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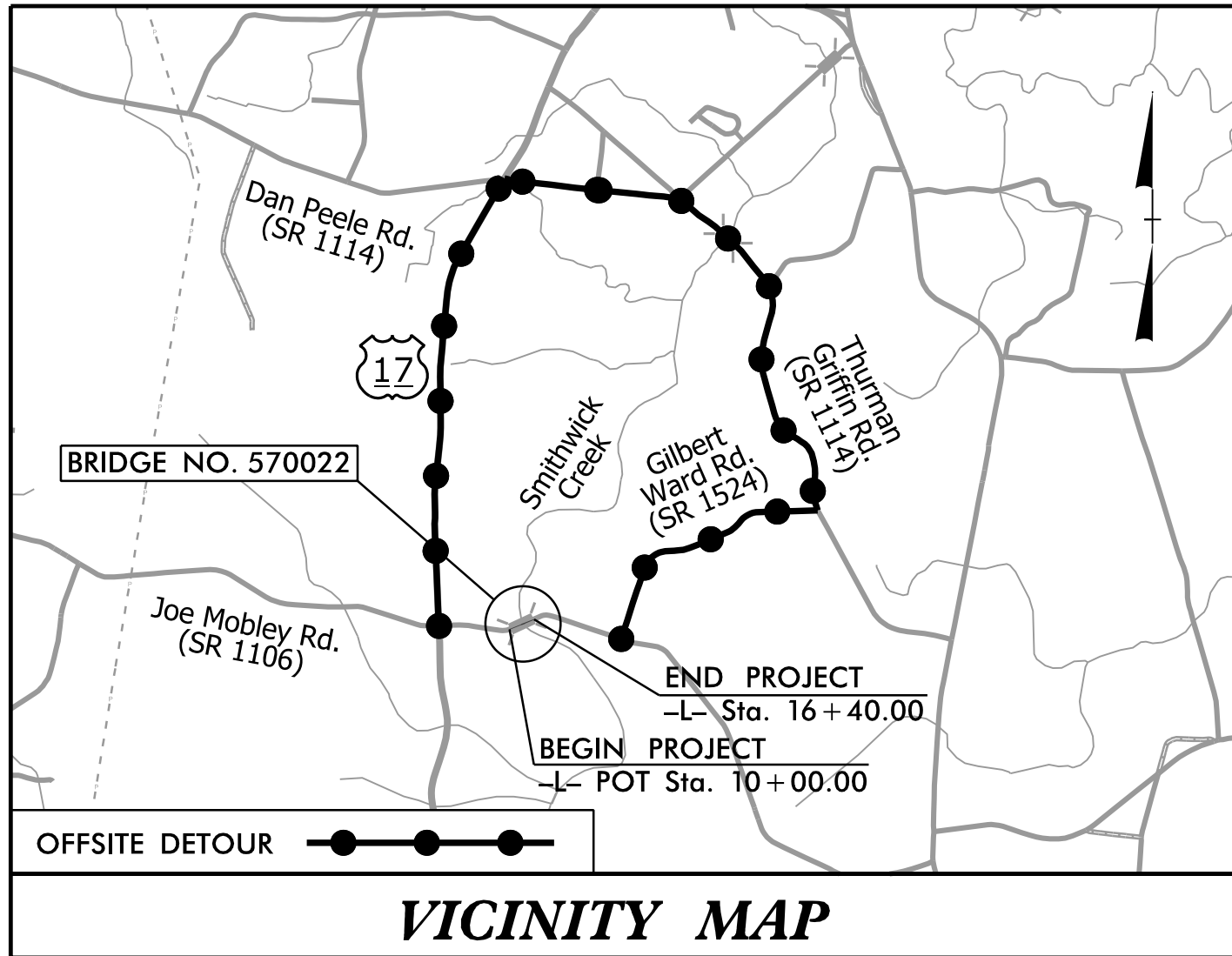
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default

PROJECT: BP1.R013.1

CONTRACT: DA00646

See Sheet 1B For Conventional Symbols



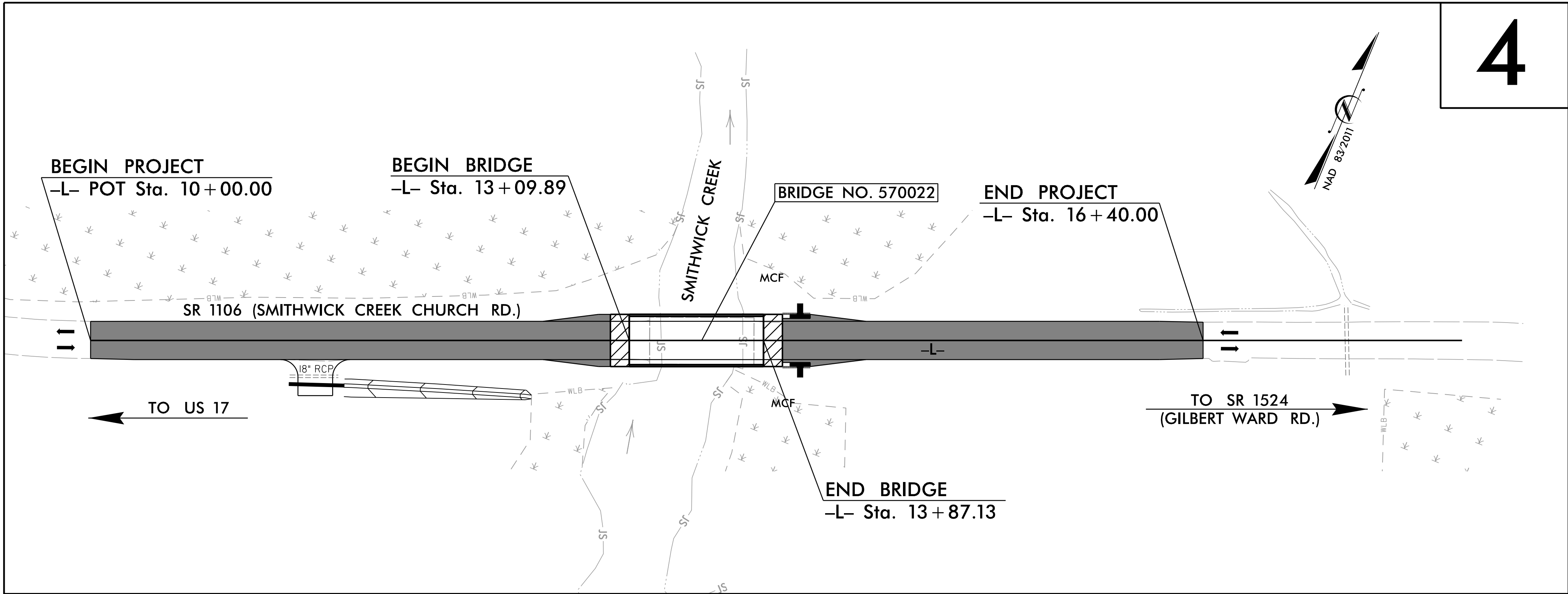
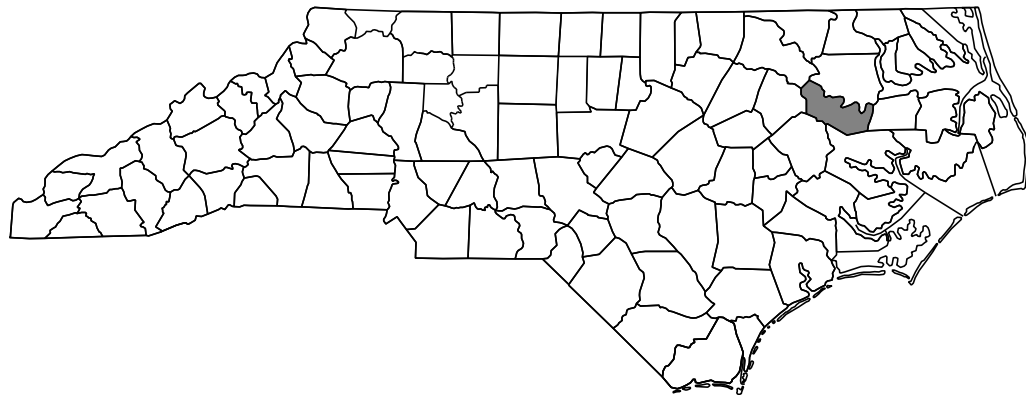
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MARTIN COUNTY

LOCATION: BRIDGE NO. 570022 OVER SMITHWICK CREEK
ON SR 1106 (SMITHWICK CREEK CHURCH RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

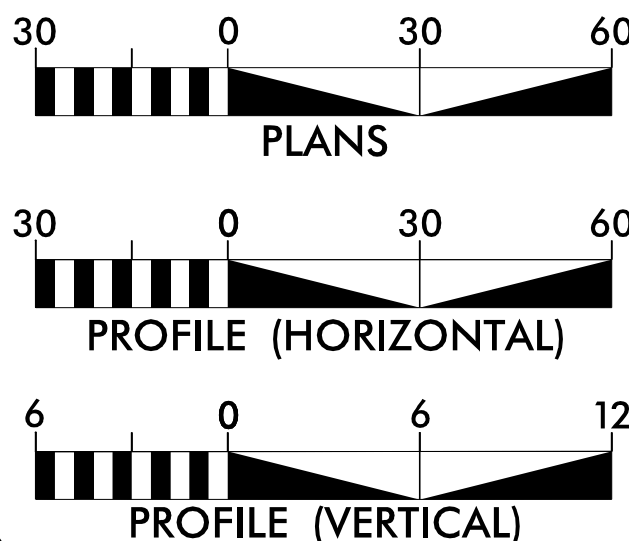
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP1.R013.1	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP1.R013.1		PE	
BP1.R013.2		ROW, UTIL.	
BP1.R013.3		CONST.	



RIGHT OF WAY PLANS
SUBMITTAL: 003R1
DATE: 12/22/2023

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2025 = 250
K = NA %
D = NA %
T = 6 % *
V = 45 MPH
* TTST = 3% DUAL 3%
FUNC CLASS =
LOCAL / RURAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT 570022 = 0.107 mi
LENGTH STRUCTURE PROJECT 570022 = 0.015 mi
TOTAL LENGTH PROJECT 570022 = 0.121 mi

PREPARED IN THE OFFICE OF:
RK&K
FOR NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

2024 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE:
NOVEMBER 27, 2024

LETTING DATE:
JUNE 4, 2025

NCDOT CONTACT:

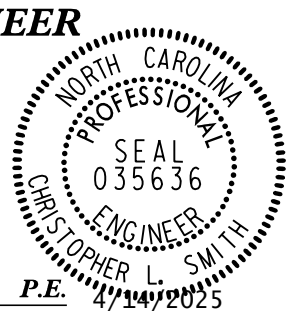
Scott Blevins, P.E.
PROJECT ENGINEER

Haylee Townsend, EI
PROJECT DESIGN ENGINEER

RYAN SHOOK
DIVISION 1
BRIDGE PROGRAM MANAGER

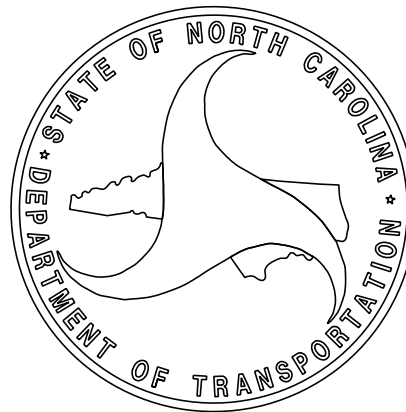
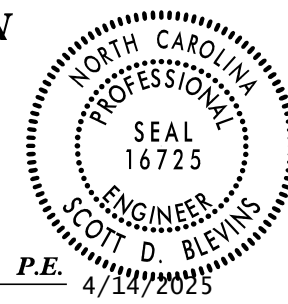
HYDRAULICS ENGINEER

Signed by:
Christopher L. Smith
SIGNATURE:




ROADWAY DESIGN
ENGINEER

Signed by:
Scott D. Blevins
SIGNATURE:



8/17/99
3/18/2025
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INDEX of SHEETS, GENERAL NOTES, and LIST of STANDARDS

PROJECT REFERENCE NO.		SHEET NO.
BPI.R013.I		1A
	ROADWAY DESIGN ENGINEER	
		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE, TYPICAL SECTIONS, WEDGING DETAILS,
2G-1	ROCK PLATING DETAIL
3B-1	SUMMARY OF EARTHWORK, PAVEMENT REMOVAL SUMMARY, AND GUARDRAIL SUMMARY
3D-1	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
4	PLAN/PROFILE SHEETS
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
UD-1 THRU UD-2	EROSION CONTROL PLANS
EC-1 THRU EC-5	UTILITES BY OTHERS PLANS
X-1 THRU X-3	CROSS SECTIONS
S-1 THRU S-17	CULVERT PLANS

LIST OF STANDARD DRAWINGS

2024 ROADWAY ENGLISH STANDARD DRAWINGS		EFF. 01-16-2024 REV.
The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:		
STD.NO.	TITLE	
DIVISION 2 - EARTHWORK		
200.02	Method of Clearing - Method II MODIFIED	
225.02	Guide for Grading Subgrade - Secondary and Local	
225.04	Method of Obtaining Superelevation - Two Lane Pavement	
DIVISION 3 - PIPE CULVERTS		
300.01	Method of Pipe Installation	
310.03	Cross Pipe End Section - Precast Concrete Section for 18" to 30" Pipe	
DIVISION 4 - MAJOR STRUCTURES		
423.01	Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment	
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS		
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I	
DIVISION 6 - ASPHALT BASES AND PAVEMENTS		
654.01	Pavement Repairs	
DIVISION 8 - INCIDENTALS		
840.24	Frames and Narrow Slot Flat Grates	
840.27	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates	
846.04	Drop Inlet Installation in Shoulder Berm Gutter	
862.01	Guardrail Placement	
862.02	Guardrail Installation	
862.03	Structure Anchor Units	
876.01	Rip Rap in Channels and Ditches	
876.02	Guide for Rip Rap at Pipe Outlets	
876.04	Drainage Ditches with Class 'B' Rip Rap	

LIST OF GENERAL NOTES

GENERAL NOTES:	2024 SPECIFICATIONS EFFECTIVE: 01-16-2024 REVISED:
GRADING AND SURFACING OR RESURFACING AND WIDENING:	THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.
CLEARING:	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 11.
SUPERELEVATION:	ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.
SHOULDER CONSTRUCTION:	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01
GUARDRAIL:	THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.
TEMPORARY SHORING:	SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.
END BENTS:	THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.
UTILITIES:	UTILITY OWNERS ON THIS PROJECT ARE DOMINION ENERGY - POWER, CITY OF WASHINGTON - POWER, BRIGHTSPEED - COMMUNICATIONS AND FIBER OPTIC, SUDDENLINK - CATV, MARTIN COUNTY - WATERLINE ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

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

PROJECT REFERENCE NO.	SHEET NO.
BP1, R013J	1B

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:

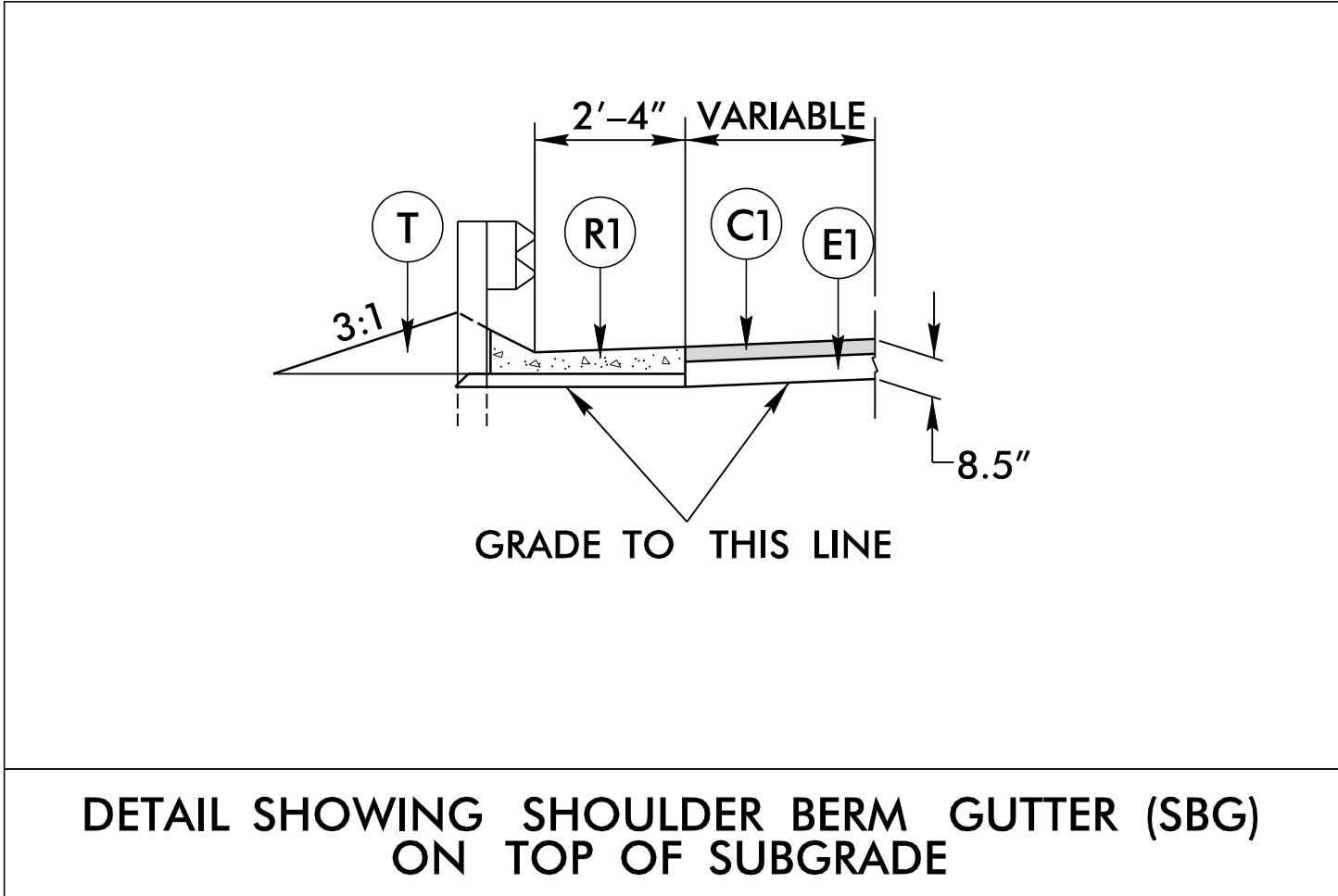
Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown U/G Line (SUE – LOS B)*	
U/G Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
A/G Tank; Water, Gas, Oil	
Geoenvironmental Boring	
Abandoned According to Utility Records	
End of Information	

6/2/09

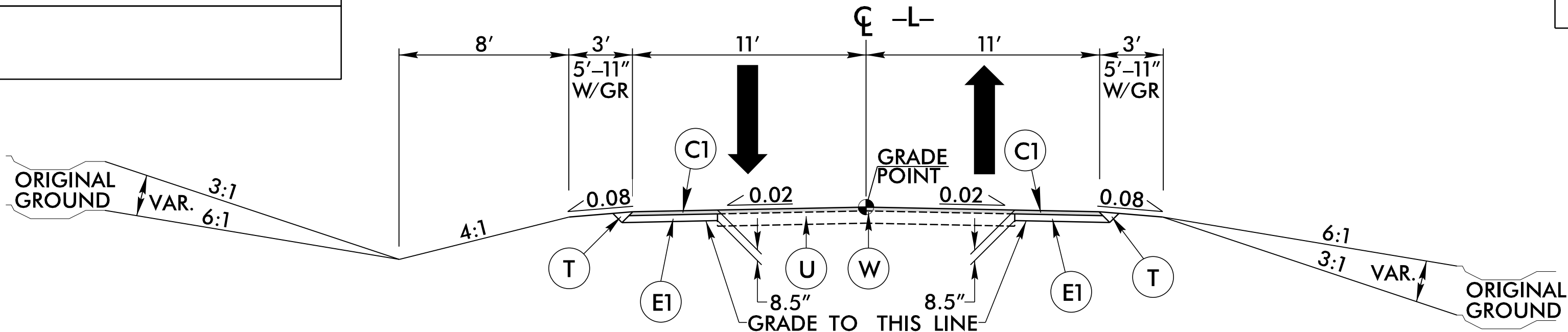
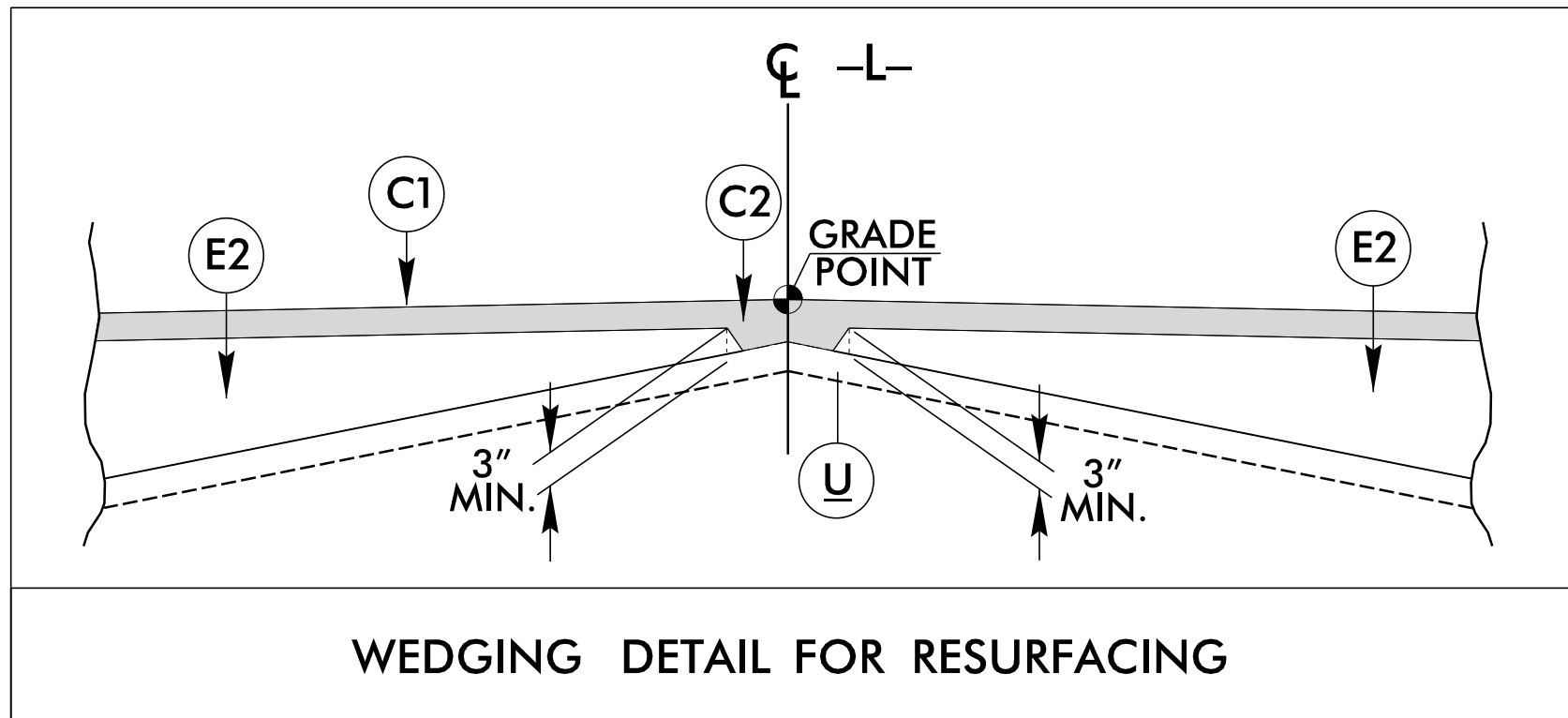
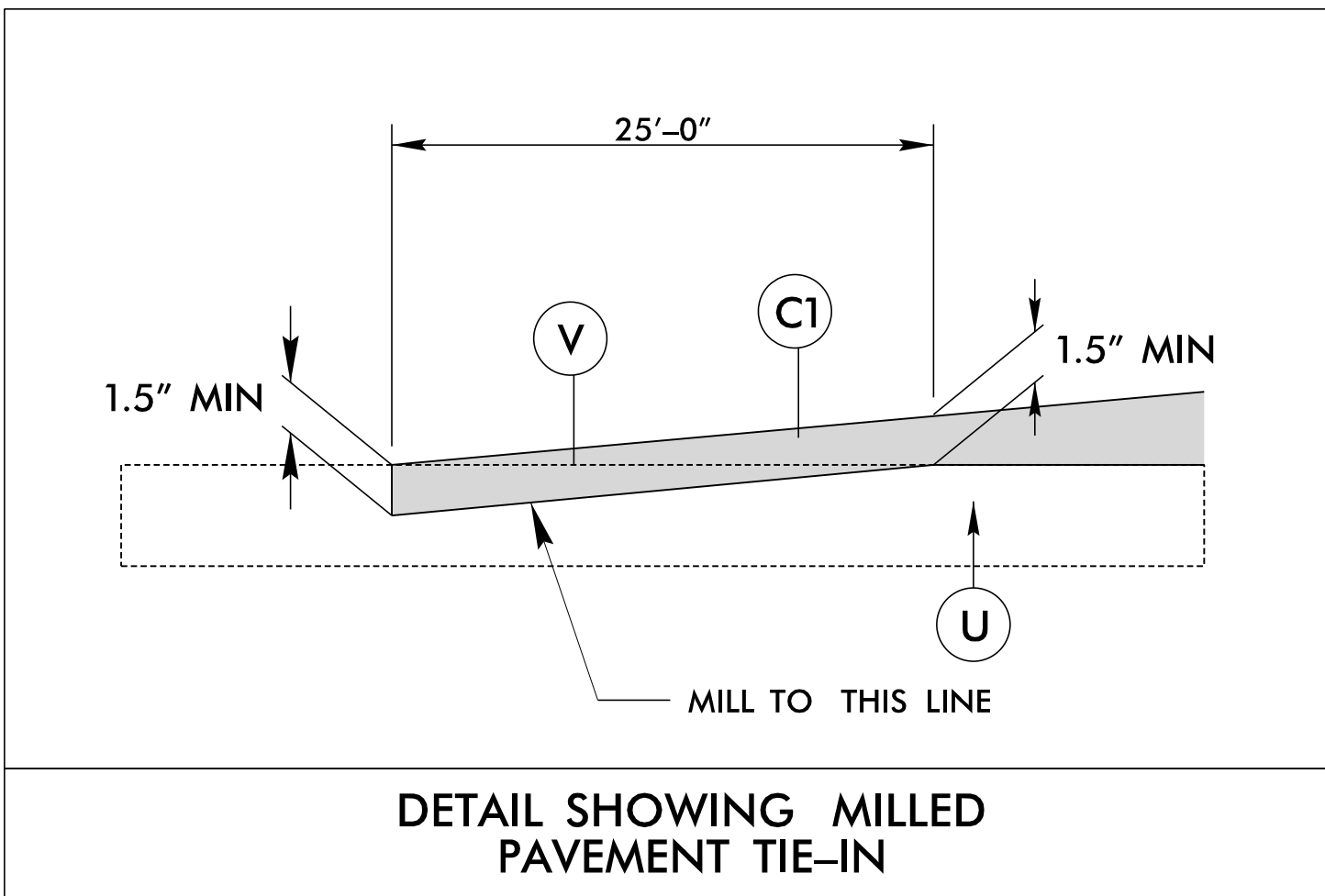
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FINAL PAVEMENT SCHEDULE			
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	T	EARTH MATERIAL
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	U	EXISTING PAVEMENT
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.	V	MILLING
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.	W	WEDGING
R1	SHOULDER BERM GUTTER		

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

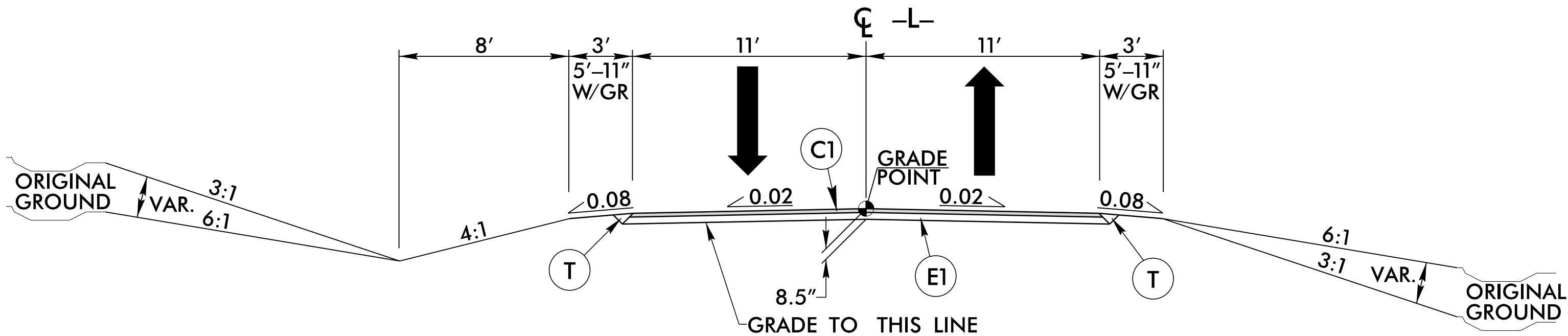


-L- STA. 13+98.00 TO STA. 14+14.00 LT
-L- STA. 13+98.00 TO STA. 14+14.00 RT



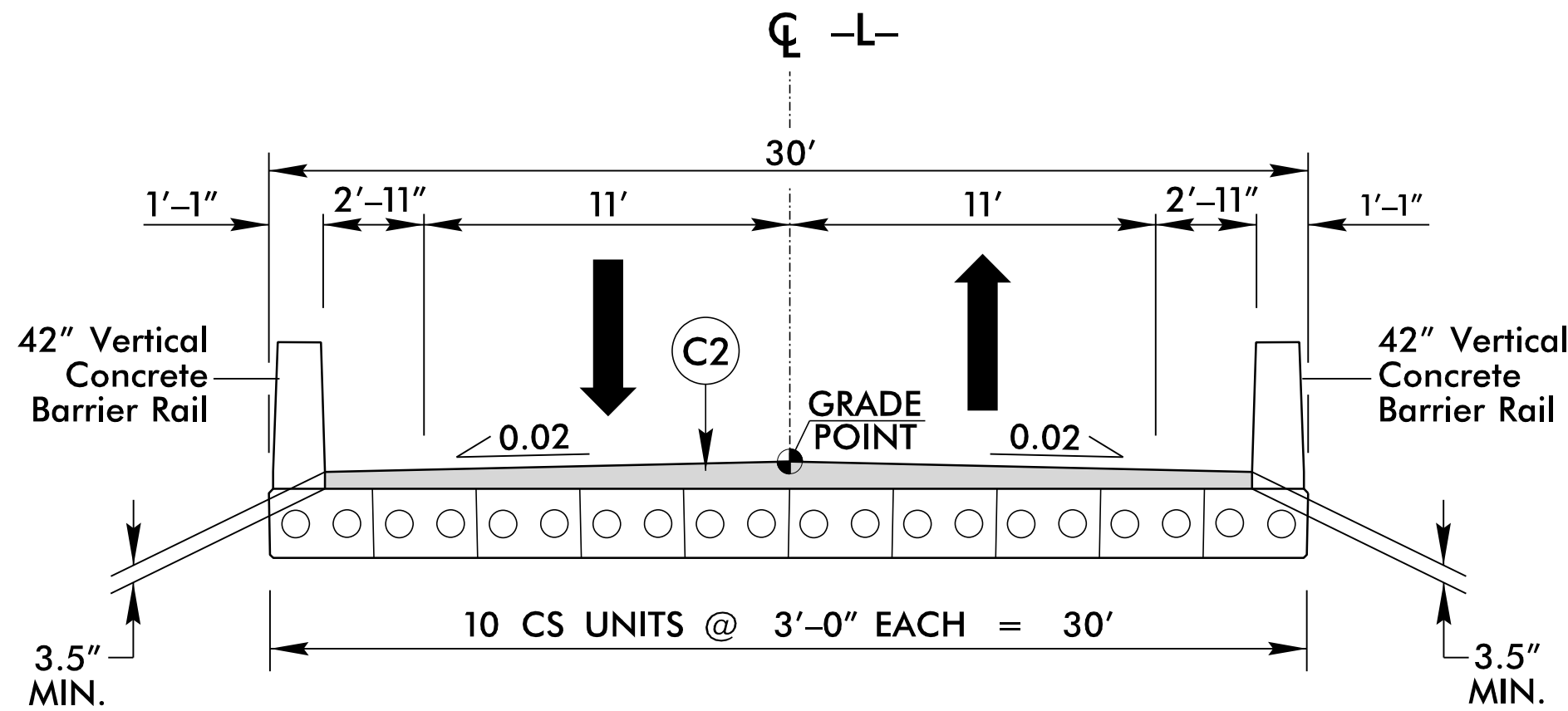
TYPICAL SECTION NO. 1

-L- STA. 10+00.00 TO STA. 12+50.00
-L- STA. 14+12.12 TO STA. 16+40.00




TYPICAL SECTION NO. 2

-L- STA. 12+50.00 TO STA. 13+09.89 (BEGIN BRIDGE)
-L- STA. 13+87.13 (END BRIDGE) TO STA. 14+12.12



TYPICAL SECTION NO. 3

-L- STA. 13+09.89 (BEGIN BRIDGE) TO STA. 13+87.13 (END BRIDGE)

PROJECT REFERENCE NO.		SHEET NO.
BPI.R013.1		2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER	
		
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STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

CHAIN	BEGINNING STATION	ENDING STATION	UNCL. EXCA. C.Y.	UNDERCUT C.Y.	EMBANK. +% C.Y.	BORROW C.Y.	WASTE C.Y.
SUMMARY 1							
-L-	10+50.00	13+00.00	3		498	495	
-L-	14+00.00	16+00.00	4		268	264	
SUBTOTAL			7		765	758	
SHEET TOTALS			7		765	758	
PROJECT TOTAL			7		765	758	
UNDERCUT EXCAVATION CONTINGENCY				300			
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT						38	
GRAND TOTAL			7			796	
SAY			10	300		800	

Note: Earthwork quantities are calculated by the RK&K. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GREU TL-3	GREU TL-2	TYPE III	CAT-1	AT-1	B-77	B-83	TES	G	NG			
L	12+53.64	13+09.89	LT	56.25				13+09.88	4.00'		25.00'		1.00'					1	1										
L	12+53.64	13+09.89	RT	56.25			13+09.88		4.00'			25.00'		1.00'				1	1										
L	13+87.13	14+43.38	LT	56.25			13+87.13		4.00'			25.00'		1.00'				1	1										
L	13+87.13	14+43.38	RT	56.25				13+87.13	4.00'		25.00'		1.00'					1	1										
TOTALS				225.00	0.00	0									0	0	0	4	4	0	0	0	0	0	0	0	0.00	0.00	
LESS ANCHOR DEDUCTIONS																													
	GREU TL-3	0	'@50'=	0																									
	CAT-1	0	@6.25'=	0.00																									
	B-77	0	@22.875'=	0.00																									
	B-83	0	@25'=	0.00																									
	GREU TL-2	4	@25'=	100.00																									
	TYPE III	4	@18.75'=	75.00																									
	AT-1	0	@6.25'=	0.00																									
	TES	0	@2.3'=	0.00																									
			TOTAL GUARDRAIL=	50.00																									
			SINGLE FACED CONCRETE BARRIER=	0.00																									
			DOUBLE FACED CONCRETE BARRIER=																										
			REMOVE EXISTING GUARDRAIL=	253.00																									
								(10 ADDITIONAL GUARDRAIL POSTS)																					

SHOULDER BERM GUTTER SUMMARY

LOCATION	SIDE	BEG. STA.	END STA.	LENGTH
L	LT	13+98.00	14+14.00	16.0
L	RT	13+98.00	14+14.00	16.0
			TOTAL	32.0
			SAY	32

ASPHALT PAVEMENT REMOVAL

LINE	STATION	STATION	LOCATION	LENGTH OR AREA	WIDTH	SQUARE YARDS
L	12+85	13+22	CL	1546.86		171.87
L	13+82	14+12	CL	1168.11		129.79
					TOTAL	301.66
					SAY	305



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COMPUTED BY:	SCJ	DATE:	11/21/2024
CHECKED BY:	CLS	DATE:	11/21/2024

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
BPI.R013.1	3D-1

Note: Invert Elevations Indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications for Roads and Structures, Section 300-5."

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

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(2-3-23)

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

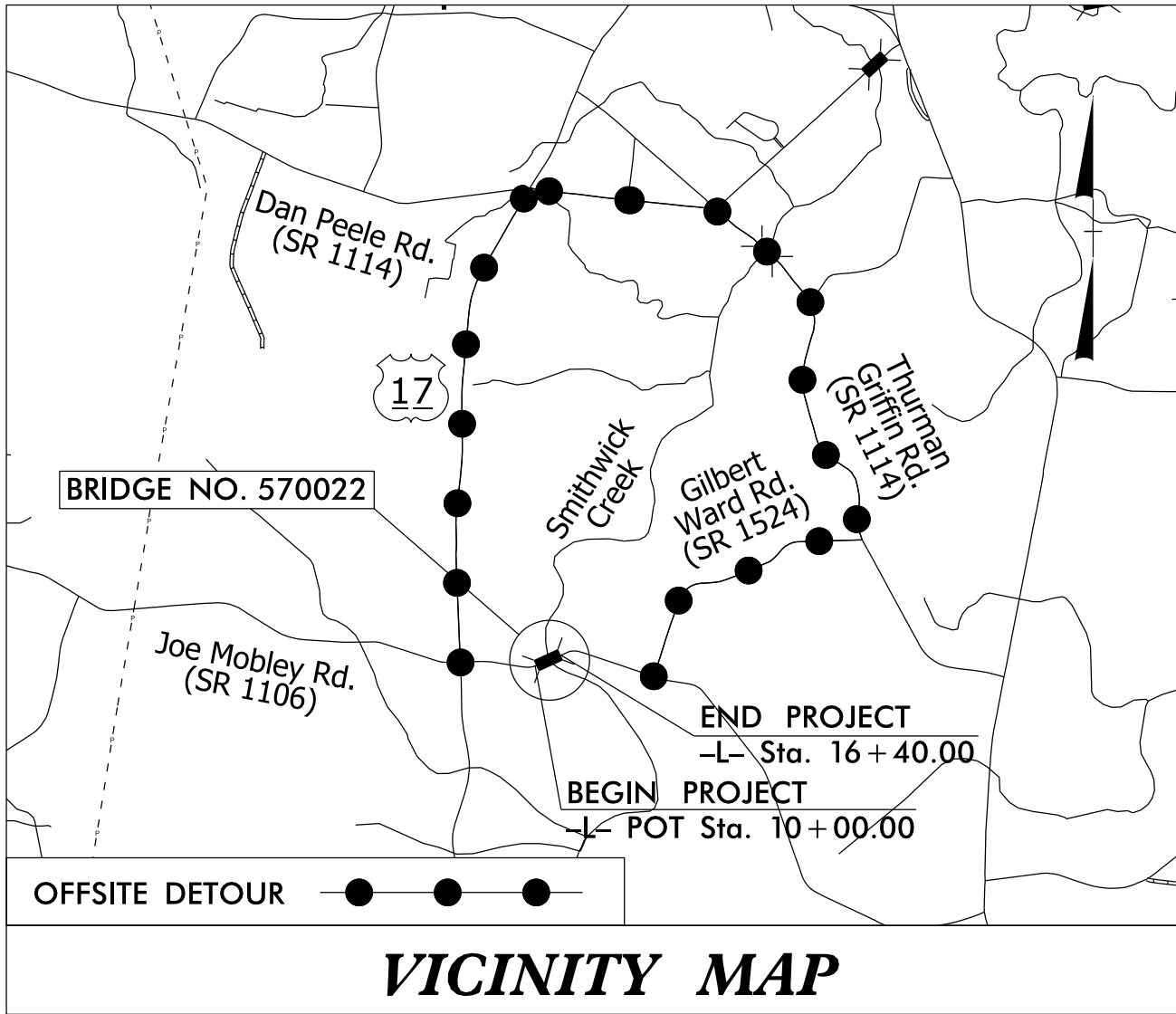
SUMMARY OF SUBSURFACE DRAINAGE					
LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	200
				TOTAL LF:	200
*UD = Underdrain					
*BD = Blind Drain					
*SD = Subsurface Drain					

SUMMARY OF ROCK PLATING								
LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. ** 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
-L-	2.5:1	12+75	2:1	13+05	RT	1	*	60
							TOTAL SY:	60
*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.								
** See Modified Rock Plating Detail (2G-1) Sheet								

3/17/2025
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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP1-R013	RW01	7



VICINITY MAP

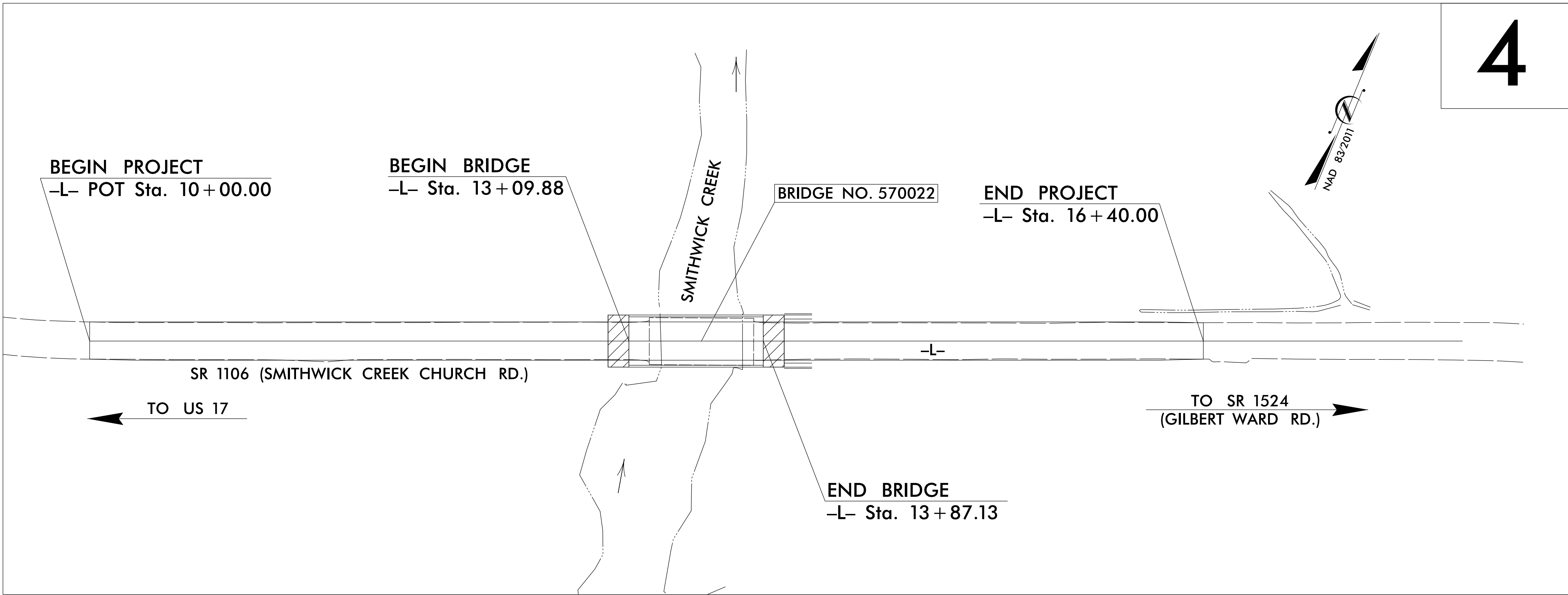
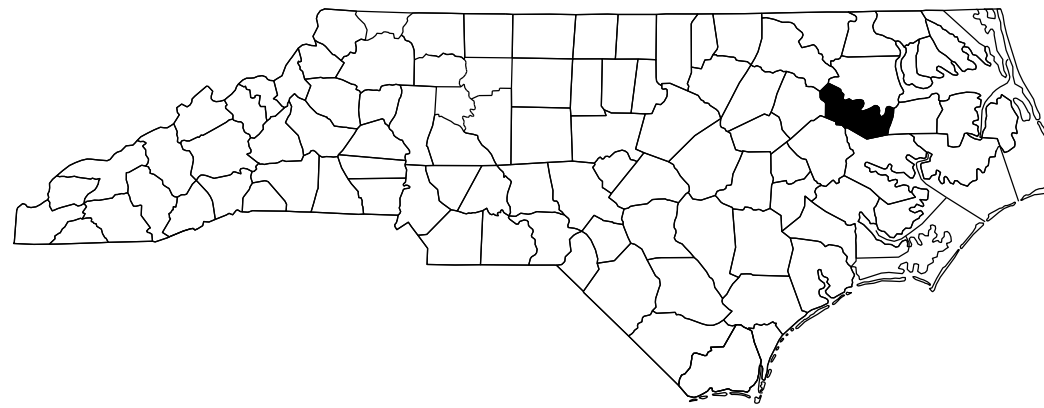
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

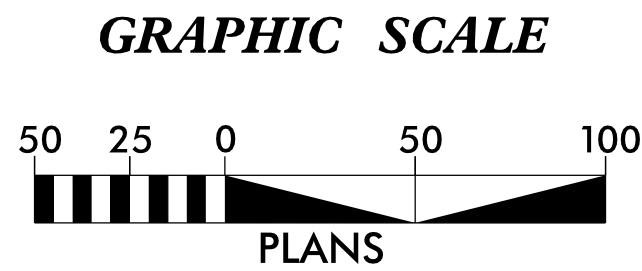
MARTIN COUNTY

LOCATION: BRIDGE NO. 570022 OVER SMITHWICK CREEK
ON SR 1106 (SMITHWICK CREEK CHURCH RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
KCI ASSOCIATES OF NC FOR MONUMENT "BP1.R013-2"
WITH NAD 83/2011 STATE PLANE GRID COORDINATES OF
NORTHING: 729955.835(ft) EASTING: 2572618.137(ft)
ELEVATION: 36.34(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.999912527
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"BP1.R013-2" TO -L- STATION 10+00.00 IS
N 60°59'21" E 75.33(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88, GEOID 12A

Prepared in the Office of:

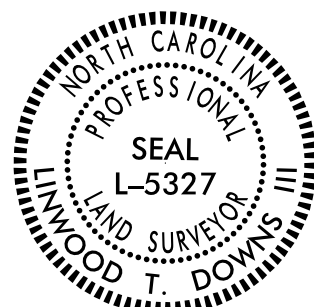
Location & Surveys
Division 1
1300 US HWY 64 West
Plymouth, NC 27962

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
6/1/2024

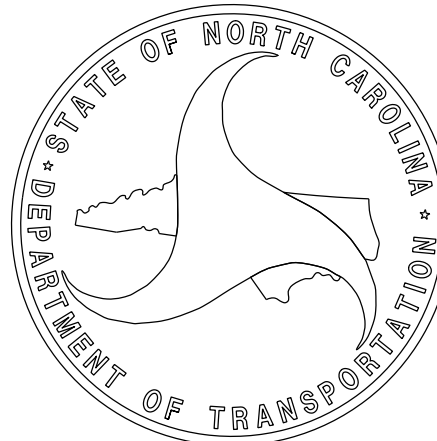
LETTING DATE:
8/15/2025

PROFESSIONAL LAND
SURVEYOR



DocuSigned by:
Linwood T. Downs III
SIGNATURE:

Date:
06/24/2024



SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
BP1.R013	RW02C-1
Location and Surveys	
	KCI Associates of N.C., P.A. 4505 Falls of Neuse Rd, Suite 400 Raleigh, NC 27609 Phone (919) 783-9214 http://www.kci.com
<div>PROJECT SURVEYOR</div> <div></div>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

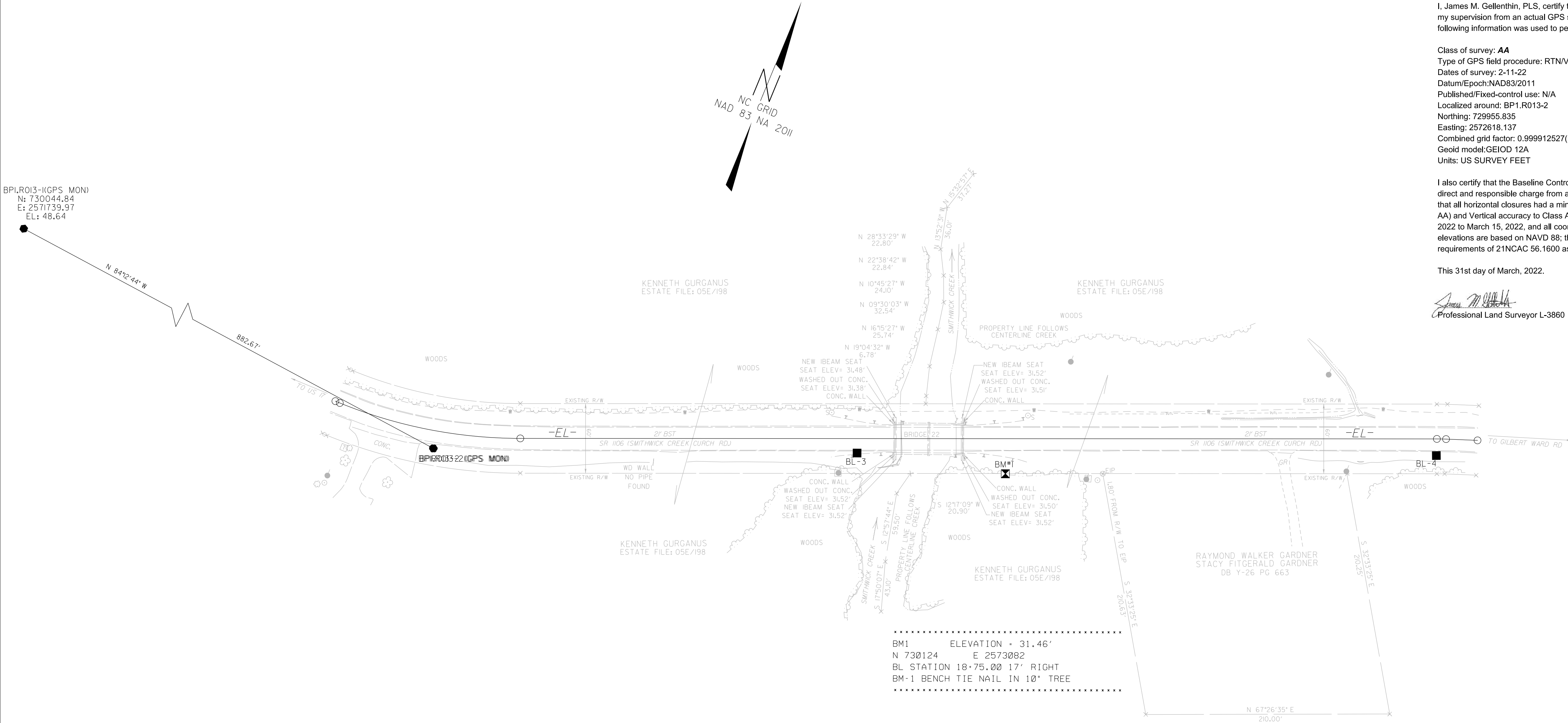
I, James M. Gellenthin, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**
Type of GPS field procedure: RTN/VRS
Dates of survey: 2-11-22
Datum/Epoch: NAD83/2011
Published/Fixed-control use: N/A
Localized around: BP1.R013-2
Northing: 729955.835
Easting: 2572618.137
Combined grid factor: 0.999912527(1/x=1.00008748)
Geoid model: GEIOD 12A
Units: US SURVEY FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from March 10, 2022 to March 15, 2022, 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 31st day of March, 2022.


