

WBS: BP9.R003

CONTRACT: DI00327

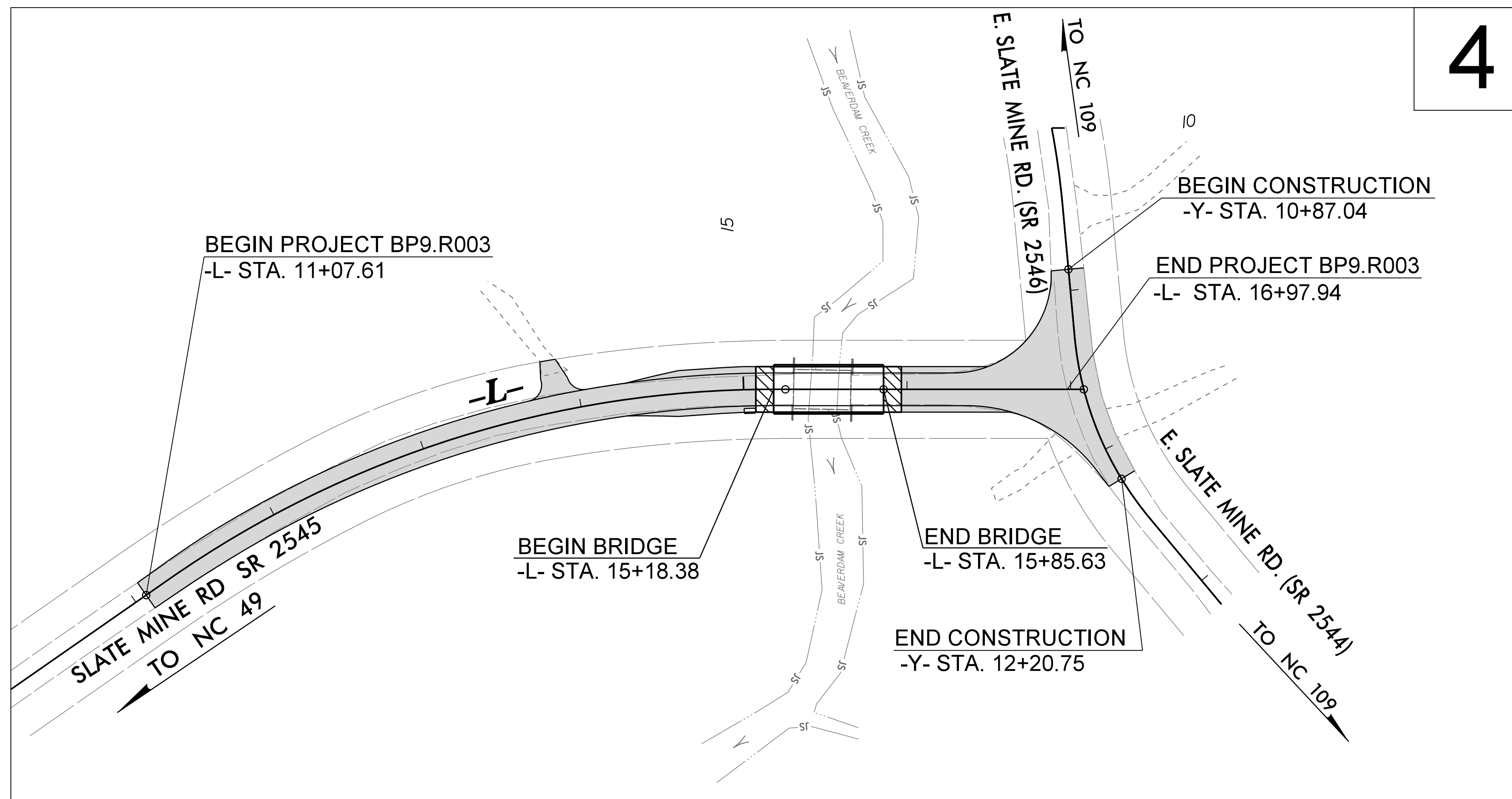
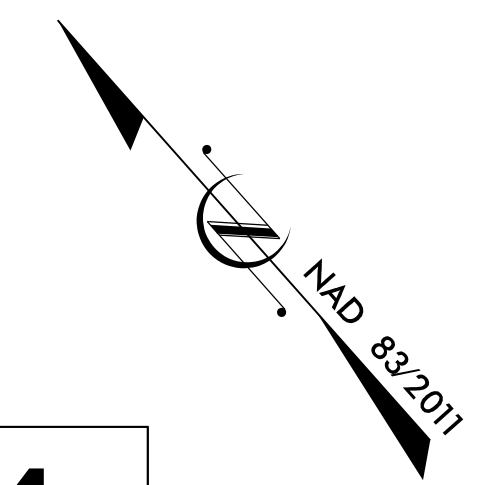
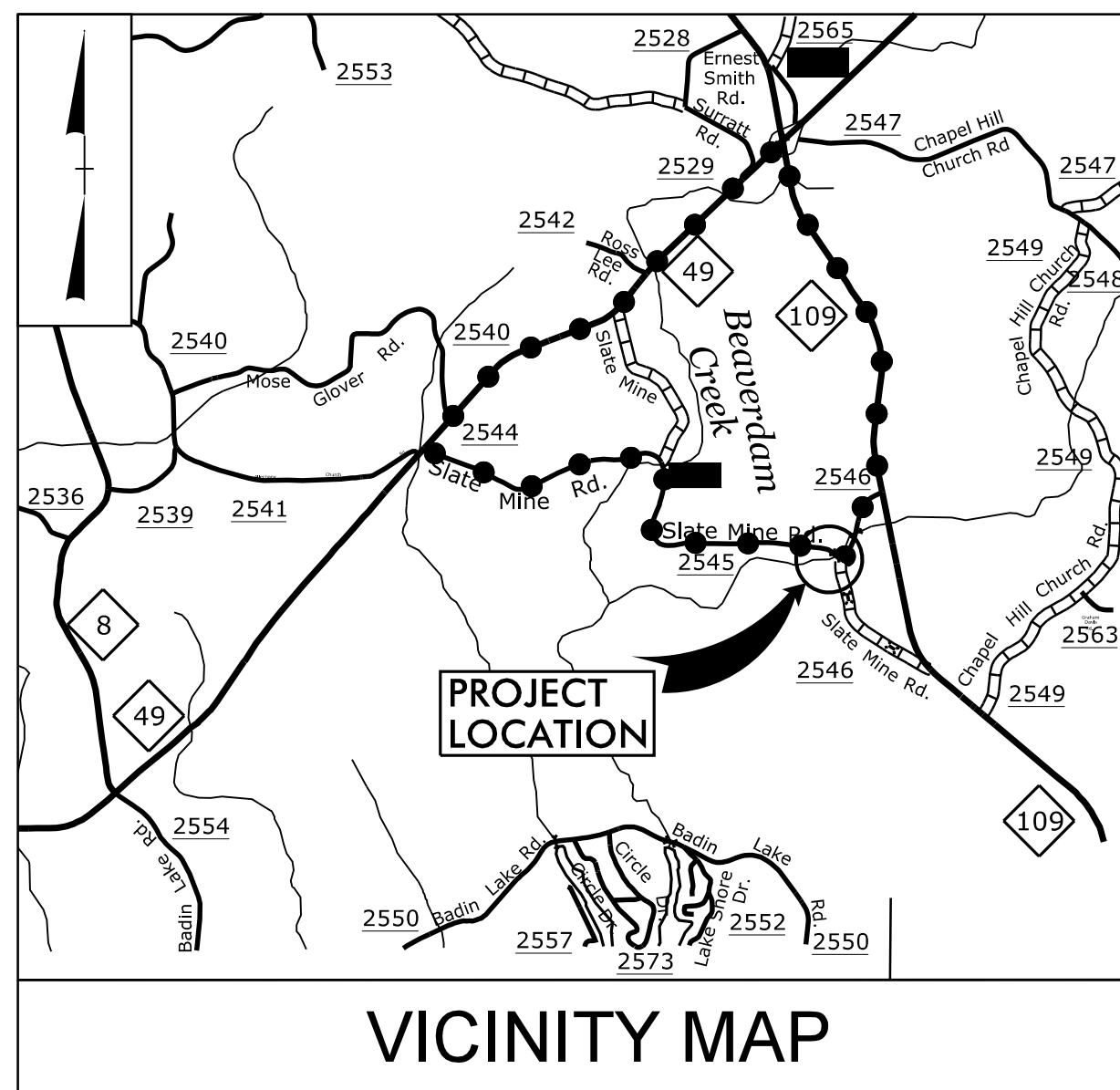
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

DAVIDSON COUNTY

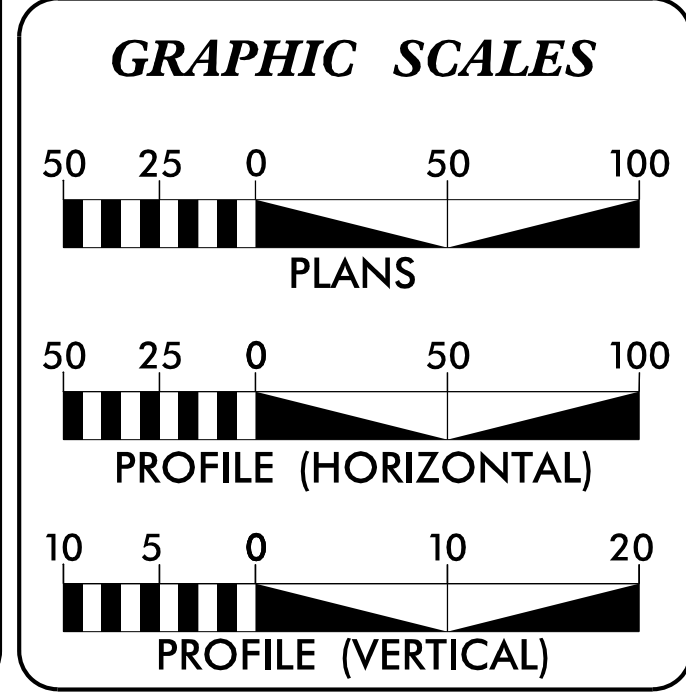
**LOCATION: REPLACE BRIDGE #286 ON SR 2545 (SLATE MINE RD)
 OVER BEAVERDAM CREEK**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP9.R003	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP9.R003.1	N/A	PE	
BP9.R003.2	N/A	R/W & UTIL.	
BP9.R003.3	N/A	CONSTRUCTION	



DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2021 = NO DATA
 V = 45 MPH
 (STATUTORY 55 MPH)

FUNC CLASS = LOCAL
 SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT BP9.R003	=	0.099 MI
LENGTH STRUCTURE PROJECT BP9.R003	=	0.013 MI
TOTAL LENGTH PROJECT BP9.R003	=	0.112 MI

Prepared in the Office of
WSP
 WSP USA
 451 DAVENPORTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
 TEL: 919.836.4040
 FAX: 919.836.4099
 LICENSE NO. 1-0165

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 16, 2022
LETTING DATE: JUNE 7, 2023

NCDOT CONTACT: DANIEL DAGENHART
 DIVISION 9 BRIDGE PROGRAM MANAGER

RONYELL THIGPEN, PE
 PROJECT ENGINEER

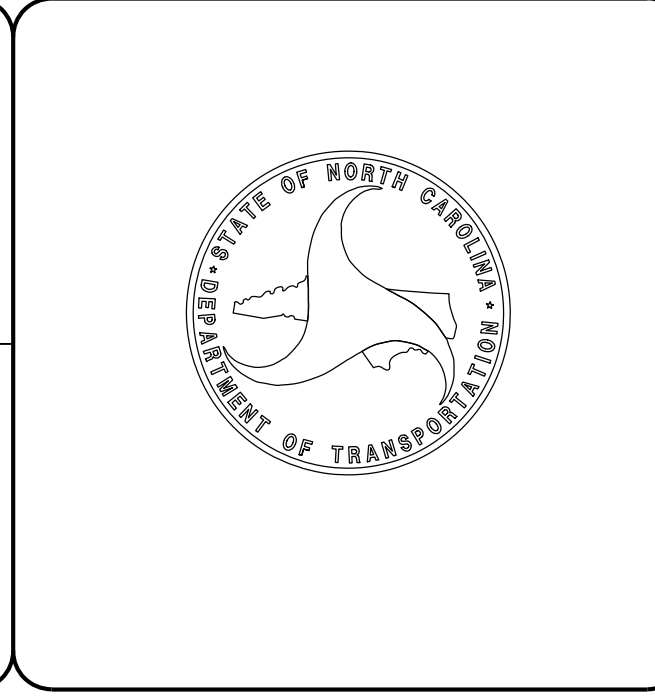
ERIC MISAK
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by:
 Vidya Medandas 4/12/2023 P.E.

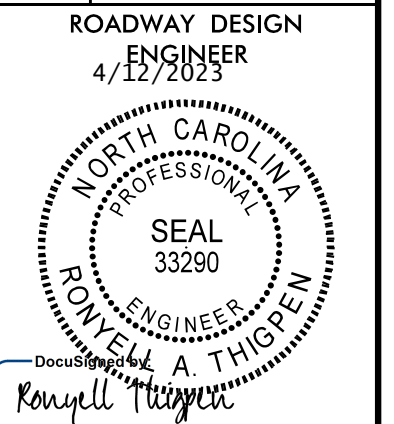
ROADWAY DESIGN ENGINEER

DocuSigned by:
 Ronyell Thigpen 4/12/2023 P.E.



8/17/99

PROJECT REFERENCE NO.	SHEET NO.
BP9.R003	1A



**DOCUMENT NOT CONSIDERED FINAL
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















SHEET NUMBER	INDEX OF SHEETS SHEET	GENERAL NOTES:	2018 SPECIFICATIONS EFFECTIVE: 01-16-2018 REVISED:	2018 ROADWAY ENGLISH STANDARD DRAWINGS	EFF. 01-16-2018 REV.
1	TITLE SHEET				
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS	GRADING AND SURFACING OR RESURFACING AND WIDENING:		The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:	
1B	CONVENTIONAL SYMBOLS		THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.	STD.NO. TITLE	
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS			DIVISION 2 - EARTHWORK	
2C-1	DETAILS OF GUARDRAIL INSTALLATION			200.02 Method of Clearing - Method II	
2C-2	DETAIL OF TYPE III STRUCTURE ANCHOR UNIT			225.02 Guide for Grading Subgrade - Secondary and Local	
3B-1	ROADWAY SUMMARIES	CLEARING:		225.04 Method of Obtaining Superelevation - Two Lane Pavement	
3D-1	DRAINAGE SUMMARY	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.		DIVISION 3 - PIPE CULVERTS	
4	PLAN & PROFILE SHEET	SUPERELEVATION:		300.01 Method of Pipe Installation	
RW-01 THRU RW-04	SURVEY CONTROL & RIGHT-OF-WAY PLANS	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.		DIVISION 4 - MAJOR STRUCTURES	
TMP-1 THRU TMP-4	TRAFFIC MANAGEMENT PLANS	SHOULDER CONSTRUCTION:		422.02 Bridge Approach Fills - Type II Modified Approach Fill	
PMP-1 THRU PMP-X	PAVEMENT MARKING PLANS	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01		DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
EC-1 THRU EC-5	EROSION CONTROL PLANS	GUARDRAIL:		560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I	
U0-1 THRU U0-2	UTILITIES BY OTHERS PLANS	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.		DIVISION 8 - INCIDENTALS	
X-1A	CROSS-SECTION SUMMARY SHEET	TEMPORARY SHORING:		806.01 Concrete Right-of-Way Marker	
X-1 THRU X-7	CROSS-SECTIONS	SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.		840.29 Frames and Narrow Slot Flat Grates	
S-1 THRU S-X	STRUCTURE PLANS	END BENTS:		840.35 Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates	
		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.		846.01 Concrete Curb, Gutter and Curb & Gutter	
		UTILITIES:		846.04 Drop Inlet Installation in Shoulder Berm Gutter	
		UTILITY OWNERS ON THIS PROJECT ARE		862.01 Guardrail Placement	
		TELECOMMUNICATIONS - RANDOLPH TELEPHONE		862.02 Guardrail Installation	
		ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.		862.03 Structure Anchor Units	
		RIGHT-OF-WAY MARKERS:		876.04 Drainage Ditches with Class 'B' Rip Rap	
		ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.			

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4/17/2023












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

Note: Not to Scale











BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	----- 
Computed Property Corner	----- 
Existing Concrete Monument (ECM)	----- 
Parcel/Sequence Number	----- 
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	----- 






























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

EXISTING STRUCTURES:










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

UTILITIES:











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

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








WATER:

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









TV:

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












GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

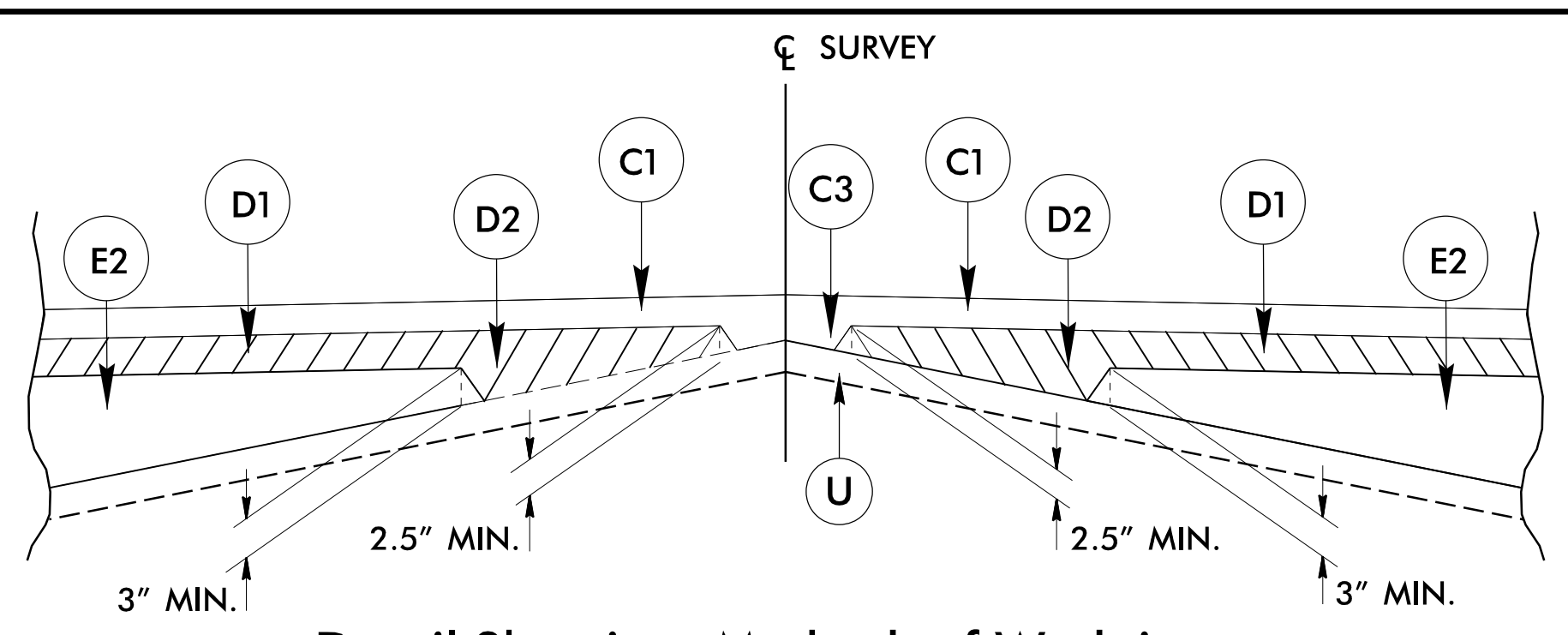
Utility Pole	----- 
Utility Pole with Base	----- 
Utility Located Object	----- 
Utility Traffic Signal Box	----- 
Utility Unknown U/G Line (SUE - LOS B)*	----- 
U/G Tank; Water, Gas, Oil	----- 
Underground Storage Tank, Approx. Loc.	----- 
A/G Tank; Water, Gas, Oil	----- 
Geoenvironmental Boring	-----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

AATUR
E.O.I.

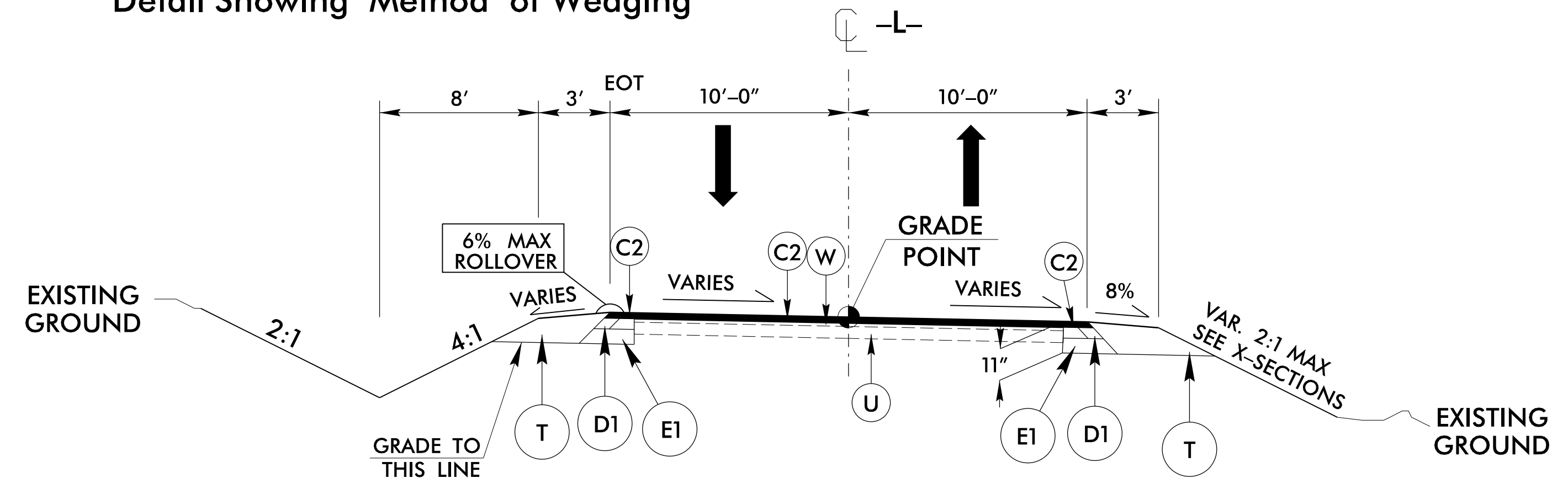
6/2/99

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" TO BE PLACED IN LAYERS NOT LESS THAN 3.0" OR GREATER THAN 5.5" IN DEPTH.
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING 1.5"
W	WEDGING (SEE WEDGING DETAIL).

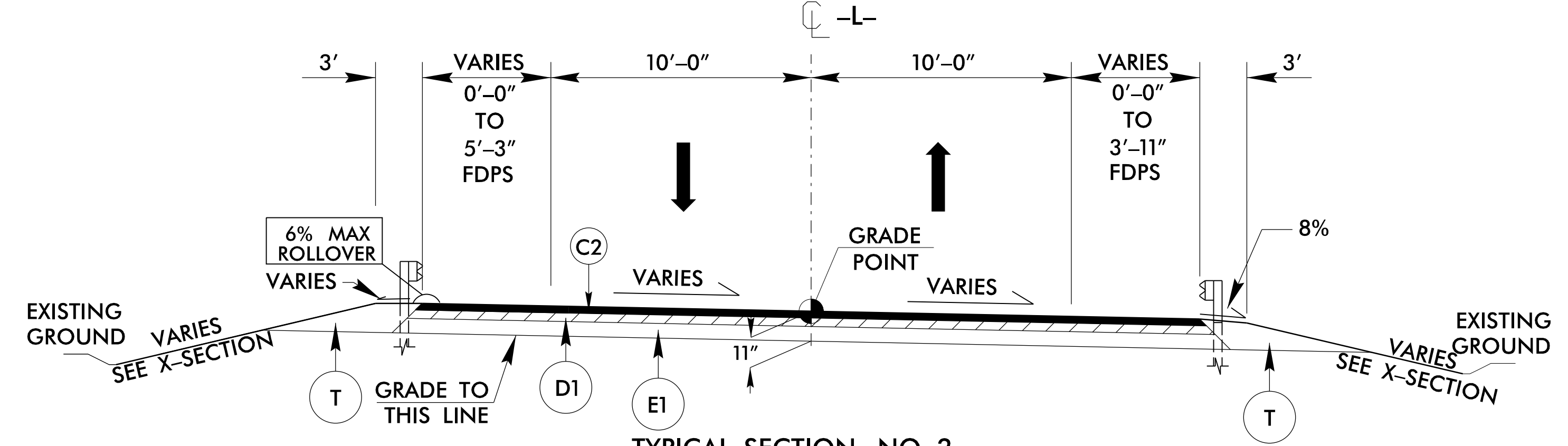
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



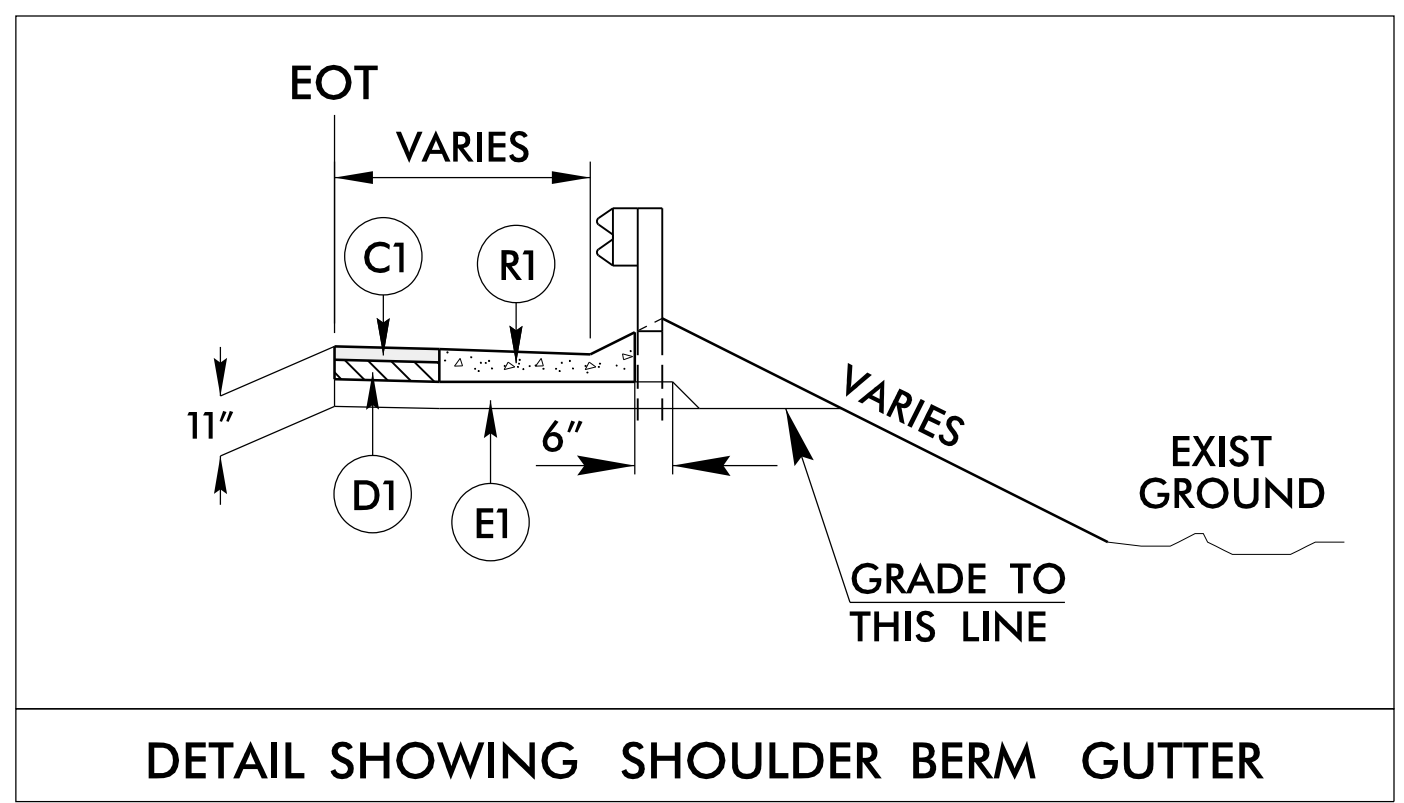
Detail Showing Method of Wedging



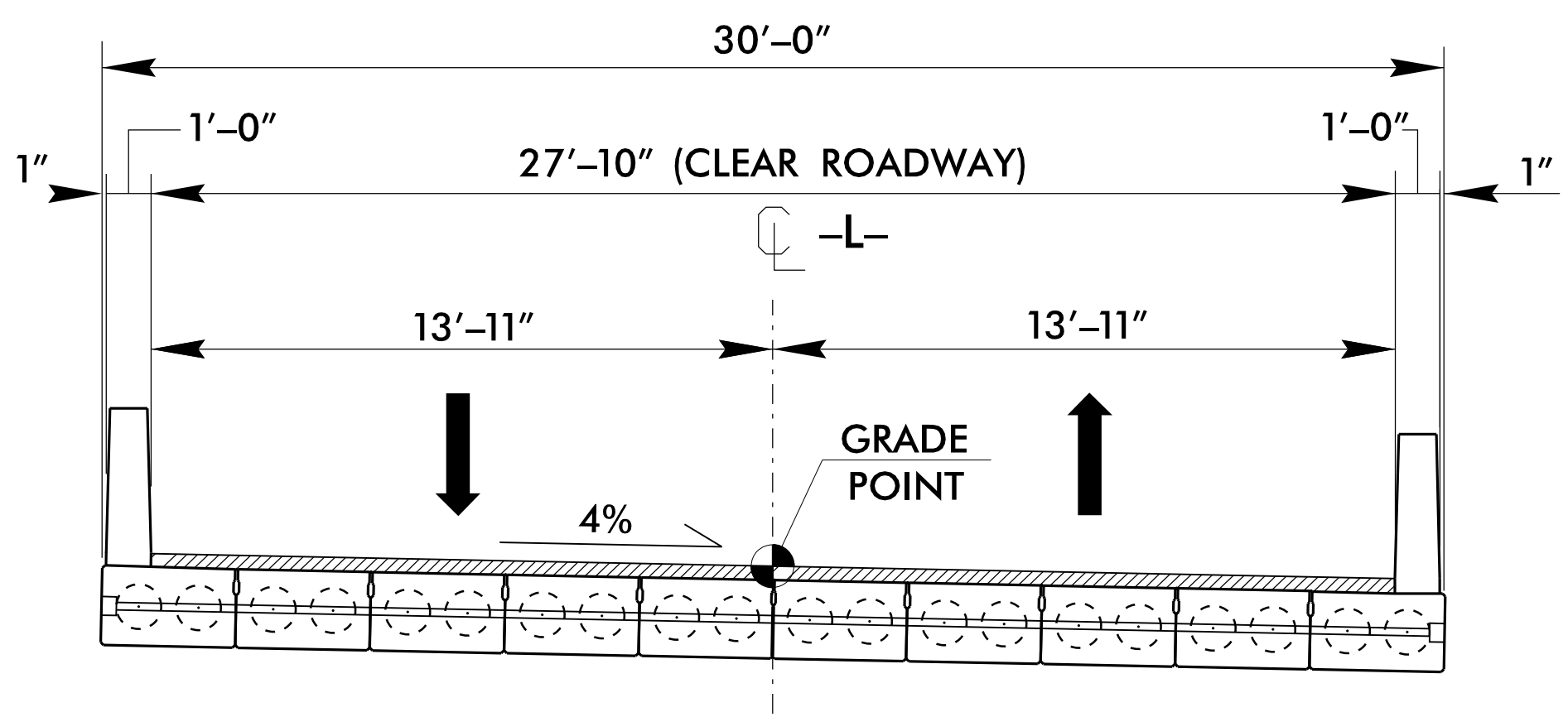
TYPICAL SECTION NO. 1
-L- STA. 11+07.61 TO STA. 14+15.00



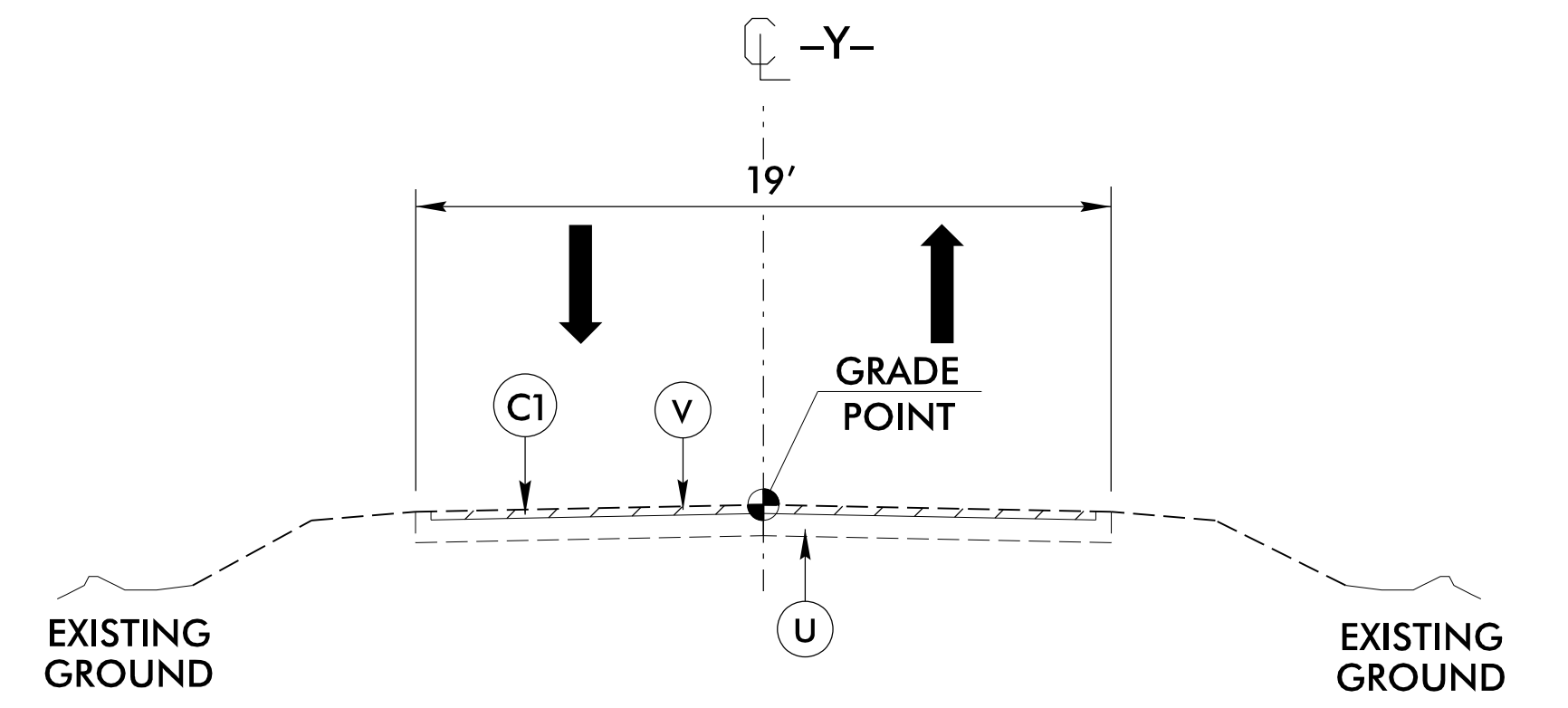
TYPICAL SECTION NO. 2
-L- STA. 14+15.00 TO STA. 15+18.38 (BEGIN BRIDGE)
-L- STA. 15+85.63 (END BRIDGE) TO STA. 16+97.94



DETAIL SHOWING SHOULDER BERM GUTTER
USE DETAIL IN CONJUNCTION WITH TYPICAL SECTION NO. 2
-L- STA. 15+00.00 TO STA. 15+07.50 RT



TYPICAL SECTION NO. 3
-L- STA. 15+18.38 TO 15+85.63



TYPICAL SECTION NO. 4
-Y- STA. 10+87.04 TO STA. 12+20.75

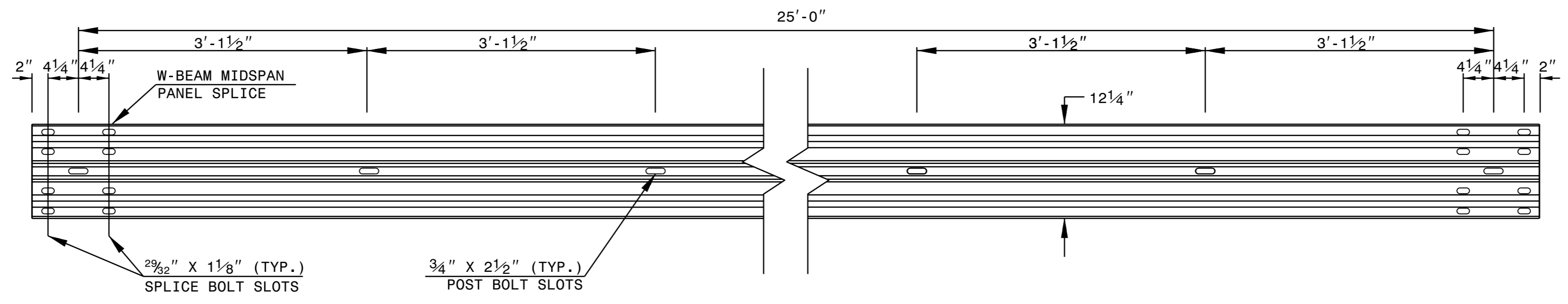
PROJECT REFERENCE NO. BP9.R003	SHEET NO. 2A-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 4/12/2023	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	
PLANS PREPARED BY:	
<p>WSP USA 434 FAYETTEVILLE STREET SUITE 1500 RALEIGH, NC 27601 TEL: 1.919.836.4040 FAX: 1.919.836.4099 LICENSE NO. F-0165</p>	

24-FEB-2023 10:35
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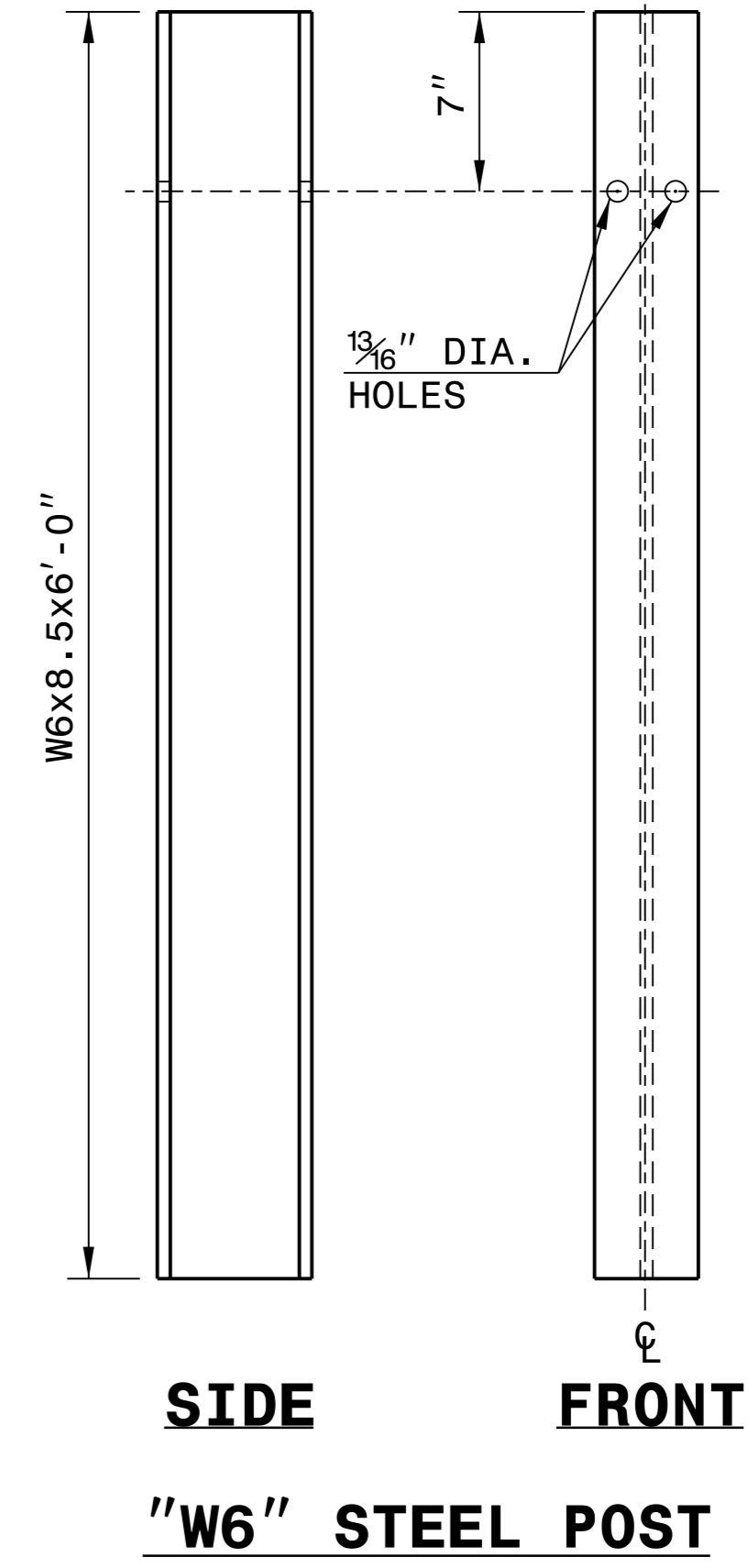
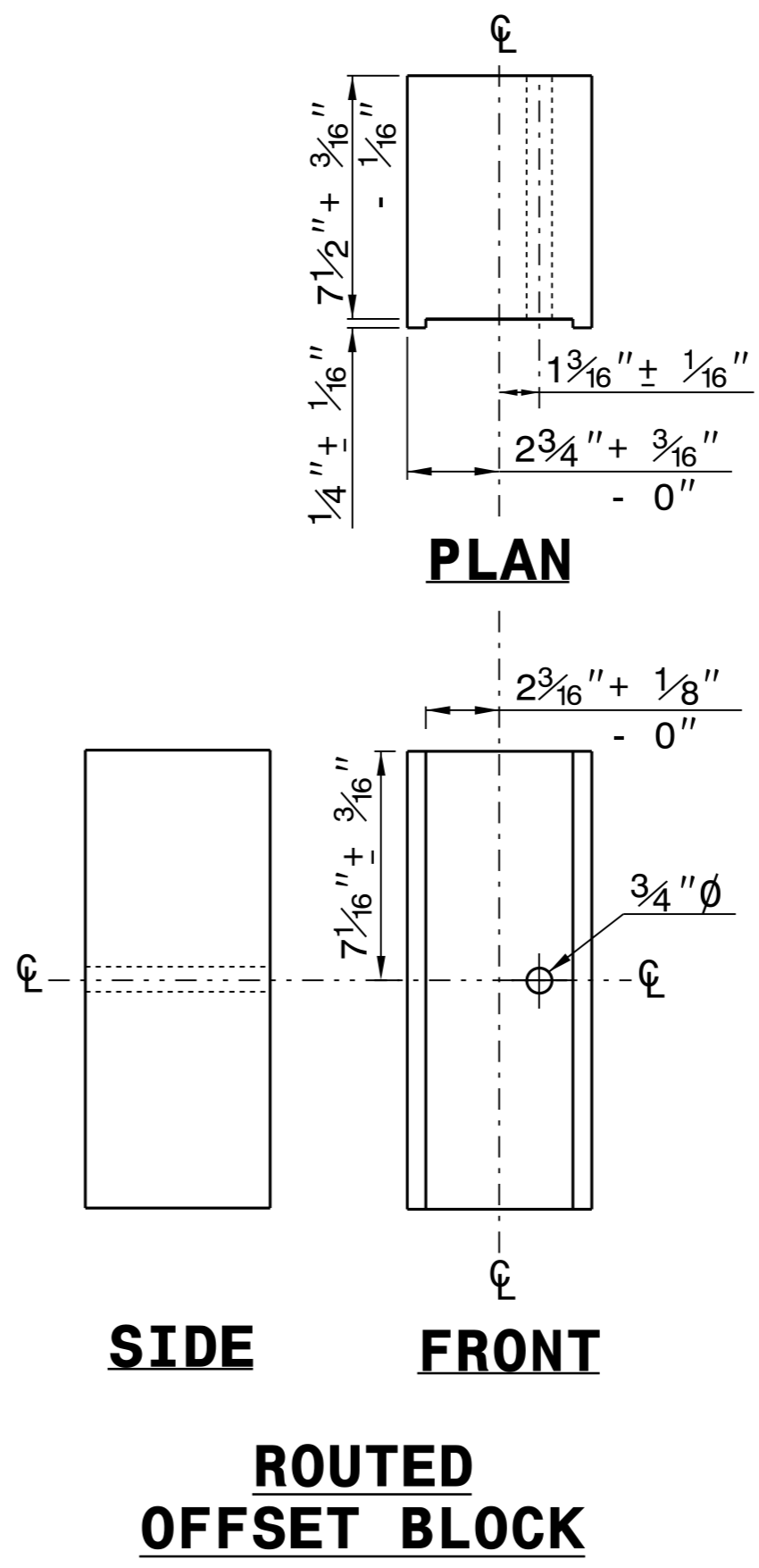
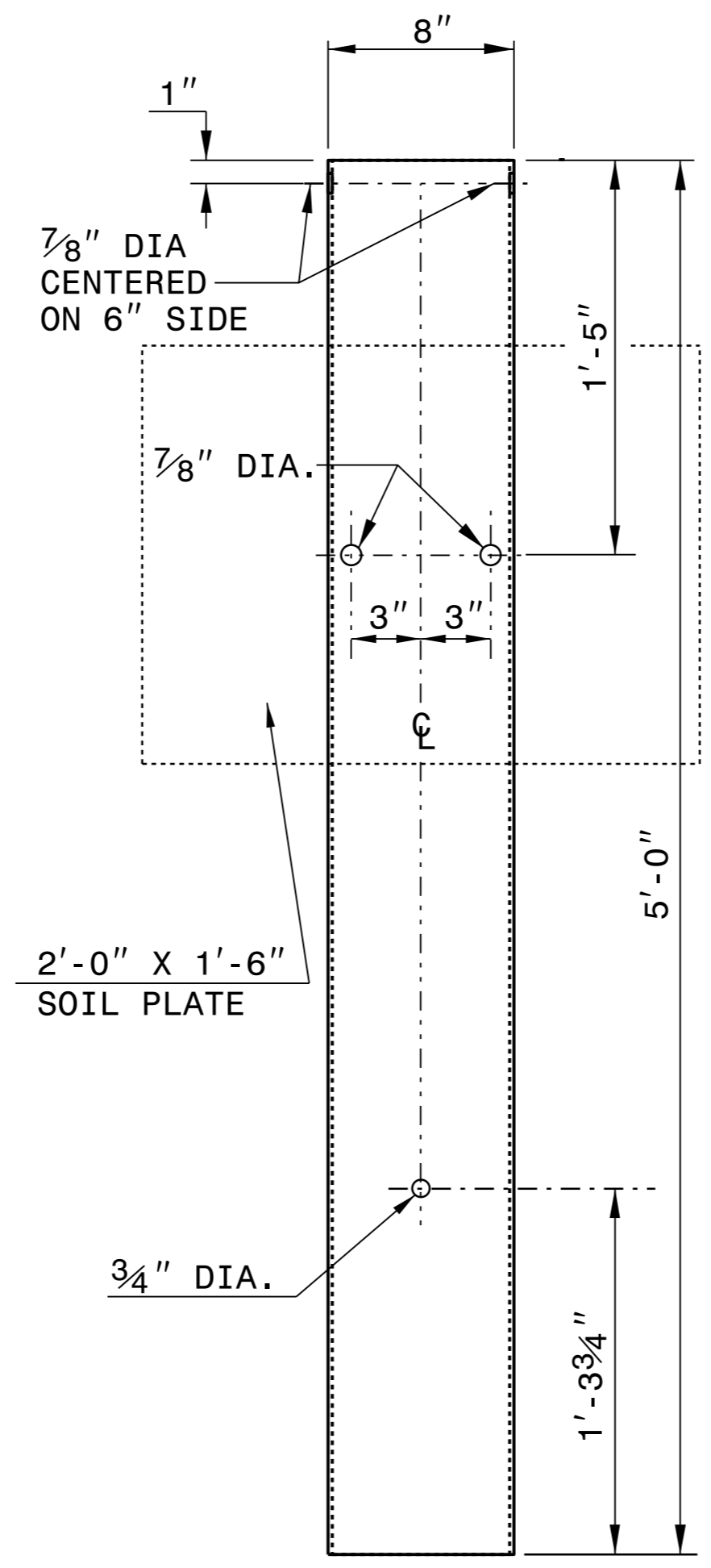
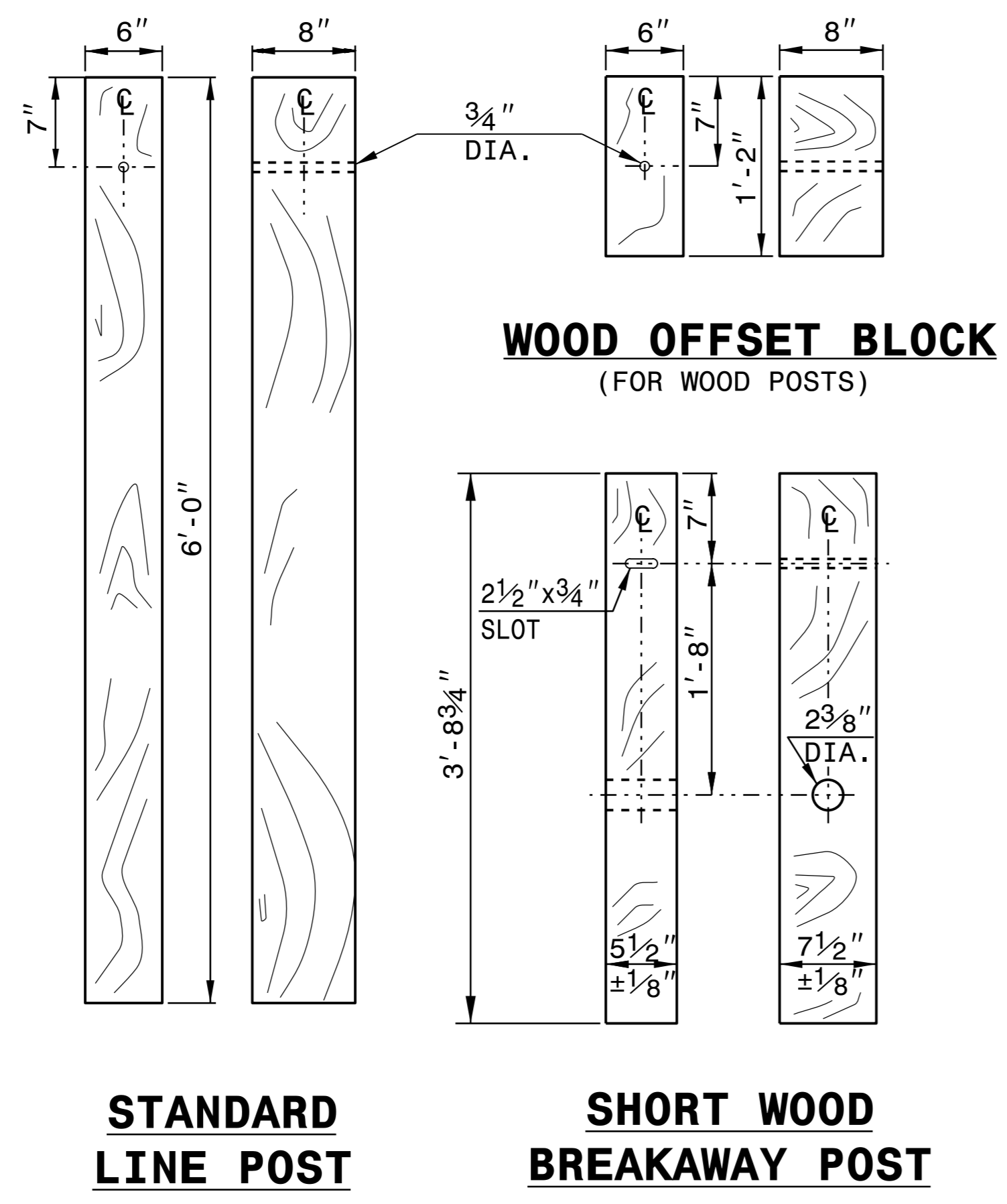
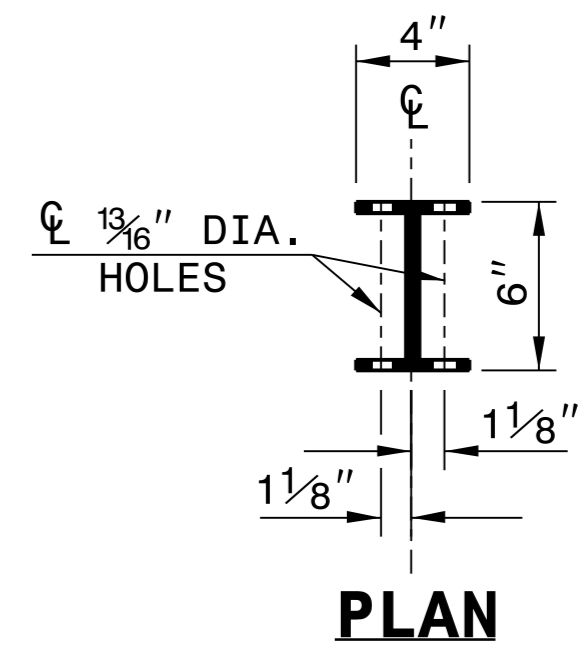
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



