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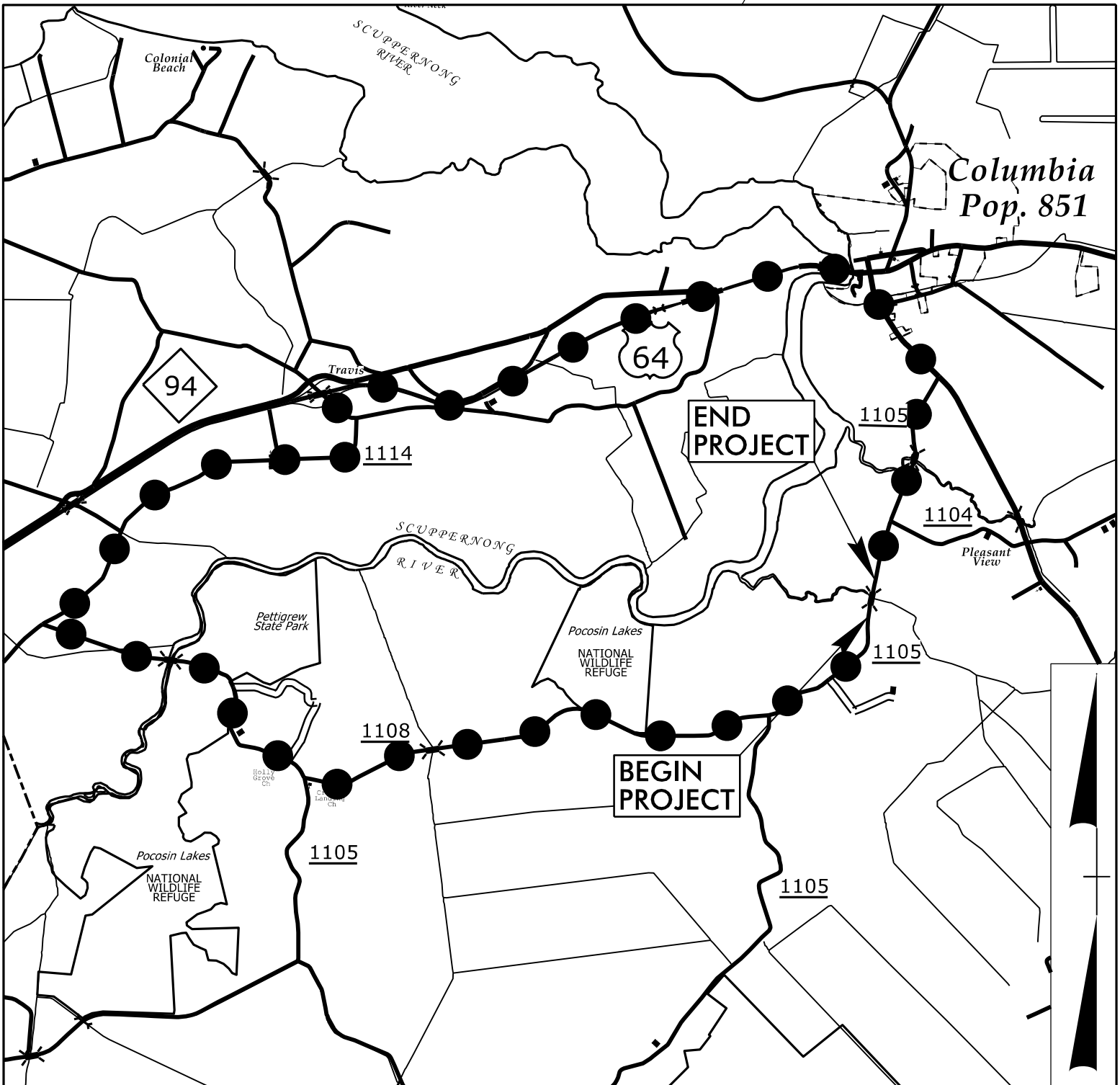
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shall not be considered a certified document.**

09/08/2019

TIP PROJECT: BP1-R014

CONTRACT:

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



DETOUR

VICINITY MAP

NOT TO SCALE

100% PLANS

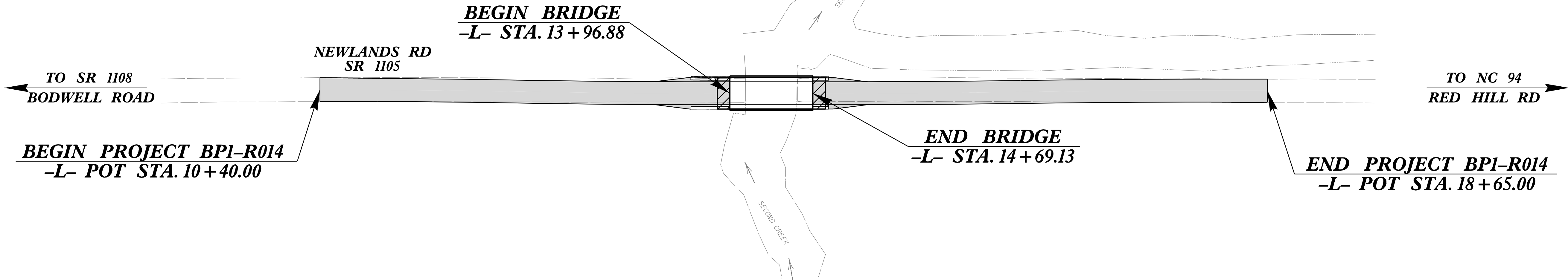
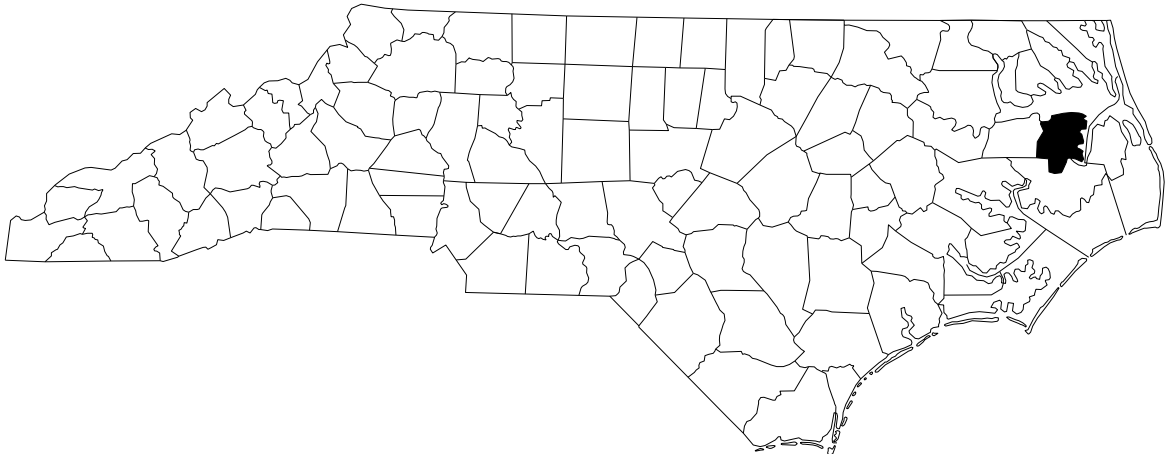
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TYRRELL COUNTY

LOCATION: REPLACE BRIDGE NO. 880018 ON
SR 1105 OVER SECOND CREEK

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

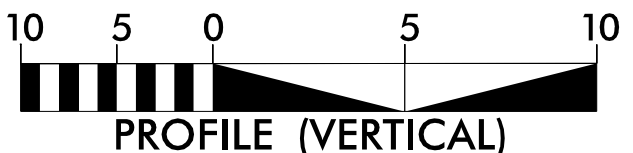
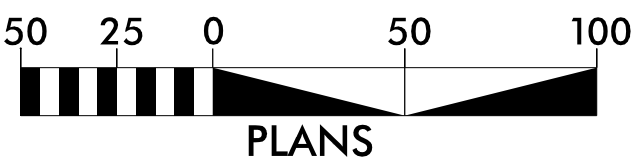
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP1-R014	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP1.R014.1	N/A	P.E.	
BP1.R014.2	N/A	RW	
BP1.R014.3	N/A	CONST.	



THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2040 = <750
V = 60 MPH

FUNC CLASS =
RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY T.I.P. PROJECT BP1-R014 0.142 MI
LENGTH OF STRUCTURE T.I.P. PROJECT BP1-R014 0.014 MI
TOTAL LENGTH OF T.I.P. PROJECT BP1-R014 0.156 MI

NCDOT CONTACT: RYAN SHOOK
NCDOT DIVISION 1 PROJECT MANAGER



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801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
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2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
01/09/2026

LETTING DATE:
11/04/2026

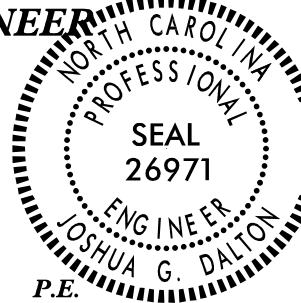
Prepared In The Offices of:



5400 Etta Burke Ct., STE. 100 • Raleigh, North Carolina 27606
Phone: (919) 859-2243 • Eng Firm License No. C-690

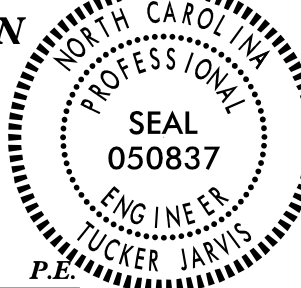
TUCKER JARVIS, PE
PROJECT ENGINEER

HYDRAULICS ENGINEER

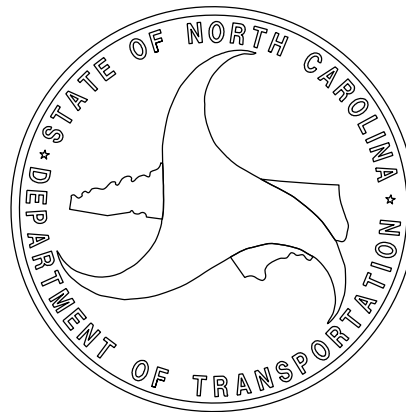


Signed by:
Joshua G. Dalton
SIGNATURE: 10/7/2026

ROADWAY DESIGN
ENGINEER



Signed by:
Tucker Jarvis
SIGNATURE: 10/7/2026



8/17/99

SHEET NUMBER	INDEX OF SHEETS
	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1	METHOD OF PIPE INSTALLATION
2C-2 THRU 2C-4	GUARDRAIL PLACEMENT
3B-1	ROADWAY SUMMARIES AND DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
4	PLAN AND PROFILE SHEET
RW-1 THRU RW-4	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENT AND PROPERTY TIES
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UC-1 THRU UC-4	UTILITIES CONSTRUCTION PLANS
X-1	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-11	CROSS-SECTIONS
S-1 THRU S-15	STRUCTURE PLANS

GENERAL NOTES:

2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

GRADE LINE:
GRADING AND SURFACING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SUBSURFACE DRAINS:

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

GUARDRAIL:

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

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

POWER – DOMINION POWER

TELECOMMUNICATIONS – BRIGHTSPEED

WATER – TYRRELL COUNTY

RIGHT-OF-WAY MARKERS:

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

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	
200.02	Method of Clearing – Method II
225.02	Guide for Grading Subgrade – Secondary and Local
225.04	Method of Obtaining Superelevation – Two Lane Pavement
275.01	Rock Paving
DIVISION 3 – PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
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	
815.02	Subsurface Drain
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 11, 12, and 14 of 15)
862.02	Guardrail Installation (Use Detail in Lieu of Standard for Sheet 5 of 9)
862.03	Structure Anchor Units (Use Detail in Lieu of Standards for Sheet 6 and 8 of 9)
876.02	Guide for Rip Rap at Pipe Outlets

PROJECT REFERENCE NO.
BPI-R014

SHEET NO.
1A

ROADWAY DESIGN
ENGINEER

Signed by:
Tucker Jarvis
448F338215C145

NORTH CAROLINA
PROFESSIONAL
SEAL
050837
ENGINEER
TUCKER JARVIS

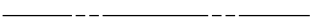
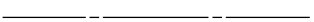
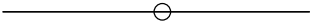
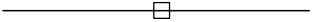
9/16/2026

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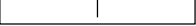
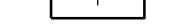
CONVENTIONAL PLAN SHEET SYMBOLS

PROJECT REFERENCE NO.	SHEET NO.
BP1-R014	1B

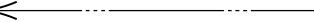
BOUNDARIES AND PROPERTY:

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

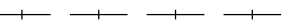
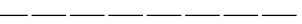
BUILDINGS AND OTHER CULTURE:

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

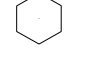
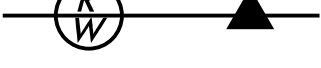
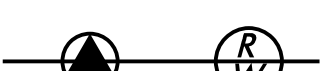
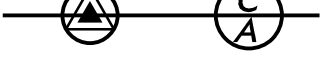
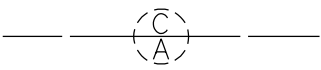
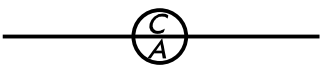
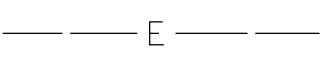
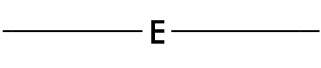
HYDROLOGY:

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

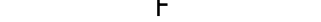
RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Exist Permanent Easment Pin and Cap	
New Permanent Easement Pin and Cap	
Vertical Benchmark	
Existing Right of Way Marker	
Existing Right of Way Line	
New Right of Way Line	
New Right of Way Line with Pin and Cap	
New Right of Way Line with Concrete or Granite R/W Marker	
New Control of Access Line with Concrete C/A Marker	
Existing Control of Access	
New Control of Access	
Existing Easement Line	
New Temporary Construction Easement	
New Temporary Drainage Easement	
New Permanent Drainage Easement	
New Permanent Drainage /Utility Easement	
New Permanent Utility Easement	
New Temporary Utility Easement	
New 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	

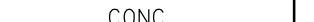
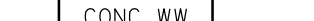
VEGETATION:

Single Tree	
Single Shrub	

*S.U.E. = Subsurface Utility Engineering

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:

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 LOS B (S.U.E.*)	
U/G Power Line LOS C (S.U.E.*)	
U/G Power Line LOS D (S.U.E.*)	

TELEPHONE:

Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	
U/G Telephone Cable LOS B (S.U.E.*)	
U/G Telephone Cable LOS C (S.U.E.*)	
U/G Telephone Cable LOS D (S.U.E.*)	
U/G Telephone Conduit LOS B (S.U.E.*)	
U/G Telephone Conduit LOS C (S.U.E.*)	
U/G Telephone Conduit LOS D (S.U.E.*)	
U/G Fiber Optics Cable LOS B (S.U.E.*)	
U/G Fiber Optics Cable LOS C (S.U.E.*)	
U/G Fiber Optics Cable LOS D (S.U.E.*)	

WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line LOS B (S.U.E.*)	
U/G Water Line LOS C (S.U.E.*)	
U/G Water Line LOS D (S.U.E.*)	
Above Ground Water Line	

TV:

TV Pedestal	
TV Tower	
U/G TV Cable Hand Hole	
U/G TV Cable LOS B (S.U.E.*)	
U/G TV Cable LOS C (S.U.E.*)	
U/G TV Cable LOS D (S.U.E.*)	
U/G Fiber Optic Cable LOS B (S.U.E.*)	
U/G Fiber Optic Cable LOS C (S.U.E.*)	
U/G Fiber Optic Cable LOS D (S.U.E.*)	

GAS:

Gas Valve	
Gas Meter	
U/G Gas Line LOS B (S.U.E.*)	
U/G Gas Line LOS C (S.U.E.*)	
U/G Gas Line LOS D (S.U.E.*)	
Above Ground Gas Line	

SANITARY SEWER:

Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Forced Main Line LOS B (S.U.E.*)	
SS Forced Main Line LOS C (S.U.E.*)	
SS Forced Main Line LOS D (S.U.E.*)	

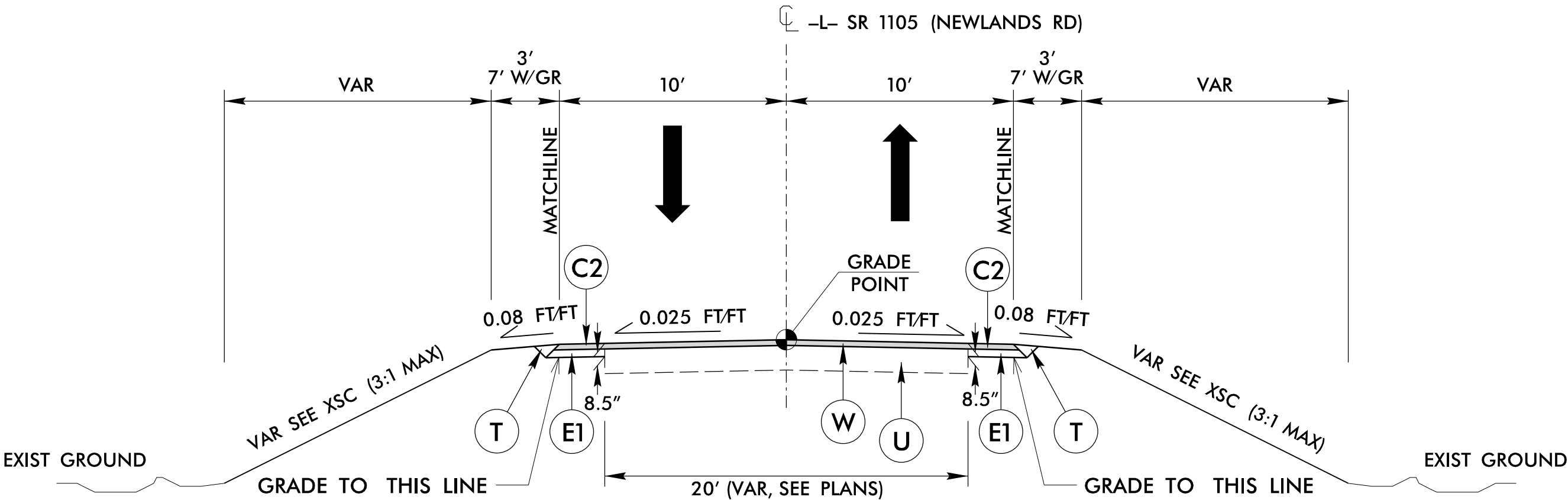
MISCELLANEOUS:

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

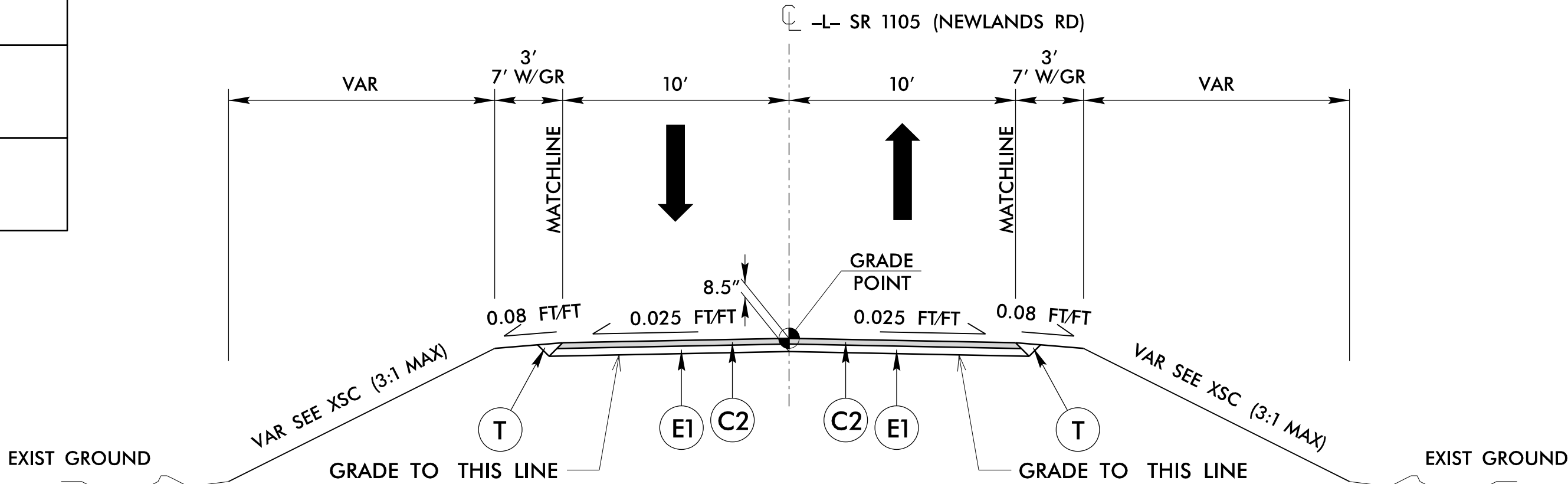
6/2/99

PAVEMENT SCHEDULE	
(FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 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 1½" IN DEPTH.
E1	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 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" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J	PROP. 6" ABC
R	PROP. SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

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



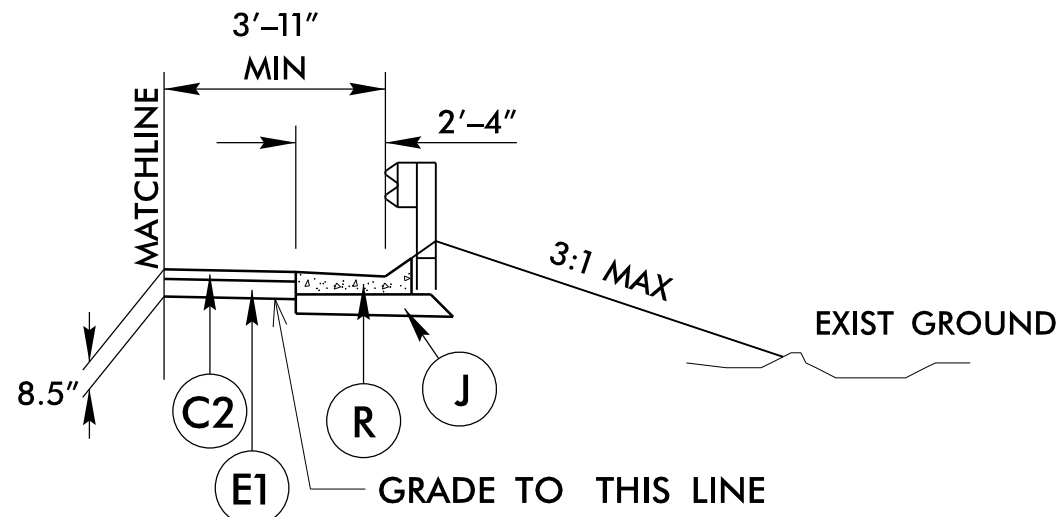
TYPICAL SECTION NO. 1
-L- STA. 10+40.00 TO 13+86.00
-L- STA. 16+25.00 TO 18+65.00



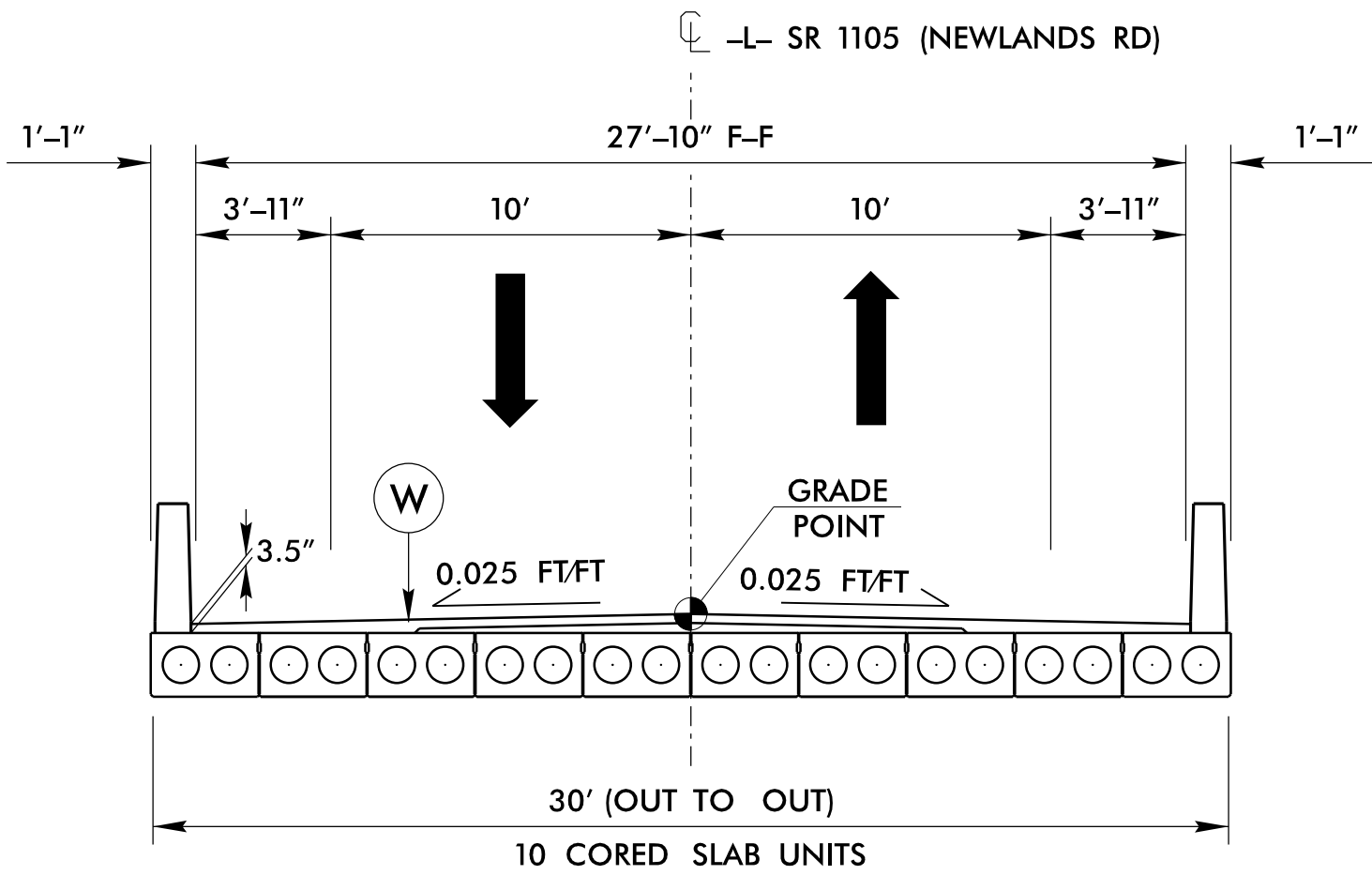
TYPICAL SECTION NO. 2
-L- STA. 13+86.00 TO 13+96.88 (BEGIN BRIDGE)
-L- STA. 14+69.13 (END BRIDGE) TO 16+25.00

Stantec
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License No. F-0672

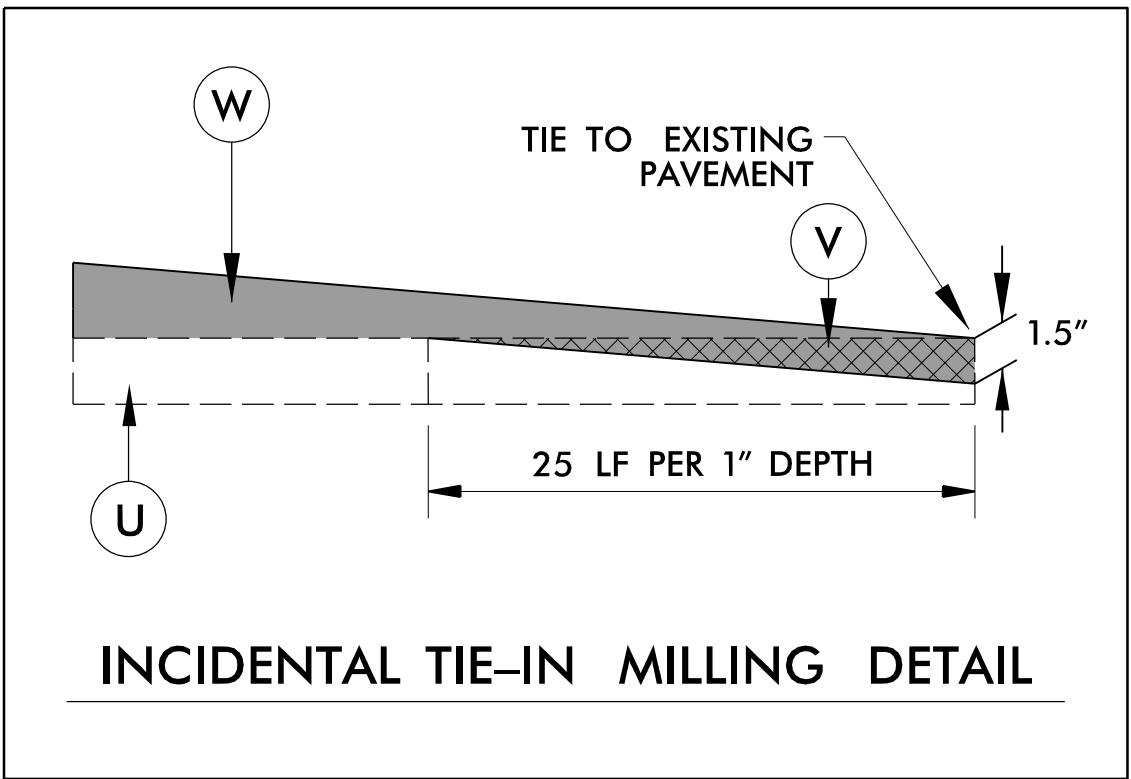
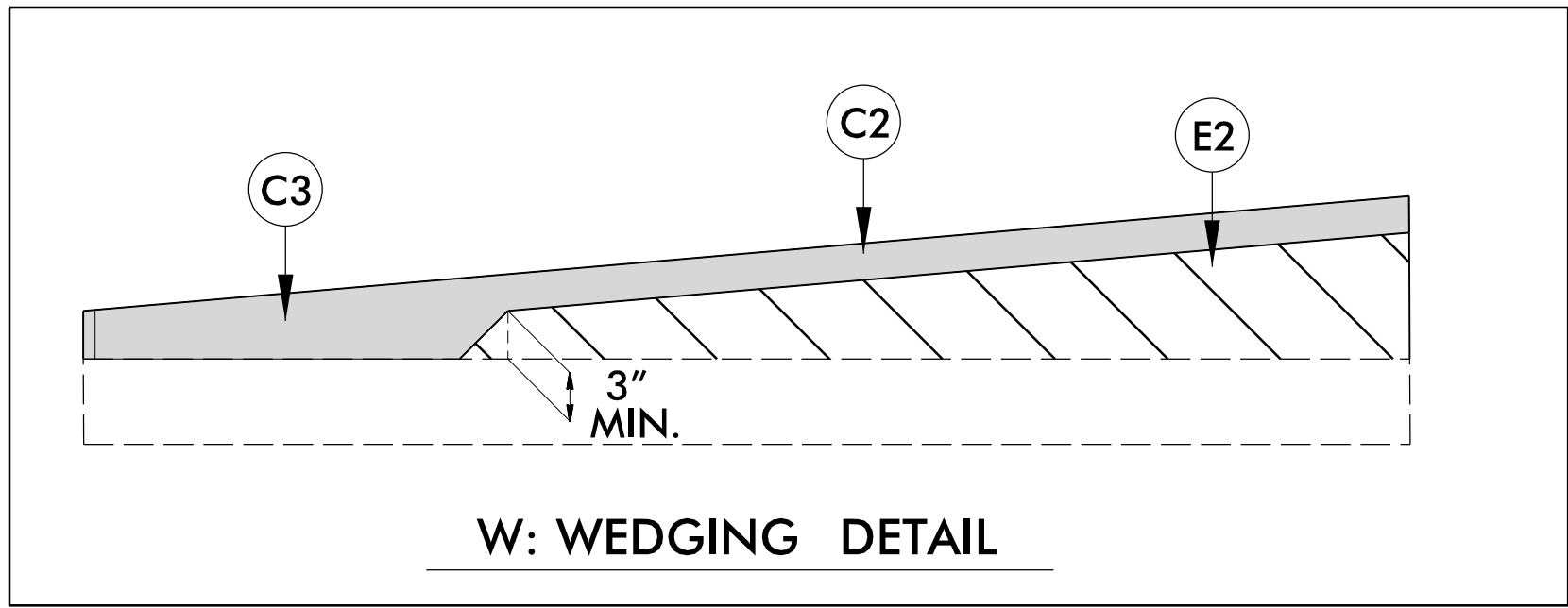
PROJECT REFERENCE NO.		SHEET NO.
BPI-RO14		2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER	
		DIVISION 1 STANDARD PAVEMENT DESIGN
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PARTIAL TYPICAL SECTION NO. 1A
USE IN CONJUNCTION WITH TYPICAL SECTION 1 & 2
-L- STA. 13+63.00 TO 13+96.88 RT
-L- STA. 13+63.00 TO 13+96.88 LT (MIRRORED)
-L- STA. 14+69.13 TO 14+83.00 RT
-L- STA. 14+69.13 TO 14+83.00 LT (MIRRORED)



TYPICAL SECTION NO. 3
-L- STA. 13+96.88 (BEGIN BRIDGE) TO 14+69.13 (END BRIDGE)



4/1/2026
U:\Projects\BPI-RO14\1. Roadway\BPI-RO14.dgn

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

Diagram showing a pipe in a trench with normal earth foundation. The pipe is surrounded by compacted backfill. Labels include: TOP OF FILL, GROUND LINE, H (fill height), I.D. /6 MIN. NOT LESS THAN 6", O.D. + 3', and COMPACT AFTER PIPE IS PLACED & PRIOR TO PLACEMENT OF FILL.

NORMAL EARTH FOUNDATION

Diagram showing a pipe in a trench with a rock foundation. The pipe sits on a layer of rock. Labels include: TOP OF FILL, GROUND LINE, H, I.D. /6 MIN. NOT LESS THAN 6", O.D. + 3', COMPACT AFTER PIPE IS PLACED & PRIOR TO PLACEMENT OF FILL, ROCK, TYPE 4a GEOTEXTILE, I.D. /6 MIN. NOT LESS THAN 6", 1/2" PER FOOT OF 'H' BUT NOT LESS THAN 12" NOR MORE THAN 24" AS DIRECTED BY ENGR., and EARTH.

**ROCK FOUNDATION
PIPE IN TRENCH**

Diagram showing a pipe in a trench with an unsuitable material foundation. The pipe sits on a layer of unsuitable material. Labels include: TOP OF FILL, GROUND LINE, H, I.D. /6 MIN. NOT LESS THAN 6", O.D. + 3', COMPACT AFTER PIPE IS PLACED & PRIOR TO PLACEMENT OF FILL, TYPE 4a GEOTEXTILE, I.D. /6 MIN. NOT LESS THAN 6", 1/2" PER FOOT OF 'H' BUT NOT LESS THAN 12" NOR MORE THAN 24" AS DIRECTED BY ENGR., and EARTH.

UNSUITABLE MATERIAL FOUNDATION

Diagram showing a pipe above ground with normal earth foundation. The pipe is surrounded by compacted backfill. Labels include: TOP OF FILL, GROUND LINE, MIN. O.D., I.D. /6 MIN. NOT LESS THAN 6", O.D. + 2', COMPACT AFTER PIPE IS PLACED & PRIOR TO PLACEMENT OF FILL, and 1:1 slope.

NORMAL EARTH FOUNDATION

Diagram showing a pipe above ground with a rock foundation. The pipe sits on a layer of rock. Labels include: TOP OF FILL, GROUND LINE, MIN. O.D., I.D. /6 MIN. NOT LESS THAN 6", O.D. + 2', COMPACT AFTER PIPE IS PLACED & PRIOR TO PLACEMENT OF FILL, ROCK, TYPE 4a GEOTEXTILE, I.D. /6 MIN. NOT LESS THAN 6", 1/2" PER FOOT OF 'H' BUT NOT LESS THAN 12" NOR MORE THAN 24" AS DIRECTED BY ENGINEER, and MIN. O.D.

**ROCK FOUNDATION
PIPE ABOVE GROUND**

Diagram showing a pipe above ground with an unsuitable material foundation. The pipe sits on a layer of unsuitable material. Labels include: TOP OF FILL, GROUND LINE, MIN. O.D., I.D. /6 MIN. NOT LESS THAN 6", O.D. + 2', COMPACT AFTER PIPE IS PLACED & PRIOR TO PLACEMENT OF FILL, TYPE 4a GEOTEXTILE, I.D. /6 MIN. NOT LESS THAN 6", 1/2" PER FOOT OF 'H' BUT NOT LESS THAN 12" NOR MORE THAN 24" AS DIRECTED BY ENGINEER, and MIN. O.D.

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.

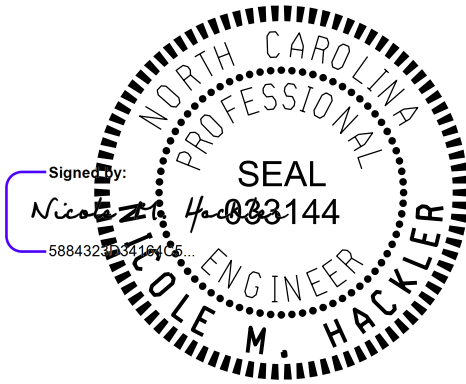
REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

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.



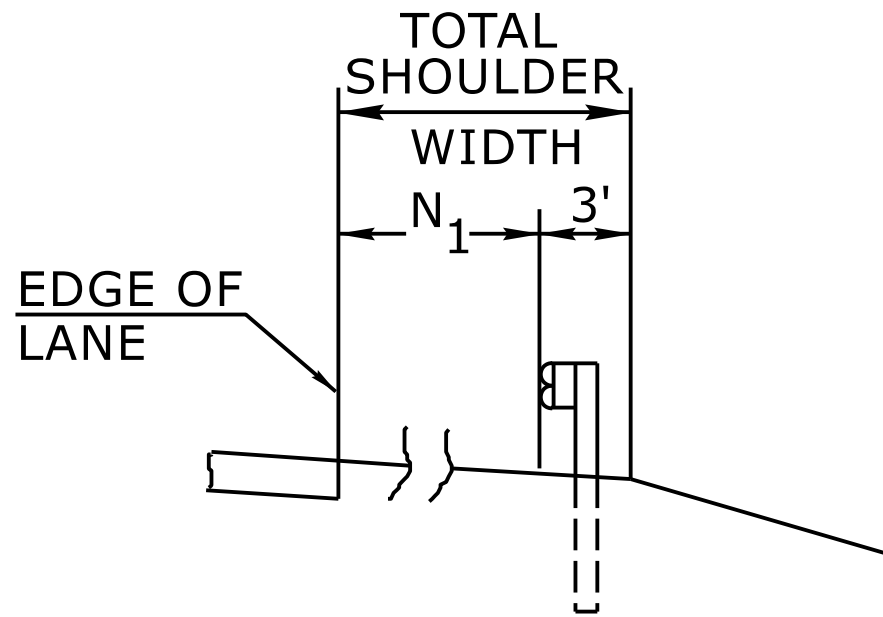
7/24/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

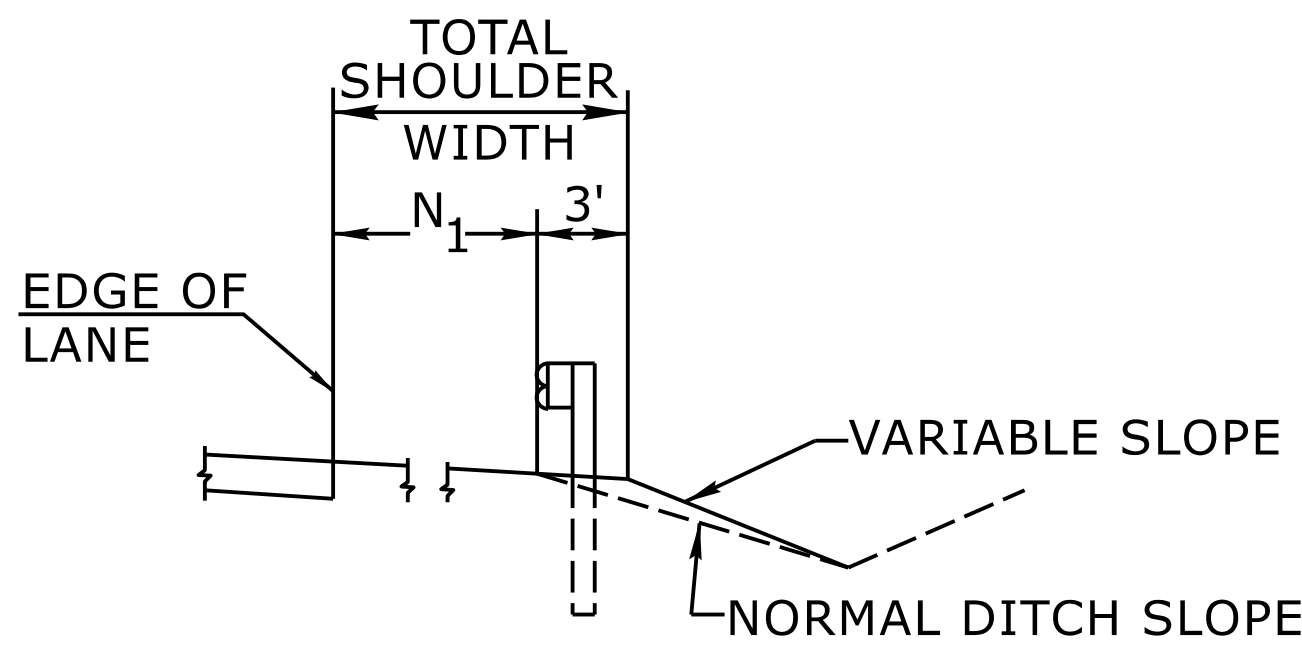
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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

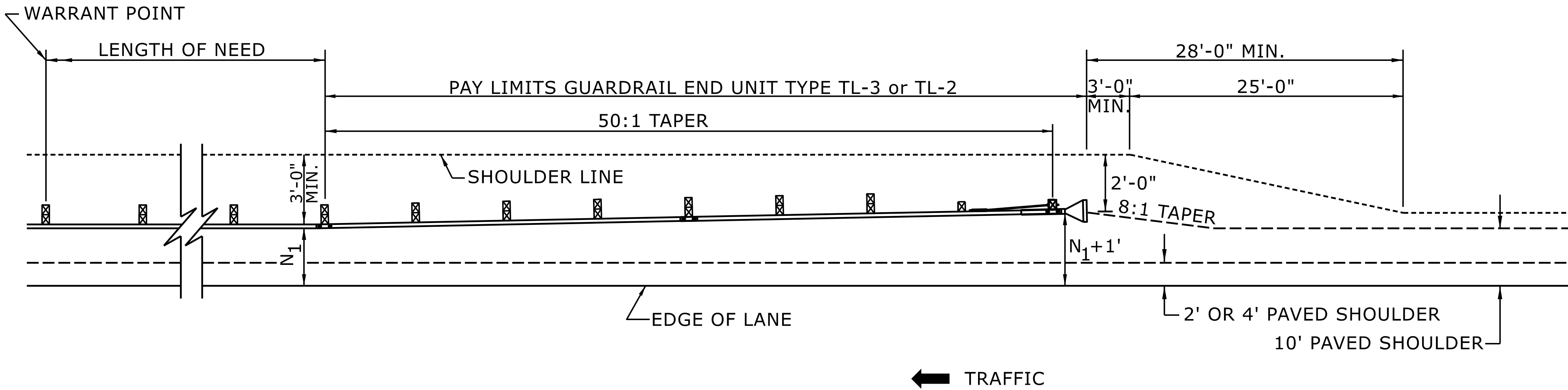


FILL SECTION



CUT SECTION

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



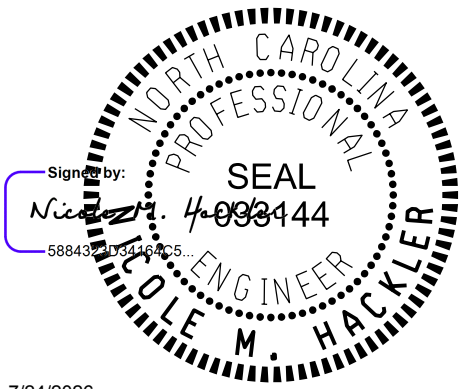
FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15
862D01



