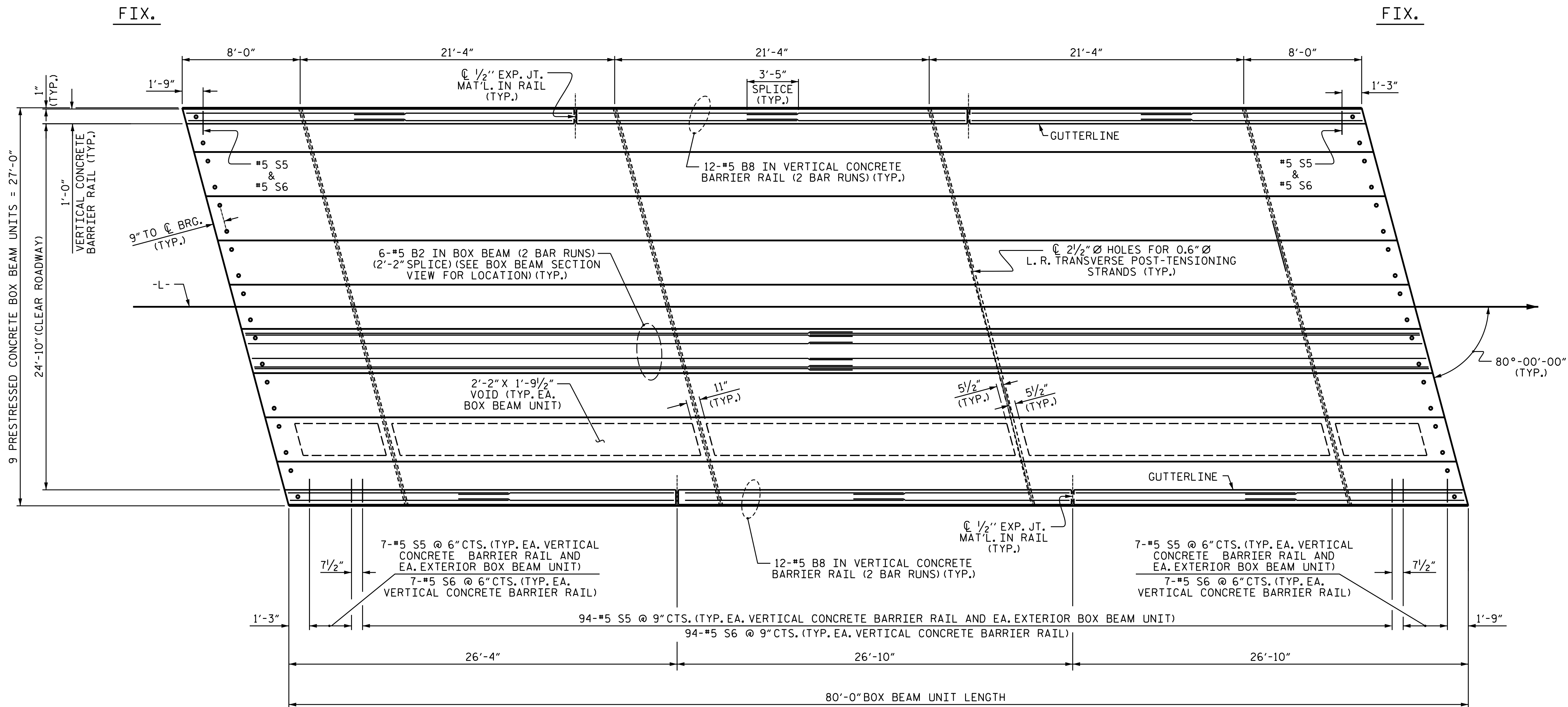
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

3'-0" X 2'-9"
PRESTRESSED CONCRETE
BOX BEAM UNIT
80° SKEW

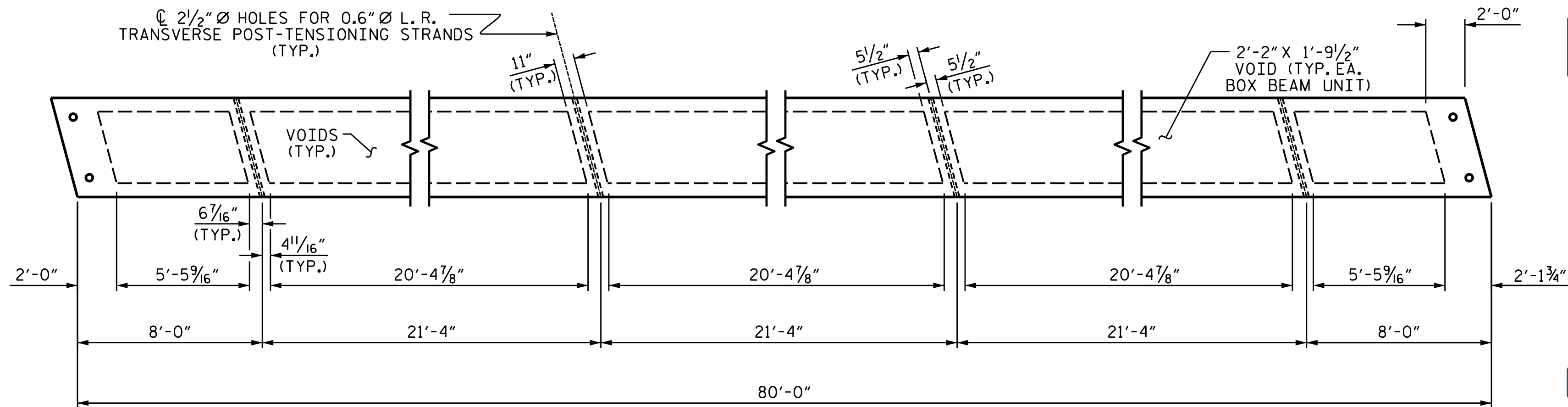
DRAWN BY: M.K. BEARD DATE: 02/2026
CHECKED BY: J.R. MCROY DATE: 02/2026
DESIGN ENGINEER OF RECORD: J.R. MCROY DATE: 07/2026

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SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-7
2			4			TOTAL SHEETS
						23



PLAN OF UNIT



DIAPHRAGM AND VOID LAYOUT

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PROJECT NO. DF18311.2005335.PR
ASHE COUNTY
STATION: 15+15.50 -L-

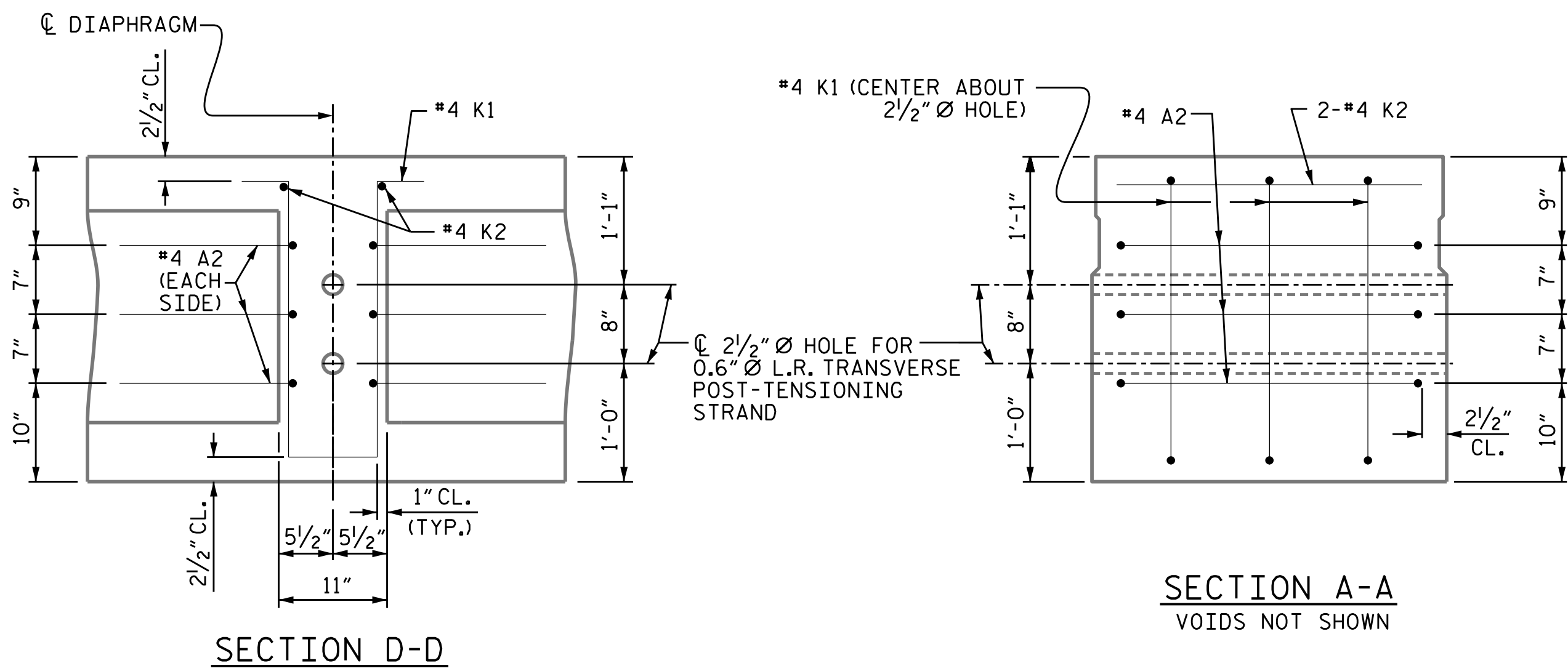
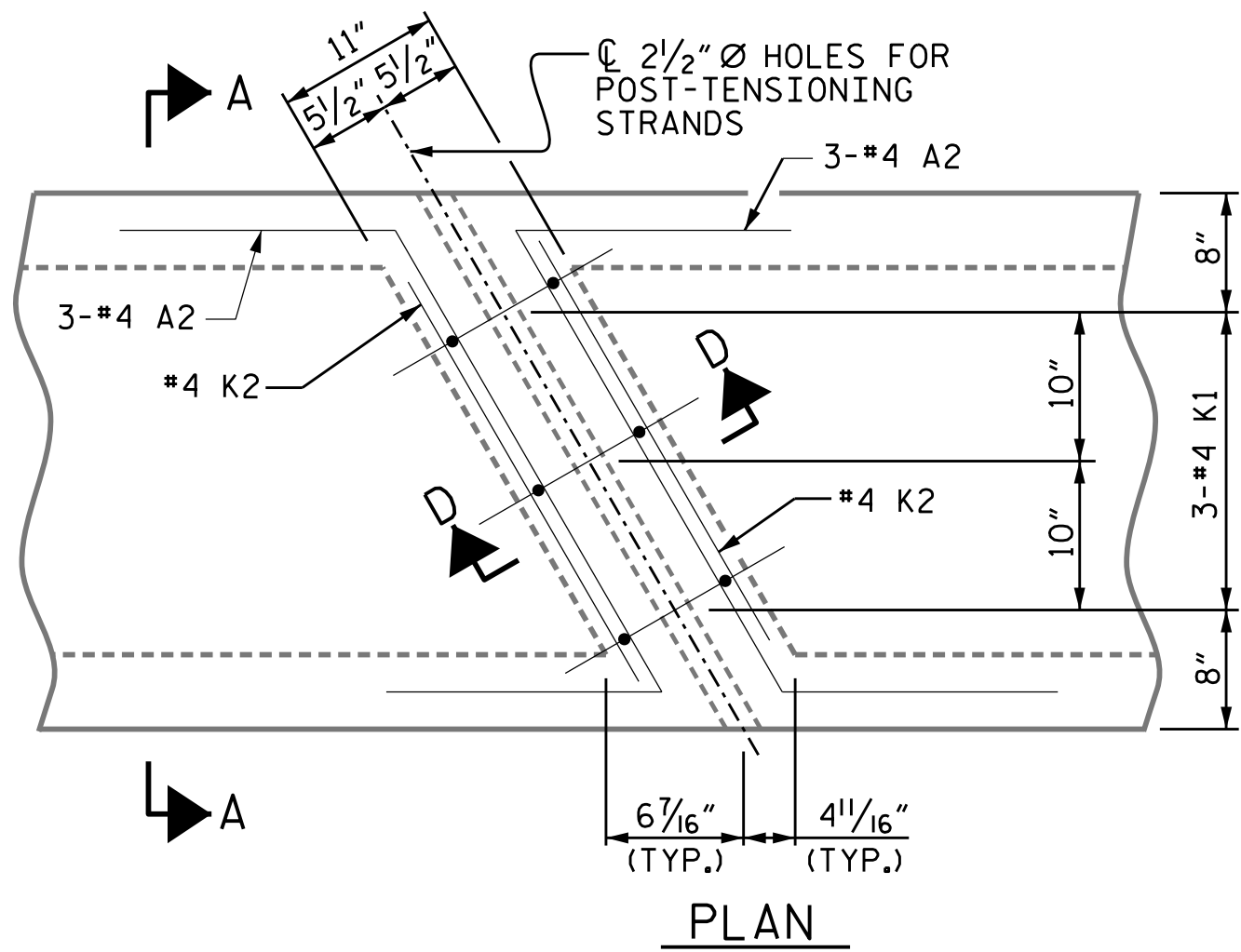
SHEET 2 OF 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SPAN A
PLAN OF 80' UNIT
24'-10" CLEAR ROADWAY
80° SKEW

DRAWN BY : M.K. BEARD DATE : 02/2026
CHECKED BY : J.R. MCROY DATE : 02/2026
DESIGN ENGINEER OF RECORD: J.R. MCROY DATE : 02/2026

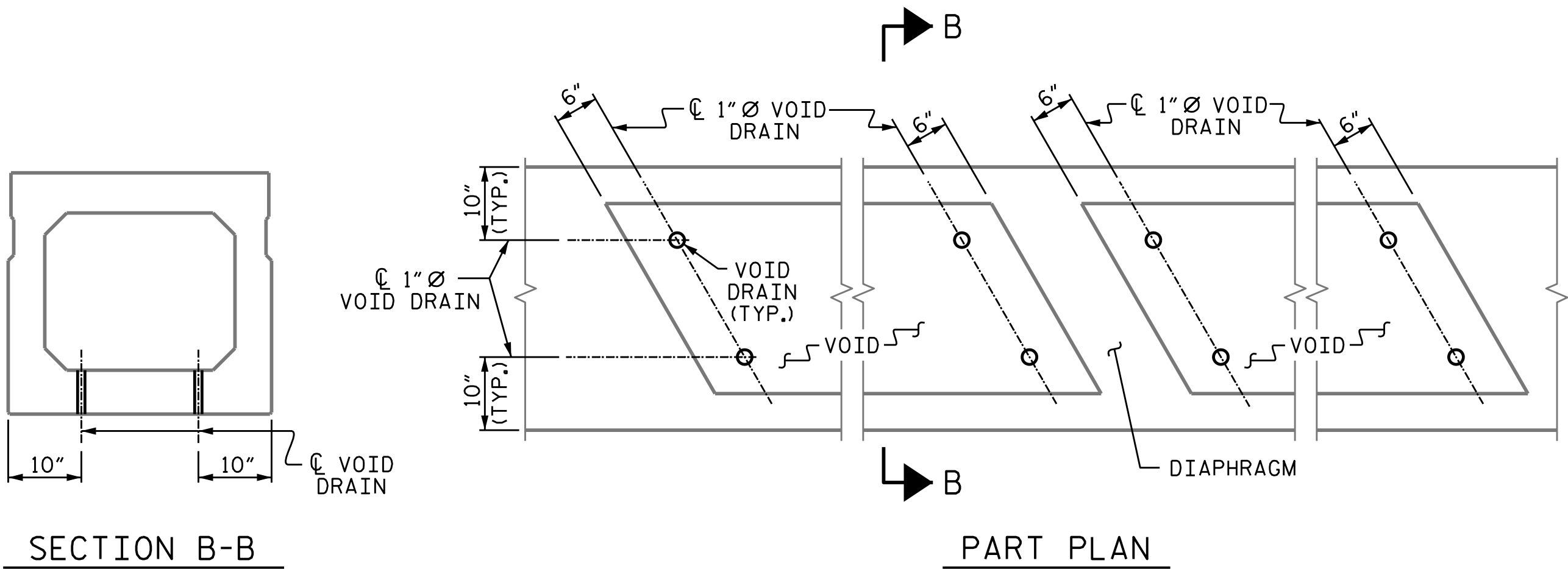
DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

REVISIONS						SHEET NO. S-8 TOTAL SHEETS 23
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