Professional Land Surveyor L-3860



NOTES:

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

REVISIONS

SURVEY CONTROL SHEET
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.
BP1.R013

SHEET NO.
RW02C-2

Location and Surveys



KCI Associates of N.C., P.A.
4505 Falls of Neuse Rd, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
<http://www.kci.com>

PROJECT SURVEYOR



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

Class of survey: **AA**
Type of GPS field procedure: RTN/VRS
Dates of survey: 2-11-22
Datum/Epoch: NAD83/2011
Published/Fixed-control use: N/A
Localized around: BP1.R013-2
Northing: 729955.835
Easting: 2572618.137
Combined grid factor: 0.999912527(1/x=1.00008748)
Geoid model: GEIOD 12A
Units: US SURVEY FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from March 10, 2022 to March 15, 2022, 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 21st day of March, 2022.


Professional Land Surveyor L-3860

91204 ELEVATION = 31.46
N 730124 E 2573082
BM-1 TREE 10

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
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	729961.250	2572524.652							
LINE			N 89°44'52.1" E	4.13					
PC	729961.268	2572528.787							
CURVE			N 78°40'15.2" E	158.31	22°09'13.8"(LT)	13°54'24.3'	159.30	80.66	412.00
PT	729992.368	2572684.015							
LINE			N 67°35'38.3" E	788.96					
PC	730293.092	2573413.409							
CURVE			N 68°43'12.5" E	7.91	02°15'08.5"(RT)	28°29'25.6"	7.91	3.95	201.11
PT	730295.961	2573420.775							
LINE			N 69°50'46.8" E	27.12					
POT	730305.305	2573446.234							

PROJECT REFERENCE NO.
BP1.R013


SHEET NO.
RW02C-3

Location and Surveys



KCI Associates of N.C., P.A.
4505 Falls of Neuse Rd, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
<http://www.kci.com>

PROJECT SURVEYOR



James M. Gellenthin

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

Class of survey: **AA**
Type of GPS field procedure: RTN/VRS
Dates of survey: 2-11-22
Datum/Epoch: NAD83/2011
Published/Fixed-control use: N/A
Localized around: BP1.R013-2
Northing: 729955.835
Easting: 2572618.137
Combined grid factor: 0.999912527(1/x=1.00008748)
Geoid model: GEIOD 12A
Units: US SURVEY FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from March 10, 2022 to March 15, 2022, 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 March, 2022.


Professional Land Surveyor L-3860

NOTES:

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

REVISIONS

24-JUN-2024 09:17
R1-JUN-2024 09:17
1tdowns AT L-53273L

22-(KCI)\Control\Control Sheets\D-Sheets\bp1r013.1s.rwd02d-1.dgn


PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.
BP1-R013

SHEET NO.
RW02D-1

Location and Surveys

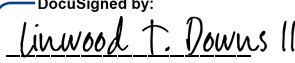
Location & Surveys
Division 1
1300 US HWY 64 West
Plymouth, NC 27962

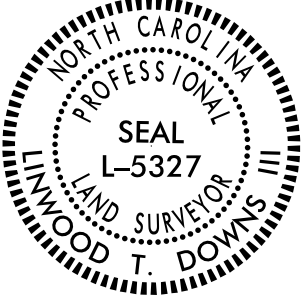
PROJECT SURVEYOR


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Linwood T. Downs III, PLS, certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

This 15th day of June, 2024.

DocuSigned by:

Professional Land Surveyor L-5327



L				
POINT	N	E	BEARING	DIST
POT	729992.368	2572684.015		
LINE			N 67°35'38.3" E	788.96
POT	730293.092	2573413.409		

NOTES:

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

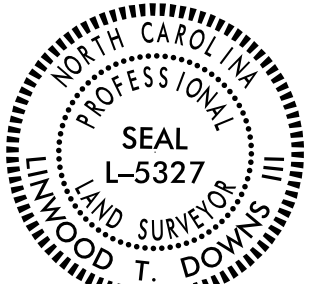
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BPI-R013

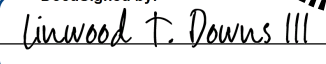
SHEET NO.
RW03E-1

Location and Surveys

Location & Surveys
Division 1
1300 US HWY 64 West
Plymouth, NC 27962

PROJECT SURVEYOR



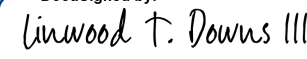
DocuSigned by:


BASED ON

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Linwood T. Downs III, PLS, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 03/20/2024 to 03/21/2024 and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 15th day of June, 2024.

DocuSigned by:


Professional Land Surveyor L-5327

RIGHT OF WAY CONTROL SHEET

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	10+00.00	-30.00	730020.1031	2572672.5797
L	10+00.00	30.00	729964.6327	2572695.4497
L	11+64.00	39.00	730018.8237	2572850.4992
L	11+64.00	30.00	730027.1442	2572847.0687
L	11+64.00	-39.00	730090.9351	2572820.7682
L	11+64.00	-30.00	730082.6146	2572824.1987
L	15+00.00	-39.00	730219.0074	2573131.4022
L	15+00.00	-30.00	730210.6869	2573134.8327
L	15+01.37	30.00	730155.7371	2573158.9654
L	15+02.98	39.00	730148.0308	2573163.8856
L	16+40.00	30.00	730208.5811	2573287.1363
L	16+40.00	-30.00	730264.0492	2573264.2607

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	14+05.00	-44.00	730187.4190	2573041.6682
L	14+05.00	-39.00	730182.7965	2573043.5741
L	14+17.00	-44.00	730191.9931	2573052.7623
L	14+17.00	-39.00	730187.3705	2573054.6682

NOTES:

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


2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

3. RIGHT OF WAY MONUMENTATION ESTABLISHED 3/20/2024 TO 3/21/24.

REVISIONS

6/2/24

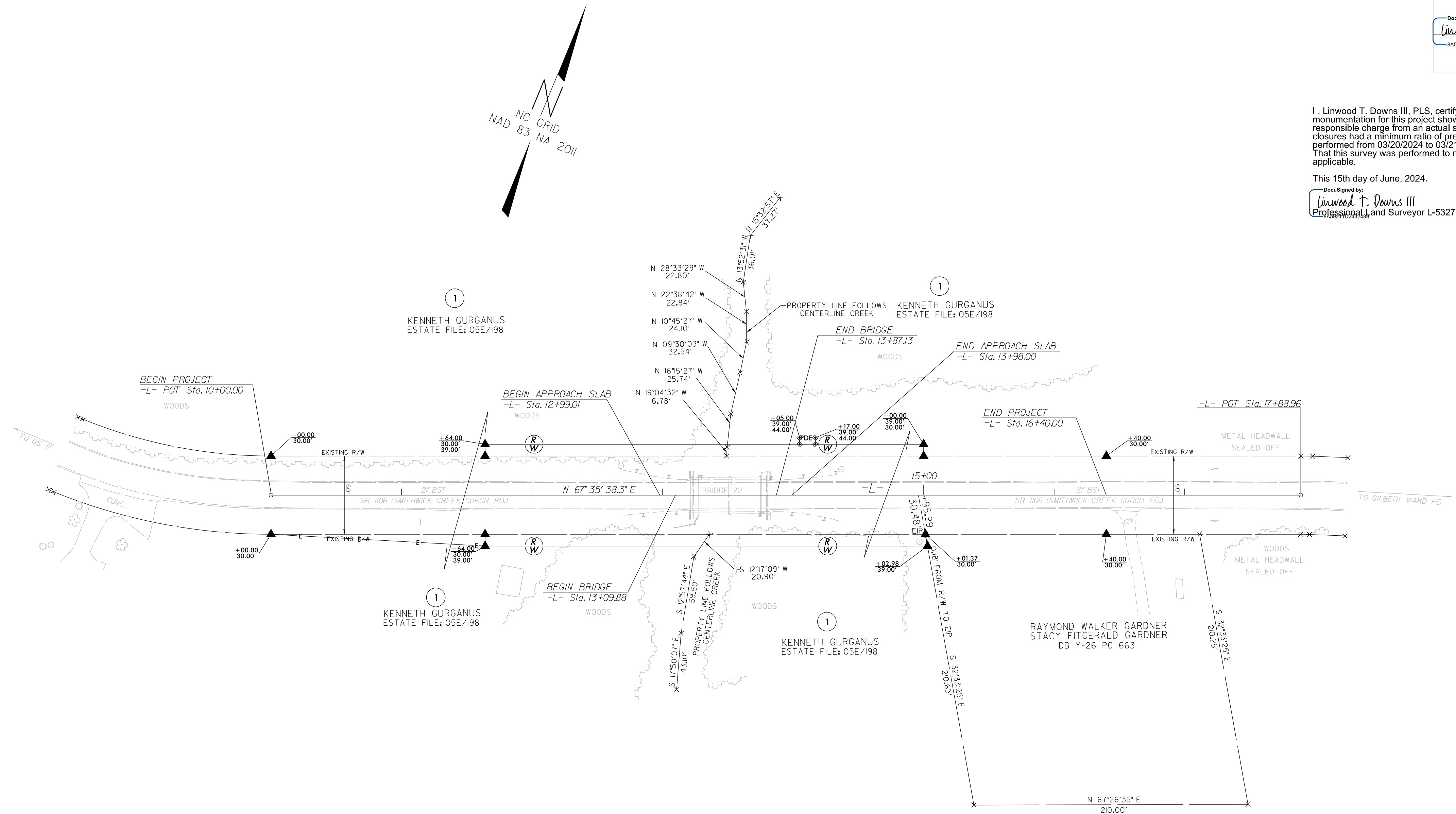
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LTDOWNS

PROJECT REFERENCE NO.	SHEET NO.
BP1-R013	RW04
<h1>Location and Surveys</h1> <h2>Location & Surveys</h2> <h3>Division 1</h3> <h1>1300 US HWY 64 West</h1> <h1>Plymouth, NC 27962</h1>	
<p>PROJECT SURVEYOR</p>  <p>DocuSigned by: <i>Timothy J. Downs III</i></p> <p>845092 10/10/2019 10:04 AM</p> <p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	

I, Linwood T. Downs III, PLS, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 03/20/2024 to 03/21/2024 and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 15th day of June, 2024.

DocuSigned by:
Linwood T. Downs III
Professional Land Surveyor L-5327



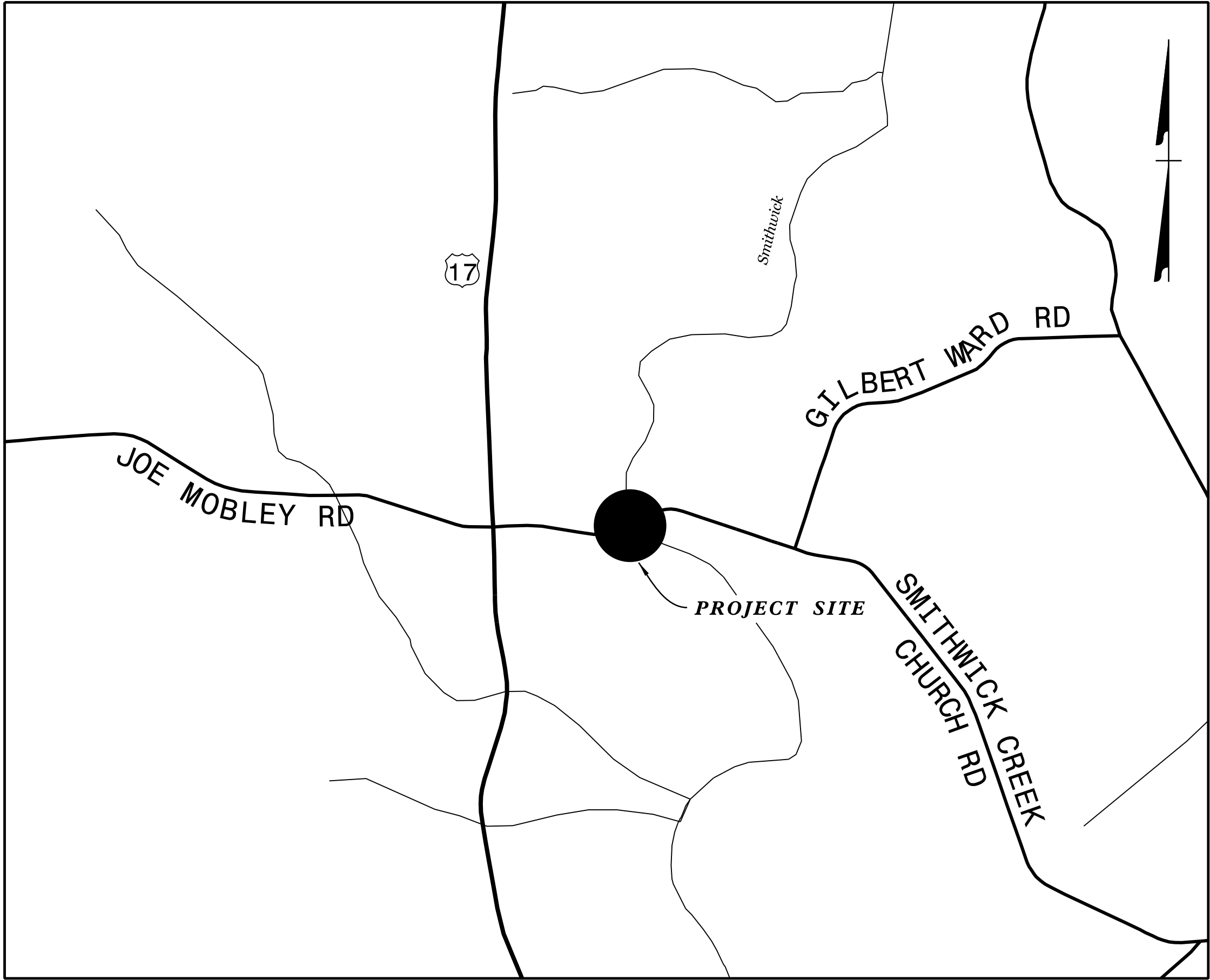
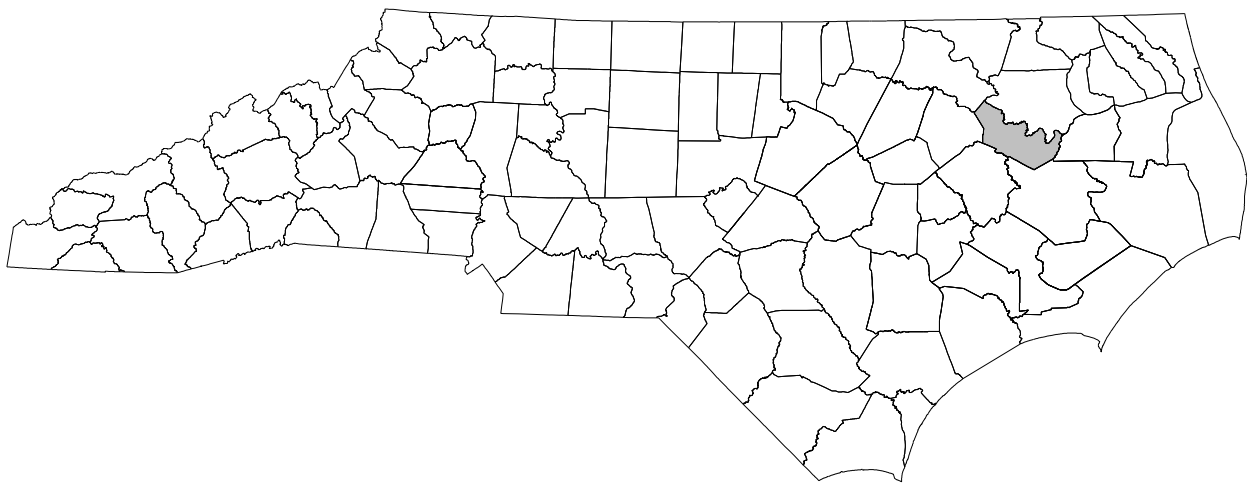
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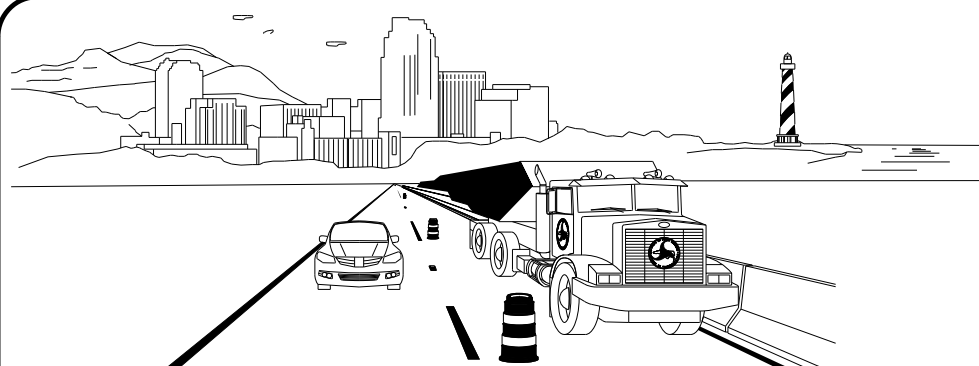
1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 3/20/2024 TO 3/21/24.

REVISIONS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
MARTIN COUNTY





WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

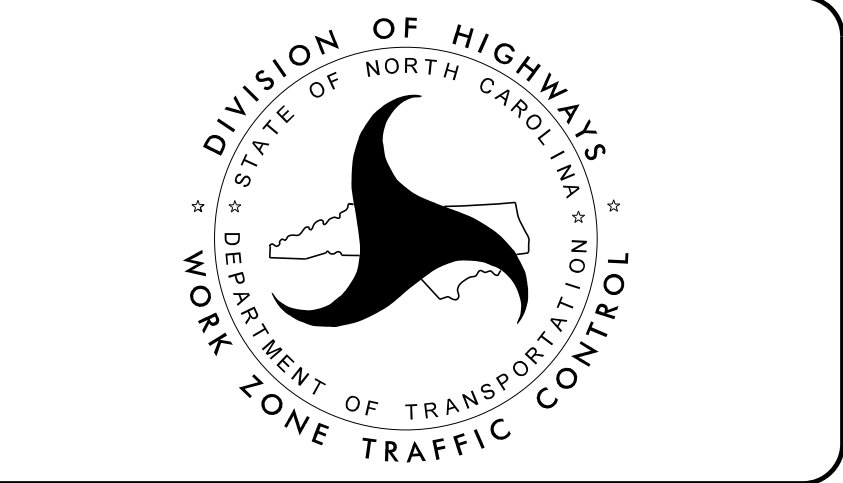
PLANS PREPARED BY:

CHRIS SILVER, PE, PTOE
PROJECT MANAGER

KEVIN BISBY, PE
TECHNICAL MANAGER

NCDOT CONTACTS:

RYAN SHOOK
DIVISION BRIDGE PROGRAM MANAGER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-2	GENERAL NOTES AND TRAFFIC CONTROL PHASING
TMP-3	OFFSITE DETOUR DETAIL

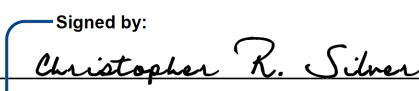
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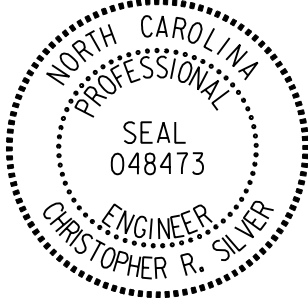
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

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APPROVED: 
DATE: 3/18/2025

SEAL



BP1.R013.1

PROJECT:



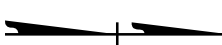
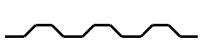


ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  NORTH ARROW
-  TEMP. SHORING (LOCATION PURPOSES ONLY)
-  WORK AREA
-  REMOVAL







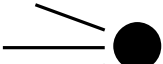








SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY




PAVEMENT MARKINGS

-  EXISTING LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING


-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PROJ. REFERENCE NO.

BP1.R013.1

SHEET NO.


TMP-1A




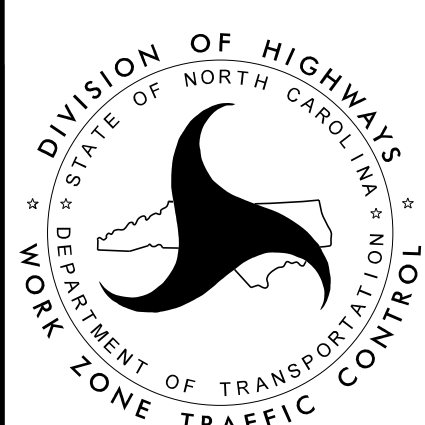
P: (919) 878-9560
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Raleigh, North Carolina 27615-3960
NC License No. F-0112

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APPROVED: 
DATE: 3/18/2025





ROADWAY STANDARD
DRAWINGS & LEGEND

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GENERAL NOTES

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

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

STATE FORCES WILL BE RESPONSIBLE FOR PROVIDING SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

- I) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

STATE FORCES WILL COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

- K) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- L) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

TRAFFIC CONTROL PHASING

STEP 1:
ERECT OFFSITE DETOUR SIGNING AS SHOWN ON TMP-3, AND CLOSE SR 1106 SMITHWICK CREEK CHURCH RD TO TRAFFIC.

STEP 2:
CONSTRUCT PROPOSED ROADWAY AND BRIDGE THROUGH THE FINAL LAYER OF SURFACE COURSE PER THE ROADWAY PLAN.

STEP 3:
APPLY FINAL PAVEMENT MARKINGS, REMOVE TRAFFIC CONTROL DEVICES AND OPEN SR 1101 SMITHWICK CREEK CHURCH RD TO TRAFFIC. THE CONTRACTOR MAY USE UP TO FIVE DAYS TO COMPLETE PUNCH LIST ITEMS AFTER OPENING THE ROADWAY.

APPROVED:

Signed by: Christopher R. Silver

15A22018F4F746B...

DATE: 3/18/2025

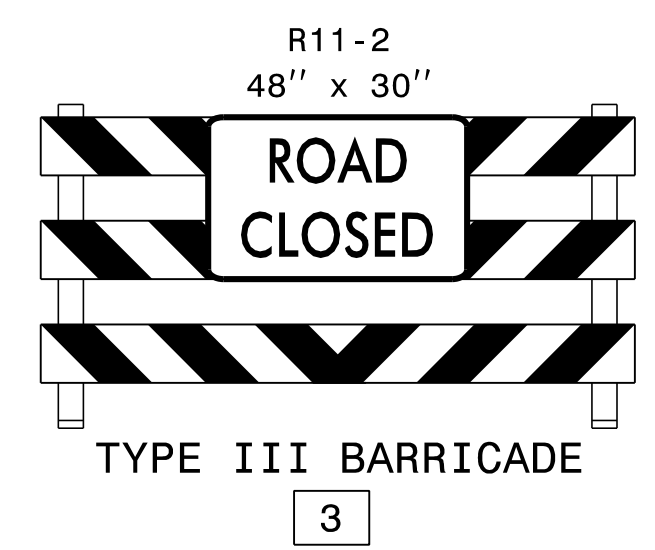
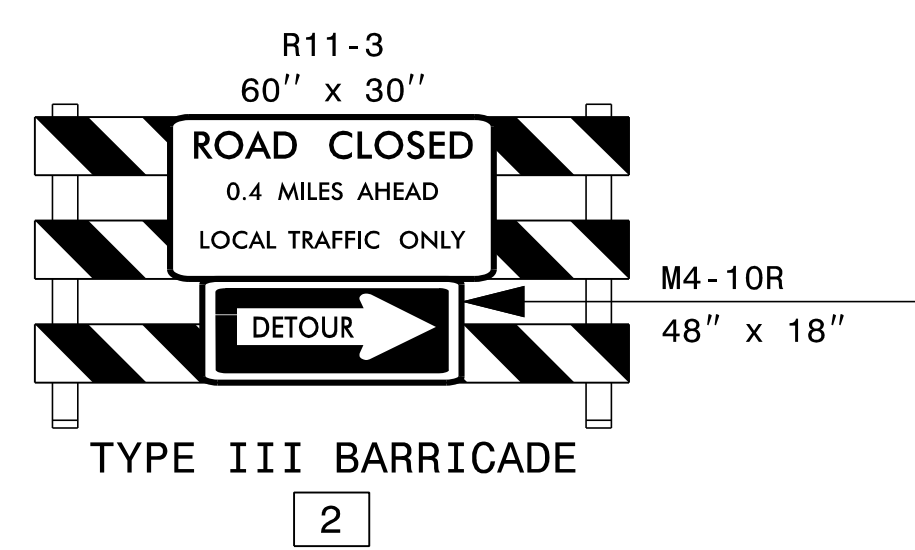
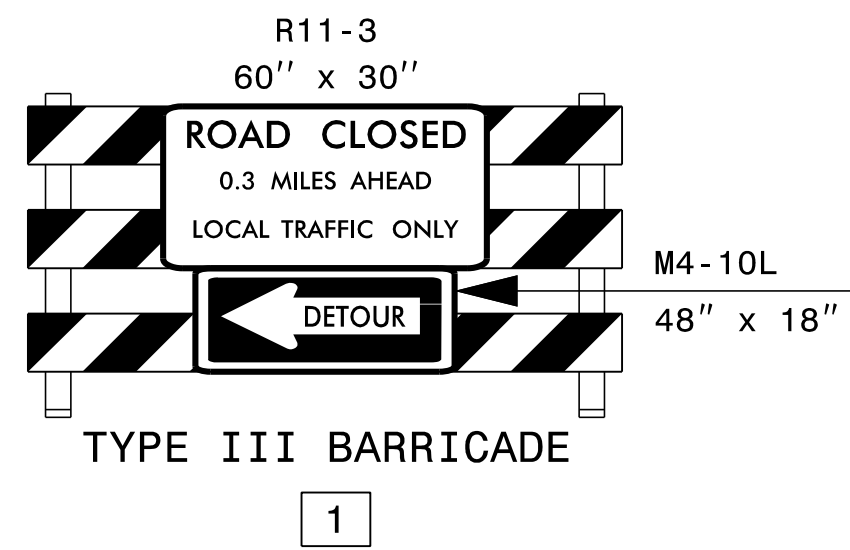
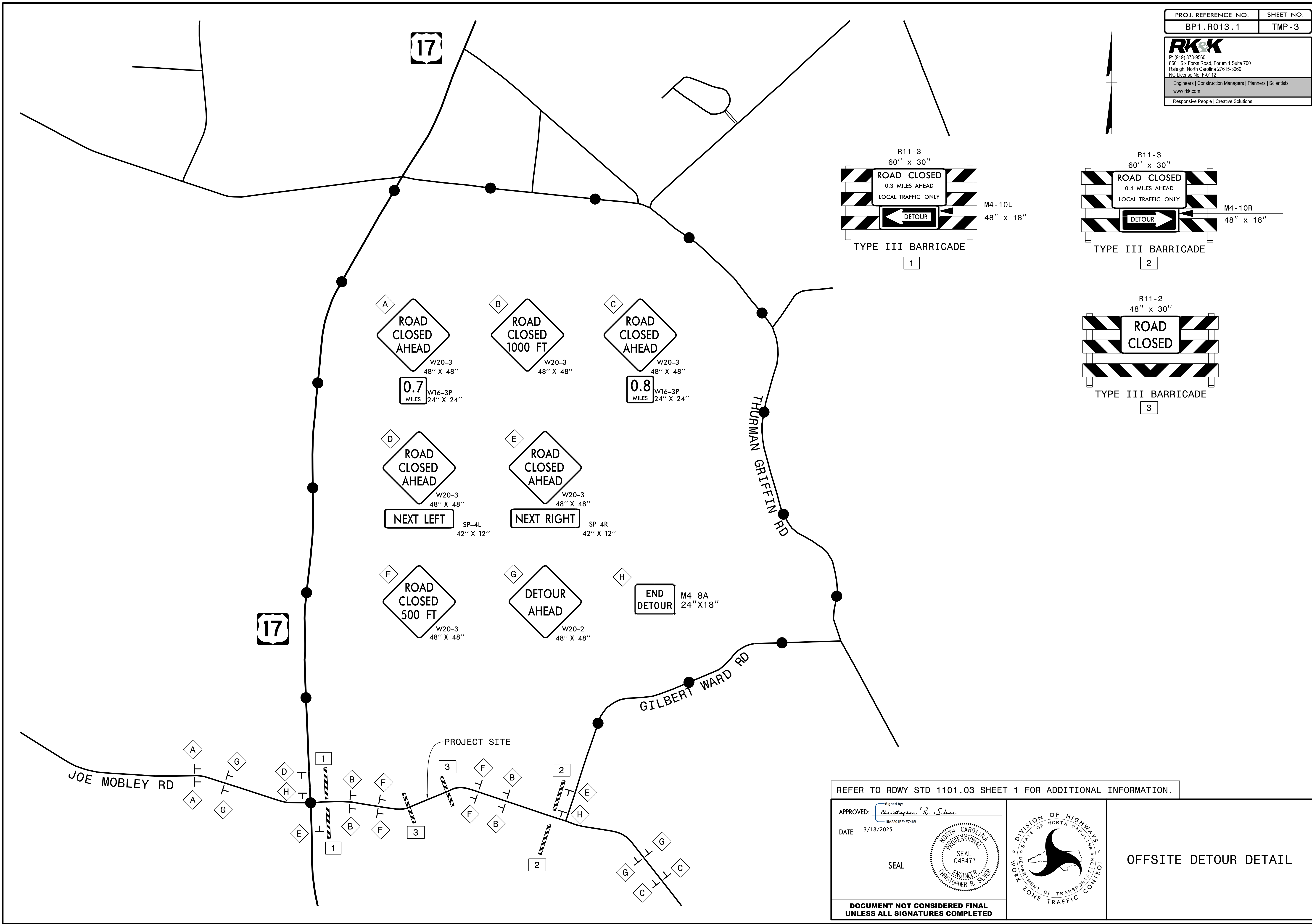
SEAL

NORTH CAROLINA
PROFESSIONAL
SEAL
048473
ENGINEER
CHRISTOPHER R. SILVER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

GENERAL NOTES AND TRAFFIC CONTROL PHASING

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



REFER TO RDWY STD 1101.03 SHEET 1 FOR ADDITIONAL INFORMATION.

APPROVED: <u>Christopher R. Silver</u> DATE: 3/18/2025 SEAL 		OFFSITE DETOUR DETAIL
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

3/18/2025
3:06:22 PM
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csilver

CONTRACT:

PROJECT: BP1.R013.1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
MARTIN COUNTY

LOCATION: BRIDGE NO. 570022 OVER SMITHWICK CREEK
ON SMITHWICK CREEK CHURCH ROAD (SR 1106)

PROJECT	SHEET NO.
570022	PMP - 1
APPROVED: <div>Signed by: Christopher R. Silver 15A22016F4F746B...</div>	
DATE: 3/18/2025	
SEAL	
<div>Seal: NORTH CAROLINA PROFESSIONAL SEAL 048473 ENGINEER CHRISTOPHER R. SILVER</div>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

ROADWAY STANDARD DRAWING

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

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

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
-L-	THERMOPLASTIC	NONE

- B. TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C. REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D. PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

INDEX

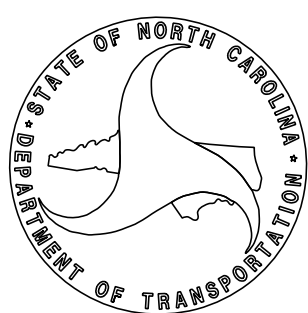
SHEET NO.	DESCRIPTION
PMP - 1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP - 2	PAVEMENT MARKING DETAILS

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
THERMOPLASTIC	
T1	WHITE EDGELINE (4")
T13	YELLOW DOUBLE CENTER (4")

PLAN PREPARED FOR: N.C.D.O.T. DIVISION 1

RYAN SHOOK DIVISION BRIDGE PROGRAM MANAGER



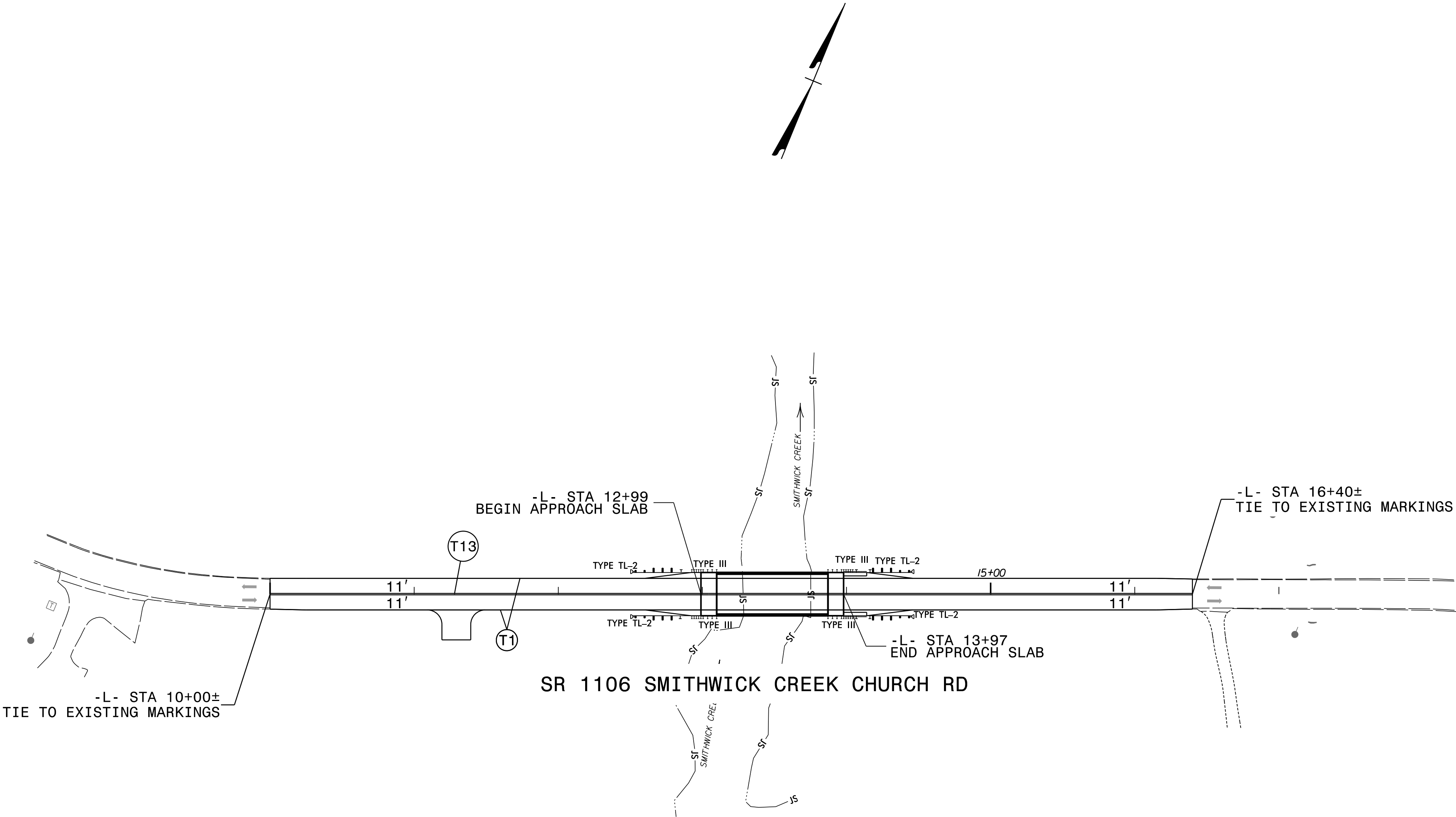
RK&K

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8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

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PROJECT	SHEET NO.
BP1.R013.1	PMP-2
APPROVED: <div>Signed by: Christopher R. Silver 15A22018F4F746B</div>	
DATE: 3/18/2025	
SEAL	
<div>Seal: NORTH CAROLINA PROFESSIONAL SEAL 048473 ENGINEER CHRISTOPHER R. SILVER</div>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

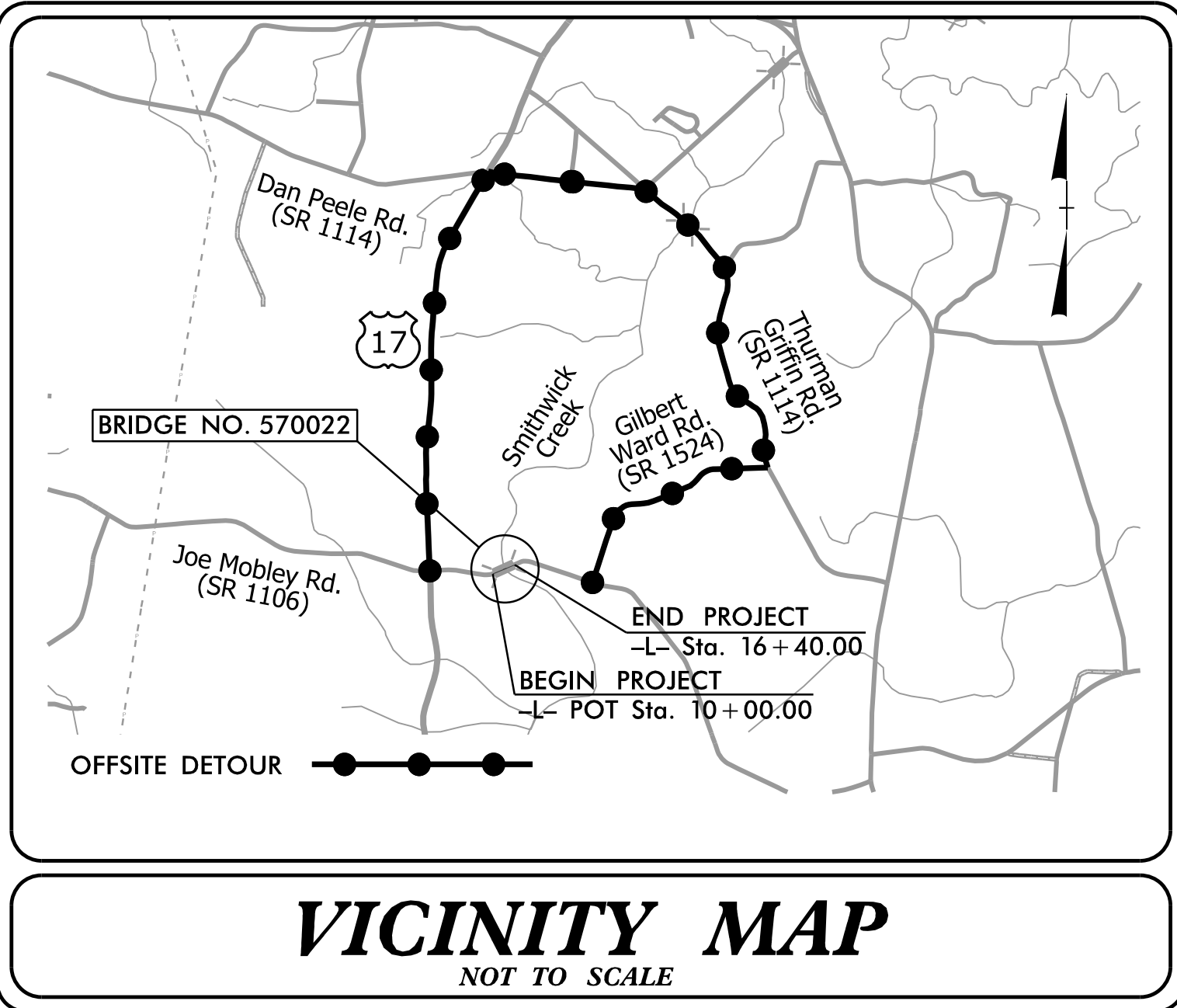


3/18/2025
BP1.R013.1-PMP-PSH02.dgn
csilver

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PAVEMENT MARKING DETAIL

TIP PROJECT: BPI.R013.1



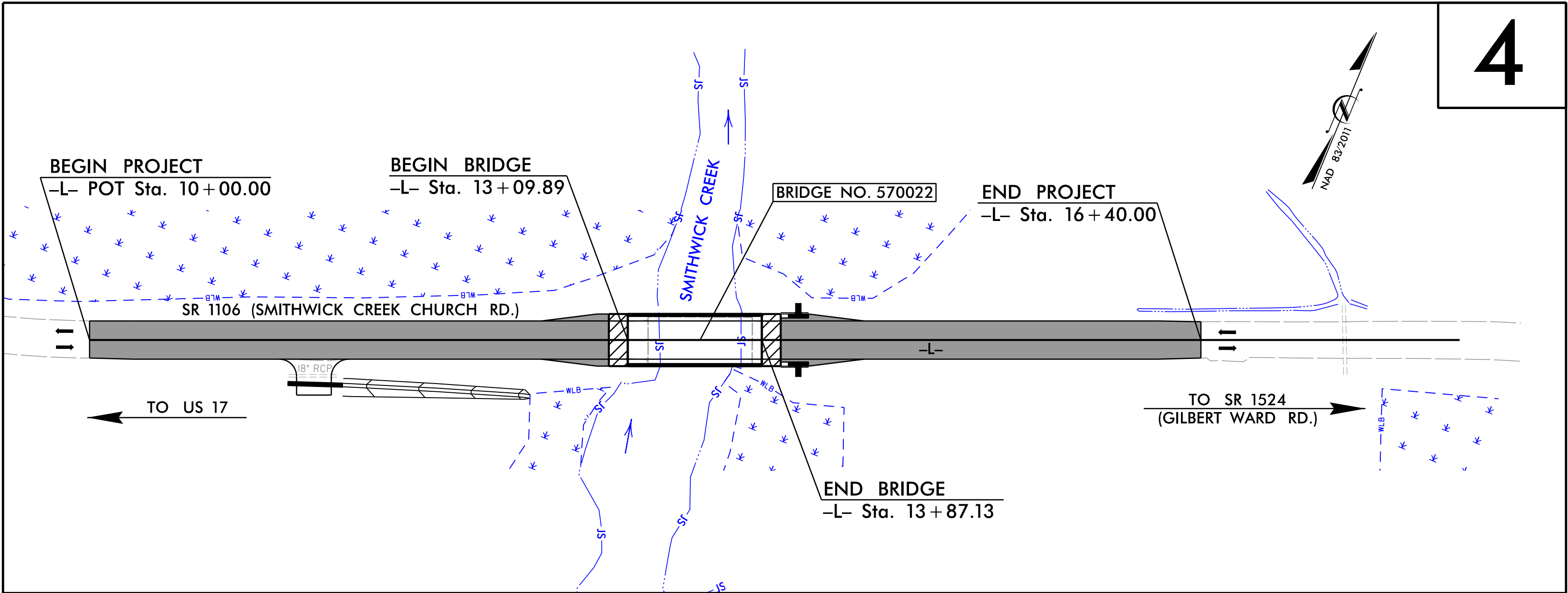
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
MARTIN COUNTY

LOCATION: BRIDGE NO. 570022 OVER SMITHWICK CREEK
ON SR 1106 (SMITHWICK CREEK CHURCH RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BPI.R013.1	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

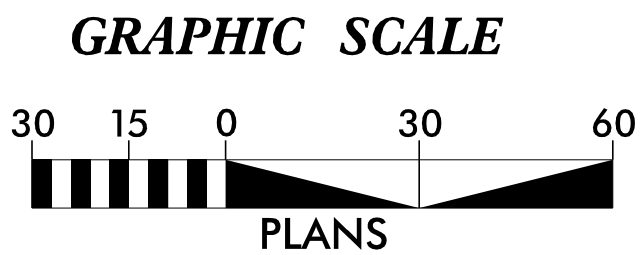
RFC
RELEASED FOR CONSTRUCTION



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

- NOTES:
- CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
 - THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

- Clearing and Grubbing Phase
- Final Phase
- Both Phases



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

RK&K

Prepared in the Office of:

RK&K, LLP

8601 SIX FORKS ROAD, SUITE 700
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO. F-0112
1-888-521-4455 OR 919-878-9560

Designed by:

SETH JONES, EI

4183

NAME

LEVEL III CERTIFICATION NO.

