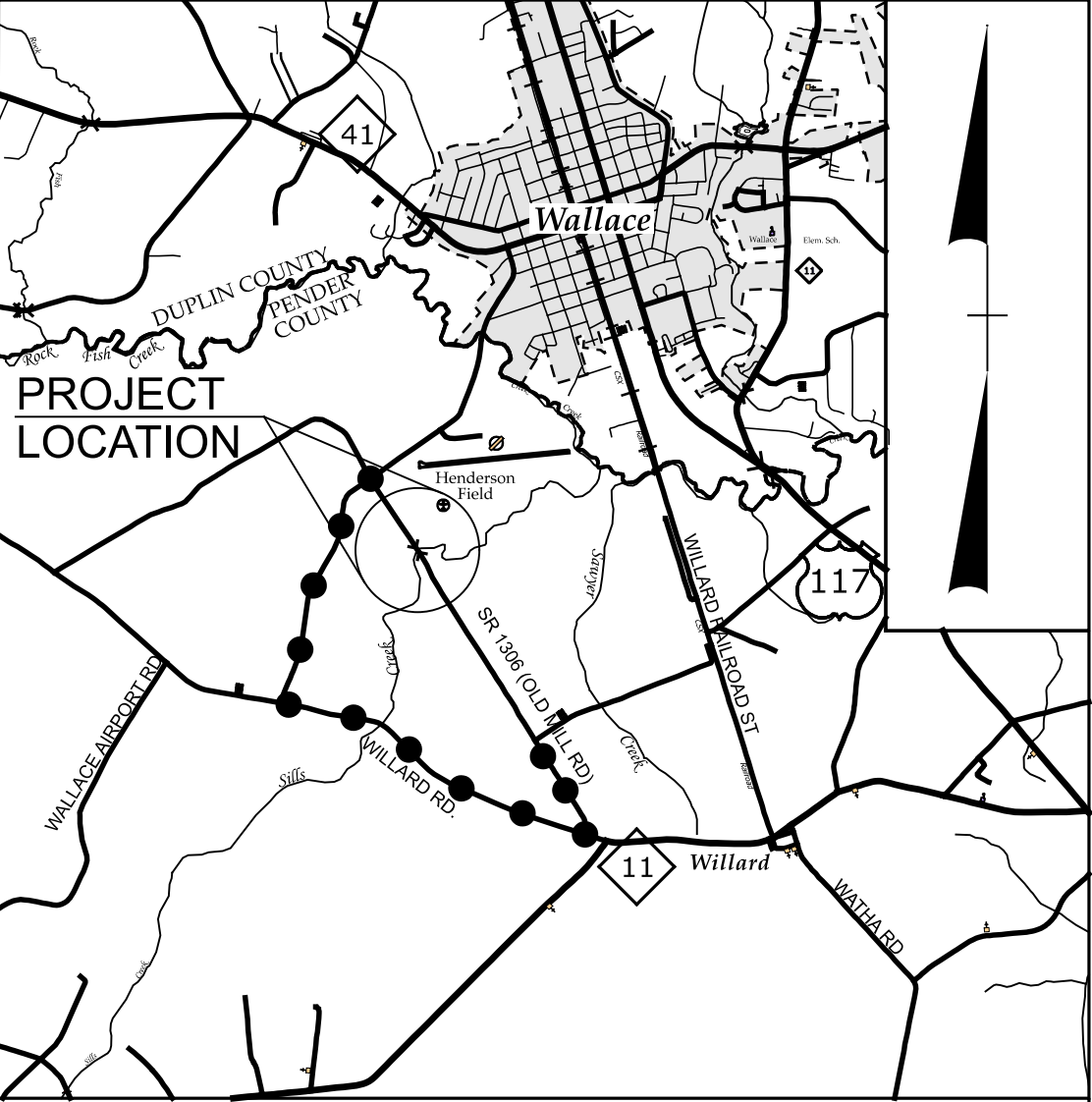


TIP PROJECT: BP3-R011

CONTRACT: DC000507

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



VICINITY MAP

- ● ● OFF-SITE DETOUR
- WALLACE CITY LIMIT

N.T.S.

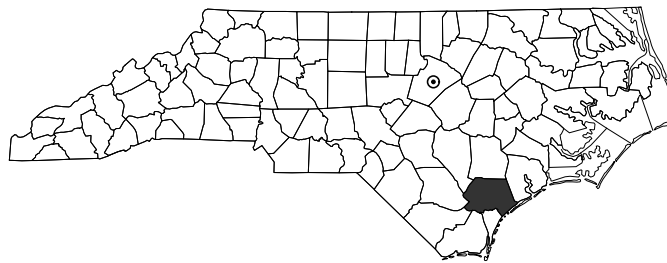
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PENDER COUNTY

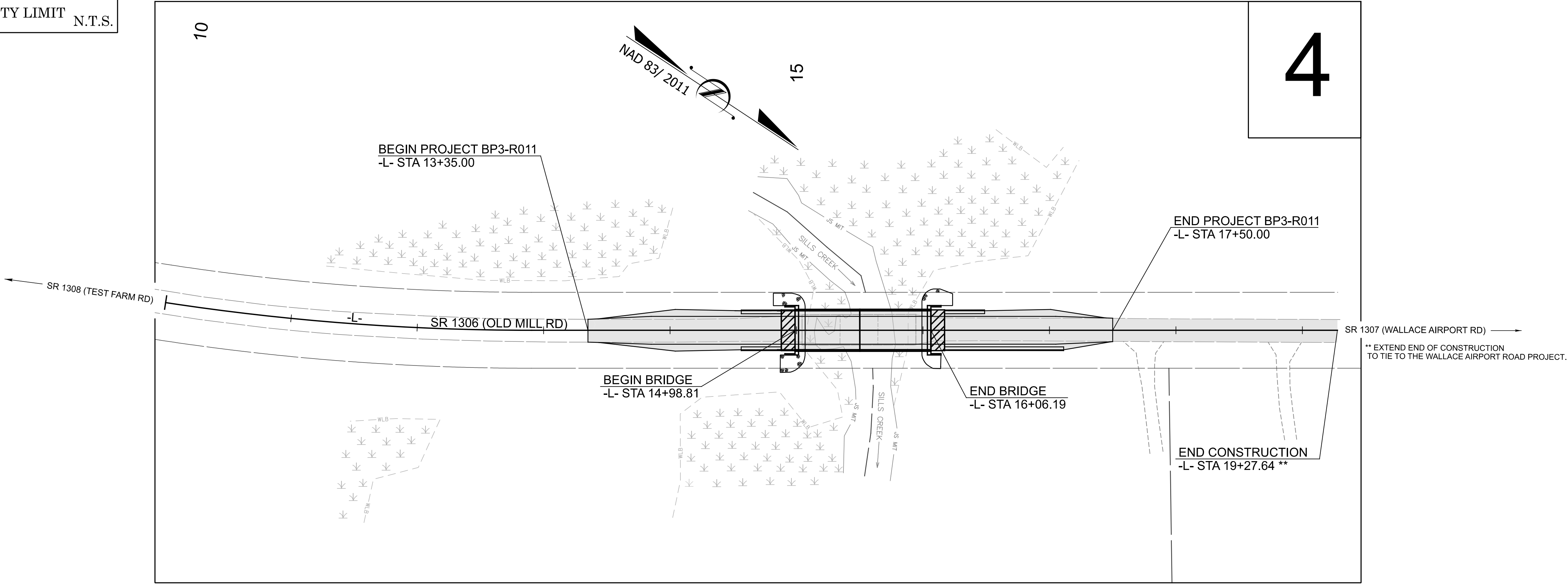
LOCATION: *REPLACE BRIDGE 68 ON SR 1306*

(OLD MILL RD.) OVER SILL'S CREEK

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



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP3-R011	11	
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION
BP3.R011.1			PE
BP3.R011.2			ROW, UTIL.
BP3.R011.3			CONSTRUCTION



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2026 = 450

ADT 2046 = 660

T = 6%*

V = 60mph

*(TTST = 2% + DUAL = 4%)

FUNC CLASS = LOCAL

SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT BP3-R011 = 0.117 MILES

LENGTH OF STRUCTURE PROJECT BP3-R011 = 0.020 MILES

TOTAL LENGTH OF PROJECT BP3-R011 = 0.137 MILES

PLANS PREPARED BY:



2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 17, 2025

LETTING DATE:
SEPTEMBER 17, 2026

PLANS PREPARED FOR:

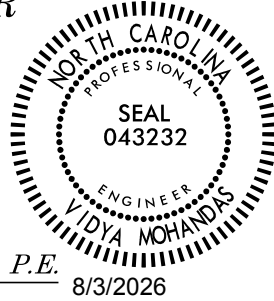
DIVISION OF HIGHWAYS
DIVISION 3
5501 BARBADOS BOULEVARD
CASTLE HAYNE, NC 28429

RONYELL THIGPEN, PE
PROJECT ENGINEER

DEREK PIELECH, PE
NC DOT DIVISION 3
BRIDGE PROGRAM ENGINEER

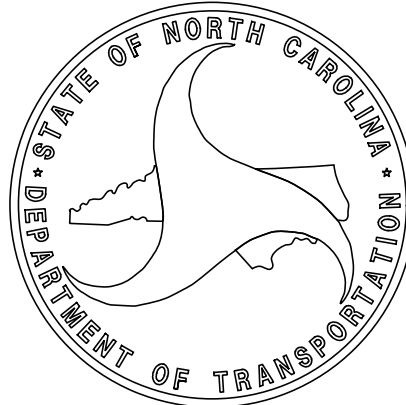
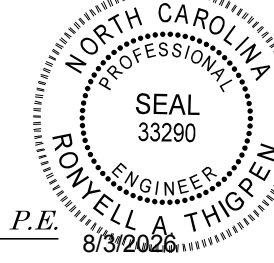
HYDRAULICS ENGINEER

DocuSigned by:
Vidya Mohandas
SIGNATURE:



ROADWAY DESIGN ENGINEER

DocuSigned by:
Ronnyell Thigpen
SIGNATURE:



INDEX OF SHEETS		GENERAL NOTES:		2024 SPECIFICATIONS	EFFECTIVE: 01-16-2024 REVISED:	EFF. 08-11-2025 REV. 11-26-2025
SHEET NUMBER	SHEET					
1	TITLE SHEET	GRADING AND SURFACING OR RESURFACING AND WIDENING:				
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS	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.				
1B	CONVENTIONAL SYMBOLS					
2A-1	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING, AND MILLING DETAILS					
2C-1	METHOD OF PIPE INSTALLATION (FLEXIBLE PIPE)	CLEARING:				
2C-2	METHOD OF PIPE INSTALLATION (RIGID PIPE)	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.				
2C-3	GUARDRAIL PLACEMENT	SUPERELEVATION:				
2C-4	MODIFIED CONCRETE FLUME	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.				
3B-1	ROADWAY SUMMARIES	SHOULDER CONSTRUCTION:				
3D-1	DRAINAGE SUMMARIES	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01				
4	PLAN SHEET	SIDE ROADS:				
5	PROFILE SHEET	THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.				
RW01 THRU RW-04	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENT AND PROPERTY TIES	GUARDRAIL:				
TMP-1 THRU TMP-03	TRAFFIC MANAGEMENT PLANS	THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.				
PMP-01 THRU PMP-02	PAVEMENT MARKING PLANS	END BENTS:				
EC-1 THRU EC-5	EROSION CONTROL PLANS	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.				
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS	UTILITIES:				
X-1	CROSS-SECTIONS SUMMARY	UTILITY OWNERS ON THIS PROJECT ARE				
X-02 THRU X-08	CROSS-SECTIONS	POWER DISTRIBUTION – FOUR COUNTY ELECTRIC MEMBERSHIP CORPORATION				
S-1 THRU S-20	STRUCTURE PLANS	ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.				
SN	STRUCTURE STANDARD NOTES	RIGHT-OF-WAY MARKERS:				
		RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS AND BY CONTRACT IN ACCORDANCE WITH DESIGNATED SYMBOLS.				

2024 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD.NO.	TITLE
DIVISION 2 – EARTHWORK	
200.03	Method of Clearing – Method III
225.02	Guide for Grading Subgrade – Secondary and Local
225.04	Method of Obtaining Superelevation – Two Lane Pavement
275.01	Rock Plating
DIVISION 3 – PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
310.10	Driveway Pipe Construction
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 8 – INCIDENTALS	
840.25	Anchorage for Frames – Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet – for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
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

BP3-ROLL

3RD1IA

ROADWAY DESIGN ENGINEER

8/26/2026

NORTH CAROLINA PROFESSIONAL ENGINEER

SEAL 33290

DAVID A. THIGPEN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA

ROADWAY DESIGN UNIT

PREPARED BY

WSP

434 FAYETTEVILLE ST. #1500 RALEIGH, N.C. 27601 NC ENG P-1253

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	

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

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

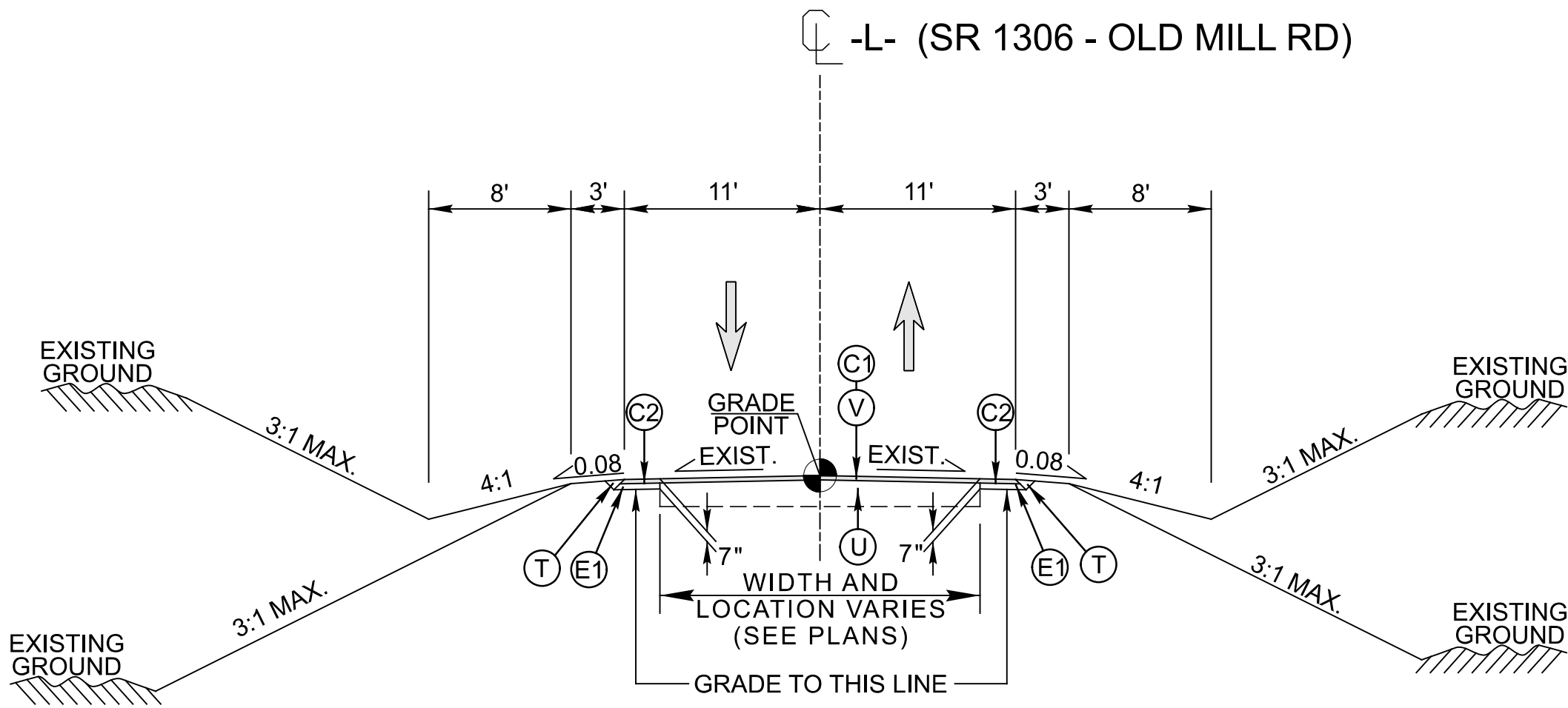
WATER:	
Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line Test Hole (SUE - LOS A)*	
U/G Water Line (SUE - LOS B)*	
U/G Water Line (SUE - LOS C)*	
U/G Water Line (SUE - LOS D)*	
Above Ground Water Line	

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	
Geoenviromental Boring	
Abandoned According to Utility Records	
End of Information	

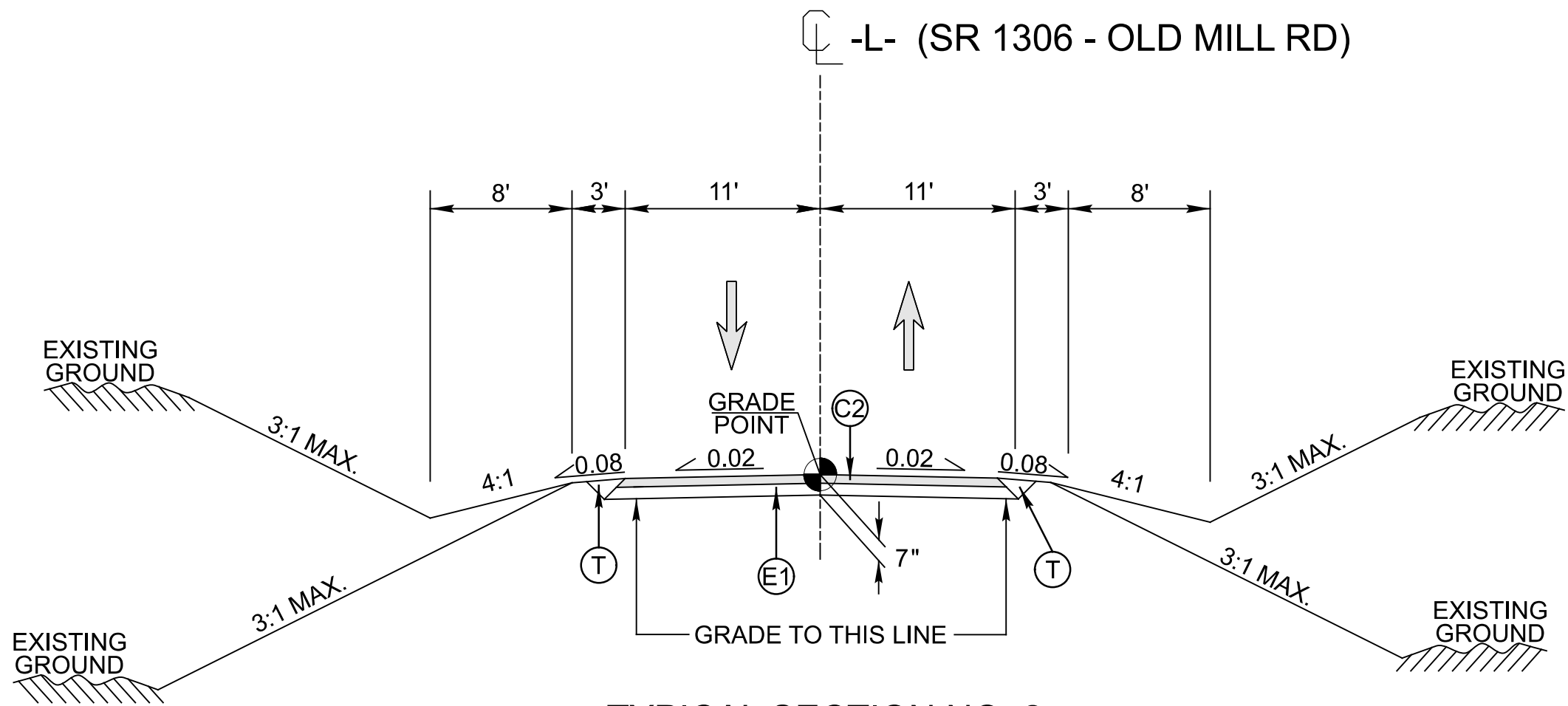


TYPICAL SECTION NO. 1

-L- STA. 13+35.00 TO 14+45.00

-L- STA. 16+50.00 TO 19+27.64 **

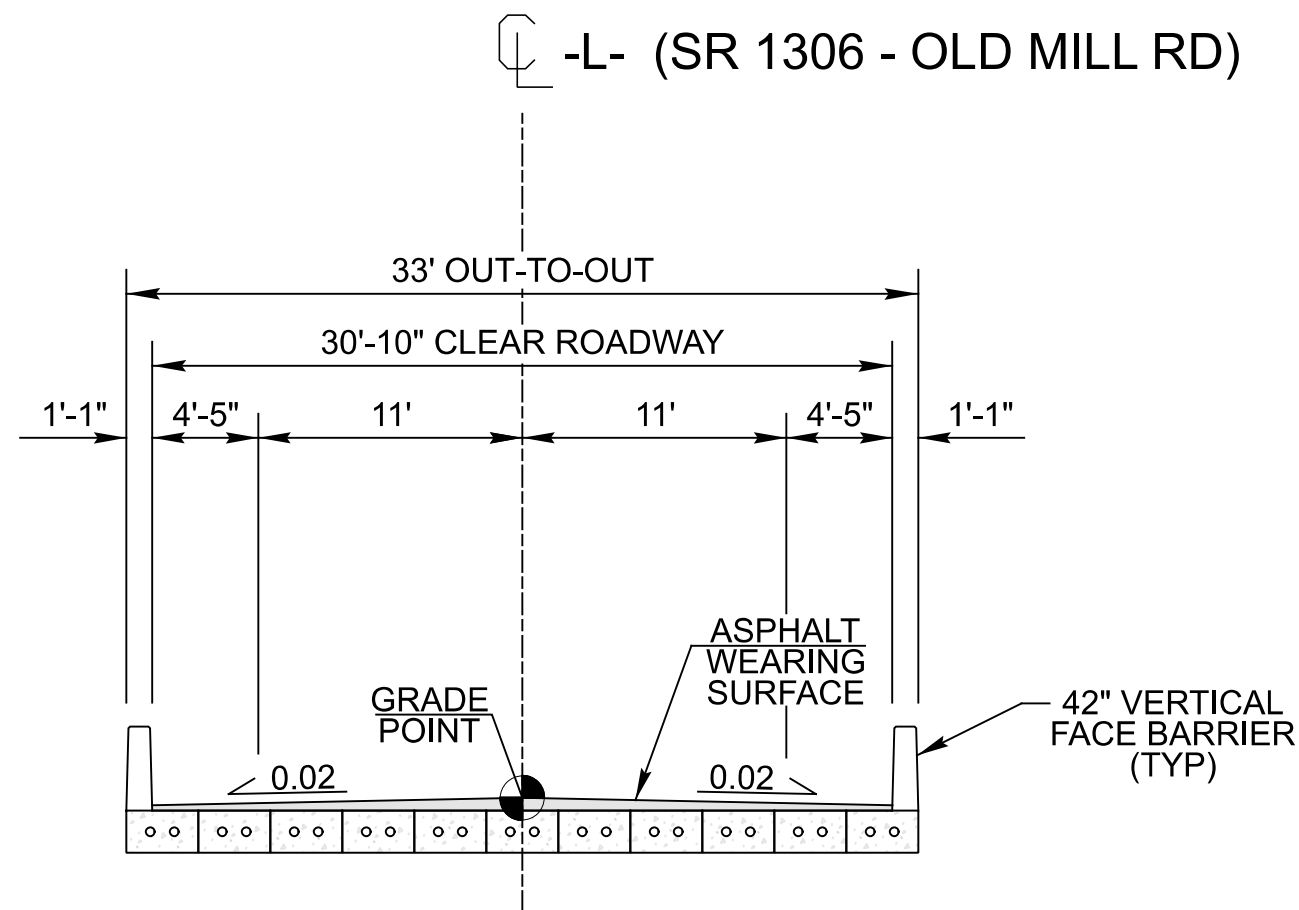
** EXTEND MILLING AND RESURFACING TO TIE TO THE WALLACE AIRPORT ROAD PROJECT



TYPICAL SECTION NO. 2

-L- STA. 14+45.00 TO 14+98.81 (BEGIN BRIDGE)

-L- STA. 16+06.19 (END BRIDGE) TO 16+50.00



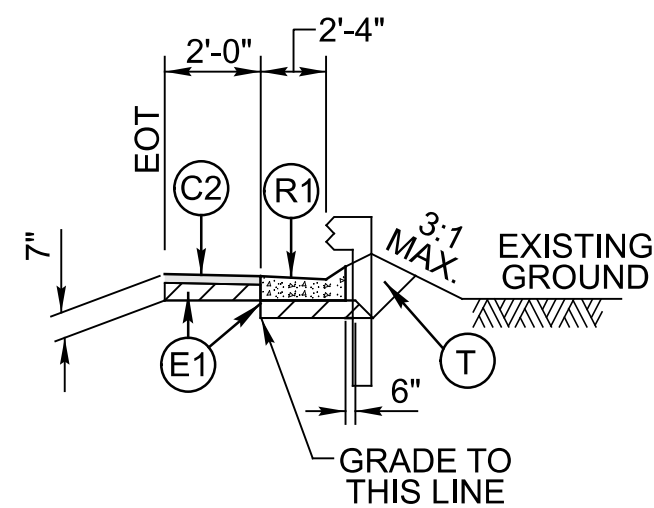
TYPICAL SECTION NO. 3

-L- STA. 14+98.81 (BEGIN BRIDGE) TO

-L- STA. 16+06.19 (END BRIDGE)

SEE STRUCTURE PLANS

PAVEMENT SCHEDULE (FINAL DESIGN)	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.
R1	CONCRETE SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING 1½" DEPTH.



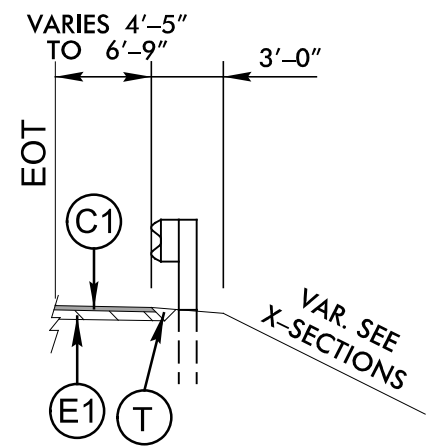
SHOULDER BERM GUTTER DETAIL

USE IN CONJUNCTION WITH TYPICAL SECTION NO. 1

-L- STA. 14+56.25 TO 14+87.94 (LT. & RT.)

-L- STA. 16+17.06 TO 16+48.75 (LT.)

-L- STA. 16+17.06 TO 17+11.25 (RT.)



DETAIL

GUARDRAIL

-L- STA. 14+04.06 TO 14+56.25 (LT. & RT.)

-L- STA. 16+48.75 TO 17+00.94 (LT.)

-L- STA. 17+11.25 TO 17+50.00 (RT.)

BP3-ROLL

3RD1 2A-1

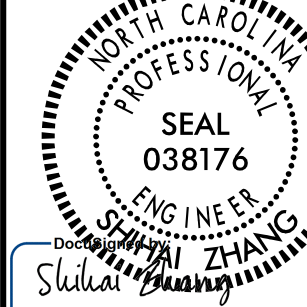
ROADWAY DESIGN

ENGINEER



PAVEMENT DESIGN

ENGINEER



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UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA



ROADWAY DESIGN UNIT

PREPARED BY

wsp

434 FAYETTEVILLE ST. #1500
RALEIGH, N.C. 27601
NC ENG P-1253

PROJECT REFERENCE NO.	SHEET NO.
BP3-R011	2C-2

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

ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE

SHEET 2 OF 2
300.01

TOP OF FILL

NORMAL EARTH FOUNDATION

TOP OF FILL

ROCK FOUNDATION

TOP OF FILL

UNSUITABLE MATERIAL FOUNDATION

TOP OF FILL

NORMAL EARTH FOUNDATION

TOP OF FILL

ROCK FOUNDATION

TOP OF FILL

UNSUITABLE MATERIAL FOUNDATION

GENERAL NOTES:

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

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

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

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

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

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

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

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.



Signed by:
Nicole M. Hackler
5884323034164C5...
7/31/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

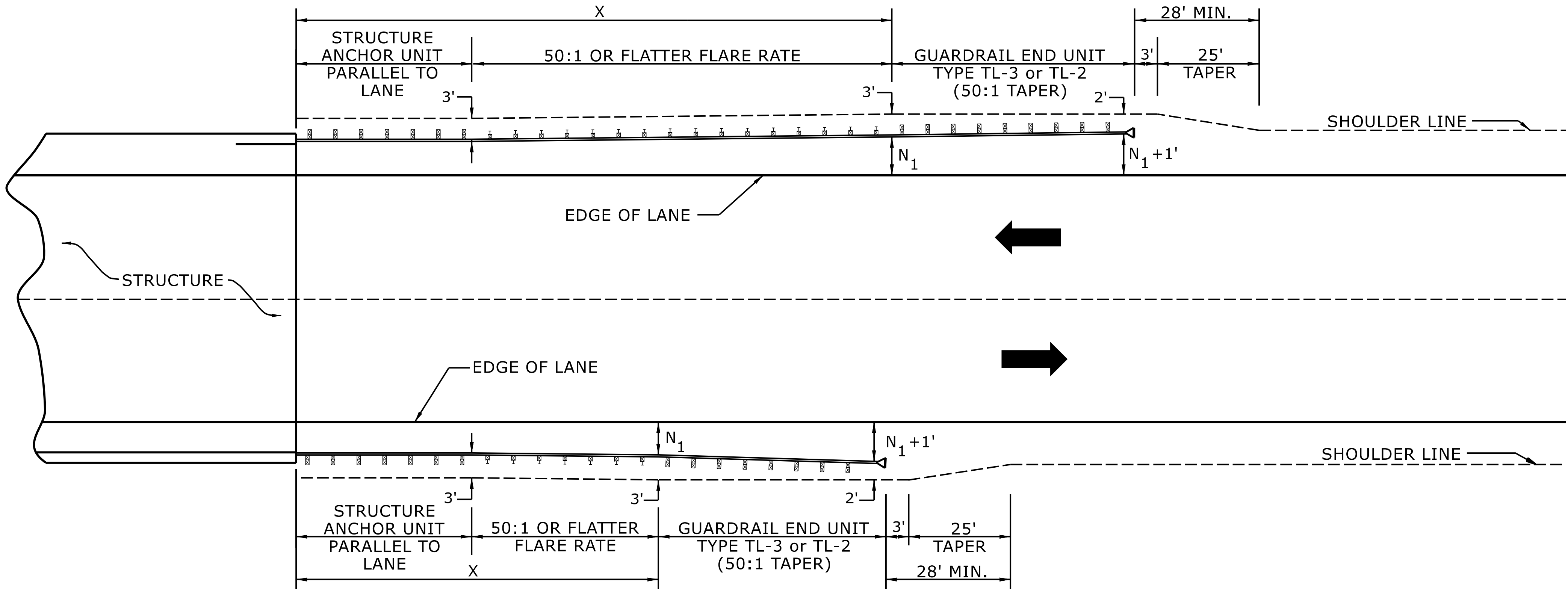
CONTRACTS STANDARDS
AND DEVELOPMENT UNIT

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

SEE TITLE BLOCK

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

PROJECT REFERENCE NO.	SHEET NO.
BP3-R011	2C-3



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

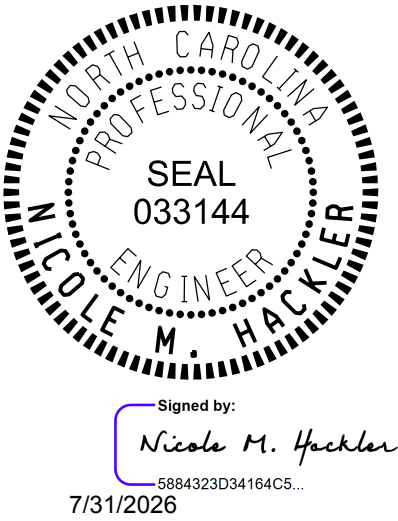
SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

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

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

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



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

SHEET 4 OF 15
862D01

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

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

PROJECT REFERENCE NO.	SHEET NO.
BP3-R011	2C-4

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

ENGLISH DETAIL DRAWING FOR
MODIFIED CONCRETE FLUME
WITH CONCRETE OR RIP-RAP DITCH

SHEET 1 OF 1
MODFLMDTCH

CONCRETE OR RIP-RAP DITCH
SEE ROADWAY PLANS

(4) 12" #6
DOWEL BARS

TRANSITION CURB DOWN AS
DIRECTED BY THE ENGINEER

BEGIN MODIFIED
CONCRETE FLUME

1'-0" R.

2'-8"

2'-0"

8" X 4" LIP CURB

OUTLET

3"

DEPRESSION

PAVED SHOULDER

EDGE OF LANE

15'-0"

SHOULDER BERM GUTTER
OPTIONAL SEE RDY. PLANS

MODIFIED CONCRETE FLUME
PAY LIMITS - PER EACH

SHOULDER BERM GUTTER
OPTIONAL SEE RDY. PLANS

BRIDGE
APPROACH SLAB

STRUCTURE

PLAN VIEW

VARIABLE LENGTH
SEE PLANS

SEE PLANS FOR PLACEMENT
OR BEGINNING

WATER FLOW

DOWNGRADE OR SAG

OUTLET

WATER FLOW

FLOW DIVERSION

WATER FLOW

SAG

OUTLET

FLOW DIVERSION

WATER FLOW

OUTLET

WATER FLOW

FLOW DIVERSION

DOWN GRADE

FLOW DIVERSION EXAMPLES

4'-0"

2'-0"

4 1/2"

6"

4" CONC.
PAVED DITCH

SECTION C-C

8"

2'-4" MIN.

1/8" RADIUS

10"

6"

7"

SECTION A-A

8"

2'-8"

8"

10"

6"

SECTION B-B

4'-0"

2'-0"

4 1/2"

6"

RIP-RAP LINED DITCH

NOTES:

- CONSTRUCT MODIFIED CONCRETE FLUME AND SHOULDER BERM GUTTER IN ACCORDANCE WITH THIS DETAIL.
- CONSTRUCT CONCRETE DITCH IN ACCORDANCE WITH STD. DWG. NO. 850.01.
- CONSTRUCT RIP RAP LINED DITCH IN ACCORDANCE WITH THIS DETAIL, IF CALLED FOR IN PLANS.
- CONCRETE OR RIP RAP LINED DITCH SHALL BE THE TYPE AND LENGTH SPECIFIED BY THE ROADWAY PLANS. THE DITCH SHALL TERMINATE AS SHOWN ON THE PLANS. IF NO TERMINATION IS INDICATED PLACE RIP-RAP AT THE END OF THE DITCH AS INDICATED BY STD. DWG. 876.02 FOR AN 18" PIPE. TRANSITIONS FROM THE DITCH TO TERMINATION SHALL BE AS DIRECTED BY THE ENGINEER.
- MODIFICATIONS SHALL BE AS DICTATED BY SITE CONDITIONS AND DIRECTED BY THE ENGINEER.

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

ENGLISH DETAIL DRAWING FOR
MODIFIED CONCRETE FLUME
WITH CONCRETE OR RIP-RAP DITCH

SHEET 1 OF 1
MODFLMDTCH

J:\Contracts\1417\Stand\Details\stand\modifiedflume.dgn
J:\Contracts\1417\Stand\Details\stand\modifiedflume.dgn
J:\Contracts\1417\Stand\Details\stand\modifiedflume.dgn

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SEE PLATE FOR TITLE

ORIGINAL BY: E.E. Ward DATE: Apr. 2002
MODIFIED BY: J.S. Howerton DATE: October 2017
CHECKED BY: DATE:
FILE SPEC.: w:details\stand\modifiedflume.dgn

SUMMARY OF EARTHWORK

(VOLUMES IN CY)

LINE	STATION	STATION	UNCL. EXCAV.	EMBANK. + %	BORROW	WASTE
		(BEG. BRIDGE)				
-L-	13 + 35.00	14 + 98.81	50	14		36
	SUBTOTALS:		50	14		36
	(END BRIDGE)					
-L-	16 + 06.19	17 + 57.98	539	226		313
	SUBTOTALS:		539	226		313
	TOTALS:		589	240		349
	PROJECT TOTALS:		589	240		349
	EST. 5% TO REPLACE TOPSOIL ON BORROW PIT					
	GRAND TOTALS:		589	240		349
	SAY:		590			350

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

SHOULDER BERM
GUTTER SUMMARY

SURVEY LINE	LOCATION	STATION	STATION	LENGTH
-L-	RT	14 + 56.25	14 + 87.94	31.68
-L-	LT	14 + 56.25	14 + 87.94	31.68
-L-	RT	16 + 17.06	17 + 11.25	94.19
-L-	LT	16 + 17.06	16 + 48.75	31.69
			TOTAL:	189.24
			SAY:	191

ASPHALT PAVEMENT
REMOVAL SUMMARY

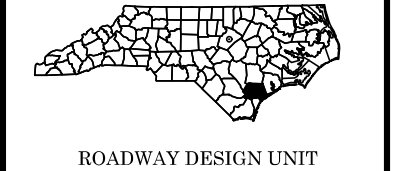
SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD ²
-L-	14 + 45.00	14 + 98.81	CL	127.40
-L-	16 + 06.19	16 + 50.00	CL	88.22
			TOTAL:	215.61
			SAY:	220

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

GUARDRAIL SUMMARY

	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GREU TL-3	TYPE III	B-77	CAT-1	AT-1							EA	G				
	-L-	14 + 04.06	14 + 98.81	LT	94.75'			14 + 98.81	4'-5"	7'-5"		50		1	1	1	1														
	-L-	14 + 04.06	14 + 98.81	RT	94.75'				4'-5"	7'-5"	50		1		1	1															
	-L-	16 + 06.19	17 + 65.69	RT	137.5'	18.75'		16 + 06.19	4'-5"	7'-5"						1															
	-L-	16 + 06.19	17 + 00.94	LT	94.75'			16 + 06.19	4'-5"	7'-5"	50		1		1	1															
SUBTOTALS:					421.75'	18.75'									3	4			1												
	ANCHOR DEDUCTIONS:			4 TYPE III @ 18.75	-75.00'																										
				3 GREU TL-3 @ 50.00	-150.00'																										
				1 AT-1 @ 6.25'	-6.25'																										
TOTALS:					190.50'	18.75'									3	4			1												
SAY:	ADDITIONAL GUARDRAIL POSTS = 5				200'	25'									3	4			1												

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
STATE OF NORTH CAROLINA

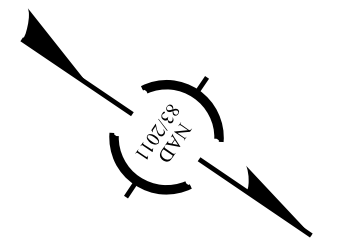


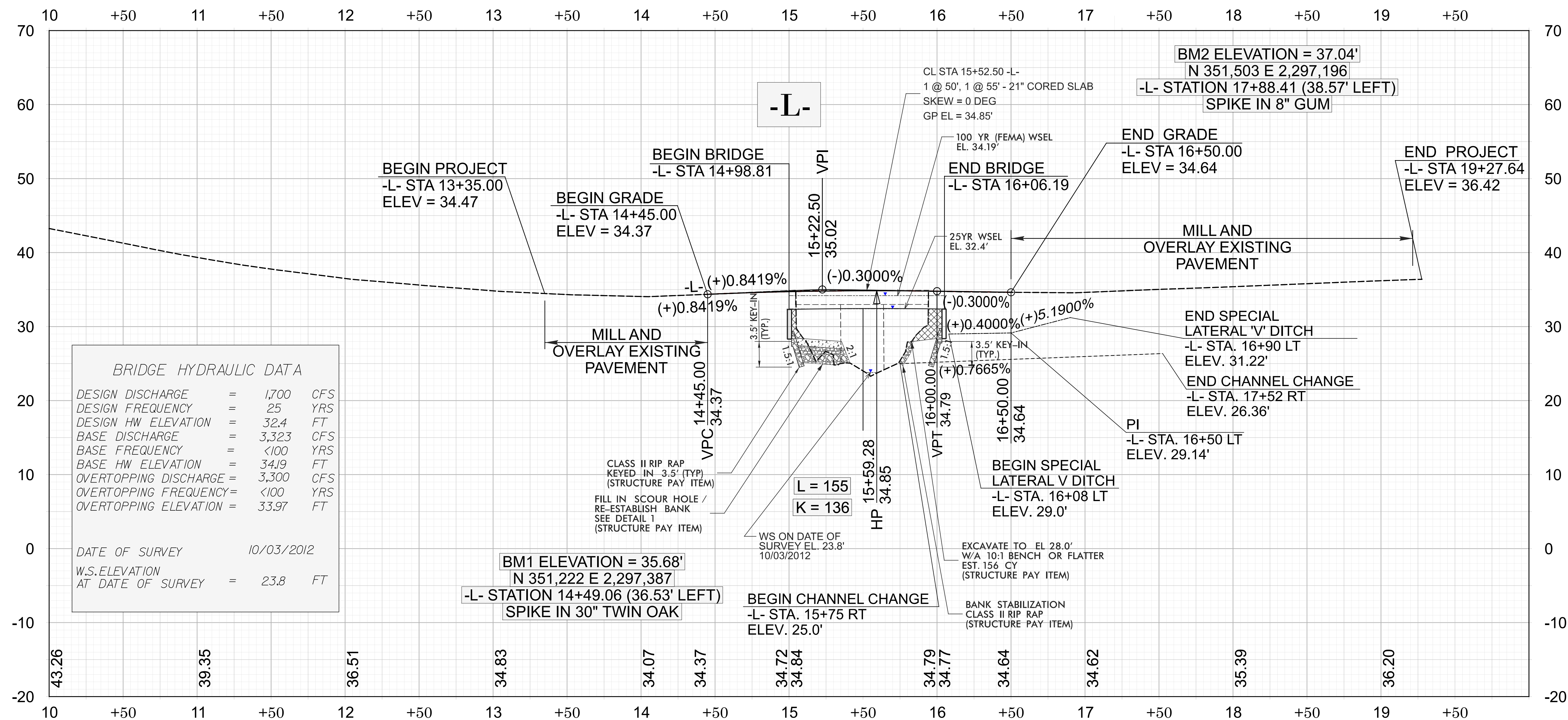
ROADWAY DESIGN UNIT
PREPARED BY
wsp
434 FAYETTEVILLE ST #1500
RALEIGH, NC 27601
NC ENG P-1253

[illegible]



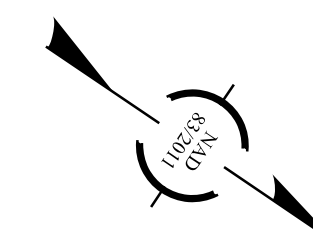
FOR -L- PROFILE, SEE SHEET 5





SEE SHEET 4 FOR PLAN

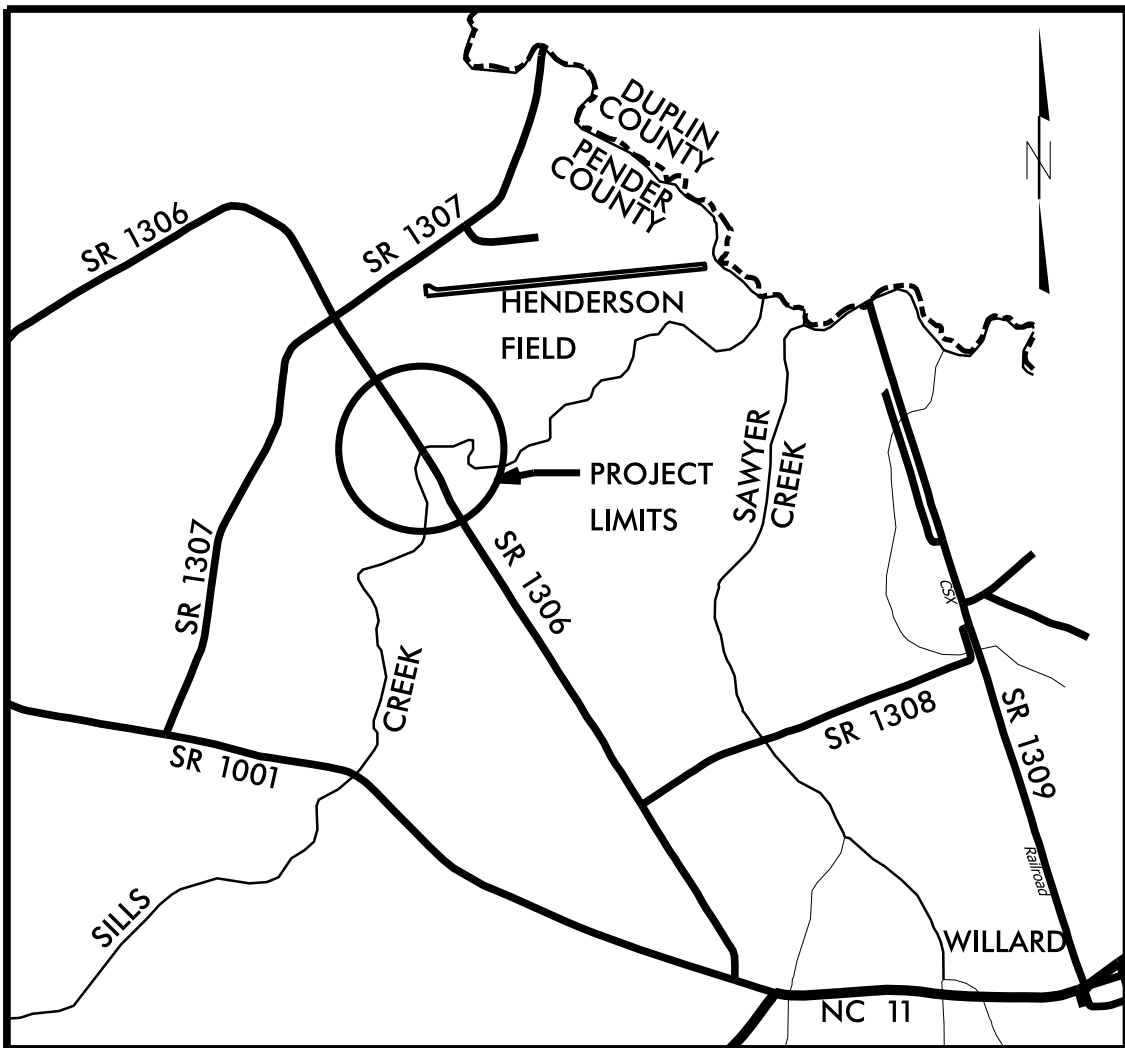
BP3-ROLL	
3RD1	5
ROADWAY DESIGN ENGINEER 8/3/2026	
	
Document No.: <u>Project #</u> <u>9C29BAADDBE5F0A47</u>	
HYDRAULIC DESIGN ENGINEER 8/3/2026	
	
Document No.: _____ <u>9C7C2BEFE0B404</u>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
STATE OF NORTH CAROLINA	
	
ROADWAY DESIGN UNIT	
PREPARED BY wsp	
434 FAYETTEVILLE ST #1500 RALEIGH, NC 27601 N.C. ENG F-1263	
DOCUMENT NOT CONSIDERED FINAL	



09/08/09

TIP PROJECT: BP3-R011

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP3-R011	RW01	5



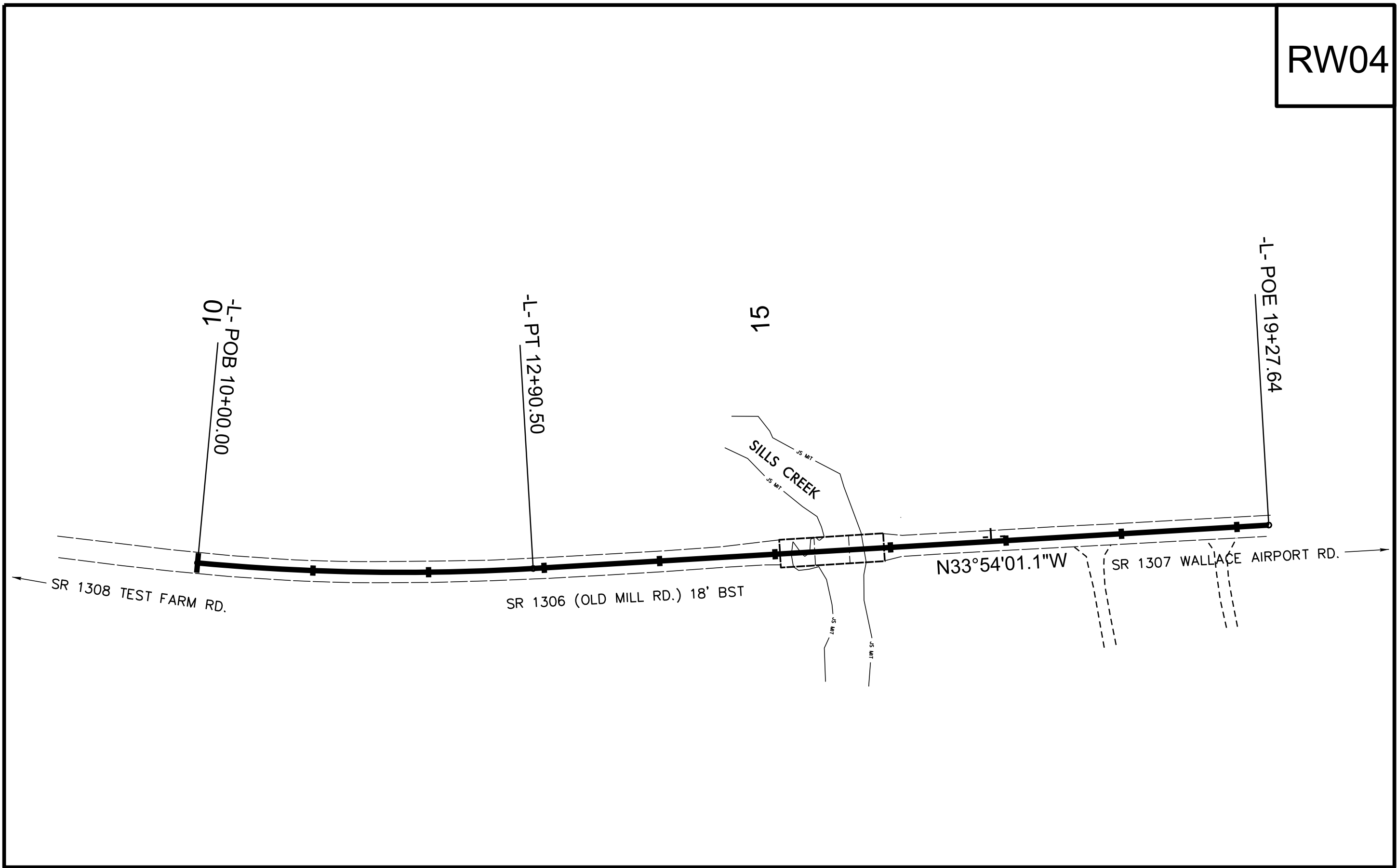
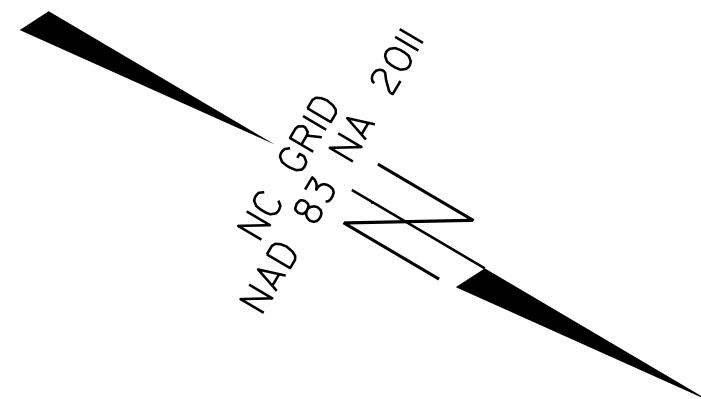
VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

PENDER COUNTY

LOCATION: REPLACE BRIDGE NO. 68 ON SR 1306
(OLD MILL ROAD) OVER SILLS CREEK



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALE
FOR RW04 SHEET ONLY

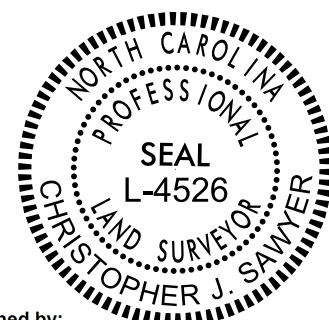


DATUM DESCRIPTION

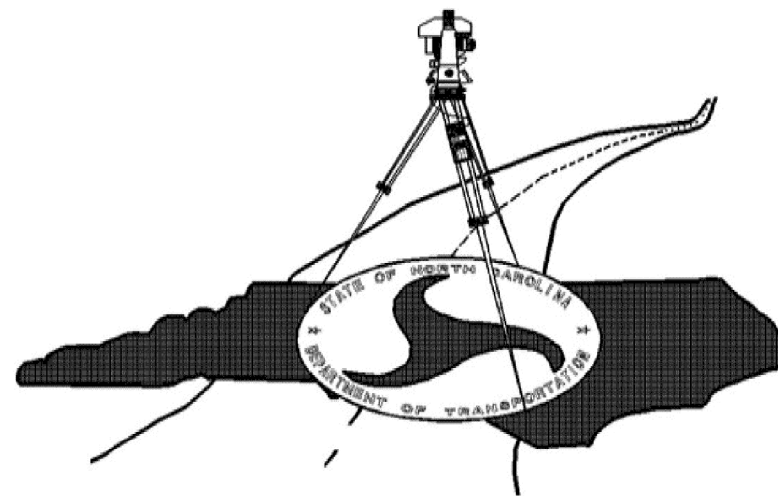
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCDOT FOR MONUMENT "GPS1"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 354302.721 EASTING: 2295561.635
ELEVATION: 35.264(FT)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.9999194199
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:
LOCATION AND SURVEYS UNIT
DIVISION 3
5310 BARBADOS BLVD., SUITE 102
CASTLE HAYNE, NC 28429

PROFESSIONAL LAND
SURVEYOR



DocuSigned by:
Christopher J. Sawyer
5700C82E1D21487...
SIGNATURE: DATE: 06/11/2026



SECONDARY SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

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

Class of survey: AA
Type of GPS field procedure: RTN
Dates of survey: MARCH 2016
Datum/Epoch:NAD 83/NA 2011
Published/Fixed-control use: N/A FOR RTN
Localized around: "GPS1"
Northing:354302.721
Easting:2295561.635
Combined grid factor:0.9999194199
Geoid model:G12NC
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 28, 2016 to APRIL 7, 2016 , 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.