DOUBLE DIAPHRAGM DETAILS

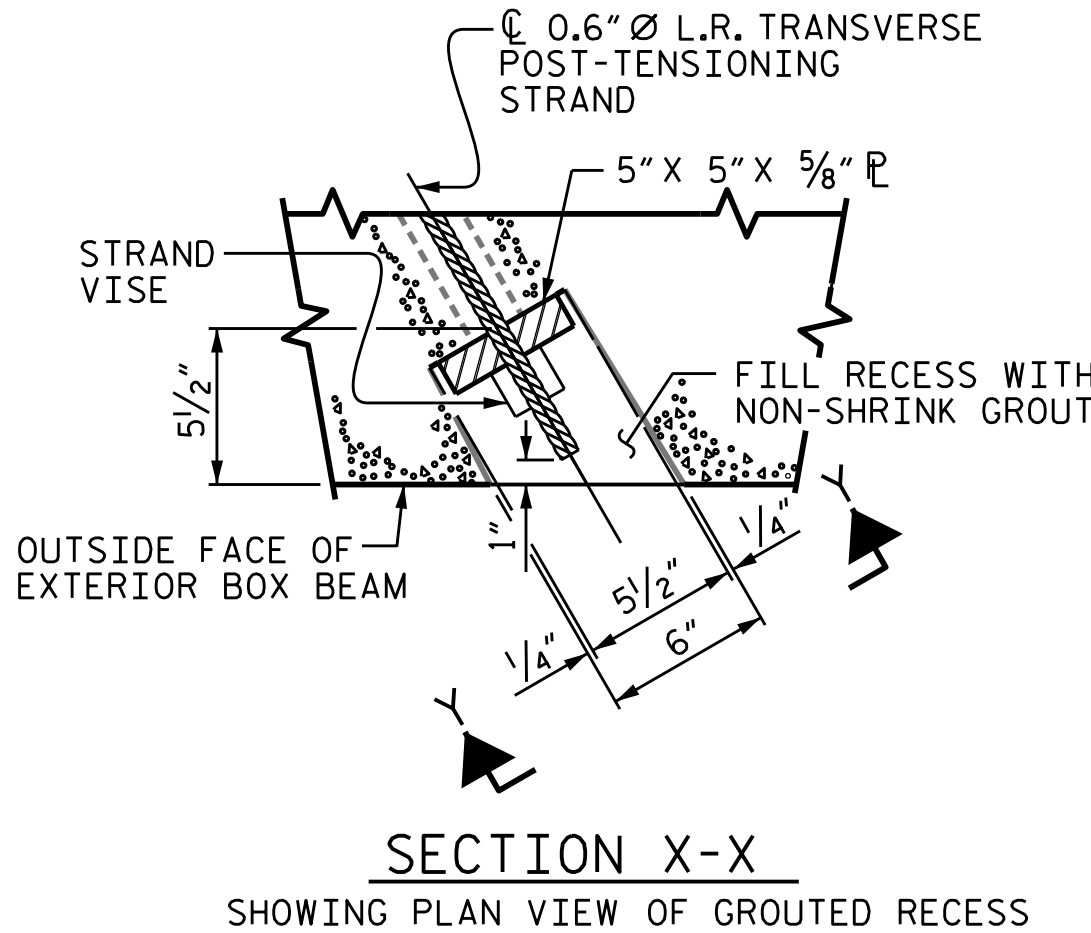
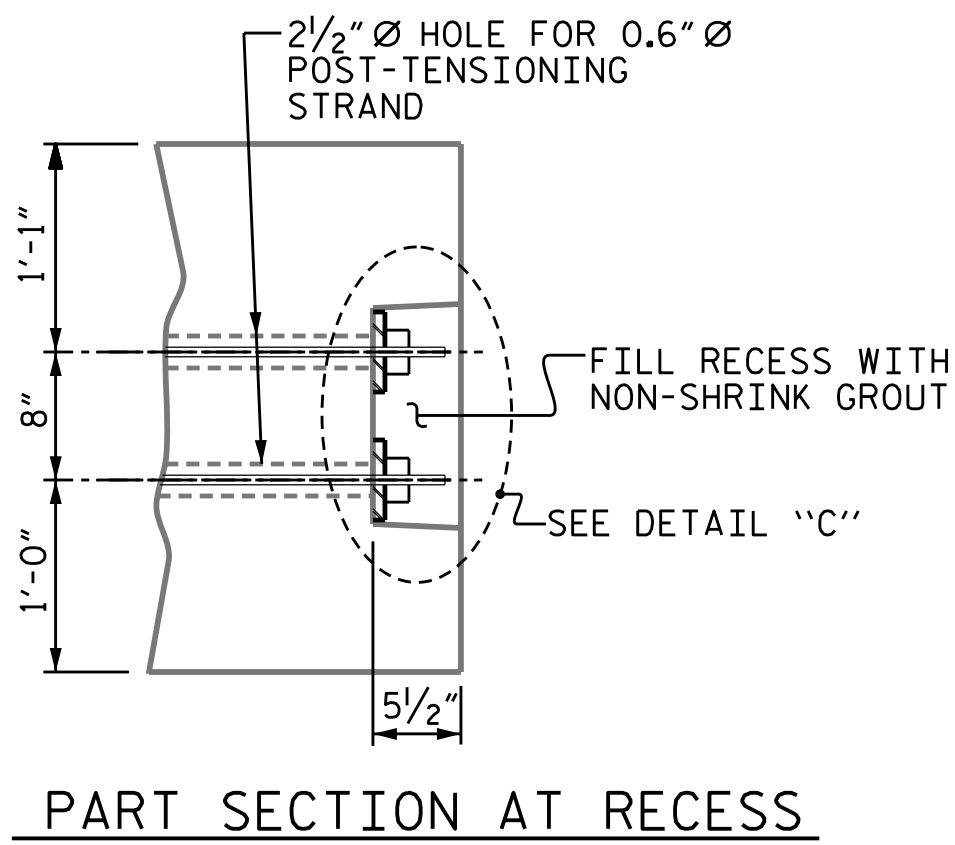
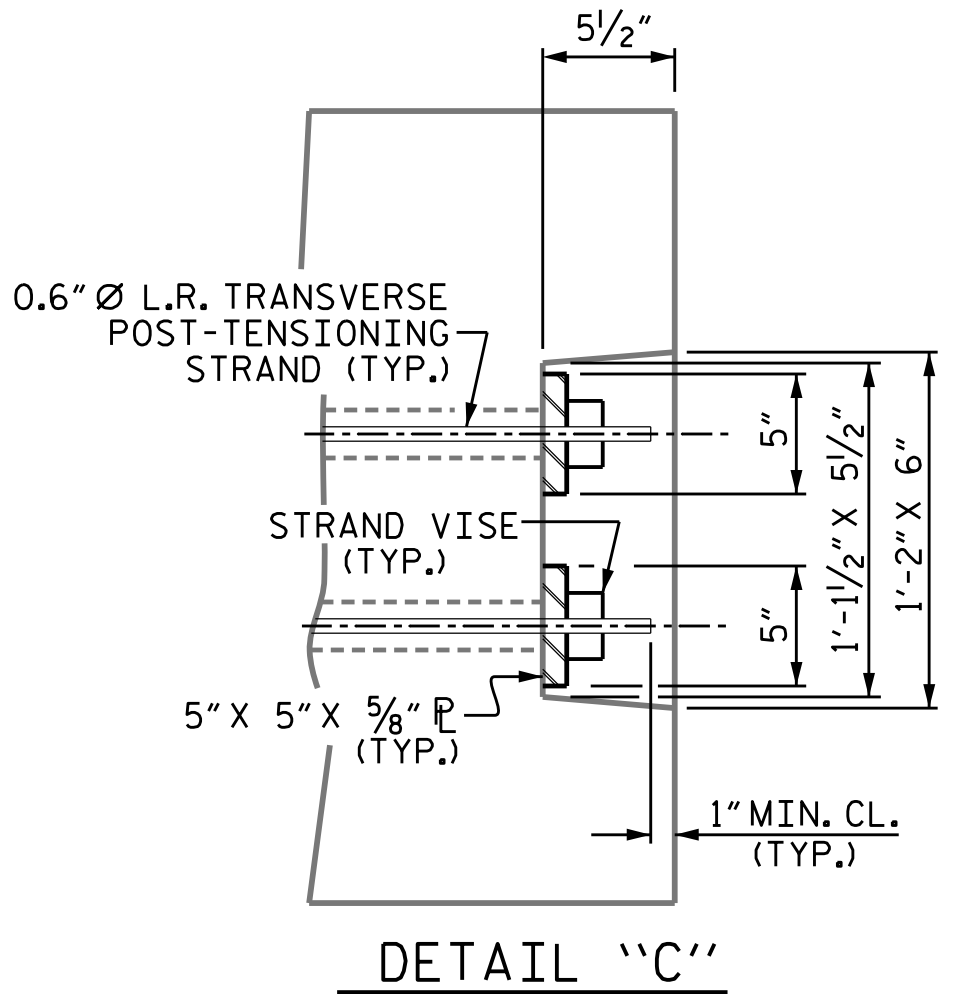
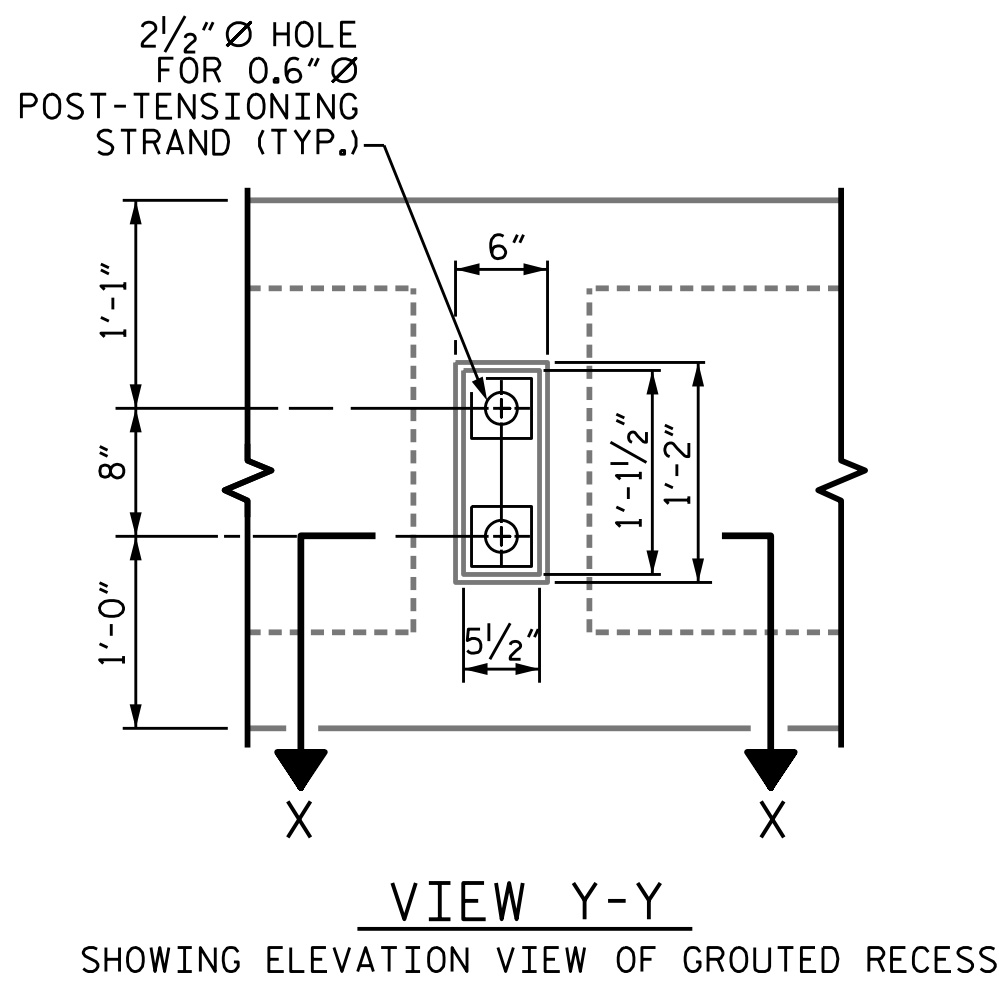
*4 "S" BARS NOT SHOWN. *4 "S" BARS MAY BE SHIFTED SLIGHTLY TO CLEAR 2 1/2" Ø HOLE.



VOID DRAIN DETAILS

(DIMENSIONS SHOWN ARE TYPICAL FOR EACH VOID)

ASSEMBLED BY : M.K. BEARD	DATE : 02/2026
CHECKED BY : J.R. MCROY	DATE : 02/2026
DRAWN BY : DGE II/II	REV. 8/14
CHECKED BY : TMG II/II	MAA/TMG



GROUTED RECESS DETAIL AT END OF POST-TENSIONED STRANDS OF EXTERIOR BOX BEAM

DEAD LOAD DEFLECTION AND CAMBER	
35' BOX BEAM UNIT (NC & SE)	3'-0" x 2'-9"
	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	1/2" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	0 ↓
FINAL CAMBER	1/2" ↑

** INCLUDES FUTURE WEARING SURFACE

DEAD LOAD DEFLECTION AND CAMBER	
80' BOX BEAM UNIT (NC & SE)	3'-0" x 2'-9"
	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	1 3/4" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1/2" ↓
FINAL CAMBER	1 1/4" ↑

** INCLUDES FUTURE WEARING SURFACE

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Signed by:
Jennifer R. McRoy
7/23/2026
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SIGNATURES COMPLETED

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ASHE COUNTY
STATION: 15+15.50 -L-

SHEET 7 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
3'-0" X 2'-9" PRESTRESSED CONCRETE BOX BEAM UNIT					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-12					TOTAL SHEETS 23

+

D					
1			3		
2			4		

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A ¼" HOLD DOWN PLATE AND 7 - 7⁄8" Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7⁄8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

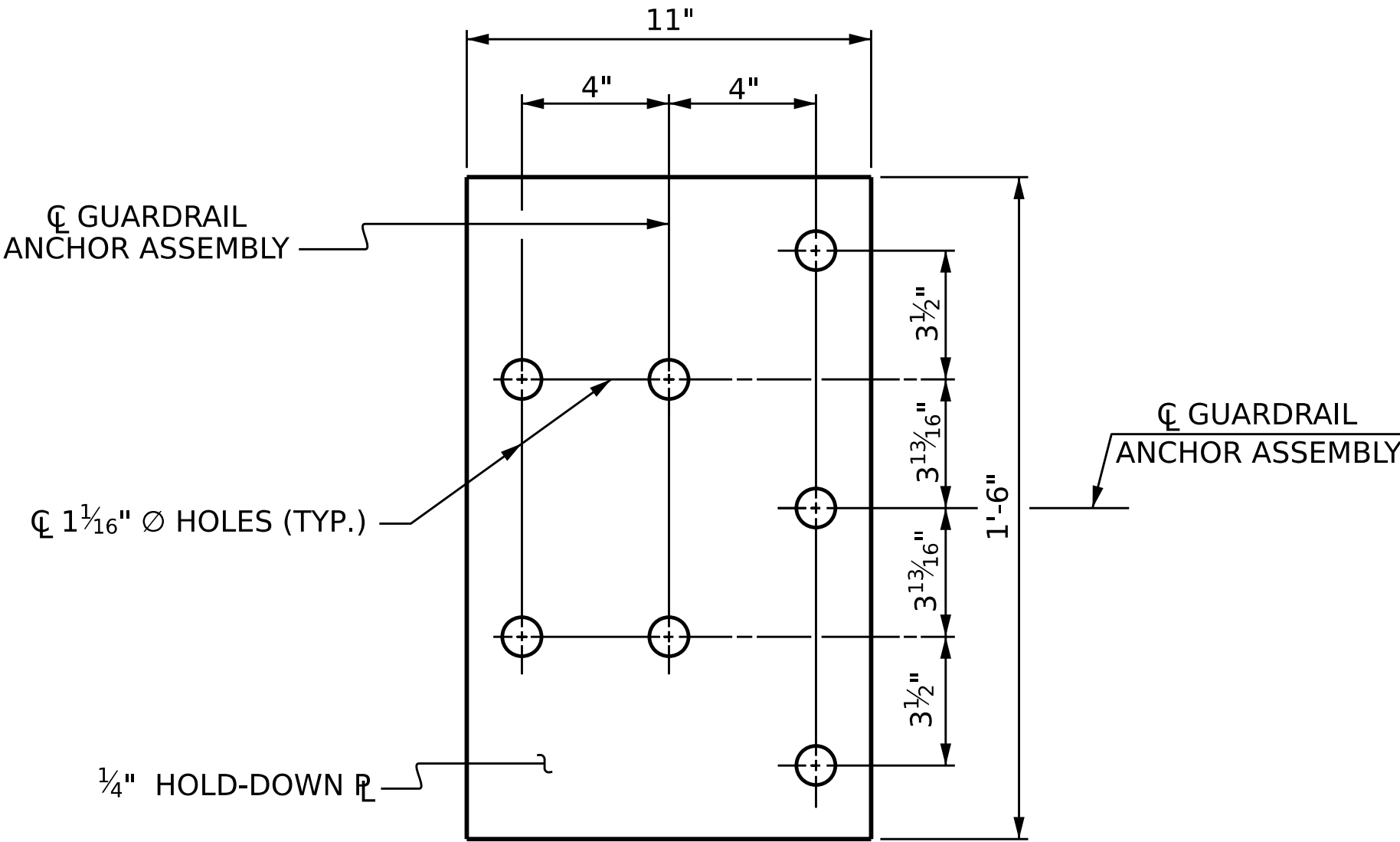
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

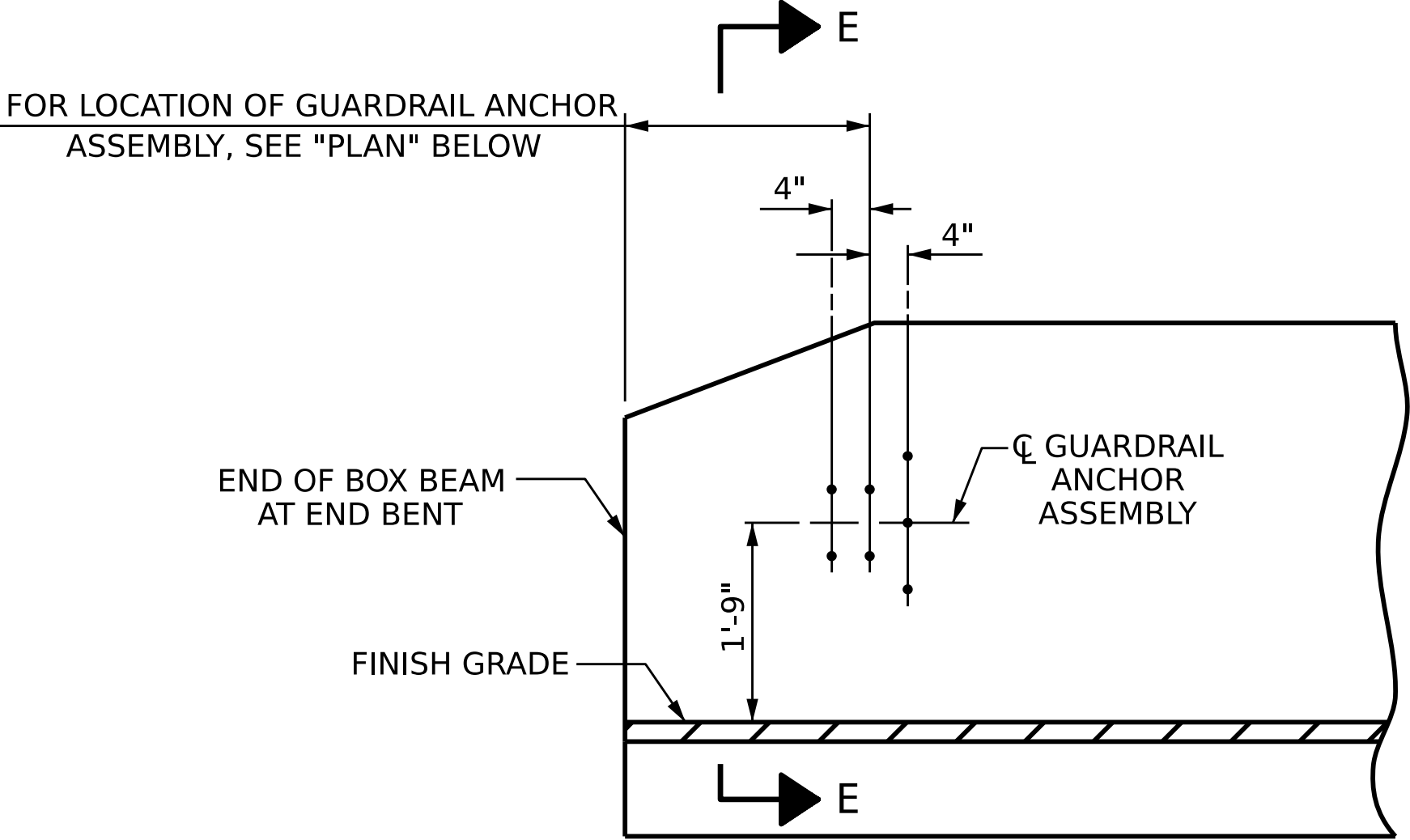
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

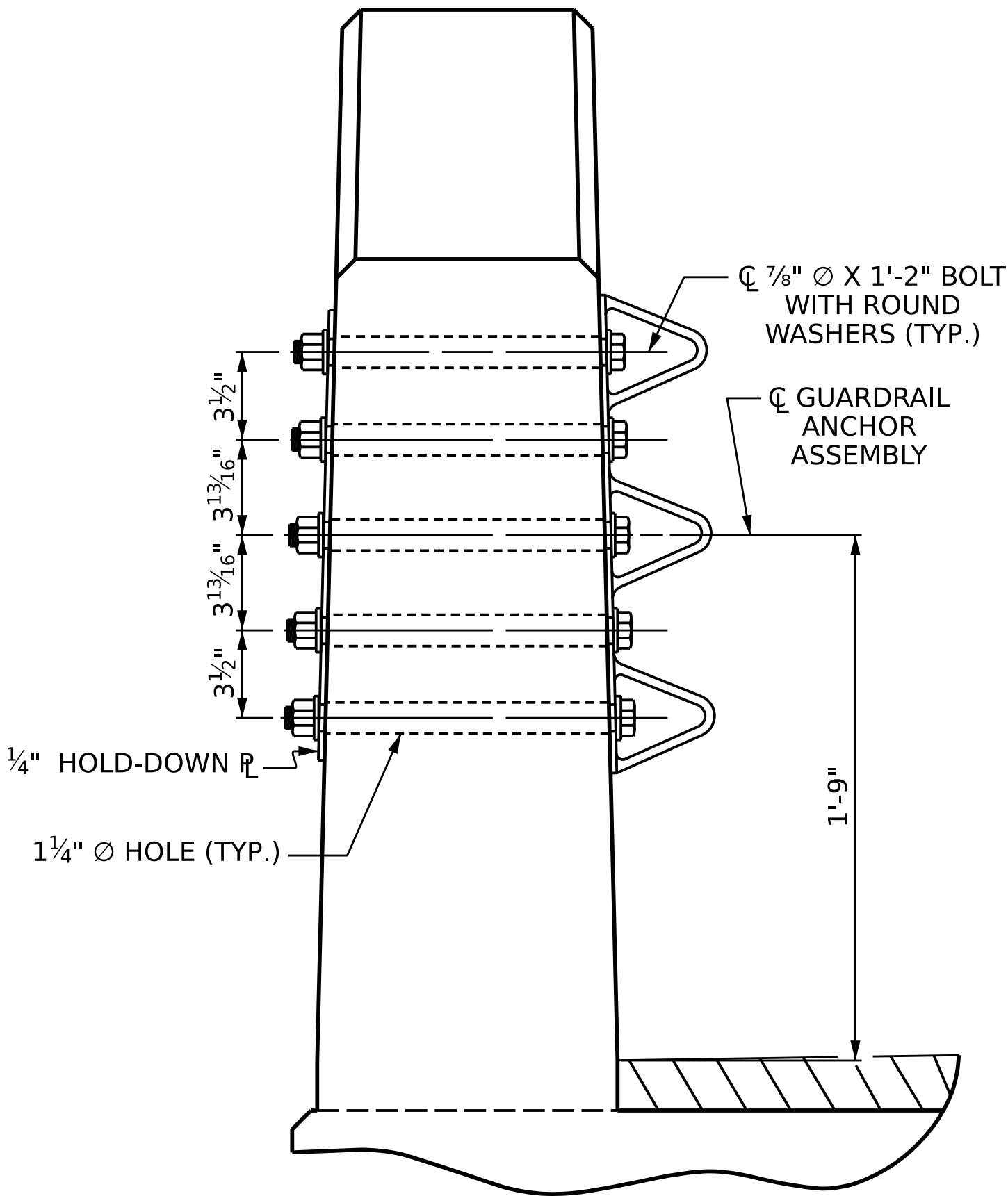
THE 1¼" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.