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

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

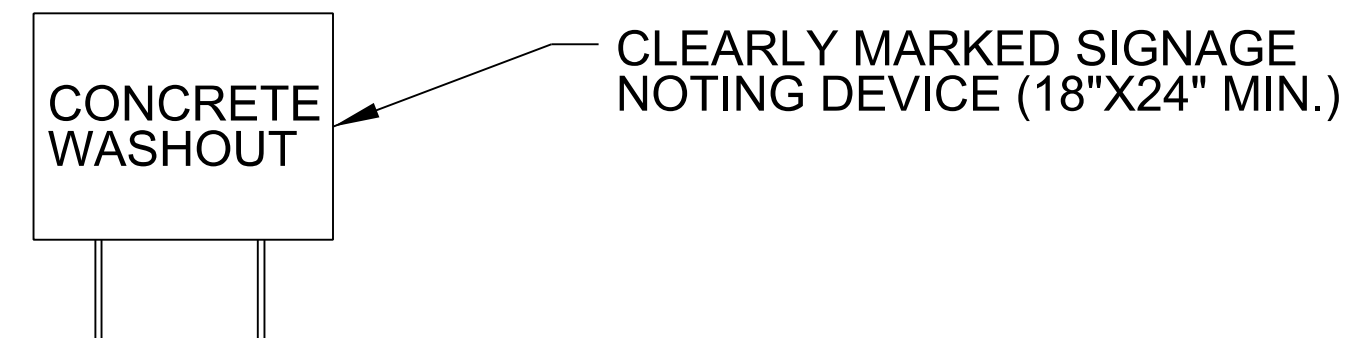
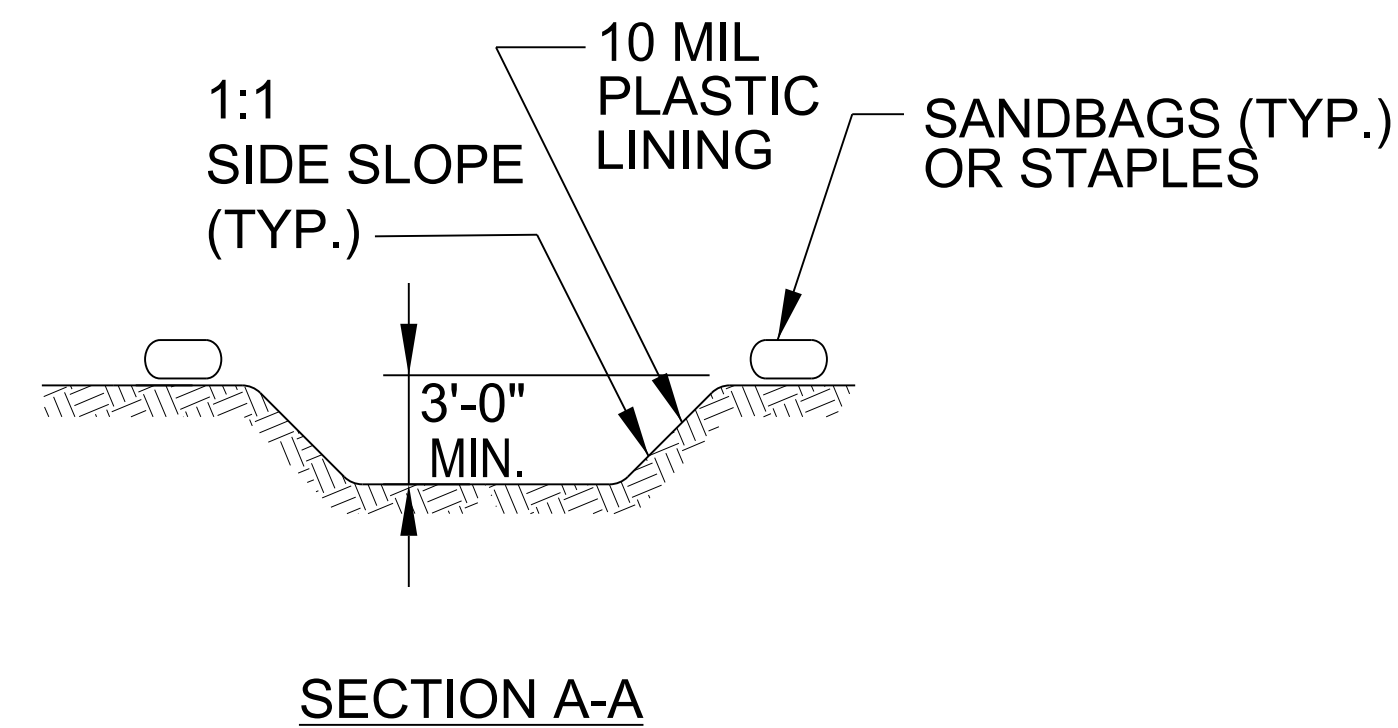
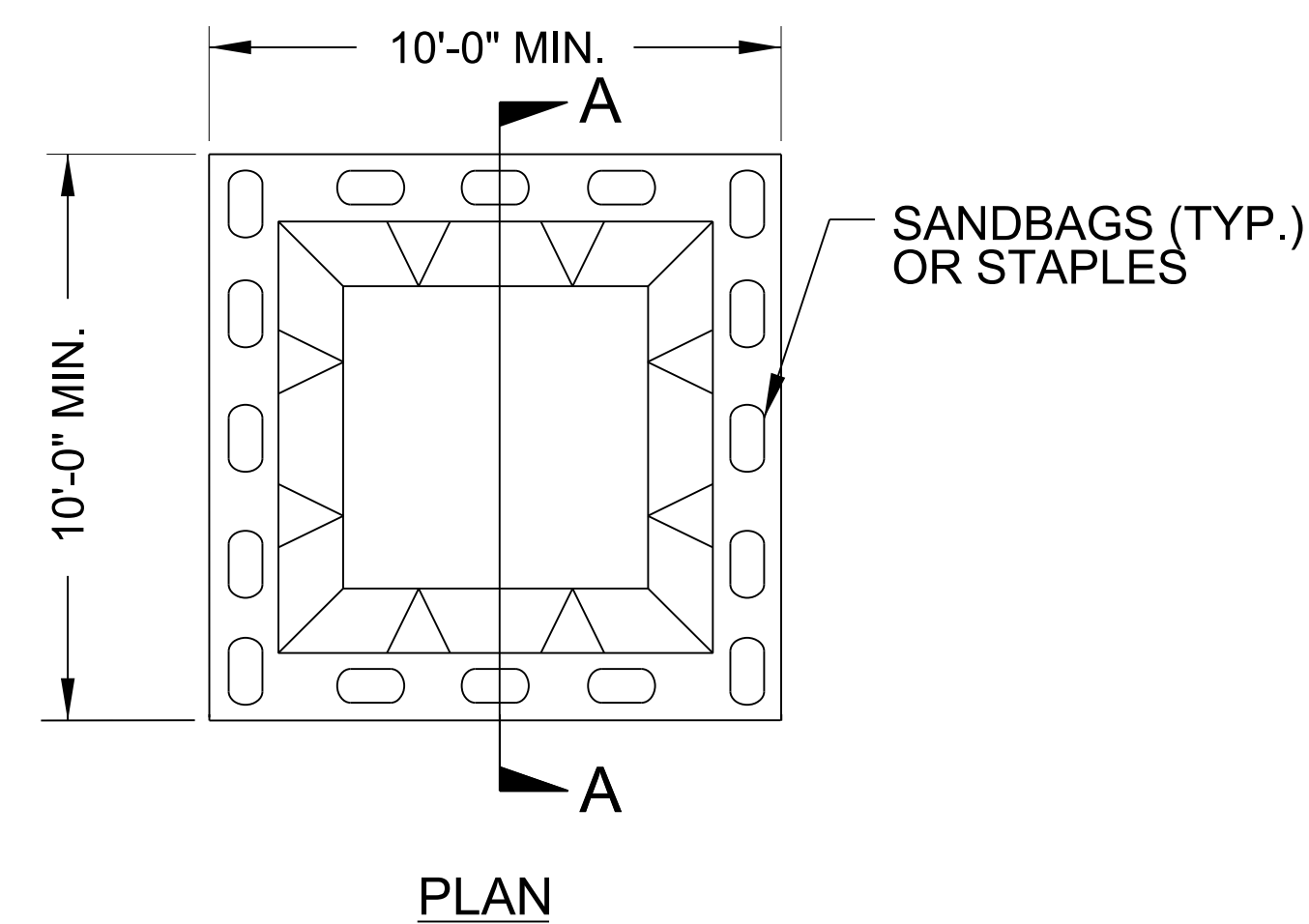
PROJECT REFERENCE NO.	SHEET NO.
BPI.R0131	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol	Std. #	Description	Symbol
1605.01	Temporary Silt Fence		1633.01	Temporary Rock Silt Check Type A	
1606.01	Special Sediment Control Fence		1633.02	Temporary Rock Silt Check Type B	
1622.01	Temporary Berms and Slope Drains		1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1630.02	Silt Basin Type B		1634.01	Temporary Rock Sediment Dam Type A	
1630.03	Temporary Silt Ditch		1634.02	Temporary Rock Sediment Dam Type B	
1630.04	Stilling Basin		1635.01	Rock Pipe Inlet Sediment Trap Type A	
1630.05	Temporary Diversion		1635.02	Rock Pipe Inlet Sediment Trap Type B	
1630.06	Special Stilling Basin		1636.01	Excelsior Wattle Check	
1630.07	Skimmer Basin		1636.01	Excelsior Wattle Check with Flocculant	
1630.08	Tiered Skimmer Basin		1636.01	Coir Fiber Wattle Check	
1630.09	Earthen Dam with Skimmer		1636.01	Coir Fiber Wattle Check with Flocculant	
	Infiltration Basin		1636.02	Silt Fence Excelsior Wattle Break	
	Rock Inlet Sediment Trap:			Silt Fence Coir Fiber Wattle Break	
1632.01	Type A		1636.03	Excelsior Wattle Barrier	
1632.02	Type B		1636.03	Coir Fiber Wattle Barrier	
1632.03	Type C				

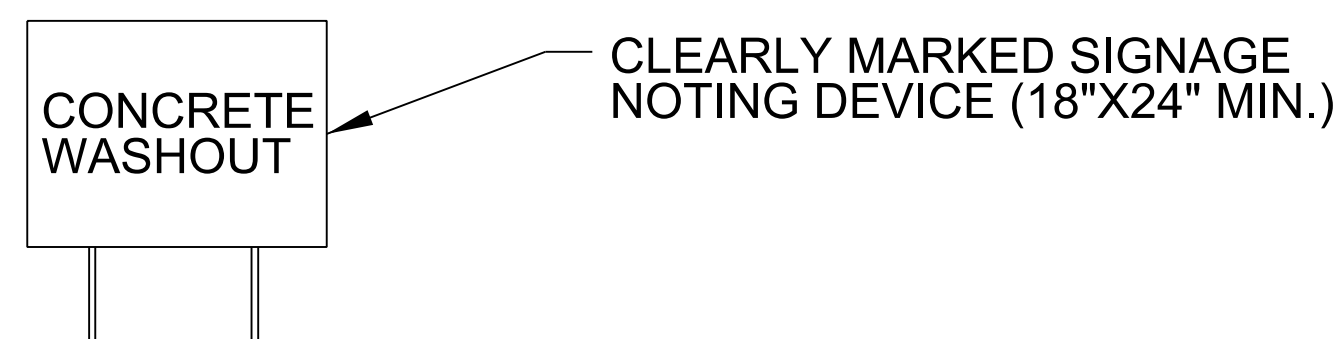
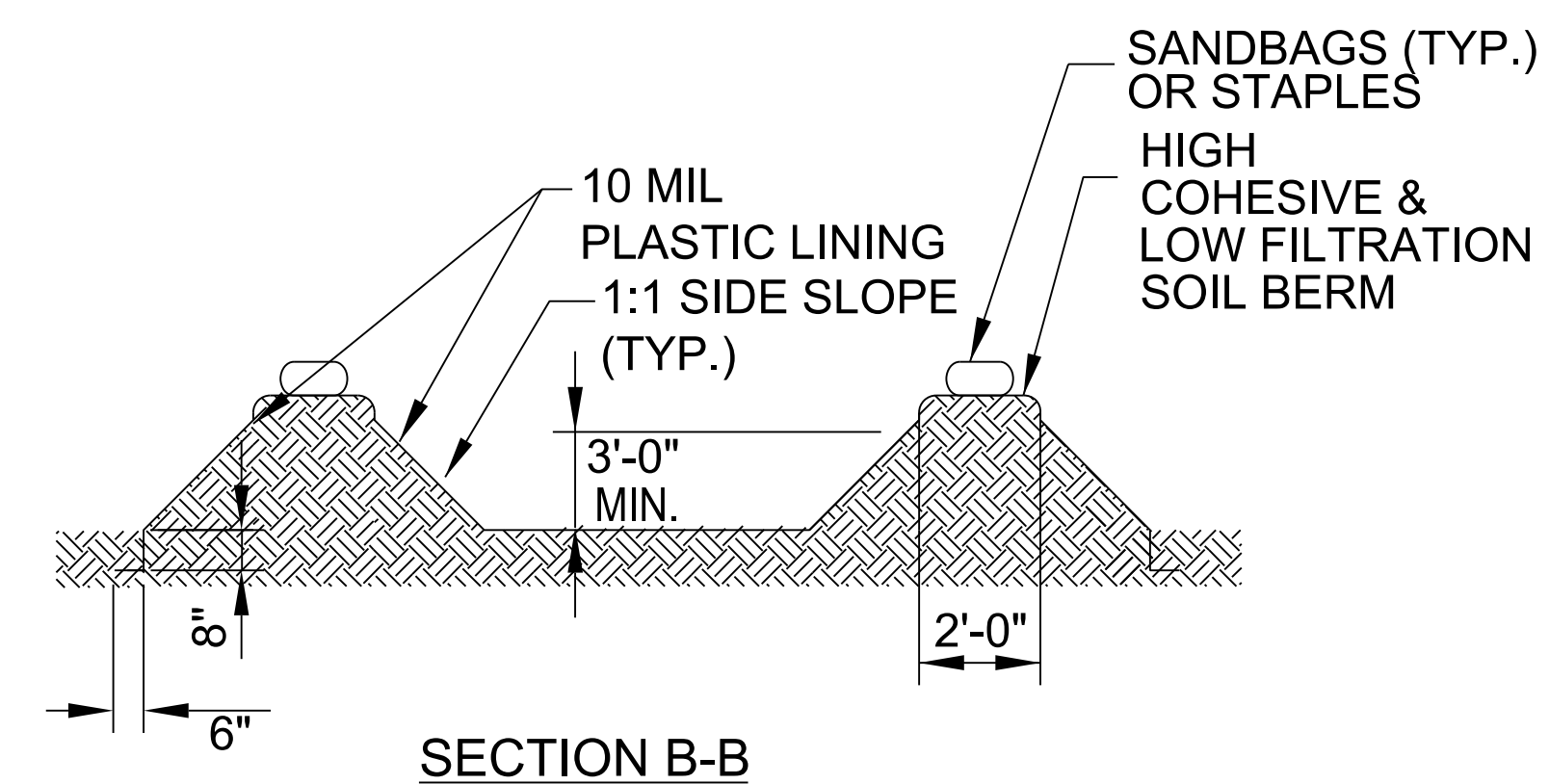
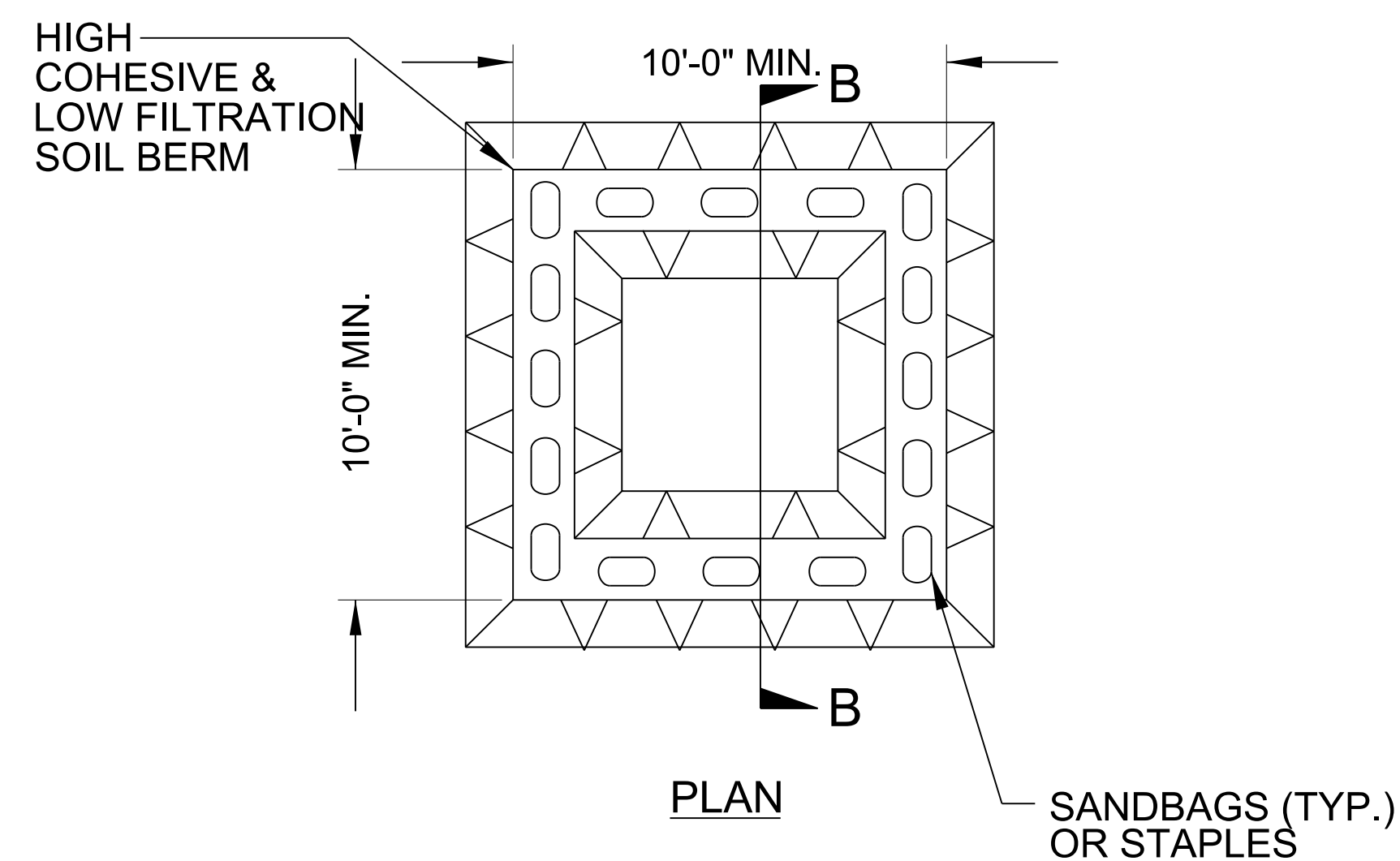
ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

PROJECT REFERENCE NO.	SHEET NO.
<i>BPI-R0131</i>	<i>EC-02A</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

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



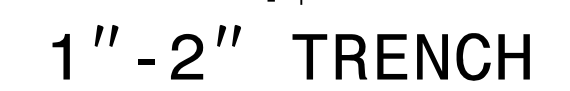
ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- 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.

PROJECT REFERENCE NO.	SHEET NO.
<i>BPI.R013J</i>	<i>EC-02B</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE
STANDARD SPECIFICATIONS.

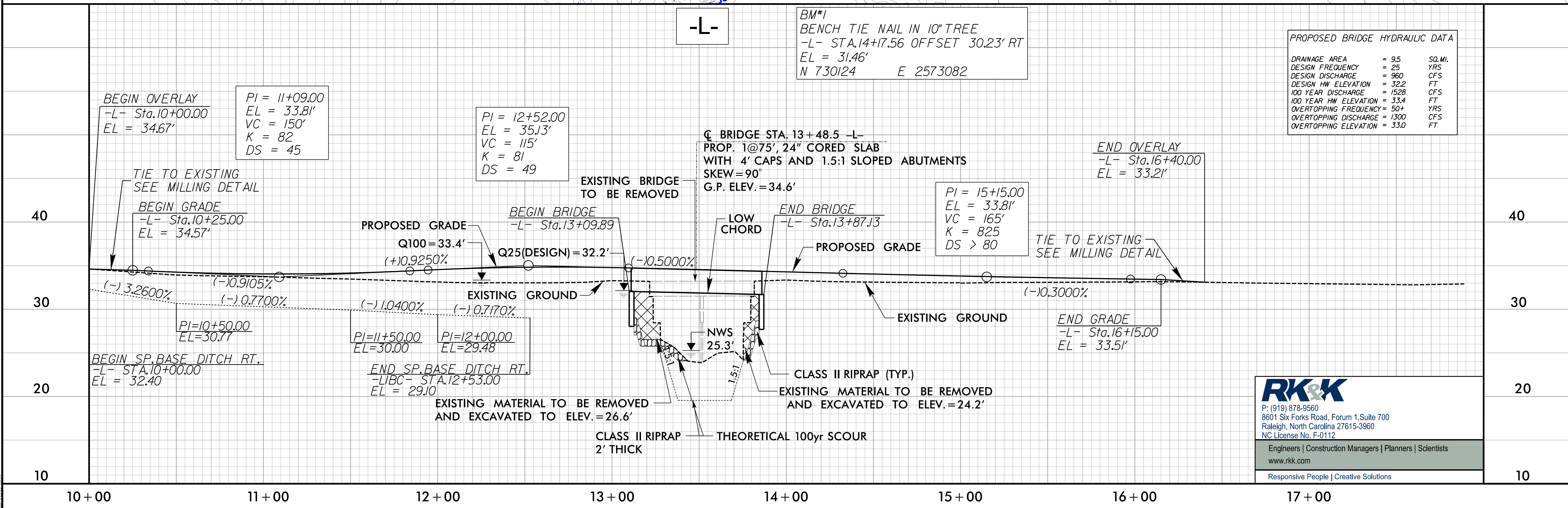
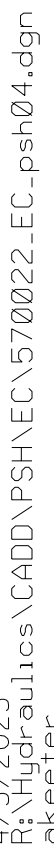


DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
BPI.R013J	EC-03
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

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

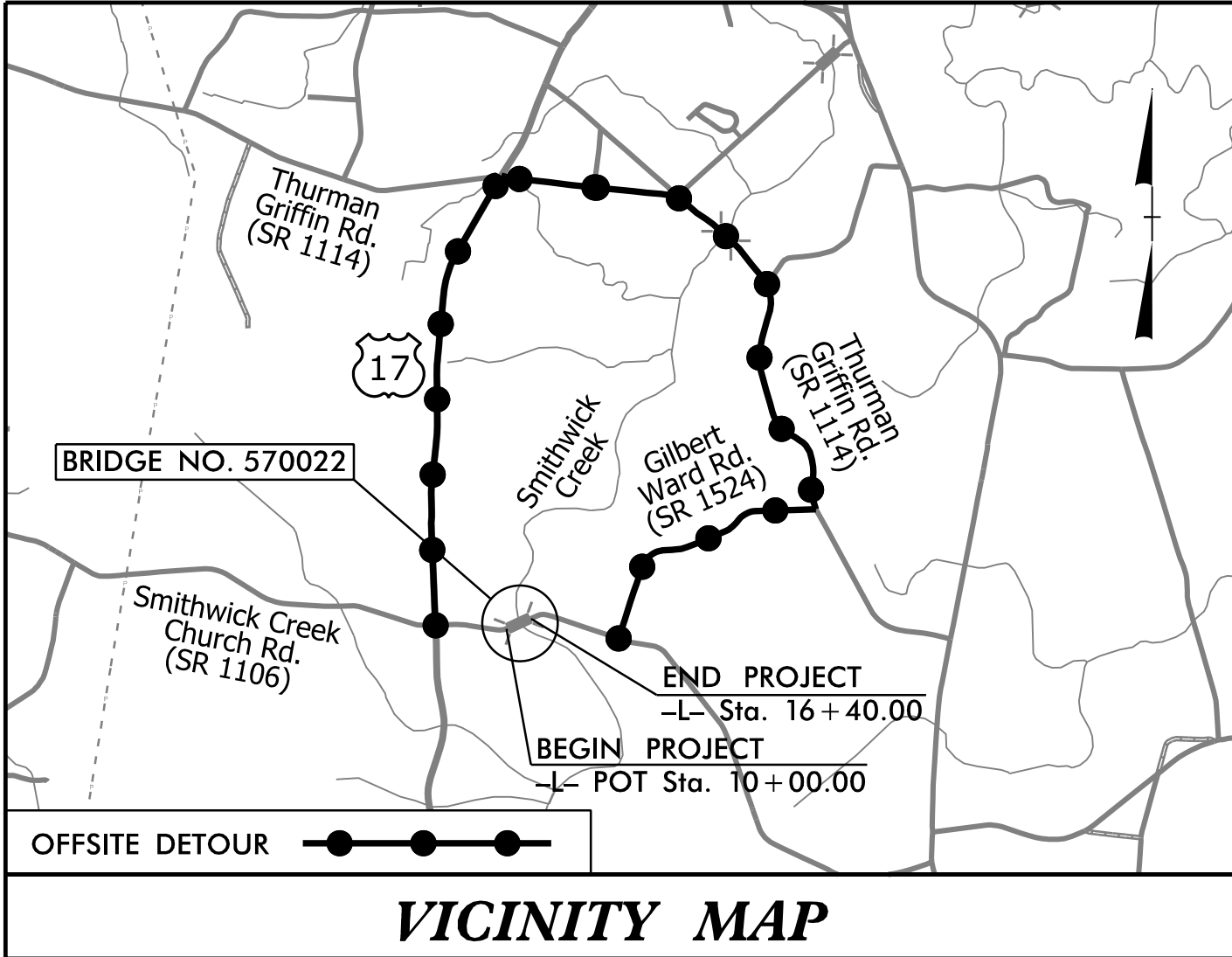


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CONTRACT:

PROJECT: BP1.R013.1



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

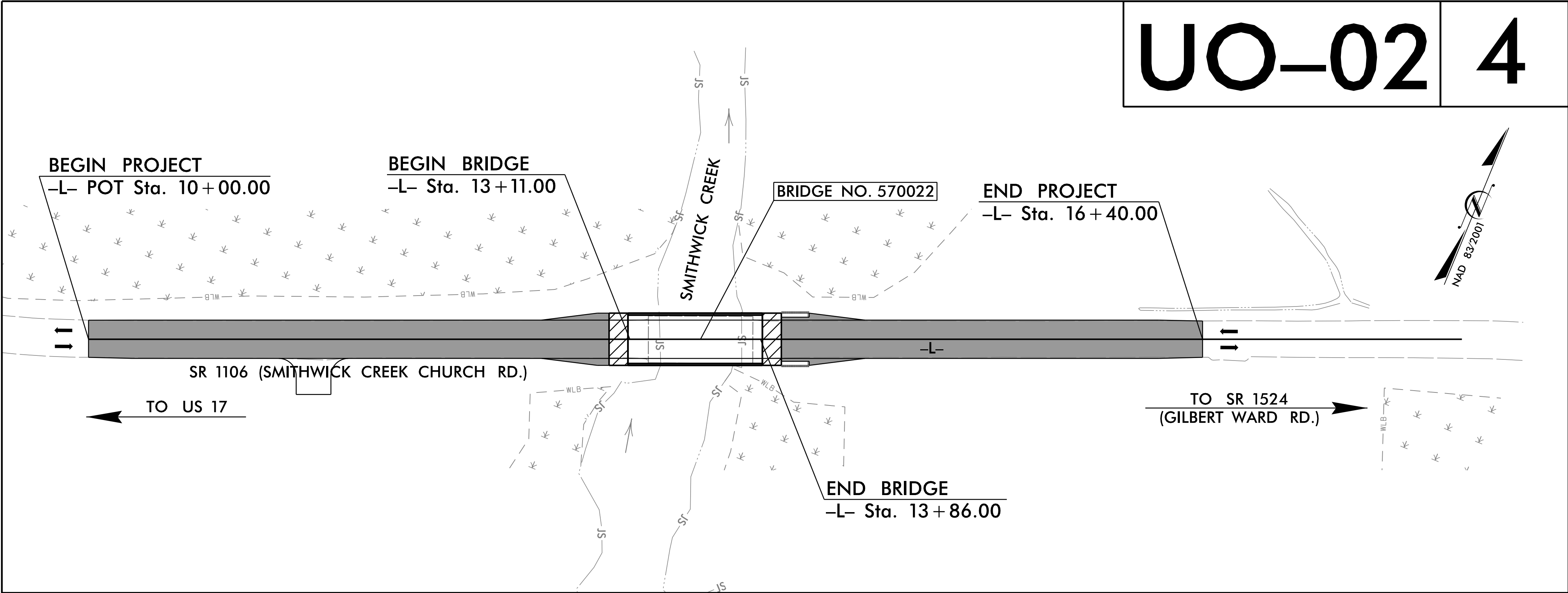
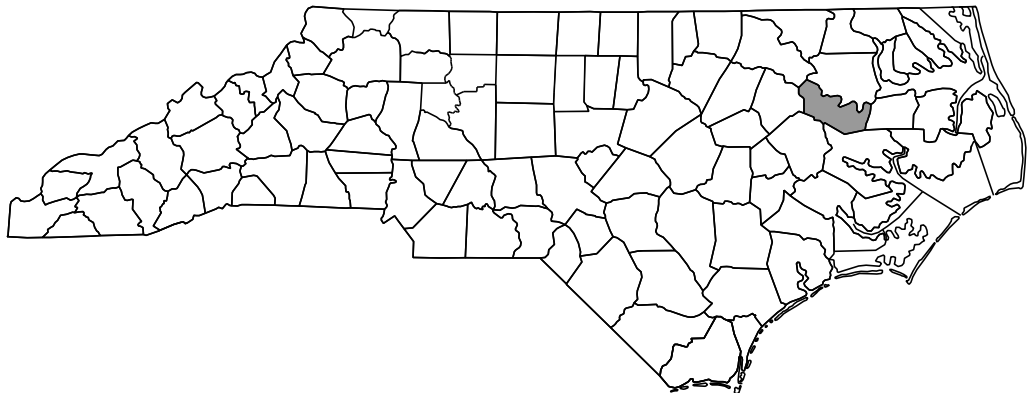
UTILITIES BY OTHERS PLANS
MARTIN COUNTY

LOCATION: BRIDGE NO. 570022 OVER SMITHWICK CREEK
ON SR 1106 (SMITHWICK CREEK CHURCH RD.)

TYPE OF WORK: DRY UTILITIES RELOCATION WORK

T.I.P. NO.	SHEET NO.
BP1.R013.1	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-02 4

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-02	UBO PLAN SHEETS

UTILITY OWNERS WITH CONFLICTS

- (A) DOMINION ENERGY - POWER (D)
- (B) CITY OF WASHINGTON - POWER (D)
- (C) BRIGHTSPEED - COMMUNICATIONS & F/O
- (D) SUDDENLINK - CATV
- (E) MARTIN COUNTY - WATERLINE

PREPARED IN THE OFFICE OF:

P: (919) 878-9560
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Raleigh, North Carolina 27615-3960
NC License No. F-0112
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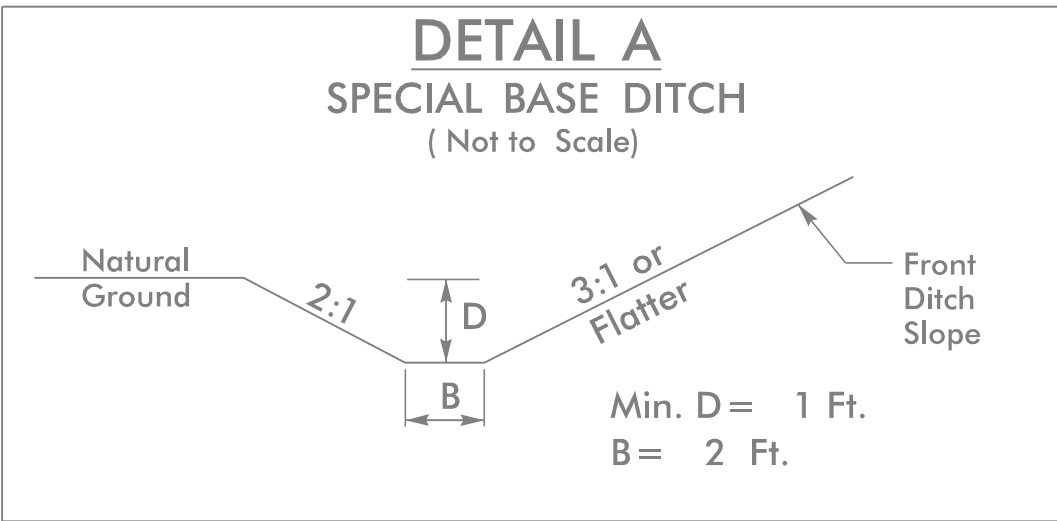
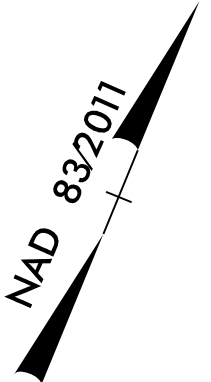
Richy Naron	UTILITY PROJECT MANAGER
Mark Lawson	PROJECT UTILITY COORDINATOR
Mark Lawson	PROJECT UTILITY CADD DESIGNER

DIVISION OF HIGHWAYS
DIVISION 1
113 Airport Drive
Suite 100
Edenton, NC 27932

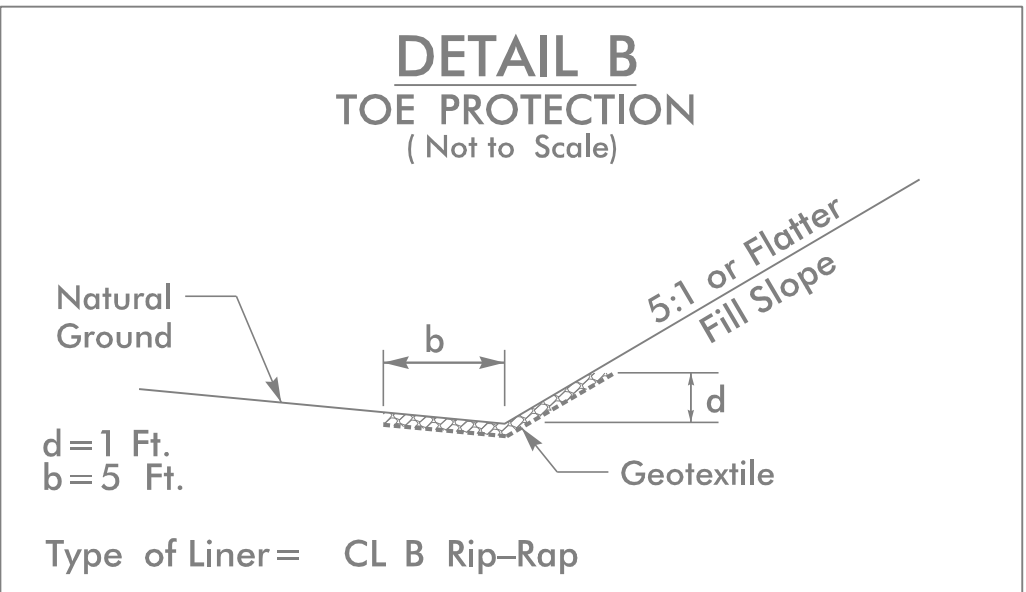
XXX	DIVISION CONTACT #1
XXX	DIVISION CONTACT #2
XXX	DIVISION CONTACT #3
XXX	DIVISION CONTACT #4

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.