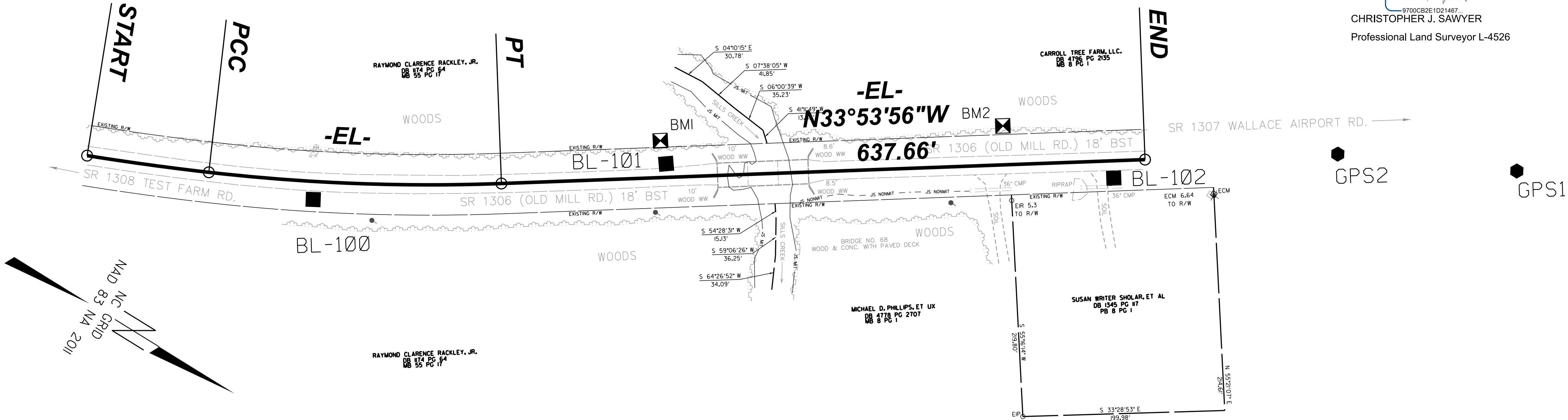
This 15 day of MAY, 2026.
DocuSigned by:
CHRISTOPHER J. SAWYER
8700CB2E1D21467
Professional Land Surveyor L-4526

GPS	POINT	DESC.	NORTH	EAST	ELEVATION
GPS1	GPS CAP AND REBAR		354302.7210	2295561.6350	35.26
GPS2	GPS CAP AND REBAR		353255.0790	2296082.4930	36.74

BL	POINT	DESC.	NORTH	EAST	ELEVATION
BL100	TRV CAP AND REBAR		350960.7336	2297617.1148	38.00
BL101	TRV CAP AND REBAR		351239.1905	2297403.0913	33.36
BL102	TRV CAP AND REBAR		351623.4919	2297181.8397	35.54

BM1 ELEVATION = 35.68
N 351222 E 2297387
SPIKE IN 30" TWIN OAK

BM2 ELEVATION = 37.04
N 351503 E 2297196
SPIKE IN 8" GUM



EL	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC		350747.569	2297698.119							
CURVE				N 23°57'28.9" W	121.63	02°35'39.7"(LT)	02°07'58.2"	121.64	60.83	2686.35
PCC		350858.718	2297648.730							
CURVE				N 29°34'37.2" W	289.94	08°38'36.9"(LT)	02°58'42.0"	290.22	145.38	1923.75
PT		351110.877	2297505.618							
LINE				N 33°53'55.6" W	637.66					
POT		351640.149	2297149.978							

NOTES:

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

BP3-R011

R/W02C-1

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION

PROFESSIONAL LAND
SURVEYOR

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ARE COMPLETED

2024 STANDARD
SPECIFICATIONS

TIP PROJECT: BP3-R011
County: PENDER

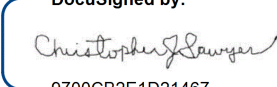
PREPARED FOR

LOCATION AND
SURVEYS UNIT

PREPARED BY:
LOCATION & SURVEYS UNIT
DIVISION 3
5310 BARBADOS BLVD.
SUITE 102
CASTLE HAYNE, N.C. 28429

PROPOSED ALIGNMENT CONTROL SHEET

I, CHRISTOPHER J. SAWYER, 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 15 DAY OF MAY, 2026.
DocuSigned by:

0700CB2E1D21467
CHRISTOPHER J. SAWYER
PROFESSIONAL LAND SURVEYOR L-4526

PROPOSED ALIGNMENT: L												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
PC	10+00.000	350858.7180	2297648.7302	N29°34'37.599"W	290.22	08°38'46.928"	02°58'35.055"	290.50	145.52	1925.00		
PT	12+90.497	351111.1215	2297505.4784	N33°54'01.063"W	637.14							
END	19+27.641	351639.9569	2297150.1118									

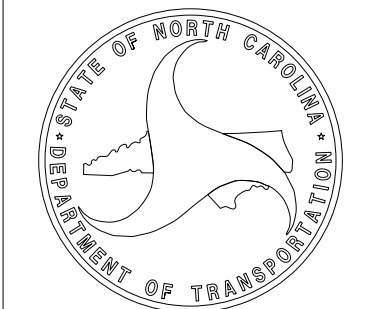
NOTES:

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

BP3-R011

R/W 020-I

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR

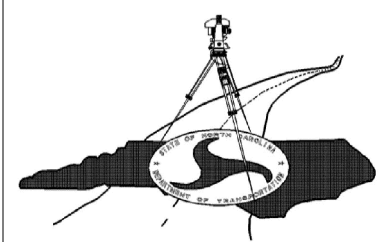


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2024 STANDARD
SPECIFICATIONS

TIP PROJECT: BP3-R011
County: PENDER

PREPARED FOR

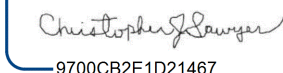


LOCATION AND
SURVEYS UNIT

PREPARED BY:
LOCATION & SURVEYS UNIT
DIVISION 3
5310 BARBADOS BLVD.
SUITE 102
CASTLE HAYNE, N.C. 28429

RIGHT OF WAY CONTROL SHEET

I, CHRISTOPHER J. SAWYER, 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 MARCH 2016, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 15 DAY OF MAY, 2026.
DocuSigned by:

CHRISTOPHER J. SAWYER
PROFESSIONAL LAND SURVEYOR L-4526

PERMANENT ROW MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
14+50.00	-30.02	351226.7665	2297391.5974
14+50.00	-50.00	351215.6239	2297375.0147
14+53.00	29.98	351262.7230	2297439.7298
15+10.00	65.00	351329.5631	2297437.0025
15+10.00	40.00	351315.6199	2297416.2519
16+50.00	-50.00	351381.6258	2297263.4648
17+55.00	-30.01	351479.9262	2297221.4950
18+00.00	29.99	351550.7421	2297246.1979
18+00.00	65.00	351570.2673	2297275.2542

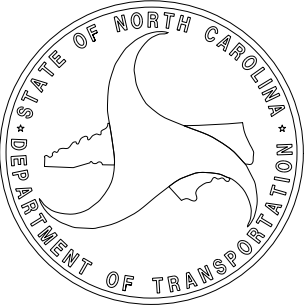
NOTES:

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

BP3-R011

R/W03E-1

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR

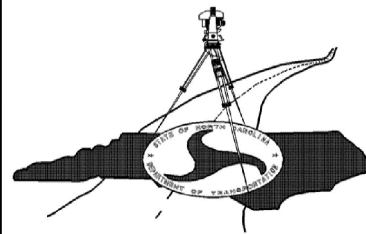


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2024 STANDARD
SPECIFICATIONS

TIP PROJECT: BP3-R011
County: PENDER

PREPARED FOR



LOCATION AND
SURVEYS UNIT

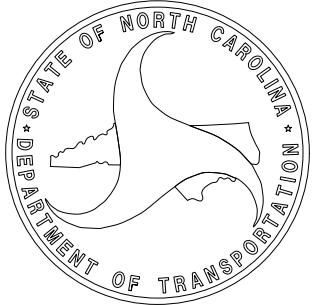
PREPARED BY:
LOCATION & SURVEYS UNIT
DIVISION 3
5310 BARBADOS BLVD.
SUITE 102
CASTLE HAYNE, N.C., 28429

BP3-R011

R/W

04

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR



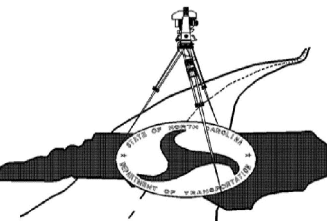
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2024 STANDARD
SPECIFICATIONS

TIP PROJECT: BP3-R011

County: PENDER

PREPARED FOR



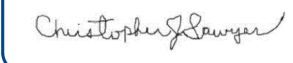
LOCATION AND
SURVEYS UNIT

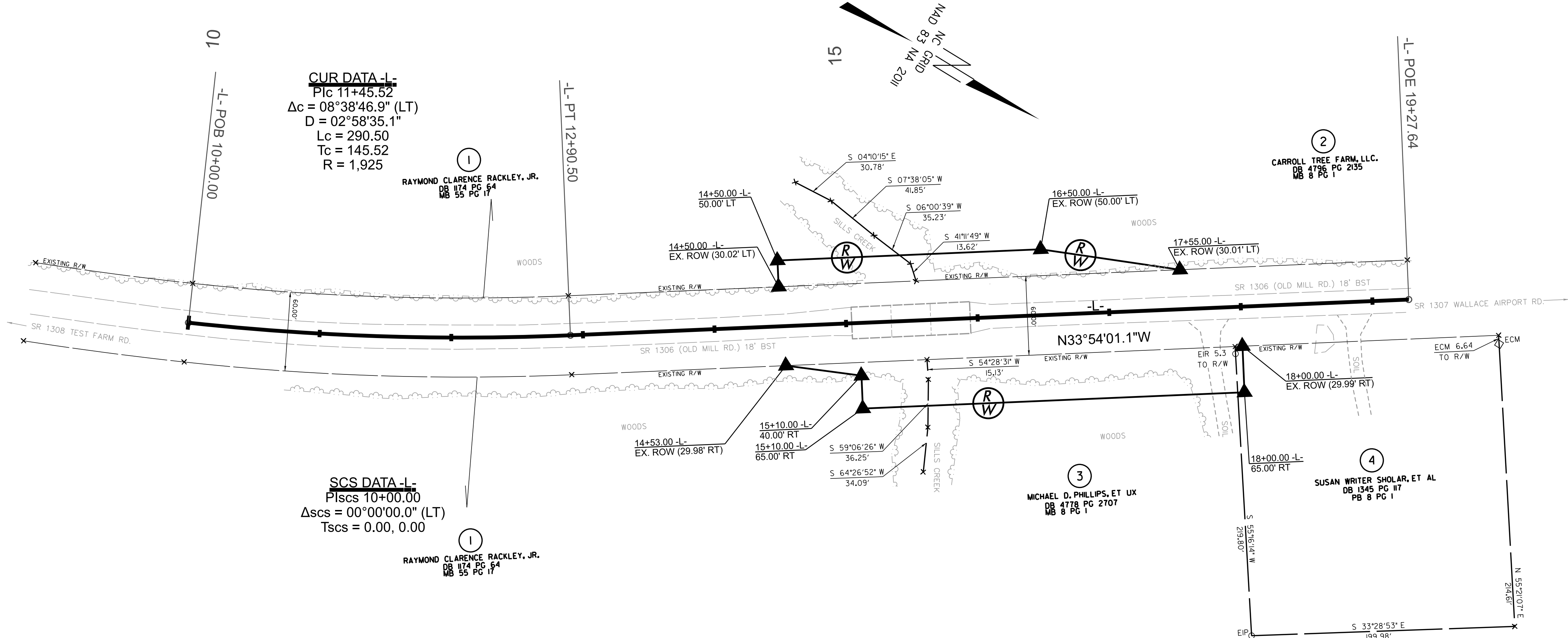
PREPARED BY:

LOCATION & SURVEYS UNIT
DIVISION 3

5310 BARBADOS BLVD.
SUITE 102
CASTLE HAYNE, N.C. 28429

I, CHRISTOPHER J. SAWYER, 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 MARCH, 2016, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 15 DAY OF MAY, 2026.
DocuSigned by:

6700CB2E1D21467
CHRISTOPHER J. SAWYER
PROFESSIONAL LAND SURVEYOR L-4526



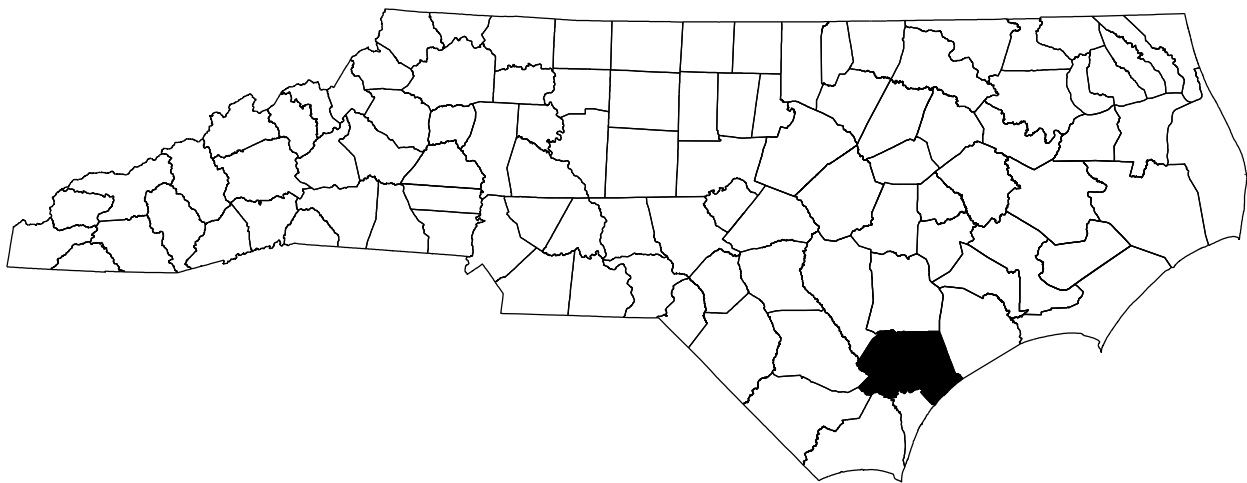
NOTES:

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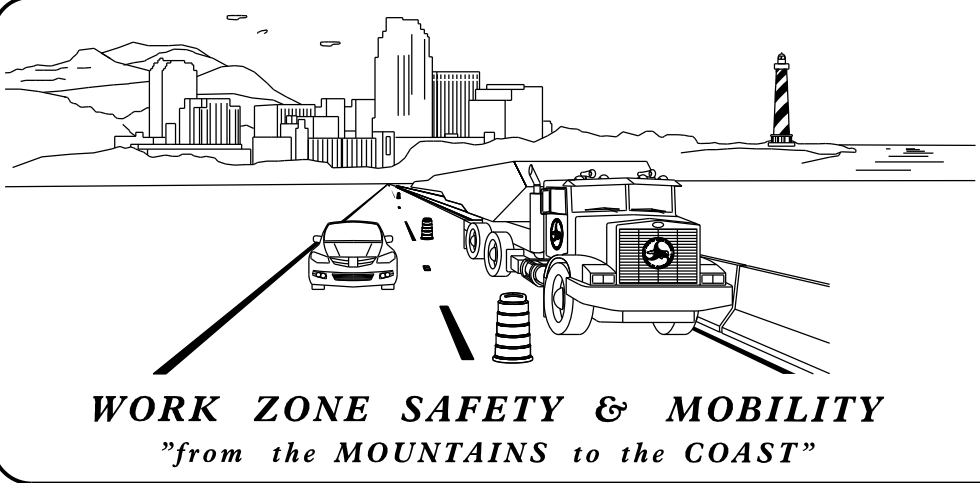
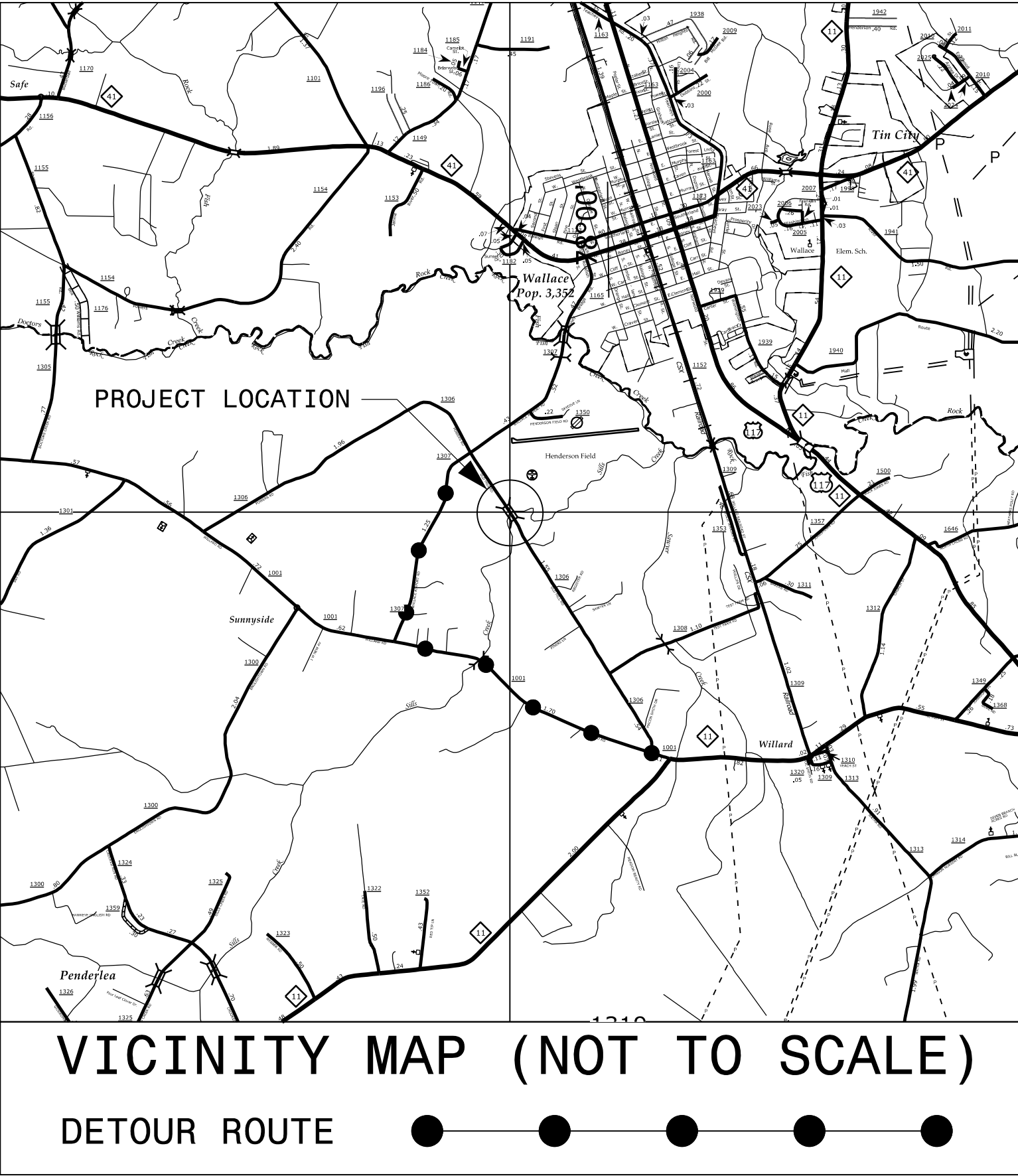
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

PENDER COUNTY

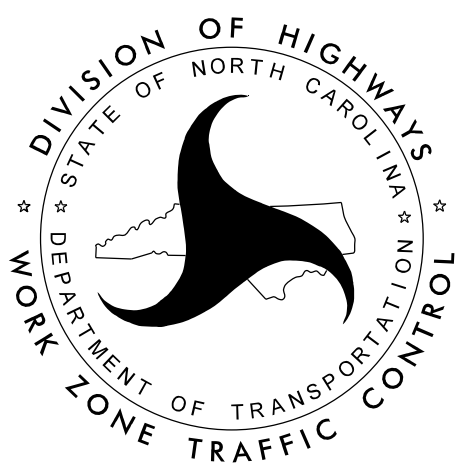


LOCATION: REPLACE BRIDGE 68 ON SR 1306
(OLD MILL RD.) OVER SILL'S CREEK
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE



PLANS PREPARED BY:
DAVID W. BISSETTE, PE
ERIC MISAK

NCDOT CONTACTS:
DEREK PIELECH, PE
NCDOT DIV. 3 BRIDGE PROGRAM ENG.



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND PHASING)
TMP-2	SPECIAL SIGN DESIGN
TMP-3	OFF-SITE DETOUR

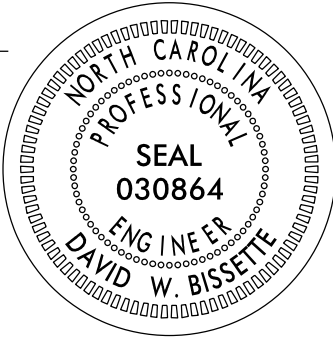
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED FOR THE NCDOT BY:
wsp

WSP USA
341 PAVETTTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1-919-836-4040
FAX: 1-919-836-4099
LICENSE NO. F-0165

APPROVED: David W. Bissette
DATE: 7/31/2026

SEAL



TIP PROJECT: BP3-R011

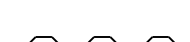
ROADWAY STANDARD DRAWINGS

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:

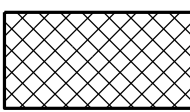
STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPs
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1205.15	PAVEMENT MARKINGS - SUPERSTREETS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

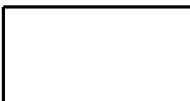
GENERAL

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

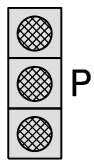
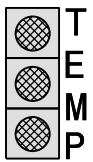
 WORK AREA

 REMOVAL

 USER DEFINED (DELETE IF NOT USED)

 USER DEFINED (DELETE IF NOT USED)

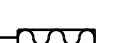
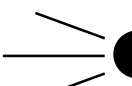
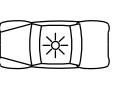
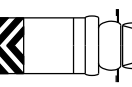
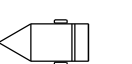
SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY
-  PORTABLE

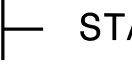
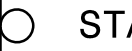
PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

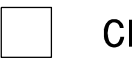
TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

PROJ. REFERENCE NO.

BP3-R011

SHEET NO.

TMP-01B

PLANS PREPARED FOR THE NCDOT BY:

WSP

WSP USA
331 FAYETTEVILLE STREET
SUITE 1800
RALEIGH, NC 27601
TEL: 1-919-836-4040
FAX: 1-919-836-4099
LICENSE NO. E-0065

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

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:
FULL ROADWAY CLOSURES

GENERAL NOTES / LOCAL 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 UNDESIREED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

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

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 5 FT OF AN OPEN TRAVEL LANE ON AN UNDIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

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

- D) 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 DIRECTEDBY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- I) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- J) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THEROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

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

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- L) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- M) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PHASING

PHASE I

- STEP 1: USING ROADWAY STANDARD DRAWING 1101.03, SHEETS 1 AND 2 OF 9 AND SHEETS TMP-2 AND TMP-3 INSTALL ROAD CLOSURE AND DETOUR SIGNS AND BARRICADES AND CLOSE -L- (SR 1306 OLD MILL RD) TO THRU TRAFFIC.
- STEP 2. COMPLETE THE FOLLWOING WHILE WORKING WITHIN THE LIMITS OF THE ROADWAY CLOSURE:
- REMOVE THE EXISTING STRUCTURE
- CONSTRUCT THE PROPOSED STRUCTURE AND ROADWAY SECTIONS
- PLACE THE FINAL PAVEMENT MARKINGS (SEE PAVEMENT MARKING PLANS)
- STEP 3. REMOVE ROAD CLOSURE AND DETOUR SIGNS AND BARRICADES AND OPEN -L- (SR 1306 OLD MILL RD) TO THRU TRAFFIC.
- STEP 4. REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES.

APPROVED:

Signature

David W. Bisette

DATE: 7/31/2026

SEAL

030864

ENGINEER

DAVID W. BISSETTE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

WORK ZONE TRAFFIC CONTROL

TRANSPORTATION
OPERATIONS
PLAN

PROJ. REFERENCE NO.

BP3 - R011

SHEET NO.

TMP - 02

PLANS PREPARED FOR THE NCDOT BY:

wsp

WSP USA

331 FAYETTEVILLE STREET

SUITE 1800

RALEIGH, NC 27601

TEL: 1.919.836.4040

FAX: 1.919.836.4099

LICENSE NO. F-0065

SIGN NUMBER: SP-01

TYPE: GROUND

QUANTITY: 1

SIGN WIDTH: 3'-0"

HEIGHT: 1'-0"

TOTAL AREA: 3.0 Sq.Ft.

BORDER TYPE: RECESSED

RECESS: 0.47"

WIDTH: 0.63"

RADII: 1.5"

NO. Z BARS:

LENGTH:

BACKG COLOR: Fluorescent Orange

COPY COLOR: Black

SYMBOL	X	Y	WID	HT

DESIGN BY: DAD

CHECKED BY: RAO

PROJECT ID: BP3.R011

DIV: 3

Apr 08, 2025

1'-0"

3'-0"

2.6"

30.8"

2.6"

4"

4"

4"

OLD MILL RD

USE NOTES:

1. Legend and border shall be direct applied black non-reflective sheeting.

2. Background shall be NC Grade B fluorescent orange retroreflective sheeting.

3. To be mounted with Detour signing.

LETTER POSITIONS

Letter spacings are to start of next letter																									Series/Size Text Length	
		O	L	D		M	I	L	L		R	D														C 2000
	2.6	3.2	2.6	2.2	4	3.5	1.4	2.6	2	4	2.9	2.2	2.6													30.8

FILENAME: detour_sign

NORTH CAROLINA D.O.T. SIGN DETAIL

7/22/2026
U:\30902581.004_BP3R011Pender 068\Work Zone Traffic Control\200_020_BP3-R011+cp_TMP-02.dgn
User:USD889925

APPROVED:

Signed by:

David W Bissette

3EE1BB0D49A5400...

DATE: 7/31/2026

SEAL

030864

ENGINEER

DAVID W. BISSETTE

DOCUMENT NOT CONSIDERED FINAL

UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

WORK ZONE TRAFFIC CONTROL

SPECIAL SIGN

DESIGN

PROJ. REFERENCE NO.
BP3 - R011

SHEET NO.
TMP - 03

PLANS PREPARED FOR THE NCDOT BY:



WSP USA

334 LAYETTEVILLE STREET

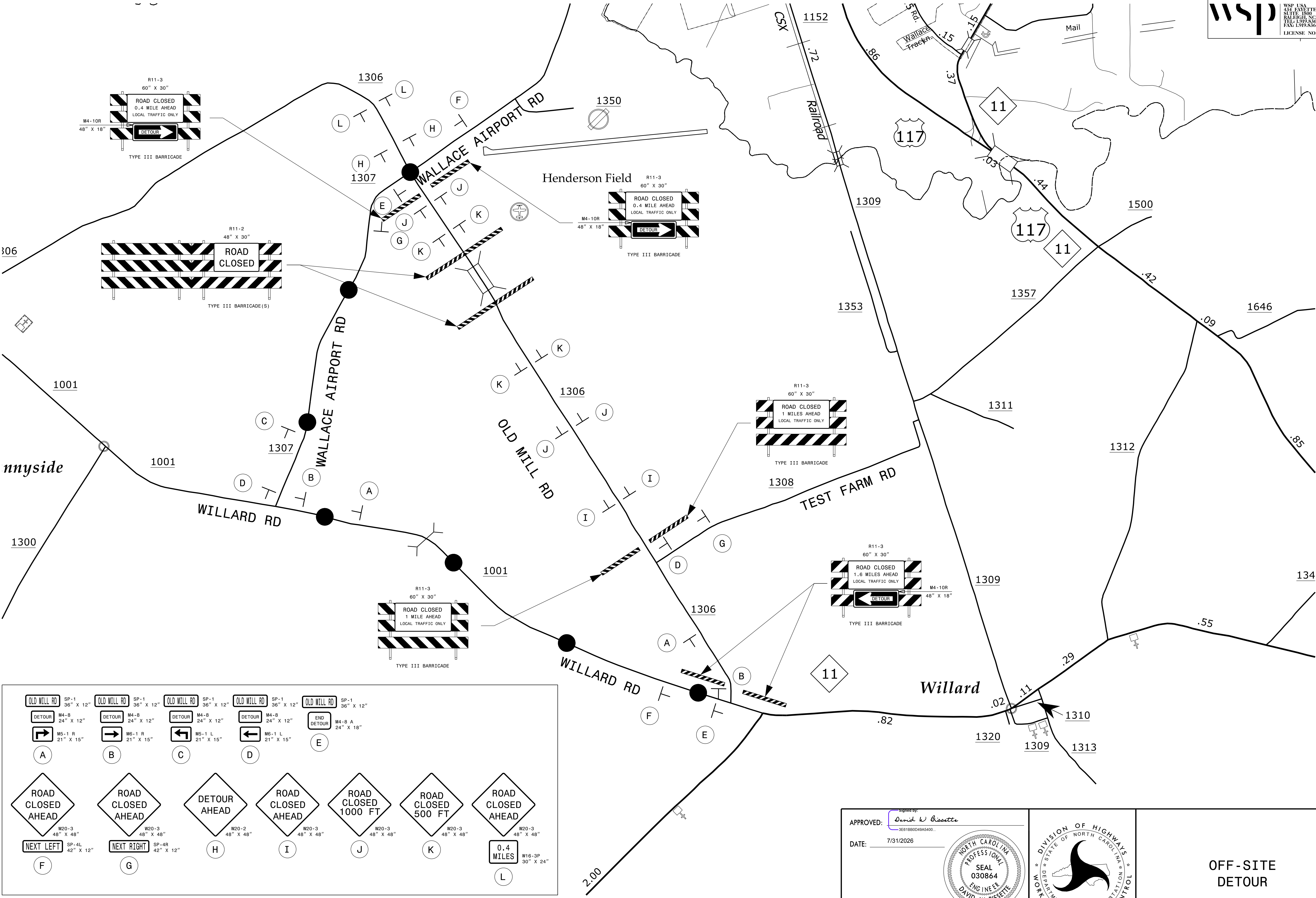
SUITE 1500

RALEIGH, NC 27601

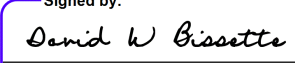
TEL: 1.919.836.4040

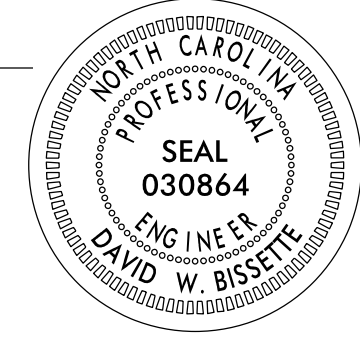
FAX: 1.919.836.4099

LICENSE NO. F-0165



7/22/2026
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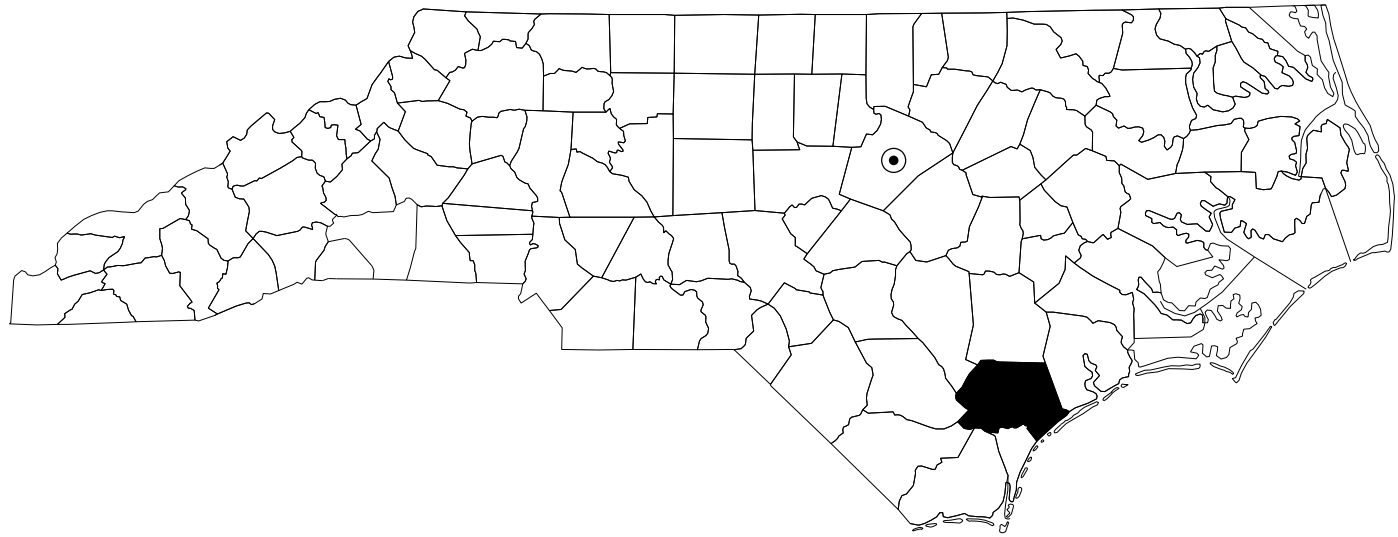
APPROVED: 
DATE: 7/31/2026





OFF-SITE
DETOUR

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PAVEMENT MARKING PLAN

PENDER COUNTY

LOCATION: REPLACEMENT OF BRIDGE 68 ON SR 1306
(OLD MILL RD.) OVER SILL'S CREEK

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	BP3-R011	PMP-11

Signed by:
Eric W. Bowman
DADA2D3CB0246F...
8/19/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
ALL	THERMOPLASTIC	POLYCARBONATE H-SHAPE
BRIDGE	THERMOPLASTIC	POLYCARBONATE H-SHAPE

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	TITLE SHEET, INDEX, GENERAL NOTES & ROADWAY STANDARD DRAWINGS
PMP - 1A	DETAIL IN LIEU OF STANDARD; PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
PMP - 1B	DETAIL IN LIEU OF STANDARD; RAISED PAVEMENT MARKERS
PMP - 2	PAVEMENT MARKING PLAN SHEET

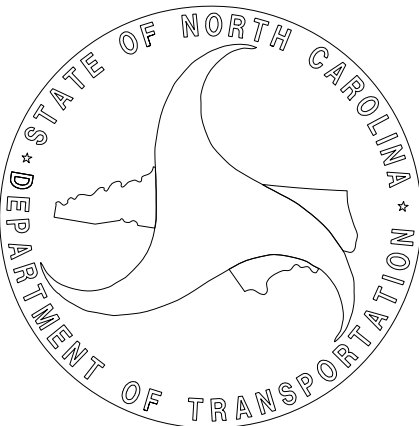
ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 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
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

PLAN SUBMITTED TO: NCDOT SIGNING AND DELINEATION UNIT

<u>KELVIN L. JORDAN</u>	SIGNING AND DELINEATION STATE ENGINEER
<u>WALTER R. JOHNSON</u>	SIGNING AND DELINEATION REGIONAL ENGINEER



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

PLAN PREPARED BY:

<u>ERIC W. BOWMAN, PE</u>	SR. TRANSPORTATION DESIGNER
<u>SAYMA AFREEN</u>	TRANSPORATION DESIGNER

TIP NO.
BP3-R011

SHEET NO.
PMP-1A

PROJECT REFERENCE NO.

SHEET NO.

CONTINUOUS LINES

EDGE LINE

YELLOW OR WHITE

4" / 6"

LANE LINE

WHITE

4" / 6"

CENTER LINE

YELLOW

4" / 6"

GORE LINE

WHITE

8" / 12"

DIAGONAL LINE

YELLOW OR WHITE

12" 45 MPH OR HIGHER
8" LESS THAN 45 MPH
4"-6" FOR BICYCLE FACILITIES

CROSSWALK LINE

WHITE

8" TRANSVERSE
24" LONGITUDINAL

RxR LINE

WHITE

16"

STOP OR TRANSVERSE BAR

WHITE

24"

10'-30'/SP SKIP LINE

UNLESS OTHERWISE SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.

10'

30'

4" / 6"

YELLOW OR WHITE

3'-3'/SP MINI-SKIP LINE

UNLESS OTHERWISE SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.

3'

3'

8" / 12"

WHITE

2'-6'/SP MINI-SKIP LINE

UNLESS OTHERWISE SHOWN, USE 2'-6'/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND BICYCLE LANE EXTENSIONS.

2'

6'

4" / 6"

YELLOW OR WHITE

3'-9'/SP MINI-SKIP LINE

UNLESS OTHERWISE SHOWN, USE 3'-9'/SP MINI-SKIPS FOR MINI-SKIP LANE LINES, LINE EXTENSIONS THROUGH TAPERS, AND MINI-SKIPS USED FOR BICYCLE LANE LINES.

3'

9'

4" / 6"

WHITE

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

ROADWAY DETAIL DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

SHEET 1 OF 2

1205D01

Seal: NORTH CAROLINA PROFESSIONAL SEAL 042546 ENGINEER MATTHEW V. SPRINGER

Signed by: Matthew V. Springer
8/19/2026

CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

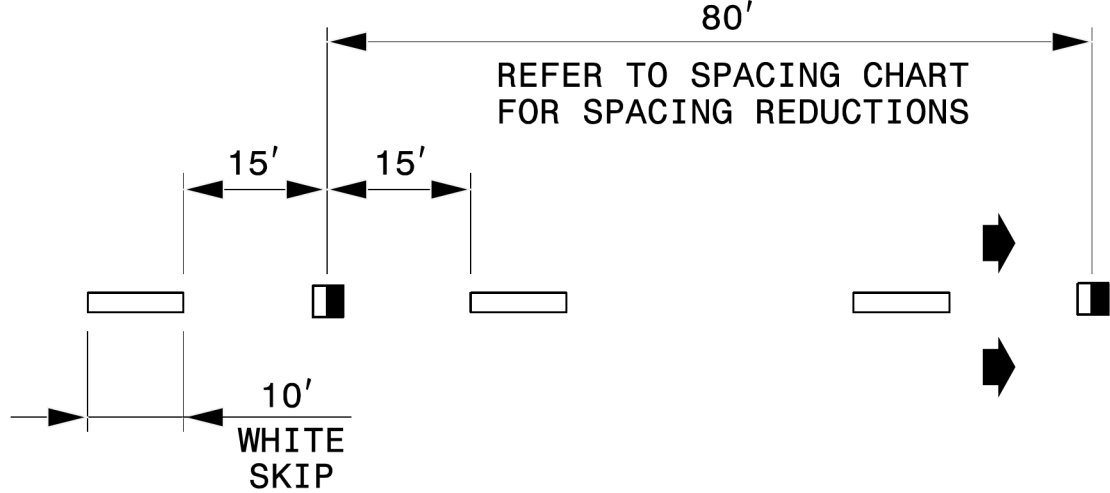
SEE TITLE BLOCK

ORIGINAL BY: M.V. SPRINGER DATE: 2-15-24
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

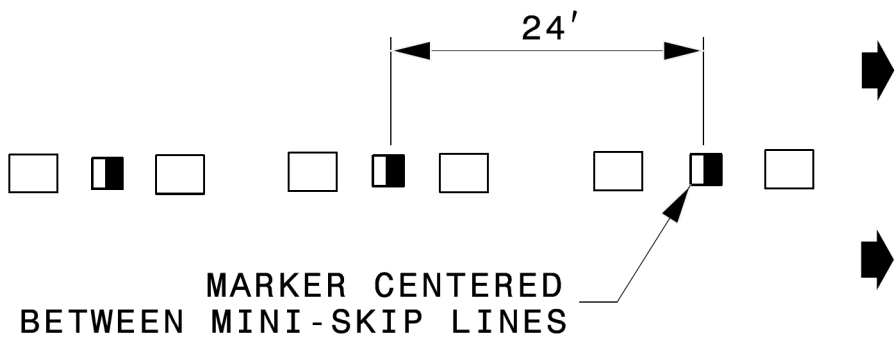
DETAIL IN LIEU OF STANDARD

PROJECT REFERENCE NO.	SHEET NO.