PLAN

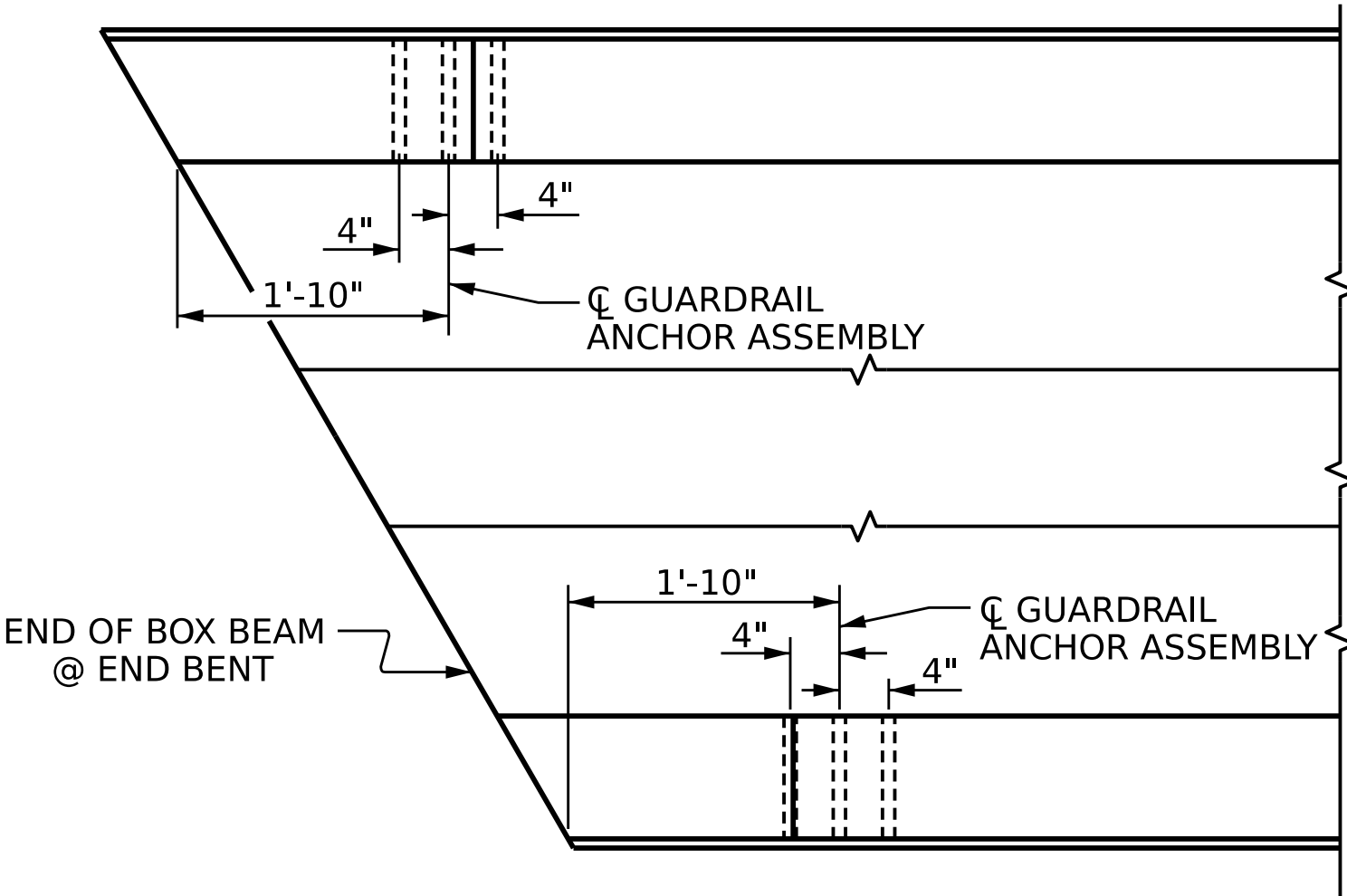


ELEVATION



SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

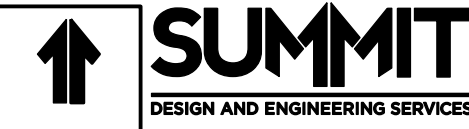
LOCATION OF ANCHORS FOR GUARDRAIL



SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

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ASHE COUNTY

STATION: 15+15.50 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GUARDRAIL ANCHORAGE
DETAILS
FOR VERTICAL CONCRETE
BARRIER RAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-14
2			4			TOTAL SHEETS 23

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ASSEMBLED BY : M.K BEARD DATE : 02/2026
CHECKED BY : J.R. MCROY DATE : 02/2026

DRAWN BY : MAA 5/10 REV. 1/15 MAA/TMG
CHECKED BY : GM 5/10 REV. 12/17 MAA/THC
REV. 5/18 MAA/THC

ASHE COUNTY

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SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 1

REVISONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			23

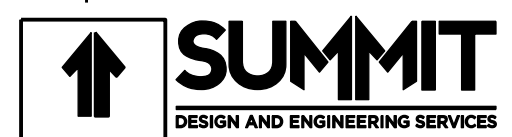
NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

FOR WING DETAILS, SEE SHEET 2 OF 3.

FOR SECTION A-A, SEE SHEET
3 OF 3.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

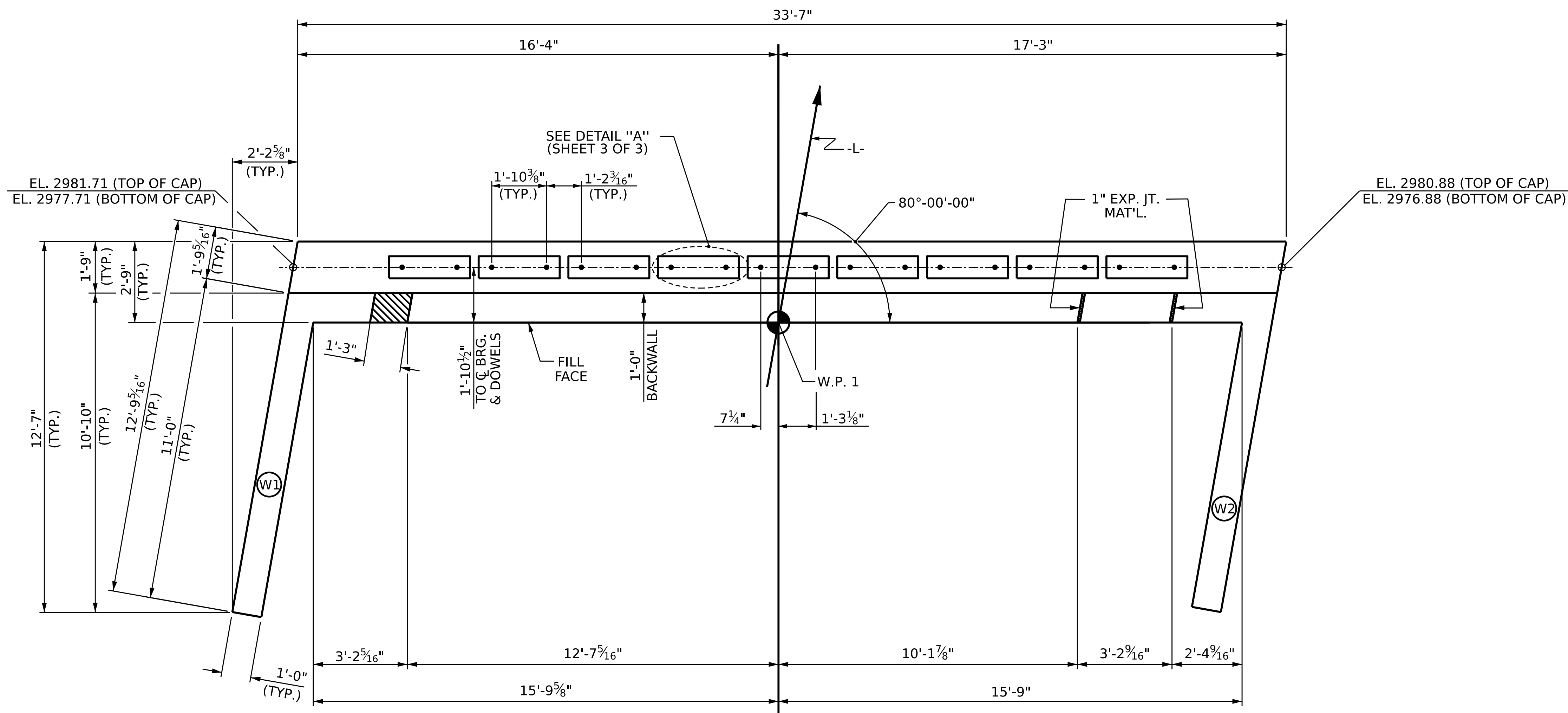


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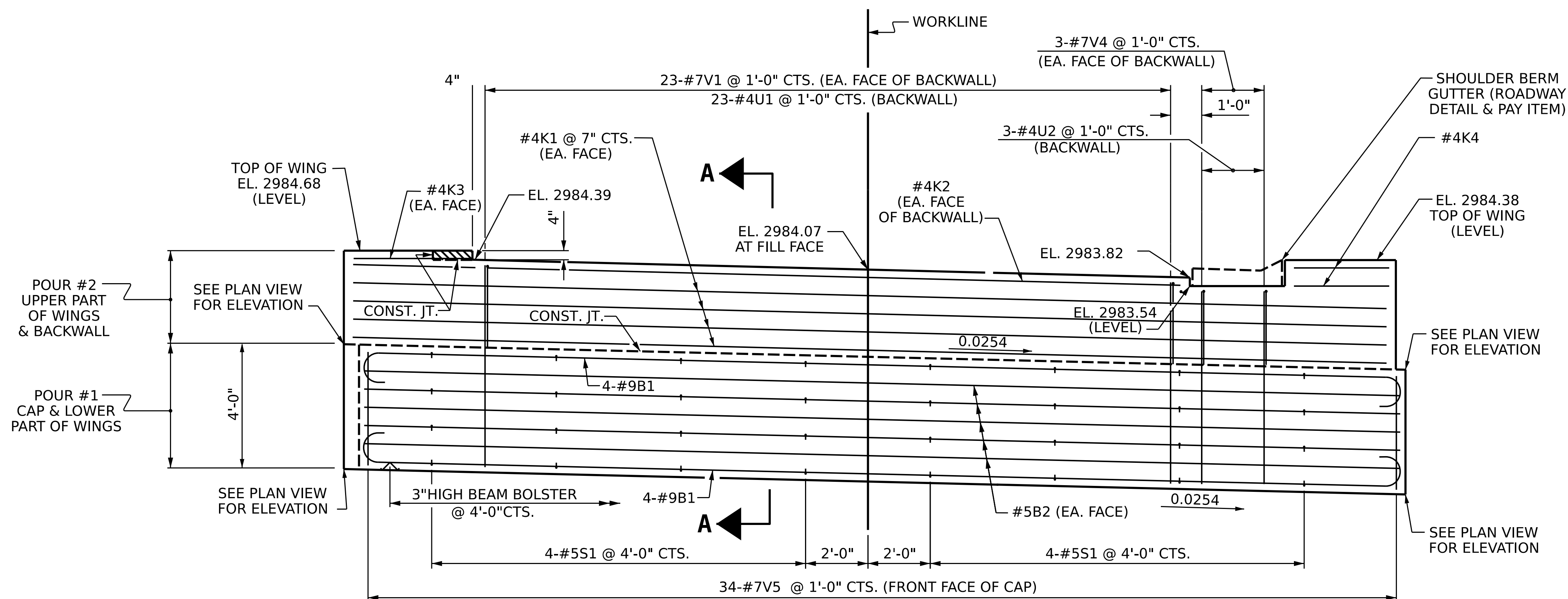


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PLAN



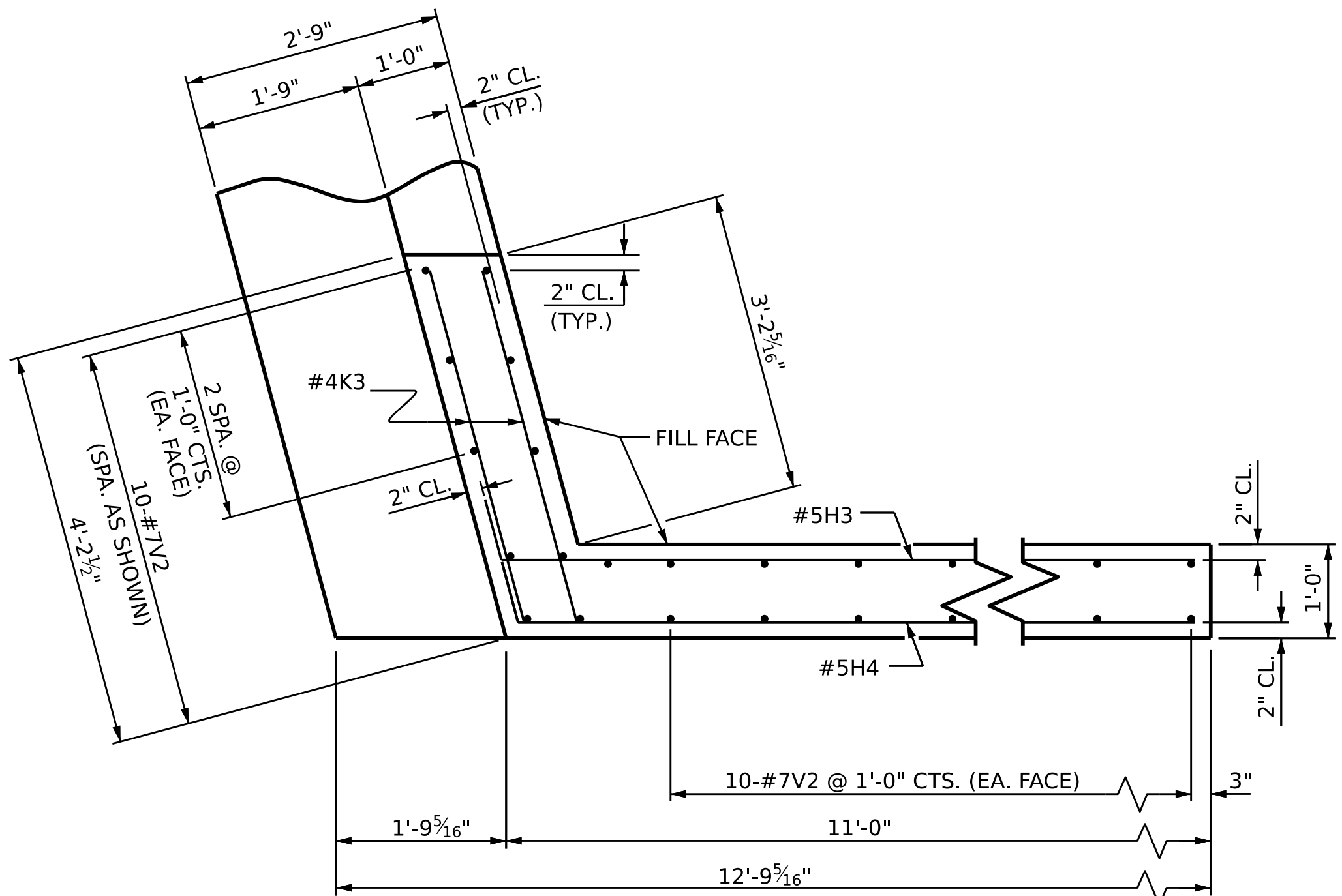
ELEVATION

WINGS NOT SHOWN FOR CLARITY

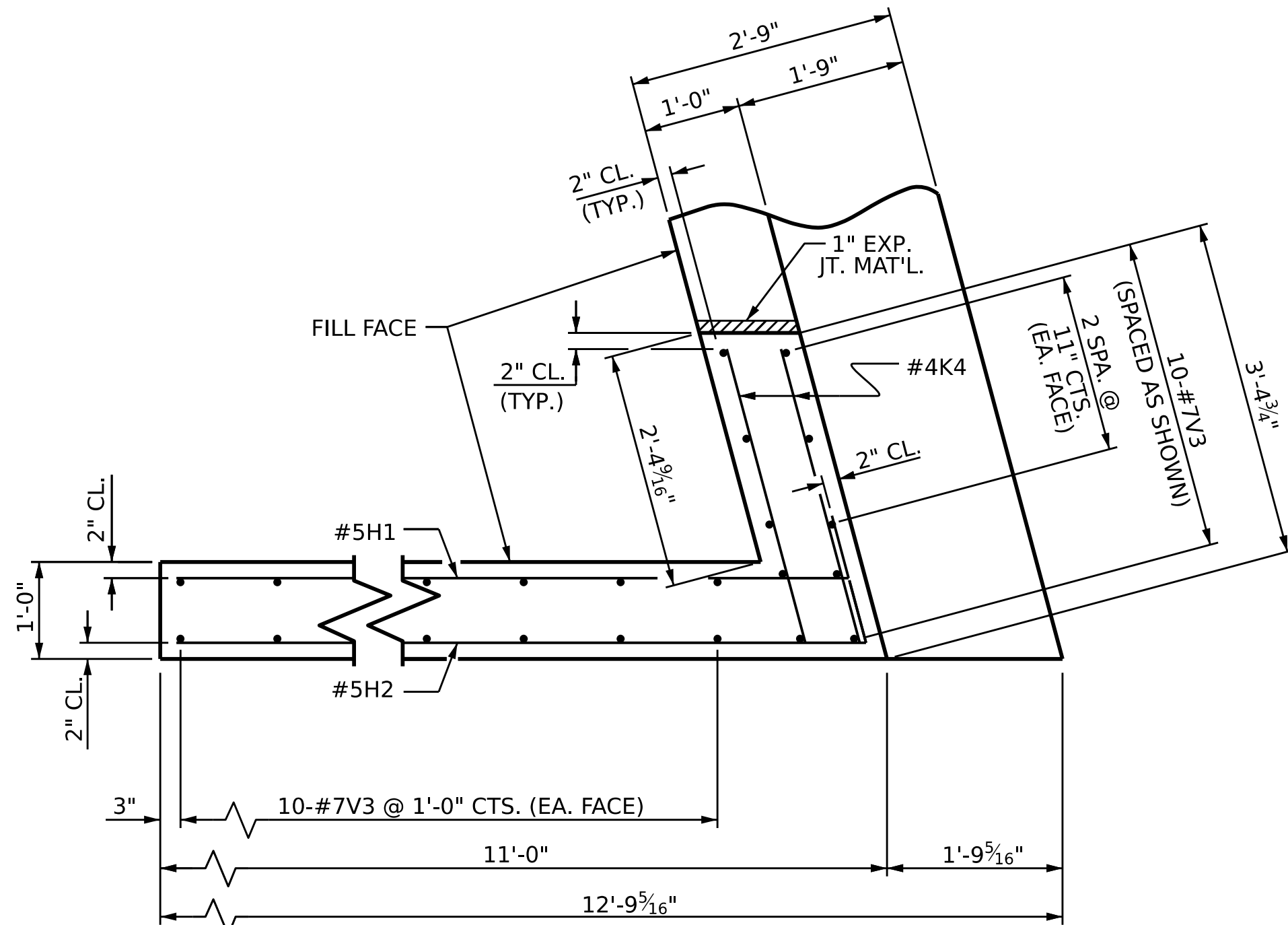
DRAWN BY : J.R. MCROY DATE : 05/2026
 CHECKED BY : G.W. DICKEY DATE : 05/2026
 DESIGN ENGINEER OF RECORD: J.R. MCROY DATE : 05/2026

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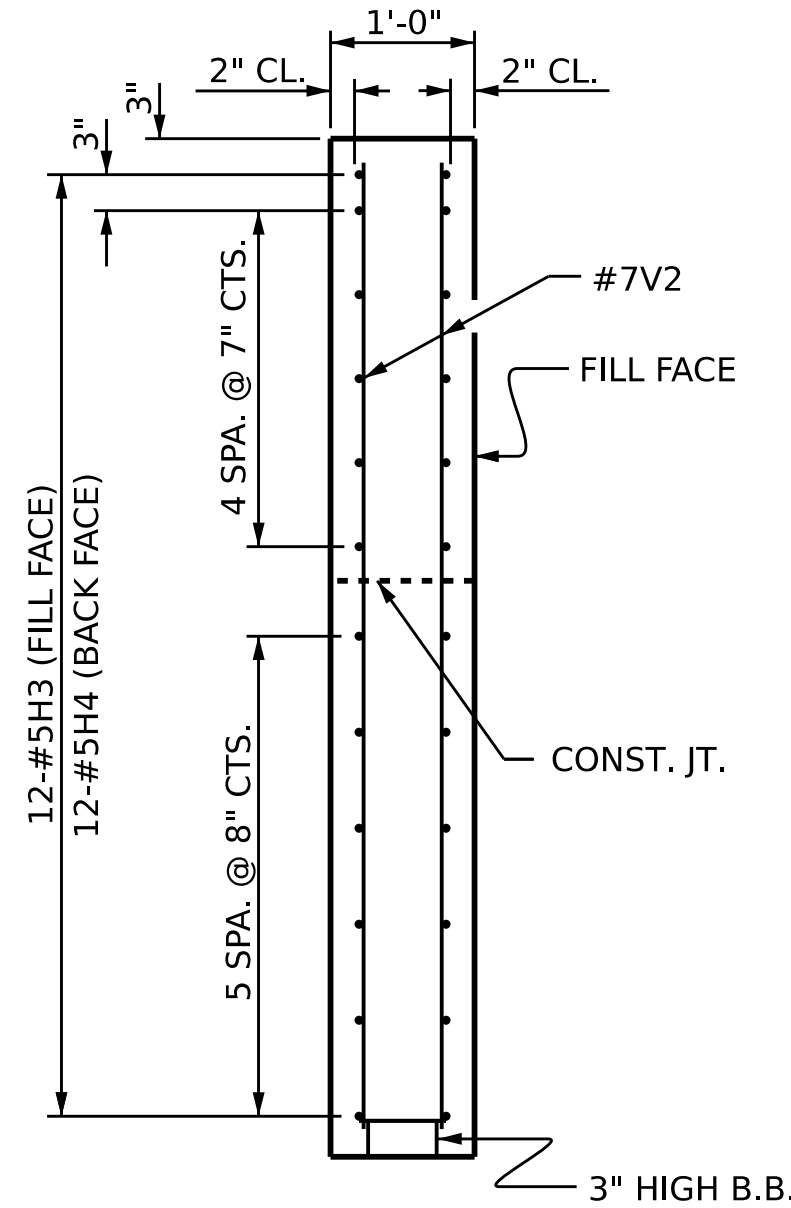
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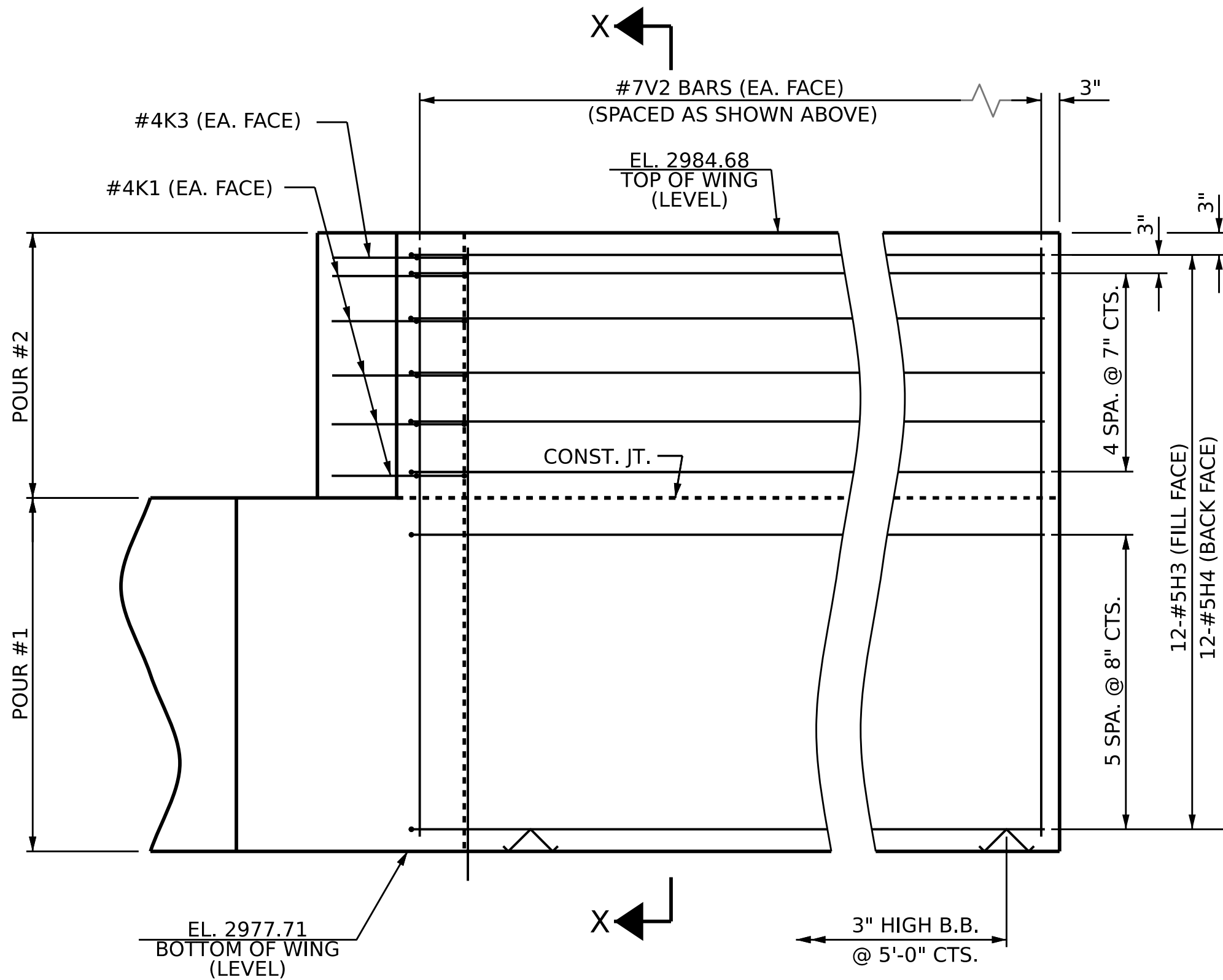
PLAN OF WING (W1)