-L- 10+00 TO 12+53 RT

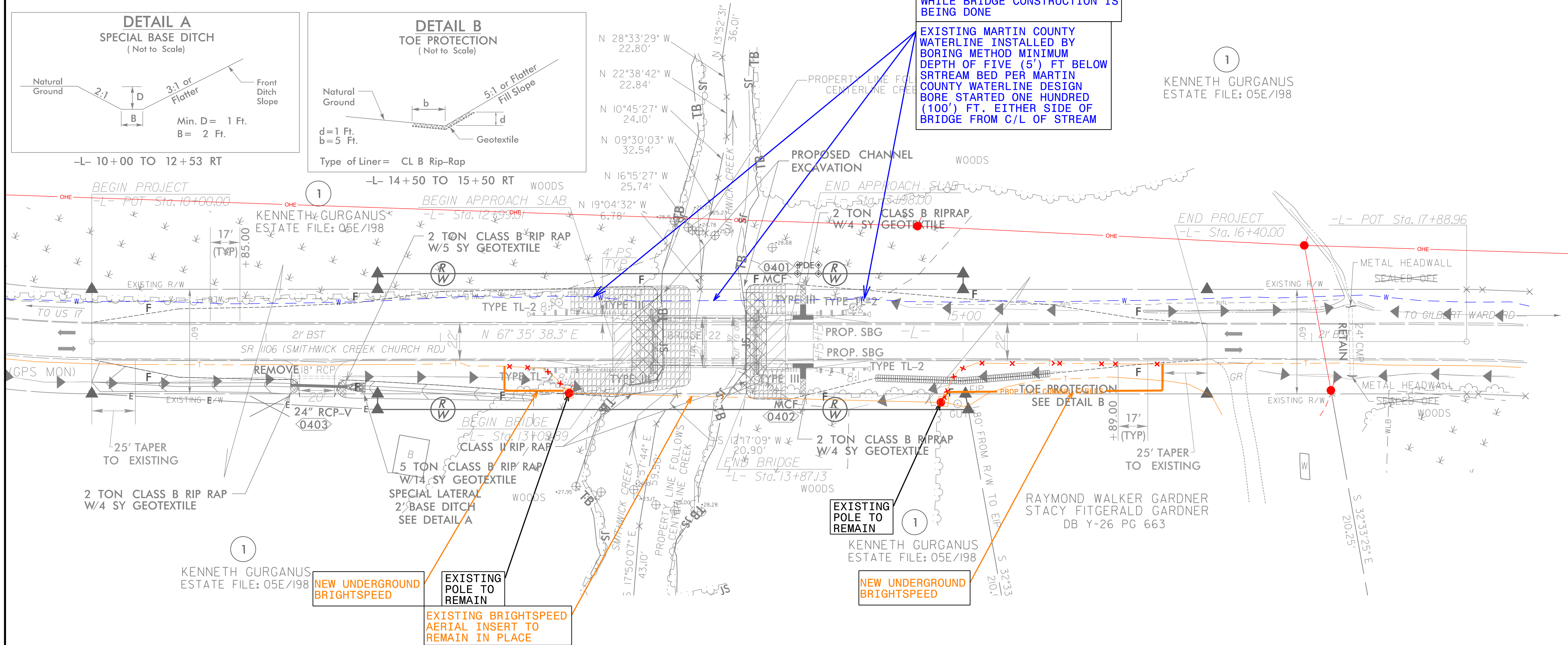


-L- 14+50 TO 15+50 RT

MARTIN COUNTY REQUESTS THAT A STAFF MEMBER BE PRESENT WHILE BRIDGE CONSTRUCTION IS BEING DONE

EXISTING MARTIN COUNTY WATERLINE INSTALLED BY BORING METHOD MINIMUM DEPTH OF FIVE (5') FT BELOW SR/STREAM BED PER MARTIN COUNTY WATERLINE DESIGN BORE STARTED ONE HUNDRED (100') FT. EITHER SIDE OF BRIDGE FROM C/L OF STREAM

1
KENNETH GURGANUS
ESTATE FILE: 05E/198



NOTE:

1. ALL EXISTING POWER ROUTING/CONNECTIVITY PROVIDED BY: DOMINION ENERGY AND GOOGLE EARTH. ALL EXISTING DUKE ENERGY POWER IN CONFLICT WILL BE WRECKED OUT
2. ALL EXISTING UNDERGROUND TELECOMMUNICATIONS AND POWER IN CONFLICT WITH THE PROJECT WILL BE ABANDONED IN PLACE

UTILITY OWNERS ON THIS SHEET

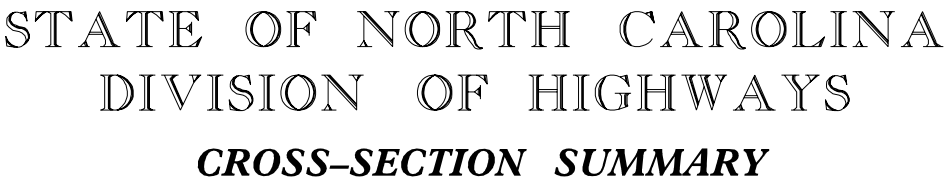
DOMINION ENERGY - POWER (D)
CITY OF WASHINGTON - POWER (D)
BRIGHTSPEED - TELECOMMUNICATIONS
SUDDENLINK - CATV
MARTIN COUNTY - WATERLINE



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8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
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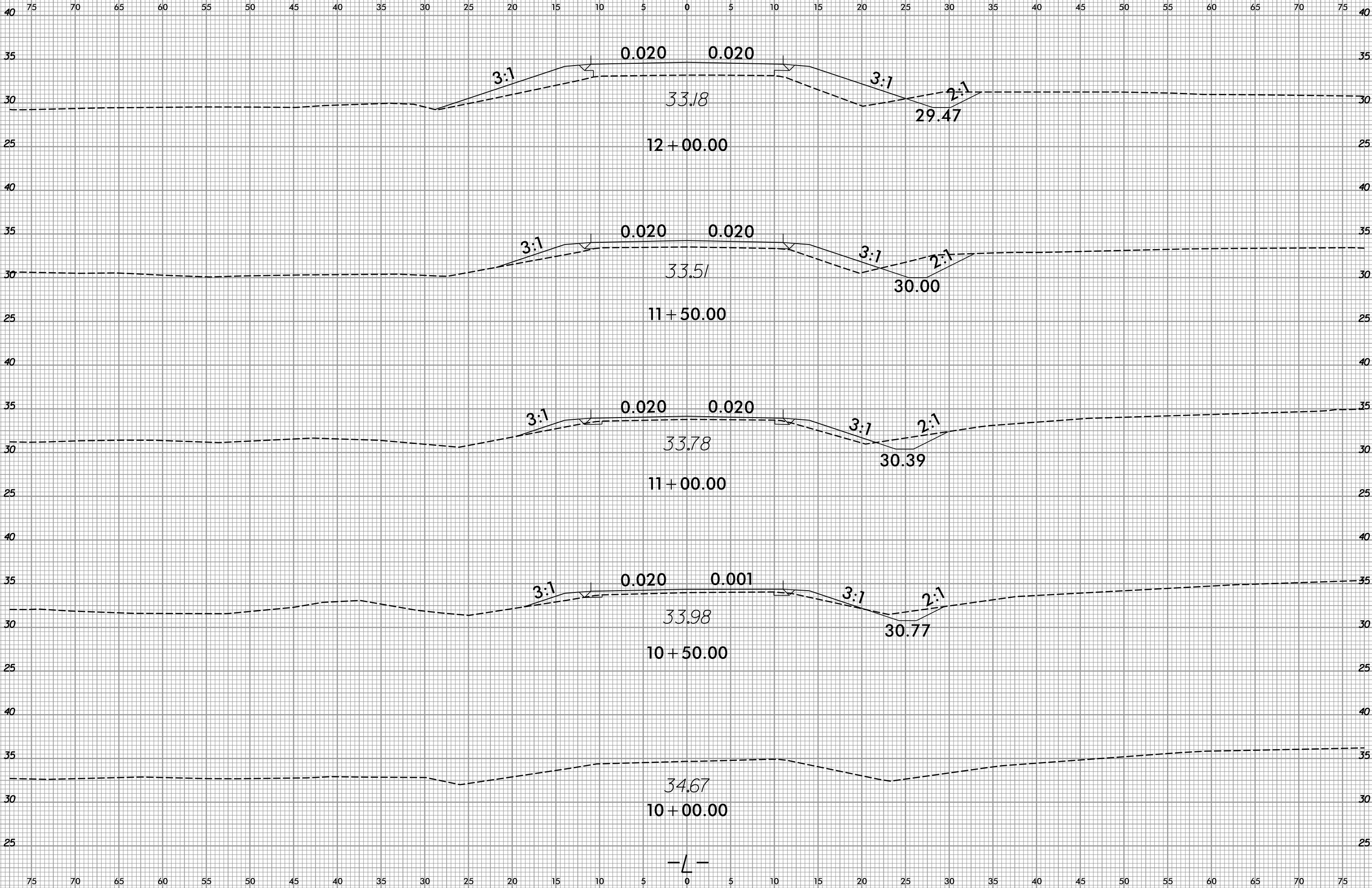
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6/23/16



PROJ. REFERENCE NO.	SHEET NO.
BP1.R013.1	X-1

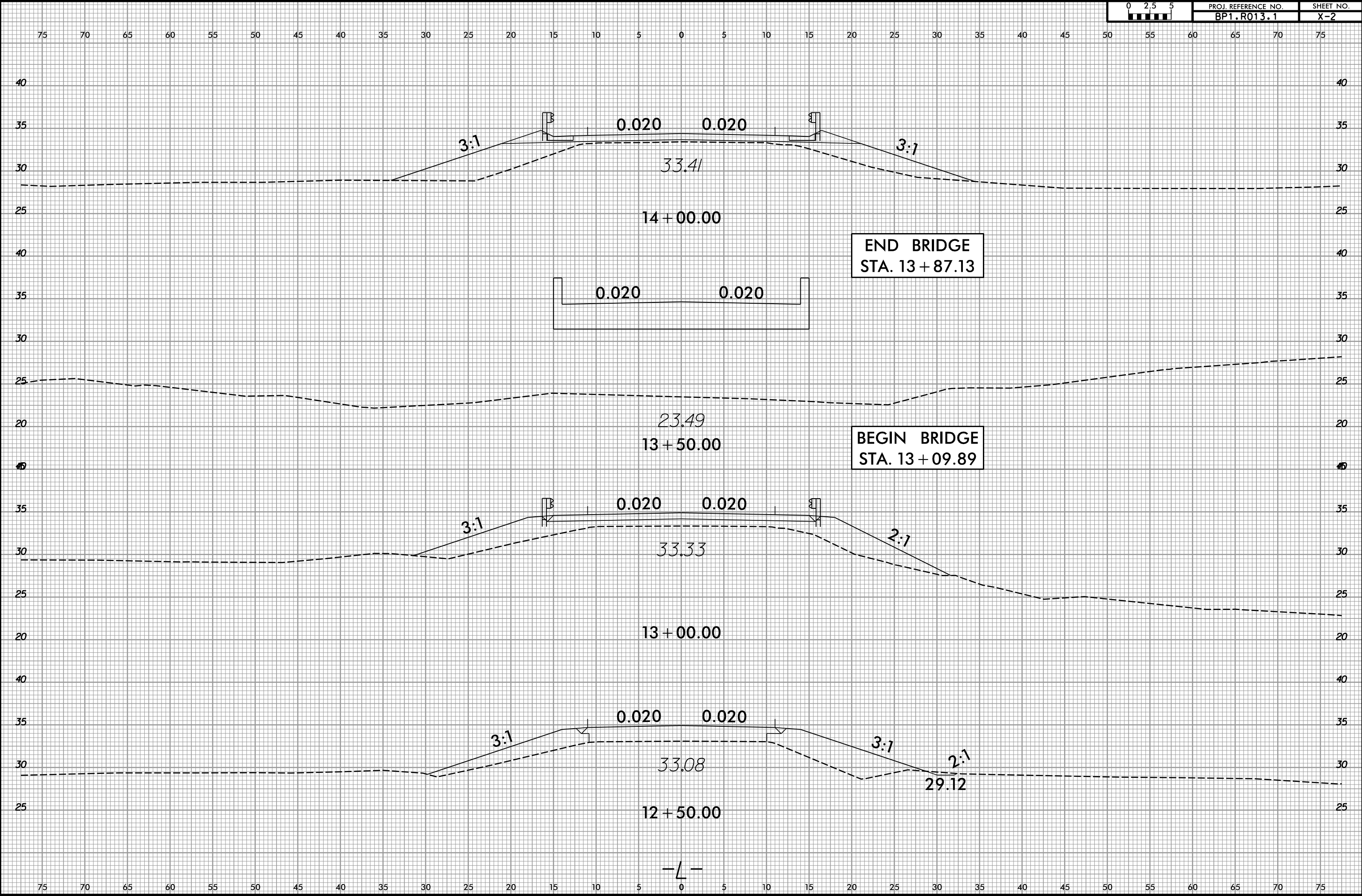


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mhouer

6/23/16



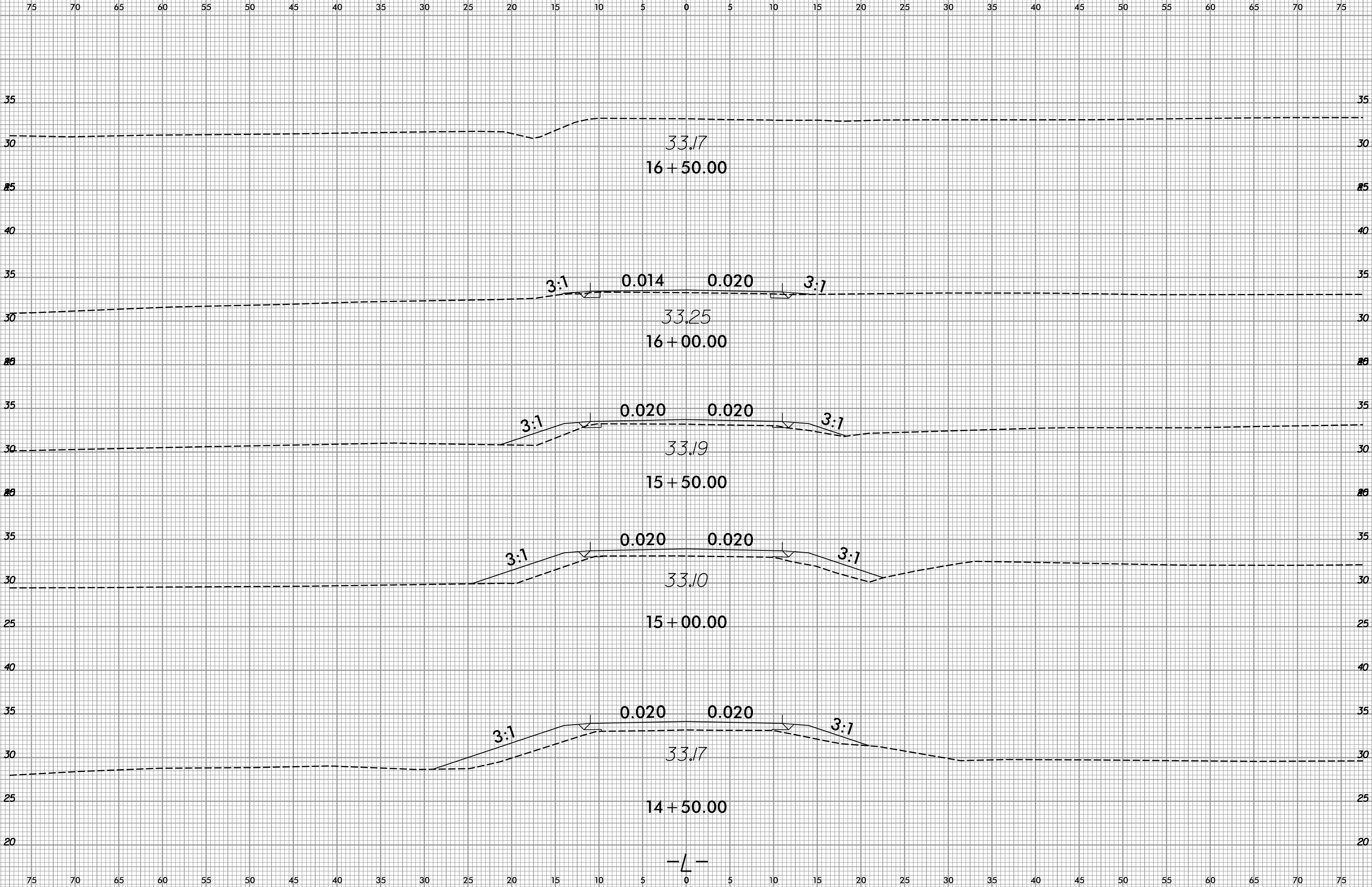
PROJ. REFERENCE NO.	SHEET NO.
BP1.R013.1	X-2



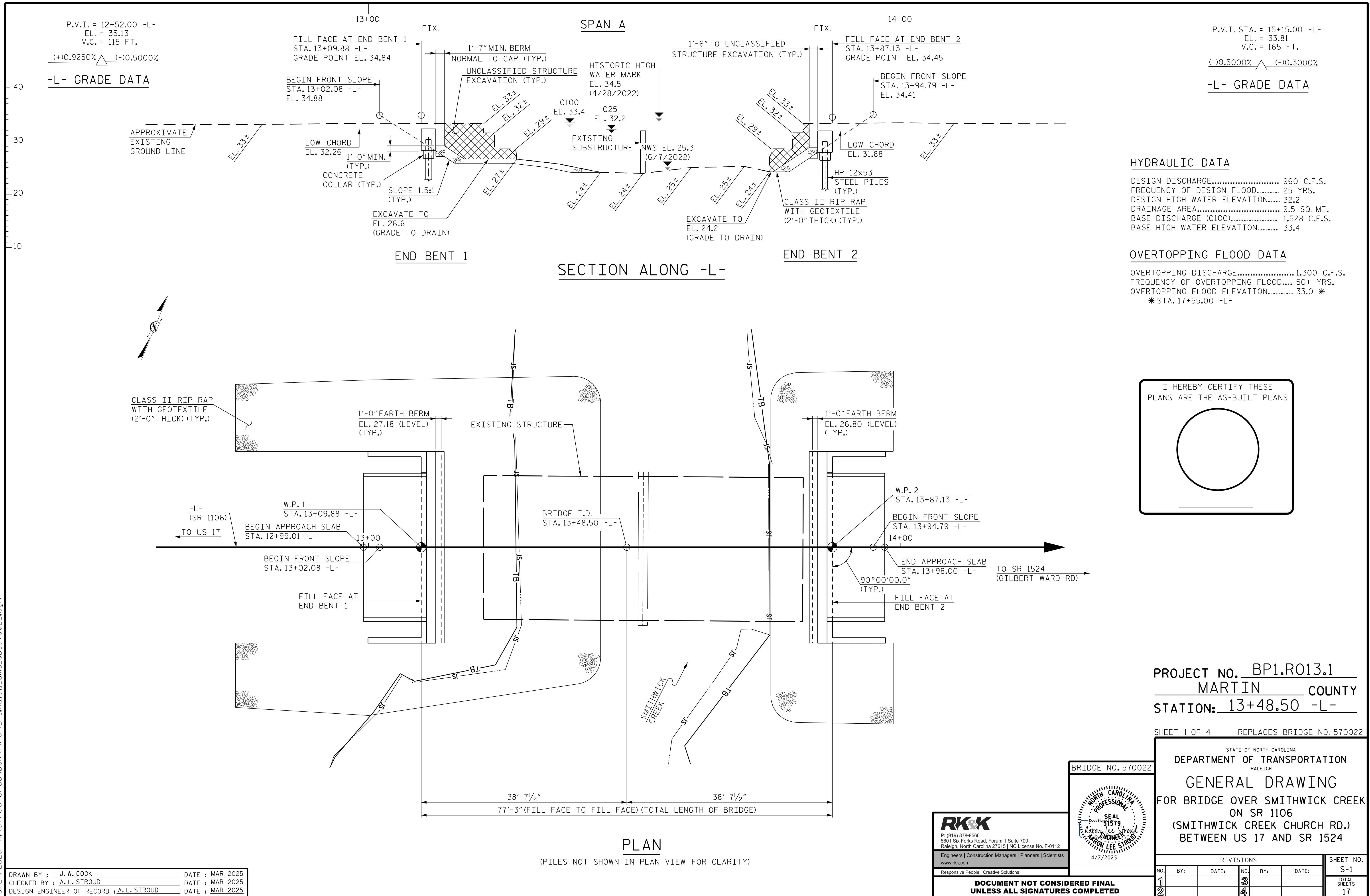
8/23/16



PROJ. REFERENCE NO.	SHEET NO.
BP1.R013.1	X-3



3/17/2025
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mhouder



3/27/2025 R:\Structures\DCN\Final\BP1.R013.1.SMU_FL1.570022.dgn jcook

SUMMARY OF PILE INFORMATION/INSTALLATION														
(BLANK ENTRIES INDICATE ITEM IS NOT APPLICABLE TO STRUCTURE)														
END BENT/BENT NO. PILE(S) *(#)	NUMBER OF PILES PER LINE	FACTORED RESISTANCE PER PILE	PILE CUT-OFF (TOP OF PILE) ELEVATION	ESTIMATED PILE LENGTH PER PILE	SCOUR CRITICAL ELEVATION	DRIVEN PILES			PREDRILLING FOR PILES *			DRILLED-IN PILES		
						MIN.PILE TIP (TIP NO HIGHER THAN) ELEV.	REQUIRED DRIVING RESISTANCE (RDR) ** PER PILE	PILE REDRIVES QUANTITY	PREDRILLING LENGTH PER PILE	PREDRILLING ELEVATION (ELEV.NOT TO PREDRILL BELOW)	MAXIMUM PREDRILLING DIAMETER	PILE EXCAVATION BOTTOM OF HOLE) ELEV.	PILE EXCAVATION NOT IN SOIL PER PILE	PILE EXCAVATION IN SOIL PER PILE
		KIPS	FT.	FT.	FT.	FT.	KIPS	EA.	LIN.FT.	FT.	INCHES	FT.	LIN.FT.	LIN.FT.
END BENT 1, PILES 1-5	5	210	30.18	70			280	5						
END BENT 2, PILES 1-5	5	210	29.80	70			280	5						
TOTAL QUANTITY								10						

* 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 = $\frac{\text{FACTORED RESISTANCE} + \text{FACTORED DRAG LOAD} + \text{FACTORED DEAD LOAD}}{\text{DYNAMIC RESISTANCE FACTOR}}$ + NOMINAL DRAG LOAD RESISTANCE + NOMINAL RESISTANCE FROM SCOURABLE MATERIAL

PILE DESIGN INFORMATION						
(BLANK ENTRIES INDICATE ITEM IS NOT APPLICABLE TO STRUCTURE)						
END BENT/BENT NO. PILE(S) *(#)	FACTORED AXIAL LOAD PER PILE	FACTORED DOWNDRAG LOAD PER PILE	FACTORED DEAD LOAD * PER PILE	DYNAMIC RESISTANCE FACTOR	NOMINAL DOWNDRAG RESISTANCE PER PILE	NOMINAL SCOUR RESISTANCE PER PILE
	KIPS	KIPS	KIPS		KIPS	KIPS
END BENT 1, PILES 1-5	210			0.75		
END BENT 2, PILES 1-5	210			0.75		

* FACTORED DEAD LOAD IS FACTORED WEIGHT OF PILE ABOVE THE GROUND LINE.

SUMMARY OF DPT/PILE ORDER LENGTHS		
(BLANK ENTRIES INDICATE ITEM IS NOT APPLICABLE TO STRUCTURE)		
DYNAMIC PILE TESTING (DPT)		
END BENT/BENT NO.	DPT TEST PILE LENGTH	TOTAL DPT TESTING QUANTITY
	FT.	EA.
END BENT 1	75	1
END BENT 2	75	1
TOTAL QUANTITY		2

FOUNDATION RECOMMENDATION NOTES

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 25,000-45,000 FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT NO.1 AND END BENT NO.2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUBARTICLE 450-3(D)(2) OF THE STANDARD SPECIFICATIONS.

NOTES:

THE PILE FOUNDATION TABLES ARE BASED ON THE BRIDGE SUBSTRUCTURE DESIGN AND FOUNDATION RECOMMENDATIONS SEALED BY A NORTH CAROLINA PROFESSIONAL ENGINEER (ATEFEH ASOUDEH, PE *043747) ON 02/07/2025.

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 MAY ADJUST THE QUANTITY FOR DPT TESTING WHEN NECESSARY.

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

SHEET 2 OF 4

DRAWN BY : <u>J. W. COOK</u>	DATE : <u>MAR 2025</u>
CHECKED BY : <u>A. L. STROUD</u>	DATE : <u>MAR 2025</u>
DESIGN ENGINEER OF RECORD : <u>A. L. STROUD</u>	DATE : <u>MAR 2025</u>

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BRIDGE NO. 570022

4/7/2025

STATE OF NORTH CAROLINA						SHEET NO. S-2
DEPARTMENT OF TRANSPORTATION						
RALEIGH						
STANDARD						TOTAL SHEETS 17
FOUNDATION						
TABLES						
REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

3/27/2025 R:\Structures\DCN\Final\BP1.R013.1.SMU.LOC_570022.dgn jcook

DRAWN BY : J.W. COOK DATE : MAR 2025
CHECKED BY : A.L. STROUD DATE : MAR 2025
DESIGN ENGINEER OF RECORD : A.L. STROUD DATE : MAR 2025

TOTAL BILL OF MATERIAL																
	REMOVAL OF EXISTING STRUCTURE AT STA. 13+48.50 -L-	UNCLASSIFIED STRUCTURE EXCAVATION STA. 13+48.50 -L-	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 x 53 STEEL PILES		PILE DRIVING EQUIPMENT SETUP FOR 12 X 53 STEEL PILES	PILE REDRIVES	DYNAMIC PILE TESTING	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLAB BEAMS	
	LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN.FT.	EACH	EA.	EA.	LIN. FT.	TONS	SQ.YDS.	LUMP SUM	NO.	LIN.FT.
SUPERSTRUCTURE				LUMP SUM							150.25				10	750
END BENT 1			20.2		2,449	5	350	5	5	1		315	350			
END BENT 2			20.2		2,449	5	350	5	5	1		120	135			
TOTAL	LUMP SUM	LUMP SUM	40.4	LUMP SUM	4,898	10	700	10	10	2	150.25	435	485	LUMP SUM	10	750

NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

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

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

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

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTORS ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR 'REMOVAL OF EXISTING STRUCTURE AT STATION 13+48.50 -L-.'

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 28 FT. (LEFT), 25 FT. (RIGHT, END BENT 1), 31 FT. (RIGHT, END BENT 2) EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF TWO SIMPLE SPANS OF 31 FOOT LONG, PRESTRESSED CONCRETE GIRDERS WITH 24'-2" CLEAR ROADWAY OF ASPHALT WEARING SURFACE ON A SUBSTRUCTURE OF REINFORCED CONCRETE CAPS ON DRIVEN STEEL PILES WITH STEEL CRUTCH BENTS AT EACH END OF BRIDGE AND LOCATED AT THE PROPOSED STRUCTURE LOCATION, SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. FOR REMOVAL OF EXISTING STRUCTURE AT STATION 12+58.50 -L- SEE SPECIAL PROVISIONS.

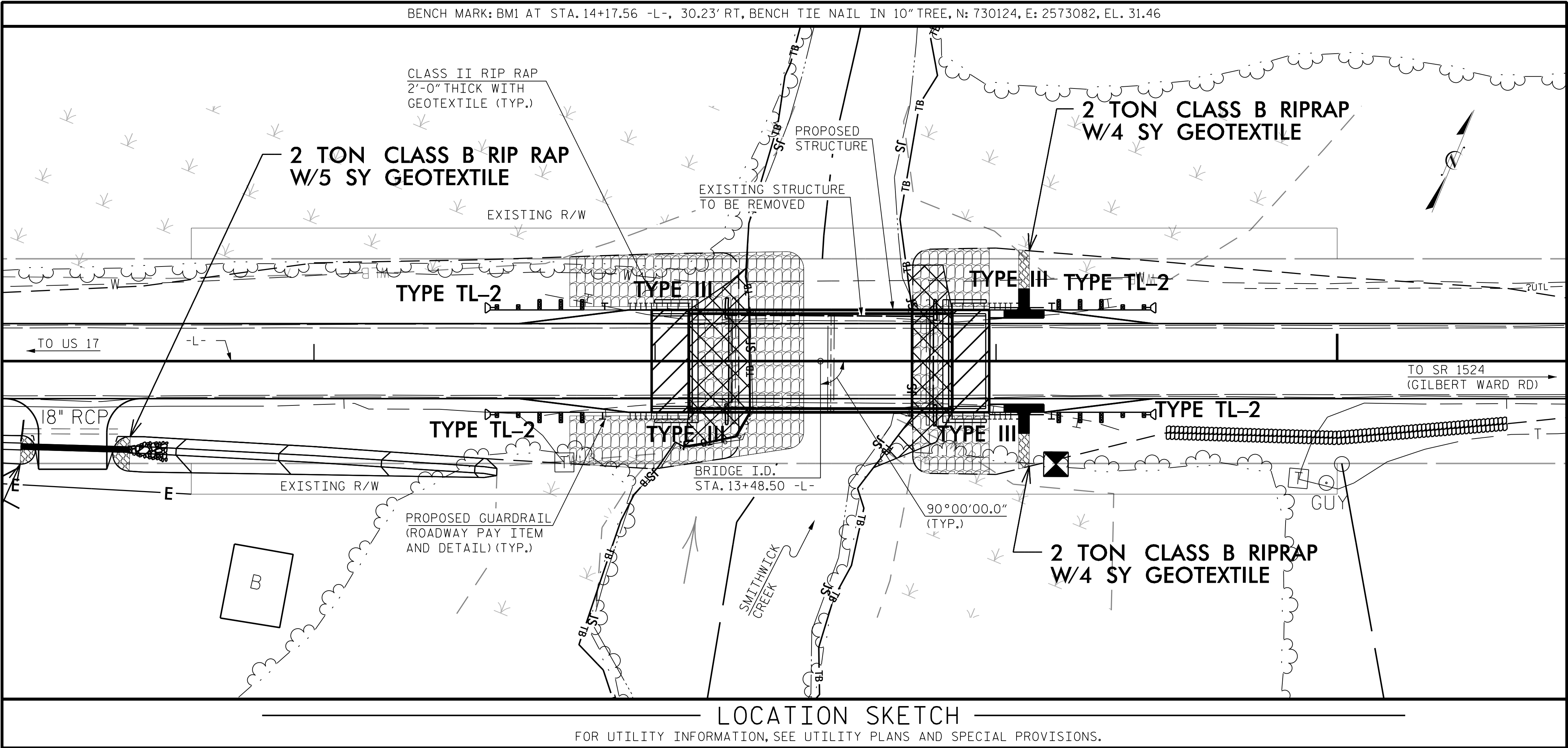
THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED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

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

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH 'HEC 18- EVALUATING SCOUR AT BRIDGES'.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.



PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

SHEET 3 OF 4

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BRIDGE NO. 570022

4/7/2025

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

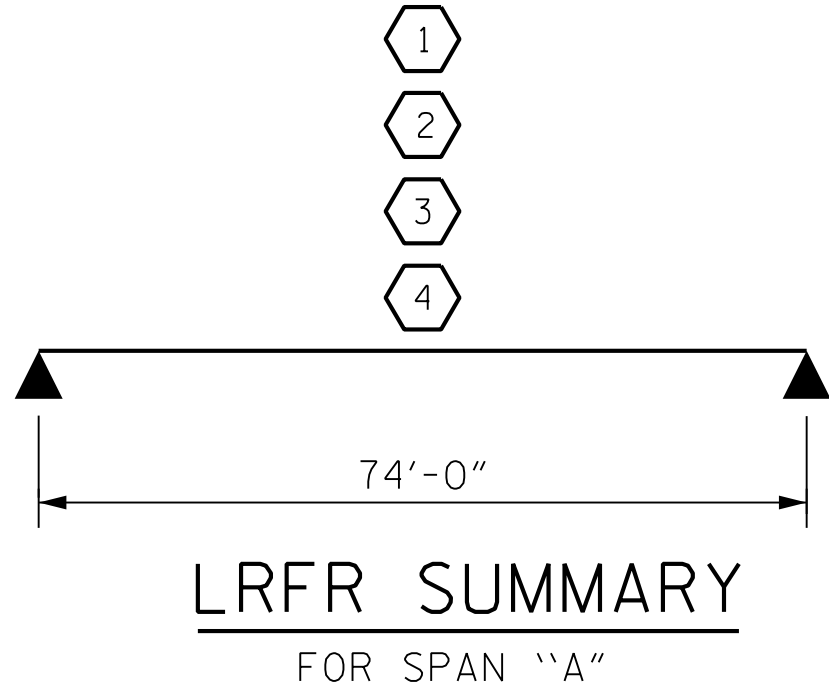
GENERAL DRAWING
FOR BRIDGE OVER SMITHWICK CREEK
ON SR 1106
(SMITHWICK CREEK CHURCH RD.)
BETWEEN US 17 AND SR 1524

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

3/27/2025 R:\Structures\DCN\Final\BP1.R013.1_SMULLRFR_570022.dgn jcook

DRAWN BY : J.W. COOK DATE : MAR 2025
CHECKED BY : A.L. STROUD DATE : MAR 2025
DESIGN ENGINEER OF RECORD : A.L. STROUD DATE : MAR 2025

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LOAD TYPE	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING ⬡ #	MINIMUM RATING FACTORS (RF)	TONS = W × RF	STRENGTH I LIMIT STATE											SERVICE III LIMIT STATE							COMMENT NUMBER
						LIVE-LOAD FACTORS (γLL)	MOMENT			SHEAR					LIVE-LOAD FACTORS (γLL)	MOMENT								
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		
DESIGN LOAD	HL-93 (INVENTORY)	N/A	⬡ 1	1.05	--	1.75	0.234	1.05	A	EL	37.0	0.533	1.20	A	EL	1.6	0.80	0.234	1.23	A	EL	37.0		
	HL-93 (OPERATING)	N/A		1.36	--	1.35	0.234	1.36	A	EL	37.0	0.533	1.67	A	EL	1.6	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	⬡ 2	1.38	49.680	1.75	0.234	1.38	A	EL	37.0	0.533	1.64	A	EL	1.6	0.80	0.234	1.62	A	EL	37.0		
	HS-20 (OPERATING)	36.000		1.79	64.440	1.35	0.234	1.79	A	EL	37.0	0.533	2.15	A	EL	1.6	N/A	--	--	--	--	--		
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13,500		5.75	77.625	1.4	0.234	6.13	A	EL	37.0	0.533	7.66	A	EL	1.6	0.80	0.234	5.75	A	EL	37.0	
		SNGARBS2	20,000		2.73	54.600	1.4	0.234	2.91	A	EL	37.0	0.533	3.59	A	EL	1.6	0.80	0.234	2.73	A	EL	37.0	
		SNAGRIS2	22,000		2.58	56.760	1.4	0.234	2.75	A	EL	37.0	0.533	3.32	A	EL	1.6	0.80	0.234	2.58	A	EL	37.0	
		SNCOTTS3	27,250		1.83	49.868	1.4	0.234	1.95	A	EL	37.0	0.533	2.51	A	EL	1.6	0.80	0.234	1.83	A	EL	37.0	
		SNAGGRS4	34,925		1.52	53.086	1.4	0.234	1.63	A	EL	37.0	0.533	2.05	A	EL	1.6	0.80	0.234	1.52	A	EL	37.0	
		SNS5A	35,550		1.49	52.970	1.4	0.234	1.59	A	EL	37.0	0.533	2.07	A	EL	1.6	0.80	0.234	1.49	A	EL	37.0	
		SNS6A	39,950		1.37	54.732	1.4	0.234	1.46	A	EL	37.0	0.533	1.88	A	EL	1.6	0.80	0.234	1.37	A	EL	37.0	
		SNS7B	42,000		1.30	54.600	1.4	0.234	1.39	A	EL	37.0	0.533	1.84	A	EL	1.6	0.80	0.234	1.30	A	EL	37.0	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33,000		1.67	55.110	1.4	0.234	1.78	A	EL	37.0	0.533	2.26	A	EL	1.6	0.80	0.234	1.67	A	EL	37.0	
		TNT4A	33,075		1.67	55.235	1.4	0.234	1.78	A	EL	37.0	0.533	2.20	A	EL	1.6	0.80	0.234	1.67	A	EL	37.0	
		TNT6A	41,600		1.37	56.992	1.4	0.234	1.46	A	EL	37.0	0.533	1.95	A	EL	1.6	0.80	0.234	1.37	A	EL	37.0	
		TNT7A	42,000		1.37	57.540	1.4	0.234	1.47	A	EL	37.0	0.533	1.91	A	EL	1.6	0.80	0.234	1.37	A	EL	37.0	
		TNT7B	42,000		1.42	59.640	1.4	0.234	1.51	A	EL	37.0	0.533	1.80	A	EL	1.6	0.80	0.234	1.42	A	EL	37.0	
		TNAGRIT4	43,000		1.35	58.050	1.4	0.234	1.44	A	EL	37.0	0.533	1.74	A	EL	1.6	0.80	0.234	1.35	A	EL	37.0	
		TNAGT5A	45,000		1.27	57.150	1.4	0.234	1.36	A	EL	37.0	0.533	1.72	A	EL	1.6	0.80	0.234	1.27	A	EL	37.0	
		TNAGT5B	45,000	⬡ 3	1.26	56.700	1.4	0.234	1.34	A	EL	37.0	0.533	1.65	A	EL	1.6	0.80	0.234	1.26	A	EL	37.0	
EMERGENCY VEHICLE (EV)	EV2	28,750		2.22	63.825	1.3	0.234	2.22	A	EL	37.0	1.051	2.69	A	EL	1.6	0.80	0.234	2.55	A	EL	37.0		
	EV3	43,000	⬡ 4	1.45	62.350	1.3	0.234	1.45	A	EL	37.0	1.051	1.78	A	EL	1.6	0.80	0.234	1.67	A	EL	37.0		



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:

-
-
-
-

CONTROLLING LOAD RATING

DESIGN LOAD RATING (HL-93)

DESIGN LOAD RATING (HS-20)

LEGAL LOAD RATING **

EMERGENCY VEHICLE LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

SHEET 4 OF 4

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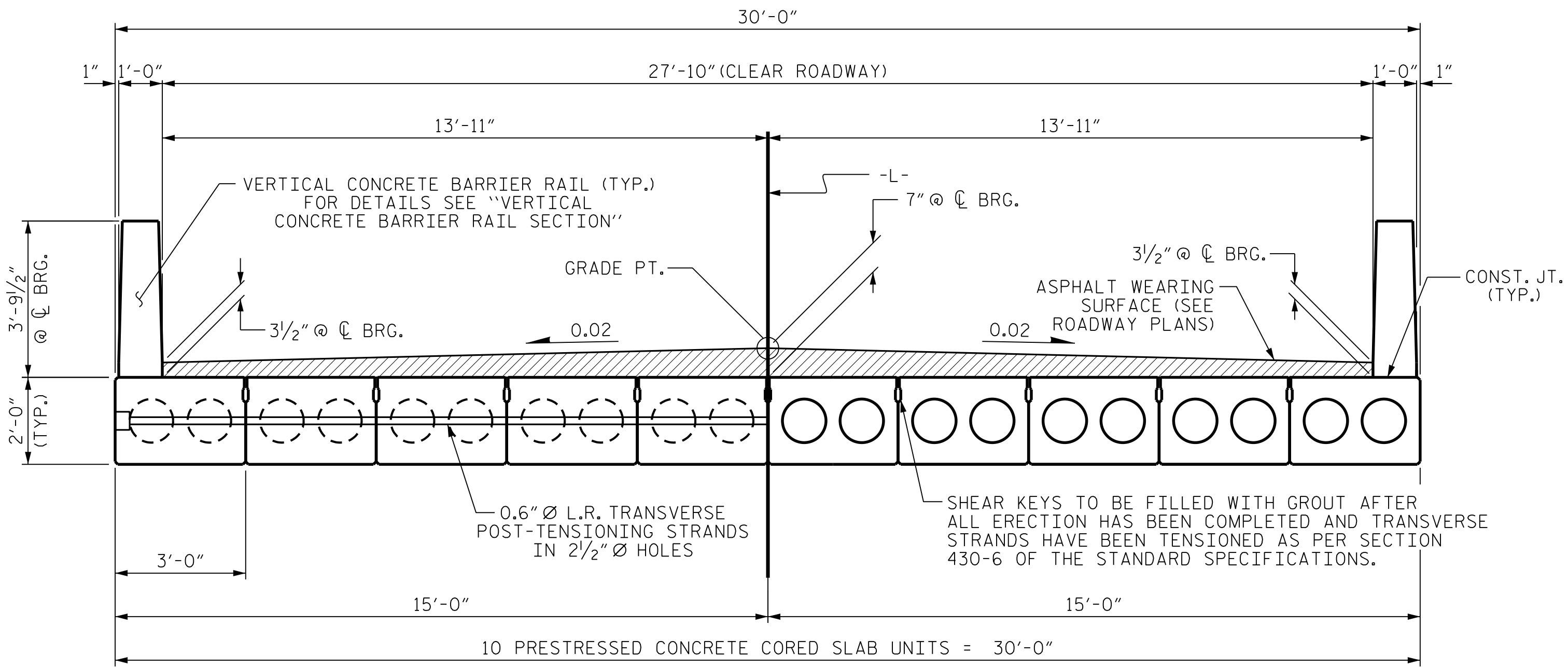
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BRIDGE NO. 570022

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

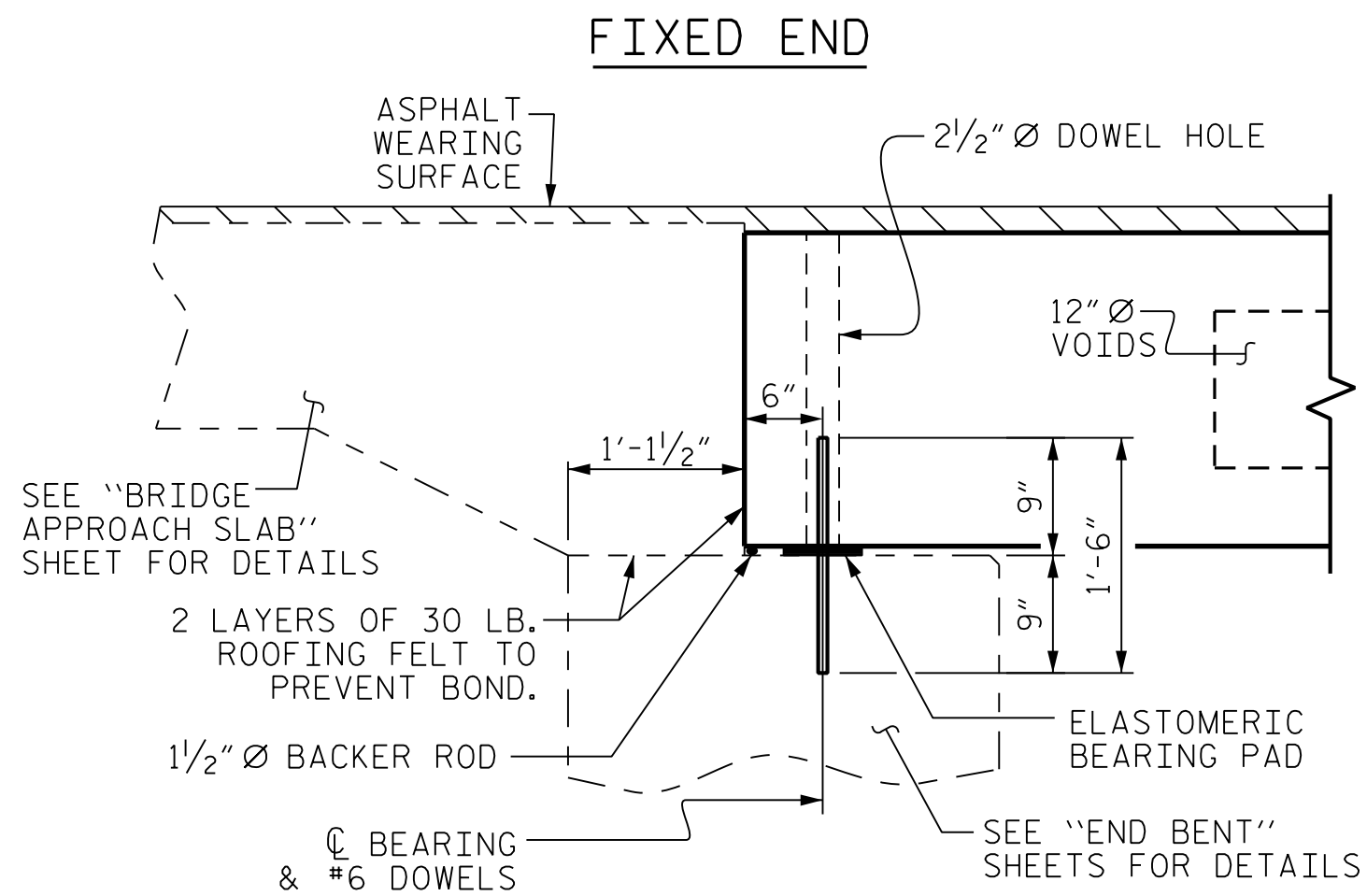
STANDARD
LRFR SUMMARY FOR PRESTRESSED
CONCRETE GIRDERS
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO. S-4
NO.	BY:	DATE:	NO.	BY:	DATE:	
						TOTAL SHEETS 17

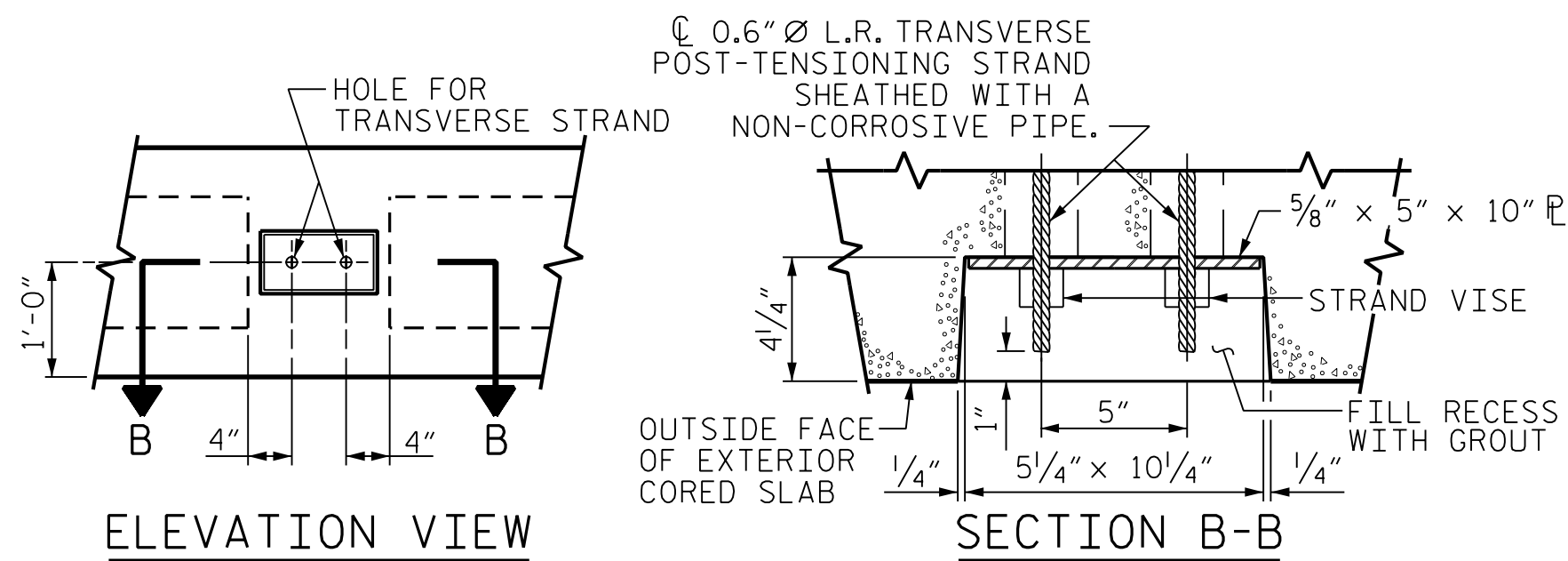


HALF SECTION AT INTERMEDIATE DIAPHRAGMS
TYPICAL SECTION
HALF SECTION THROUGH VOIDS

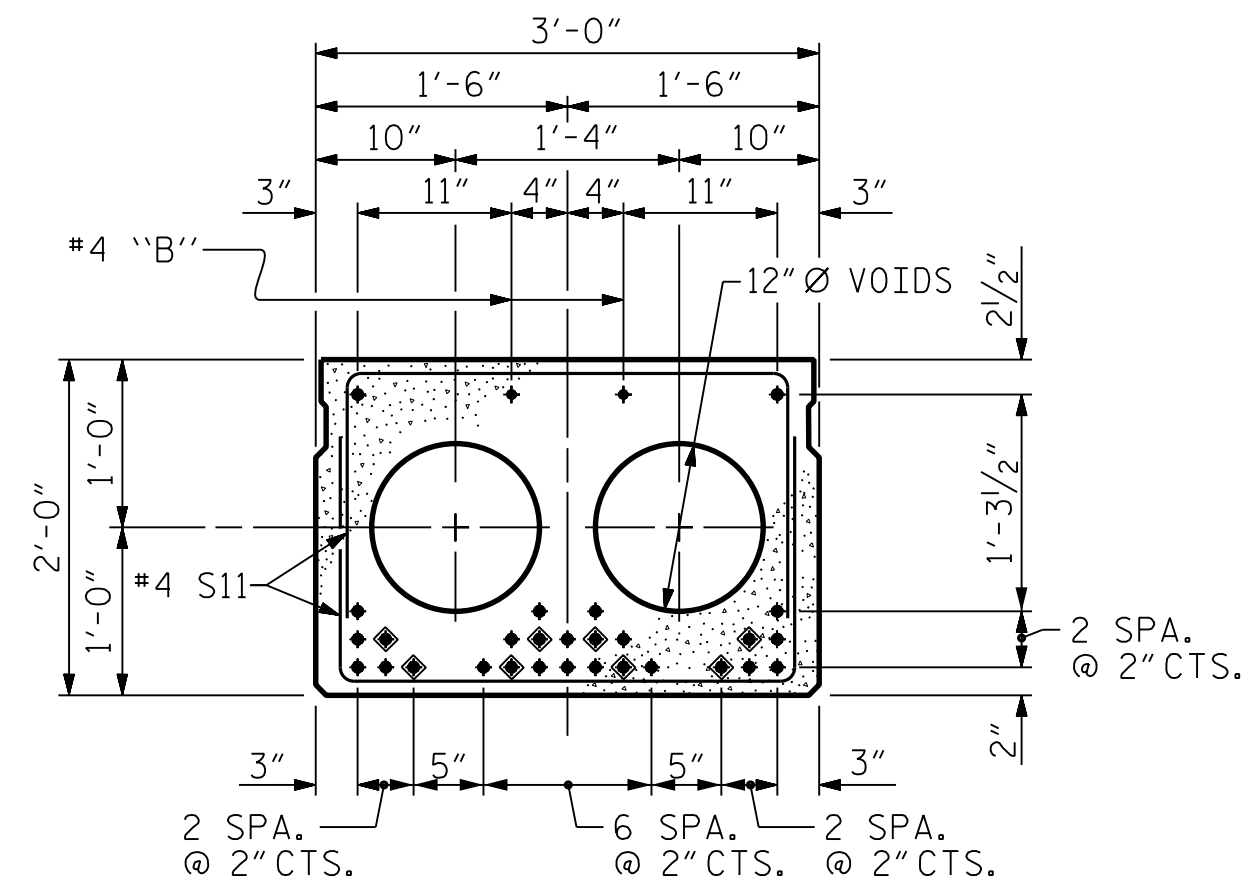
* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS, SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.