10'-30'/SP SKIP LINE

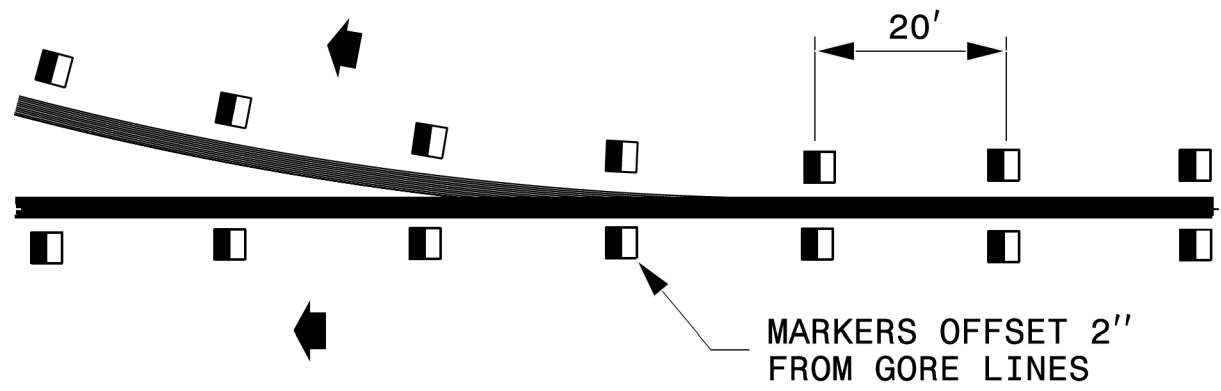


3'-9'/SP MINI-SKIP LINE

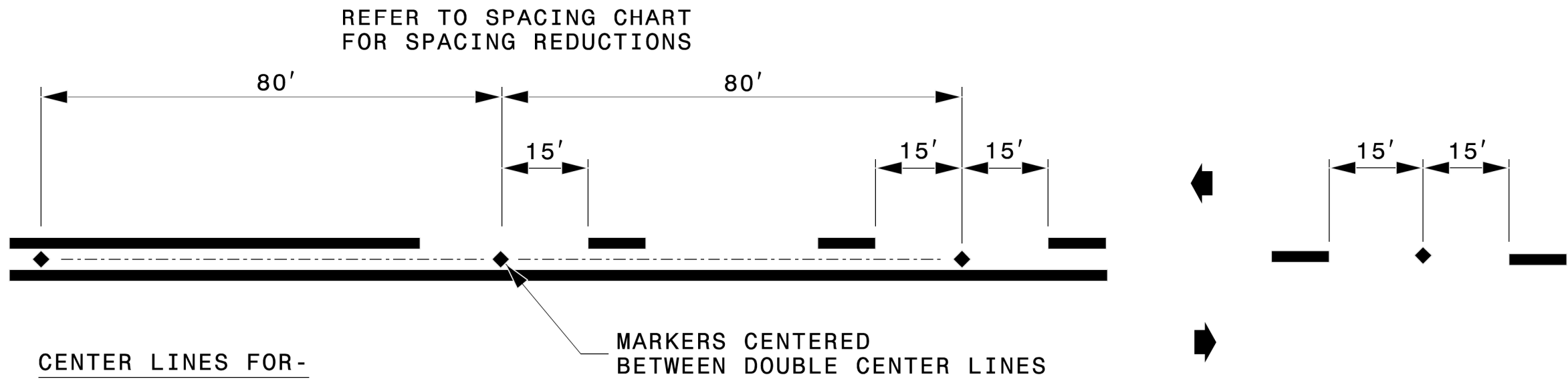


LEGEND	
	CRYSTAL/RED PAVEMENT MARKER
	YELLOW/YELLOW PAVEMENT MARKER
	DIRECTION OF TRAFFIC FLOW

GORE LINES

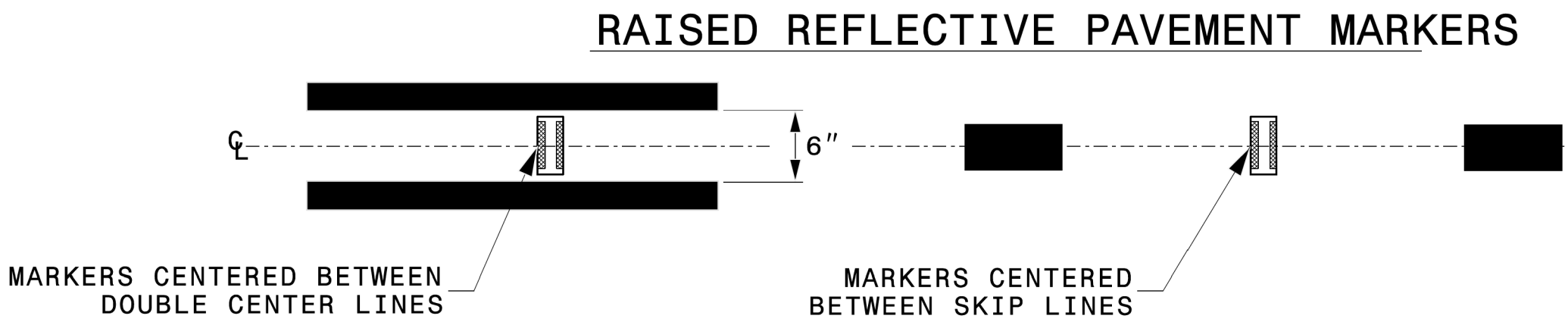


YELLOW CENTER LINES



CENTER LINES FOR-
TWO-LANE, TWO-WAY ROADWAYS
UNDIVIDED ROADWAYS
TWO-WAY LEFT TURN LANES

DETAIL OF PAVEMENT MARKER PLACEMENT



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

ROADWAY DETAIL DRAWING FOR
RAISED PAVEMENT MARKERS
INSTALLATION SPACING

SHEET 2 OF 3
1250D01



Signed by:
Matthew V. Springer
8/19/2026

CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: M.V. SPRINGER DATE: 2-15-24
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: DATE:

DETAIL IN LIEU
OF STANDARD

11/14/23

PAVEMENT MARKING SCHEDULE

TIP PROJECT # BP3-R011

THERMOPLASTIC (4", 90 MIL)

SYMBOL	DESCRIPTION
T1	WHITE EDGELINE
T11	YELLOW SINGLE CENTER
T12	10 FT. YELLOW SKIP

BP3-R011

3R01 | PMP-2

SENIOR TRANSPORTATION
ENGINEER

8/3/2026

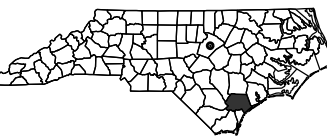


Signed: *Eric W. Bowman*

DADA2D3CB80246F...

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA

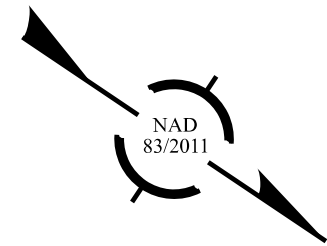


SIGNING & DELINEATION UNIT

PREPARED BY

wsp

434 FAYETTEVILLE ST. #1500
RALEIGH, N.C. 27601
NC ENG P-0165



NAD
8/3/2011

15

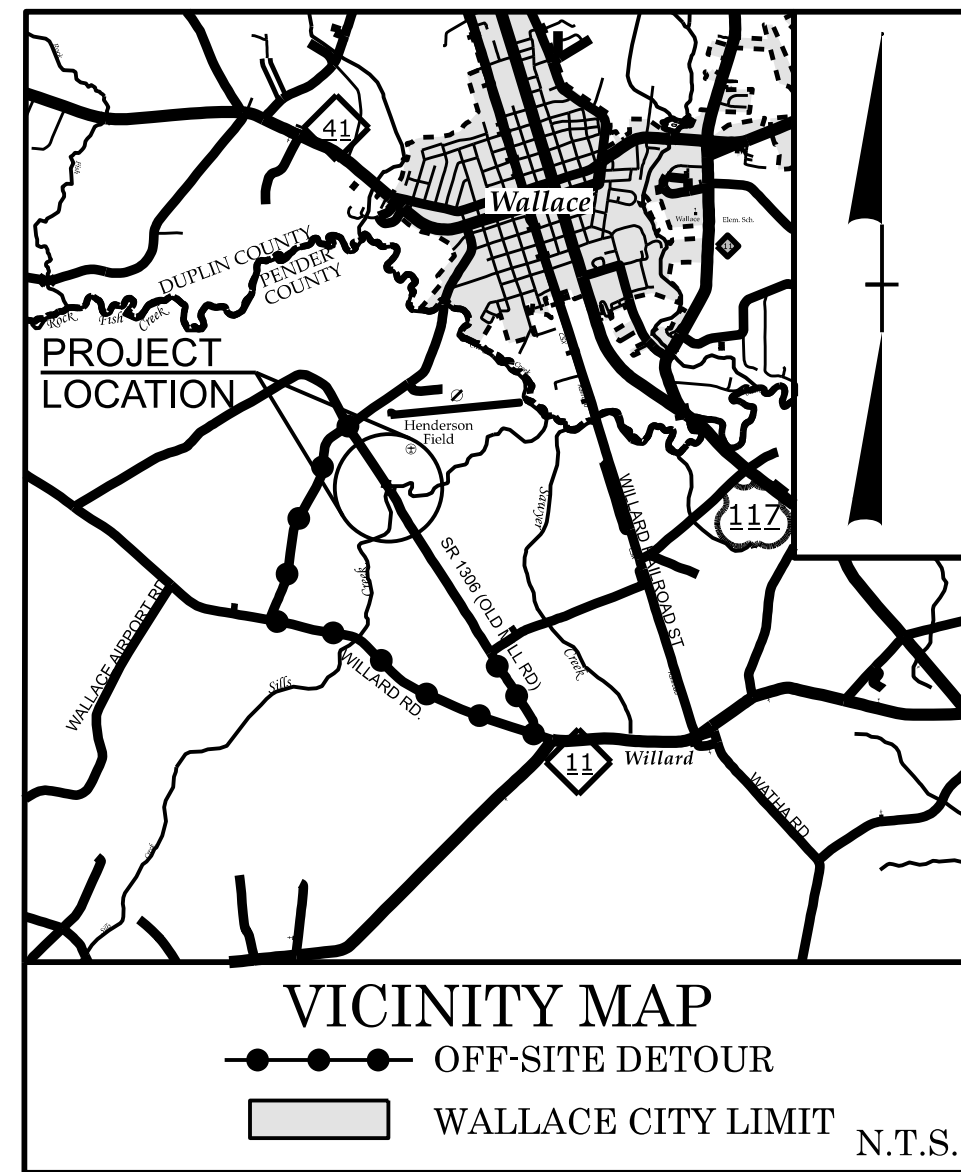
BEGIN PAVEMENT MARKINGS
(TIE TO EXISTING)
-L- STA. 13+35 +/-

END PAVEMENT MARKINGS
(TIE TO EXISTING)
-L- STA. 19+27 +/-

MATCH EXISTING WIDTH
-L- STA. 18+00 +/-

NOTE: EXTEND PAVEMENT MARKINGS TO TIE
TO THE WALLACE AIRPORT ROAD PROJECT.

TIP PROJECT: BP3-R011



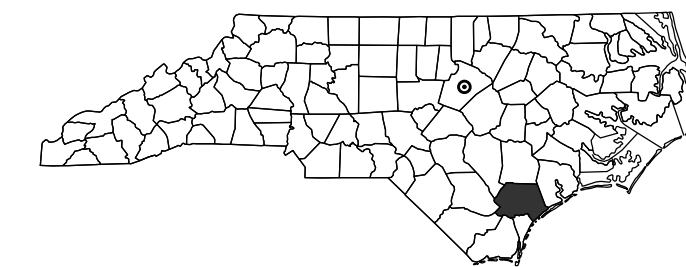
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

PENDER COUNTY

LOCATION: *REPLACEMENT OF BRIDGE 68 ON SR 1306
(OLD MILL RD.) OVER SILL'S CREEK*

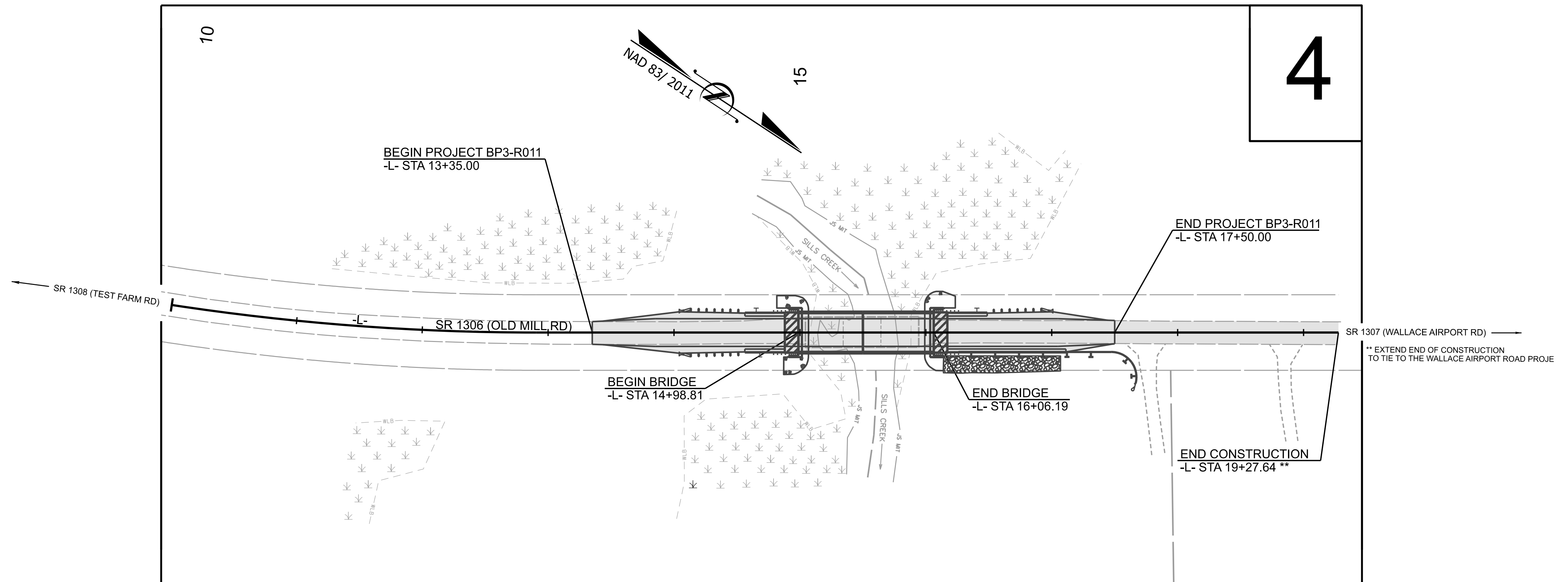
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, & STRUCTURE*



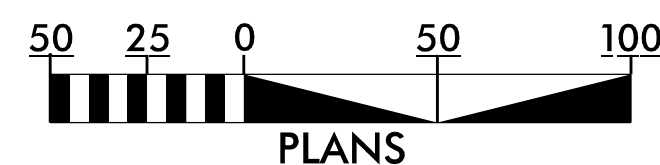
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP3-R011	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

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

THE OUTSIDE BUFFER, WETLAND,
OR WATER BOUNDARY SHALL
BE CLEARLY MARKED BY
HIGHLY VISIBLE FENCING
(ORANGE SAFETY FENCE).



GRAPHIC SCALE



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.

wsp

Prepared In the Office of:

wsp
434 FAYETTEVILLE ST #1500
RALEIGH, NC 27601
NC ENG F-1253

Designed by:

VIDYA MOHANDAS, P.E. 3404
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

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

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

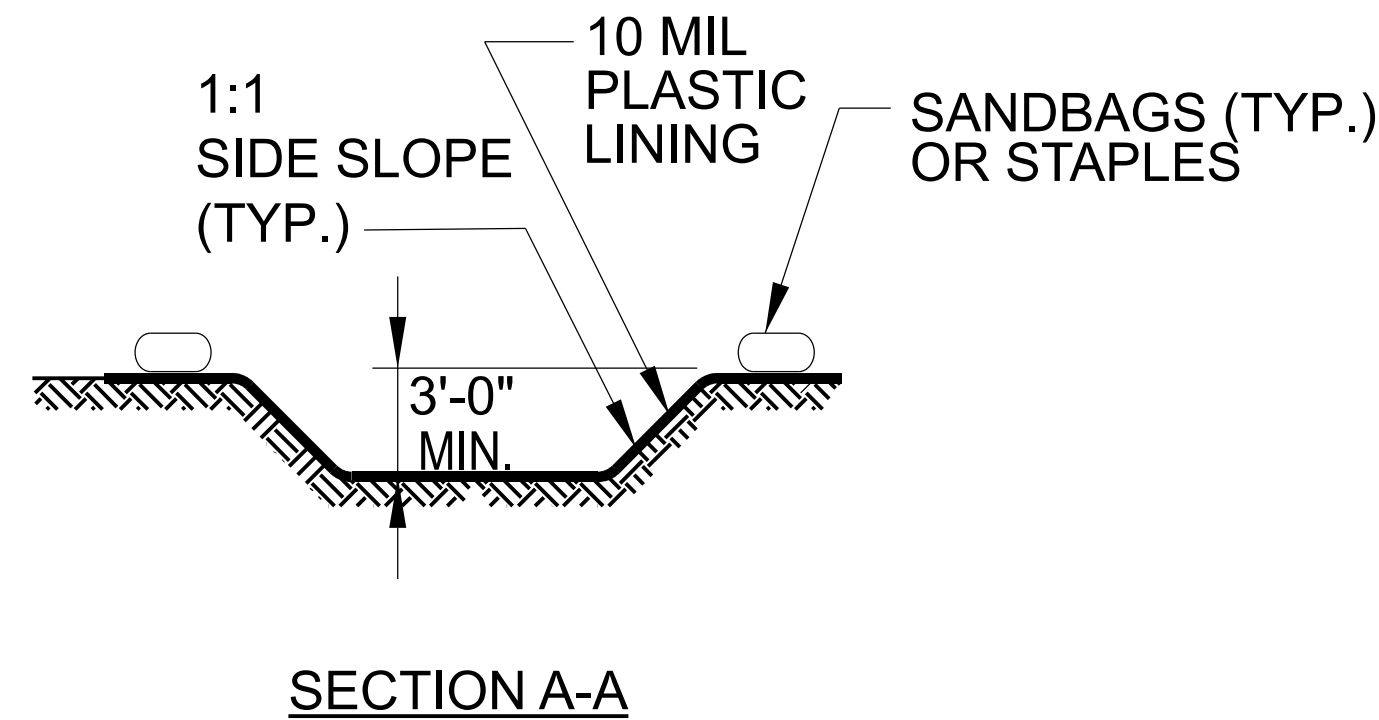
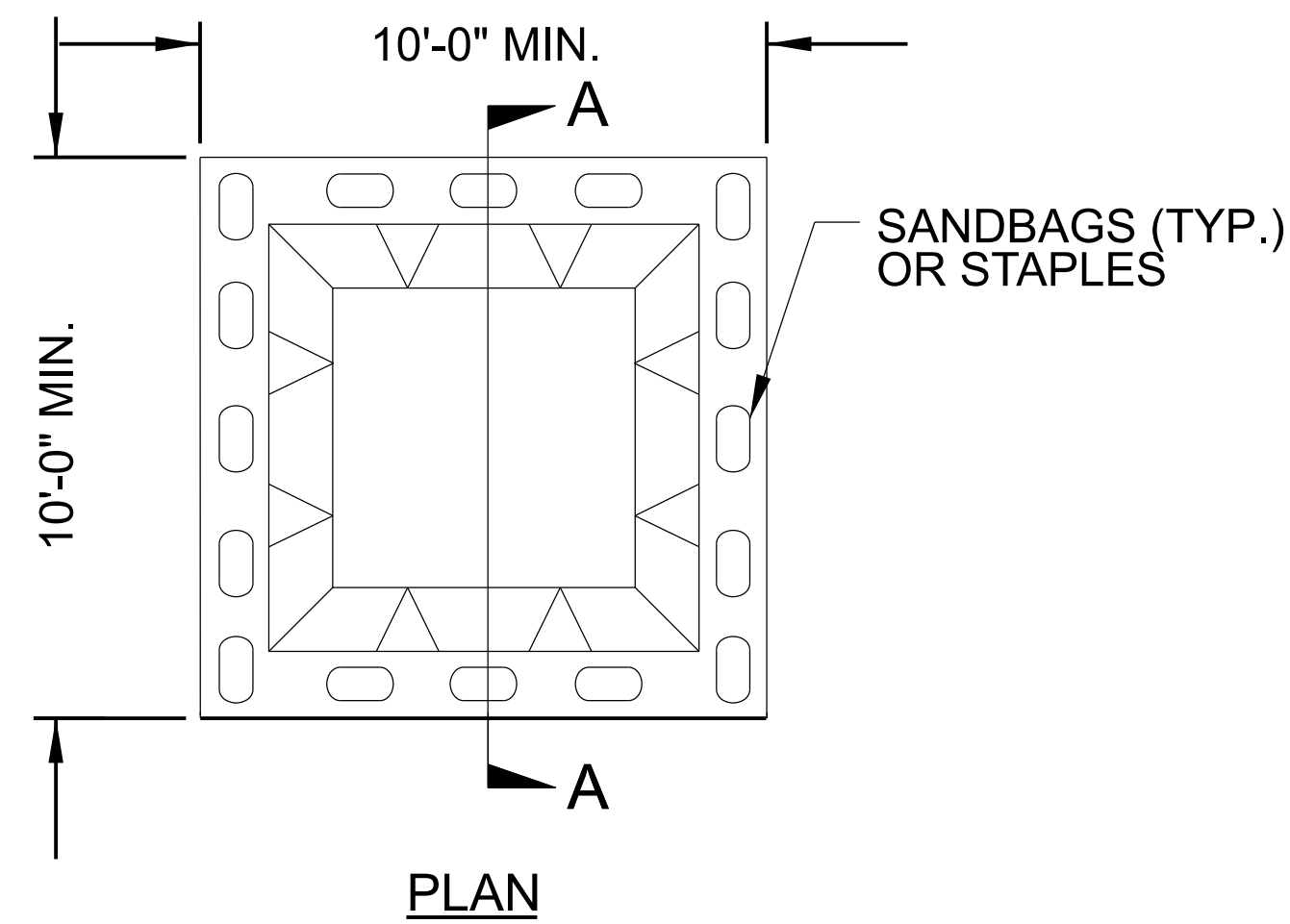
PROJECT REFERENCE NO.	SHEET NO.
BP3-R011	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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				

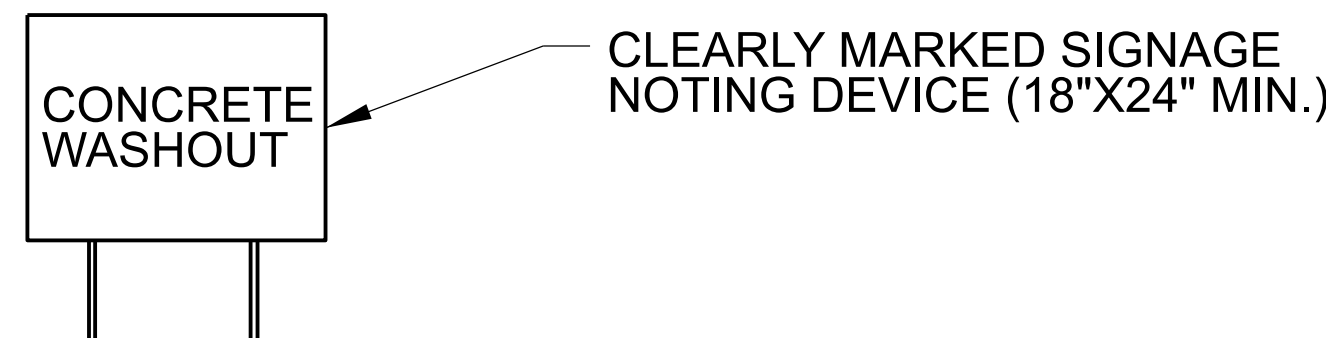
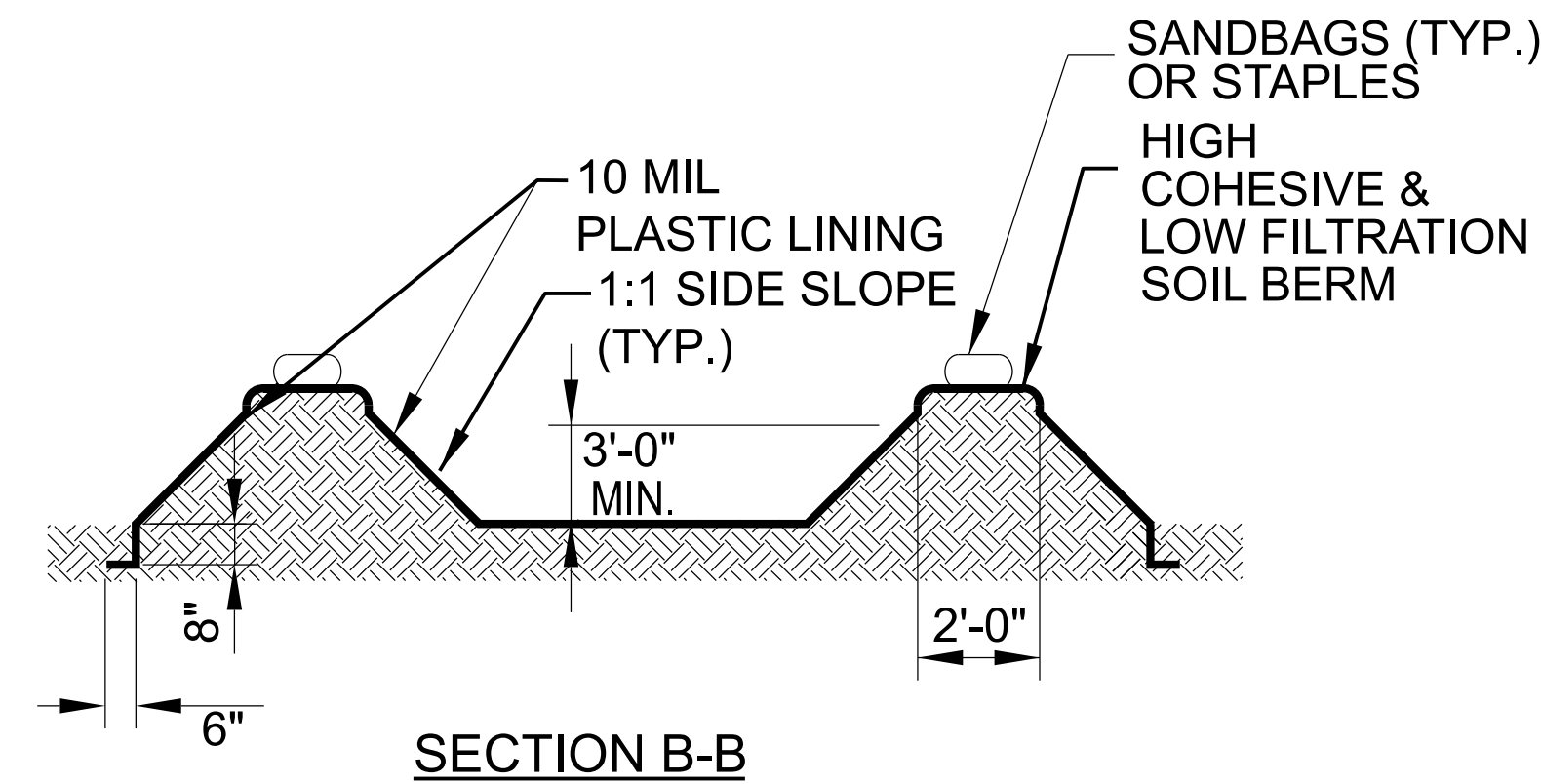
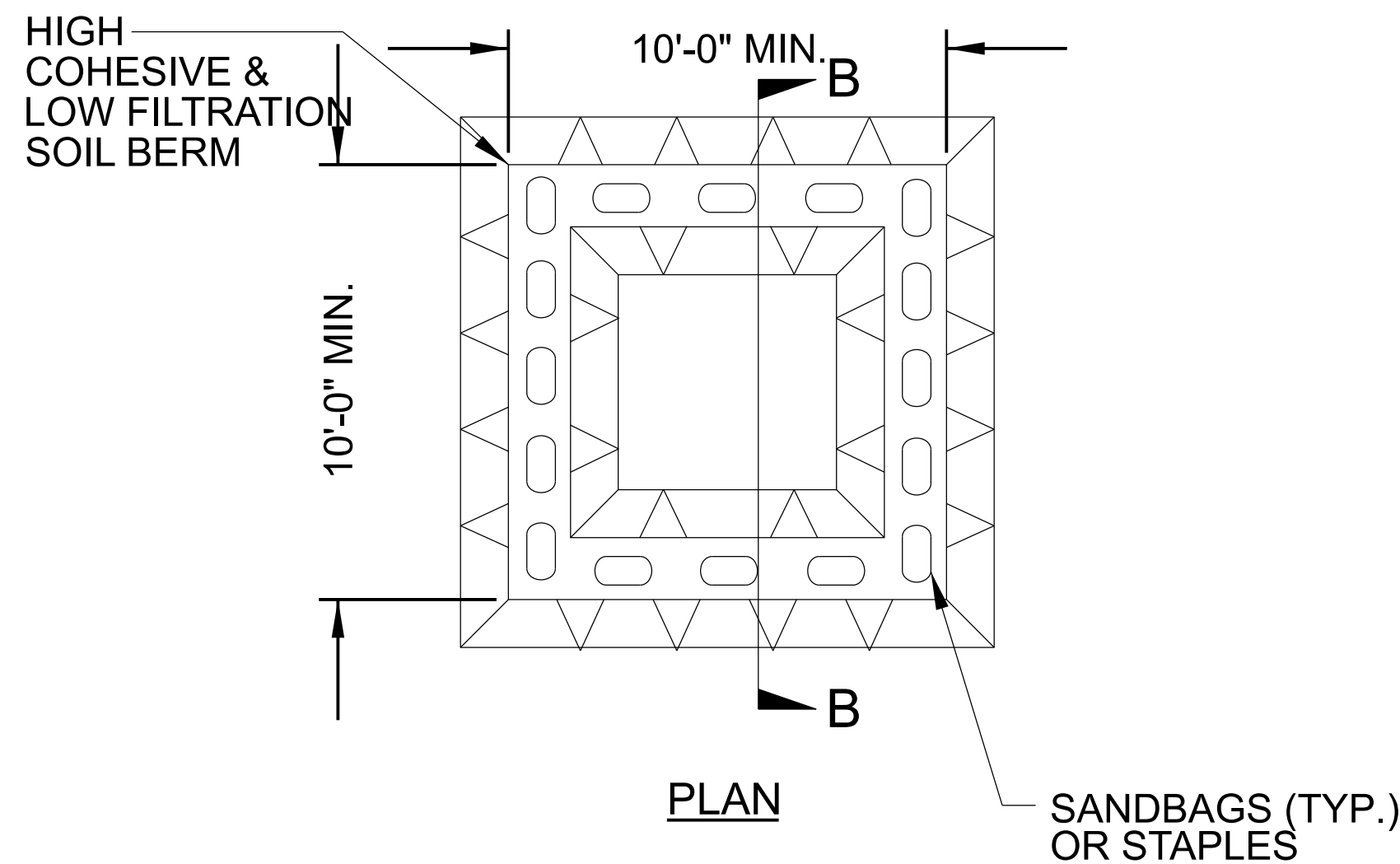
ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

PROJECT REFERENCE NO.	SHEET NO.
BP3-R011	EC-02A
RW 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.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.		SHEET NO.	
BP3-ROII		EC-3	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

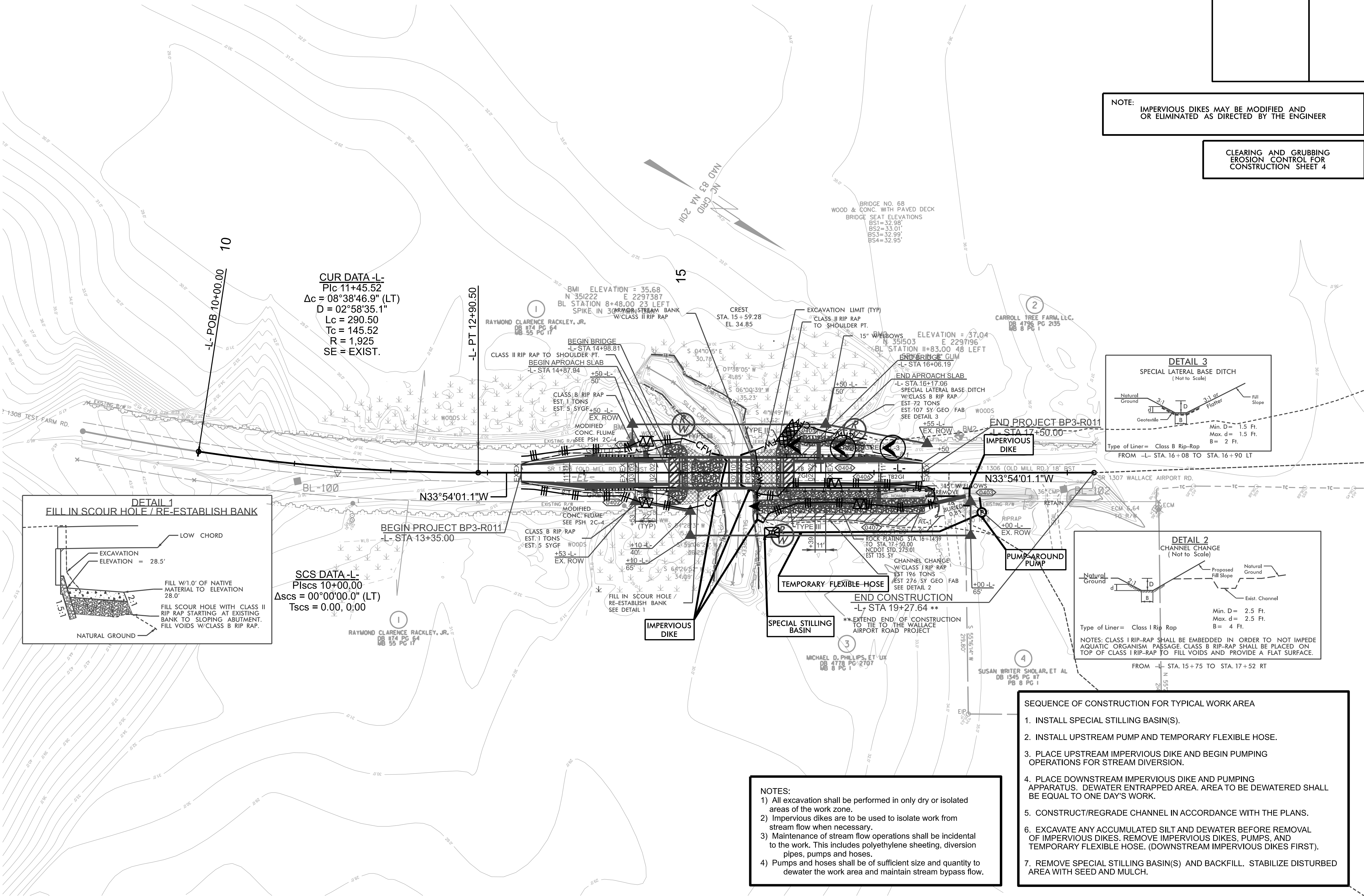
SOIL STABILIZATION TIMEFRAMES

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

PROJECT REFERENCE NO.		SHEET NO.
BP3-R011		EC-4/CONST.4
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

NOTE:
IMPERVIOUS DIKES MAY BE MODIFIED AND
OR ELIMINATED AS DIRECTED BY THE ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4



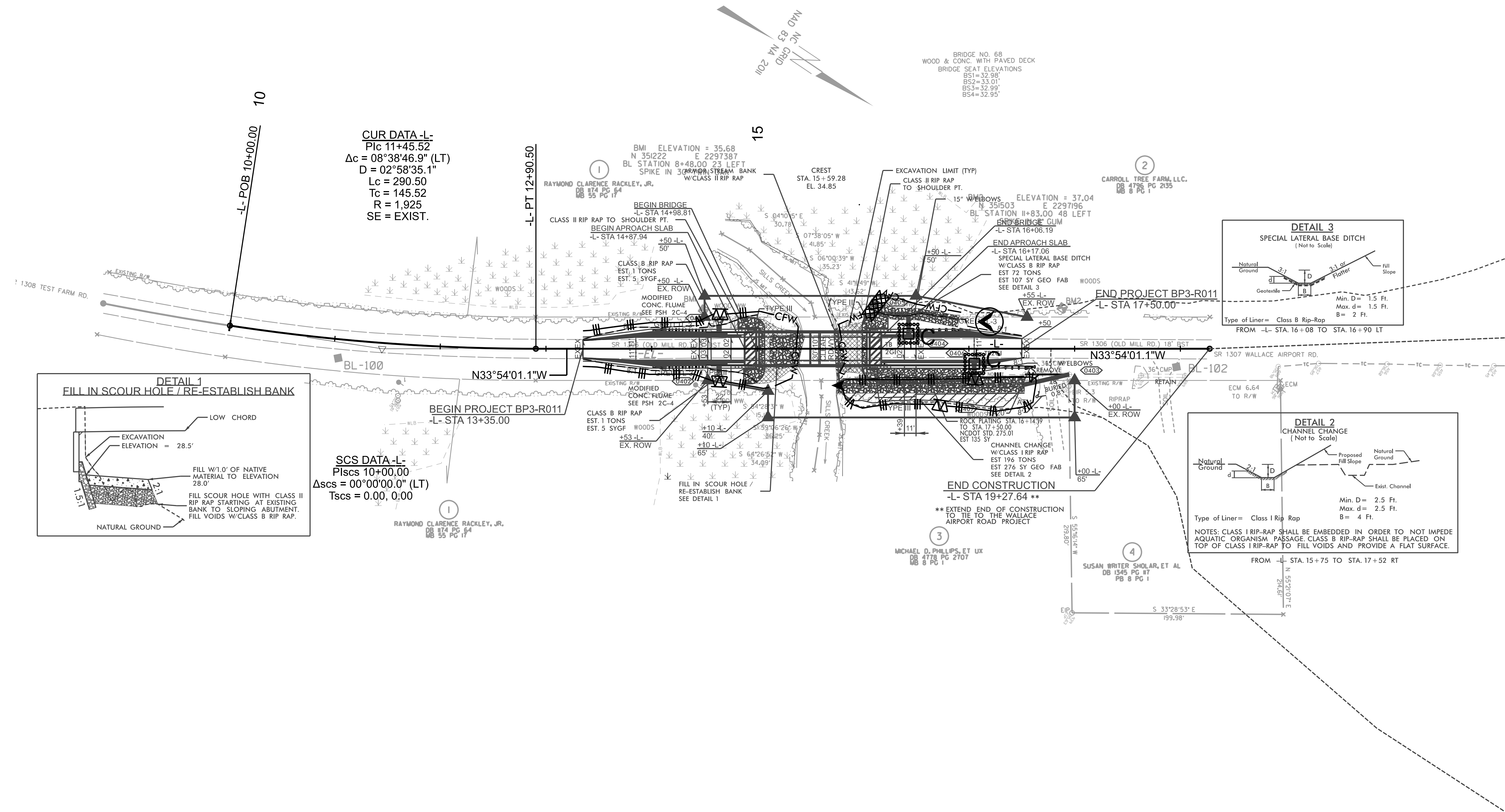
NOTES:
1) All excavation shall be performed in only dry or isolated areas of the work zone.
2) Impervious dikes are to be used to isolate work from stream flow when necessary.
3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes,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

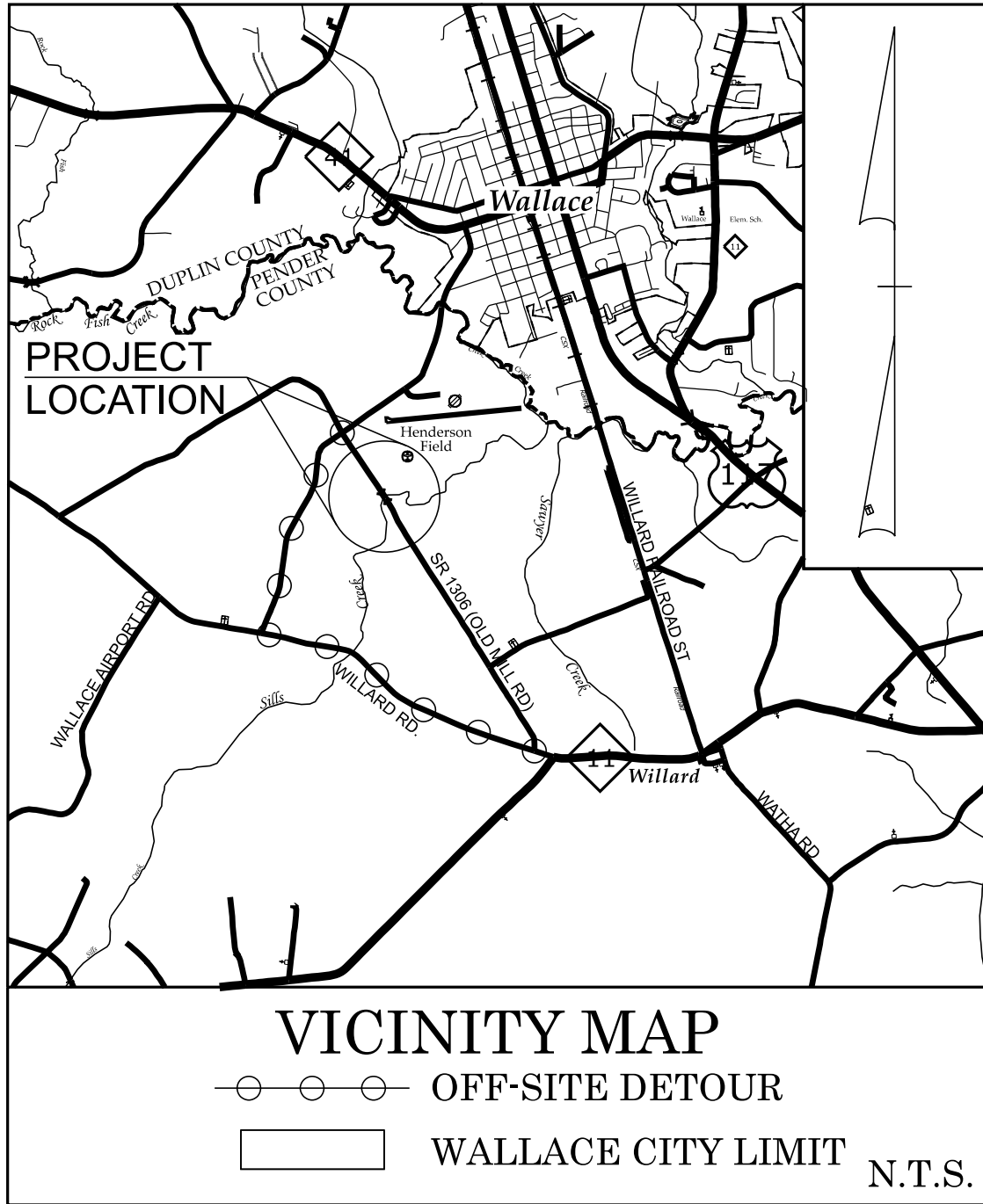
- SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA
1. INSTALL SPECIAL STILLING BASIN(S).
 2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
 3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
 4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED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

PROJECT REFERENCE NO.	SHEET NO.
BP3-R011	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Place Matting for Erosion Control
on Slopes Adjacent to Permitted
Wetlands as Work Allows.