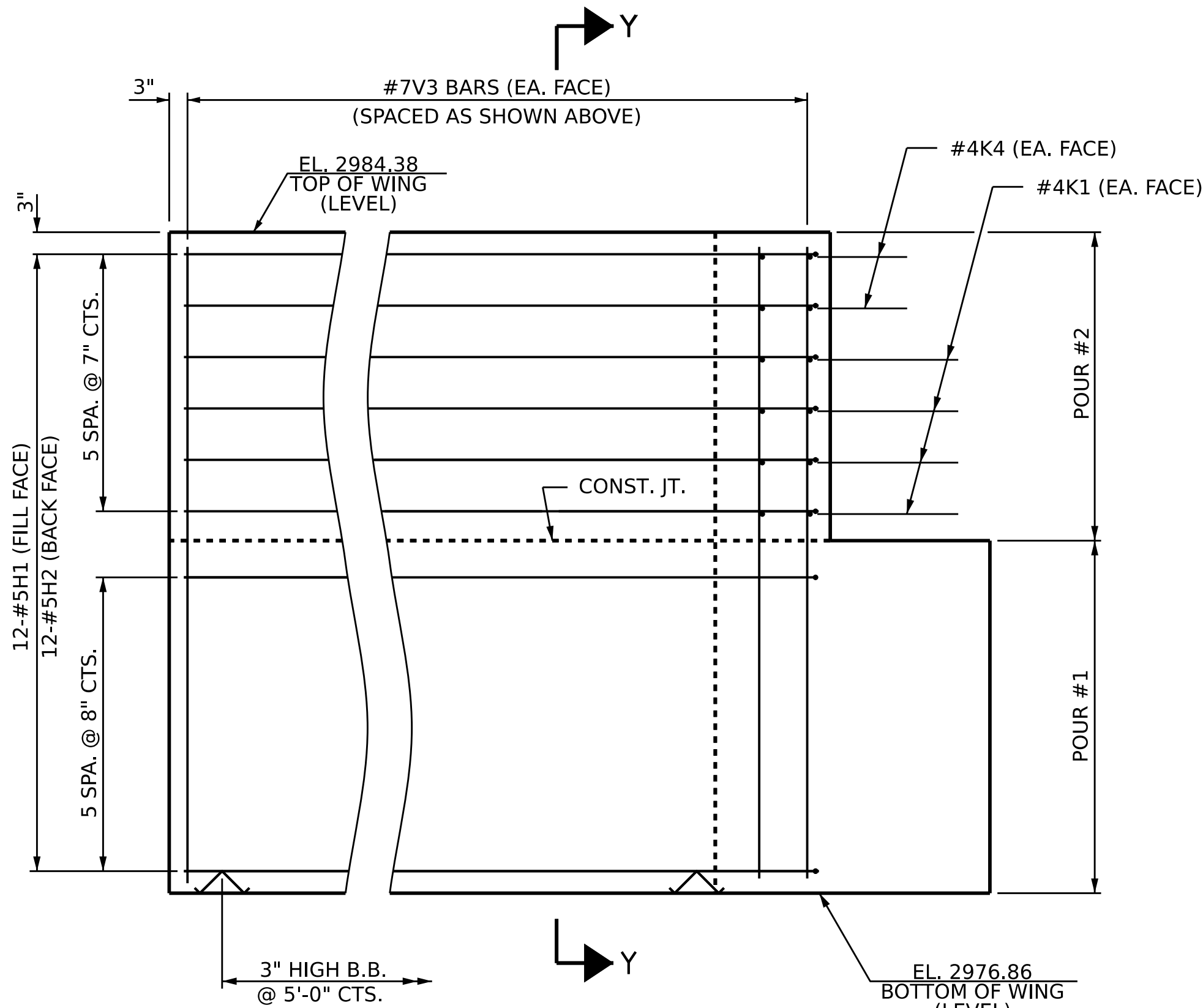
PLAN OF WING (W2)



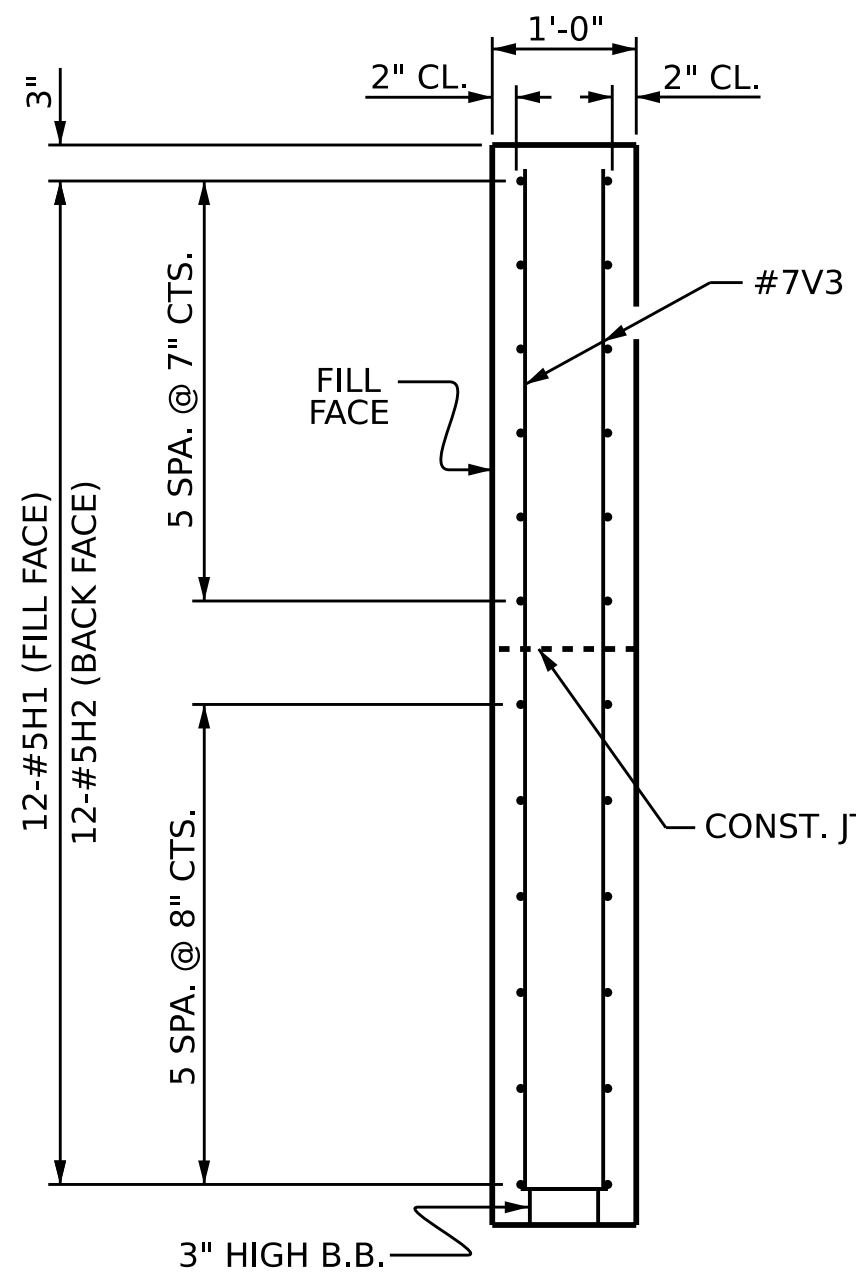
SECTION X-X



ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION Y-Y

WING DETAILS

DRAWN BY : B.M. WILSON DATE : 05/2026
CHECKED BY : J.R. MCROY DATE : 05/2026
DESIGN ENGINEER OF RECORD: J.R. MCROY DATE : 05/2026

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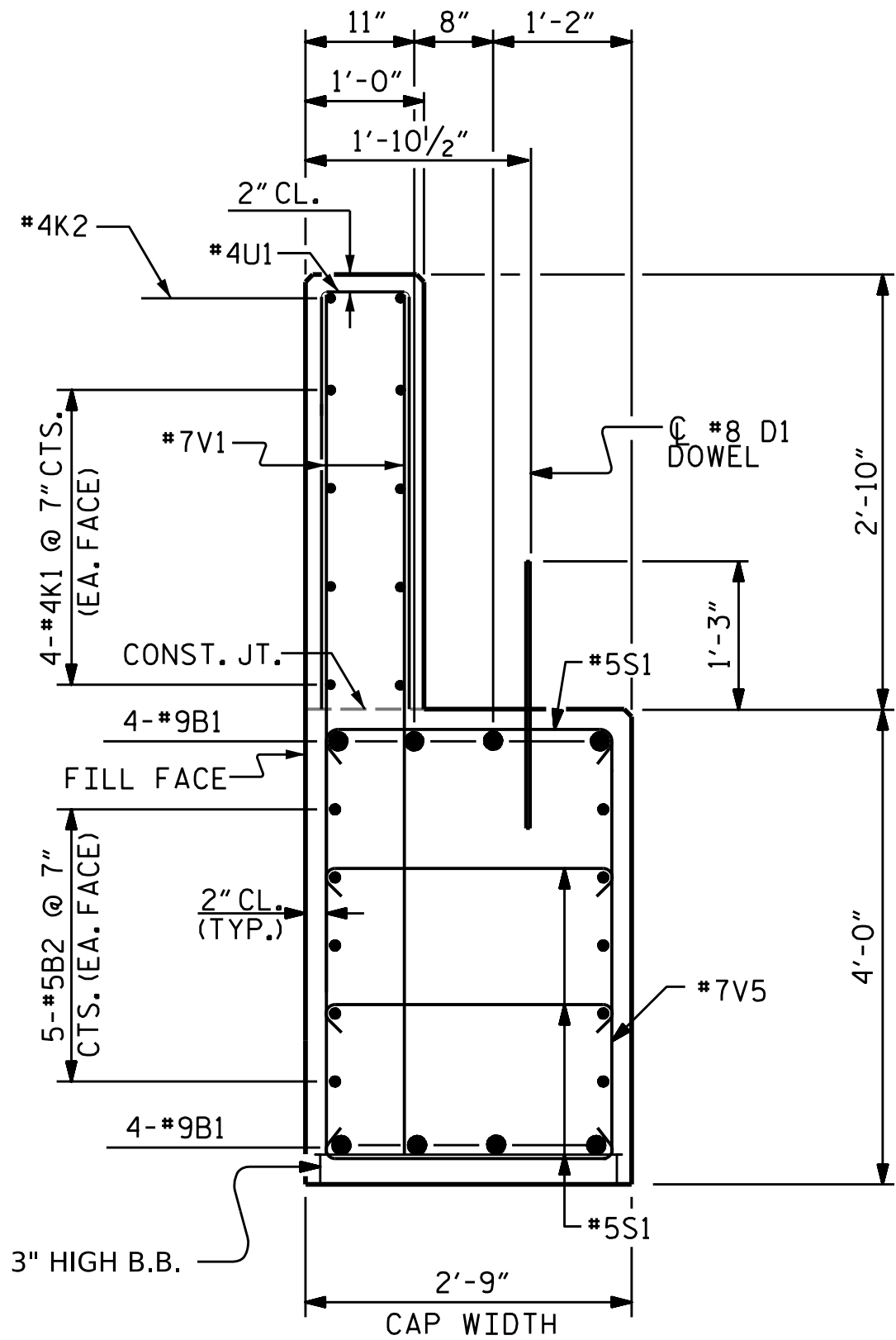
PROJECT NO. DF18311.2005335.PR
ASHE COUNTY
STATION: 15+15.50 -L-

SHEET 2 OF 3

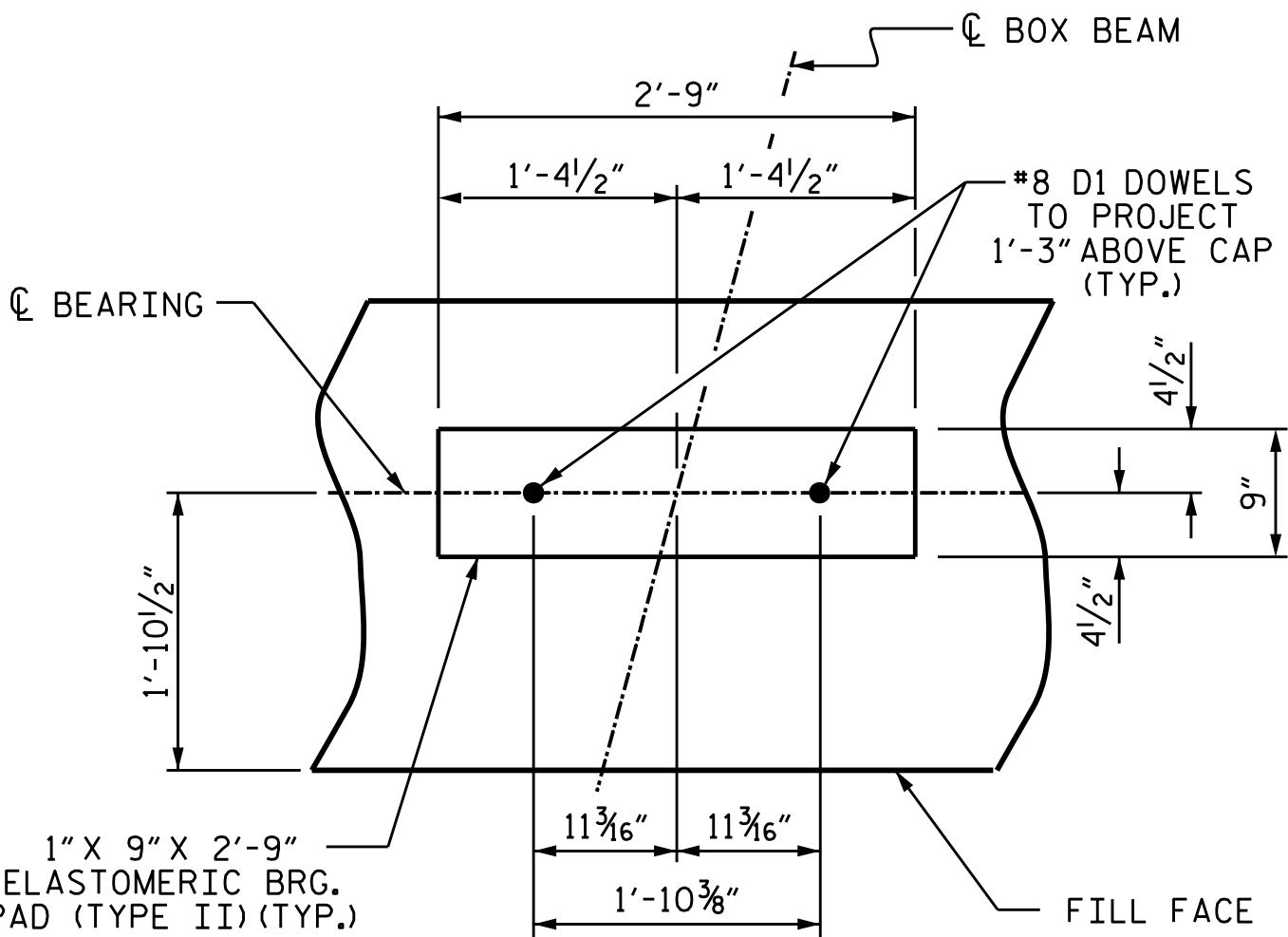
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 1
WING DETAILS

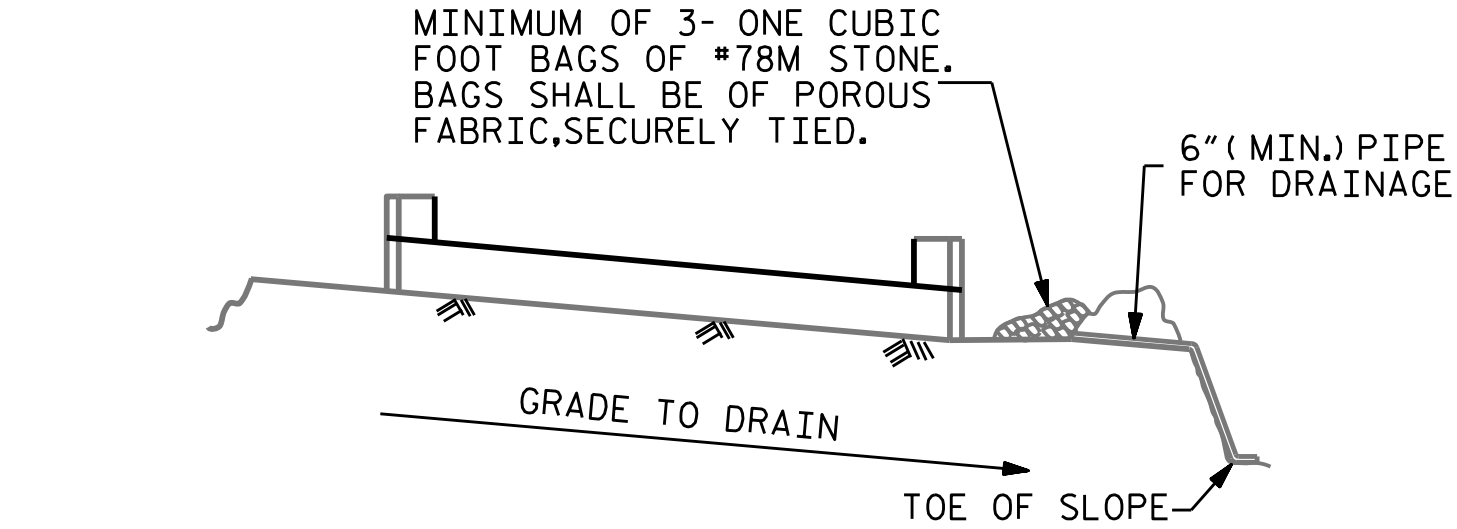
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-16
2			4			TOTAL SHEETS 23



SECTION A-A



DETAIL "A"



BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

BAR TYPES				BILL OF MATERIAL					
END BENT 1									
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT				
B1	8	#9	1	36'-5"	991				
B2	10	#5	STR	33'-3"	345				
D1	18	#8	STR	2'-3"	108				
H1	12	#5	2	11'-1"	139				
H2	12	#5	2	11'-3"	141				
H3	12	#5	3	11'-5"	143				
H4	12	#5	3	11'-4"	142				
K1	8	#4	STR	33'-3"	178				
K2	2	#4	STR	26'-7"	36				
K3	2	#4	STR	3'-8"	5				
K4	4	#4	STR	3'-0"	8				
S1	32	#5	4	3'-4"	111				
U1	23	#4	5	5'-8"	87				
U2	3	#4	6	5'-2"	10				
V1	46	#7	STR	6'-5"	603				
V2	30	#7	STR	6'-6"	399				
V3	30	#7	STR	7'-1"	434				
V4	6	#7	STR	6'-1"	75				
V5	34	#7	STR	3'-7"	249				
REINFORCING STEEL					4204 LBS.				
CLASS A CONCRETE BREAKDOWN									
POUR #1 CAP & LOWER PART OF WINGS					16.7 C.Y.				
POUR #2 BACKWALL & UPPER PART OF WINGS					6.0 C.Y.				
TOTAL CLASS A CONCRETE					22.7 C.Y.				