7/24/2026

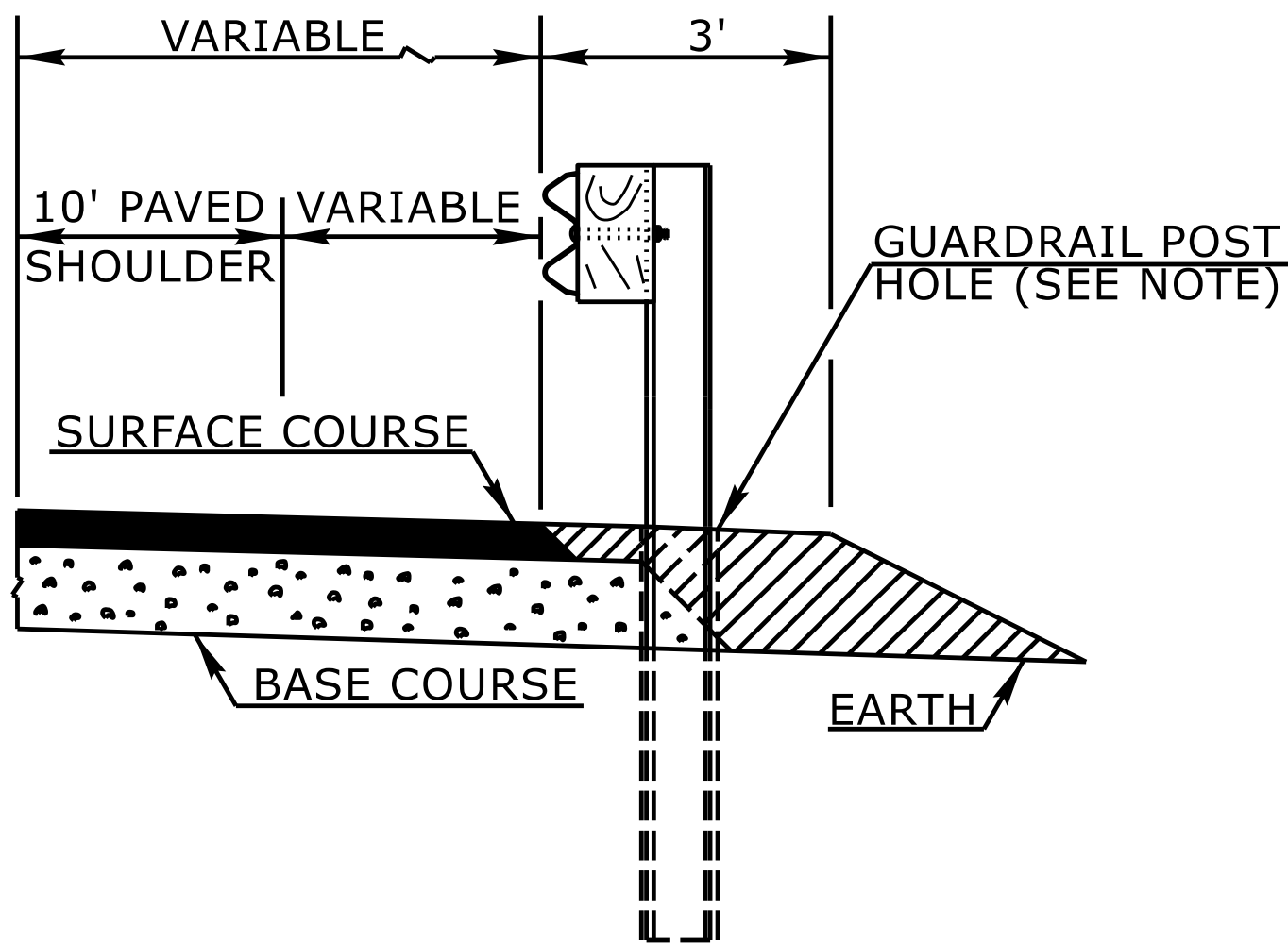
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

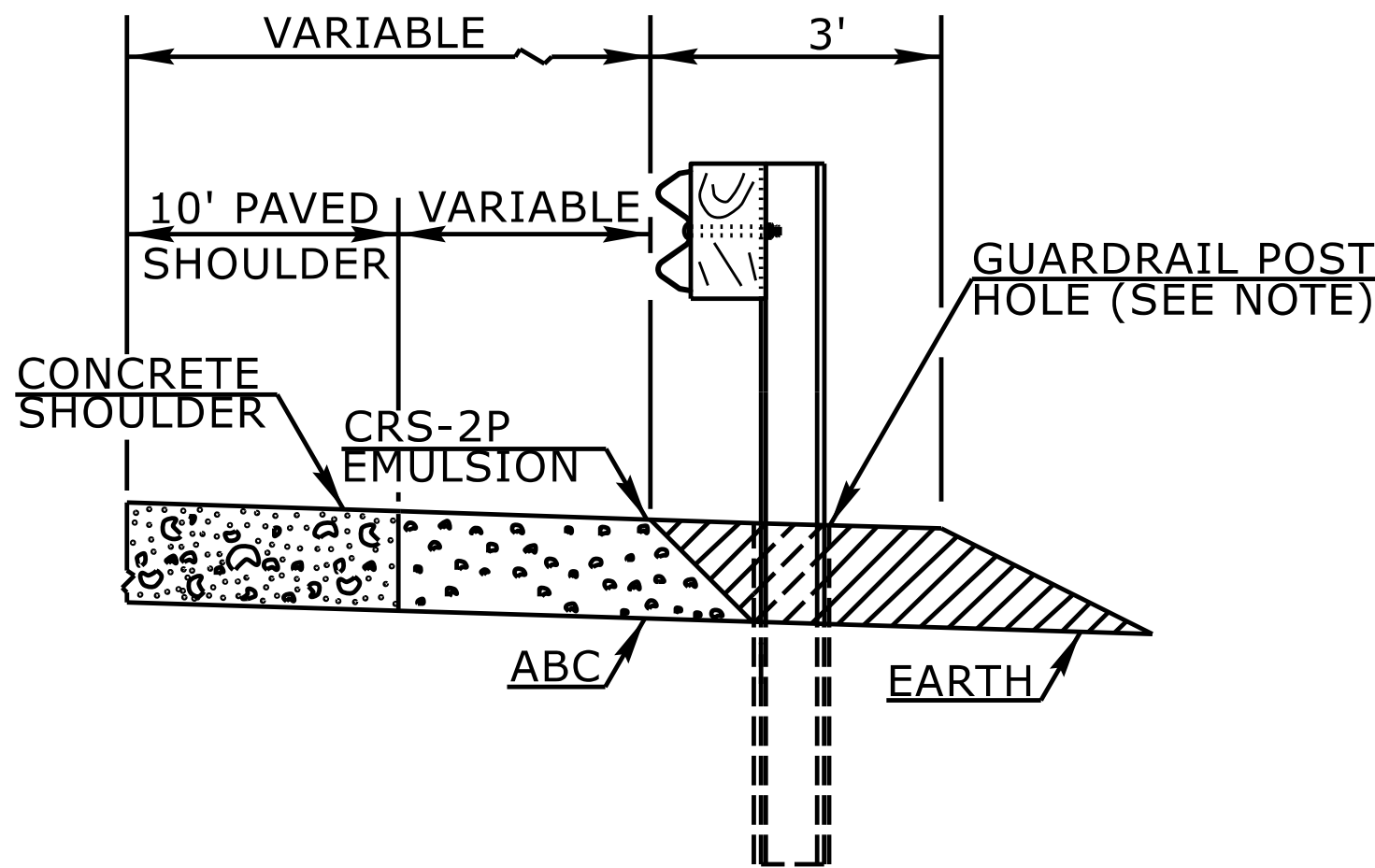
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

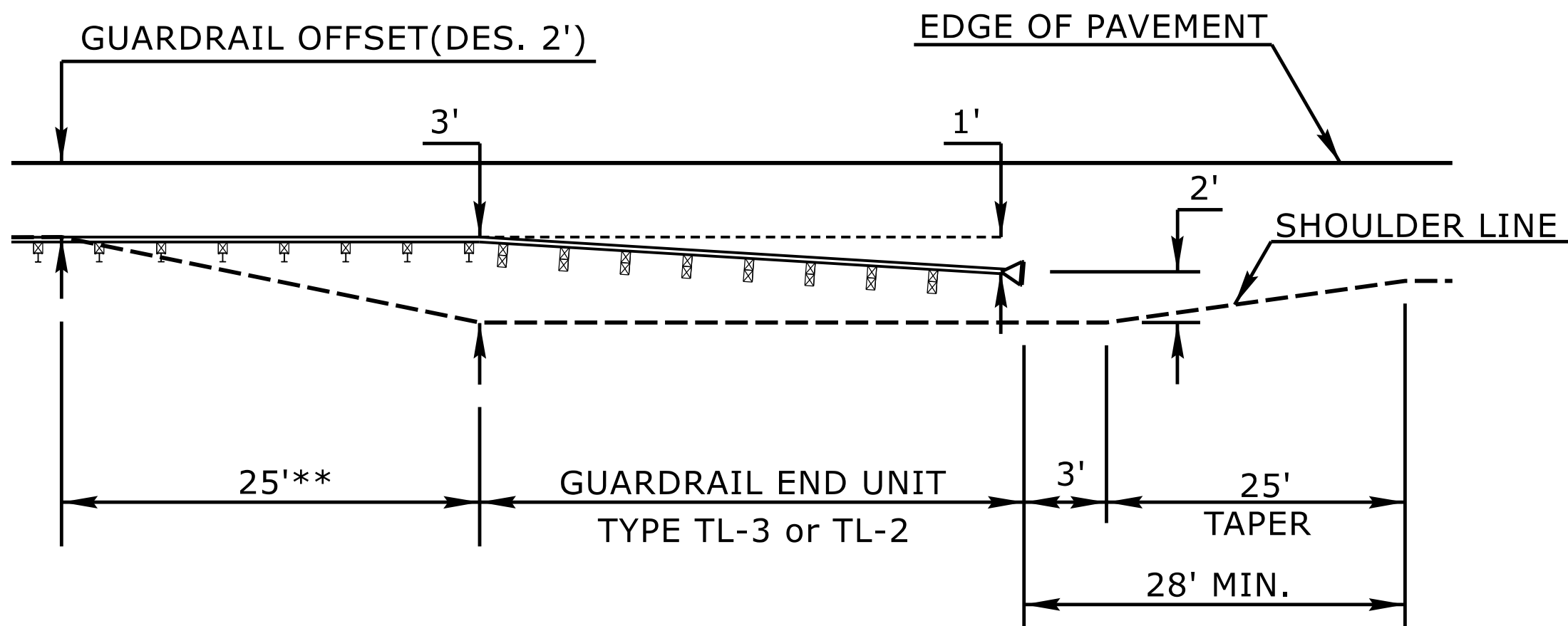
ORIGINAL BY: S.CALHOUN	DATE: 7-25-2024
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	



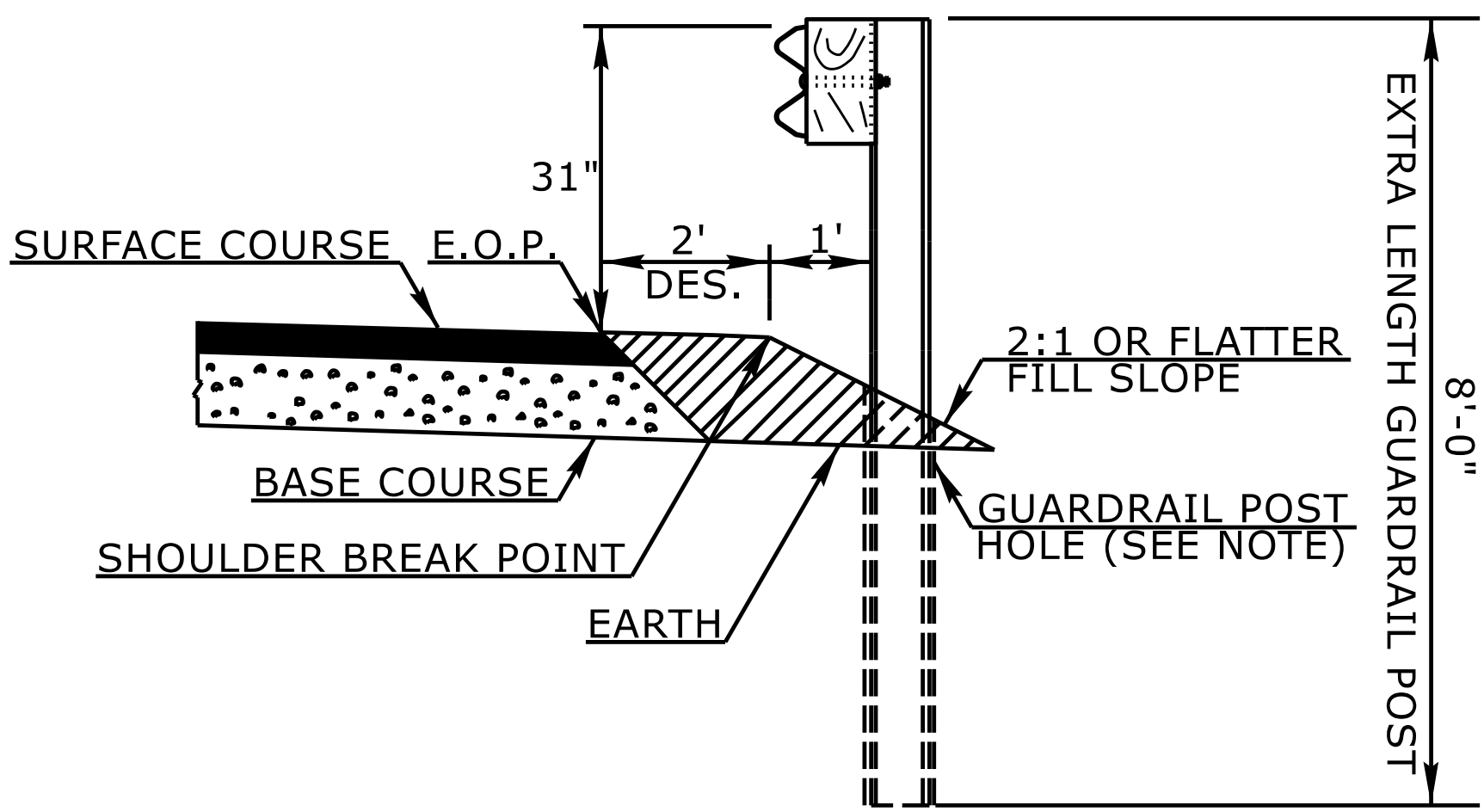
FLEXIBLE PAVED SHOULDER



CONCRETE PAVED SHOULDER



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



8' GUARDRAIL POST ON 2:1 SLOPE*

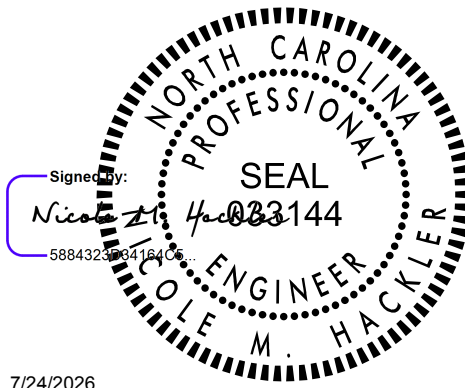
* THE 8' GUARDRAIL POST ON 2:1 SLOPE DETAIL IS INTENDED FOR USE ONLY IN SEVERELY CONSTRAINED AREAS WITH A POSTED SPEED $\leq$ 60 MPH. GUARDRAIL END UNITS MAY NOT BE PLACED ON THE 2:1 SLOPE AND MUST TRANSITION TO THE SHOULDER.
** 8' GUARDRAIL POST SHOULD BE USED IN THIS RANGE

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

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 11 OF 15
862D01



7/24/2026

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

12/06/07

COMPUTED BY: TSJ DATE: 04/06/2026
CHECKED BY: AMC DATE: 04/06/2026

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
BPI-R014	3B-1

EARTHWORK SUMMARY (CY)

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY NO. 1					
—L— STA. 10 + 40.00 TO STA. 13 + 96.88 (BEGIN BRIDGE)	23	300	428	405	300
SUBTOTAL SUMMARY NO. 1	23	300	428	405	300
SUMMARY NO. 2					
—L— STA. 14 + 69.13 (END BRIDGE) TO STA. 18 + 65.00	6	350	935	929	350
SUBTOTAL SUMMARY NO. 2	6	350	935	929	350
TOTAL	29	650	1,362	1,333	650
ADDITIONAL UNDERCUT		300	390	390	300
PROJECT TOTAL	29	950	1,752	1,723	950
EST. 5% TO REPLACE TOPSOIL ON BORROW PIT				86	
GRAND TOTAL	29	950	1,752	1,810	950
SAY	100	950		1,900	

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

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

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION L/R/V/CL	YD ³
-L-	13 + 86	13 + 96.88	CL	58
-L-	14 + 69.13	15 + 00	CL	100
TOTAL:				158
SAY:				175

PAVEMENT BREAKING SUMMARY

SURVEY LINE	STATION	STATION	LOCATION L/R/CL	YD ²
-L-	15 + 00	16 + 25	CL	284
TOTAL:				284
SAY:				300

**SHOULDER BERM
GUTTER SUMMARY (LF)**

SURVEY LINE	STATION	STATION	LENGTH
-L- (LT)	13 + 63	13 + 97	34
-L- (RT)	13 + 63	13 + 97	34
-L- (LT)	14 + 69	14 + 83	14
-L- (RT)	14 + 69	14 + 83	14
TOTAL:			96
SAY:			100

"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
 NG = NON-GATING IMPACT ATTENUATOR

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS		
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TL-3	TYPE III											EA					G	NG
-L-	13 + 04.25	13 + 96.88	LT	93.75'				13 + 96.88	4'	7'		50'		1'		1	1																
-L-	11 + 85.50	13 + 96.88	RT	162.5'				13 + 96.88	4'	7'		50'		1'		1	1																USE 8' GUARDRAIL POSTS
-L-	14 + 69.13	17 + 25.38	LT	187.5'				14 + 69.13	4'	7'		50'		1'		1	1																
-L-	14 + 69.13	15 + 61.75	RT	93.75'				14 + 69.13	4'	7'		50'		1'		1	1																
			SUBTOTAL	537.5																													
	LESS ANCHOR DEDUCTIONS																																
	GREU TL-3	4 @ 50'		200'																													
	TYPE III	4 @ 18.75'		75'																													
			TOTAL	262.5'												4	4																
			SAY	262.5'												4	4																
	ADDITIONAL GUARDRAIL POSTS = 5 EA															4	4																

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

COMPUTED BY: MCE DATE: 04/21/2025
CHECKED BY: JGD AMC DATE: 04/21/2025

[illegible]

COMPUTED BY: Thein Tun Zan DATE: 11-06-2025 CHECKED BY: Jinyoung Park DATE: 11-06-2025	(9-17-24) STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS SUMMARY OF SUBSURFACE DRAINAGE <table><thead><tr><th>LINE</th><th>Station</th><th>Station</th><th>Location LT/RT/CL</th><th>Drain Type* UD/BD/SD</th><th>LF</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="4">CONTINGENCY</td><td>SD</td><td>200</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>TOTAL LF:</td><td>200</td></tr></tbody></table> *UD = Underdrain *BD = Blind Drain *SD = Subsurface Drain SUMMARY OF ROCK PLATING <table><thead><tr><th>LINE</th><th>Beginning Slope (H:V)</th><th>Approx. Station</th><th>Ending Slope (H:V)</th><th>Approx. Station</th><th>Location LT/RT</th><th>Rock Plating Detail No. 1/2/3/4</th><th>Riprap Class* 1/2/B</th><th>Rock Plating SY</th></tr></thead><tbody><tr><td>-L-</td><td>1.5:1</td><td>14+75</td><td>2.5:1</td><td>15+90</td><td>LT</td><td>1</td><td>*</td><td>120</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>TOTAL SY:</td><td>120</td></tr></tbody></table> *Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.						LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF													CONTINGENCY				SD	200											TOTAL LF:	200	LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY	-L-	1.5:1	14+75	2.5:1	15+90	LT	1	*	120																																			TOTAL SY:	120
LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF																																																																																											
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				TOTAL LF:	200																																																																																											
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-L-	1.5:1	14+75	2.5:1	15+90	LT	1	*	120																																																																																								
							TOTAL SY:	120																																																																																								
PROJECT NO. BP1-R014		SHEET NO. 3G-1																																																																																														

DETAIL 1
TOE PROTECTION
(Not to Scale)

Natural Ground

3:1 or flatter Fill Slope

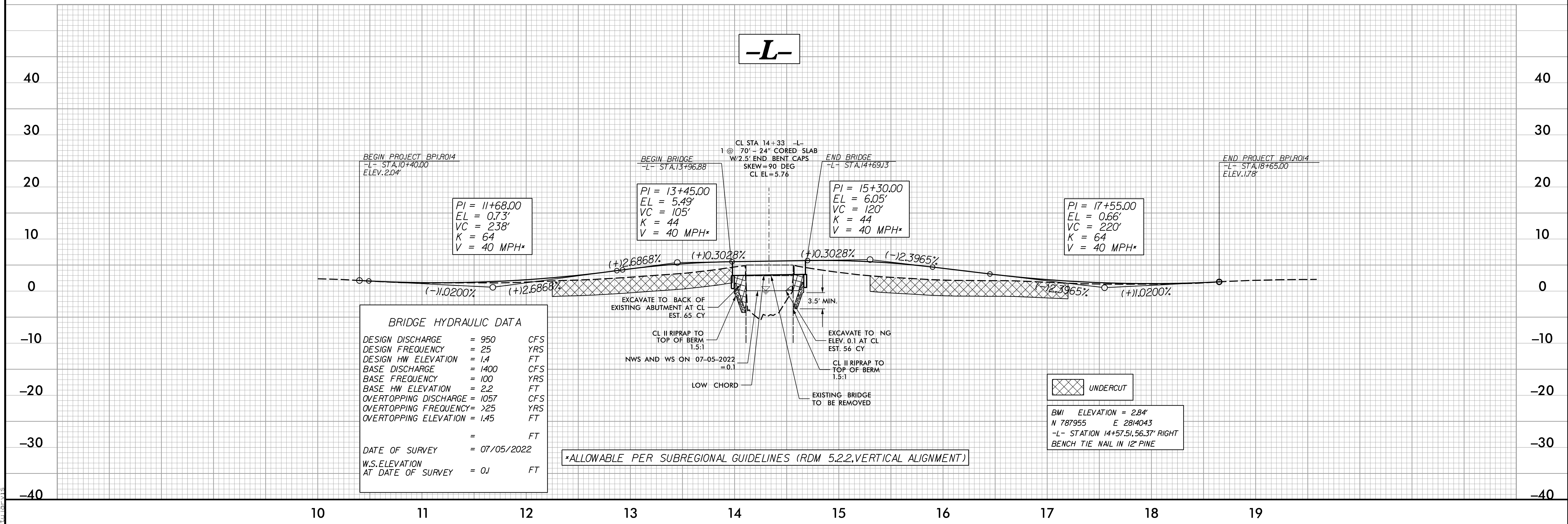
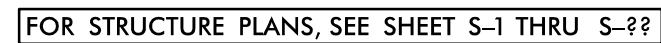
d = 2.0 Ft. or to Top of Berm

Geotextile

Type of Liner = Class II Rip-Rap

FROM	STA. 13+00 TO	13+83	STA. — LT
FROM	STA. 15+90 TO	16+75	STA. — LT
FROM	STA. 12+50 TO	13+83	STA. — RT
FROM	STA. 14+83 TO	17+00	STA. — RT

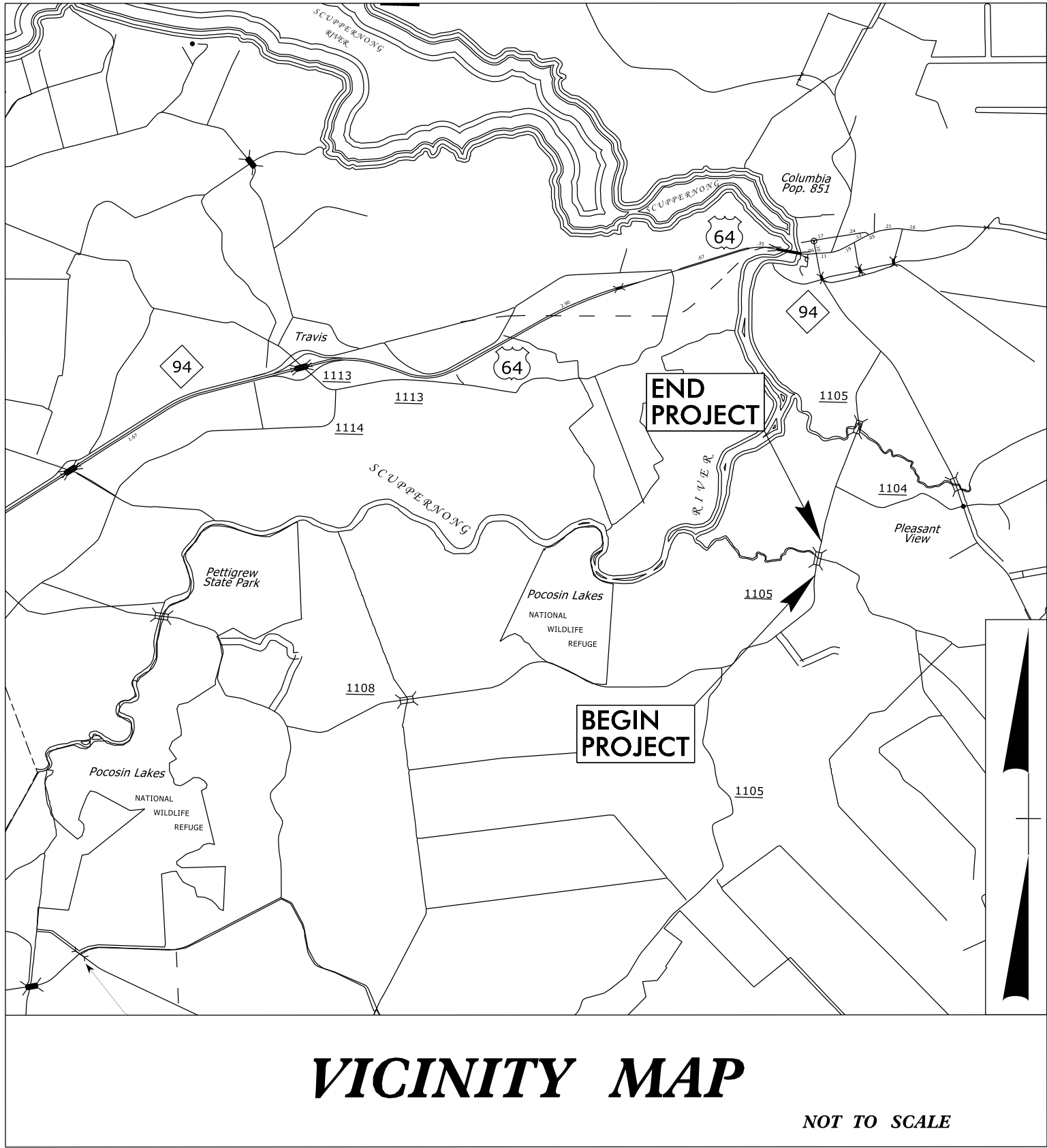
PIR04-2 (GPS MON)



09/08/2019

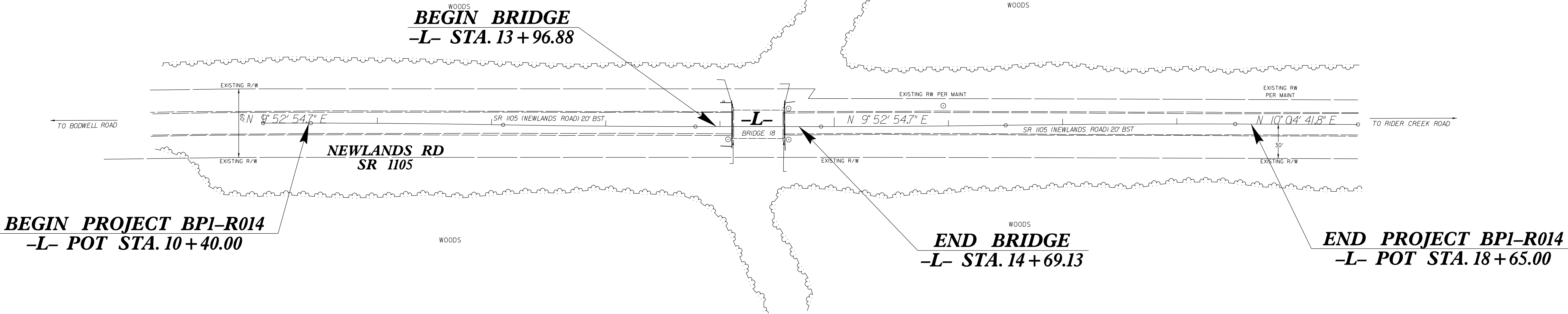
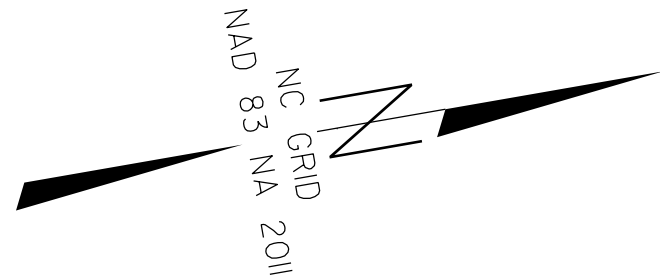
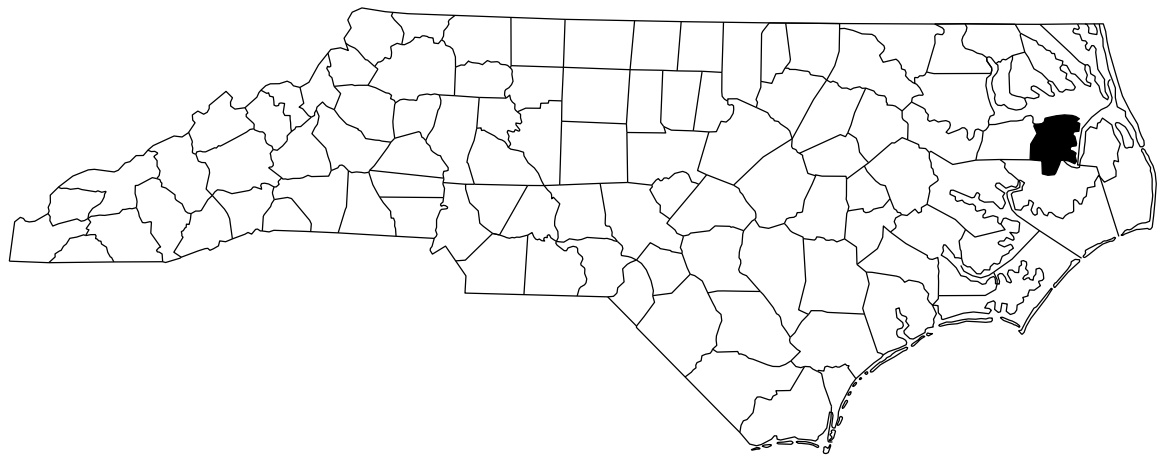
TIP PROJECT: BP1-R014

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP1-R014	1	7

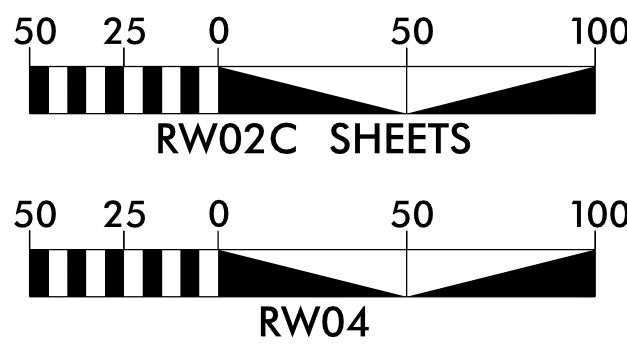


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
TYRRELL COUNTY

LOCATION: REPLACE BRIDGE NO. 880018 ON
SR 1105 OVER SECOND CREEK



GRAPHIC SCALE



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "BP1.R014-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 787398.597(ft) EASTING: 2813872.228(ft) ELEVATION: 1.49(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999938788 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BP1R014-2" TO -L- STATION 10+40.00 IS N 14°34'07" E 160.79(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

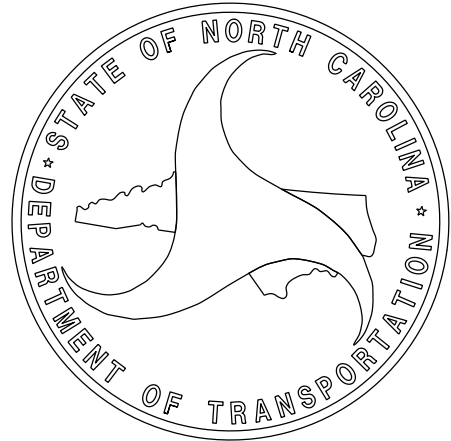
Prepared in the Office of:
Location & Surveys
Division 1
1300 US HWY 64 W
Plymouth, NC 27962

PROFESSIONAL LAND
SURVEYOR



Designed by:
Wood T. Downs III
SIGNATURE:

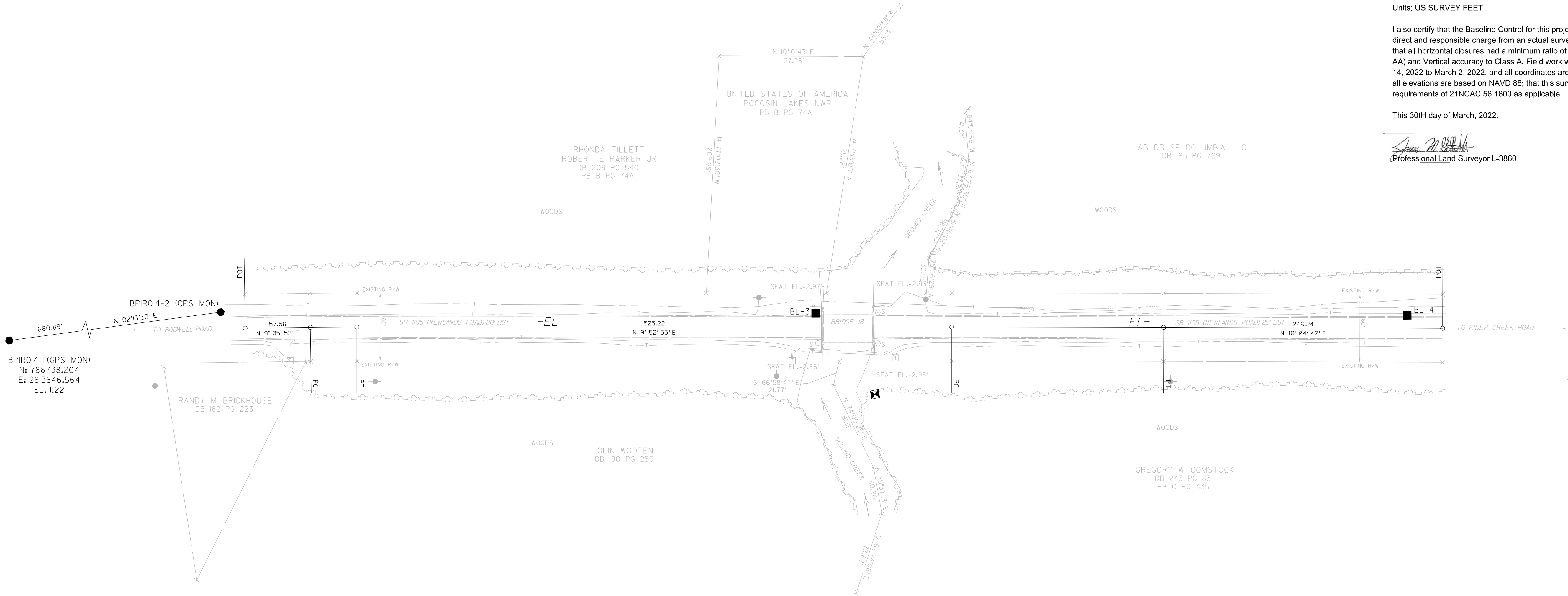
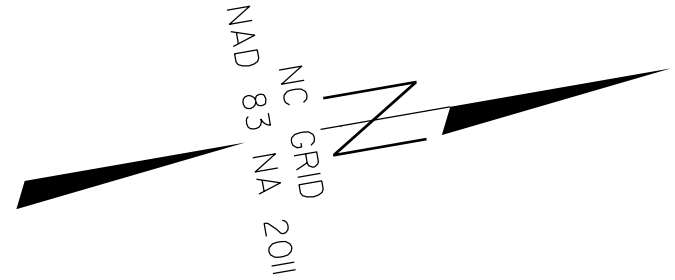
Date:
02/19/2026

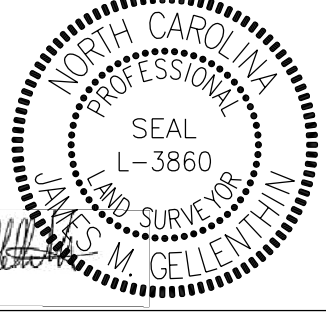


REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



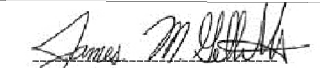
PROJECT REFERENCE NO.	SHEET NO.
BP1.R014	RW02C-1
Location and Surveys	
 KCI Associates of N.C., P.A. 4505 Falls of Neuse Rd, Suite 400 Raleigh, NC 27609 Phone (919) 783-9214 http://www.kci.com	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

Class of survey: **AA**
Type of GPS field procedure: RTN/VRS
Dates of survey: FEBRUARY 14TH 2022
Datum/Epoch: NAD83/2011
Published/Fixed-control use: N/A
Localized around: BP1.R014-2
Northing: 787398.597
Easting: 2813872.228
Combined grid factor: 0.999938788 (1/x=1.000061216)
Geoid model: GEOID 12A
Units: US SURVEY FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from February 14, 2022 to March 2, 2022, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 30th day of March, 2022.


(Professional Land Surveyor L-3860)

NOTES:

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

REVISIONS

0

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BL	POINT	DESC.	NORTH	EAST	ELEVATION
1		BP1-R014-1(GPS	786738.2040	2813846.5640	1.22
2		BP1-R014-2(GPS	787398.5970	2813872.2280	1.49
3		BL-3	787915.9370	2813963.5040	4.28
4		BL-4	788430.1800	2814054.7890	1.79

BM1 ELEVATION = 2.84
N 787955 E 2814043
BM- BENCH TIE NAIL IN 12IN PINE

NOTES:

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

PROJECT REFERENCE NO.
BP1.R014

SHEET NO.
RW02C-2

Location and Surveys



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

PROJECT SURVEYOR

James M. Gellenthin

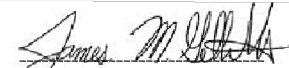
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

Class of survey: **AA**
Type of GPS field procedure: RTN/VRS
Dates of survey: FEBRUARY 14TH 2022
Datum/Epoch: NAD83/2011
Published/Fixed-control use: N/A
Localized around: BP1.R014-2
Northing: 787398.597
Easting: 2813872.228
Combined grid factor:0.999938788(1/x=1.000061216)
Geoid model: GEOID 12A
Units: US SURVEY FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from February 14, 2022 to March 2, 2022, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 21st day of March, 2022.


(Professional Land Surveyor L-3860

REVISIONS

0

SURVEY CONTROL SHEET
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	787417.472	2813889.936	N 09°05'53.1" E	57.56					
LINE									
PC	787474.305	2813899.038	N 09°29'23.9" E	41.07	00°47'01.6"(RT)	01°54'29.7"	41.07	20.54	3002.52
CURVE									
PT	787514.815	2813905.809	N 09°52'54.7" E	525.22					
LINE									
PC	788032.245	2813995.947	N 09°58'48.2" E	187.13	00°11'47.0"(RT)	00°06'17.8"	187.13	93.57	54591.42
CURVE									
PT	788216.545	2814028.378	N 10°04'41.8" E	246.24					
LINE									
POT	788458.988	2814071.468							

PROJECT REFERENCE NO.
BP1.R014

SHEET NO.
RW02C-3

Location and Surveys



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

PROJECT SURVEYOR



James M. Gellenthin

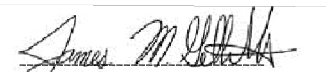
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

Class of survey: **AA**
Type of GPS field procedure: RTN/VRS
Dates of survey: FEBRUARY 14TH 2022
Datum/Epoch: NAD83/2011
Published/Fixed-control use: N/A
Localized around: BP1.R014-2
Northing: 787398.597
Easting: 2813872.228
Combined grid factor: 0.999938788(1/x=1.000061216)
Geoid model: GEOID 12A
Units: US SURVEY FEET

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from February 14, 2022 to March 2, 2022, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 21st day of March, 2022.


(Professional Land Surveyor L-3860

NOTES:

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

REVISIONS

PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.
BPI-R014

SHEET NO.
RW02D-1

Location and Surveys

NCDOT
LOCATION & SURVEYS
DIVISION 1
1300 US 64W
PLYMOUTH, NC 27962

PROJECT SURVEYOR

Designed by: Linwood T. Downs III
845001100402465

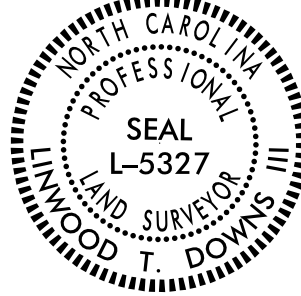
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

This 16th day of February, 2026.

Designed by:
Linwood T. Downs III
845001100402465

Professional Land Surveyor L-5327



TYPE	STATION	L	
		NORTH	EAST
POT	10+00.00	787514.8150	2813905.8095
PC	10+41.77	787555.9666	2813912.9782
PRC	12+10.15	787721.5792	2813943.3508
PT	13+78.53	787887.1917	2813973.7233
PC	14+88.53	787995.5597	2813992.6012
PRC	16+50.14	788154.9624	2814019.2168
PT	18+51.17	788353.1890	2814052.6642
POT	19+58.62	788458.9879	2814071.4685

- NOTES:
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
 - 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.