NOTE: Utilize Coir Fiber Matting
Adjacent to Wetlands/Jurisdictional
Areas, and as Directed by the Engineer





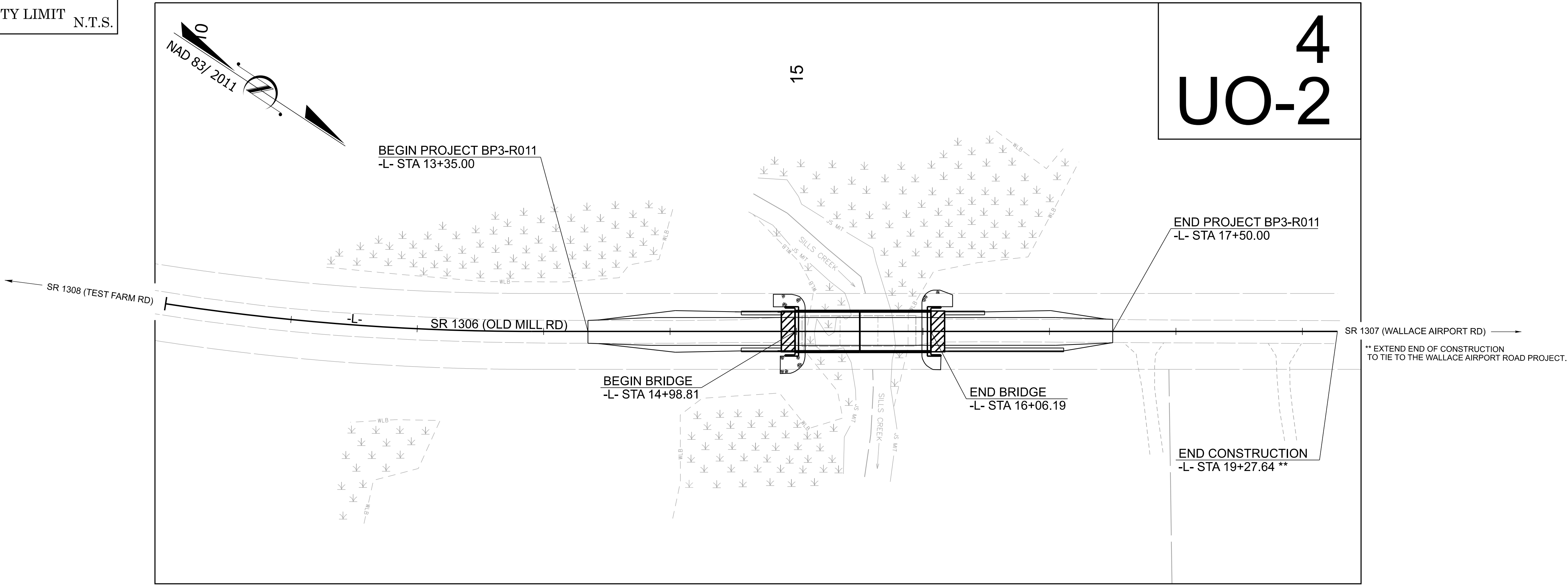
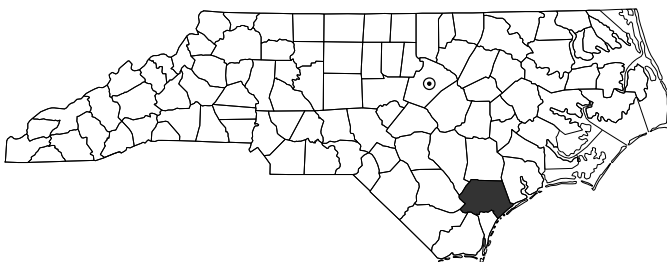
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
PENDER COUNTY

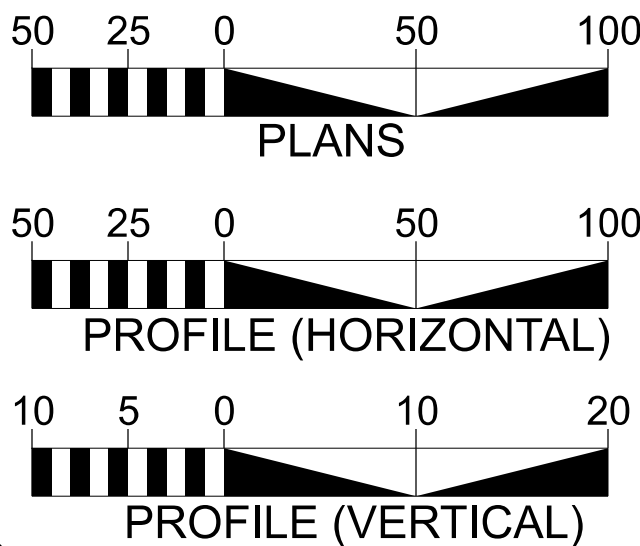
LOCATION: REPLACE BRIDGE 68 ON SR 1306
(OLD MILL RD.) OVER SILL'S CREEK

TYPE OF WORK:
POWER (DISTRIBUTION) ADJUSTMENT & RELOCATION

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



GRAPHIC SCALES



SHEET NO.:

UO-1
UO-1A
UO-2

INDEX OF SHEETS

DESCRIPTION
TITLE SHEET
UTILITY SYMBOLOGY SHEET
UTILITY BY OTHERS SHEET

UTILITY OWNERS WITH CONFLICTS

(A) POWER DISTRIBUTION - FOUR COUNTY
ELECTRIC MEMBERSHIP CORPORATION

PREPARED IN THE OFFICE OF



2641 SUMNER BOULEVARD
SUITE 116
RALEIGH, NC 27616
(919) 878-7466

TODD BUTNER UTILITY PROJECT MANAGER
PAUL NORTH PROJECT UTILITY COORDINATOR



DIVISION OF HIGHWAYS
UTILITIES UNIT

1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-7194

NABIL HAMDAN UTILITIES REGIONAL ENGINEER
TIMOTHY G. GODWIN DIVISION UTILITY ENGINEER
THOMAS SCRUGGS ASSISTANT DIVISION UTILITY
ENGINEER
DONALD LANGLEY DIVISION UTILITY COORDINATOR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	GV
Butterfly Valve	BV
Tapping Valve	TGV
Line Stop	LS
Line Stop with Bypass	LS/BP
Blow Off	BO
Fire Hydrant	PFH
Relocate Fire Hydrant	RFH
Remove Fire Hydrant	REM FH
Water Meter	PWM
Relocate Water Meter	RWM
Remove Water Meter	REM WM
Water Pump Station	PS(W)
RPZ Backflow Preventer	PRPZ
DCV Backflow Preventer	PBFP
Relocate RPZ Backflow Preventer	RRPZ
Relocate DCV Backflow Preventer	RBFP

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	PS(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	TEL PED
Utility Line by Others (Type as Shown)	
Trenchless Installation	TRENCHLESS
Encasement Method	OPEN CUT
Encasement	

Thrust Block	
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	NOTE
Pay Item Note	PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Utility Pole	
Utility Pole with Base	
H-Frame Pole	
Power Transmission Line Tower	
Water Manhole	W
Power Manhole	P
Telephone Manhole	T
Sanitary Sewer Manhole	⊕
Hand Hole for Cable	HH
Power Transformer	
Telephone Pedestal	T
CATV Pedestal	C
Gas Valve	◇
Gas Meter	◇
Located Miscellaneous Utility Object	○
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

*Underground Power Line	
*Underground Telephone Cable	
*Underground Telephone Conduit	
*Underground Fiber Optics Telephone Cable	
*Underground TV Cable	
*Underground Fiber Optics TV Cable	
*Underground Gas Pipeline	
Aboveground Gas Pipeline	A/G Gas
*Underground Water Line	
Aboveground Water Line	A/G Water
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
*Underground SS Forced Main Line	
Underground Unknown Utility Line	
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

*For Existing Utilities	
Utility Line Drawn from Record (Type as Shown)	
Designated Utility Line (Type as Shown)	

BP3.R011

UD-1A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PERSON COUNTY

UTILITY DESIGN UNIT

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

DESIGNED BY:

DRAWN BY:

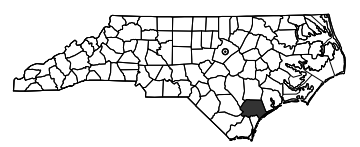
CHECKED BY:

APPROVED BY:

REVISED:

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

PREPARED BY



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

DESIGNED BY:

DRAWN BY:

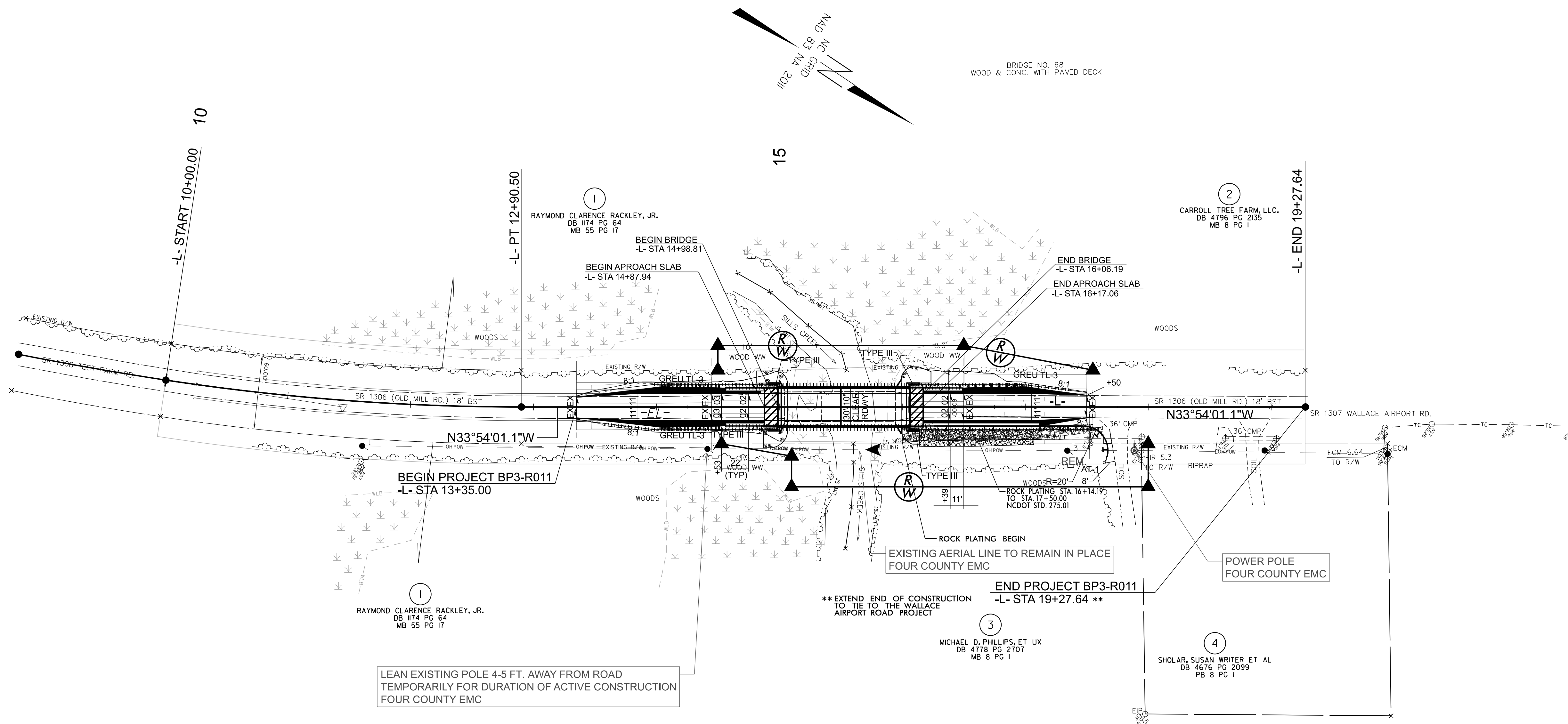
CHECKED BY:

APPROVED BY:

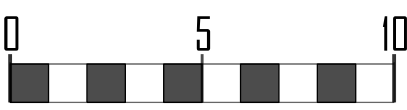
REVISED:

UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6890
FAX: (919) 250-4151

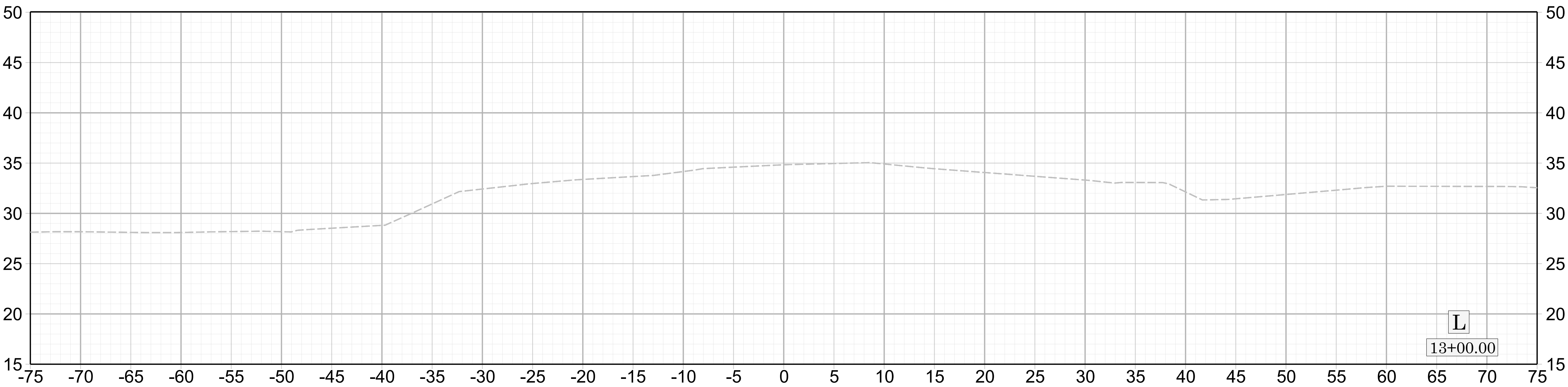
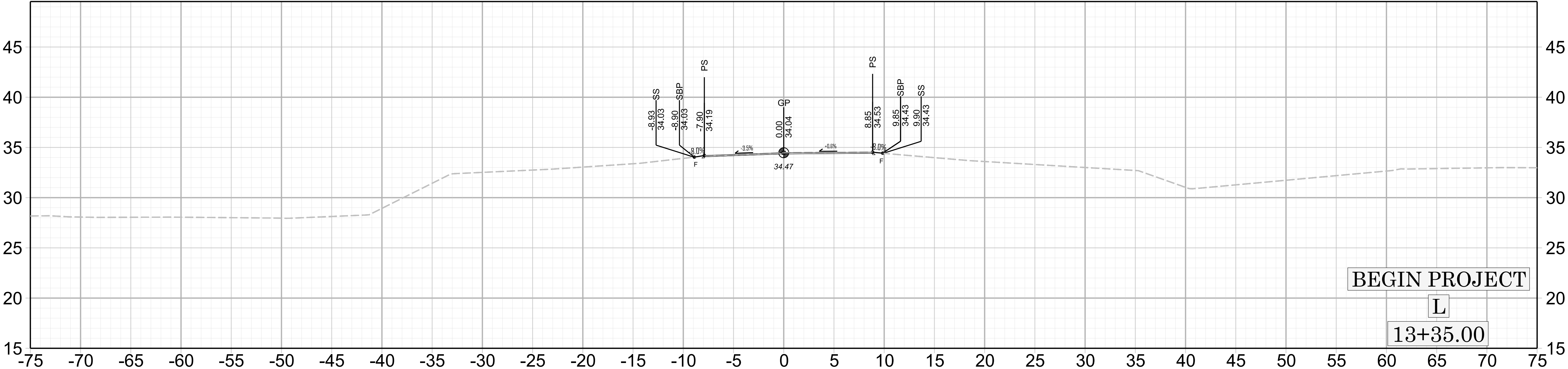
PREPARED BY

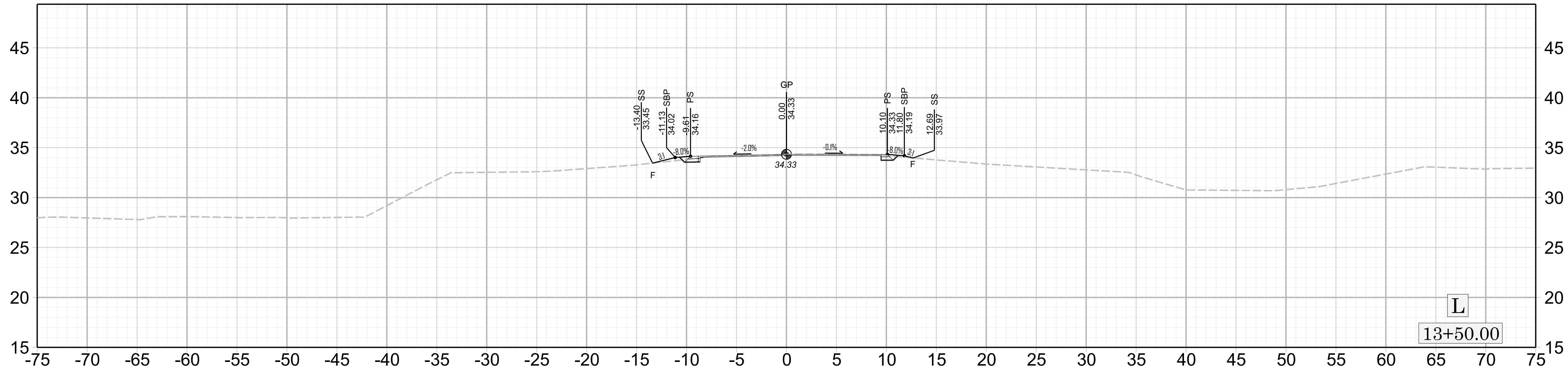
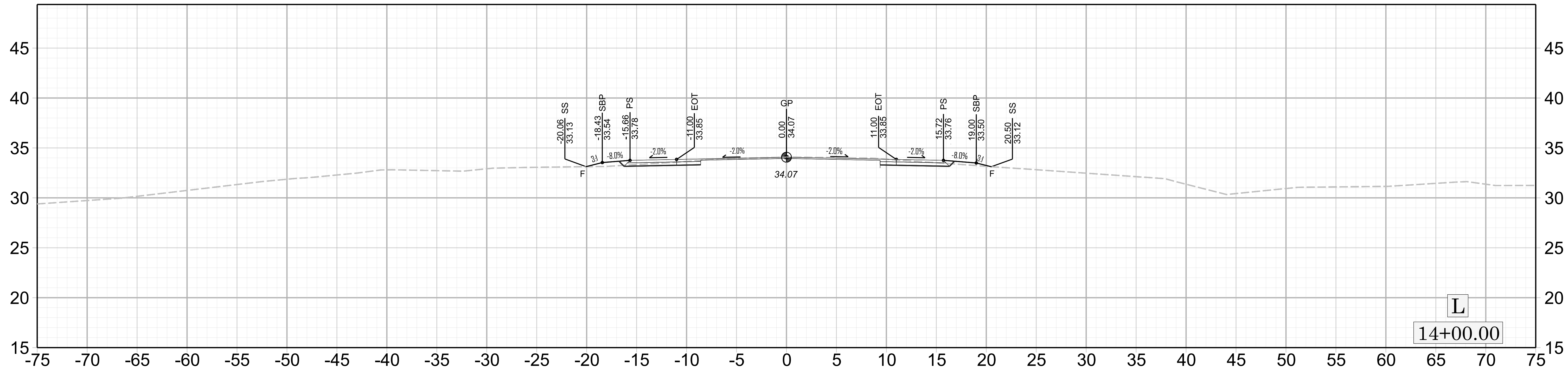
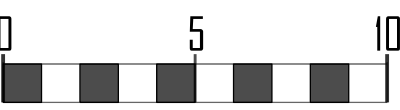


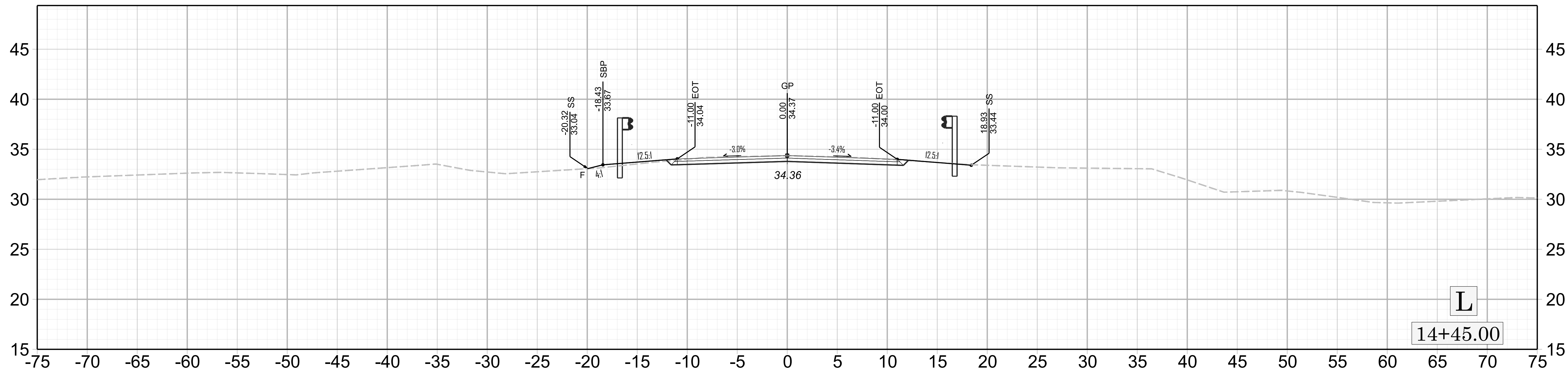
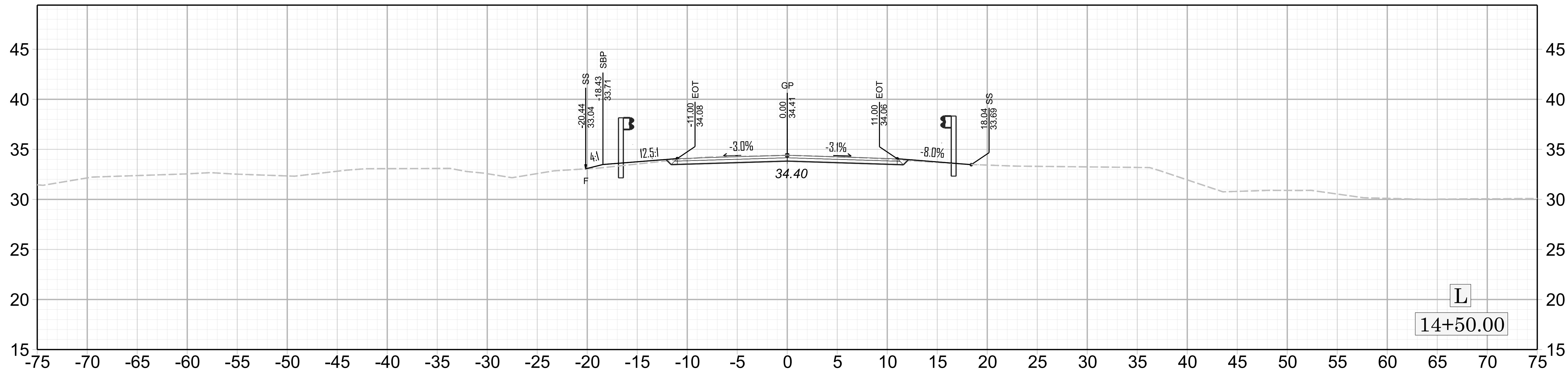
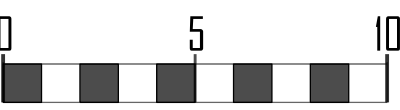
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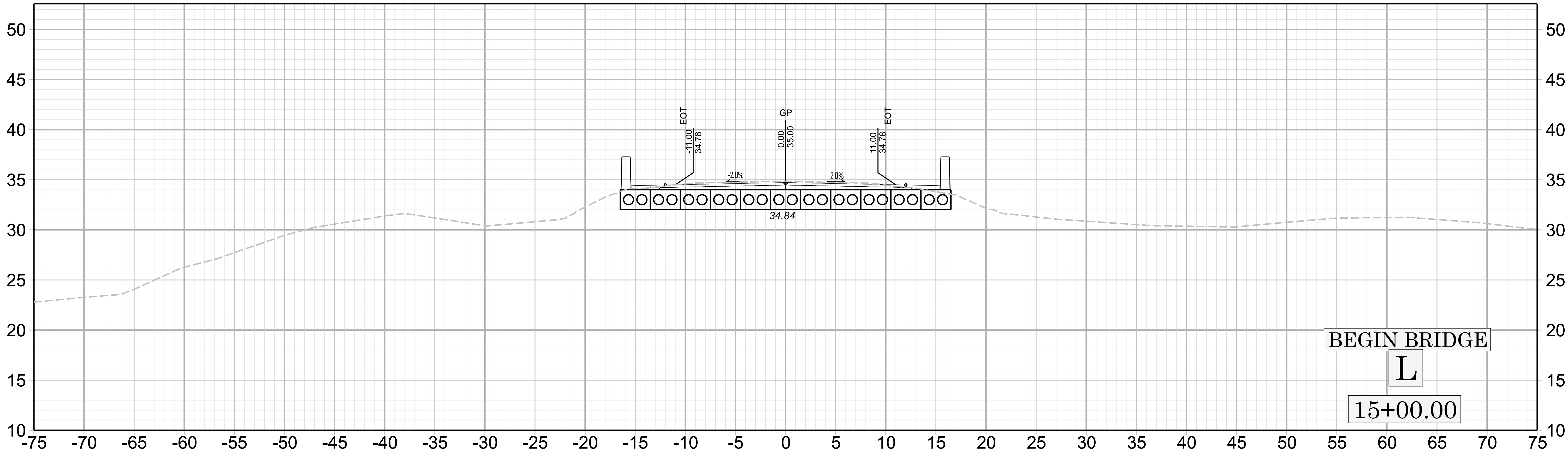
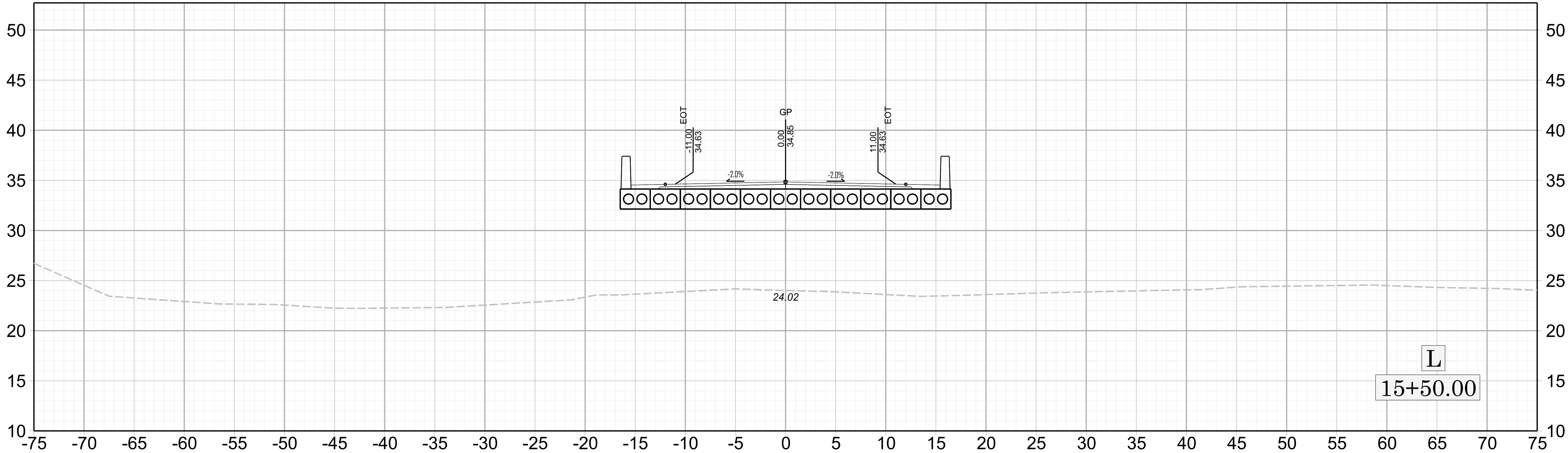
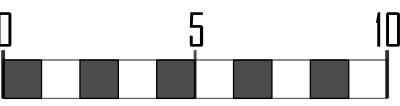


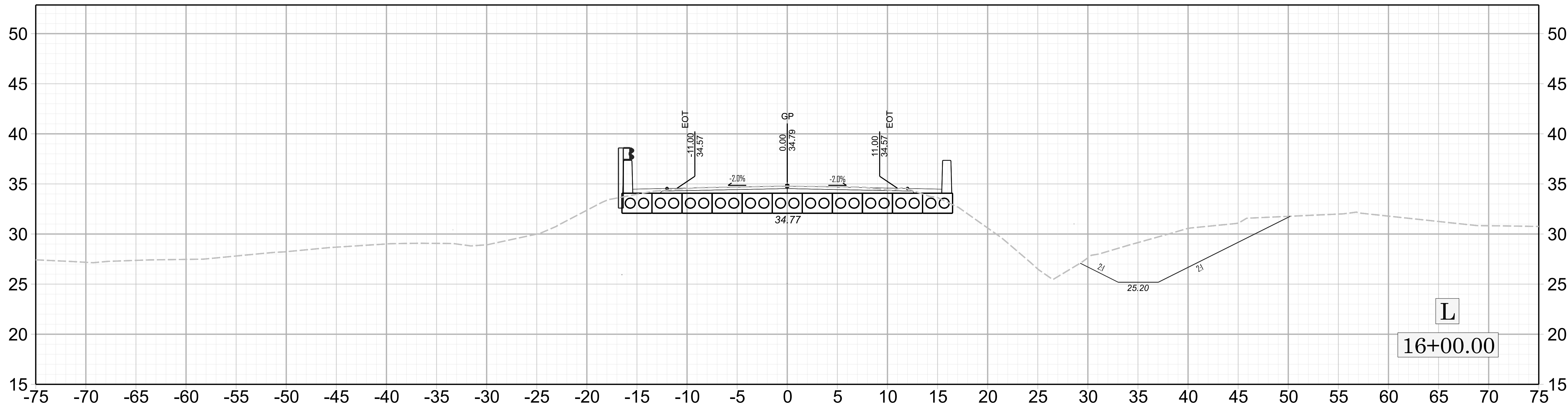
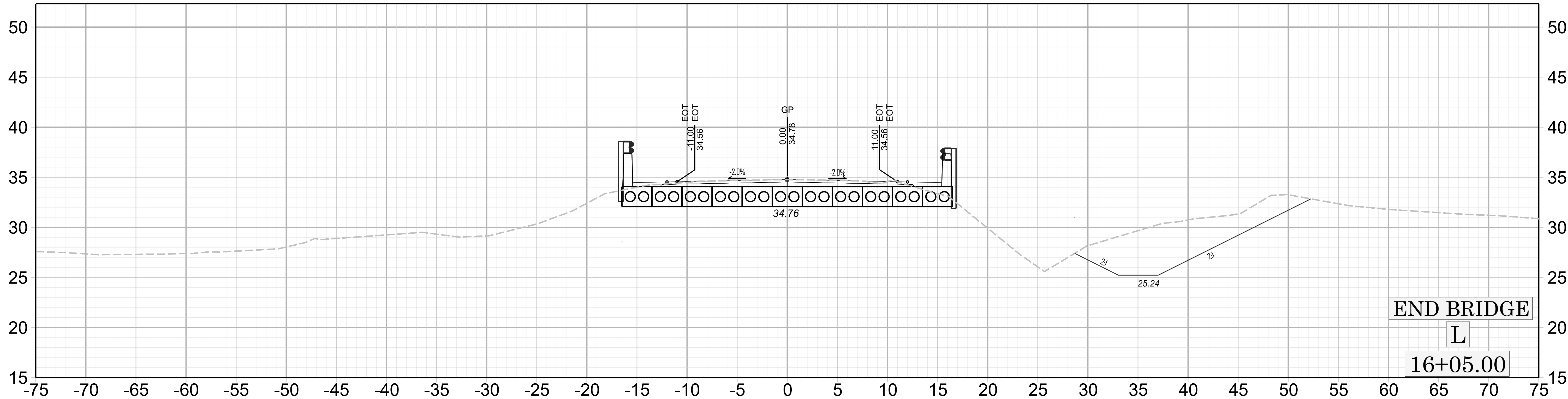
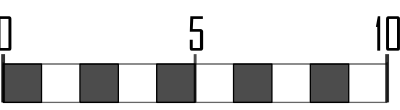
Note:
Approximate quantities only. Fine Grading, Clearing and Grubbing,
Unclassified Excavation, Borrow Excavation, and Removal & Breaking of
Existing Pavement will be paid for at the contract lump sum price for
"Grading."

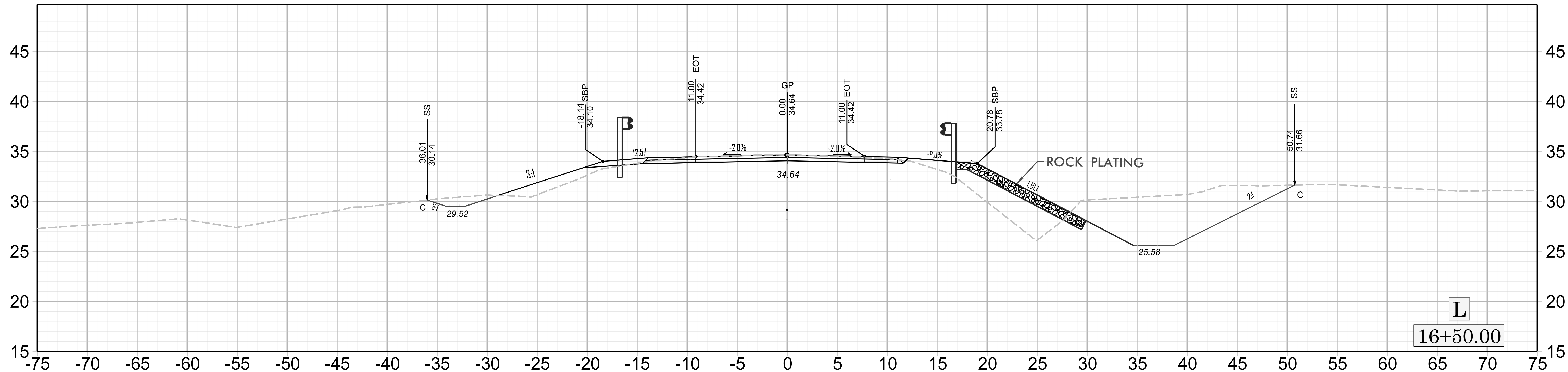
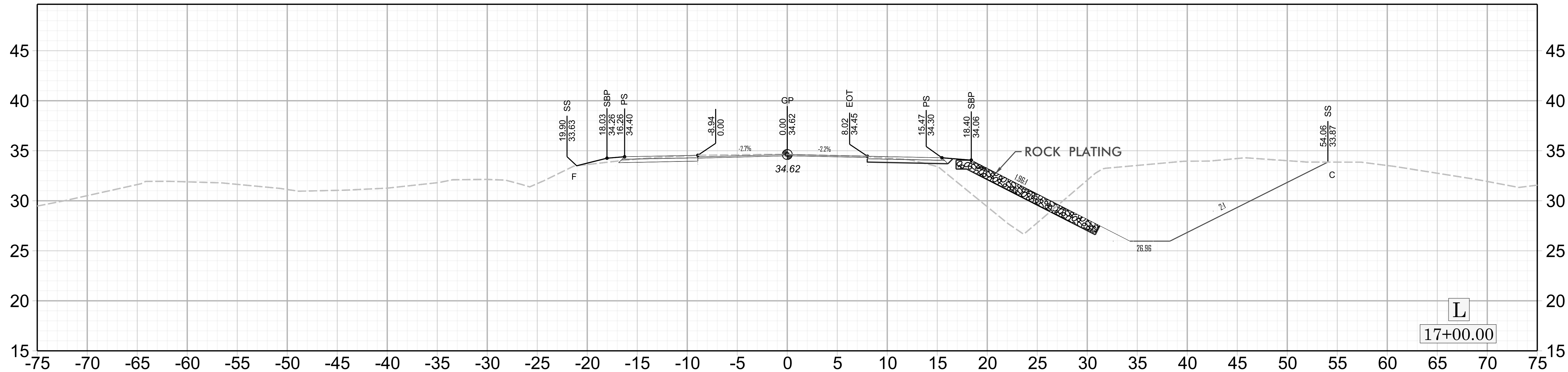
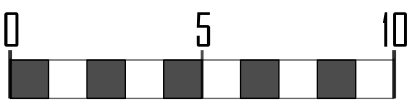


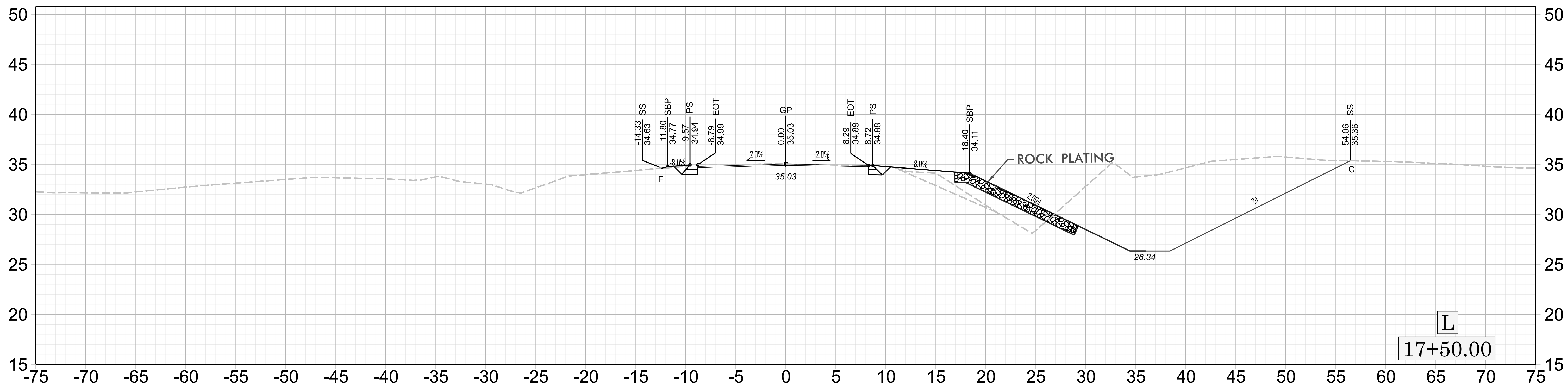
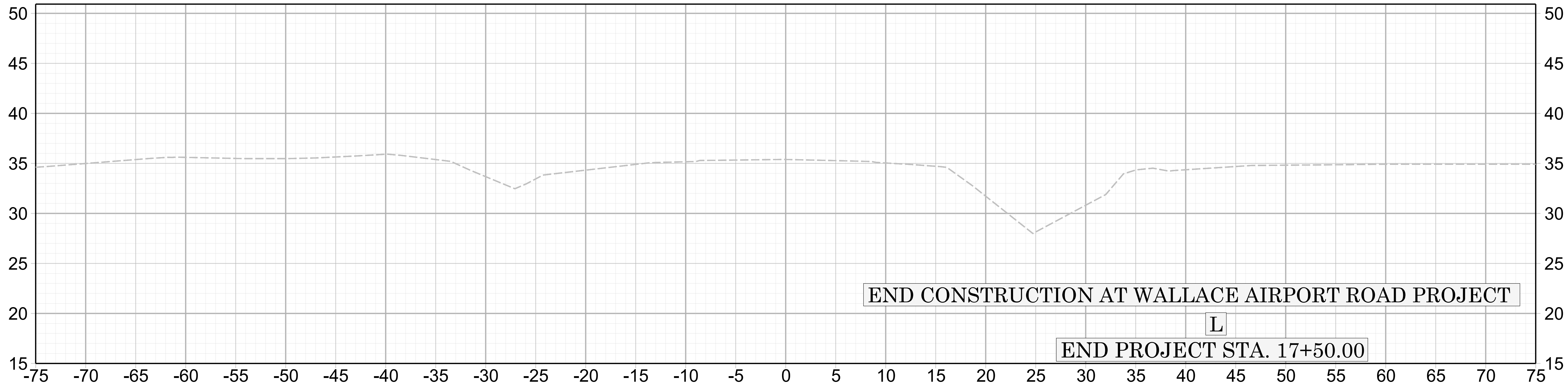
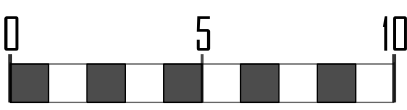


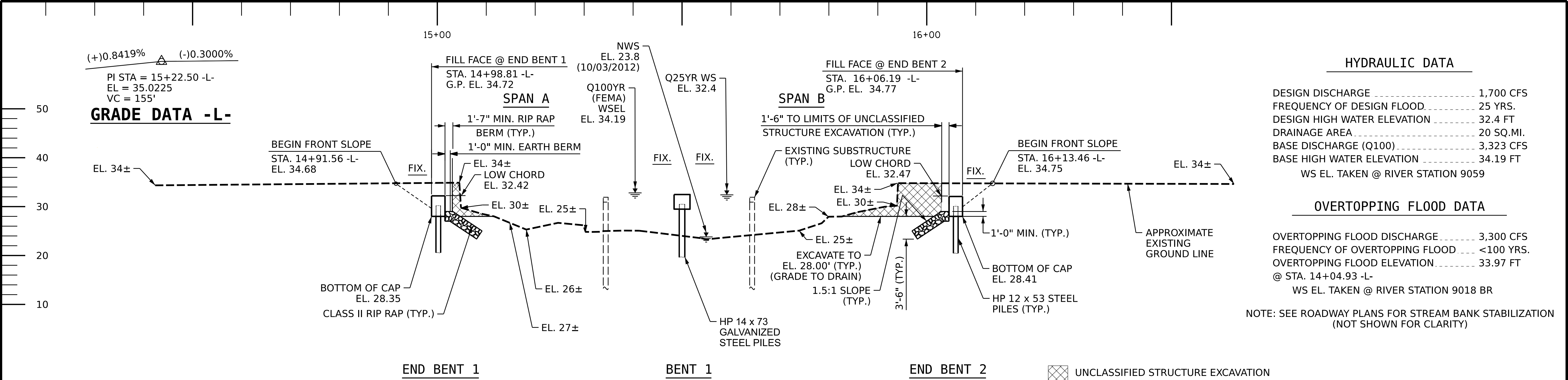












HYDRAULIC DATA

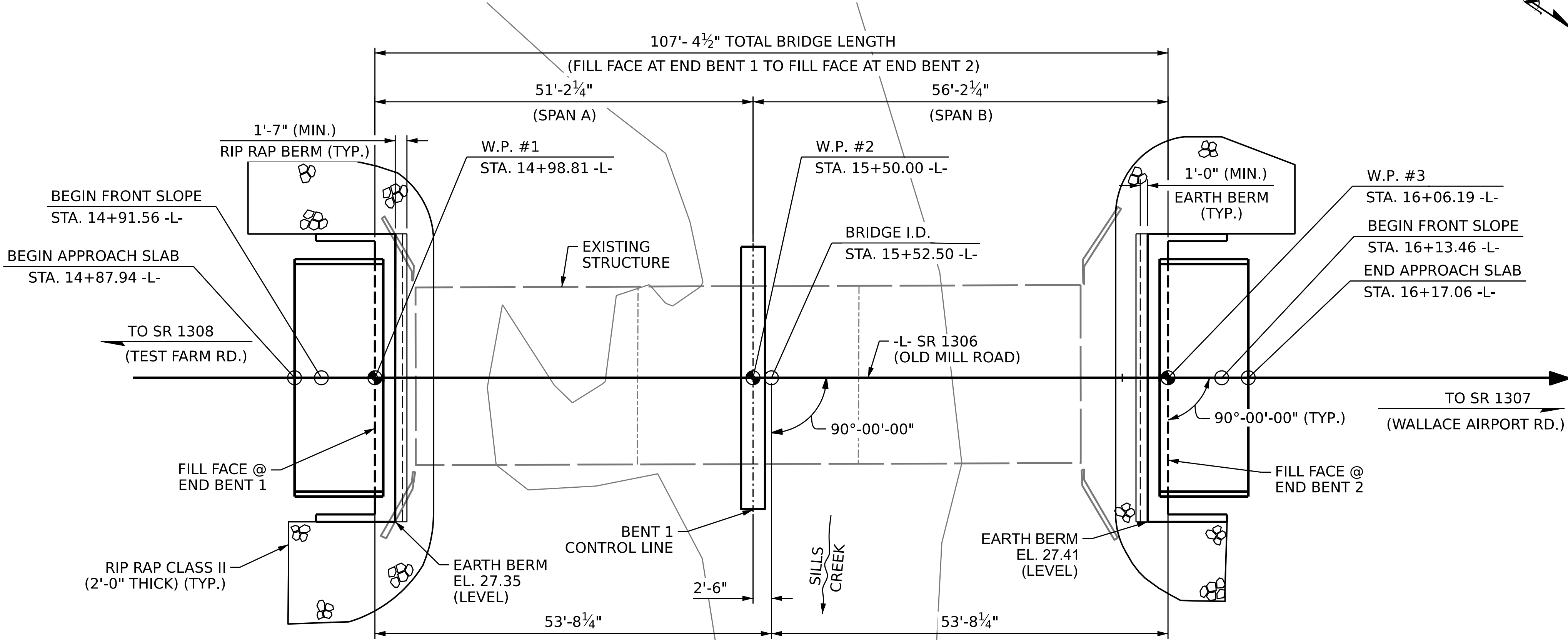
DESIGN DISCHARGE	1,700 CFS
FREQUENCY OF DESIGN FLOOD	25 YRS.
DESIGN HIGH WATER ELEVATION	32.4 FT
DRAINAGE AREA	20 SQ.MI.
BASE DISCHARGE (Q100)	3,323 CFS
BASE HIGH WATER ELEVATION	34.19 FT
WS EL. TAKEN @ RIVER STATION 9059	

OVERTOPPING FLOOD DATA

OVERTOPPING FLOOD DISCHARGE	3,300 CFS
FREQUENCY OF OVERTOPPING FLOOD	<100 YRS.
OVERTOPPING FLOOD ELEVATION	33.97 FT
@ STA. 14+04.93 -L-	
WS EL. TAKEN @ RIVER STATION 9018 BR	

NOTE: SEE ROADWAY PLANS FOR STREAM BANK STABILIZATION (NOT SHOWN FOR CLARITY)

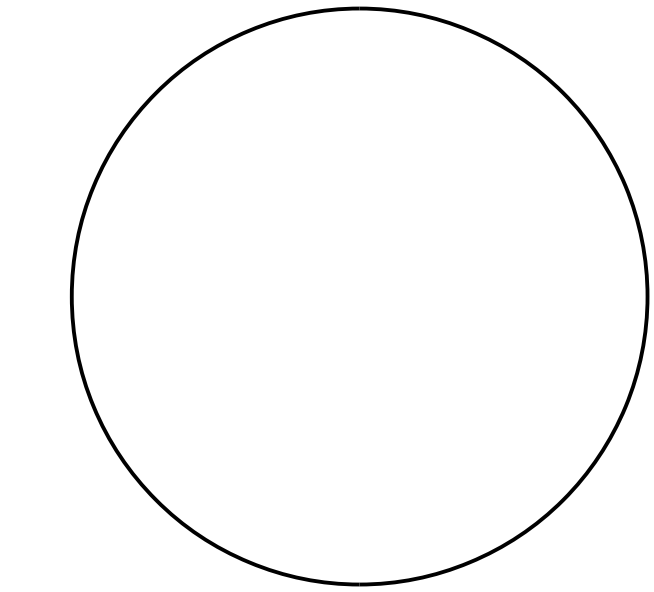
SECTION ALONG -L-



PLAN

(FOR CLARITY, PILES NOT SHOWN IN PLAN VIEW)

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS



PROJECT NO. **BP3-R011**

PENDER COUNTY

STATION: **15+52.50 -L-**

SHEET 1 OF 4 REPLACE BRIDGE 700068

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

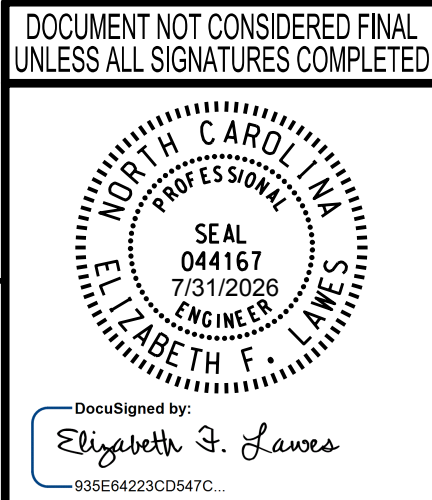
GENERAL DRAWING
BRIDGE ON SR 1306 (OLD MILL RD)
OVER SILLS CREEK
BETWEEN SR 1307 AND SR 1308

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

DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER	E. LAWES	DATE :	DEC 2025



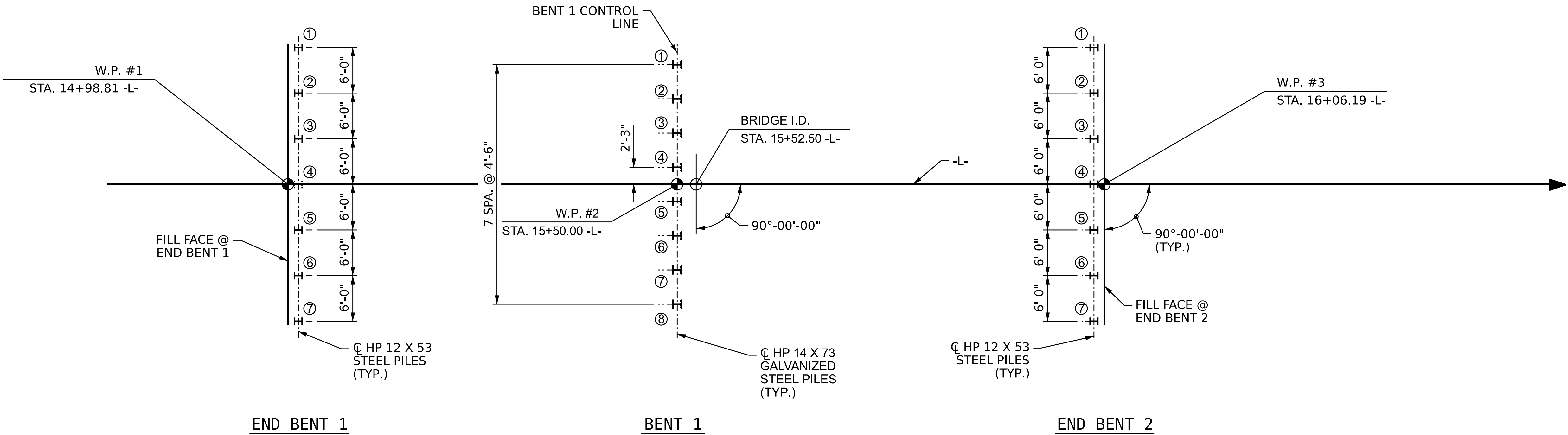
WSP USA Inc.
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
LICENSE NO. F-0165



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 30,000 FT-LBS TO 60,000 FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT BENT NO. 1. 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.



FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO THE CENTERLINE OF PILES.

PROJECT NO. **BP3-R011**
PENDER COUNTY
STATION: **15+52.50 -L-**

SHEET 2 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
GENERAL DRAWING BRIDGE ON SR 1306 (OLD MILL RD) OVER SILLS CREEK BETWEEN SR 1307 AND SR 1308					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 20

DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER	E. LAWES	DATE :	DEC 2025

7/31/2026
*****SDCN*****
USEL 722989

wsp	WSP USA Inc. 434 FAYETTEVILLE STREET SUITE 1500 RALEIGH, NC 27601 TEL: 1.919.836.4040 LICENSE NO. F-0165
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
SEAL 044167 7/31/2026 ENGINEER ELIZABETH F. LAWES
DocuSigned by: Elizabeth F. Lawes 835E64223CD547C...

SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Number of Piles per Line	Factored Resistance per Pile KIPS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Driven Piles			Predrilling for Piles **			Drilled-In Piles		
						Minimum Pile Tip (Tip No Higher Than) Elevation FT	Required Driving Resistance (RDR)* per pile KIPS	Pile Redrives Quantity EACH	Predrilling Length per Pile LIN FT	Predrilling Elevation (Elevation Not To Predrill Below) FT	Maximum Predrilling Diameter INCHES	Pile Excavation (Bottom of Hole) Elevation FT	Pile Excavation Not In Soil per Pile LIN FT	Pile Excavation In Soil per Pile LIN FT
End Bent 1, Piles 1-7	7	134	29.35	65			195	4						
Bent 1, Piles 1-8	8	235	30.48	85	16.00	-20.00	340	4						
End Bent 2, Piles 1-7	7	142	29.41	65			205	4						
TOTAL QUANTITY:								12						

* $RDR = \frac{Factored\ Resistance + Factored\ Drag\ Load + Factored\ Dead\ Load}{Dynamic\ Resistance\ Factor} + Nominal\ Drag\ Load\ Resistance + Nominal\ Resistance\ from\ Scourable\ Material$

** 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.

PILE DESIGN INFORMATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile KIPS	Factored Drag Load per Pile KIPS	Factored Dead Load * per Pile KIPS	Dynamic Resistance Factor	Nominal Drag Resistance per Pile KIPS	Nominal Scour Resistance per Pile KIPS
End Bent 1, Piles 1-7	134			0.70		
Bent 1, Piles 1-8	235			0.70		1
End Bent 2, Piles 1-7	142			0.70		

* 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 (e.g., "Bent 1 - Bent 3")	DPT Test Pile Length FT	DPT Testing Quantity EACH
End Bent 1	70	1
End Bent 2	70	
Bent 1	90	1
TOTAL QUANTITY:		2

Pile Order Lengths for Concrete Piles	
End Bent / Bent No (e.g., "Bent 1 - Bent 3")	Pile Order Length Basis* EST or DPT

* EST = Pile order lengths from estimated pile lengths; DPT = Pile order lengths based on Dynamic Pile Testing. For groups of end bents/bents with pile order lengths based on DPT testing, the first end bent/bent no. listed for each group is the representative end bent/bent with the DPT.

PROJECT NO. BP3.R011 (SF-700068)

PENDER COUNTY

STATION: 15+52.50 -L-

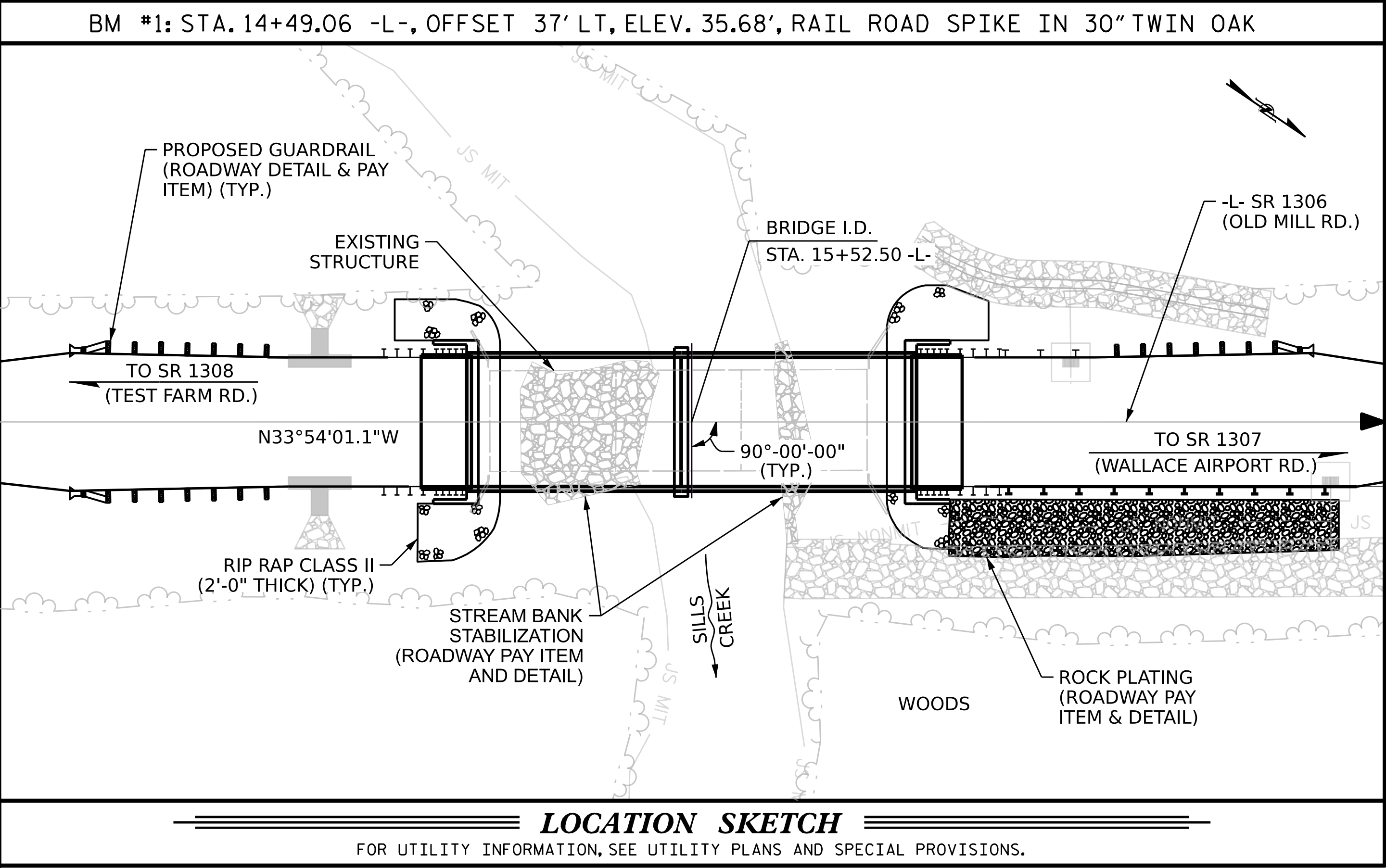
SHEET 3 OF 4

NOTES:

- The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Thein Tun Zan, #030943) on 010-27-2025.
- 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 and Pipe Pile Plates when necessary.

 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PILE FOUNDATION TABLES SEAL 044167 ENGINEER ELIZABETH F. LAWES DocuSigned by: <i>Elizabeth F. Lawes</i> SIGNATURE DATE 7/31/2026 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED <table><tr><th colspan="6">REVISIONS</th><th rowspan="2">SHEET NO. S-3</th></tr><tr><th>NO.</th><th>BY:</th><th>DATE:</th><th>NO.</th><th>BY:</th><th>DATE:</th></tr><tr><td>1</td><td></td><td></td><td>3</td><td></td><td></td><td rowspan="2">TOTAL SHEETS 20</td></tr><tr><td>2</td><td></td><td></td><td>4</td><td></td><td></td></tr></table>	REVISIONS						SHEET NO. S-3	NO.	BY:	DATE:	NO.	BY:	DATE:	1			3			TOTAL SHEETS 20	2			4		
	REVISIONS							SHEET NO. S-3																		
	NO.	BY:	DATE:	NO.	BY:	DATE:																				
	1			3			TOTAL SHEETS 20																			
2			4																							

8/26/21



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 CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STA. 15+ 52.50 -L-".

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S-1 SHALL BE EXCAVATED FOR A DISTANCE OF 29 FT LEFT AND RIGHT 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 30.5' SPANS AND ONE 30.0' SPAN OF PRESTRESSED CONCRETE TUB GIRDERS; 24'-2" CLEAR ROADWAY WIDTH, ON TIMBER ABUTMENTS AND LOCATED AT EXISTING STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT. DURING CONSTRUCTION OF THE PROPOSED BRIDGE, THE EXISTING BRIDGE SHALL BE CLOSED TO TRAFFIC AND SHALL REMAIN CLOSED TO TRAFFIC FOR THE DURATION OF THE BRIDGE REPLACEMENT WORK.

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

THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 19 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR INTERIOR BENT 1, ONLY PARTIAL GALVANIZING OF THE PILES IS REQUIRED. SEE INTERIOR BENT SHEETS (S) FOR THE REQUIRED GALVANIZED LENGTHS. PAYMENT FOR PARTIALLY GALVANIZED PILES WILL BE MADE UNDER THE CONTRACT UNIT PRICE FOR GALVANIZED STEEL PILES.

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

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

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

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

FOR CORED SLABS POST-TENSIONING, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL														
	REMOVAL OF EXISTING STRUCTURE @ STA. 15+52.50 -L-	ASBESTOS ASSESSMENT	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 12 x 53 STEEL PILES	PILE DRIVING EQUIPMENT SETUP FOR HP 14 x 73 STEEL PILES	HP 12 X 53 STEEL PILES		HP 14 X 73 GALVANIZED STEEL PILES		PILE REDRIVES	DYNAMIC PILE TESTING
	LUMP SUM	LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	No.	No.	No.	LIN. FT.	No.	LIN. FT.	EA.	EA.
SUPERSTRUCTURE					LUMP SUM									
END BENT 1				21.6		2,636	7		7	469			4	1
BENT 1				10.7		2,136		8			8	688	4	1
END BENT 2				21.6		2,636	7		7	469			4	
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	53.9	LUMP SUM	7,408	14	8	14	938	8	688	12	2

TOTAL BILL OF MATERIAL						
	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS	
	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	No.	LIN. FT.
SUPERSTRUCTURE	210.50			LUMP SUM	22	1,155
END BENT 1		110	123			
BENT 1						
END BENT 2		105	116			
TOTAL	210.50	215	239	LUMP SUM	22	1,155

DESIGNED BY: P. GALLAGHER DATE : JUN 2025
DRAWN BY: D. KULKARNI DATE : JUN 2025
CHECKED BY: P. GALLAGHER DATE : JUN 2025
DESIGN ENGINEER OF RECORD: E. LAWES DATE : DEC 2025

7/31/2026
*****SDCN*****
USEL 722989

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

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SEAL
044167
7/31/2026
ELIZABETH F. LAWES
ENGINEER

DocuSigned by:
Elizabeth F. Lawes
835E64223CD547C...

PROJECT NO. **BP3-R011**

PENDER COUNTY

STATION: **15+52.50 -L-**

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
BRIDGE ON SR 1306 (OLD MILL RD)
OVER SILLS CREEK
BETWEEN SR 1307 AND SR 1308

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

LOAD FACTORS:

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

NOTES:

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

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

COMMENTS:

1.
2.
3.
4.

CONTROLLING LOAD RATING

1

DESIGN LOAD RATING (HL-93)

2

DESIGN LOAD RATING (HS-20)

3

LEGAL LOAD RATING **

4

EMERGENCY VEHICLE LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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

PROJECT NO. **BP3-R011**

PENDER COUNTY

STATION: **15+52.50 -L-**

DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER	E. LAWES	DATE :	DEC 2025
OF RECORD:			

DRAWN BY :	MAA I/08	REV. 11/12/08RR	MAA/GM
CHECKED BY :	GM/DI 2/08	REV. 10/1/11	MAA/GM
		REV. 04/23	BNB/AAI

7/29/2025
\\Corp.pbwan.net\us\CentralData\USRAG100\Jobs\30902581.004_BP3R011_Pender_068\Structures\2.0_Plans_CADD\2.0_90P\401.009_BP03-R011_SMU_LRFR1_700068.DGN
HobbsM

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DocuSigned by:
Elizabeth F. Lawes
835E64223CD547C...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
50' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-5
2			4			TOTAL SHEETS 20

STD. NO. 21LRFR1_90S_50L

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γDC	γDW
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

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

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

COMMENTS:

1.
2.
3.
4.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

4 EMERGENCY VEHICLE LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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

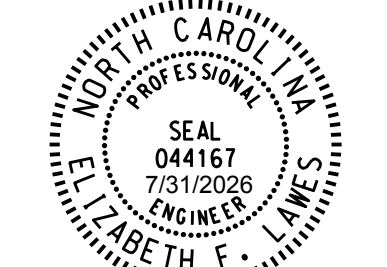
PROJECT NO. **BP3-R011**
PENDER COUNTY
STATION: **15+52.50 -L-**

DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER	E. LAWES	DATE :	DEC 2025
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DRAWN BY : MAA I/08		REV. 11/12/08RR	
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		REV. 04/23	
		MAA/GM	
		MAA/GM	
		BNB/AAI	



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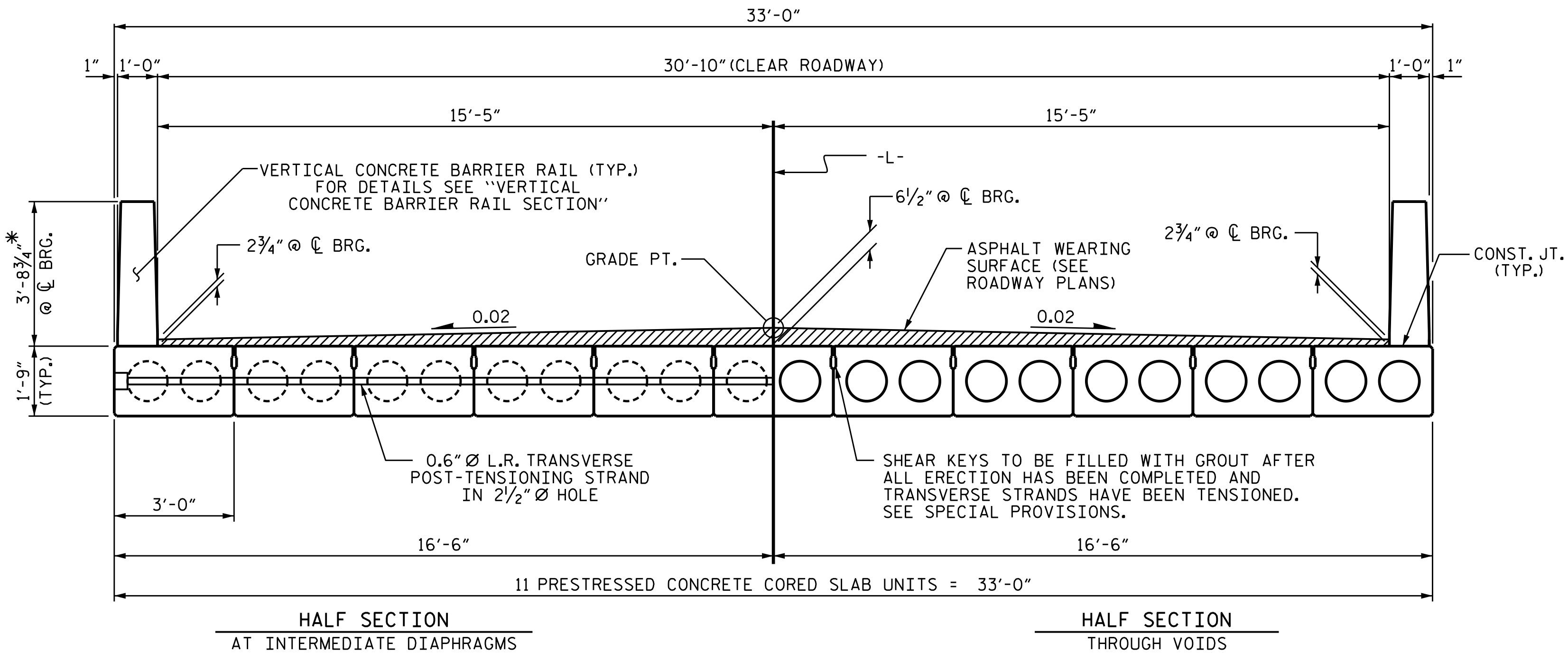
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DocuSigned by:
Elizabeth F. Lawes
835E64223CD547C...

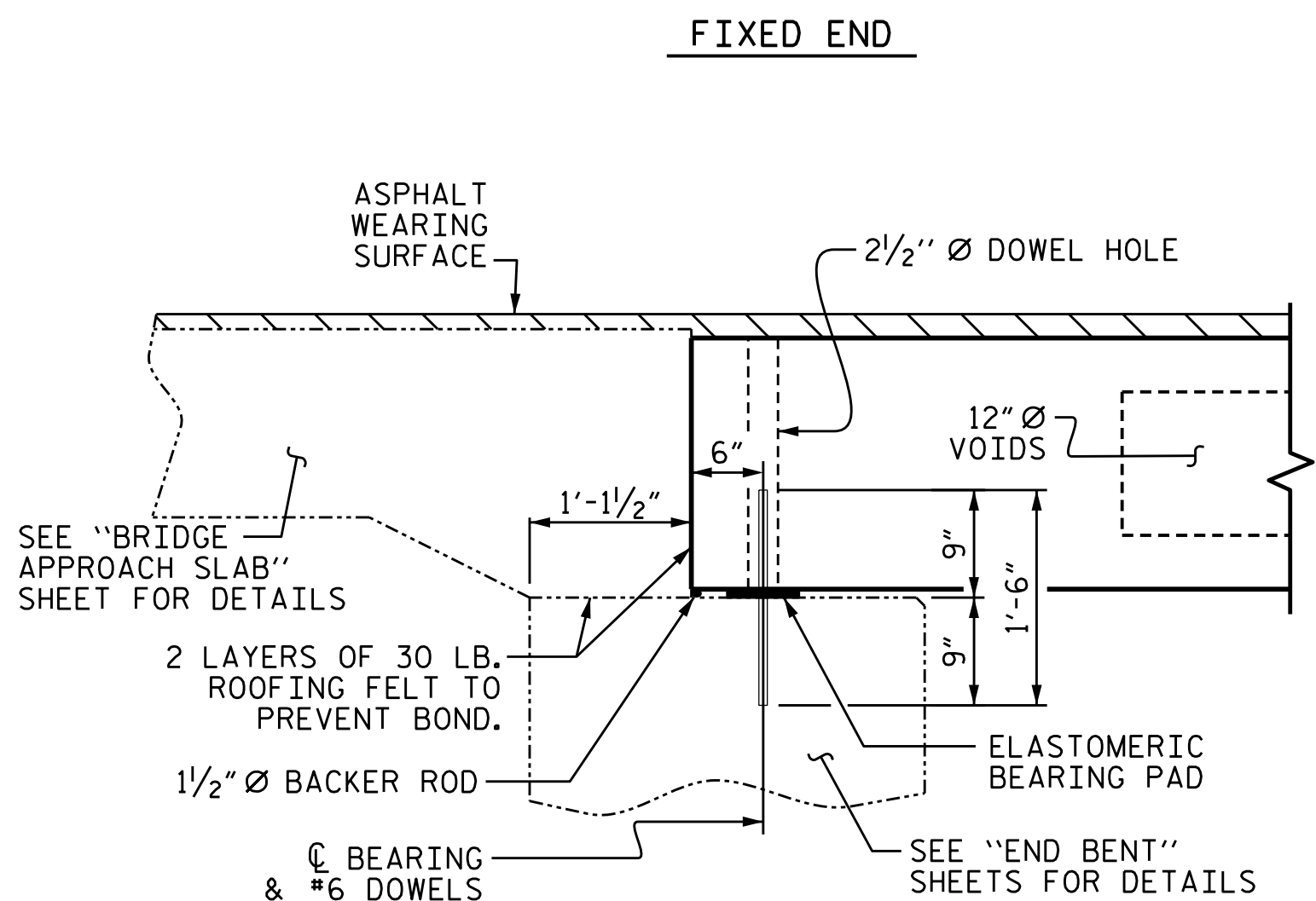
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
55' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	
1			3		S-6
2			4		
					TOTAL SHEETS 20

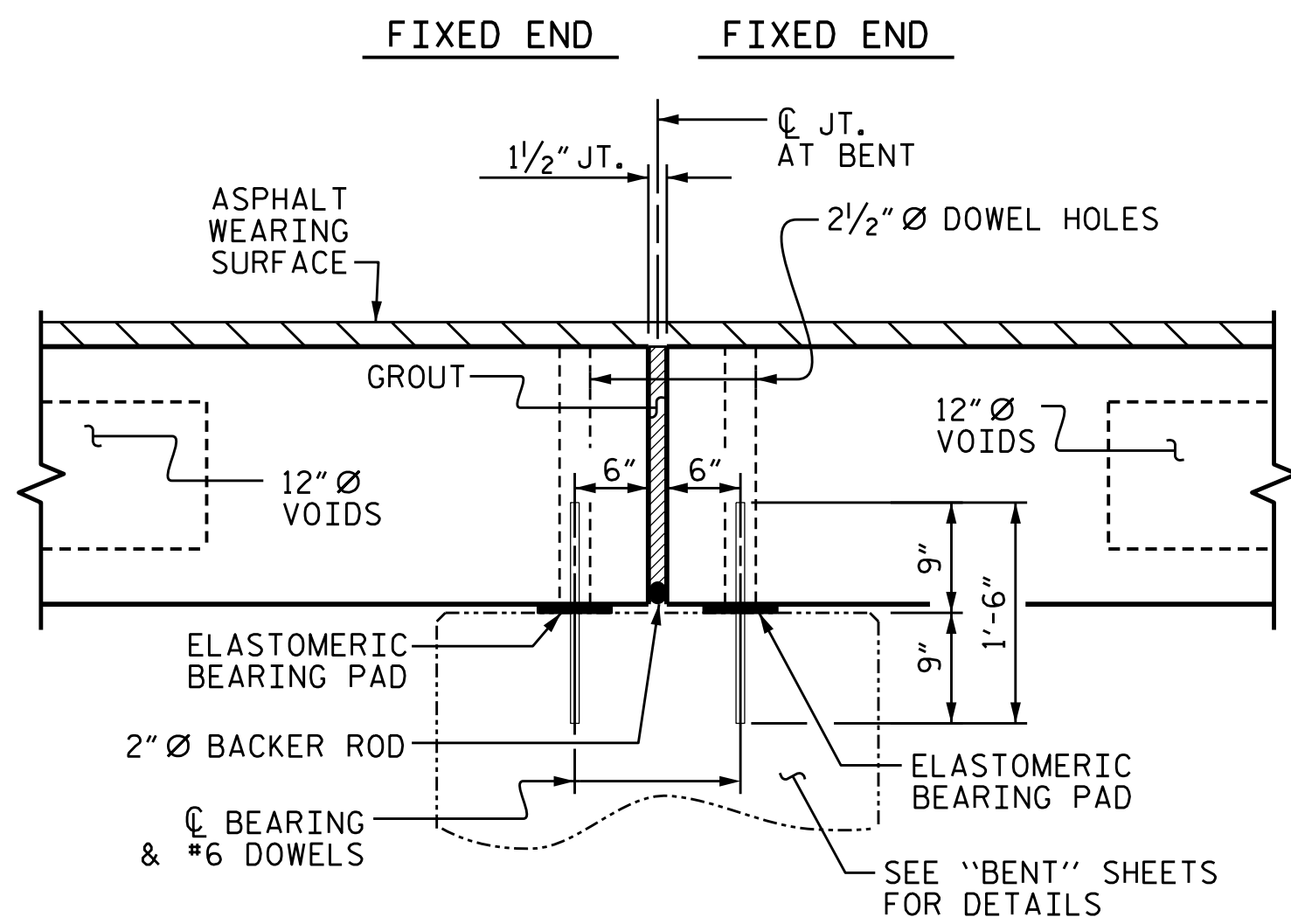


TYPICAL SECTION

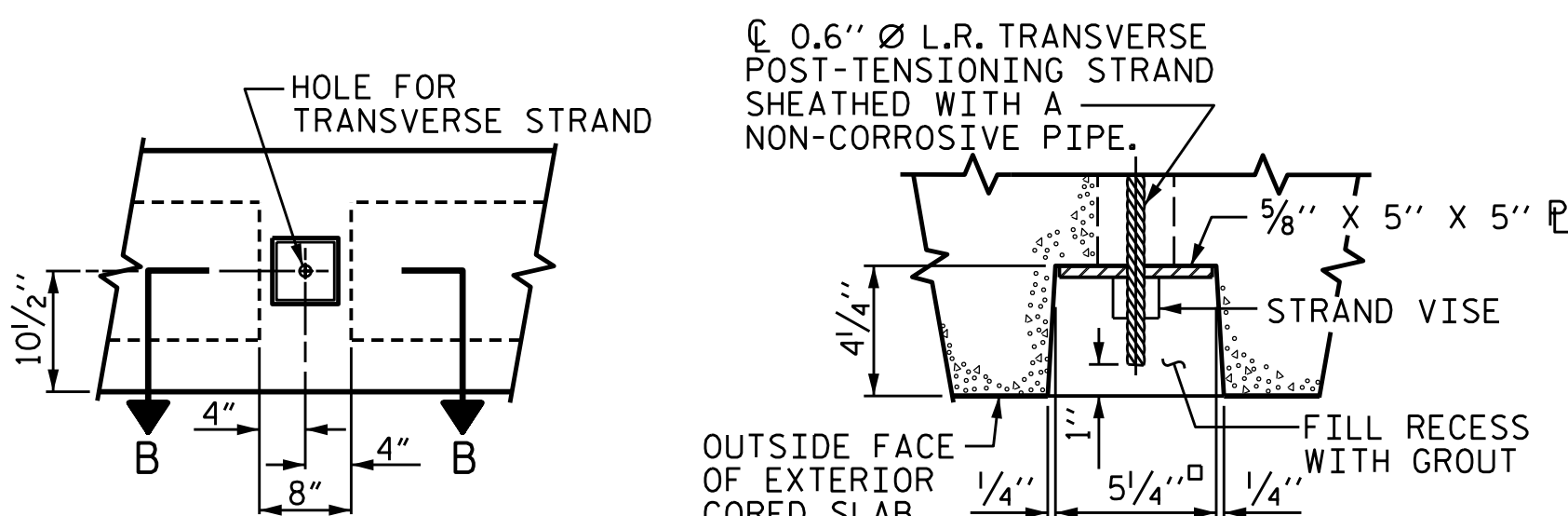
* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.



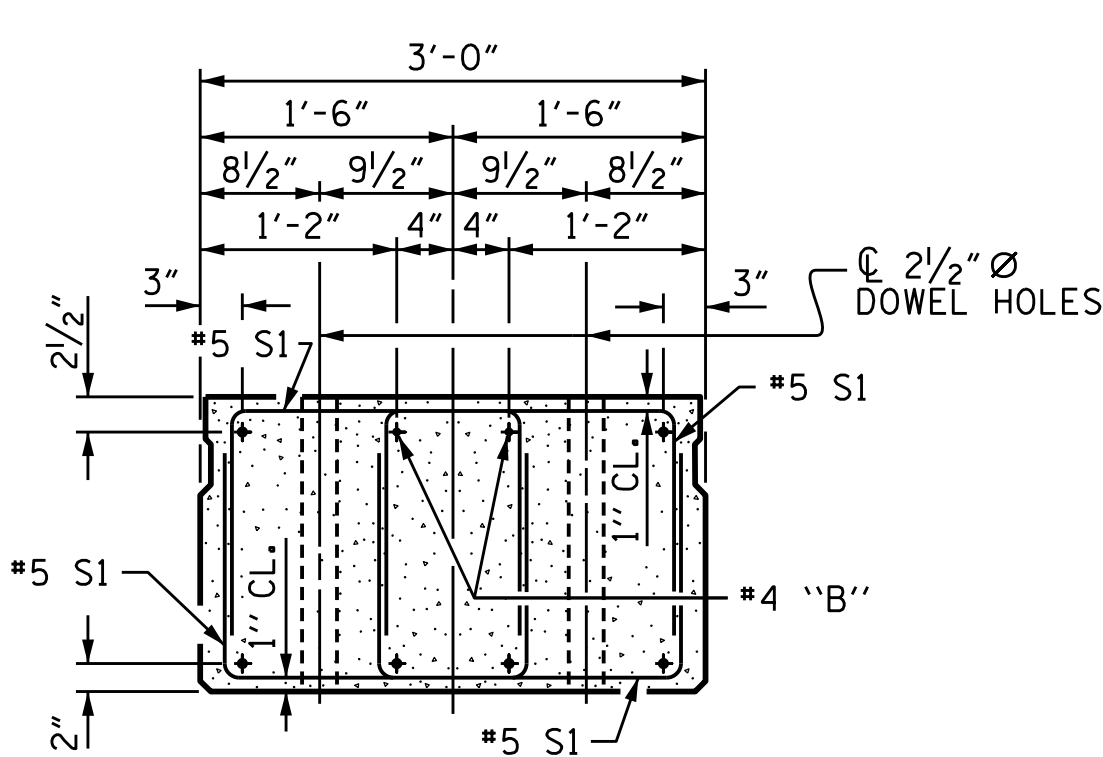
SECTION AT END BENT



SECTION AT BENT



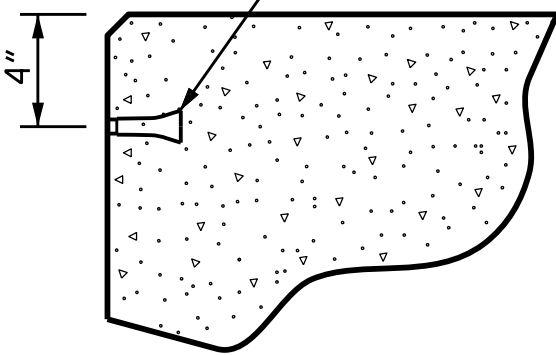
GROUTED RECESS AT END OF POST-TENSIONED STRAND OF CORED SLABS



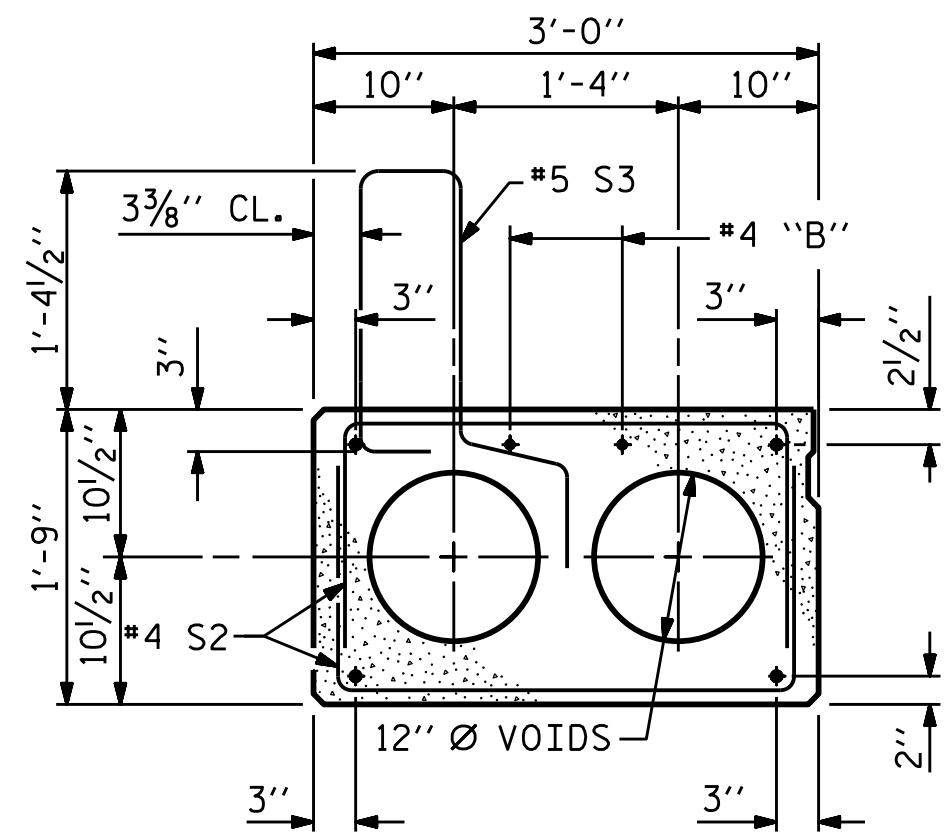
END ELEVATION

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.

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



THREADED INSERT DETAIL

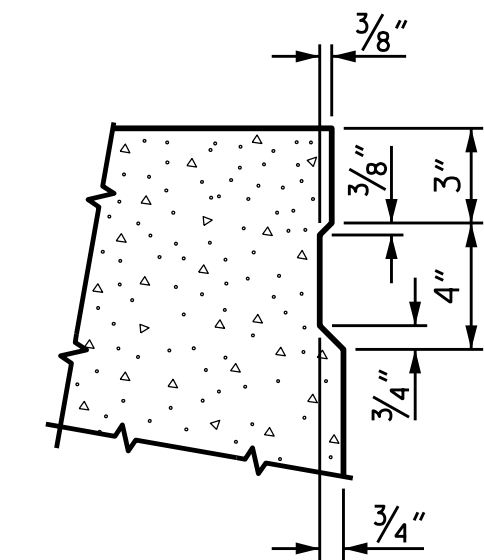


EXT. SLAB SECTION

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

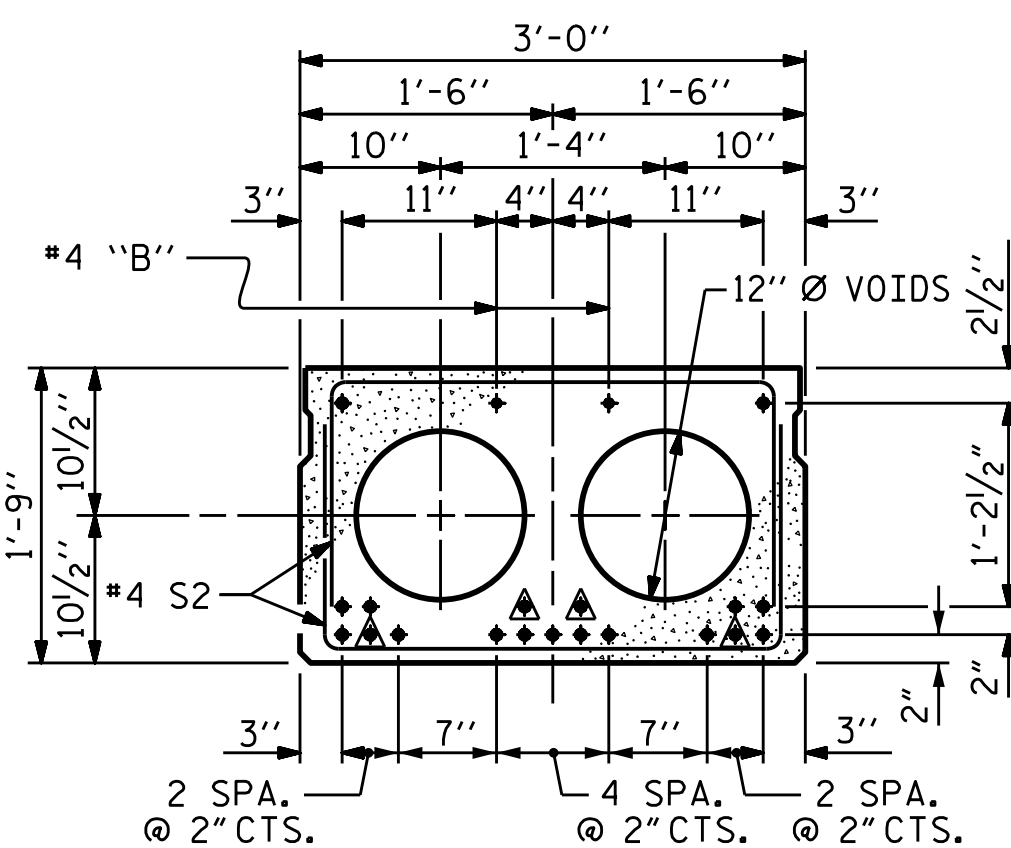
- ▲ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 6'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 2'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- OPTIONAL FULL LENGTH DEBONDED STRANDS. THESE STRANDS ARE NOT REQUIRED. IF THE FABRICATOR CHOOSES TO INCLUDE THESE STRANDS IN THE CORED SLAB UNIT, THE STRANDS SHALL BE DEBONDED FOR THE FULL LENGTH OF THE UNIT AT NO ADDITIONAL COST. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND



SHEAR KEY DETAIL

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



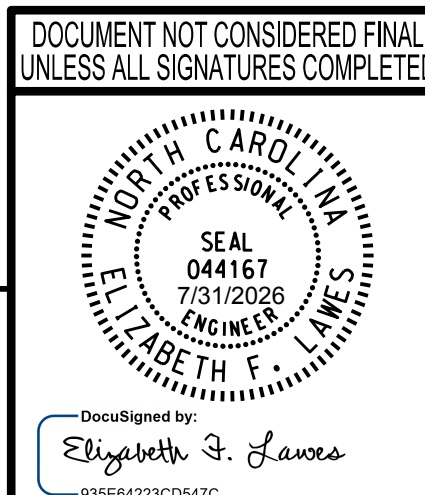
INTERIOR SLAB SECTION (50' & 55' UNIT)

(19 STRANDS REQUIRED)

0.6" Ø LOW RELAXATION STRAND LAYOUT



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



PROJECT NO. **BP3-R011**
PENDER COUNTY
STATION: **15+52.50 -L-**

SHEET 1 OF 5

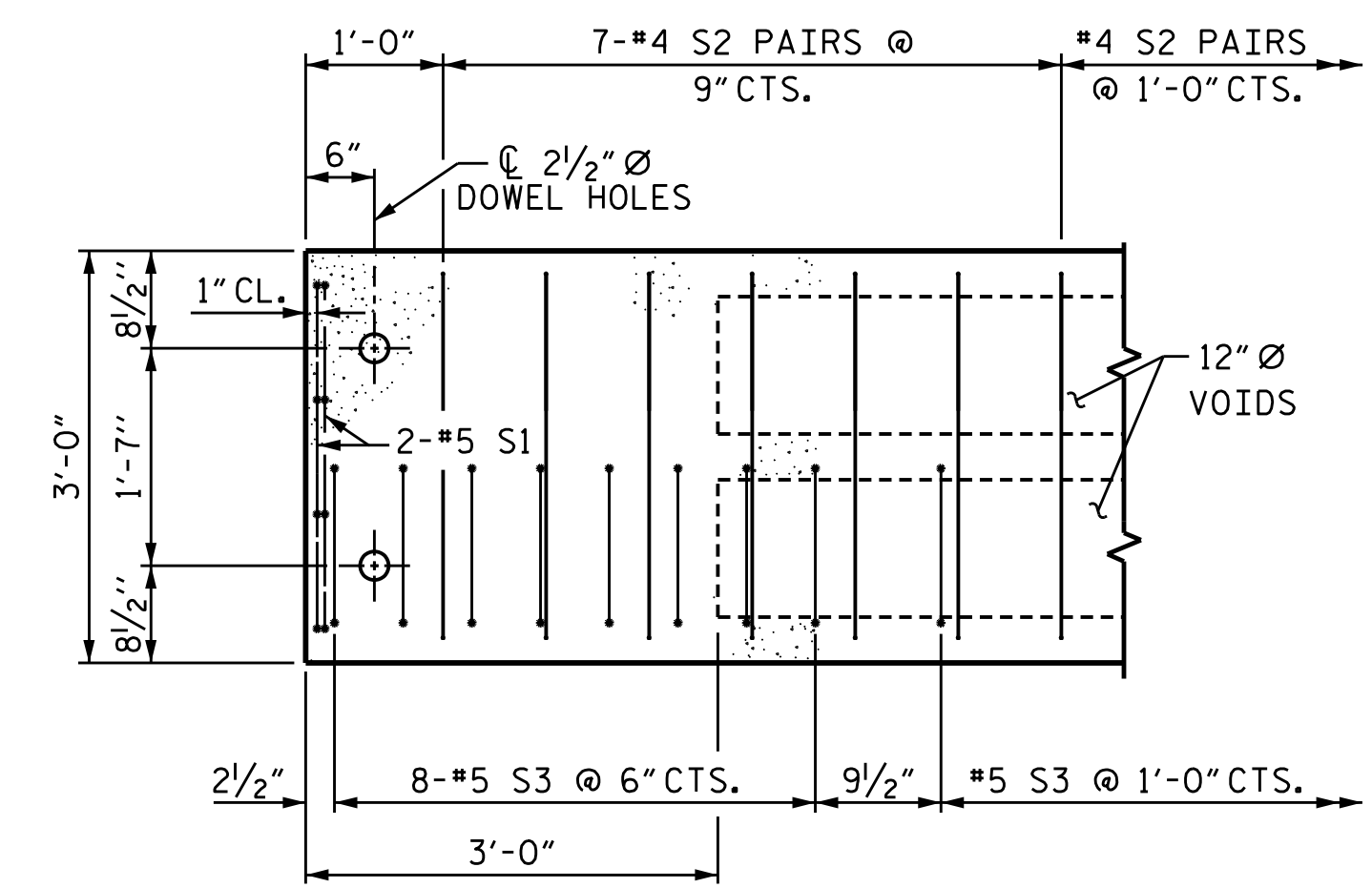
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
3'-0" X 1'-9"
PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-7
2			4			TOTAL SHEETS 20

STD. NO. 21" PCS2_33_90S

DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER	E. LAWES	DATE :	DEC 2025

DRAWN BY :	DGE	5/09	REV. 8/14	MAA/TMG
CHECKED BY :	BCH	6/09	REV. 5/23	BNB/AAI



(TYPICAL EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.