STANDARD W-BEAM GUARDRAIL



SYSTEM PARTS

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



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

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON	DATE: 3-7-2018
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

8/17/99

CURVE DATA (-L-)

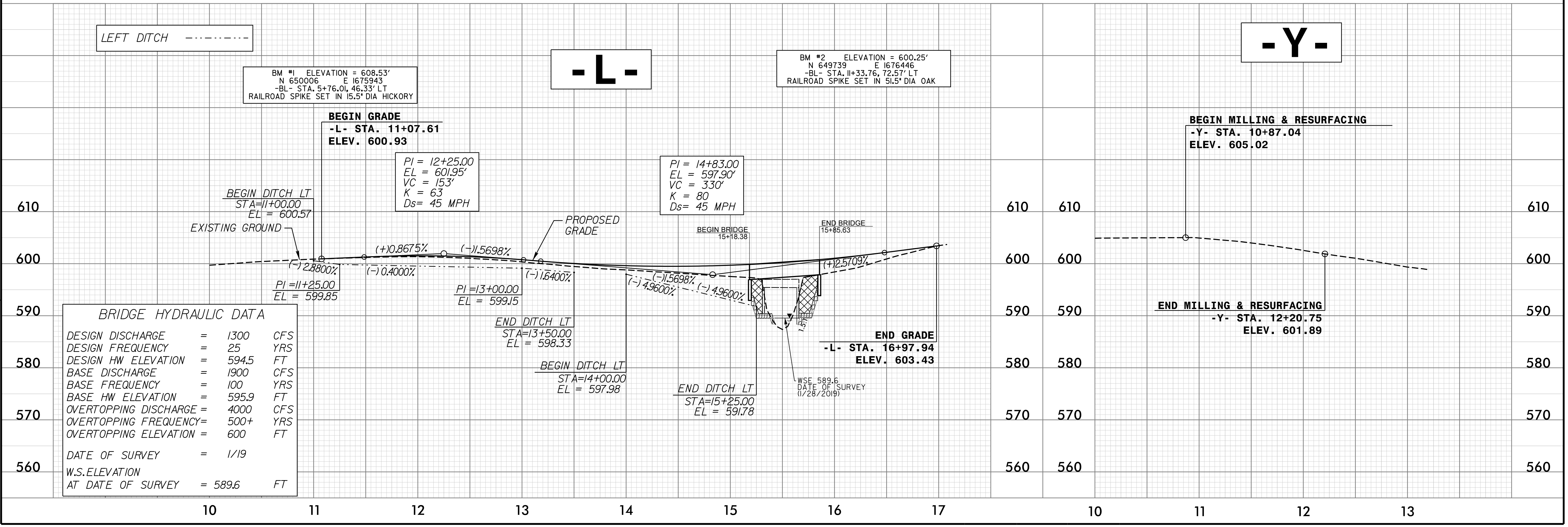
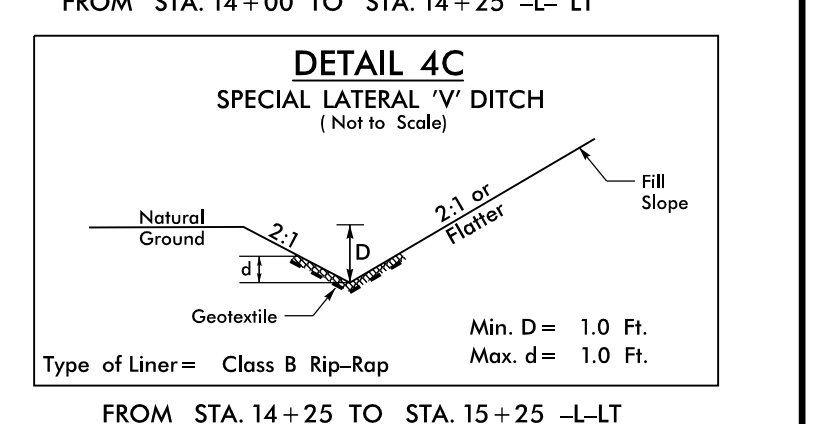
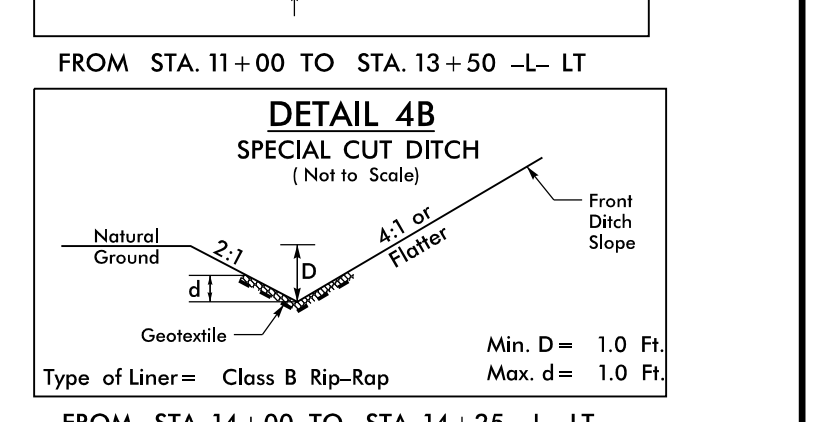
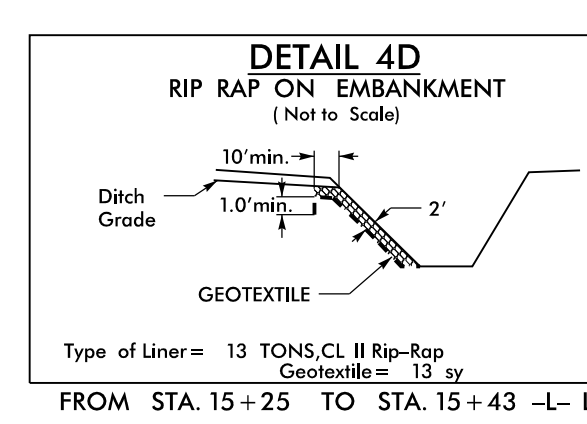
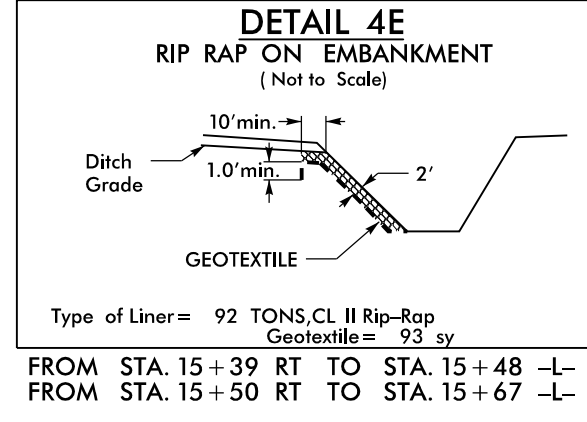
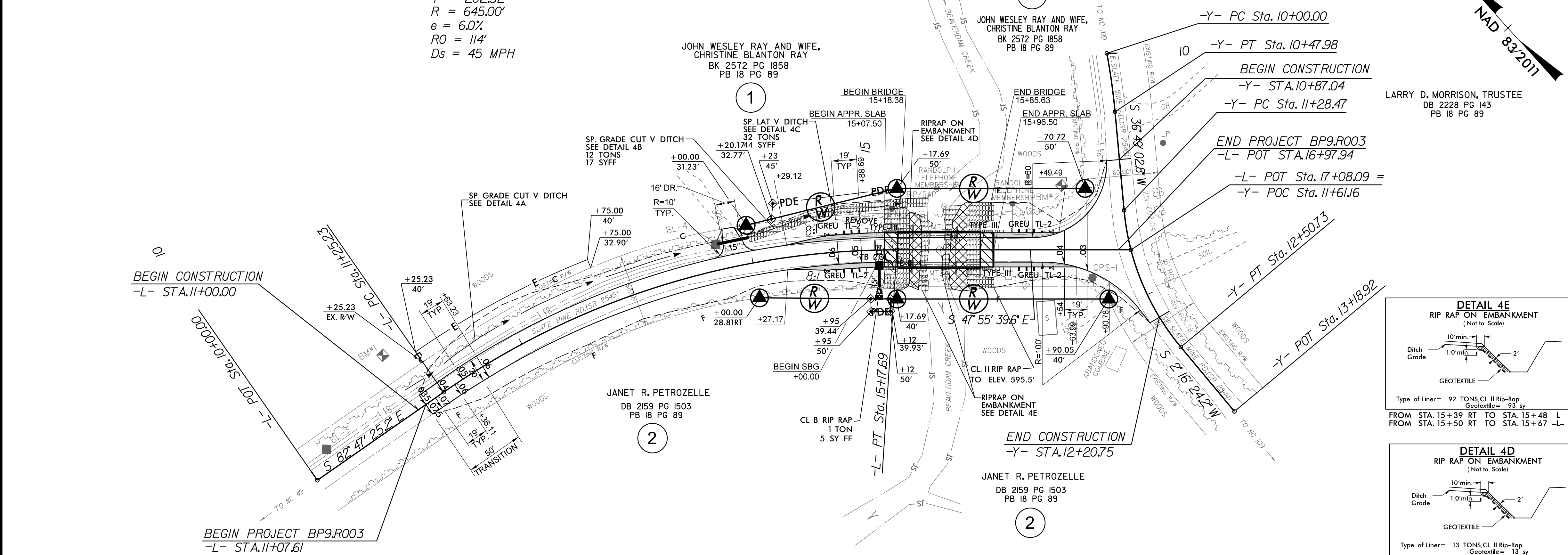
PI Sta 13+27.75
 $\Delta = 34' 51" 45.7" (RT)$
 $D = 8' 52' 59.0"$
 $L = 392.46'$
 $T = 202.52'$
 $R = 645.00'$
 $e = 6.0\%$
 $RO = 114'$
 $Ds = 45 MPH$

CURVE DATA (-Y-)

PI Sta 10+24.01
 $\Delta = 5' 29' 52.6" (RT)$
 $D = 11' 27' 33.0"$
 $L = 47.98'$
 $T = 24.01'$
 $R = 500.00'$

PI Sta 11+91.52
 $\Delta = 34' 32' 38.7" (LT)$
 $D = 28' 15' 13.5"$
 $L = 122.26'$
 $T = 63.05'$
 $R = 202.79'$

PROJECT REFERENCE NO. BP9.R003	SHEET NO. 4
ROADWAY DESIGN ENGINEER 4/12/2023 Konpell Wiggins	HYDRAULICS ENGINEER 4/12/2023 Udya Mohandas
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> <p>PLANS PREPARED BY: WSP USA 434 FAYETTEVILLE STREET SUITE 1500 RALEIGH, NC 27601 TEL: 1.919.836.4040 FAX: 1.919.836.4099 LICENSE NO. F-0165</p>	



REVISIONS

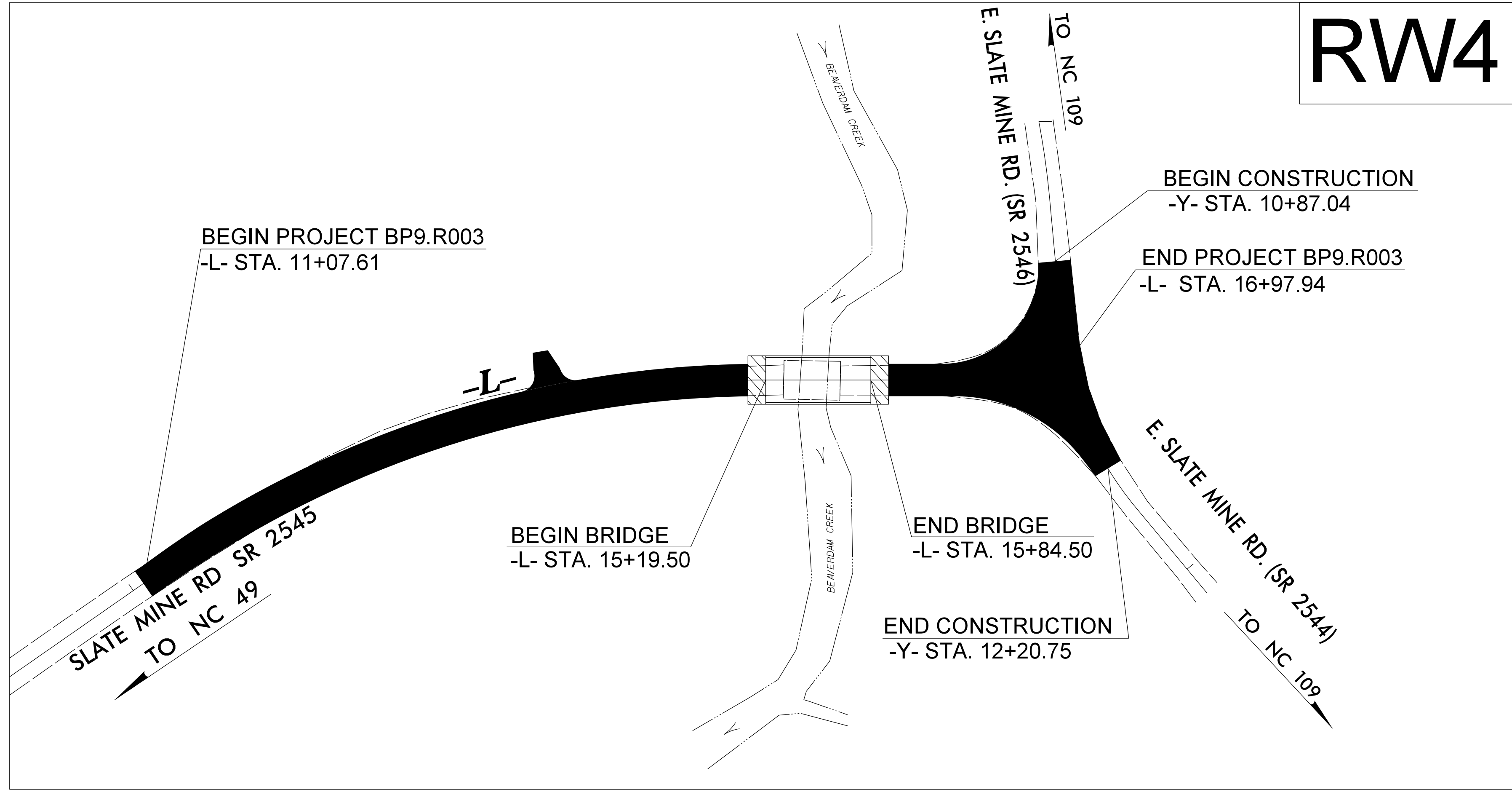
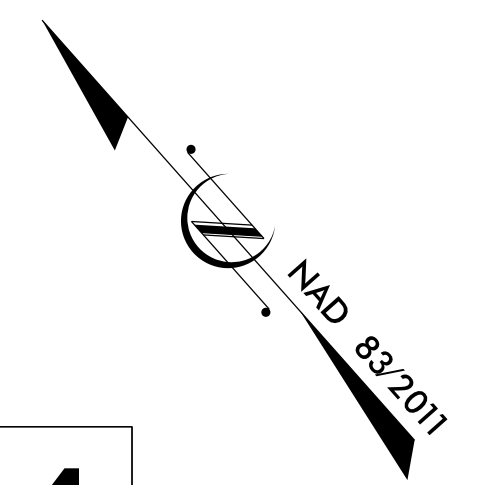
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP9.R003	RW01	4

TIP PROJECT: BP9.R003

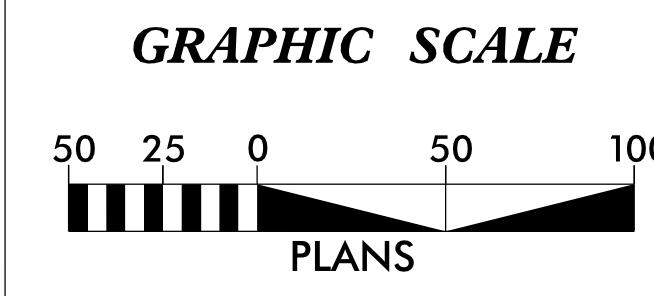
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

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

DAVIDSON COUNTY



I5-SEP-2022 09:30
 F:\Bridge\Division_Low\mpac\28-0286\Right of Way Staking\control\sheet\to be checked\28-0286_ls_r_w01.dgn
 mmotisinger AT LS-3286.rtl



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-1" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 649,666.359(ft) EASTING: 1,676,413.918(ft) ELEVATION: 600.92(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999860425

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-1" TO -L- STATION 10+00.00 IS N 62°33'41.16" W 651.58(ft)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: XXXX/XXXX

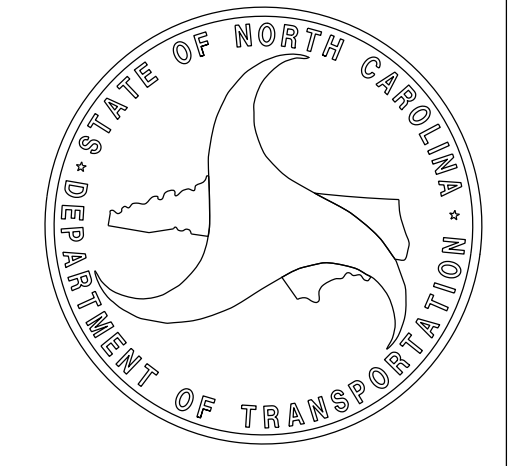
LETTING DATE: XXXX/XXXX


PROFESSIONAL LAND SURVEYOR

DocuSigned by:
 Michael L. Notzinger
 FURBER/REG0406
 SIGNATURE: _____

SEAL
 L-3877
 MICHAEL L. NOTZINGER

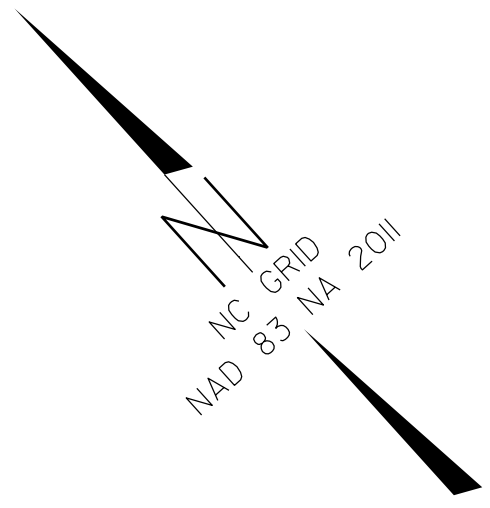
Date: 09/15/2022



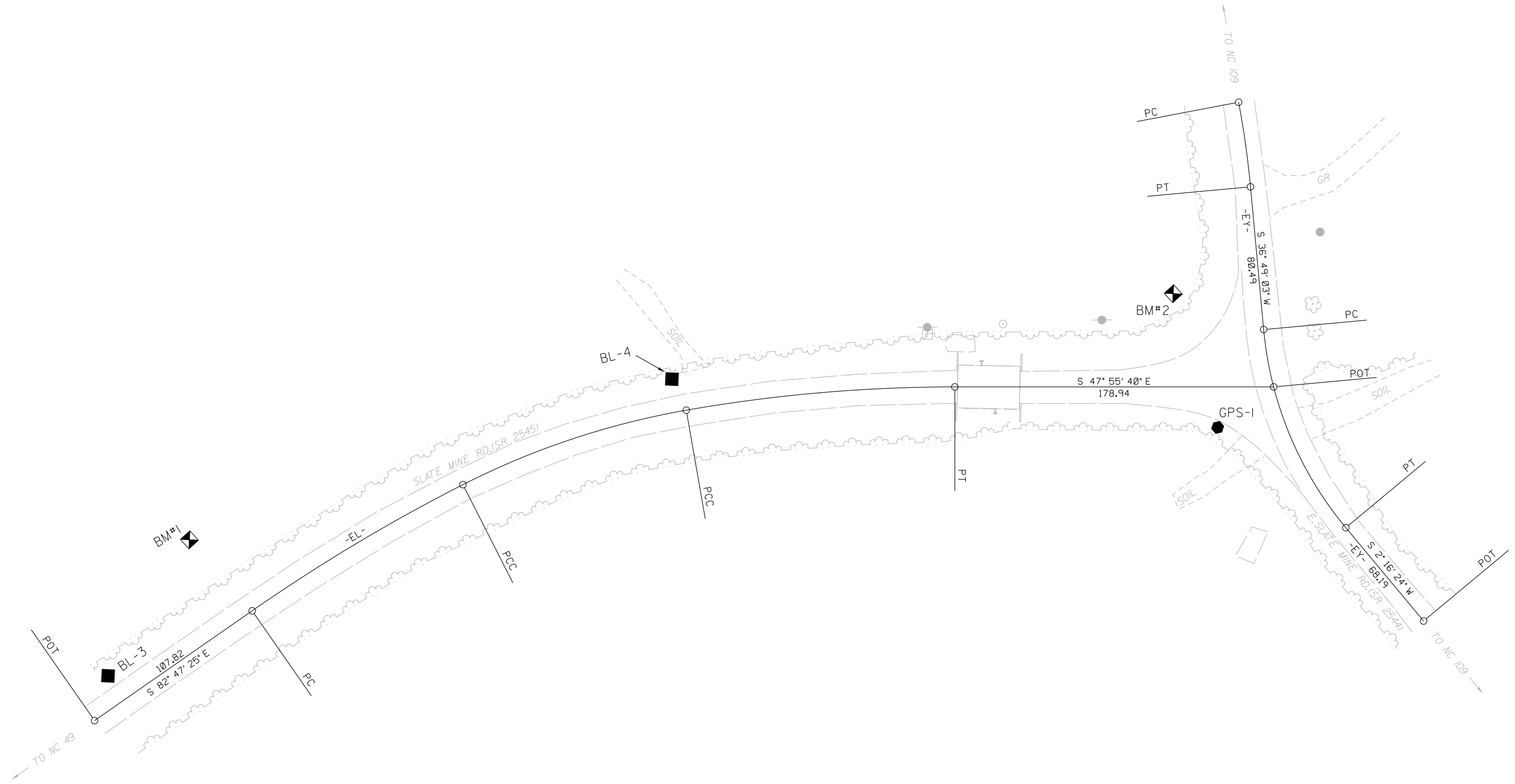
PROJECT REFERENCE NO. BP9.R003	SHEET NO. RW02C-1
Location and Surveys	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



GPS-2
N=649963.529
E=1676658.324
ELEVATION=602.14'

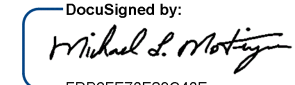


I, Michael Motsinger, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**
 Type of GPS field procedure: RTN
 Dates of survey: 02-19-2018
 Datum/Epoch: NAD 83/NA 2011
 Published/Fixed-control use: [Project Control if applicable, N/A for RTN]
 Localized around: 28-0286-1
 Northing: 649666.359
 Easting: 1676413.918
 Combined grid factor: 0.999860425
 Geoid model: G12NC
 Units: English

I also certify that the Baseline Control for this project was verified under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from February 2018 to April 2018, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 15th day of September, 2022.

DocuSigned by:

 Professional Land Surveyor L-3877



SEE SHEET RW02C-2
FOR FURTHER
ALIGNMENT DETAILS

NOTES:

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

SURVEY CONTROL SHEET

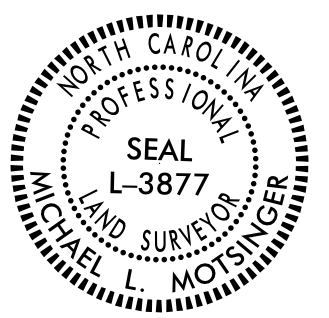
BASELINE AND BENCHMARKS

BL	POINT	DESC.	NORTH	EAST	ELEVATION
3		BL-3	649980.1500	1675858.0680	599.81
4		BL-4	649891.7290	1676204.6350	599.38
1		GPS-1	649666.3590	1676413.9180	600.92

BY	POINT	DESC.	NORTH	EAST	ELEVATION
2		GPS-2	649963.5290	1676658.3240	602.14
EQ1		GPS-1	649666.3590	1676413.9180	600.92

.....
 BM1 ELEVATION = 608.53
 N 650006 E 1675943
 RR SPIKE SET IN 15.5' DIA HICKORY

 BM2 ELEVATION = 600.25
 N 649739 E 1676446
 RR SPIKE SET IN 51.5' DIA OAK

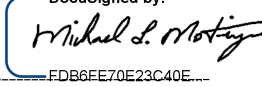
PROJECT REFERENCE NO. BP9.R003	SHEET NO. RW02C-2
Location and Surveys	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

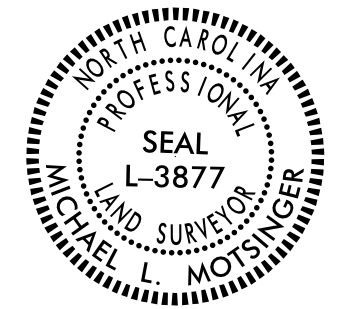
I, Michael Motsinger, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**
 Type of GPS field procedure: RTN
 Dates of survey: 02-19-2018
 Datum/Epoch: NAD 83/NA 2011
 Published/Fixed-control use: [Project Control if applicable, N/A for RTN]
 Localized around: 28-0286-1
 Northing: 649666.359
 Easting: 1676413.918
 Combined grid factor: 0.999860425
 Geoid model: G12NC
 Units: English

I also certify that the Baseline Control for this project was verified under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from February 2018 to April 2018, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 15th day of September, 2022.

DocuSigned by:

 F068E70E23C4DE
 Professional Land Surveyor L-3877



REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EL		N	E	BEARING	DIST	DELTA	D	L	T	R
POT	649966.605	1675835.638								
LINE				S 82°47'25.2" E	107.82					
PC	649953.073	1675942.607								
CURVE				S 78°50'12.7" E	137.89	07°54'25.1"(RT)	05°43'46.5"	138.00	69.11	1000.00
PCC	649926.377	1676077.891								
CURVE				S 66°21'57.6" E	132.15	17°02'05.1"(RT)	12°50'34.9"	132.64	66.81	446.12
PCC	649873.399	1676198.958								
CURVE				S 52°53'17.3" E	151.32	09°55'15.5"(RT)	06°32'53.1"	151.51	75.94	875.00
PT	649782.096	1676319.629								
LINE				S 47°55'39.6" E	178.94					
POT	649662.194	1676452.457								

EY		N	E	BEARING	DIST	DELTA	D	L	T	R
PC	649793.994	1676544.960								
CURVE				S 34°04'06.5" W	47.96	05°29'52.6"(RT)	11°27'33.0"	47.98	24.01	500.00
PT	649754.265	1676518.093								
LINE				S 36°49'02.8" W	80.49					
PC	649689.832	1676469.860								
CURVE				S 19°32'43.5" W	120.42	34°32'38.6"(LT)	28°15'11.0"	122.27	63.06	202.79
PT	649576.347	1676429.572								
LINE				S 02°16'24.2" W	68.19					
POT	649508.212	1676426.867								

PROPOSED ALIGNMENT

		L	
TYPE	STATION	NORTH	EAST
POT	10+00.00	649966.6047	1675835.6384
PC	11+25.23	649950.8879	1675959.8808
PT	15+17.69	649789.7708	1676311.1271
POT	17+00.09	649662.1936	1676452.4566

		Y	
TYPE	STATION	NORTH	EAST
PC	10+00.00	649793.9941	1676544.9599
PT	10+47.98	649754.2653	1676518.0934
POT	11+28.47	649689.8315	1676469.8602
PC	11+28.47	649689.8303	1676469.8592
PT	12+50.73	649576.3490	1676429.5722
POT	13+18.92	649508.2117	1676426.8672

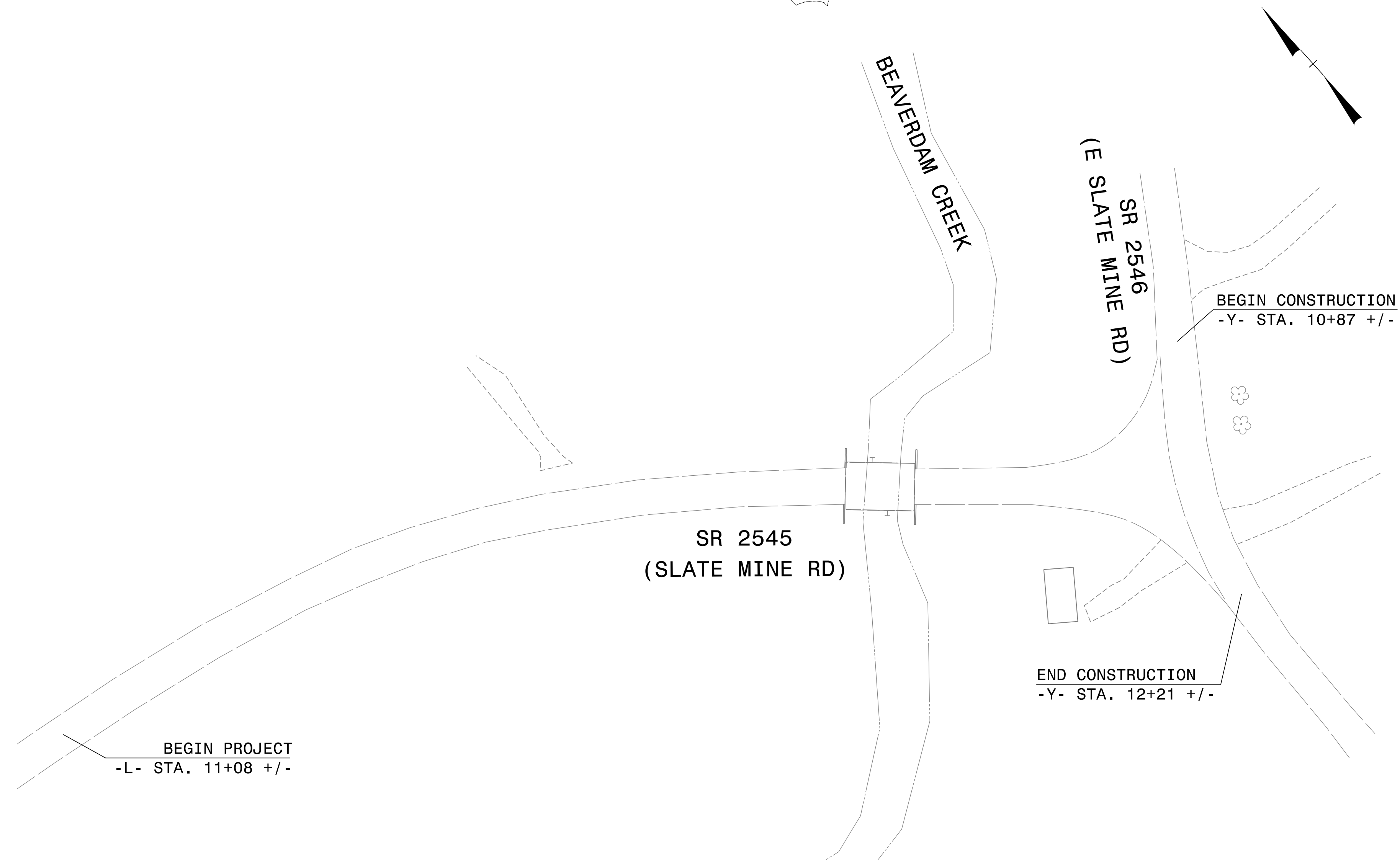
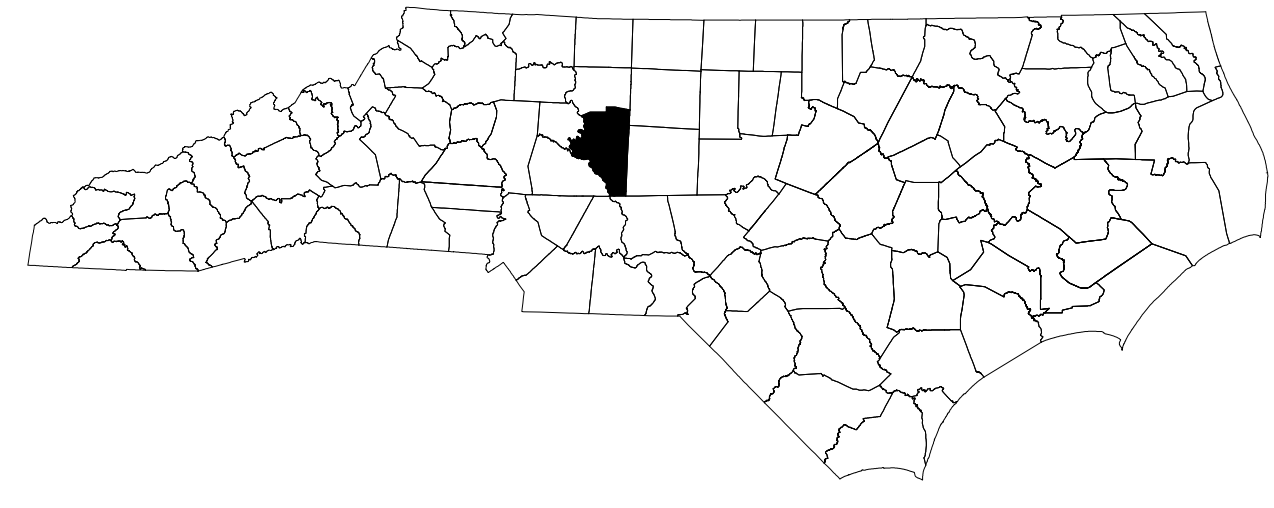
NOTES:

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

DAVIDSON COUNTY

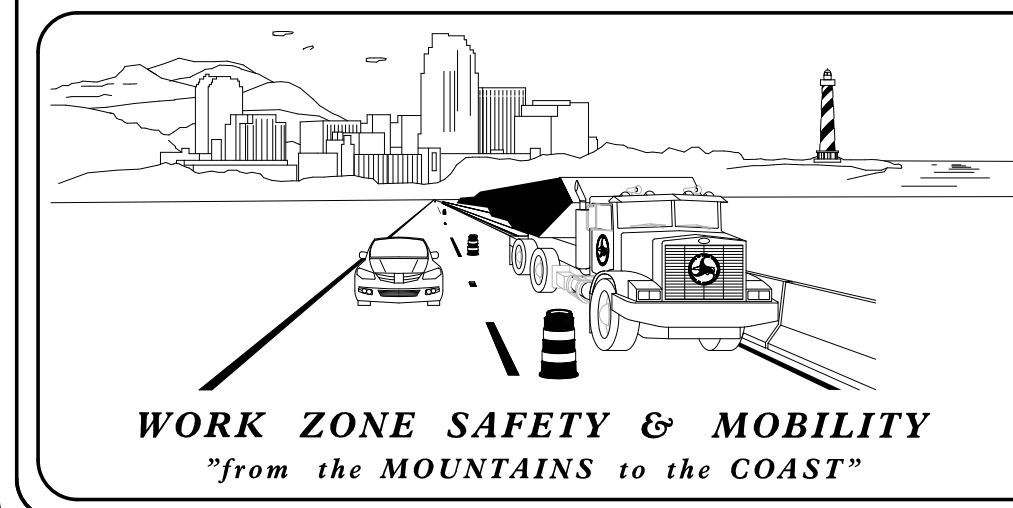


INDEX OF SHEETS

SHEET NO.	TITLE
TMP-01	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-02	ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-02A	SIGN DESIGN
TMP-03	GENERAL NOTES AND WRITTEN PHASING
TMP-04	OFFSITE DETOUR ROUTE SIGNING

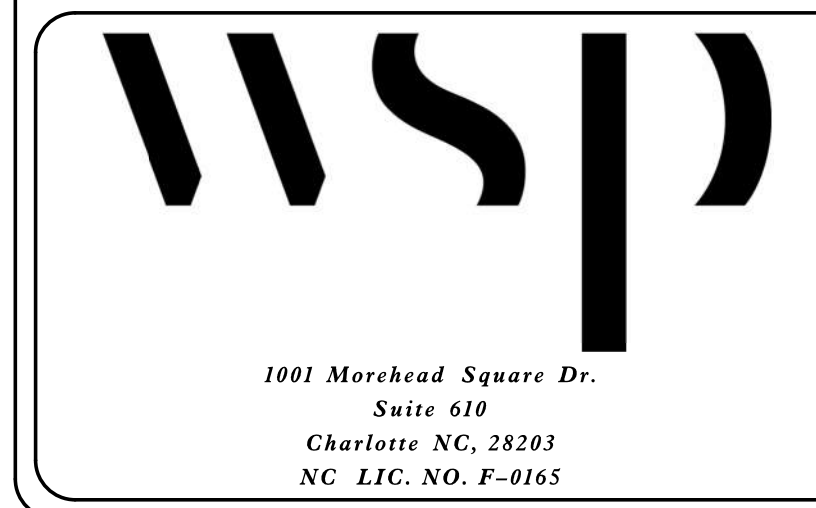
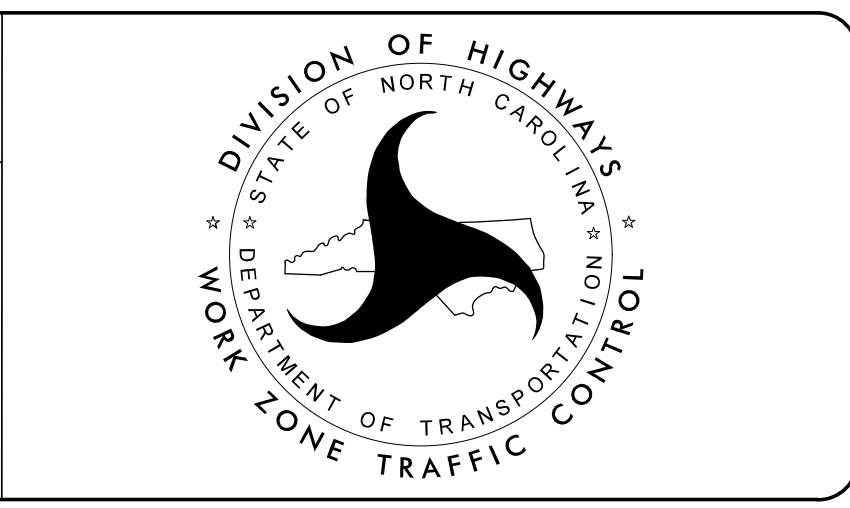
SHEET NO.
TMP-01

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



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
 1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
 750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
 PHONE: (919) 814-5000 FAX: (919) 771-2745

_____ STATE TRAFFIC MANAGEMENT ENGINEER
 KEN THORNEWELL, PE TRAFFIC CONTROL PROJECT ENGINEER
 MIKE STEELMAN TRAFFIC CONTROL PROJECT DESIGN ENGINEER
 _____ TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: _____
 DATE: _____

DocuSigned by:
 Richard A. Odyanski
 8FB7EA8A9F814E4...
 4/12/2023

PROJECT: BP9.R003



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 ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, 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 ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

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

- F) 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.