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO.
BPI-R014

SHEET NO.
RW04

Location and Surveys

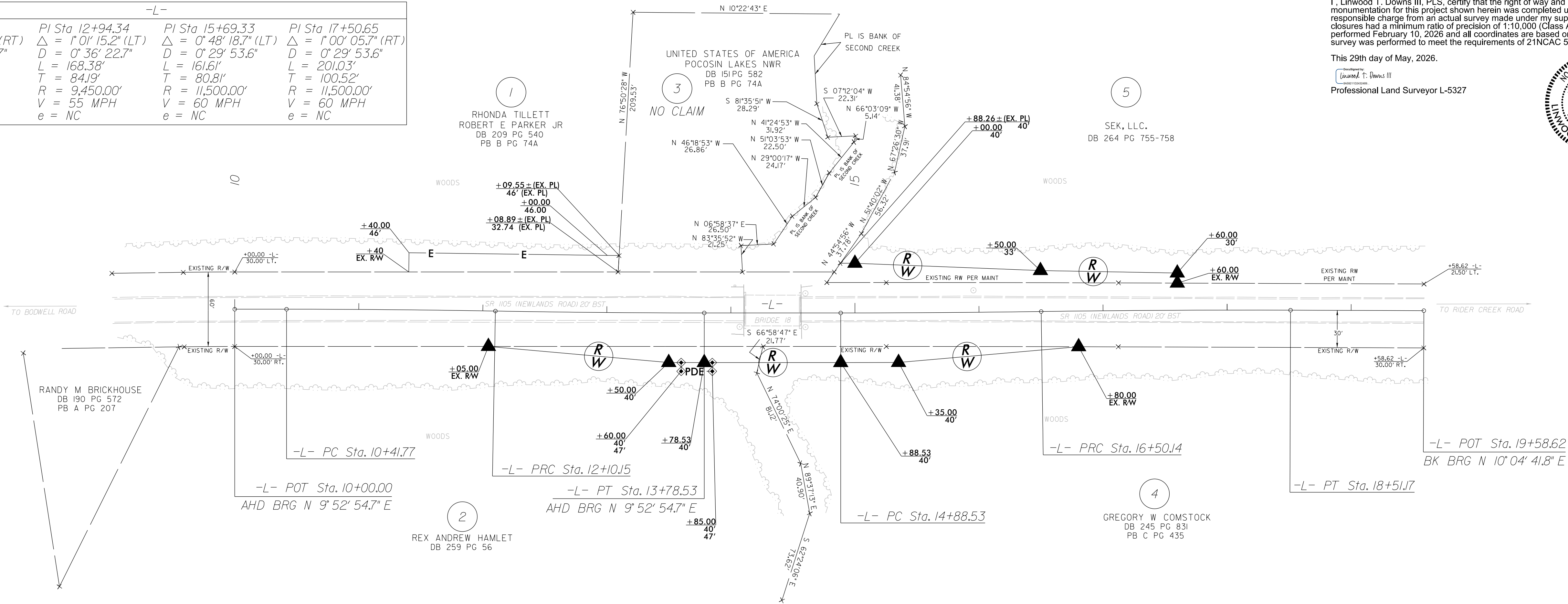
NCDOT
LOCATION & SURVEYS
DIVISION 1
1300 US 64W
PLYMOUTH, NC 27962

PROJECT SURVEYOR

Seal of Linwood T. Downs III, Professional Land Surveyor L-5327, State of North Carolina

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-L-			
PI Sta. 11+25.96 Δ = 1°01'15.2" (RT) D = 0°36'22.7" L = 168.38' T = 84.19' R = 9,450.00' V = 55 MPH e = NC	PI Sta. 12+94.34 Δ = 1°01'15.2" (LT) D = 0°36'22.7" L = 168.38' T = 84.19' R = 9,450.00' V = 55 MPH e = NC	PI Sta. 15+69.33 Δ = 0°48'18.7" (LT) D = 0°29'53.6" L = 161.61' T = 80.81' R = 11,500.00' V = 60 MPH e = NC	PI Sta. 17+50.65 Δ = 1°00'05.7" (RT) D = 0°29'53.6" L = 201.03' T = 100.52' R = 11,500.00' V = 60 MPH e = NC



I, Linwood T. Downs III, PLS, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed February 10, 2026 and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 29th day of May, 2026.

Linwood T. Downs III

Professional Land Surveyor L-5327



NOTES:

- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- RIGHT OF WAY MONUMENTATION ESTABLISHED FEBRUARY 10, 2026.

REVISIONS

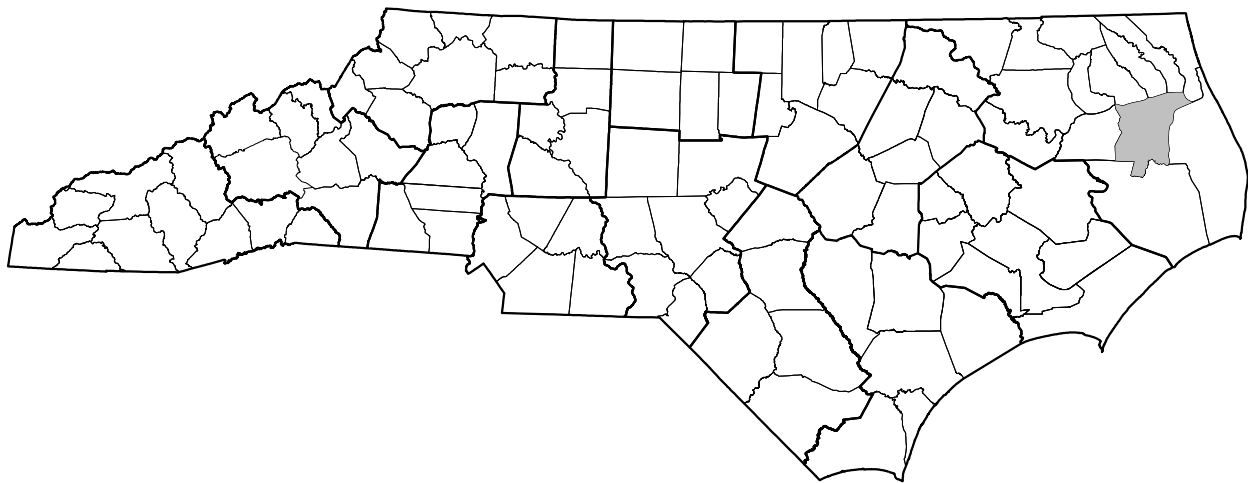
28-MAY-2026 10:02
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cbblount

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

TYRRELL COUNTY

DIVISION 1



REPLACE BRIDGE NO. 880018 SR 1105 (NEWLANDS RD)
OVER SECOND CREEK

GENERAL NOTES

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

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

TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.
- B) INSTALL SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- C) INSTALL SIGNING REQUIRED FOR THE OFF-SITE DETOUR AS SHOWN IN THE TRAFFIC CONTROL PLAN.
- D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

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

MISCELLANEOUS

- H) MAINTAIN VEHICULAR ACCESS TO ALL DRIVEWAYS DURING THE LIFE OF THE CONTRACT, UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER. USE INCIDENTAL STONE WHEN NECESSARY.

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, PHASING, AND GENERAL NOTES
TMP-2	SPECIAL SIGN DESIGN
TMP-3	SR 1105 NEWLANDS RD DETOUR ROUTE

PHASING

STEP 1:

PRIOR TO ANY WORK OPERATIONS, INSTALL AND COVER WORK ZONE WARNING SIGNS AND TRAFFIC CONTROL DEVICES ON SR 1105 (NEWLANDS RD), RIDERS CREEK RD, AND BODWELL RD, PER ROADWAY STANDARD DRAWING 1101.03, SHEET 1 AND TMP-3.

STEP 2: (TMP-3)

USING TEMPORARY ROAD CLOSURES PER ROADWAY STANDARD DRAWING 1101.03, SHEET 1 PERFORM THE FOLLOWING:

- CLOSE SR 1105 (NEWLANDS RD) AND PLACE TRAFFIC ON OFF-SITE DETOUR AS SHOWN ON TMP-3.
- CONSTRUCT PROPOSED STRUCTRE INCLUDING FINAL PAVEMENT AND MARKINGS.

STEP 3:

- REMOVE ALL TRAFFIC CONTROL DEVICES AND DETOUR. OPEN SR 1105 (NEWLANDS RD) TO TRAFFIC.

ROADWAY STANDARD DRAWINGS

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
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1145.01	BARRICADES

LEGEND

	BARRICADE (TYPE III)
	STATIONARY SIGN
	DETOUR ROUTE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



Stantec Consulting Services Inc.
801 Jones Franklin Road, Suite 300
Raleigh, NC 27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com
License No. F-0672



7/24/2026



PLANS PREPARED BY:

JAY W. WOOLARD, PE
SENIOR TRANSPORTATION ENGINEER

ANDREW N. GOOD
TRANSPORTATION DESIGNER

NCDOT CONTACT:

RYAN SHOOK
NCDOT DIVISION 1 PROJECT MANAGER

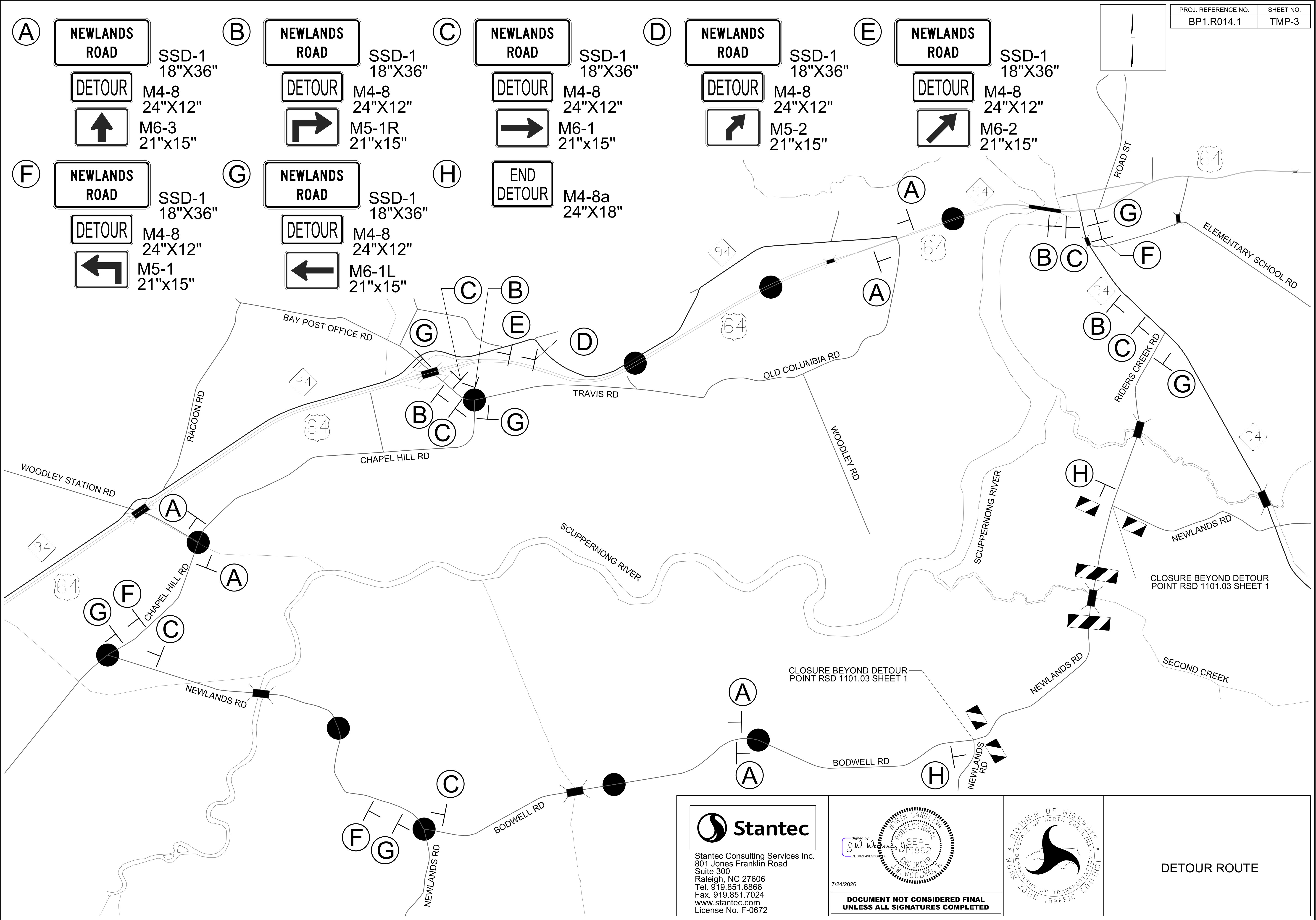


SHEET NO.
TMP-1

BP1.R014.1

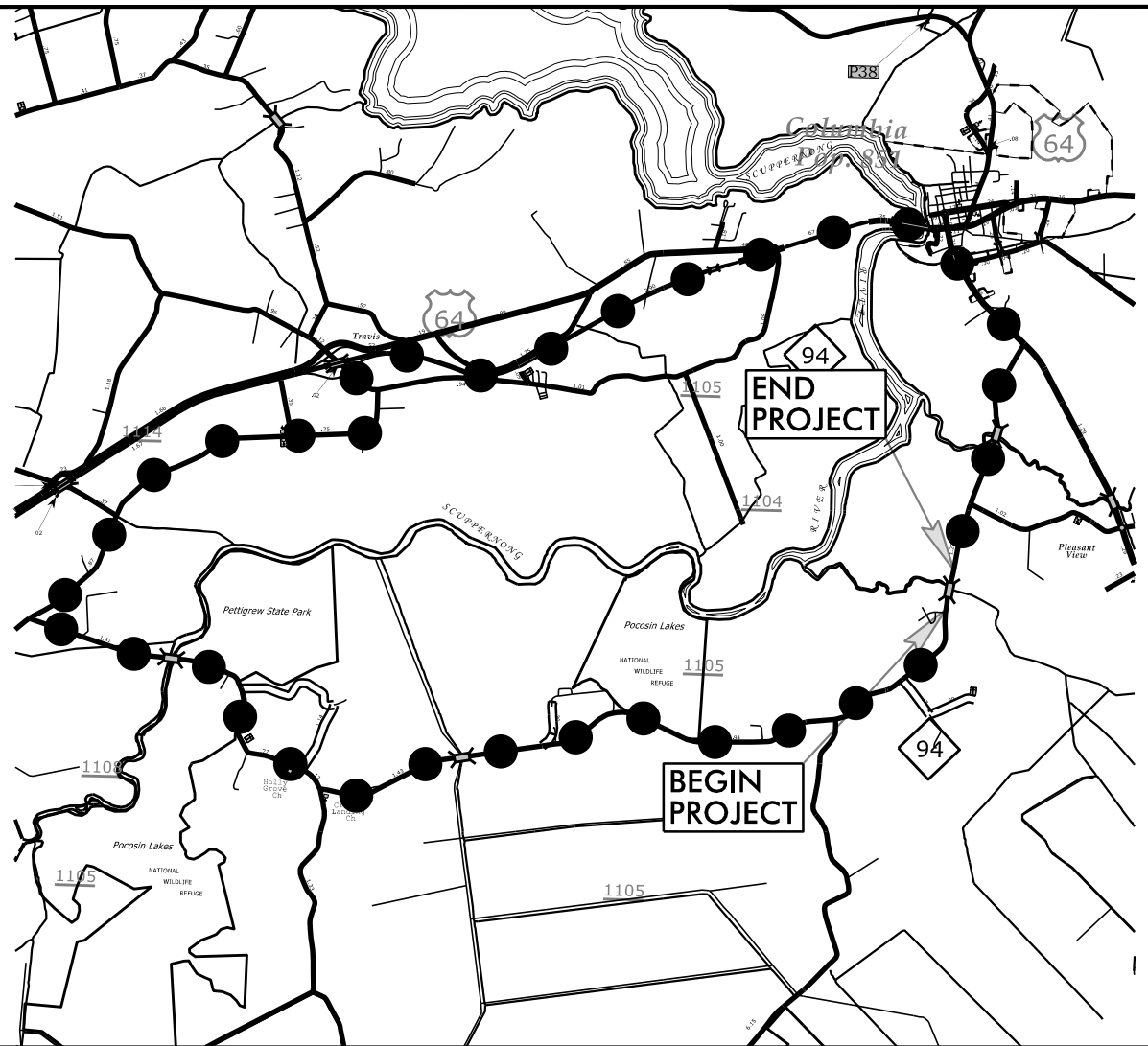
NORTH CAROLINA D.O.T. SIGN DETAIL

7/24/2026
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angood



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP1-R014	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP1.R014.1	N/A	P.E.	
BP1.R014.2	N/A	R/W	
BP1.R014.3	N/A	CONST.	

TIP PROJECT: BP1-R014



VICINITY MAP
NOT TO SCALE

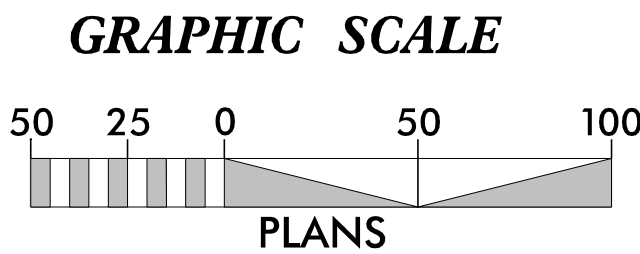
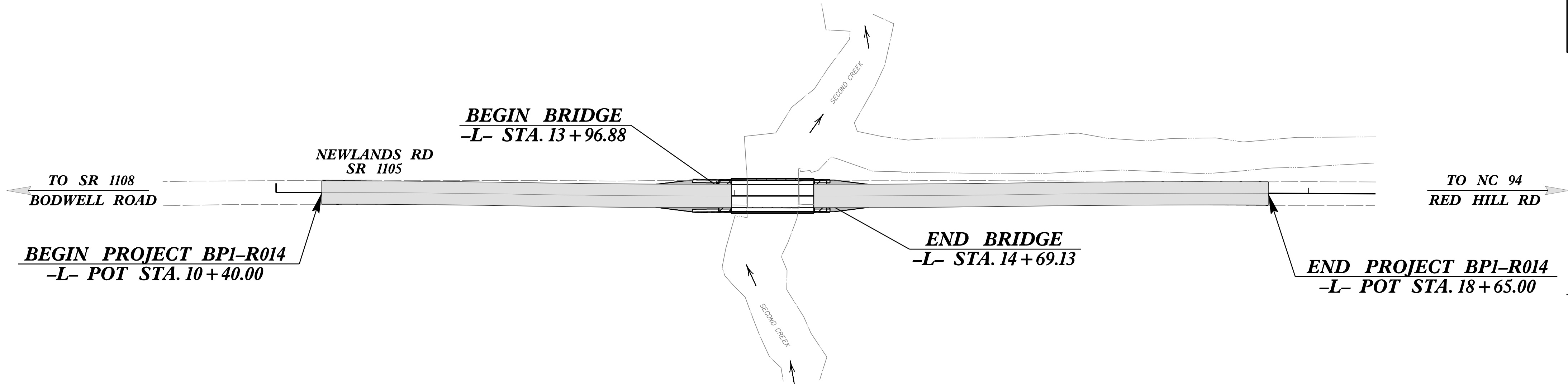
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
TYRRELL COUNTY

LOCATION: REPLACE BRIDGE NO. 880018 ON
SR 1105 OVER SECOND CREEK

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE



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



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

Prepared In the Office of:

5400 Etta Burke Ct., STE. 100 • Raleigh, North Carolina 27606
Phone: (919) 859-2243 • Eng Firm License No. C-890

2024 STANDARD SPECIFICATIONS

Designed by:

MATTHEW C. EDWARDS, PE 3992

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.
BP1-R014	EC-02

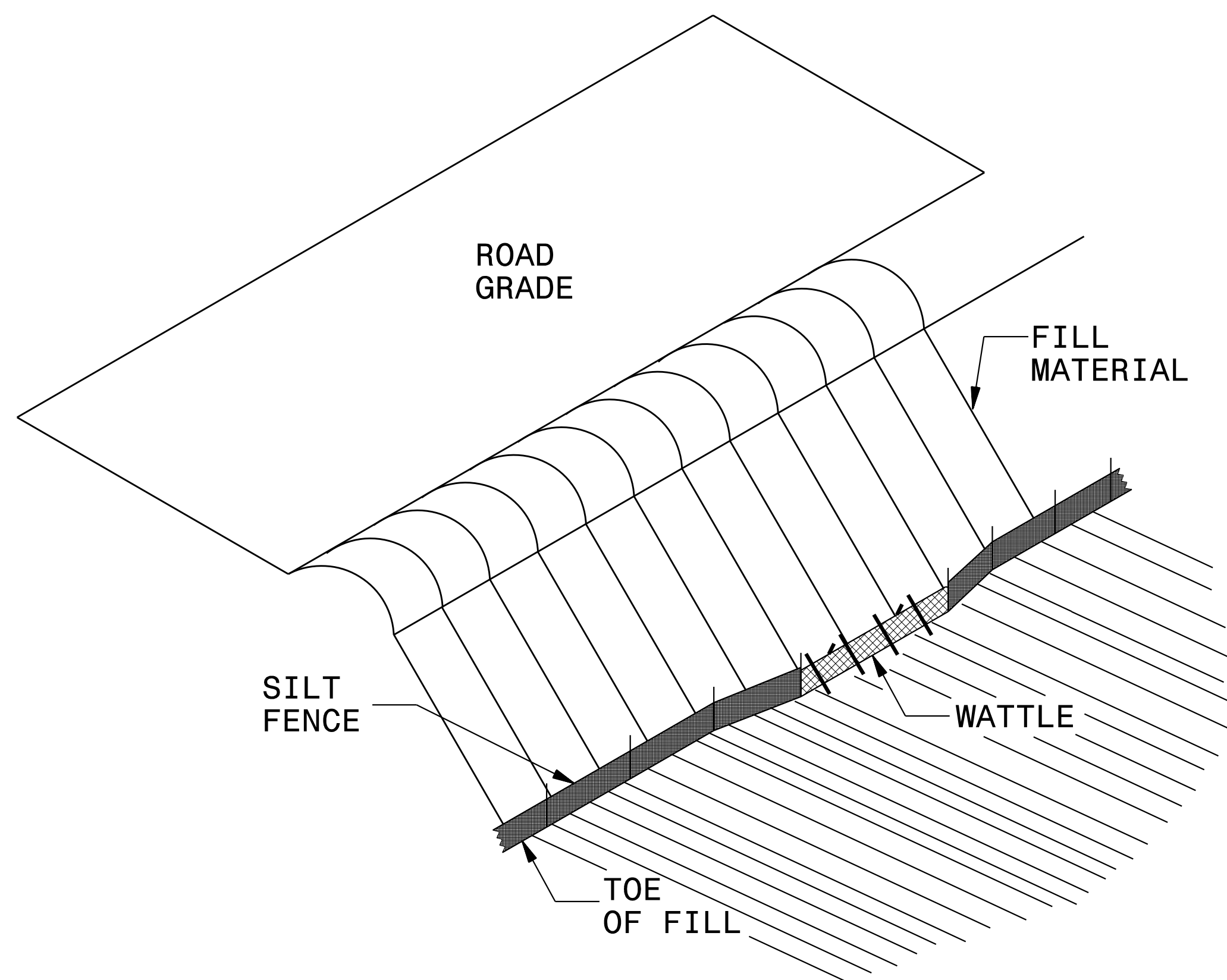
EROSION & SEDIMENT CONTROL LEGEND

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

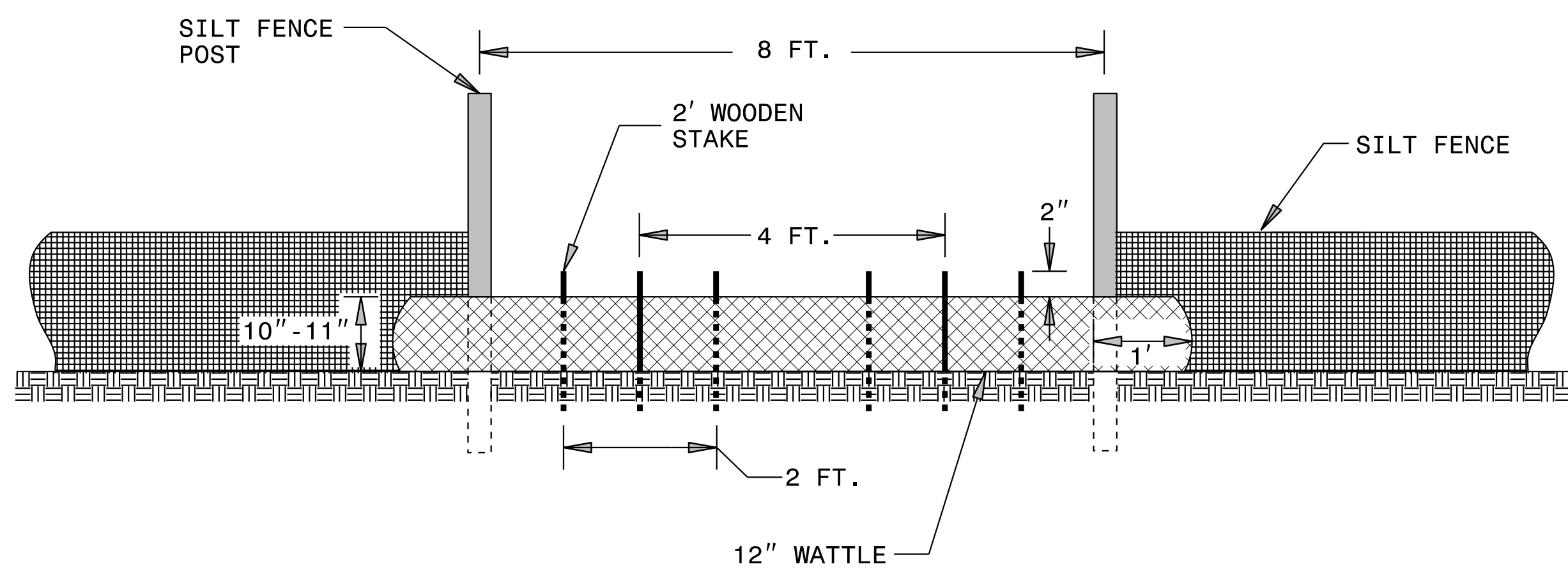
Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet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

SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO.	SHEET NO.
BPI-R014	EC-2A
RW SHEET NO.	



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

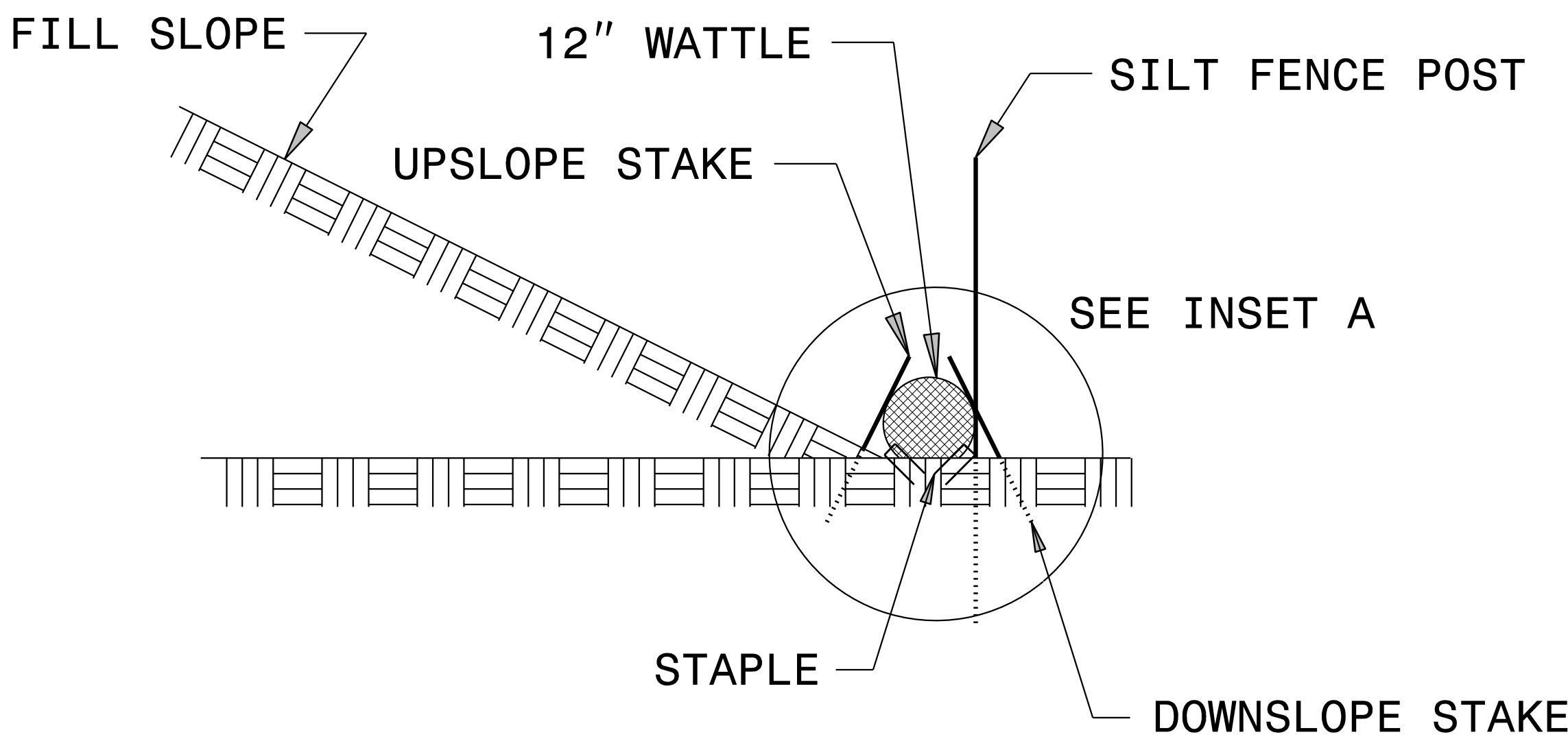
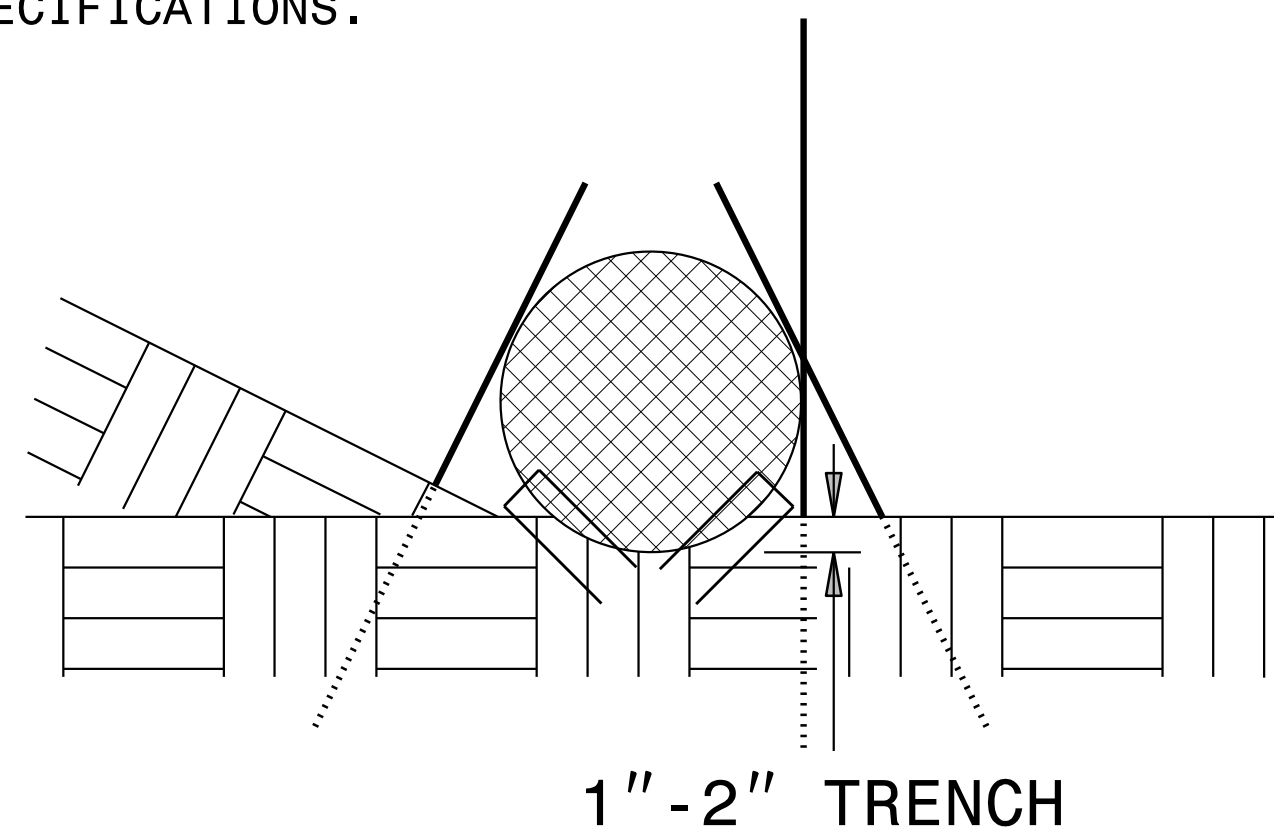
PROVIDE STAPLES MADE OF 11 GUAGE STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 6" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

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

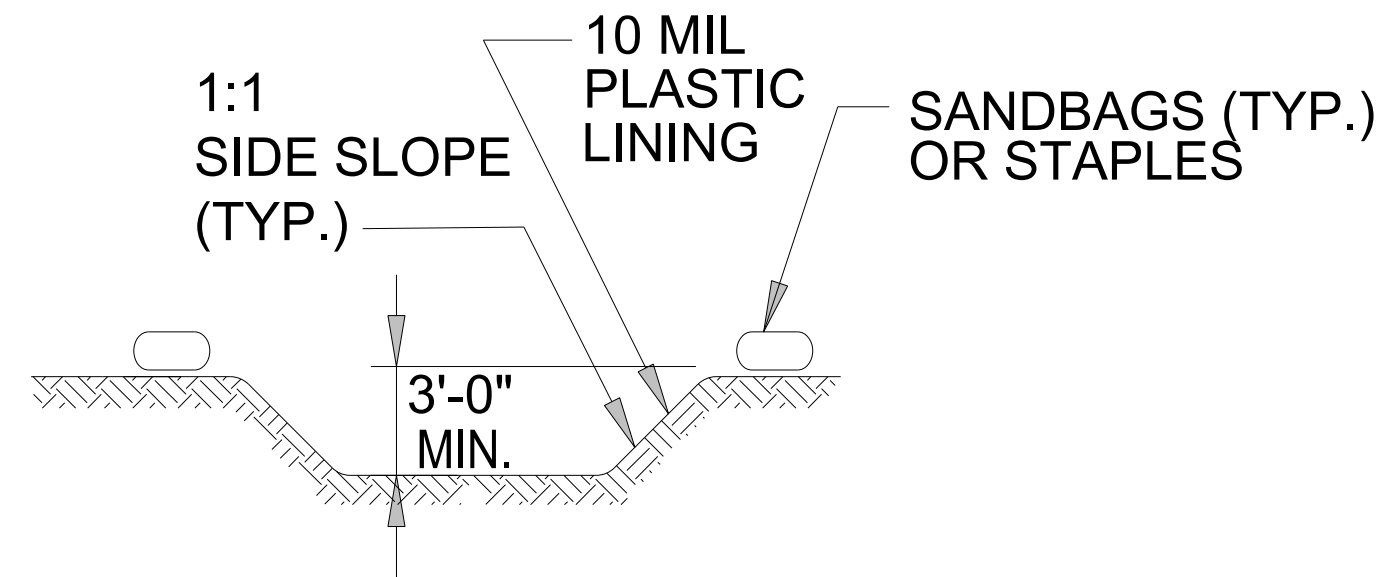
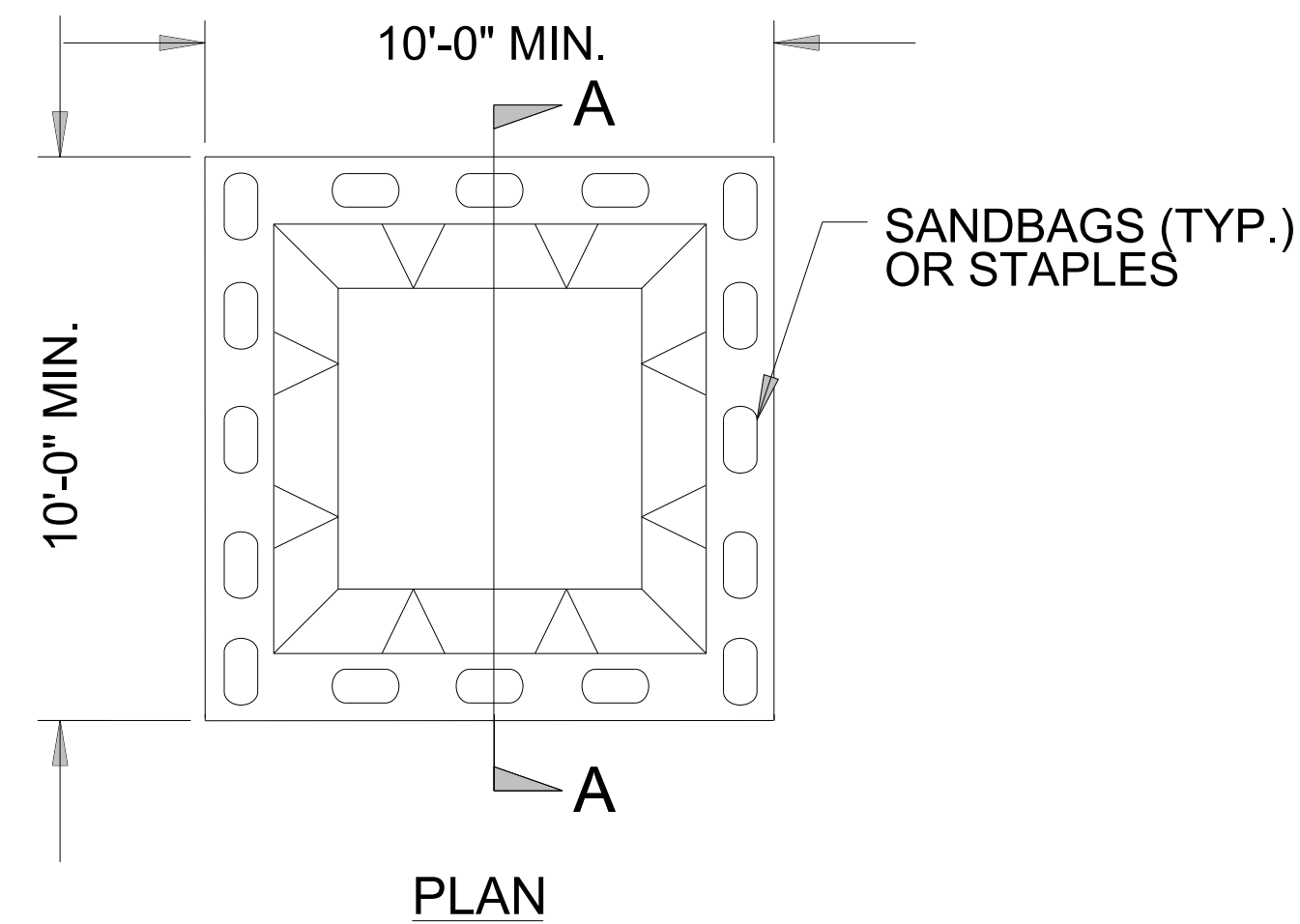
INSET A



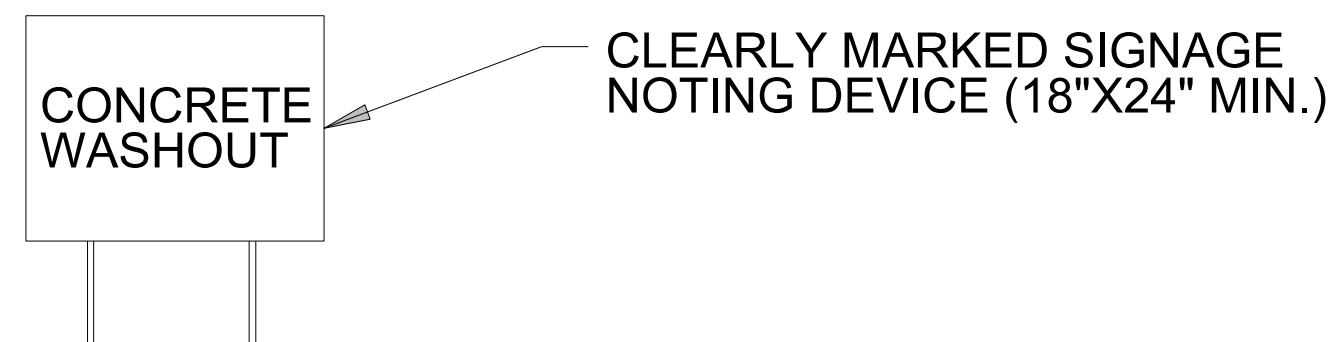
SIDE VIEW

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

PROJECT REFERENCE NO.	SHEET NO.
<i>BPI-R014</i>	<i>EC-2B</i>
RW SHEET NO.	