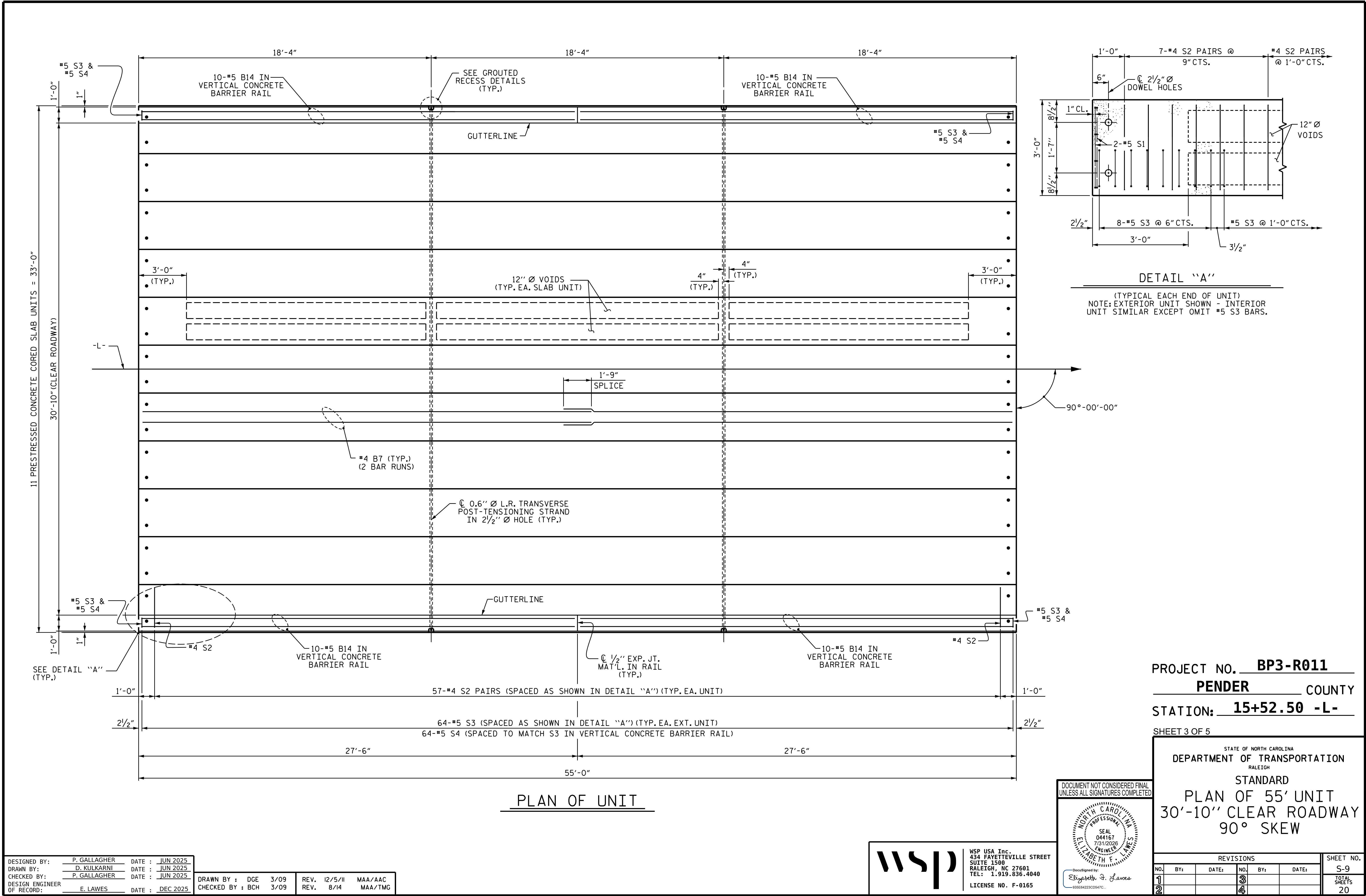
#5 S3 &
#5 S4

SHEET 2 OF 5

REVISIONS						SHEET NO. S-8
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 20
2			4			

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

STD. NO. 21" PCS_33_90S_50L



DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER	E. LAWES	DATE :	DEC 2025
OF RECORD:			

DRAWN BY :	DGE	3/09	REV. 12/5/11	MAA/AAC
CHECKED BY :	BCH	3/09	REV. 8/14	MAA/TMG

wsp

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

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SEAL
044167
7/31/2026
PROFESSIONAL ENGINEER
NORTH CAROLINA
ELIZABETH F. LAWES

PROJECT NO. **BP3-R011**

PENDER COUNTY

STATION: **15+52.50 -L-**

SHEET 3 OF 5

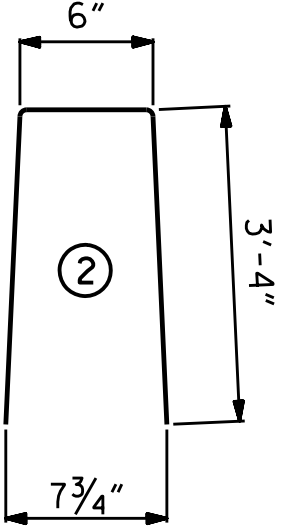
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
PLAN OF 55' UNIT
30'-10" CLEAR ROADWAY
90° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			20

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	50' UNIT					
*B13	40		#5	STR	24'-7"	1026
*S4	116		#5	2	7'-2"	867
*EPOXY COATED REINFORCING STEEL				LBS.		1893
CLASS AA CONCRETE				CU.YDS.		12.8
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		100.25

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	55' UNIT					
*B14	40		#5	STR	27'-1"	1130
*S4	128		#5	2	7'-2"	957
*EPOXY COATED REINFORCING STEEL				LBS.		2087
CLASS AA CONCRETE				CU.YDS.		14.1
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		110.25

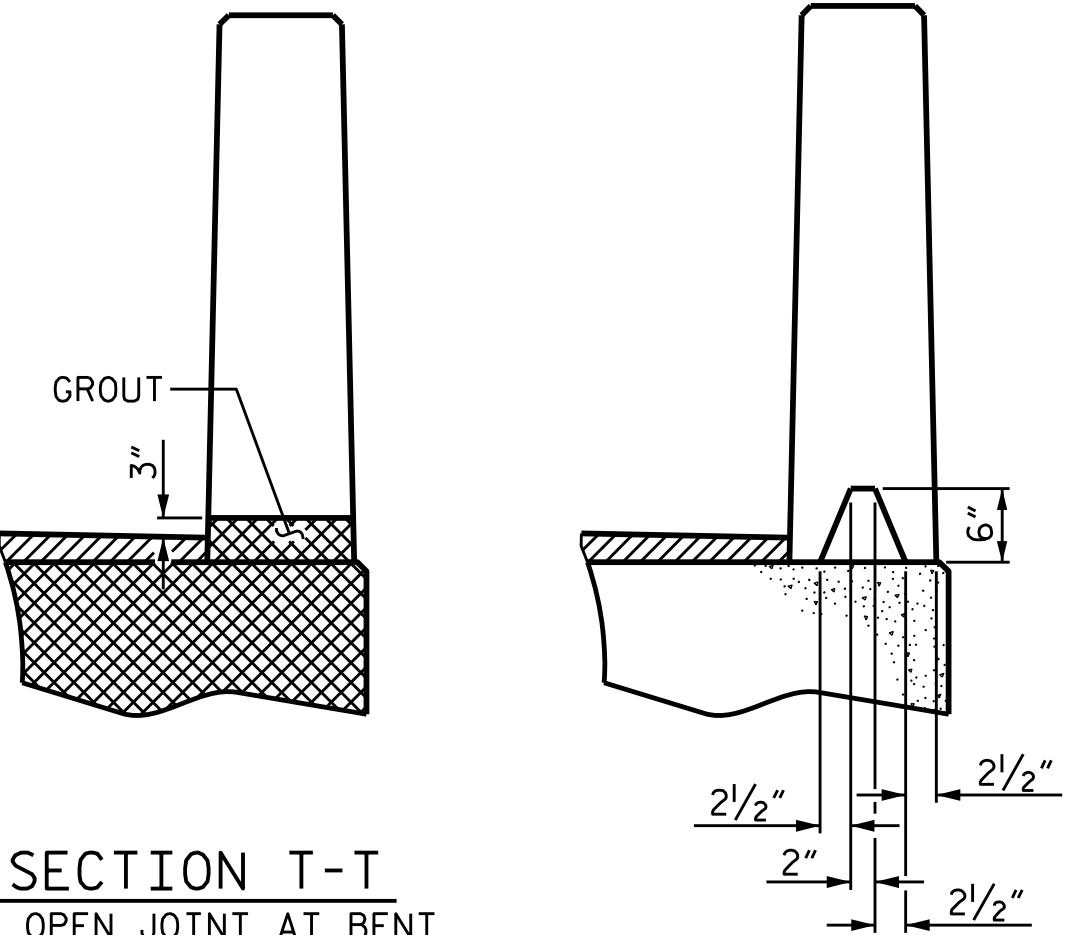
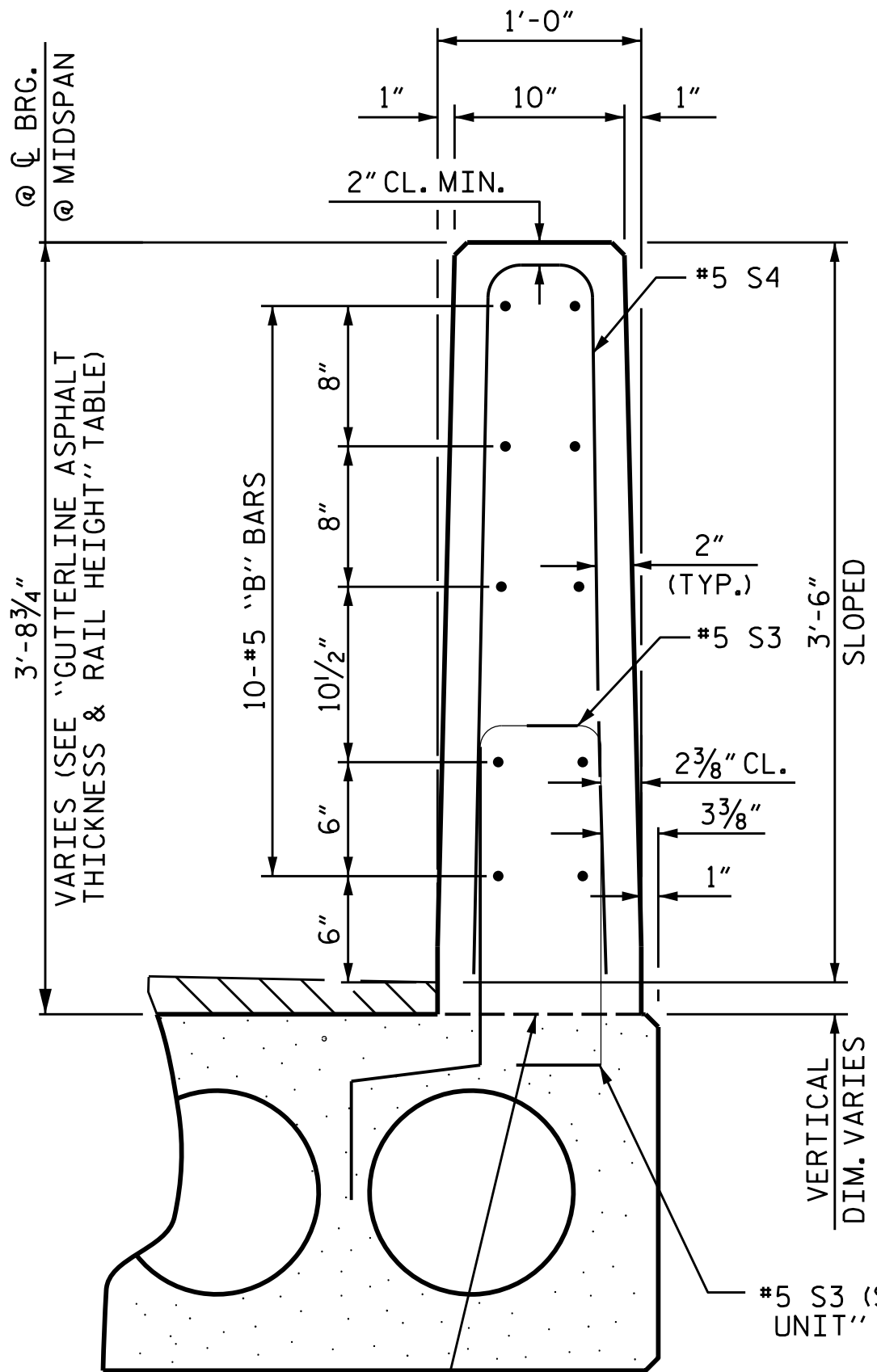
BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT

	ASPHALT OVERLAY THICKNESS	RAIL HEIGHT
	@ MID-SPAN	@ MID-SPAN
50' UNITS	1 7/8"	3'-7 7/8"
55' UNITS	1 5/16"	3'-7 5/16"

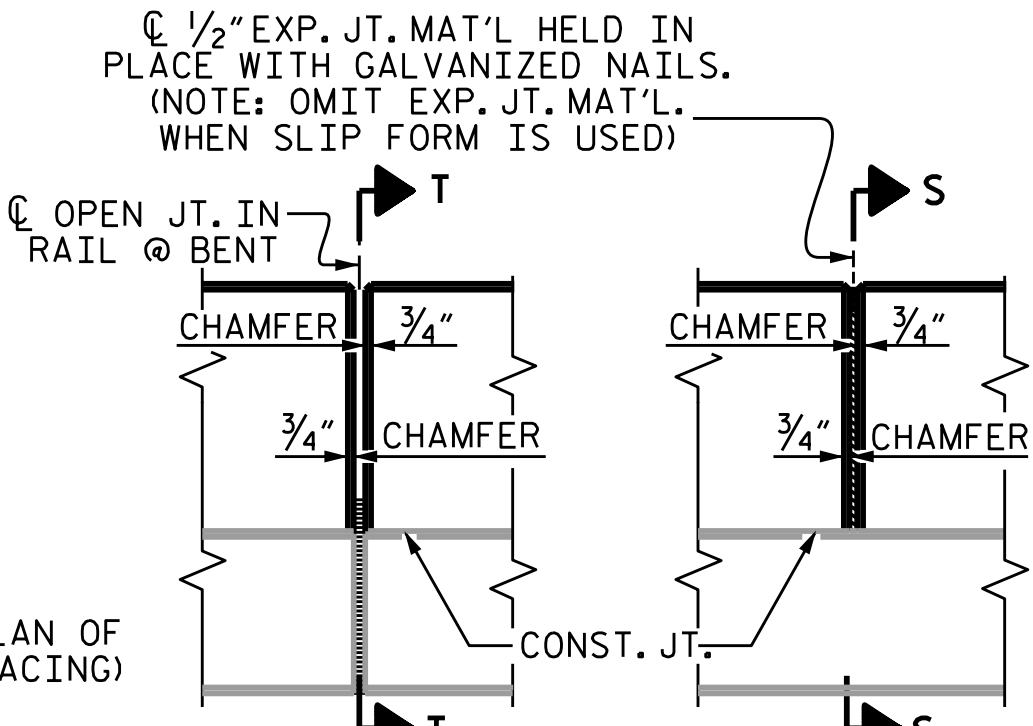


SECTION T-T

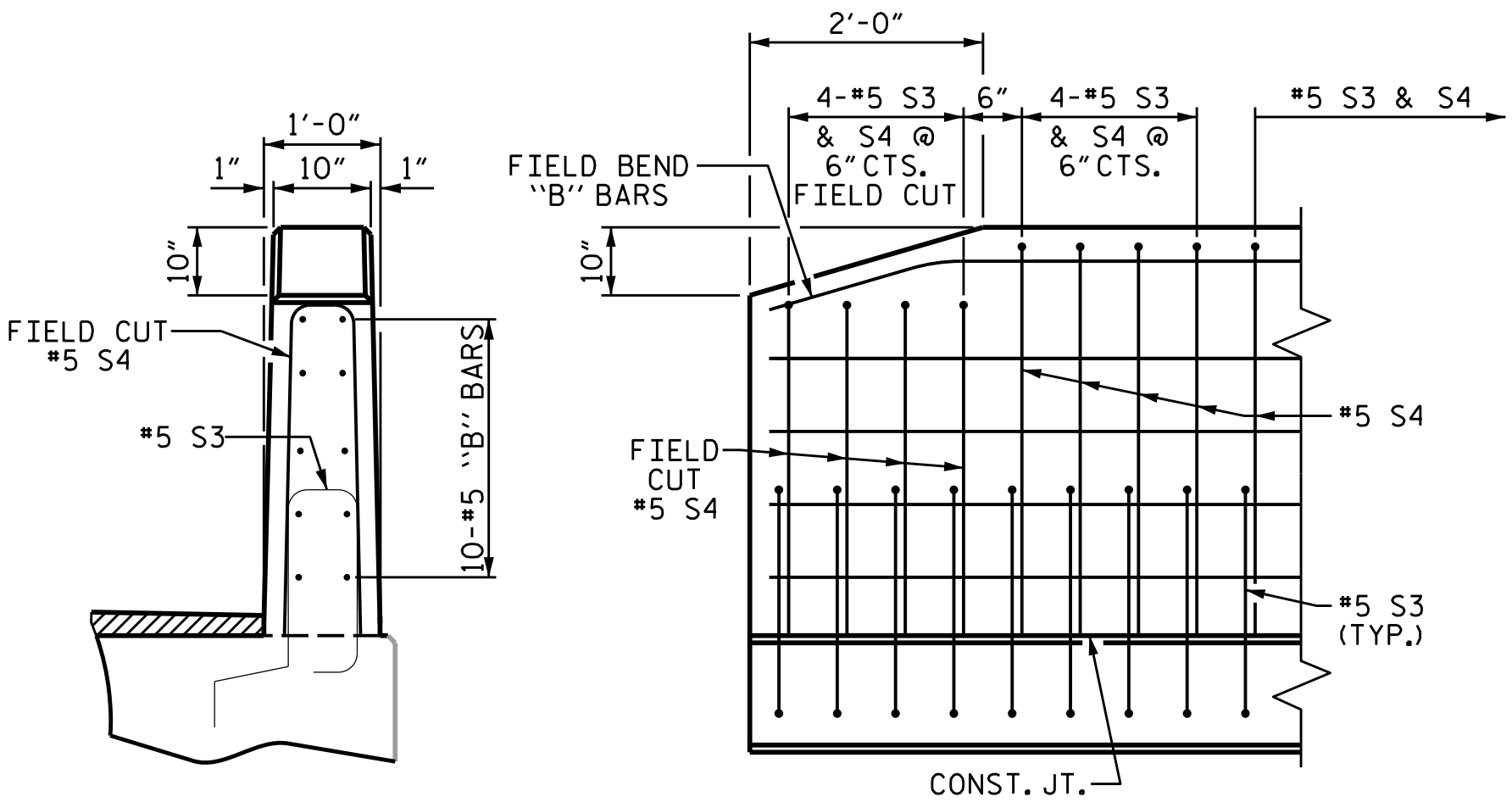
AT OPEN JOINT AT BENT
(THIS IS TO BE USED WHERE
FOAM JOINT IS NOT USED)

SECTION S-S

AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY
WHEN SLIP FORM IS USED)



ELEVATION AT EXPANSION JOINTS



END VIEW

SIDE VIEW

END OF RAIL DETAILS

VERTICAL CONCRETE BARRIER RAIL SECTION

PROJECT NO. **BP3-R011**

PENDER COUNTY

STATION: **15+52.50 -L-**

SHEET 5 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
3'-0" X 1'-9"
PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW

REVISIONS

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

SHEET NO.

S-11

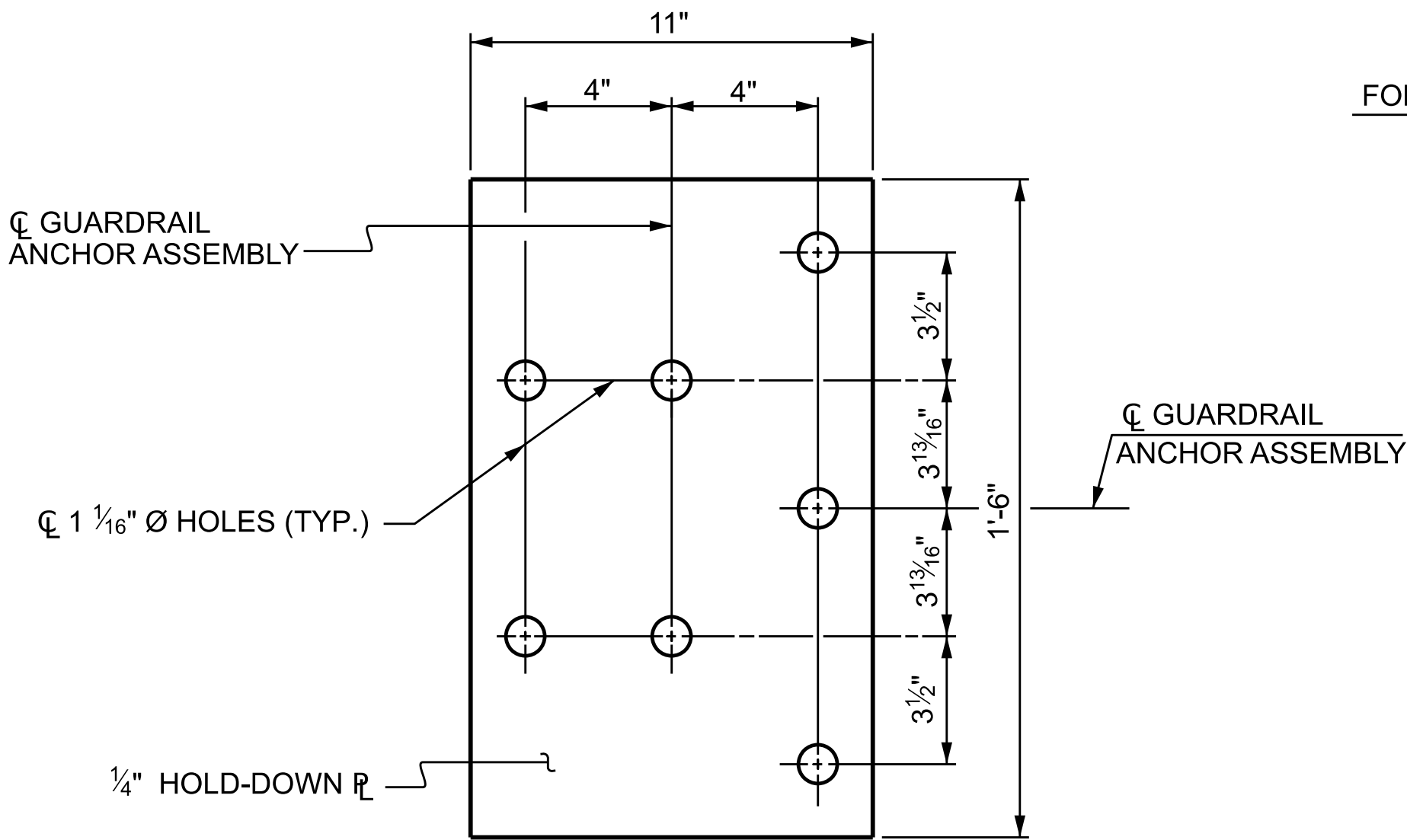
TOTAL
SHEETS
20



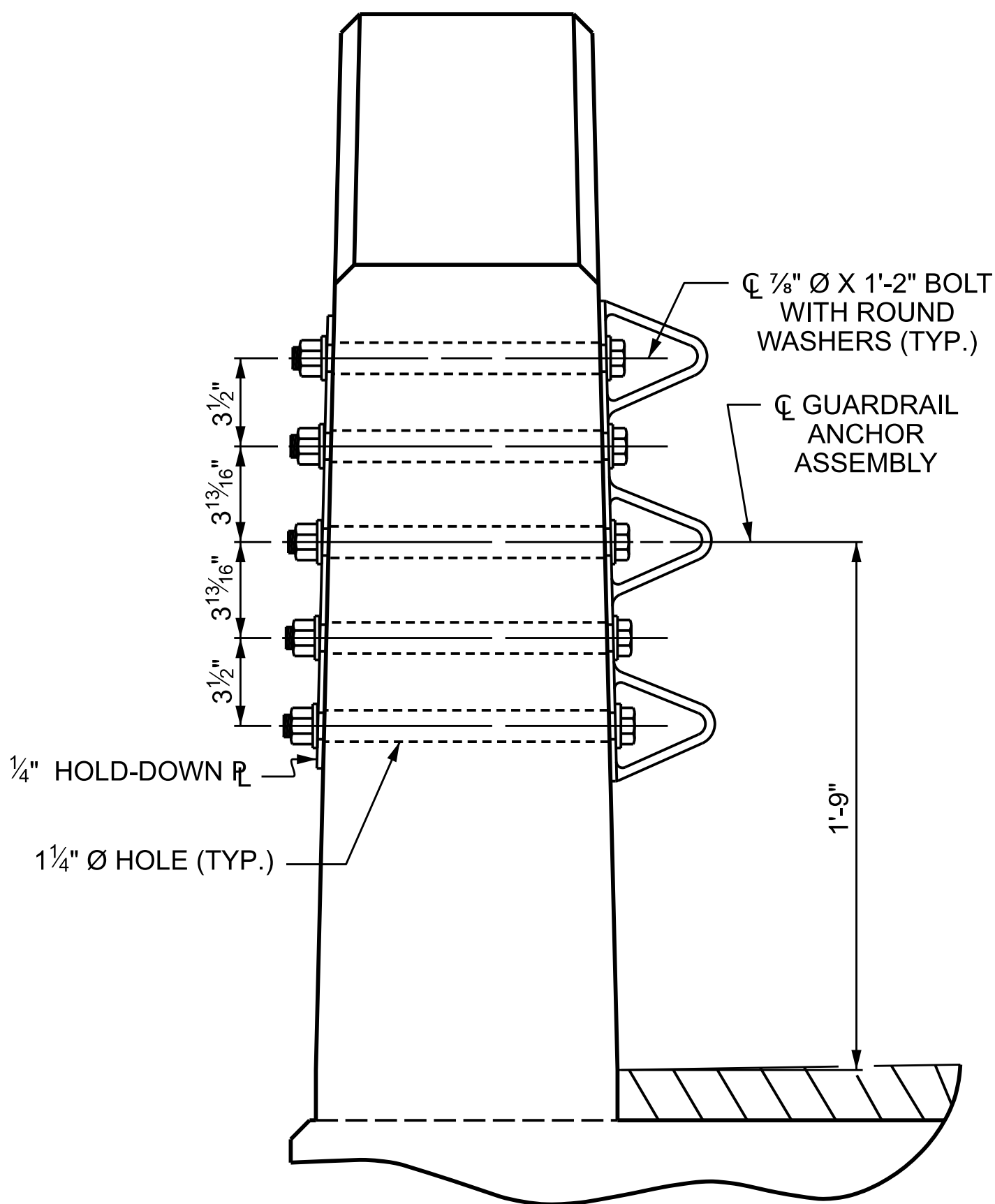
WSP USA Inc.
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
LICENSE NO. F-0165

DESIGNED BY: P. GALLAGHER DATE: JUN 2025
DRAWN BY: D. KULKARNI DATE: JUN 2025
CHECKED BY: P. GALLAGHER DATE: JUN 2025
DESIGN ENGINEER OF RECORD: E. LAWES DATE: DEC 2025

DRAWN BY: DGE 5/09 REV. 5/18 MAA/THC
CHECKED BY: BCH 6/09 REV. 5/23 BNB/AAI



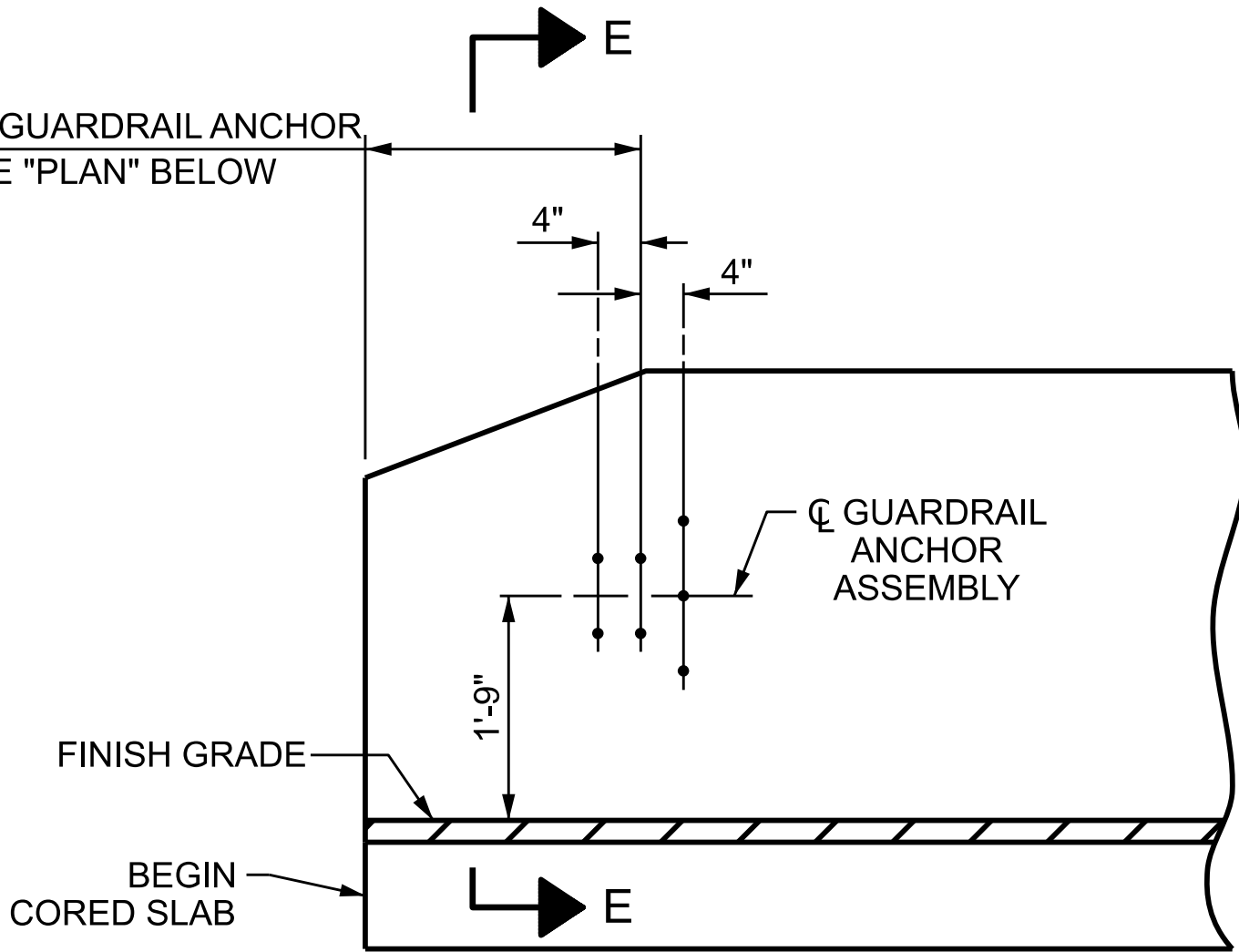
PLAN



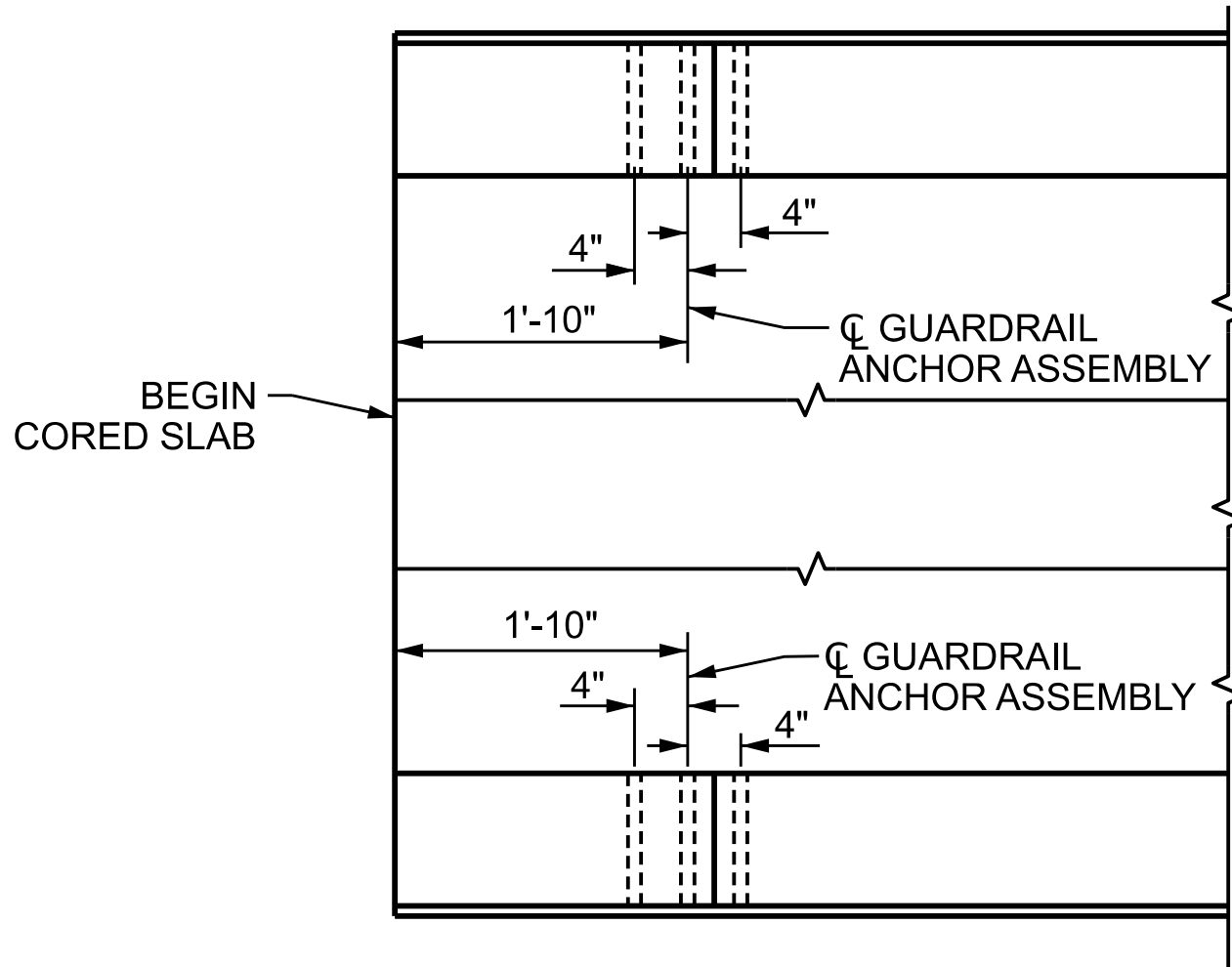
SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS

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



ELEVATION



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 ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. **BP3-R011**
PENDER COUNTY
STATION: **15+52.50 -L-**

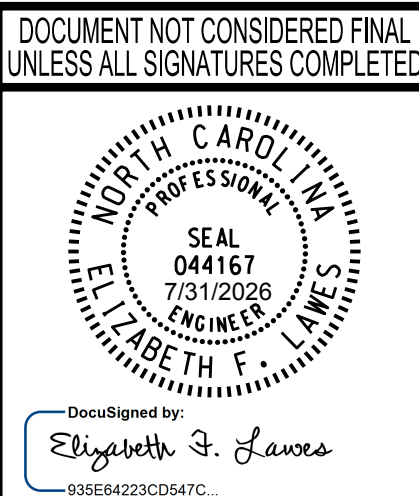
DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER	E. LAWES	DATE :	DEC 2025

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

7/29/2025
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HobbsM



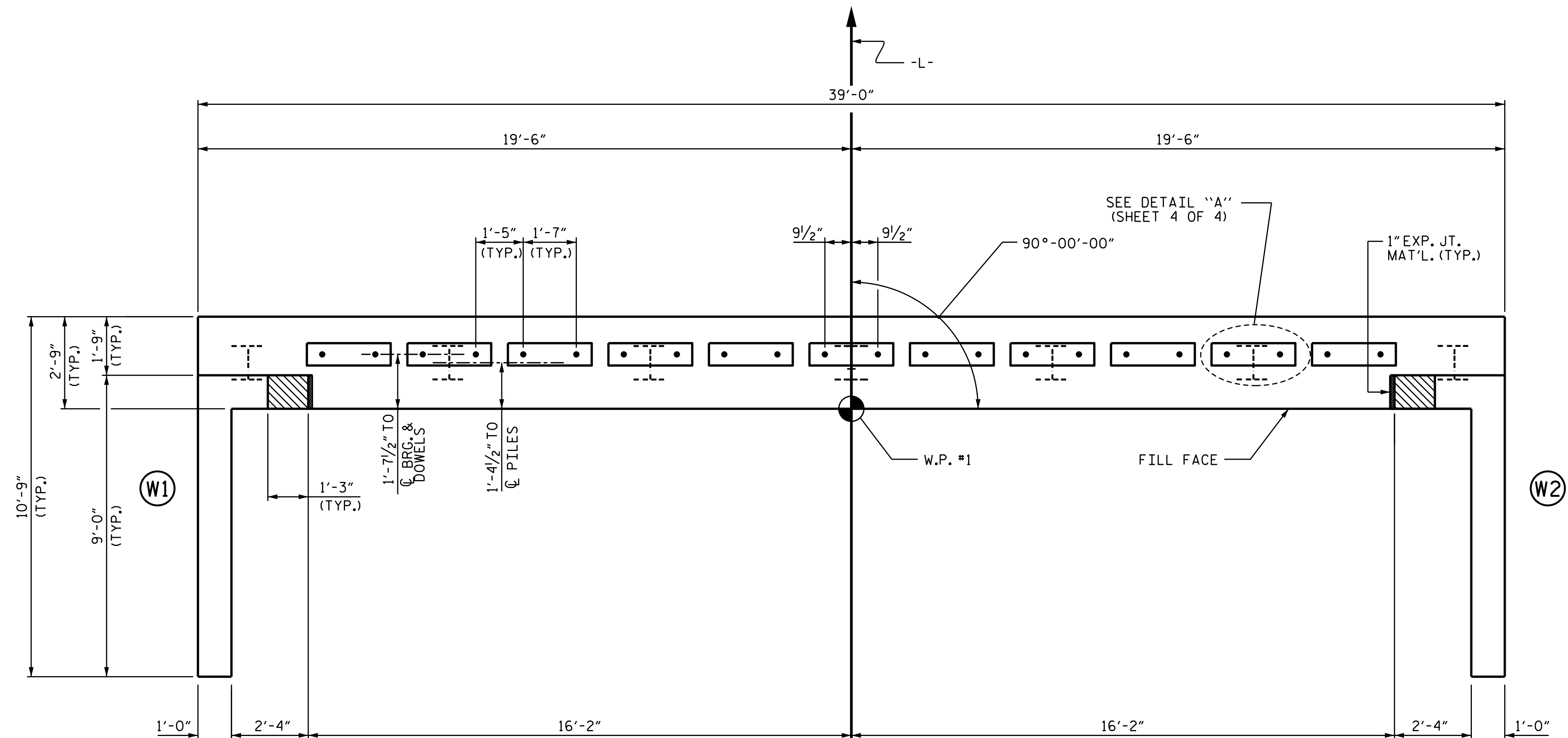
WSP USA Inc.
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
LICENSE NO. F-0165



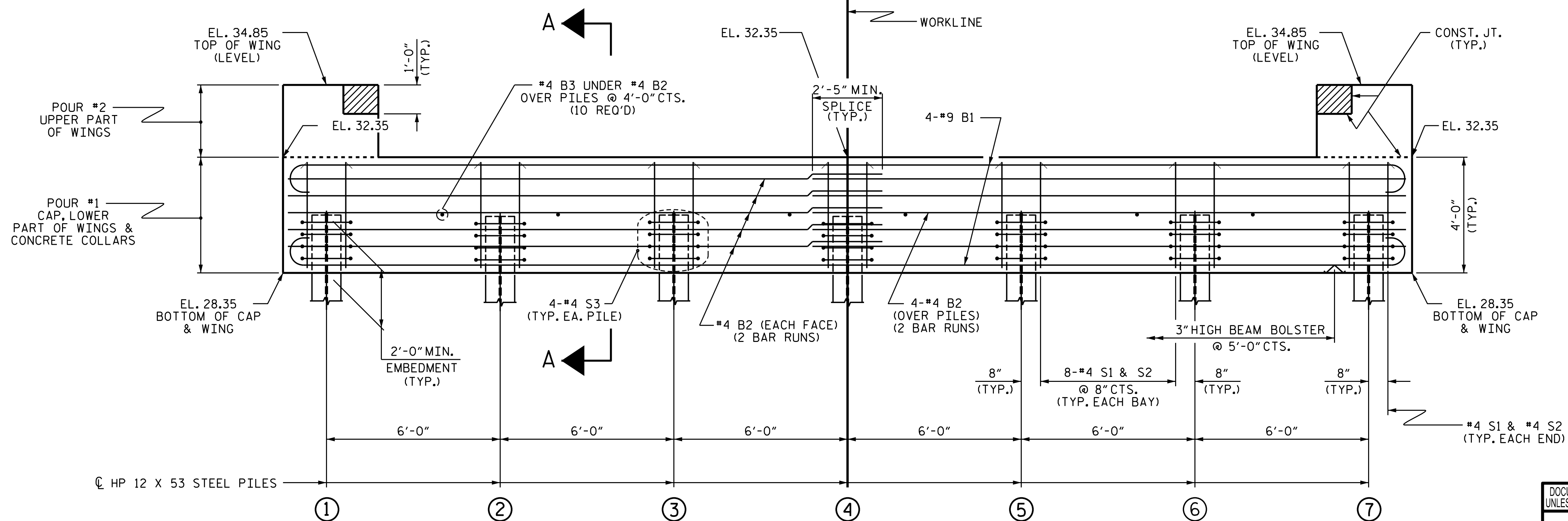
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD GUARDRAIL ANCHORAGE DETAILS FOR VERTICAL CONCRETE BARRIER RAIL					
REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
				TOTAL SHEETS	20

STD. GRA3 Sht. 1

+



PLAN



ELEVATION

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

DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER OF RECORD:	E. LAWES	DATE :	DEC 2025

DRAWN BY : WJH 12/11 CHECKED BY : AAC 12/11	REV. 4/15 MAA/TMO
--	------------------------

NOTES

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

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

FOR PILE SPLICE DETAILS, SEE SHEET 4

FOR WING DETAILS, SEE SHEET 3 OF 4.

PROJECT NO. BP3-R011
PENDER COUNTY
 STATION: 15+52.50 -L-

SHEET 1 OF 4

SHEET NO. 4

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

SUBSTRUCTURE

END BENT No. 1

REVISIONS

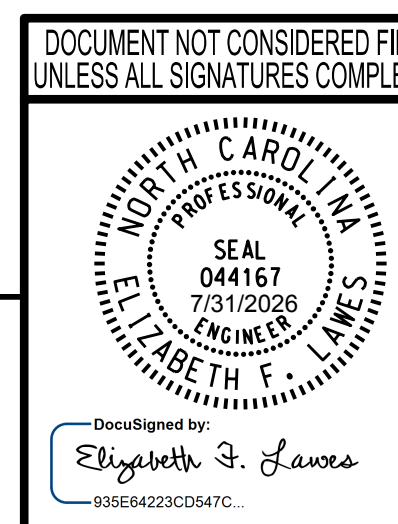
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.

S-13

TOTAL
SHEETS
20

STD. NO. EB_33_90S4





FOR WING DETAILS, SEE SHEET 3 OF 4.



WSP |

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UNLESS ALL SIGNATURES COMPLETE

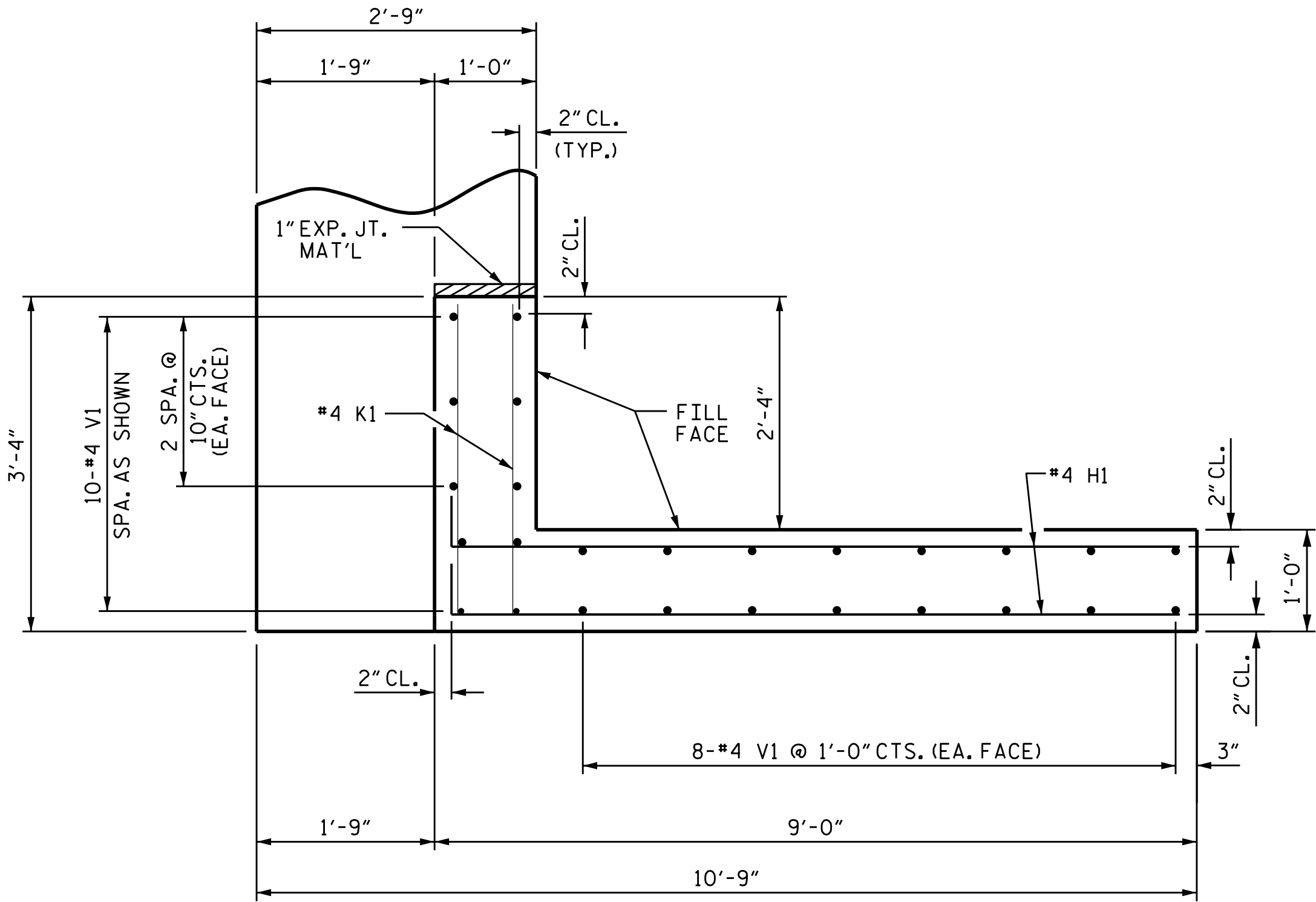


DocuSigned by:
Elizabeth F. Lawes
01862777D5A7C

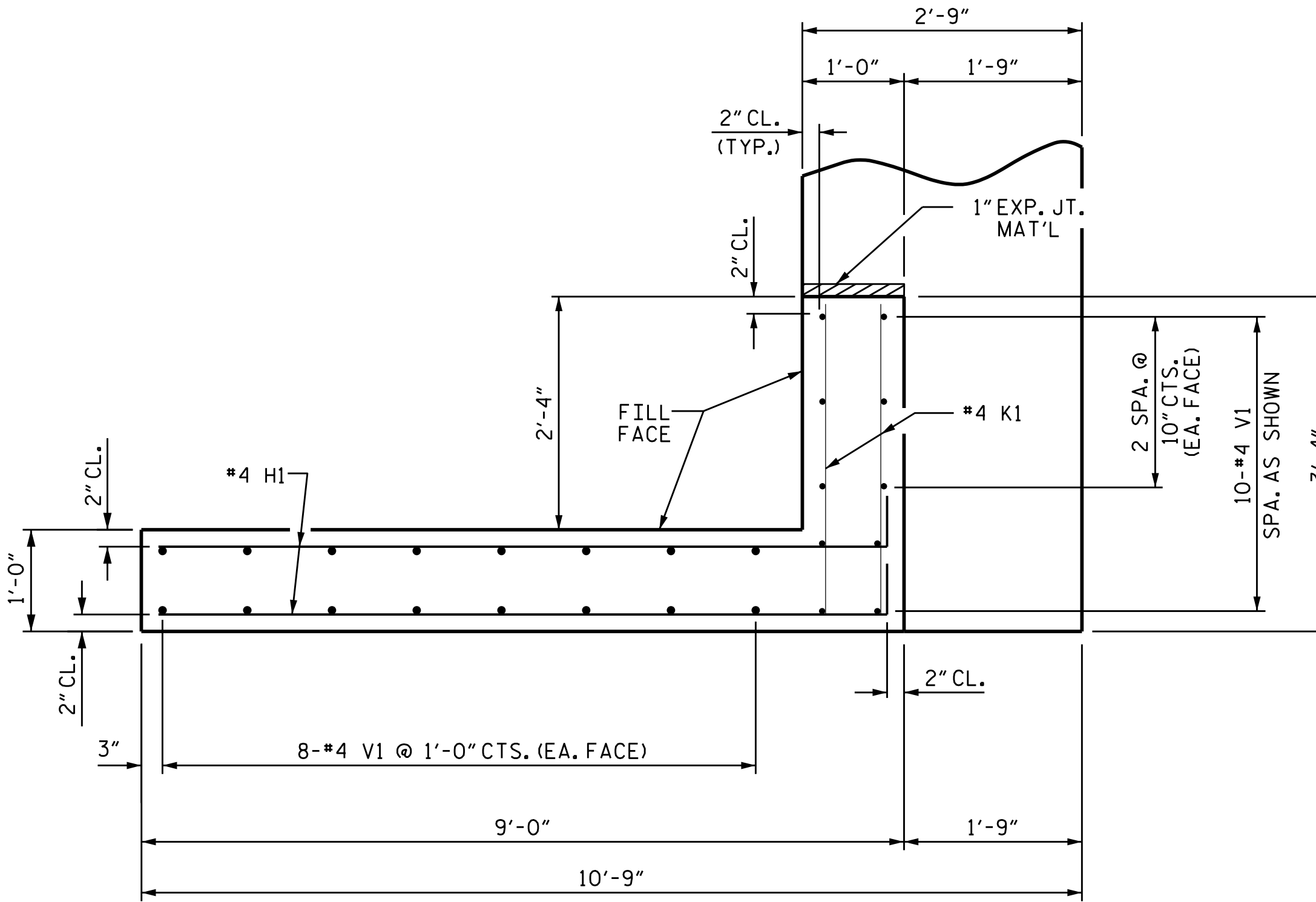
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7/29/2026
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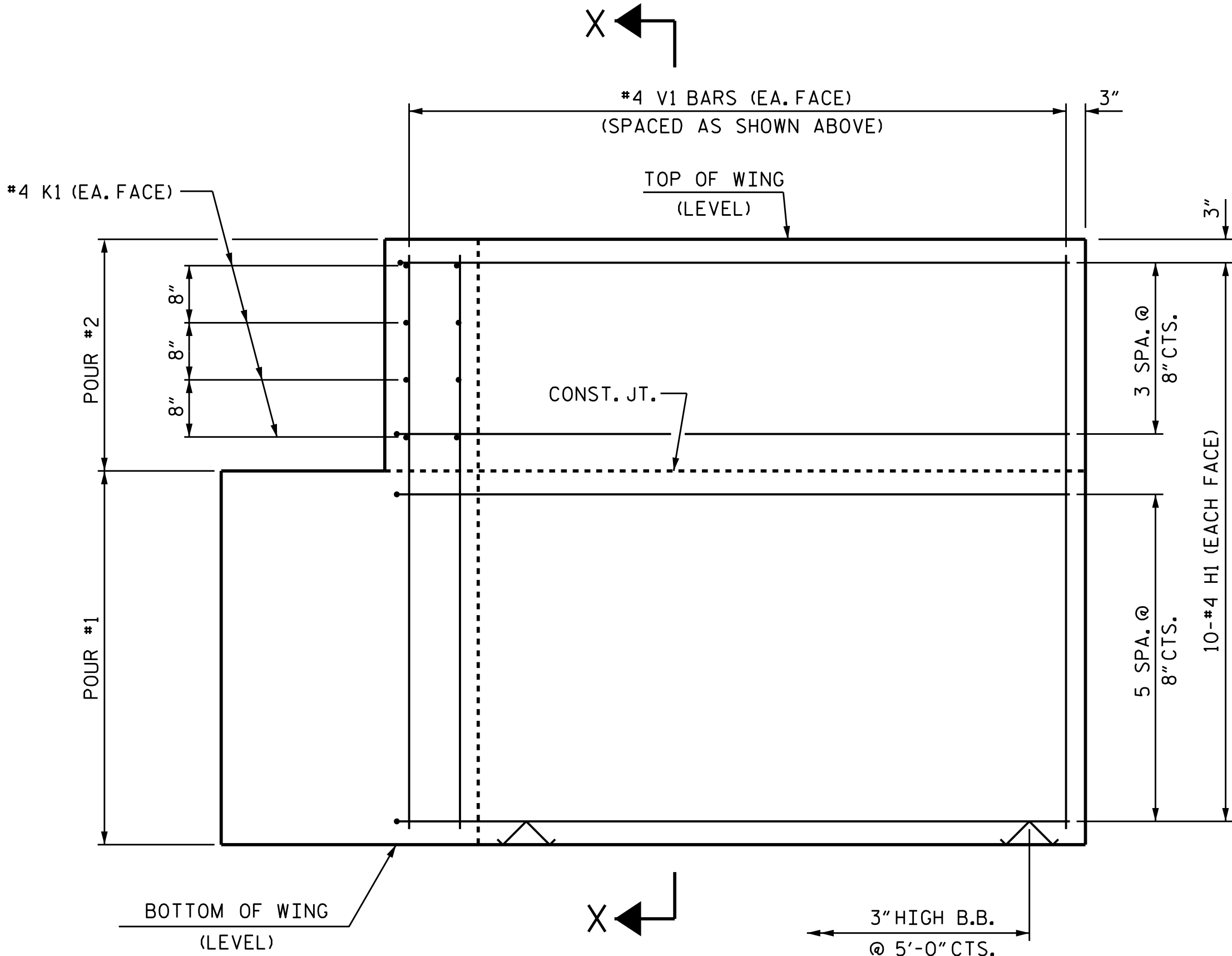
STD. NO. EB_33_90S4