- G) 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) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

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

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.
- K) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

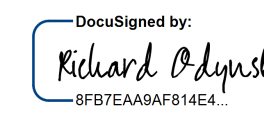


ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	NONE

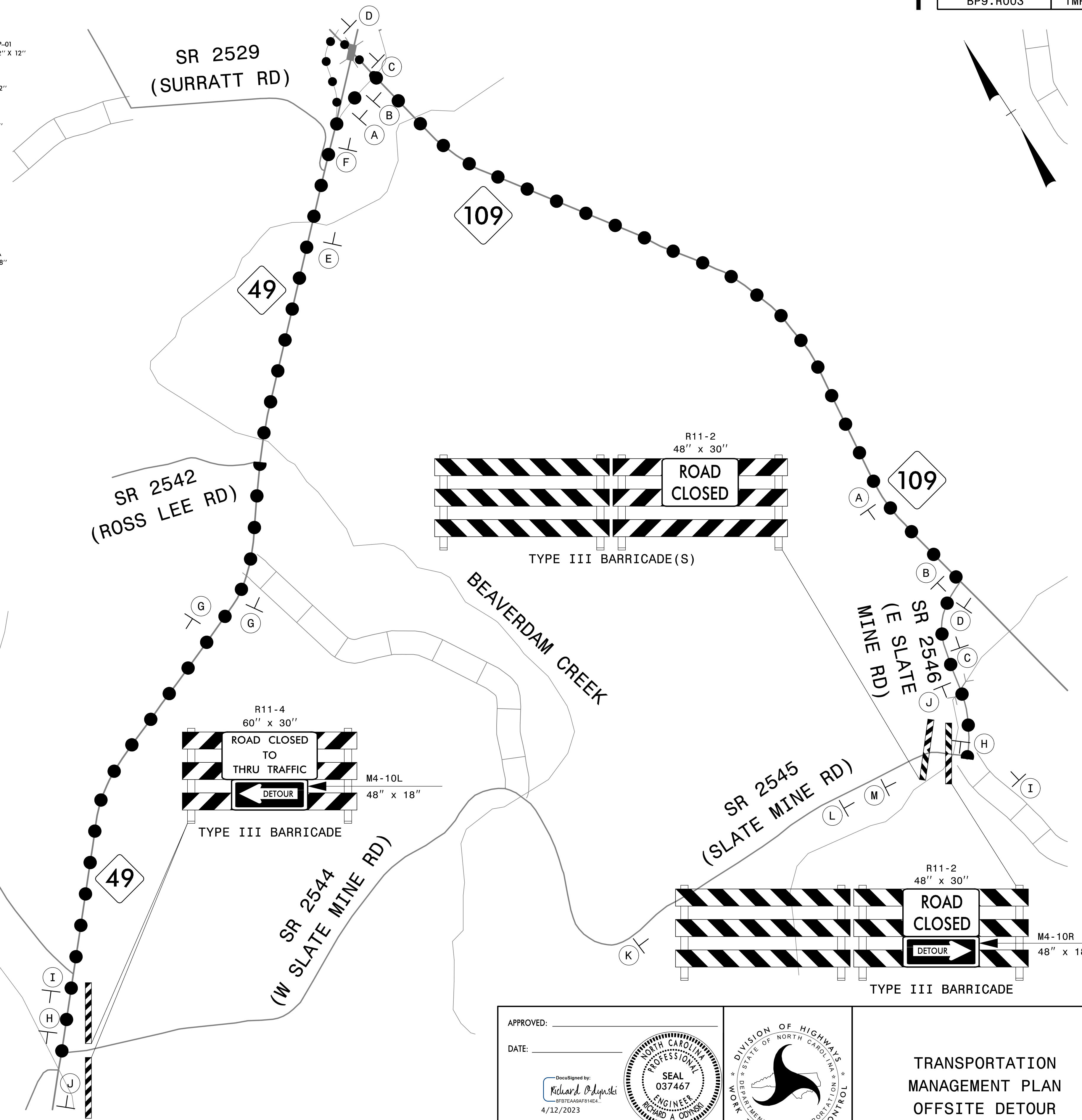
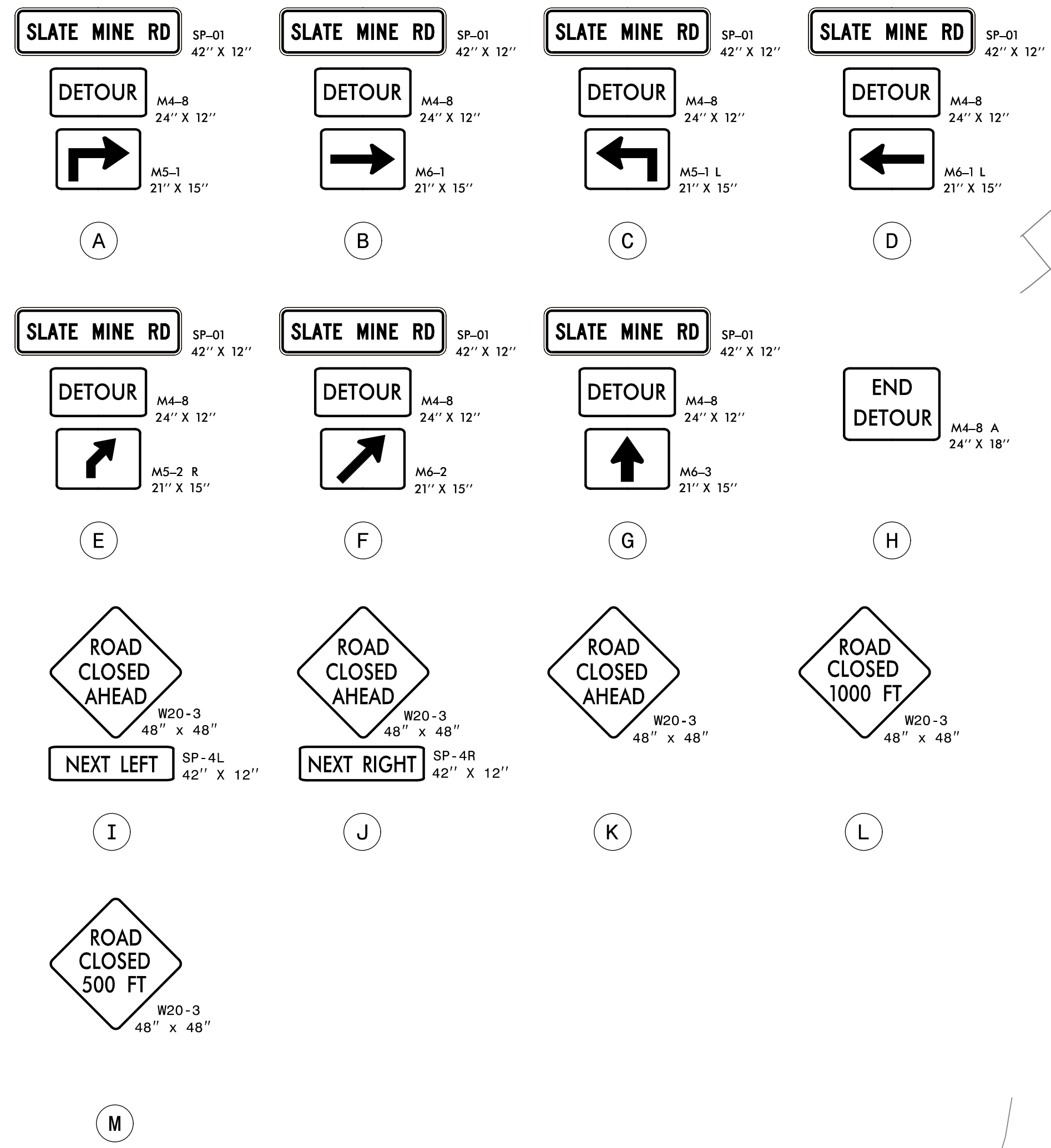
- P) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- Q) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- R) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

PHASING NOTES

- STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS ON E SLATE MINE RD. ACCORDING TO ROADWAY STANDARD DRAWING NO. 1101.01 WHERE WORK WILL BE OCCURRING NO MORE THAN THREE DAYS PRIOR TO BEGINNING CONSTRUCTION.
- STEP 2: USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEETS 1 AND 2 OF 9, AND SHEET TMP-04, INSTALL ROAD CLOSURE AND DETOUR SIGNS FOR SLATE MINE RD. COVER SIGNS UNTIL DETOUR IS READY FOR OPERATION.
- STEP 3: WHEN DETOUR IS READY UNCOVER SIGNS AND CLOSE SLATE MINE RD. CONSTRUCT STRUCTURE AND ROADWAY IMPROVEMENTS INCLUDING FINAL ASPHALT OVERLAY AND PAVEMENT MARKINGS ALONG SLATE MINE RD. USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 14, INSTALL MILL AND OVERLAY AND PAVEMENT MARKINGS ALONG E SLATE MINE RD.
- STEP 4: REMOVE ROAD CLOSURE DEVICES AND SIGNS ONCE CONSTRUCTION IS COMPLETE. OPEN SLATE MINE RD. TO TRAFFIC.

I:\20\2023\T:\NCDOT\Div9\BP9\BP9\003\BP9.R003.TMP-03.dgn dohmd

APPROVED: _____ DATE: _____ DocuSigned by:  4/12/2023			TRANSPORTATION MANAGEMENT PLAN GENERAL NOTES AND WRITTEN PHASING
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



NOTES:

- COORDINATE WITH THE ENGINEER TO FIELD LOCATE SIGNS AS NEEDED.
- SEE NCDOT RSD 1101.03, SHEETS 1 AND 2, FOR ADDITIONAL ROAD CLOSURE ADVANCE WARNING SIGNS.

APPROVED: _____			<p>TRANSPORTATION MANAGEMENT PLAN OFFSITE DETOUR ROUTE SIGNING</p>
DATE: _____			

I:\2023\1-1\NCDOT_T1\BP9\BP9.R003\BP9.R003.DETOUR_sht_1_TMP-04.dgn
 dohmd

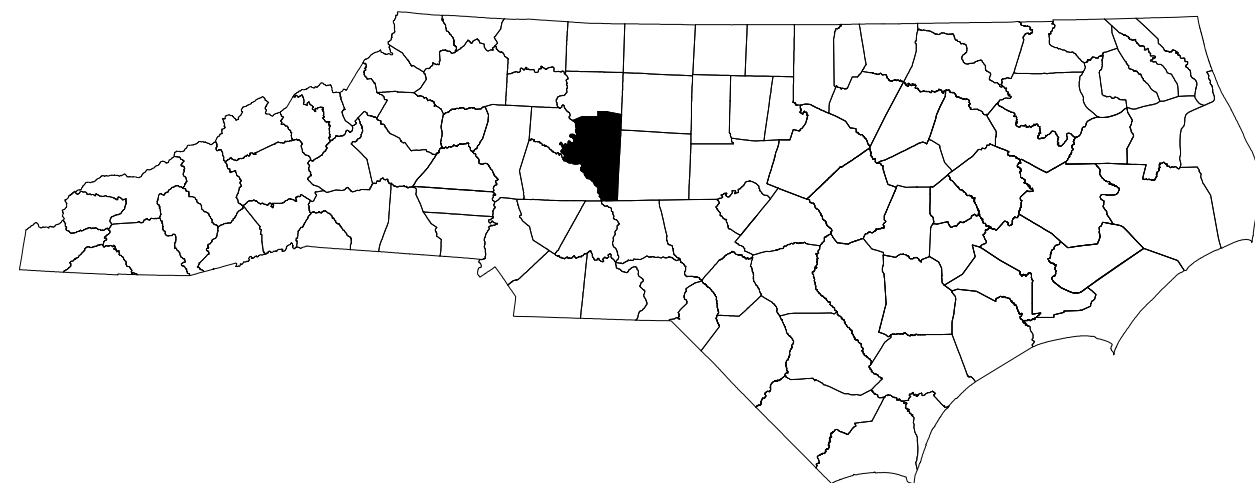
4/17/2023 11:56:17 AM NCDOT Division 9 LSA\NCDOT Division 9 LIBP Group 6\BP9.R003 State Mre Road 266 17BP.9.R.74.193617-02\Traffic\Pavement Markings\BP9.R003.pmp_tsh.dgn


PROJECT: BP9.R003

CONTRACT:

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLANS
DAVIDSON COUNTY**



TIP NO. BP9.R003	SHEET NO. PMP - 1
APPROVED: Eric W Bowman <small>DocuSigned by: Eric W Bowman DADA2D3C6B0246F</small>	
DATE: 4/17/2023	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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
ALL	THERMOPLASTIC	NONE
BRIDGE	PAINT	NONE

B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

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

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

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

F) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING (insert marking material) PAVEMENT MARKING MATERIAL.

G) SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

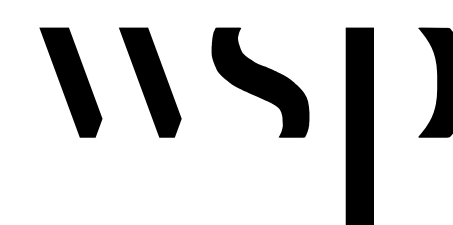
INDEX

SHEET NO.	DESCRIPTION
PMP - 1	TITLE SHEET, INDEX, GENERAL NOTES & ROADWAY STANDARD DRAWINGS
PMP - 2	PROPOSED PAVEMENT MARKING PLAN SHEET

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 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION



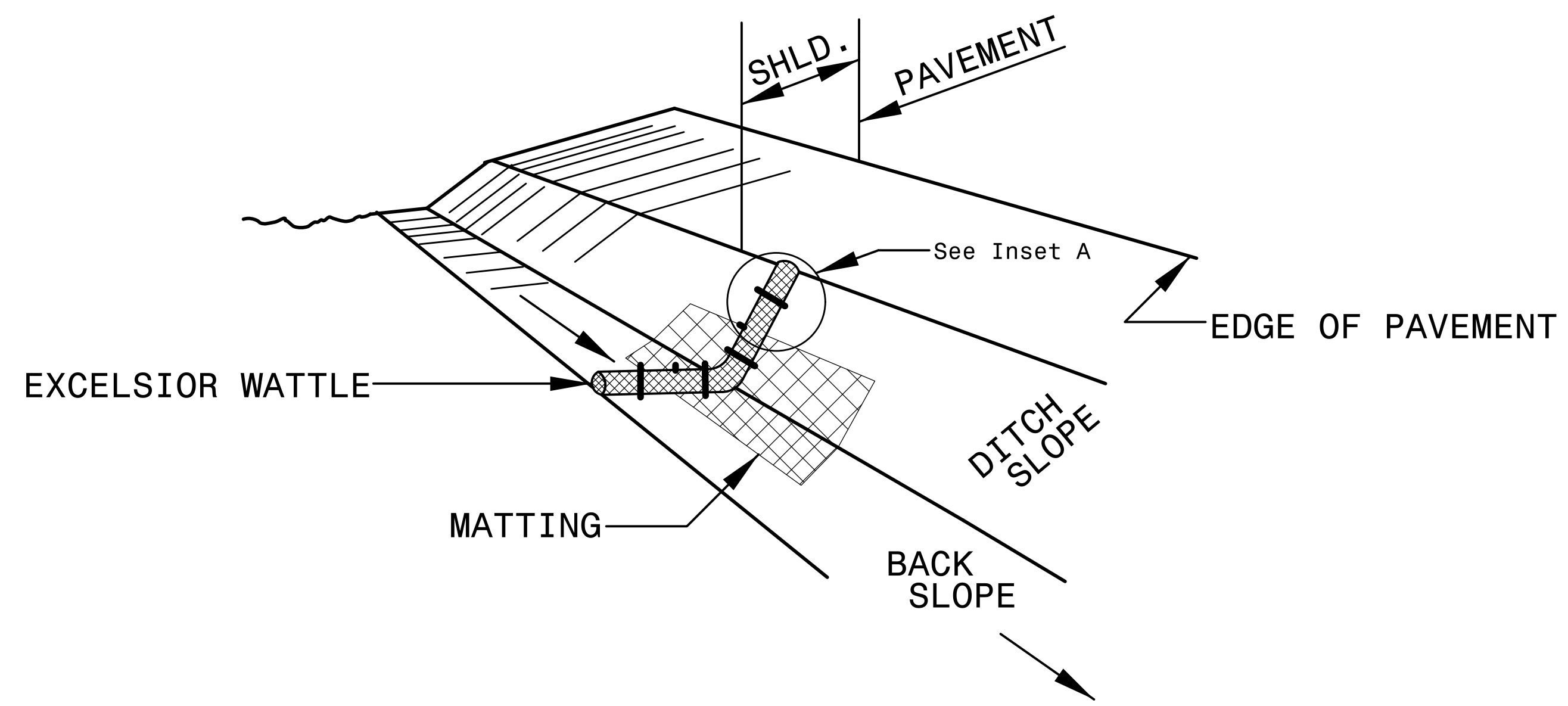
WSP USA Inc.
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
NC LIC. NO. F-0165

PLAN PREPARED BY:

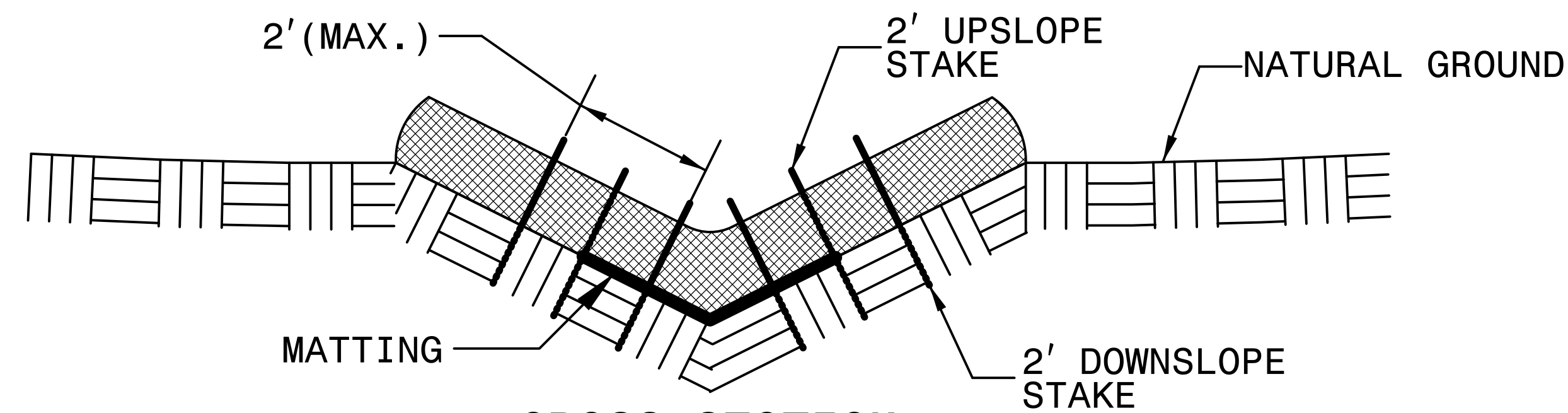
ERIC W BOWMAN, PE	SR. TRANSPORTATION DESIGNER
SAYMA AFREEN	TRANSPORATION DESIGNER

PROJECT REFERENCE NO. <i>BP9.R003</i>	SHEET NO. <i>EC-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

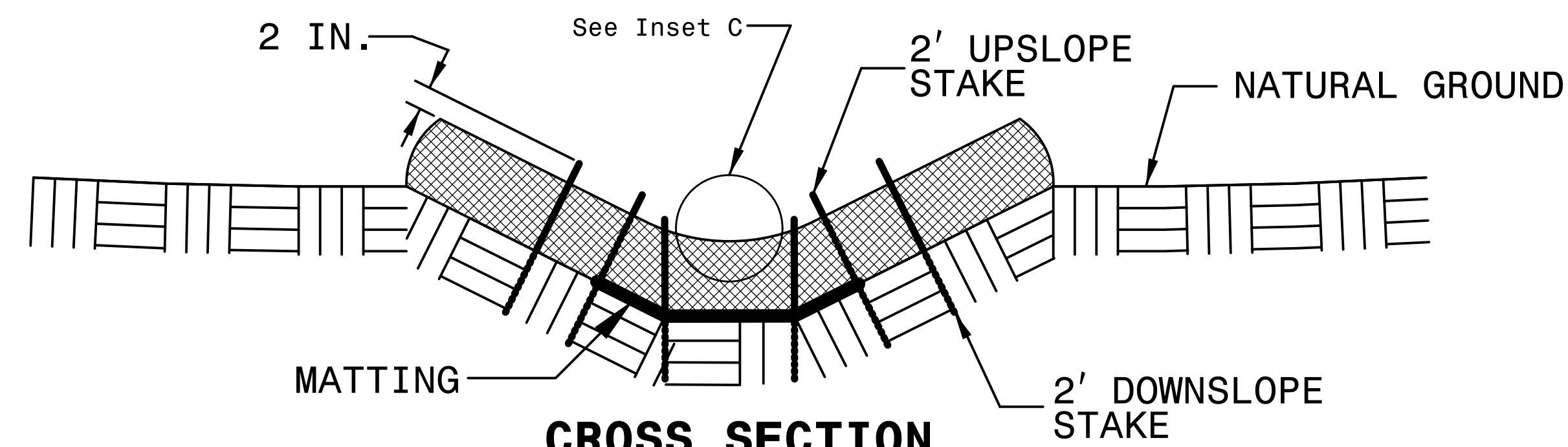
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



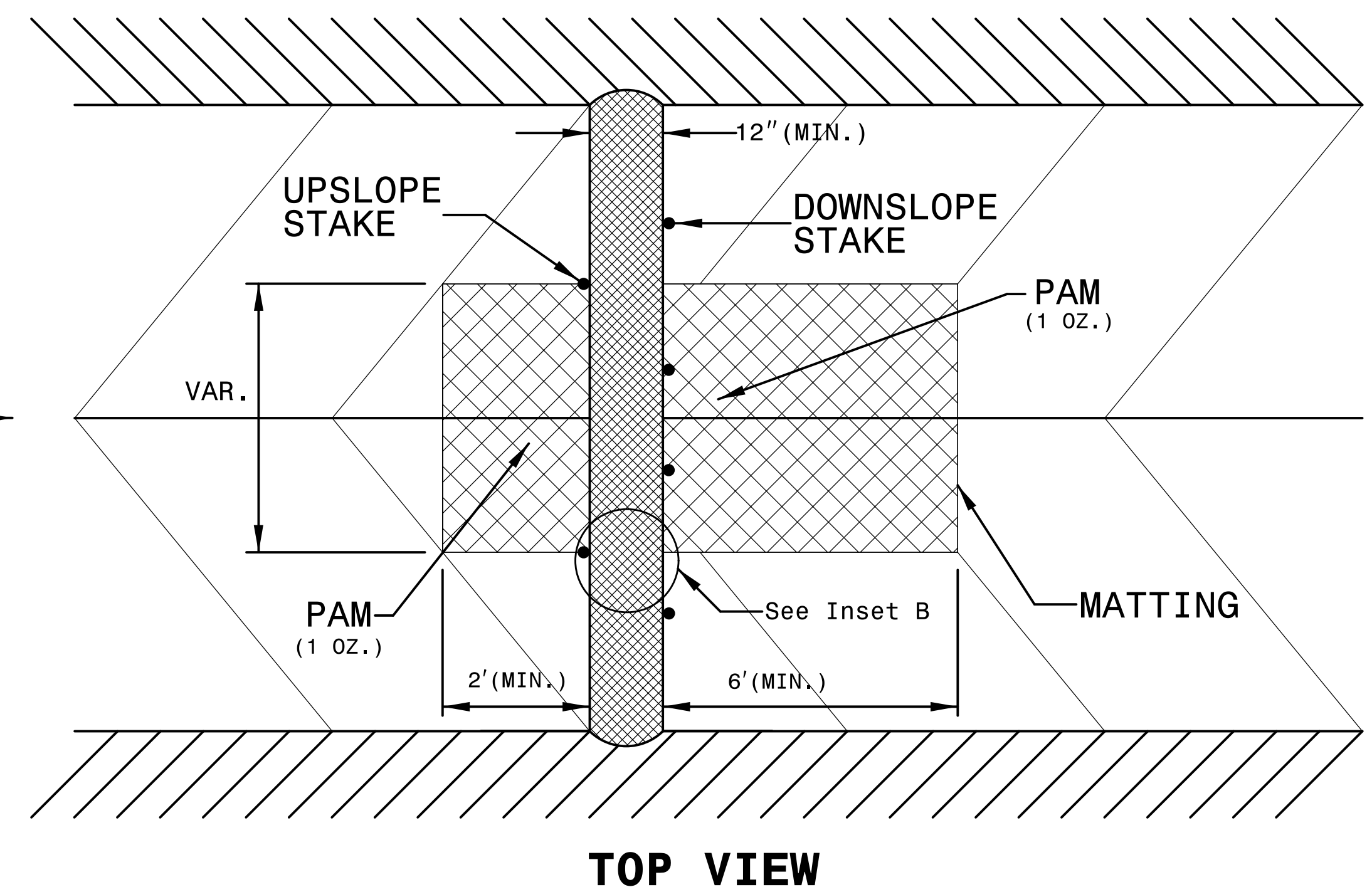
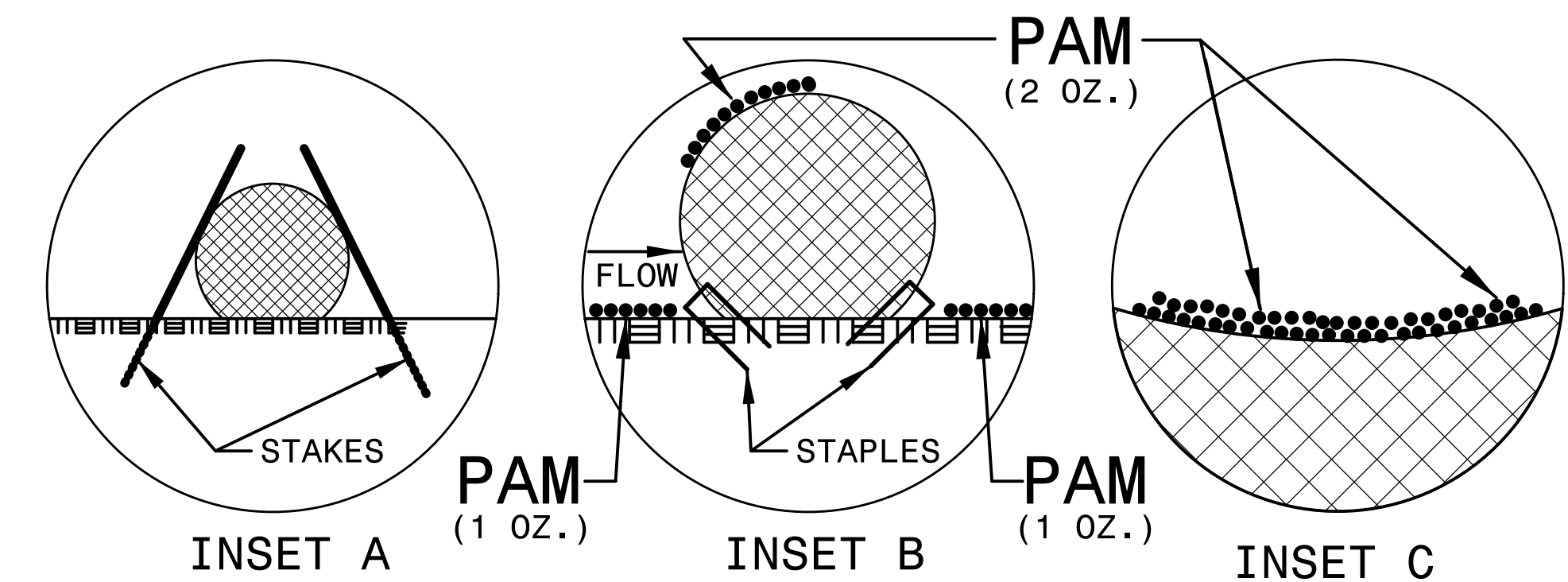
CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

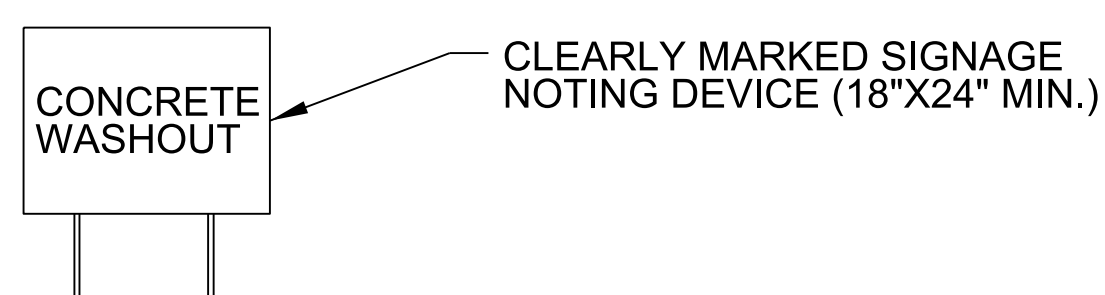
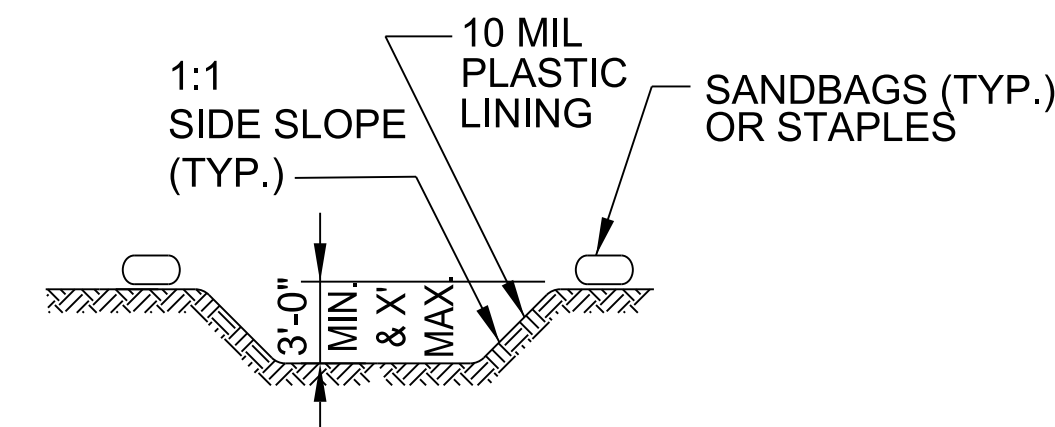
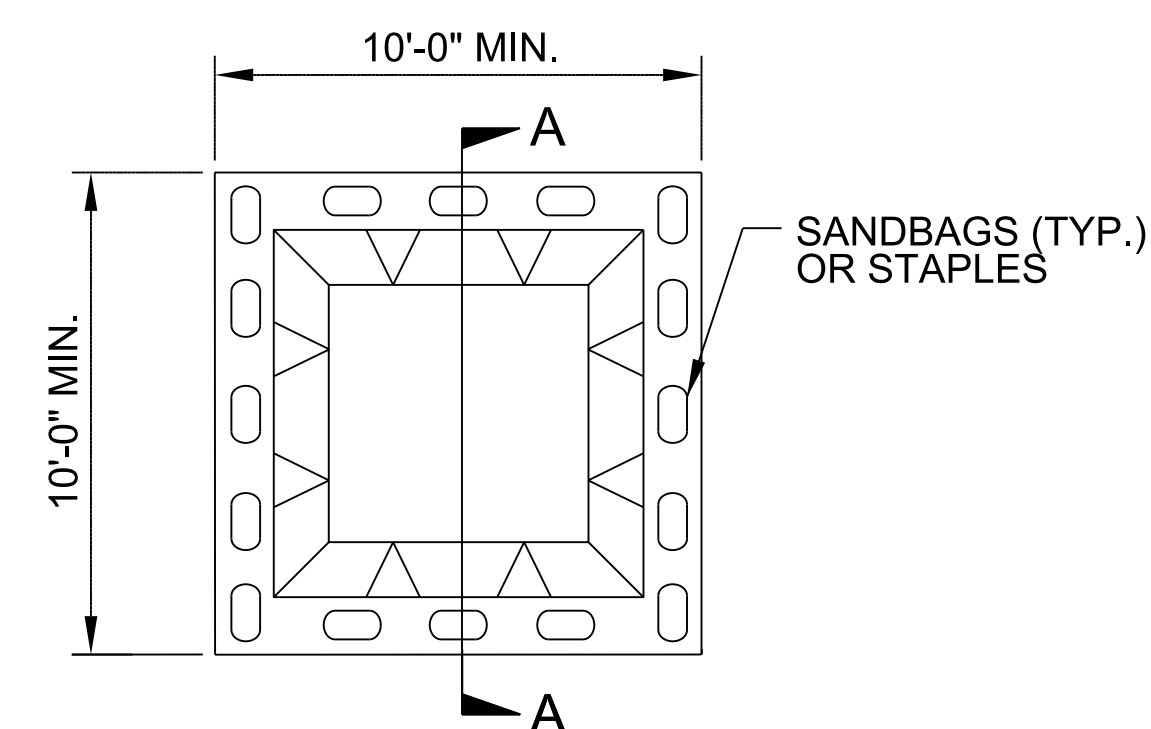
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
BP9.R003	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



SECTION A-A

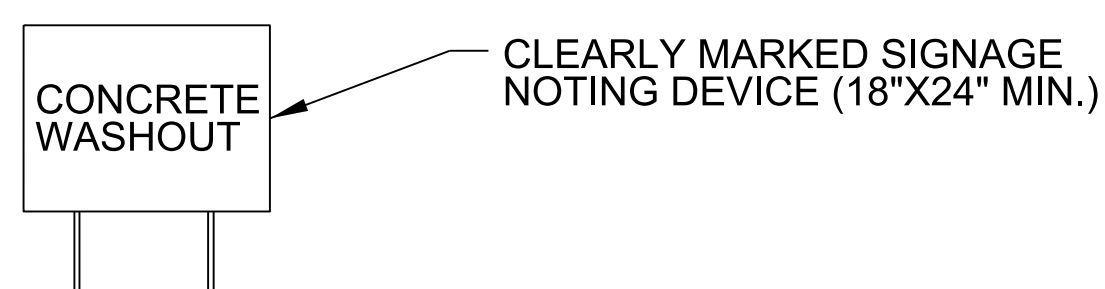
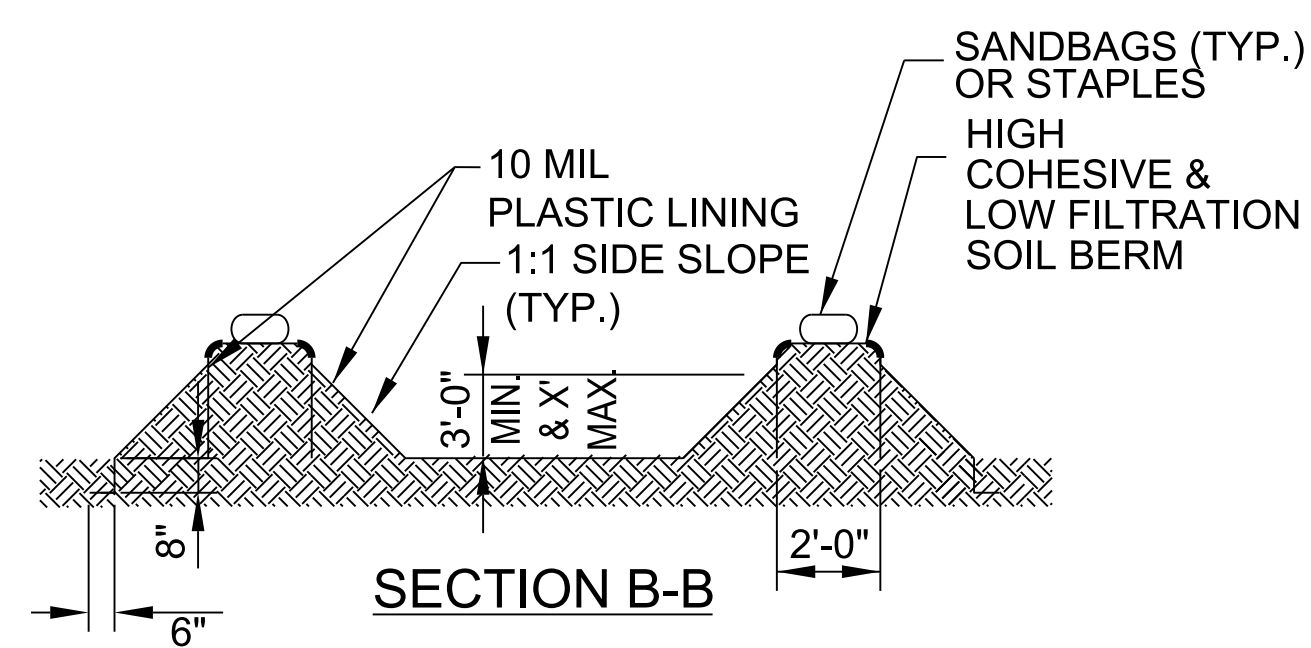
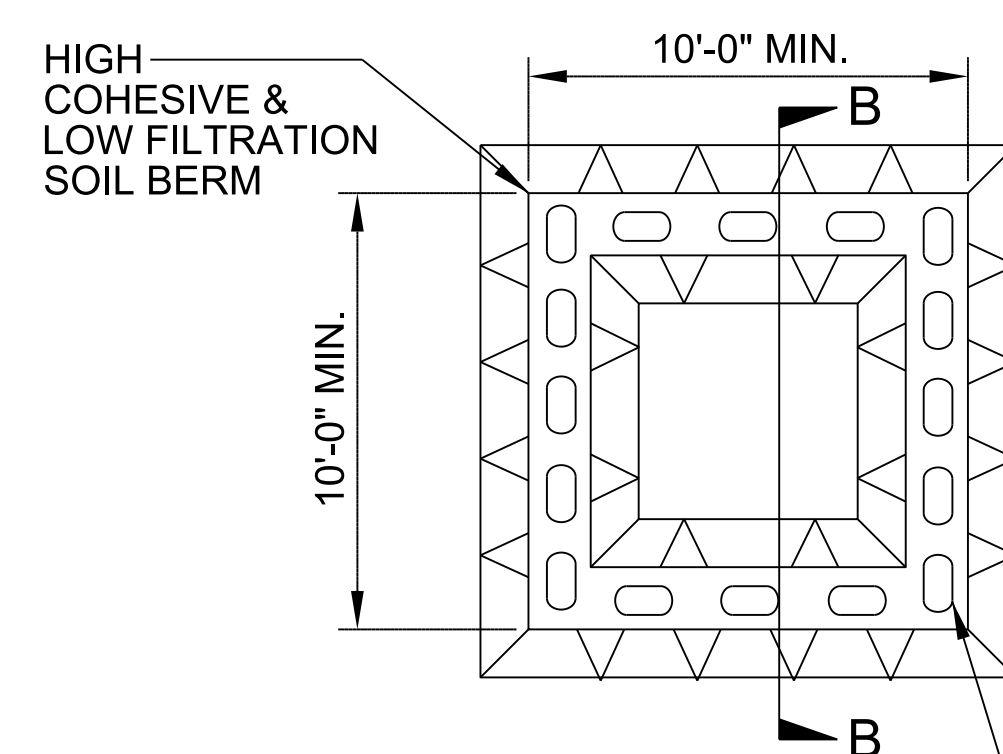
NOTES:

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.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN

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.

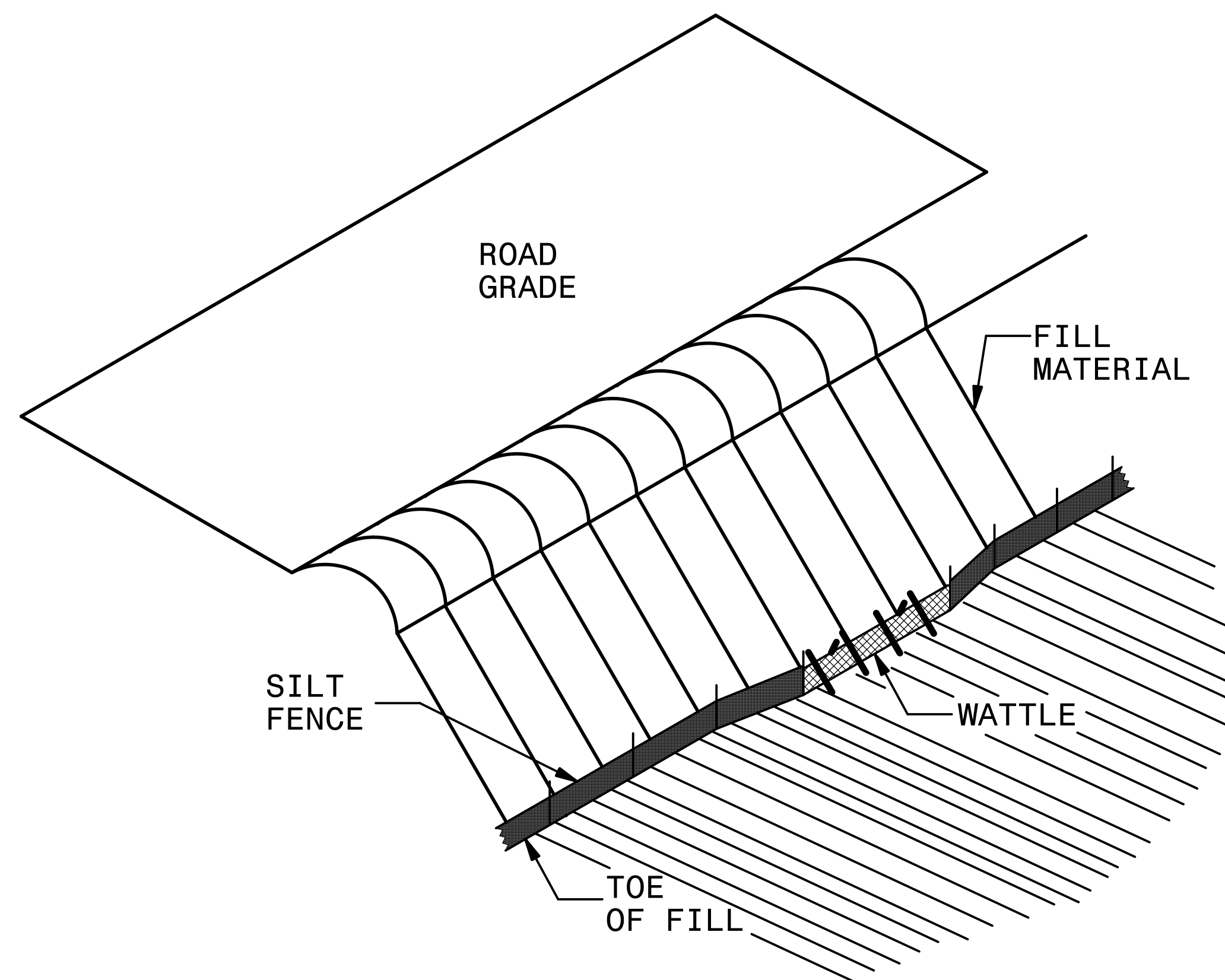
PLAN

ABOVE GRADE WASHOUT STRUCTURE

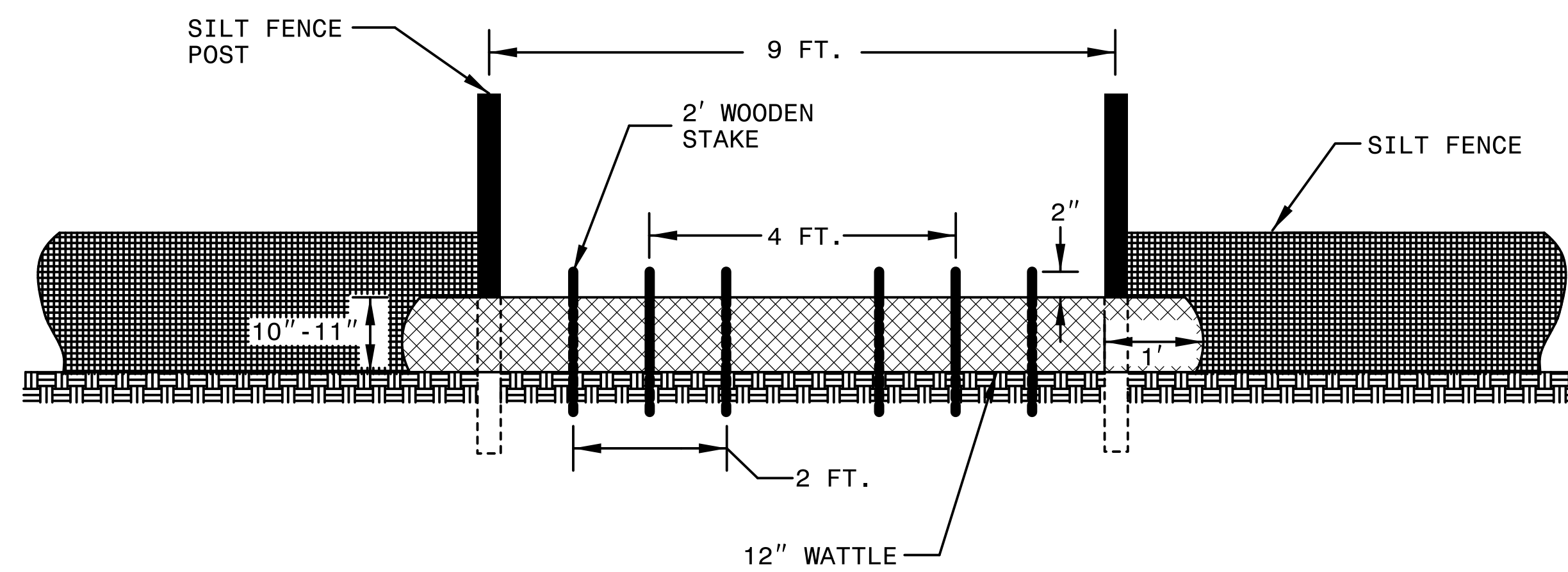
NOT TO SCALE

SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO. <i>BP9.R003</i>	SHEET NO. <i>EC-2B</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ISOMETRIC VIEW

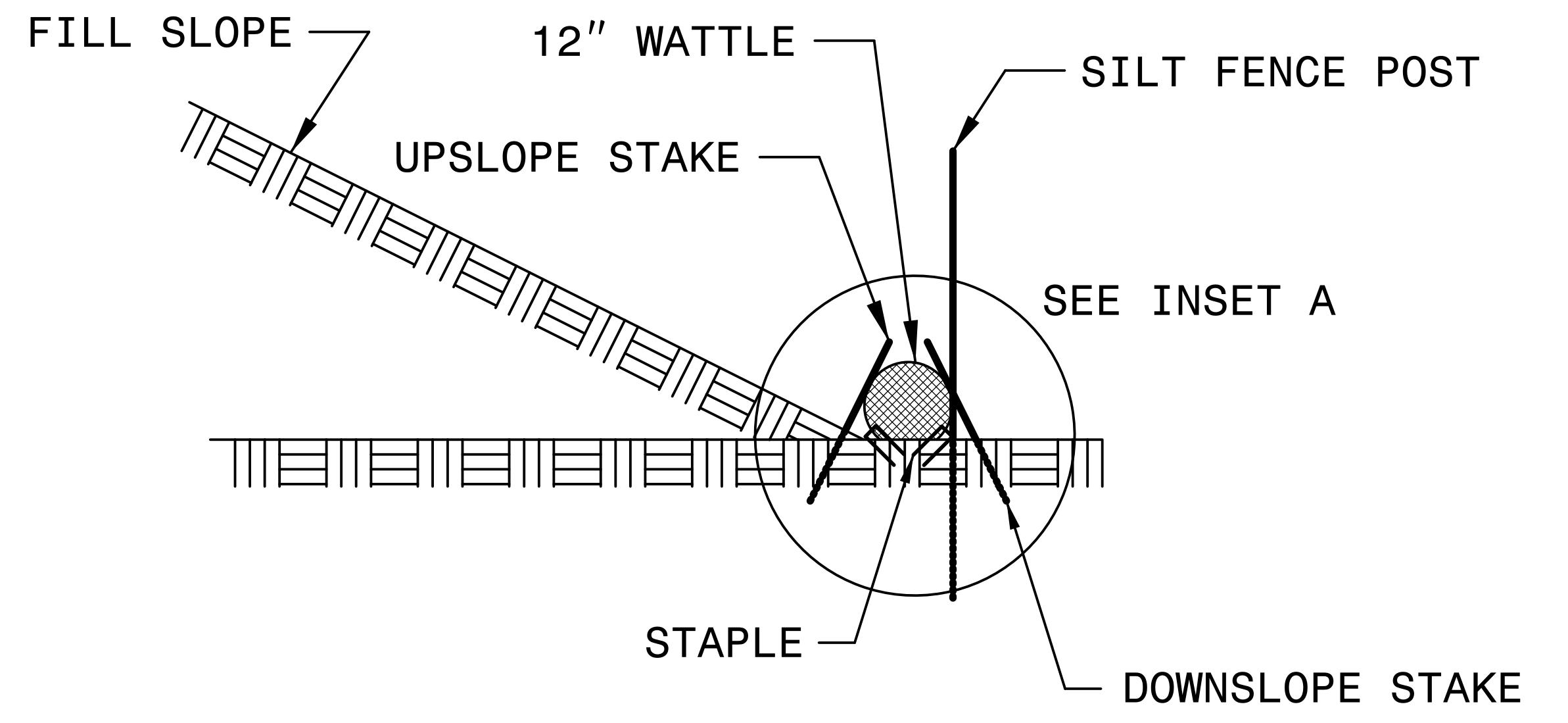
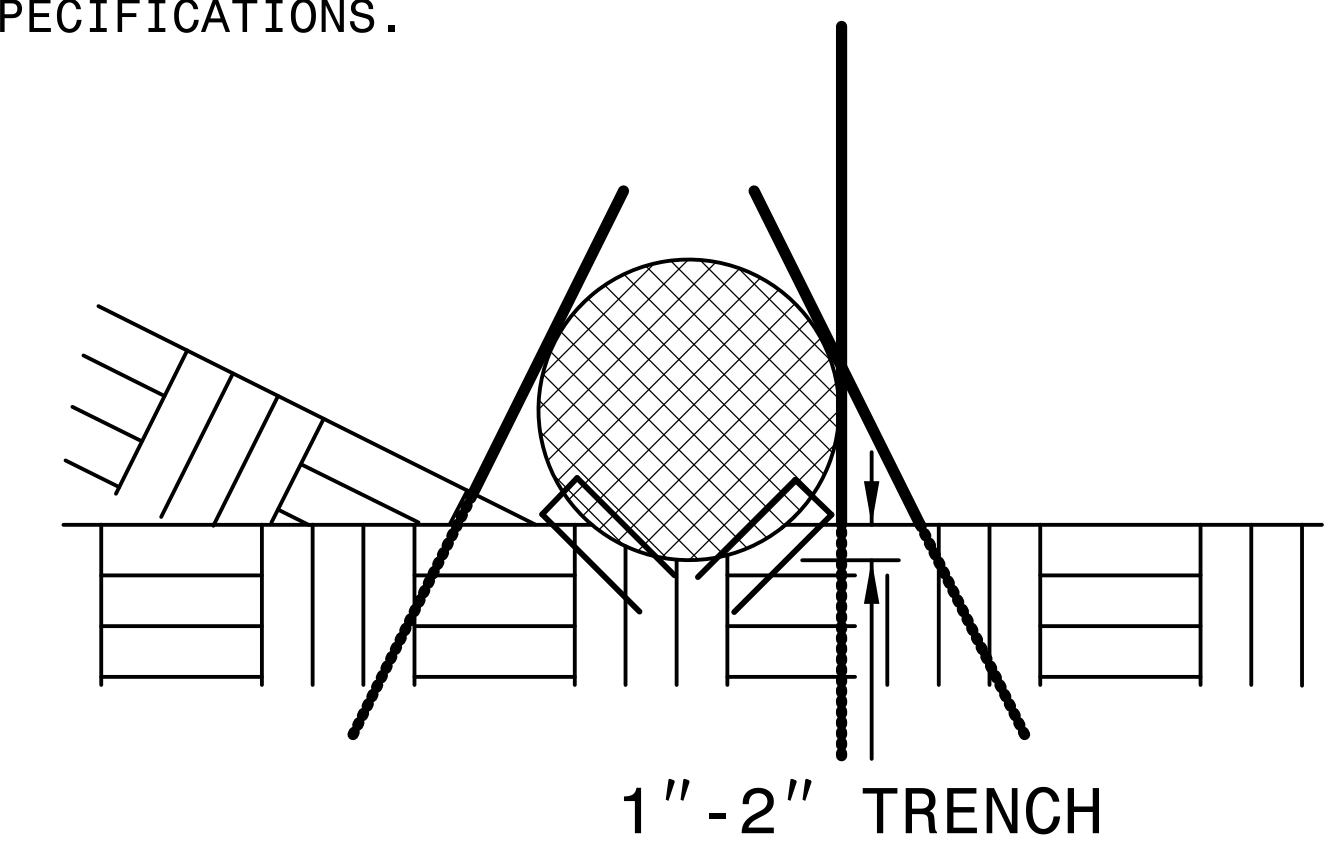


VIEW FROM SLOPE

NOTES:

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A



SIDE VIEW

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>BP9.R003</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

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

8.17/96

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.