SECTION AT END BENT



ELEVATION VIEW
SECTION B-B
GROUTED RECESS AT END OF POST-TENSIONED STRAND OF CORED SLABS

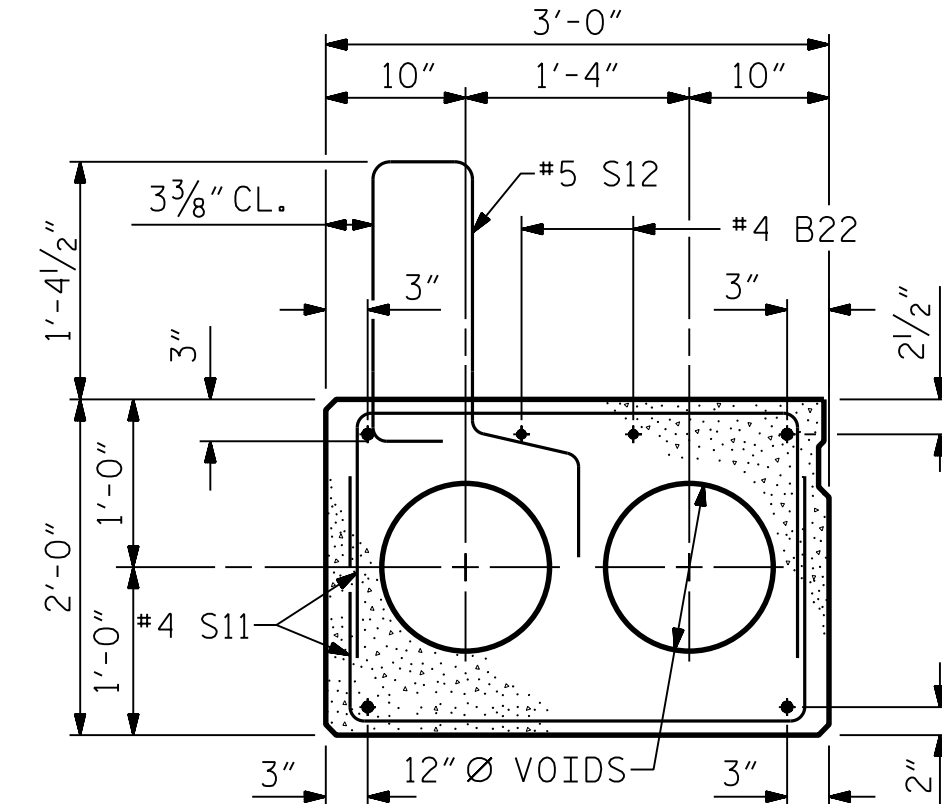


INTERIOR SLAB SECTION (75' UNIT)
(28 STRANDS REQUIRED)

0.6" Ø LOW
RELAXATION STRAND LAYOUT

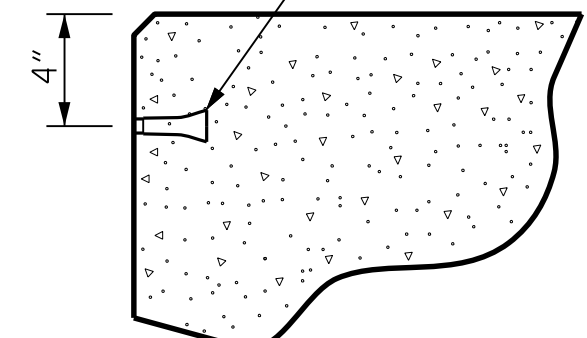
◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND

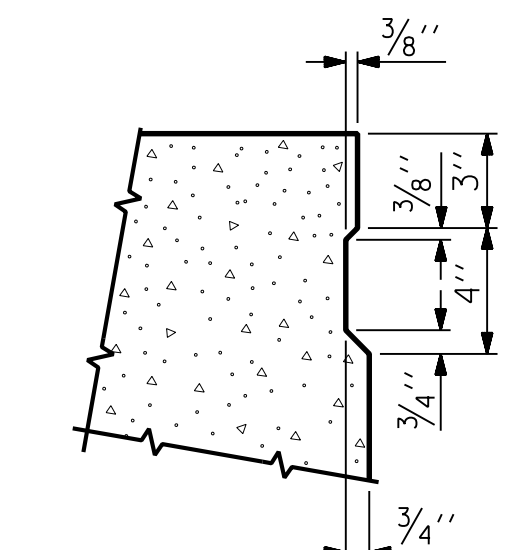


EXTERIOR SLAB SECTION
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)

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

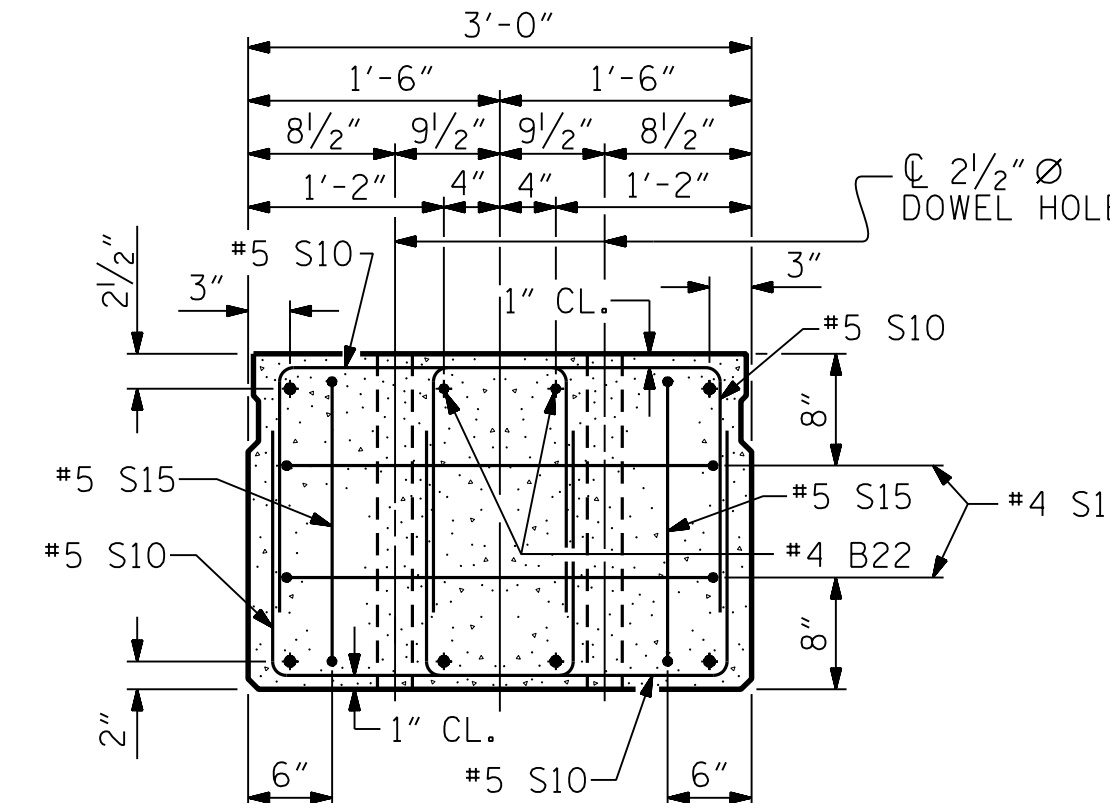


THREADED INSERT DETAIL



SHEAR KEY DETAIL

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



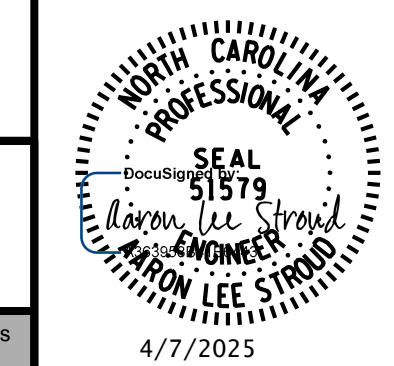
END ELEVATION

SHOWING PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES. (STRAND LAYOUT NOT SHOWN.) INTERIOR SLAB UNIT SHOWN-EXTERIOR SLAB UNIT SIMILAR EXCEPT SHEAR KEY LOCATION.

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

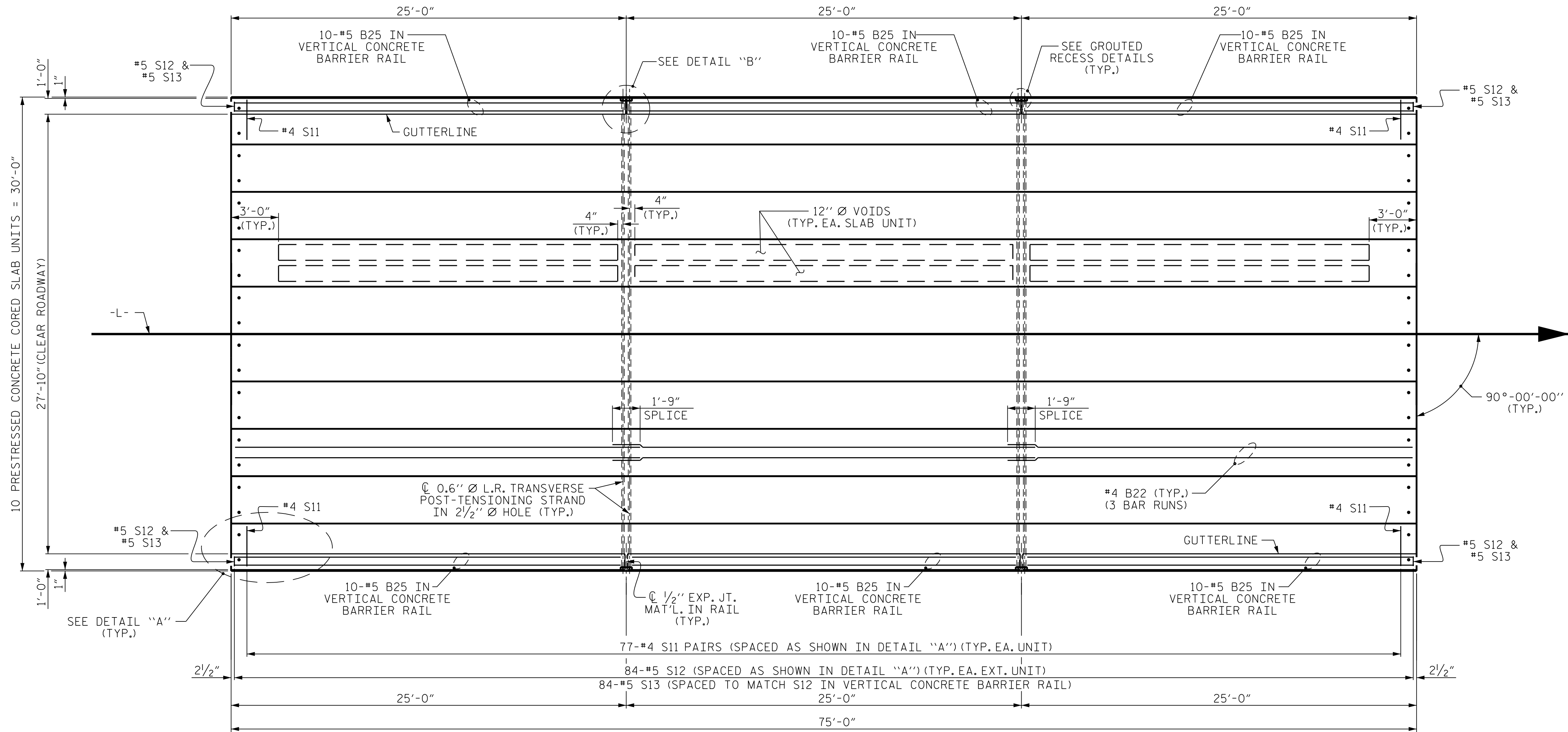
SHEET 1 OF 3

BRIDGE NO. 570022

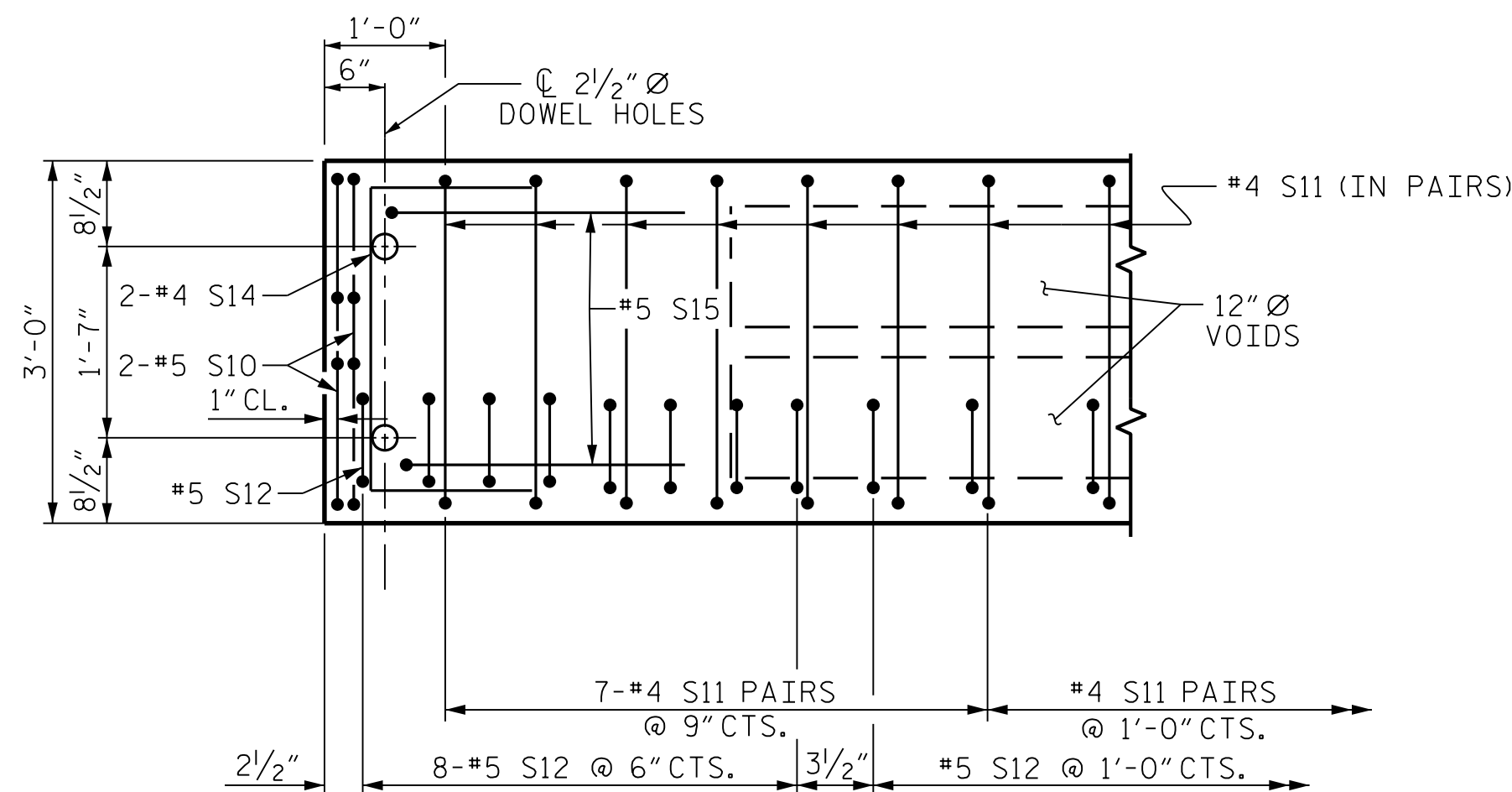


STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD 3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLAB UNIT 90° SKEW					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-5					TOTAL SHEETS 17

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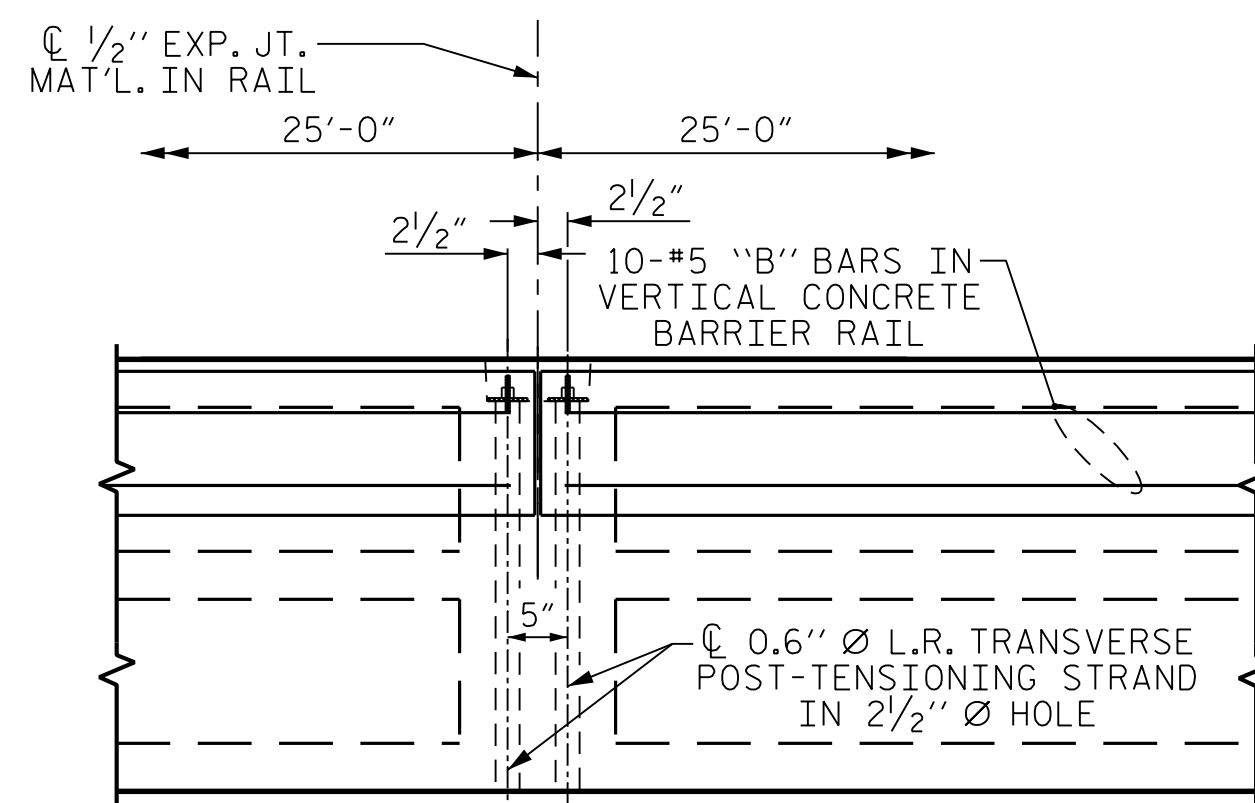


PLAN OF UNIT



DETAIL "A"

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



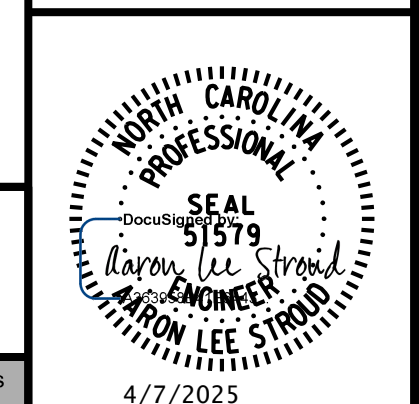
DETAIL "B"

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

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

SHEET 2 OF 3

BRIDGE NO. 570022



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
PLAN OF 75' UNIT
27'-10" CLEAR ROADWAY
90° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-6
2			4			
TOTAL SHEETS						17

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DRAWN BY : J.W. COOK DATE : MAR 2025
CHECKED BY : A.L. STROUD DATE : MAR 2025
DESIGN ENGINEER OF RECORD : A.L. STROUD DATE : MAR 2025

3/27/2025 R:\Structures\DCN\Final\BP1.R013.1_SMU_PS_570022.dgn jcook

3/27/2025 R:\Structures\CON\Final\BP1.R013.1.SMU_BOM_570022.dgn jcook

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
75' UNIT			
EXTERIOR C.S.	2	75'-0"	150'-0"
INTERIOR C.S.	8	75'-0"	600'-0"
TOTAL	10		750'-0"

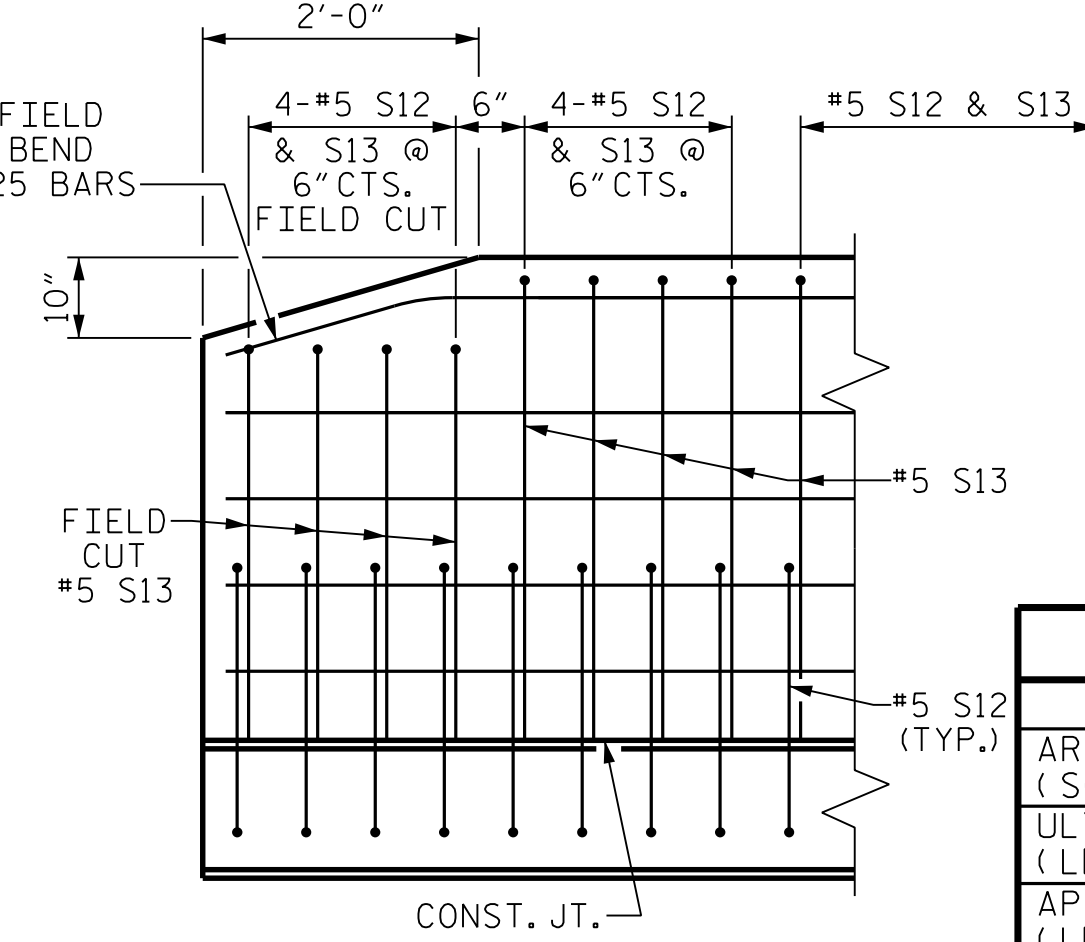
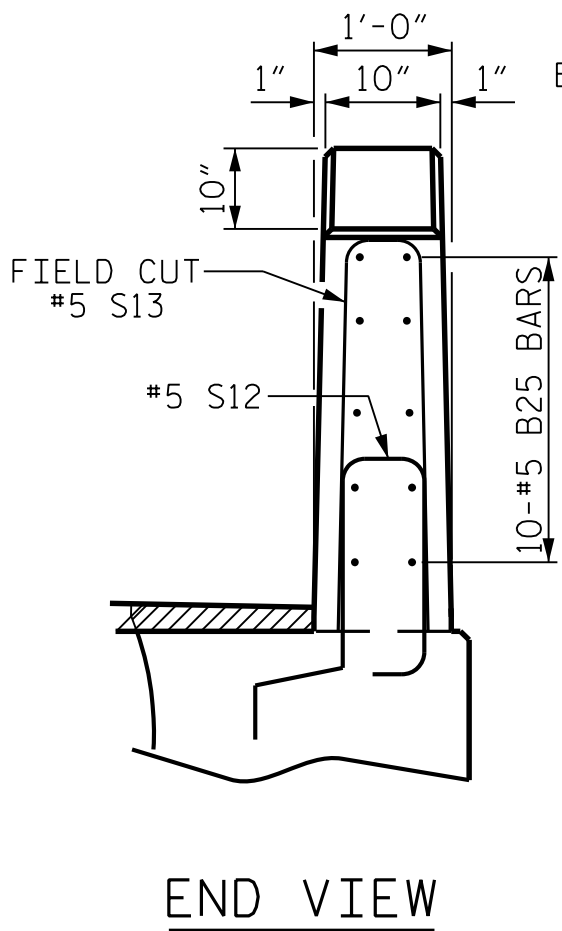
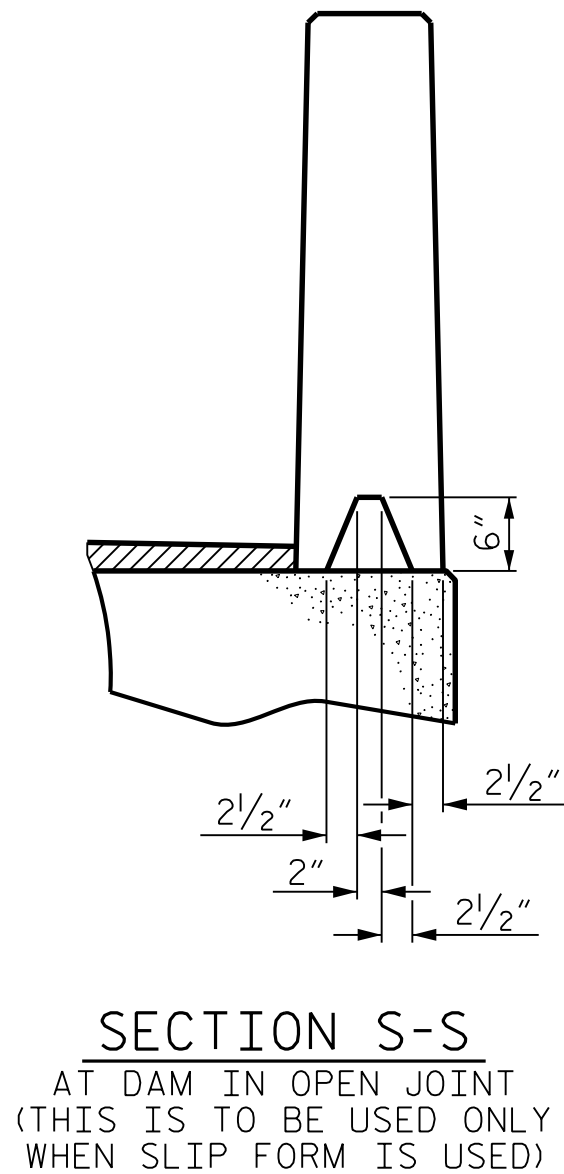
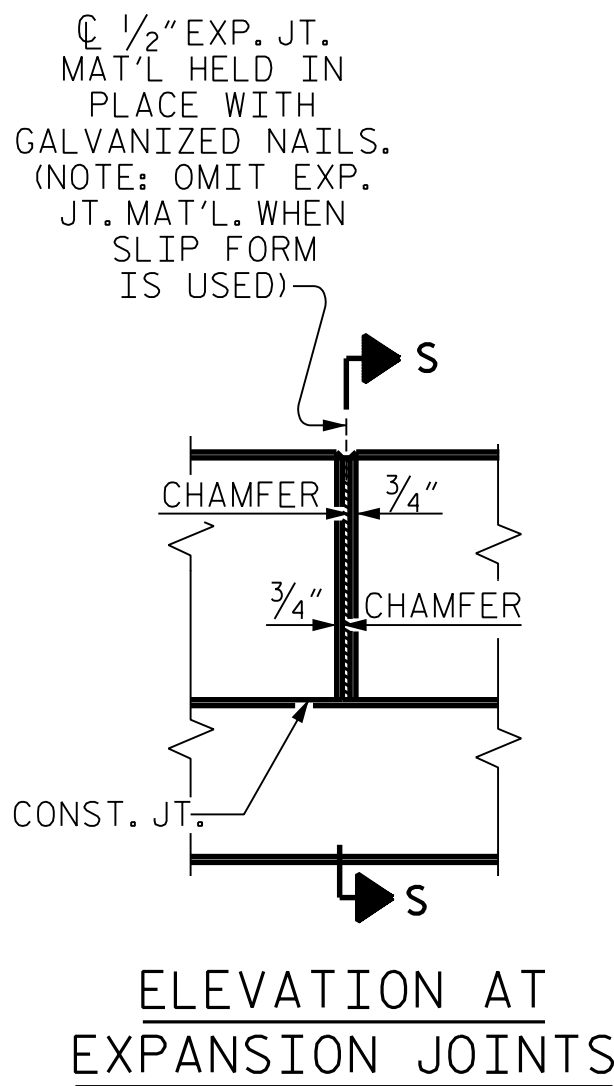
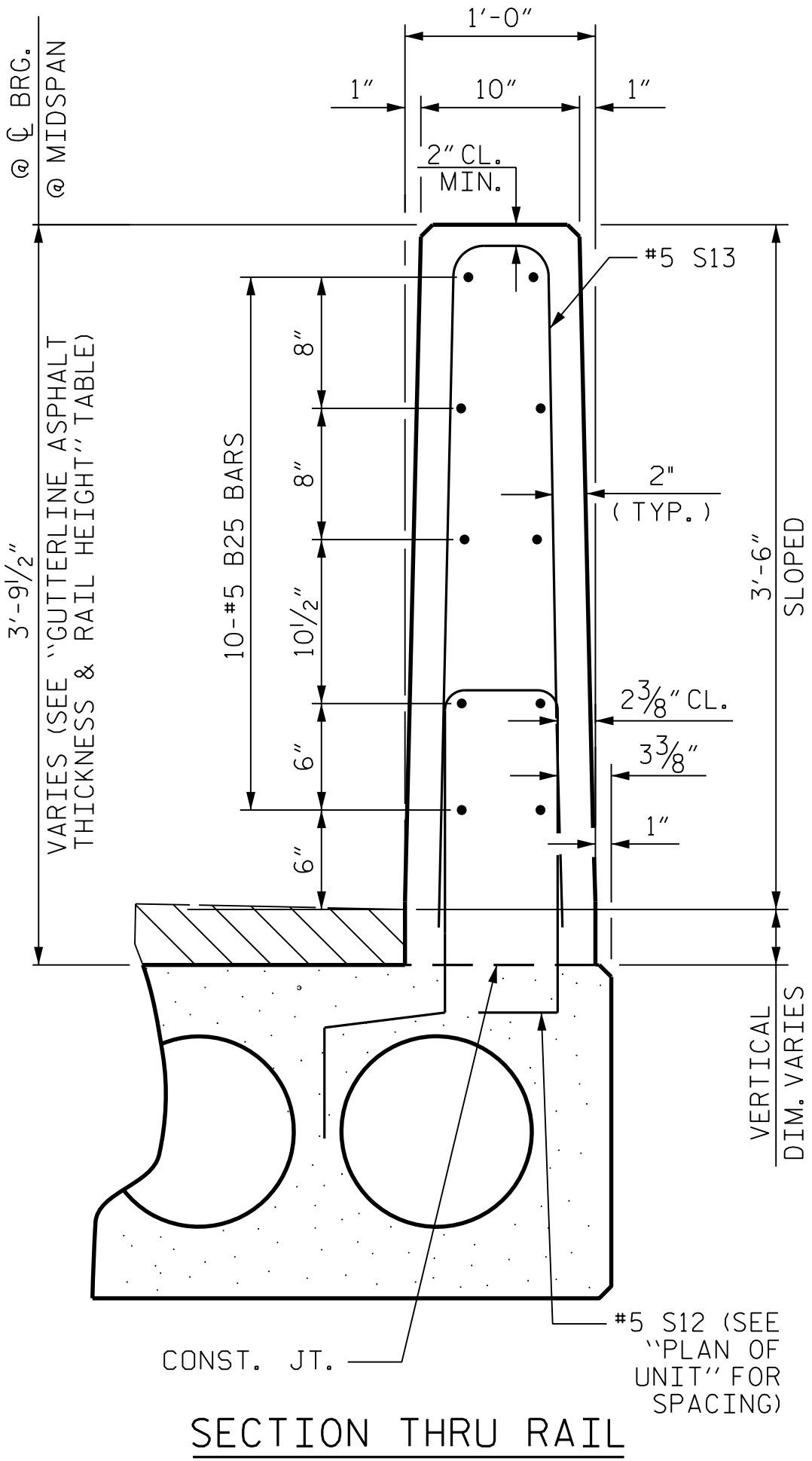
DEAD LOAD DEFLECTION AND CAMBER	
	3'-0" x 2'-0"
75' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	2 ³ / ₁₆ " ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1 ³ / ₁₆ " ↓
FINAL CAMBER	1 ³ / ₈ " ↑

** INCLUDES FUTURE WEARING SURFACE

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	75' UNIT					
*B25	60	60	#5	STR	24'-7"	1,539
*S13	168	168	#5	2	7'-2"	1,256
* EPOXY COATED REINFORCING STEEL				LBS.		2,795
CLASS AA CONCRETE				CU.YDS.		19.5
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN.FT.		150.25

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT		
	ASPHALT OVERLAY THICKNESS @ MID-SPAN	RAIL HEIGHT @ MID-SPAN
75' UNITS	2 ¹ / ₈ "	3'-8 ¹ / ₈ "

BILL OF MATERIAL FOR ONE 75' CORED SLAB UNIT							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B22	6	#4	STR	26'-1"	105	26'-1"	105
S10	8	#5	3	4'-9"	40	4'-9"	40
S11	154	#4	3	5'-10"	600	5'-10"	600
*S12	84	#5	1	5'-7"	490		
S14	4	#4	3	5'-7"	15	5'-7"	15
S15	4	#5	3	7'-1"	30	7'-1"	30
REINFORCING STEEL				LBS.		790	
*EPOXY COATED REINFORCING STEEL				LBS.		490	
7000 P.S.I. CONCRETE				CU. YDS.		12.6	
0.6" Ø L.R. STRANDS				No.		28	



CONCRETE RELEASE STRENGTH	
UNIT	PSI
75' UNITS	5500

GRADE 270 STRANDS	
AREA (SQUARE INCHES)	0.6" Ø L.R.
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

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BRIDGE NO. 570022

PROFESSIONAL SEAL
51579
AARON LEE STROUD
4/7/2025

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

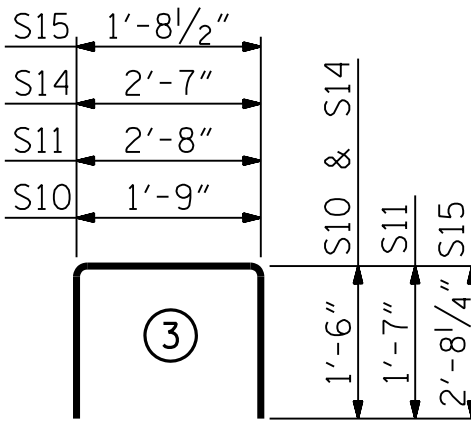
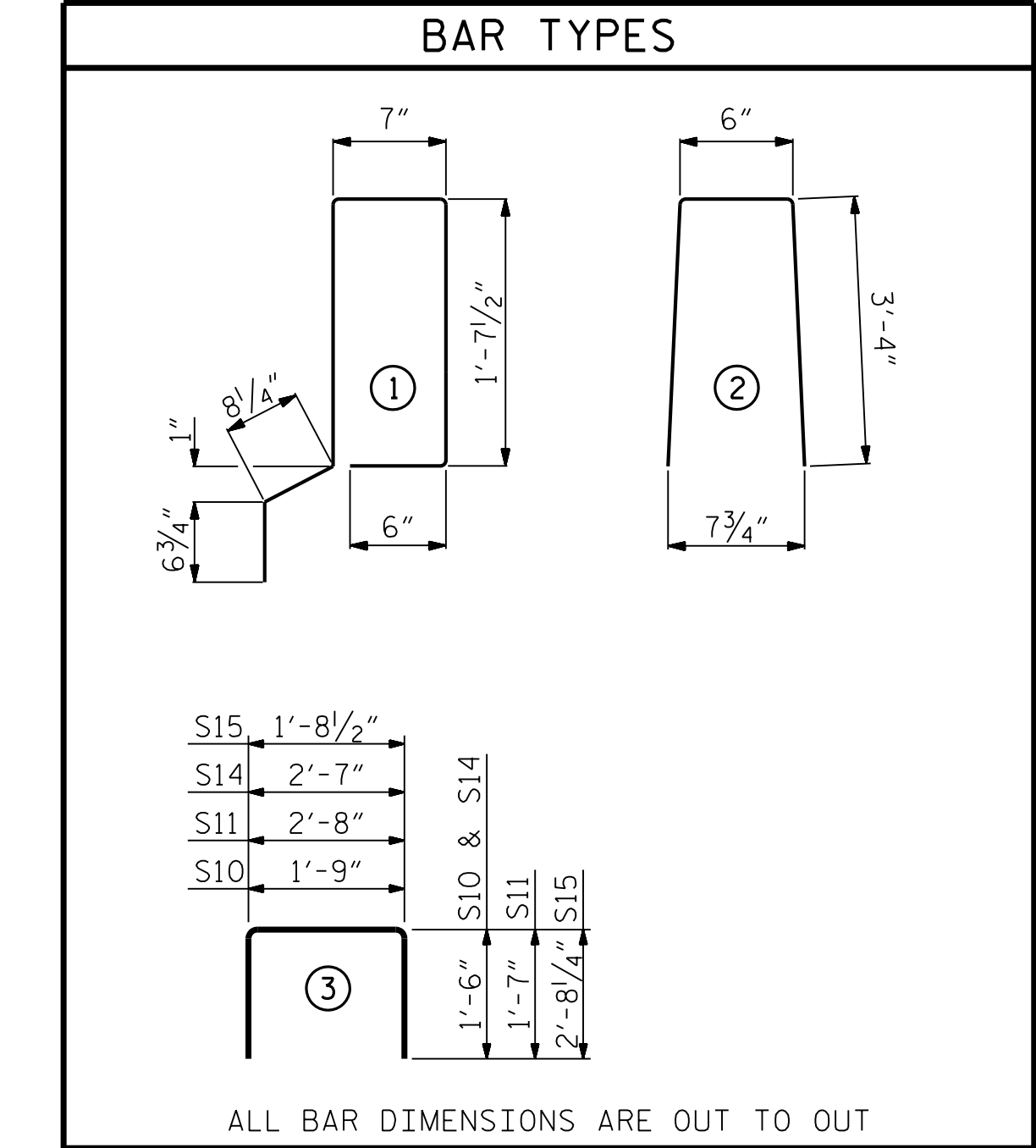
SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

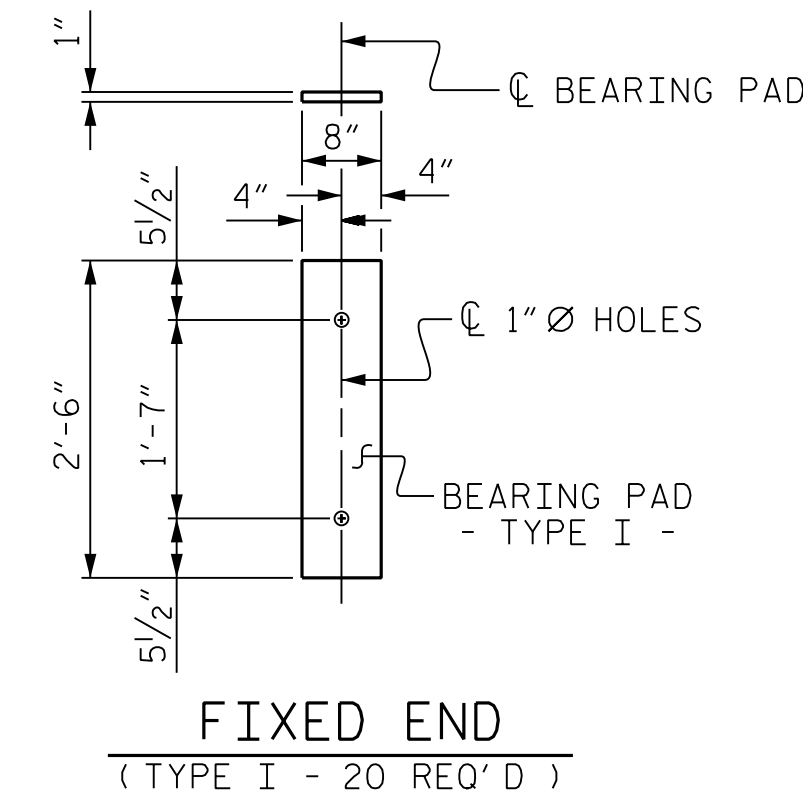
STANDARD
3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT
90°SKEW

REVISIONS						SHEET NO. S-7
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 17
2			4			

DRAWN BY : J. W. COOK	DATE : MAR 2025
CHECKED BY : A. L. STROUD	DATE : MAR 2025
DESIGN ENGINEER OF RECORD : A. L. STROUD	DATE : MAR 2025