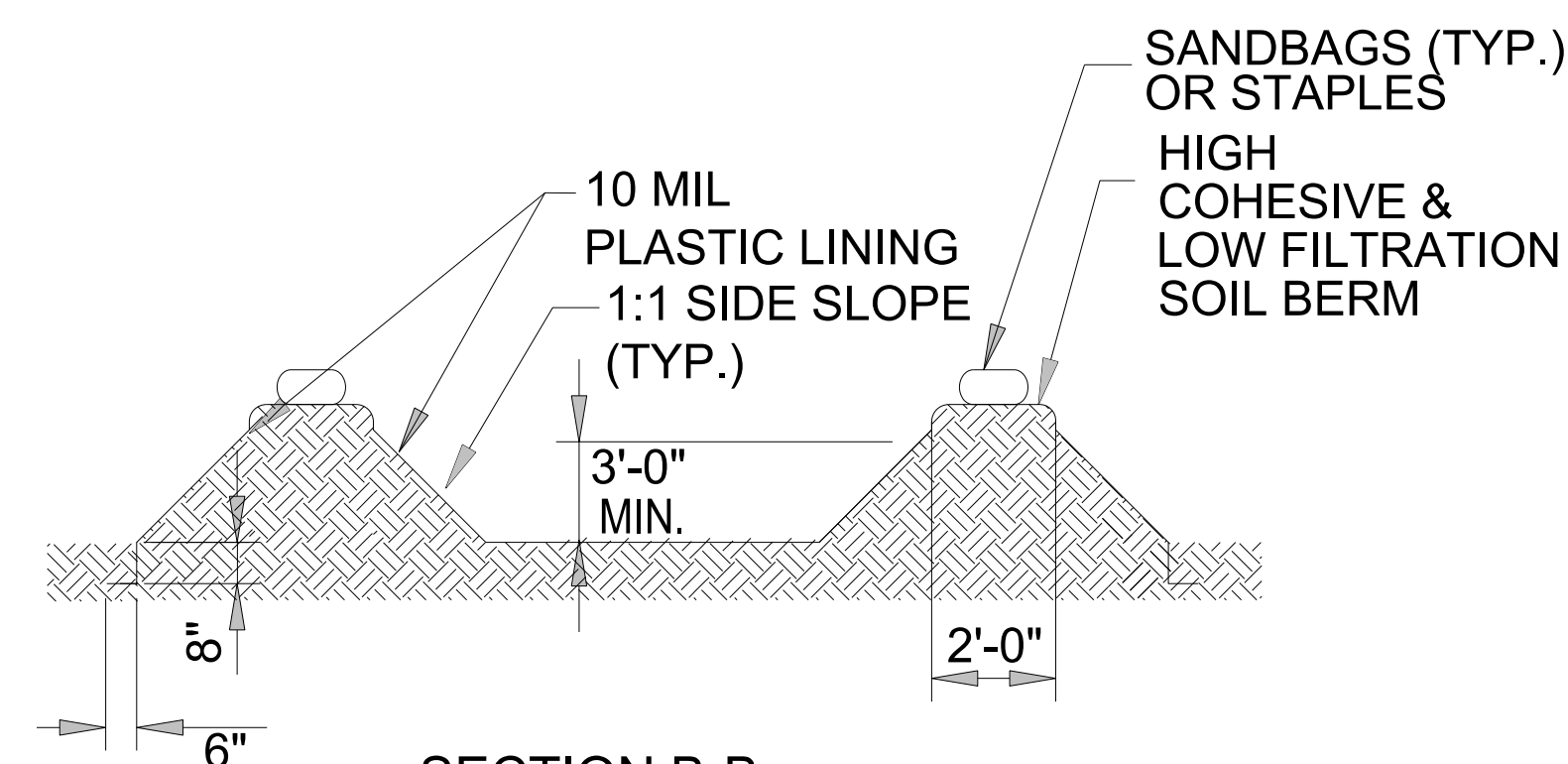
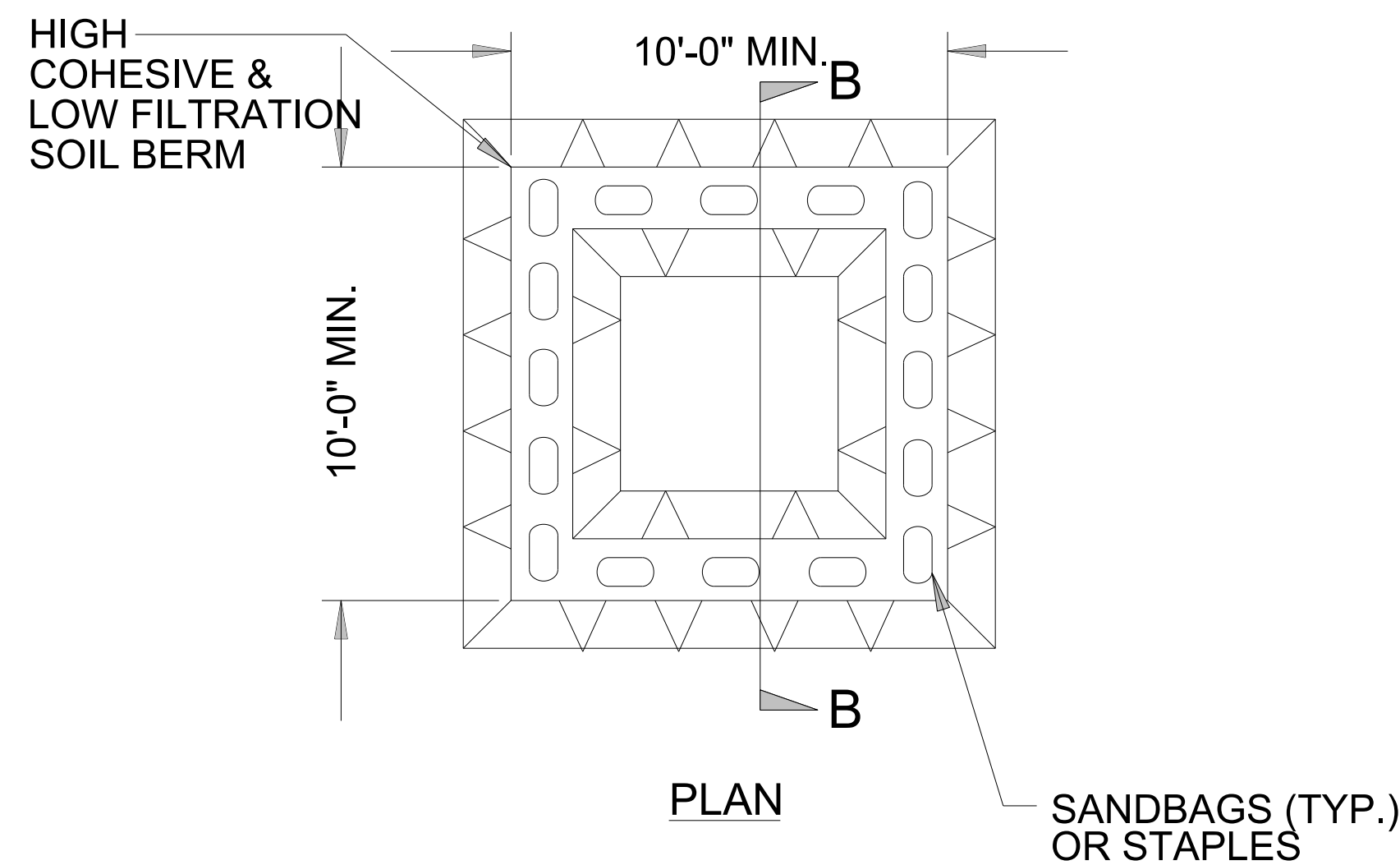


SECTION A-A

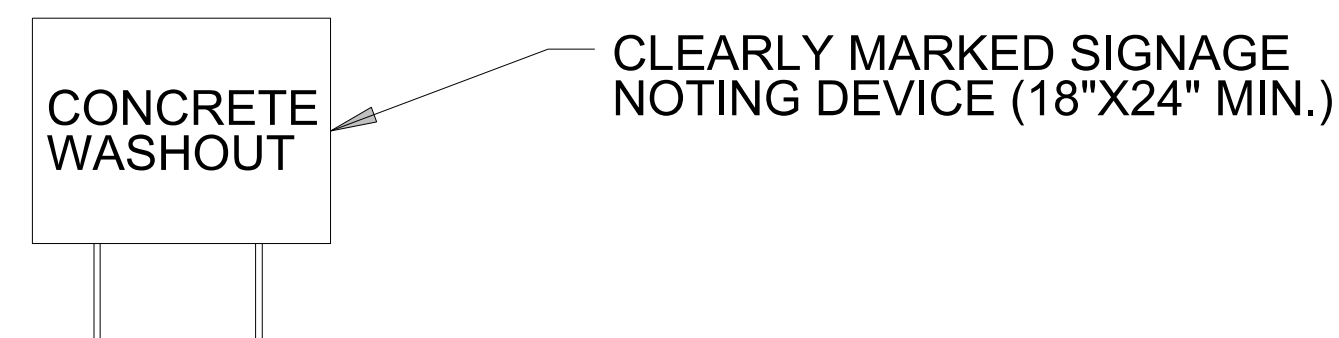


BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- 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.



SECTION B-B



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.

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.
BPI-R014	EC-05/CONST.04
RW SHEET NO.	

FINAL GRADING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 14+90 to Sta. 15+30 -L- RT

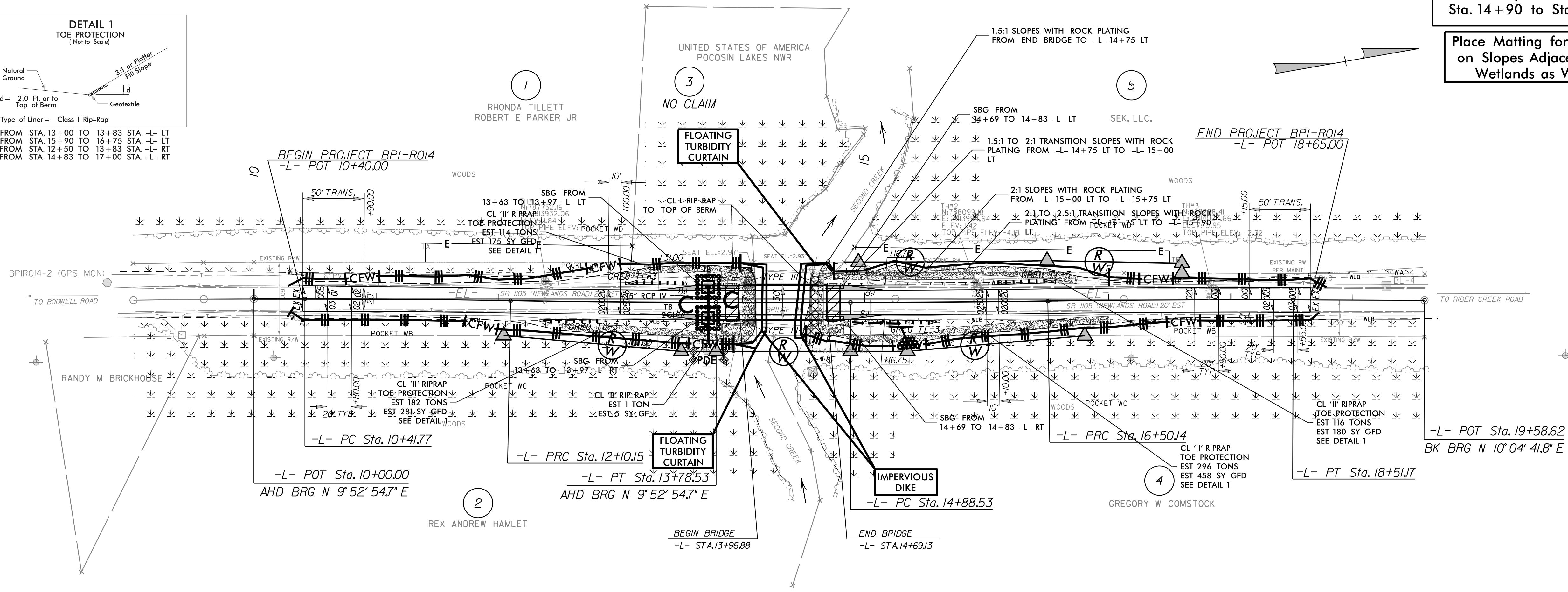
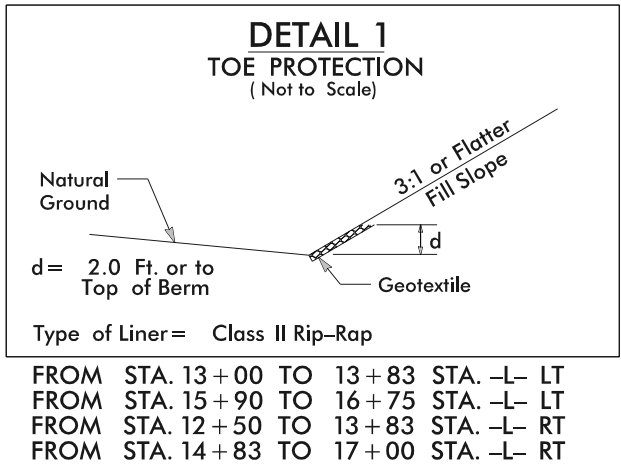
Place Matting for Erosion Control
on Slopes Adjacent to Permitted
Wetlands as Work Allows.

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

NOTE:
IMPERVIOUS DIKES MAY BE MODIFIED
AND/OR ELIMINATED AS DIRECTED.

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

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS/JURISDICTIONAL AREAS, AND AS
DIRECTED.

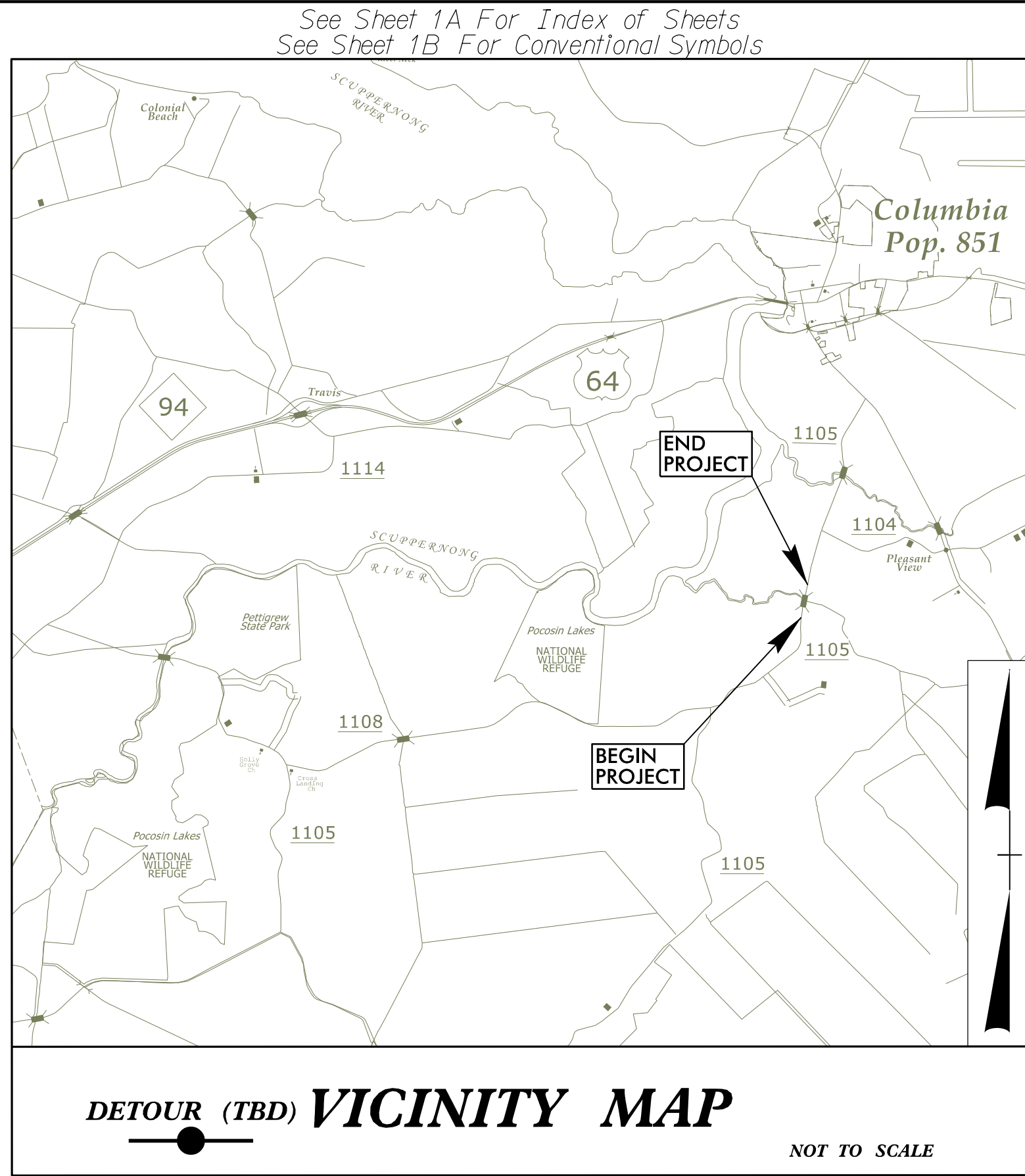


12/11/2025
U:\Utilities\Engineering\UC\ProJ\BP1.R014.L.Rdy_TSH.dgn
imgvembd

09.08/99

TIP PROJECT: BP1.R014

CONTRACT:



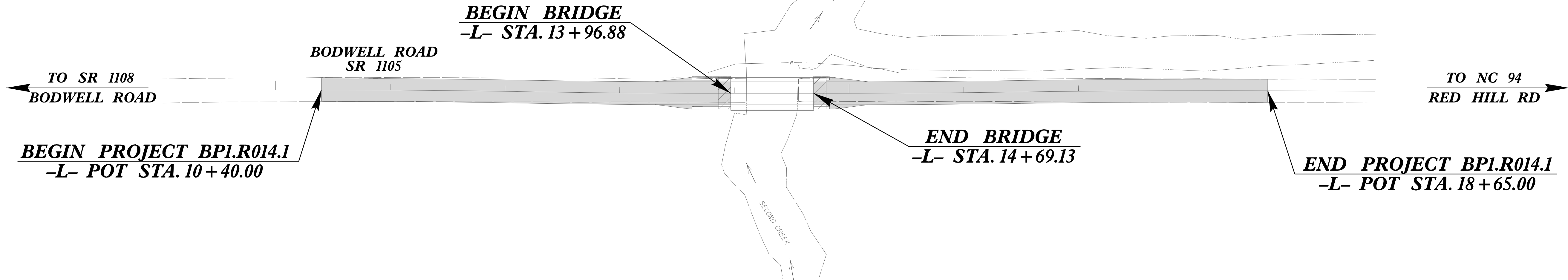
65% PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS
TYRRELL COUNTY**

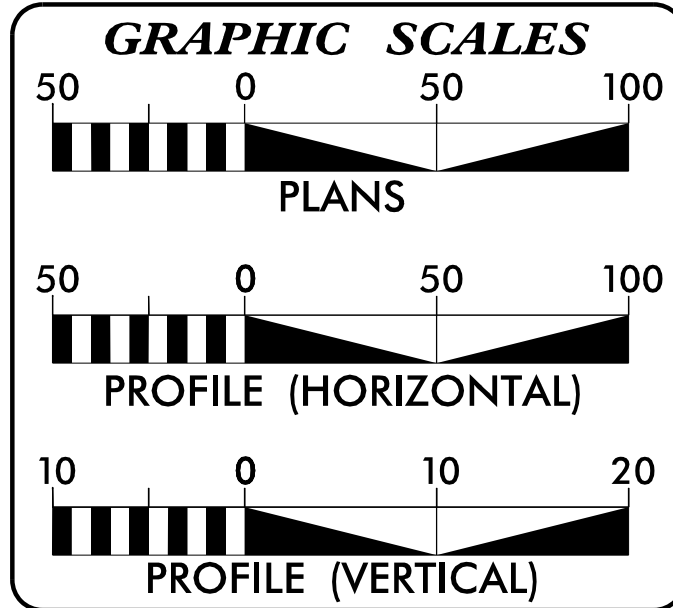
**LOCATION: REPLACEMENT OF BRIDGES NO. 880018 OVER
SECOND CREEK ON BODWELL ROAD (SR 1105)**

TYPE OF WORK: UTILITY RELOCATION FOR WATER LINE



THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



INDEX OF SHEETS

SHEET NO.	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A - 3B	DETAILS
UC-4	UTILITY CONSTRUCTION PLAN AND PROFILE

**UTILITY OWNER
WATER**

TYRRELL COUNTY UTILITIES
PUBLIC WORKS DEPARTMENT
108 S. WATER STREET
P.O. BOX 449
COLUMBIA, NC 27925

PREPARED IN THE OFFICE OF



STANTEC CONSULTING
SERVICES INC.
801 JONES FRANKLIN ROAD,
SUITE 300
RALEIGH, NC 27686
TEL: (919) 851-6865
FAX: (919) 851-7024
www.stantec.com
License No.: F-0672

JOE KELVINGTON, PE CONSULTANT CONTACT #1
TAYLOR VALENCIA, PE CONSULTANT CONTACT #2

SEAL



**DIVISION OF HIGHWAYS
UTILITIES UNIT**
1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Daniel S. Merritt DIVISION UTILITY COORDINATOR
John S. Abel, Jr. DIVISION PROJECT TEAM LEAD

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

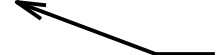
Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line 12" SS
(Sized as Shown)
Force Main Sewer Line 12" FSS
(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	
Utility Line by Others	(Type as Shown).....
(Type as Shown)	

Thrust Block		
Air Release Valve		
Utility Vault		
Abandon Utility (Sized as Shown)		ABANDON 10" UTILITY PIPE
Concrete Pier		
Steel Pier		
Plan Note		NOTE
Pay Item Note		

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	
Power Manhole	
Telephone Manhole	
Sanitary Sewer Manhole	
Hand Hole for Cable	
Power Transformer	
Telephone Pedestal	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	AAT
End of Information	E.O.

*Underground Power Line	— — — — — T — — — — —
Aboveground Power	—————
*Underground Telephone Conduit.....	- - - - - T - - - - -
*Underground Fiber Optics Telephone Cable	- - - - - TF - - - - -
*Underground TV Cable	- - - - - T - - - - -
*Underground Fiber Optics TV Cable	—————
*Underground Gas Pipeline	- - - - - G - - - - -
Aboveground Gas Pipeline	————— A/G Gas
*Underground Water Line	— — — — — W — — — — —
Aboveground Water Line	————— A/G Water
*Underground Gravity Sanitary Sewer Line..	————— SS —————
Aboveground Gravity Sanitary Sewer Line..	————— A/G Sanitary Sewer
*Underground SS Forced Main Line	- - - - - FSS - - - - -
Underground Unknown Utility Line	- - - - - ?UTL - - - - -
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)

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION WILL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2024.
2. THE EXISTING UTILITIES BELONG TO THE TOWN OF COLUMBIA PUBLIC WORKS DEPARTMENT.
3. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY NCDOT. NCDOT AND THE TOWN OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON NCDOT, UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON NCDOT.
4. PROVIDE ACCESS FOR NCDOT, AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY NCDOT, AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

5. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE OF MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO NCDOT AND TOWN.
6. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED BY THE ENGINEER.
7. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
8. ALL UTILITY MATERIALS WILL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE NCDOT STANDARD SPECIFICATIONS.
9. EMERGENCY CONTACT - UTILITY OWNER:
TYRRELL COUNTY,
JEREMY HAISLIP, PUBLIC WORKS DIRECTOR
252-796-1371 (Ext. 0)
EMAIL: jhaislip@tyrrellcounty.net

PROJECT SPECIFIC NOTES:

1. ALL HDPE WATER LINES ARE TO BE 10-INCH HIGH DENSITY POLYETHYLENE PIPE CONFORMING TO AWWA C906. ALL DUCTILE IRON WATER LINES ARE TO BE 8-INCH CONFORMING TO AWWA C151/A21.51. THE DIAMETER AND LOCATION OF ALL EXISTING WATER LINES SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
2. WATER MAINS CROSSING UNDER STORM DRAIN PIPE WILL HAVE 18" MINIMUM VERTICAL CLEARANCE UNLESS SPECIFIED ON THE PLAN/PROFILE DRAWINGS.
3. ALL MATERIALS AND CONSTRUCTION PERTAINING TO WATER LINE CONSTRUCTION WILL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE TOWN AND NCDOT.
4. PRIOR TO CONSTRUCTION CONTRACTOR WILL OBTAIN THE LATEST STANDARDS AND SPECIFICATIONS OF THE TOWN AND NCDOT.
5. PRIOR TO CONSTRUCTION CONTRACTOR TO CONFIRM THE ELEVATION OF EXISTING MAINS BY POTHOLING. INFORM ENGINEER OF ANY REQUIRED REVISIONS.
6. PROVIDE A MINIMUM 36" OF COVER FOR ALL PROPOSED WATER LINES. PROVIDE THRUST RESTRAINT AS SHOWN ON THE PLANS. CONTRACTOR SHALL CONSTRUCT THRUST RESTRAINTS AS SPECIFIED WITH MODIFICATIONS TO MATCH FIELD CONDITIONS.
7. THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENTAITON CONTROL MEASURES, AS WORK TAKES PLACE, AS DIRECTED AND APPROVED BY THE TOWN.

WATER LINE SEQUENCE OF CONSTRUCTION

FUSE HDPE PIPE AND PRESSURE TEST PRIOR TO INSTALLING IN BORE.
BORE HDPE AND TERMINATE ENDS (WITH A FLANGE) TO NEAR DIP CONNECTION POINTS.
HYDROSTATIC PRESSURE TEST NEW MAIN.
INSTALL PROPOSED RESTRAINED DIP.
CONNECT HDPE TO THE PROPOSED RESTRAINED DIP PIPE.
CONNECT PROPOSED RESTRAINED DIP TO EXISTING PVC MAIN.
FLUSH NEW LINE.
RETURN TO SERVICE.



Stantec

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Suite 300
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www.stantec.com
License No. F-0672

PROJECT REFERENCE NO.		SHEET NO.	
BP1.R014.1		UC-3	
DESIGNED BY: TLV			
DRAWN BY: GMM			
CHECKED BY: TLV			
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

UTILITY CONSTRUCTION

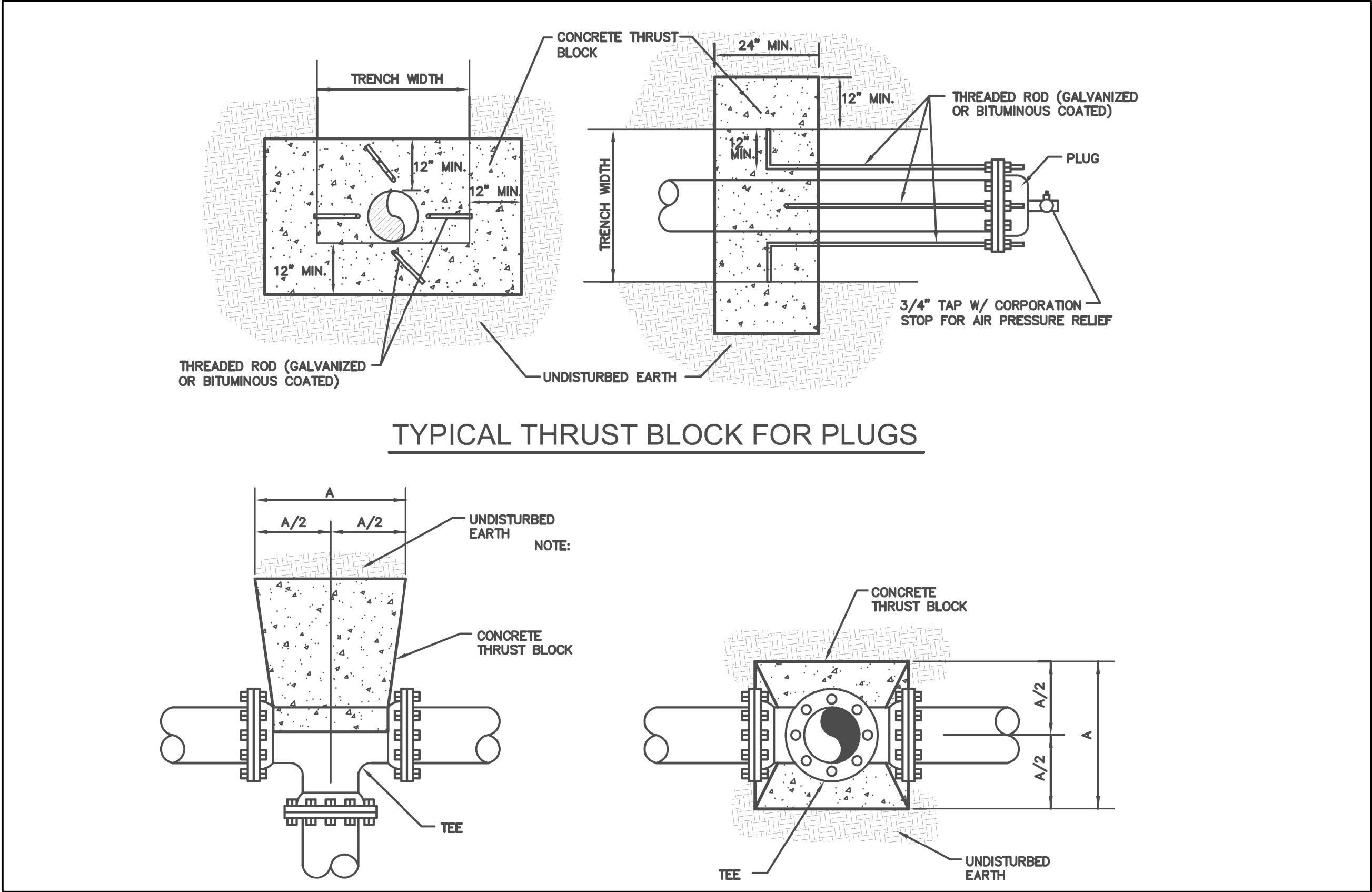
8. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENTATION CONTROL PRACTICES PERTAINING TO THE PROPOSED FORCE MAIN SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF NCDOT AND THE TOWN.
9. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

a. OPEN TRENCH SHALL BE SUFFICIENT IN ADVANCE OF PIPE LAYING TO EXPOSE ANY OBSTRUCTIONS THAT MIGHT ALTER THE ALIGNMENT OR GRADE BUT NOT MORE THAN THAT WHICH CAN BE BACKFILLED AT THE END OF A WORK DAY, OR 200 FEET, WHICHEVER IS LESS.
b. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
c. EFFLUENT FROM SITE DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
10. ALL NECESSARY DEWATERING OPERATIONS MUST BE DISCUSSED AND COORDINATED BETWEEN THE ENGINEER/OWNER PRIOR TO CONSTRUCTION.

STANDARD DETAIL DRAWINGS

1. STANDARD DETAILS ARE PROVIDED FOR THE PROJECT.
2. IF NO STANDARD DETAILS ARE PROVIDED IN DRAWINGS OR BY THE TOWN, THEN USE NCDOT STANDARD SPECIFICATIONS, DIVISION 15 STANDARD DETAILS FOR UTILITY CONSTRUCTION.

TYPICAL THRUST BLOCK DETAILS



TYPICAL THRUST BLOCK FOR PLUGS

TYPICAL THRUST BLOCK FOR REDUCER

THRUST BLOCK NOTES:

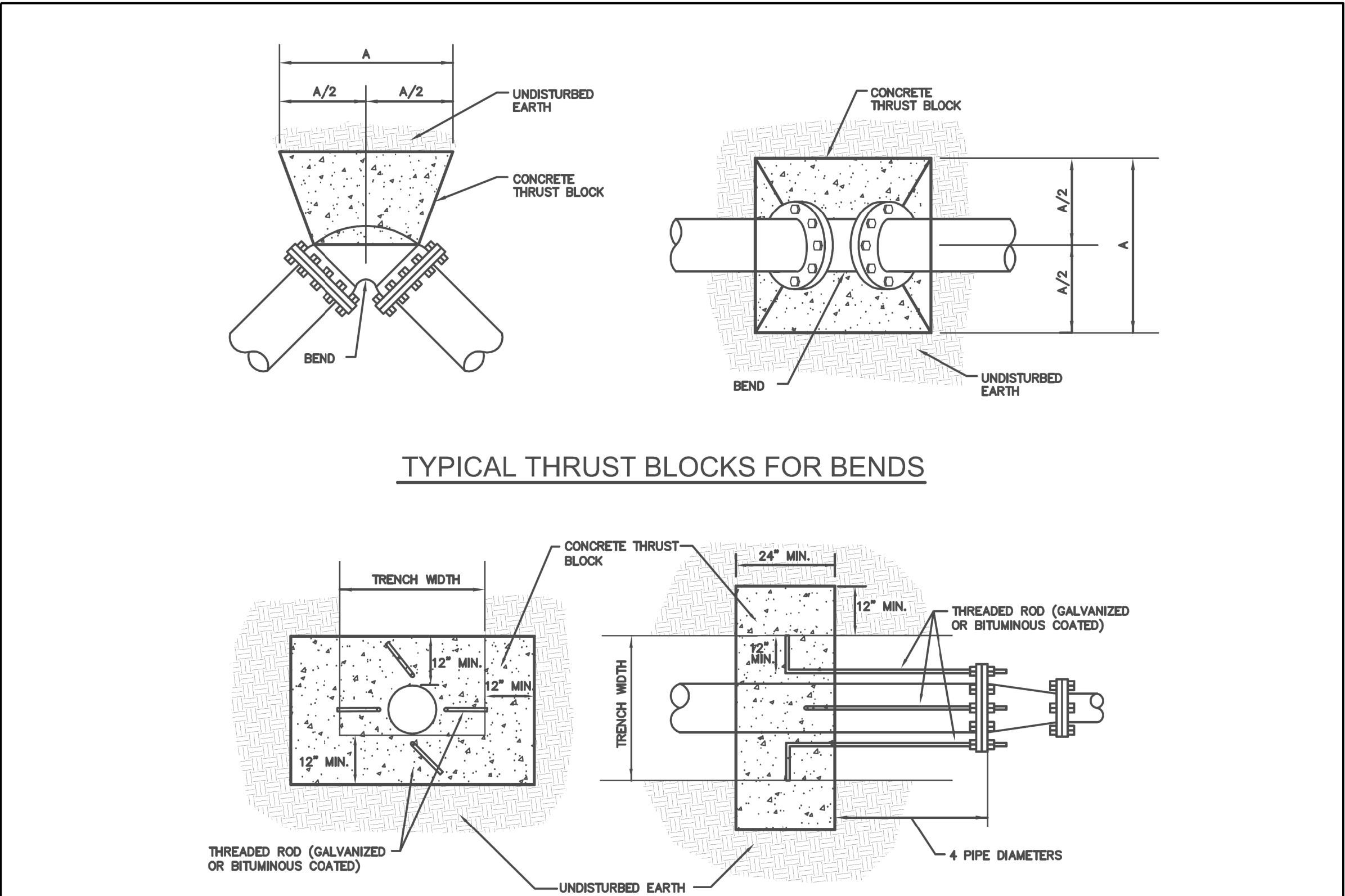
- 1. FITTING JOINTS SHALL NOT BE POURED IN CONCRETE OR HAVE CONCRETE SPILLED ON THE BOLTS OR NUTS. THE FITTING SHALL BE WRAPPED IN A LAYER OF POLYETHYLENE PLASTIC PRIOR TO POURING THE THRUST BLOCK.
- 2. ROD AND EYE BOLT DIAMETER SHALL BE MINIMUM OF 3/4" AND SHALL MATCH THE SIZE OF THE BOLT PROVIDED WITH THE FITTING.
- 3. CONTRACTOR SHALL REPLACE FITTING BOLTS WITH THREADED ROD FOR 1/2 OF THE BOLTS SUPPLIED WITH EACH FITTING. RODS SHALL BE EQUALLY SPACED.
- 4. CONCRETE SHALL BE 3000 PSI MIN.



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PROJECT REFERENCE NO.		SHEET NO.
BP1.R014.1		UC-3A
DESIGNED BY: TLV	 NORTH CAROLINA PROFESSIONAL SEAL 057141 <i>[Signature]</i> L. VALENCI UTILITY CONSTRUCTION PLANS ONLY	
DRAWN BY: GMM		
CHECKED BY: TLV		
APPROVED BY:		
REVISED:		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

UTILITY CONSTRUCTION



TYPICAL THRUST BLOCKS FOR BENDS

TYPICAL THRUST BLOCK DETAILS

SIZE	TYPE					
	11-1/4° BEND	22-1/2° BEND	45° BEND	90° BEND	TEE	PLUG
2-6	12	12	12	16	16	14
8	12	12	16	22	22	18
10	12	14	20	28	28	22
12	12	18	24	32	32	28
14	14	20	28	38	38	32
16	16	22	32	42	42	36
18	18	26	36	48	48	40
20	20	28	40	52	52	44
24	24	34	46	64	64	54
30	30	42	58	78	78	66
36	36	50	70	94	94	80
42	40	58	80	108	108	92
48	46	66	90	124	124	104

THRUST BLOCK DIMENSION "A"

REVISIONS

REVISIONS

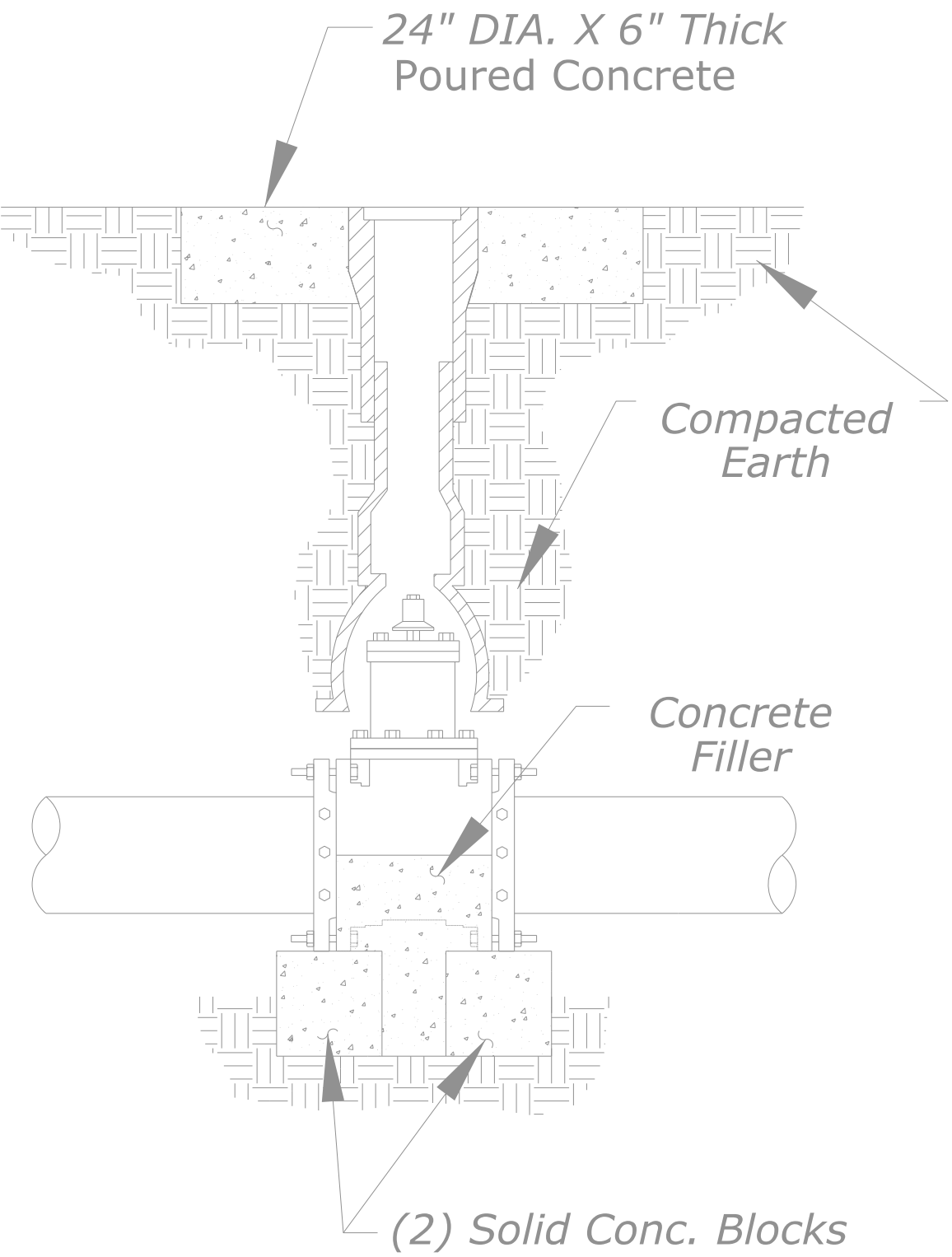
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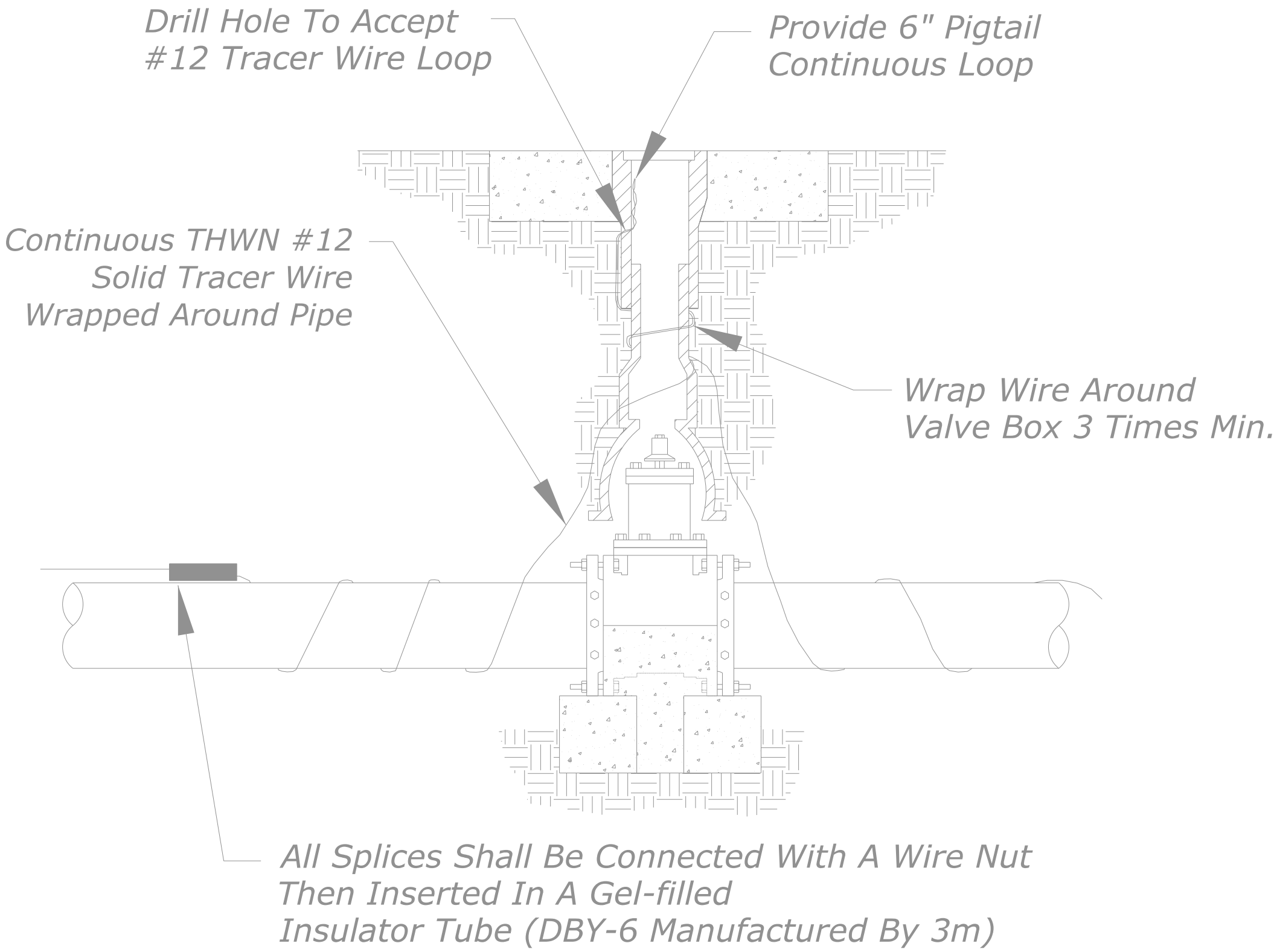
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PROJECT REFERENCE NO.		SHEET NO.	
BP1.R014.1		UC-3B	
DESIGNED BY: TLV			
DRAWN BY: GMM			
CHECKED BY: TLV			
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			
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UTILITY CONSTRUCTION



Valve Support



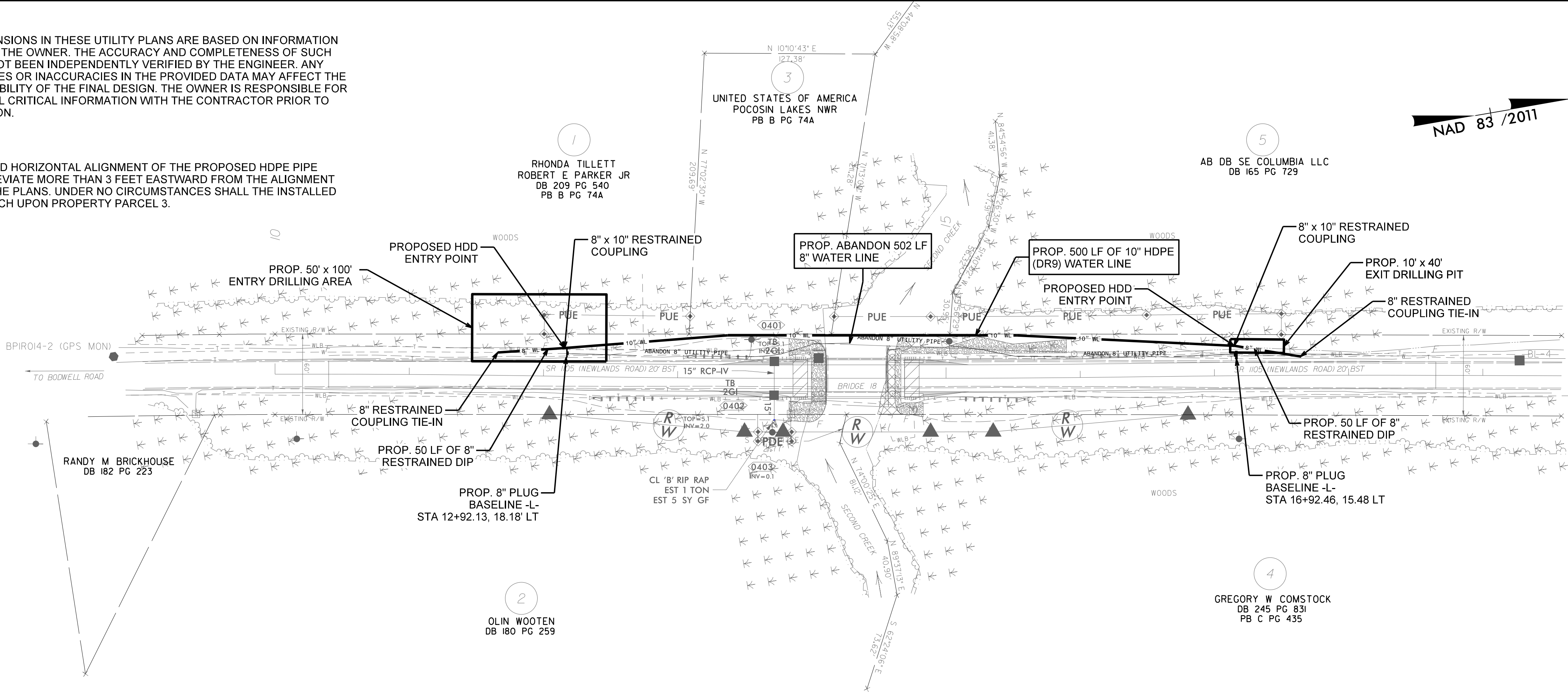
Note:
Tracer Wire Shall Be Installed Full Lenght Of All Utiltiles Including Through
The Bore. Spare Conduites Shall Also Have Tracer Wire Provided And
Terminated At End Of Pipe With Min 10ft Slack For Futuer Extension.