DRAWN BY : B.M. WILSON DATE : 05/2026
CHECKED BY : J.R. MCROY DATE : 05/2026
DESIGN ENGINEER OF RECORD: J.R. MCROY DATE : 05/2026

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SUMMIT
DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: C-5176
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(919)322-0115
www.summitde.com



Signed by: Jennifer R. McRoy 7/23/2026
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DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

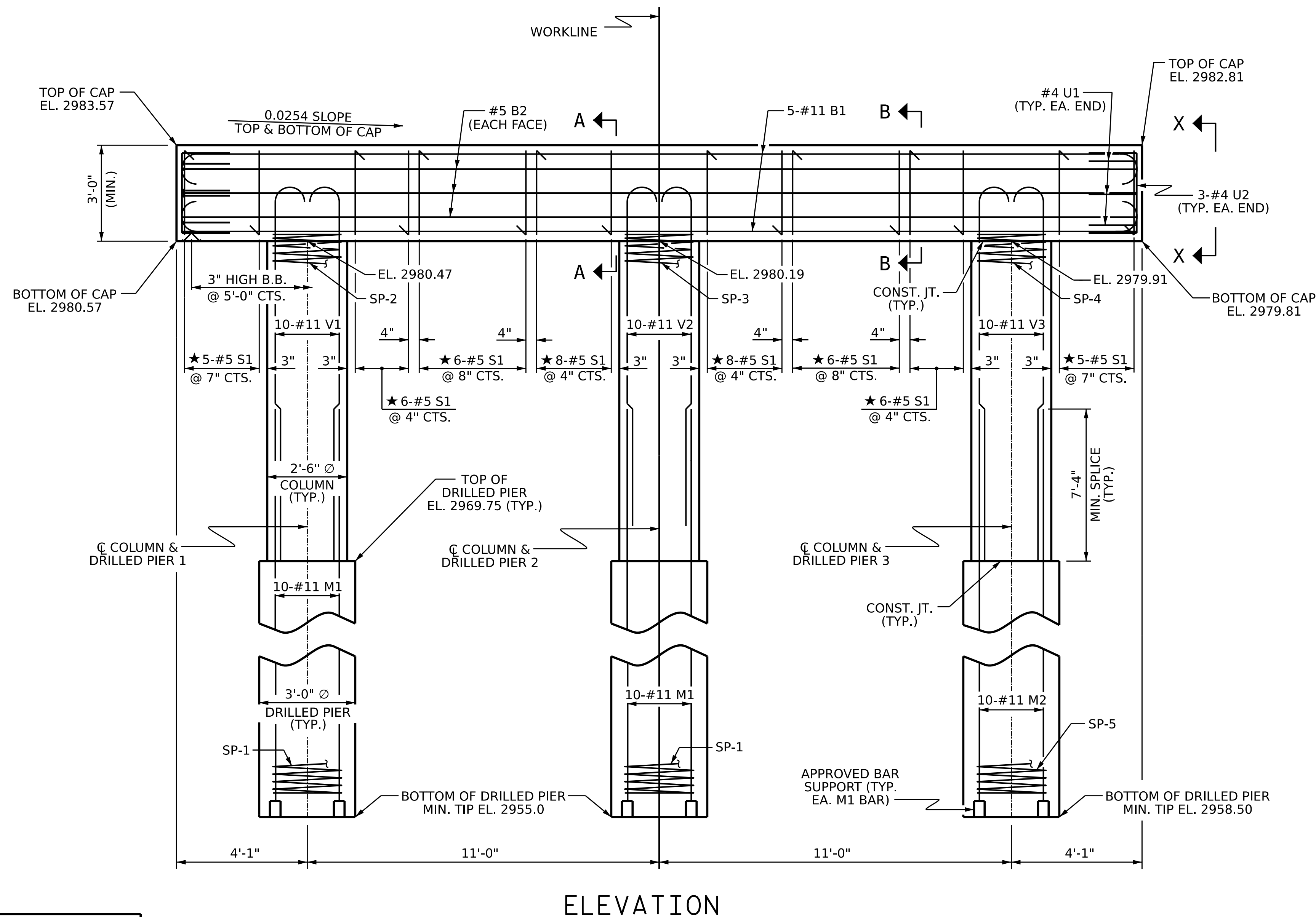
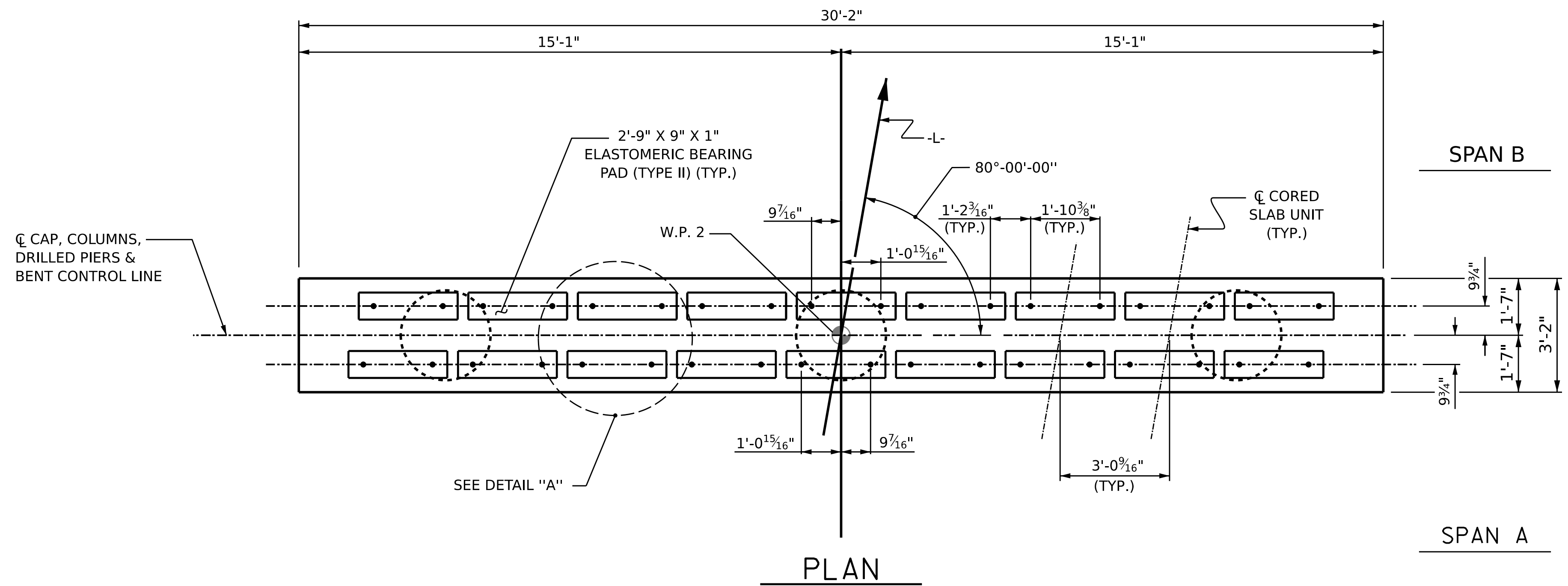
PROJECT NO. DF18311.2005335.PR
ASHE COUNTY
STATION: 15+15.50 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 1
DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-17
2			4			TOTAL SHEETS 23



DIMENSIONS & REINFORCING STEEL ARE TYPICAL FOR EACH COLUMN & DRILLED PIER UNLESS OTHERWISE NOTED.

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY
TO CLEAR DOWELS.

HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY
FOR PLACING REINFORCING STEEL.

FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

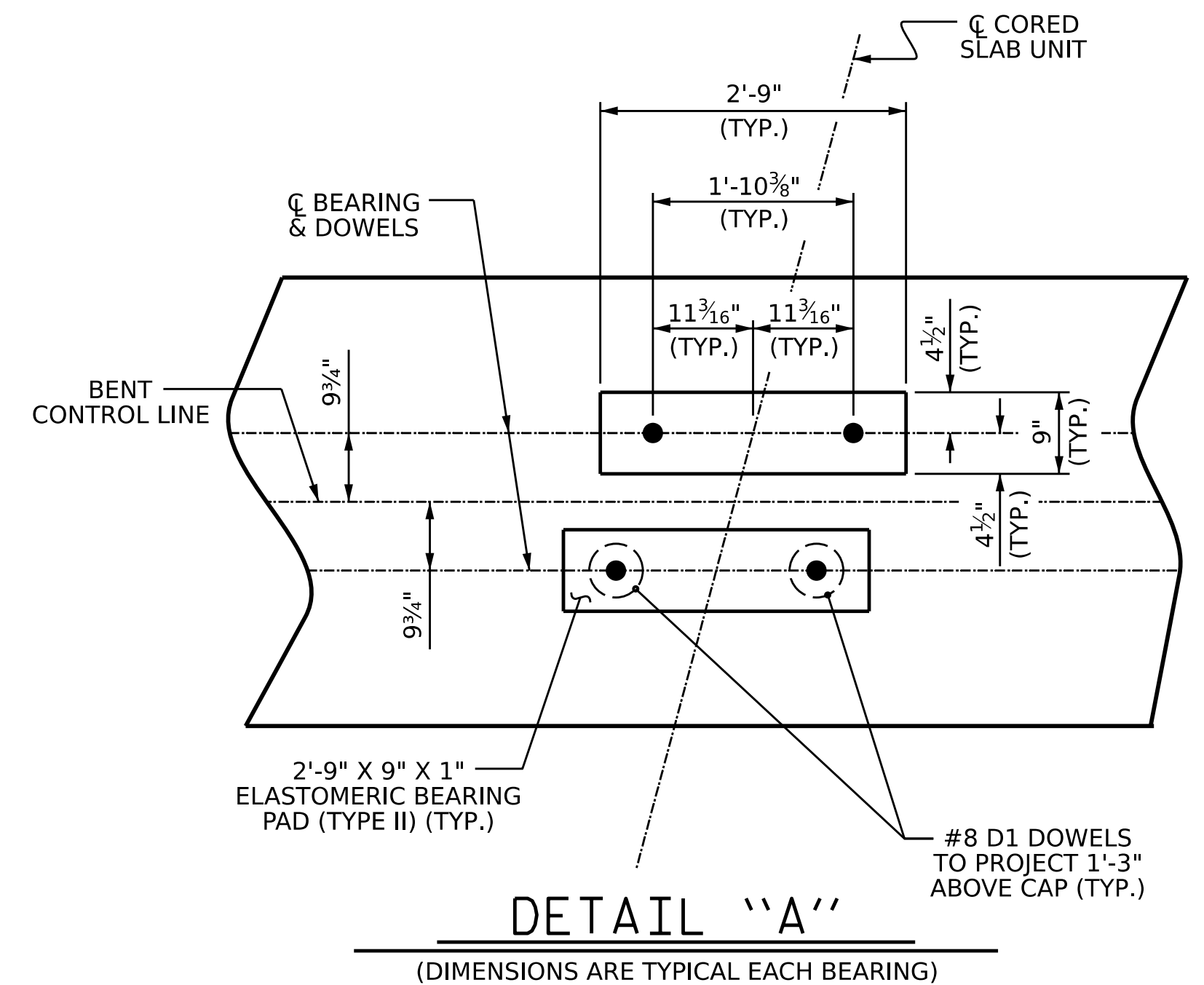
ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE
PAY ITEMS FOR "REINFORCING STEEL" AND "SPIRAL
COLUMN REINFORCING STEEL."

★ INVERT ALTERNATE STIRRUPS.

THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND LINE ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT ONE FOOT BELOW THE GROUND LINE.

DRILLED PIERS SHALL BE TERMINATED ONE FOOT $\pm$ ABOVE
NORMAL WATER SURFACE ELEVATION FOR SHAFTS LOCATED
IN WATER.

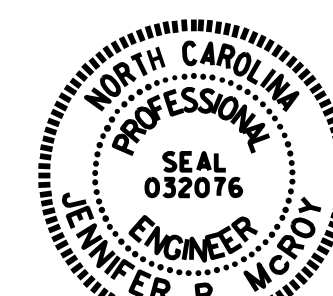
THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.



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Signed by: Jennifer R. McKee
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7/23/2026

PROJECT NO. DF18311.2005335.PR

ASHE COUNTY

STATION: 15+15.50 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

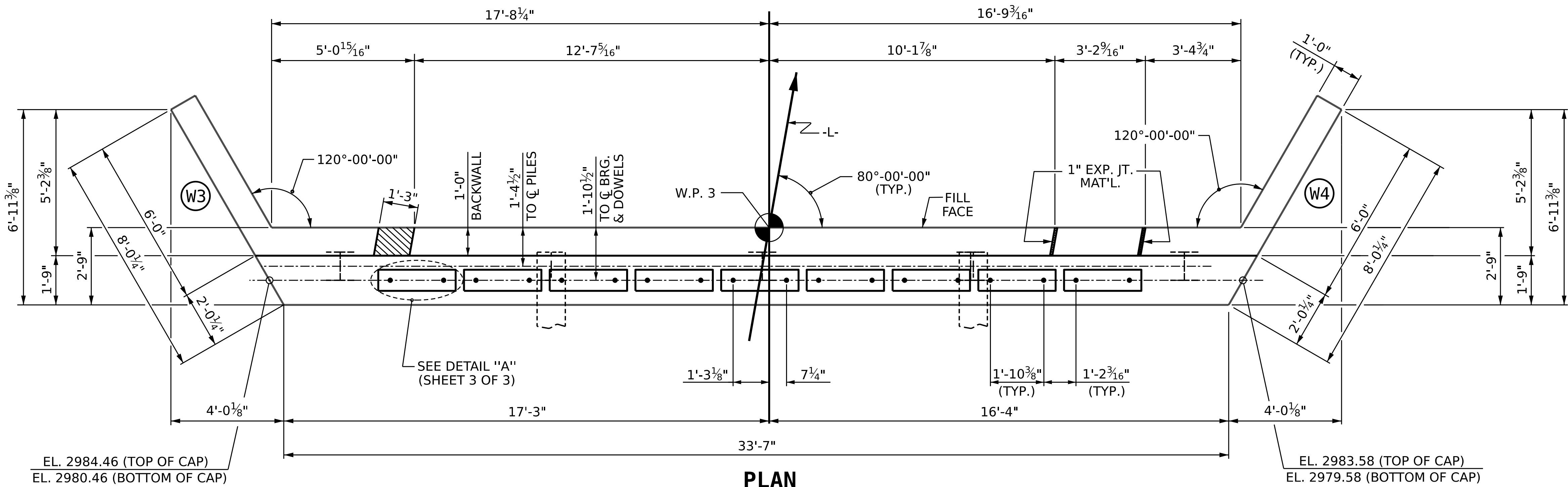
SUBSTRUCTURE

BENT 1

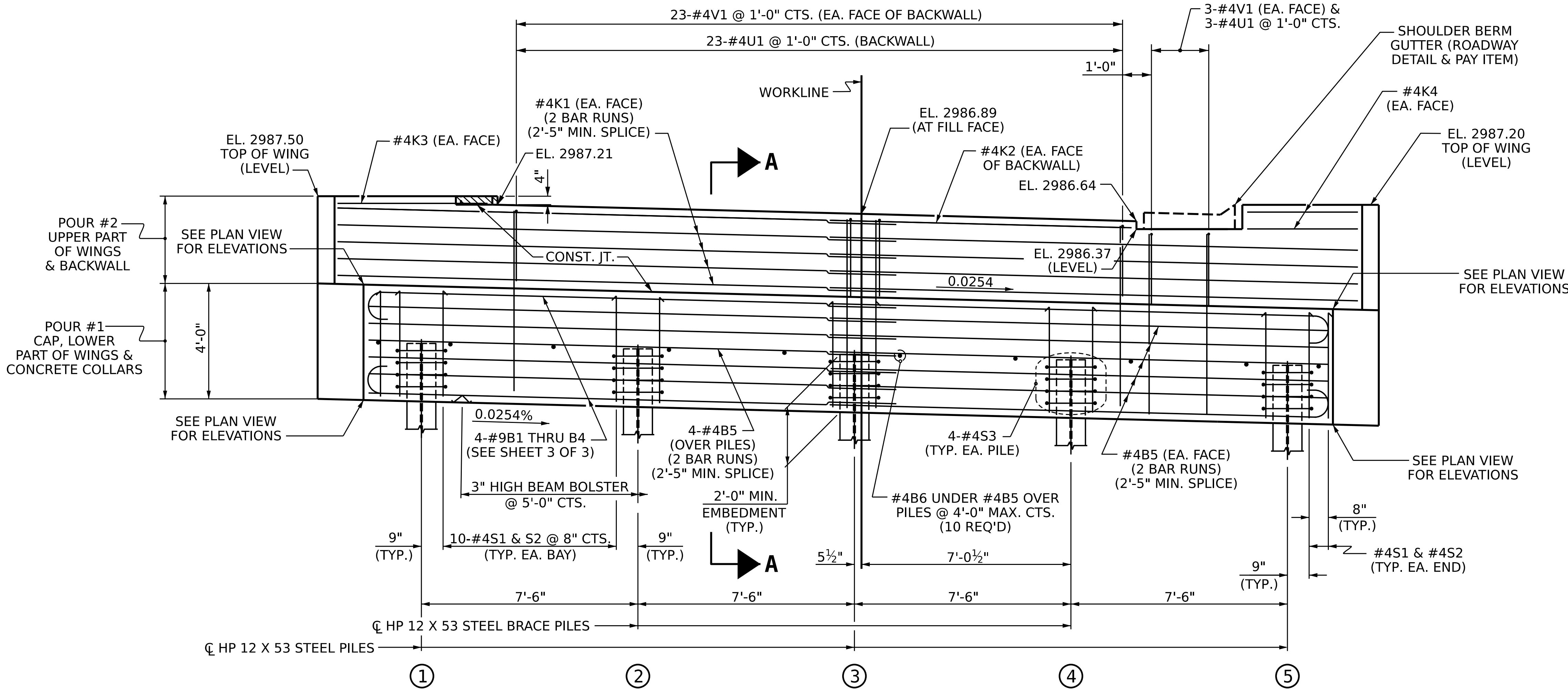
REVISIONS						SHEET NO. S-18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 23
2			4			

DRAWN BY : M. SACKO DATE : 03/2026
 CHECKED BY : J.R. MCROY DATE : 03/2026
 DESIGN ENGINEER OF RECORD: J.R. MCROY DATE : 07/2026

PROJECT NO. <u>DF18311.2005335.PR</u> <u>ASHE</u> COUNTY TATION: <u>15+15.50 -L-</u> SHEET 2 OF 2 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUBSTRUCTURE BENT 1 DETAILS																							
REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">NO.</th> <th style="width: 20%;">BY:</th> <th style="width: 20%;">DATE:</th> <th style="width: 20%;">NO.</th> <th style="width: 20%;">BY:</th> <th style="width: 20%;">DATE:</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td></td> <td>3</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td>4</td> <td></td> <td></td> </tr> </tbody> </table> SHEET NO. S-19 TOTAL SHEETS 23						NO.	BY:	DATE:	NO.	BY:	DATE:	1			3			2			4		
NO.	BY:	DATE:	NO.	BY:	DATE:																		
1			3																				
2			4																				



PLAN



ELEVATION

FOR SECTION A-A, SEE SHEET 3 OF 3.
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 3 OF 3.
WINGS NOT SHOWN FOR CLARITY.

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

FOR PILE SPLICE DETAILS, SEE SHEET 3 OF 3.