ALL BAR DIMENSIONS ARE OUT TO OUT

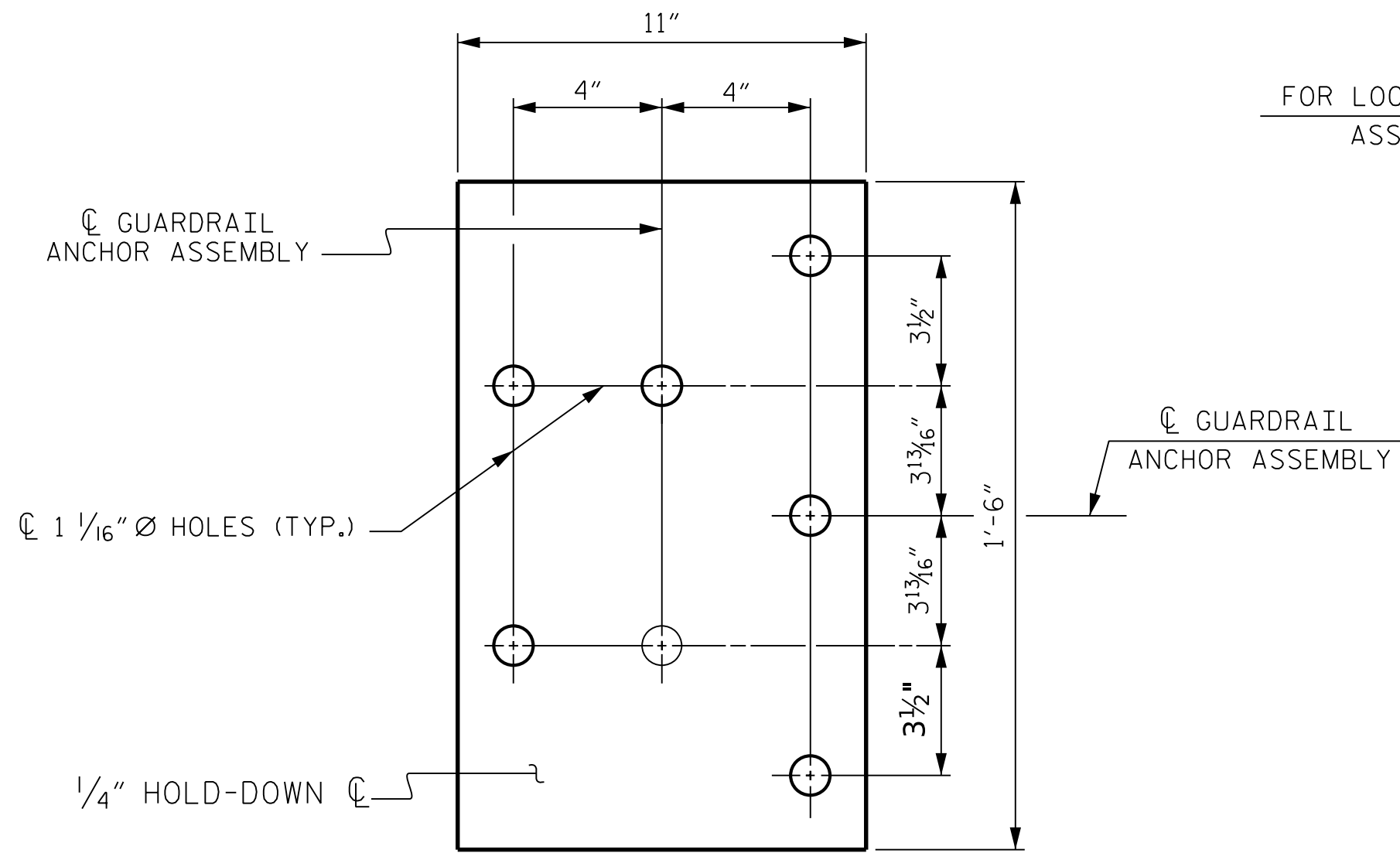


ELASTOMERIC BEARING DETAILS

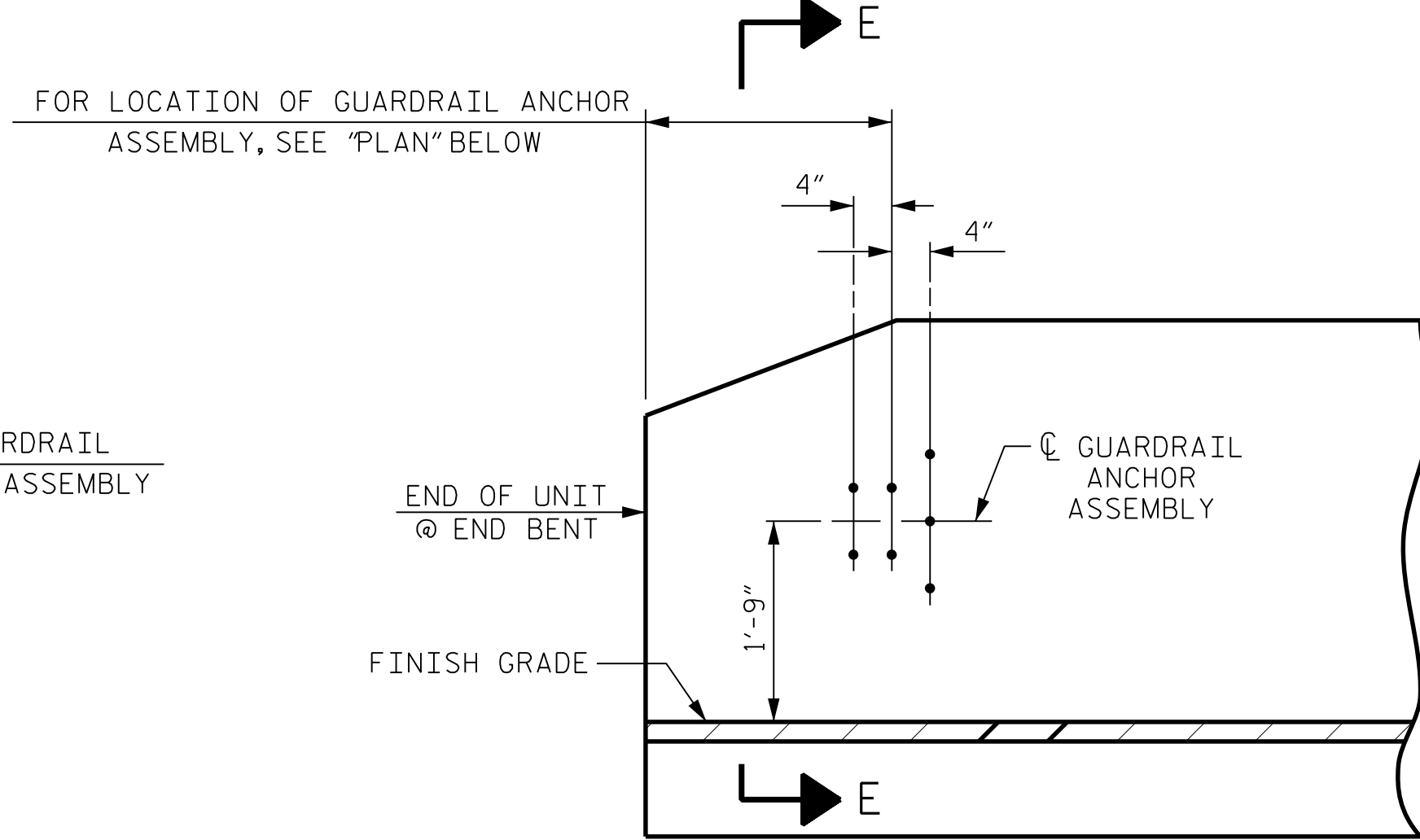
ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

END OF RAIL DETAILS

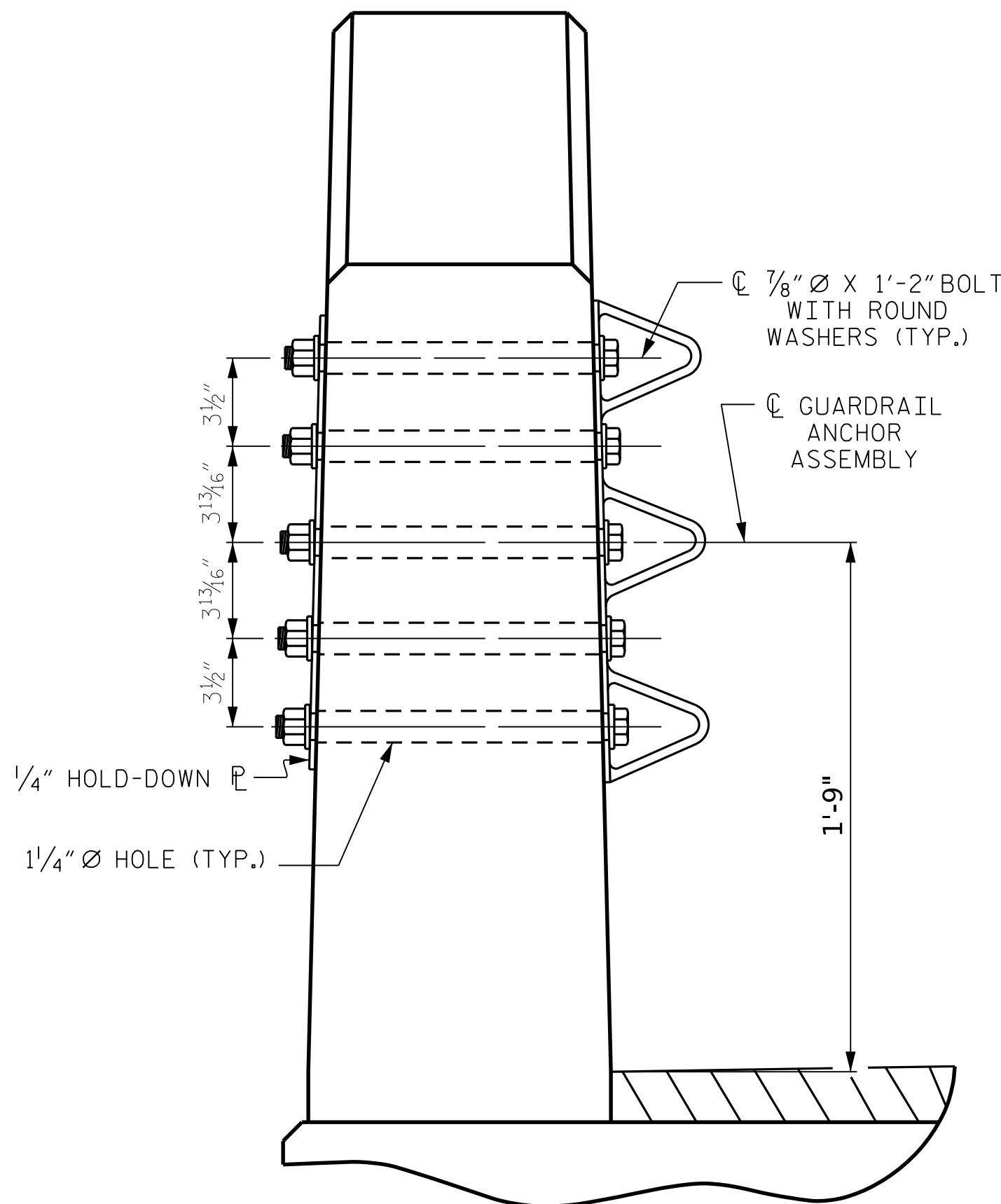
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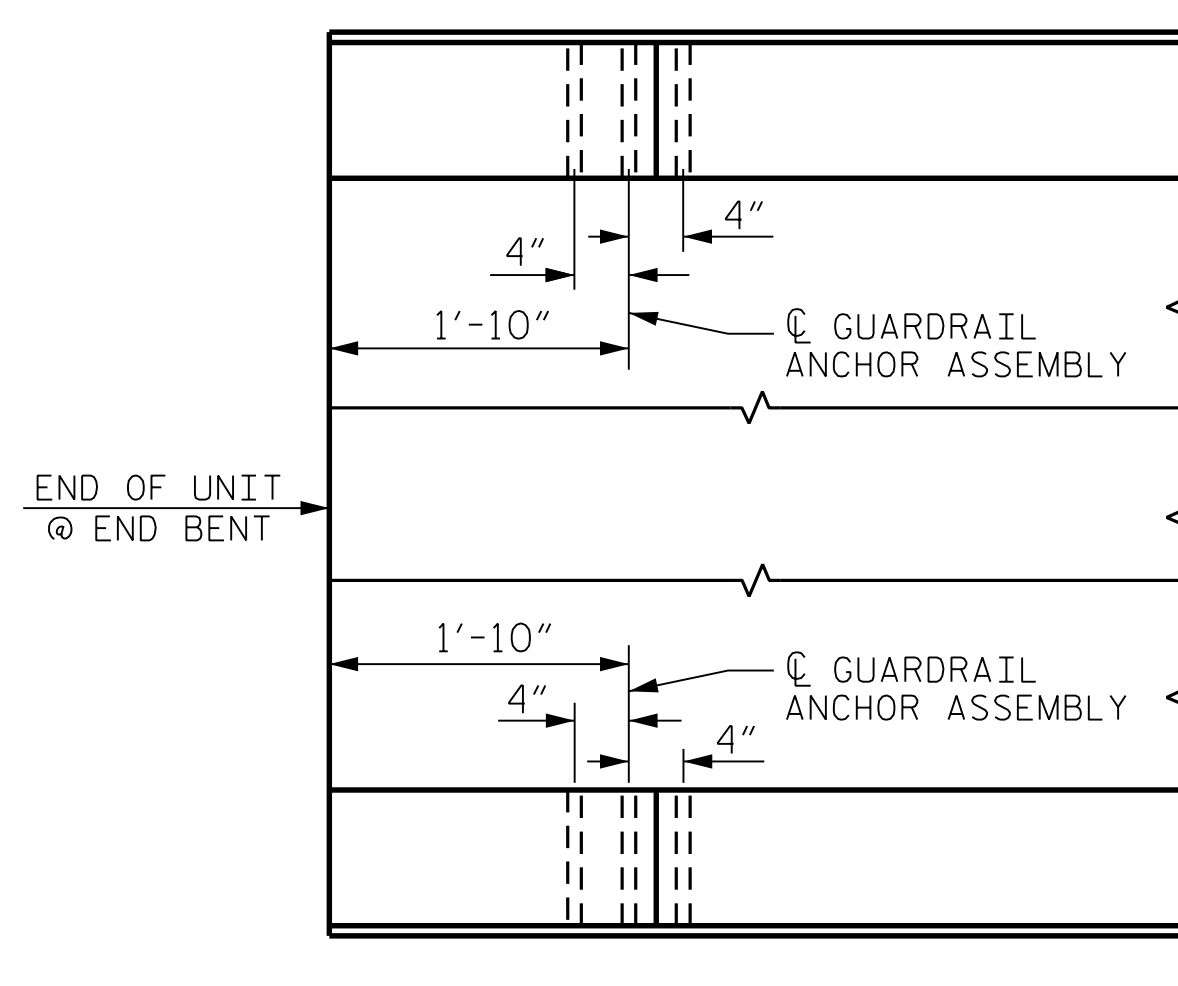
PLAN



ELEVATION



SECTION E-E
GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

NOTES:

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7-7/8" Ø BOLTS WITH NUTS AND WASHERS.

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

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

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

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

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

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

THE 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.



SKETCH SHOWING POINTS OF ATTACHMENTS

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

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BRIDGE NO. 570022

SEAL
51579
NORTH CAROLINA
PROFESSIONAL
ENGINEER
CARON LEE STROUD

4/7/2025

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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-8
2			4			
TOTAL SHEETS						17

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 AND TEMPORARY
DRAINAGE AT END BENT, SEE END BENT 1
SHEET 3 OF 3.

FOR WING DETAILS, SEE END BENT 1
SHEET 2 OF 3.



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

PROJECT NO. BP1.R013.1
MARTIN COUNTY
 STATION: 13+48.50 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

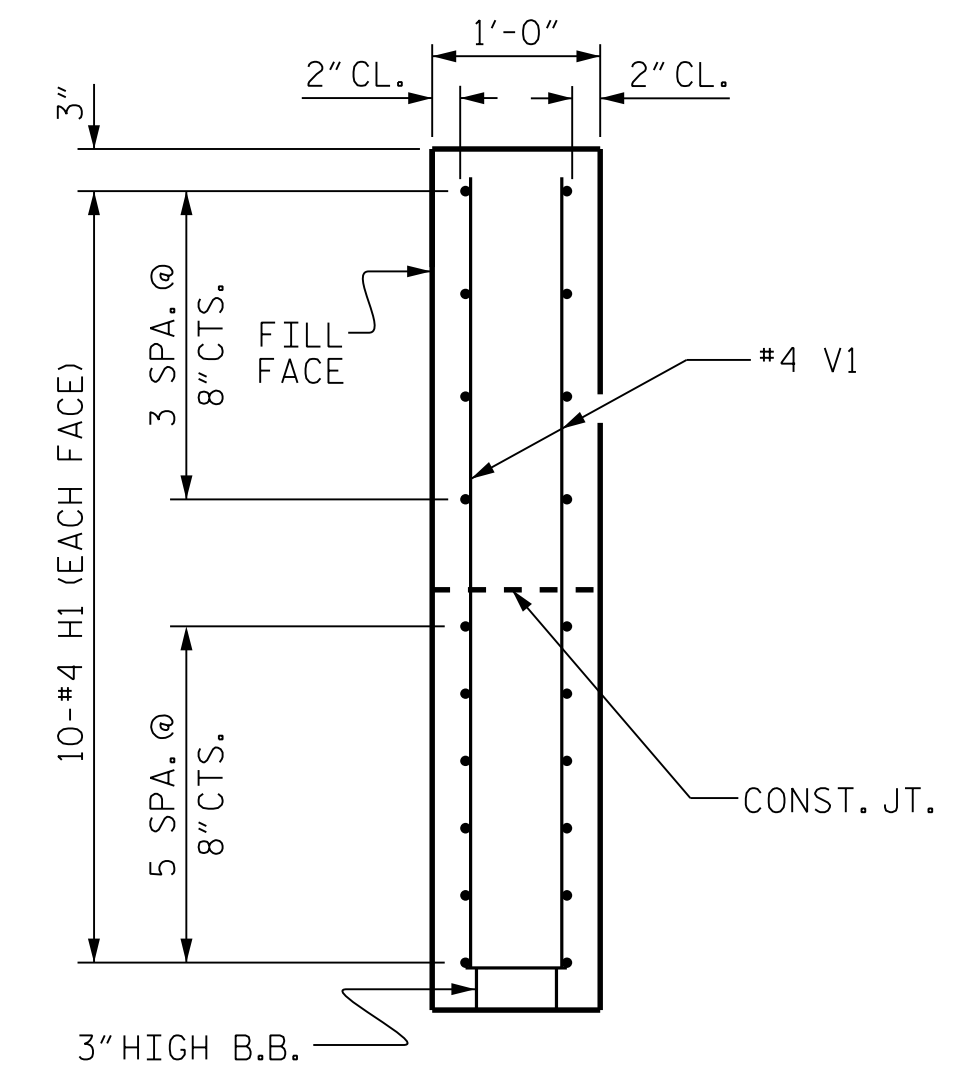
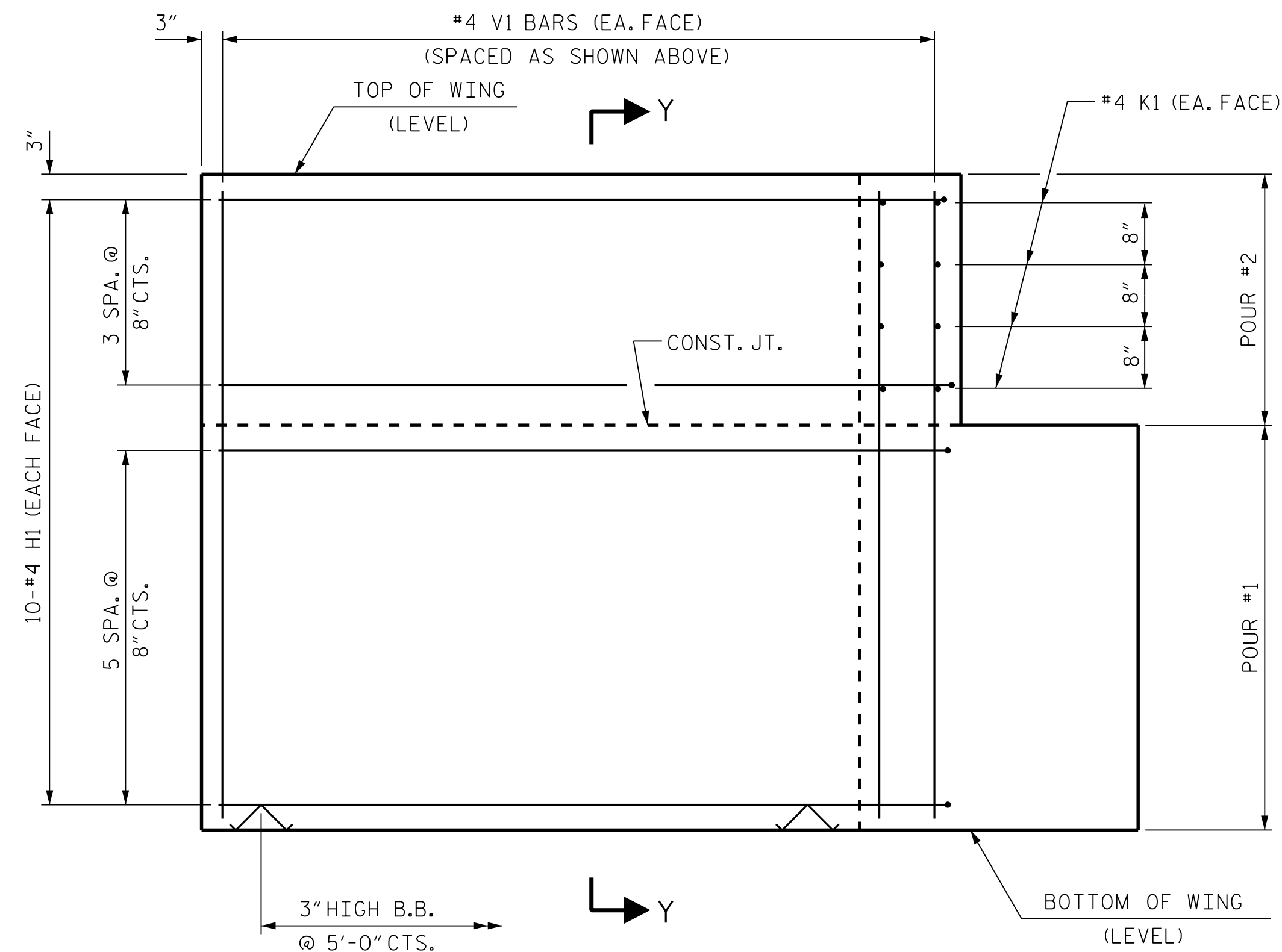
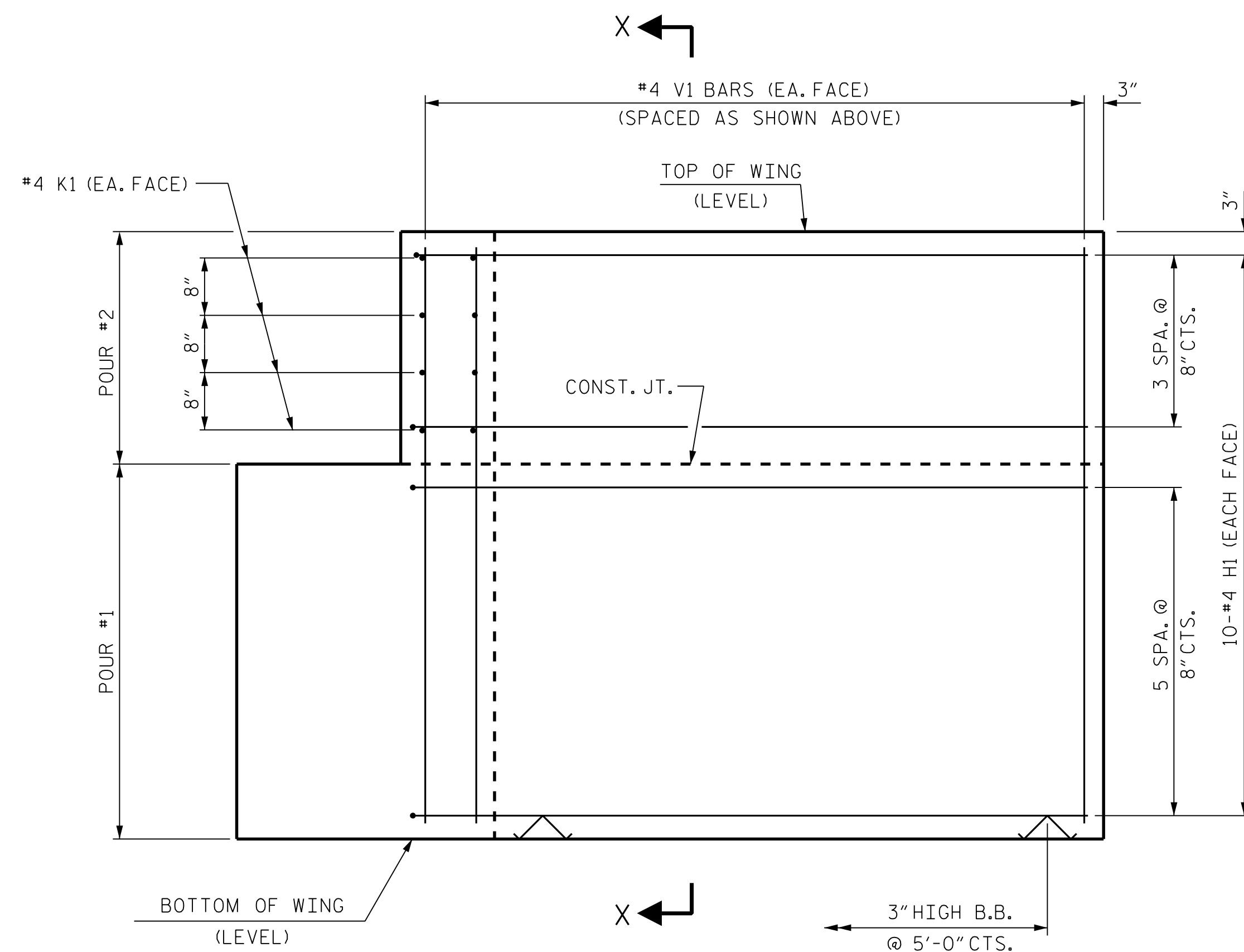
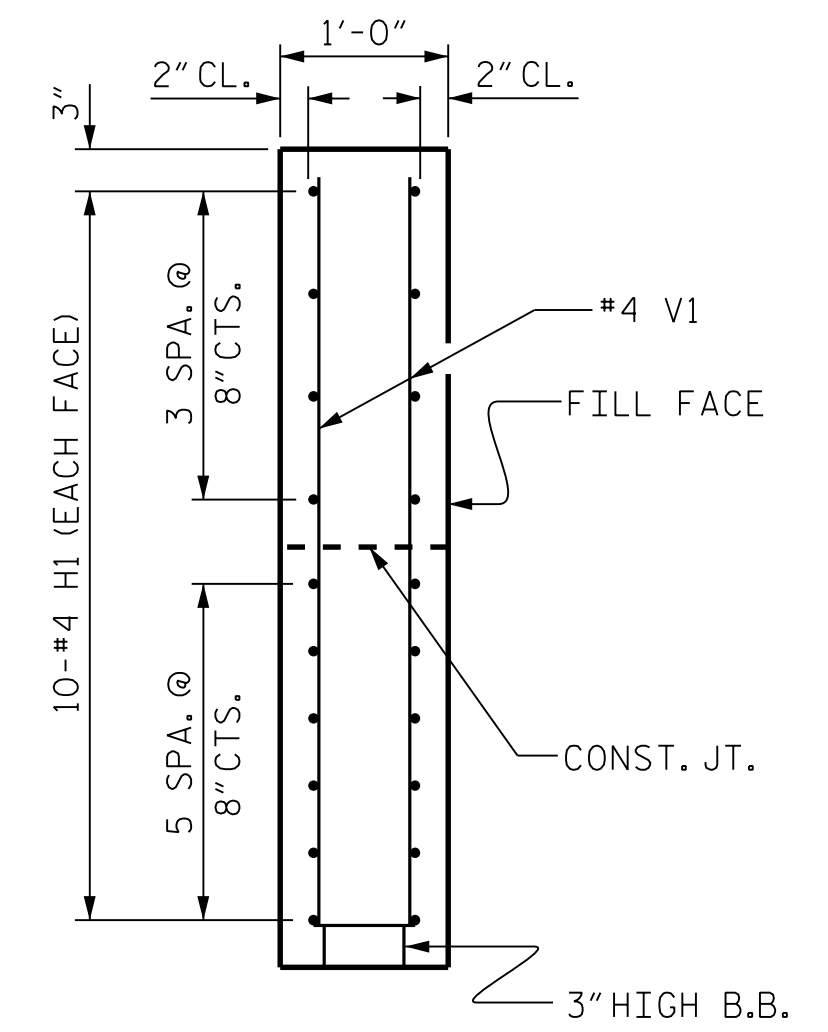
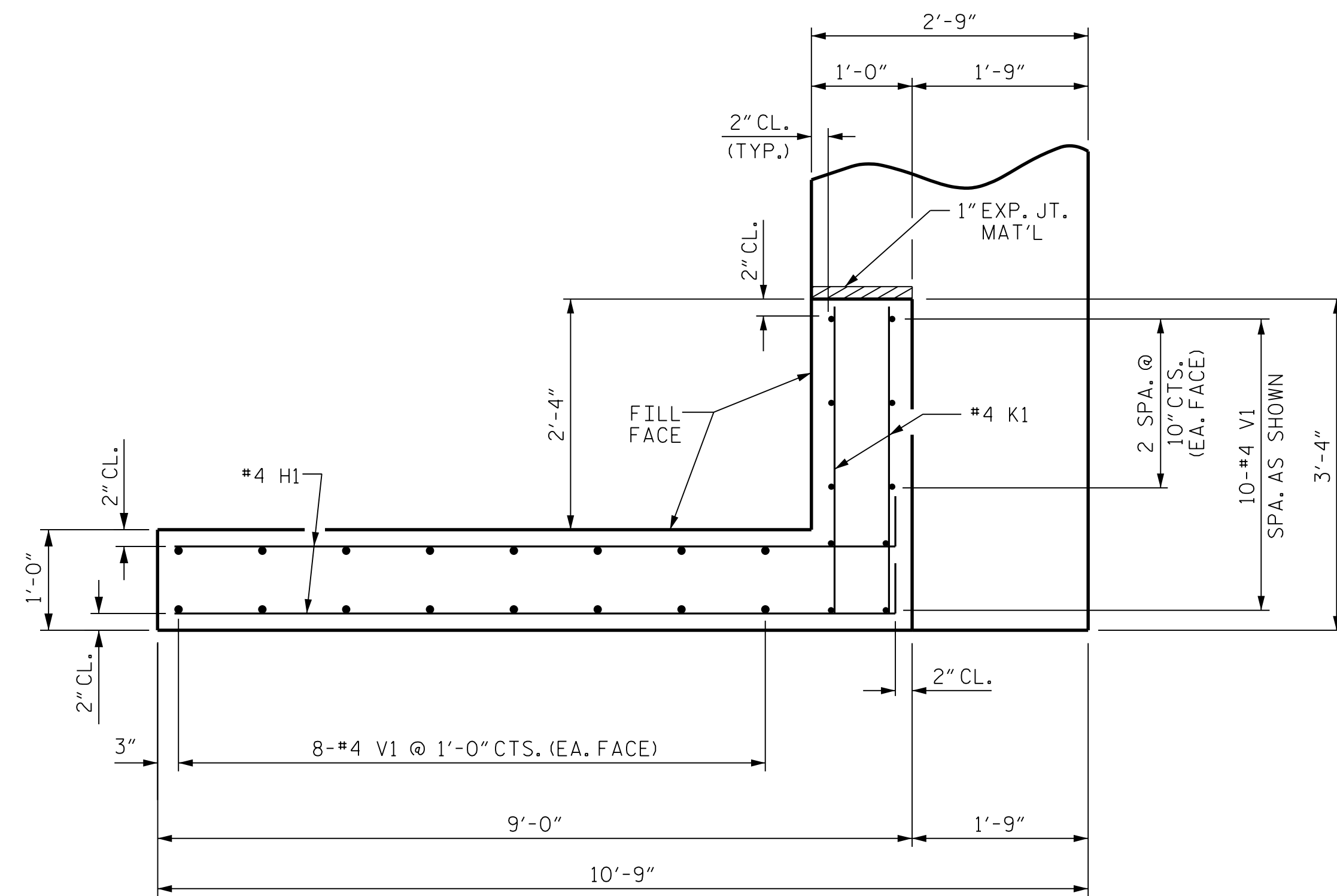
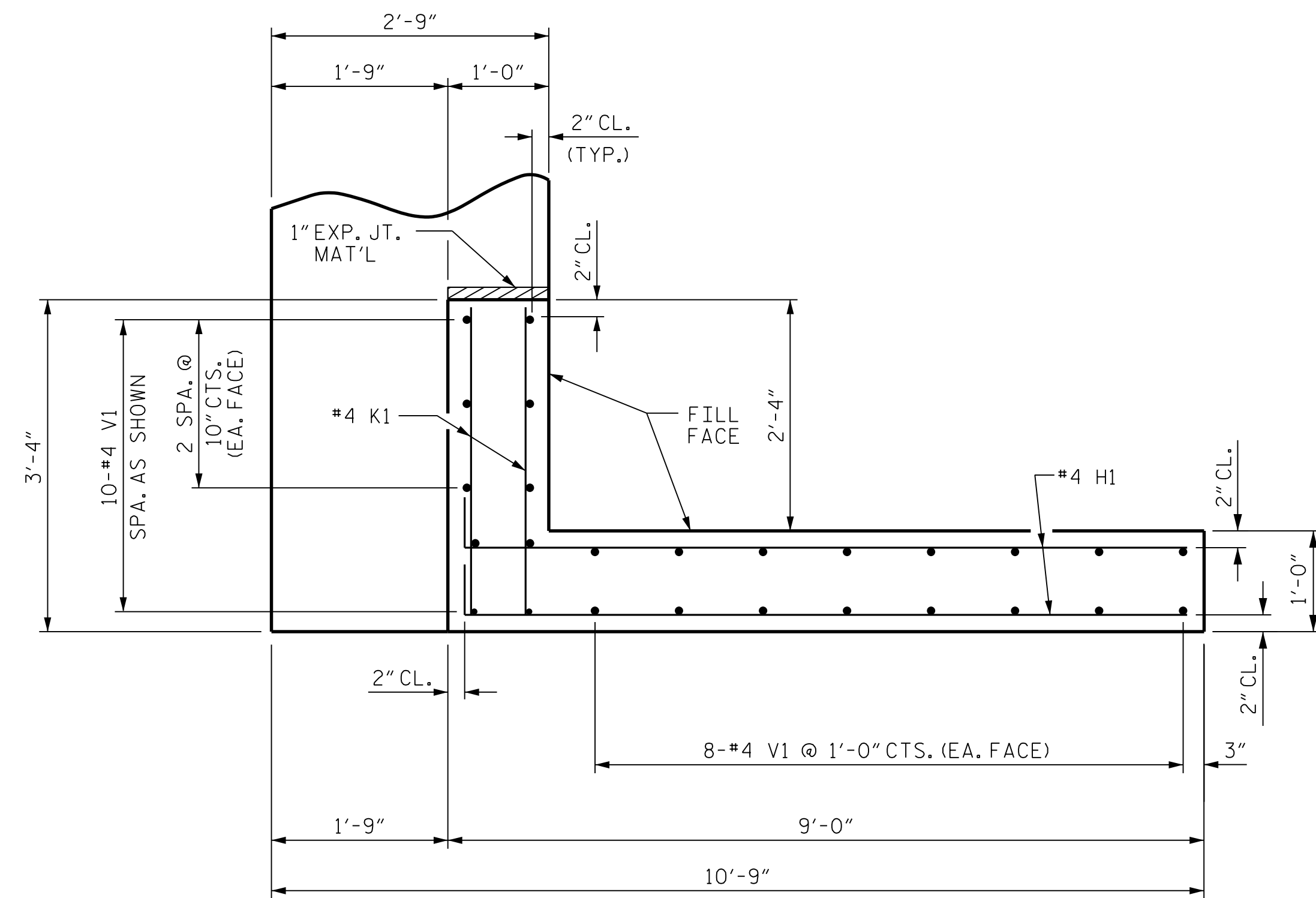
SUBSTRUCTURE

END BENT 1
PLAN & ELEVATION

REVISIONS						SHEET NO. S-9
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1			3			TOTAL SHEETS 17
2			4			

STD. NO. EB_30_90S4

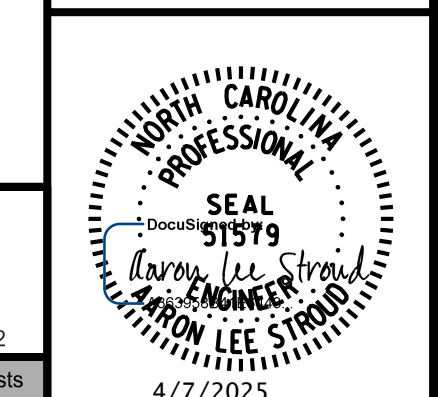
DRAWN BY : J. W. COOK DATE : MAR 2025
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MARTIN COUNTY
 STATION: 13+48.50 -L-

SHEET 2 OF 3

BRIDGE NO. 570022

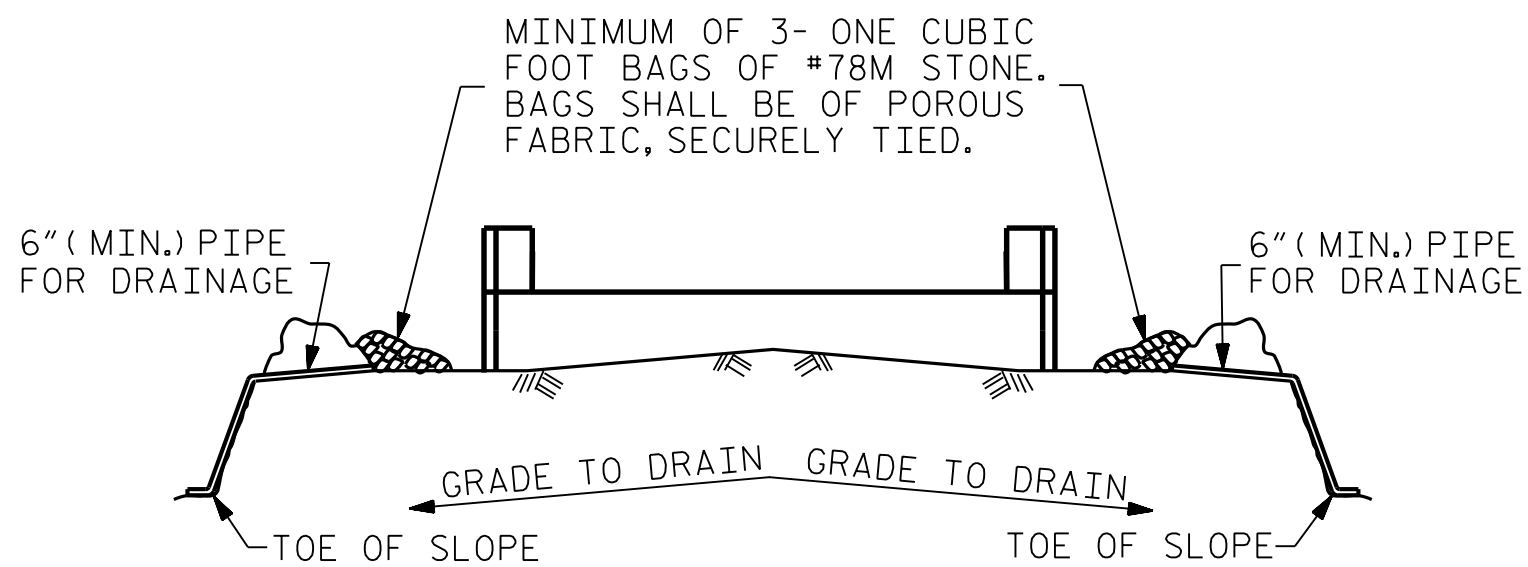


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
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SUBSTRUCTURE

END BENT 1
WINGWALL DETAILS

REVISIONS						SHEET NO. S-10
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 17
2			4			

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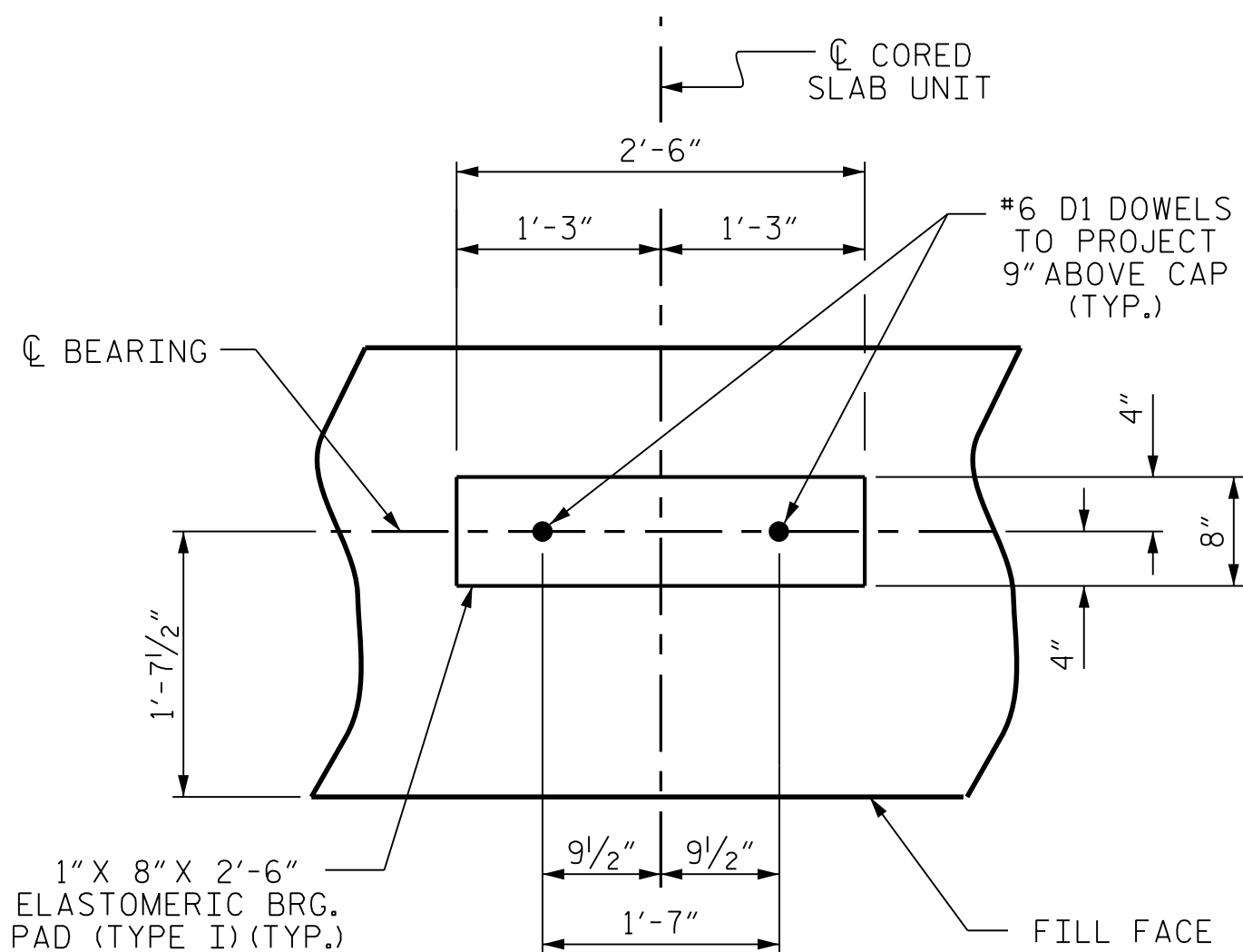


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

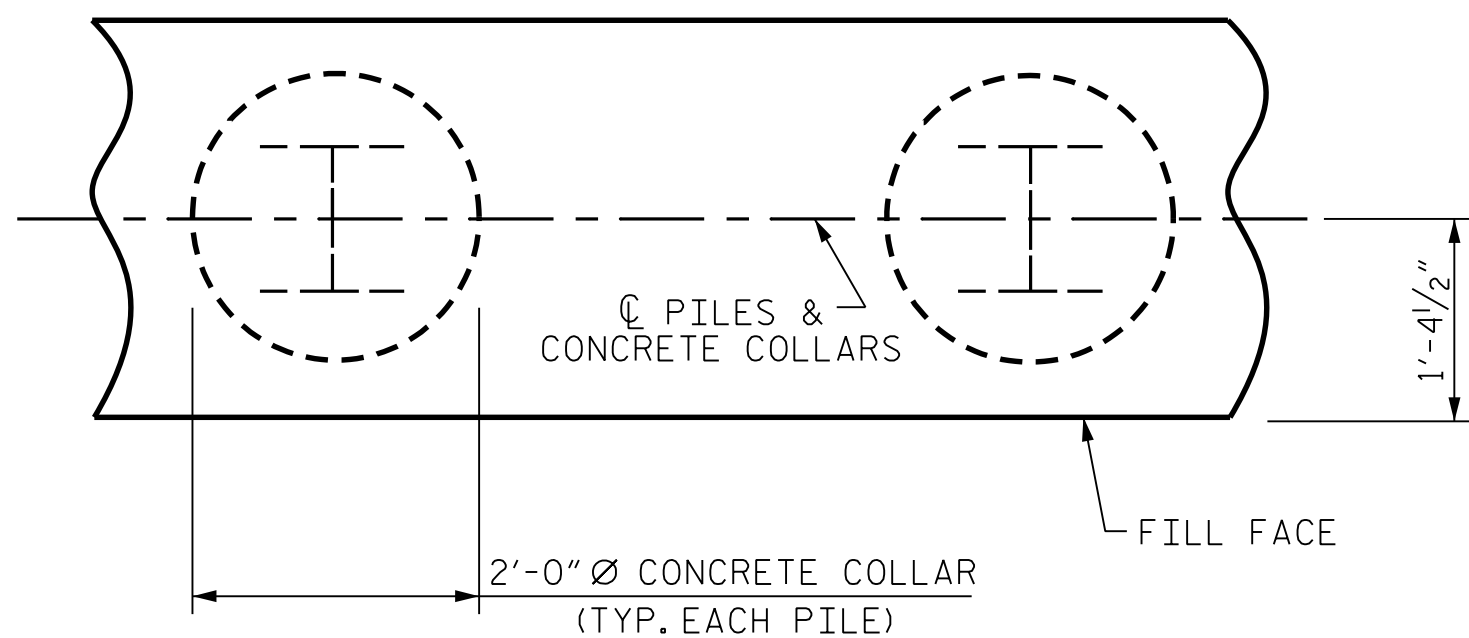
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

