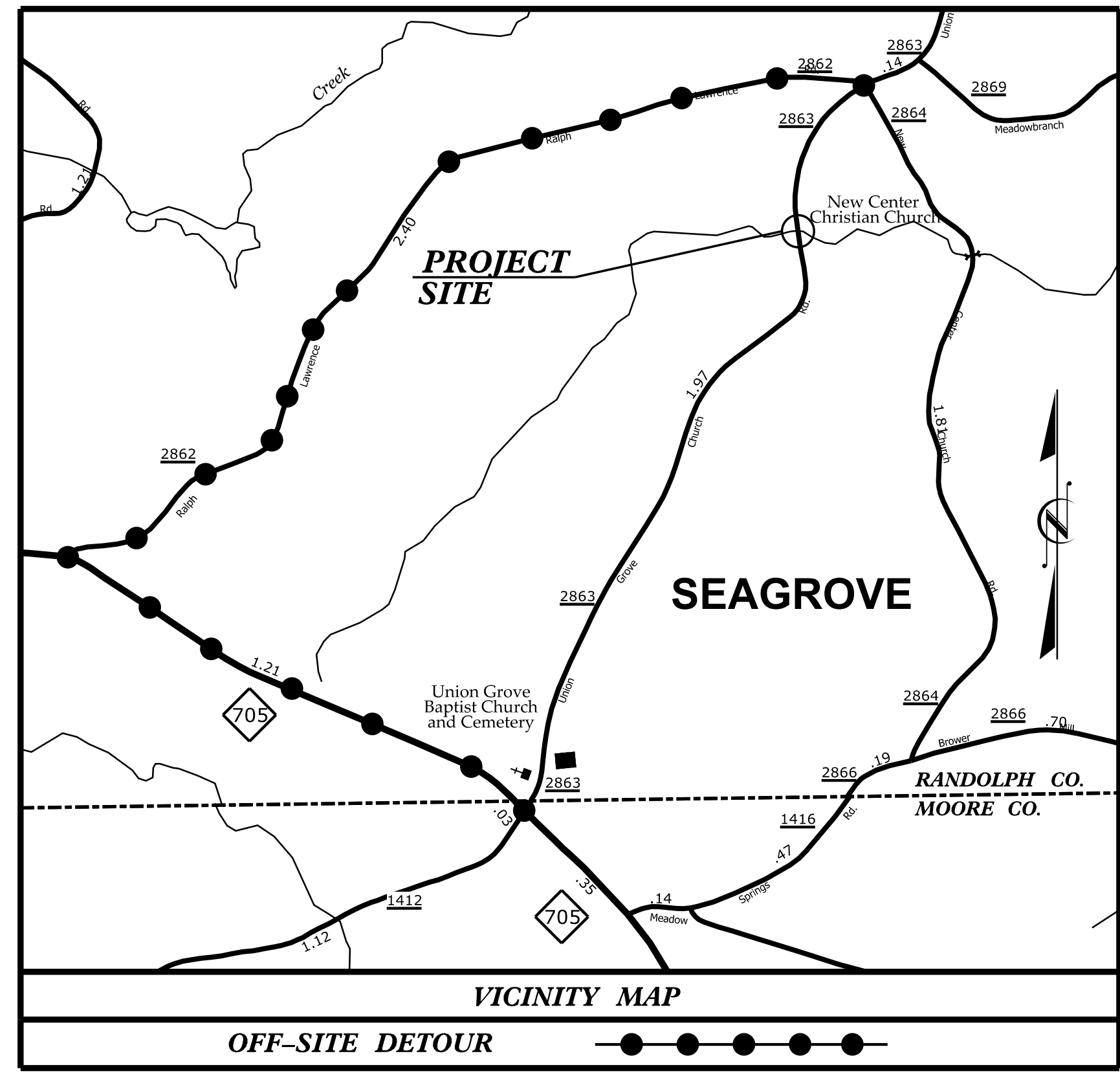


09.08/2019

See Sheet 1A For Index of Sheets
 See Sheet 1B For Conventional Symbols
 See Sheet RW01 TO RW04 For Survey Control Sheets




STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

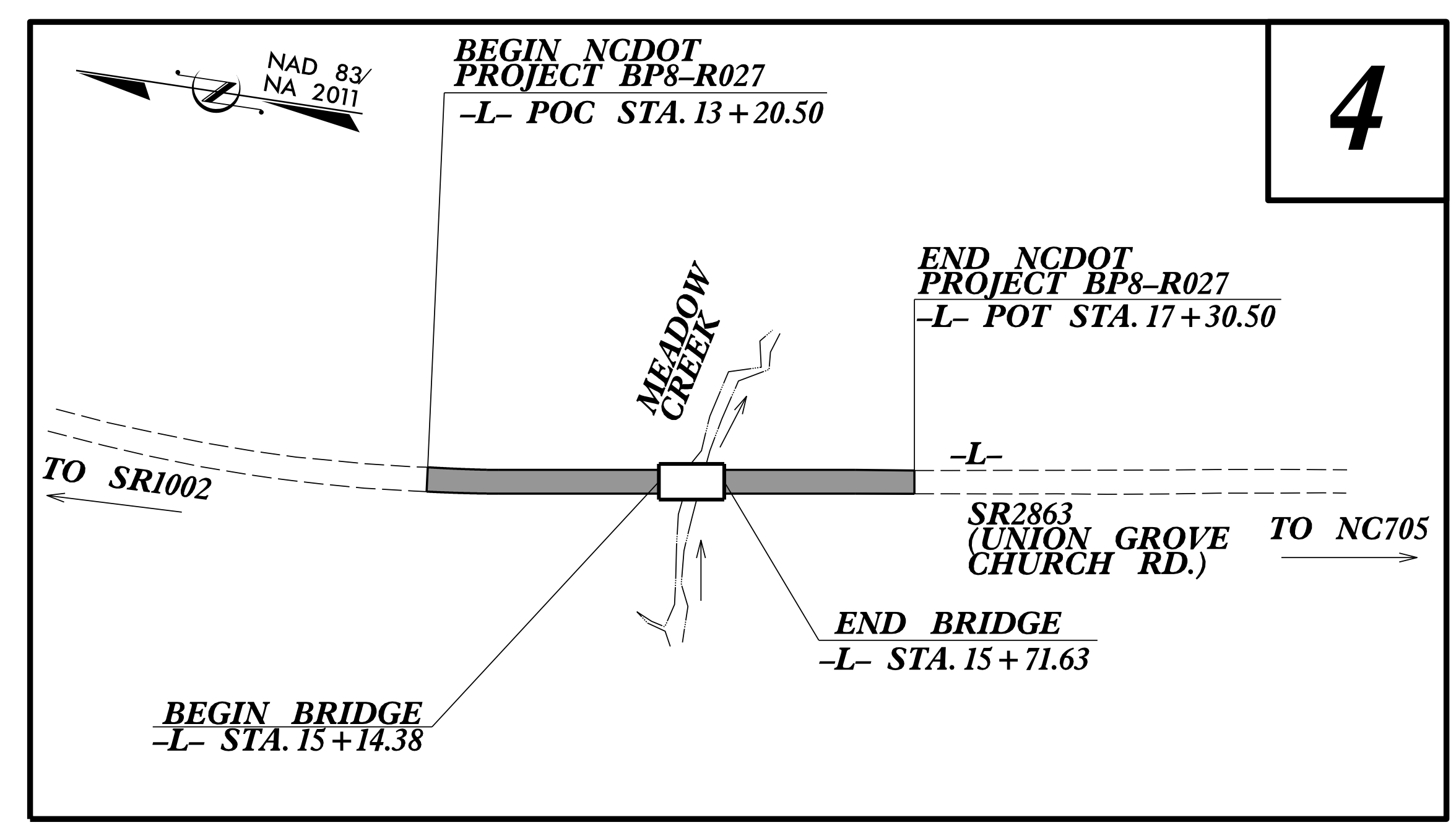
RANDOLPH COUNTY

**LOCATION: BRIDGE NO. 750305 OVER MEADOW CREEK
 ON SR 2863 (UNION GROVE CHURCH ROAD)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP8-R027	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP8.R027.1		PE	
BP8.R027.2		ROW, UTIL.	
BP8.R027.3		CONST.	
			
1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. F-03777 Bus: 919 851 8077 Fax: 919 851 8107			
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION			

BRIDGE NO. 750305

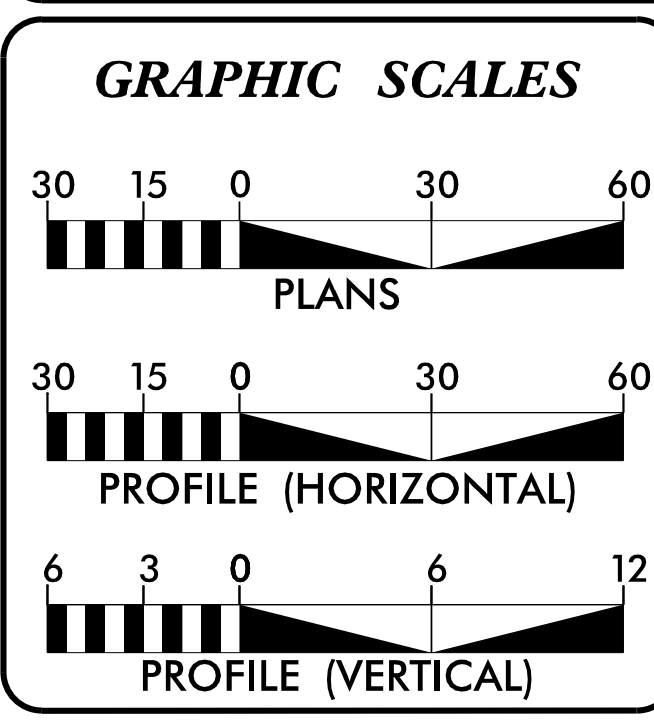


THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
 THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

PROJECT: BP8-R027

CONTRACT: DH00592



DESIGN DATA

ADT 2022 =	580
T =	6 % *
V =	55 MPH
* (TTST = 3% + DUAL = 3%)	
FUNC CLASS =	
LOCAL SUBREGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY PROJECT BP8-R027 =	0.067 MILES
LENGTH STRUCTURES PROJECT BP8-R027 =	0.011 MILES
TOTAL LENGTH PROJECT BP8-R027 =	0.078 MILES

NCDOT CONTACT: TIM WELCH, PE
 DIVISION 8 BRIDGE PROGRAM MANAGER


Prepared for:
DIVISION OF HIGHWAYS
DIVISION EIGHT
 121 DOT DRIVE, CARTHAGE NC, 28327

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: EDWARD G. WETHERILL, PE
 PROJECT ENGINEER
 MARCH 6, 2024


LETTING DATE: GREG S. PURVIS, PE
 PROJECT DESIGN ENGINEER
 AUGUST 26, 2025

HYDRAULICS ENGINEER

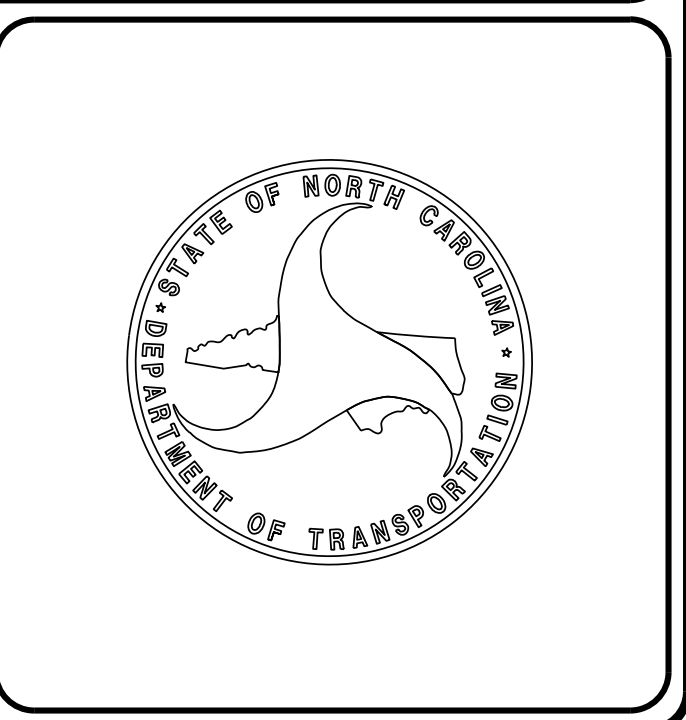


Signed by: Haminder Singh 7/8/2025
 SIGNATURE: _____

ROADWAY DESIGN ENGINEER

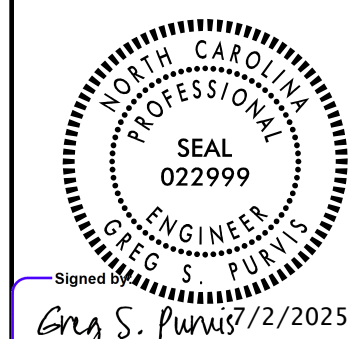


Signed by: Greg S. Purvis P.E. 7/2/2025
 SIGNATURE: _____



7/2/2025
 U:\PROJ\BP8.R027_rdy-TSH.dgn
 USER:JRosado

5/14/25

PROJECT REFERENCE NO. <i>BP8-R027</i>	SHEET NO. <i>1A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
Signed: <i>Greg S. Purvis</i> 5/12/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

GENERAL NOTES

2024 ROADWAY ENGLISH STANDARD DRAWINGS

2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

EFF. 01-16-2024
REV.

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 MODIFIED METHOD III.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

GUARDRAIL:

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

TEMPORARY SHORING:

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

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE FOR 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
 RANDOLPH ELECTRIC MEMBERSHIP CORP (ELECTRIC),
 RANDOLPH TELEPHONE MEMBERSHIP CORP (FIBER)
 ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

2024 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 4 - MAJOR STRUCTURES	
423.01	Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.01	Rip Rap in Channels and Ditches
876.02	Guide for Rip Rap at Pipe Outlets

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	TYPICAL SECTIONS, PAVEMENT SCHEDULE, & MISCELLANEOUS DETAILS
2C-1 THRU 2C-7	DETAILS IN LIEU OF STANDARD DRAWINGS
3B-1	ROADWAY SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
4	PLAN AND PROFILE SHEET
RW01 THRU RW04	RIGHT OF WAY SHEETS, SURVEY CONTROL SHEETS, PROPOSED ALIGNMENT CONTROL SHEET AND PROPOSED EASEMENT CONTROL SHEET
TMP-01 THRU TMP-04	TRANSPORTATION MANAGEMENT PLAN
PMP-01 THRU PMP-02	PAVEMENT MARKING PLAN
EC-1 THRU EC-5	EROSION CONTROL PLANS
UO-1 THRU UO-4	UTILITIES BY OTHERS PLANS
X-1	CROSS SECTION INDEX
X-1A	CROSS SECTION SUMMARY SHEET
X-2 THRU X-5	CROSS SECTIONS
S-1 THRU S-14	STRUCTURE PLANS

7/2/2025 10:06:16 AM
C:\Users\gspurvis\OneDrive\Documents\2024\BP8-R027_R0Y_PSH_1A.dgn

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

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	○
Computed Property Corner	×
Existing Concrete Monument (ECM)	□
Parcel/Sequence Number	(23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	WLB
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB
Existing Historic Property Boundary	HPB
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	JS
Buffer Zone 1	BZ 1
Buffer Zone 2	BZ 2
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	WLB
Proposed Lateral, Tail, Head Ditch	→
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	●
Secondary Horiz and Vert Control Point	◆
Vertical Benchmark	⊕
Existing Right of Way Monument	△
Proposed Right of Way Monument (Rebar and Cap)	▲
Proposed Right of Way Monument (Concrete)	⊕
Existing Permanent Easement Monument	◇
Proposed Permanent Easement Monument (Rebar and Cap)	◆
Existing C/A Monument	△
Proposed C/A Monument (Rebar and Cap)	▲
Proposed C/A Monument (Concrete)	⊕
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Existing Control of Access Line	-----
Proposed Control of Access Line	-----
Proposed ROW and CA Line	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage/Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----
VEGETATION:	
Single Tree	○
Single Shrub	○
Hedge	-----

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

EXISTING STRUCTURES:

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

UTILITIES:

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

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊕
Power Transformer	⊕
U/G Power Cable Hand Hole	⊕
H-Frame Pole	●
U/G Power Line Test Hole (SUE - LOS A)*	⊕
U/G Power Line (SUE - LOS B)*	-----
U/G Power Line (SUE - LOS C)*	-----
U/G Power Line (SUE - LOS D)*	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	⊕
U/G Telephone Test Hole (SUE - LOS A)*	⊕
U/G Telephone Cable (SUE - LOS B)*	-----
U/G Telephone Cable (SUE - LOS C)*	-----
U/G Telephone Cable (SUE - LOS D)*	-----
U/G Telephone Conduit (SUE - LOS B)*	-----
U/G Telephone Conduit (SUE - LOS C)*	-----
U/G Telephone Conduit (SUE - LOS D)*	-----
U/G Fiber Optics Cable (SUE - LOS B)*	-----
U/G Fiber Optics Cable (SUE - LOS C)*	-----
U/G Fiber Optics Cable (SUE - LOS D)*	-----