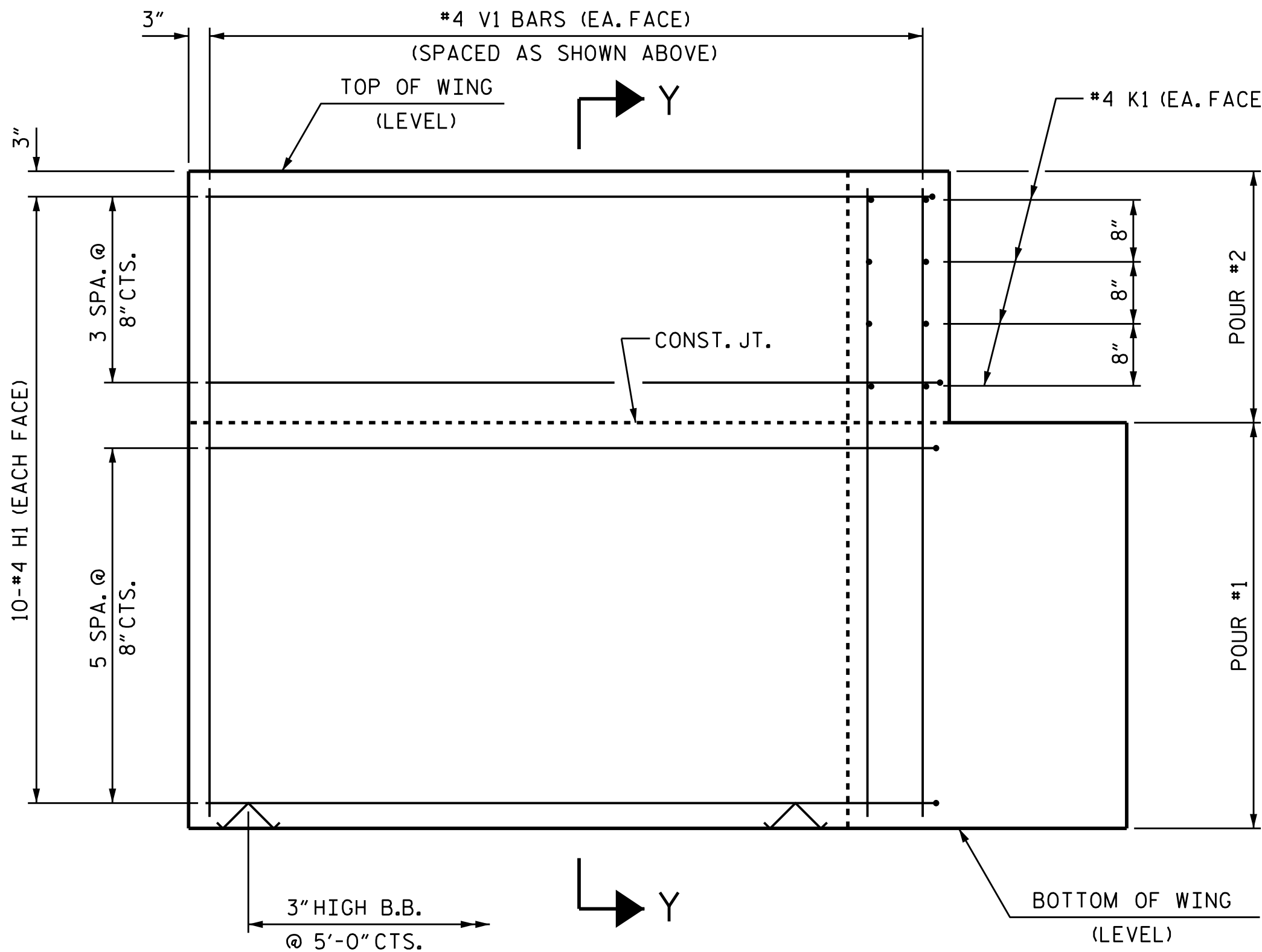
PLAN OF WING (W1)



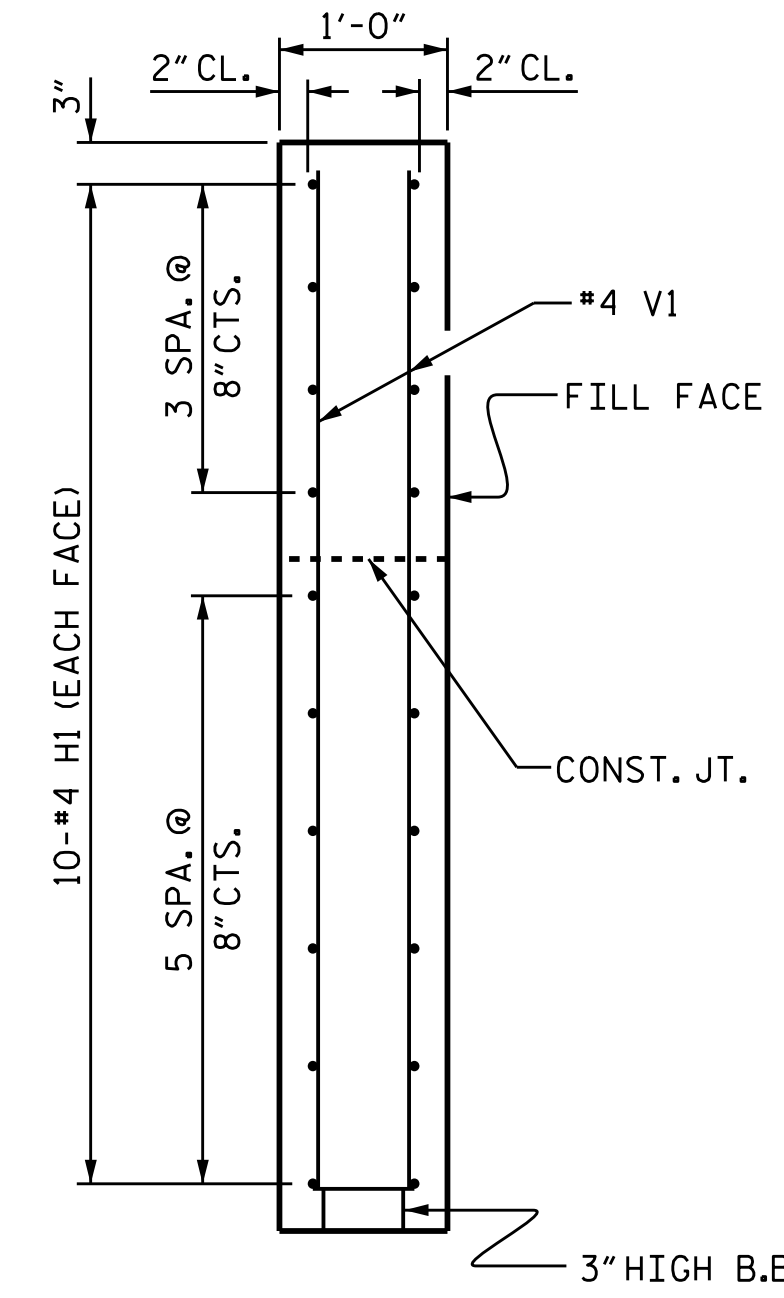
PLAN OF WING (W2)



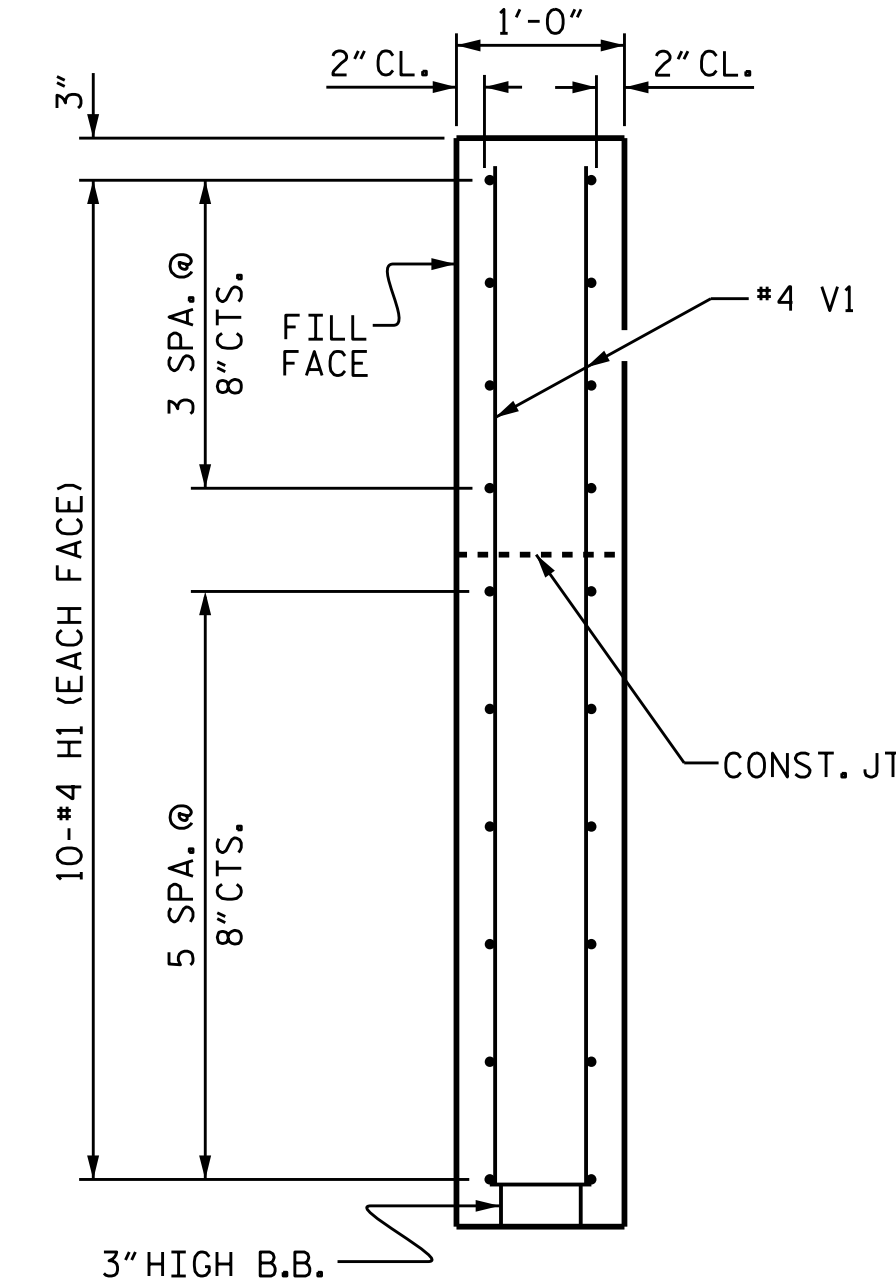
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



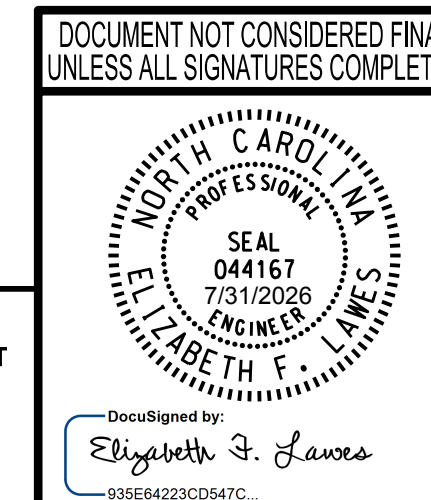
SECTION X-X



SECTION Y-Y

PROJECT NO. **BP3-R011**
PENDER COUNTY
STATION: **15+52.50 -L-**

SHEET 3 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT
WING DETAILS

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

DESIGNED BY: P. GALLAGHER
DRAWN BY: D. KULKARNI
CHECKED BY: P. GALLAGHER
DESIGN ENGINEER OF RECORD: E. LAWES

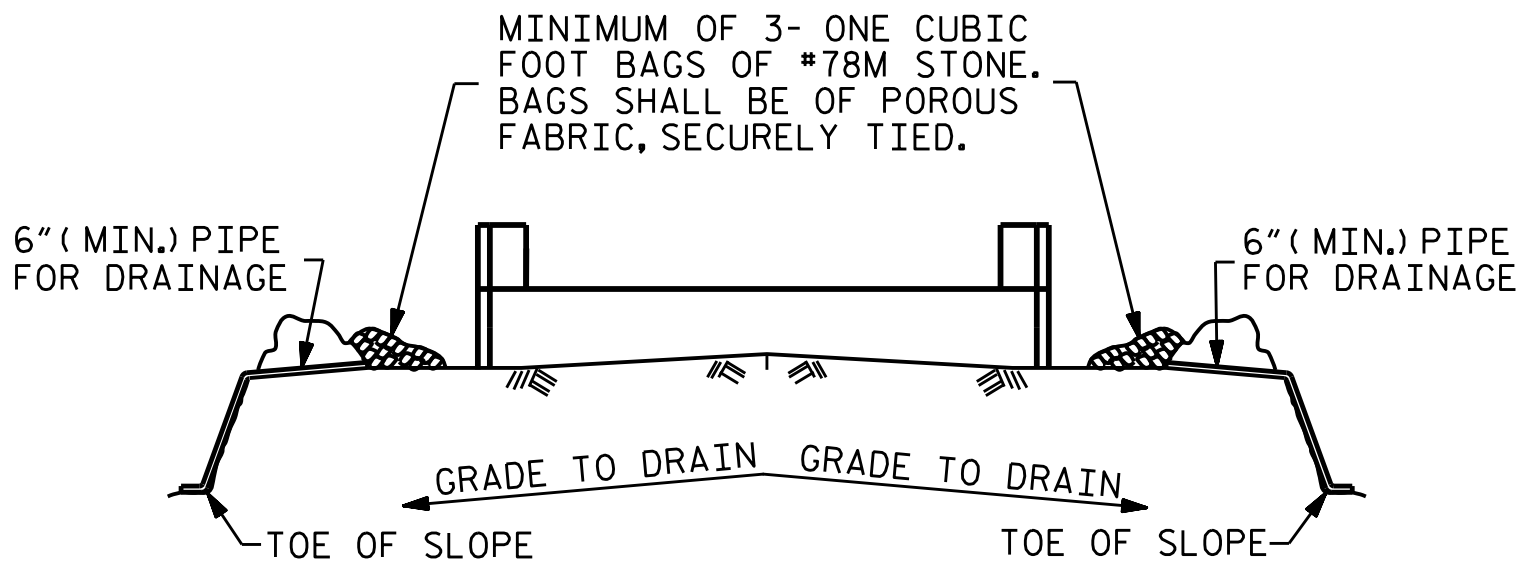
DATE: JUN 2025
DATE: JUN 2025
DATE: JUN 2025
DATE: DEC 2025

DRAWN BY: WJH 12/II
CHECKED BY: AAC 12/II
REV. 4/15
MAA/TMG

WING DETAILS



WSP USA Inc.
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4940
LICENSE NO. F-0165

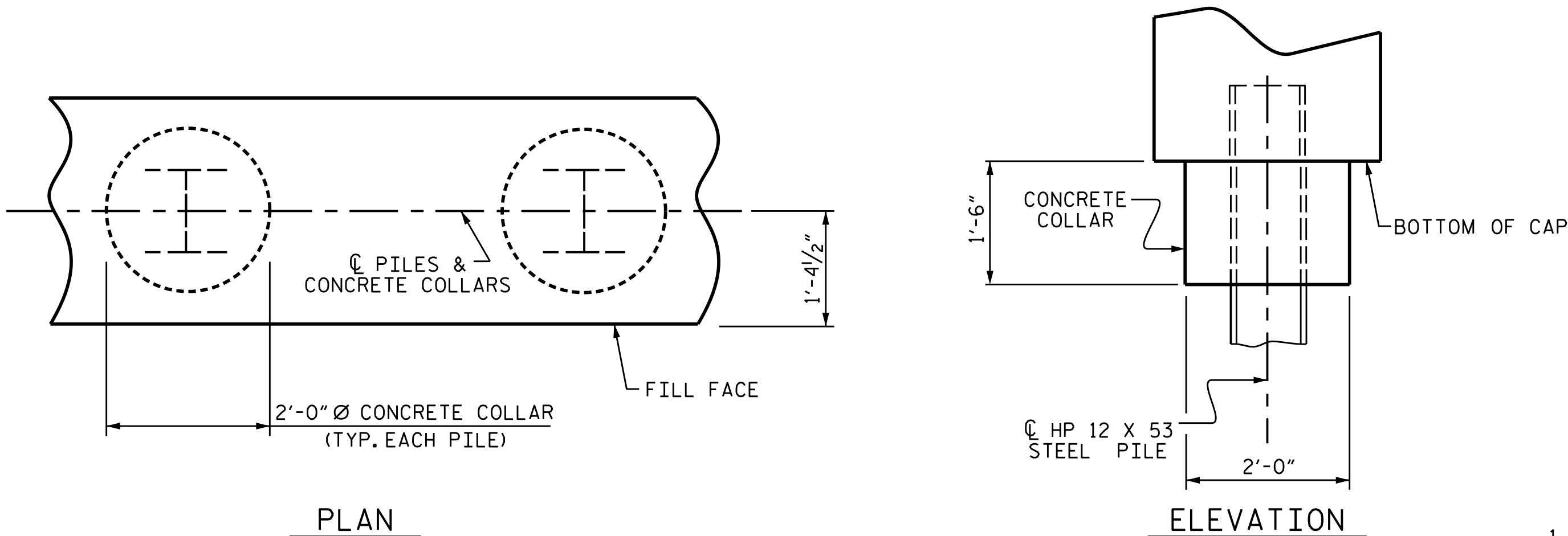


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

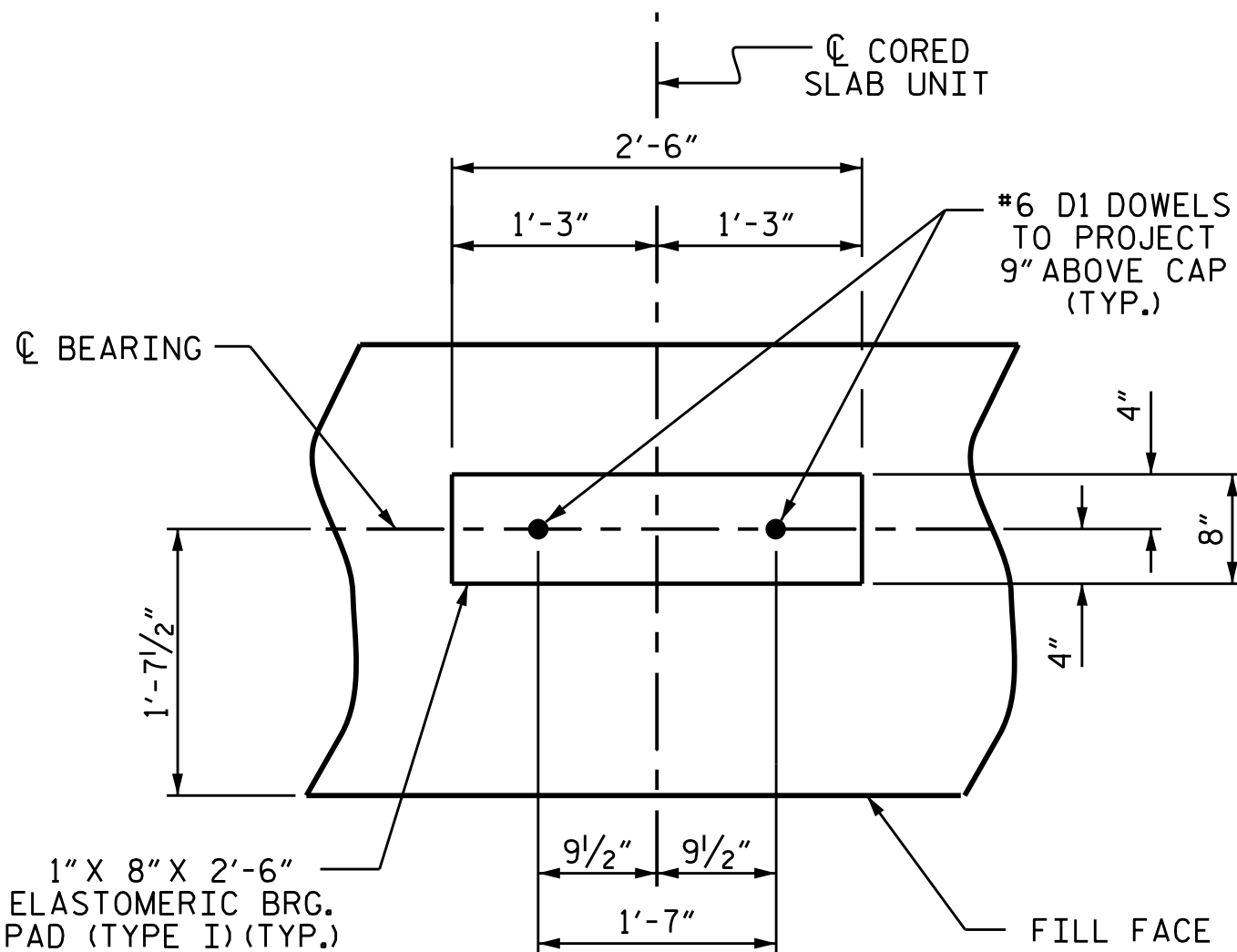
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

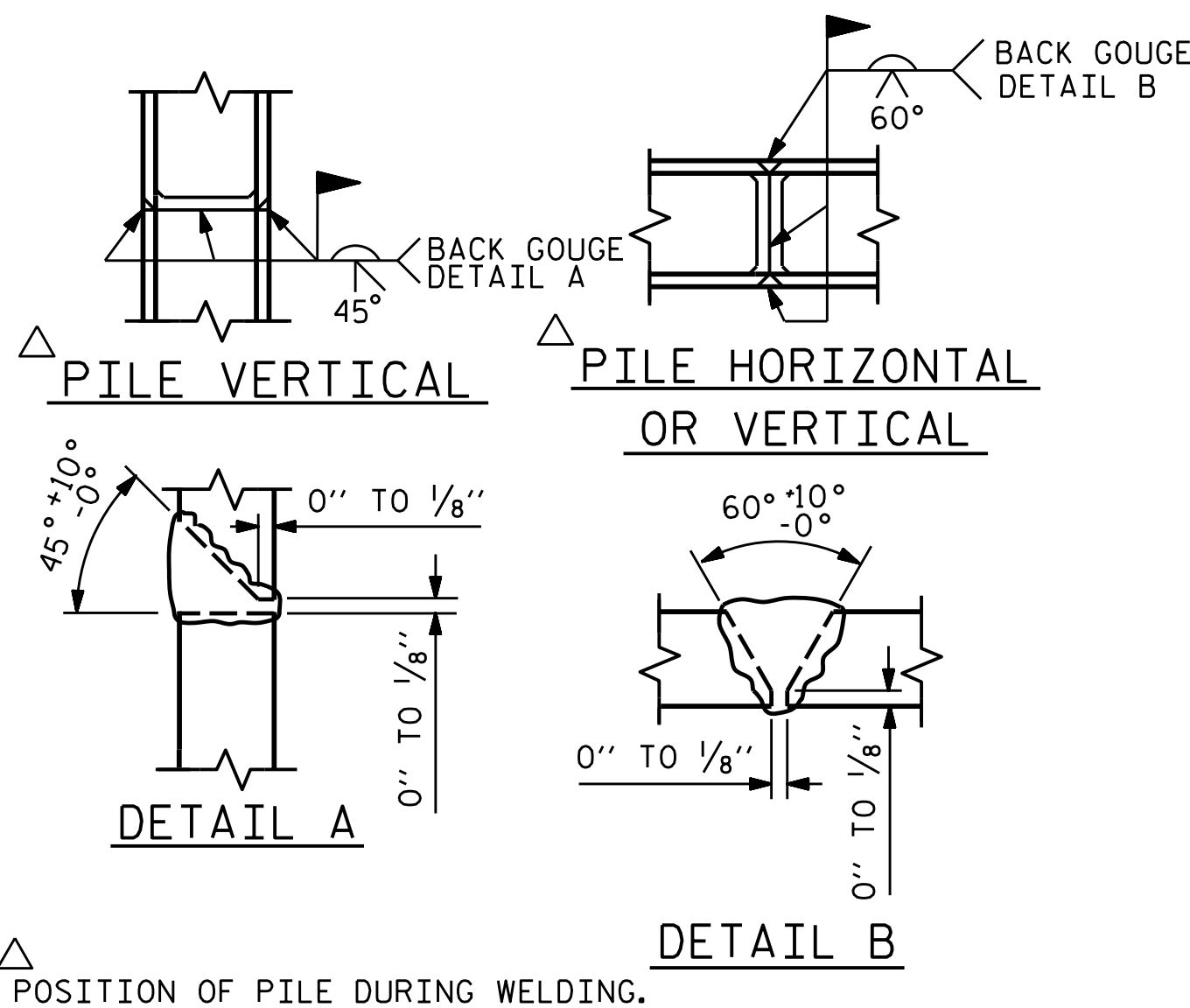


CORROSION PROTECTION FOR STEEL PILES DETAIL

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



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

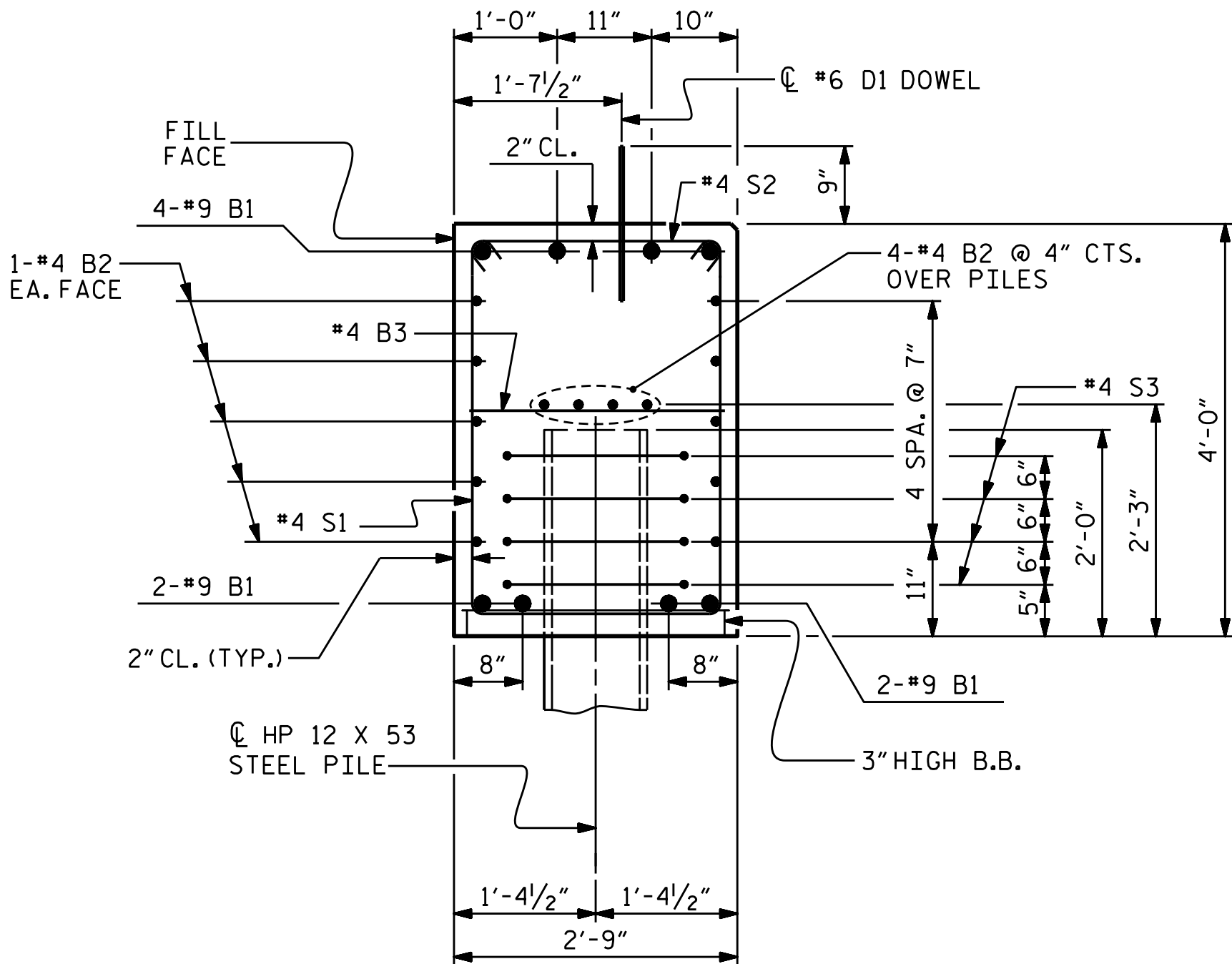


PILE SPLICE DETAILS

BAR TYPES				BILL OF MATERIAL FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT				
B1	8	#9		41'-0"	1,115				
B2	28	#4	STR	20'-7"	385				
B3	10	#4	STR	2'-5"	16				
D1	22	#6	STR	1'-6"	50				
H1	40	#4	2	9'-4"	249				
K1	16	#4	STR	2'-11"	31				
S1	50	#4	3	10'-5"	348				
S2	50	#4	4	3'-2"	106				
S3	28	#4	5	6'-6"	122				
V1	52	#4	STR	6'-2"	214				
REINFORCING STEEL (FOR ONE END BENT)					2,636 LBS.				
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)									
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					19.5 C.Y.				
POUR #2 UPPER PART OF WINGS					2.1 C.Y.				
TOTAL CLASS A CONCRETE					21.6 C.Y.				

ALL BAR DIMENSIONS ARE OUT TO OUT.

END BENT No. 1	END BENT No. 2
HP 12 X 53 STEEL PILES NO: 7 LIN. FT.= 469	HP 12 X 53 STEEL PILES NO: 7 LIN. FT.= 469
PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES NO: 7	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES NO: 7
PILE REDRIVES NO: 4	PILE REDRIVES NO: 4



PROJECT NO. **BP3-R011**

PENDER COUNTY

STATION: **15+52.50 -L-**

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT No. 1 & 2
DETAILS

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	
1			3		S-16
2			4		
TOTAL SHEETS					20

DESIGNED BY: P. GALLAGHER
DRAWN BY: D. KULKARNI
CHECKED BY: P. GALLAGHER
DESIGN ENGINEER OF RECORD: E. LAWES

DATE: JUN 2025
DATE: JUN 2025
DATE: JUN 2025
DATE: DEC 2025

DRAWN BY: WJH
CHECKED BY: AAC

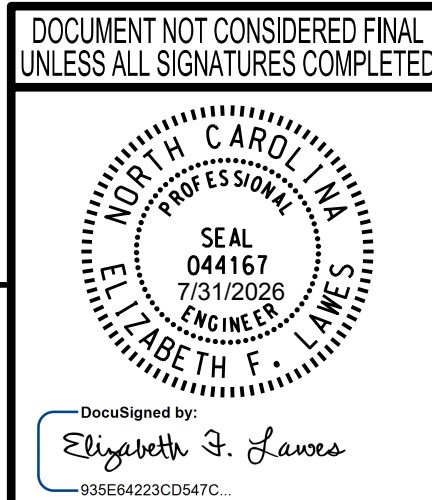
12/11
12/11

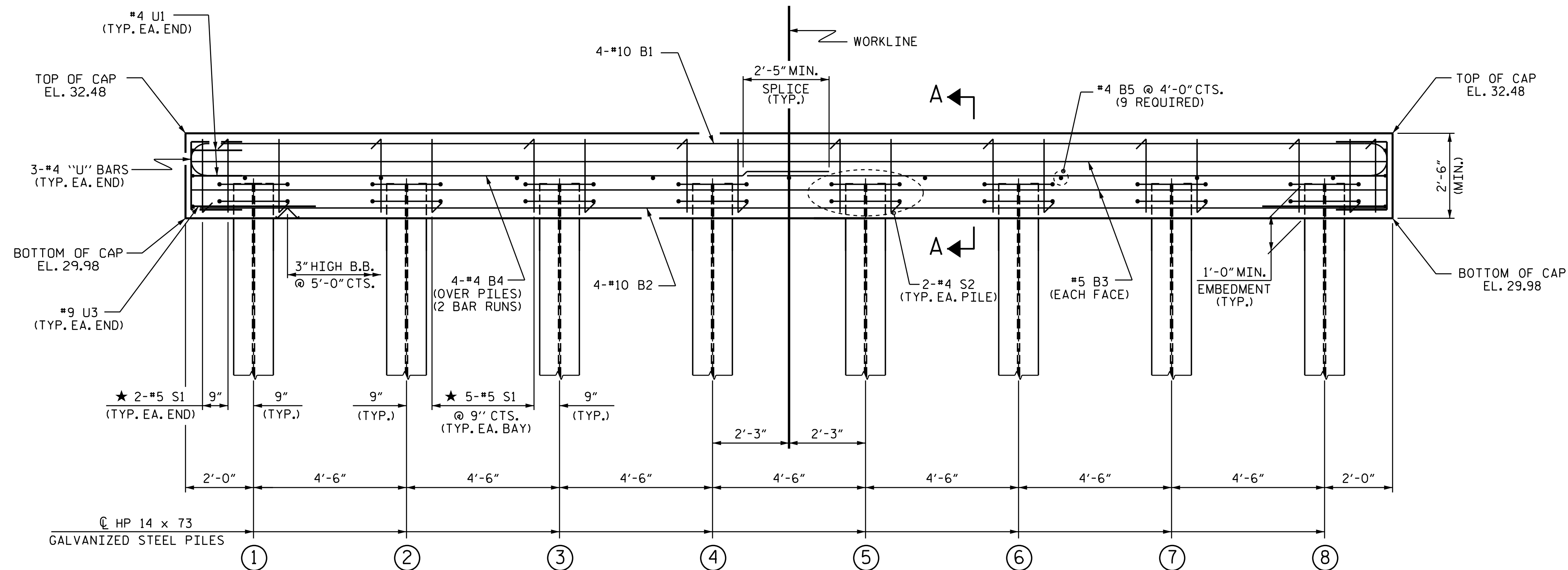
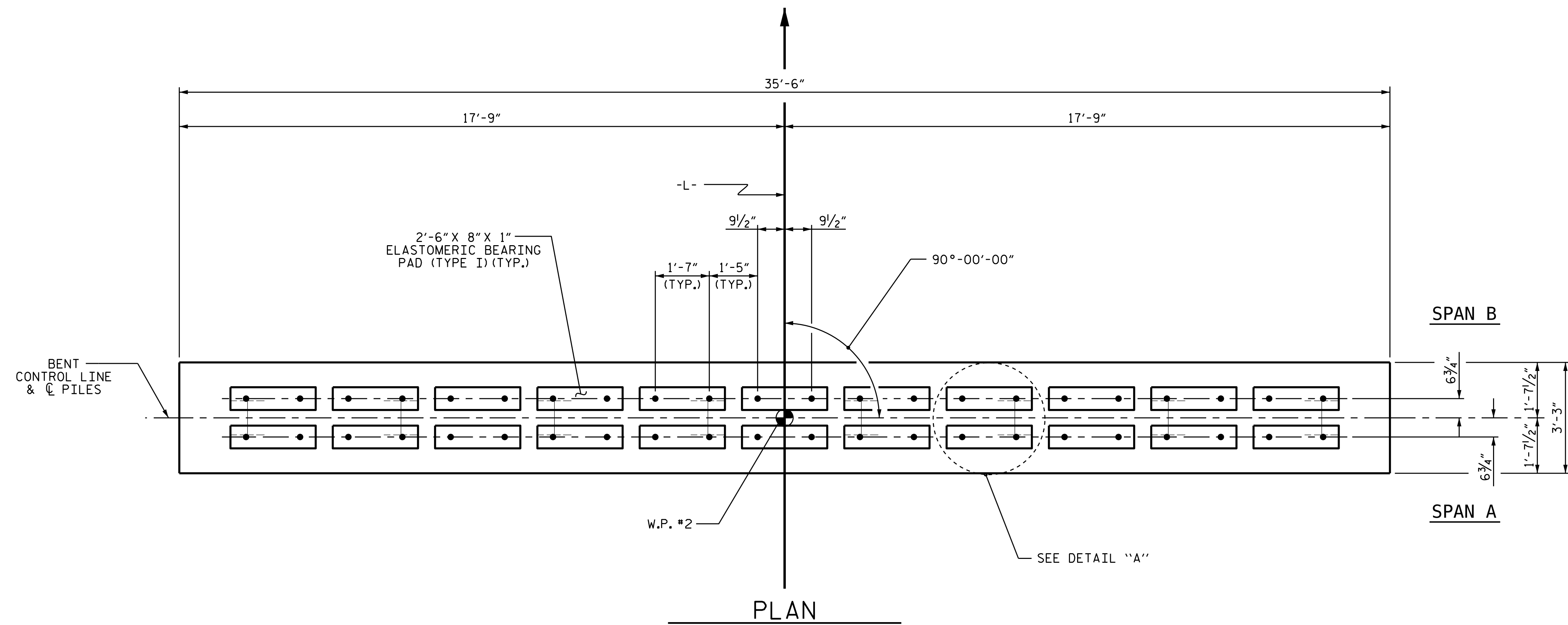
REV. 4/17

MAA/THC



WSP USA Inc.
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4940
LICENSE NO. F-0165





ELEVATION

FOR SECTION A-A, SEE SHEET 2 OF 2

DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER OF RECORD:	E. LAWES	DATE :	DEC 2025

DRAWN BY : DGE 5/10 CHECKED BY : MKT 5/10	REV. 6/17 MAA/THC
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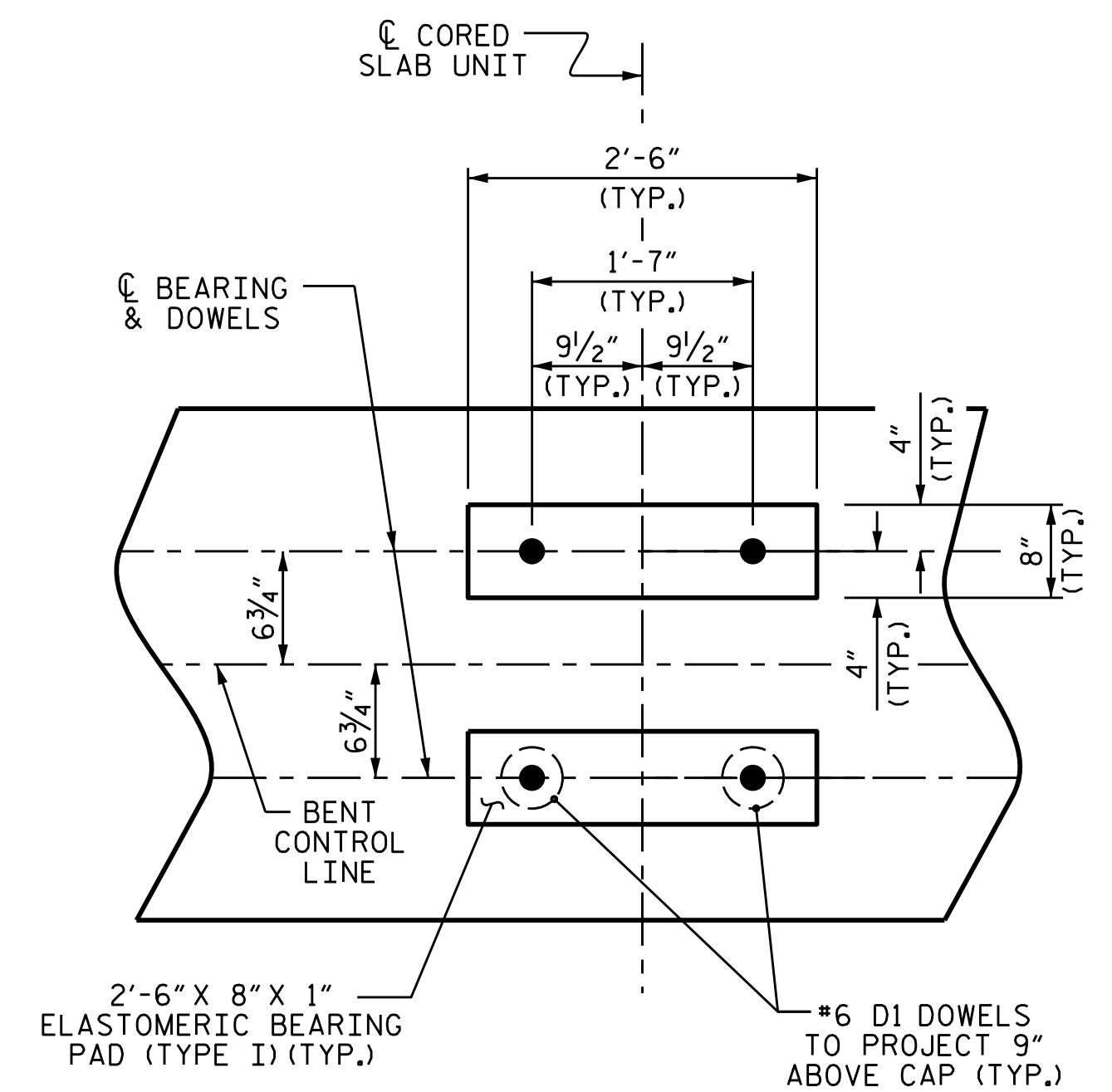
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HobbsM

NOTES

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

★ INVERT ALTERNATE STIRRUPS.

GALVANIZE THE TOP OF EACH INTERIOR BENT PILE
A MINIMUM OF 28 FEET. GALVANIZE IN
ACCORDANCE WITH SECTION 1076 OF THE STANDARD
SPECIFICATIONS.