Typical Tracer Line

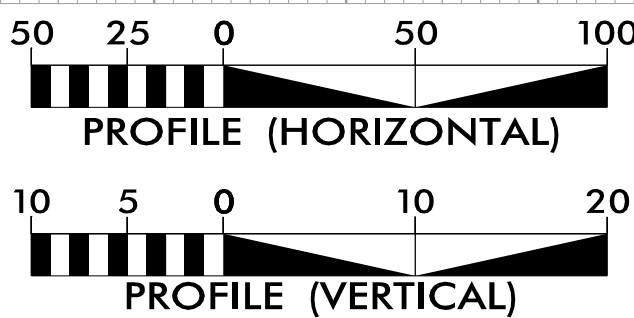
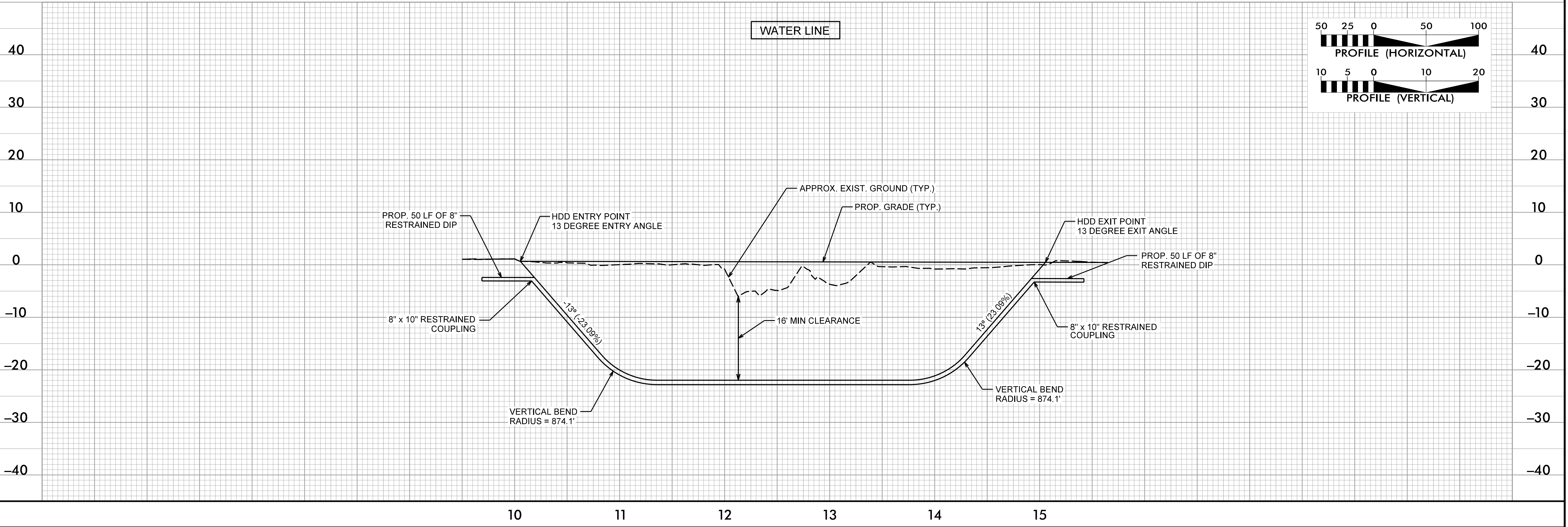
8/17/99

DESIGN DIMENSIONS IN THESE UTILITY PLANS ARE BASED ON INFORMATION PROVIDED BY THE OWNER. THE ACCURACY AND COMPLETENESS OF SUCH DATA HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE ENGINEER. ANY DISCREPANCIES OR INACCURACIES IN THE PROVIDED DATA MAY AFFECT THE CONSTRUCTABILITY OF THE FINAL DESIGN. THE OWNER IS RESPONSIBLE FOR VERIFYING ALL CRITICAL INFORMATION WITH THE CONTRACTOR PRIOR TO CONSTRUCTION.

THE INSTALLED HORIZONTAL ALIGNMENT OF THE PROPOSED HDPE PIPE SHALL NOT DEVIATE MORE THAN 3 FEET EASTWARD FROM THE ALIGNMENT SHOWN ON THE PLANS. UNDER NO CIRCUMSTANCES SHALL THE INSTALLED PIPE ENCROACH UPON PROPERTY PARCEL 3.



GRAPHIC SCALES



12/17/2025
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05/18/2025

UTILITIES BY OTHERS

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

BPI.R014.1

UQ-4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
TYRRELL COUNTY



UTILITY DESIGN UNIT

UTILITY CONSTRUCTION
PLANS ONLY

INCOMPLETE PLANS

DOCUMENT NOT CONSIDERED FINAL
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DESIGNED BY:

DRAWN BY:

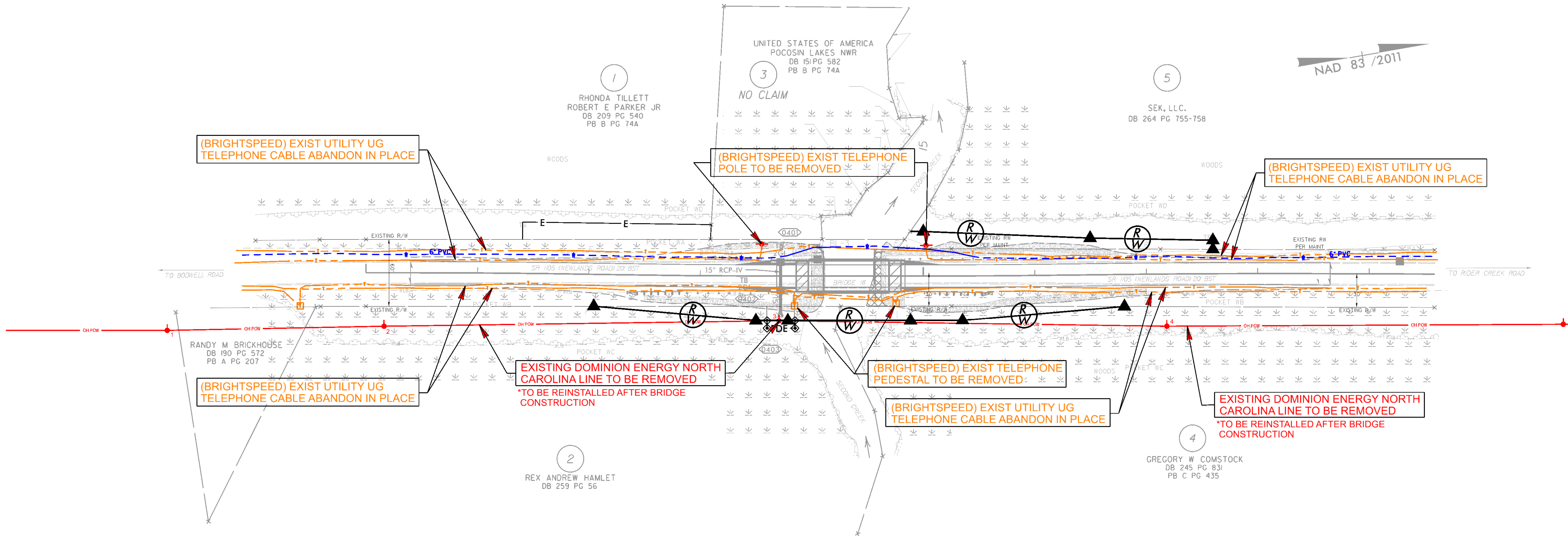
CHECKED BY:

APPROVED BY:

REVISED:

UTILITIES ENGINEERING SEC.
PHONE (919) 707-6690
FAX (919) 285-4151

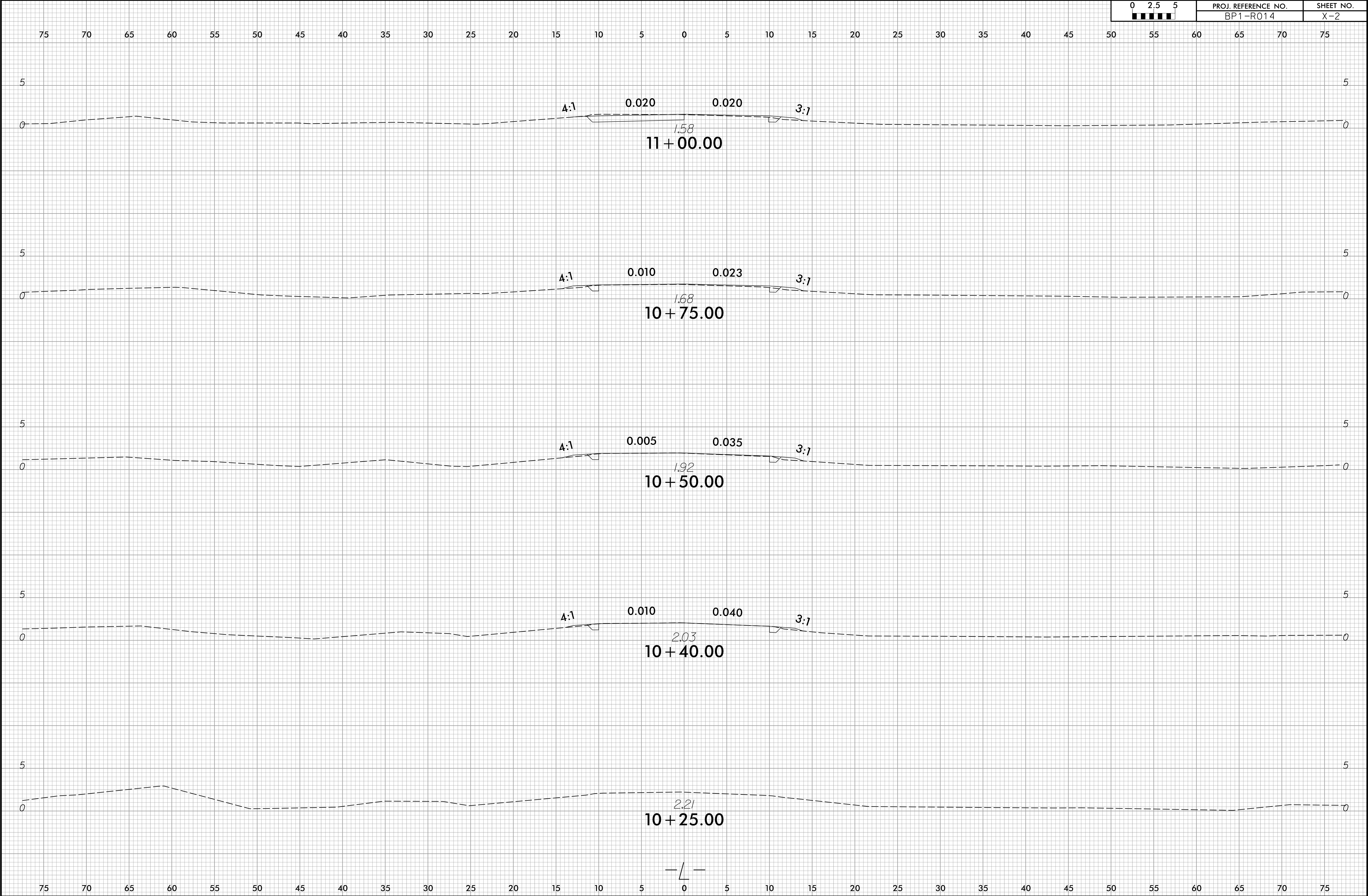
PREPARED BY



6/23/16

4/1/2026
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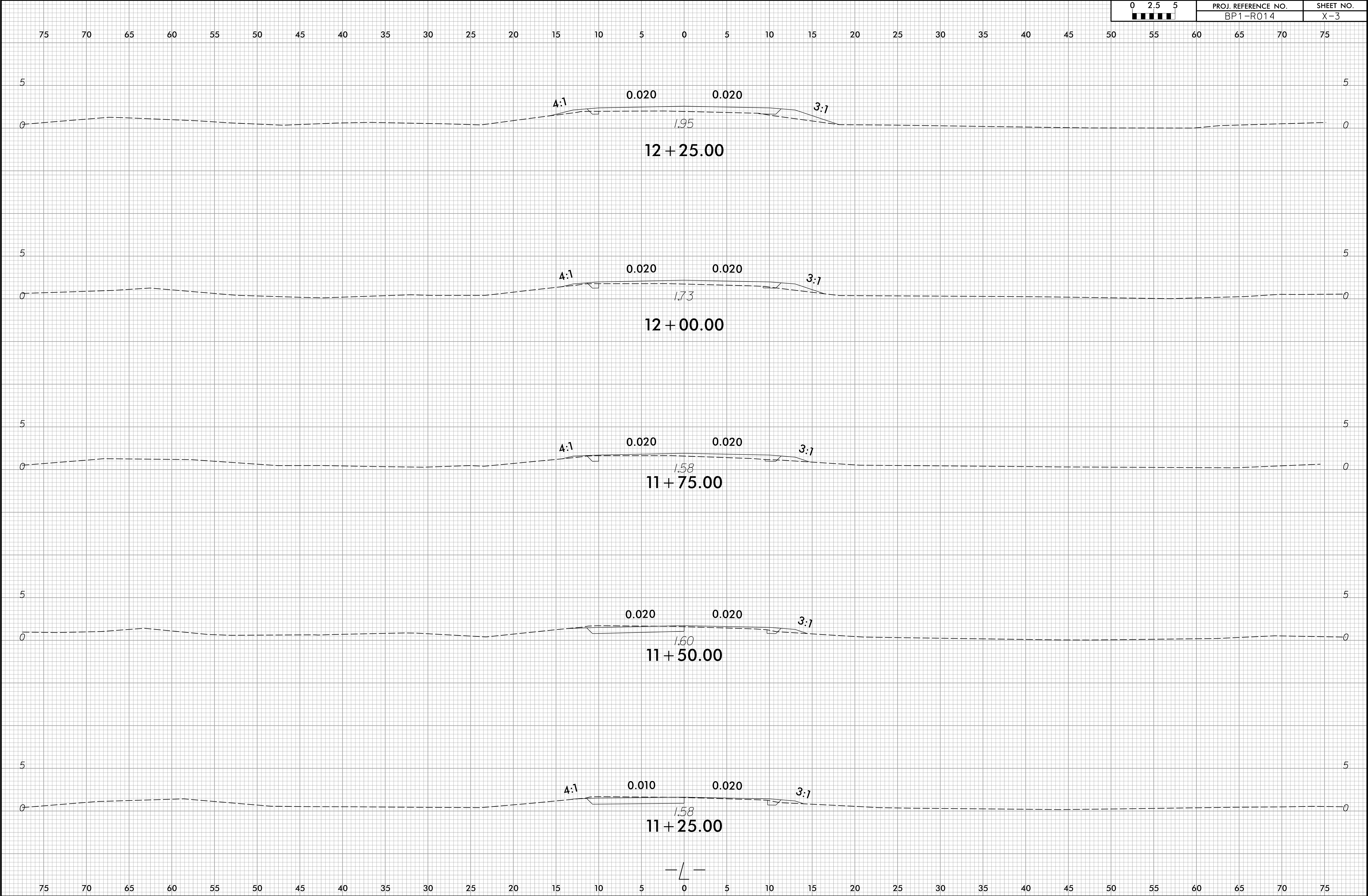
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	BP1-R014	X-2



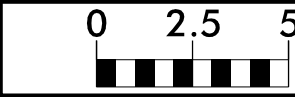
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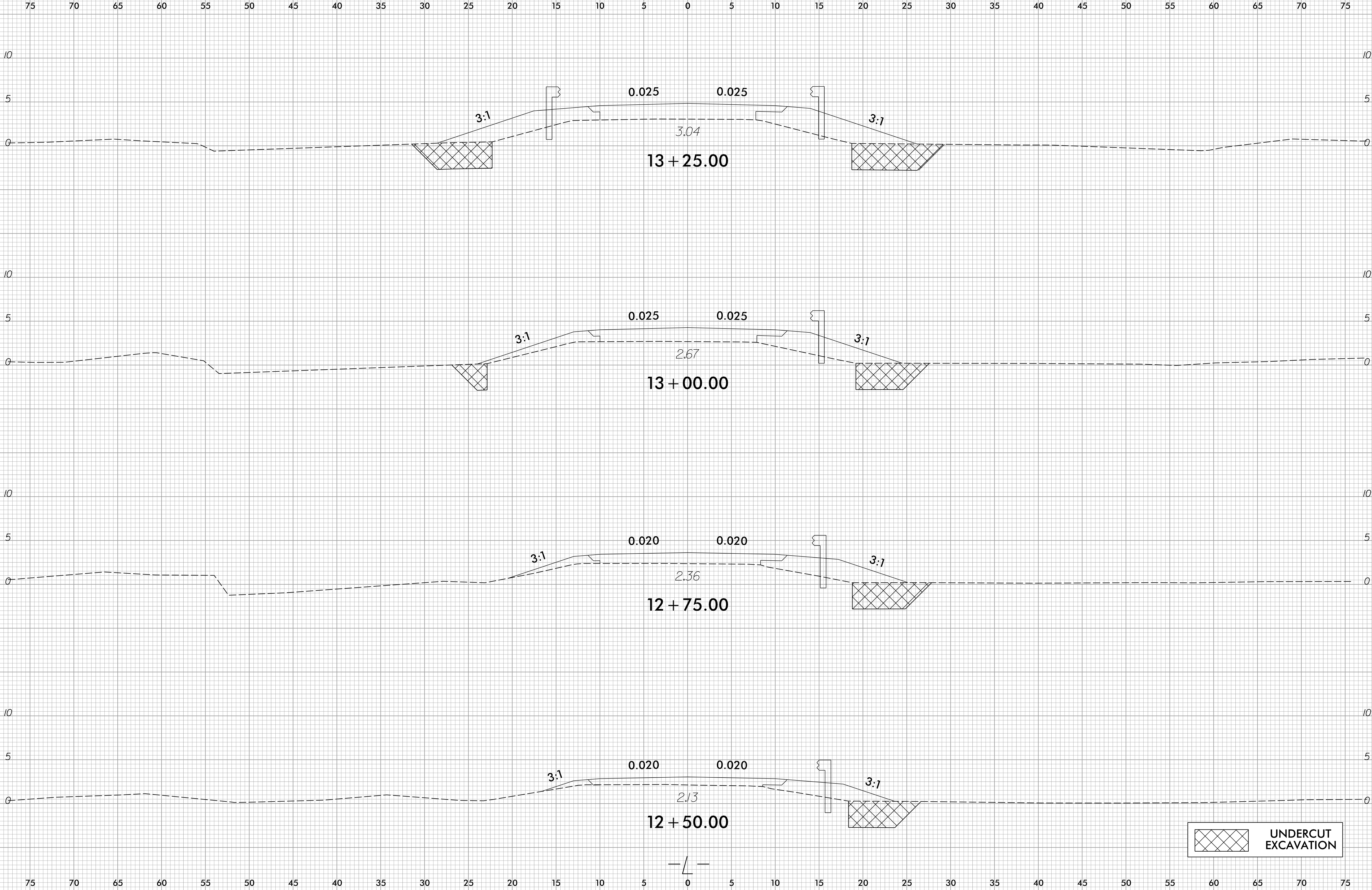


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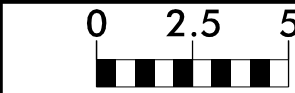


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BP1-R014

SHEET NO.
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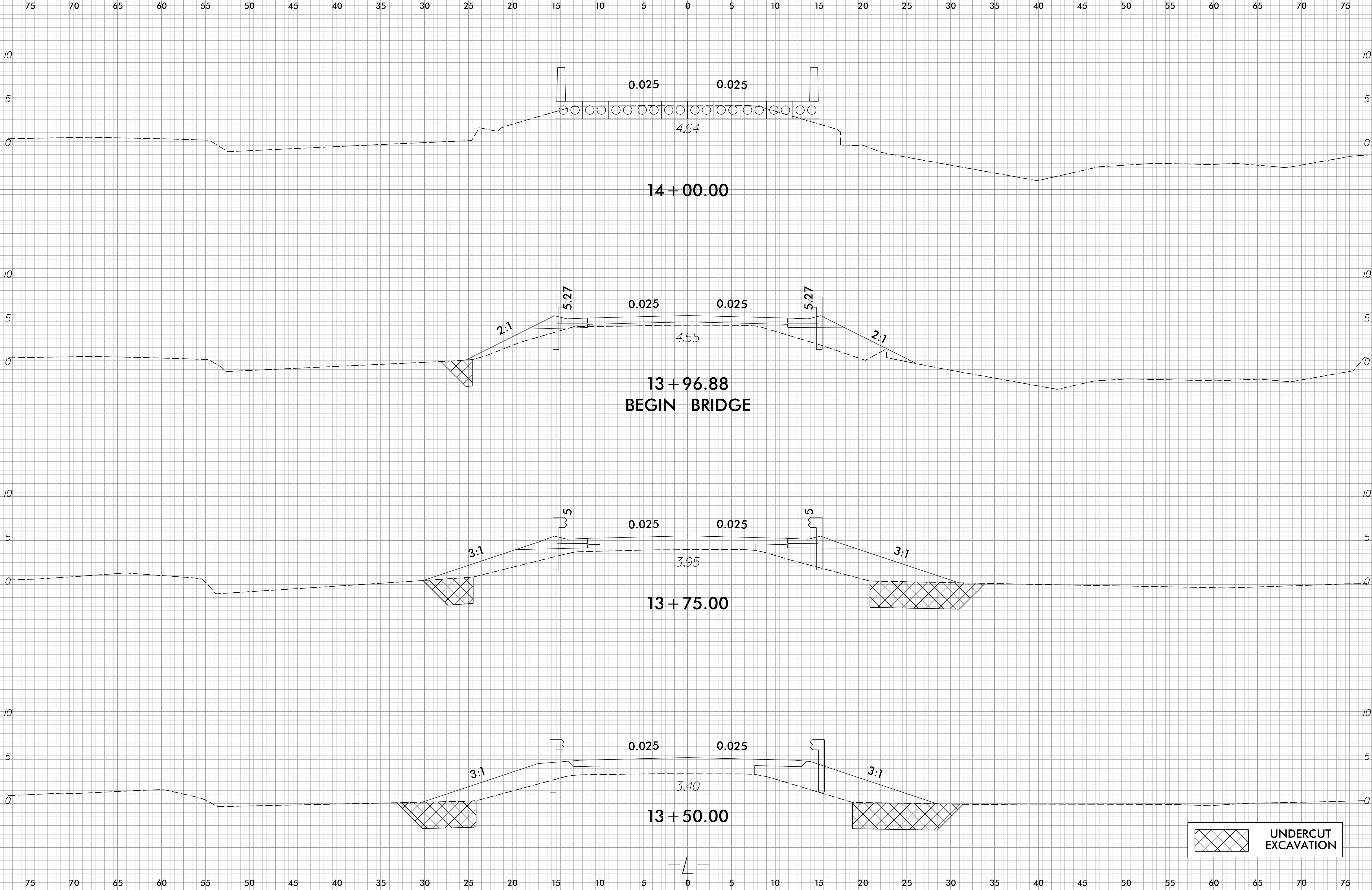


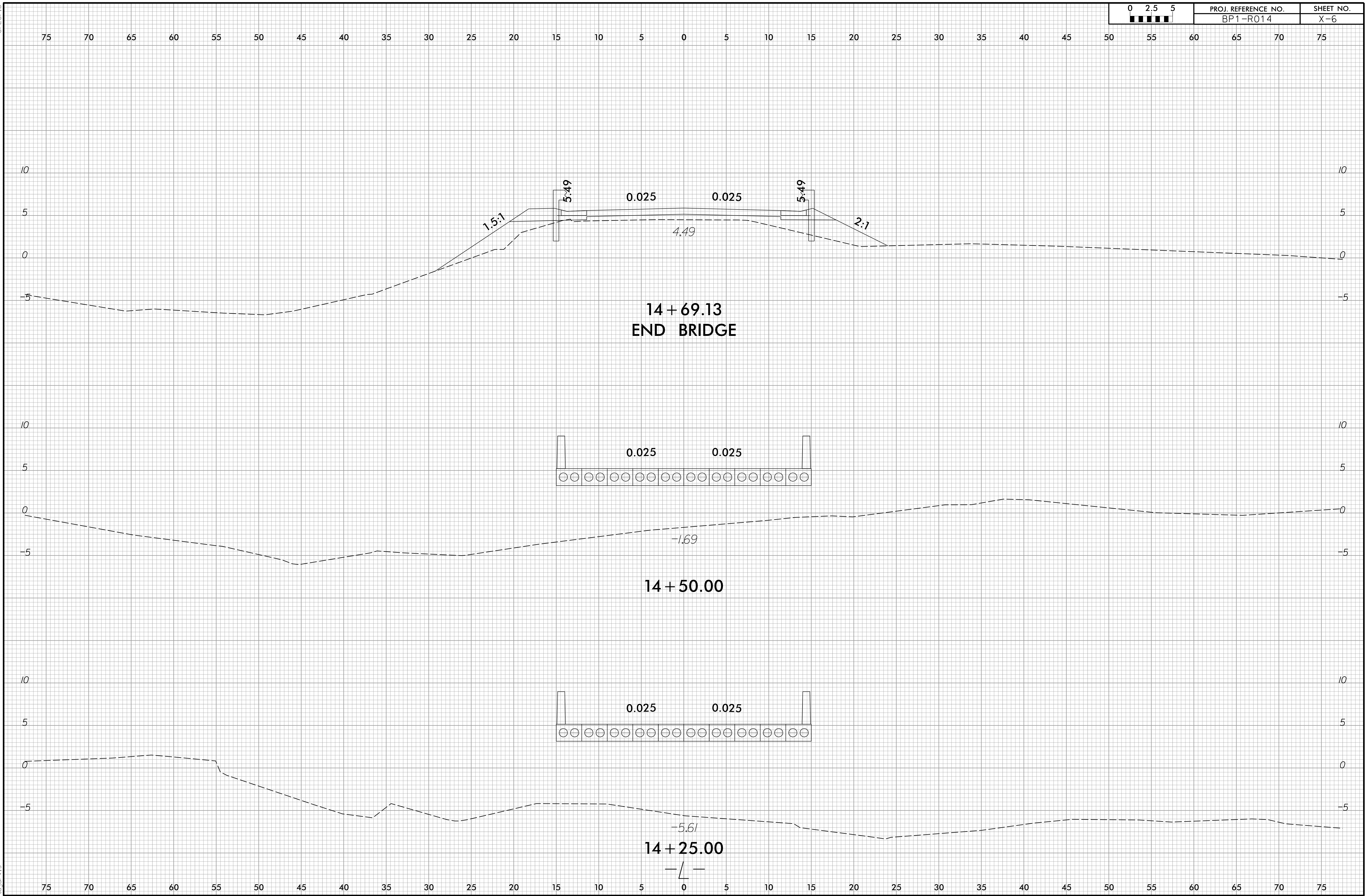
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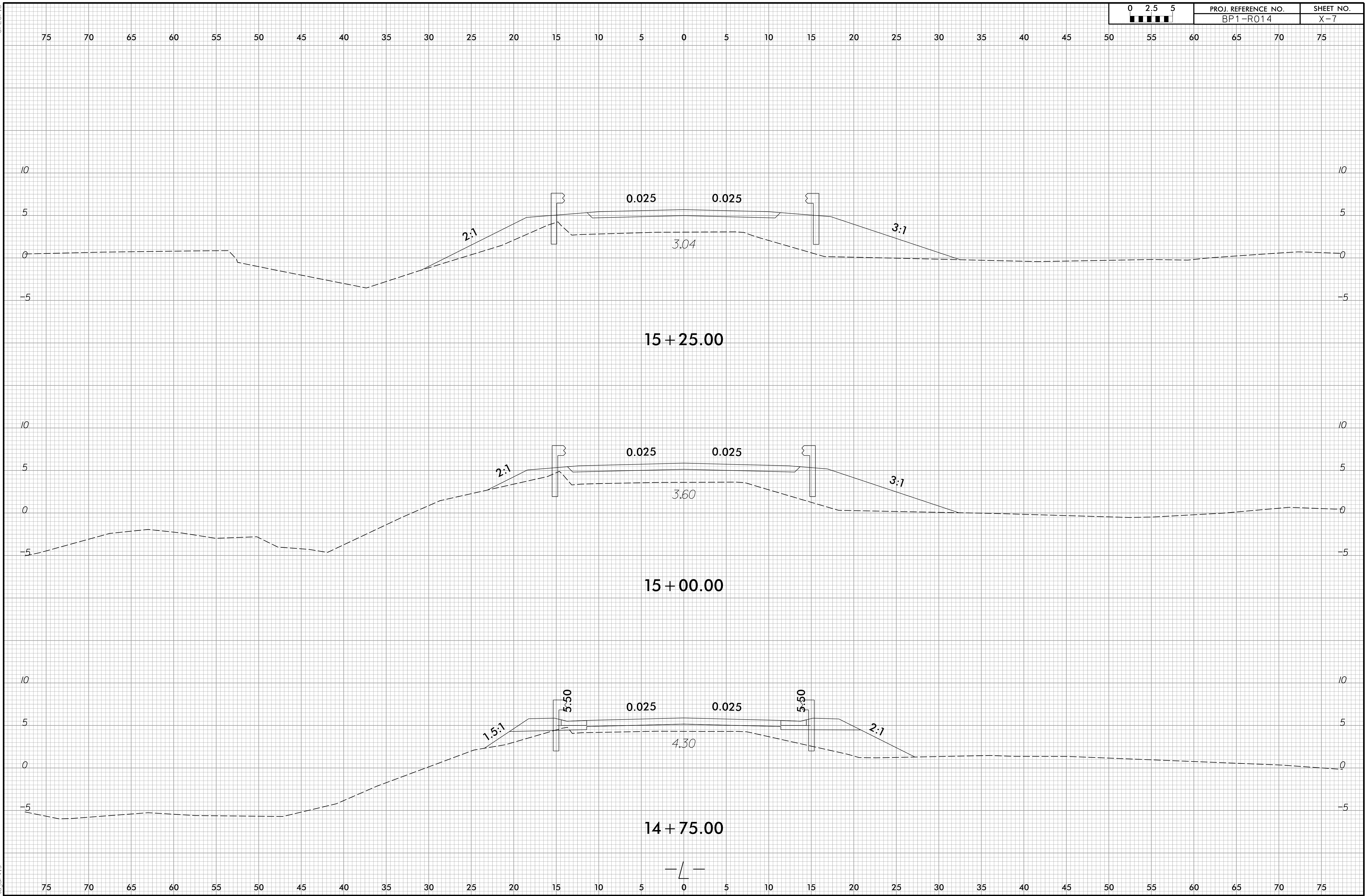


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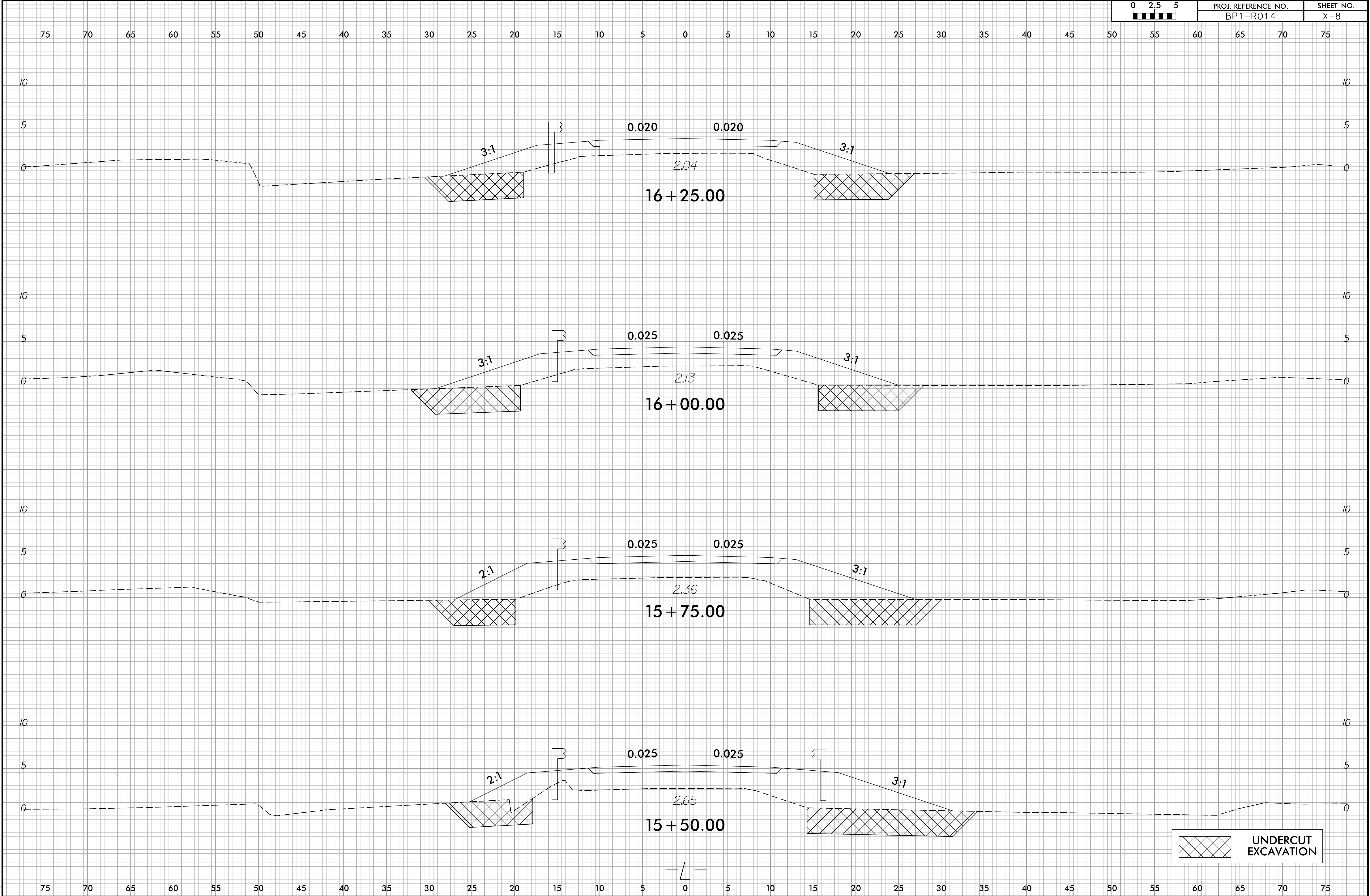




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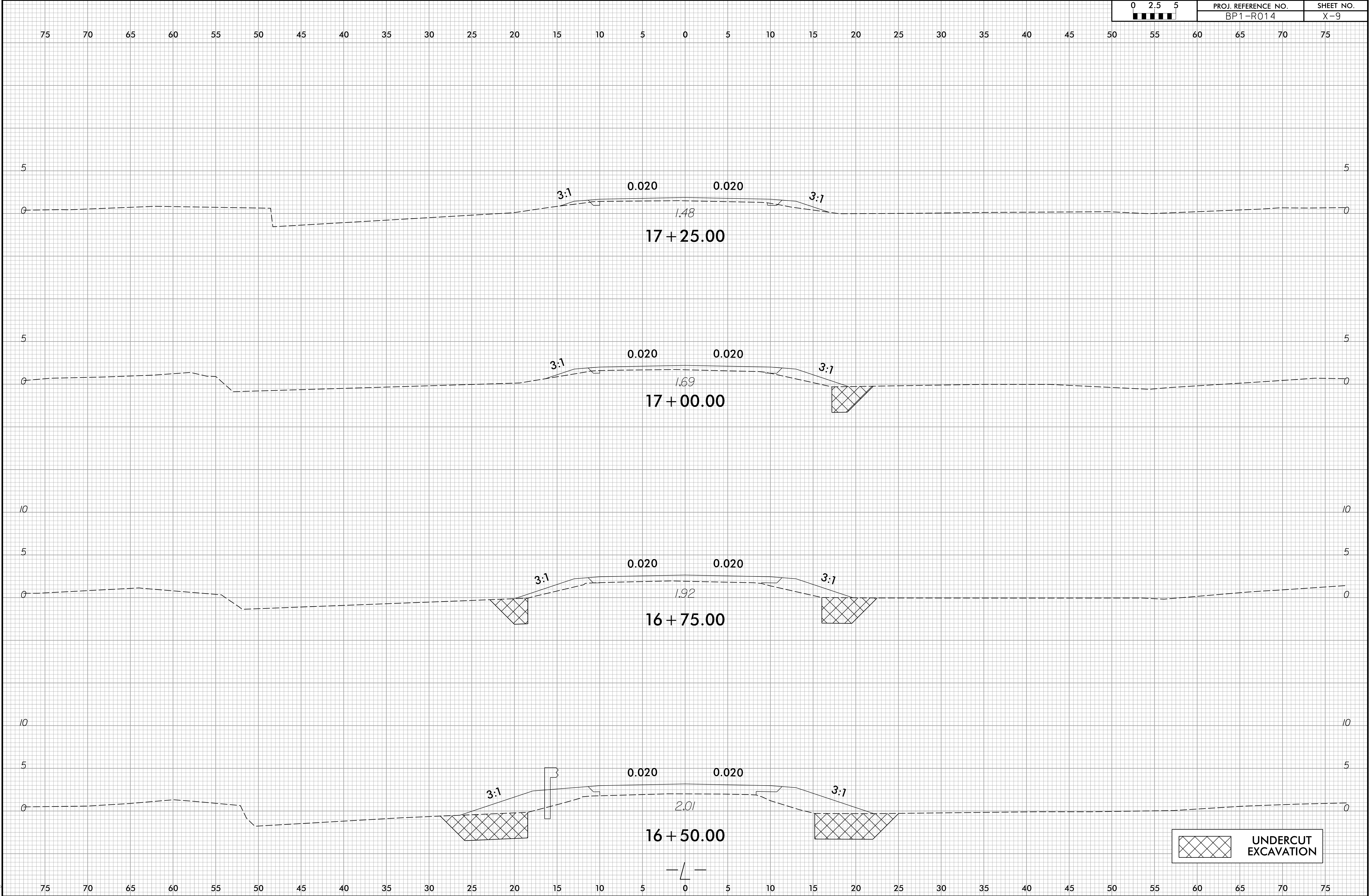
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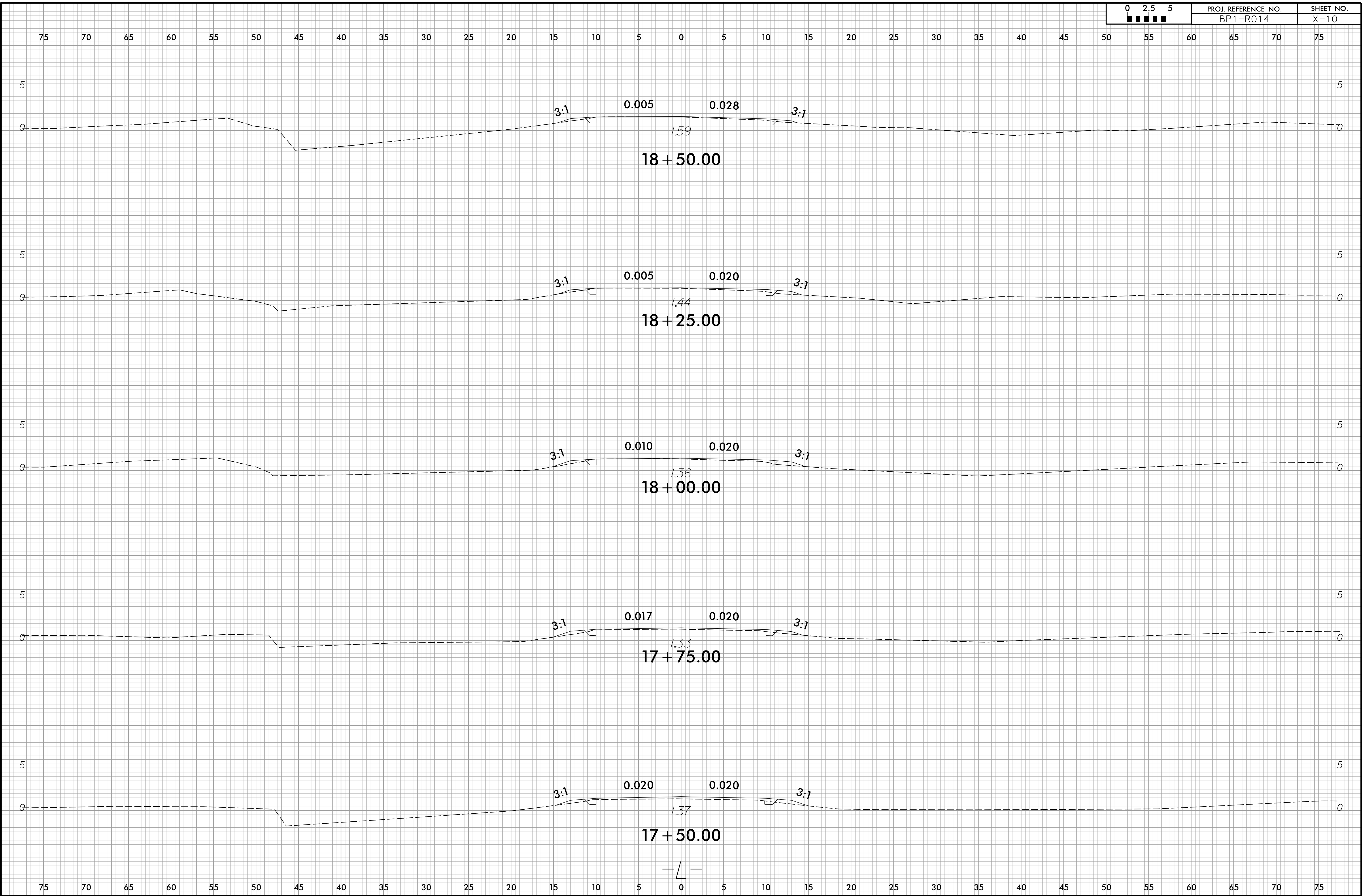


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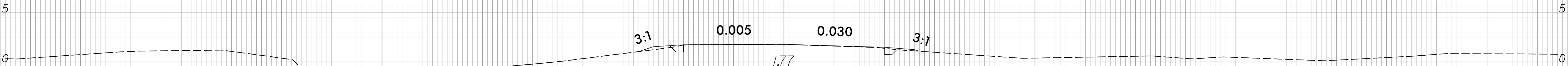
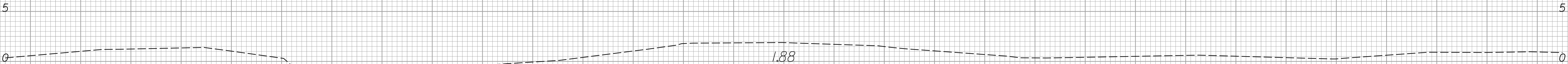