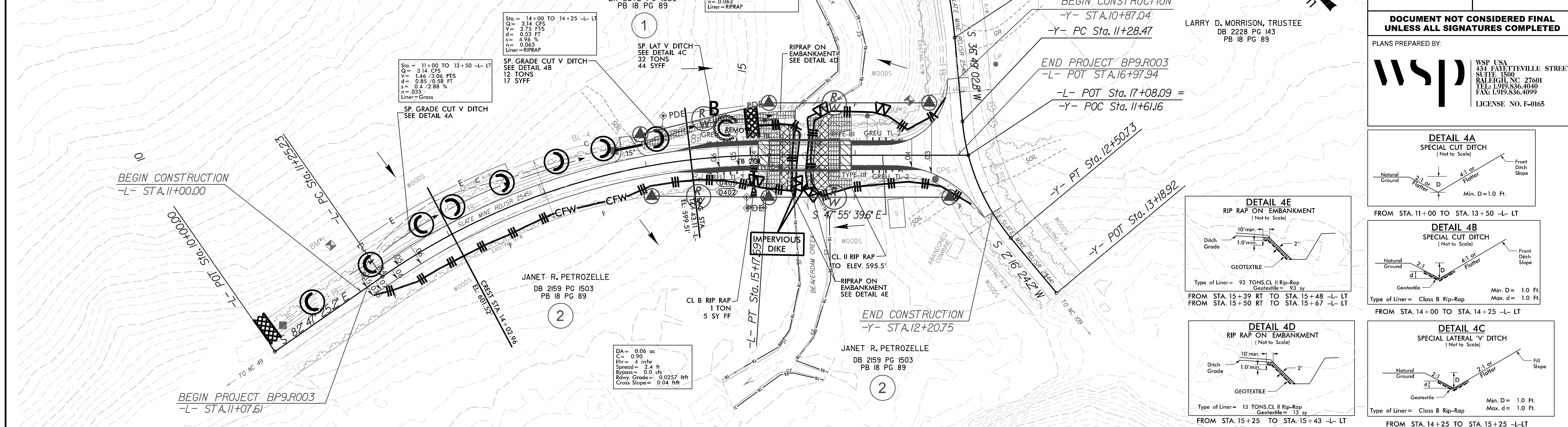
CURVE DATA (-L-)

PI Sta 13+27.75
Δ = 34° 51' 45.7" (RT)
D = 8° 52' 59.0"
L = 392.46'
T = 202.52'
R = 645.00'
e = 6.0%
RO = 114'
Ds = 45 MPH

CURVE DATA (-Y-)

PI Sta 10+24.01 Δ = 5° 29' 52.6" (RT)
D = 11° 27' 33.0"
L = 47.98'
T = 24.01'
R = 500.00'

PI Sta 11+91.52 Δ = 34° 32' 38.7" (LT)
D = 28° 15' 13.5"
L = 122.26'
T = 63.05'
R = 202.79'



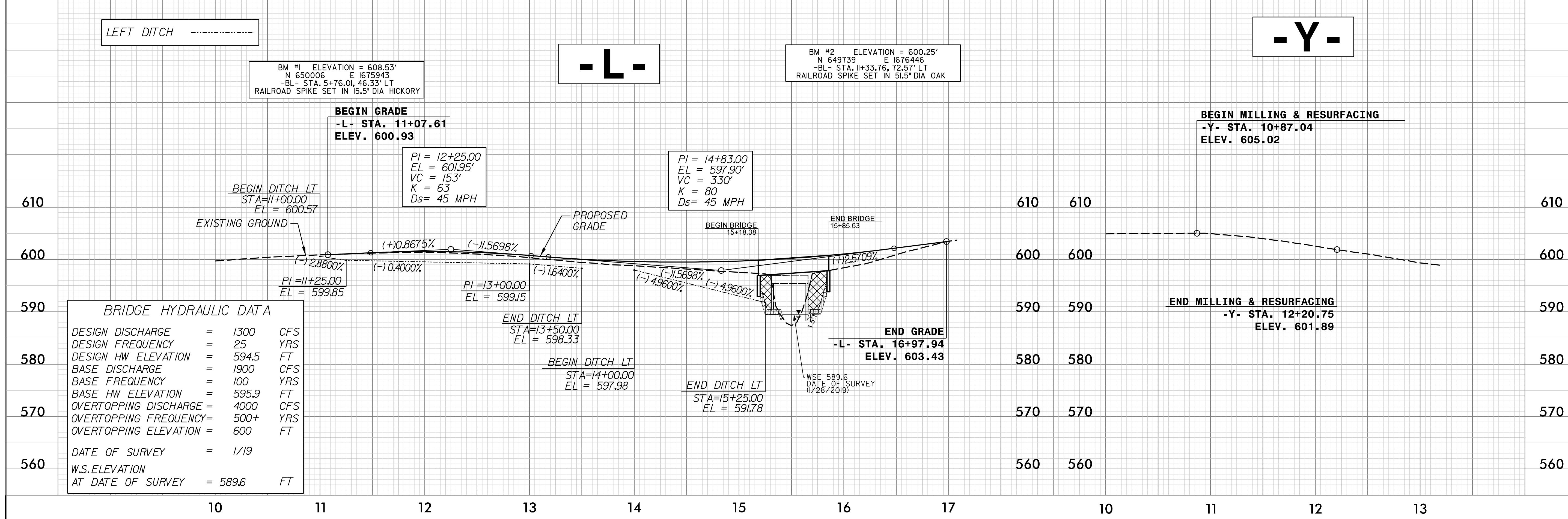
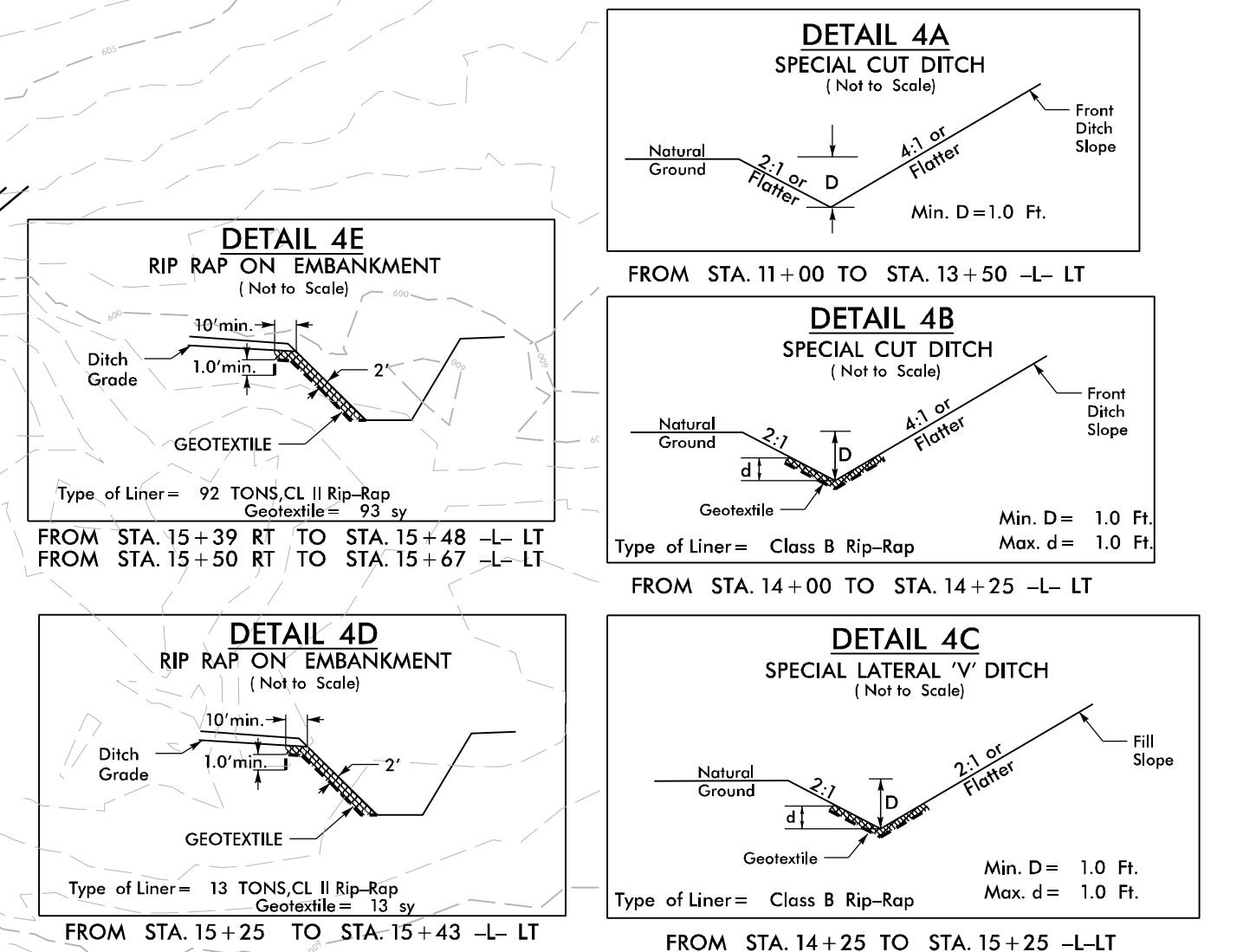
PROJECT REFERENCE NO. BP9.R003	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

PLANS PREPARED BY:

WSP

WSP USA
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
FAX: 1.919.836.4099
LICENSE NO. F-0165



8.17/98

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE. -L- 11+00 TO 13+50 LT

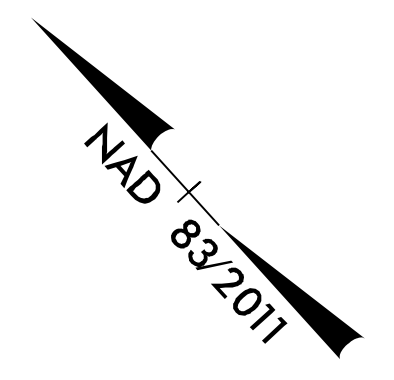
CURVE DATA (-L-)

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 $\Delta = 34^\circ 51' 45.7" (RT)$
 $D = 8^\circ 52' 59.0"$
 $L = 392.46'$
 $T = 202.52'$
 $R = 645.00'$
 $e = 6.0\%$
 $RO = 114'$
 $Ds = 45 MPH$

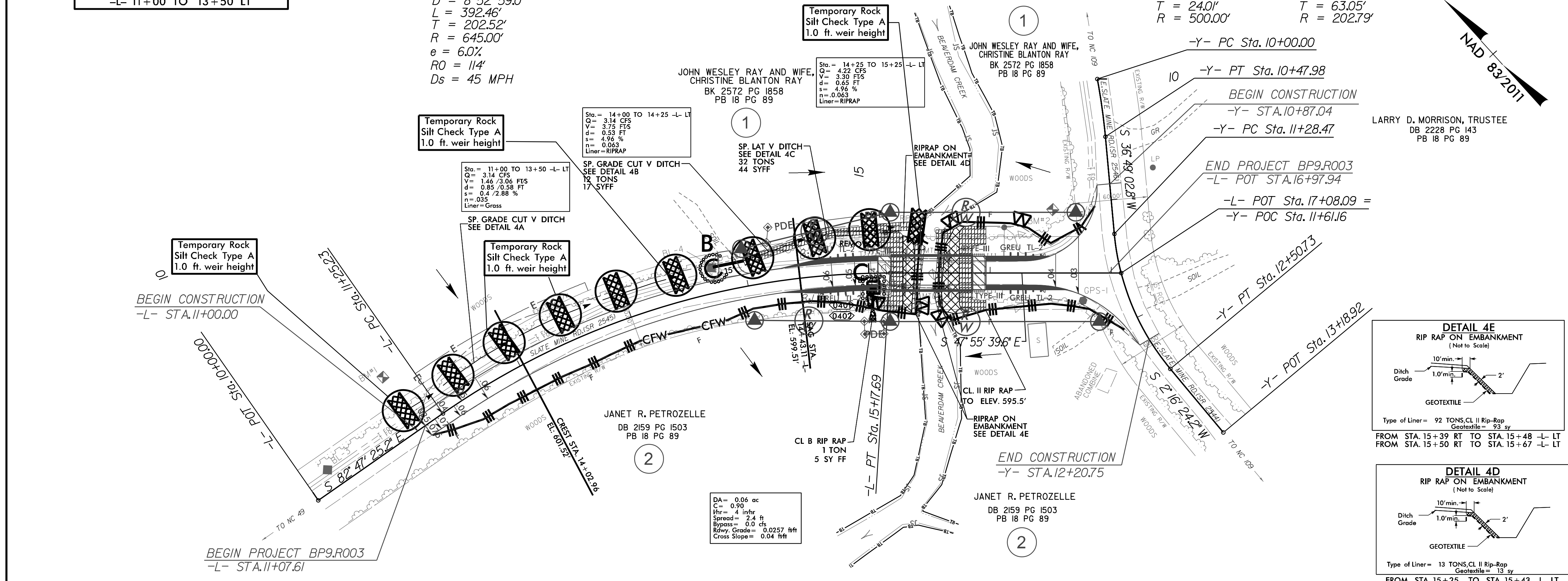
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 $\Delta = 5^\circ 29' 52.6" (RT)$
 $D = 11^\circ 27' 33.0"$
 $L = 47.98'$
 $T = 24.01'$
 $R = 500.00'$

PI Sta 11+91.52
 $\Delta = 34^\circ 32' 38.7" (LT)$
 $D = 28^\circ 15' 13.5"$
 $L = 122.26'$
 $T = 63.05'$
 $R = 202.79'$



PROJECT REFERENCE NO. BP9.R003	SHEET NO. EC-5/20NST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PLANS PREPARED BY:	
WSP USA 434 FAYETTEVILLE STREET SUITE 1500 RALEIGH, NC 27601 TEL: 1.919.836.4040 FAX: 1.919.836.4099 LICENSE NO. F-0165	



DETAIL 4A
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 11+00 TO STA. 13+50 -L- LT

DETAIL 4B
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 14+00 TO STA. 14+25 -L- LT

DETAIL 4C
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

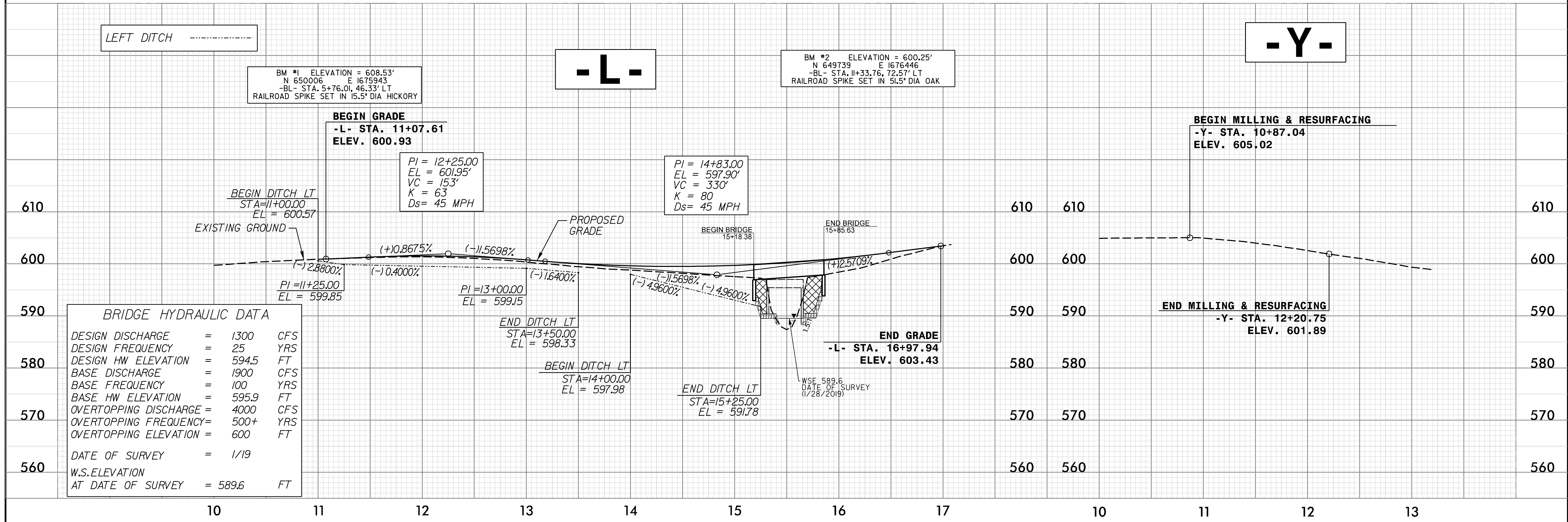
FROM STA. 14+25 TO STA. 15+25 -L- LT

DETAIL 4E
RIP RAP ON EMBANKMENT
(Not to Scale)

FROM STA. 15+39 RT TO STA. 15+48 -L- LT
 FROM STA. 15+50 RT TO STA. 15+67 -L- LT

DETAIL 4D
RIP RAP ON EMBANKMENT
(Not to Scale)

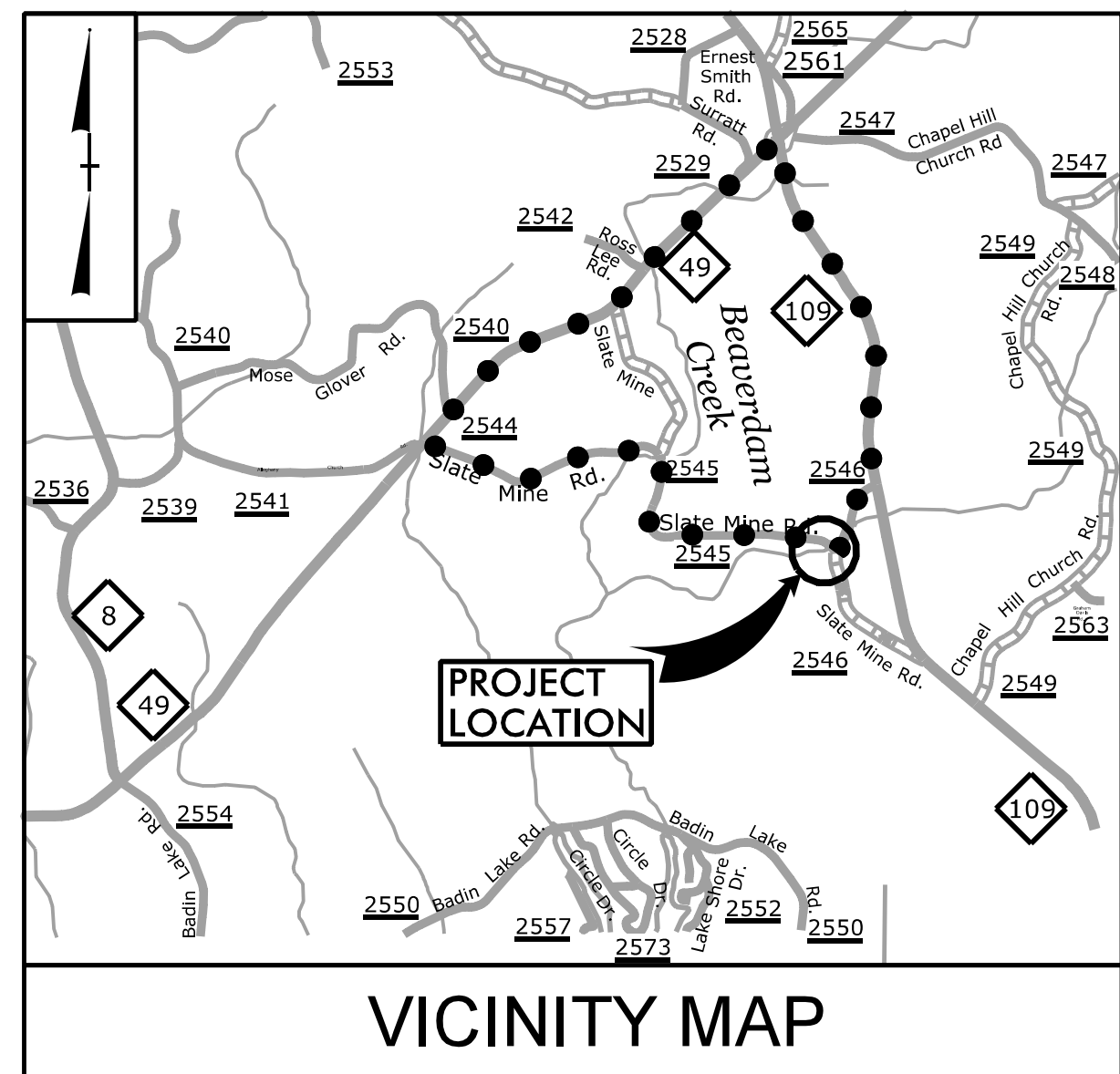
FROM STA. 15+25 TO STA. 15+43 -L- LT



09/08/09

TIP PROJECT: BP9.R003

CONTRACT: DI00327



●-●-●-●- DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

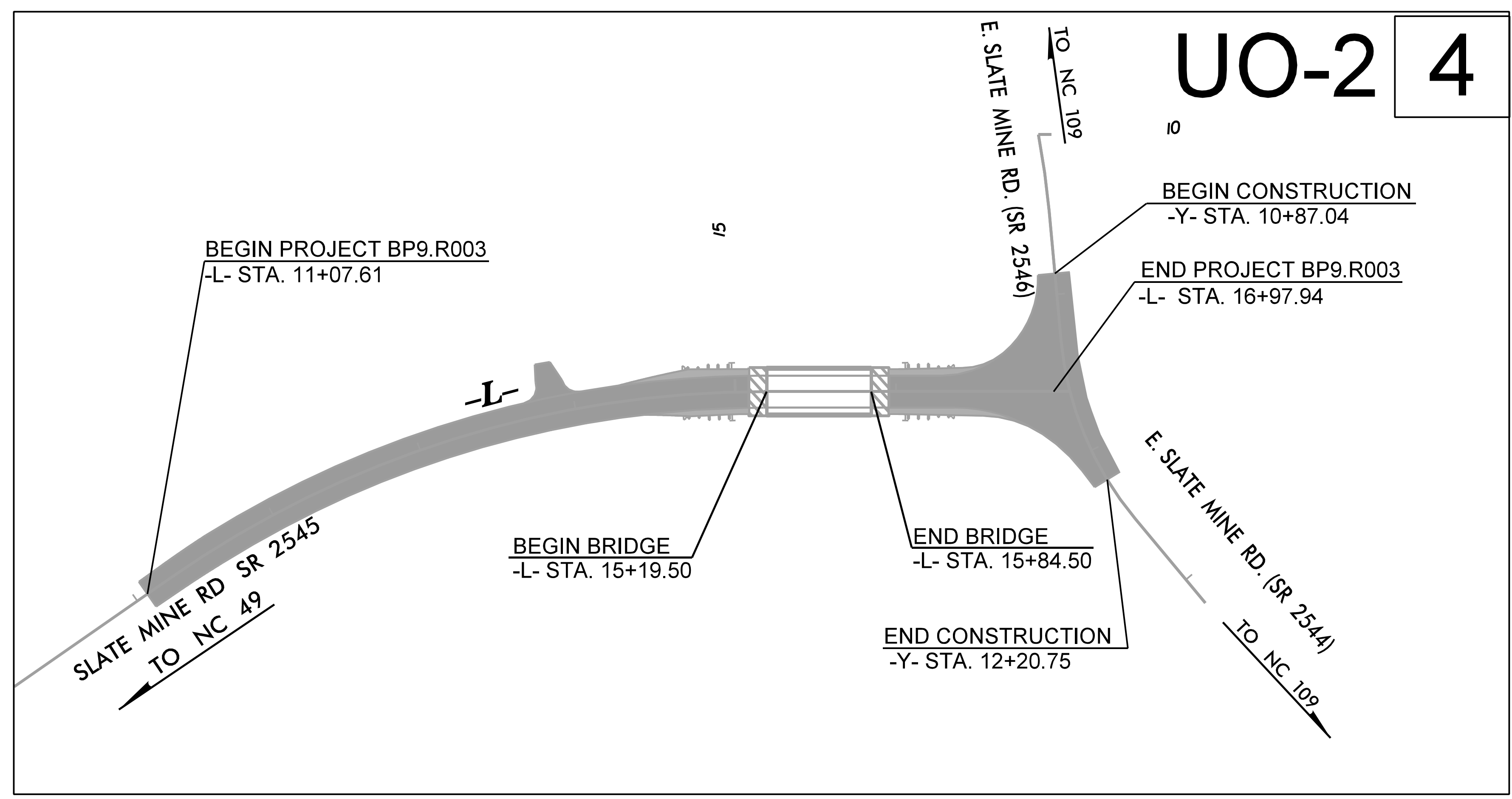
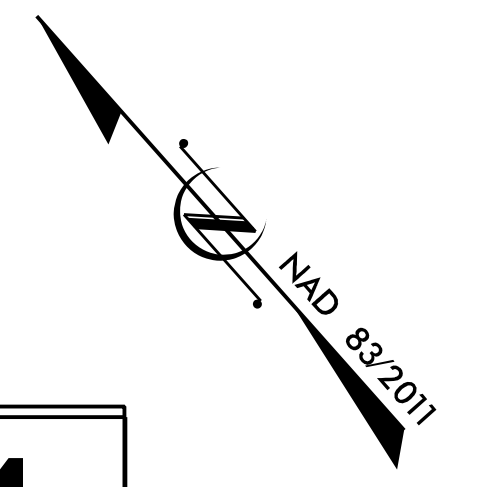
UTILITIES BY OTHERS PLANS DAVIDSON COUNTY

**LOCATION: REPLACE BRIDGE #286 ON SR 2545 (SLATE MINE RD)
OVER BEAVERDAM CREEK**

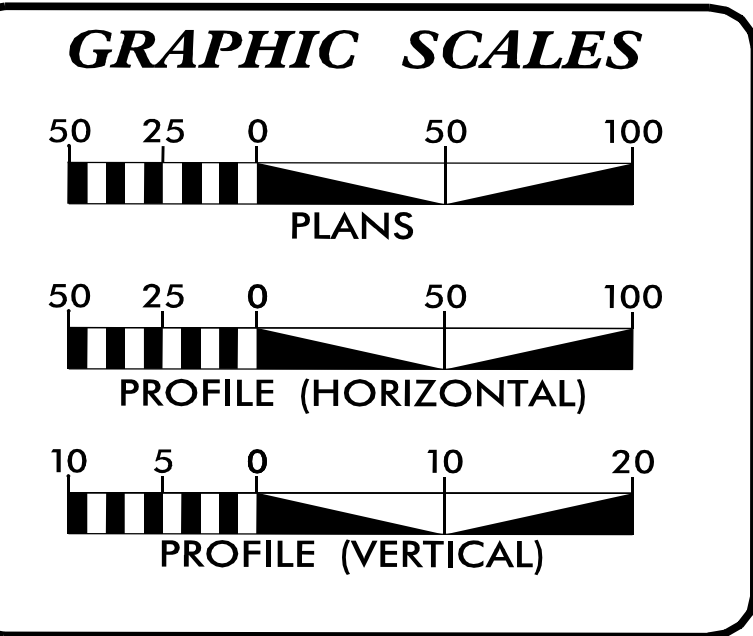
TYPE OF WORK: COMMUNICATIONS

T.I.P. NO.	SHEET NO.
BP9.R003	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.



UO-2 4



INDEX OF SHEETS

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

UTILITY OWNERS WITH CONFLICTS

(A) COMMUNICATIONS - RANDOLPH TELEPHONE

PREPARED IN THE OFFICE OF:

2641 Sumner Boulevard
Suite 116
Raleigh, NC 27616
(919) 878-7466

FREDDIE BUNN	UTILITY PROJECT MANAGER
PATRICK JONES	PROJECT UTILITY COORDINATOR

**DIVISION OF HIGHWAYS
DIVISION 9**

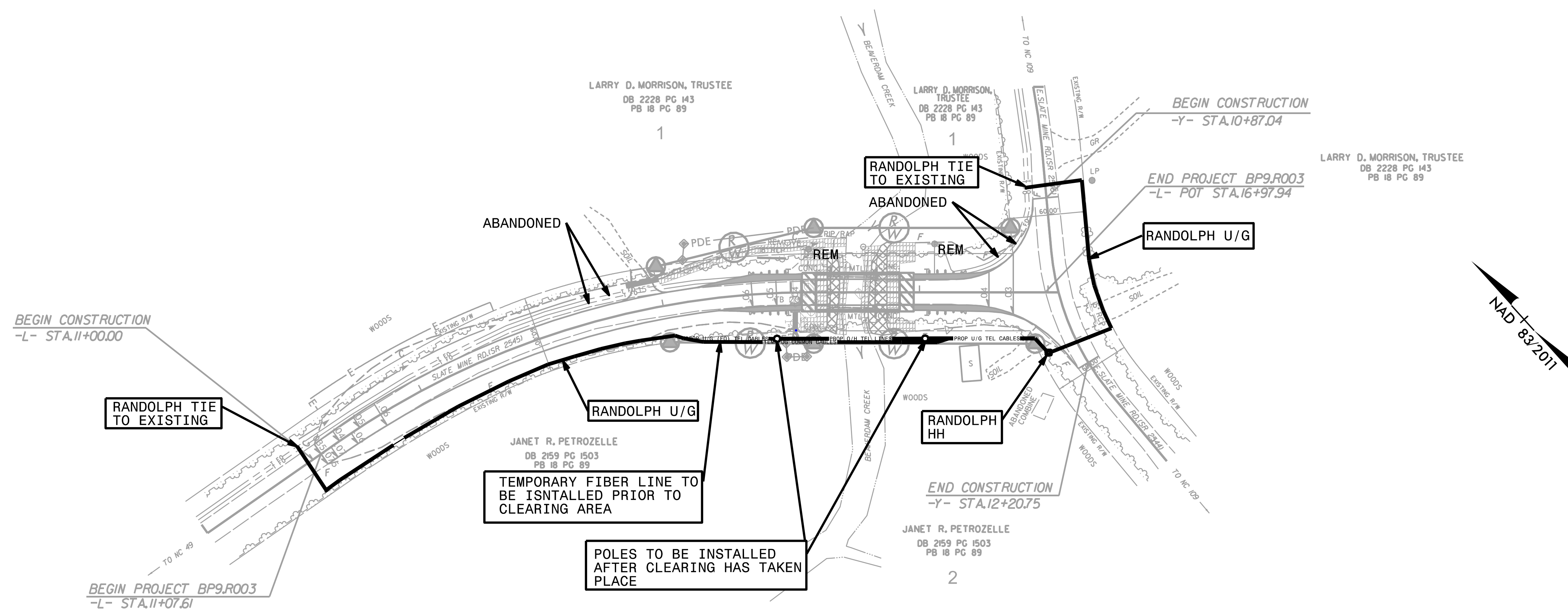
DIV ADDRESS
375 SILAS CREEK PARKWAY
WINSTON SALEM, 27217

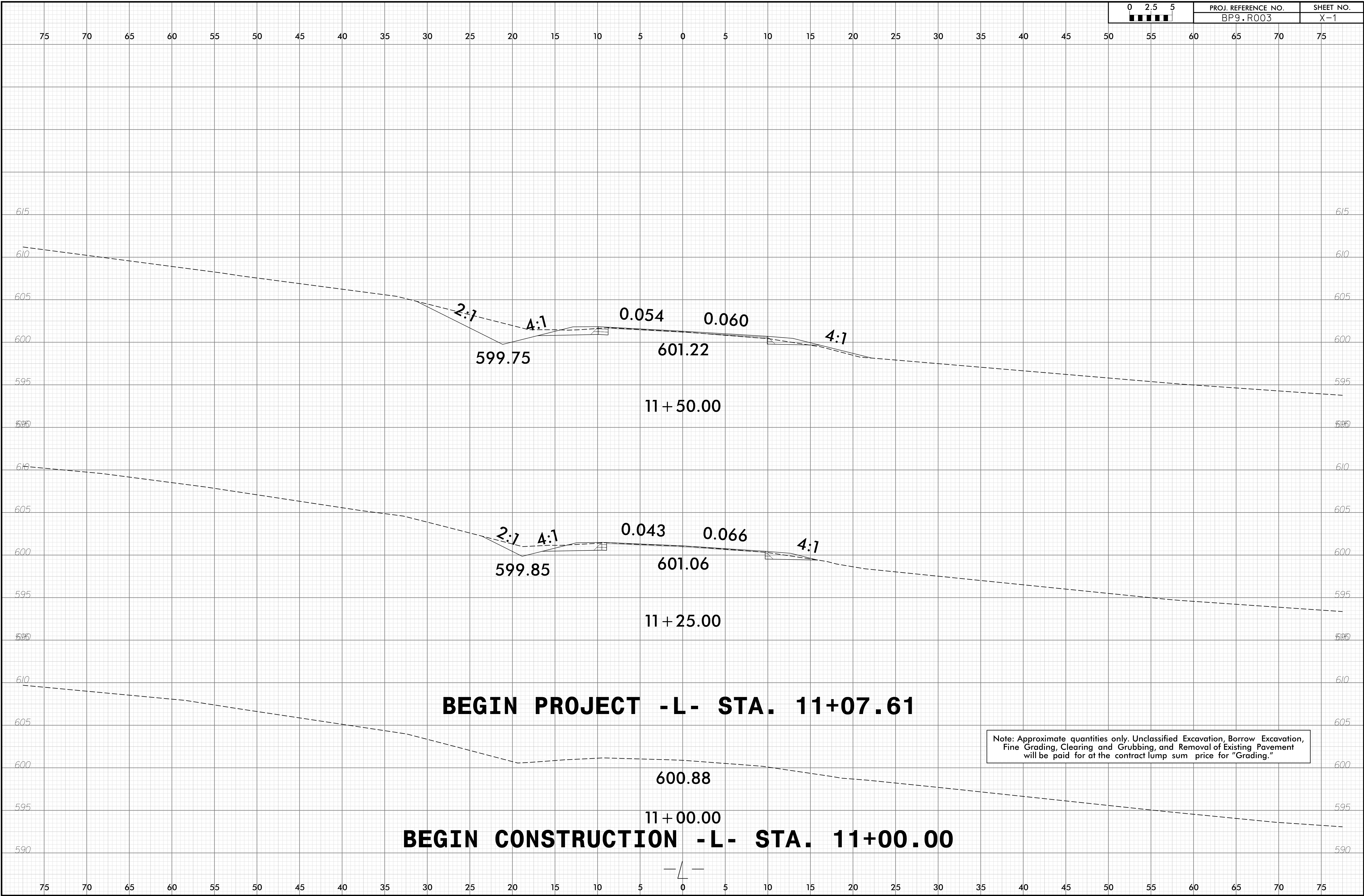
DAVID TRANHAM	DIVISION UTILITY ENGINEER
JOSH MCMAHAN	SENIOR UTILITY COORDINATOR
LOU PORTER	UTILITY COORDINATOR