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

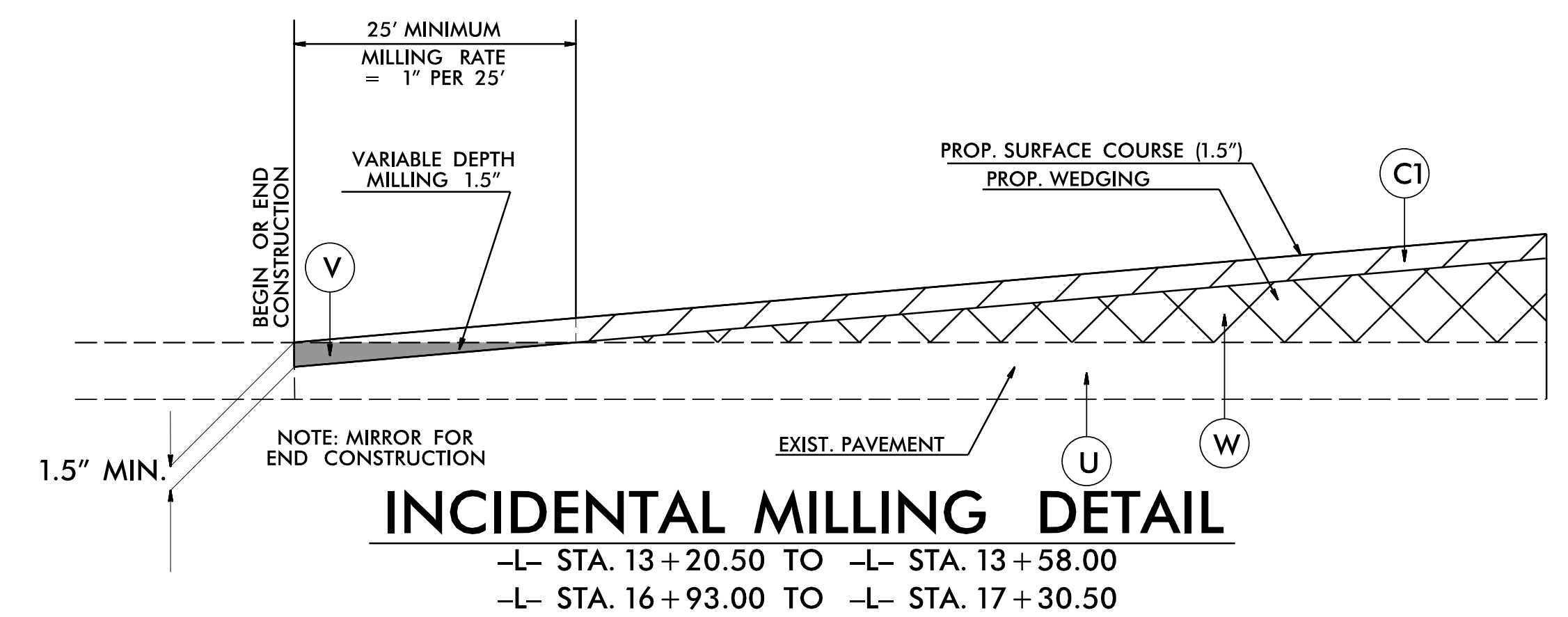
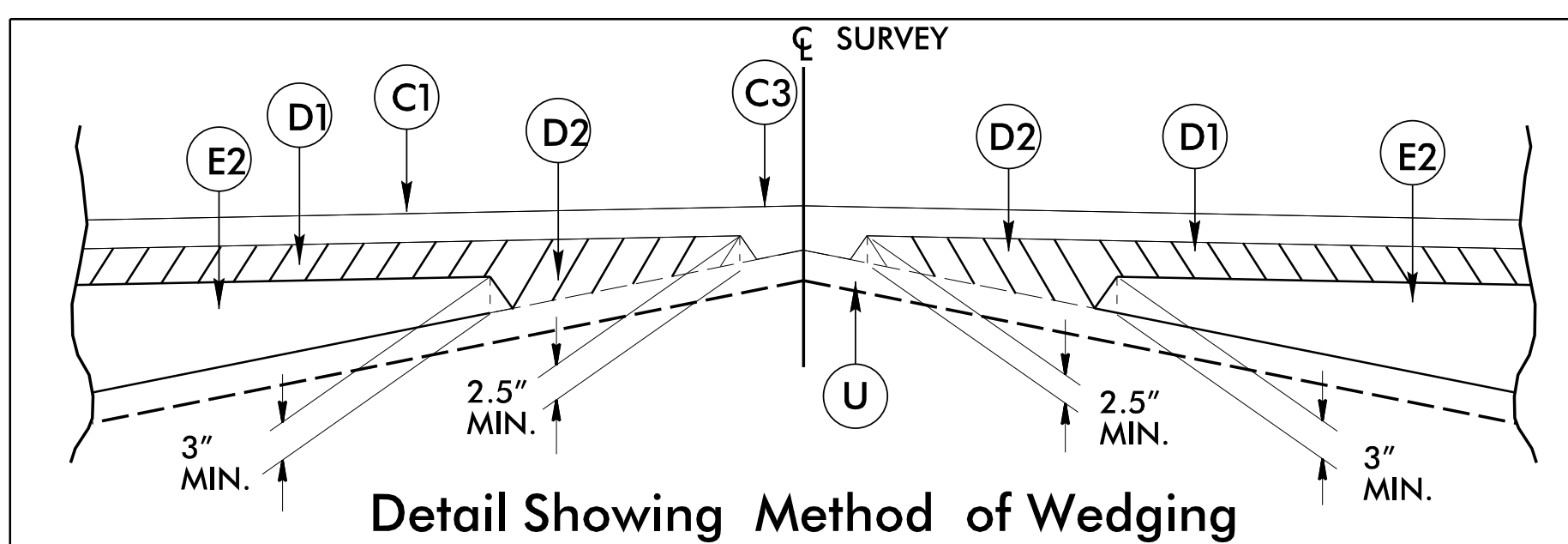
MISCELLANEOUS:

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

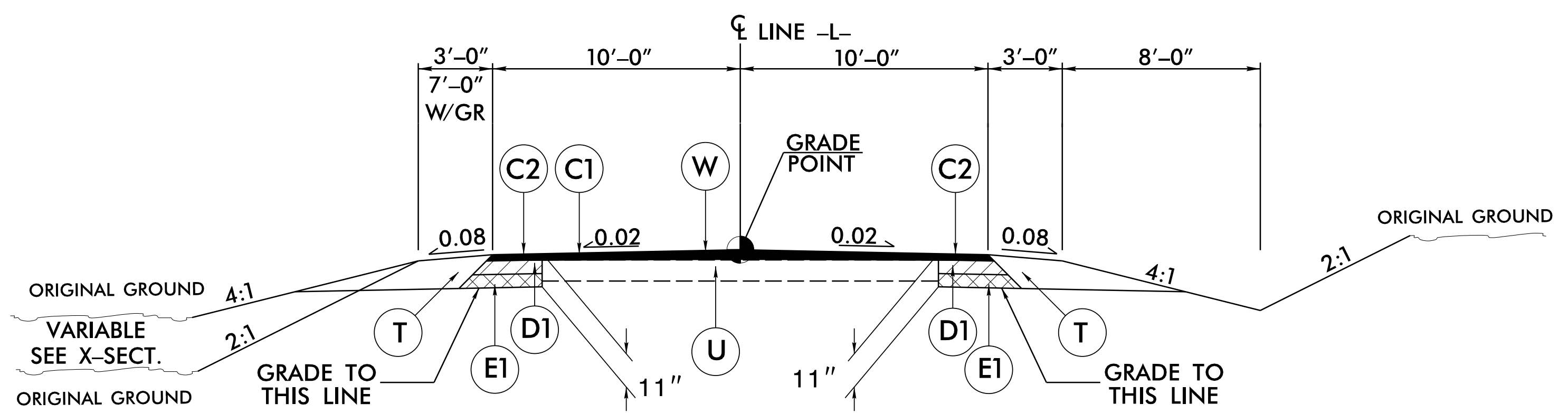
6/2/2025

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. (SEE MILLING DETAIL)
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

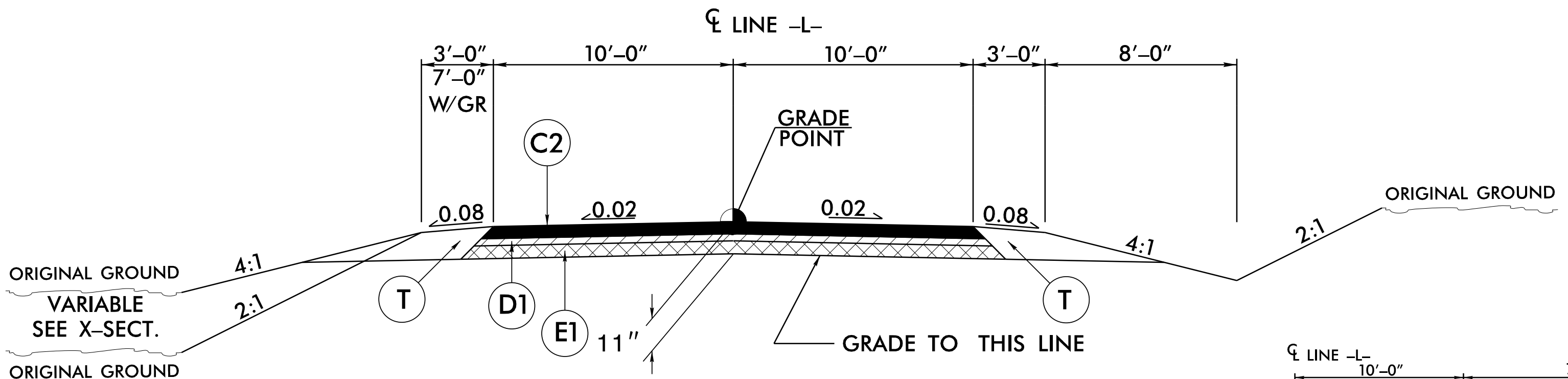
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



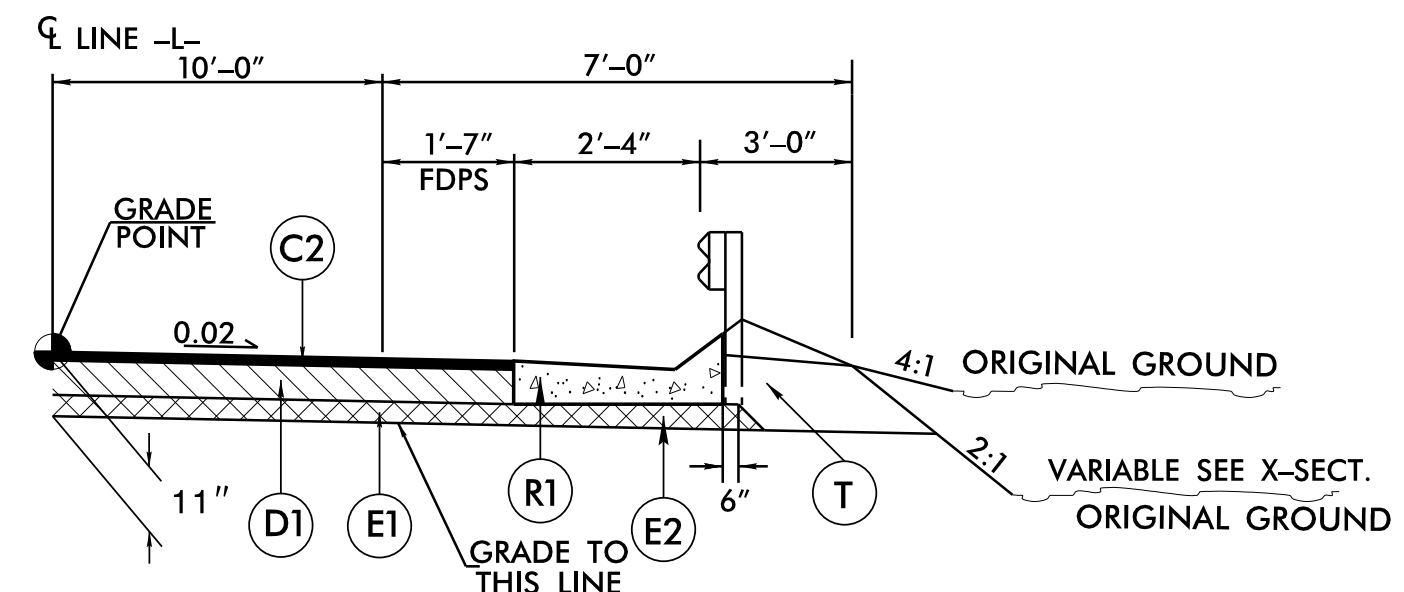
INCIDENTAL MILLING DETAIL
 -L- STA. 13+20.50 TO -L- STA. 13+58.00
 -L- STA. 16+93.00 TO -L- STA. 17+30.50



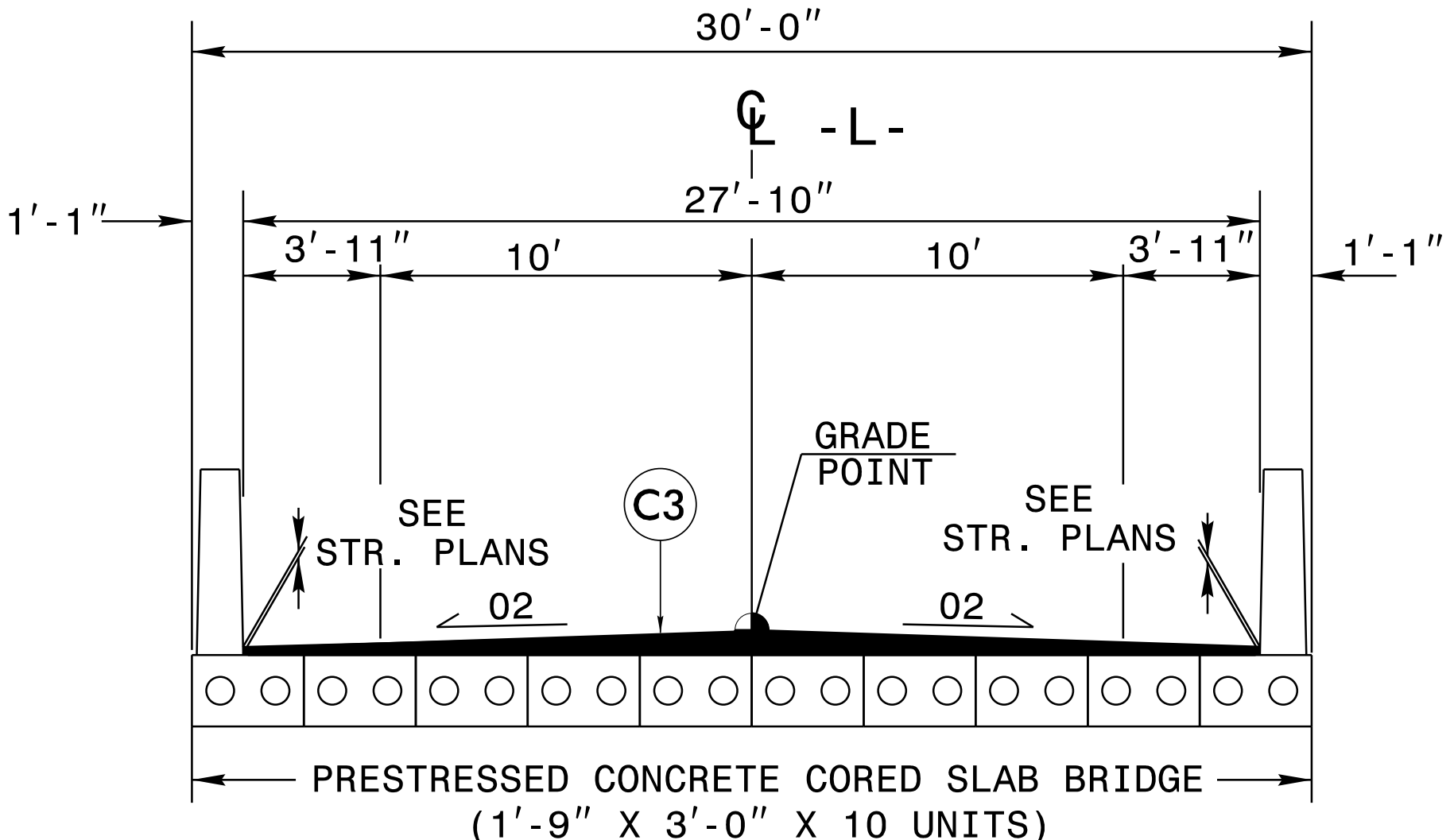
TYPICAL SECTION NO. 1
 USE TYPICAL SECTION NO. 1 AS FOLLOWS:
 -L- STA. 13+20.50 TO -L- STA. 14+64.38
 -L- STA. 16+21.63 TO -L- STA. 17+30.50



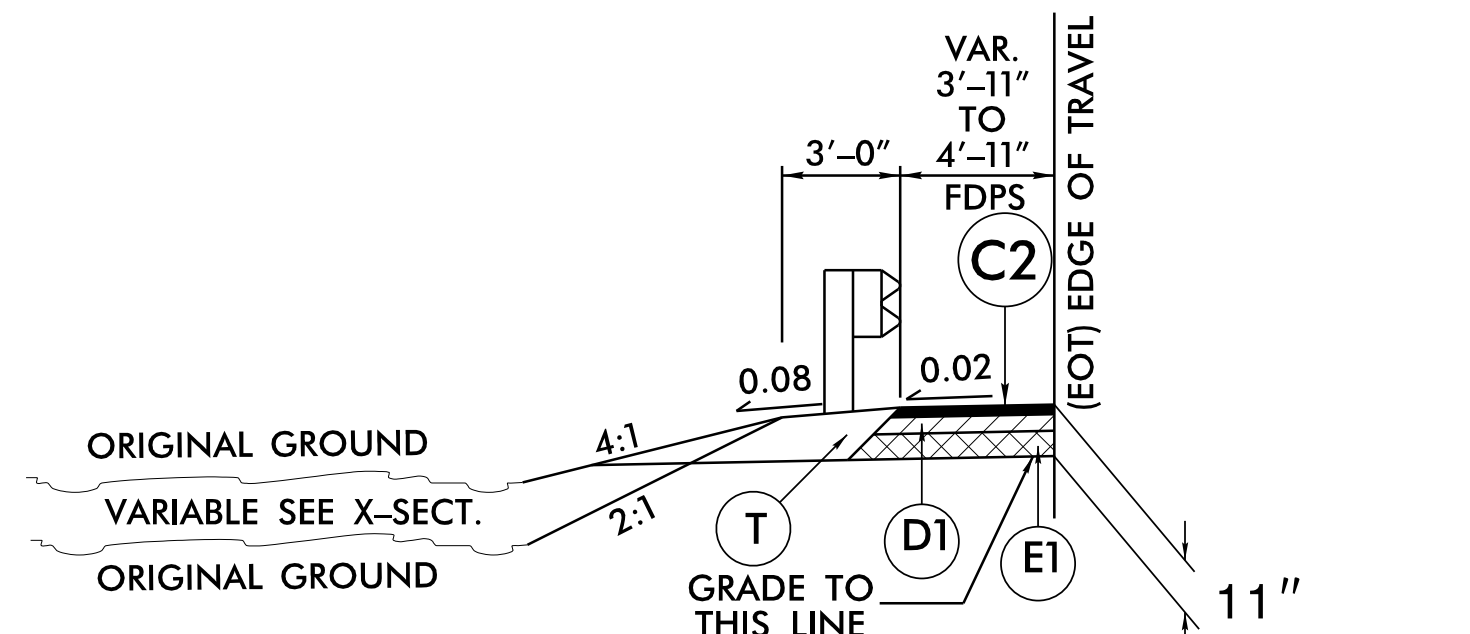
TYPICAL SECTION NO. 3
 USE TYPICAL SECTION NO. 3 AS FOLLOWS:
 -L- STA. 14+64.38 TO -L- STA. 15+14.38 (BEGIN BRIDGE)
 -L- STA. 15+71.63(END BRIDGE) TO -L- STA. 16+21.63



SHOULDER BERM GUTTER DETAIL
 USE SHOULDER BERM GUTTER DETAIL IN CONJUNCTION WITH TYPICAL SECTION NO. 2
 -L- STA. 15+82.50 TO -L- STA. 16+02.00 RT. & LT.



TYPICAL SECTION NO. 2
 USE TYPICAL SECTION NO. 2 AS FOLLOWS:
 -L- STA. 15+14.38 (BEGIN BRIDGE) TO -L- STA. 15+71.63 (END BRIDGE)
 NNOTE: SEE STRUCTURE PLANS FOR STRUCTURE CONSTRUCTION DETAILS.