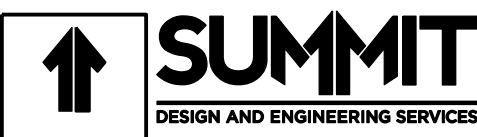
FOR WING DETAILS, SEE SHEET 2 OF 3.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

TOP OF PILE ELEVATIONS

①	2982.40
②	2982.21
③	2982.02
④	2981.83
⑤	2981.64

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7/23/2026

PROJECT NO. DF18311.2005335.PR
ASHE COUNTY

STATION: 15+15.50 -L-

SHEET 1 OF 3

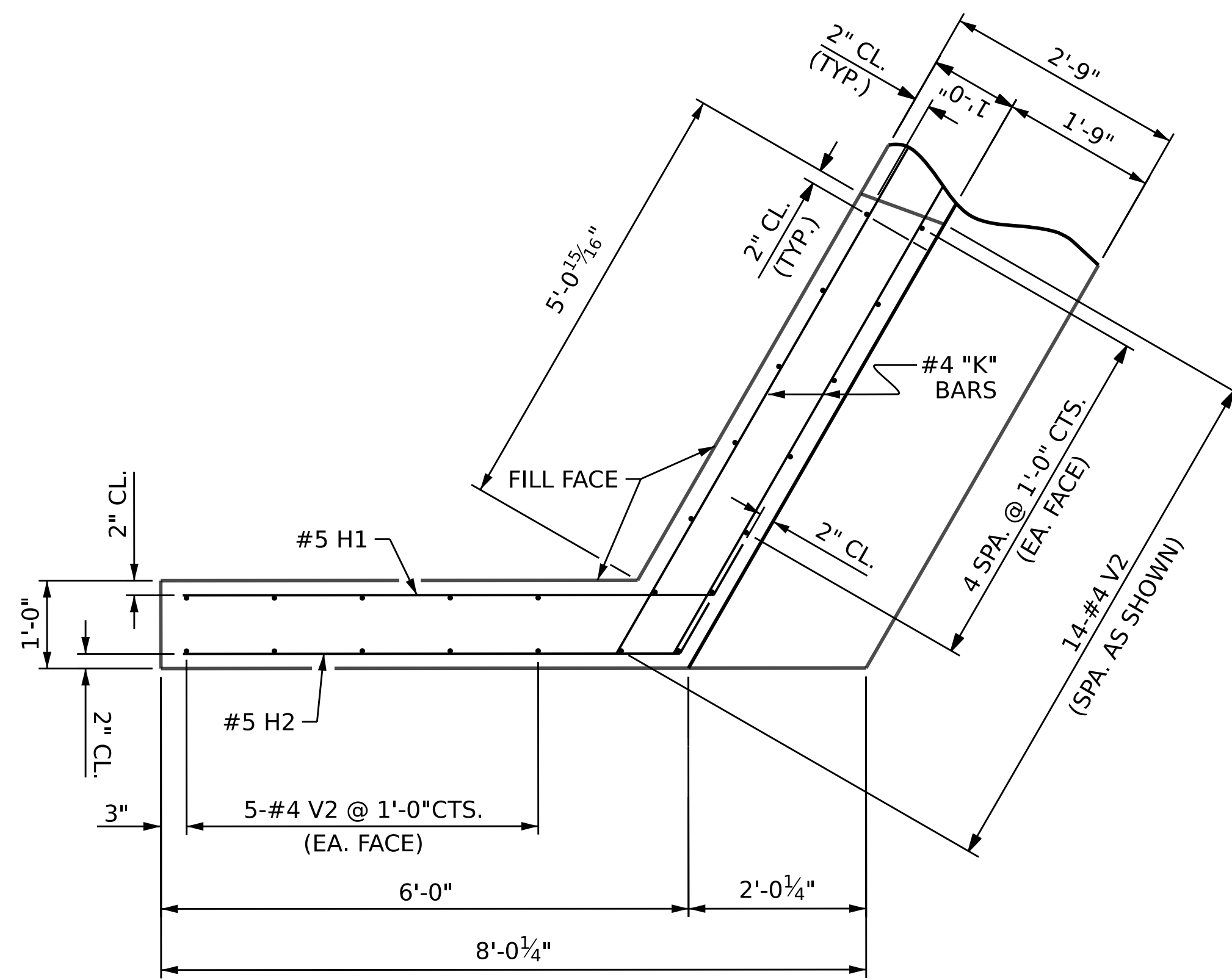
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
END BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-20 TOTAL SHEETS 23
2			4			

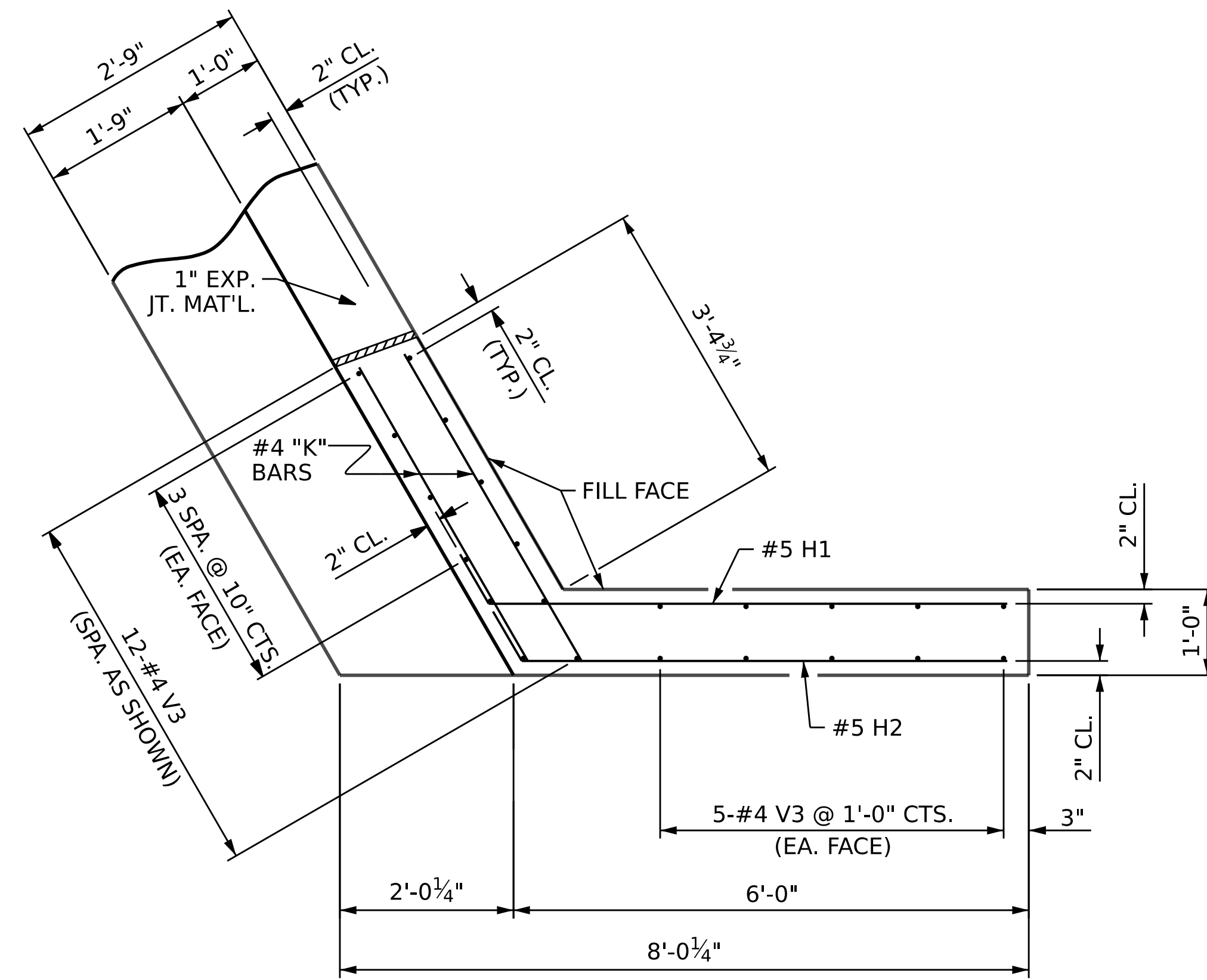
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CHECKED BY : J.R. MCROY DATE : 05/2026
DESIGN ENGINEER OF RECORD: J.R. MCROY DATE : 07/2026

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FINAL UNLESS ALL
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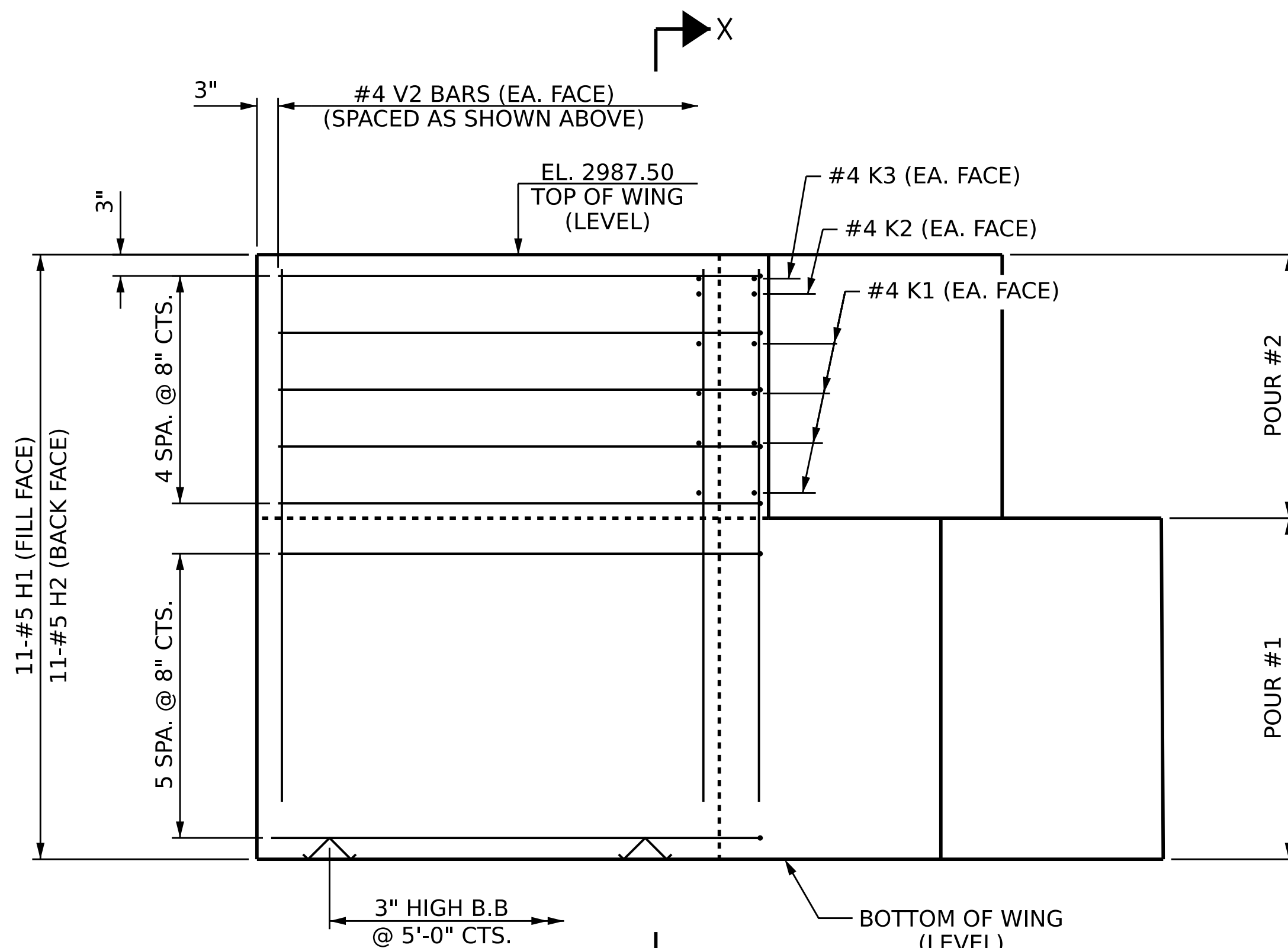
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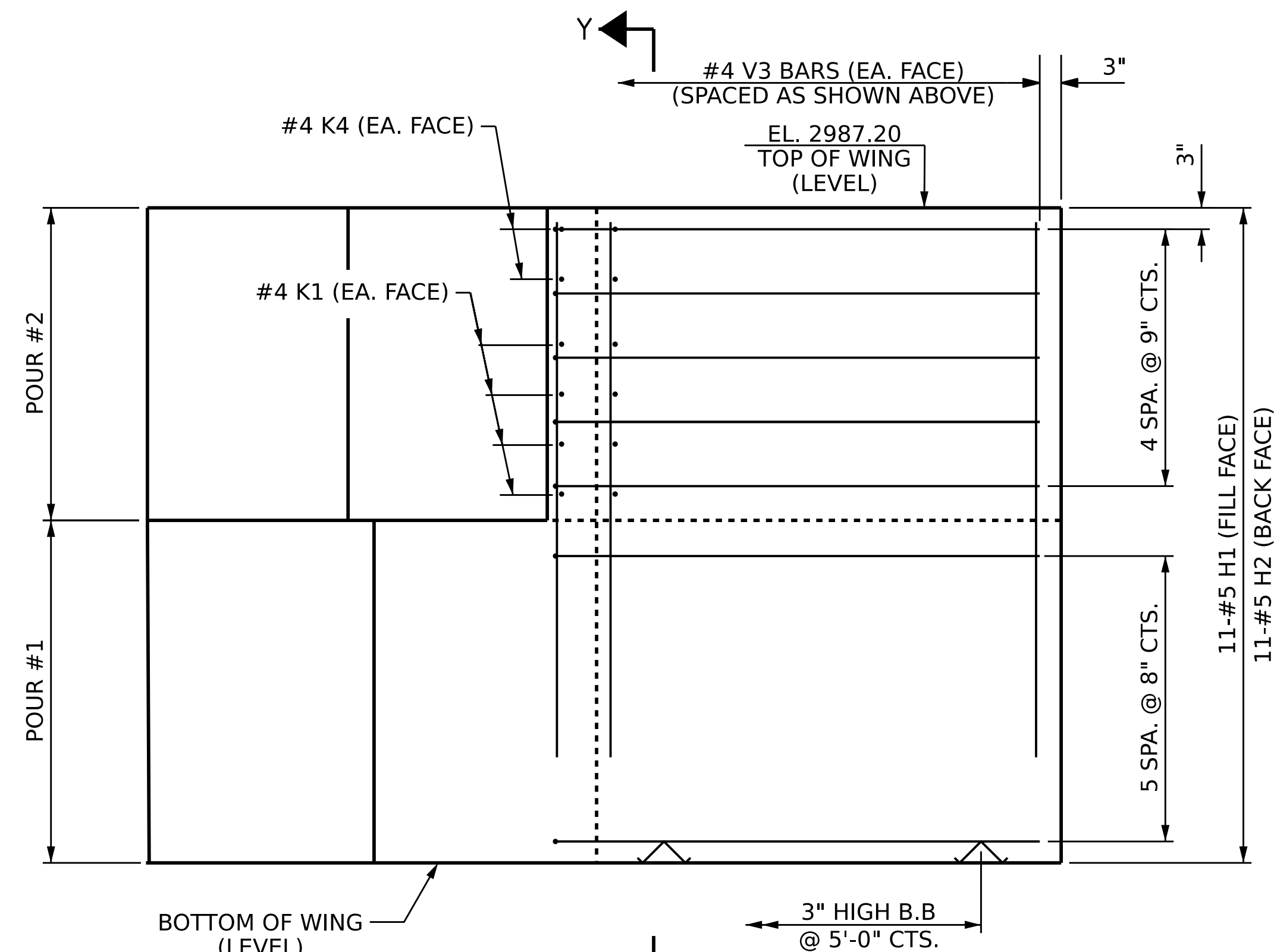
PLAN OF WING (W3)



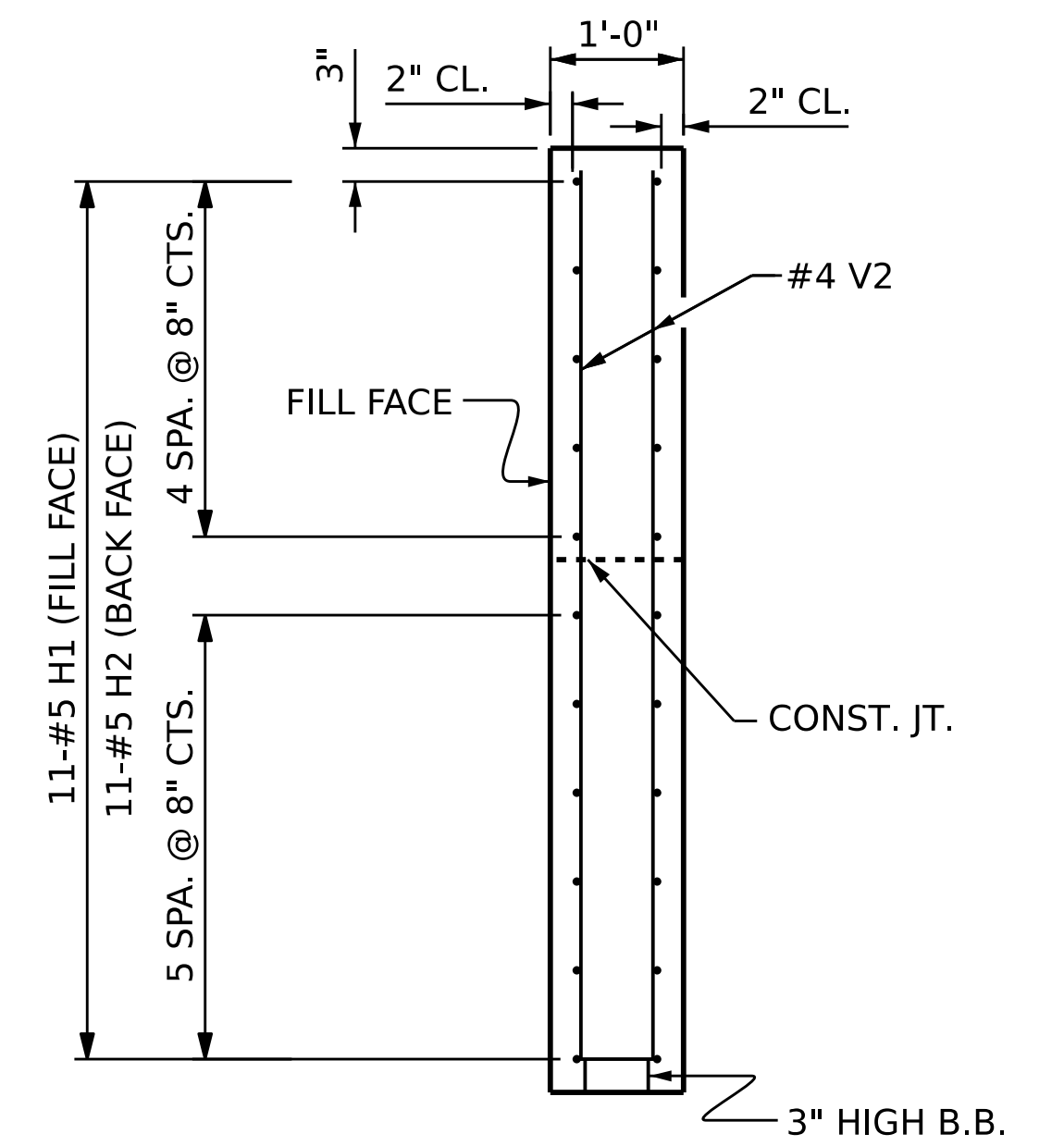
PLAN OF WING (W4)



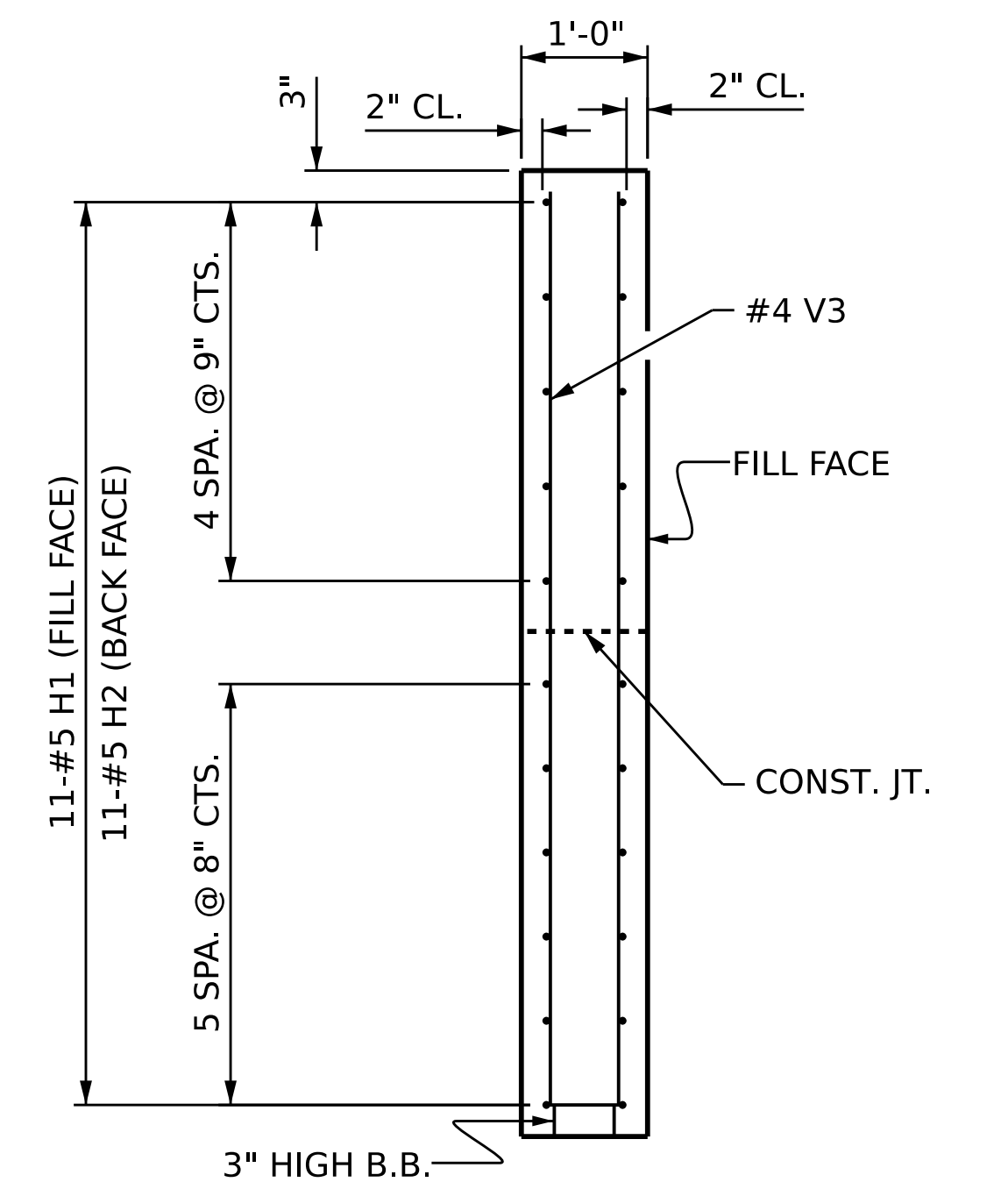
ELEVATION OF WING (W3)