4/12/2023
T:\wof\king\BP9.R003_Rdy_t.sh.dgn
12:35:15 PM

UTILITIES BY OTHERS

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

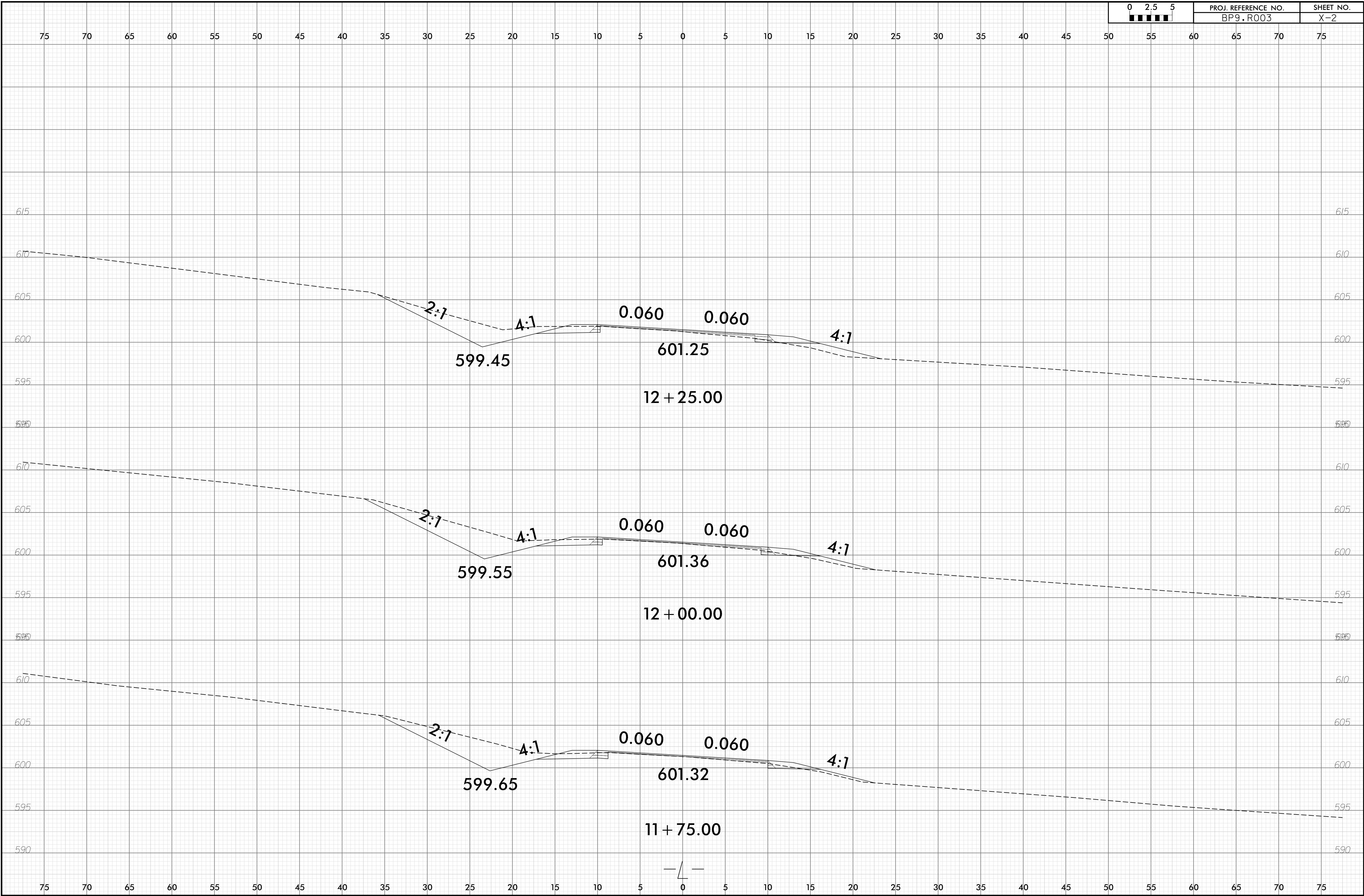


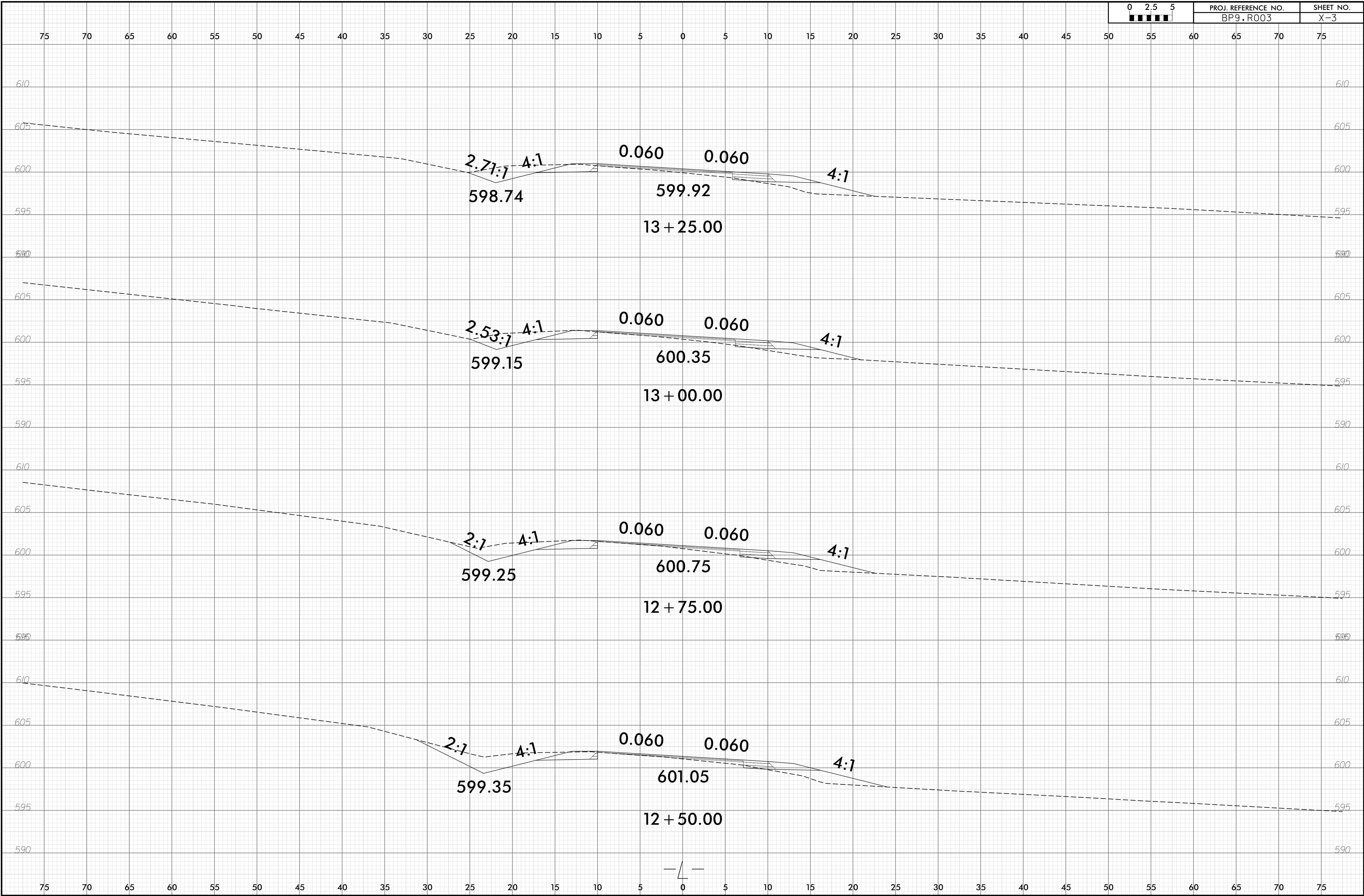


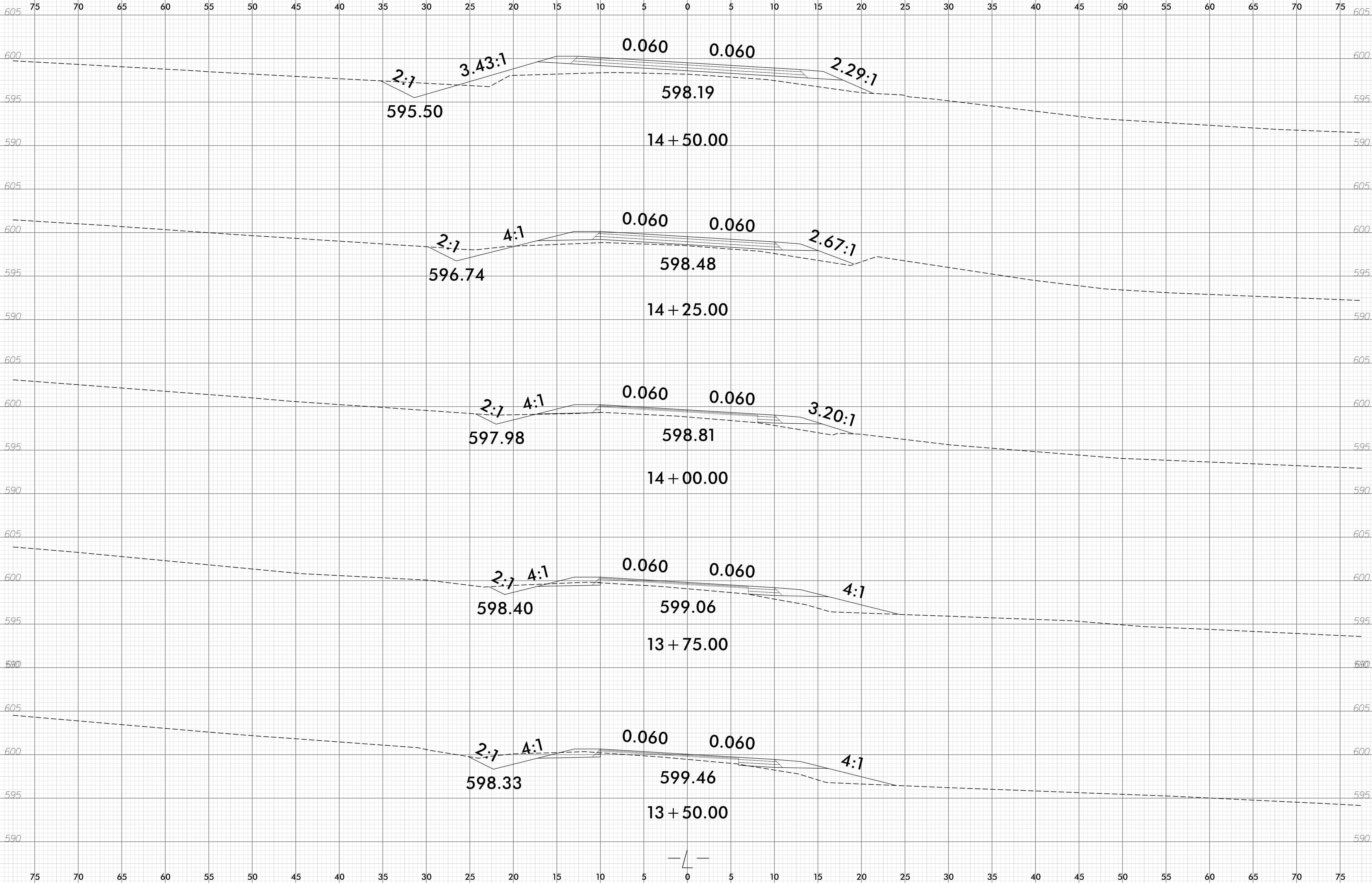
BEGIN PROJECT -L- STA. 11+07.61

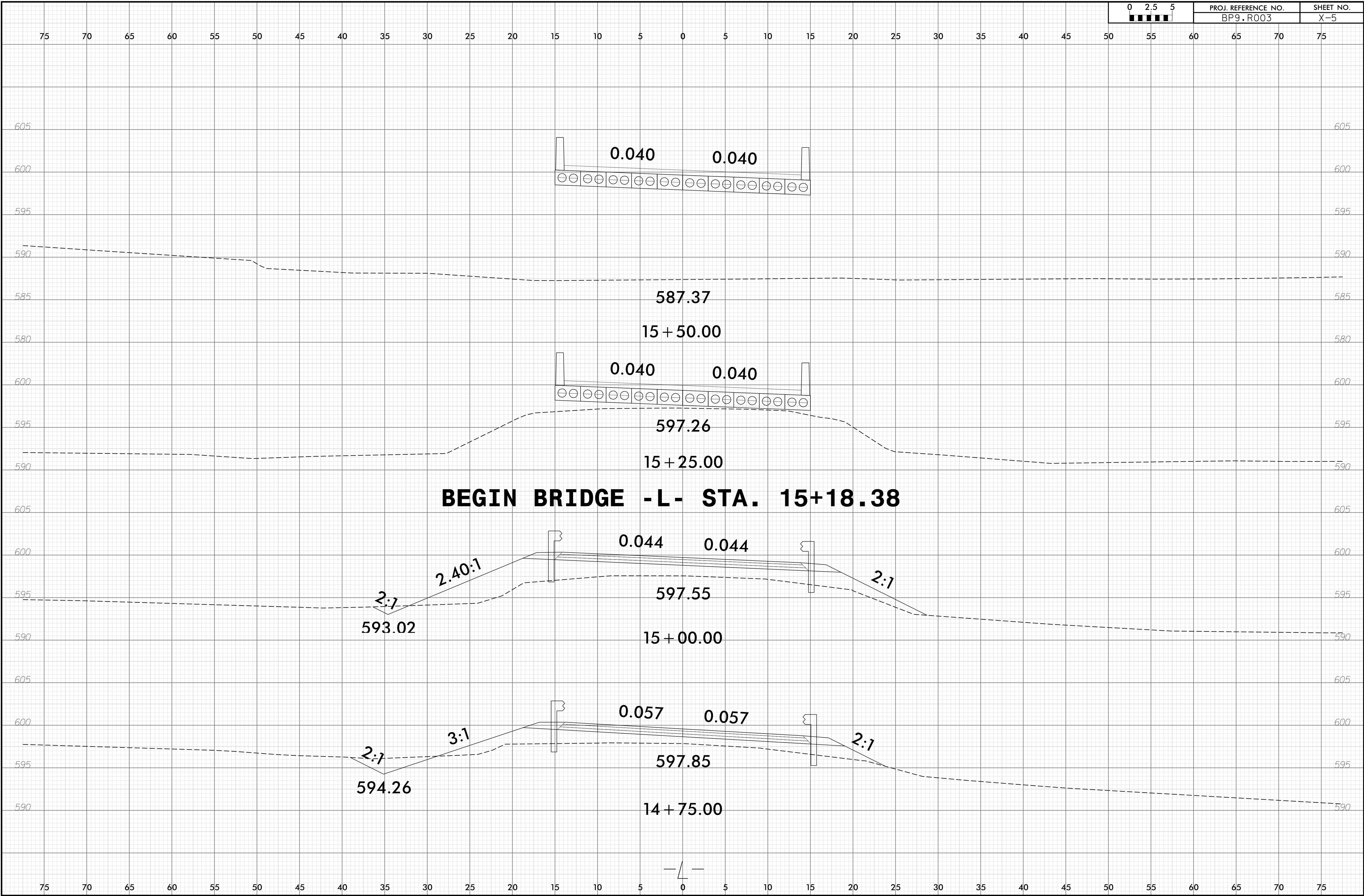
BEGIN CONSTRUCTION -L- STA. 11+00.00

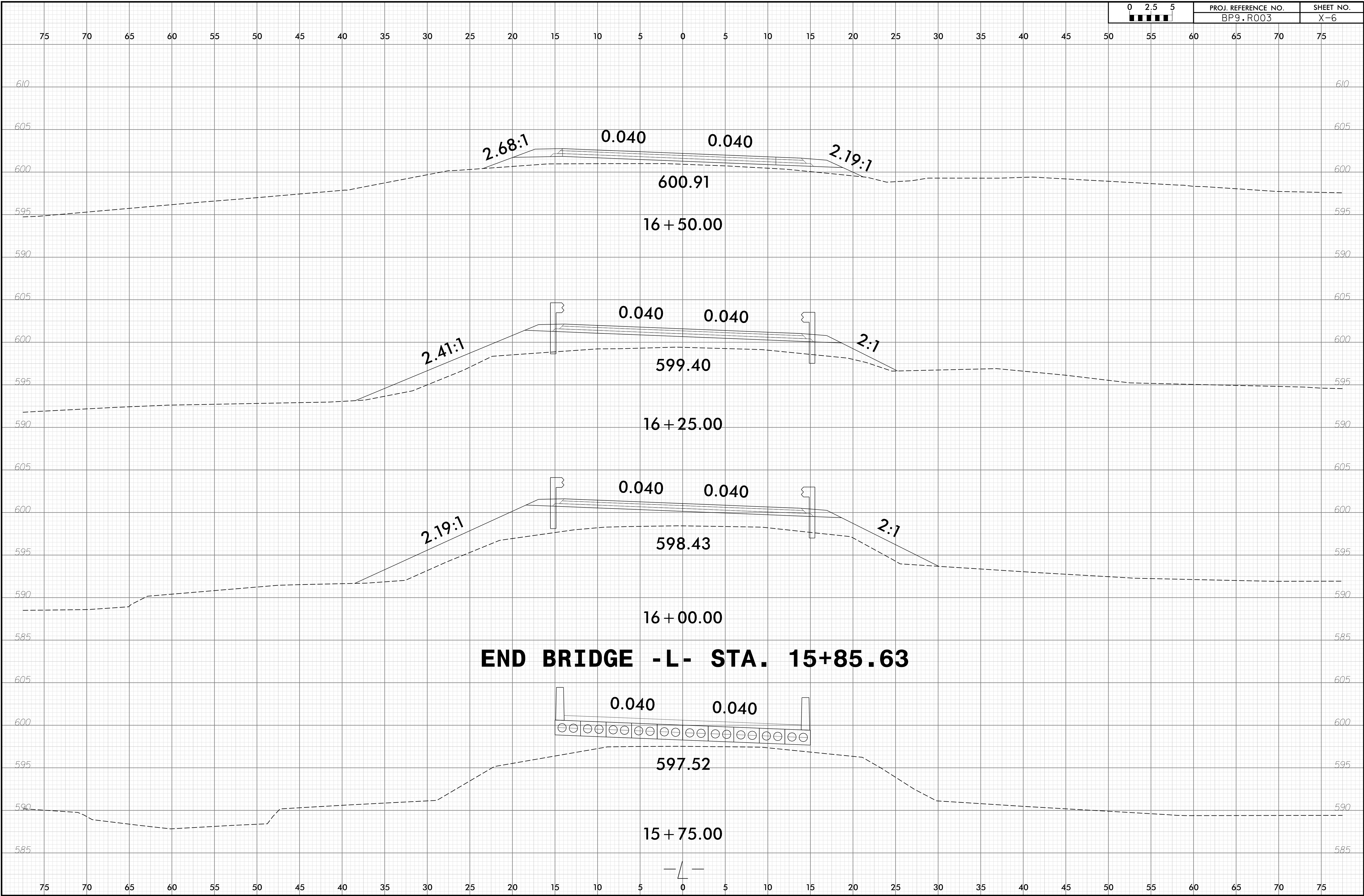
Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."



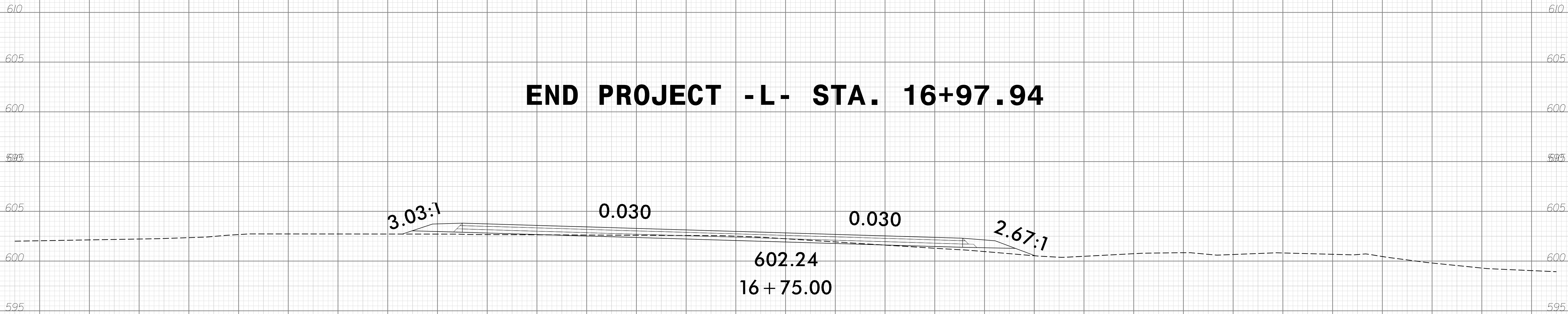








75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

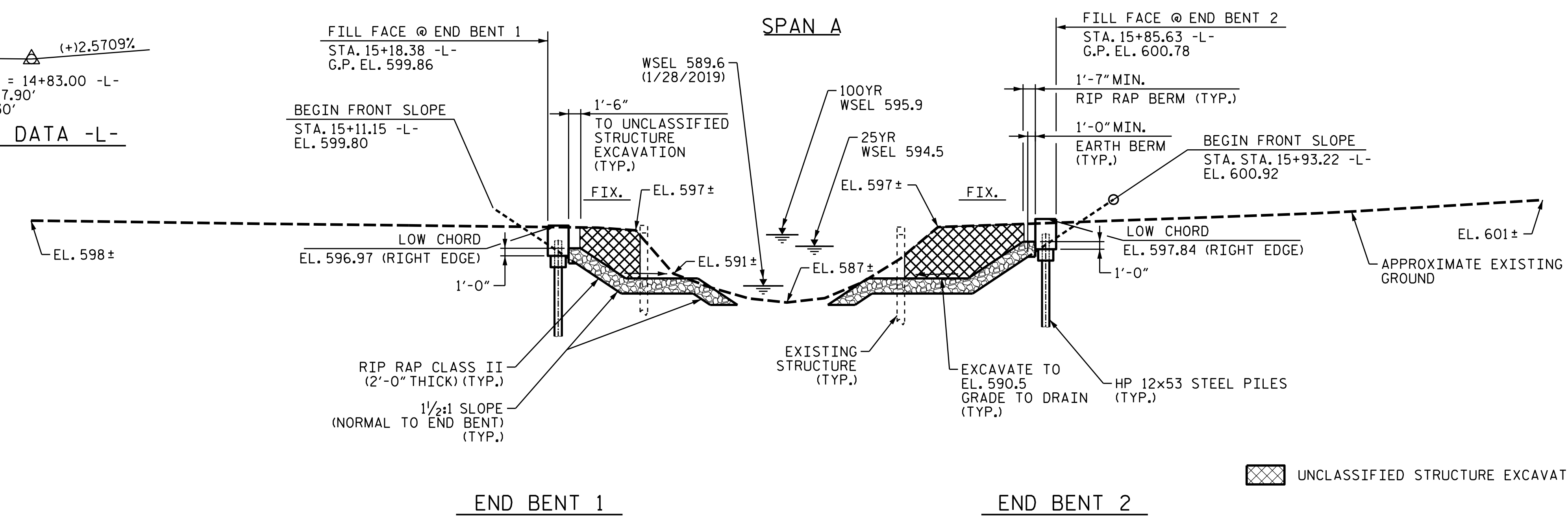


END PROJECT -L- STA. 16+97.94

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

+50 15+00 +50 16+00 +50

GRADE DATA -L-
 (-)1.5698% (+)2.5709%
 PI STA = 14+83.00 -L-
 EL = 597.90'
 VC = 330'

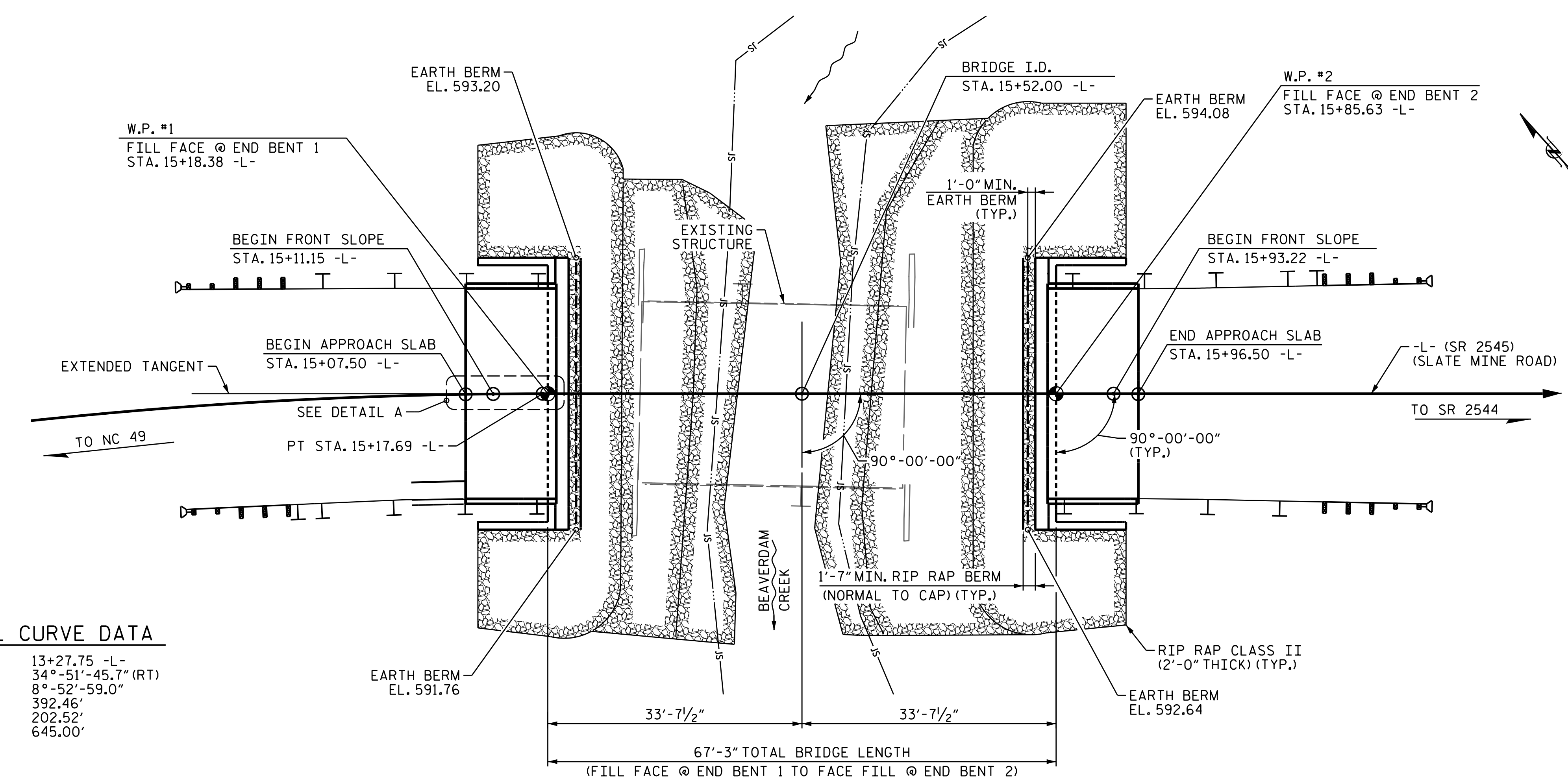
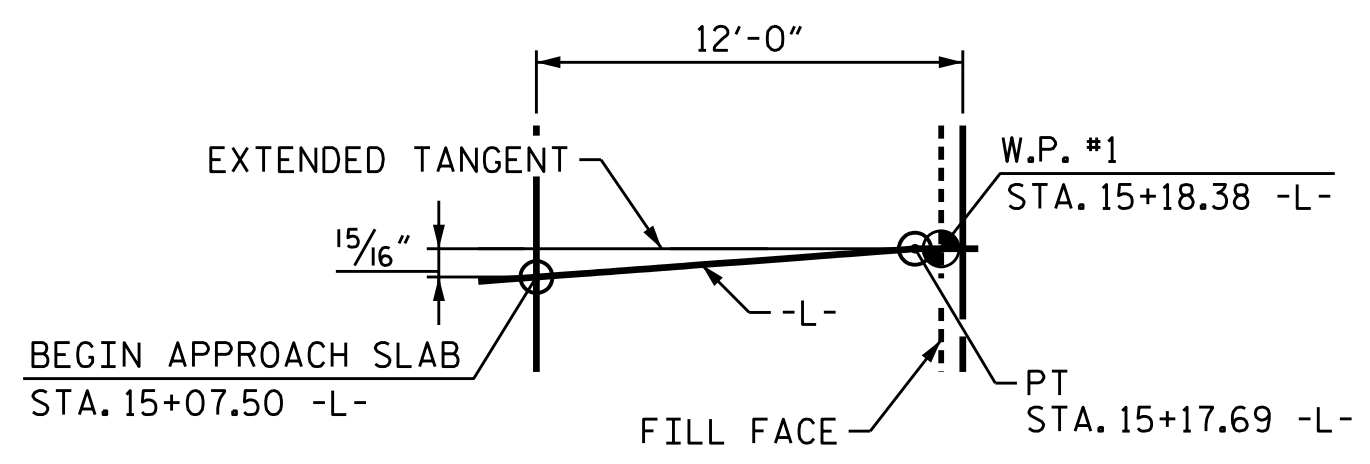


HYDRAULIC DATA

DESIGN DISCHARGE	1300 CFS
FREQUENCY OF DESIGN FLOOD	25 YRS.
DESIGN HIGH WATER ELEVATION	594.5
DRAINAGE AREA	4.5 SQ.MI.
BASE DISCHARGE (Q100)	1900 CFS
BASE HIGH WATER ELEVATION	595.9

OVERTOPPING FLOOD DATA

OVERTOPPING FLOOD DISCHARGE	4000 CFS
FREQUENCY OF OVERTOPPING FLOOD	>500 YRS.
OVERTOPPING FLOOD ELEVATION	600.0
@ STA. 14+43.11 -L-	



HORIZONTAL CURVE DATA

P.I.	=	13+27.75 -L-
Δ	=	34°-51'-45.7" (RT)
D	=	8°-52'-59.0"
L	=	392.46'
T	=	202.52'
R	=	645.00'

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. BP9.R003
DAVIDSON COUNTY
 STATION: 15+52.00 -L-

SHEET 1 OF 4 REPLACES BRIDGE NO. 280286

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER BEAVERDAM CREEK ON SR 2545 (SLATE MINE RD) BETWEEN NC 49 & SR 2544

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

SHEET NO. **S-1**
 TOTAL SHEETS **15**

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

3/24/2023

wsp

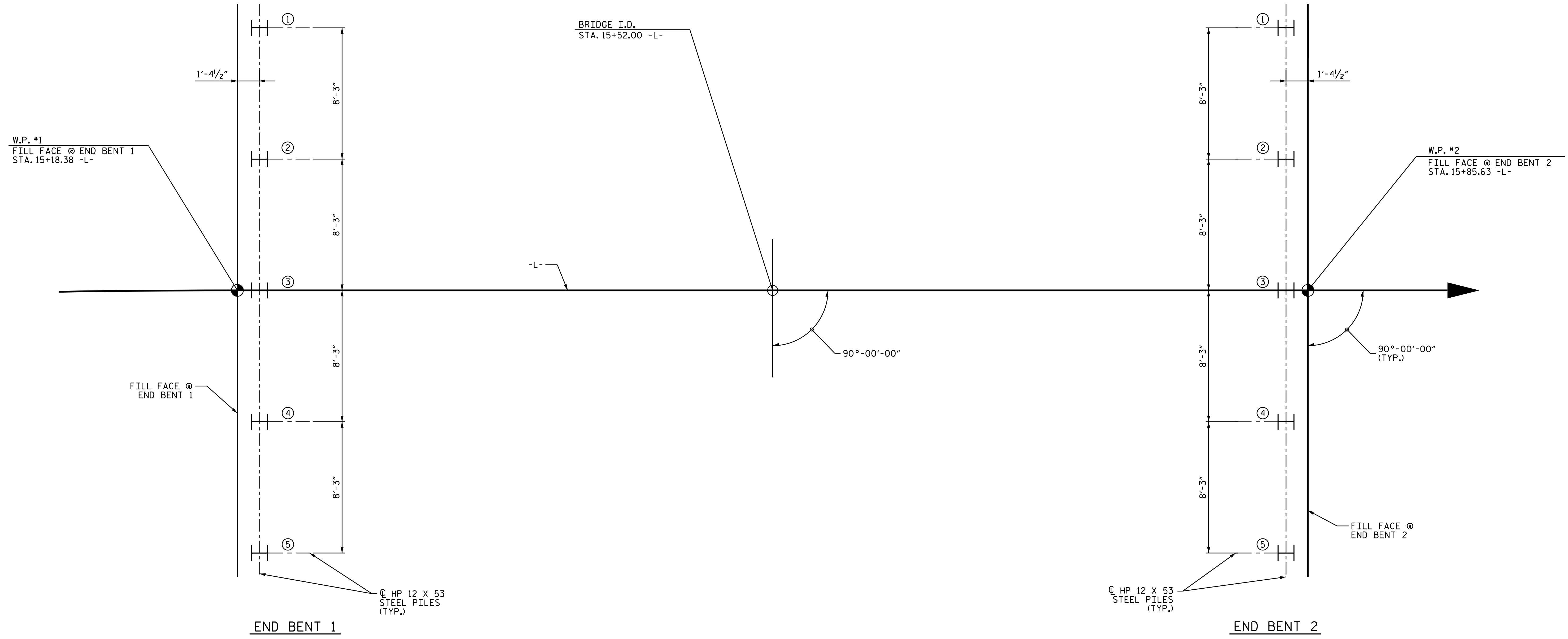
WSP USA Inc.
 434 FAYETTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
 TEL: 1.919.836.4040
 LICENSE NO. F-0165

3/24/2023 4:19:36 PM C:\Users\jwheatley\OneDrive\Documents\Projects\2023\BP9.R003\Drawings\2023\Structures\2023\BP9.R003\SMU_GD01.dgn

DESIGNED BY: J. WHEATLEY DATE: MAR 2023
 DRAWN BY: J. WHEATLEY DATE: MAR 2023
 CHECKED BY: T. KIRSCHBAUM DATE: MAR 2023
 DESIGN ENGINEER OF RECORD: J. WHEATLEY DATE: MAR 2023

FOR CLARITY, PILES ARE NOT SHOWN IN PLAN VIEW

3/24/2023 4:19:36:17 NCDOT Division 9 LSA\NCDOT Division 9 LIBP Group 6\BP9.R003 State Mine Road 286.17BP.9.R.74.193617-02\Structures\2.0 Drafting\DGNS\401.003.BP9.R003.SMU.GD02.dgn



FOUNDATION LAYOUT
(END BENTS ARE PARALLEL)

NOTES

FOR NOTES, SEE "PILE FOUNDATION TABLES" SHEET.

PROJECT NO. BP9.R003
DAVIDSON COUNTY
 STATION: 15+52.00 -L-
 SHEET 2 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

FOUNDATION LAYOUT

DESIGNED BY:	J. WHEATLEY	DATE :	MAR 2023
DRAWN BY:	J. WHEATLEY	DATE :	MAR 2023
CHECKED BY:	T. KIRSCHBAUM	DATE :	MAR 2023
DESIGN ENGINEER OF RECORD:	J. WHEATLEY	DATE :	MAR 2023

wsp

WSP USA Inc.
 434 FAYETTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
 TEL: 1.919.836.4040
 LICENSE NO. F-0165

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
 PROFESSIONAL SEAL
 J. WHEATLEY
 ENGINEER
 036787
 3/24/2023

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

SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Resistance per Pile TONS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Driven Piles			Predrilling for Piles*			Drilled-In Piles		
					Min Pile Tip (Tip No Higher Than) Elev FT	Required Driving Resistance (RDR)** per Pile TONS	Total Pile Redrives Quantity EACH	Predrilling Length per Pile Lin FT	Predrilling Elevation (Elev Not To Predrill Below) FT	Maximum Predrilling Dia INCHES	Pile Excavation (Bottom of Hole) Elev FT	Pile Exc Not In Soil per Pile Lin FT	Pile Exc In Soil per Pile Lin FT
End Bent No. 1, Piles 1-5	96	See Structure Drawings	15	NA		159					583.0	6.5	4.0
End Bent No. 2, Piles 1-5	96		15	NA		159					584.0	5.8	4.6
TOTAL QTY:												61.5	43.0

*Predrilling for Piles is required for end bents/bents with a predrilling length and at the Contractor's option for end bents/bents with predrilling information but no predrilling length.

$$**RDR = \frac{\text{Factored Resistance} + \text{Factored Downdrag Load} + \text{Factored Dead Load}}{\text{Dynamic Resistance Factor}} + \text{Nominal Downdrag Resistance} + \frac{\text{Nominal Scour Resistance}}{\text{Scour Resistance Factor}}$$

PILE DESIGN INFORMATION

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile TONS	Factored Downdrag Load per Pile TONS	Factored Dead Load* per Pile TONS	Dynamic Resistance Factor	Nominal Downdrag Resistance per Pile TONS	Nominal Scour Resistance per Pile TONS	Scour Resistance Factor (Default = 1.00)
End Bent No. 1, Piles 1-5	94			0.60			1.00
End Bent No. 2, Piles 1-5	94			0.60			1.00
							1.00
							1.00

*Factored Dead Load is factored weight of pile above the ground line.

PROJECT NO. BP9.R003.1


Davidson COUNTY

STATION: 15+52 -L-

Bridge #286

NOTES:

- The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer Shiping Yang, #031361 on 2/1/2023.
- Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance.
- The Engineer will determine the need for PDA Testing and Pipe Pile Plates when PDAs or plates may be required.
- Concrete is required to fill holes for Pile Excavation at End Bent Nos. 1 and 2.

	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH		<h2>PILE FOUNDATION TABLES</h2>			SHEET NO. S-3
	DocuSigned by: <i>Jaime Wheatley</i> / 2/24/2023 SIGNATURE DATE		REVISIONS			TOTAL SHEETS 15
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	NO. 1 2	BY:	DATE:	NO. 3 4	BY:	DATE:

3/24/2023 4:19:36 PM Division 9 LSA\NCDOT Division 9 LIBP Group 6\BP9.R003 State Mine Road 286 17BP.S.R.74.193617-02\Structures\2.0 Drafting\DGNS\401_009_BP9.R003_SMU_LRRF.dgn

LOAD AND RESISTANCE FACTOR RATING (LRF) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

LEVEL	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			
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	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 RATING	HL-93(Inv)	N/A	1	1.018	--	1.75	0.274	1.05	65'	EL	32	0.513	1.2	65'	EL	6.4	0.80	0.274	1.02	65'	EL	32		
	HL-93(Oper)	N/A	--	1.358	--	1.35	0.274	1.36	65'	EL	32	0.513	1.56	65'	EL	6.4	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.306	47.014	1.75	0.274	1.34	65'	EL	32	0.513	1.48	65'	EL	6.4	0.80	0.274	1.31	65'	EL	32		
	HS-20(Oper)	36.000	--	1.742	62.706	1.35	0.274	1.74	65'	EL	32	0.513	1.92	65'	EL	6.4	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.868	38.725	1.4	0.274	3.69	65'	EL	32	0.513	4.33	65'	EL	6.4	0.80	0.274	2.87	65'	EL	32	
		SNGARBS2	20.000	--	2.171	43.424	1.4	0.274	2.79	65'	EL	32	0.513	3.11	65'	EL	6.4	0.80	0.274	2.17	65'	EL	32	
		SNAGRIS2	22.000	--	2.071	45.552	1.4	0.274	2.66	65'	EL	32	0.513	2.89	65'	EL	6.4	0.80	0.274	2.07	65'	EL	32	
		SNCOTTS3	27.250	--	1.428	38.924	1.4	0.274	1.84	65'	EL	32	0.513	2.17	65'	EL	6.4	0.80	0.274	1.43	65'	EL	32	
		SNAGGRS4	34.925	--	1.206	42.136	1.4	0.274	1.55	65'	EL	32	0.513	1.81	65'	EL	6.4	0.80	0.274	1.21	65'	EL	32	
		SNS5A	35.550	--	1.179	41.911	1.4	0.274	1.52	65'	EL	32	0.513	1.85	65'	EL	6.4	0.80	0.274	1.18	65'	EL	32	
		SNS6A	39.950	--	1.087	43.43	1.4	0.274	1.4	65'	EL	32	0.513	1.69	65'	EL	6.4	0.80	0.274	1.09	65'	EL	32	
	SNS7B	42.000	--	1.035	43.489	1.4	0.274	1.33	65'	EL	32	0.513	1.67	65'	EL	6.4	0.80	0.274	1.04	65'	EL	32		
	TTST	TNAGRIT3	33.000	--	1.327	43.8	1.4	0.274	1.71	65'	EL	32	0.513	2.01	65'	EL	6.4	0.80	0.274	1.33	65'	EL	32	
		TNT4A	33.075	--	1.335	44.142	1.4	0.274	1.72	65'	EL	32	0.513	1.95	65'	EL	6.4	0.80	0.274	1.33	65'	EL	32	
		TNT6A	41.600	--	1.096	45.613	1.4	0.274	1.41	65'	EL	32	0.513	1.8	65'	EL	6.4	0.80	0.274	1.10	65'	EL	32	
		TNT7A	42.000	--	1.105	46.4	1.4	0.274	1.42	65'	EL	32	0.513	1.74	65'	EL	6.4	0.80	0.274	1.10	65'	EL	32	
		TNT7B	42.000	--	1.15	48.298	1.4	0.274	1.48	65'	EL	32	0.513	1.62	65'	EL	6.4	0.80	0.274	1.15	65'	EL	32	
		TNAGRIT4	43.000	--	1.089	46.815	1.4	0.274	1.4	65'	EL	32	0.513	1.57	65'	EL	6.4	0.80	0.274	1.09	65'	EL	32	
TNAGT5A		45.000	--	1.024	46.084	1.4	0.274	1.32	65'	EL	32	0.513	1.57	65'	EL	6.4	0.80	0.274	1.02	65'	EL	32		
TNAGT5B	45.000	3	1.01	45.431	1.4	0.274	1.3	65'	EL	32	0.513	1.49	65'	EL	6.4	0.80	0.274	1.01	65'	EL	32			

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)

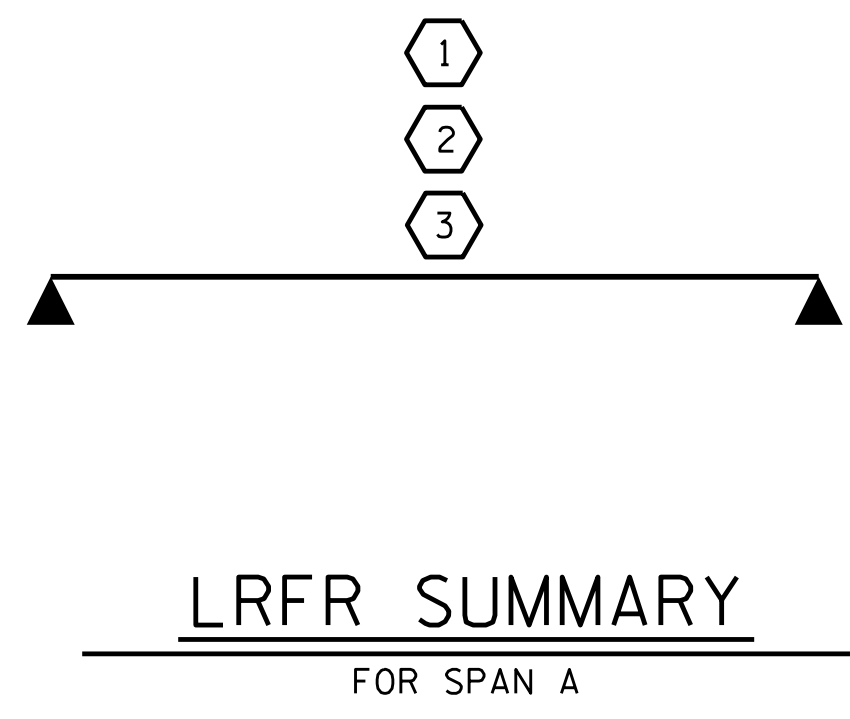
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING ***

*** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



PROJECT NO. BP9.R003
DAVIDSON COUNTY
STATION: 15+52.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**STANDARD
LRF SUMMARY FOR
65' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)**

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Seal of **JAIME E. WHEATLEY**
Professional Engineer
License No. 036787
3/24/2023

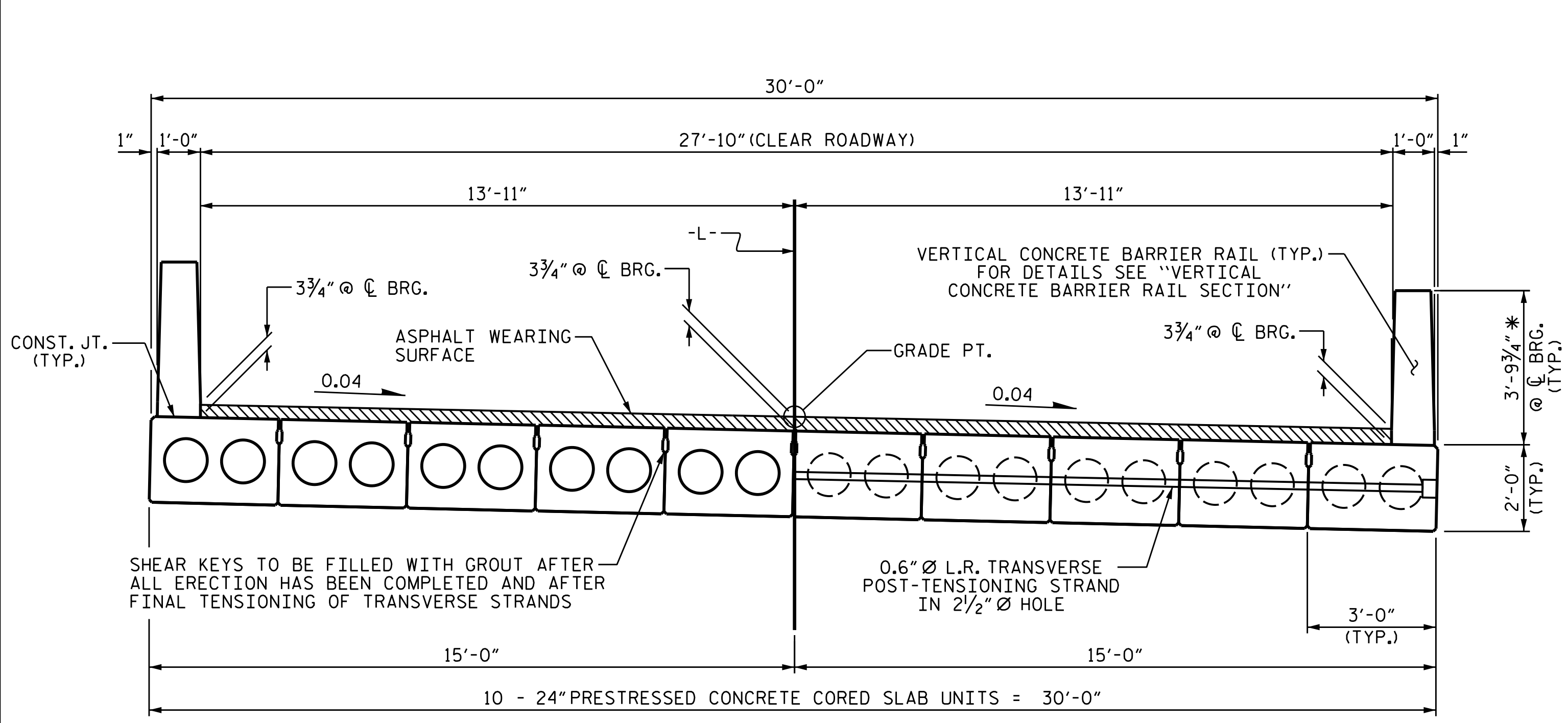
DocuSigned by:
Jaime Wheatley

WSP USA Inc.
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
LICENSE NO. F-0165

ASSEMBLED BY: <u>J. WHEATLEY</u>	DATE: <u>MAR 2023</u>	DRAWN BY: CVC 6/10 CHECKED BY: DNS 6/10
CHECKED BY: <u>T. KIRSCHBAUM</u>	DATE: <u>MAR 2023</u>	
DESIGN ENGINEER		
OF RECORD: <u>J. WHEATLEY</u>	DATE: <u>MAR 2023</u>	

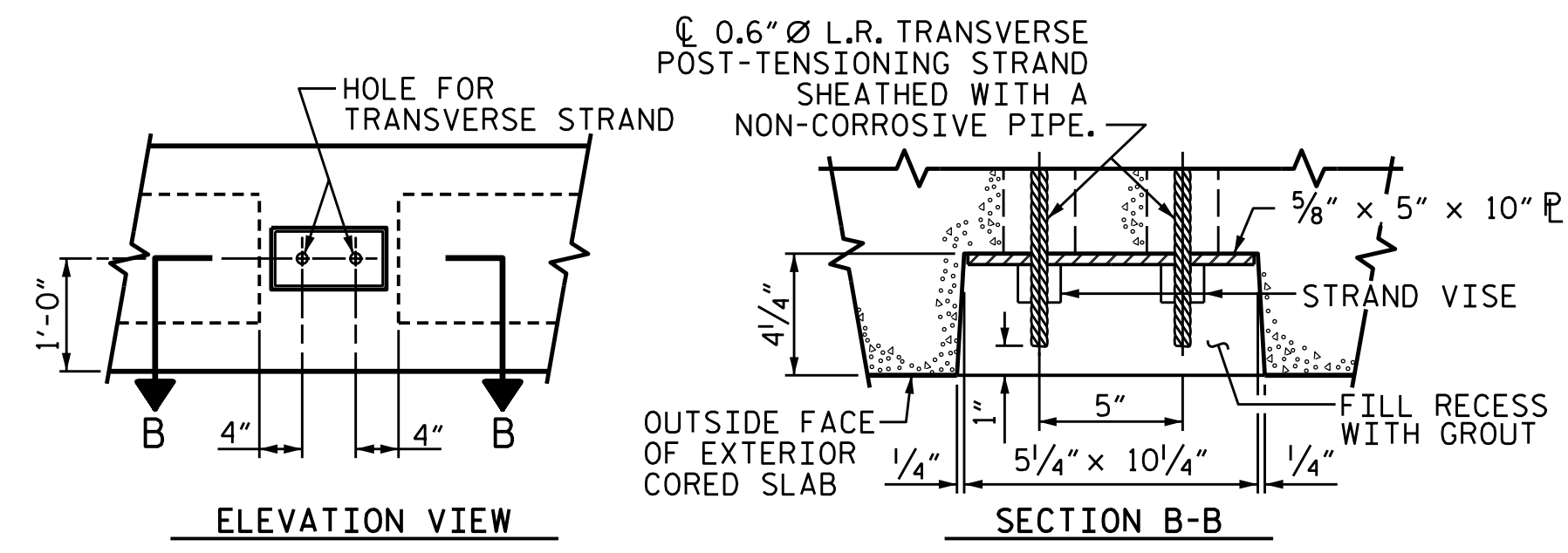
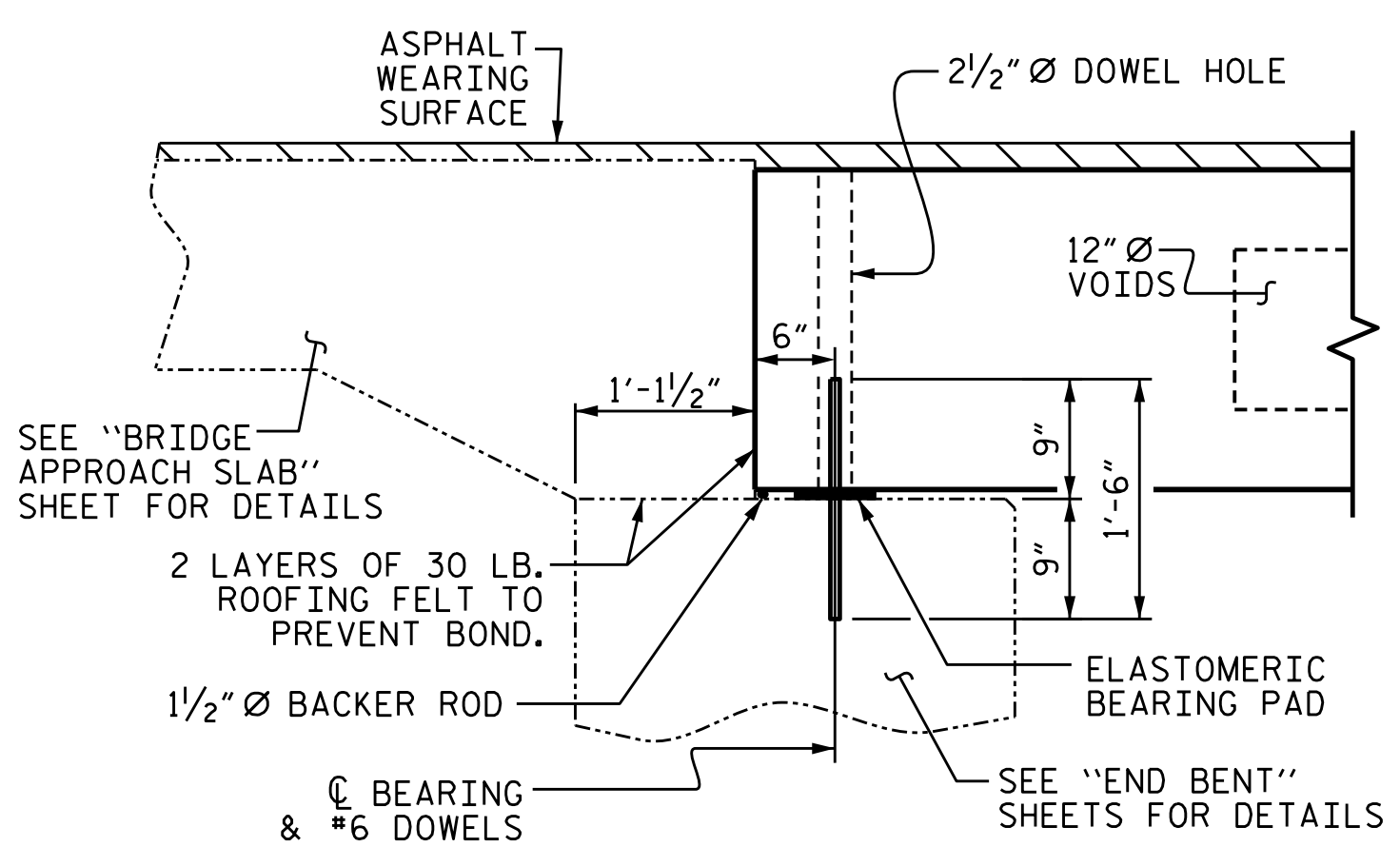
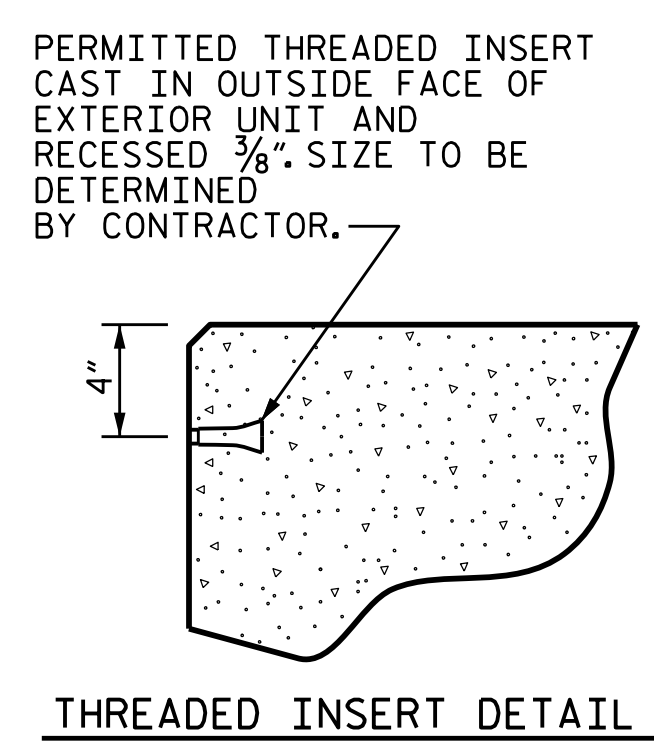
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			15