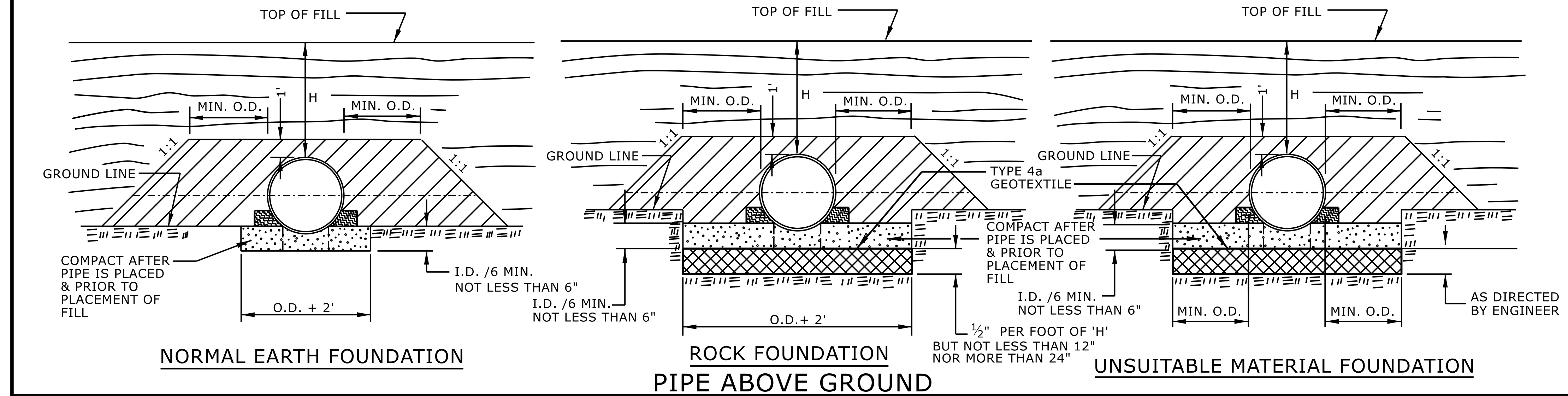
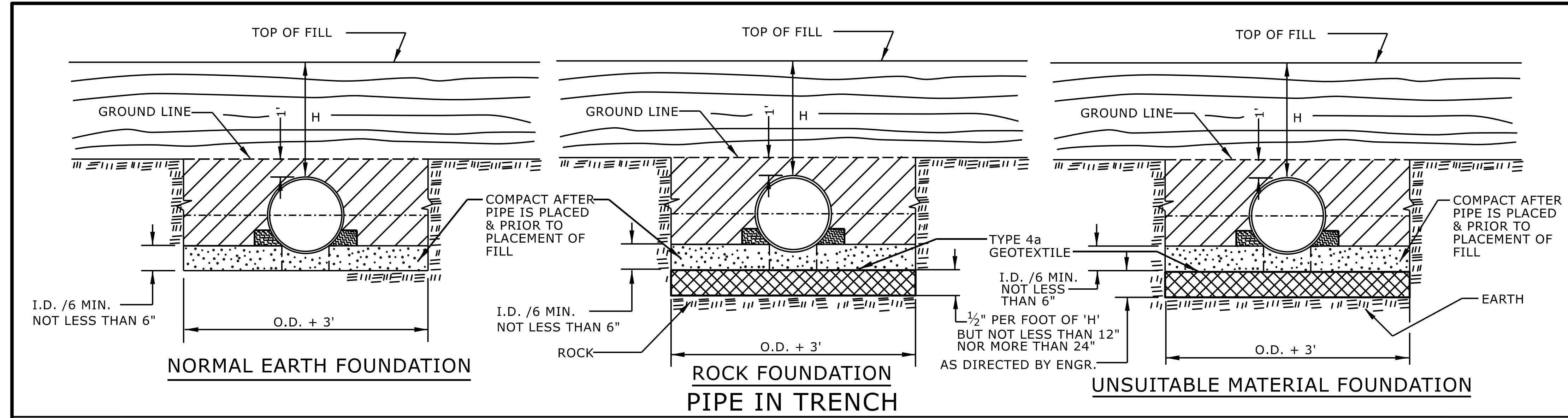


SHOULDER DETAIL
 USE SHOULDER DETAIL IN CONJUNCTION WITH TYPICAL SECTIONS NO. 1 & 2:
 -L- STA. 14+20.63 TO -L- STA. 15+14.38 RT. & LT.
 -L- STA. 15+71.63 TO -L- STA. 16+65.38 RT.
 -L- STA. 15+71.63 TO -L- STA. 16+90.38 LT.



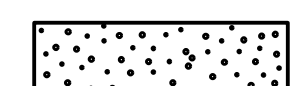
PROJECT REFERENCE NO. BPB-R027	SHEET NO. 2A-1
ROADWAY DESIGN	
Signed by: Greg S. Purvis 12/2025 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. P-0377 Bus: 919 851 8077 Fax: 919 851 8107	
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION	

BRIDGE #750305


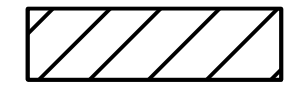
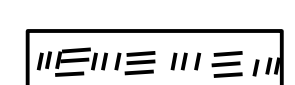

7/2/2025 BPB-R027_Rdy_tup.dgn
 11:56:13 AM



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.

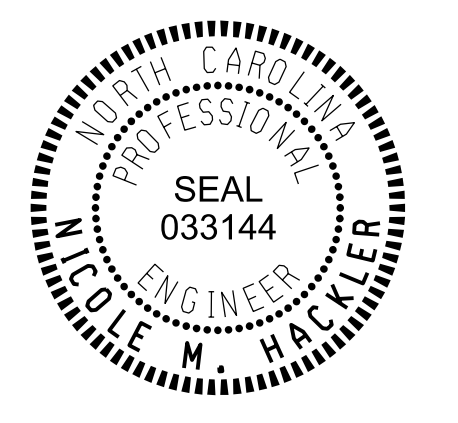
-  APPROVED SUITABLE LOCAL MATERIAL.
-  TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
-  LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

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, TYPE 1 ABOVE AND BELOW SPRINGLINE.
-  UNDISTURBED EARTH MATERIAL
-  SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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

ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
 FLEXIBLE PIPE



Signed by:
 Nicole M. Hacker
 588432034164C5...
 7/2/2025

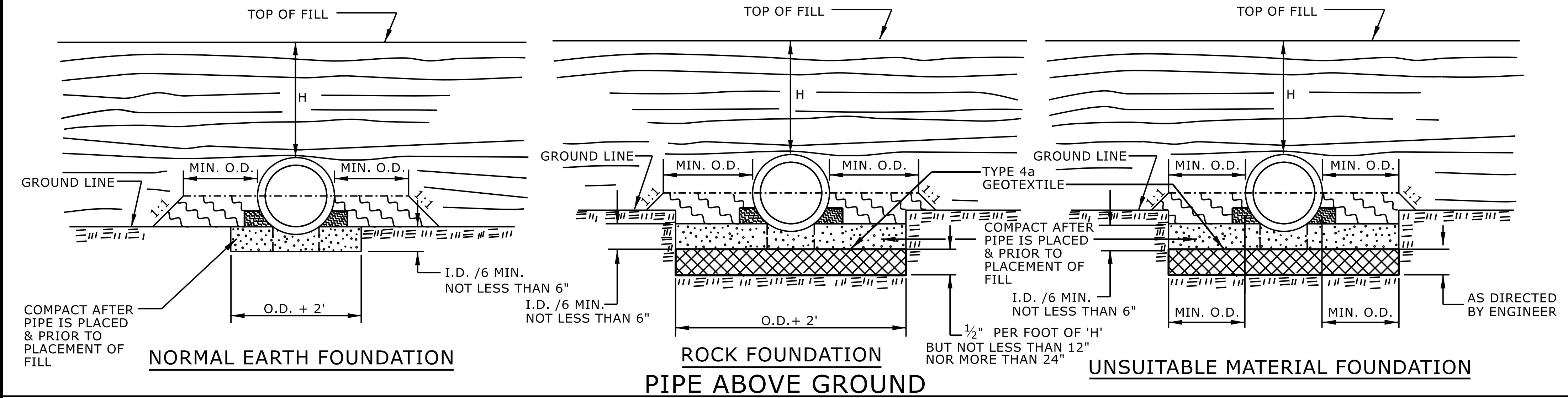
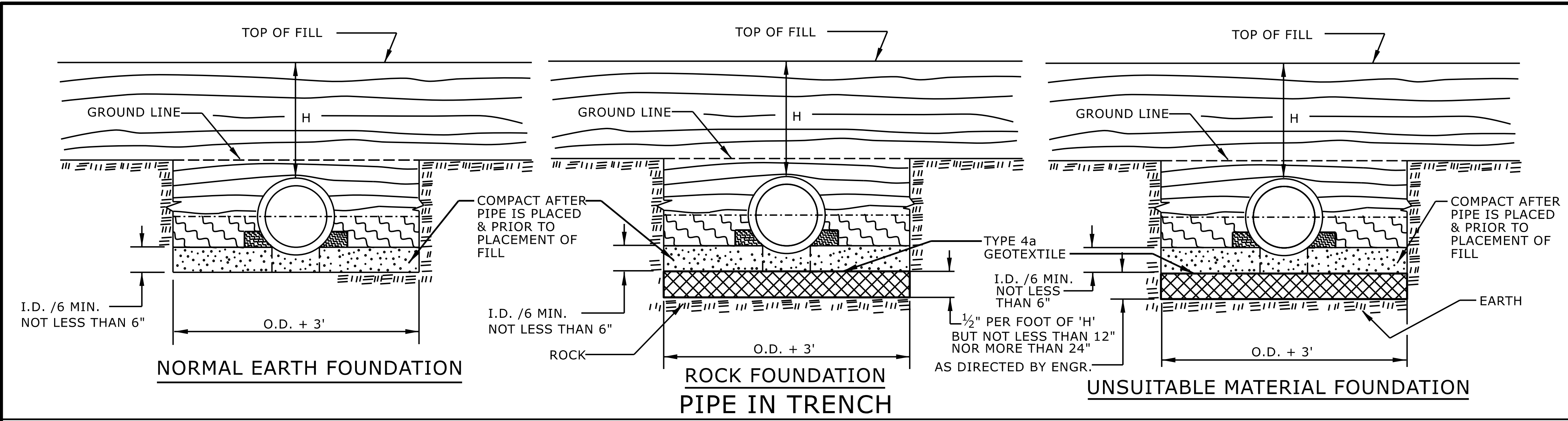
SHEET 1 OF 2
300.01

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:



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.

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



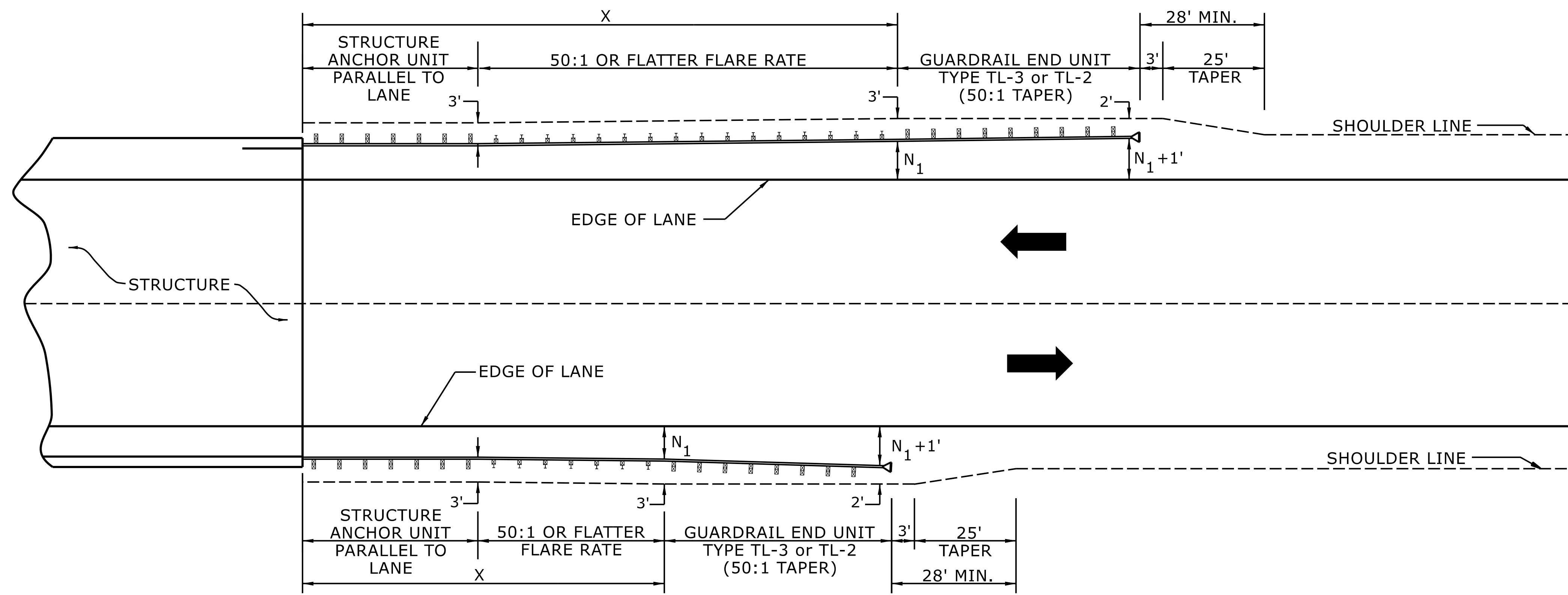
Signed by:
Nicole M. Heckler
5884323034164C5
7/2/2025

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.:	



USE FLARE RATE AS THE CONTROL IF THE " N_1 " DISTANCE IS NOT OBTAINED.
 (" N_1 " IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)
 SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS
 FOR POSTED SPEEDS \geq 45MPH USE GREU TYPE TL-3
 FOR POSTED SPEEDS $<$ 45MPH USE GREU TYPE TL-2
 GUARDRAIL LENGTH OF NEED (X) IS CALCULATED BASED ON THE AASHTO ROADSIDE DESIGN GUIDE.

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

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



Signed by:
Nicole M. Hackler
 888432041194CS...
 7/2/2025

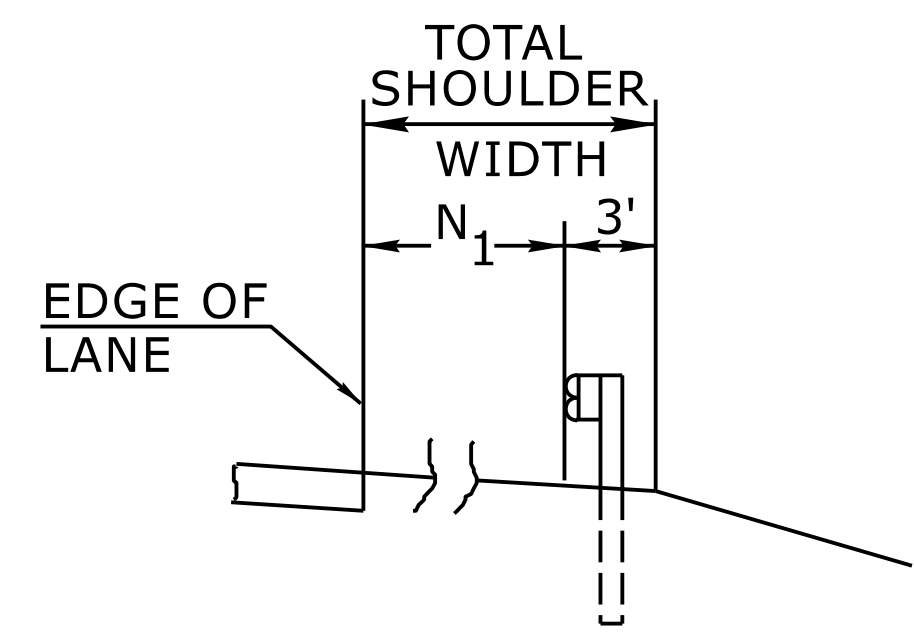
SHEET 4 OF 15
862D01

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

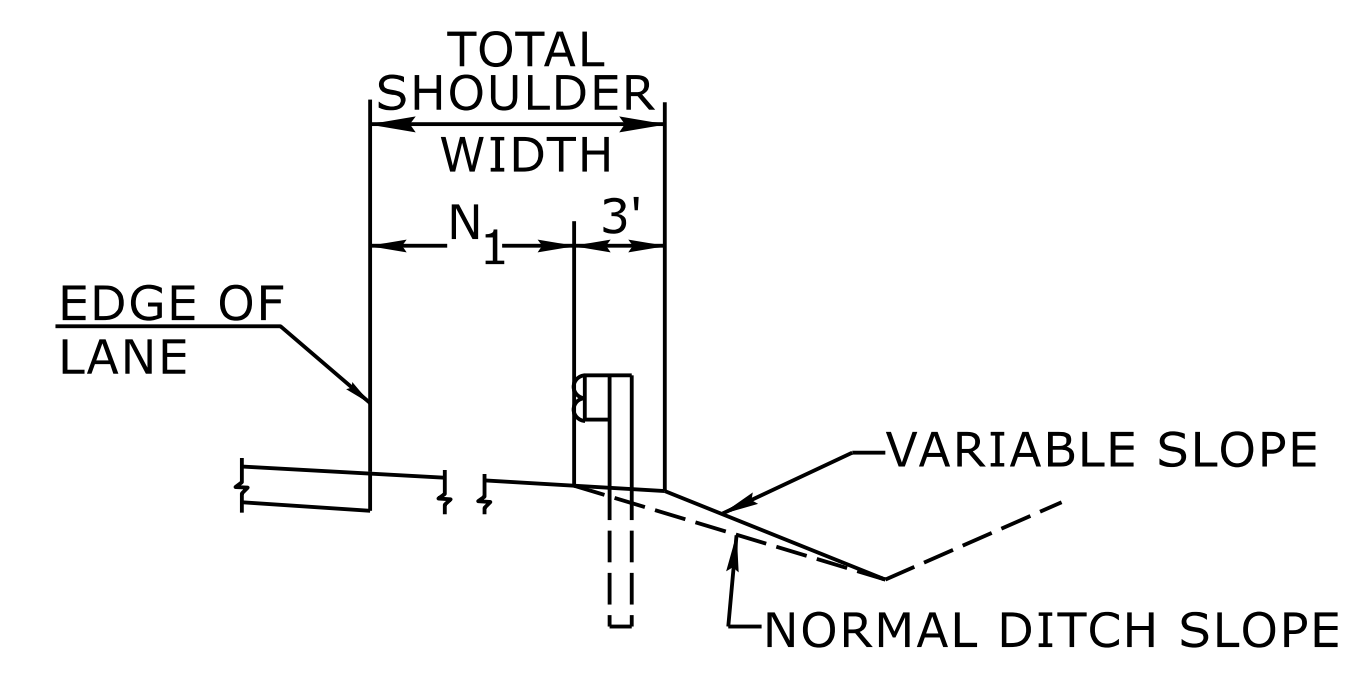
**CONTRACTS STANDARDS
 AND DEVELOPMENT UNIT**
 Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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