ELEVATION OF WING (W4)



SECTION X-X



SECTION Y-Y

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ASHE COUNTY

76 STATION: 15+15.50 -L-

SHEET 2 OF 3



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 2 WING DETAILS

Signed by:

Jennifer R. McKay
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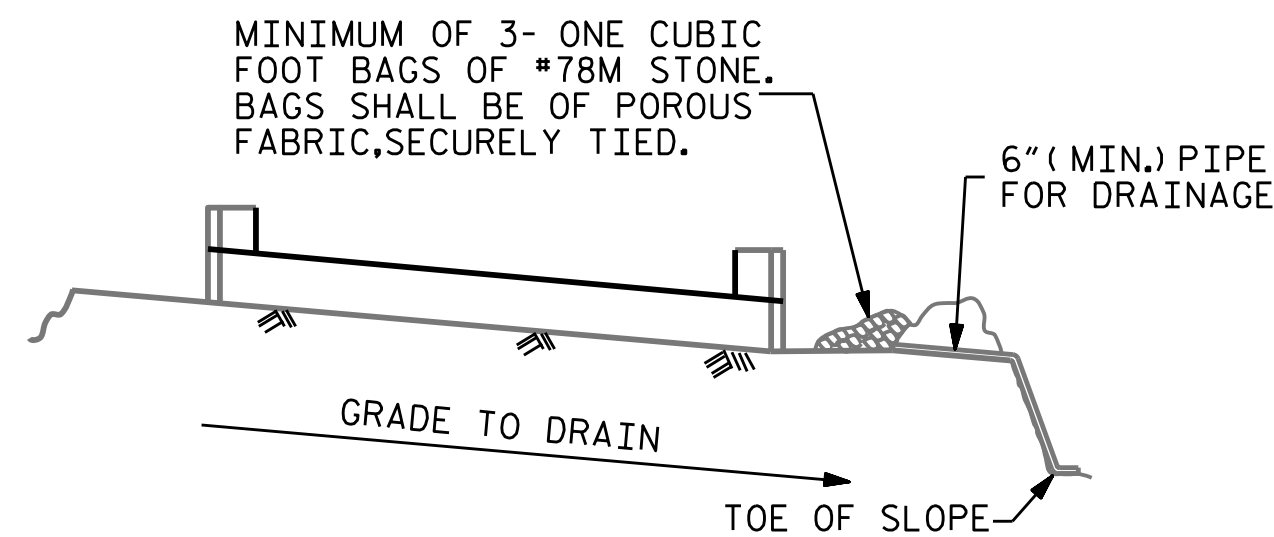
7/23/2026

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SIGNATURES COMPLETED

REVISIONS						SHEET NO. S-21
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 23
2			4			

ASSEMBLED BY :	<u>B.M. WILSON</u>	DATE :	<u>05/2026</u>
CHECKED BY :	<u>J.R. MCROY</u>	DATE :	<u>05/2026</u>
DESIGN ENGINEER OF RECORD:	<u>J.R. MCROY</u>	DATE :	<u>05/2026</u>

WING DETAILS

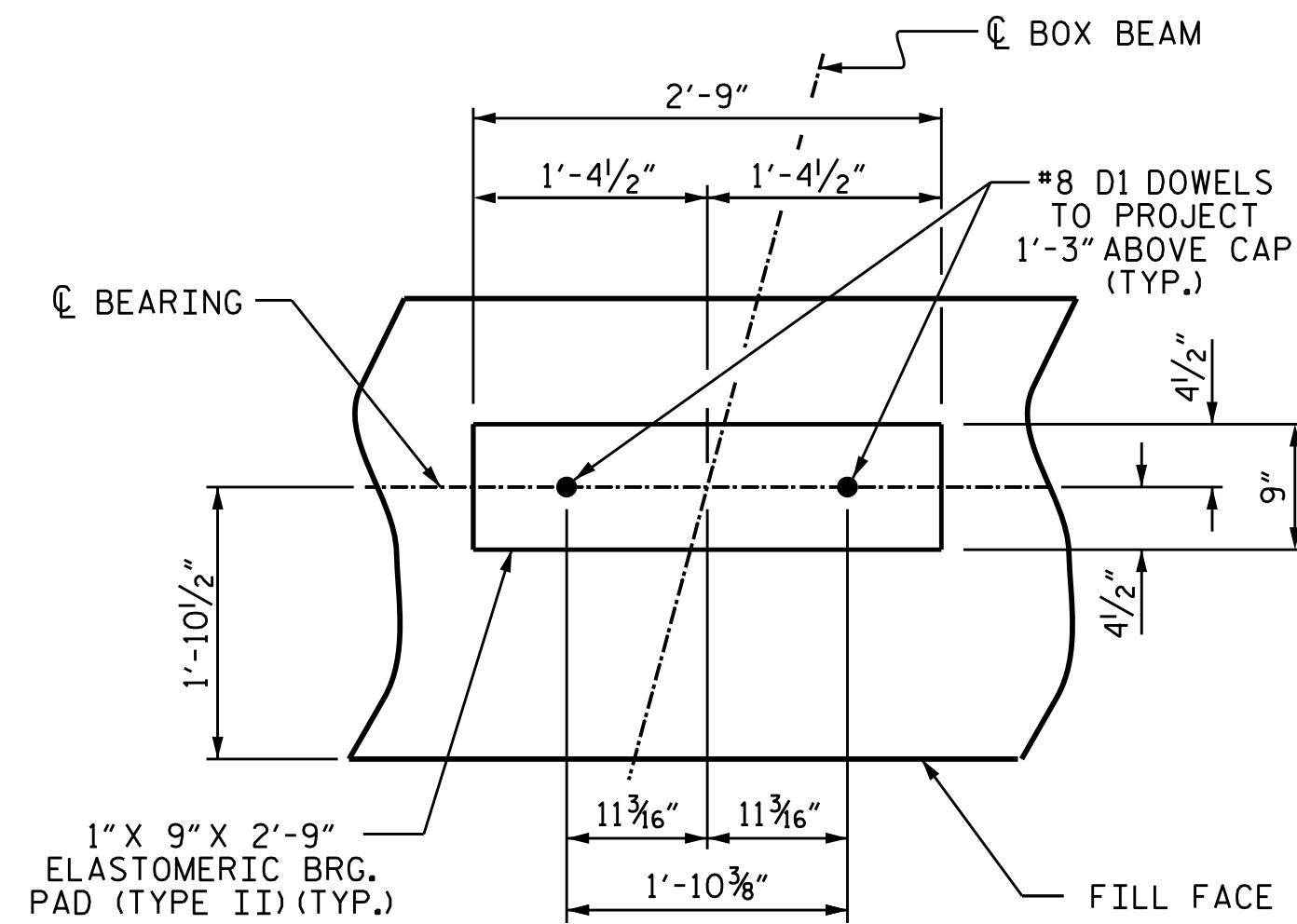


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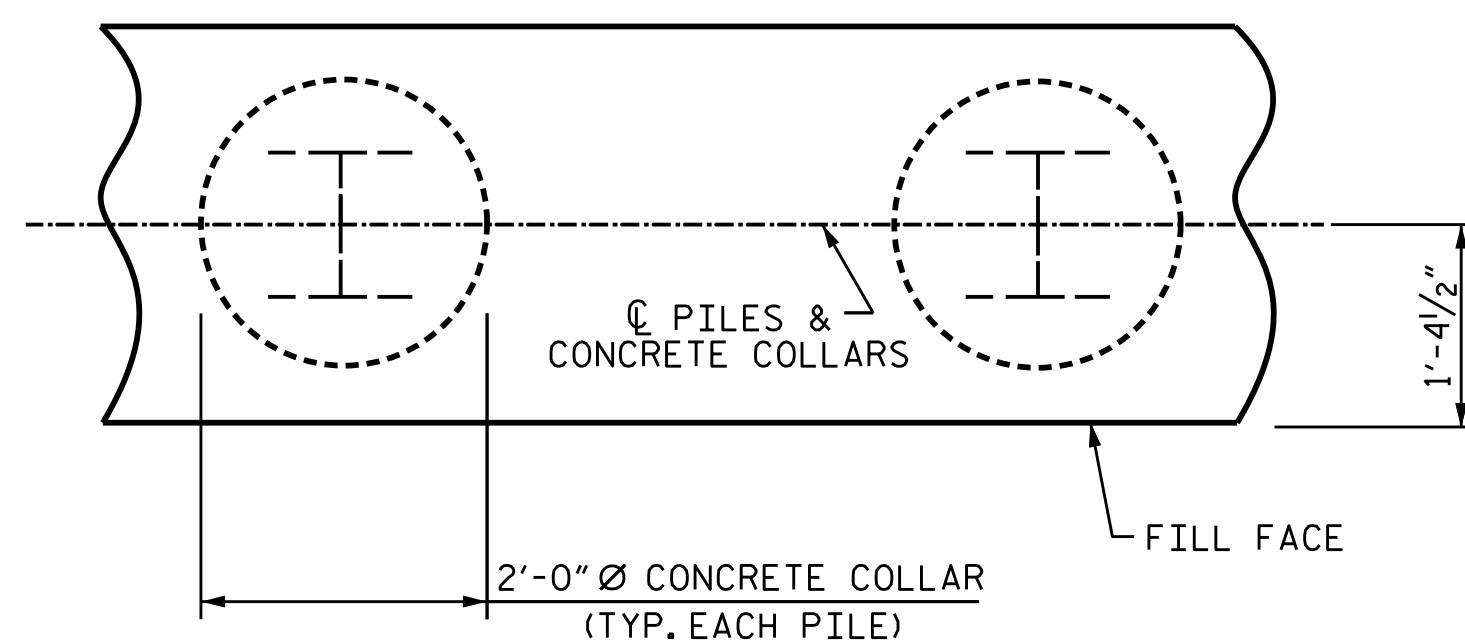
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

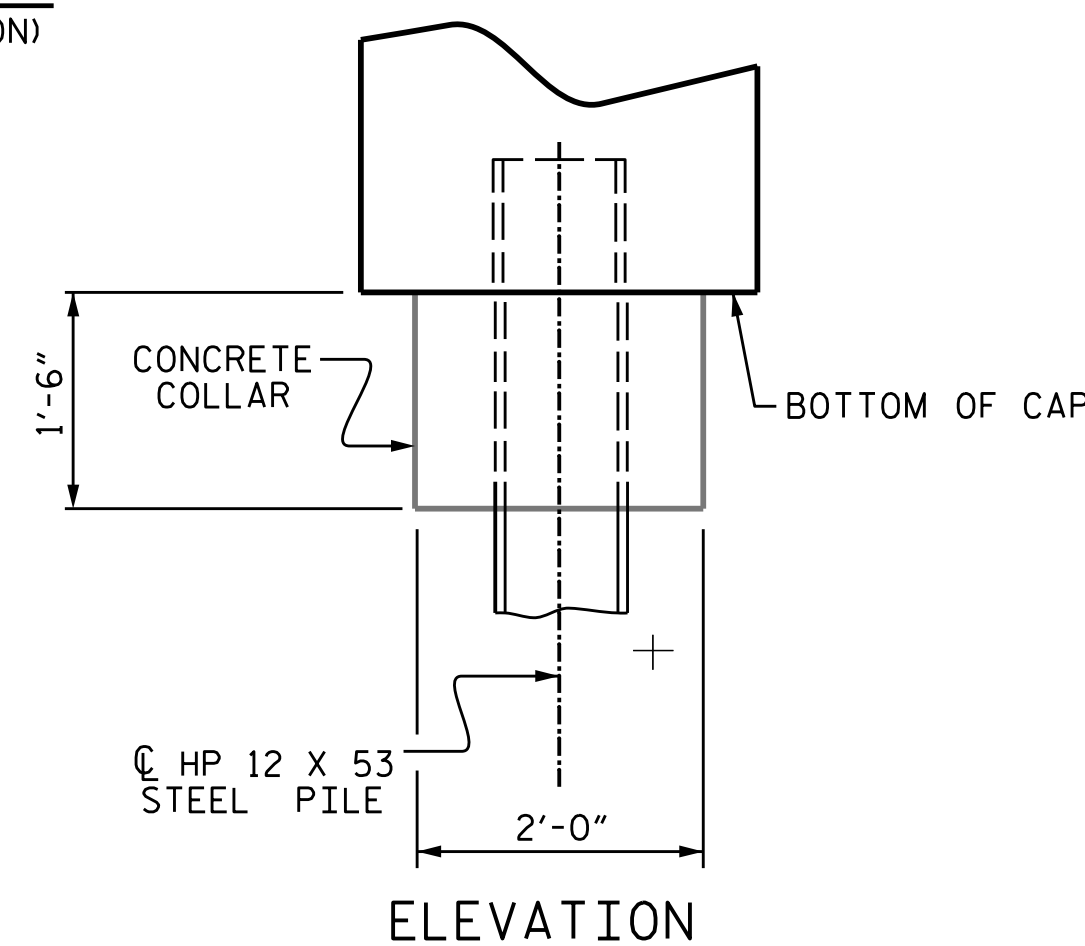


DETAIL "A"

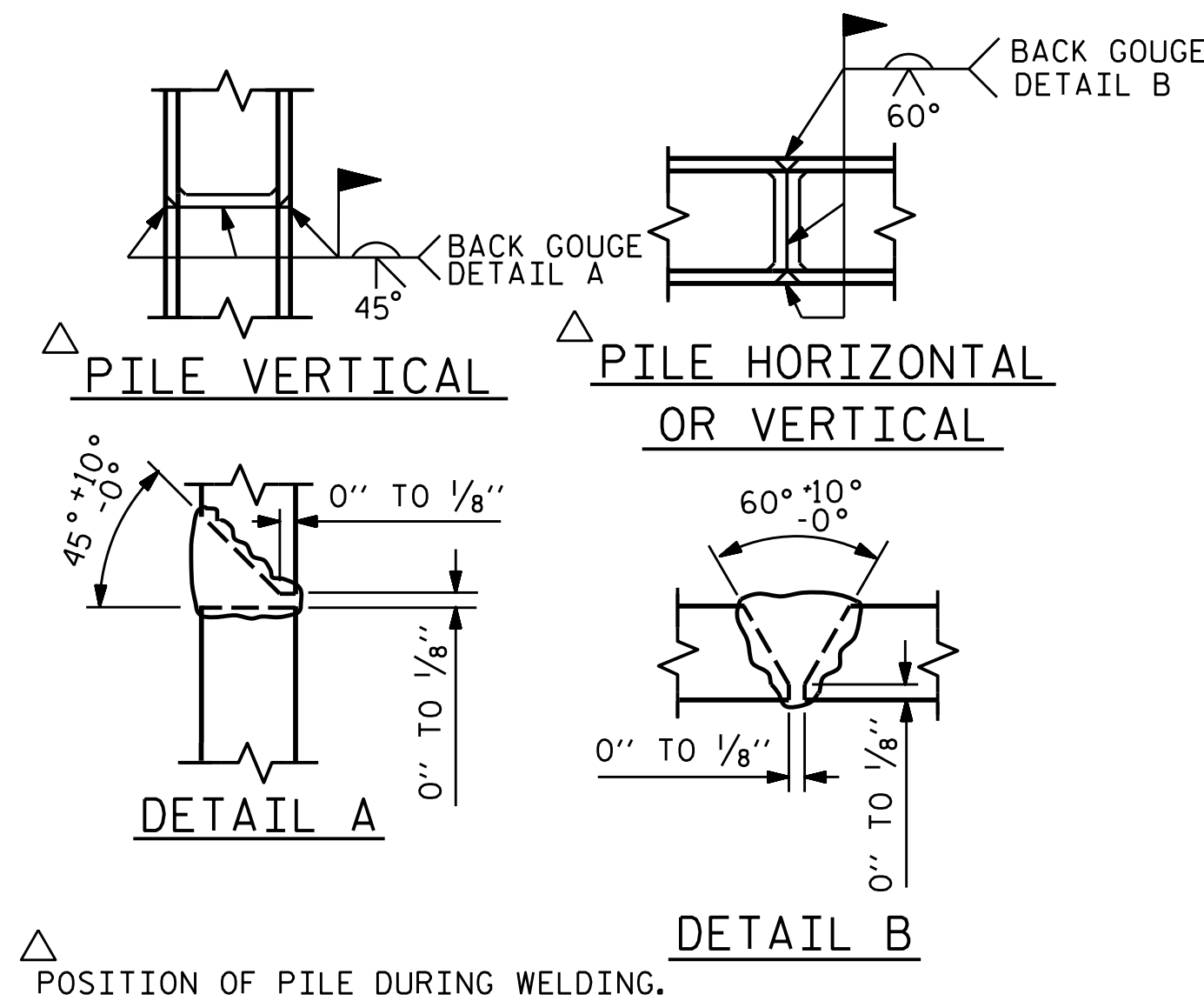
(END BENT No.1 SHOWN,END BENT No.2 SIMILAR BY ROTATION)



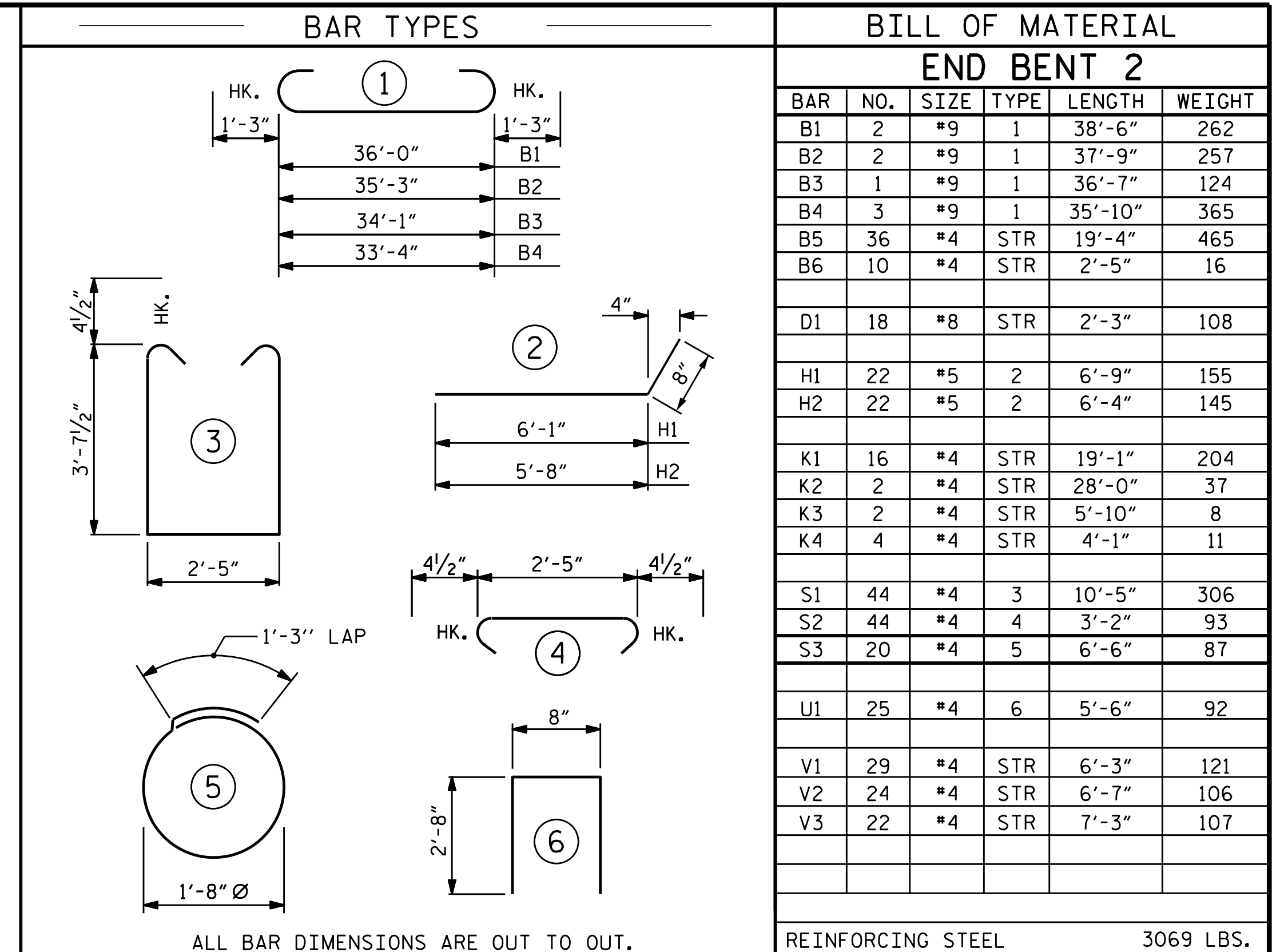
PLAN



ELEVATION



PILE SPLICE DETAILS



BILL OF MATERIAL					
END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	2	#9	1	38'-6"	262
B2	2	#9	1	37'-3"	257
B3	1	#9	1	36'-7"	124
B4	3	#9	1	35'-10"	365
B5	36	#4	STR	19'-4"	465
B6	10	#4	STR	2'-5"	16
D1	18	#8	STR	2'-3"	108
H1	22	#5	2	6'-9"	155
H2	22	#5	2	6'-4"	145
K1	16	#4	STR	19'-1"	204
K2	2	#4	STR	28'-0"	37
K3	2	#4	STR	5'-10"	8
K4	4	#4	STR	4'-1"	11
S1	44	#4	3	10'-5"	306
S2	44	#4	4	3'-2"	93
S3	20	#4	5	6'-6"	87
U1	25	#4	6	5'-6"	92
V1	29	#4	STR	6'-3"	121
V2	24	#4	STR	6'-7"	106
V3	22	#4	STR	7'-3"	107