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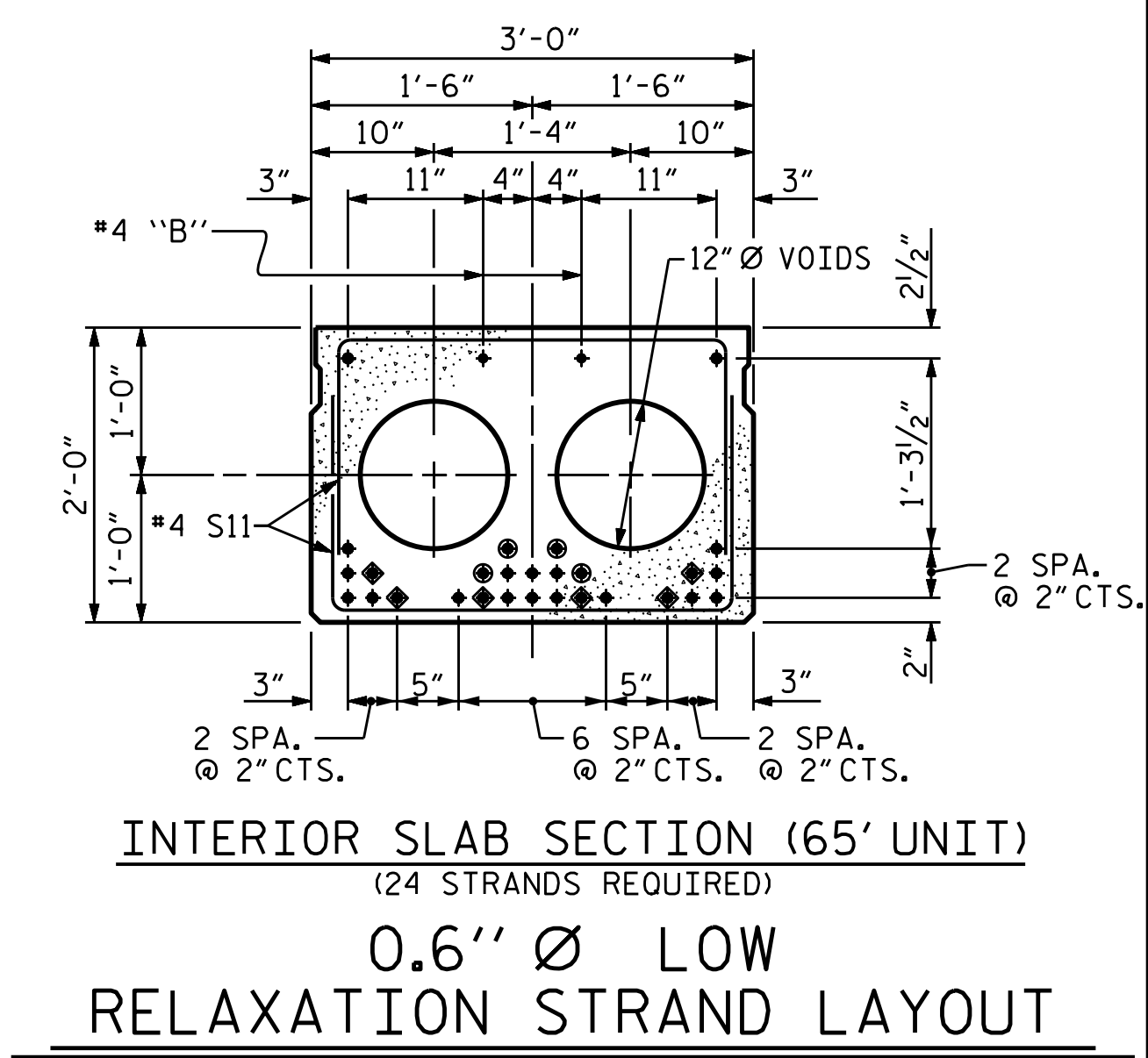
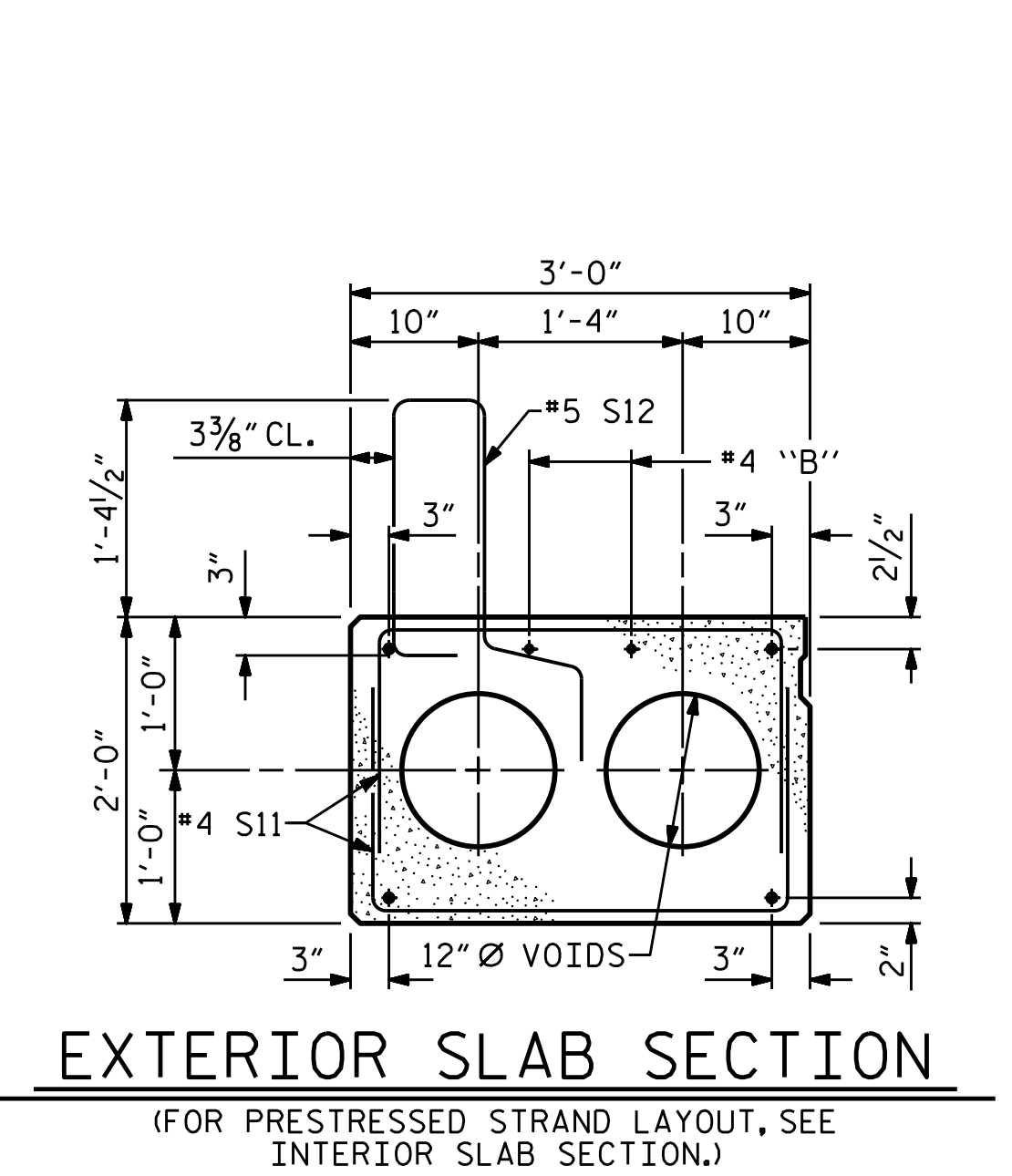


HALF SECTION THROUGH VOIDS **HALF SECTION AT INTERMEDIATE DIAPHRAGMS**
TYPICAL SECTION

* - 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.

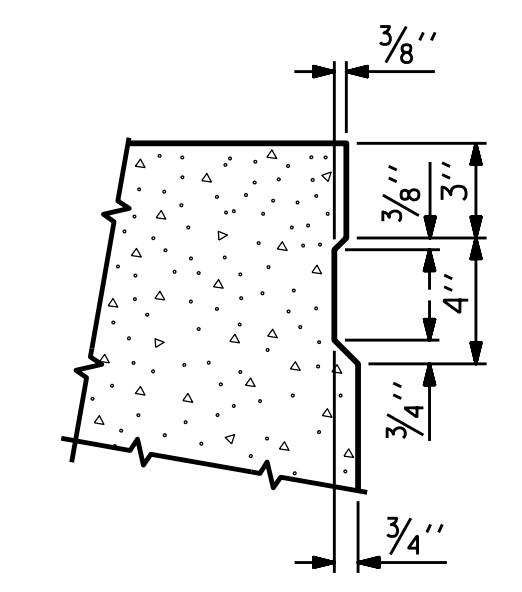


GRAUDED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS

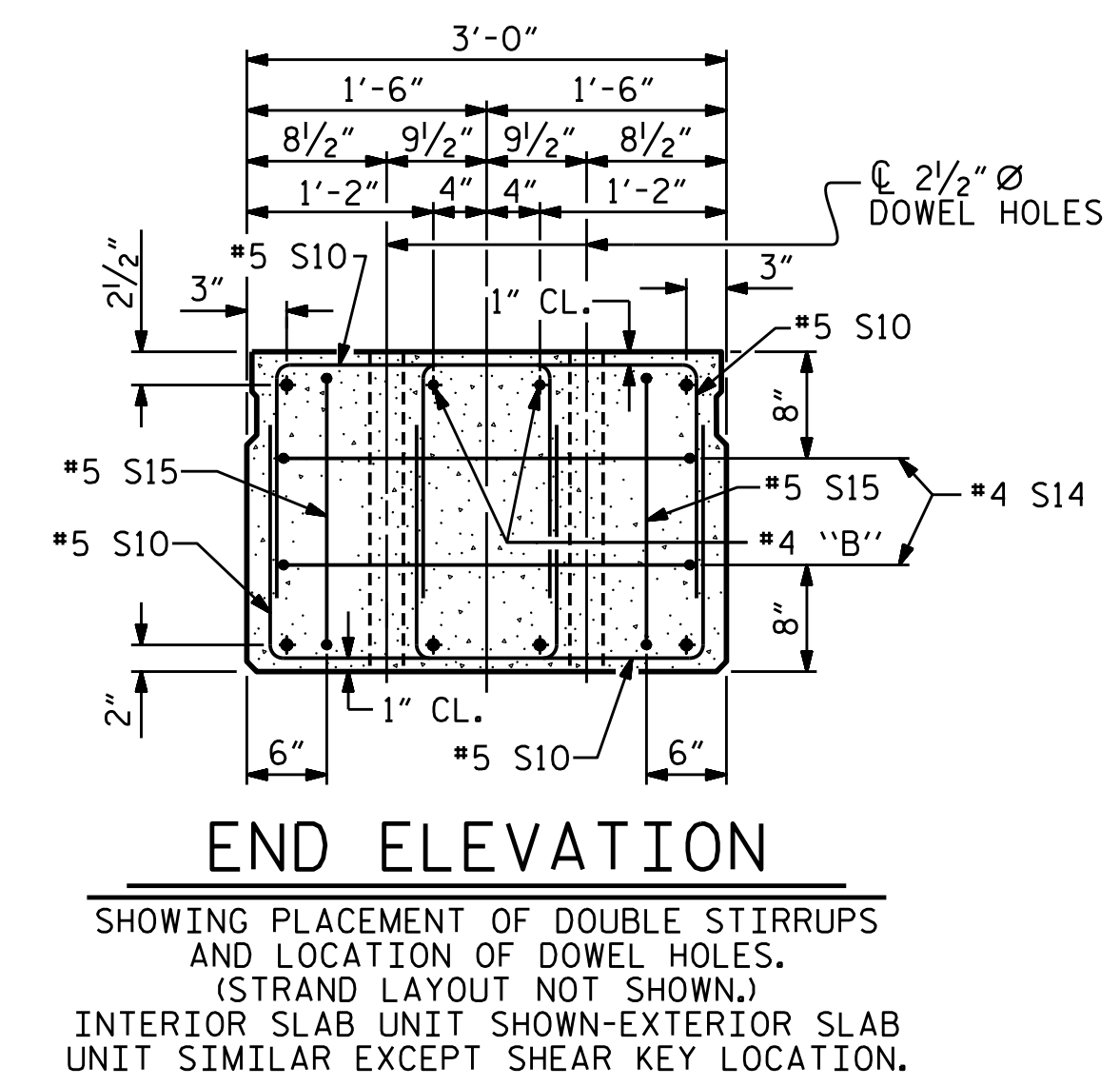


- ◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- OPTIONAL FULL LENGTH DEBONDED STRANDS. THESE STRANDS ARE NOT REQUIRED. IF THE FABRICATOR CHOOSES TO INCLUDE THESE STRANDS IN THE CORED SLAB UNIT, THE STRANDS SHALL BE DEBONDED FOR THE FULL LENGTH OF THE UNIT AT NO ADDITIONAL COST. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND



NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



PROJECT NO. BP9.R003
DAVIDSON COUNTY
 STATION: 15+52.00 -L-
 SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 3'-0" X 2'-0"
 PRESTRESSED CONCRETE
 CORED SLAB UNIT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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 J. WHEATLEY
 ENGINEER
 3/24/2023

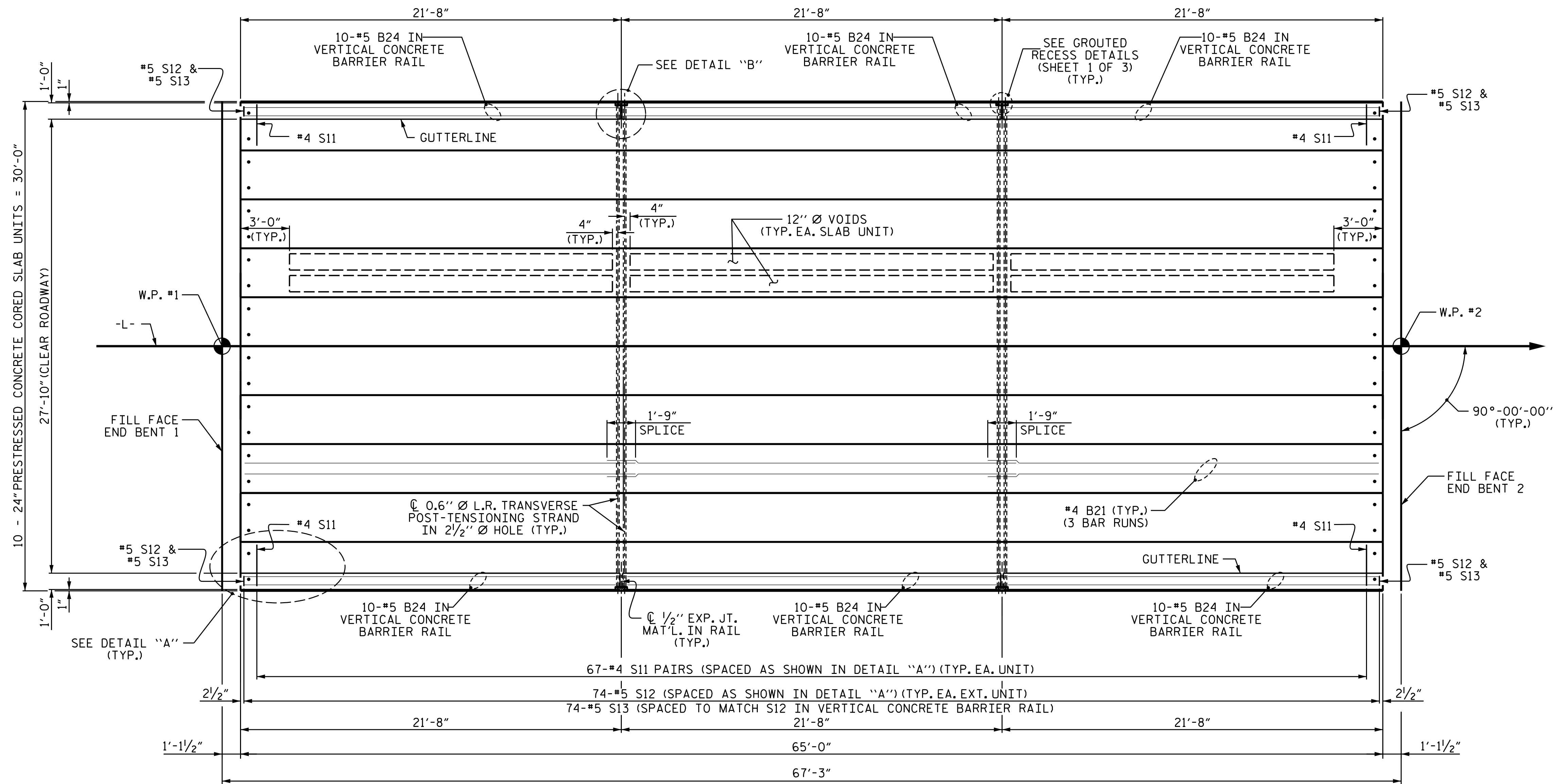
wsp
 WSP USA Inc.
 434 FAYETTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
 TEL: 1.919.836.4040
 LICENSE NO. F-0165

ASSEMBLED BY: J. WHEATLEY	DATE: MAR 2023	DRAWN BY: MAA	6/10	REV. 8/14	MAA/TMG
CHECKED BY: T. KIRSCHBAUM	DATE: MAR 2023	CHECKED BY: MKT	7/10		
DESIGN ENGINEER OF RECORD: J. WHEATLEY	DATE: MAR 2023				

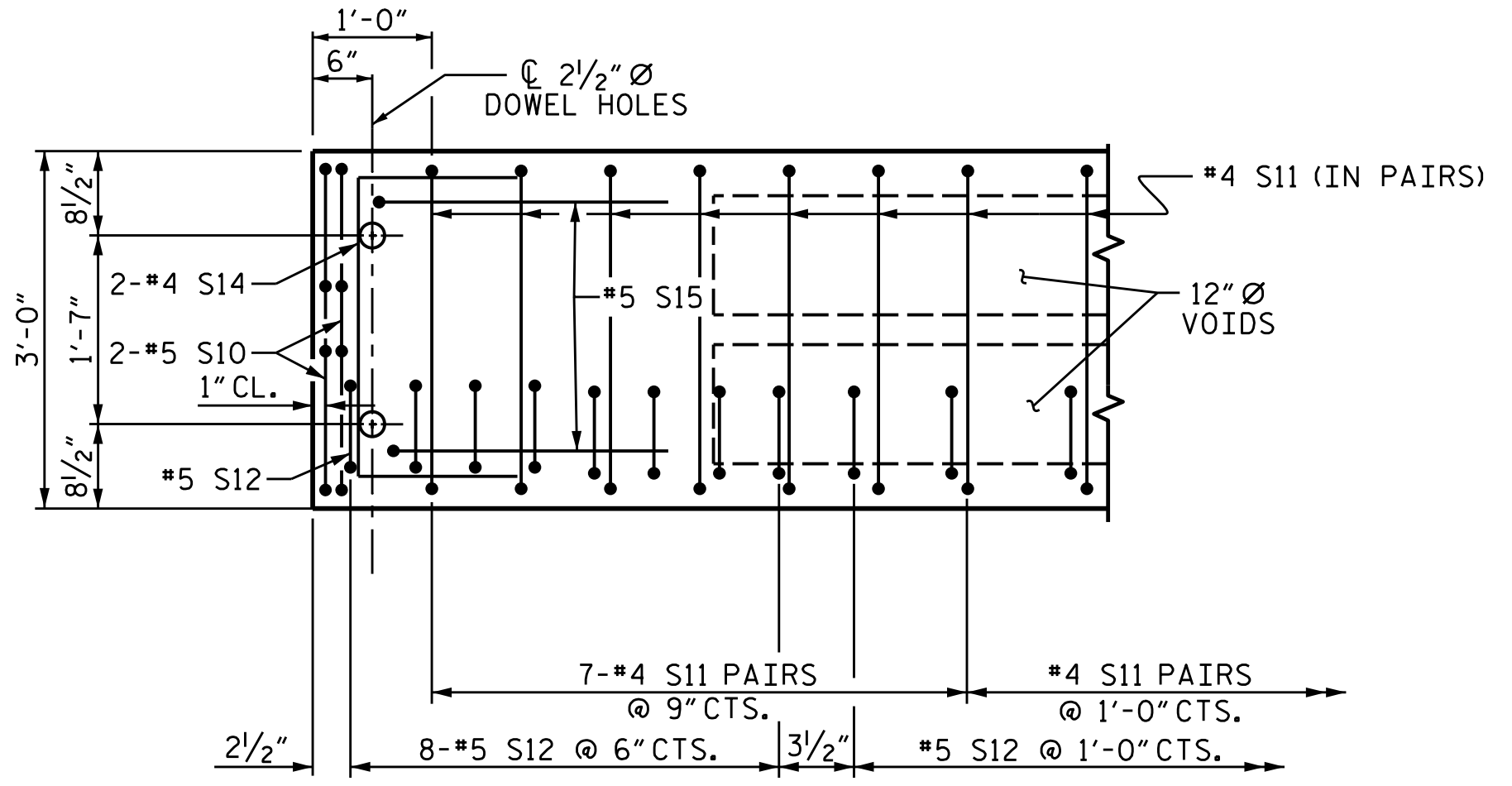
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
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2			4			15

STD. NO. 24PCS4_30_90S

3/24/2023 4:19:36:17 NCDOT Division 9 LSA\NCDOT Division 9 LTPB Group 6\BP9.R003 State Mine Road 286 17BP.9.R.74.193617-02\Structures\2.0 Drafting\Drawings\401.013_BP9.R003_SMU_CS2.dgn

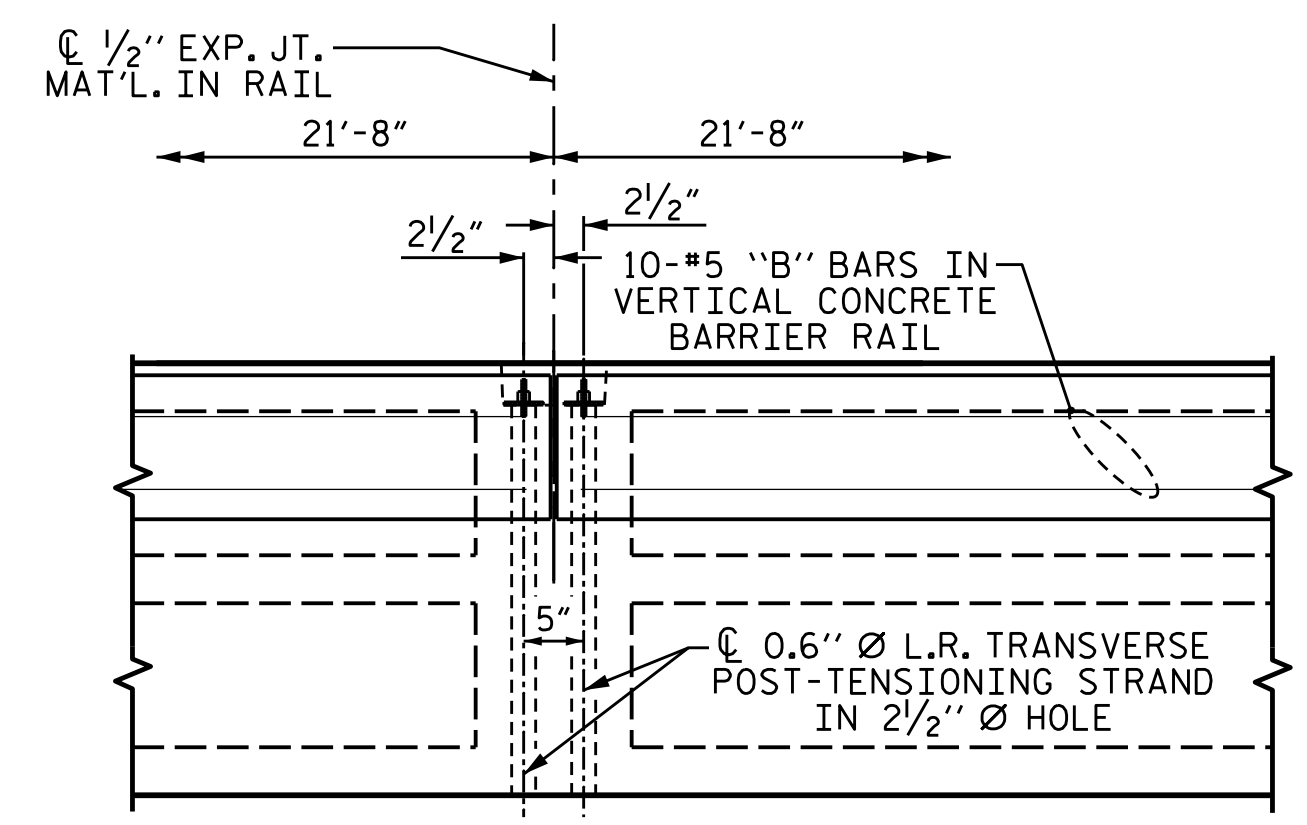


PLAN OF UNIT



DETAIL "A"

(TYPICAL EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S12 BARS.



DETAIL "B"

#4 S11 BARS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO GROUTED RECESS AND 2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES

PROJECT NO. BP9.R003
DAVIDSON COUNTY
STATION: 15+52.00 -L-
SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
PLAN OF 65' UNIT
27'-10" CLEAR ROADWAY
90° SKEW

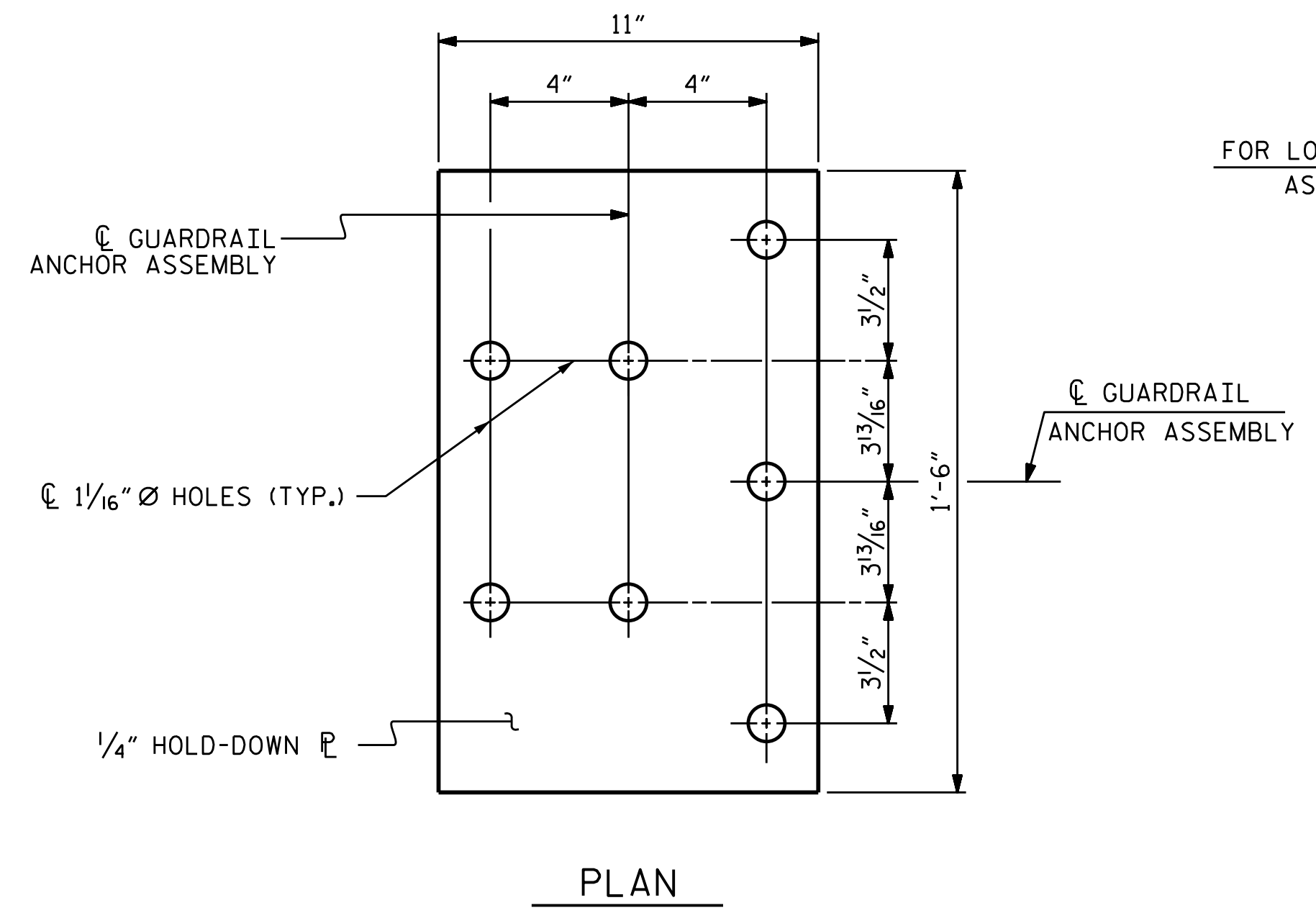
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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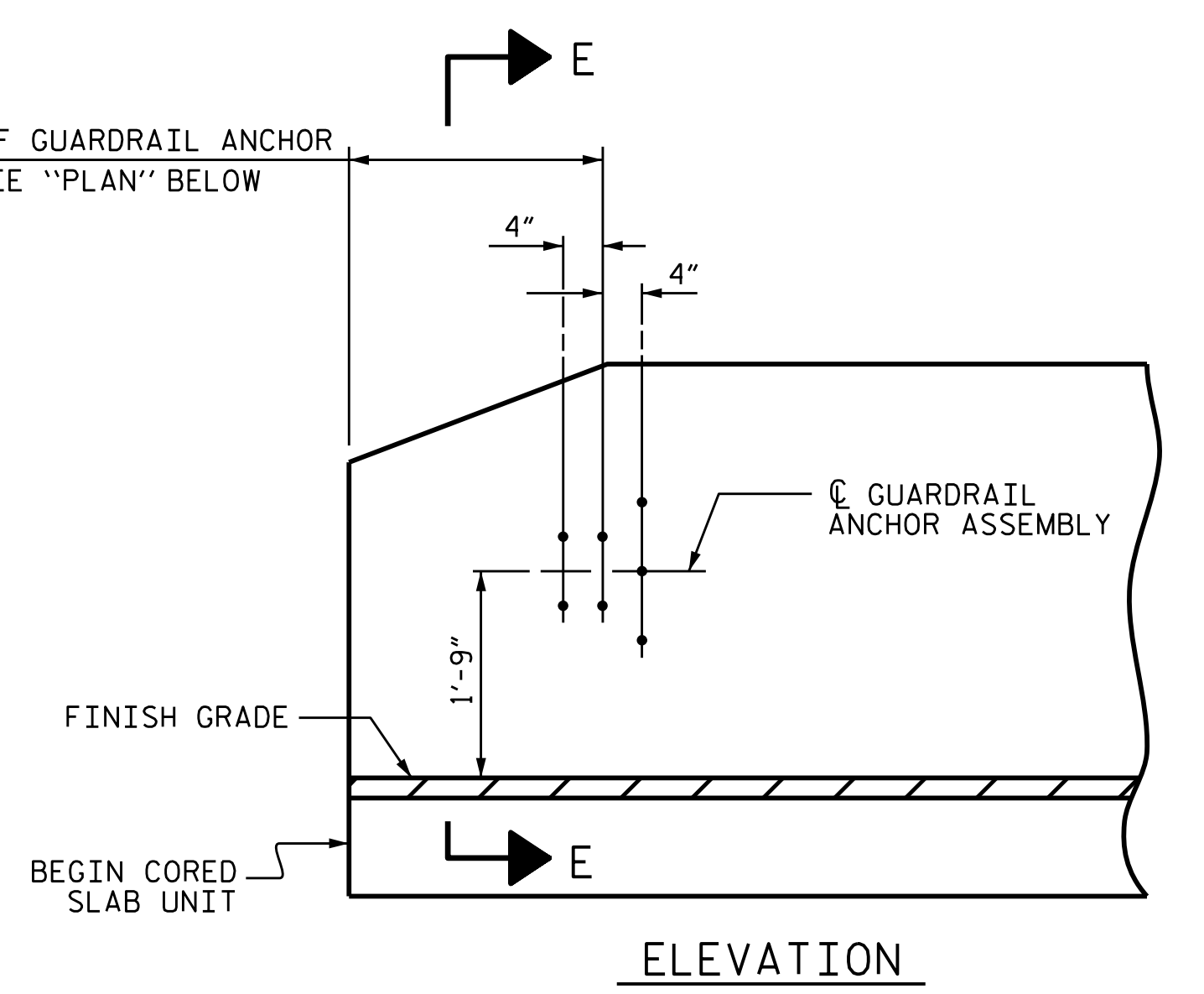
ASSEMBLED BY: J. WHEATLEY	DATE: MAR 2023	DRAWN BY: MAA	6/10	REV. 12/5/11	MAA/AAC
CHECKED BY: T. KIRSCHBAUM	DATE: MAR 2023	CHECKED BY: MKT	7/10	REV. 8/14	MAA/TMG
DESIGN ENGINEER OF RECORD: J. WHEATLEY	DATE: MAR 2023				

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434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
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LICENSE NO. F-0165

3/24/2023 4:19:36 PM Division 9 LSA\NCDOT Division 9 LIBP Group 6\BP9.R003 Slate Mine Road 286 17BP.9.R.74.193617-02\Structures\20 Drafting\DGNS\401_017_BP9.R003_SMU_GR.dgn



FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW



NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 1/8" 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 1/8" 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.)

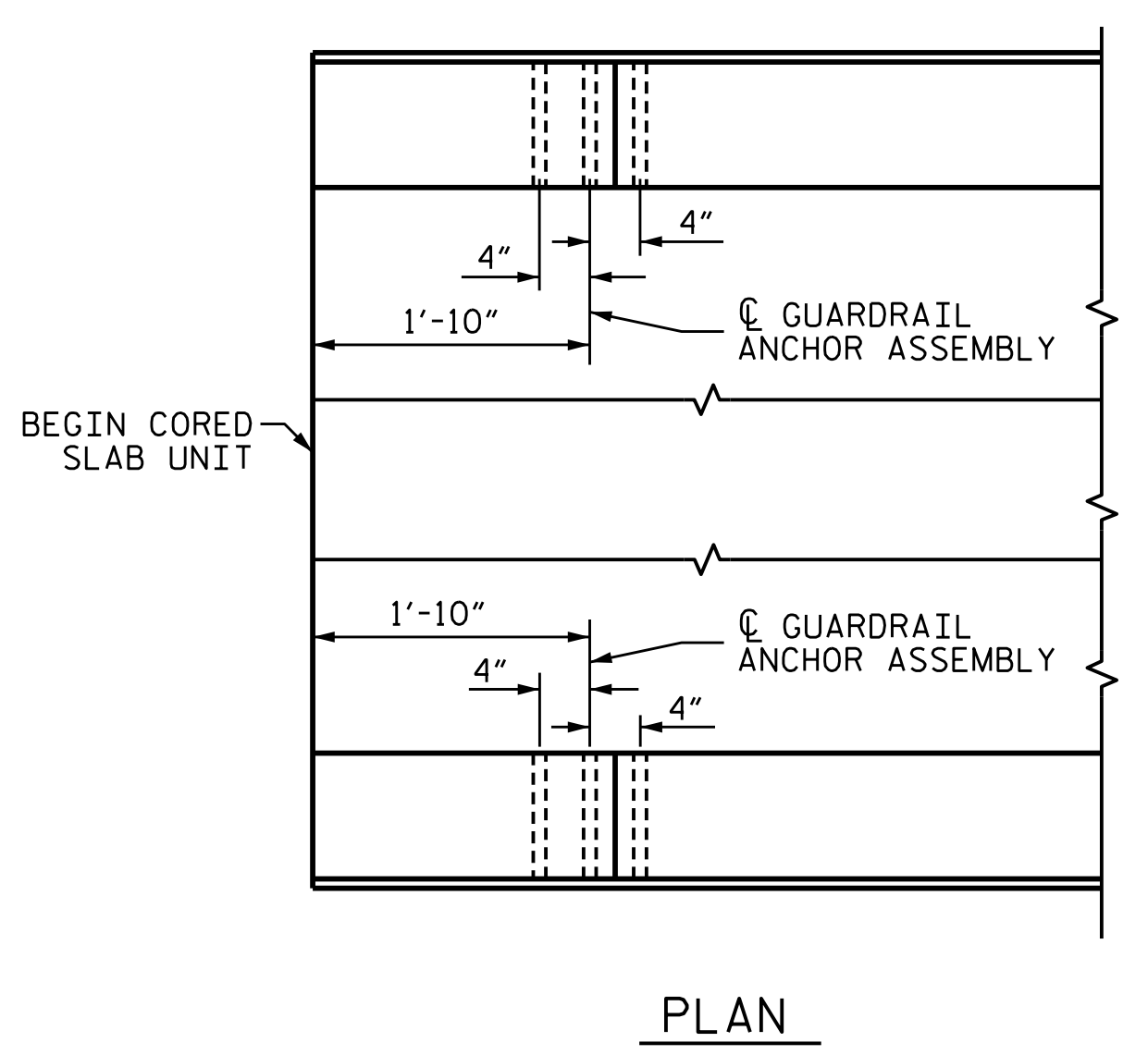
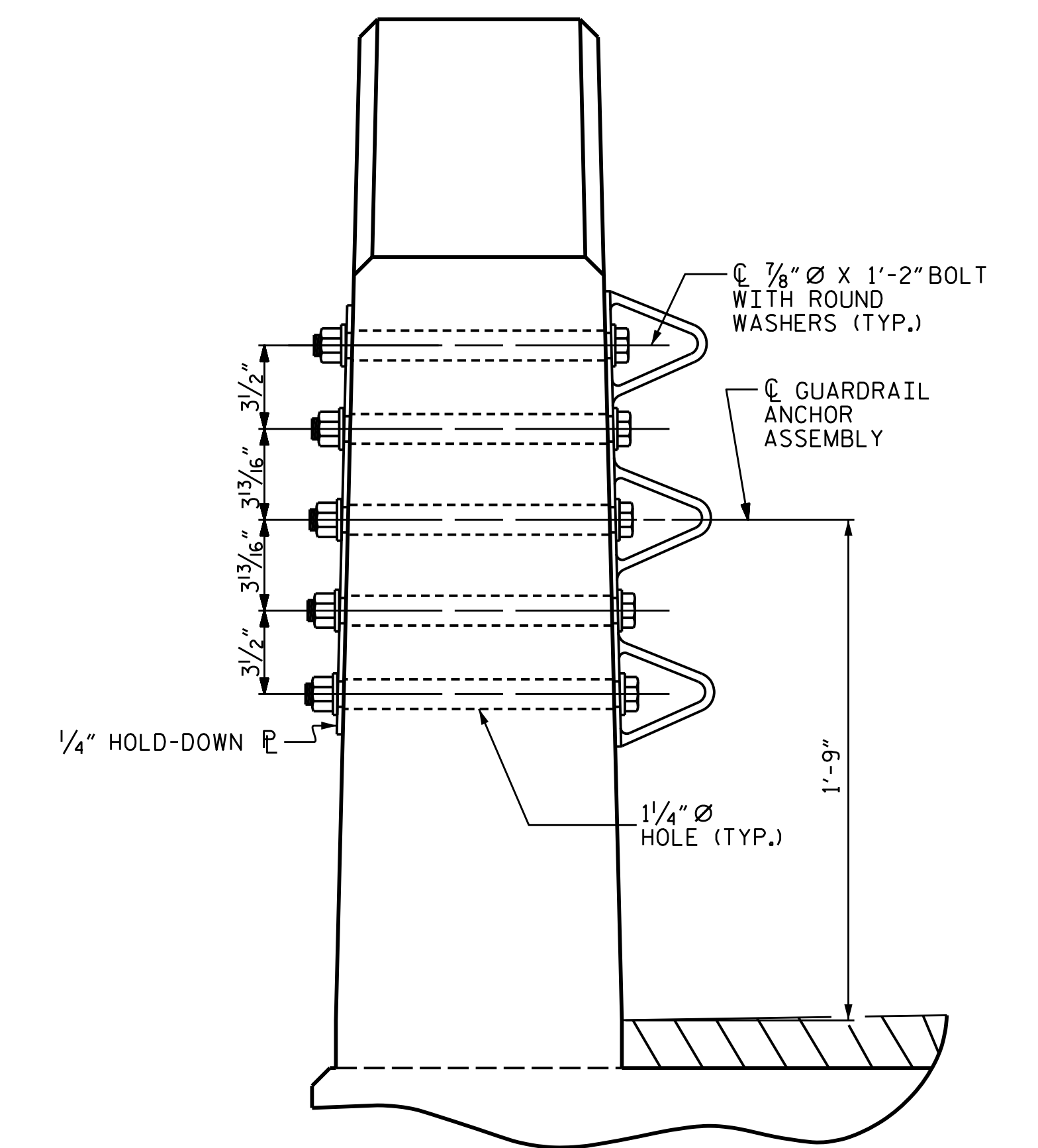
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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 1 1/4" 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.



LOCATION OF ANCHORS FOR GUARDRAIL
END BENT #1 SHOWN, END BENT #2 SIMILAR.



* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. BP9.R003
DAVIDSON COUNTY
 STATION: 15+52.00 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 GUARDRAIL ANCHORAGE
 DETAILS
 FOR VERTICAL CONCRETE
 BARRIER RAIL

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 J. WHEATLEY
 ENGINEER
 3/24/2023

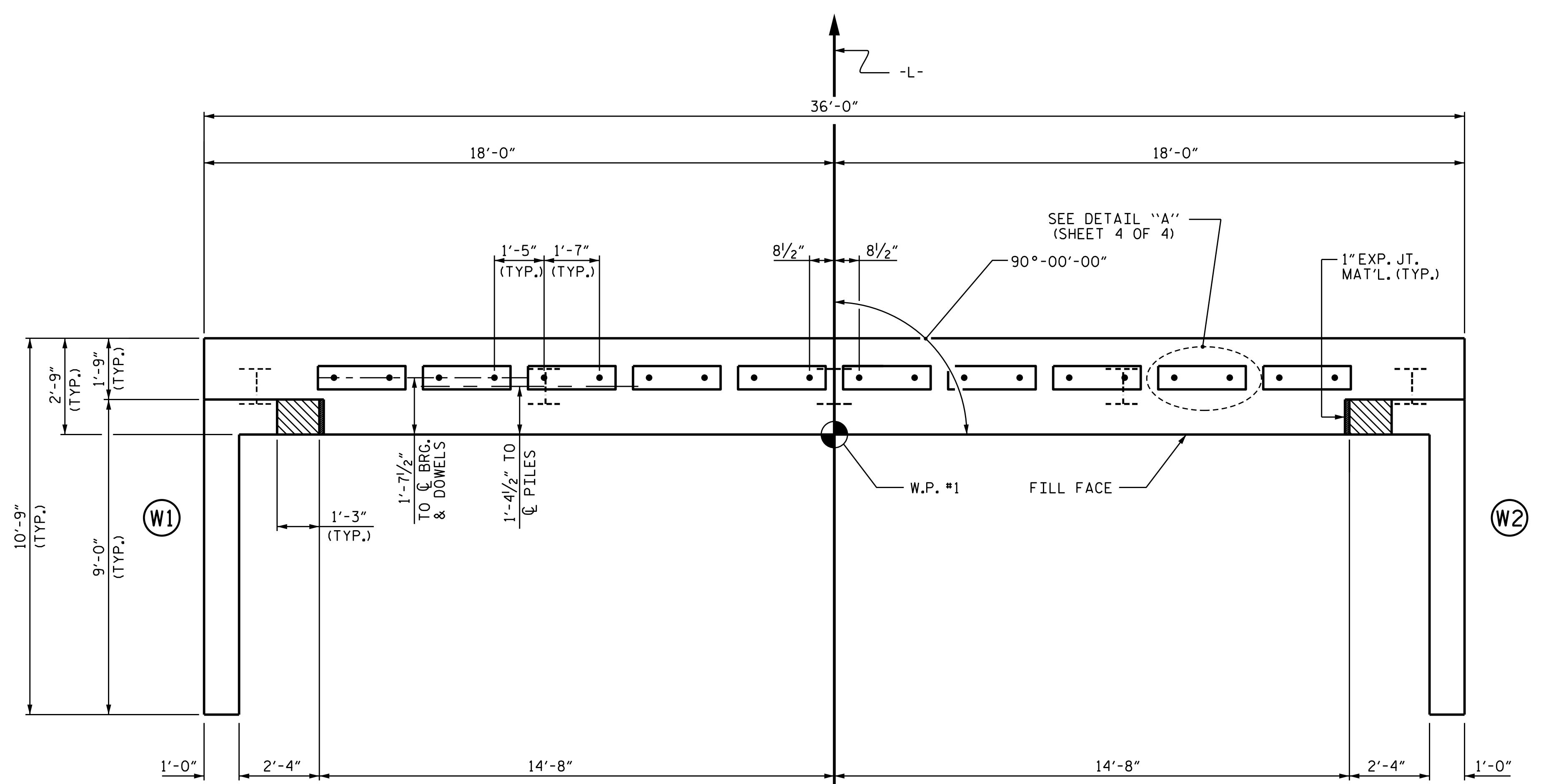
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 WSP USA Inc.
 434 FAYETTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
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ASSEMBLED BY: J. WHEATLEY	DATE: MAR 2023	DRAWN BY: MAA	5/10	REV. 1/15	MAA/TMG
CHECKED BY: T. KIRSCHBAUM	DATE: MAR 2023	CHECKED BY: GM	5/10	REV. 12/17	MAA/THC
DESIGN ENGINEER OF RECORD: J. WHEATLEY	DATE: MAR 2023			REV. 5/18	MAA/THC

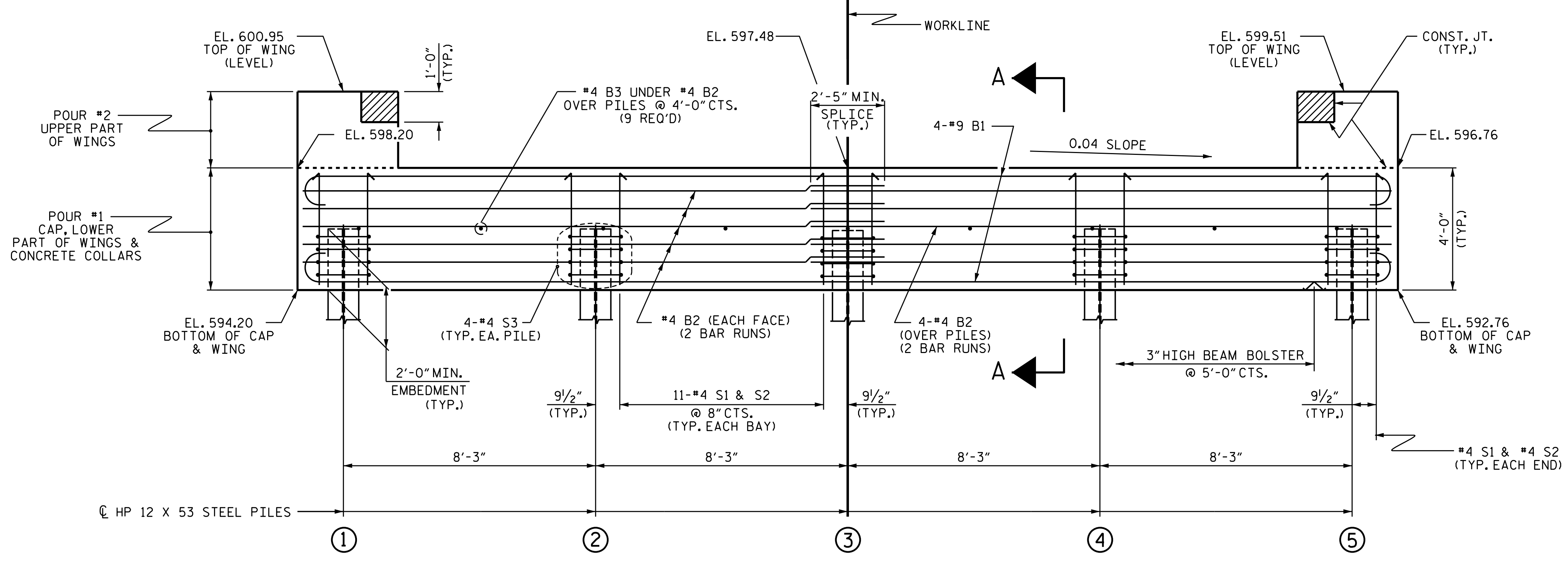
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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STD. NO. GRA3

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PLAN



ELEVATION

WINGS NOT SHOWN FOR CLARITY.
 FOR SECTION A-A, SEE SHEET 4 OF 4.
 CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
 SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

NOTES

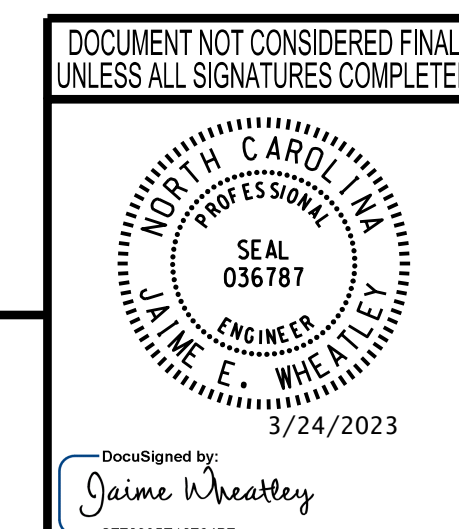
- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
- THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.
- FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.
- FOR WING DETAILS, SEE SHEET 3 OF 4.

TOP OF PILE ELEVATIONS	
①	596.16
②	595.83
③	595.50
④	595.17
⑤	594.84

PROJECT NO. BP9.R003
DAVIDSON COUNTY
 STATION: 15+52.00 -L-
 SHEET 1 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT No. 1



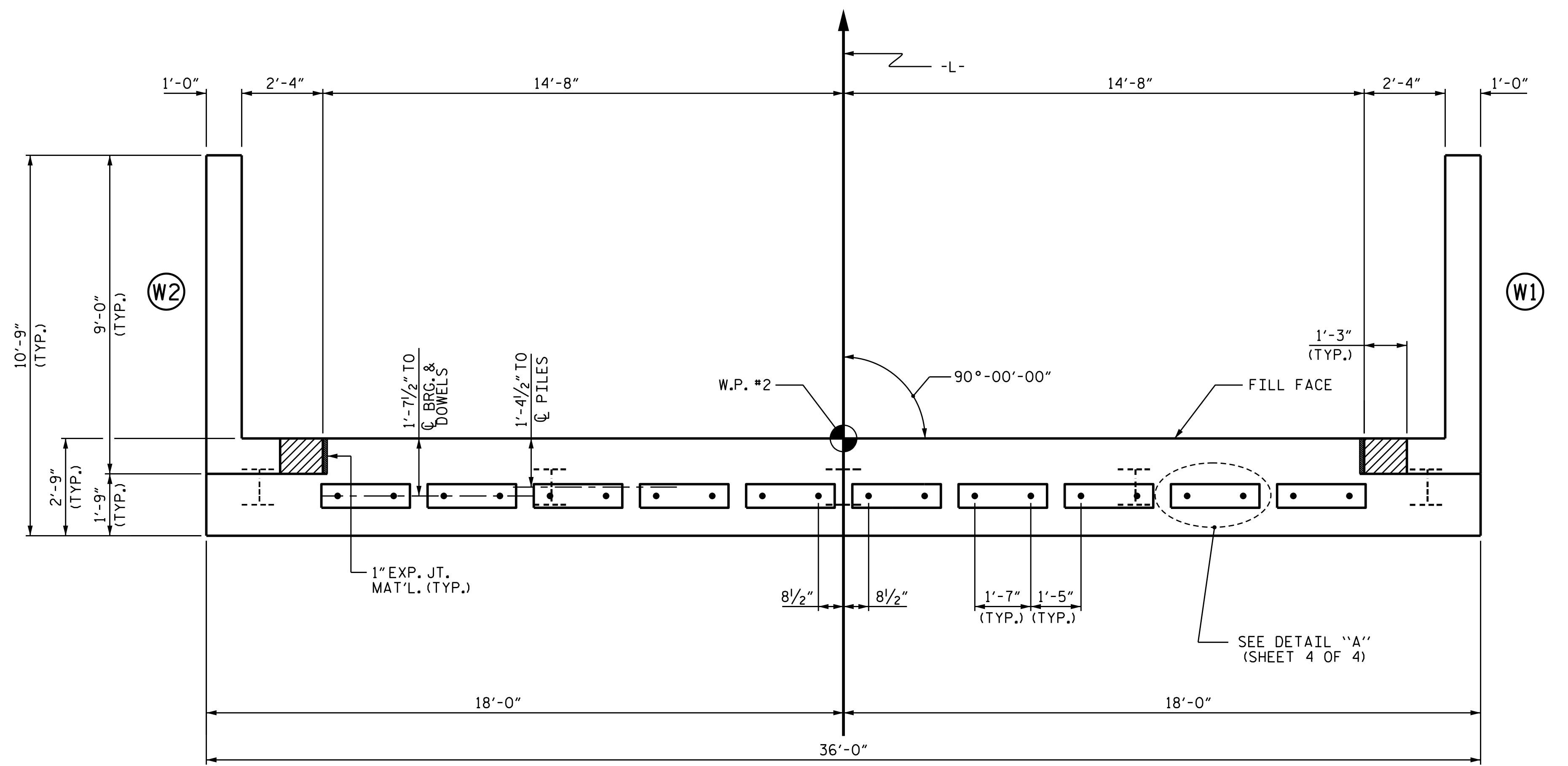
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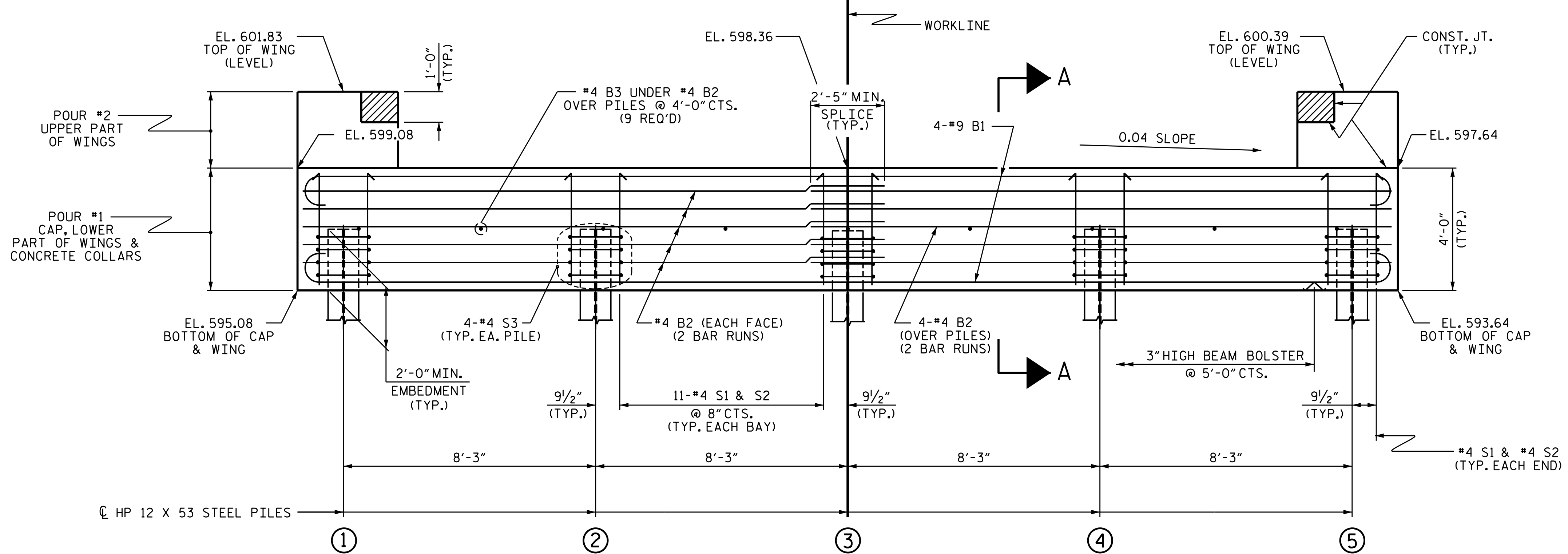
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			15

NOTES

FOR NOTES, SEE SHEET 1 OF 4.



PLAN



ELEVATION

WINGS NOT SHOWN FOR CLARITY.
 FOR SECTION A-A, SEE SHEET 4 OF 4.
 CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
 SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

TOP OF PILE ELEVATIONS	
①	597.04
②	596.71
③	596.38
④	596.05
⑤	595.72

PROJECT NO. BP9.R003
DAVIDSON COUNTY
 STATION: 15+52.00 -L-
 SHEET 2 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT No. 2

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 J. WHEATLEY
 ENGINEER
 3/24/2023

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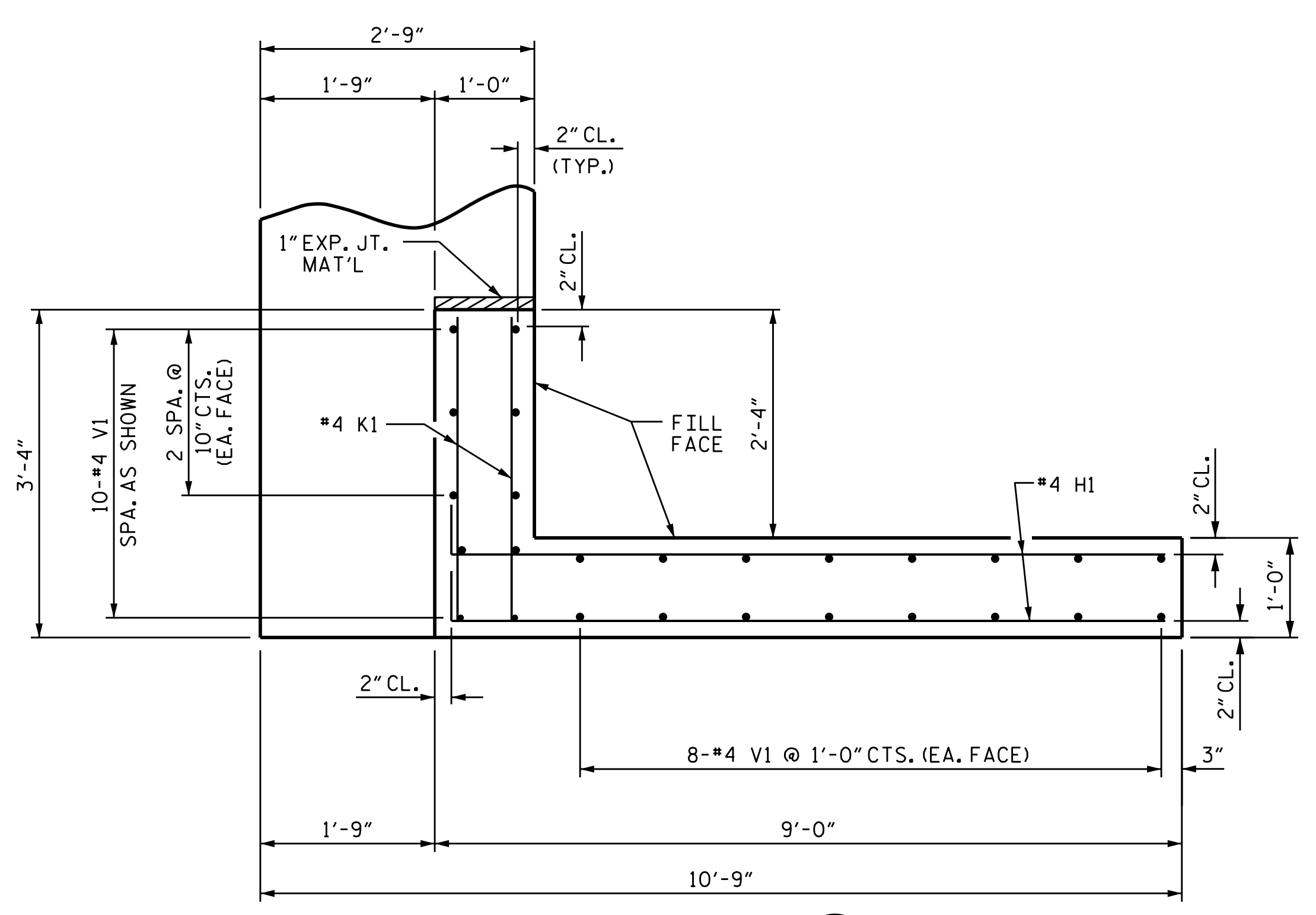
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 SUITE 1500
 RALEIGH, NC 27601
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
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2			4			15

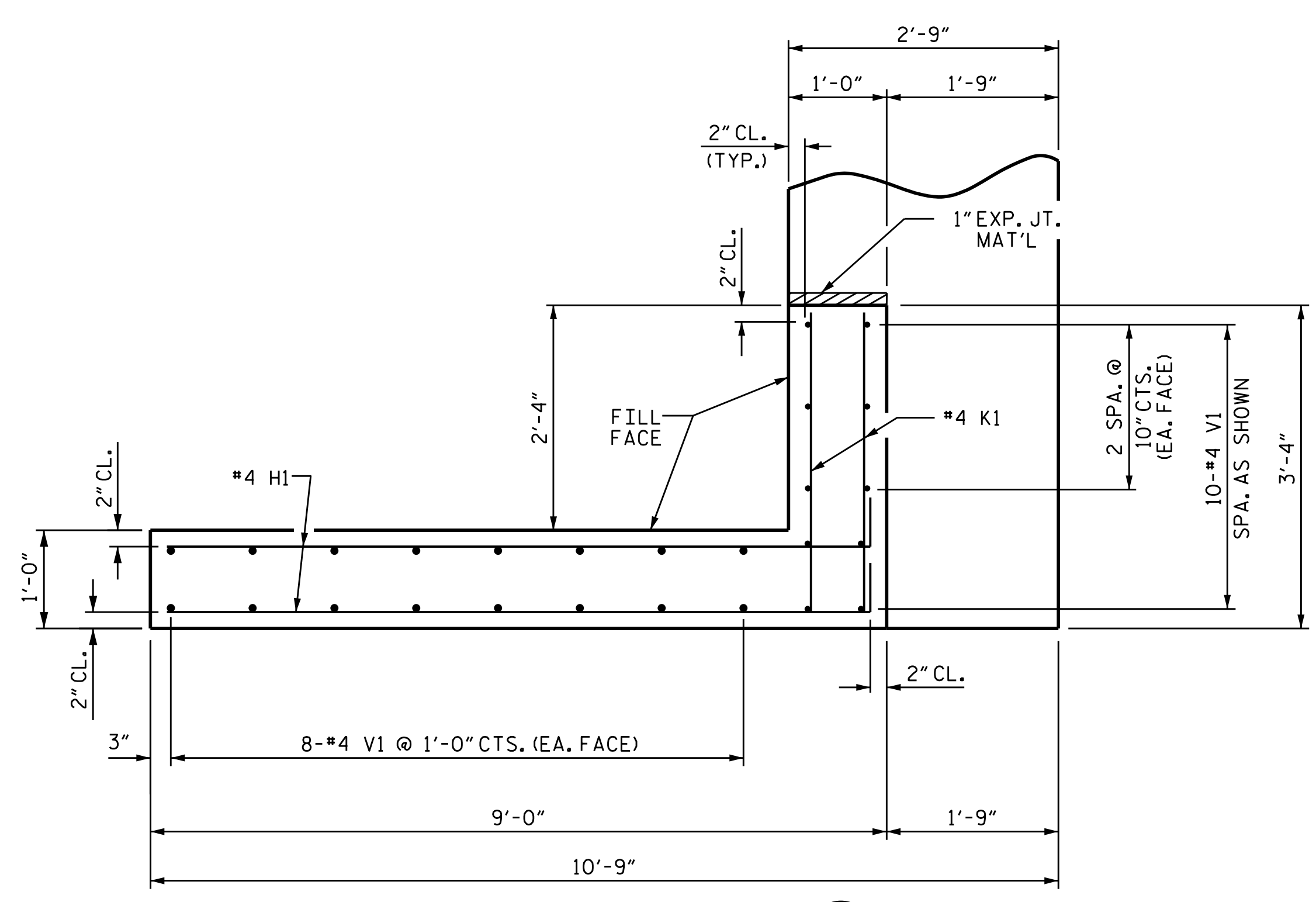
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ASSEMBLED BY: J. WHEATLEY	DATE: MAR 2023	DRAWN BY: WJH	12/11	REV. 4/15	MAA/TMG
CHECKED BY: T. KIRSCHBAUM	DATE: MAR 2023	CHECKED BY: AAC	12/11		
DESIGN ENGINEER OF RECORD: J. WHEATLEY	DATE: MAR 2023				

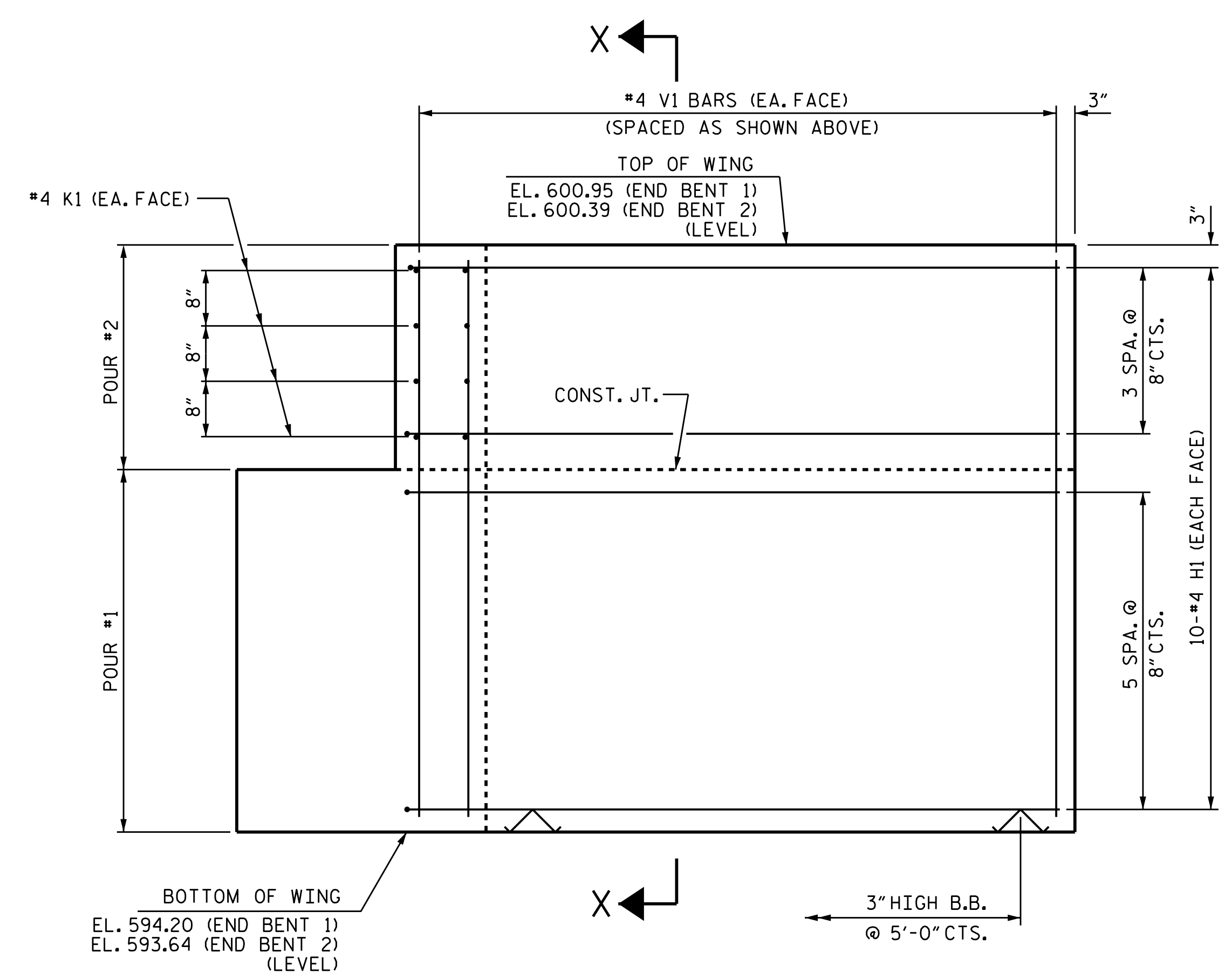
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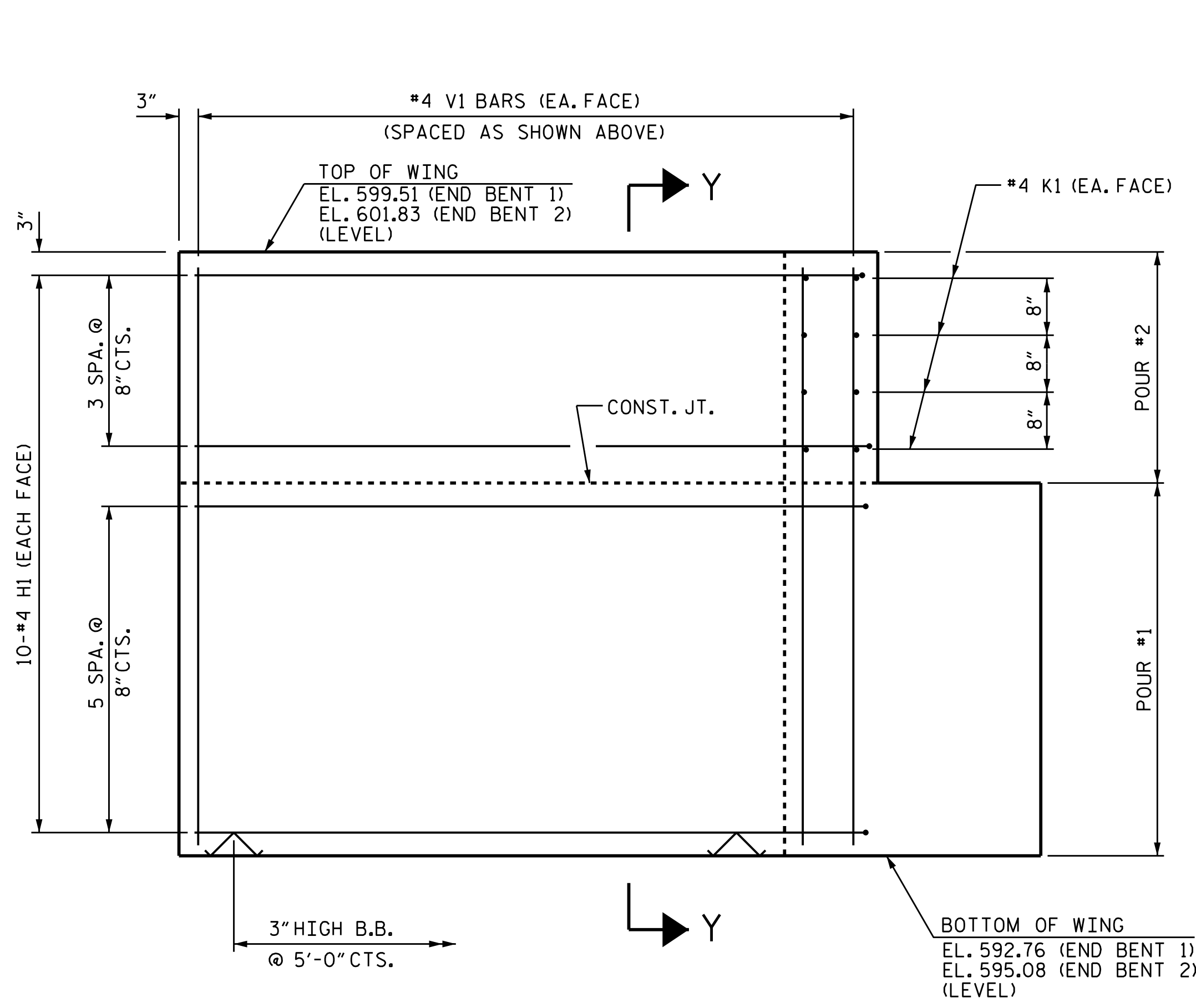
PLAN OF WING (W1)



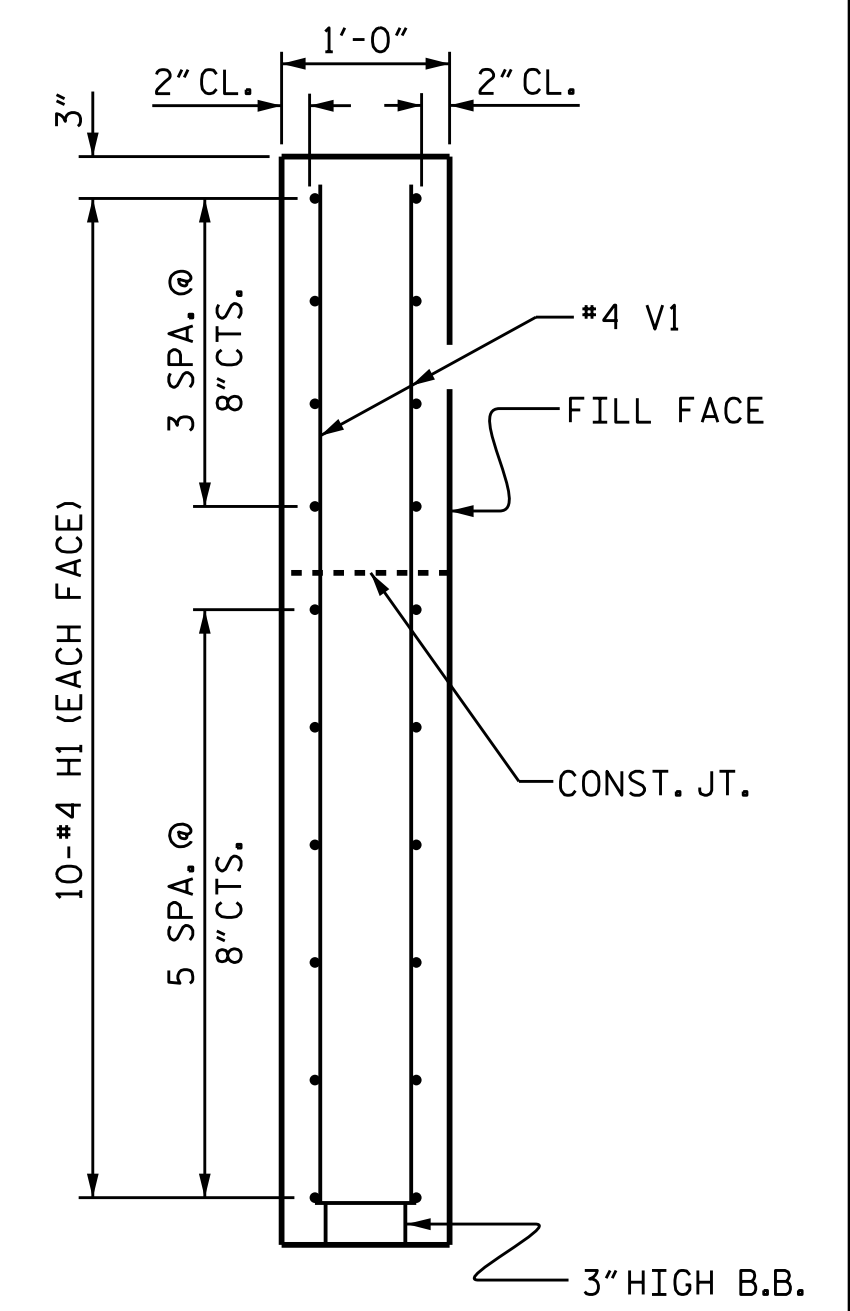
PLAN OF WING (W2)



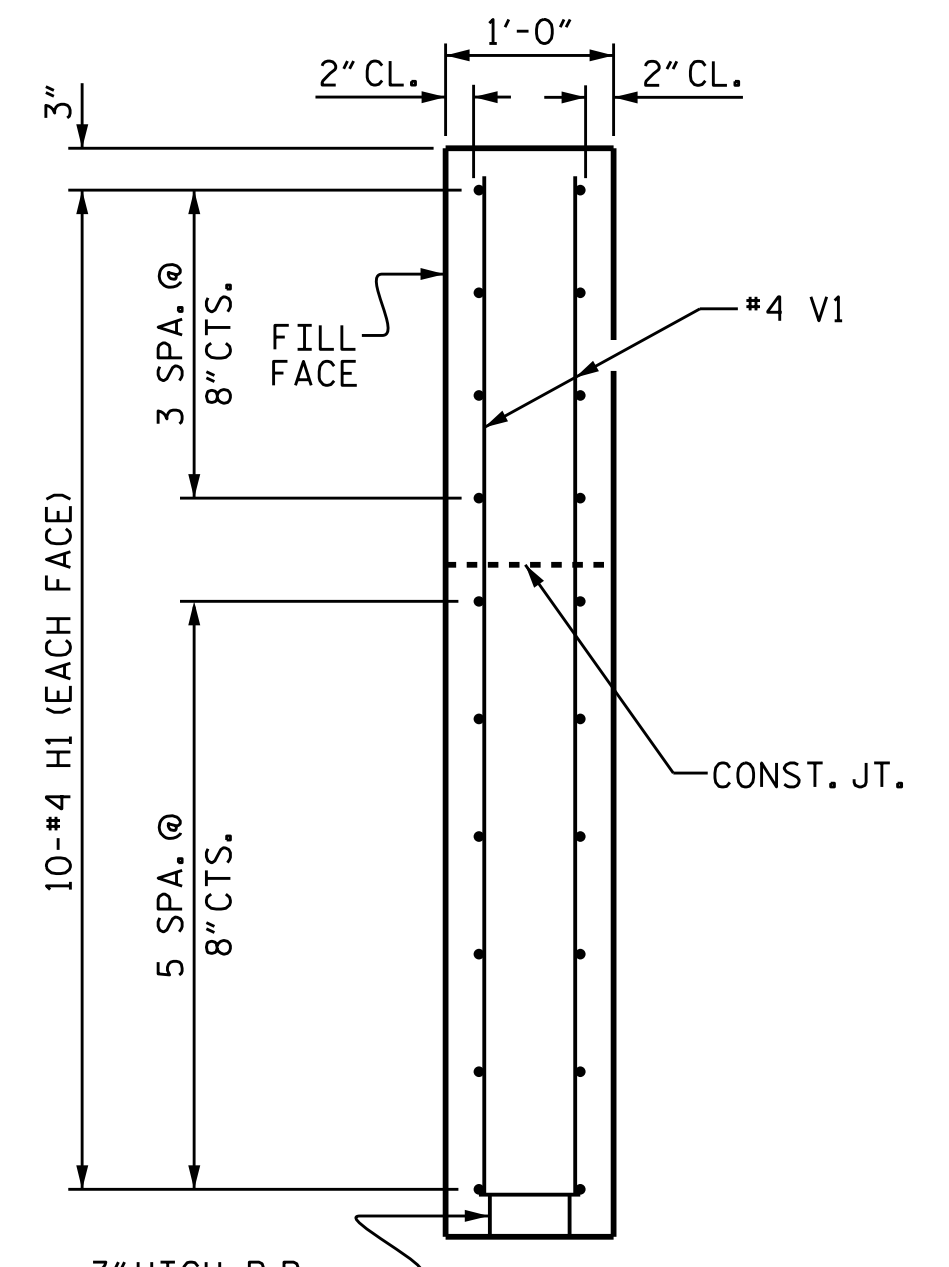
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION X-X



SECTION Y-Y

PROJECT NO. BP9.R003
DAVIDSON COUNTY
 STATION: 15+52.00 -L-
 SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT
 WING DETAILS

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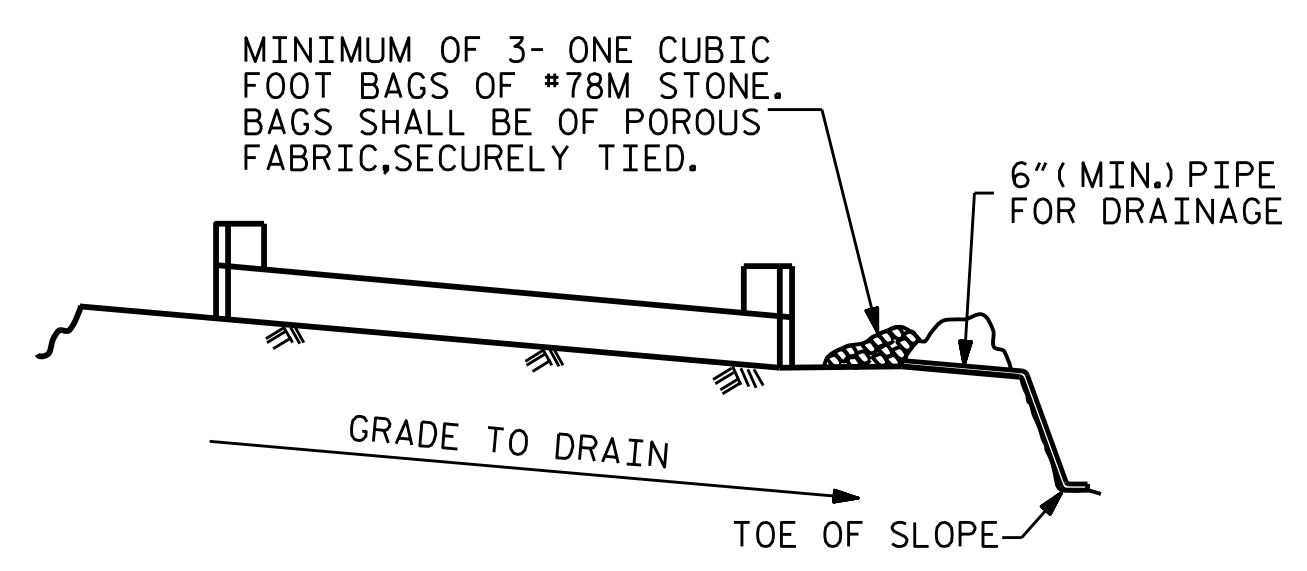
J. WHEATLEY
 ENGINEER
 3/24/2023

wsp

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 434 FAYETTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
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ASSEMBLED BY: J. WHEATLEY	DATE: MAR 2023	DRAWN BY: WJH	12/11	REV. 4/15	MAA/TMG
CHECKED BY: T. KIRSCHBAUM	DATE: MAR 2023	CHECKED BY: AAC	12/11		
DESIGN ENGINEER OF RECORD: J. WHEATLEY	DATE: MAR 2023				

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
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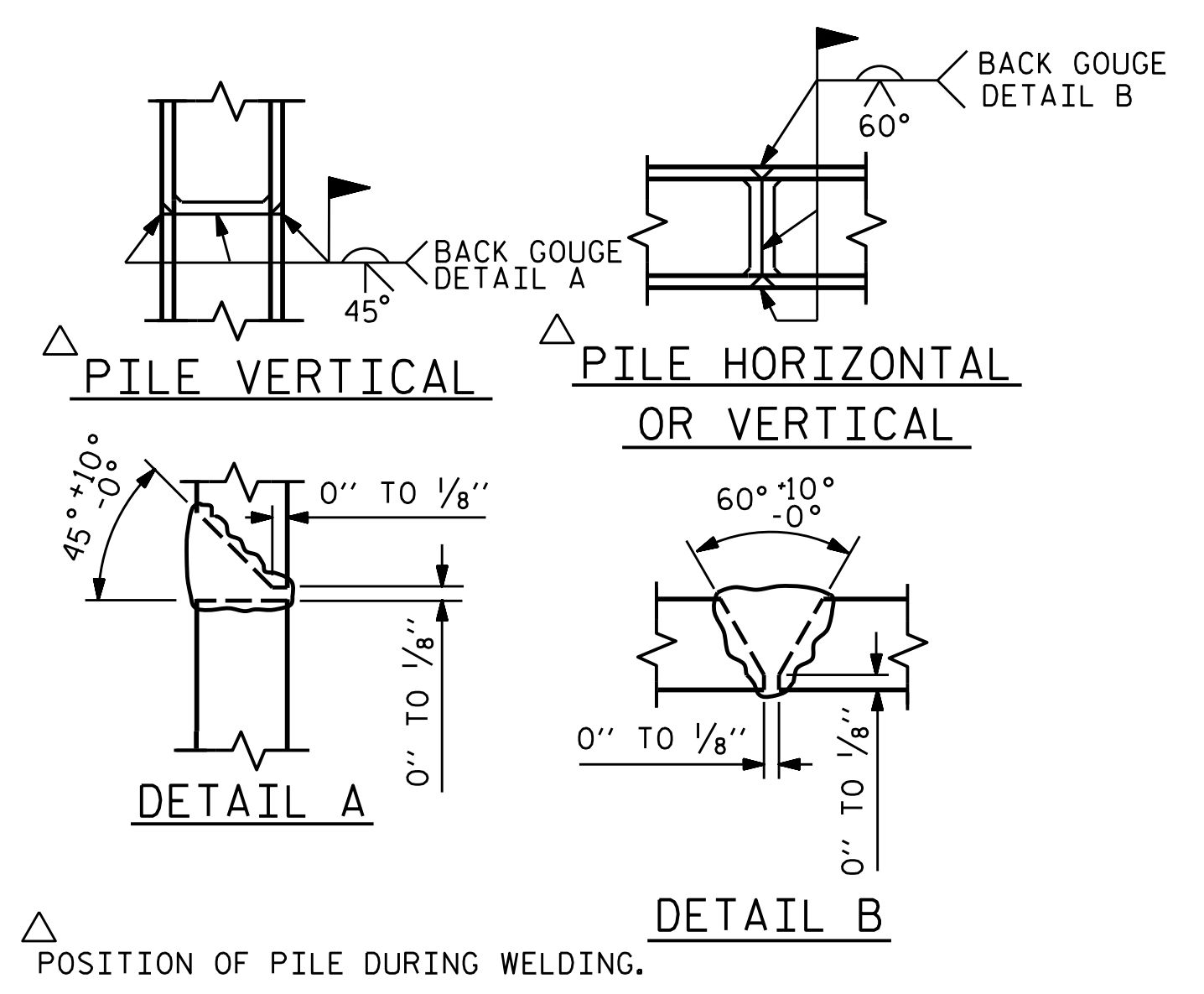