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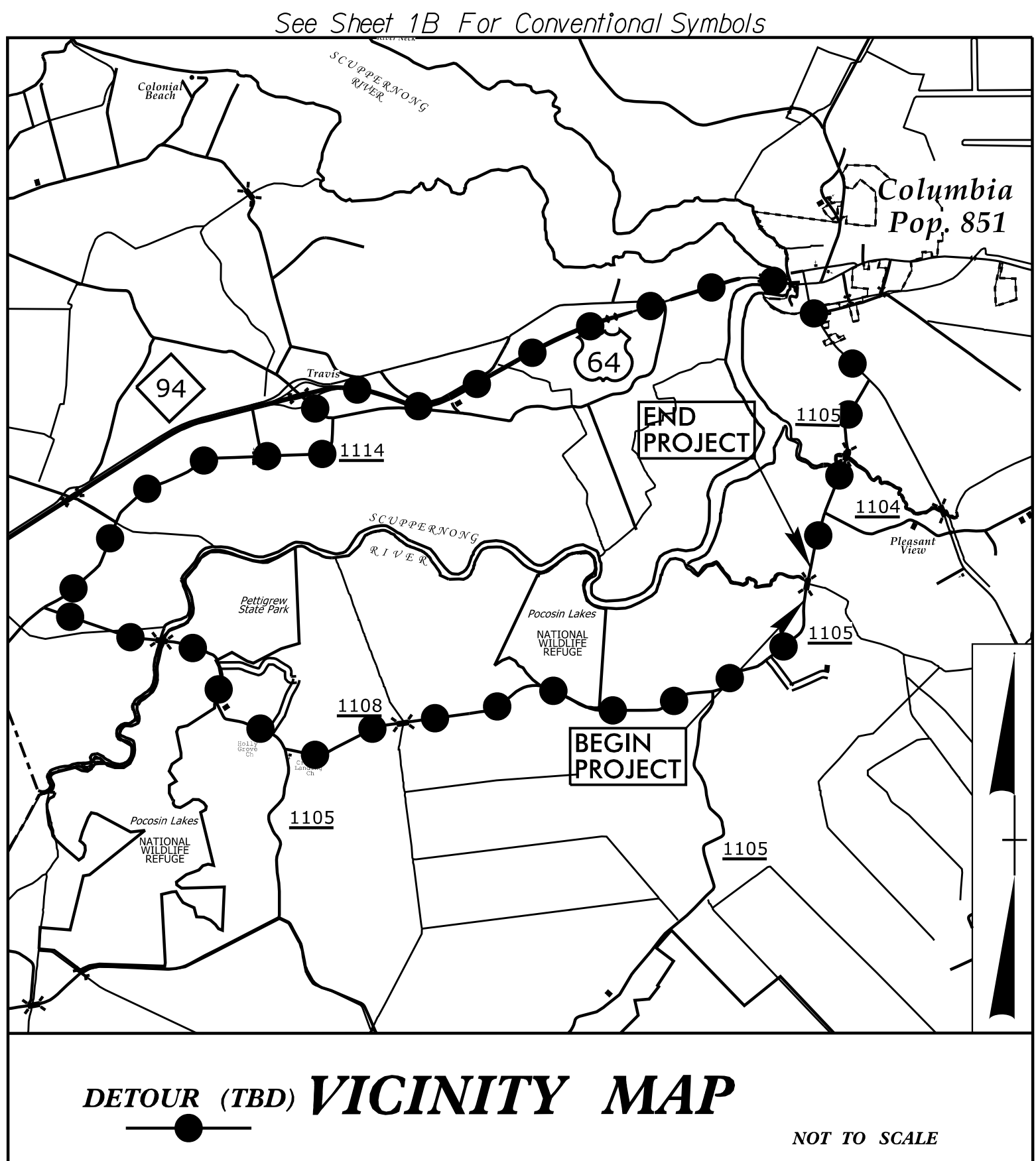
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TIP PROJECT: BPI-R014

CONTRACT:



100% PLANS

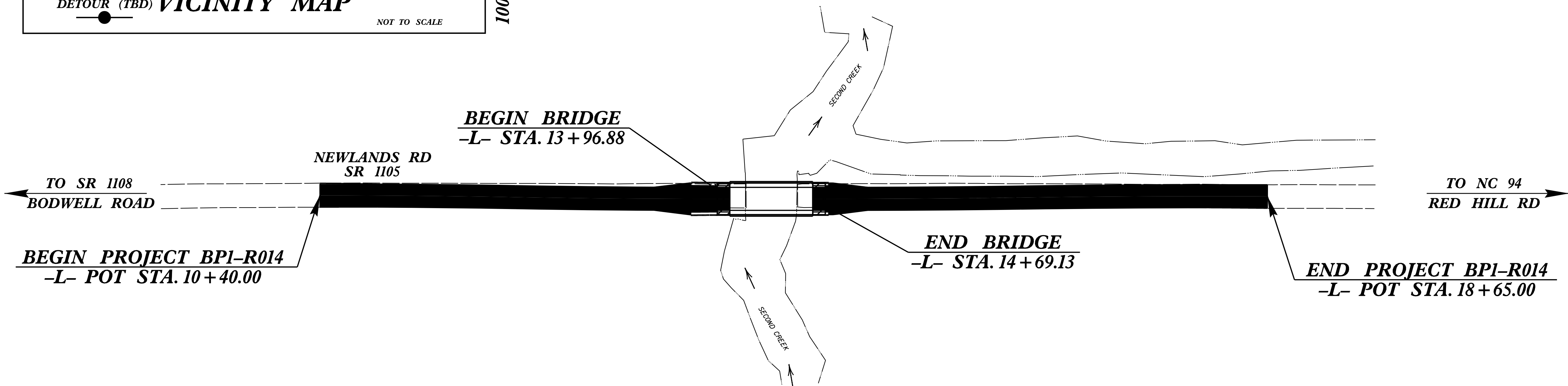
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

TYRRELL COUNTY

**LOCATION: REPLACE BRIDGE NO. 880018 ON
SR 1105 OVER SECOND CREEK**

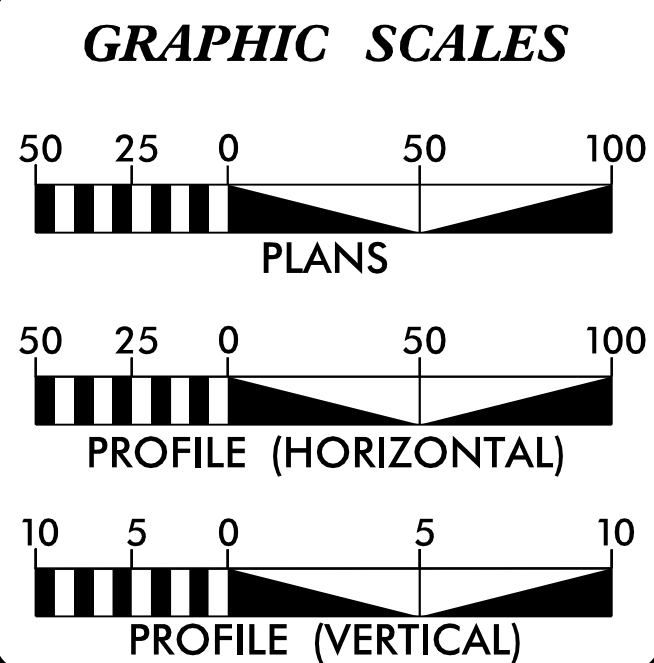
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

BRIDGE



THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.

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



DESIGN DATA

$$\begin{aligned} \text{ADT } 2040 &= < 750 \\ V &= 60 \text{ MPH} \end{aligned}$$

FUNC CLASS =
RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY T.I.P. PROJECT BP1-R014	0.142 MI
LENGTH OF STRUCTURE T.I.P. PROJECT BP1-R014	0.014 MI
TOTAL LENGTH OF T.I.P. PROJECT BP1-R014	<u>0.156 MI</u>

NCDOT CONTACT: RYAN SHOOK
NCDOT DIVISION 1 PROJECT MANAGER



Stantec

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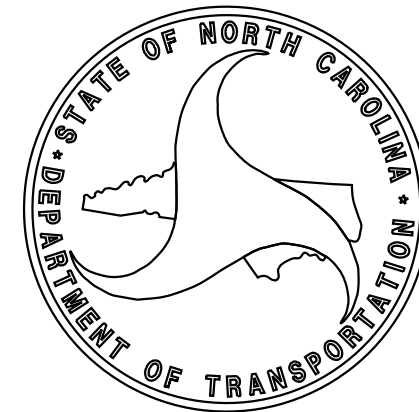
2024 STANDARD SPECIFICATIONS

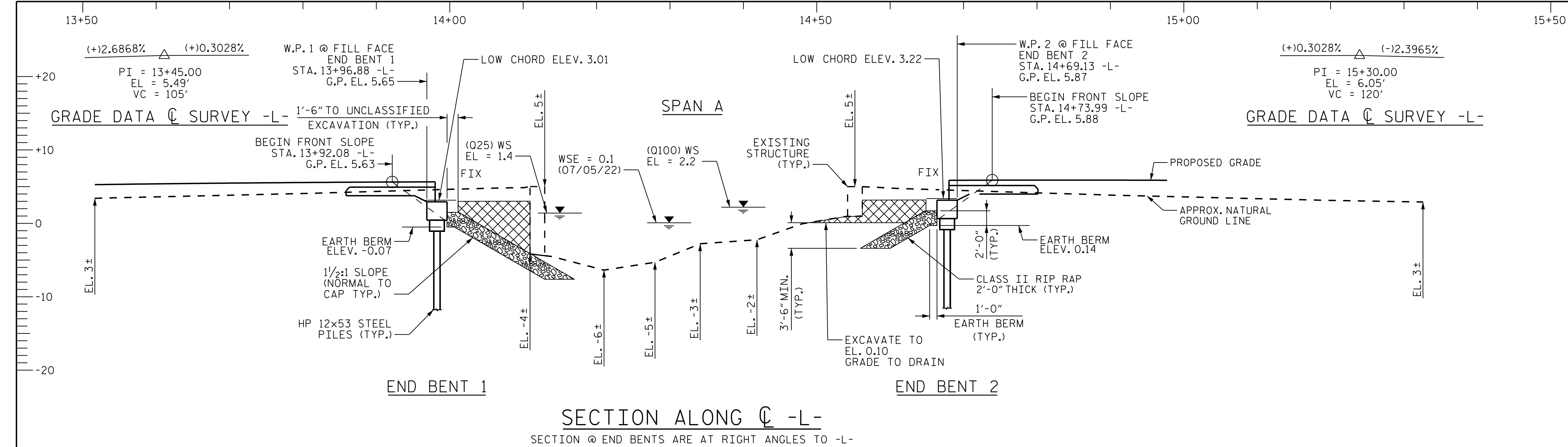
RIGHT OF WAY DATE:
01/09/2026

LETTING DATE:
06/03/2026

Prepared In The Offices of:

TUCKER JARVIS, PE
PROJECT ENGINEER



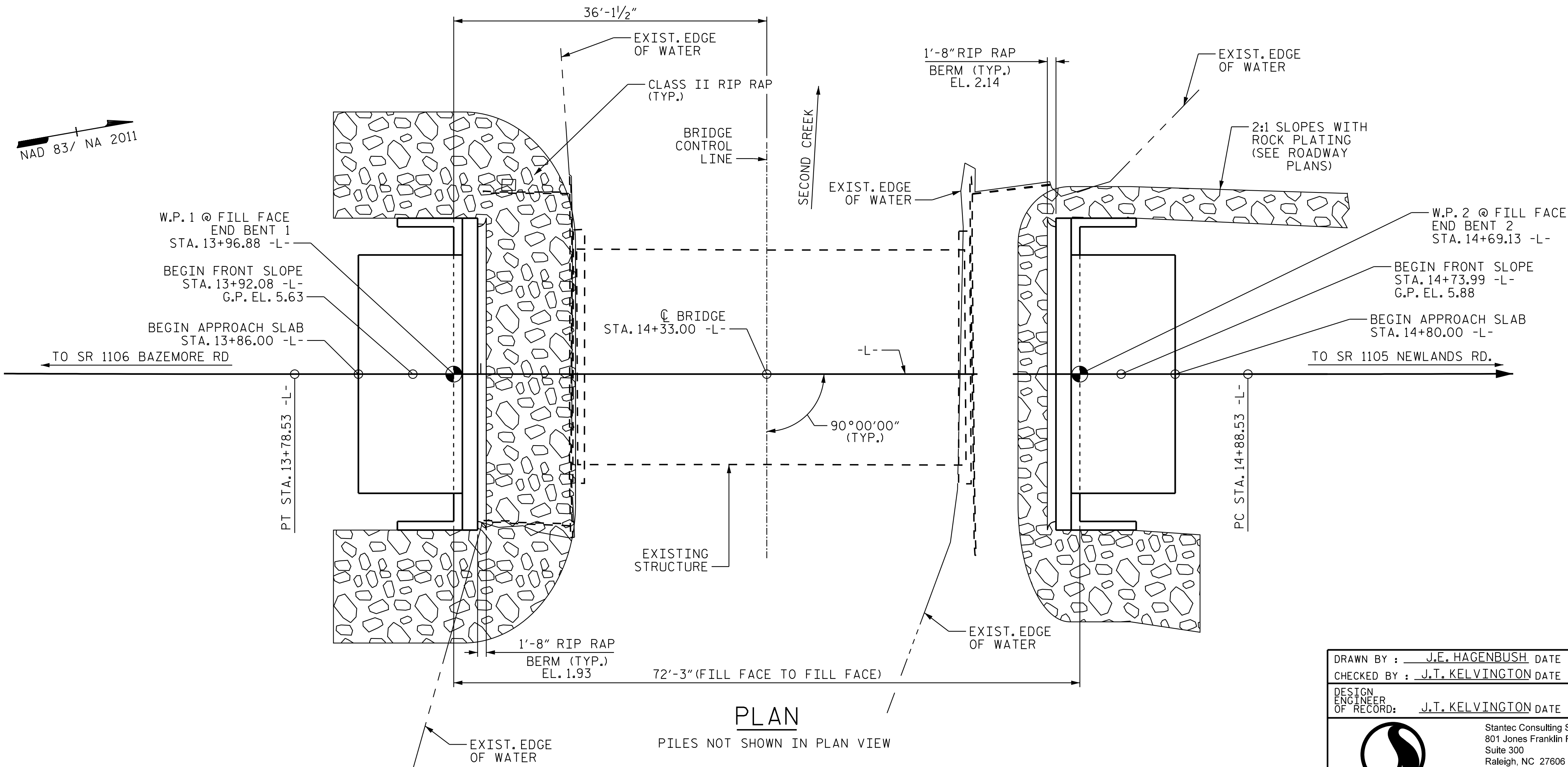


HYDRAULIC DESIGN DATA

DESIGN DISCHARGE	950 CFS.
FREQUENCY	25 YR.
DESIGN HIGH WATER EL.	1.4
DRAINAGE AREA	9.4 SQ. MI.
BASE DISCHARGE(Q100)	1400 CFS.
BASE HIGH WATER EL.	2.2

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	1057 CFS.
FREQUENCY	25+ YR.
OVERTOPPING EL.	1.45
OVERTOPPING RDY CROWN POINT @ 17+99.32 -L- (SAG) EL. 1.45	



PROJECT NO. BP1.R014.1
TYRRELL COUNTY
STATION: 14+33.00 -L-

SHEET 1 OF 4 REPLACES BRIDGE #880018

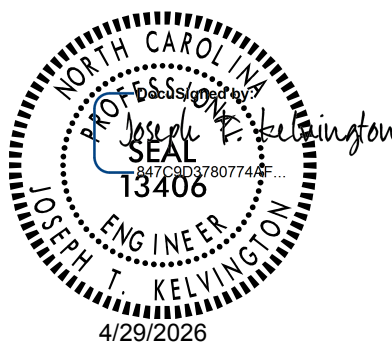
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER SECOND CREEK
ON SR 1105 NEWLANDS RD.
BETWEEN SR 1106 (BAZEMORE RD.)
AND SR 1104 (NEWLANDS RD.)

DRAWN BY : J.E. HAGENBUSH DATE : 01/28/26
CHECKED BY : J.T. KELVINGTON DATE : 01/28/26
DESIGN
ENGINEER
OF RECORD: J.T. KELVINGTON DATE : 03/26/26



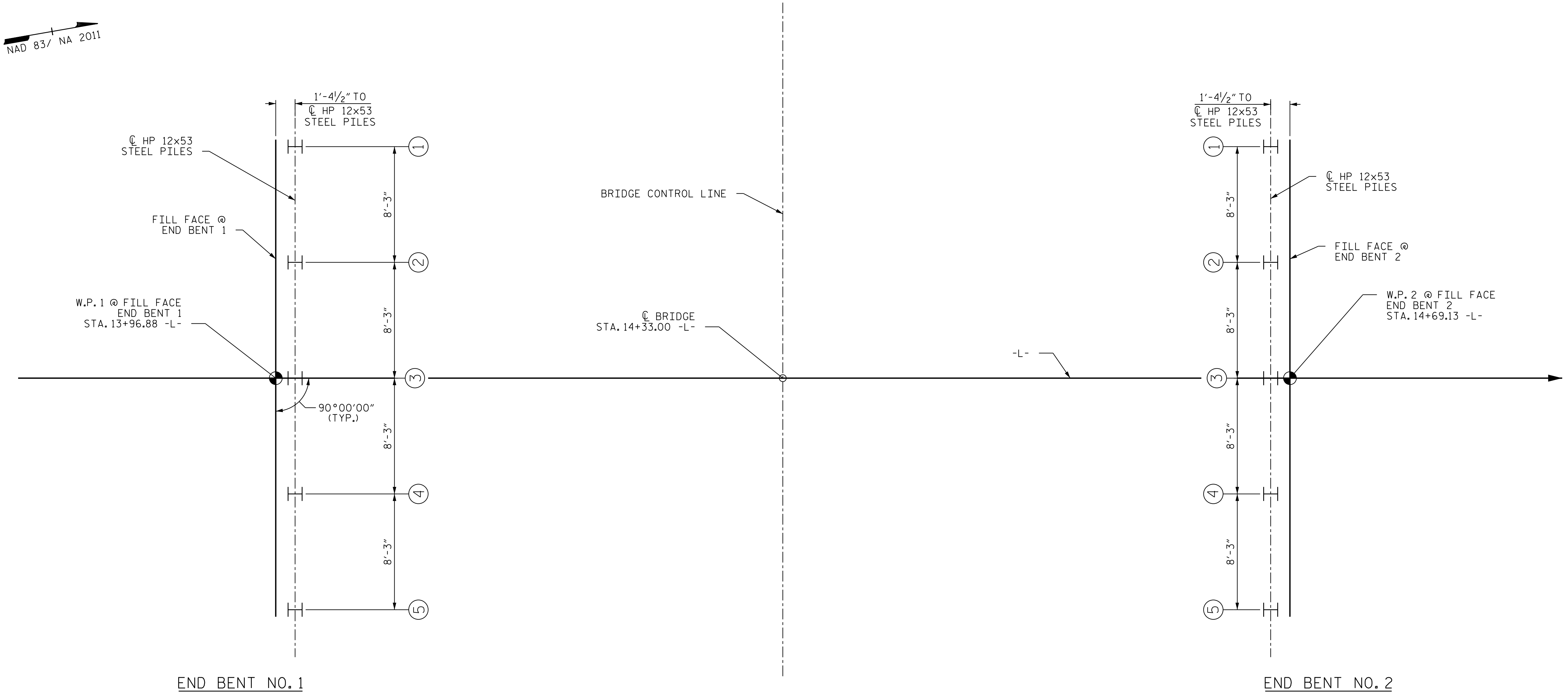
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REVISIONS						SHEET NO. S-01
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 16
2			4			

4/29/2026 10:04 AM JHagenbush
U:\Structures\Drafting\Final\71002532.SMU - FL 880018.dgn



FOUNDATION LAYOUT

NOTE: ALL SUBSTRUCTURE WORK LINES PASS THROUGH WORK POINTS

Ⓝ - DENOTES PILE NUMBER

NOTES:

1. FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

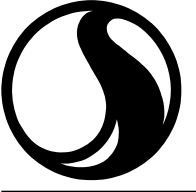
PROJECT NO. BP1.R014.1
TYRRELL COUNTY
STATION: 14+33.00 -L-

SHEET 2 OF 4

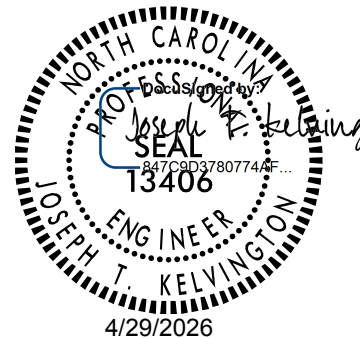
DRAWN BY : J.E.HAGENBUSH DATE : 01/28/26

CHECKED BY : J.T. KELVINGTON DATE : 01/28/26

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ENGINEER
OF RECORD: J.T. KELVINGTON DATE : 03/26/26


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4/29/2026

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

FOUNDATION LAYOUT
FOR BRIDGE OVER SECOND CREEK
ON SR 1105 NEWLANDS RD.
BETWEEN SR 1106 (BAZEMORE RD.)
AND SR 1104 (NEWLANDS RD.)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-02
1			3			TOTAL SHEETS 16
2			4			

SUMMARY OF PILE INFORMATION/ INSTALLATION

(BLANK ENTRIES INDICATE ITEM IS NOT APPLICABLE TO STRUCTURE)

END BENT/ BENT NO. PILE (s) #-* (e.g., BENT 1, PILES 1-5")	FACTORED RESISTANCE PER PILE TONS	PILE CUT-OFF (TOP OF PILE) ELEVATION FT	ESTIMATED PILE LENGTH PER PILE FT	SCOUR CRITICAL ELEVATION FT	DRIVEN PILES			PREDRILLING FOR PILES *			DRILLED-IN PILES		
					MIN. PILE TIP (TIP NO HIGHER THAN) ELEV FT	REQUIRED DRIVING RESISTANCE (RDR)** PER PILE TONS	TOTAL PILE REDRIVES QUANTITY EACH	PREDRILLING LENGTH PER PILE LIN FT	PREDRILLING ELEVATION (ELEV NOT TO PREDRILL BELOW) FT	MAXIMUM PREDRILLING DIA INCHES	PILE EXCAVATION (BOTTOM OF HOLE) ELEV FT	PILE EXC NOT IN SOIL PER PILE LIN FT	PILE EXC IN SOIL PER PILE LIN FT
END BENT 1, PILES 1-5	97	1.43	85			162	5						
END BENT 2, PILES 1-5	97	1.64	85			162							

* PREDRILLING FOR PILES IS REQUIRED FOR END BENTS/ BENTS WITH A PREDRILLING LENGTH AND AT THE CONTRACTOR'S OPTION FOR END BENTS/ BENTS WITH PREDRILLING INFORMATION BUT NO PREDRILLING LENGTH.

** RDR= $\frac{\text{FACTORED RESISTANCE} + \text{FACTORED DOWNDRAG LOAD} + \text{FACTORED DEAD LOAD}}{\text{DYNAMIC RESISTANCE FACTOR}}$ + NORMAL DOWNDRAG RESISTANCE + $\frac{\text{NORMINAL SCOUR RESISTANCE}}{\text{SCOUR RESISTANCE FACTOR}}$

SUMMARY OF DPT/ PILE ORDER LENGTHS

(BLANK ENTRIES INDICATE ITEM IS NOT APPLICABLE TO STRUCTURE)

DYNAMIC PILE TESTING (DPT)				PILE ORDER LENGTHS	
END BENT/ BENT NO.	DPT REQUIRED? YES OR MAYBE	DPT PILE LENGTH FT	TOTAL DPT QUANTITY EACH	END BENT/ BENT NO(s)	PILE ORDER LENGTH BASIS* EST OR DPT
END BENT 1	MAYBE	90	1		
END BENT 2	MAYBE	90			

* EST-PILE ORDER LENGTHS FROM ESTIMATED PILE LENGTHS; DPT-PILE ORDER LENGTHS BASED ON DPT. FOR GROUPS OF END BENTS/BENTS WITH PILE ORDER LENGTHS BASED ON DPT, THE FIRST END BENT/ BENT NO. LISTED FOR EACH GROUP IS THE REPRESENTATIVE END BENT/ BENT WITH THE DPT.

PILE DESIGN INFORMATION

(BLANK ENTRIES INDICATE ITEM IS NOT APPLICABLE TO STRUCTURE)

END BENT/ BENT NO. PILE (s) #-* (e.g., BENT 1, PILES 1-5")	FACTORED AXIAL LOAD PER PILE TONS	FACTORED DOWNDRAG LOAD PER PILE TONS	FACTORED DEAD LOAD* PER PILE TONS	DYNAMIC RESISTANCE FACTOR	NOMINAL DOWNDRAG RESISTANCE PER PILE TONS	NOMINAL SCOUR RESISTANCE PER PILE TONS	SCOUR RESISTANCE FACTOR (DEFAULT=1.00)
END BENT 1, PILES 1-5	97			0.60			
END BENT 2, PILES 1-5	97			0.60			

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

FOUNDATION NOTES:

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES WITH THE DPT DURING DRIVING, RESTRIKING OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR DPT WHEN DPT MAY BE REQUIRED. FOR DPT, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

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

APPLY AN 8 MIL THICK 1350 ALUMINUM (W-AL-1350) THERMAL SPRAY COATING WITH A 0.5 MIL THICK SEAL COAT TO THE PILES, IN ACCORDANCE WITH THE THERMAL SPRAYED COATINGS SPECIAL PROVISION AND SECTION 442 OF THE STANDARD SPECIFICATIONS. FOR THERMAL SPRAYED COATINGS, SEE SPECIAL PROVISIONS.

AFTER DRIVING THE PILES, APPLY 1 COAT EACH OF 1080-12 BROWN AND 1080-12 GRAY PAINT TO THE EMBEDDED SECTION OF THE METALLIZED PILE PRIOR TO CONCRETE EMBEDMENT IN ACCORDANCE WITH SECTION 442 OF THE STANDARD SPECIFICATIONS.

PROJECT NO. BP1.R014.1
TYRRELL COUNTY
STATION: 14+33.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

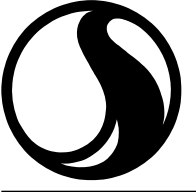
PILE FOUNDATION
TABLES

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-03
1			3			TOTAL SHEETS 16
2			4			

DRAWN BY : J.E.HAGENBUSH DATE : 01/28/26

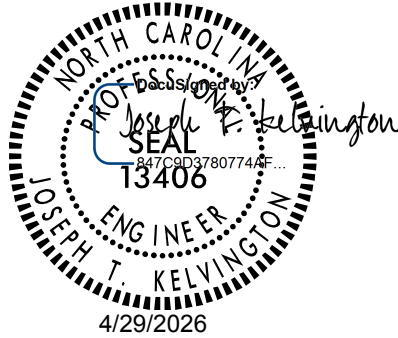
CHECKED BY : J.T.KELVINGTON DATE : 01/28/26

DESIGN
ENGINEER
OF RECORD: J.T.KELVINGTON DATE : 03/26/26



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NOTES:

- THE PILE FOUNDATION TABLES ARE BASED ON THE BRIDGE SUBSTRUCTURE DESIGN AND FOUNDATION RECOMMENDATIONS SEALED BY A NORTH CAROLINA PROFESSIONAL ENGINEER (YINHUI LIU, PE #034020) ON 07-16-2024.
- TOTAL PILE DRIVING EQUIPMENT SETUP QUANTITY (NOT SHOWN IN PILE FOUNDATION TABLES) EQUALS THE NUMBER OF DRIVEN PILES, I.E., THE NUMBER OF PILES WITH A REQUIRED DRIVING RESISTANCE.
- THE ENGINEER WILL DETERMINE THE NEED FOR DPT AND WHEN DPT MAY BE REQUIRED.



ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING

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

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 30 FEET EACH SIDE OF THE 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 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.

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

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.

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

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

CLASS AA CONCRETE SHALL BE USED IN ALL CAST-IN-PLACE END BENT CAPS, AND WING WALLS, AND SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR. FOR CALCIUM NITRITE CORROSION INHIBITOR, SEE SPECIFICATIONS, SECTION 1024-3.

ALL BAR SUPPORTS USED IN THE BARRIER RAIL, APPROACH SLABS, END BENT CAPS, AND ALL INCIDENTAL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE CONCRETE IN THE END BENTS SHALL CONTAIN SILICA FUME. SILICA FUME SHALL BE SUBSTITUTED FOR 5% OF THE PORTLAND CEMENT BY WEIGHT. IF THE OPTION OF ARTICLE 1024-1 OF THE STANDARD SPECIFICATIONS TO PARTIALLY SUBSTITUTE CLASS F FLY ASH FOR PORTLAND CEMENT IS EXERCISED, THEN THE RATE OF FLY ASH SUBSTITUTION SHALL BE REDUCED TO 1.0 LB (1.0 KG) OF FLY ASH PER 1.0 LB (1.0 KG), NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.

FOR THERMAL SPRAYED COATINGS, SEE SPECIAL PROVISIONS

TOTAL BILL OF MATERIAL																
	REMOVAL OF EXISTING STRUCTURE AT STATION 14+33.00 -L-	UNCLASSIFIED STRUCTURE EXCAVATION @ STA. 14+33.00 -L-	CLASS AA CONCRETE	BRIDGE APPROACH SLABS @ STA. 14+33.00 -L-	EPOXY COATED REINFORCING STEEL	PILE DRIVE EQUIP. SETUP FOR HP12X53 STEEL PILES	HP12X53 STEEL PILES		PILE REDRIVES	DYNAMIC PILE TESTING	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" x 2'-0" PRESTRESSED CONC CORED SLABS	
	LUMP SUM	LUMP SUM	C.Y.	LUMP SUM	LBS.	EA.	NO.	L.F.	EA.	EA.	L.F.	TON	S. Y.	LUMP SUM	NO.	L.F.
SUPERSTRUCTURE				LUMP SUM							140			LUMP SUM	10	700
END BENT 1		LUMP SUM	13.2		1935	5	5	425				135	150			
END BENT 2		LUMP SUM	13.2		1935	5	5	425				106	118			
TOTAL	LUMP SUM	LUMP SUM	26.4	LUMP SUM	3870	10	10	850	5	1	140	241	268	LUMP SUM	10	700

PROJECT NO. BP1.R014.1

TYRRELL COUNTY

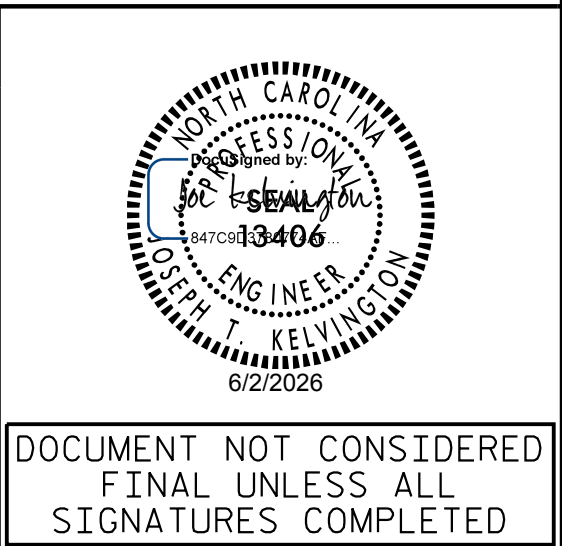
STATION: 14+33.00 -L-

SHEET 4 OF 4

DRAWN BY : J.E. HAGENBUSH DATE : 01/28/26
CHECKED BY : J.T. KELVINGTON DATE : 01/28/26
DESIGN
ENGINEER
OF RECORD : J.T. KELVINGTON DATE : 03/26/26


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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

FOR BRIDGE OVER SECOND CREEK
 ON SR 1105 NEWLANDS RD.
 BETWEEN SR 1106 (BAZEMORE RD.)
 AND SR 1104 (NEWLANDS RD.)

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.

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. BP1.R014.1

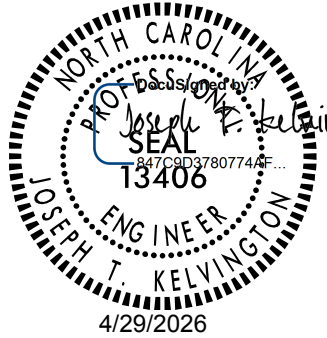
TYRRELL COUNTY

STATION: 14+33.00 -L-

DESIGN
ENGINEER
OF RECORD: J.T. KELVINGTON DATE : 03/26/26



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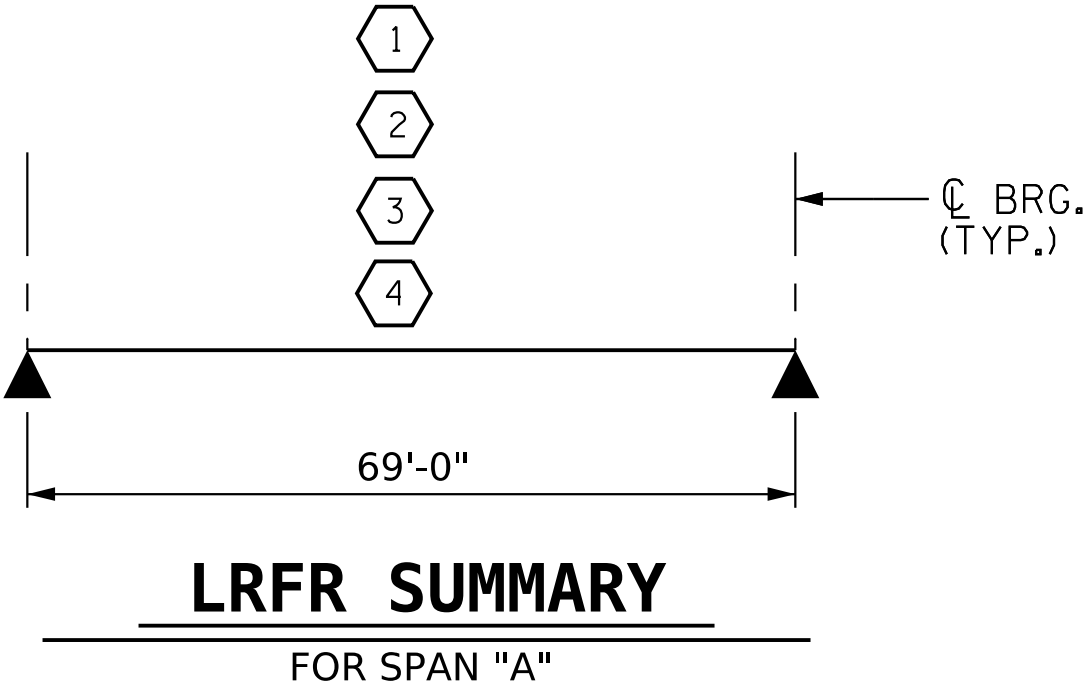
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

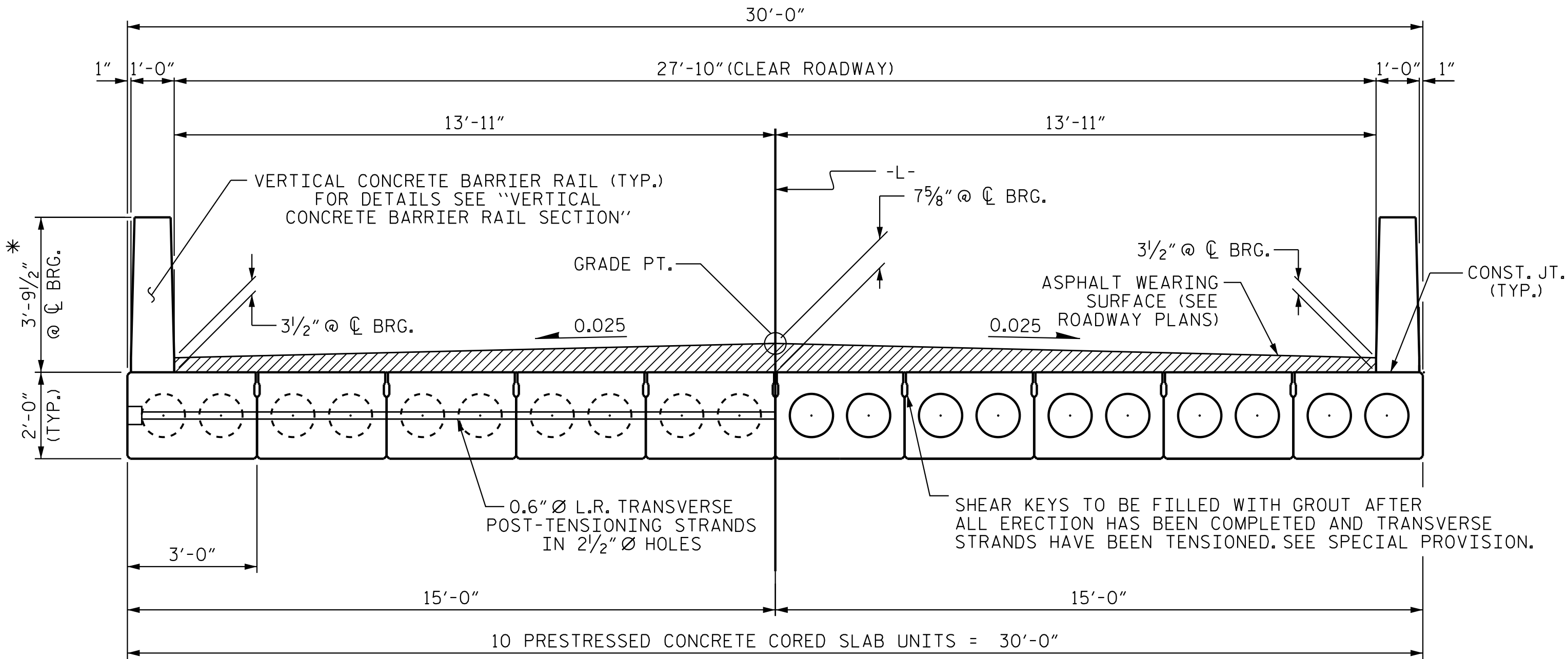
STANDARD
LRFR SUMMARY FOR
70' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO. S- 05
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 16
2			4			

ASSEMBLED BY: J.E.HAGENBUSH		DATE : 01/28/26	
CHECKED BY : J.T. KELVINGTON		DATE : 01/28/26	
DRAWN BY : CVC	6/10	REV. BY : BNB/AKP	06/23
CHECKED BY : DNS	6/10		

*****SYSTEM*****
*****DCN*****
*****USERNAME*****





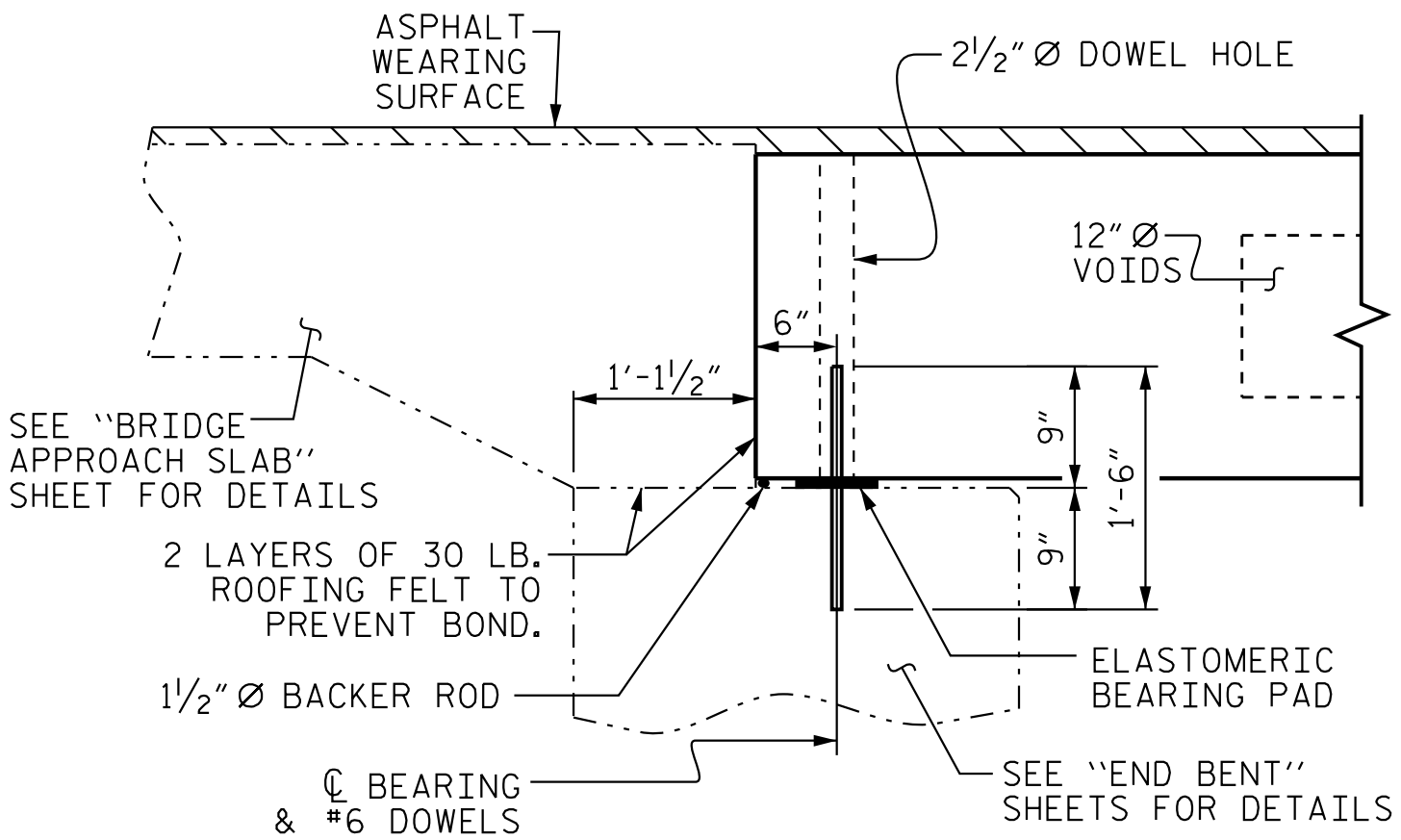
HALF SECTION
AT INTERMEDIATE DIAPHRAGMS

TYPICAL SECTION

HALF SECTION
THROUGH VOIDS

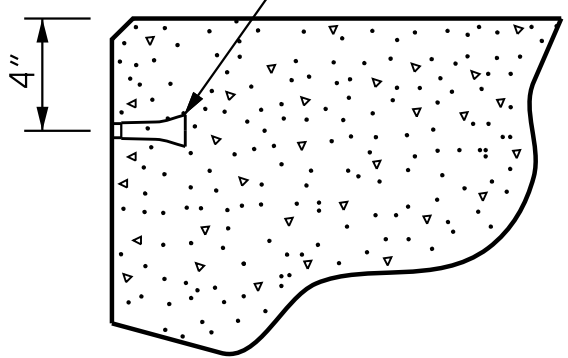
* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS, SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.