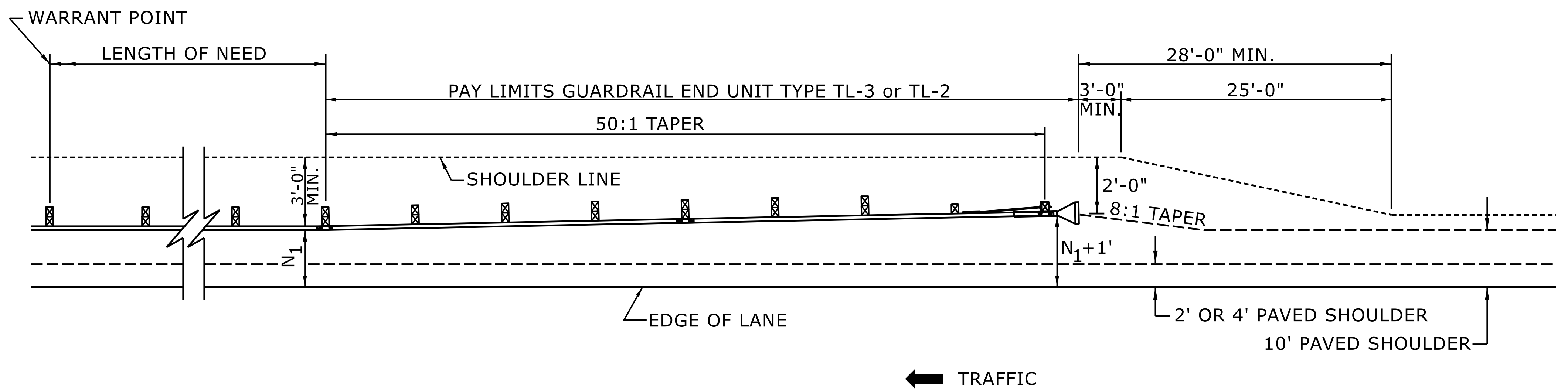


FILL SECTION



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



Signed by:
Nicole M. Hackler
5884323034164CS
7/2/2025

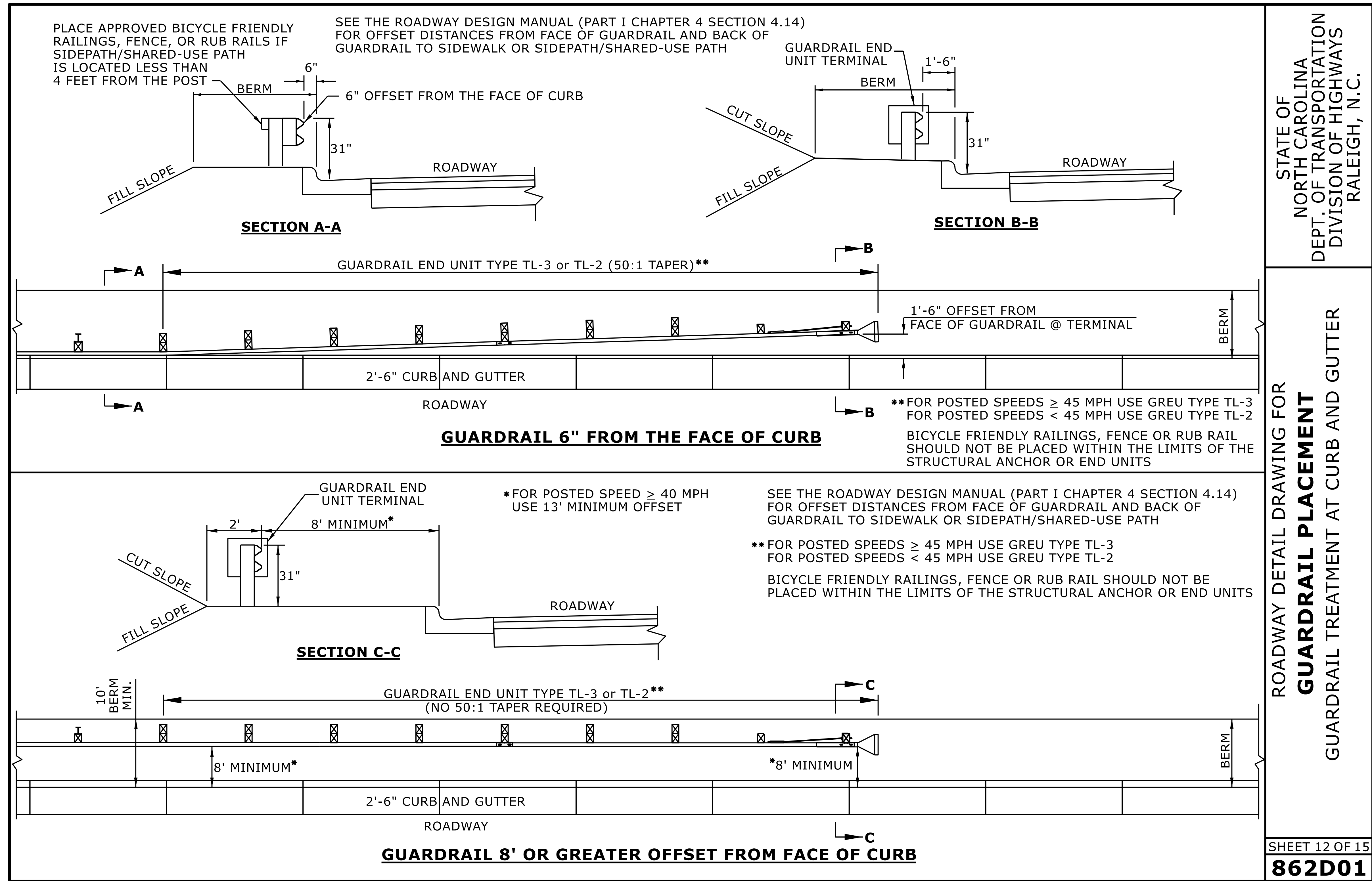
SHEET 6 OF 15
862D01

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

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



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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT
GUARDRAIL TREATMENT AT CURB AND GUTTER



Signed by:
Nicole M. Hacker
5884323034164CS...
7/2/2025

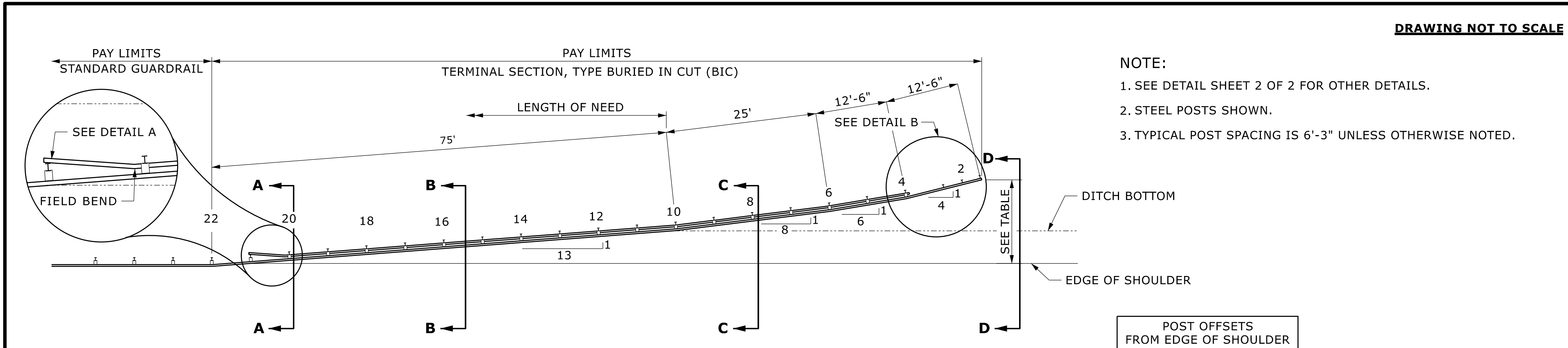
SHEET 12 OF 15
862D01

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

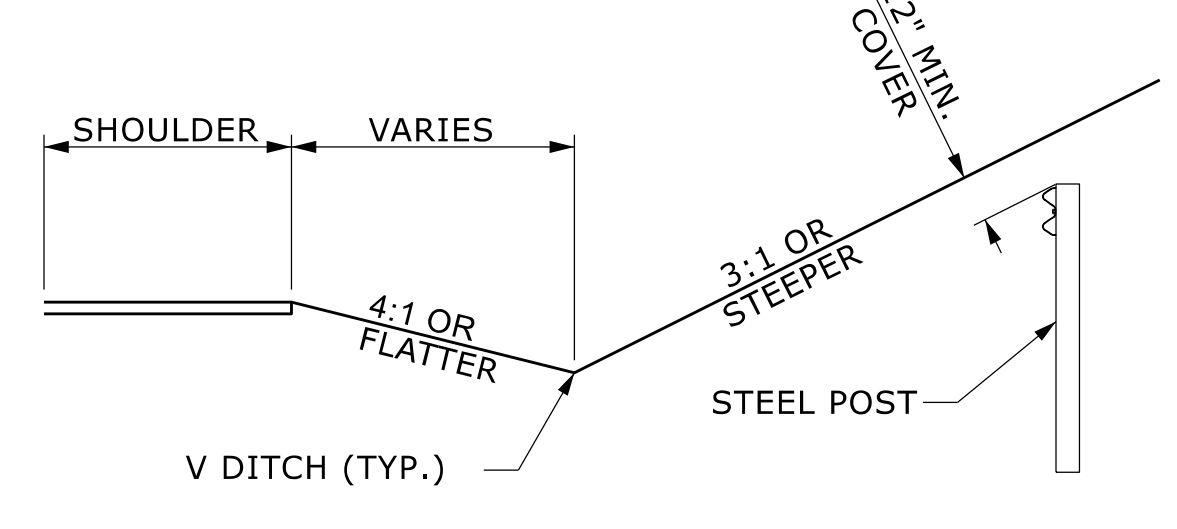
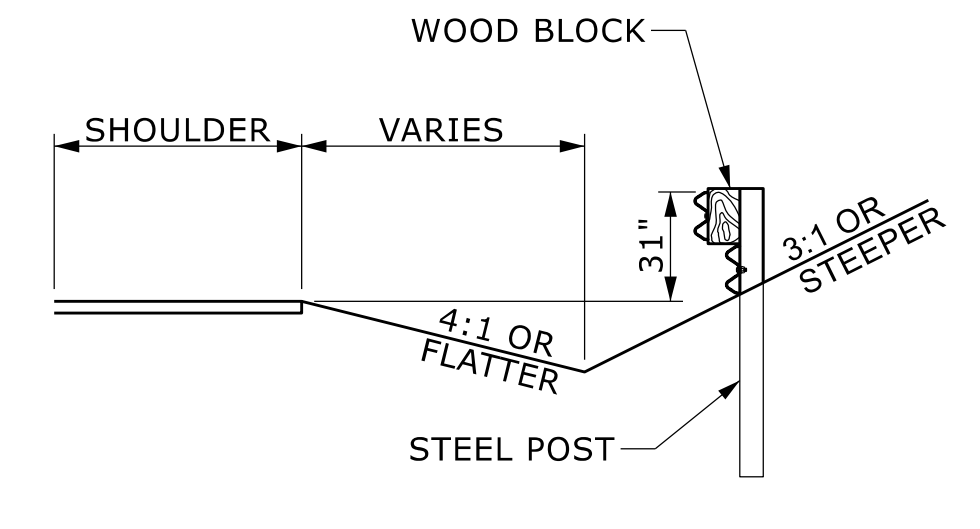
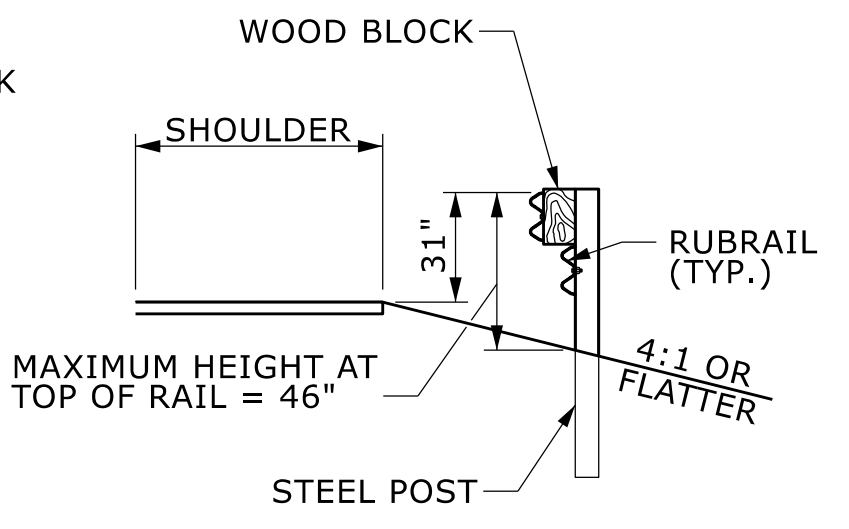
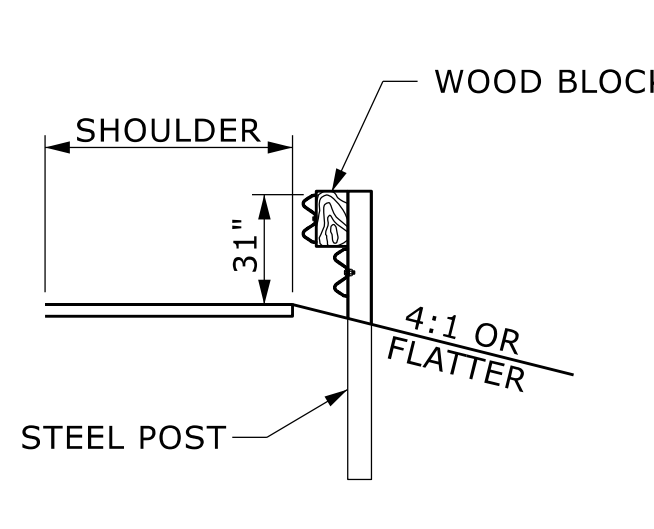
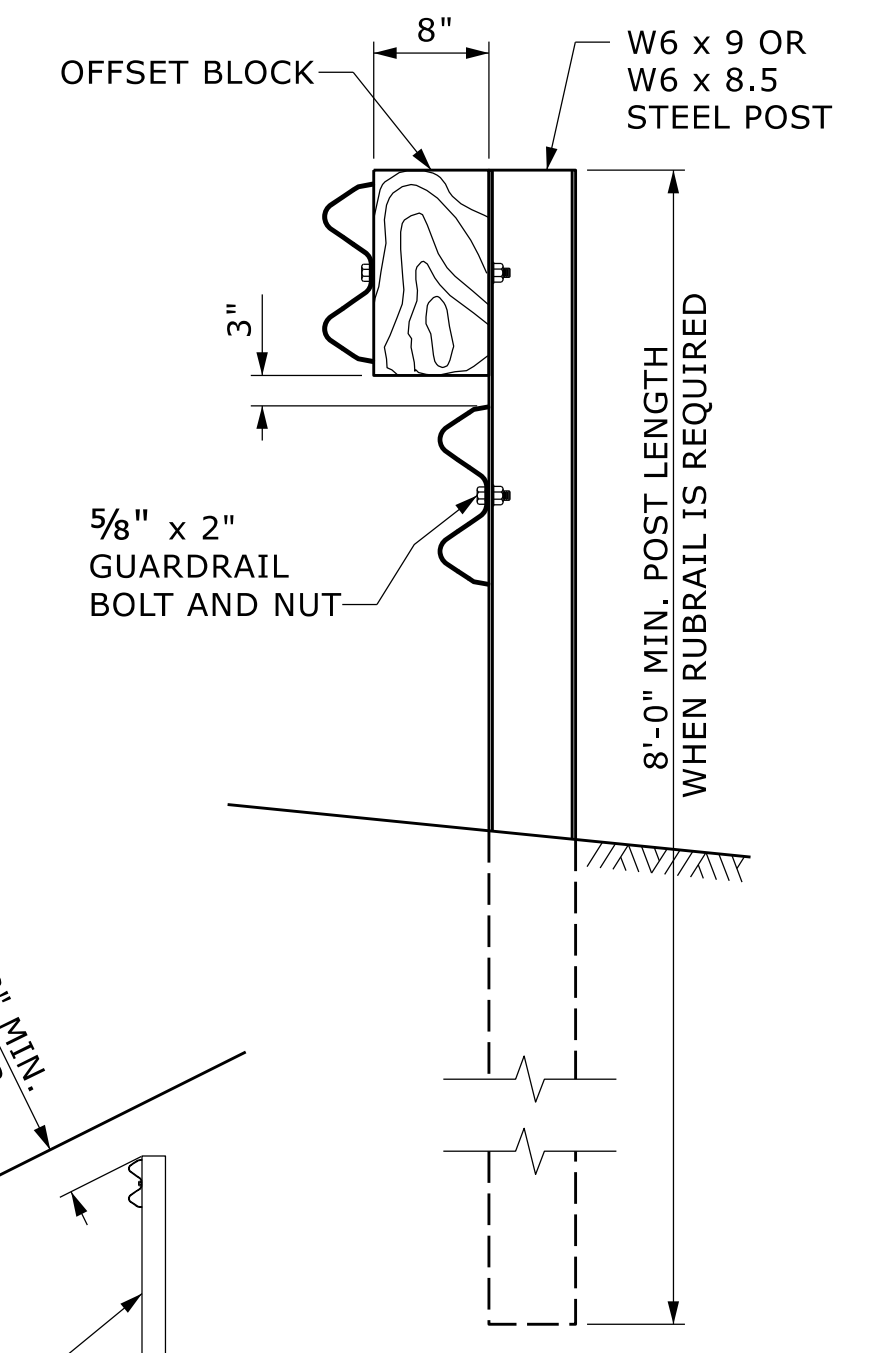
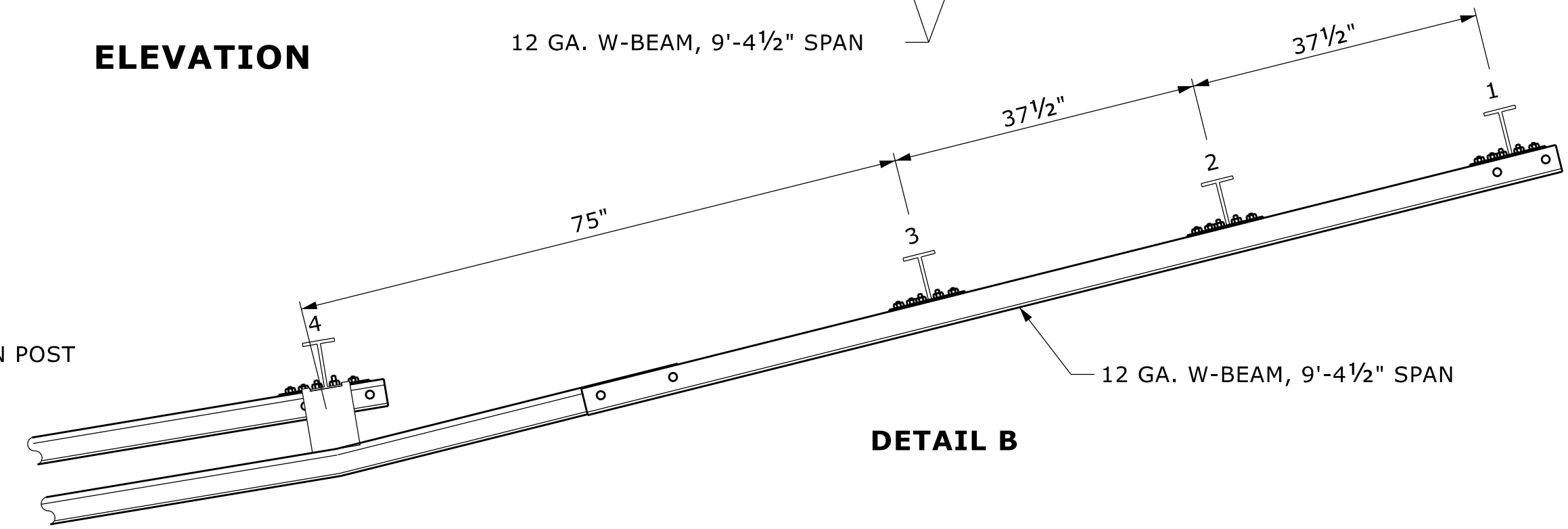
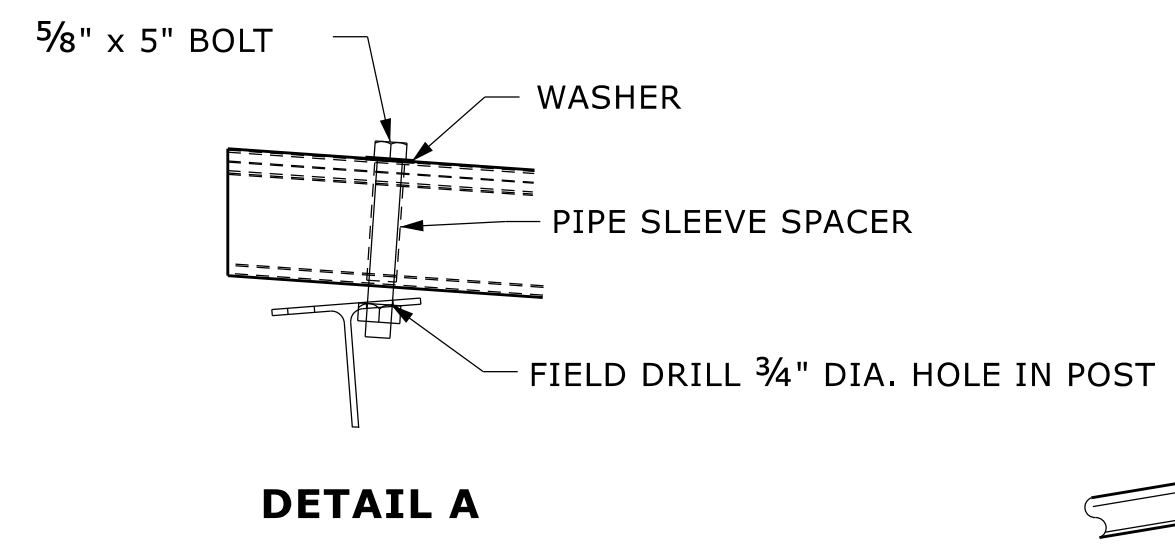
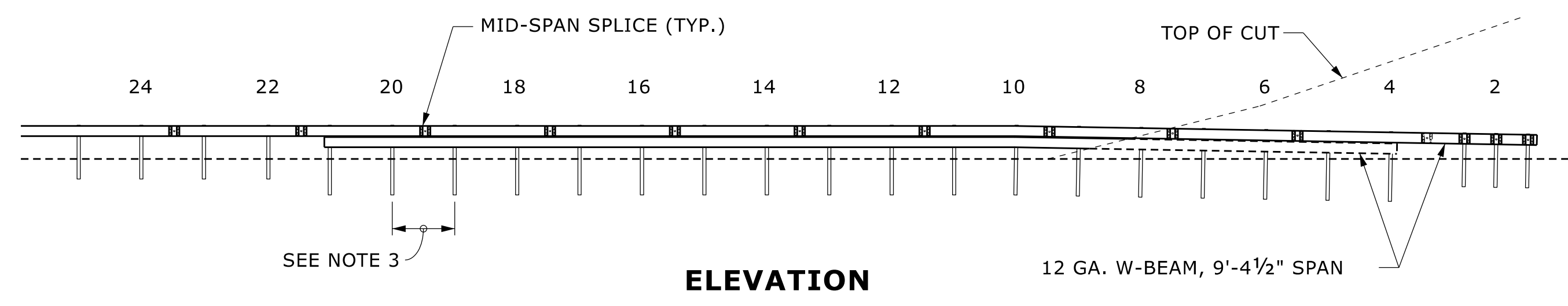
SEE TITLE BLOCK