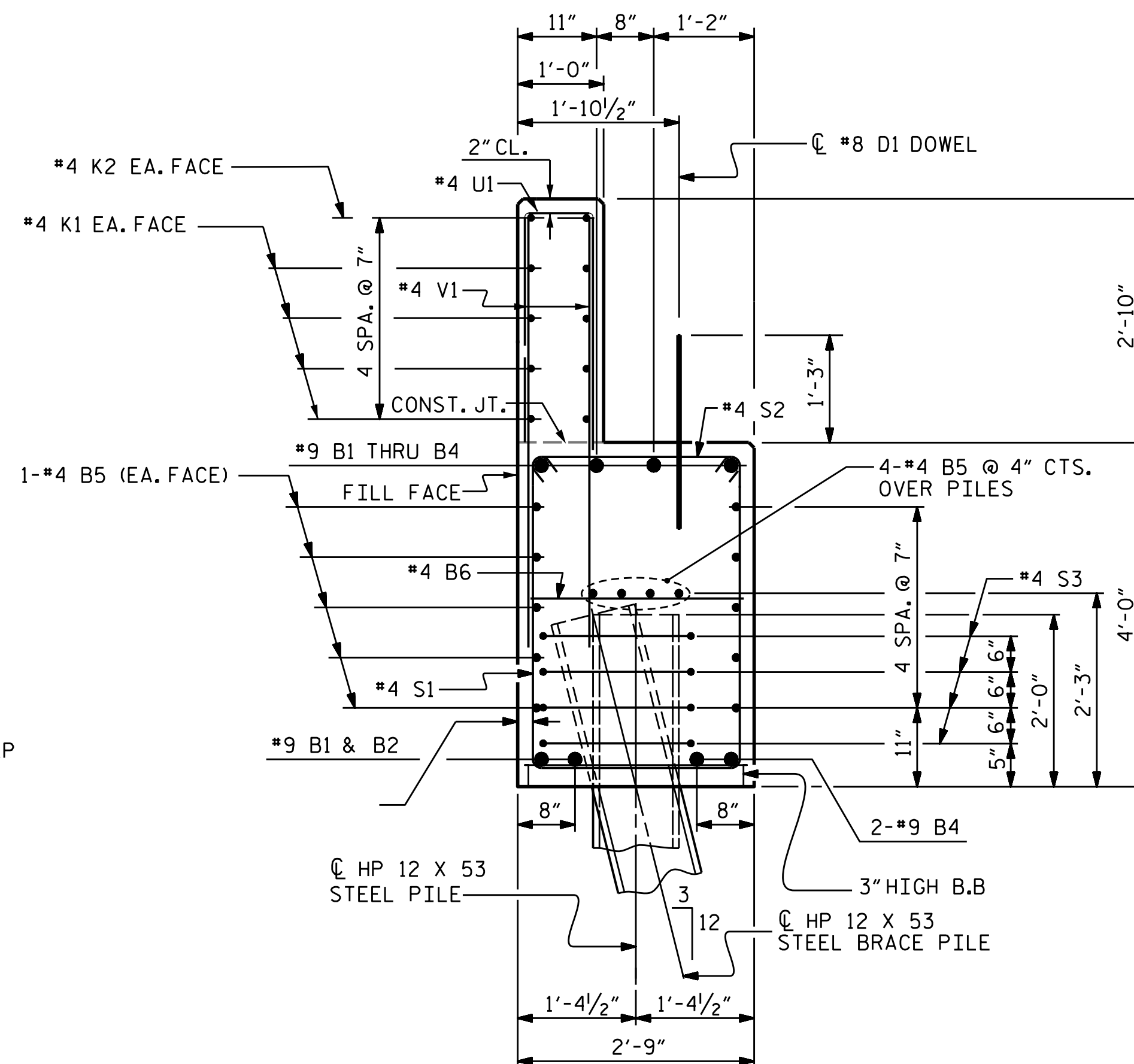
REINFORCING STEEL	3069 LBS.
-------------------	-----------

CLASS A CONCRETE BREAKDOWN

POUR #1	CAP, LOWER PART OF WINGS & COLLARS	15.9 C.Y.
---------	---------------------------------------	-----------

POUR #2 BACKWALL & UPPER PART OF WINGS	5.2 C.Y.
---	----------

TOTAL CLASS A CONCRETE	21.1 C.Y.
------------------------	-----------



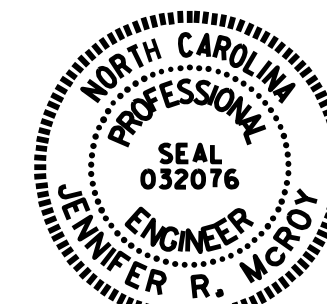
SECTION A-A

(CONCRETE COLLAR NOT SHOWN FOR CLARITY.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")

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Signed by: 
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7/23/2026

PROJECT NO. DF18311.2005335.PR

ASHE COUNTY

STATION: 15+15.50 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

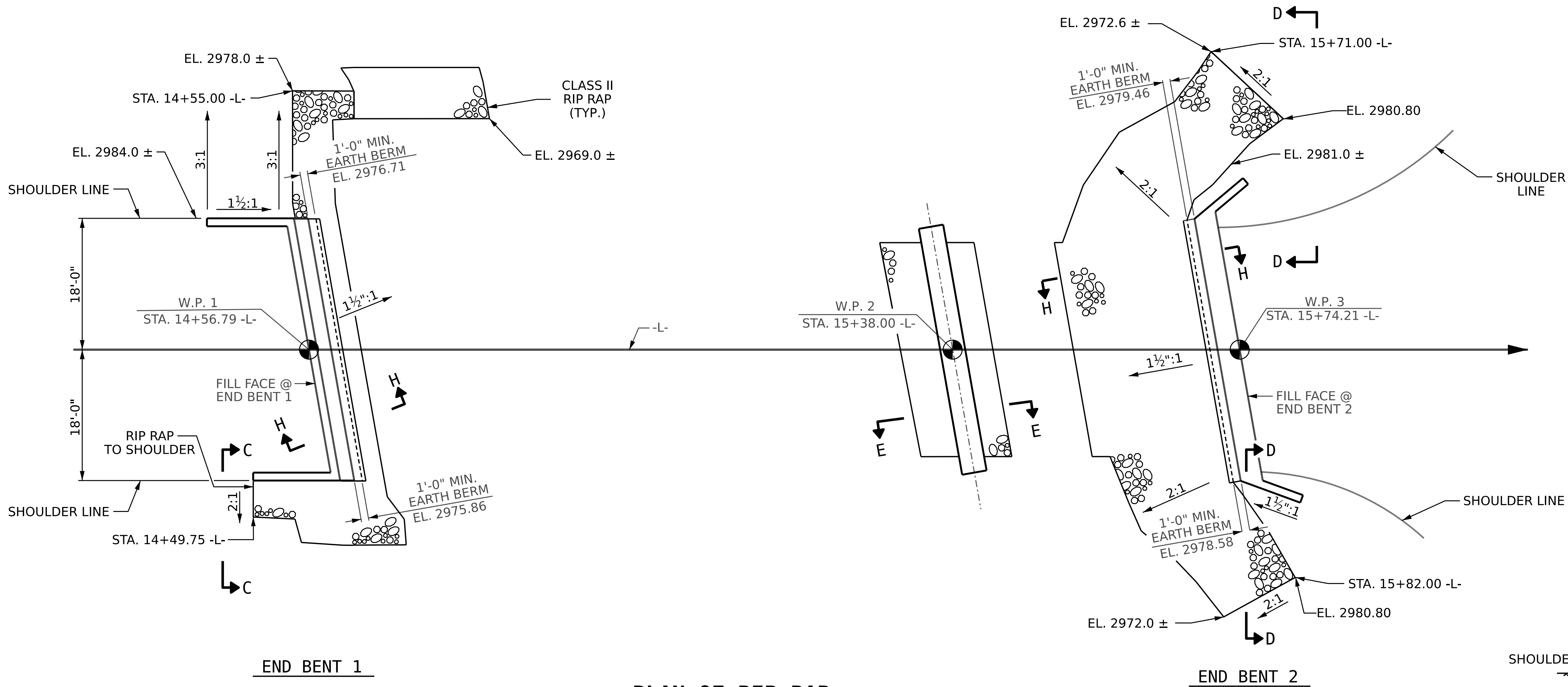
SUBSTRUCTURE

END BENT 2 DETAILS

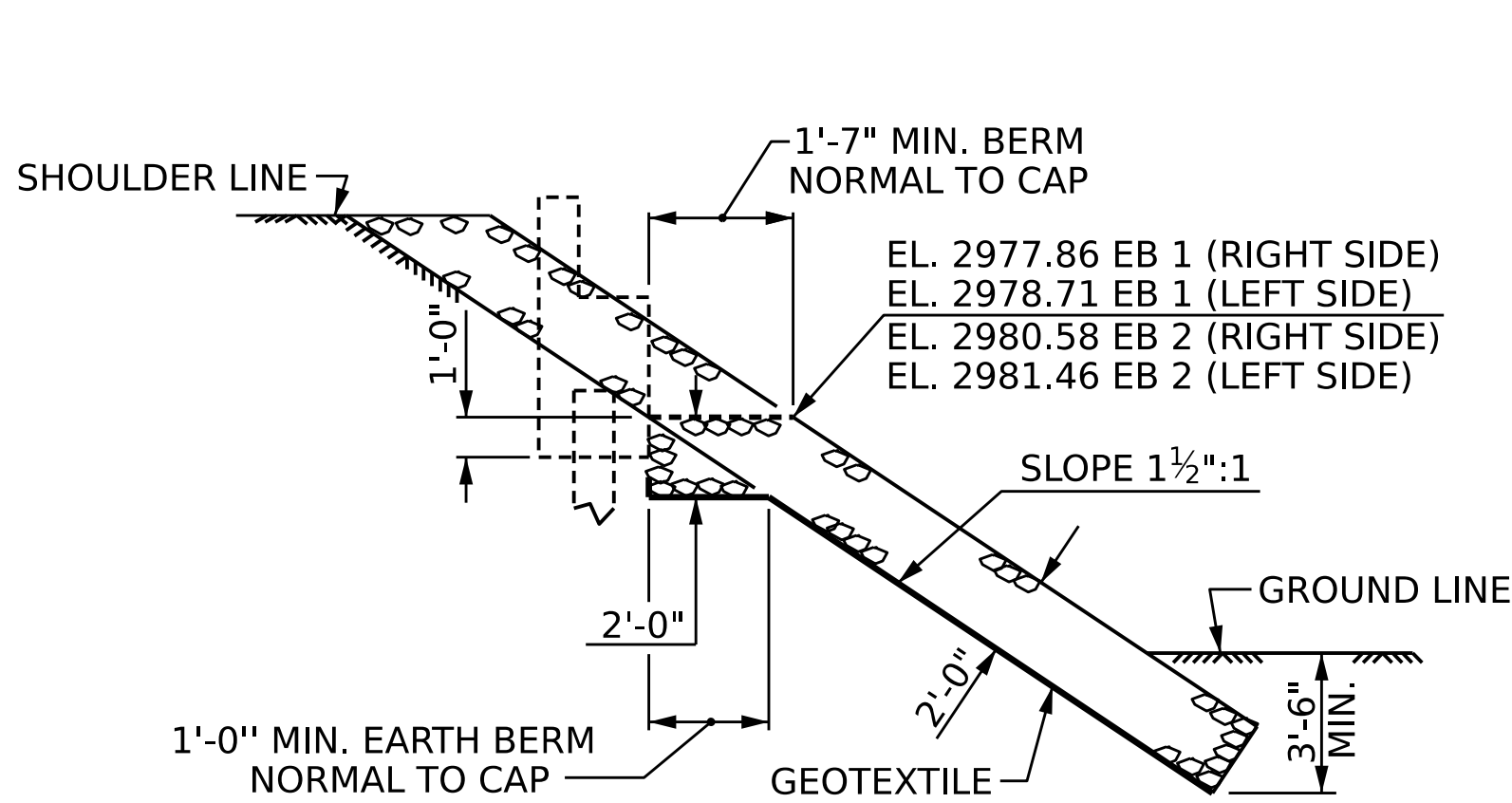
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NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

DRAWN BY : B.M. WILSON DATE : 05/2026
 CHECKED BY : J.R. MCROY DATE : 05/2026
 DESIGN ENGINEER OF RECORD: J.R. MCROY DATE : 05/2026

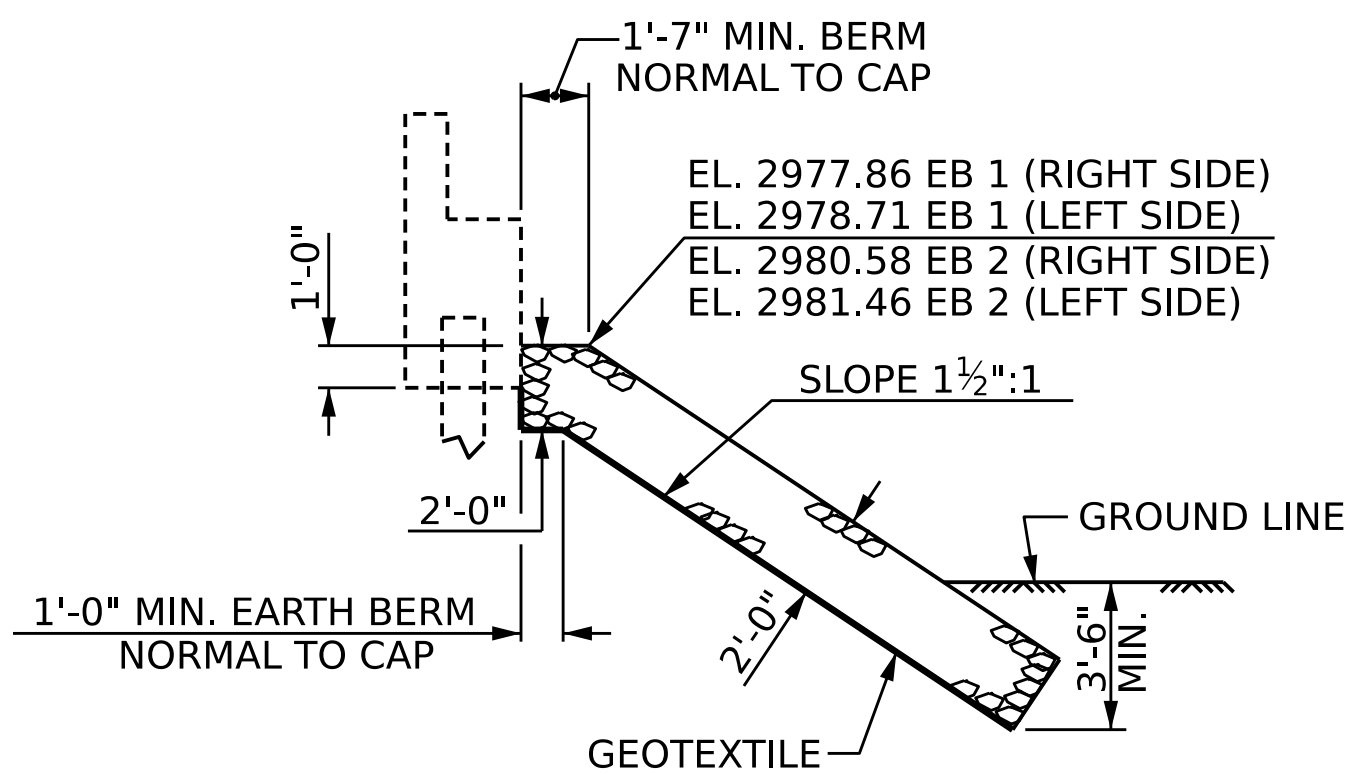
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PLAN OF RIP RAP



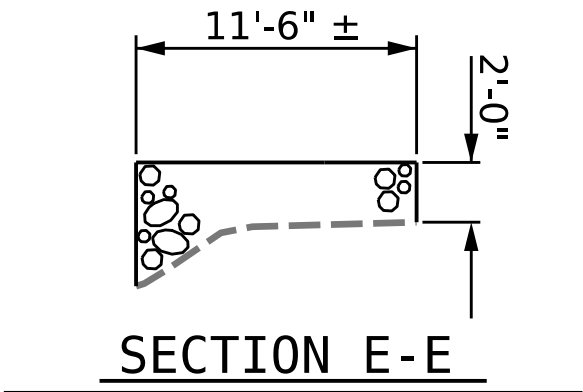
SECTION H-H



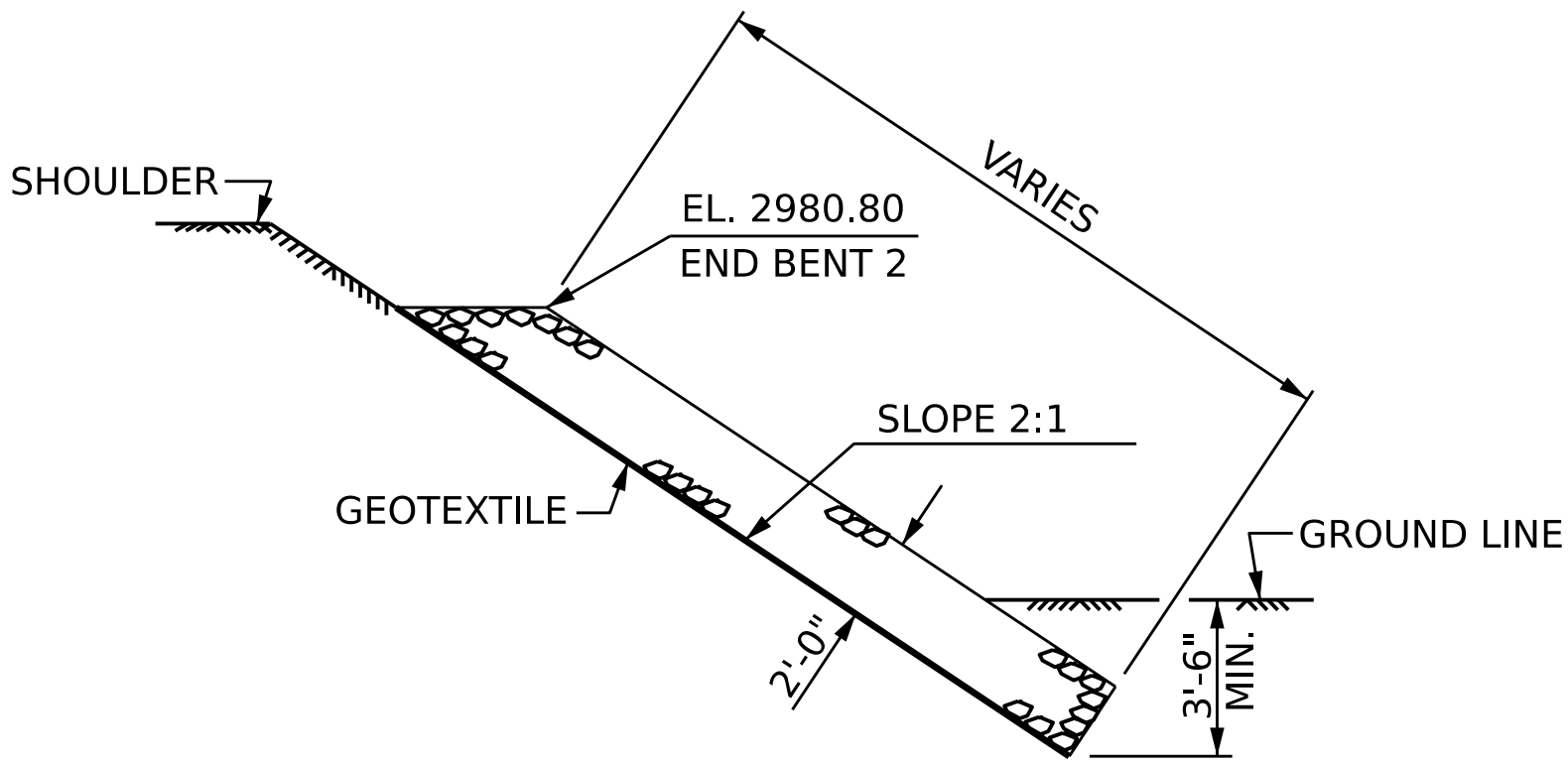
SECTION C-C

BERM RIP RAPPED

ESTIMATED QUANTITIES		
BRIDGE @ STA. 15+15.50 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	81	92
END BENT 2	280	310
BENT 1	32	35

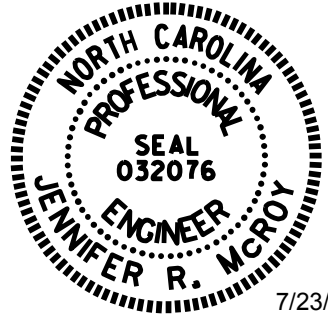


SECTION E-E



SECTION D-D

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PROJECT NO. DF18311.2005335.PR
ASHE COUNTY
STATION: 15+15.50 -L-

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	
1			3		S-23
2			4		TOTAL SHEETS 23

ASSEMBLED BY : B.M. WILSON
CHECKED BY : J.R. MCROY
DESIGN ENGINEER OF RECORD : J.R. MCROY
DATE : 07/2026
DATE : 07/2026
DATE : 07/2026

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	AASHTO (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE AASHTO
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	SEE AASHTO
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2024 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A ¼" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞"Ø STUDS FOR 4 - ¾" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST ⅝" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY ⅛" OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.