FIXED END

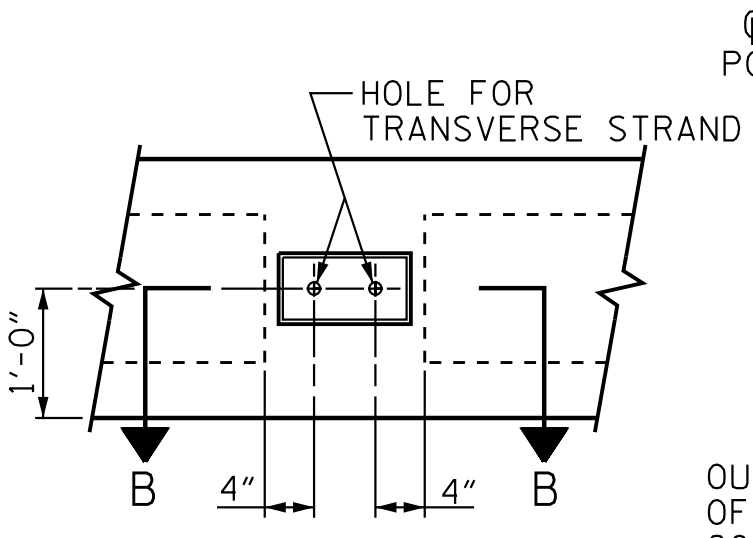


SECTION AT END BENT

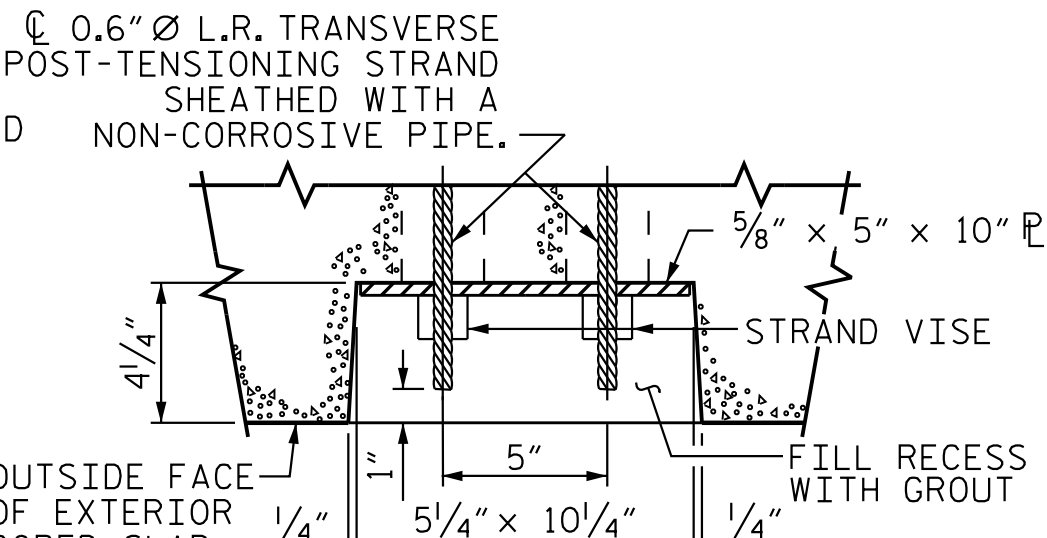
PERMITTED THREADED INSERT
CAST IN OUTSIDE FACE OF
EXTERIOR UNIT AND
RECESSED 3/8" SIZE TO BE
DETERMINED
BY CONTRACTOR.



THREADED INSERT DETAIL

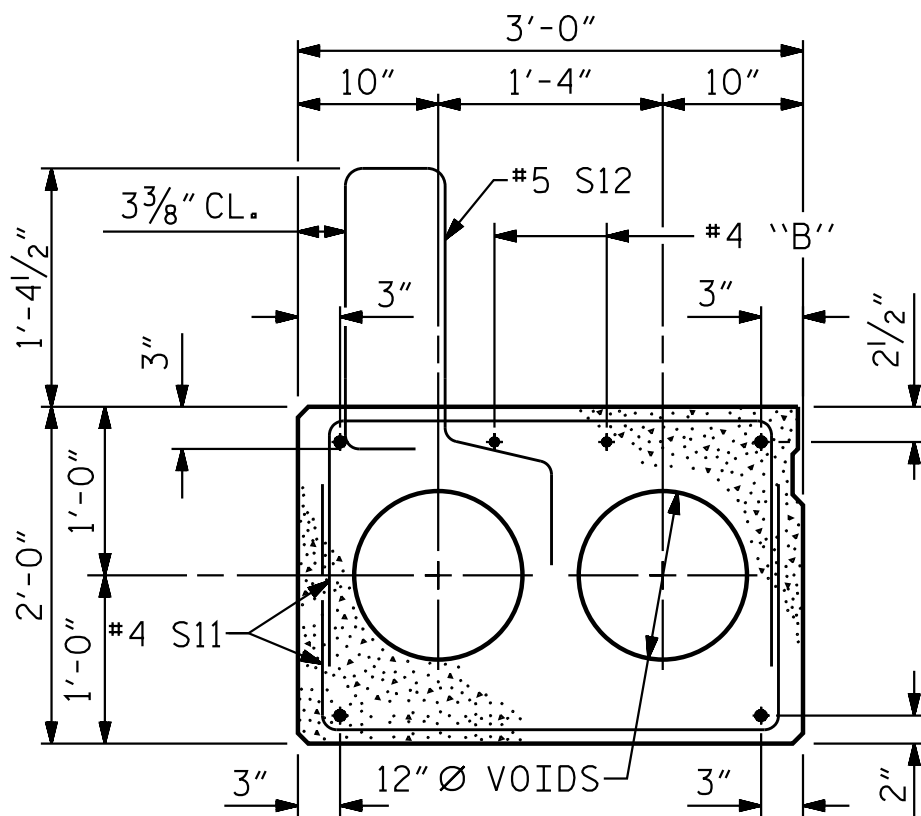


ELEVATION VIEW



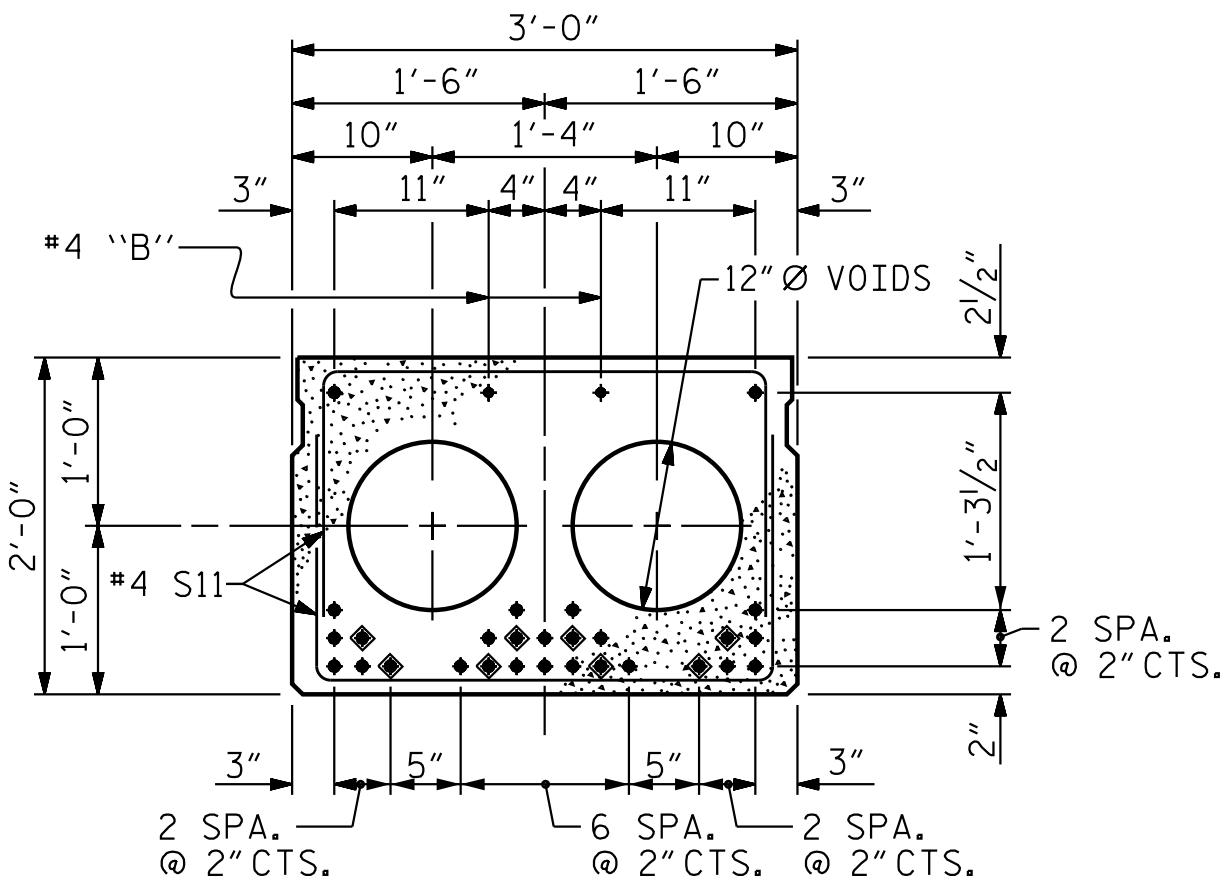
SECTION B-B

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



EXTERIOR SLAB SECTION

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



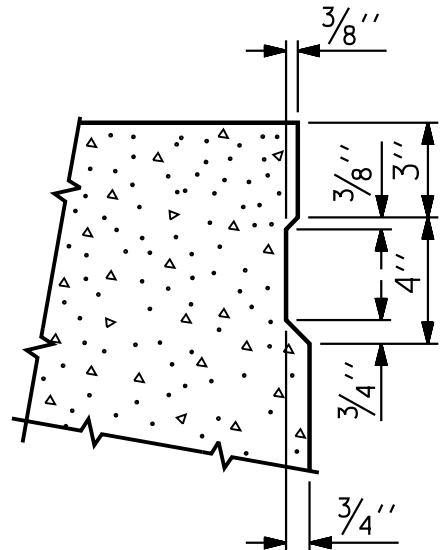
INTERIOR SLAB SECTION (70' UNIT)

(28 STRANDS REQUIRED)

**0.6" Ø LOW
RELAXATION STRAND LAYOUT**

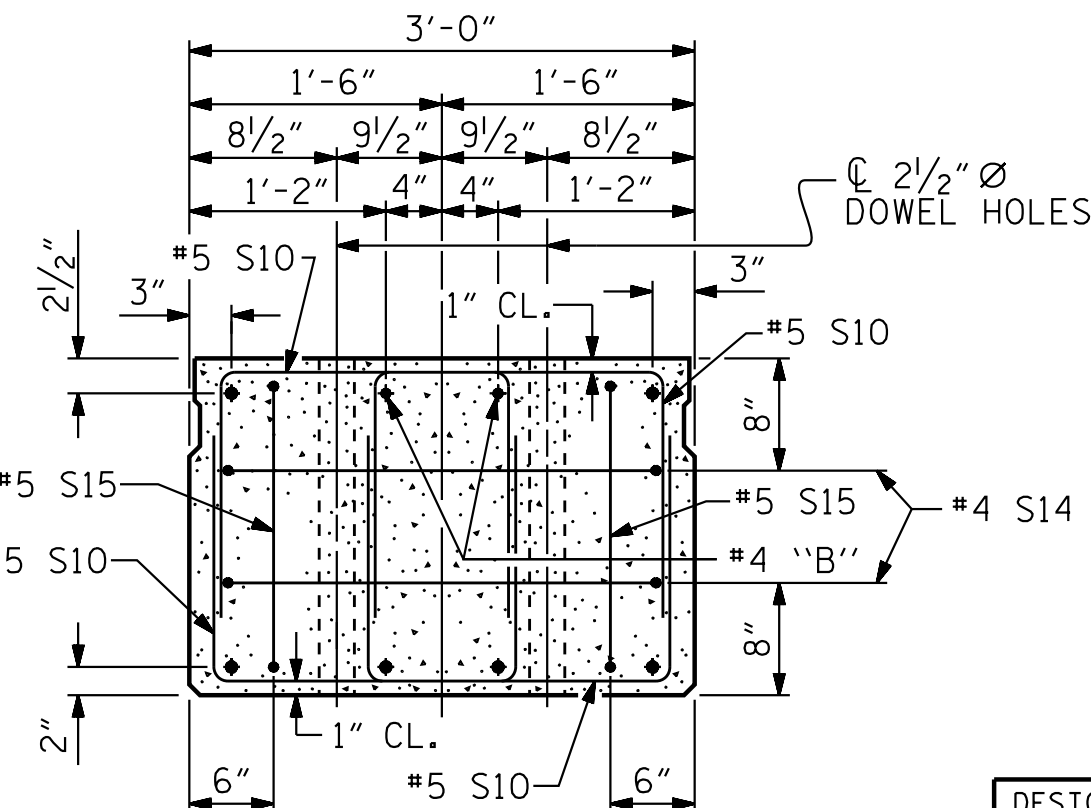
◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A
DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT.
SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND



SHEAR KEY DETAIL

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



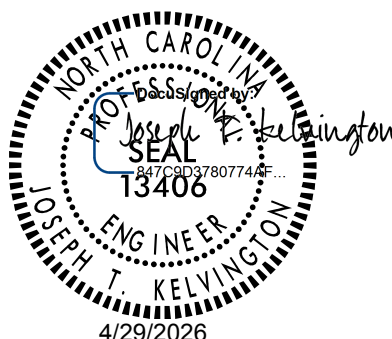
END ELEVATION

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

DESIGN
ENGINEER
OF RECORD: **J.T. KELVINGTON** DATE : 03/26/26



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PROJECT NO. **BP1.R014.1**
TYRRELL COUNTY
STATION: **14+33.00 -L-**

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD

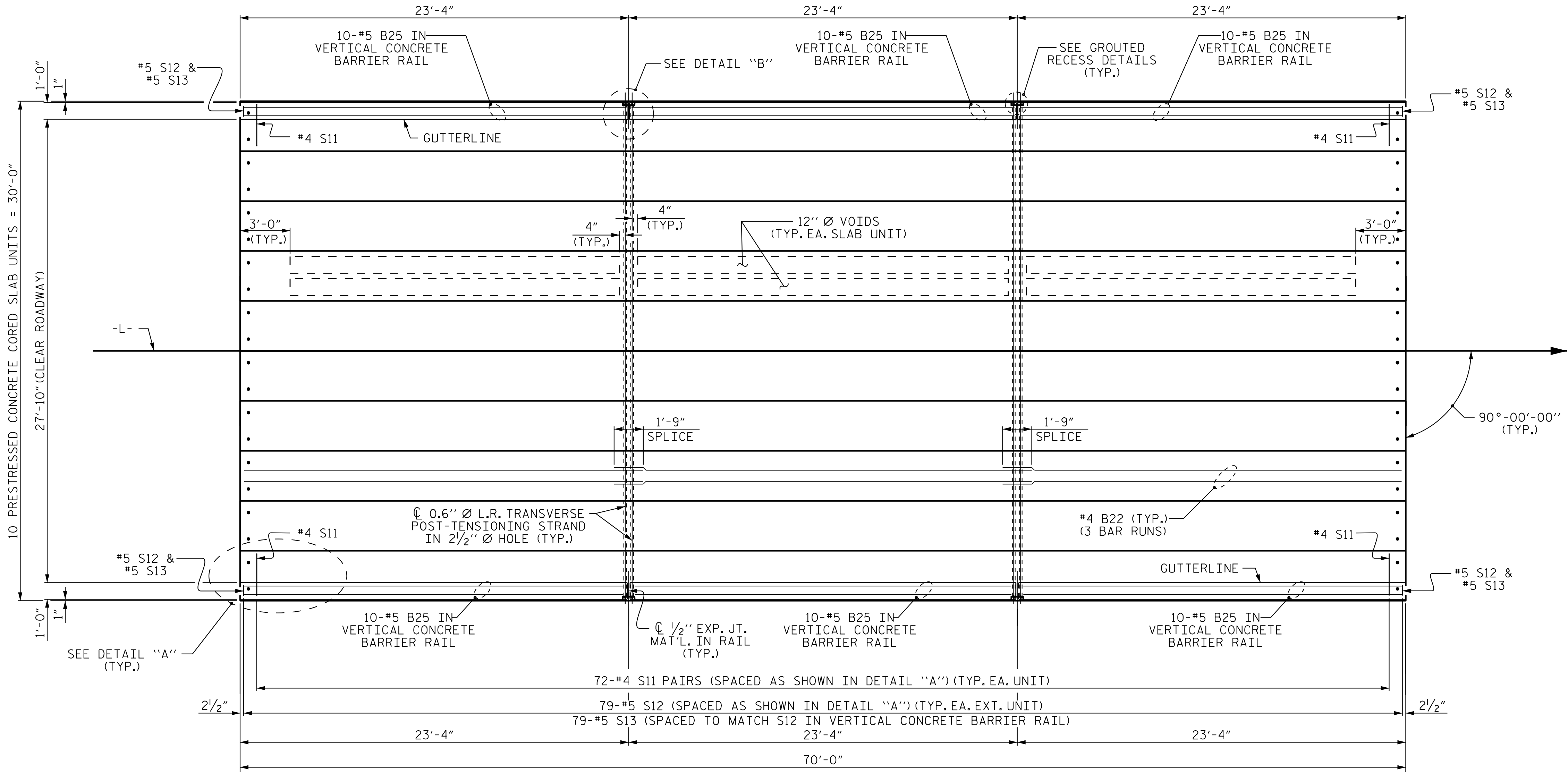
**3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-06
1			3			TOTAL SHEETS
2			4			16

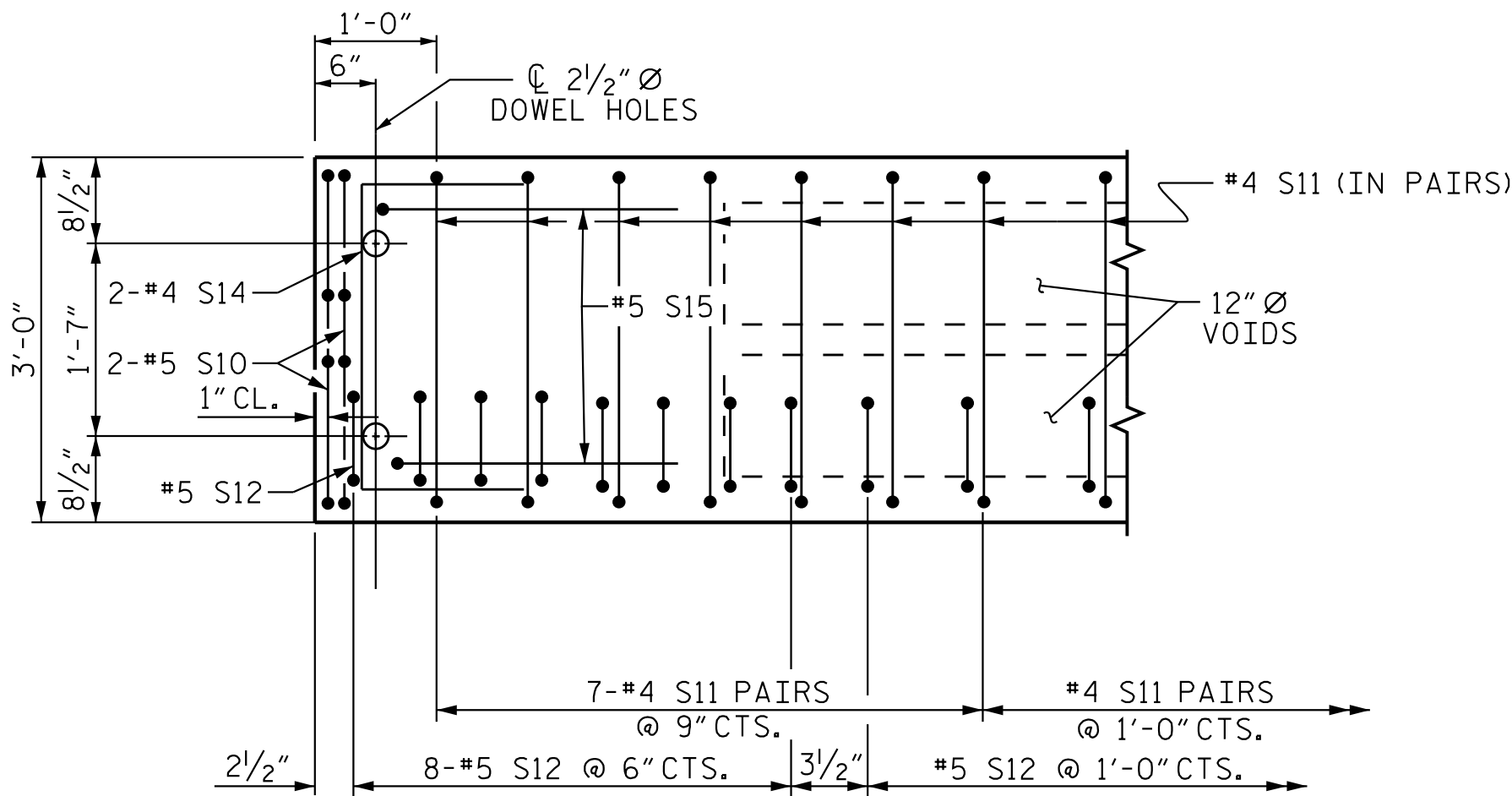
STD. NO. 24PCS4-30-90S

*****SYTIME*****
*****SDGN*****
*****USERNAME*****

4/29/2026 10:10:46 AM JHagenbush
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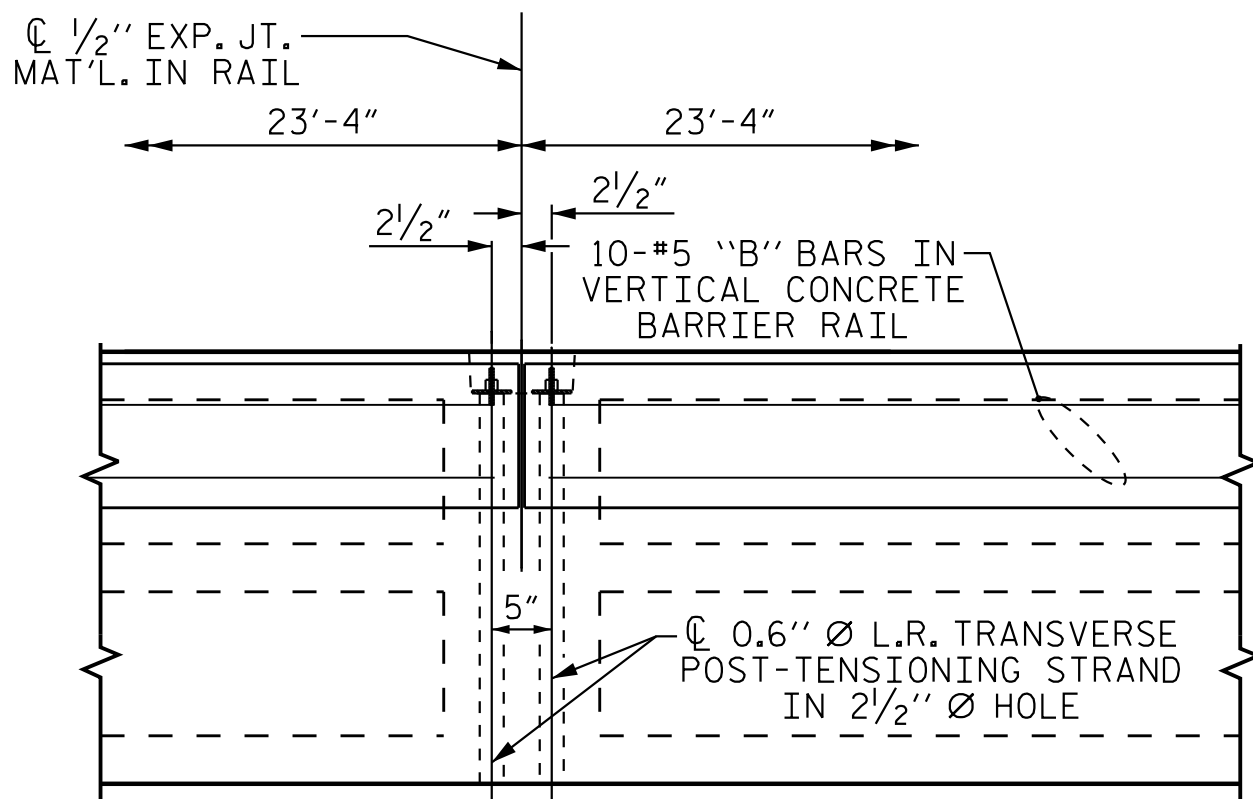


PLAN OF UNITS



DETAIL "A"

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



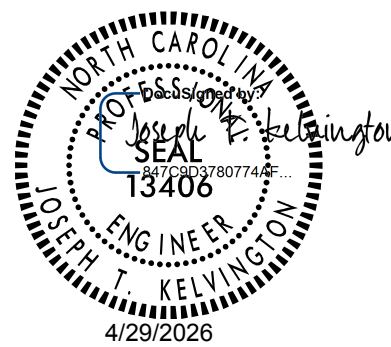
DETAIL "B"

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

DESIGN
ENGINEER
OF RECORD: J.T. KELVINGTON DATE : 03/26/26



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TYRRELL COUNTY
STATION: 14+33.00 -L-

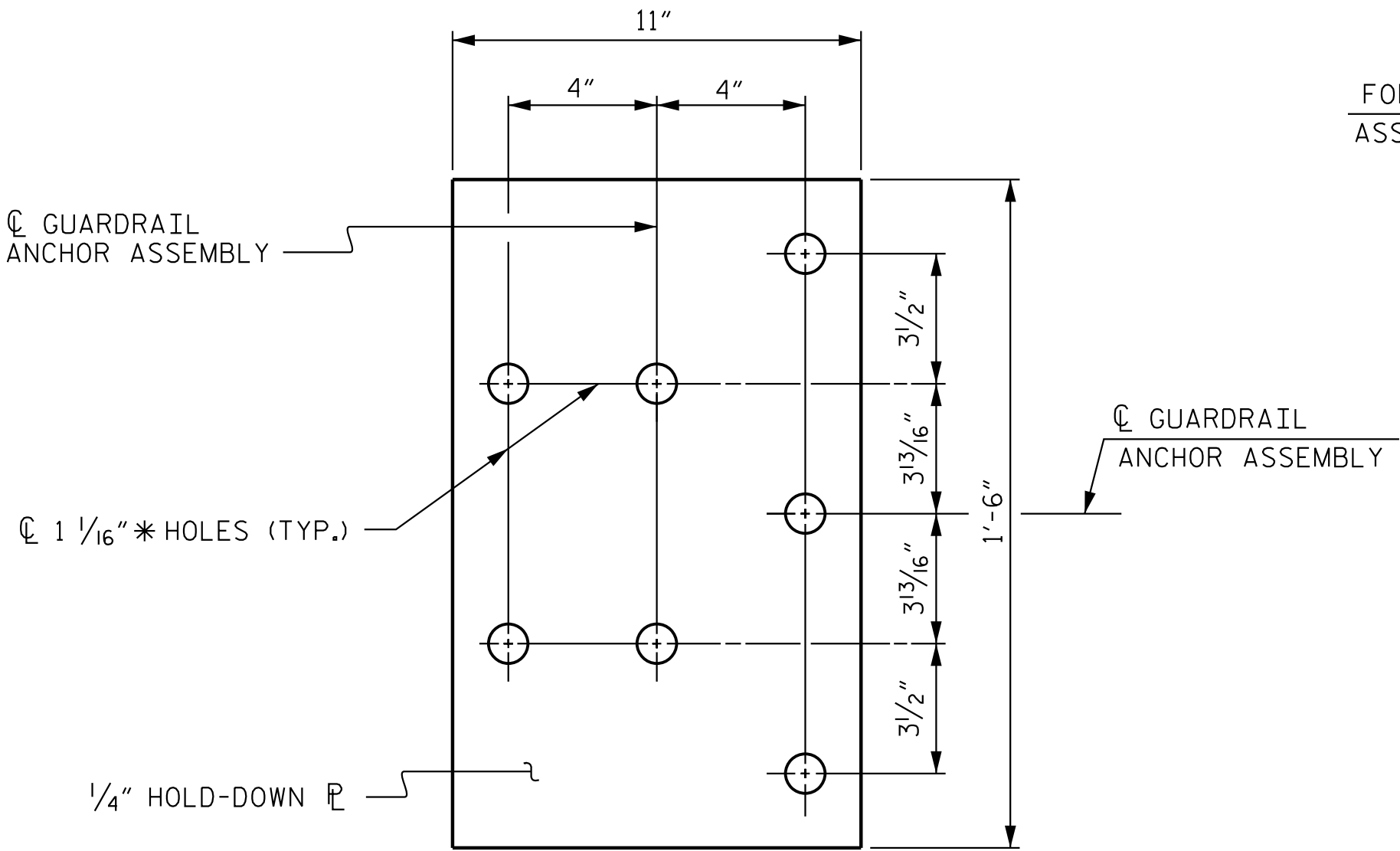
SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF 70' UNIT
27'-6" CLEAR ROADWAY
90° SKEW

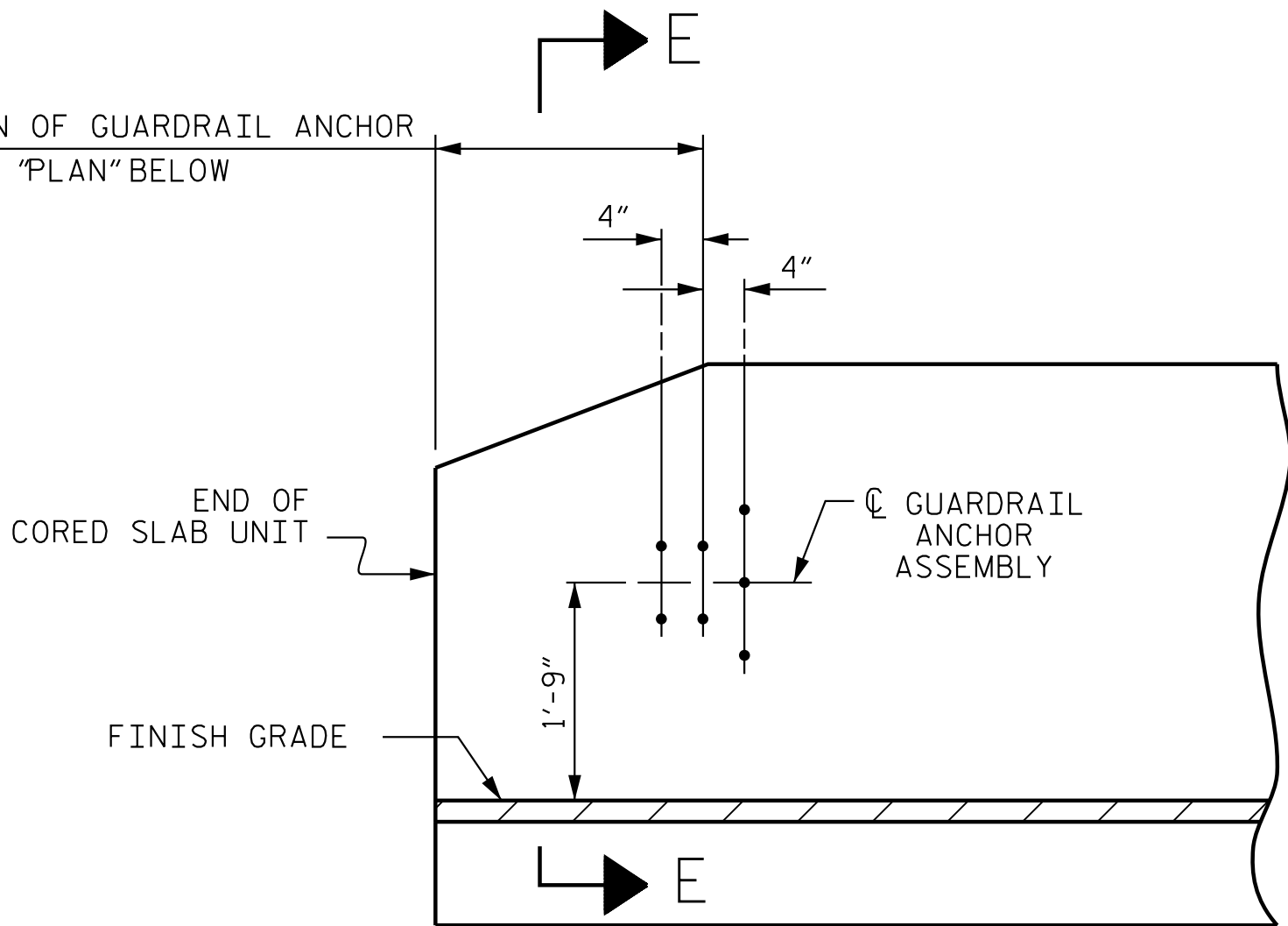
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 16
2			4			

STD. NO. 24PCS_30_90S_70L

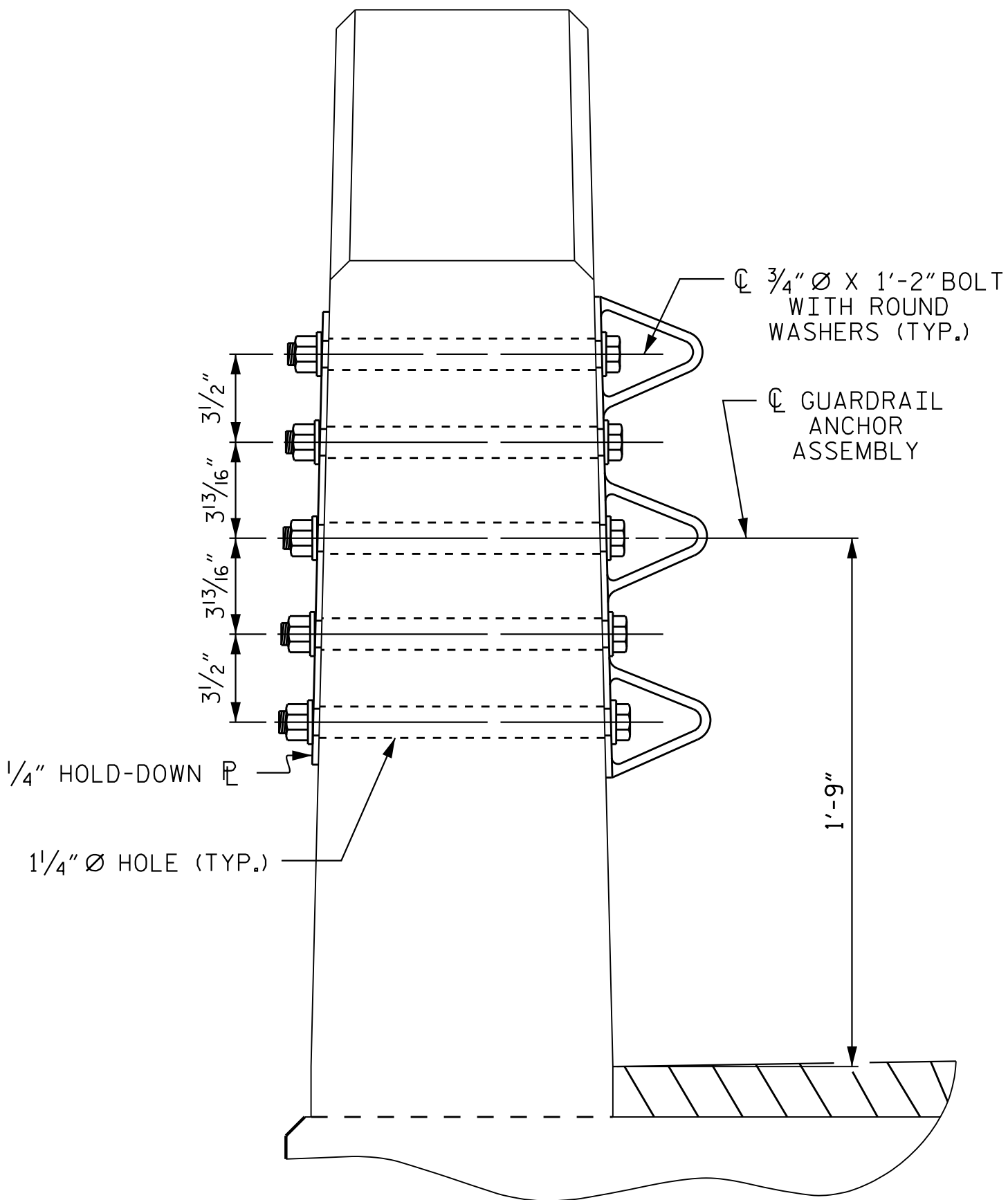


PLAN

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

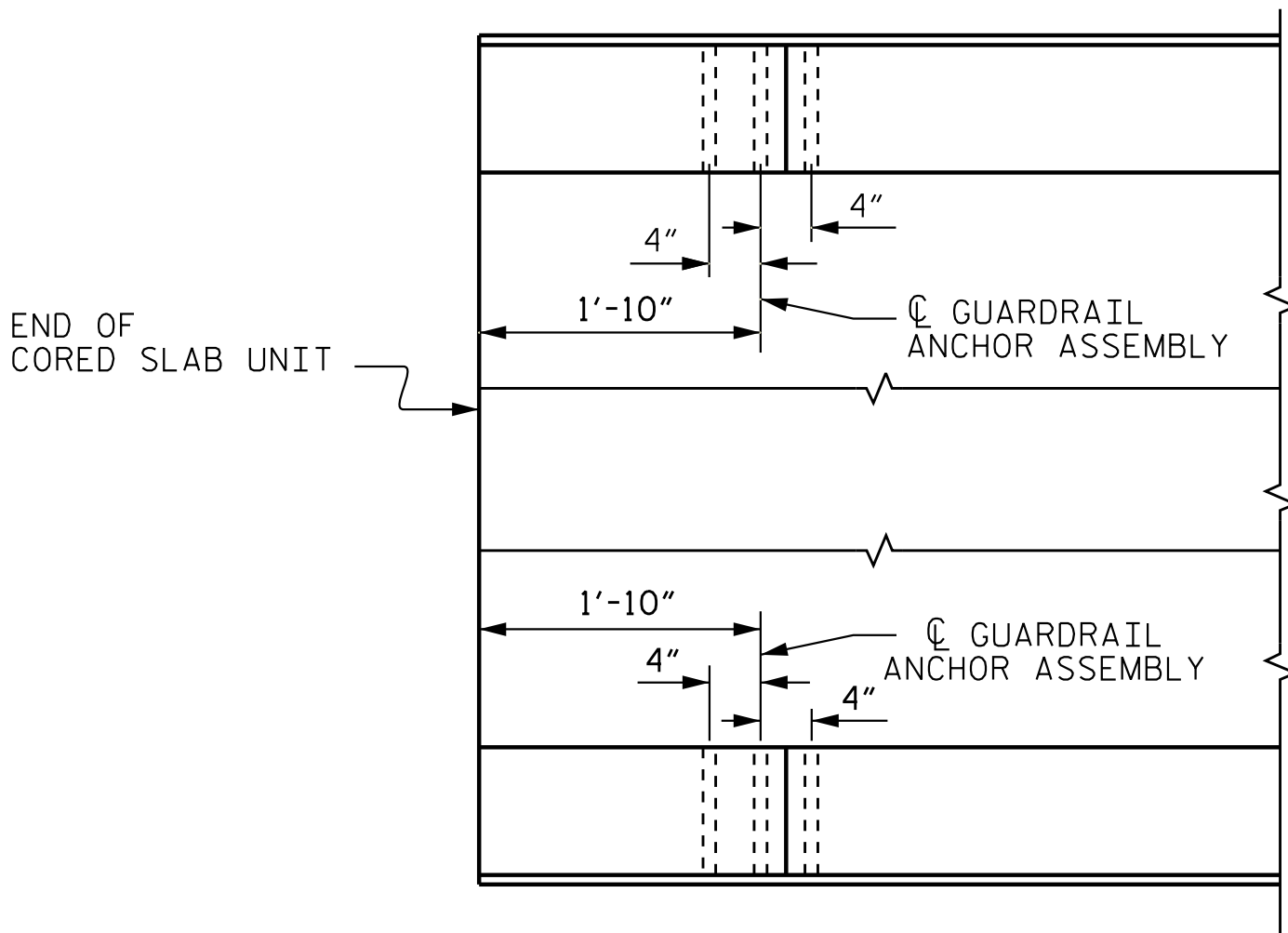


ELEVATION



SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

END BENT 1 SHOWN, END BENT 2 SIMILAR

NOTES

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

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

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

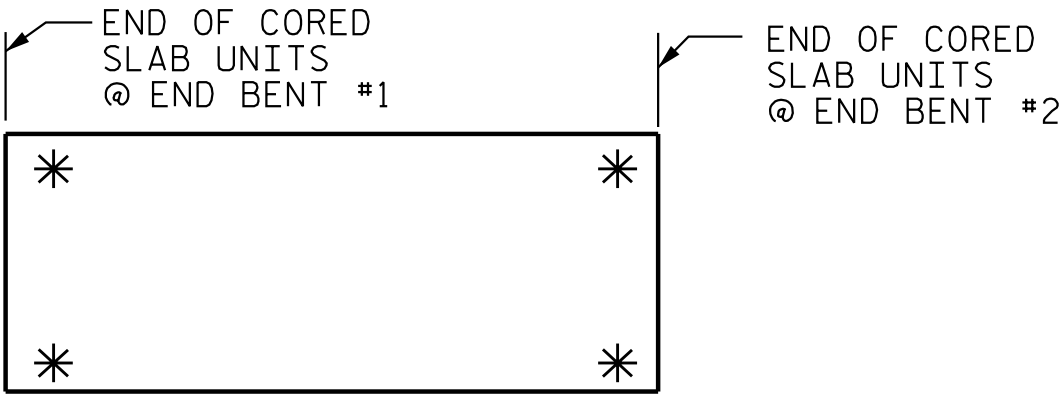
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

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

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

THE 1/4" 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

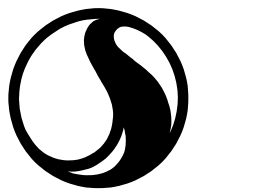
PROJECT NO. BP1.R014.1

TYRRELL COUNTY

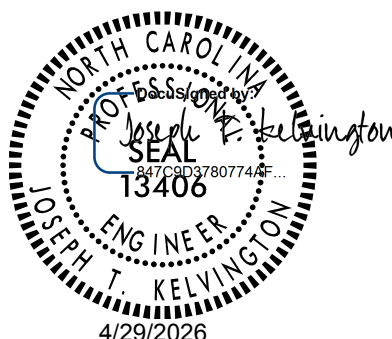
STATION: 14+33.00 -L-

ASSEMBLED BY : J.E.HAGENBUSH	DATE : 01/28/26
CHECKED BY : J.T.KELVINGTON	DATE : 01/28/26
DRAWN BY : MAA	5/10
CHECKED BY : GM	5/10
REV. 1/15	MAA/TMC
REV. 12/17	MAA/THC
REV. 5/18	MAA/THC

DESIGN ENGINEER OF RECORD: J.T. KELVINGTON DATE : 03/26/26



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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD GUARDRAIL ANCHORAGE DETAILS FOR VERTICAL CONCRETE BARRIER RAIL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-09					TOTAL SHEETS 16

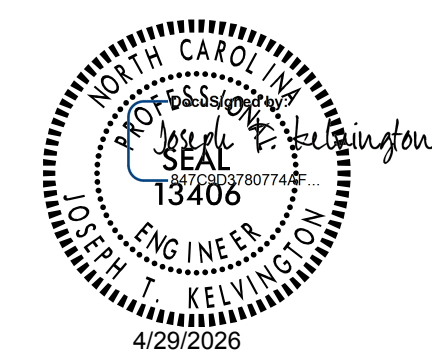
STD. NO. GRA3



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REVISIONS						SHEET NO. S-10
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1			3			TOTAL SHEETS 16
2			4			

STD. NO. EB_30_90S

NOTES

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

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

FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.

* PILE COLLARS ARE REQUIRED FOR EA. PILE
BUT NOT SHOWN FOR CLARITY.

NOTES

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

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

FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.

* PILE COLLARS ARE REQUIRED FOR EA. PILE BUT NOT SHOWN FOR CLARITY.