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



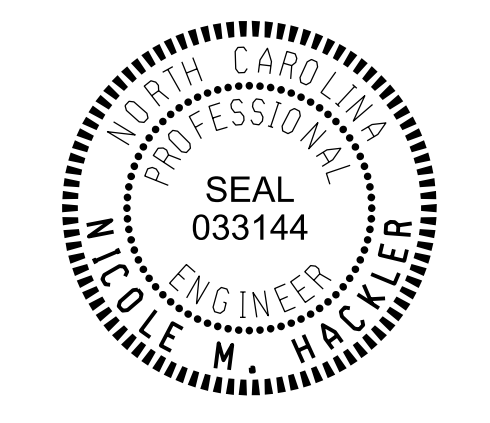
- NOTE:**
1. SEE DETAIL SHEET 2 OF 2 FOR OTHER DETAILS.
 2. STEEL POSTS SHOWN.
 3. TYPICAL POST SPACING IS 6'-3" UNLESS OTHERWISE NOTED.

POST OFFSETS FROM EDGE OF SHOULDER	
POST	DISTANCE
1	13'-11 ³ / ₄ "
4	10'-11"
6	8'-10 ¹ / ₄ "
10	69"



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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT
BURIED IN CUT END UNIT



Signed by:
Nicole M. Hacker
0804323234164CS...
7/2/2025

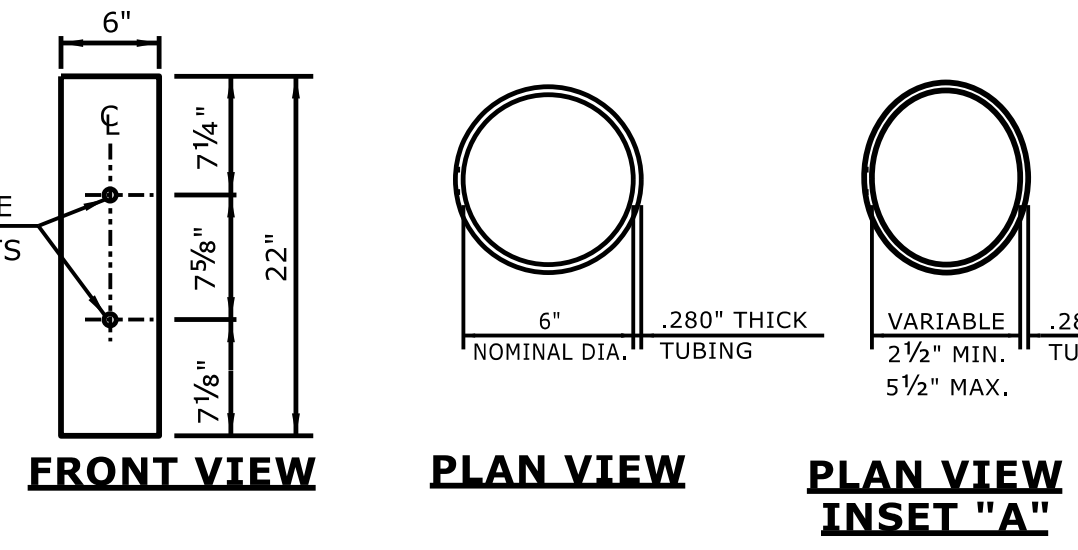
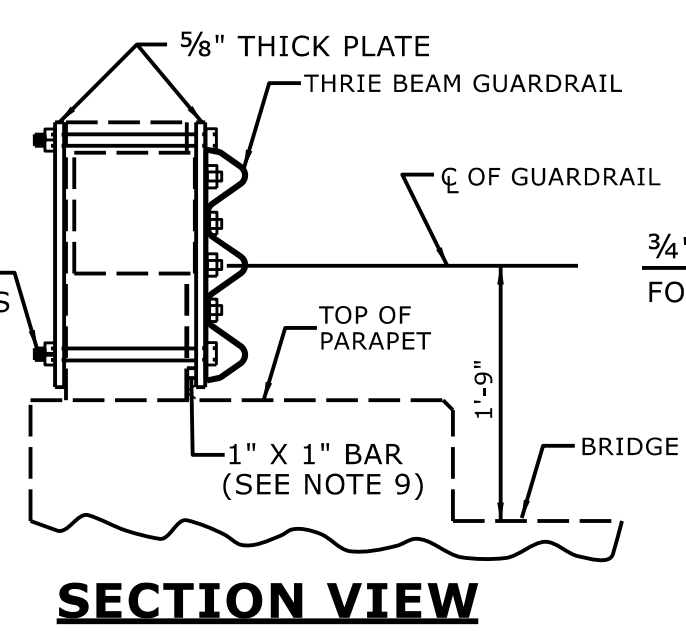
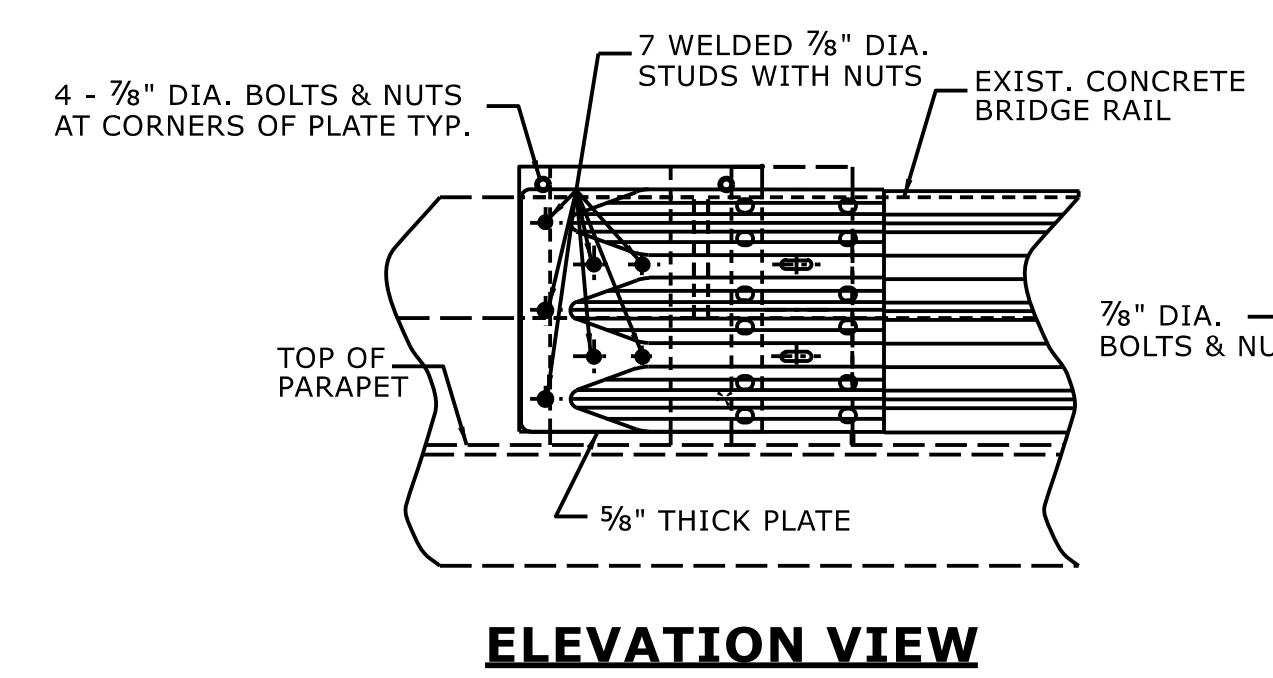
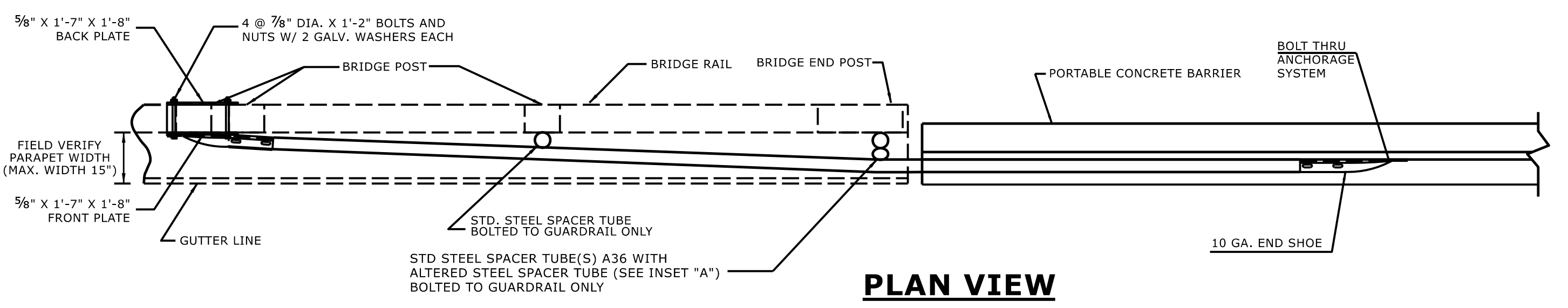
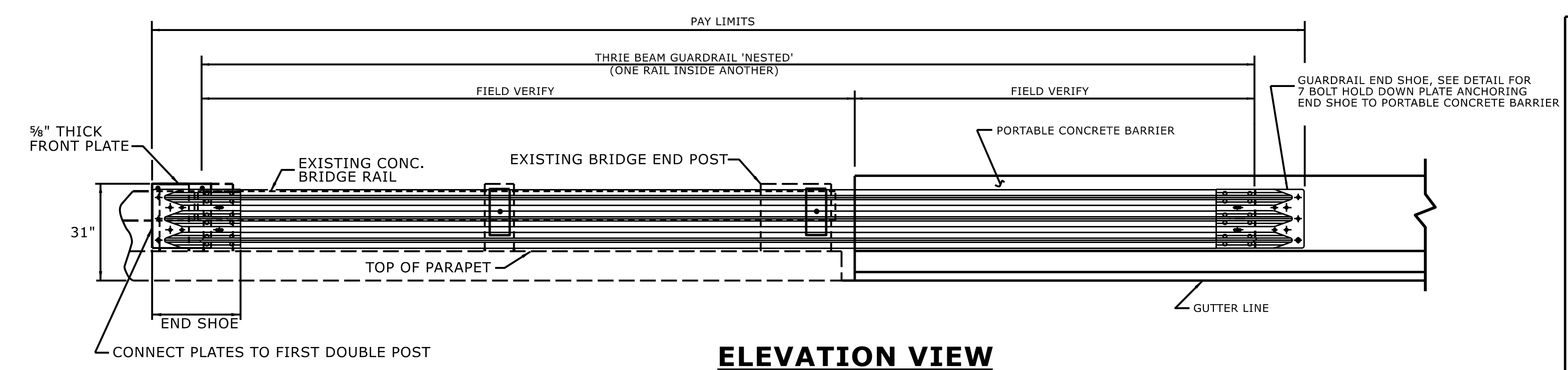
SHEET 14 OF 15
862D01

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

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



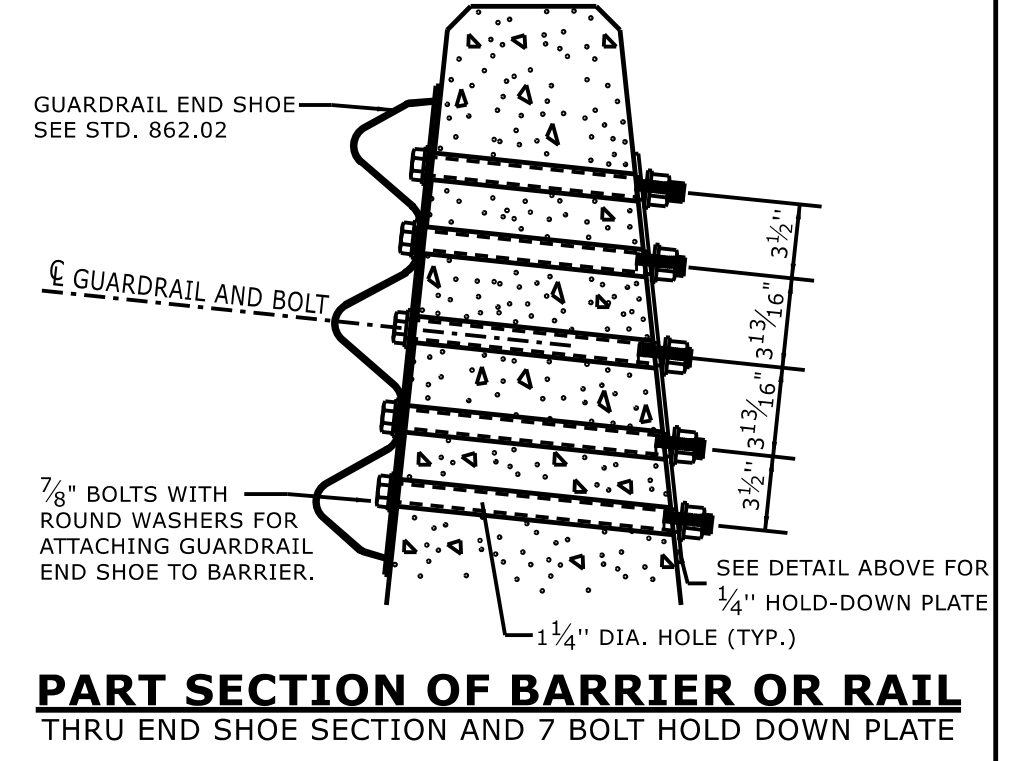
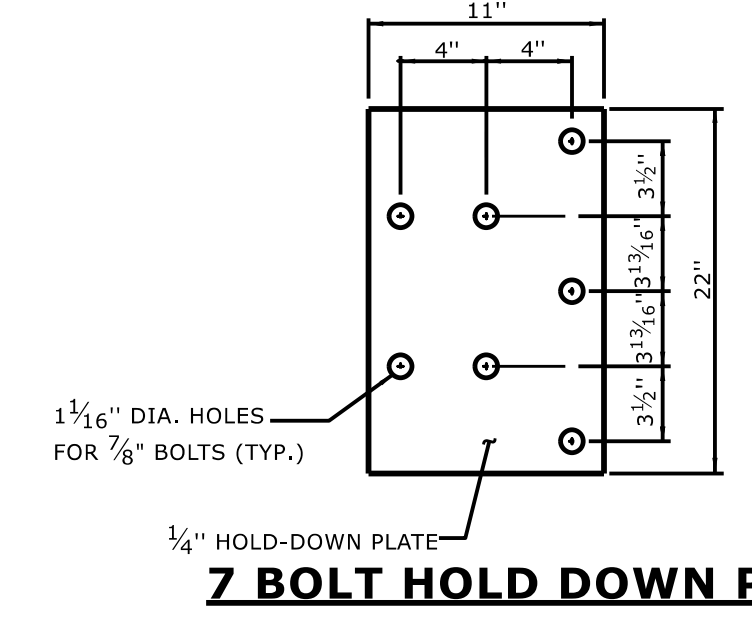
STEEL SPACER TUBE