DETAIL "A"

(DIMENSIONS ARE TYPICAL EACH BEARING)

PROJECT NO. BP3-R011

PENDER COUNTY

STATION: 15+52.50 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

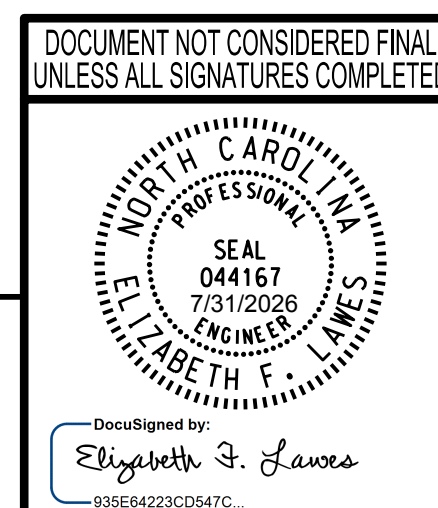
SUBSTRUCTURE
BENT No. 1

REVISIONS						SHEET NO. S-17
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 20
2			4			

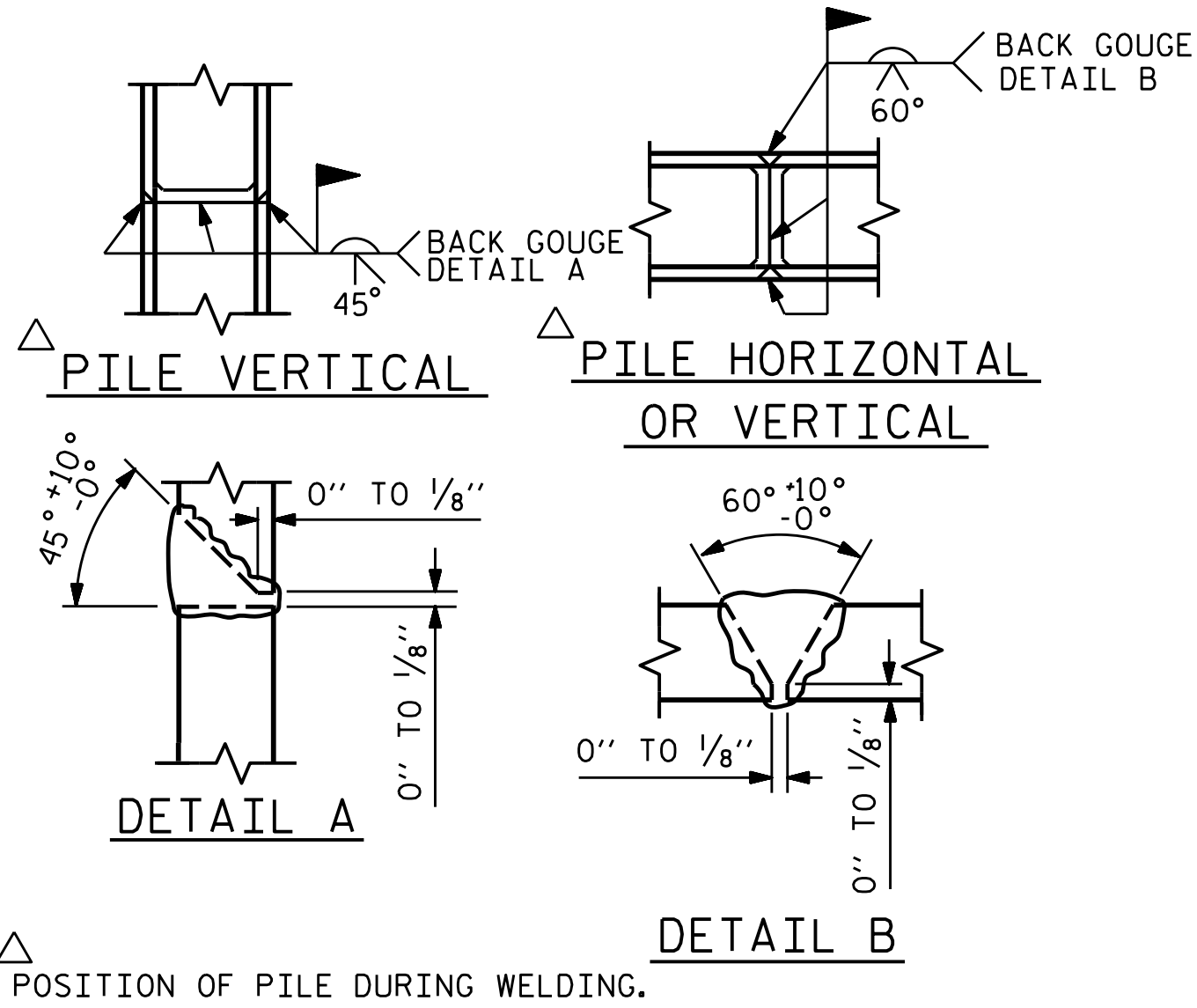


WSP USA Inc.
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040

LICENSE NO. F-0165

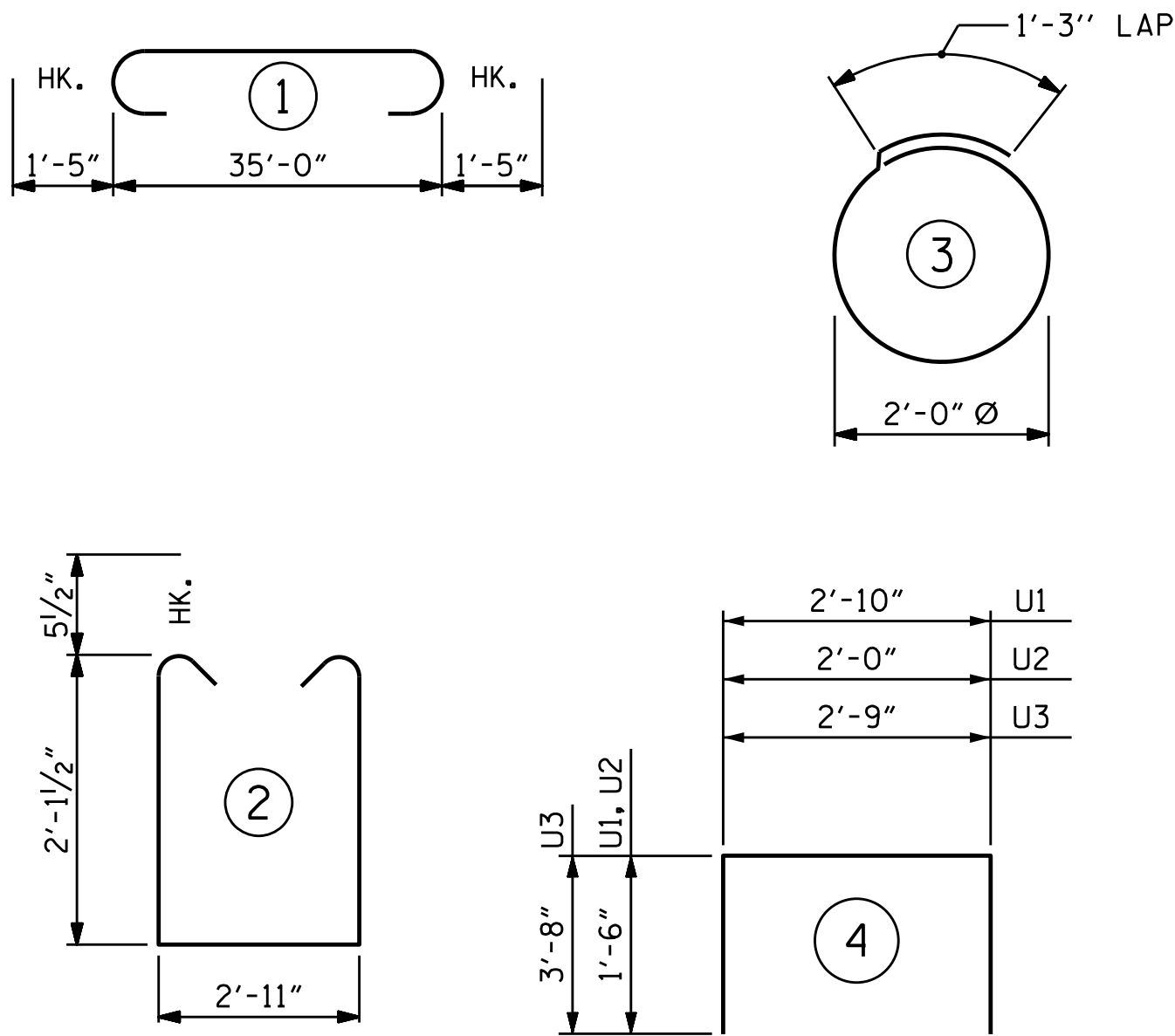


STD. NO. 14"HP_BT_33_90S_<60'



PILE SPLICE DETAILS

BAR TYPES



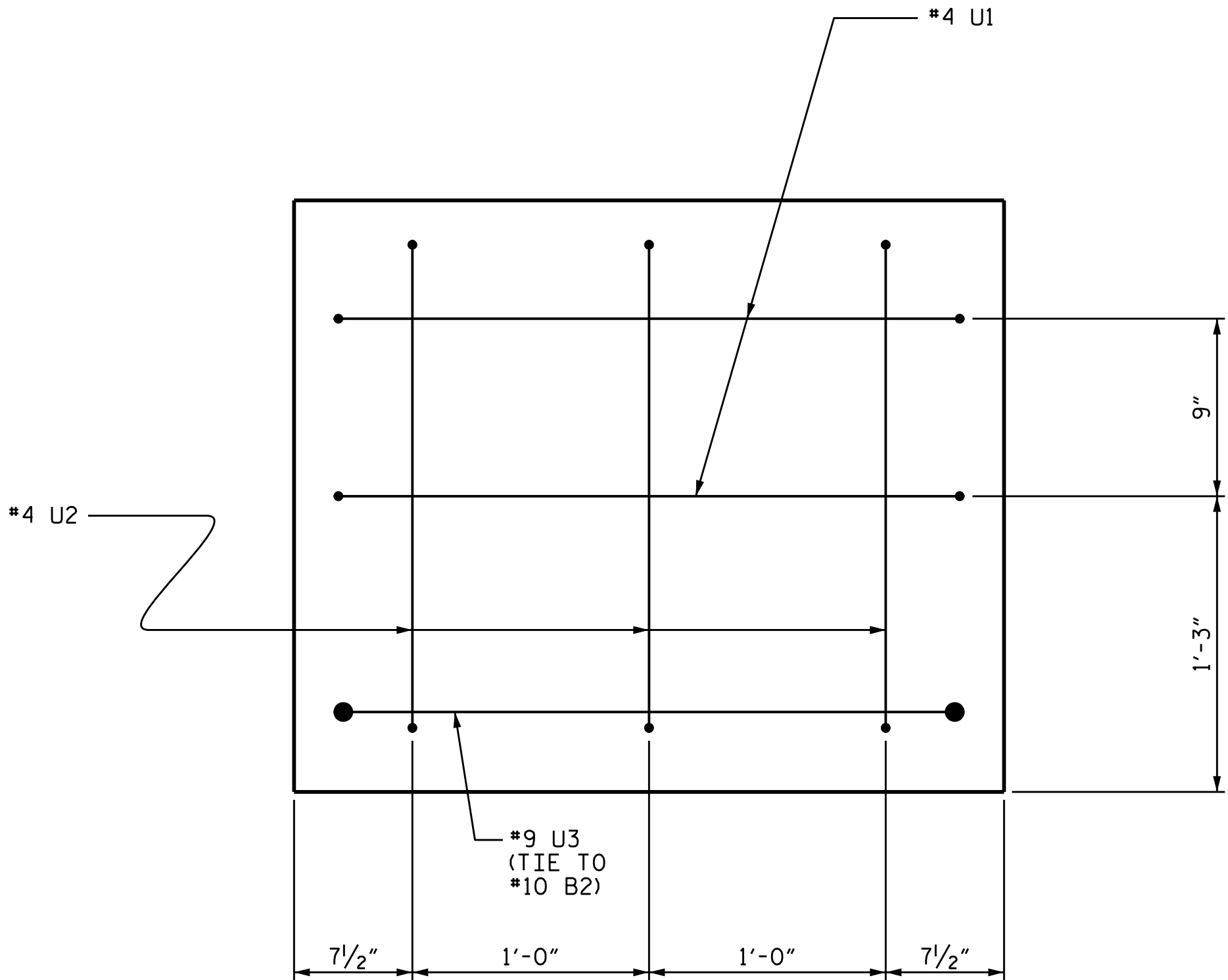
ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR ONE BENT

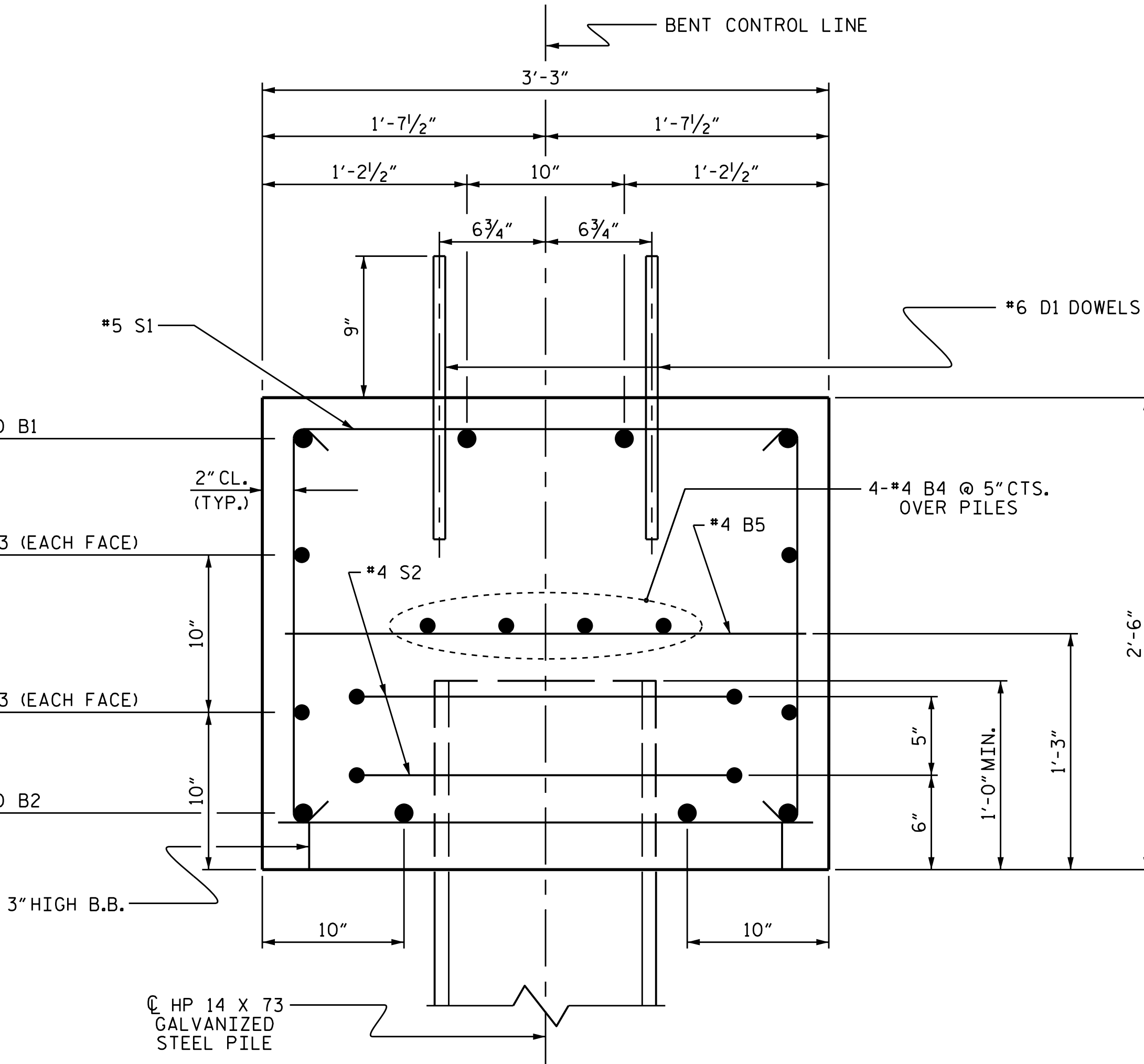
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#10	1	37'-10"	651
B2	4	#10	STR	35'-2"	605
B3	4	#5	STR	35'-2"	147
B4	8	#4	STR	18'-10"	101
B5	9	#4	STR	2'-11"	18
D1	44	#6	STR	1'-6"	99
S1	39	#5	2	8'-1"	329
S2	16	#4	3	7'-7"	81
U1	4	#4	4	5'-10"	16
U2	6	#4	4	5'-0"	20
U3	2	#9	4	10'-1"	69

REINFORCING STEEL (FOR ONE BENT)		2,136 LBS
CLASS A CONCRETE BREAKDOWN (FOR ONE BENT)		
TOTAL CLASS A CONCRETE		10.7 C.Y.
HP 14 X 73 GALVANIZED STEEL PILES (FOR ONE BENT)		
No. 8	LIN. FT.	688
PILE DRIVING EQUIPMENT SETUP FOR HP 14 X 73 GALVANIZED STEEL PILES (FOR ONE BENT)		NO: 8
PILE REDRIVES		NO: 4



END OF CAP VIEW

(TYPICAL BOTH ENDS)

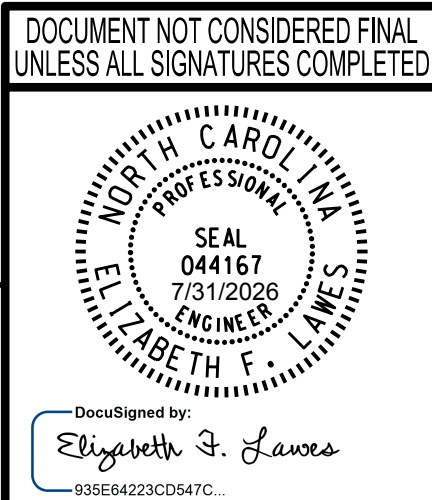


SECTION A-A

DESIGNED BY:	P. GALLAGHER	DATE :	JUN 2025
DRAWN BY:	D. KULKARNI	DATE :	JUN 2025
CHECKED BY:	P. GALLAGHER	DATE :	JUN 2025
DESIGN ENGINEER	E. LAWES	DATE :	DEC 2025
OF RECORD:			
DRAWN BY :	DGE	5/10	
CHECKED BY :	MKT	5/10	
REV.	6/17	MAA/TMG	



WSP USA Inc.
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PROJECT NO. **BP3-R011**
PENDER COUNTY
STATION: **15+52.50 -L-**

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

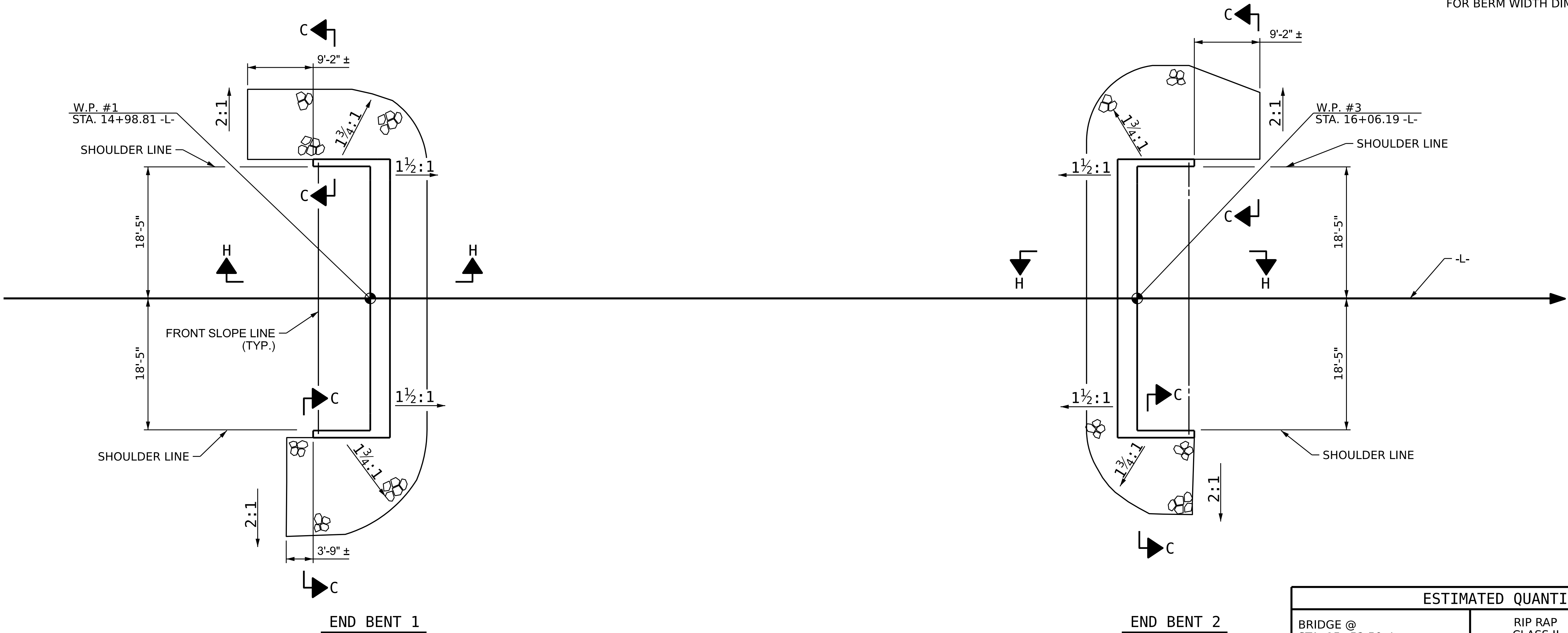
SUBSTRUCTURE
BENT No. 1

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

STD. NO. 14" HP_BT_33_90S<60'

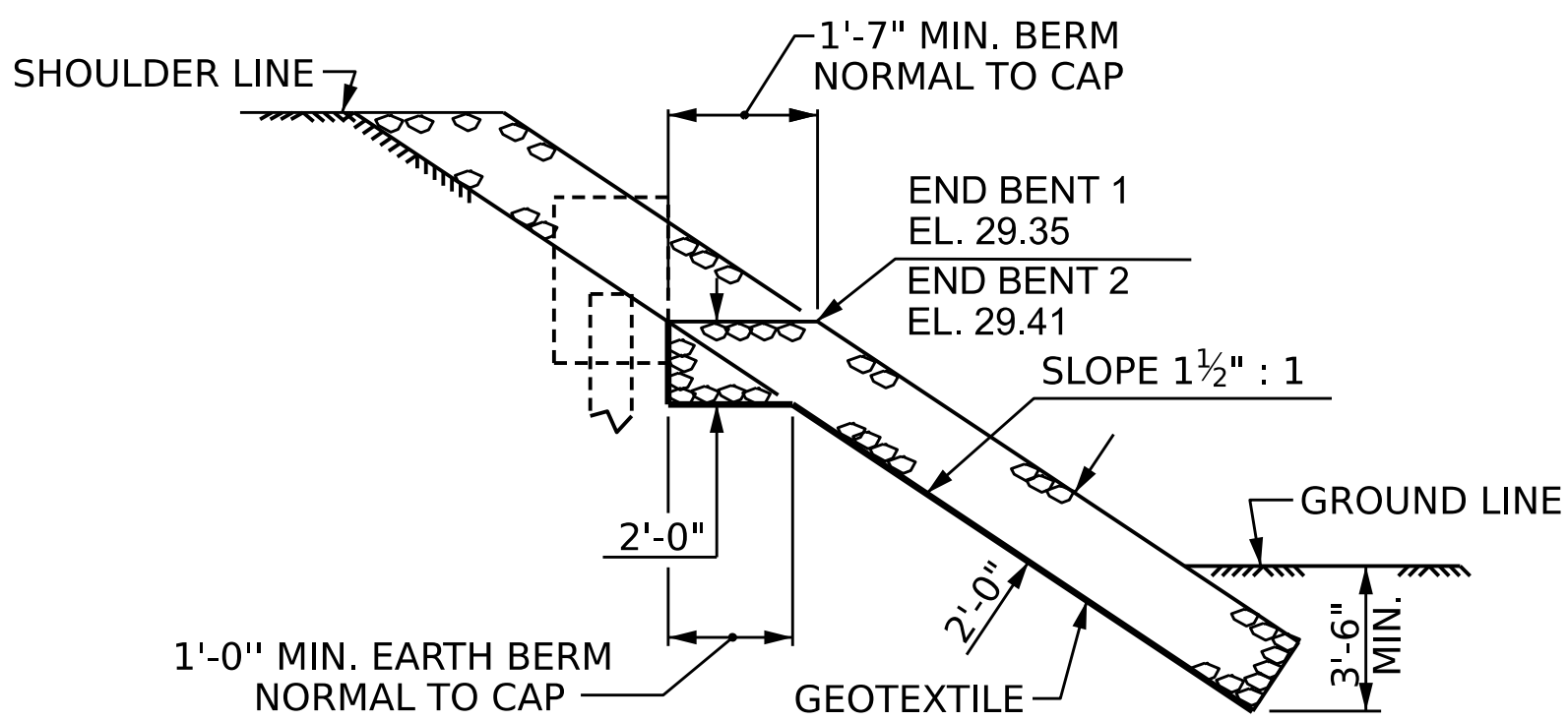
8/26/21

NOTES:
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.

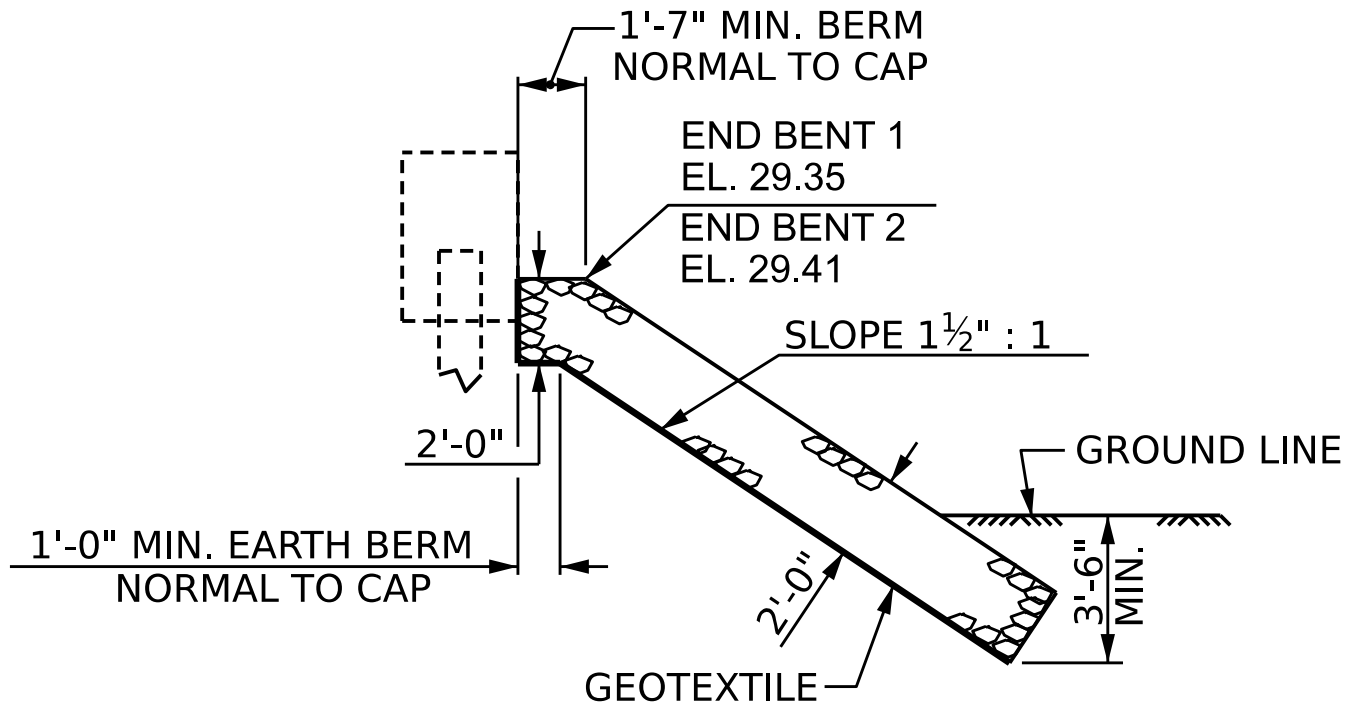


PLAN

ESTIMATED QUANTITIES		
BRIDGE @ STA. 15+52.50 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	110	123
END BENT 2	105	116

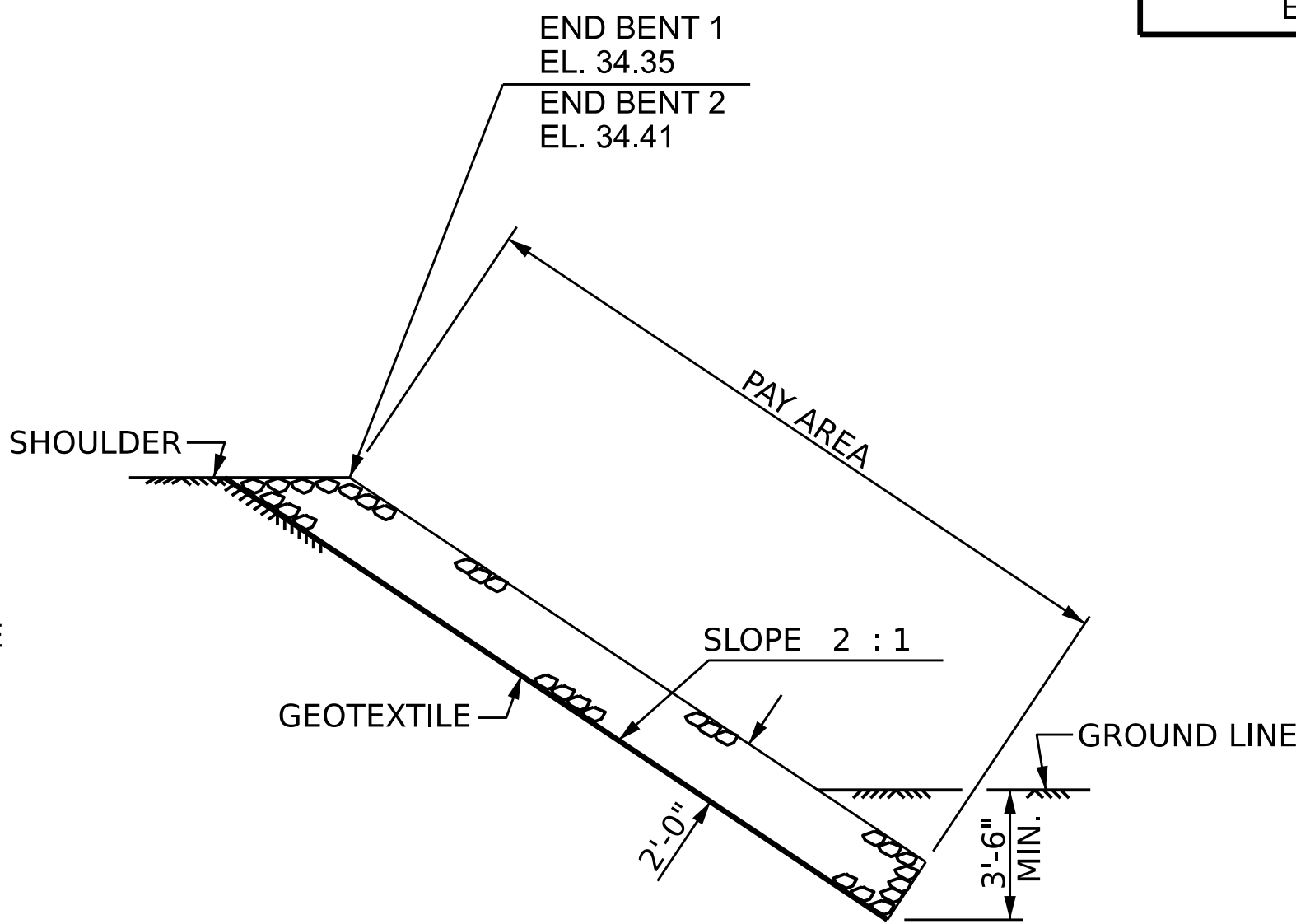


SECTION H-H



SECTION C-C

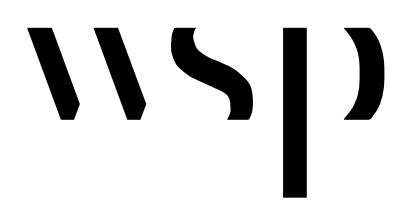
BERM RIP RAPPED



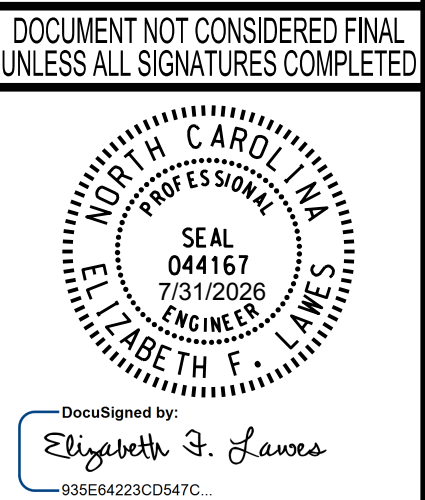
SECTION C-C

DESIGNED BY: P. GALLAGHER	DATE: JUN 2025	DRAWN BY: D. KULKARNI	DATE: JUN 2025	CHECKED BY: P. GALLAGHER	DATE: JUN 2025	DESIGN ENGINEER OF RECORD: E. LAWES	DATE: DEC 2025
DRAWN BY: REK I/84		REV. 10/1/II		MAA/GM		CHECKED BY: ROU I/84	
REV. 12/21/II		MAA/GM		REV. 12/17		MAA/THC	

7/31/2026
*****DCN*****
USL 722989

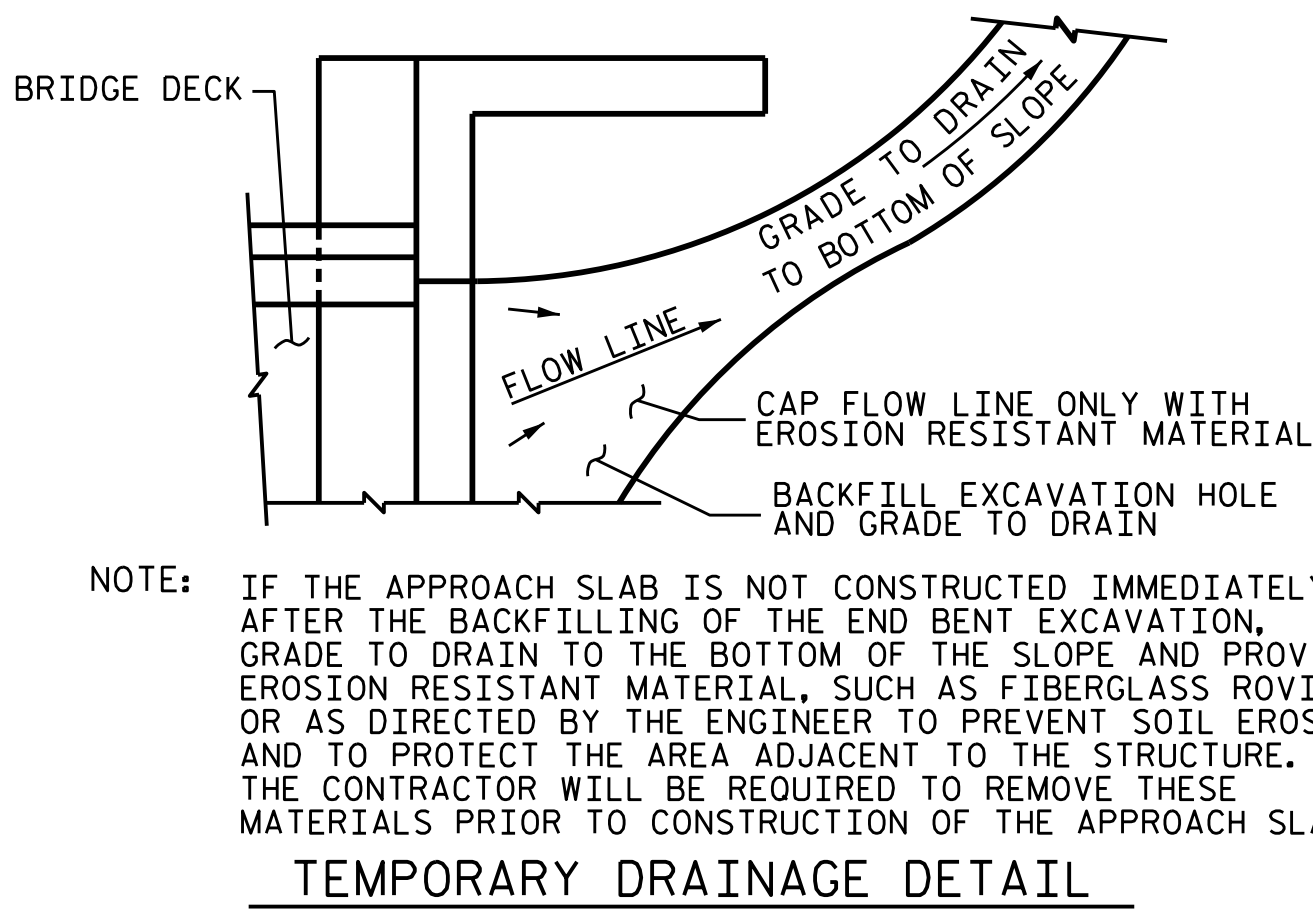
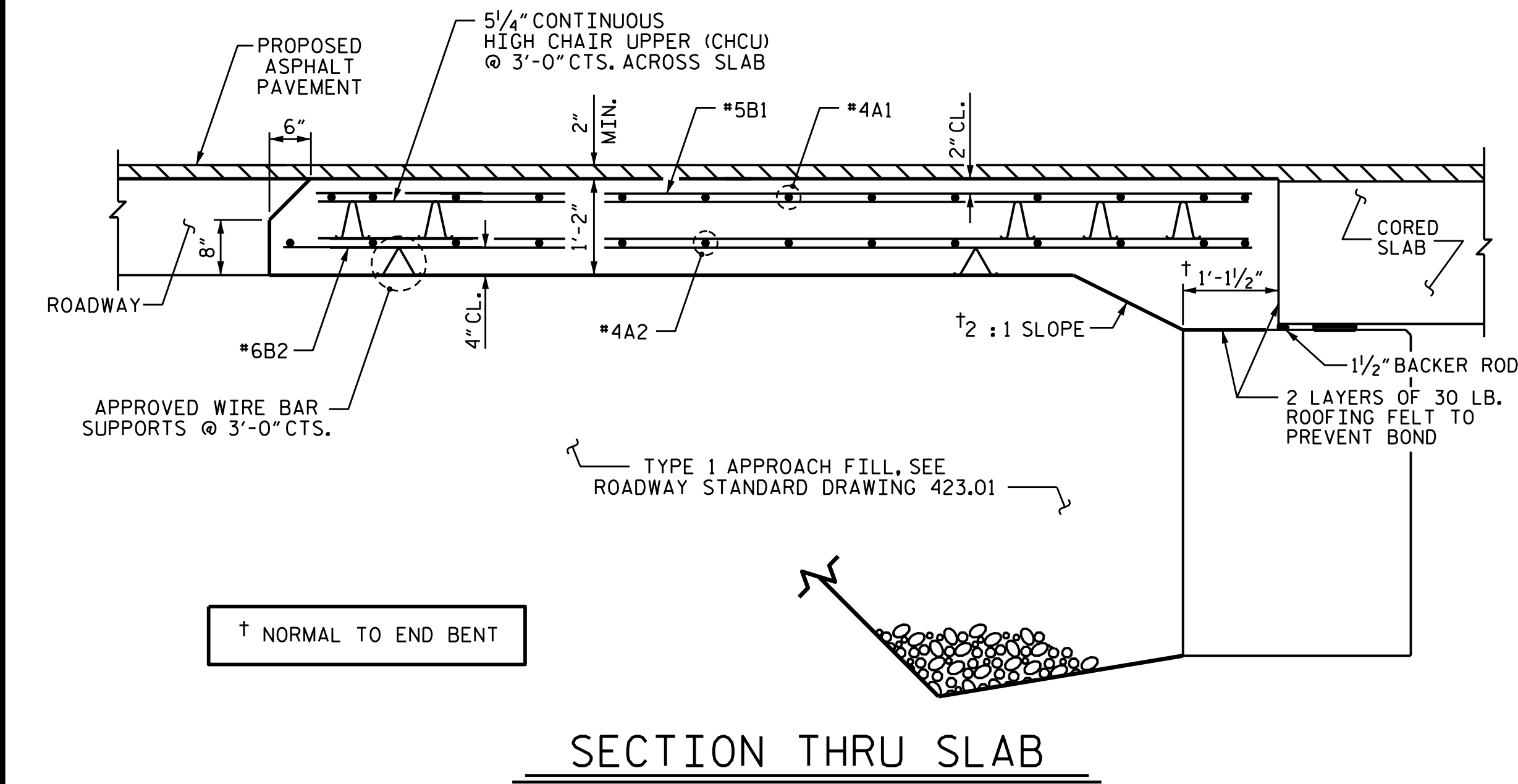
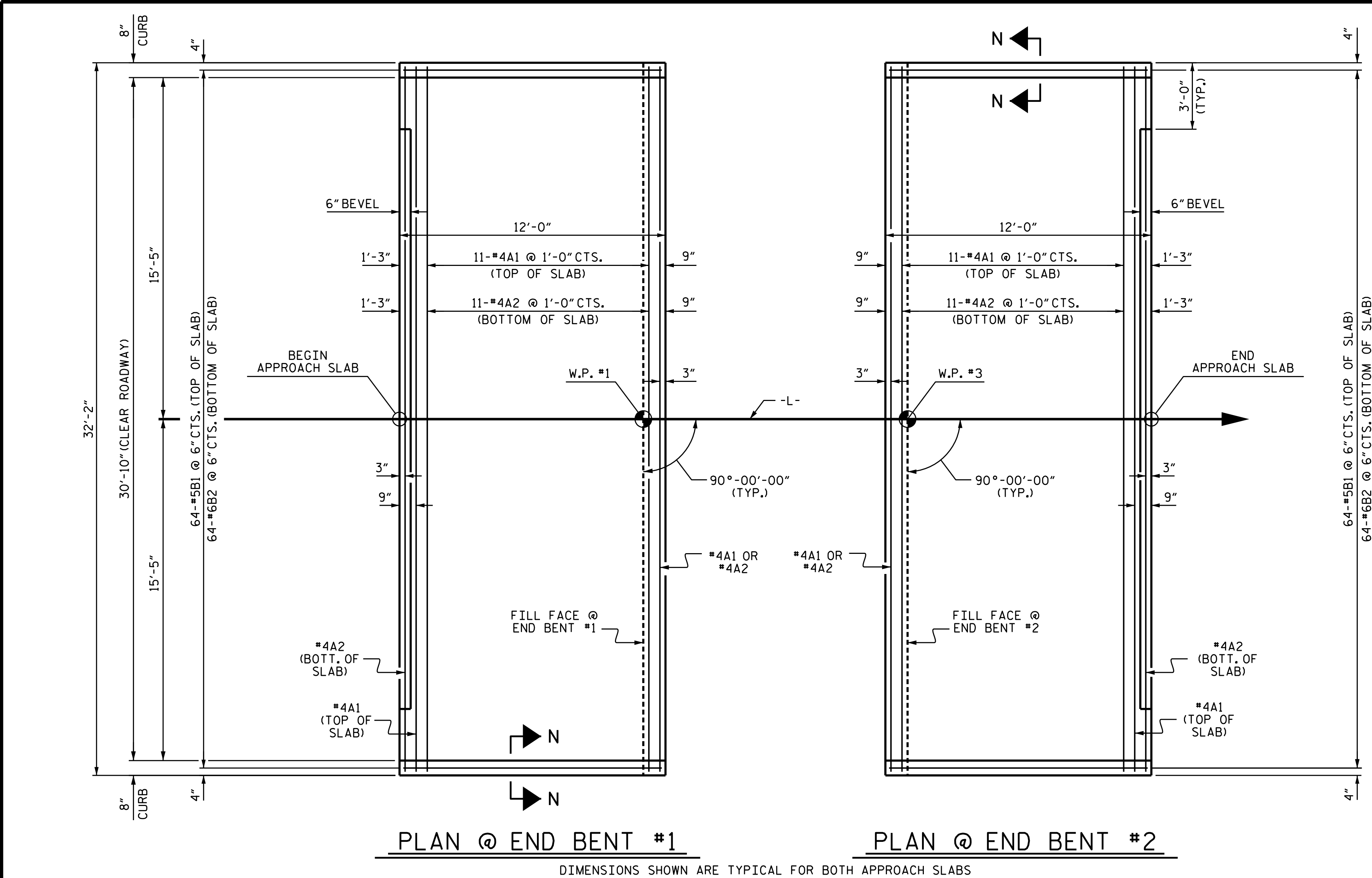


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PROJECT NO. **BP3-R011**
PENDER COUNTY
STATION: **15+52.50 -L-**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			5-19
2			4			TOTAL SHEETS 20

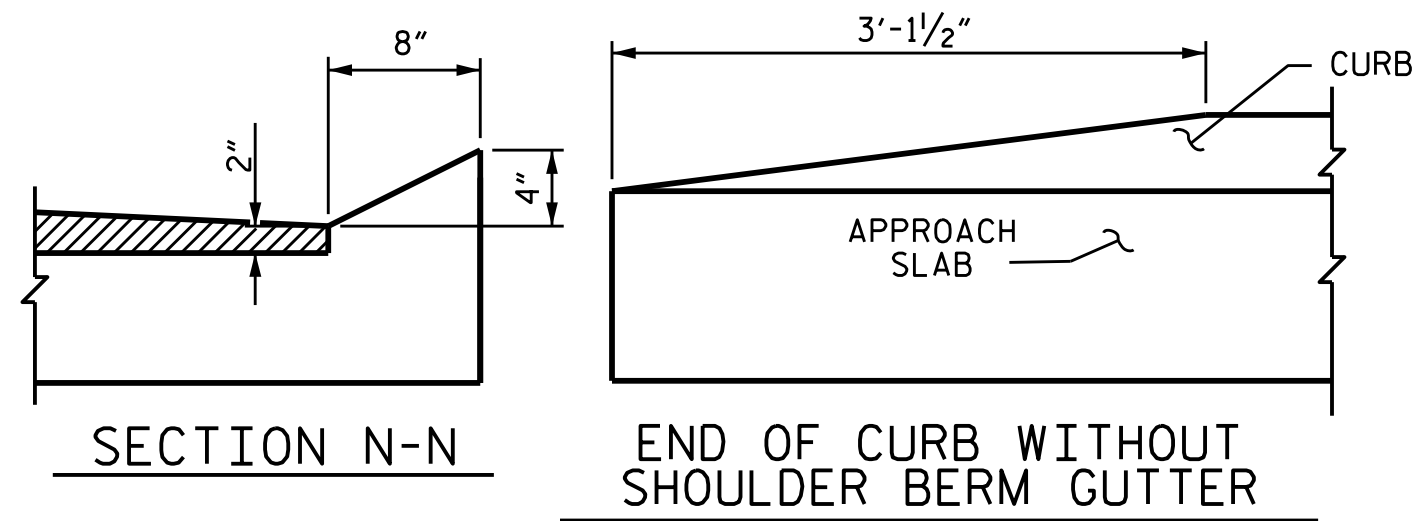


NOTES

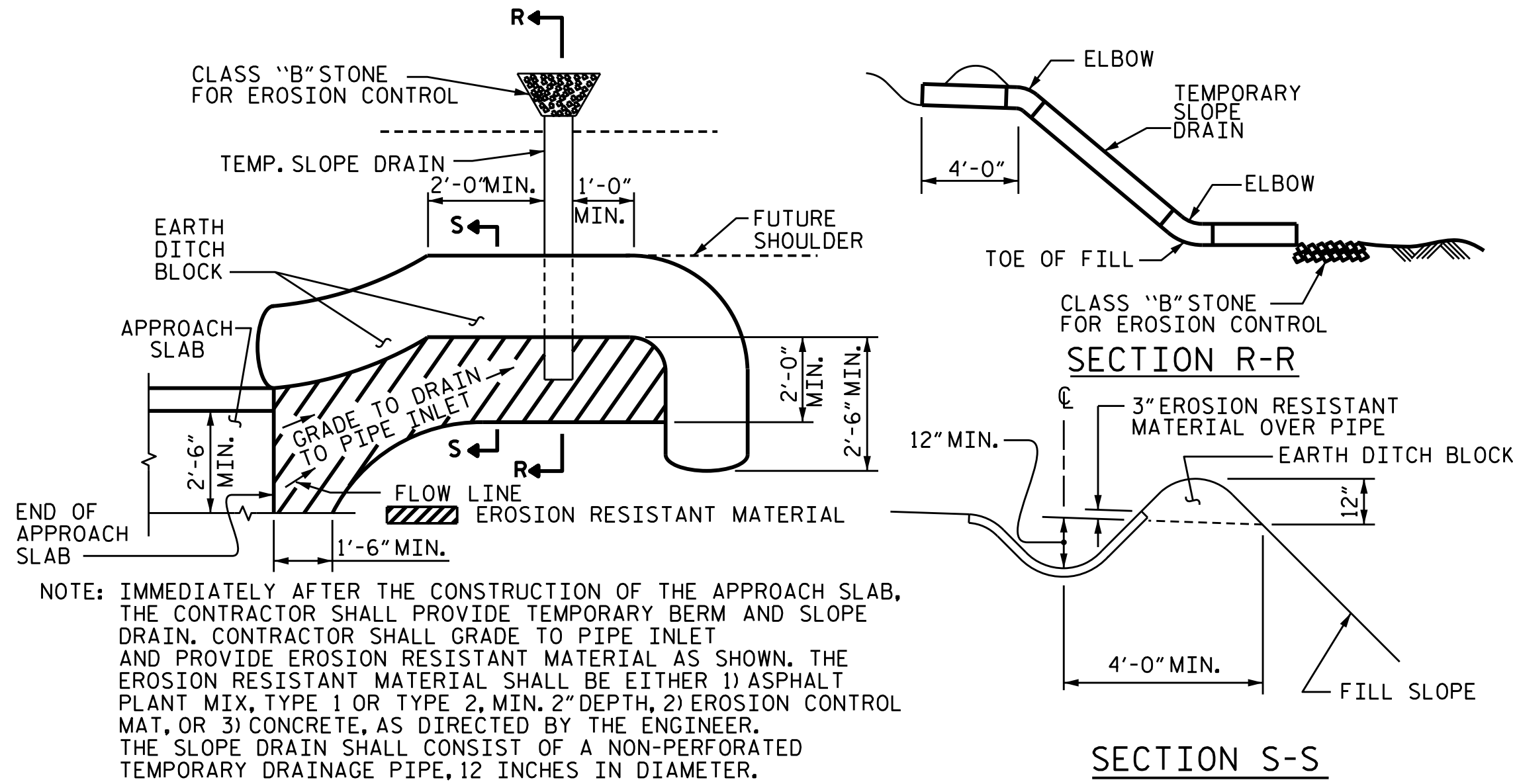
FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.

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

APPROACH SLAB GROOVING IS NOT REQUIRED.



CURB DETAILS



SPLICE LENGTHS		
BAR	SIZE	LENGTH
A1	#4	2'-0"
A2	#4	1'-9"

BILL OF MATERIAL						
APPROACH SLAB AT EB #1						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
* A1	13	#4	STR	31'-10"	276	
A2	13	#4	STR	31'-10"	276	
* B1	64	#5	STR	11'-2"	745	
B2	64	#6	STR	11'-8"	1121	
REINFORCING STEEL					LBS.	1397
* EPOXY COATED REINFORCING STEEL					LBS.	1021
CLASS AA CONCRETE					C. Y.	18.4
APPROACH SLAB AT EB #2						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
* A1	13	#4	STR	31'-10"	276	
A2	13	#4	STR	31'-10"	276	
* B1	64	#5	STR	11'-2"	745	
B2	64	#6	STR	11'-8"	1121	
REINFORCING STEEL					LBS.	1397
* EPOXY COATED REINFORCING STEEL					LBS.	1021
CLASS AA CONCRETE					C. Y.	18.4

PROJECT NO. **BP3-R011**

PENDER COUNTY

STATION: **15+52.50 -L-**

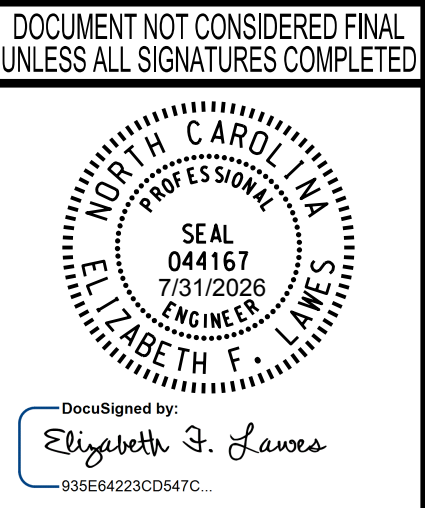
DESIGNED BY: P. GALLAGHER DATE: JUN 2025
DRAWN BY: D. KULKARNI DATE: JUN 2025
CHECKED BY: P. GALLAGHER DATE: JUN 2025
DESIGN ENGINEER OF RECORD: E. LAWES DATE: DEC 2025

DRAWN BY: SHS/MAA 5-09 REV. 08-19 BNB/THC
CHECKED BY: BCH 5-09 REV. 01-25 HRS

7/29/2025
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HobbsM



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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB UNIT (SUB-REGIONAL TIER) 90° SKEW						
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-20
2			4			TOTAL SHEETS 20

STD. NO. BAS-33-90S

STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

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

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

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

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

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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