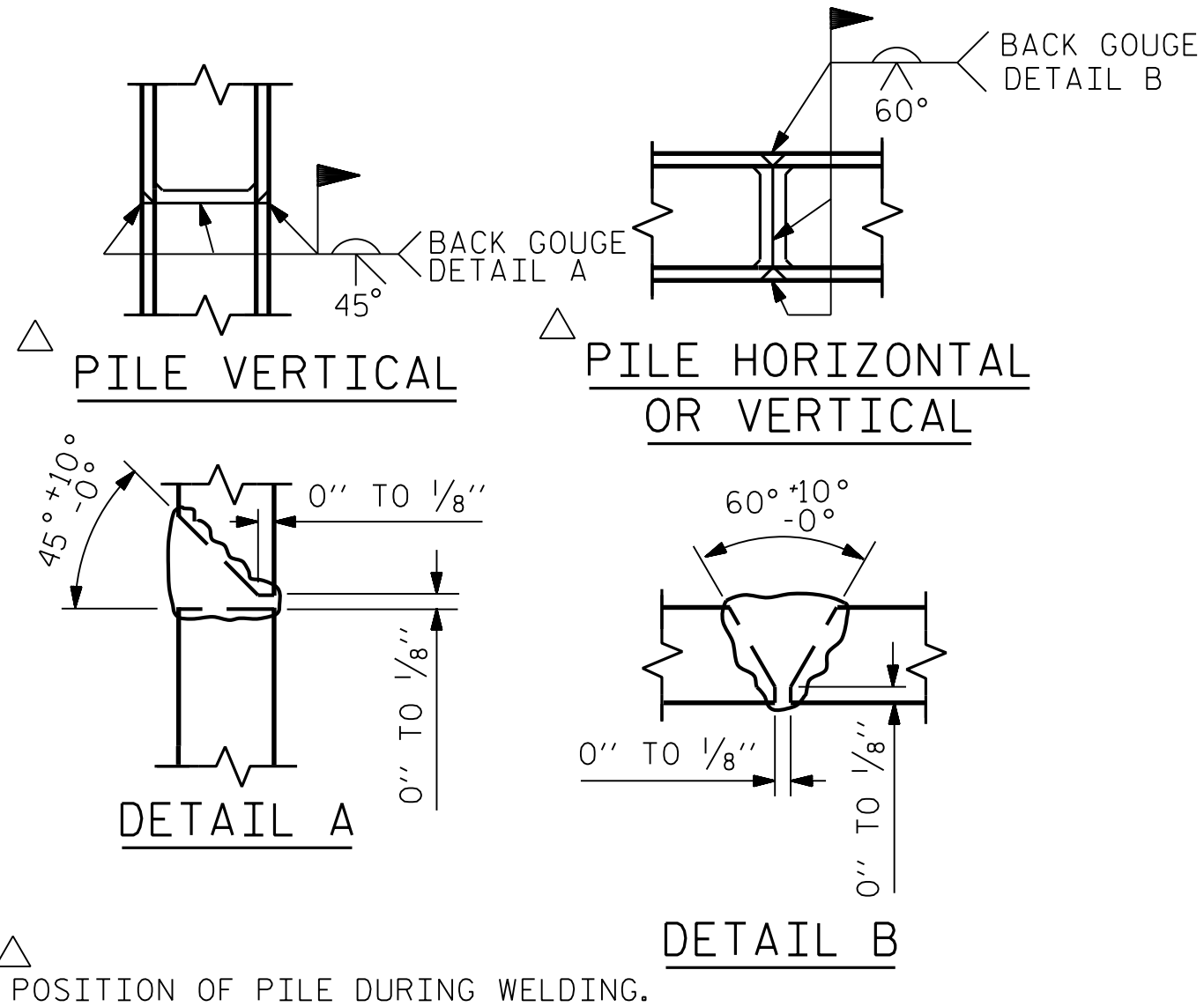


DETAIL "A"

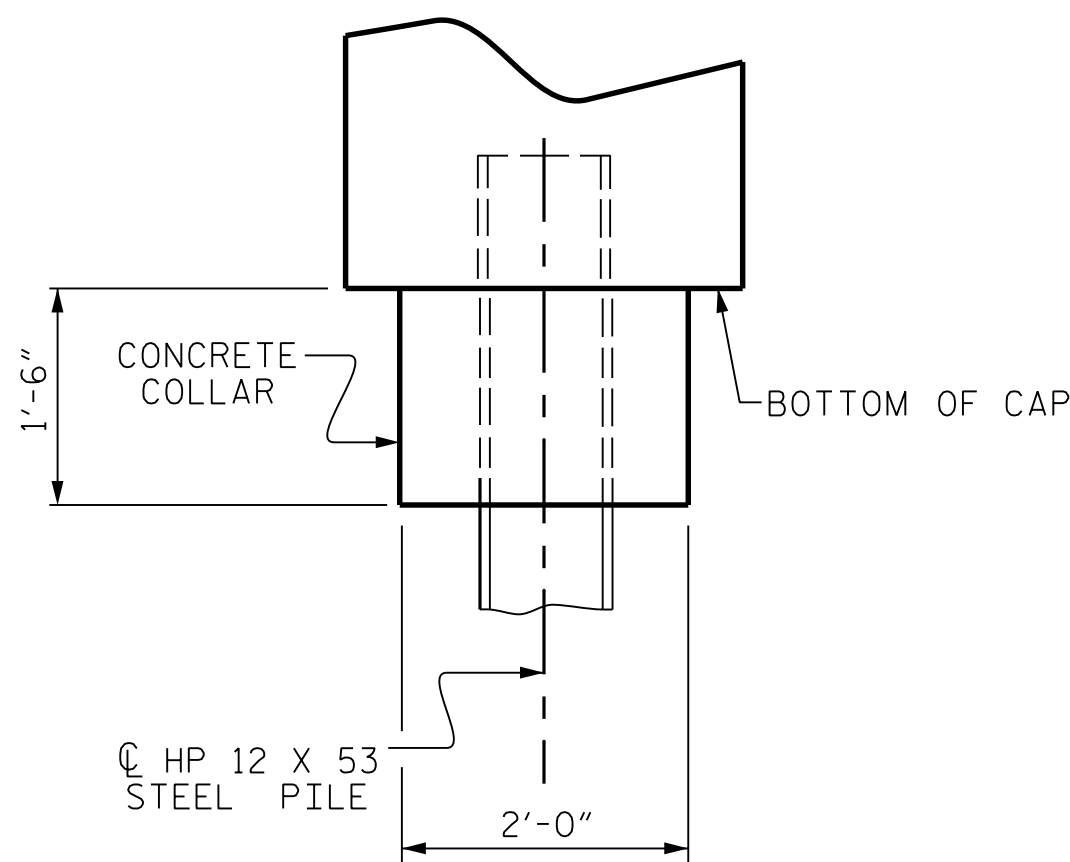


PLAN A

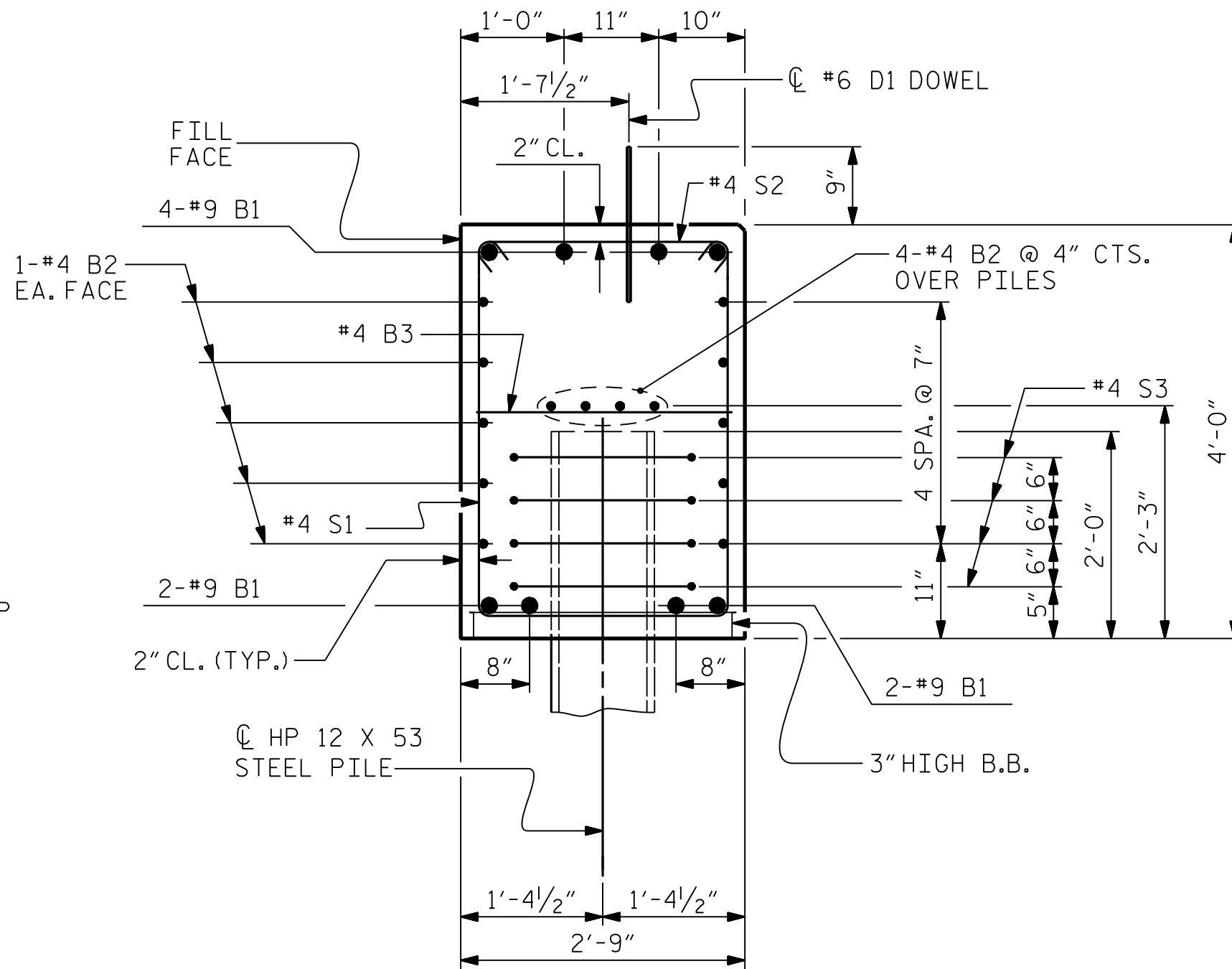
CORROSION PROTECTION FOR STEEL PILES DETAIL



PILE SPLICE DETAILS

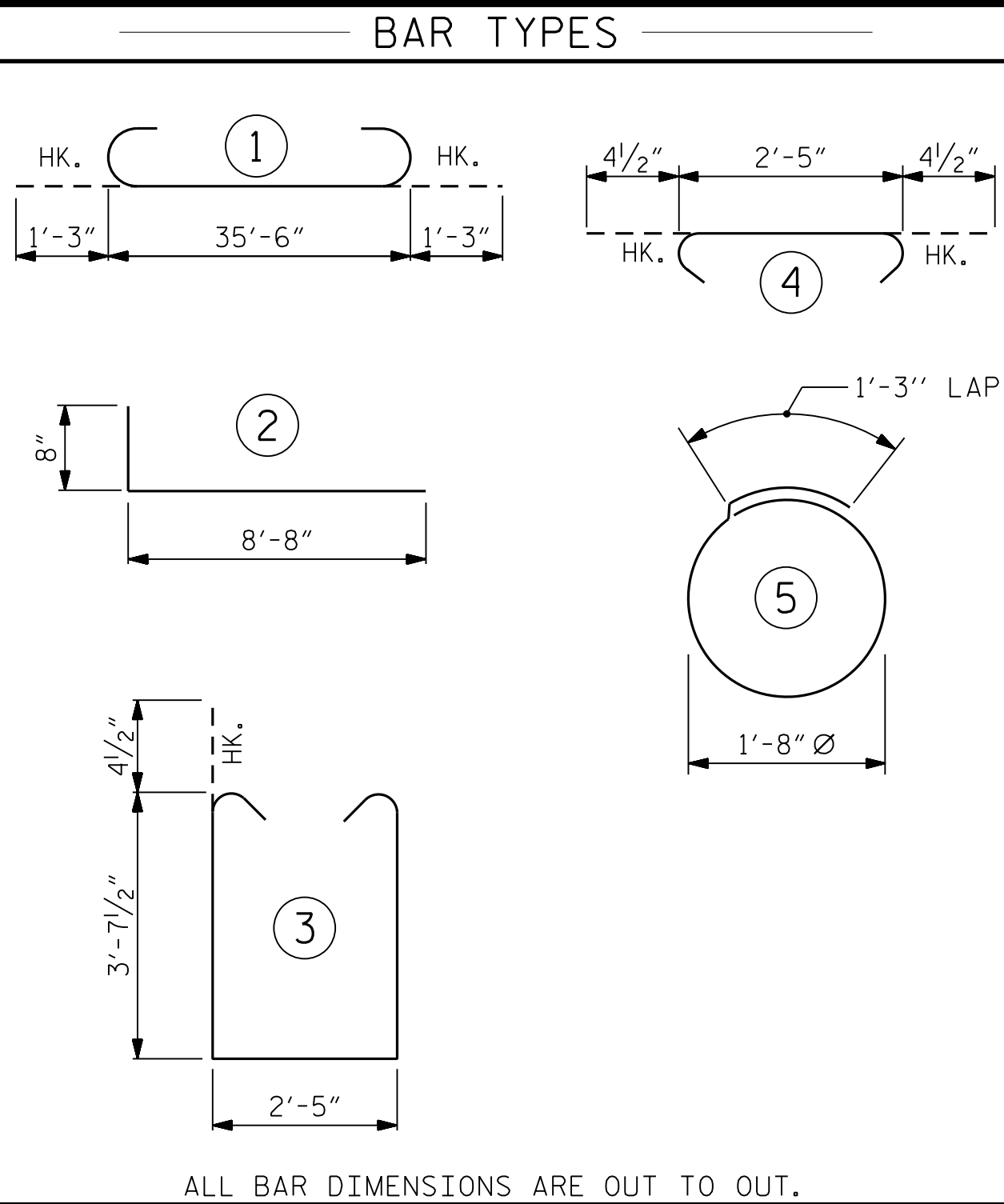


ELEVATION



SECTION A-A

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



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR END BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	38'-0"	1,034
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) 2,449 LBS.

CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)

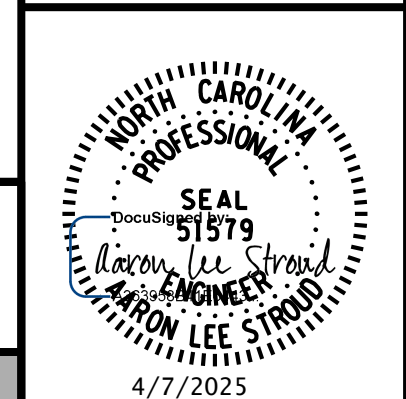
POUR #1 CAP, LOWER PART OF WINGS & COLLARS 17.9 C.Y.
POUR #2 UPPER PART OF WINGS 2.3 C.Y.

TOTAL CLASS A CONCRETE 20.2 C.Y.

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

SHEET 3 OF 3

BRIDGE NO. 570022



STATE OF NORTH CAROLINA
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RALEIGH
SUBSTRUCTURE

END BENT 1
DETAILS & BILL OF MATERIAL

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1			3			TOTAL SHEETS	
2			4			17	

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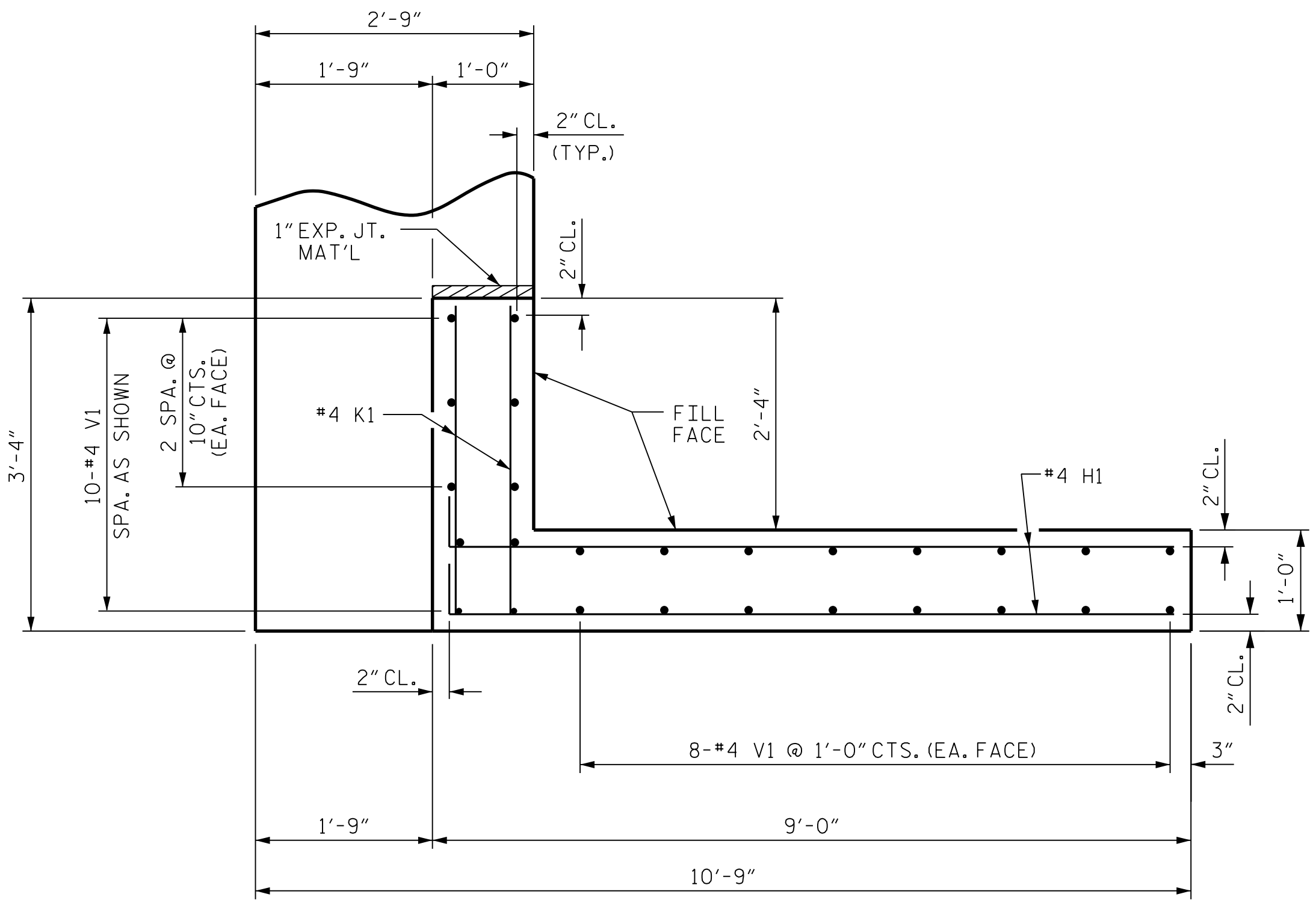
FOR WING DETAILS, SEE END BENT 2
SHEET 2 OF 3.



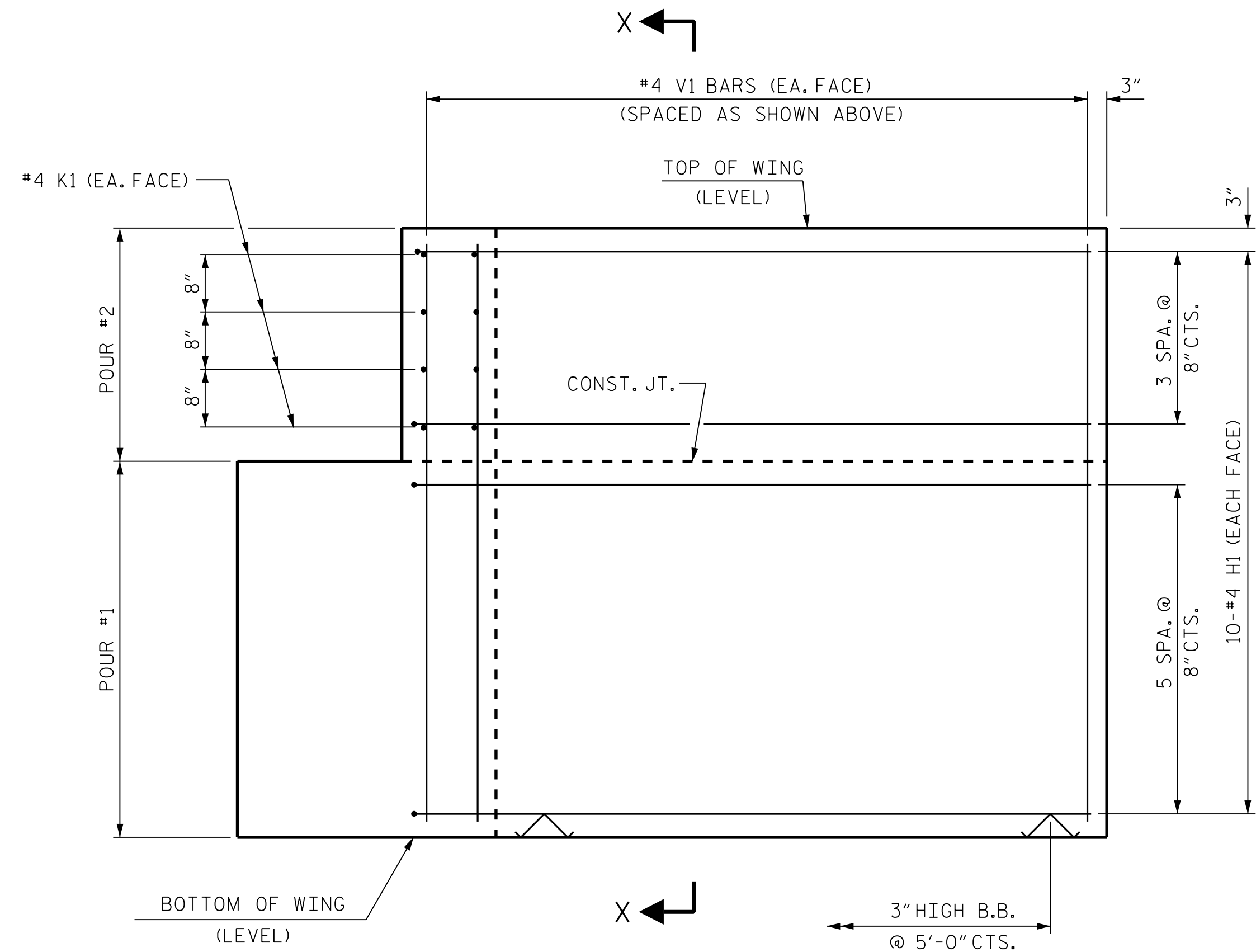
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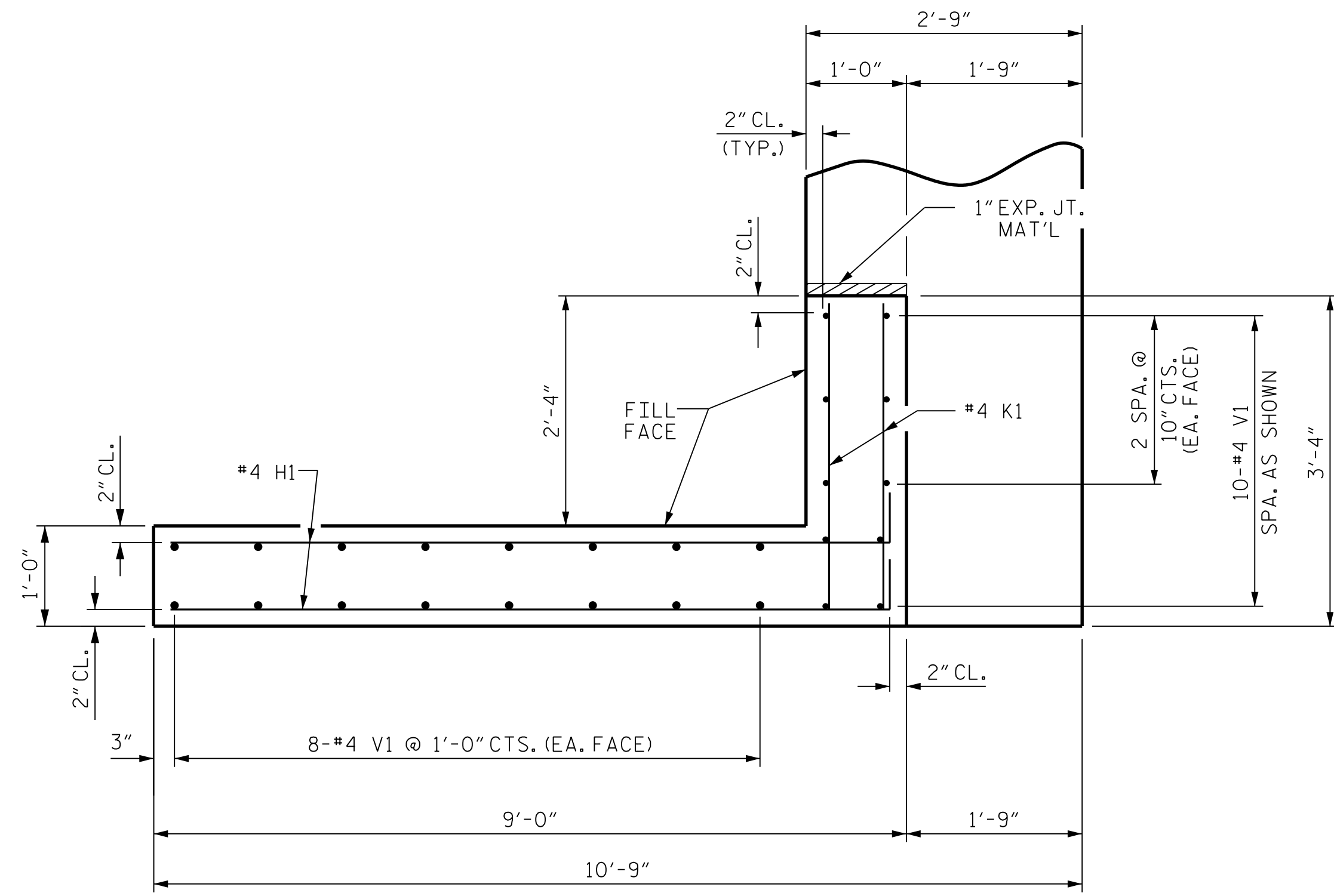
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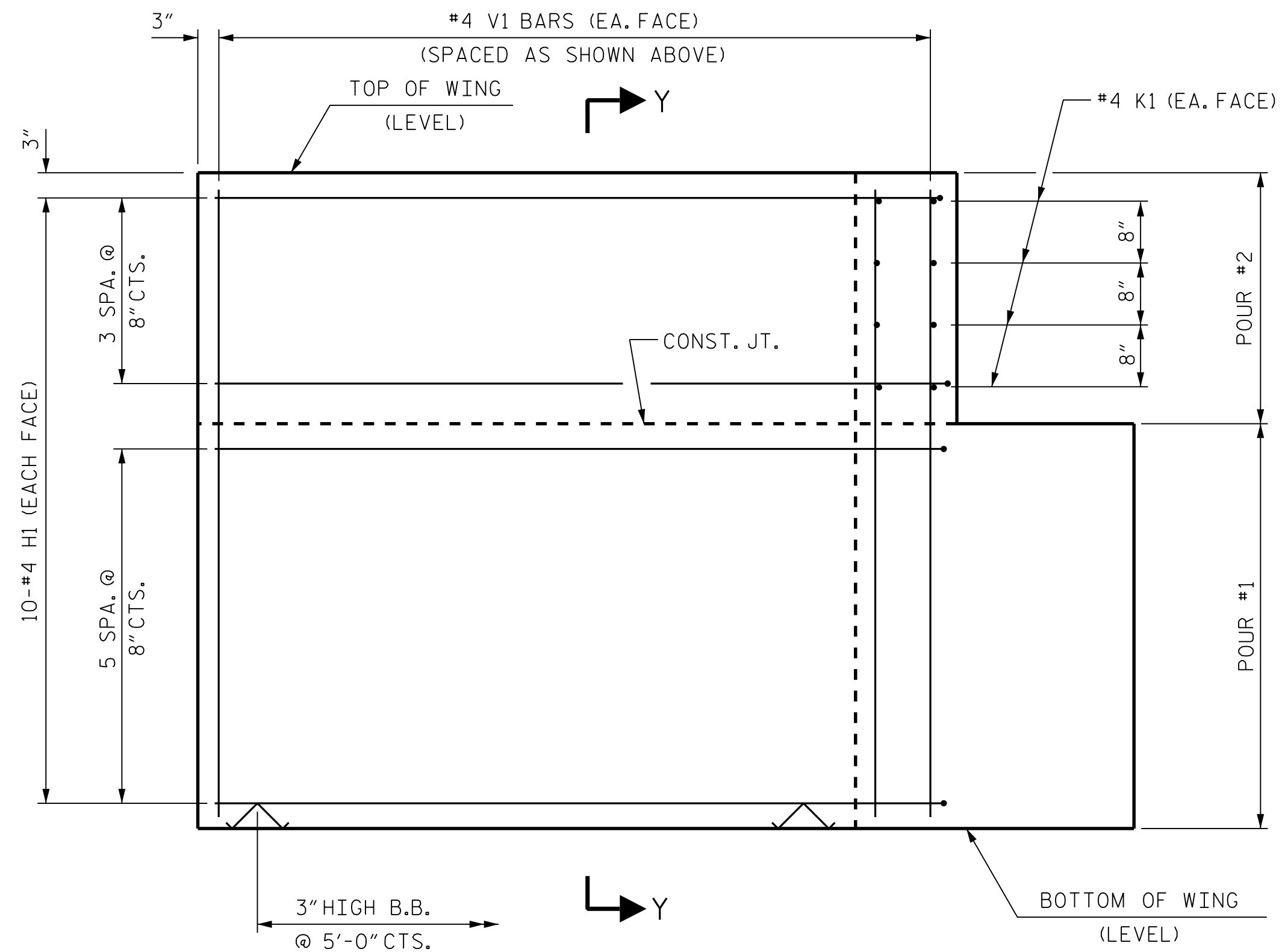
PLAN OF WING (W3)



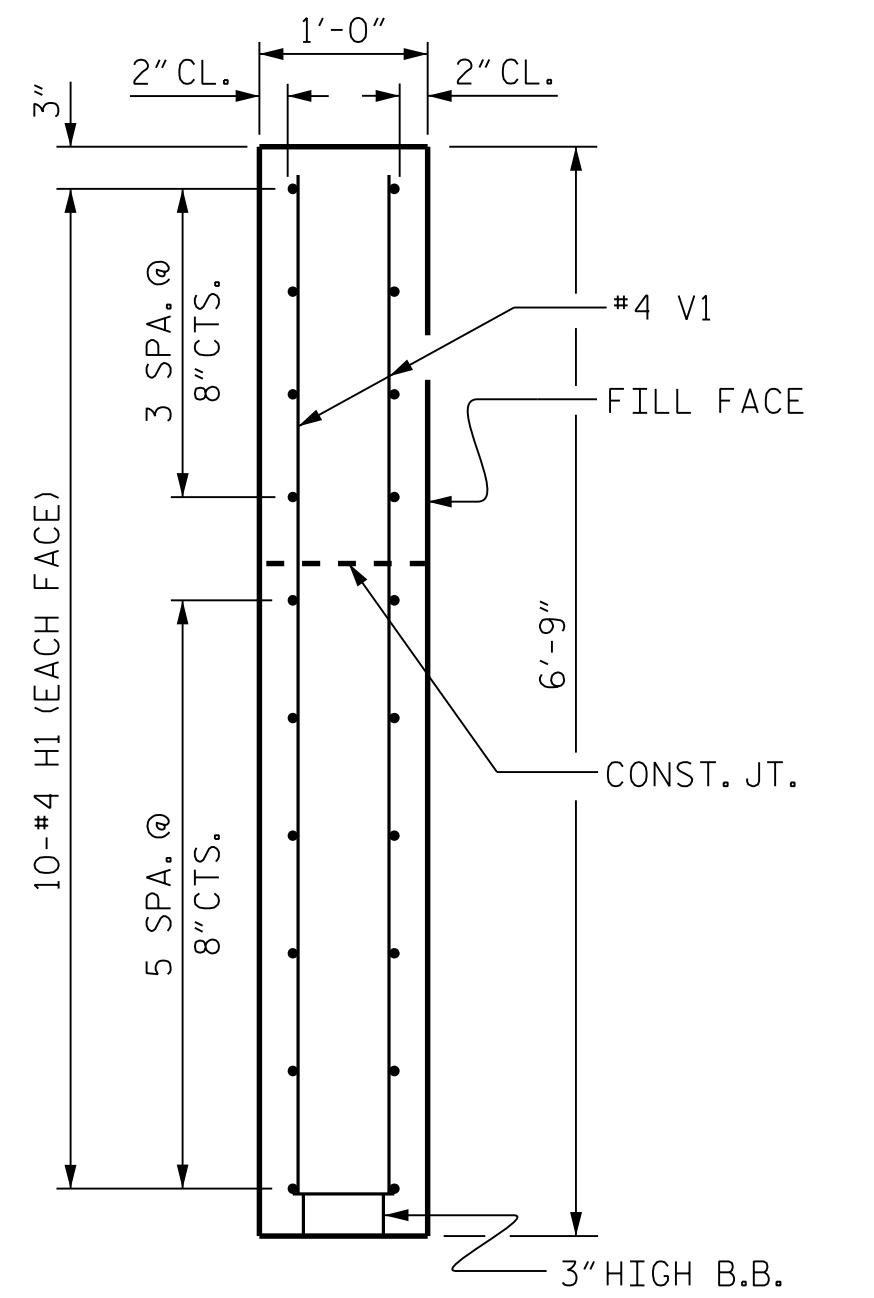
ELEVATION OF WING (W3)



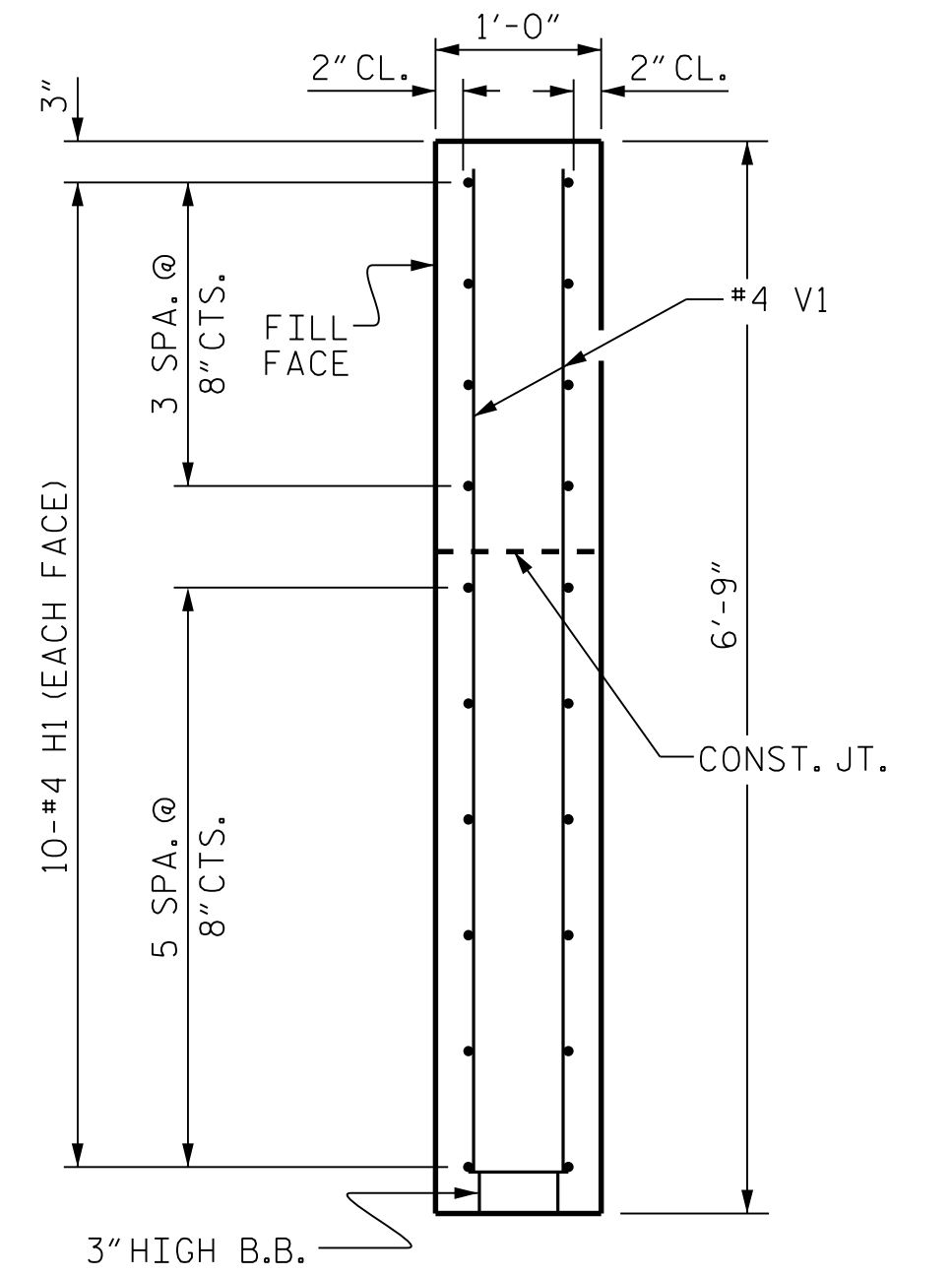
PLAN OF WING (W4)



ELEVATION OF WING (W4)



SECTION X-X

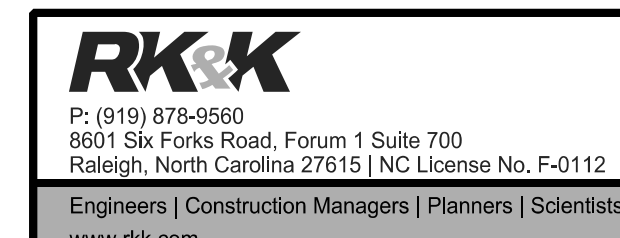
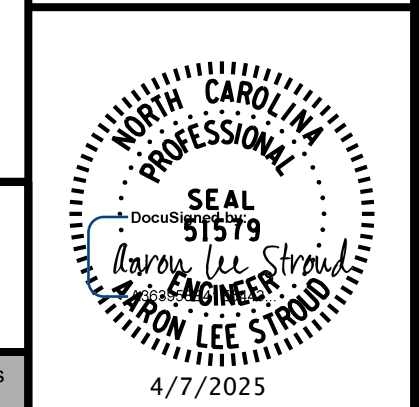


SECTION Y-Y

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

SHEET 2 OF 3

BRIDGE NO. 570022

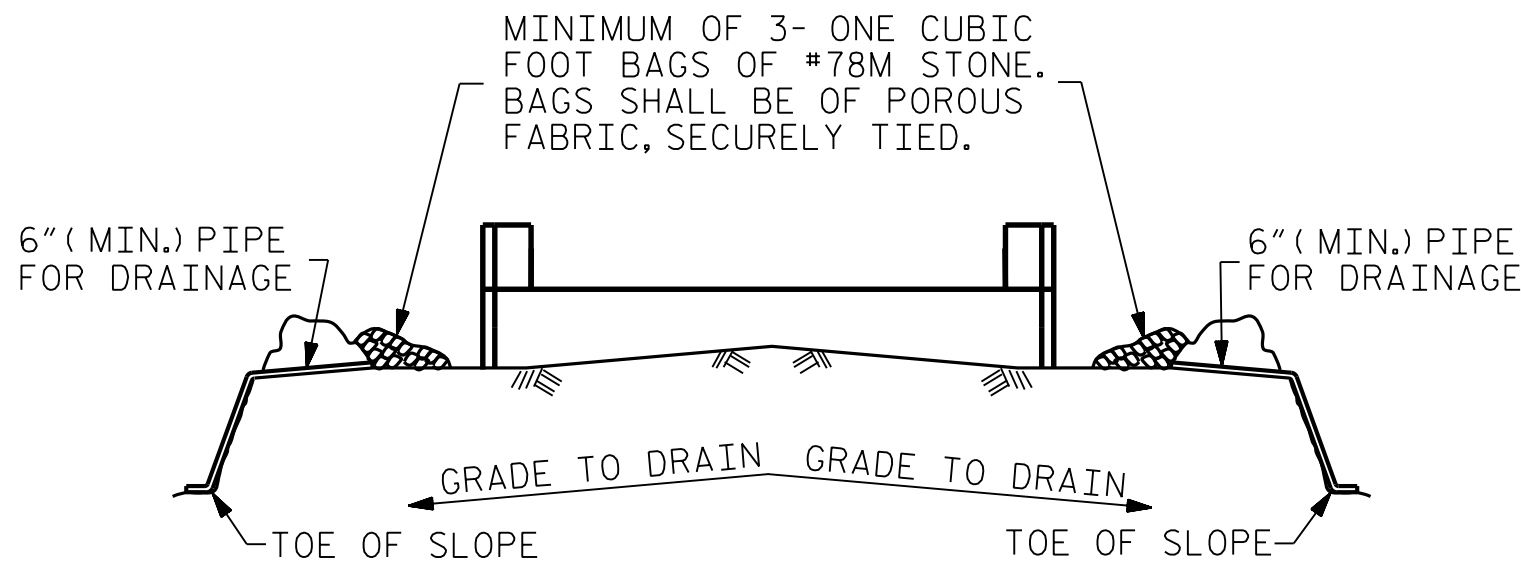


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2			4			
TOTAL SHEETS						17

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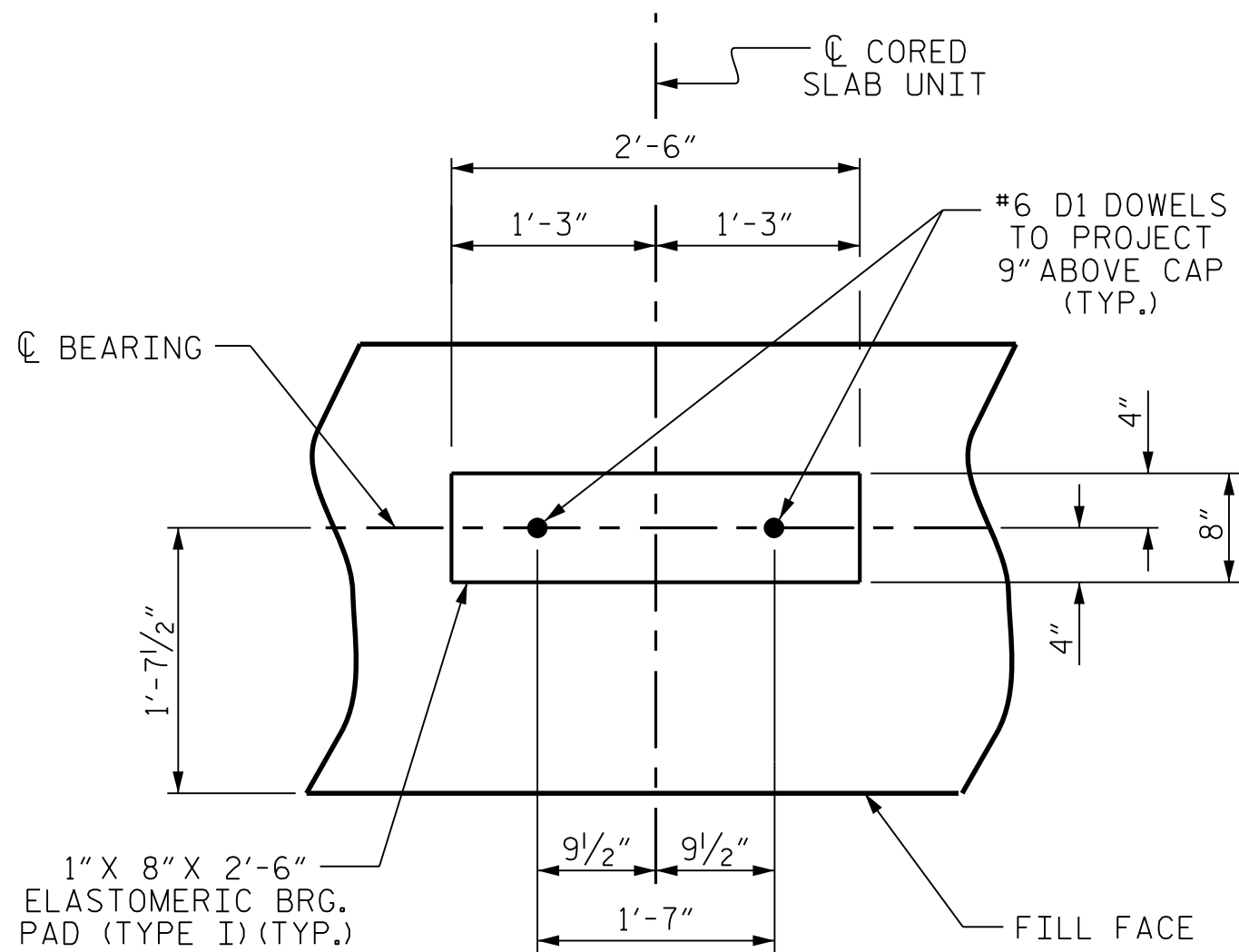