TOP OF PILE ELEVATIONS

①	1.64
②	1.64
③	1.64
④	1.64
⑤	1.64

PROJECT NO. BP1.R014.1

TYRRELL COUNTY

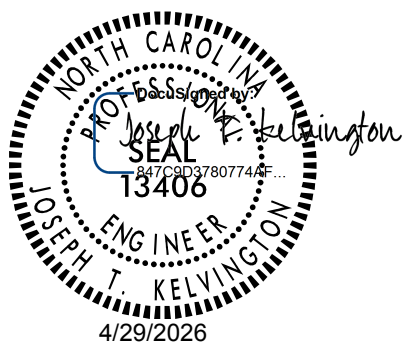
STATION: 14+33.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT No. 2

REVISIONS						SHEET NO. S- 11
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 16
2			4			

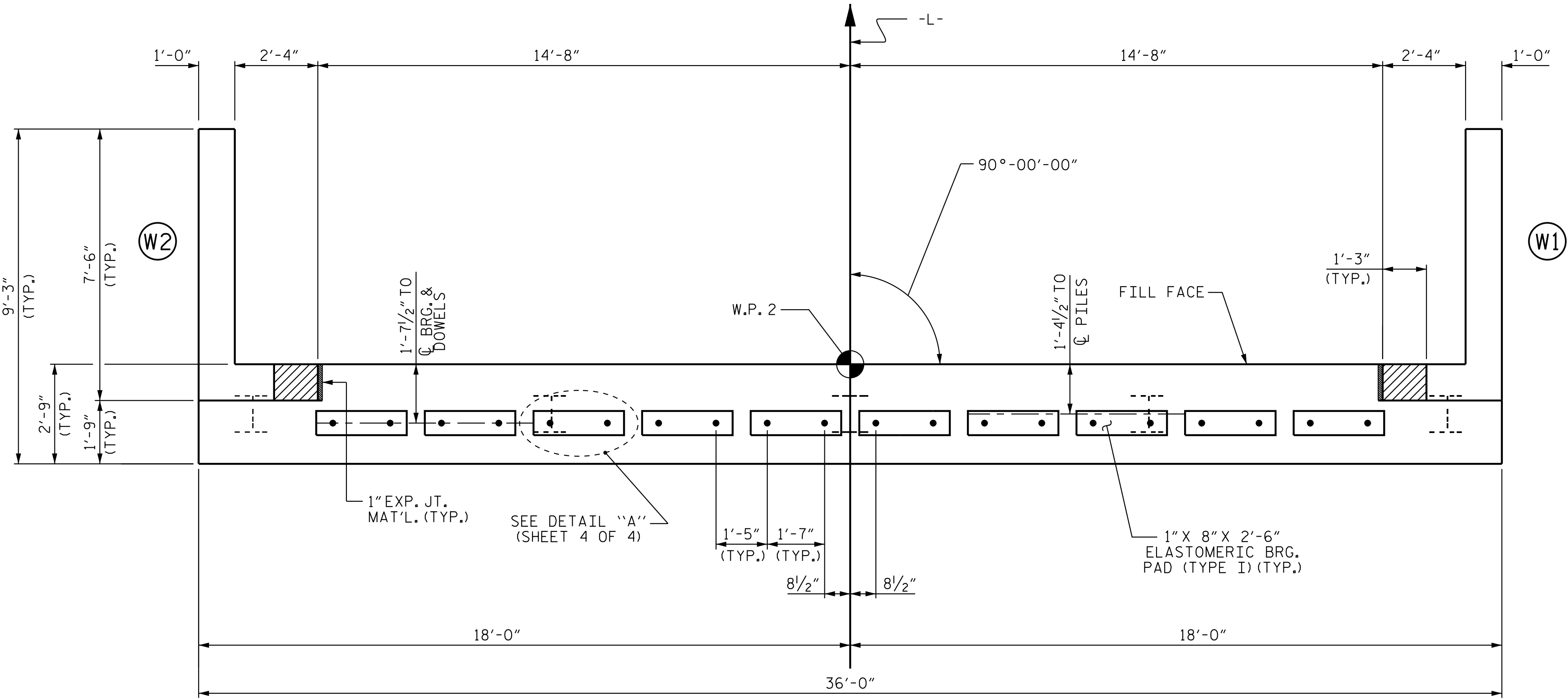


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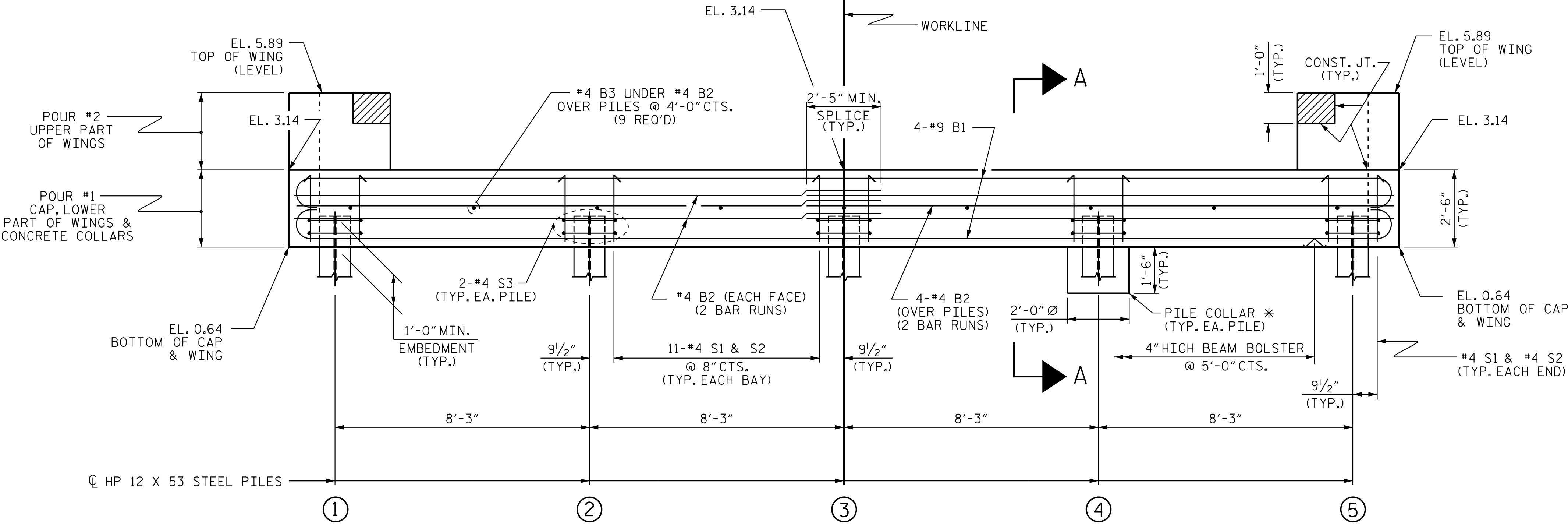
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OF RECORD: J.T. KELVINGTON DATE : 03/26/26



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PLAN



ELEVATION

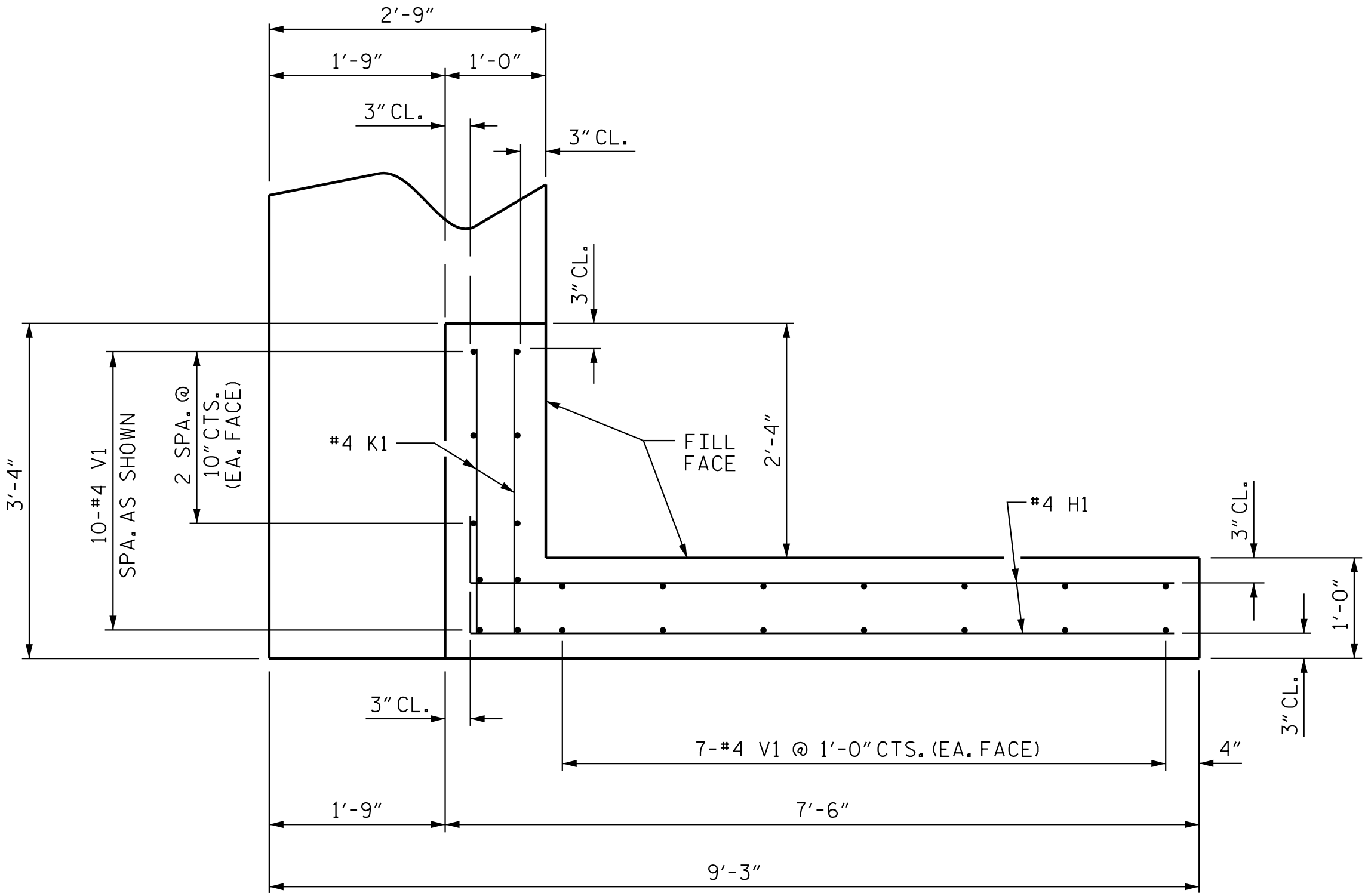
WINGS NOT SHOWN FOR CLARITY.
FOR SECTION A-A, SEE SHEET 4 OF 4.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

ASSEMBLED BY : J.E.HAGENBUSH DATE : 06/30/23
CHECKED BY : A.L. BOYKIN JR. DATE : 08/28/23

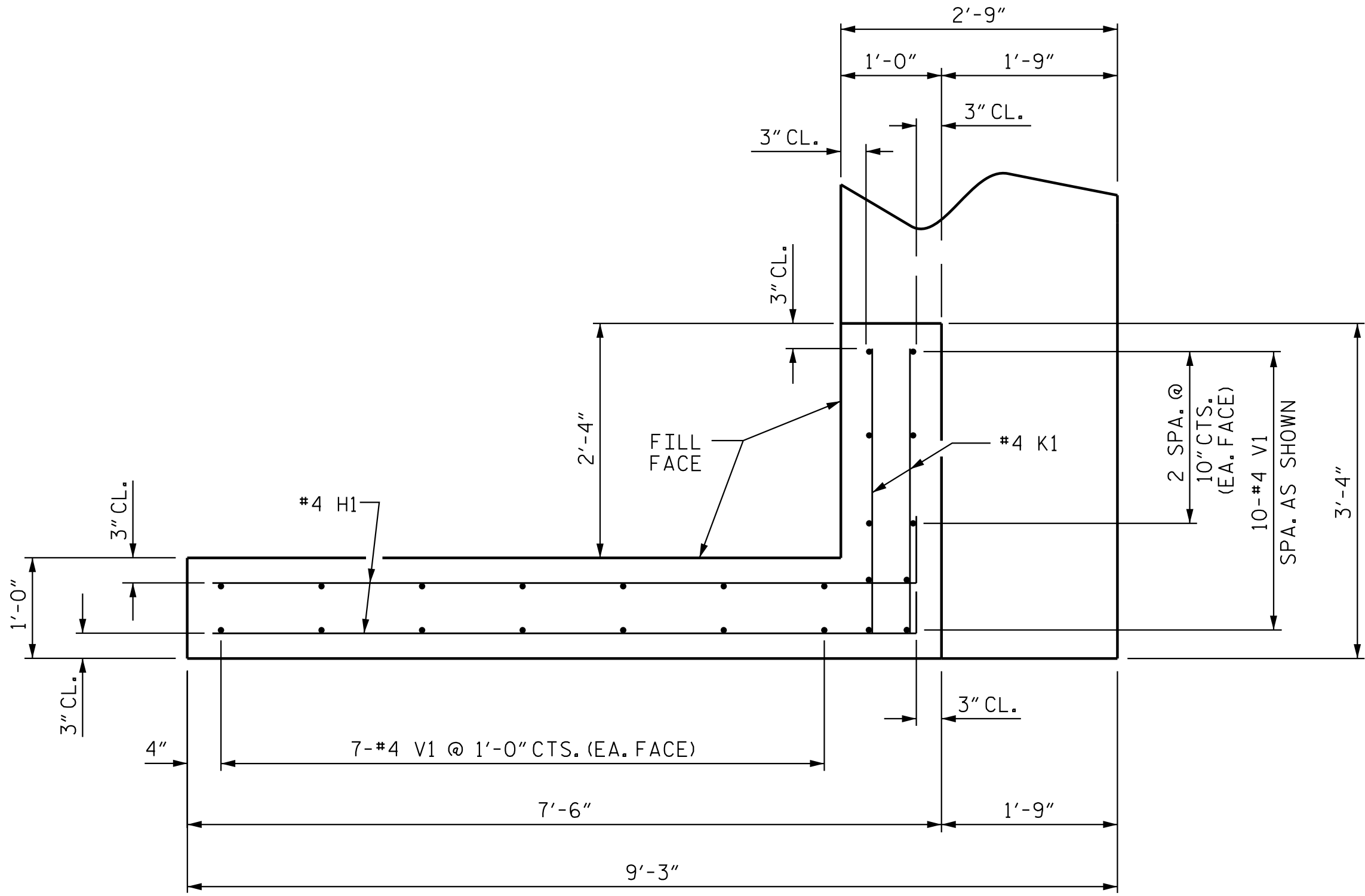
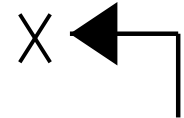
DRAWN BY : DGE 01/10
CHECKED BY : MKT 01/10

REV. 4/15 MAA/TMG

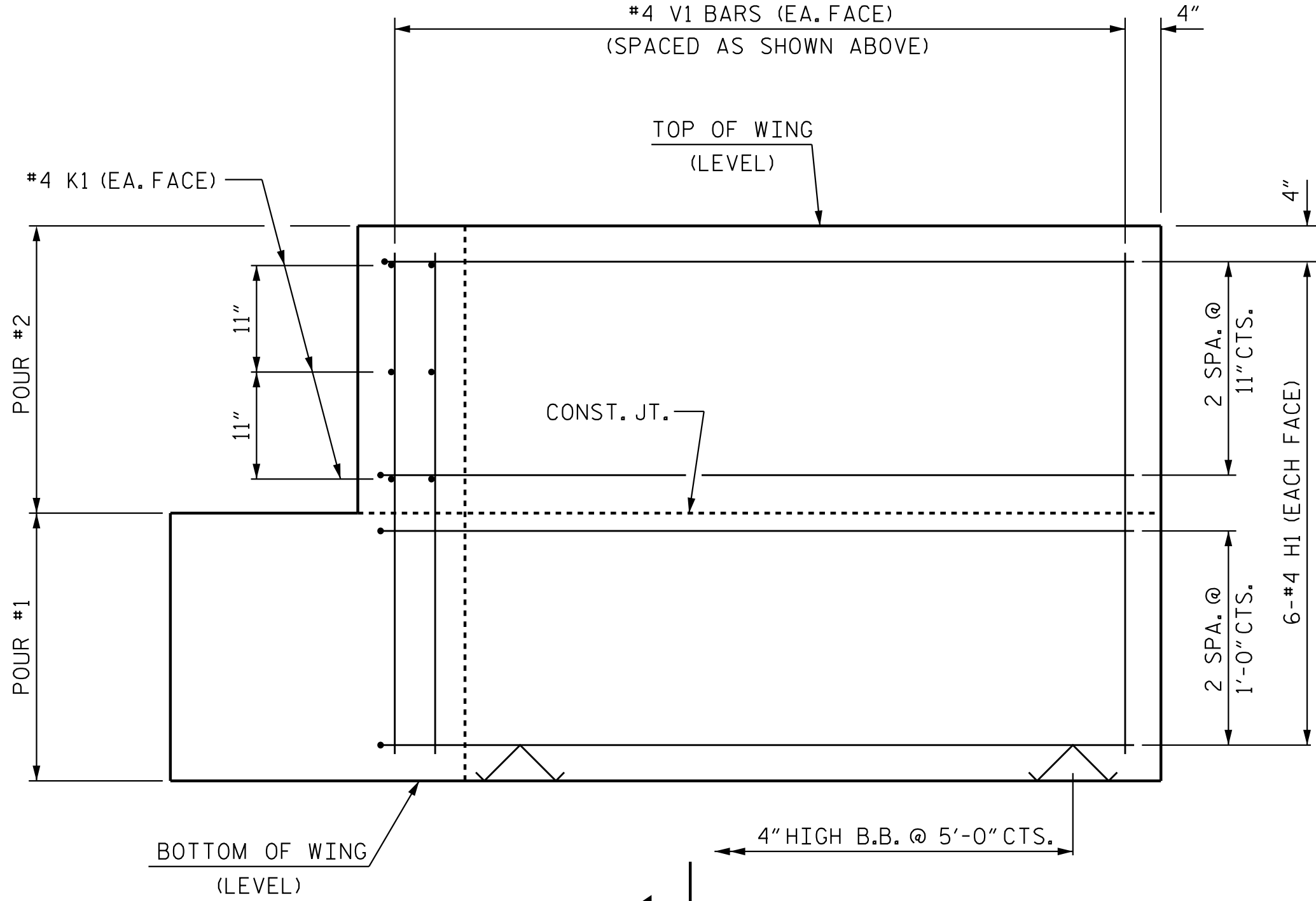
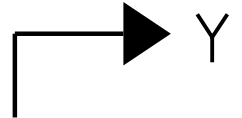
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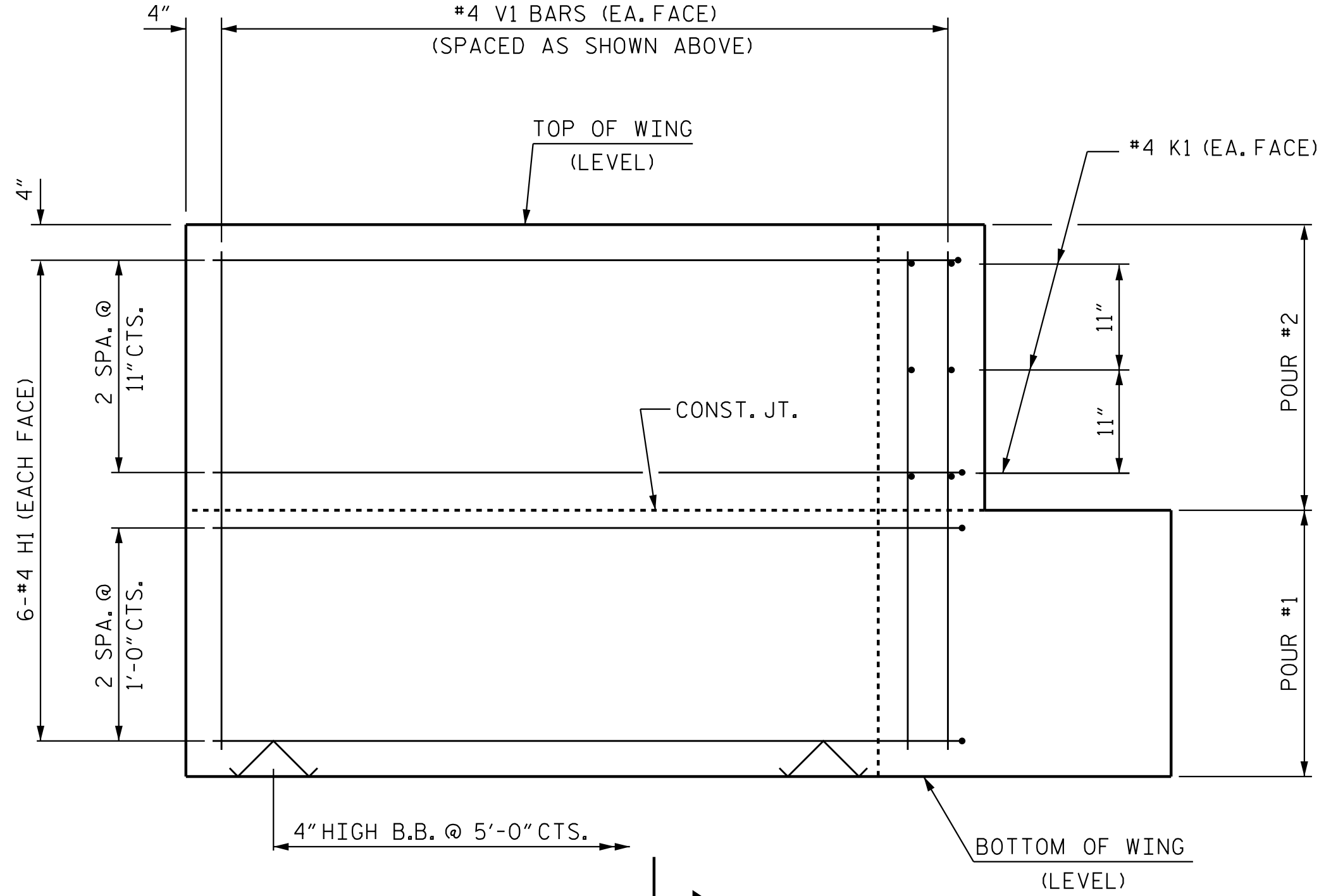
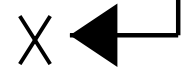
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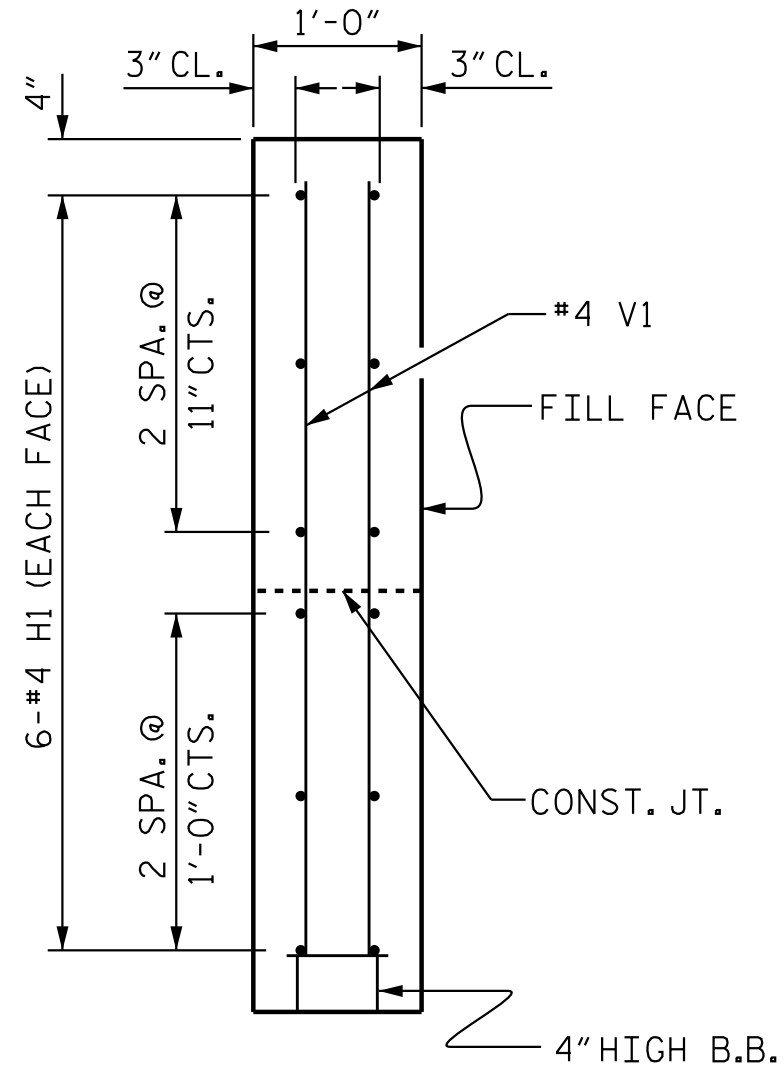
PLAN OF WING (W2)



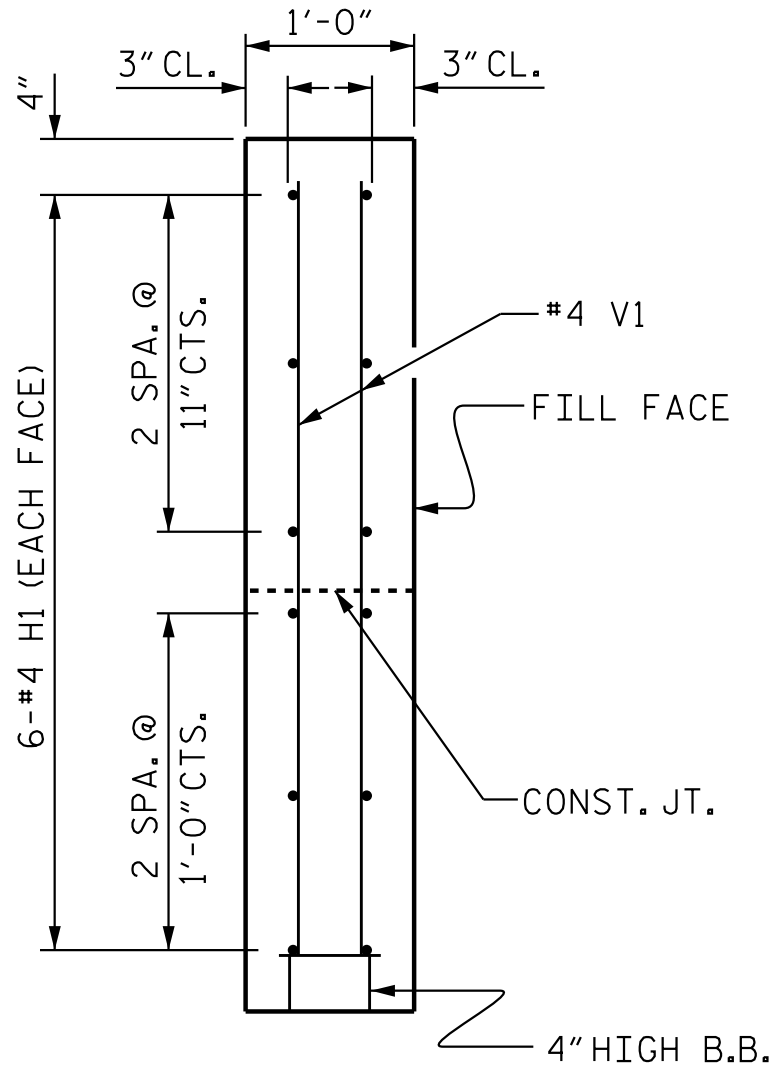
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION X-X



SECTION Y-Y

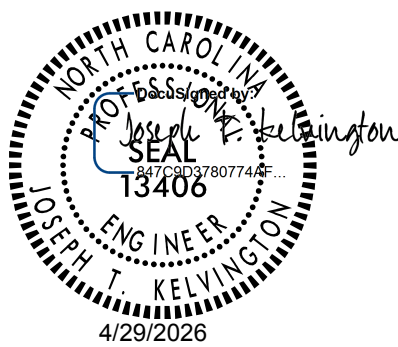
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TYRRELL COUNTY
STATION: 14+33.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT
WING DETAILS

REVISIONS						SHEET NO. S-12
NO.	BY:	DATE:	NO.	BY:	DATE:	
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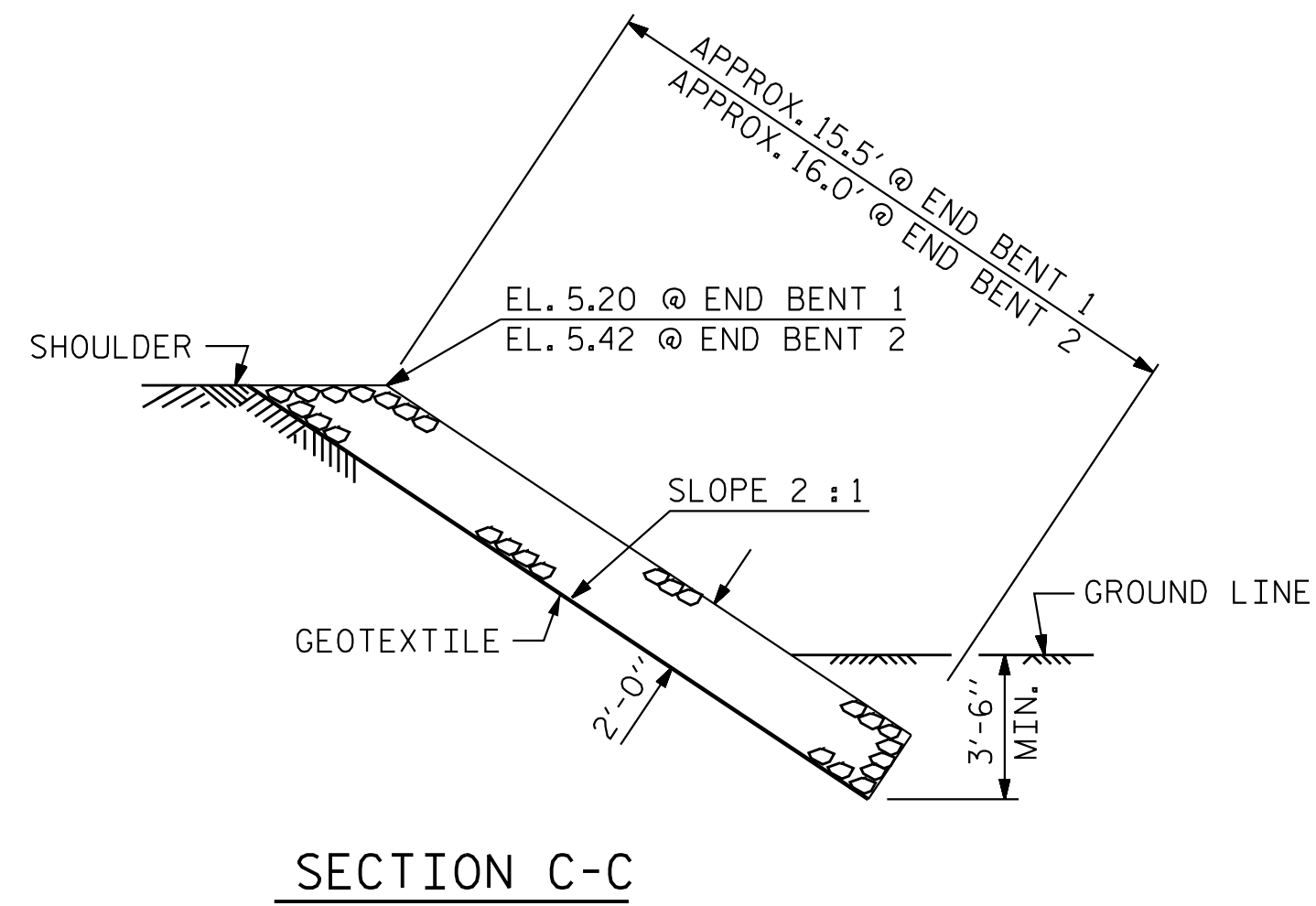
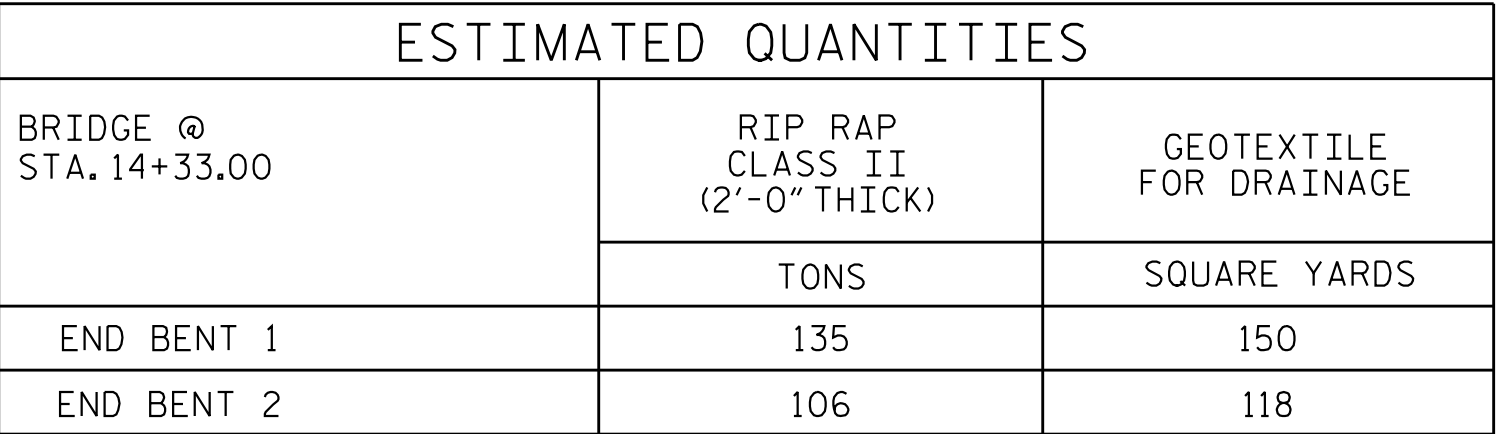
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ASSEMBLED BY : J.E.HAGENBUSH DATE : 01/30/26
CHECKED BY : J.T.KELVINGTON DATE : 01/30/26
DRAWN BY : DGE 02/10
CHECKED BY : MKT 02/10
REV. 4/15 MAA/TMG

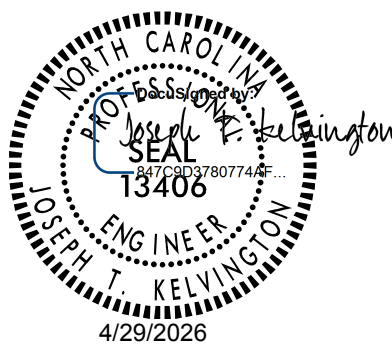


PROJECT NO. BP1.R014.1
TYRRELL COUNTY
 STATION: 14+33.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
RIP RAP DETAILS

ASSEMBLED BY : J.E.HAGENBUSH			DATE : 07/10/23
CHECKED BY : A.L. BOYKIN JR.			DATE : 08/28/23
DRAWN BY :	REK	1/84	REV. 10/1/II MAA/GM
CHECKED BY :	RDU	1/84	REV. 12/2/II MAA/GM
			REV. 12/17 MAA/THC

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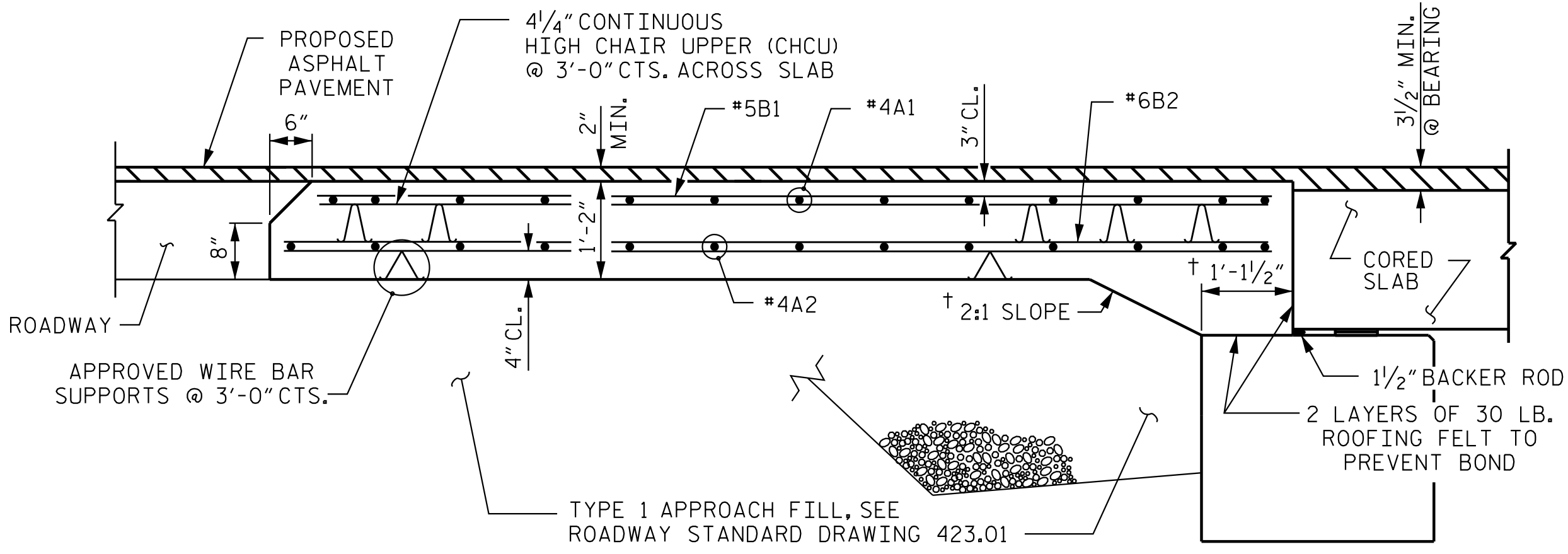
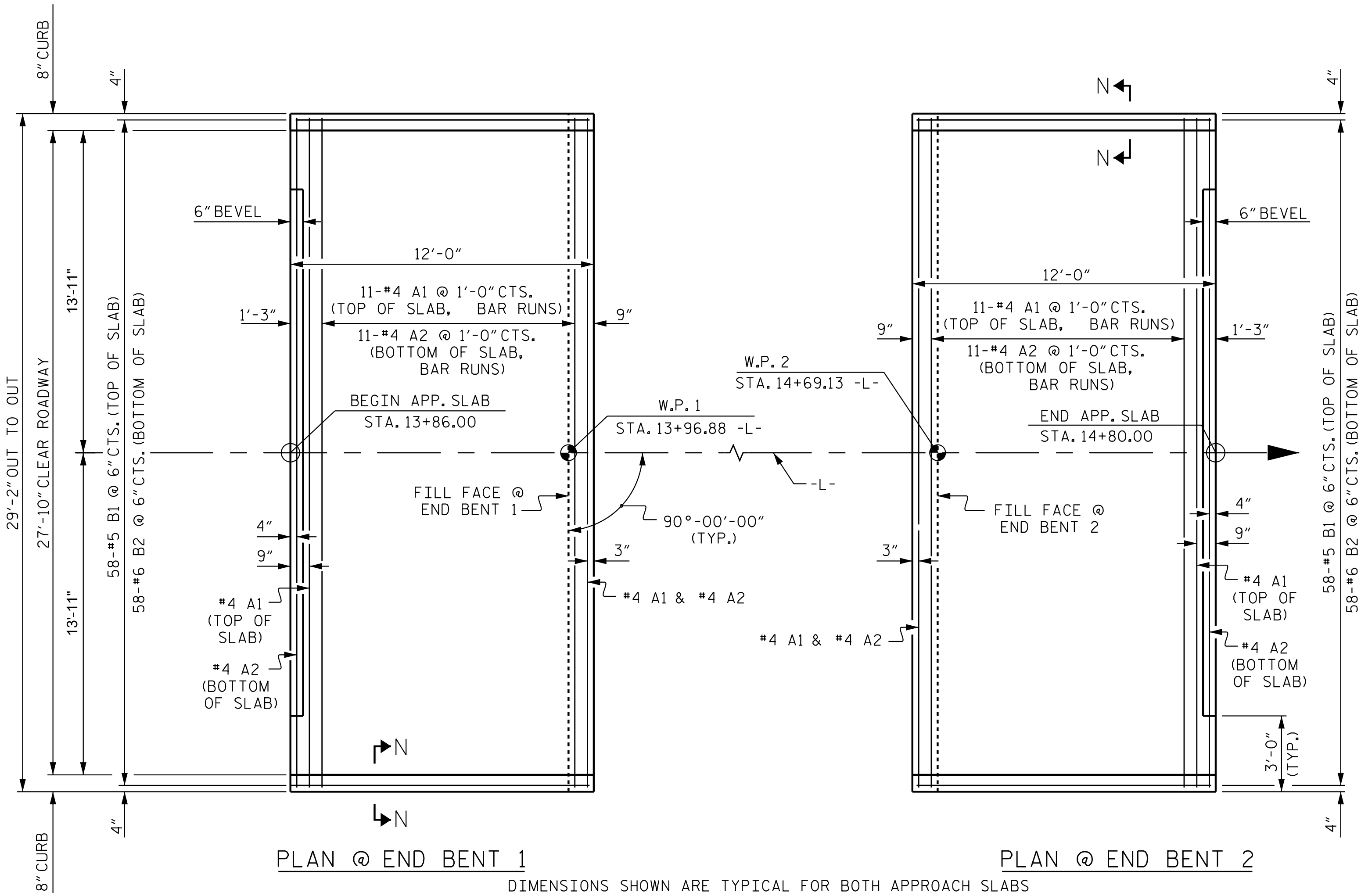


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2			4			

STD. NO. RR1

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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.

BILL OF MATERIAL

APPROACH SLAB AT EB 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	28'-8"	249
*A2	13	#4	STR	28'-8"	249
*B1	58	#5	STR	11'-0"	665
*B2	58	#6	STR	11'-6"	1002

* EPOXY COATED REINFORCING STEEL LBS. 2,165

CLASS AA CONCRETE C.Y. 17.8

APPROACH SLAB AT EB 2

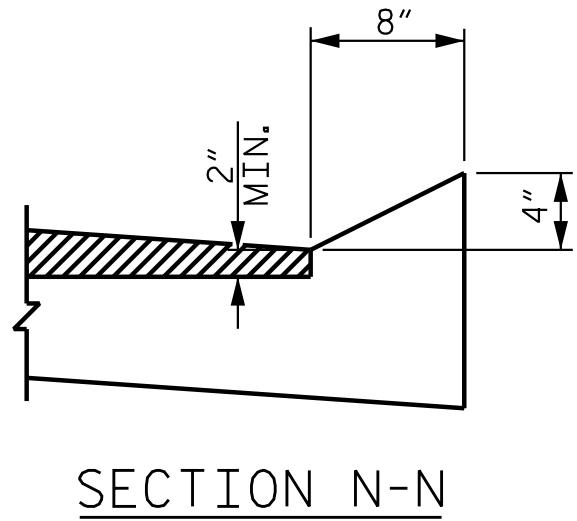
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*A1	13	#4	STR	28'-8"	249
*A2	13	#4	STR	28'-8"	249
*B1	58	#5	STR	11'-0"	665
*B2	58	#6	STR	11'-6"	1002

* EPOXY COATED REINFORCING STEEL LBS. 2,165

CLASS AA CONCRETE C.Y. 17.8

SPLICE LENGTHS

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



PROJECT NO. BP1.R014.1
TYRRELL COUNTY
STATION: 14+33.00 -L-

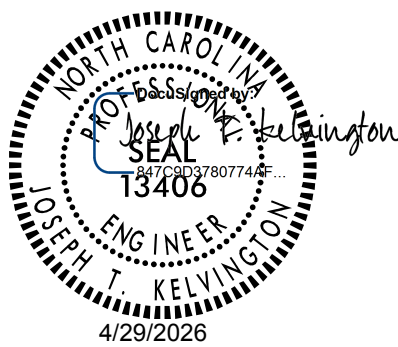
SHEET 1 OF 1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
BRIDGE APPROACH
SLAB FOR PRESTRESSED
CONCRETE CORED SLAB

(SUB-REGIONAL TIER)

REVISIONS						SHEET NO. S- 15
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ASSEMBLED BY: J.E. HAGENBUSH	DATE : 01/28/26
CHECKED BY : J.T. KELVINGTON	DATE : 01/28/26
DRAWN BY : KMM 3-08	REV. 06/19 MAA/THC
CHECKED BY : GM 3-08	REV. 08/19 BNB/THC
	REV. 07/23 BNB/SNM

8/26/21

+

+

STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

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

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

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

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY1⁄16" OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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