NOTES FOR 7 BOLT HOLD DOWN PLATE

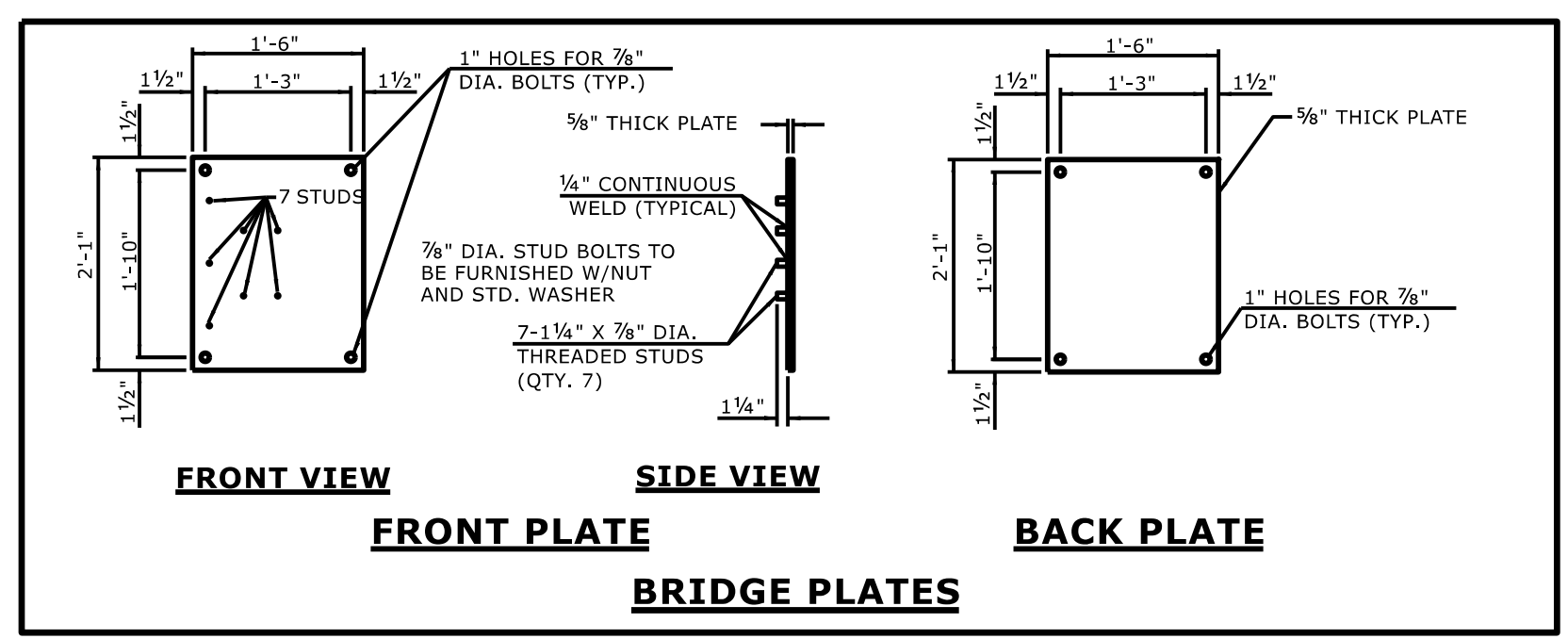
THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 7/8" DIA. BOLTS WITH NUTS AND WASHERS.

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.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL. THE 1/4" DIA. 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.

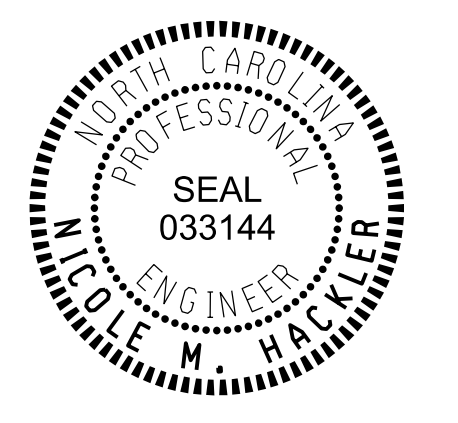


- GENERAL NOTES:**
- USE NUTS, BOLTS, AND WASHERS CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-307 AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF STAND. SPECS.
 - TAP NUTS FOR THE 7/8" DIA. STUDS AND BOLTS AFTER GALVANIZING SEE A.S.T.M. A-563.
 - USE PLATES AND TUBES CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-36 AND GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 1076 OF STAND. SPECS.
 - ADDITIONAL FIELD HOLES MAY BE DRILLED IN STEEL RAIL AS DIRECTED BY THE ENGINEER.
 - INSTALL FACE OF GUARDRAIL AS NEAR AS POSSIBLE TO PLUMB WITH THE PARAPET FACE AT BRIDGE END POST SPACER TUBE LOCATION BY USING STANDARD OR ALTERED SPACER TUBES OR A COMBINATION THEREOF OR AS DIRECTED BY THE ENGINEER. FOR VERY SMALL PARAPET WIDTHS, GUARDRAIL MAY BE INSTALLED AGAINST BRIDGE RAIL WITHOUT SPACER TUBES.
 - DO NOT DRILL BRIDGE RAIL IN ORDER TO INSTALL GUARDRAIL ANCHOR UNIT.
 - USE THIS DETAIL ONLY FOR BRIGES WITH POST AND BEAM TYPE RAIL.
 - ATTACH 1" X 1" BAR AND THREADED STUDS TO PLATE WITH 1/4" WELDS ALL AROUND.
 - 1" X 1" BAR MAY NOT BE NEEDED ON BRIDGE RAILS WHERE FACE OF RAIL DOES NOT PROJECT BEYOND FACE OF POST.
 - PROVIDE SHOP DRAWINGS OF THE PLATES TO THE ENGINEER FOR APPROVAL BEFORE FABRICATING THE PLATES.
 - LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 - SEE ROADWAY STANDARD DRAWING 862.03 SHEET 3 FOR ADDITIONAL INFORMATION ON THE TYPE III ANCHOR UNIT



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

ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS TEMPORARY ANCHOR UNIT TYPE THRIE-BEAM



Signed by: Nicole M. Hacker
5884320341645
7/2/2025

SHEET 8 OF 9
862D03

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.:	

12/06/07

COMPUTED BY: SLK DATE: 10/5/23
CHECKED BY: GSP DATE: 10/5/23

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRIDGE #750305

PROJECT REFERENCE NO. SHEET NO.
BP8-R027 3B-1

SUMMARY OF EARTHWORK

Table with columns: STATION, STATION, UNCL. EXCAV., EMBANK. +%, BORROW, WASTE. Includes subtotals and project subtotals for excavation, embankment, and borrow.

ASPHALT PAVEMENT
REMOVAL SUMMARY

Table with columns: SURVEY LINE, STATION, STATION, LOCATION L7/R7/CL, YD. Includes subtotals for left and right side removal.

SHOULDER BERM GUTTER SUMMARY

Table with columns: SURVEY LINE, STATION, STATION, LENGTH. Includes subtotals for left and right side shoulder work.

ETHERILL ENGINEERING logo and contact information: 1223 Jones Franklin Rd, Raleigh, N.C. 27606. License No. F-0377. Fax: 919 851 8107.

NOTE: 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.

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

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

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

Main table for pipe and endwall summary. Columns include: STATION, LOCATION, STRUCTURE NO., TOP ELEVATION, INVERT ELEVATION, DRAINAGE PIPE, C.S. PIPE, R.C. PIPE (CLASS III), R.C. PIPE (CLASS V), ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME GRATES AND HOOD, CONCRETE TRANSITIONAL SECTION, and ABBREVIATIONS.

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

GUARDRAIL SUMMARY

Table for guardrail summary. Columns include: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH (STRAIGHT, SHOP CURVED, DOUBLE FACED), WARRANT POINT (APPROACH END, TRAILING END), "N" DIST. FROM E.O.L., TOTAL SHOUL. WIDTH, FLARE LENGTH (APPROACH END, TRAILING END), W (APPROACH END, TRAILING END), ANCHORS (XI MOD, TYPE III, GREU TL-3, AT-1, CAT-1, VI MOD, BIC, AT-1), IMPACT ATTENUATOR TYPE 350 (EA, G, NG), SINGLE FACED GUARDRAIL, REMOVE EXISTING GUARDRAIL, REMOVE AND STOCKPILE EXISTING GUARDRAIL, and REMARKS.

7/2/2025 10:58:02 AM B:\2025\BP8R027_R027_Summary_3B-1.dgn

COMPUTED BY: CHENG WANG, P.E. DATE: 02.05.2024
CHECKED BY: W. PATRICK ALTON, P.E. DATE: 02.05.2024

PROJECT REFERENCE NO. SHEET NO.
BP8-R027 36-1

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA (2-3-23)

SUMMARY OF AGGREGATE SUBGRADE / STABILIZATION									
LINE	STATION	STATION	Aggregate Type* ASU(1/2)/AST	Aggregate Thickness [8" for ASU(2)] (INCHES)	Shallow Undercut (CY)	Class IV Subgrade Stabilization (TONS)	Geotextile for Subgrade Stabilization (SY)	Stabilizer Aggregate (TONS)	Class IV Aggregate Stabilization (TONS)
	CONTINGENCY		ASU (1)	12	100	200	300		
TOTAL (CY/TONS/SY):					100	200**	300**	0	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
 *AST = Aggregate Stabilization
 **Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

7/2/2025 11:55:11 AM BP8-R027-RDY_PSH_36-1.dgn

8/17/99

PI Sta 12+17.95
Δ = 13° 42' 38.8" (LT)
D = 4' 11" 18.8"
L = 327.34'
T = 164.45'
R = 1,367.91'
DS = 55 MPH
SE = SEE PLANS

TOMMY R. PIERCE
DB 2314 PG 1581

BEGIN NCDOT PROJECT BP8-R027 -L- POC STA. 13+20.50

END BRIDGE
STA. 15+71.63

SHALEA H. CHRISCOE
DB 2408 PG 1107
PB 137 PG 58

BRIDGE NO. 750305

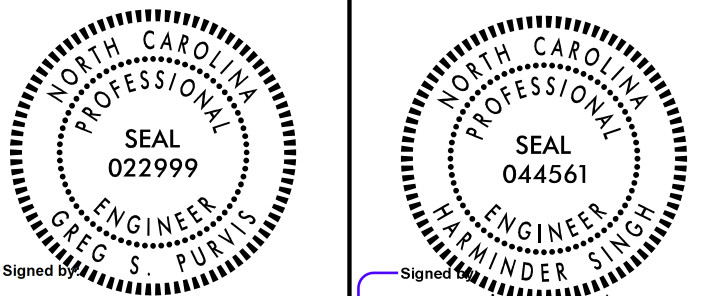
FINAL PLANS

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO. SHEET NO.

BP8-R027 4

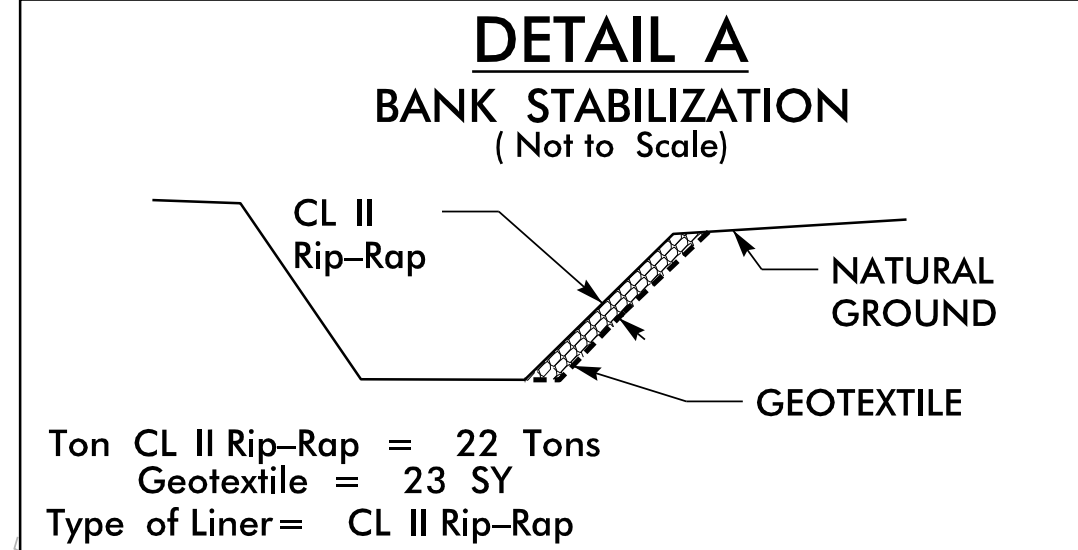
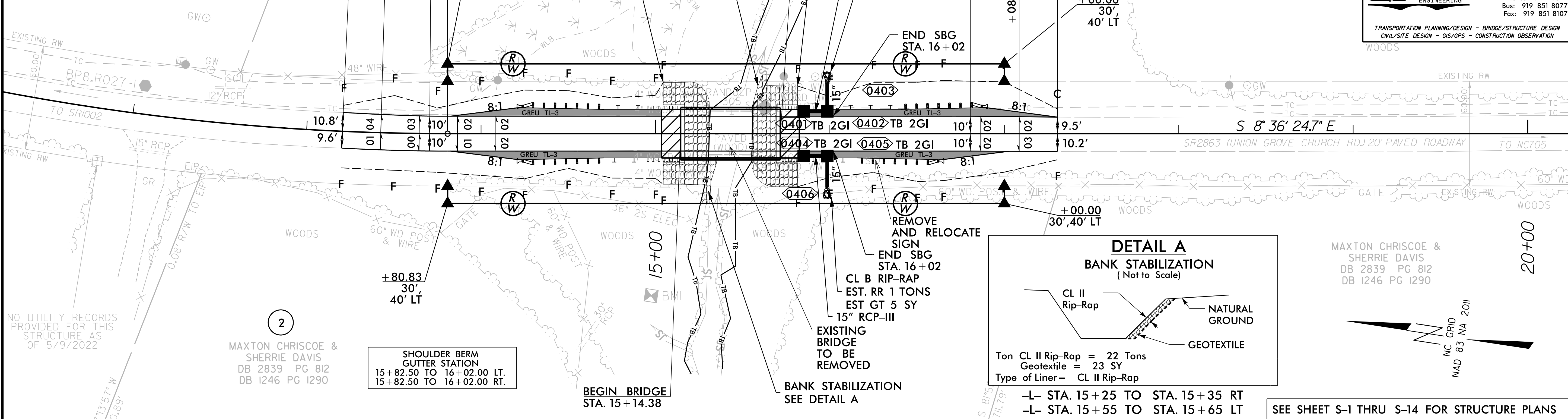
R/W SHEET NO. ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER



Signed: Greg S. Purvis 7/2/2025

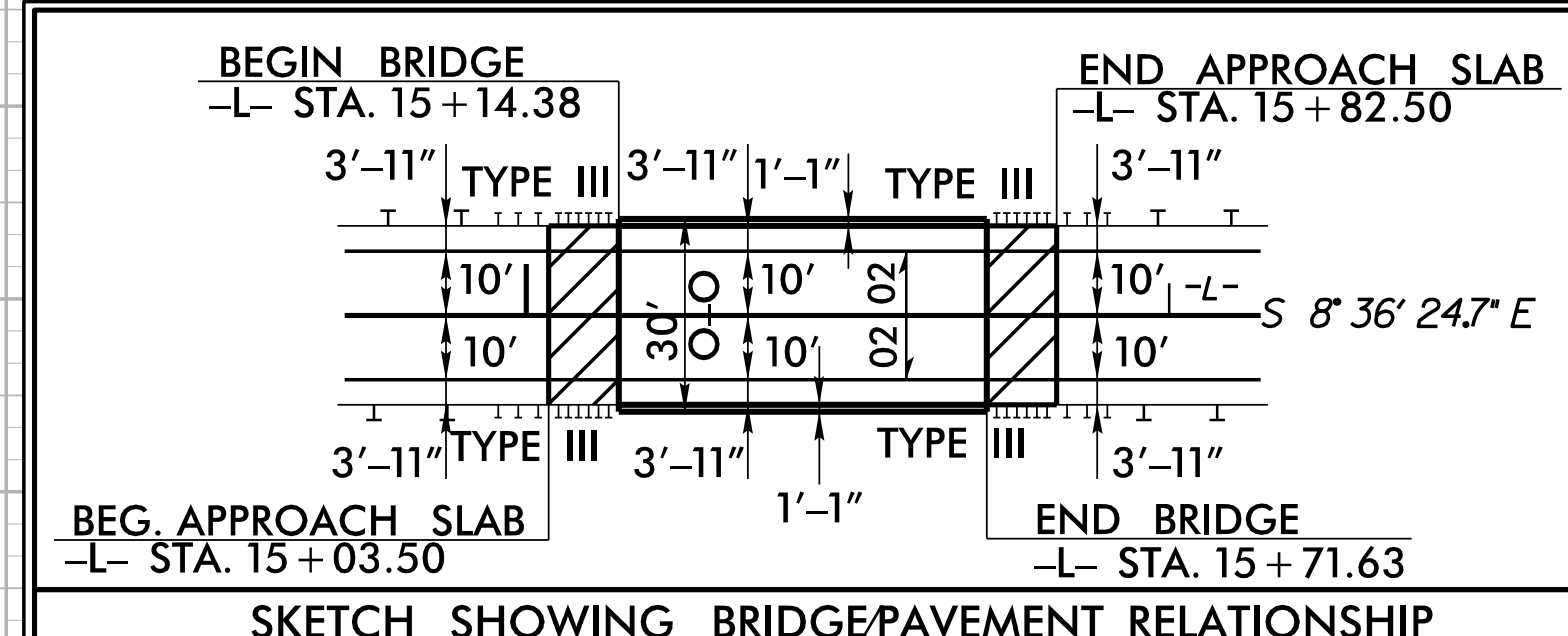
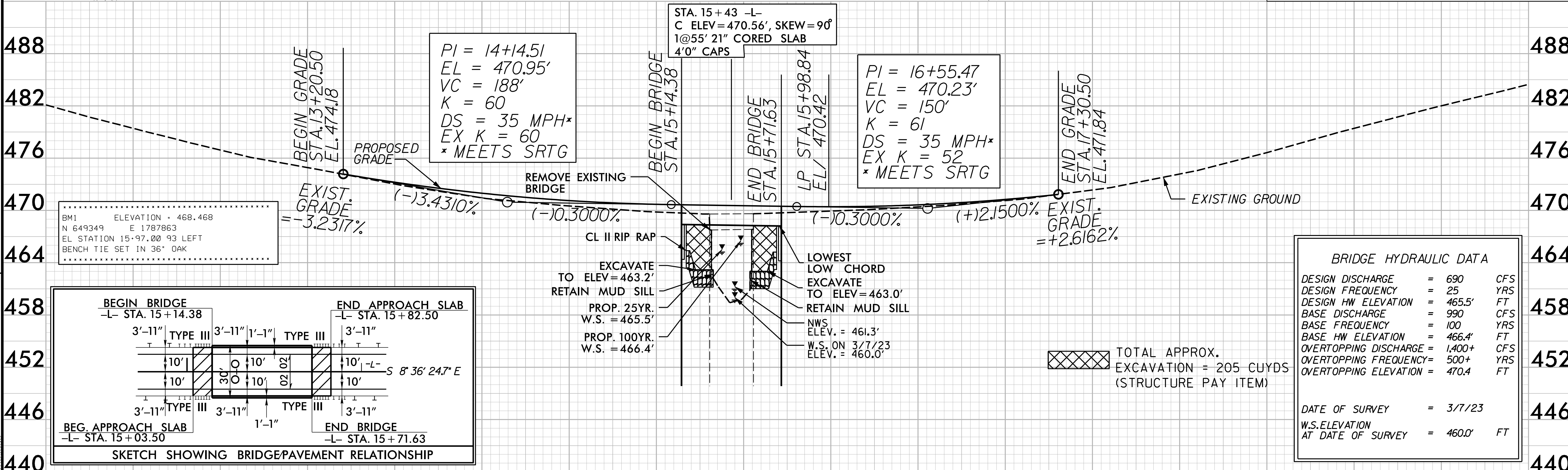
ETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