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

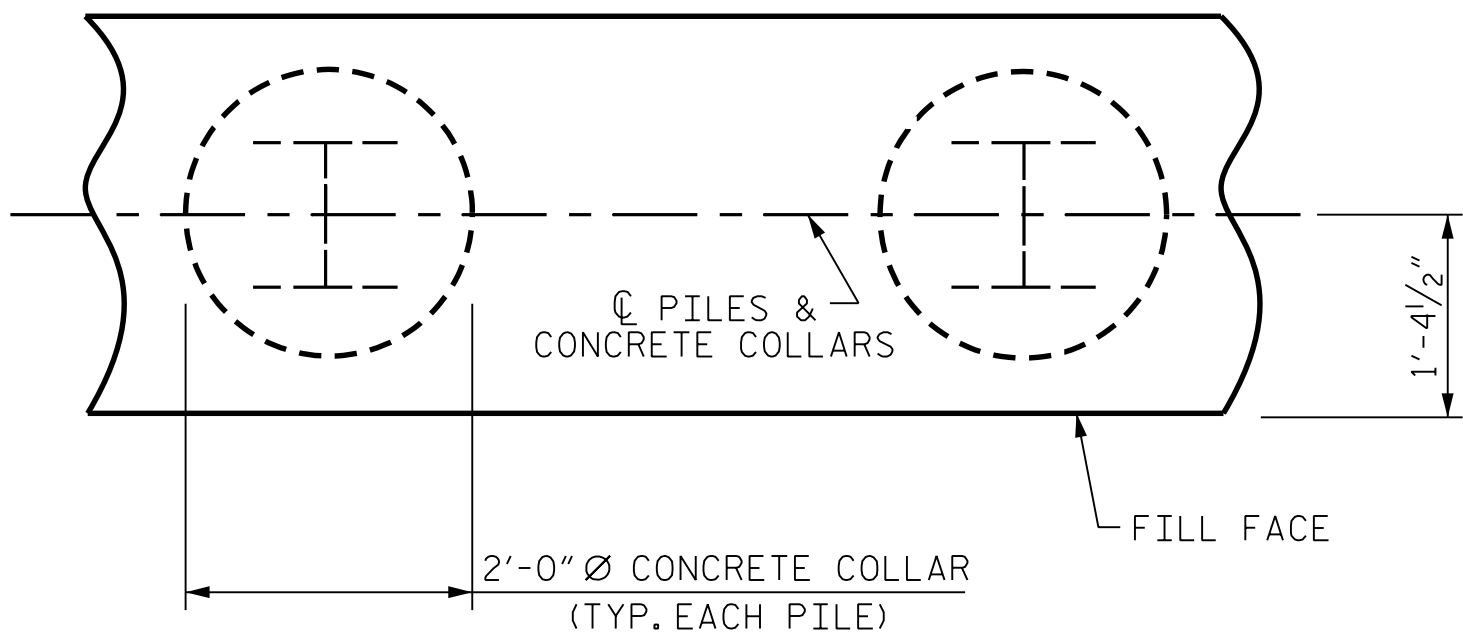
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

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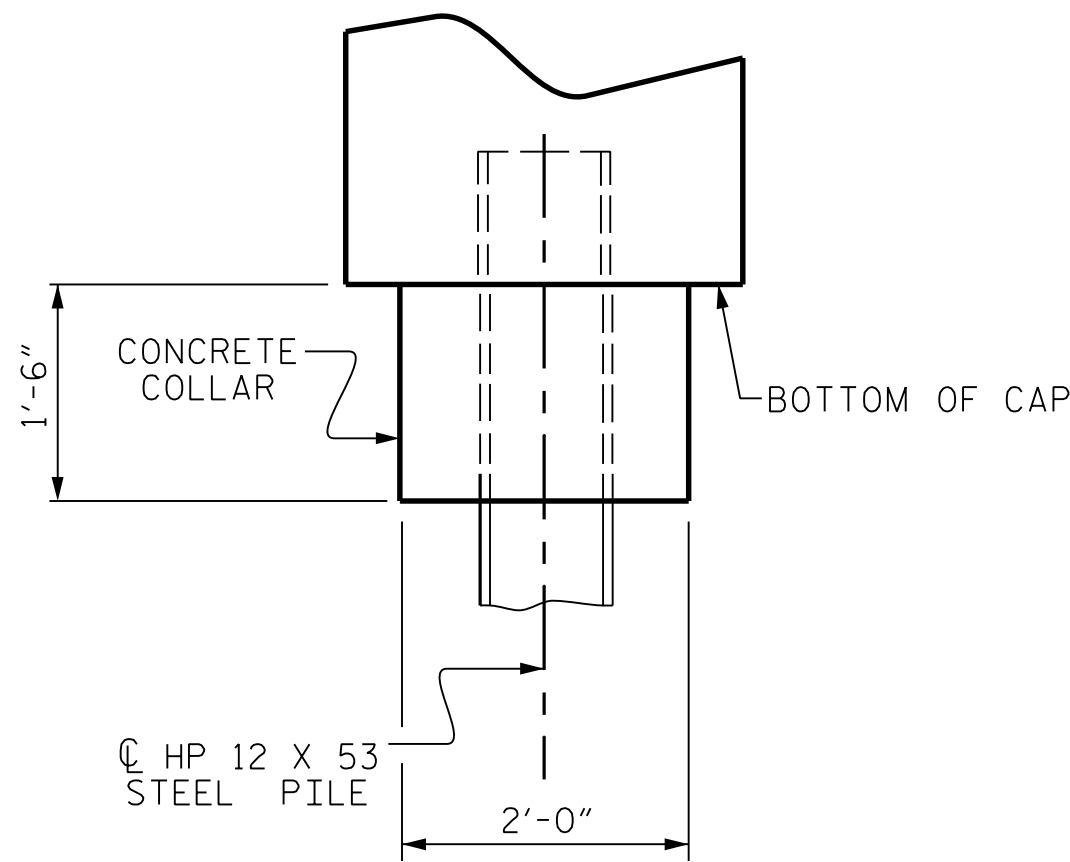
TEMPORARY DRAINAGE AT END BENT



DETAIL "A"

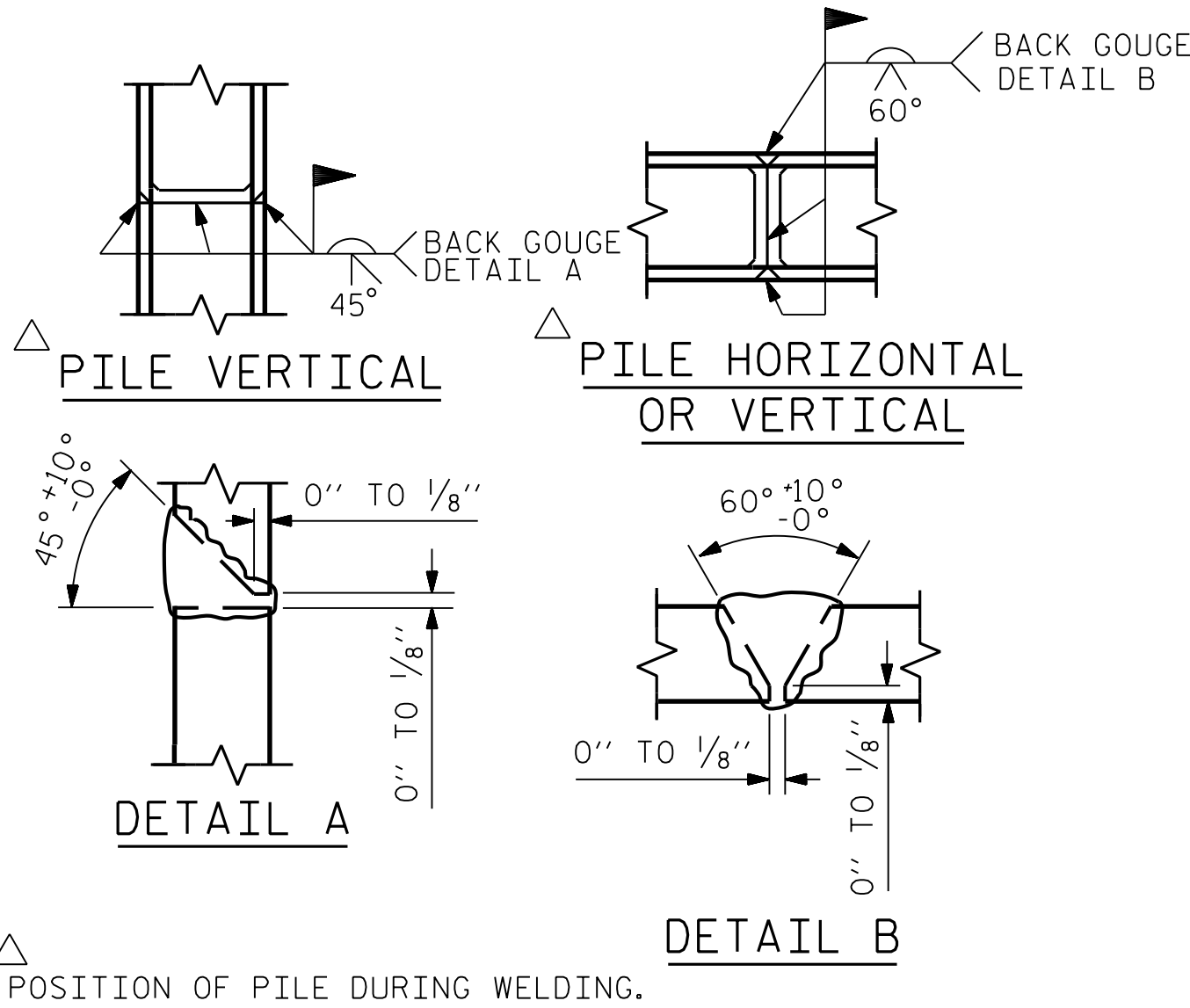


PLAN

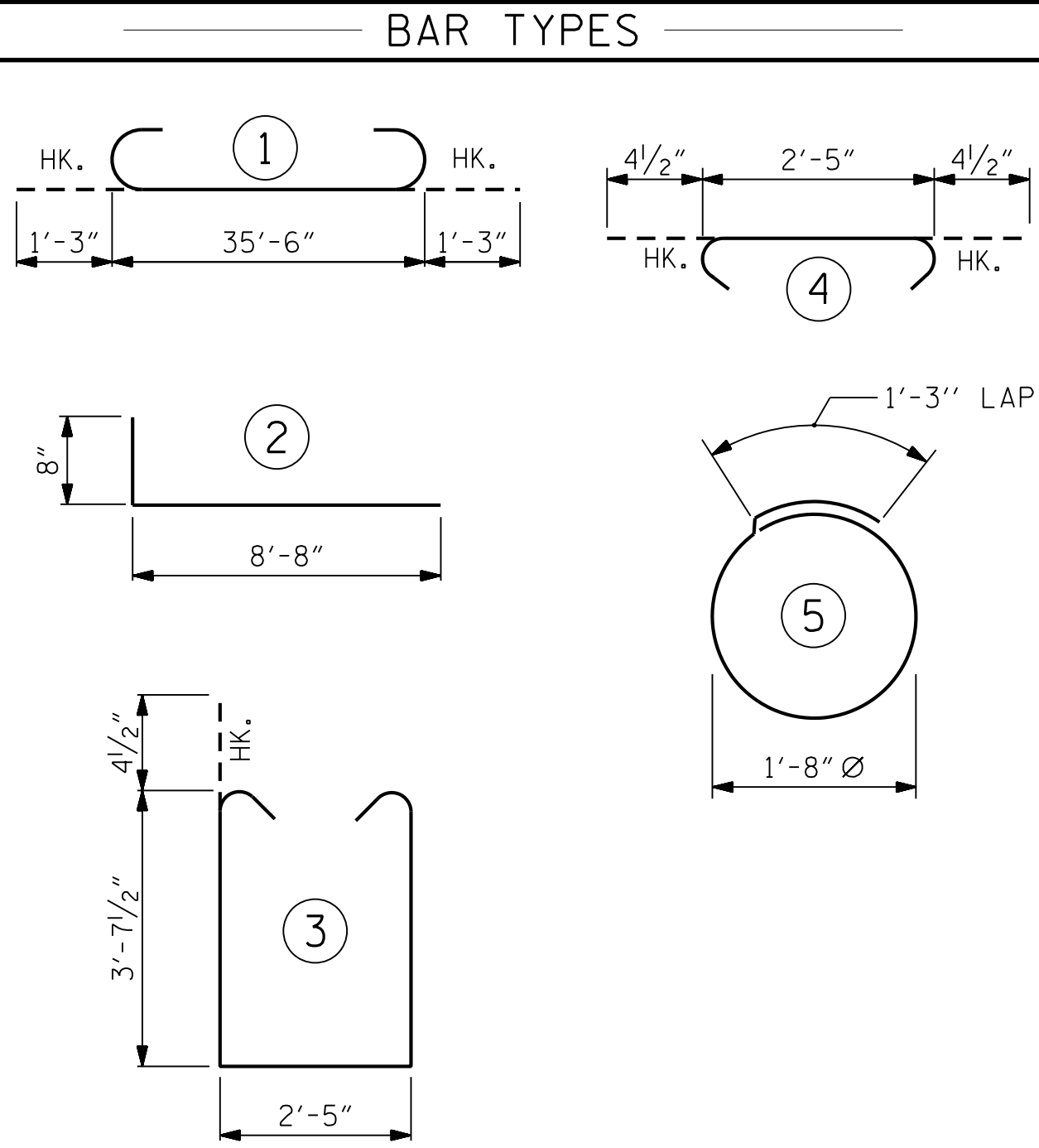


ELEVATION

CORROSION PROTECTION FOR STEEL PILES DETAIL

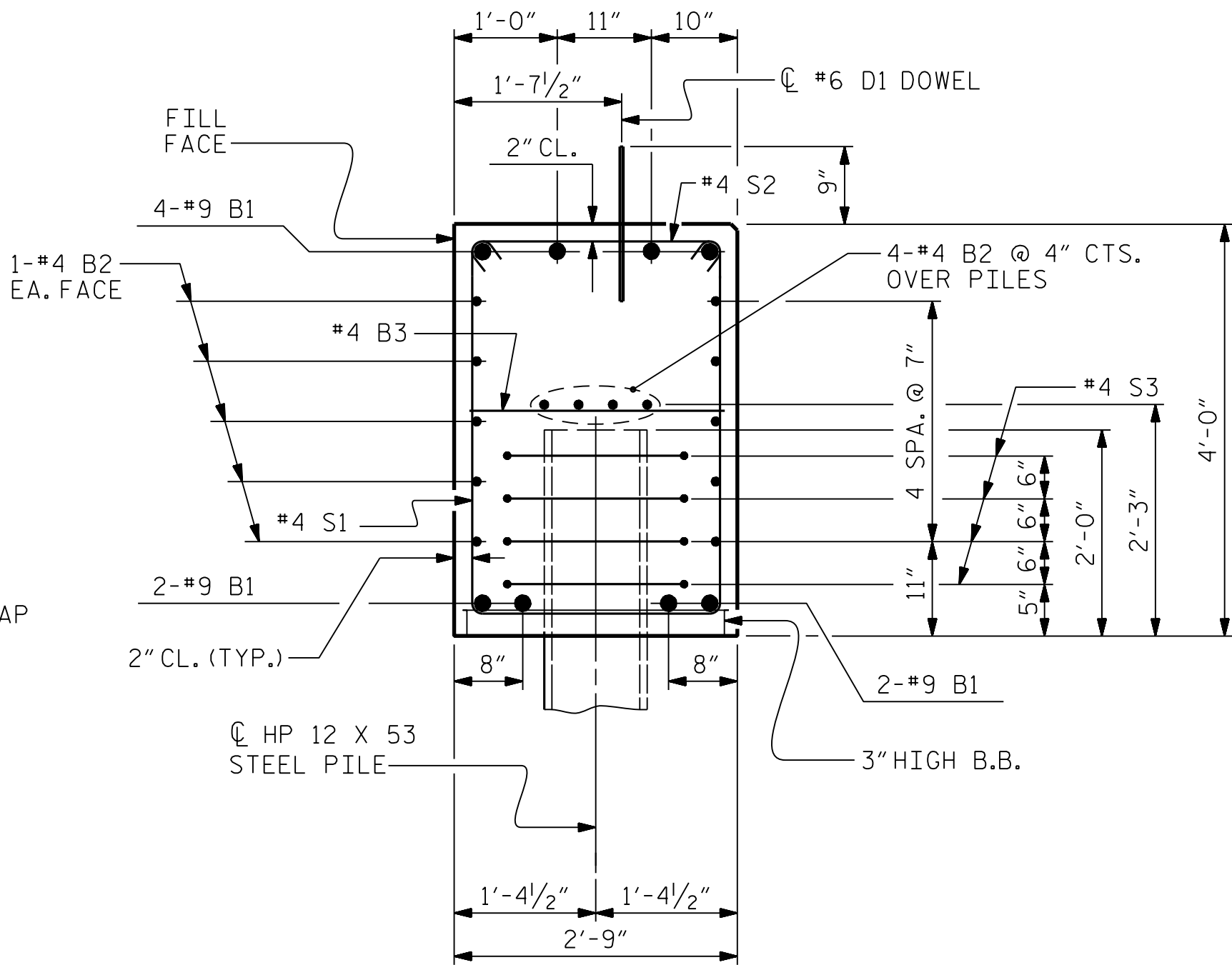


PILE SPLICE DETAILS



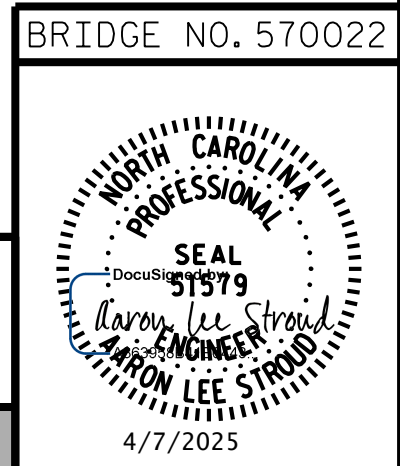
ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
FOR END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	38'-0"	1,034
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)					2,449 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.



SECTION A-A

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



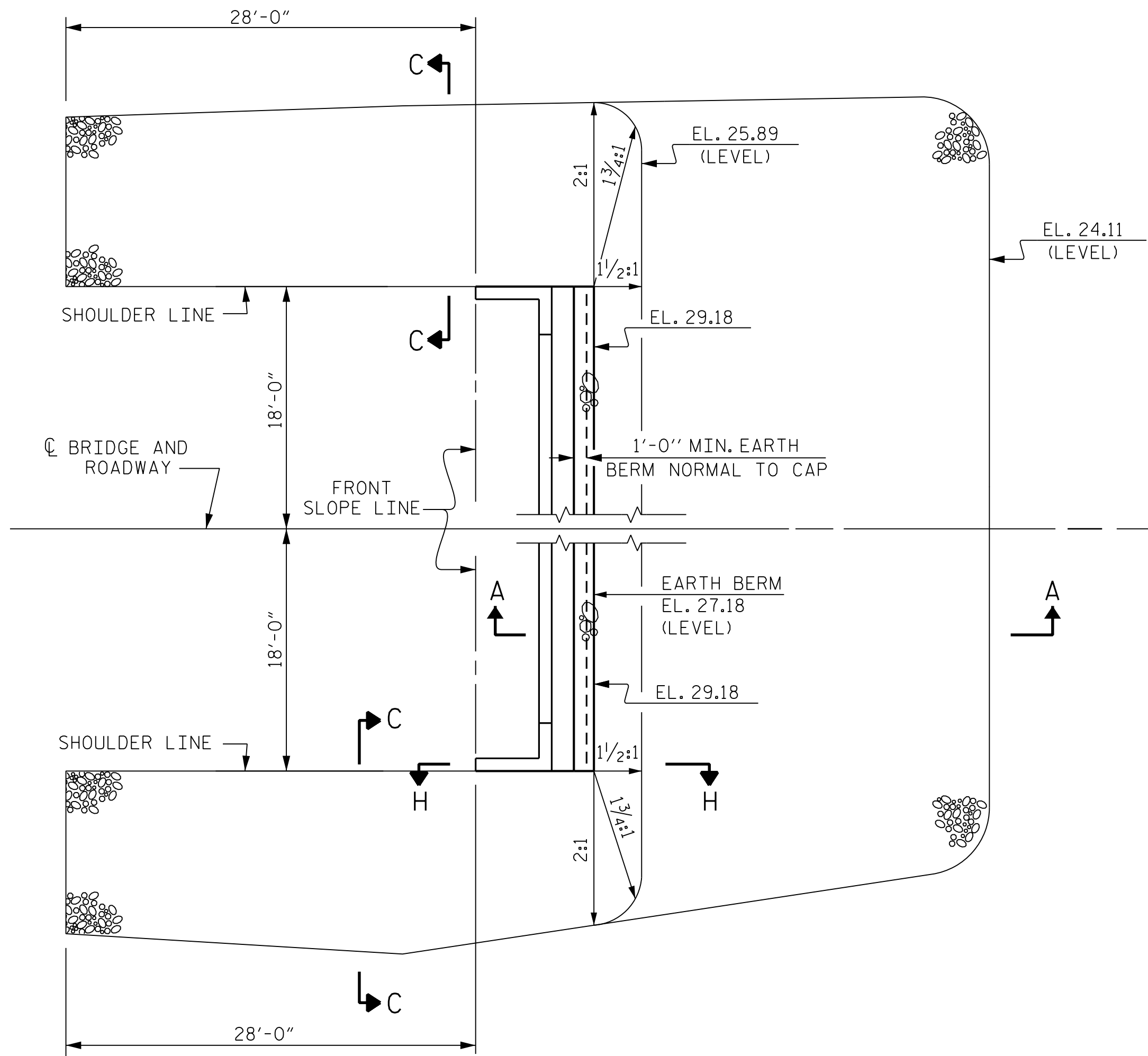
PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

SHEET 3 OF 3

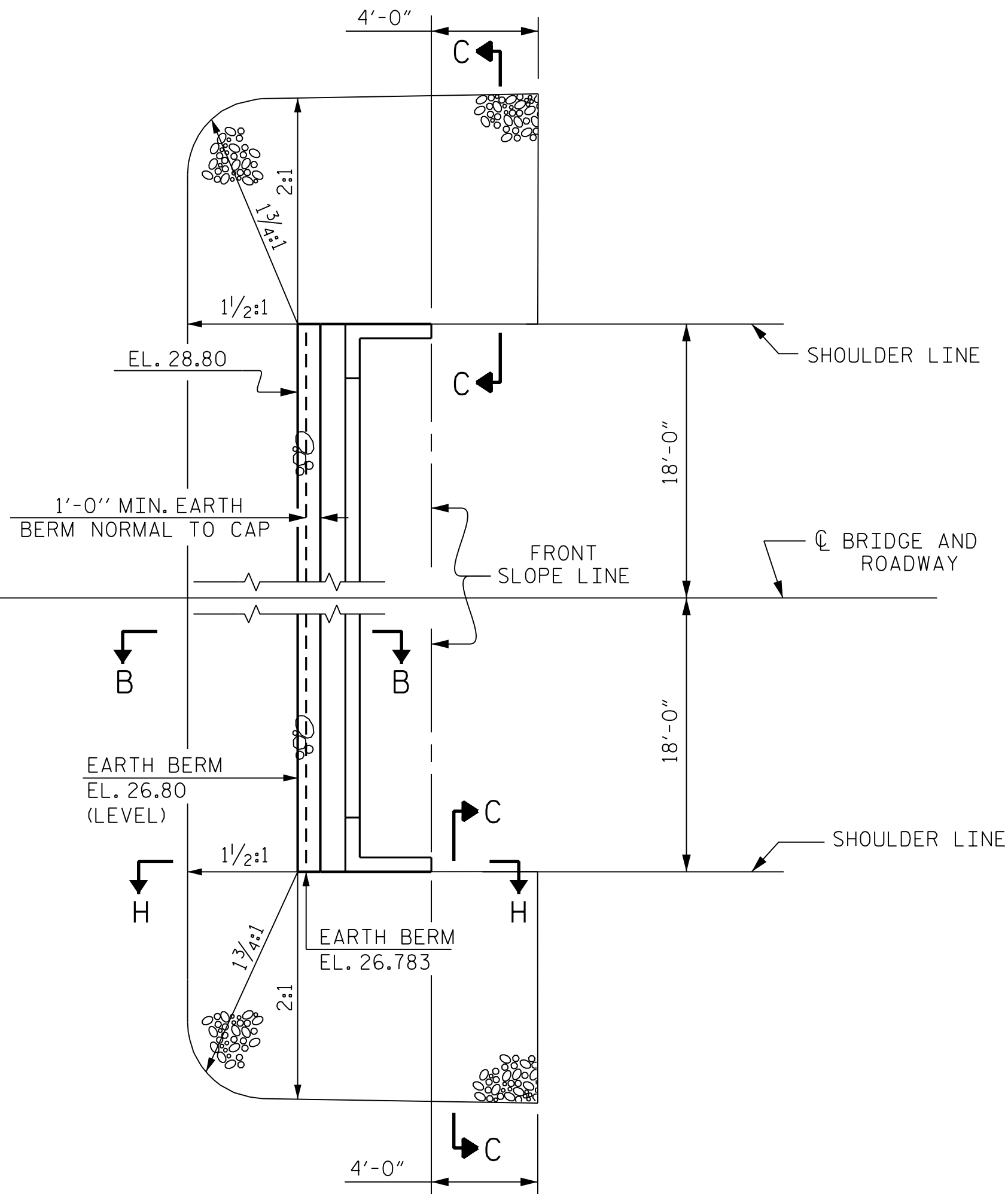
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE					
END BENT 2 DETAILS & BILL OF MATERIAL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-14					TOTAL SHEETS 17

STD. NO. EB_30.90S4

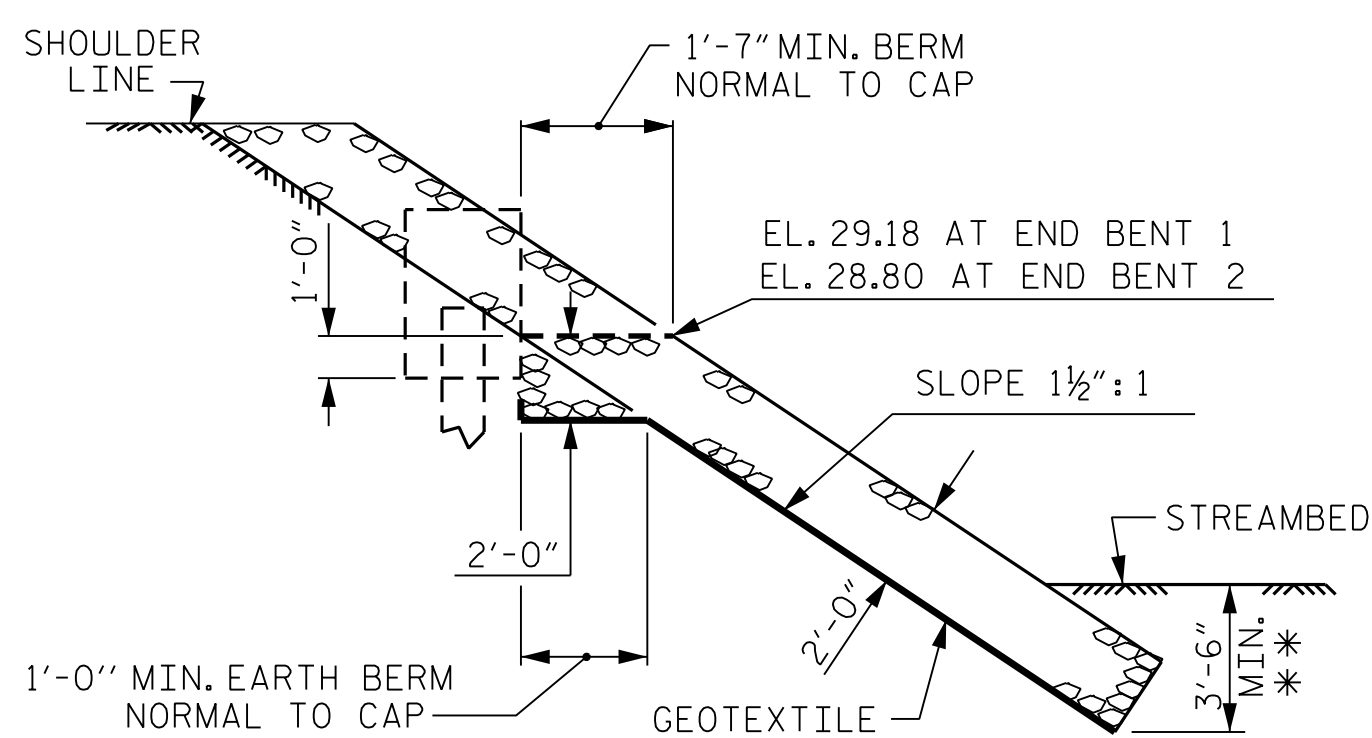
3/27/2025 R:\Structures\DCN\Final\BP1.R013.1.SMU_RR_570022.dgn jcook



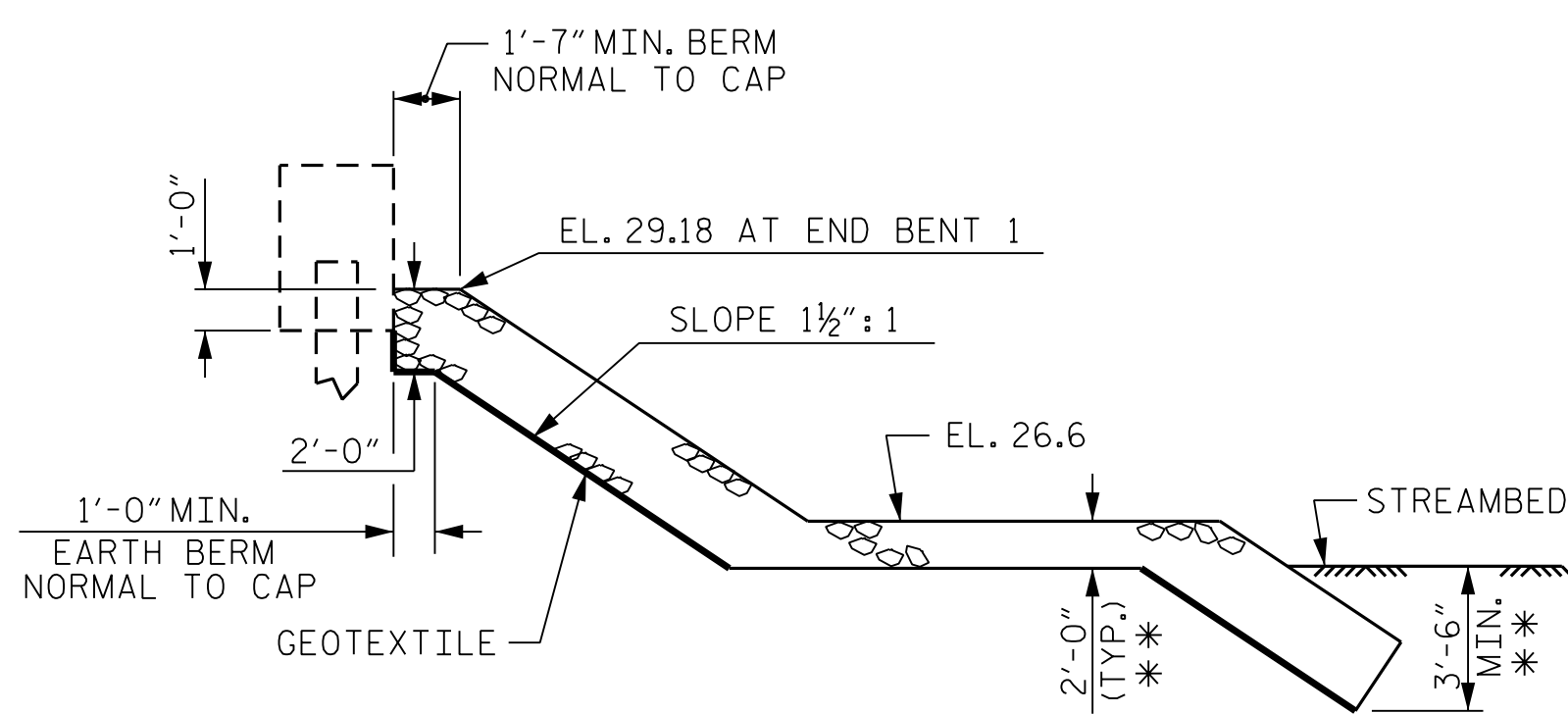
END BENT 1



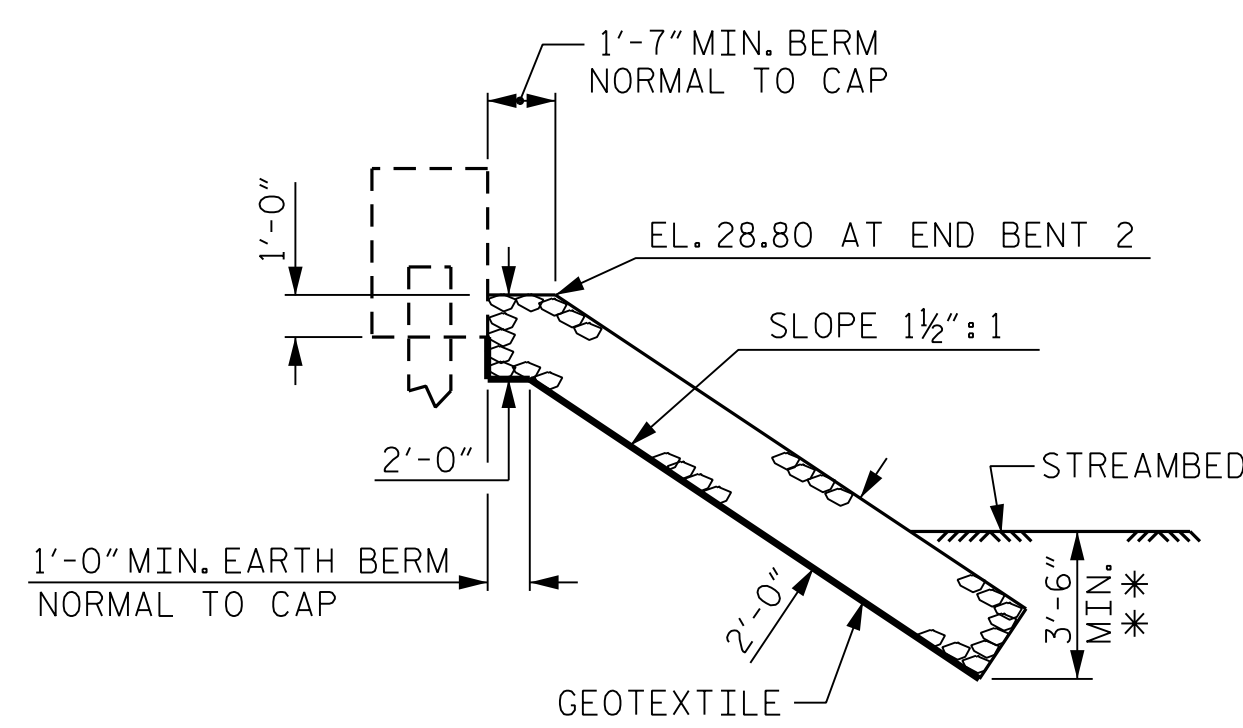
END BENT 2



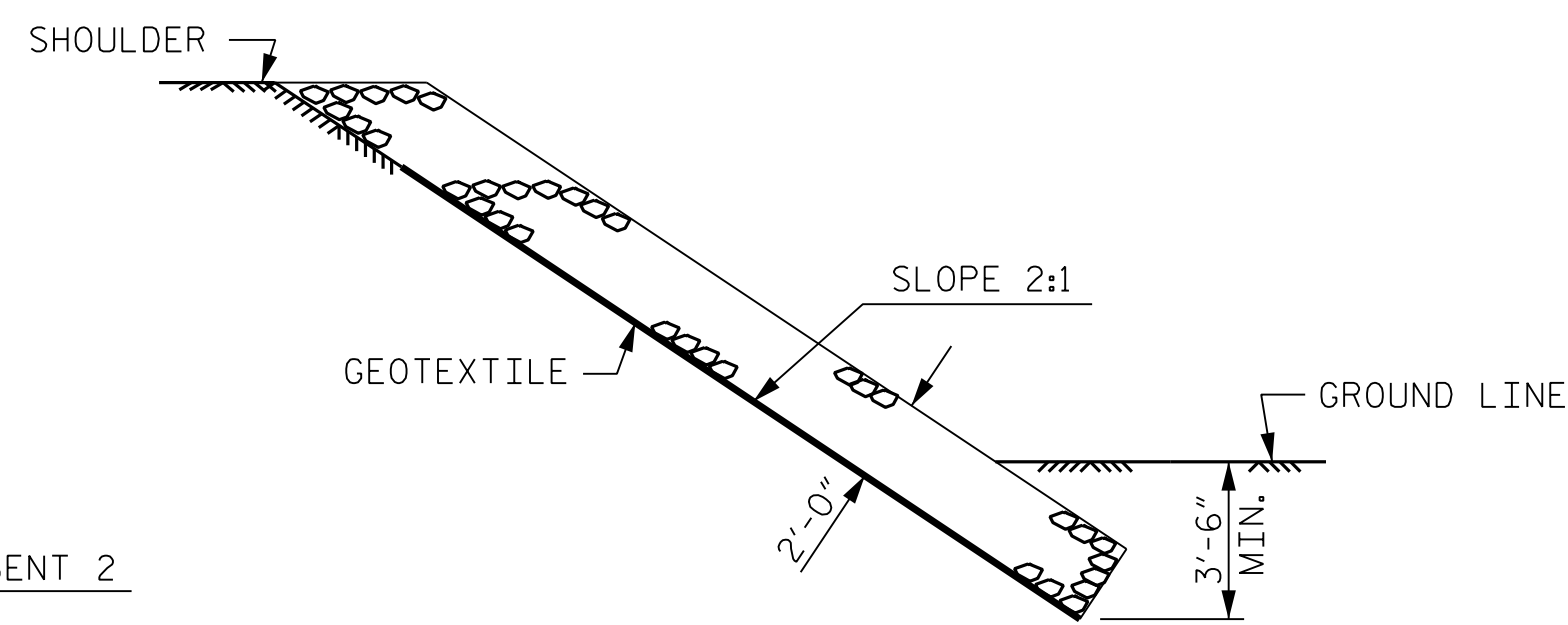
SECTION H-H



SECTION A-A



SECTION B-B



SECTION C-C

BERM RIP RAPPED

** 3'-6" KEY-IN UNLESS RIP RAP IMPACTS WATERWAY JURISDICTION AREA

NOTES:

FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.

ESTIMATED QUANTITIES		
BRIDGE @ STA. 13+48.50 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	315	350
END BENT 2	120	135

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

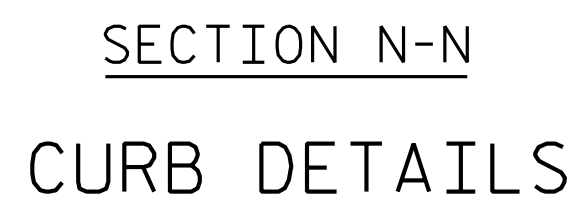
DRAWN BY : J. W. COOK DATE : MAR 2025
CHECKED BY : A. L. STROUD DATE : MAR 2025
DESIGN ENGINEER OF RECORD : A. L. STROUD DATE : MAR 2025

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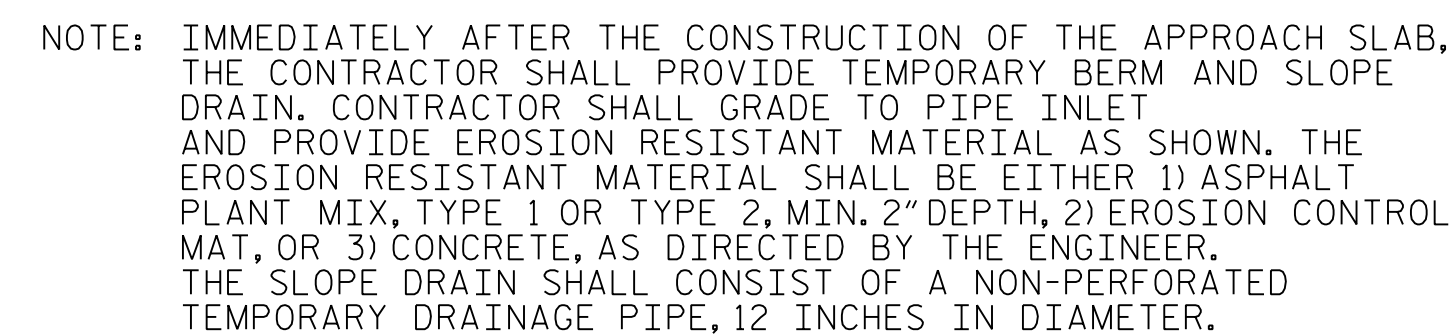
BRIDGE NO. 570022
SEAL
51579
NORTH CAROLINA
PROFESSIONAL
ENGINEER
ARON LEE STROUD
4/7/2025

STATE OF NORTH CAROLINA						SHEET NO. S-15
DEPARTMENT OF TRANSPORTATION						
RALEIGH						TOTAL SHEETS 17
STANDARD						
RIP RAP DETAILS						
REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

STD. NO. RR1



TEMPORARY DRAINAGE DETAIL



TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM
GUTTER IS REQUIRED)

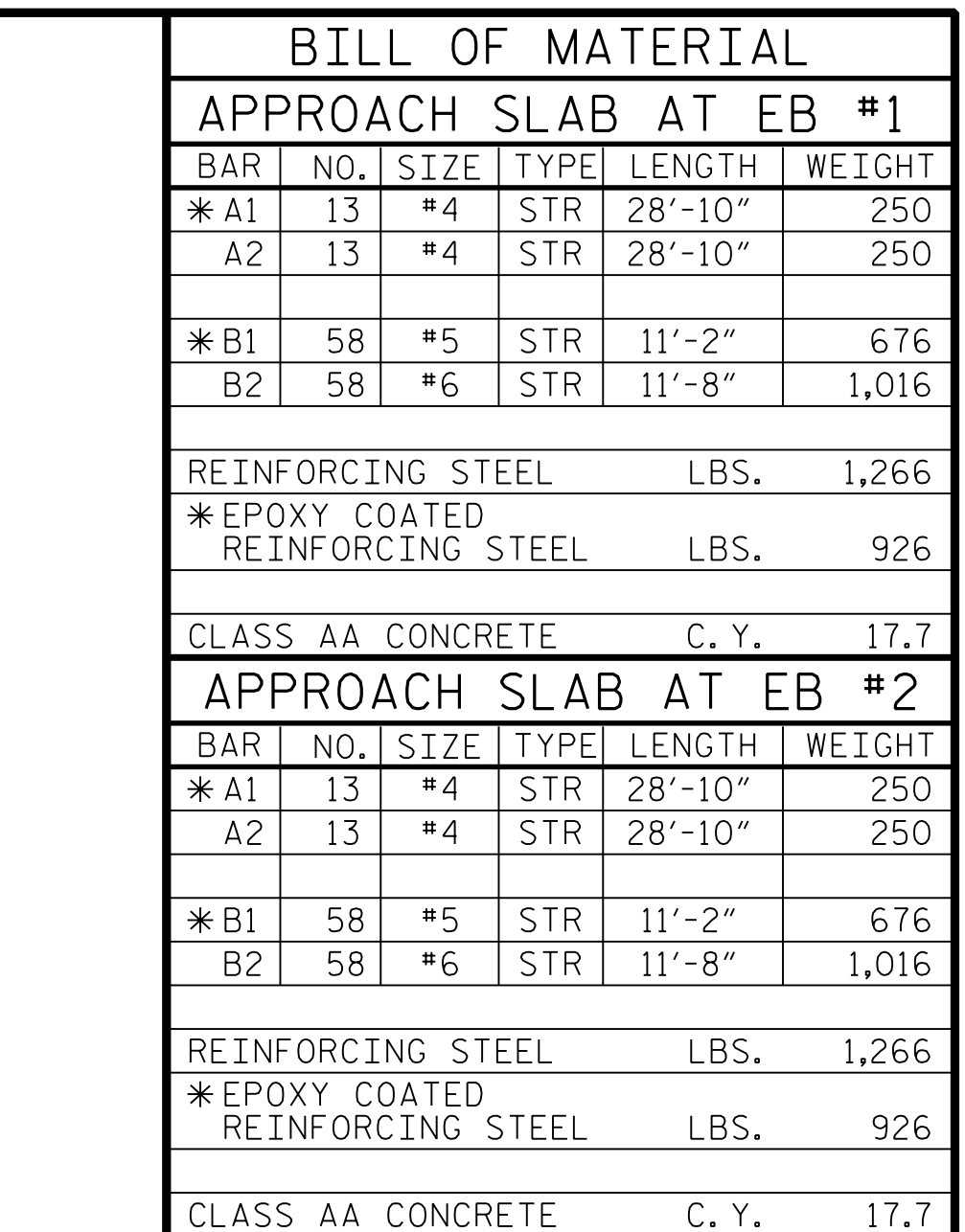
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PROJECT NO. BP1.R013.1
MARTIN COUNTY
 STATION: 13+48.50 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB UNIT

(SUB REGIONAL TIER) - 90°SKEW

STD. NO. EB_30_90S

astroud
4/7/2025
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STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

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

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7⁄8" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7⁄8" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7⁄8" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - 7⁄8"Ø STUDS FOR 4 - ¾" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5⁄16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1⁄16" OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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

PROJECT NO. BP1.R013.1
MARTIN COUNTY
STATION: 13+48.50 -L-

DRAWN BY : <u>J. W. COOK</u>	DATE : <u>MAR 2025</u>
CHECKED BY : <u>A. L. STROUD</u>	DATE : <u>MAR 2025</u>
DESIGN ENGINEER OF RECORD : <u>A. L. STROUD</u>	DATE : <u>MAR 2025</u>

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BRIDGE NO. 570022

STATE OF NORTH CAROLINA
PROFESSIONAL
SEAL
51579
Lee Stroud
CIVIL ENGINEER

4/7/2025

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.	
STANDARD STRUCTURE STANDARD NOTES						SN	
REVISIONS						TOTAL SHEETS	
NO.	BY:	DATE:	NO.	BY:	DATE:	17	
1			3				
2			4				