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

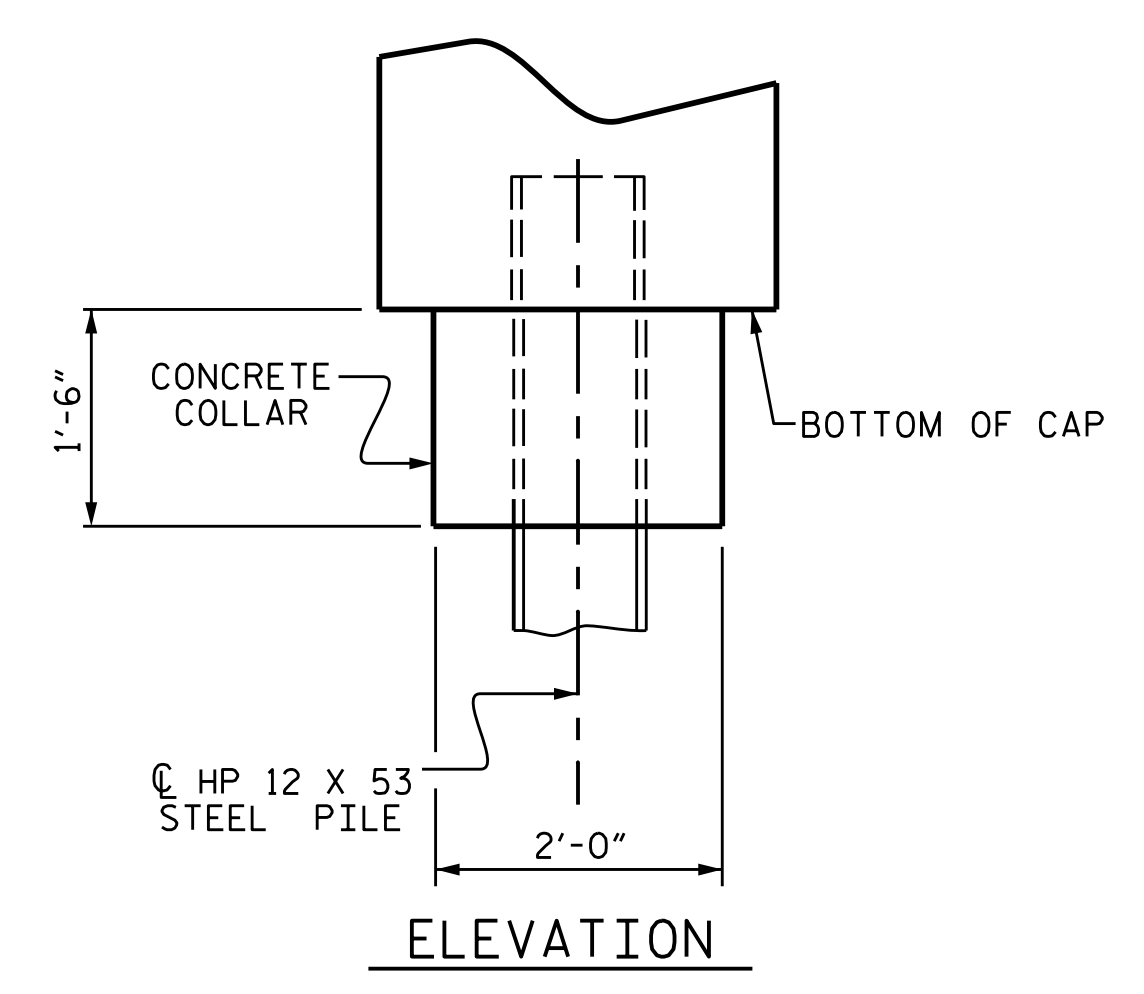
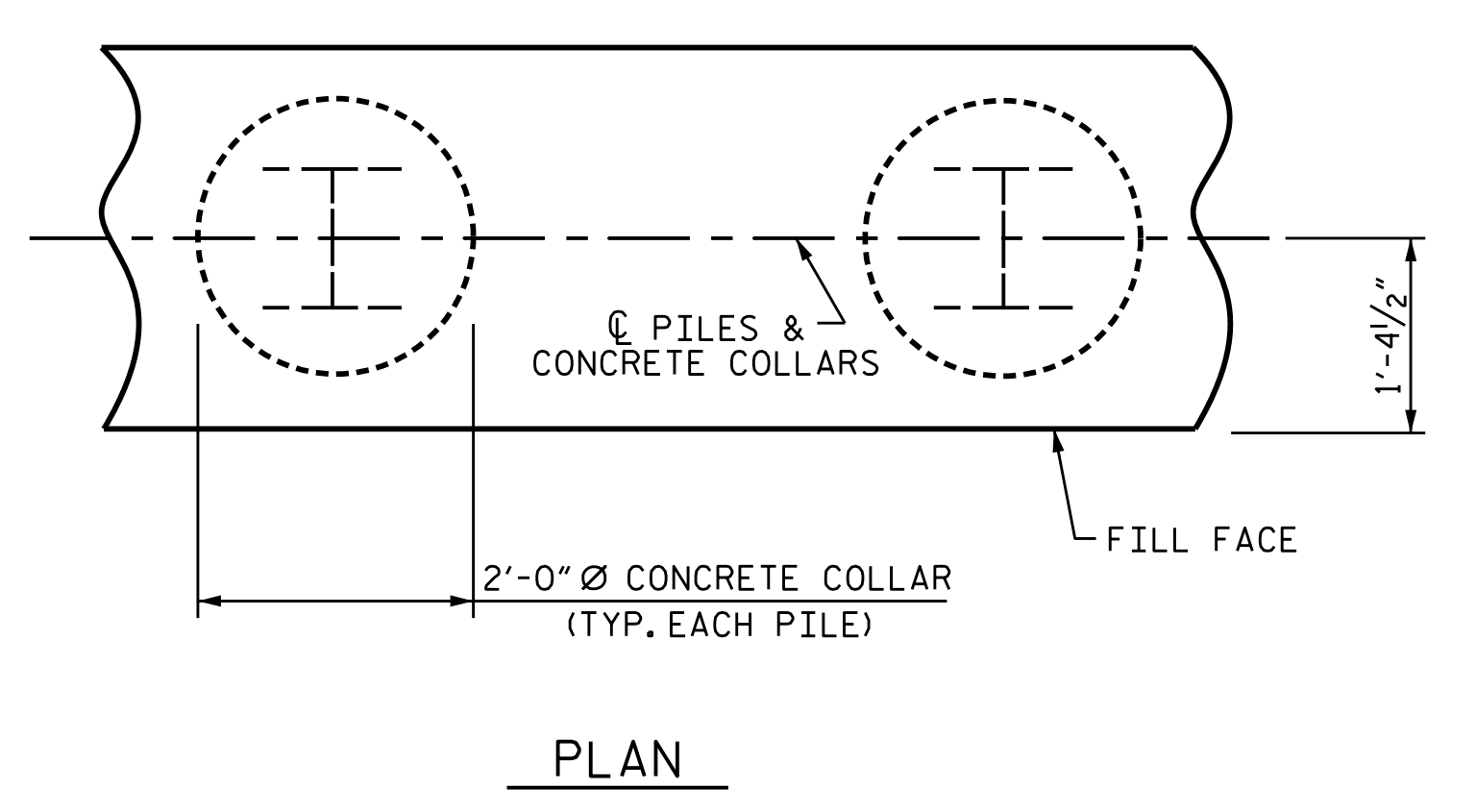
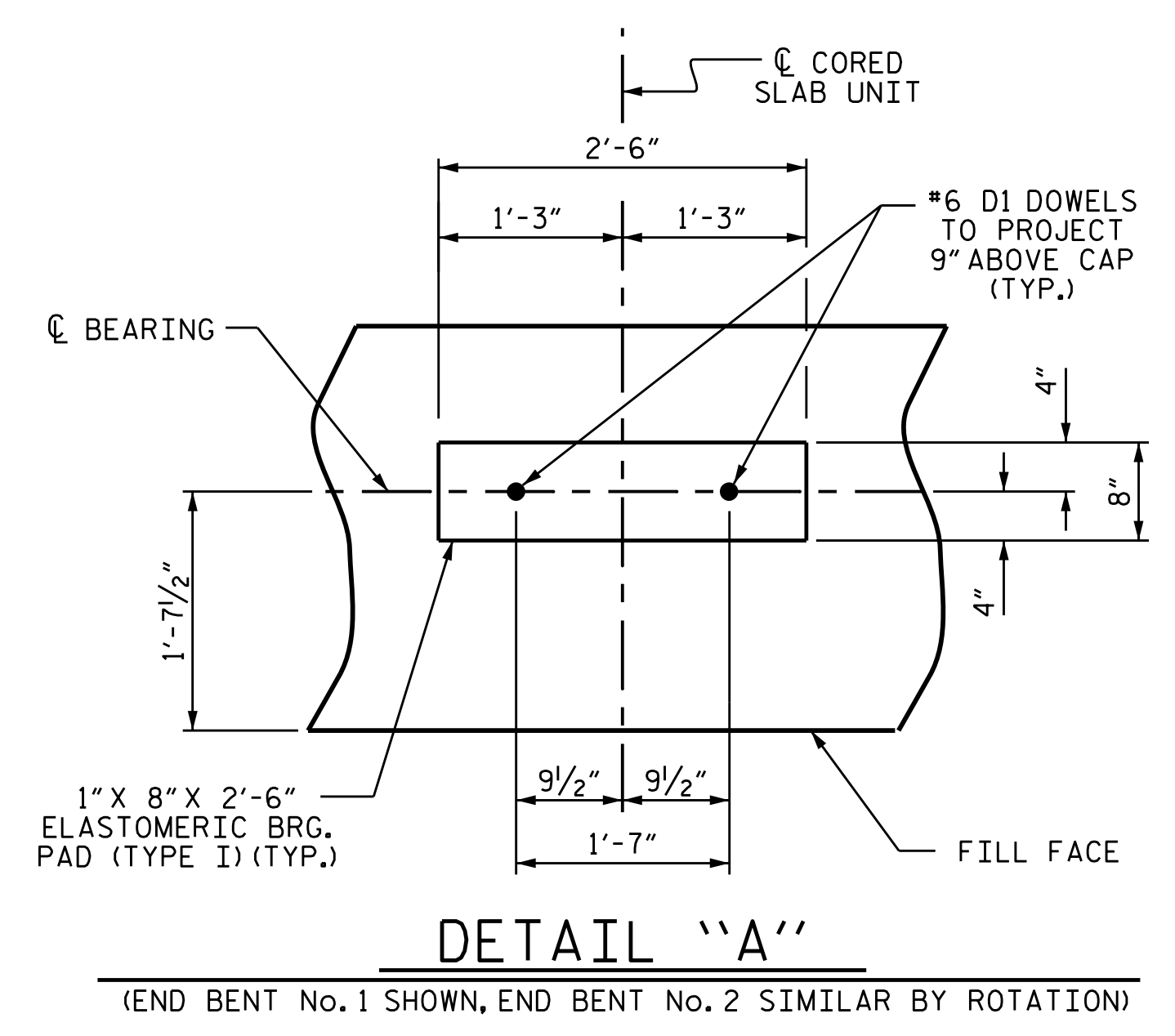
TEMPORARY DRAINAGE AT END BENT



PILE SPLICE DETAILS

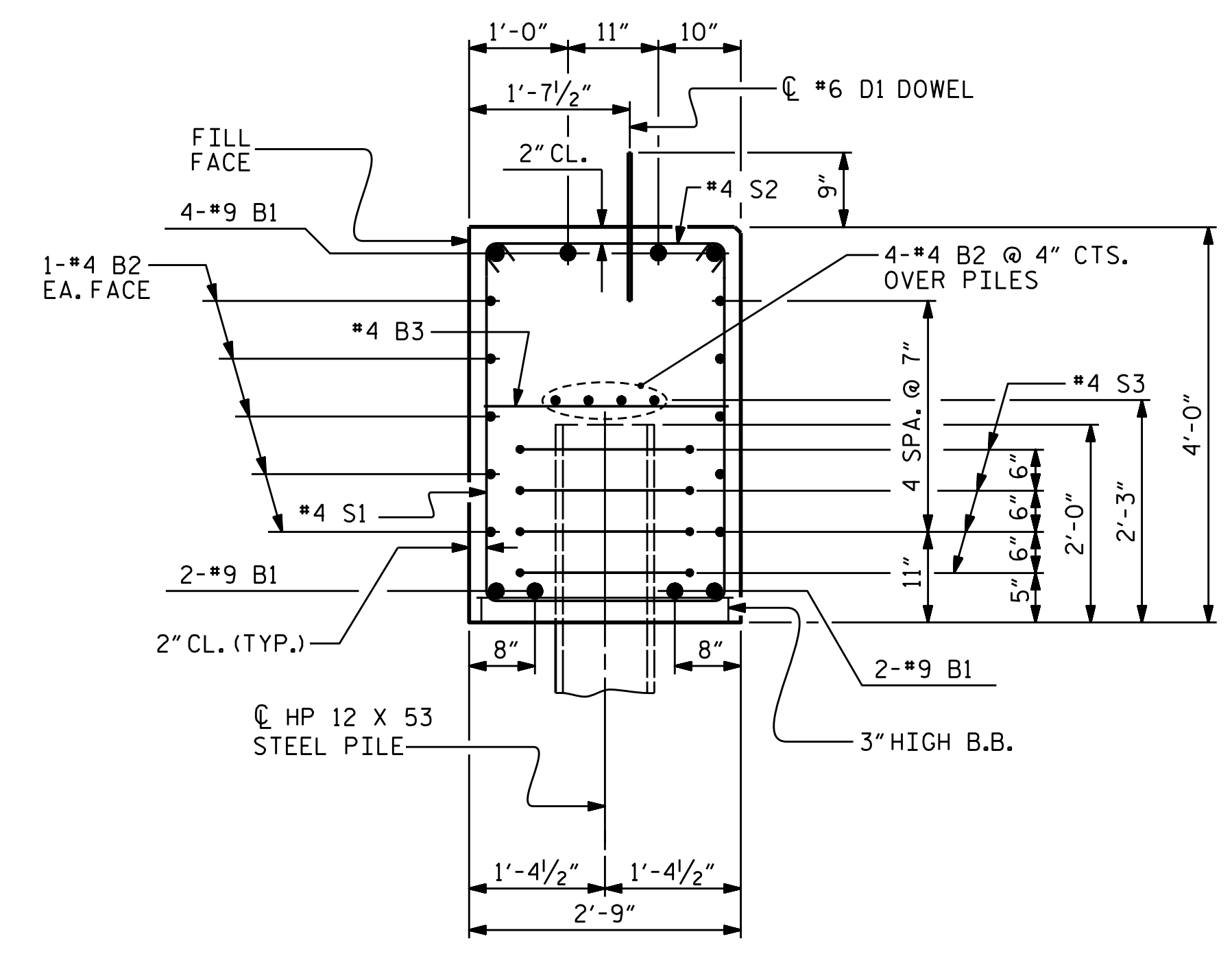
BAR TYPES	
ALL BAR DIMENSIONS ARE OUT TO OUT.	
END BENT No. 1	END BENT No. 2
HP 12 X 53 STEEL PILES NO: 5 LIN. FT. = 75	HP 12 X 53 STEEL PILES NO: 5 LIN. FT. = 75
PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES NO: 5	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES NO: 5

BILL OF MATERIAL FOR ONE END BENT					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	38'-0"	1034
B2	28	#4	STR	19'-1"	357
B3	9	#4	STR	2'-5"	15
D1	20	#6	STR	1'-6"	45
H1	40	#4	2	9'-4"	249
K1	16	#4	STR	2'-11"	31
S1	46	#4	3	10'-5"	320
S2	46	#4	4	3'-2"	97
S3	20	#4	5	6'-6"	87
V1	52	#4	STR	6'-2"	214
REINFORCING STEEL (FOR ONE END BENT)					2449 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					17.9 C.Y.
POUR #2 UPPER PART OF WINGS					2.3 C.Y.
TOTAL CLASS A CONCRETE					20.2 C.Y.



CORROSION PROTECTION FOR STEEL PILES DETAIL

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



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

PROJECT NO. BP9.R003
DAVIDSON COUNTY
 STATION: 15+52.00 -L-
 SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT No. 1 & 2
 DETAILS

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 J. WHEATLEY
 ENGINEER
 3/24/2023

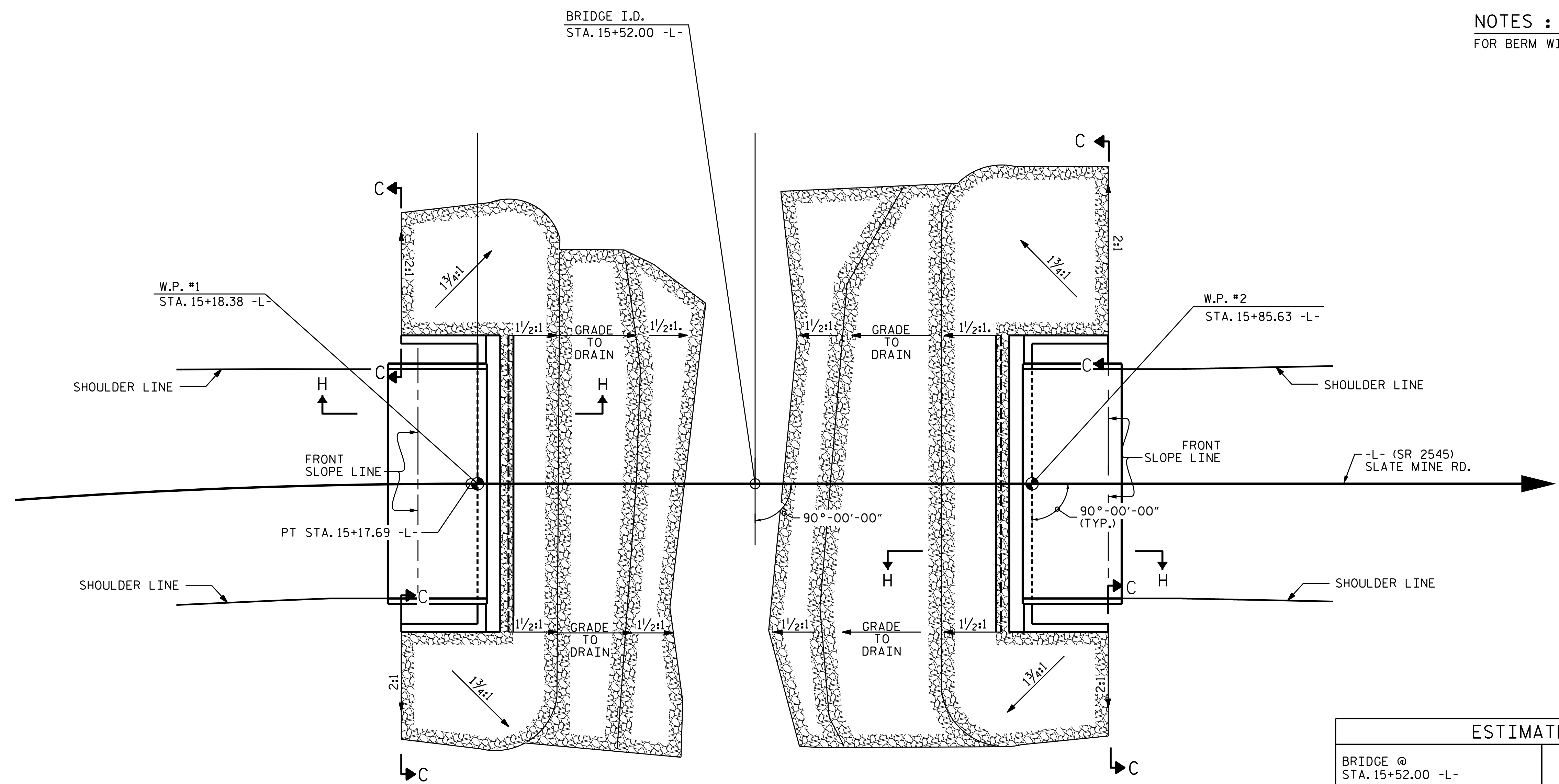
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REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			15

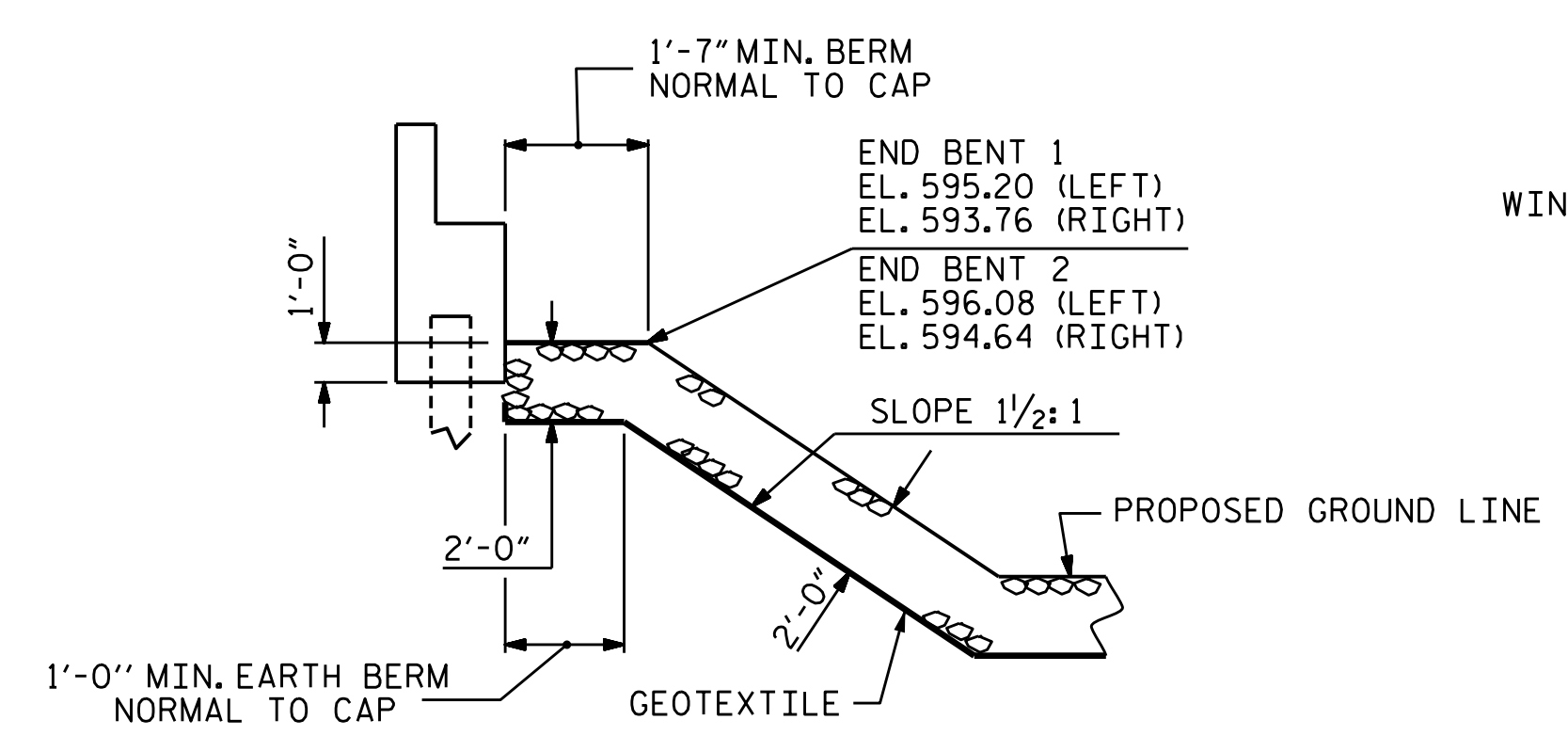
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ASSEMBLED BY: J. WHEATLEY	DATE: MAR 2023	DRAWN BY: WJH	12/11	REV. 4/17	MAA/THC
CHECKED BY: T. KIRSCHBAUM	DATE: MAR 2023	CHECKED BY: AAC	12/11		
DESIGN ENGINEER OF RECORD: J. WHEATLEY	DATE: MAR 2023				

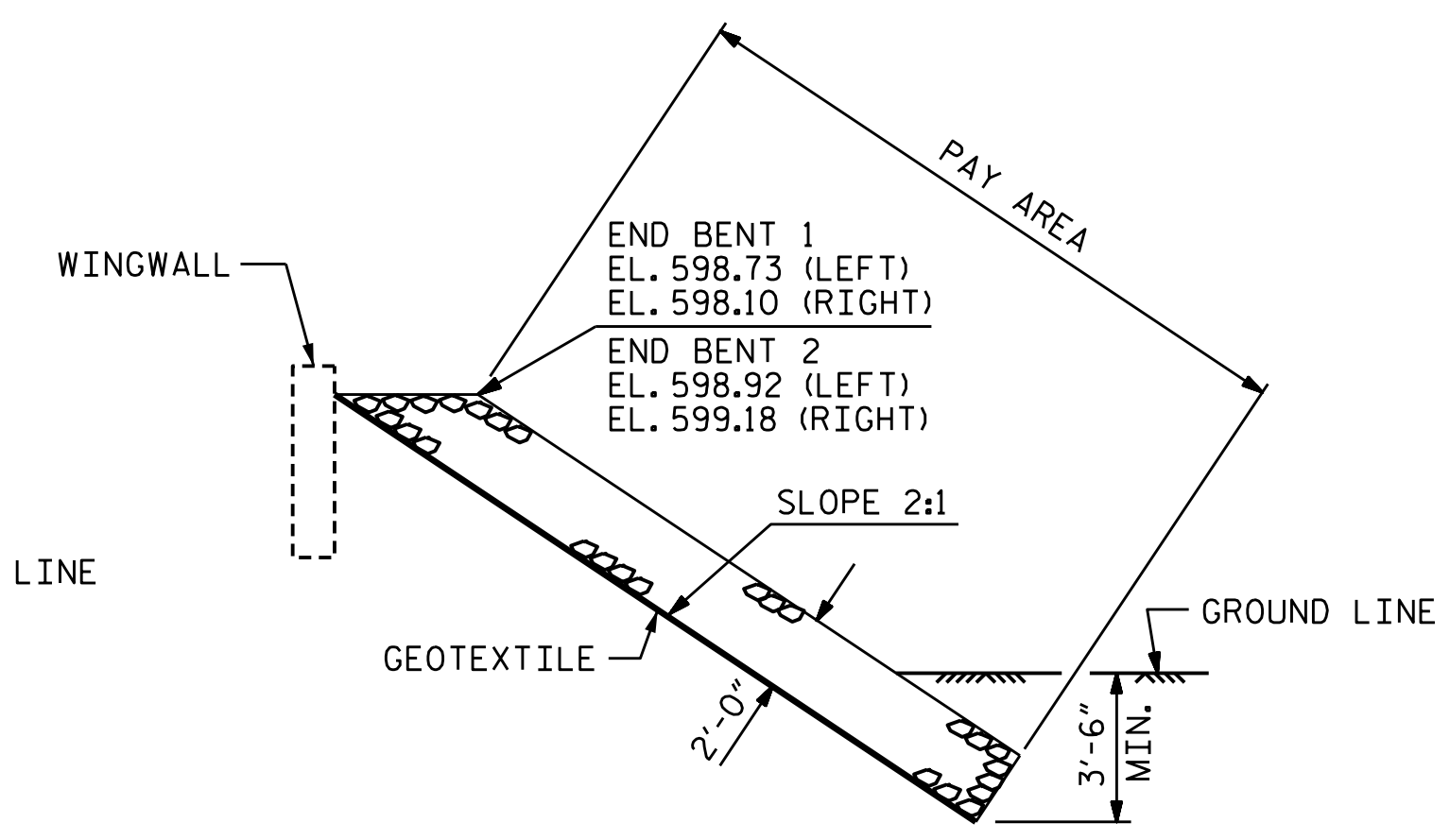
NOTES :
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.



ESTIMATED QUANTITIES		
BRIDGE @ STA. 15+52.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	174	193
END BENT 2	225	250



SECTION H-H



SECTION C-C

PROJECT NO. BP9.R003
DAVIDSON COUNTY
STATION: 15+52.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

RIP RAP DETAILS

DOCUMENT NOT CONSIDERED FINAL
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DocuSigned by:
Jaime Wheatley
3/24/2023

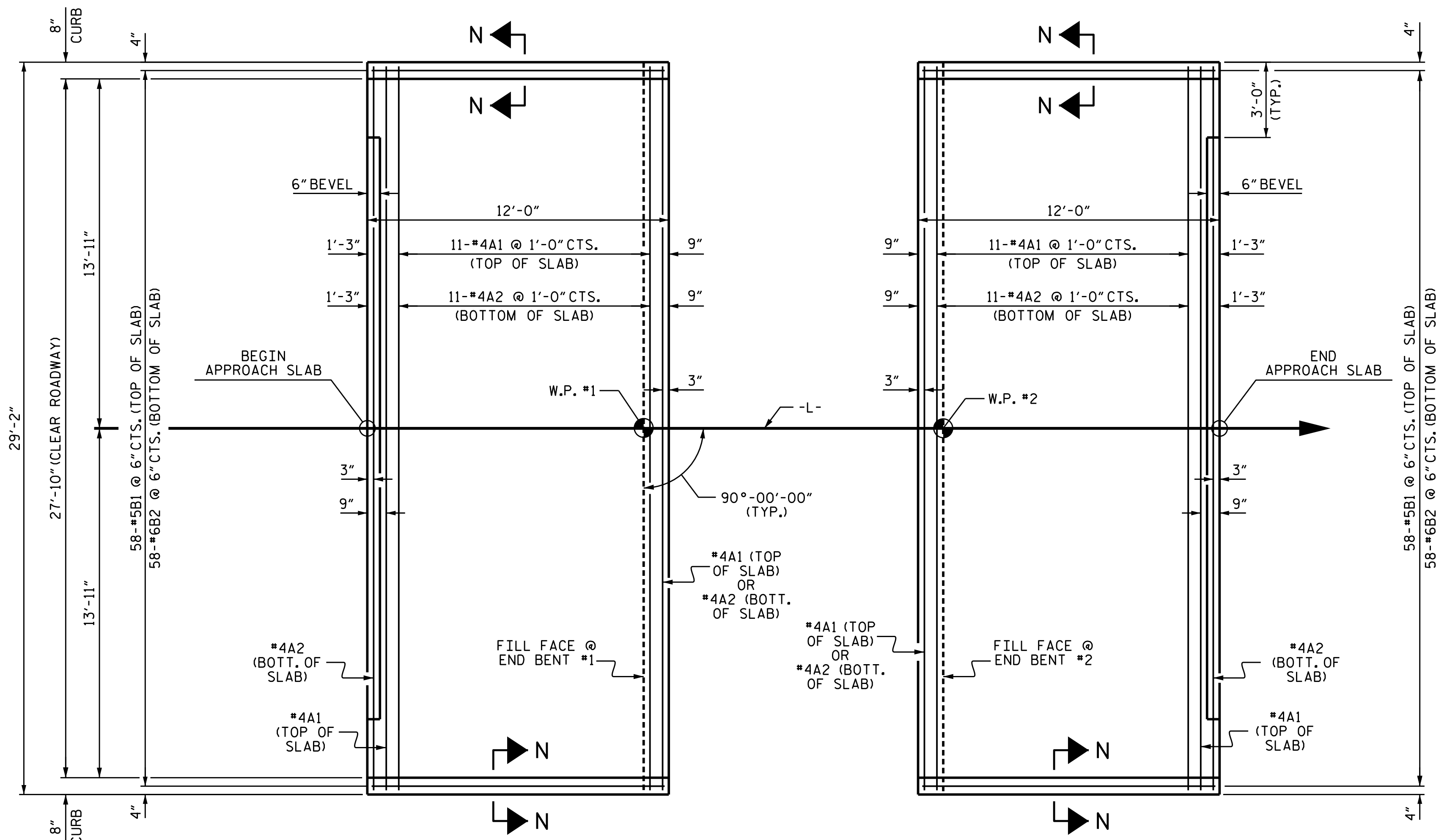
REVISIONS						SHEET NO. S-14
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2			4			

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3/24/2023 4:19:36 PM LSA\NCDOT Division 9 LBP Group 6\BP9.R003 Slate Mine Road 286 17BP.9.R.74.193617-02\Structures\20 Drafting\Drawings\401_021_BP9.R003_SMLI.RR.dgn

DESIGNED BY: J. WHEATLEY DATE: MAR 2023
DRAWN BY: J. WHEATLEY DATE: MAR 2023
CHECKED BY: T. KIRSCHBAUM DATE: MAR 2023
DESIGN ENGINEER OF RECORD: J. WHEATLEY DATE: MAR 2023

3/24/2023 4:19:36 PM NCDOT Division 9 LSA\NCDOT Division 9 LBP Group 6\BP9.R003 Slate Mine Road 286 17BP.9.R.74.193617-02\Structures\2.0 Dr-offing\0Gns\401.029_BP9.R003_SMU_AS.dgn



NOTES

FOR BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, 4" Ø DRAINAGE PIPE, AND SELECT MATERIAL BACKFILL, SEE ROADWAY PLANS.

GEOTEXTILE SHALL BE TYPE 1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

SELECT MATERIAL BACKFILL (CLASS V OR CLASS VI) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

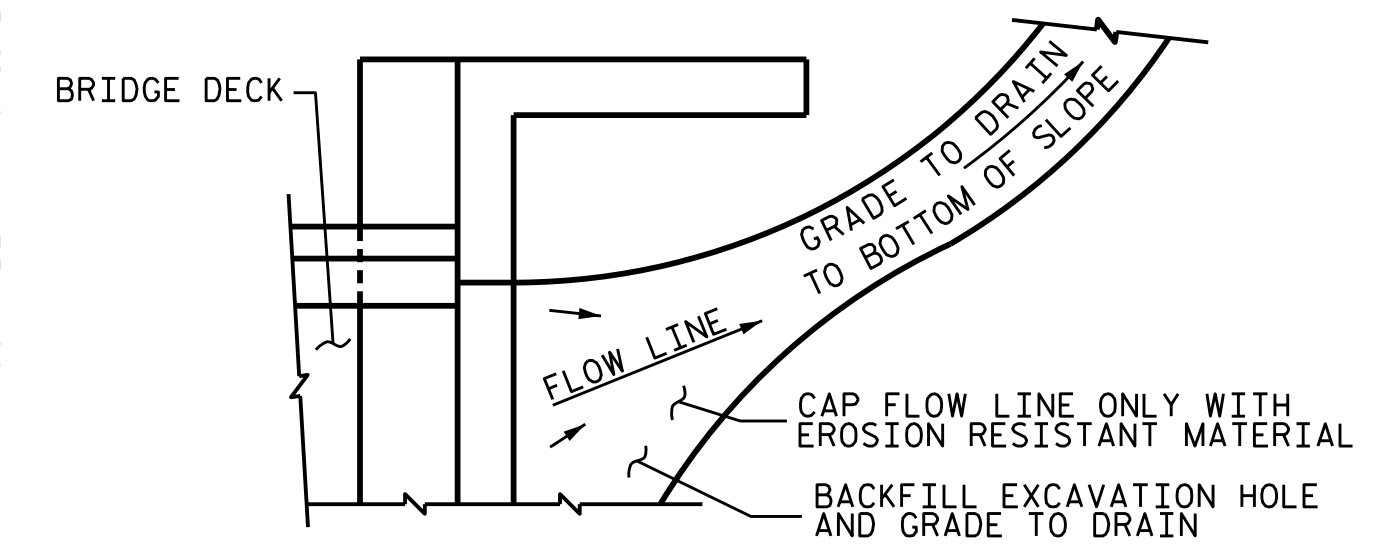
SELECT MATERIAL BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.

FOR THE 4" Ø DRAINAGE PIPE OUTLET(S), SEE ROADWAY STANDARD DRAWINGS.

AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

APPROACH SLAB GROOVING IS NOT REQUIRED.

APPLY TYPE 4 OR 5 GEOTEXTILE ONE FOOT BELOW THE APPROACH SLAB FOR THE FULL WIDTH OF THE APPROACH FILL.



NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT TO THE STRUCTURE. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THESE MATERIALS PRIOR TO CONSTRUCTION OF THE APPROACH SLAB.

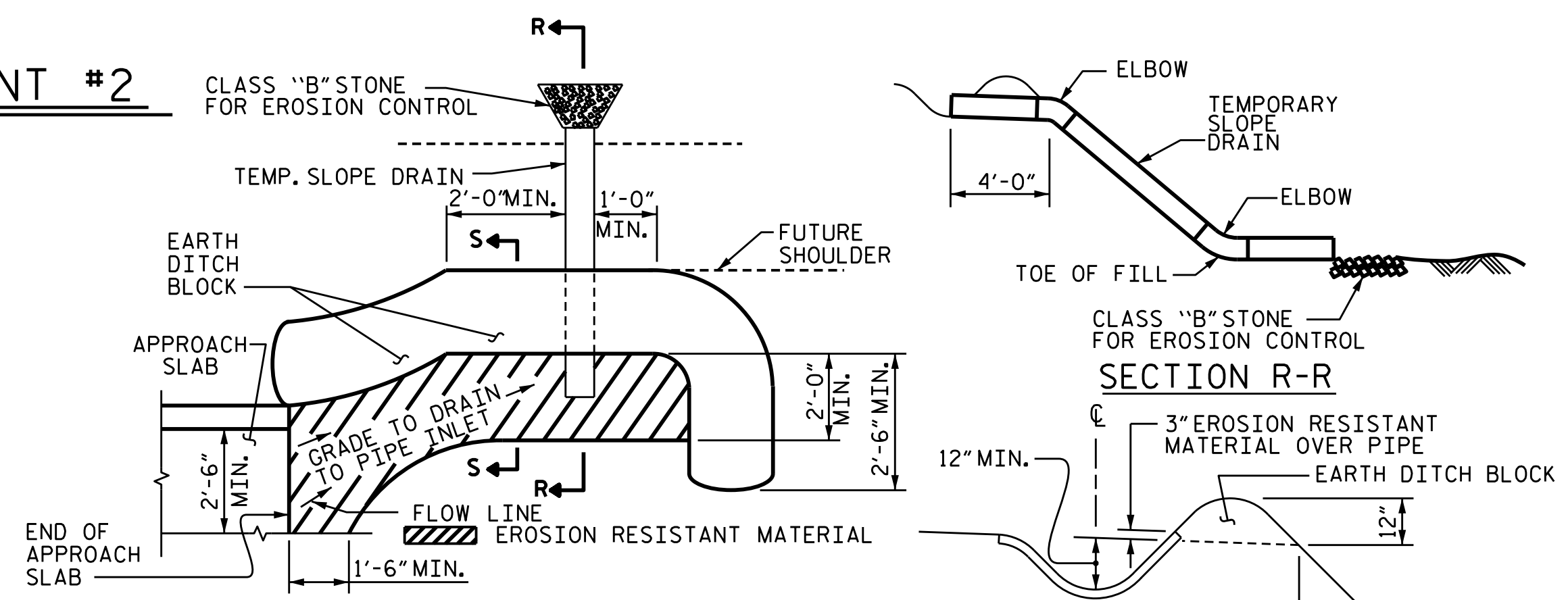
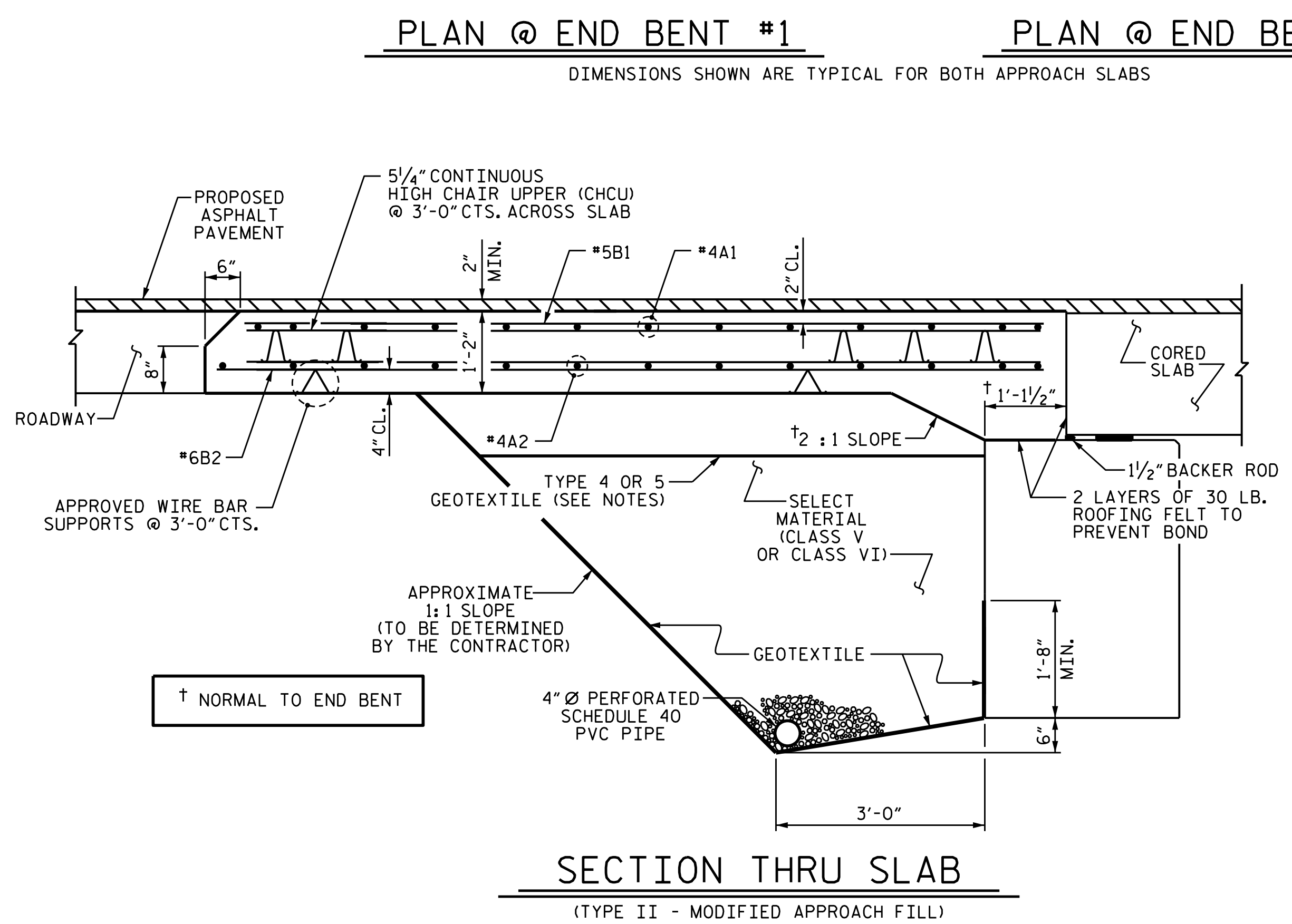
BILL OF MATERIAL

APPROACH SLAB AT EB #1						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
*A1	13	#4	STR	28'-10"	250	
A2	13	#4	STR	28'-10"	250	
*B1	58	#5	STR	11'-2"	676	
B2	58	#6	STR	11'-8"	1016	
REINFORCING STEEL					LBS.	1266
* EPOXY COATED REINFORCING STEEL					LBS.	926
CLASS AA CONCRETE					C. Y.	17.7

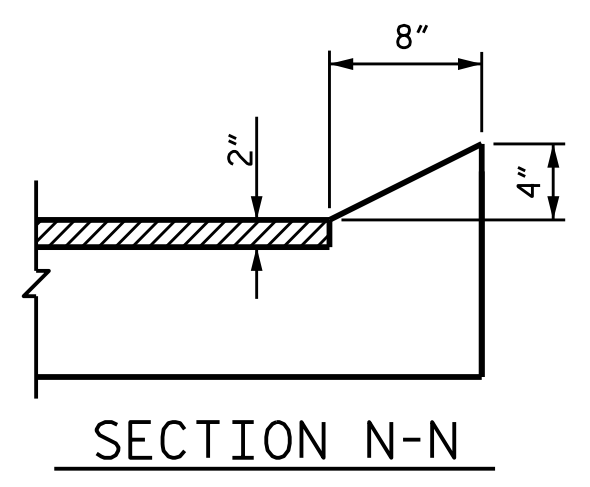
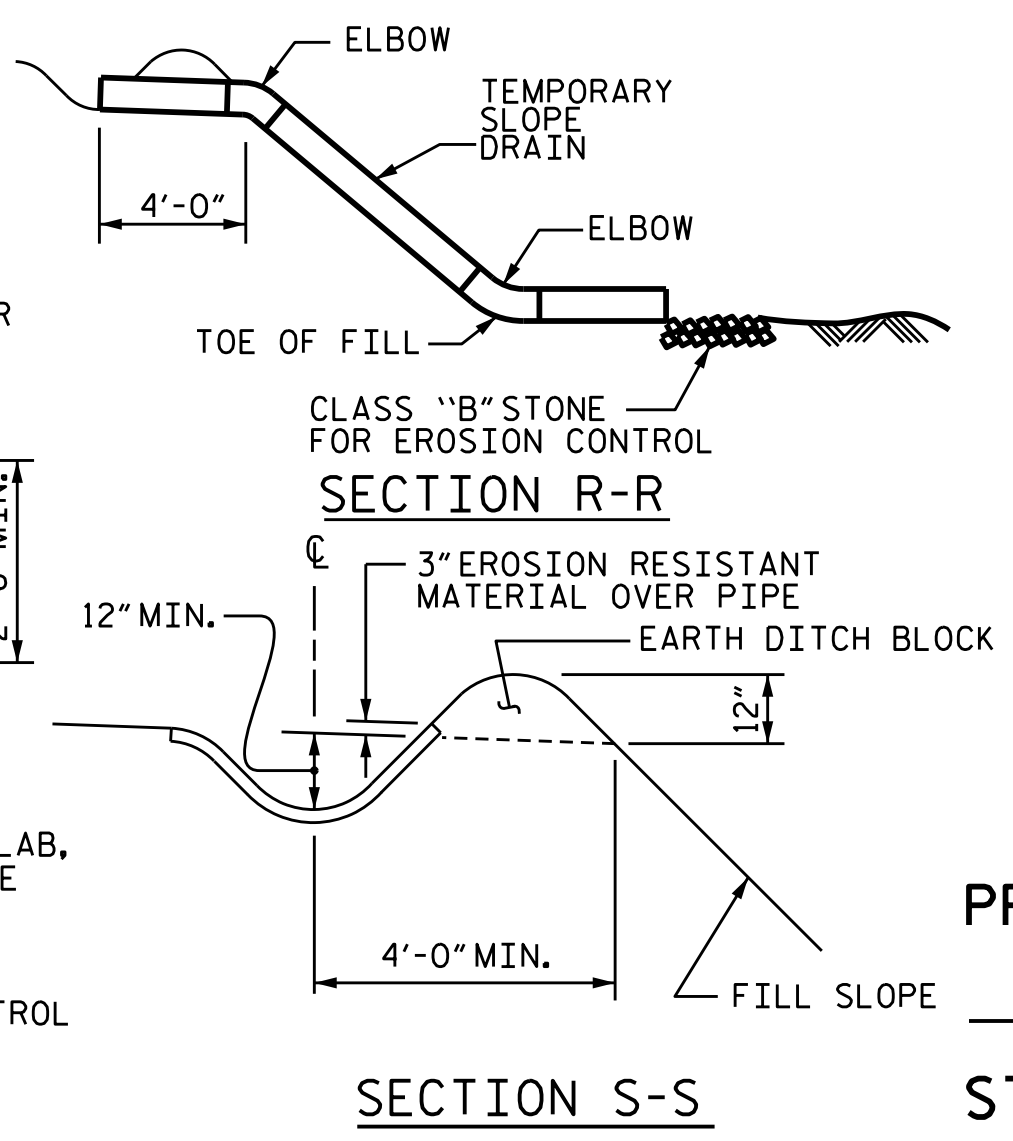
APPROACH SLAB AT EB #2						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
*A1	13	#4	STR	28'-10"	250	
A2	13	#4	STR	28'-10"	250	
*B1	58	#5	STR	11'-2"	676	
B2	58	#6	STR	11'-8"	1016	
REINFORCING STEEL					LBS.	1266
* EPOXY COATED REINFORCING STEEL					LBS.	926
CLASS AA CONCRETE					C. Y.	17.7

SPLICE LENGTHS

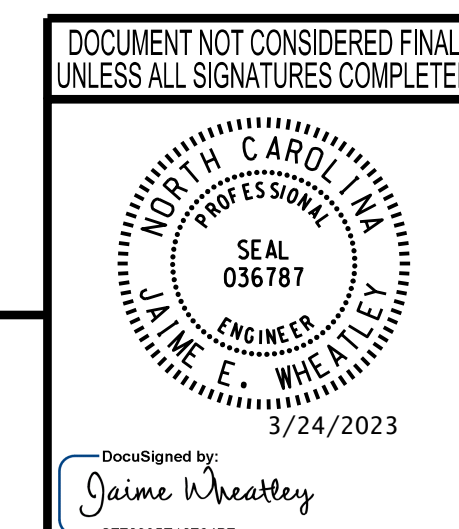
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"



NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.



PROJECT NO. BP9.R003
DAVIDSON COUNTY
 STATION: 15+52.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB UNIT (SUB-REGIONAL TIER) 90° SKEW

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

wsp

WSP USA Inc.
 434 FAYETTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
 TEL: 1.919.836.4040
 LICENSE NO. F-0165

ASSEMBLED BY: J. WHEATLEY DATE: MAR 2023
 CHECKED BY: T. KIRSCHBAUM DATE: MAR 2023
 DESIGN ENGINEER OF RECORD: J. WHEATLEY DATE: MAR 2023

DRAWN BY: SHS/MAA 5-09
 CHECKED BY: BCH 5-09

REV. 12-17 MAA/THC
 REV. 08-19 BNB/THC