END NCDOT PROJECT BP8-R027 -L- POT STA. 17+30.50



MAXTON CHRISCOE & SHERIE DAVIS
DB 2839 PG 812
DB 1246 PG 1290

NC GRID
NAD 83 NA 2011



12 13 14 15 16 17 18 19 20

7/2/2025
C:\p01\BP8R027_rdy_psh.dgn
15:51:00

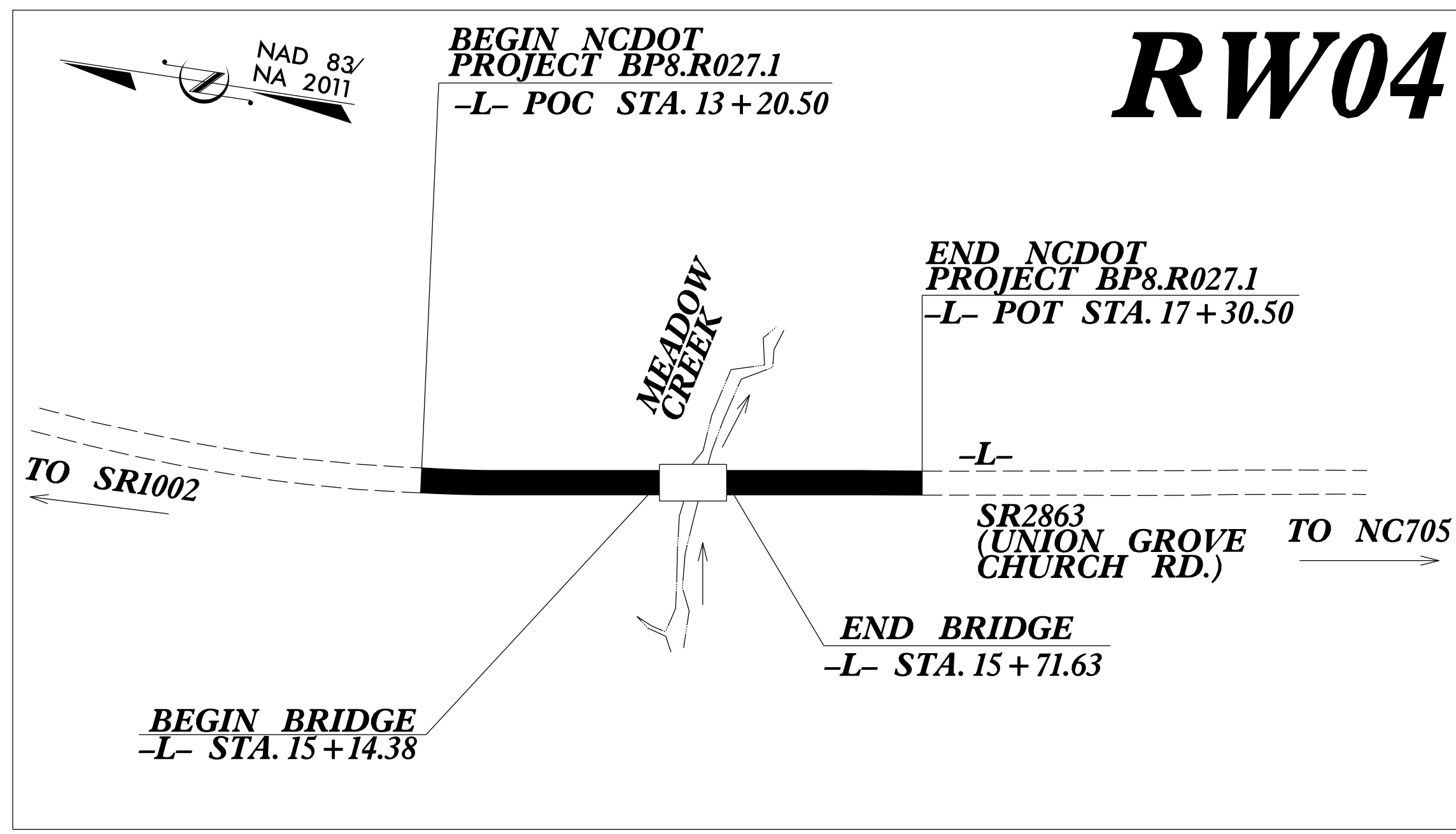
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP8.R027	RW01	7

TIP PROJECT: BP8.R027

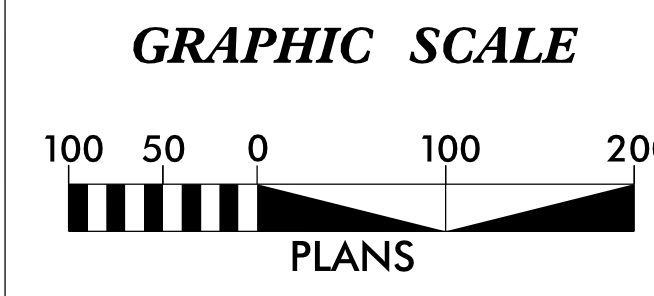
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

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

RANDOLPH COUNTY



26-APR-2024 10:58
 C:\Users\David\OneDrive\Desktop\BP8R027_top\BP8R027_con_wad_240424\BP8R027_is_r_w01.dgn
 David AT WADELYNNGEO-01



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MCKIM & CREED FOR MONUMENT "BP8.R027-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 650,156.497(ft) EASTING: 1,787,971.538(ft) ELEVATION: 504.109(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986540

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BP8.R027-2" TO -L- STATION 10+00.00 IS S 07°27'34" W 301.40(ft)

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

Prepared in the Office of:



Wadelynn Geospatial, LLC
 2664 Timber Drive 219
 GARNER, NC 27529
 P: 919.210.9573
 www.wadelynngeo.com

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
TO BE UPDATED

LETTING DATE:
AUGUST 13, 2024

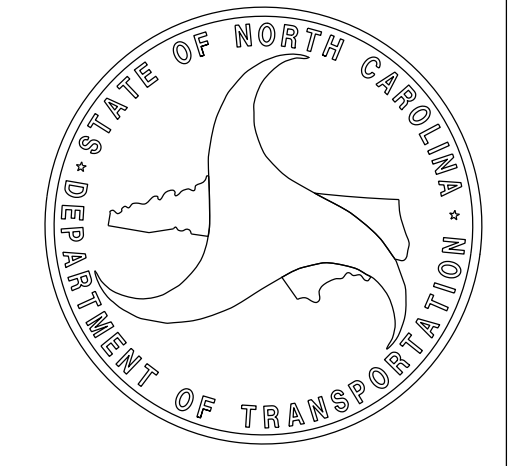
PROFESSIONAL LAND SURVEYOR



DocuSigned by:

 A8116B76D0DB4C1...
 SIGNATURE:

4/26/2024
Date:



SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

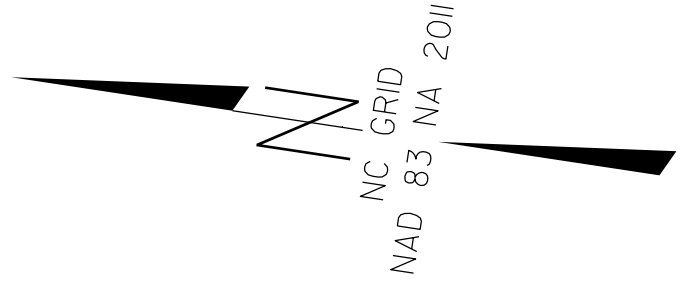
PROJECT REFERENCE NO. BP8.R027.1	SHEET NO. RW02C-1
Location and Surveys	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

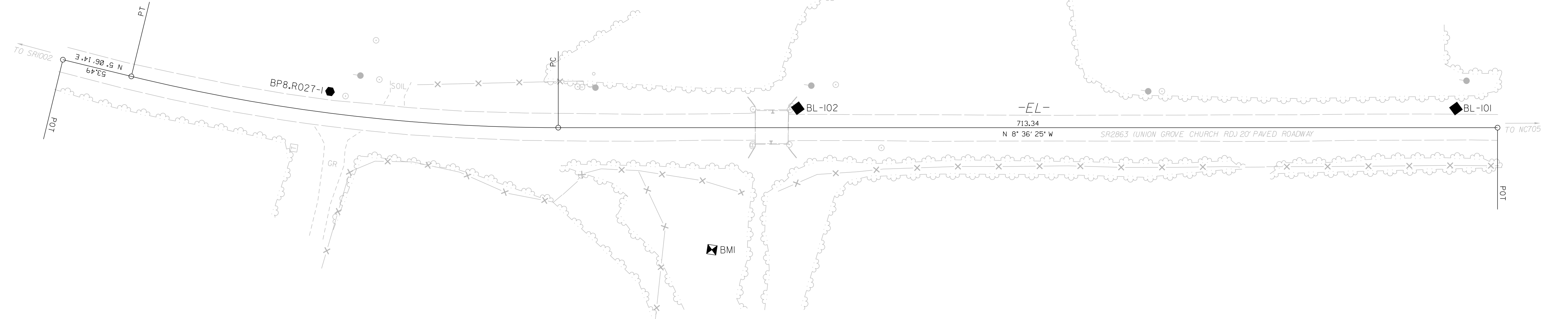
Class of survey: **AA**
 Type of GPS field procedure: RTN
 Dates of survey: 4/20/22-5/4/22
 Datum/Epoch: NAD 1983/NA 2011
 Published/Fixed-control use: N/A
 Localized around: BP8.R027-2
 Northing: 650156.497
 Easting: 1787971.538
 Combined grid factor: 0.99986540
 Geoid model: G18US
 Units: USFT

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 4/20/22 to 5/3/22, 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 4th day of May, 2022.
 Digitized by: 05/04/2022
 Richard A. Mitchell
 Professional Land Surveyor L-5060



BP8.R027-2





SEE SHEET RW02C-2 FOR FURTHER ALIGNMENT DETAILS

NOTES:

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

SURVEY CONTROL SHEET


W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. BP8.R027.1	SHEET NO. RW02C-2
Location and Surveys	
	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

Class of survey: **AA**
 Type of GPS field procedure: RTN
 Dates of survey: 4/20/22-5/4/22
 Datum/Epoch: NAD 1983/NA 2011
 Published/Fixed-control use: N/A
 Localized around: BP8.R027-2
 Northing: 650156.497
 Easting: 1787971.538
 Combined grid factor: 0.99986540
 Geoid model: G18US
 Units: USFT

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 4/20/22 to 5/3/22, 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 4th day of May, 2022.
 05/04/2022
 Richard A. Mitchell
 Professional Land Surveyor L-5060



EL		N	E	BEARING	DIST	DELTA	D	L	T	R
POT	648772.654	1788044.386								
LINE				N 08°36'24.7" W	713.34					
PC	649477.961	1787937.631								
CURVE				N 01°45'05.4" W	326.56	13°42'38.8"(RT)	04°11'18.8"	327.34	164.45	1367.91
PT	649804.366	1787927.650								
LINE				N 05°06'14.0" E	53.49					
POT	649857.648	1787932.409								

NOTES:

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

SURVEY CONTROL SHEET


W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. BP8.R027.1	SHEET NO. RW02C-3
Location and Surveys	
	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

Class of survey: **AA**
 Type of GPS field procedure: RTN
 Dates of survey: 4/20/22-5/4/22
 Datum/Epoch: NAD 1983/NA 2011
 Published/Fixed-control use: N/A
 Localized around: BP8.R027-2
 Northing: 650156.497
 Easting: 1787971.538
 Combined grid factor: 0.99986540
 Geoid model: G18US
 Units: USFT

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 4/20/22 to 5/3/22, 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 4th day of May, 2022.
 05/04/2022
 Richard A. Mitchell
 Professional Land Surveyor L-5060

BL	POINT	DESC.	NORTH	EAST	ELEVATION
	101	BL - 101	648806.0360	1788053.9920	487.653
	102	BL - 102	649300.2740	1787979.4340	468.656
	1	BP8.R027-1	649653.4490	1787938.8440	476.755
	2	BP8.R027-2	650156.4970	1787971.5380	504.109

.....
 BM1 ELEVATION = 468.468
 N 649349 E 1787863
 EL STATION 15+97.00 93 LEFT
 BENCH TIE SET IN 36" OAK


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.

PROPOSED ALIGNMENT CONTROL SHEET

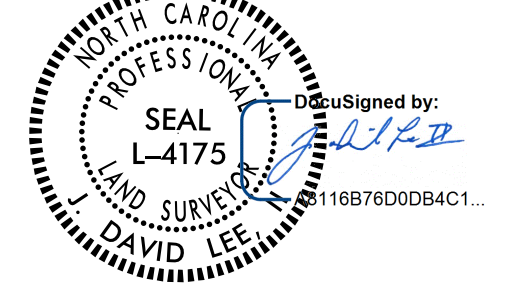
PROJECT REFERENCE NO.	SHEET NO.
BP8.R027	RW02-1

Location and Surveys



Wadelynn Geospatial, LLC
2664 Timber Drive, 219
GARNER, NC 27529
P: 919.210.9573
www.wadelynngeo.com

PROJECT SURVEYOR



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I, J. David Lee, II, 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 23 day of April, 2024.

DocuSigned by:
J. David Lee, II
Professional Land Surveyor L-4175
A8116B76D0DB4C1...


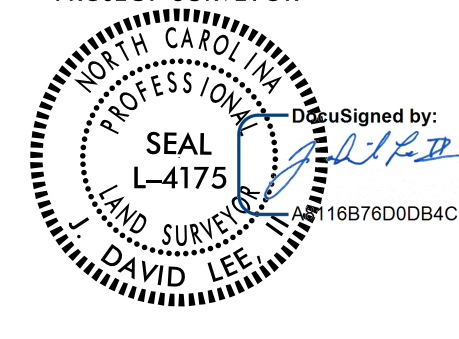
TYPE	STATION	L	
		NORTH	EAST
POT	10+00.00	649857.6476	1787932.4090
PC	10+53.49	649804.3662	1787927.6501
PT	13+80.83	649477.9611	1787937.6312
POT	20+94.17	648772.6535	1788044.3855

REVISIONS

NOTES:

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

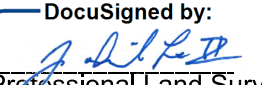
RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO. BP8.R027	SHEET NO. RW03E-1
Location and Surveys	
	
Wadelynn Geospatial, LLC 2664 Timber Drive 219 GARNER, NC 27529 P: 919.210.9573 www.wadelynngeo.com	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+80.83	-40.00	649483.9473	1787977.1807
L	13+80.83	-30.00	649482.4507	1787967.2933
L	17+00.00	-30.00	649166.8767	1788015.0582
L	17+00.00	-40.00	649168.3732	1788024.9455
L	13+80.83	40.00	649471.9750	1787898.0816
L	13+80.83	30.00	649473.4715	1787907.9690
L	17+00.00	40.00	649156.4009	1787945.8465
L	17+00.00	30.00	649157.8975	1787955.7339

I, J. David Lee, II, NCPLS, 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 on April 23, 2024, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.


This 26th day of April, 2024.
 DocuSigned by:

 Professional Land Surveyor L-4175
 A8116B76D0DB4C1...

REVISIONS

C:\Users\David\OneDrive\Desktop\BP8R027.con_wad_240424\BP8R027_1s.rw03e-1.dgn
 David
 AT WADLEYNNGEO-01
 05-APR-2024 10:02

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED ON APRIL 23, 2024.

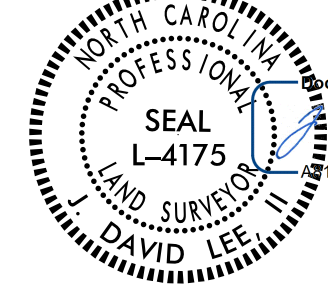
PROJECT REFERENCE NO.	SHEET NO.
BP8.R027	RW04
Location and Surveys	
	Wadelynn Geospatial, LLC 2664 Timber Drive 219 GARNER, NC 27529 P: 919.210.9573 www.wadelynngeo.com

I, J. David Lee, II, NCPLS, 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 on April 23, 2024, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 23 day of April, 2024.

DocuSigned by:
J. David Lee, II
Professional Land Surveyor L-4175
A8116876D0DB4C1...

PROJECT SURVEYOR



DocuSigned by:
J. David Lee, II
A8116876D0DB4C1...

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PI Sta 12+17.95
 $\Delta = 13^{\circ} 42' 38.8''$ (LT)
 D = 4' 11" 18.8"
 L = 327.34'
 T = 164.45'
 R = 1,367.91'

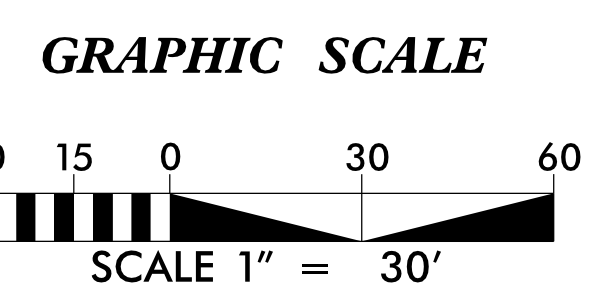
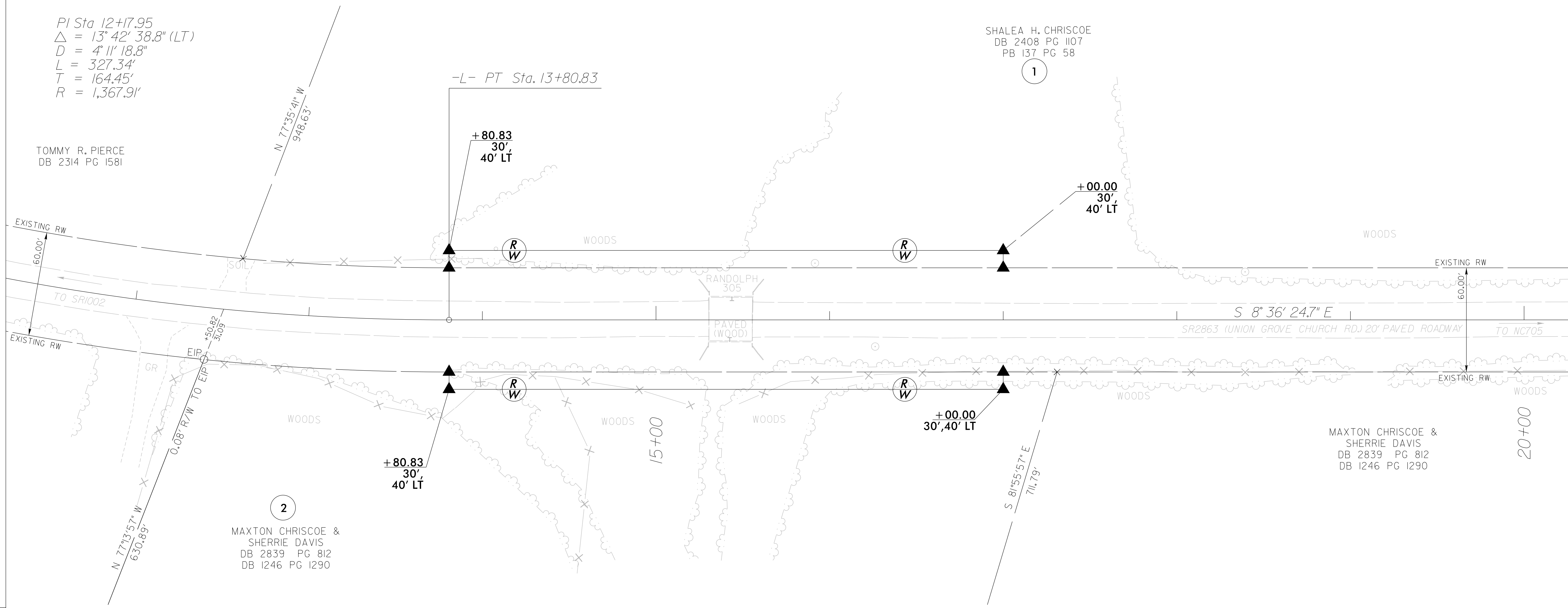
TOMMY R. PIERCE
DB 2314 PG 1581

SHALEA H. CHRISCOE
DB 2408 PG 1107
PB 137 PG 58

2
 MAXTON CHRISCOE &
 SHERRIE DAVIS
 DB 2839 PG 812
 DB 1246 PG 1290

MAXTON CHRISCOE &
 SHERRIE DAVIS
 DB 2839 PG 812
 DB 1246 PG 1290

REVISIONS



NOTES:

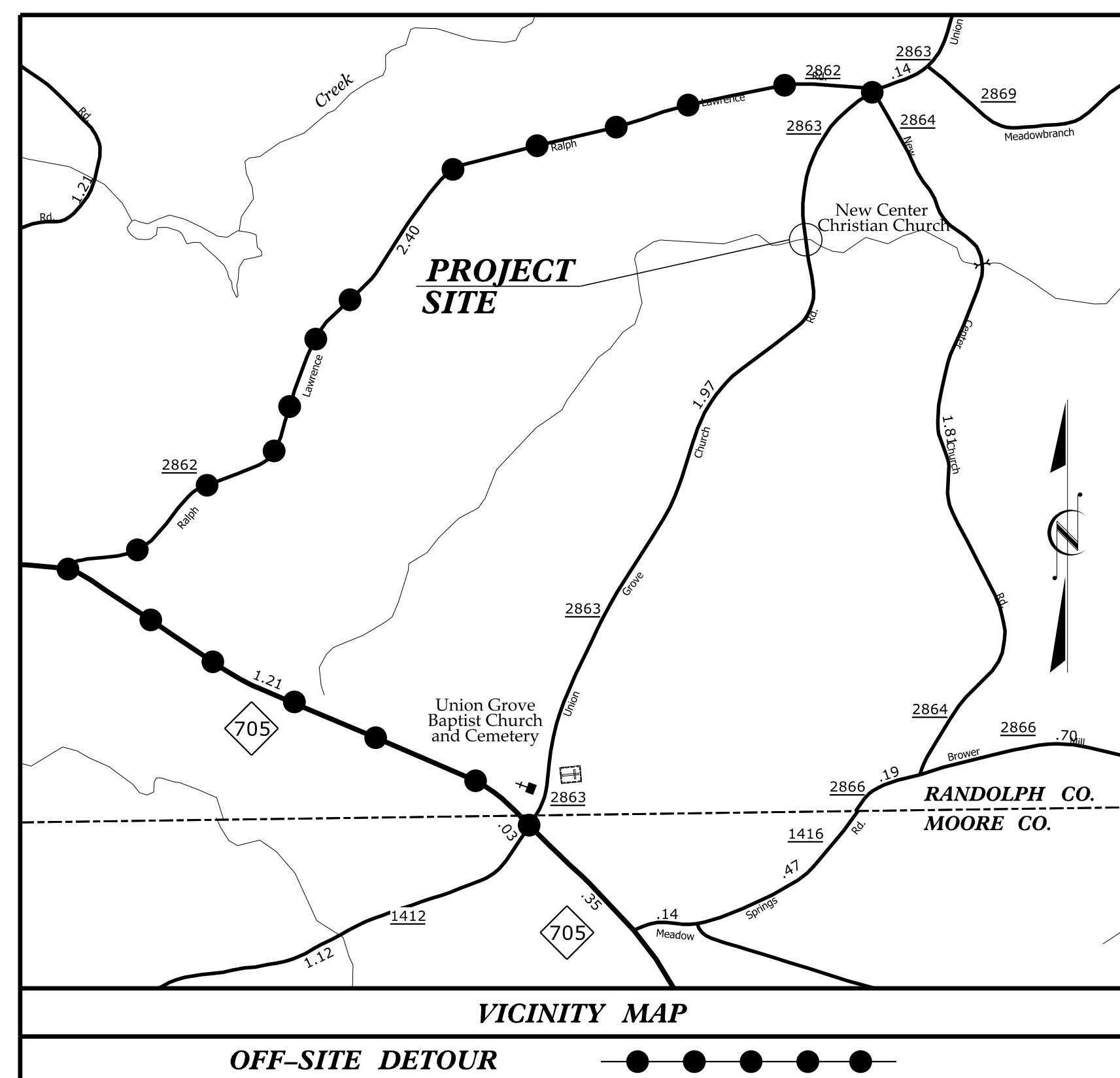
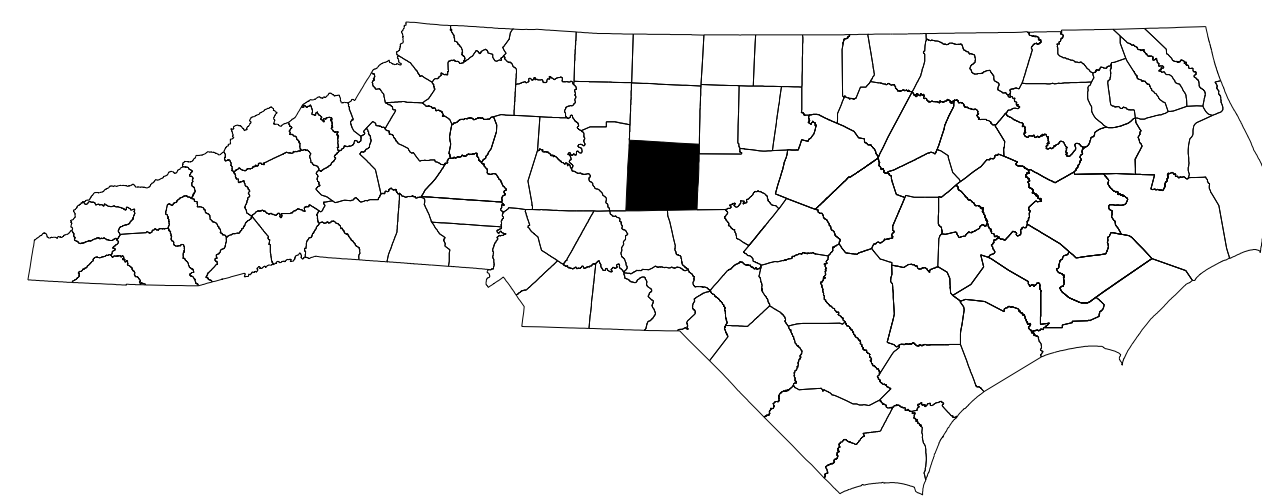
1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED ON APRIL 23, 2024

07-APR-2024 10:03
 K:\Projects\2024\BP8.R027\NCDOT\BP8R027.con_wad\ROW_Sheets\RW_Sheets\BP8R027_1s_rw04.dgn
 J. David Lee

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

RANDOLPH COUNTY



**LOCATION: BRIDGE NO. 750305 OVER MEADOW CREEK
ON SR 2863 (UNION GROVE CHURCH ROAD)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

INDEX OF SHEETS

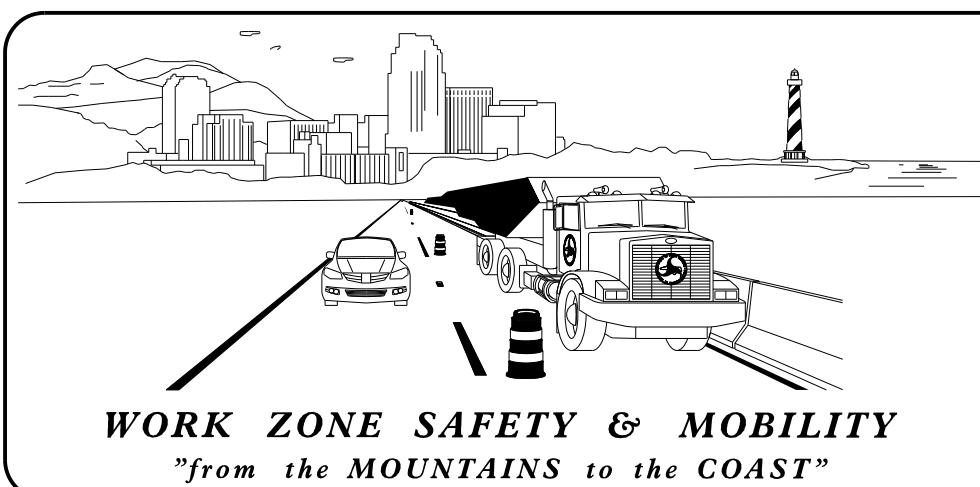
SHEET NO.	TITLE
TMP-01	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-01A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-01B	SIGN AND DEVICE LEGEND
TMP-02	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES) AND PHASING
TMP-03	SPECIAL SIGN DESIGN
TMP-04	OFFSITE DETOUR

SHEET NO.
TMP-01

BP8-R027

TIP PROJECT:

I:\19\2024\11\19\2024\Projects\2022\22128\01\Randolph\305 Div 8\Traffic\Traffic Design\Pre-Let\Plan\WZTC\BP8.R027_TMP_01.T11e.dgn
User: AHayes



PLANS PREPARED BY:

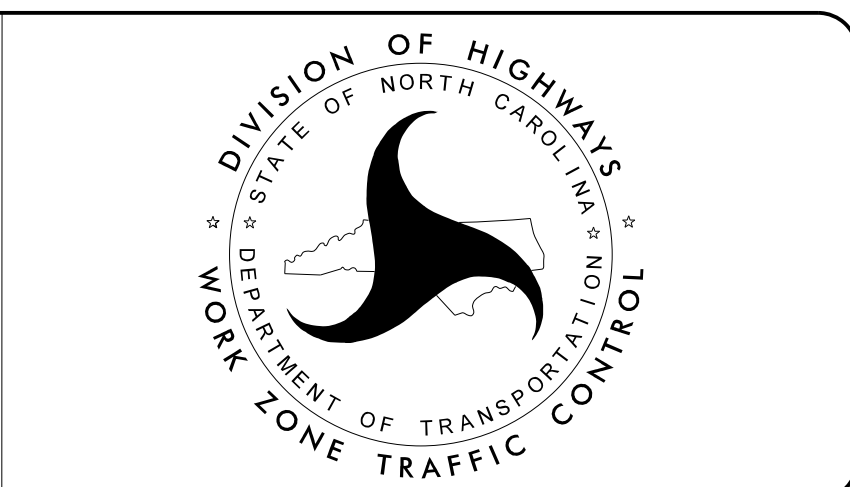
LARRY GREEN, P.E.

D. ALLEN HAYES, E.I.

NCDOT CONTACTS:

KEN THORNEWELL, P.E.
PROJECT ENGINEER

PROJECT DESIGN ENGINEER



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

WETHERILL ENGINEERING

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-6377
Bus: 919 851 8077
Fax: 919 851 8107

APPROVED: *Lawrence H. Green*

DATE: 4/30/2025

SEAL

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

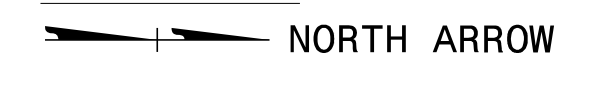
ROADWAY STANDARD DRAWINGS

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

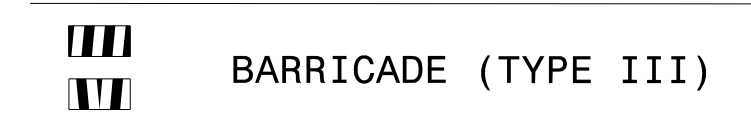
<u>STD. NO.</u>	<u>TITLE</u>
1101.03	TEMPORARY ROAD CLOSURES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES

LEGEND

GENERAL



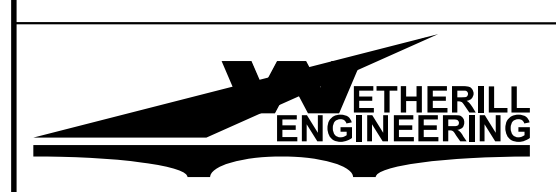
TRAFFIC CONTROL DEVICES



TEMPORARY SIGNING



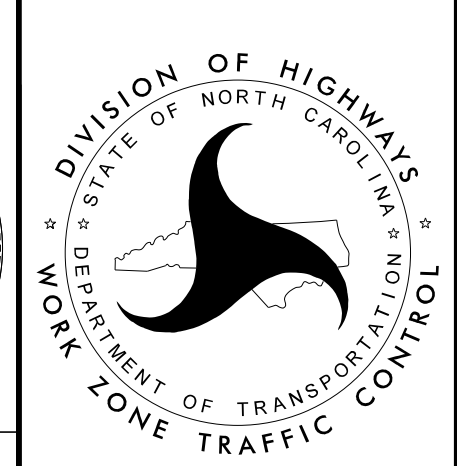
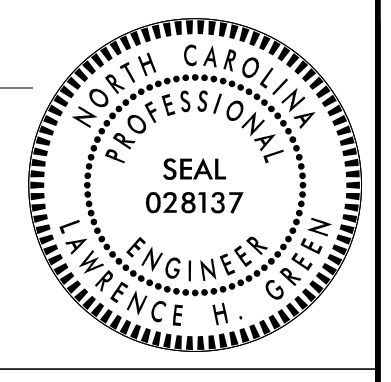
I:\19\2024
\\wet-fs01\projects\2022\22128.01\Randolph 305 Div 8\Traffic\Traffic Design\Pre-Let\Plan\WZTC\BP8.R027_TMP_01A_ Legend.dgn
User: AHayes



1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

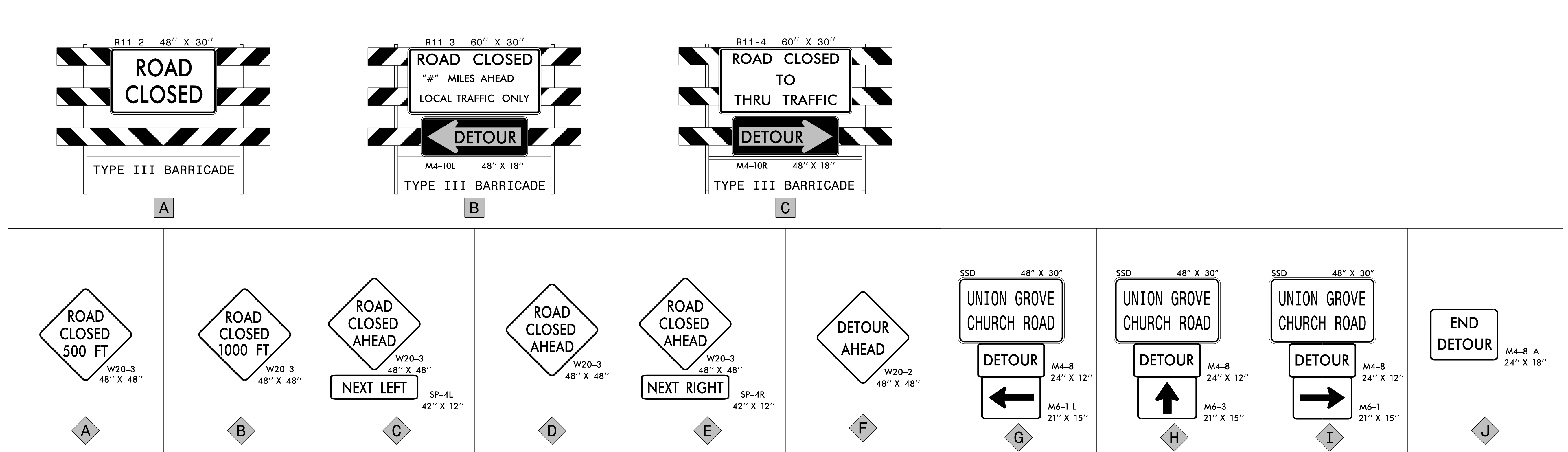
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: 
DATE: 4/30/2025



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

**LIST OF APPLICABLE
ROADWAY STANDARD
DRAWINGS, AND LEGEND**



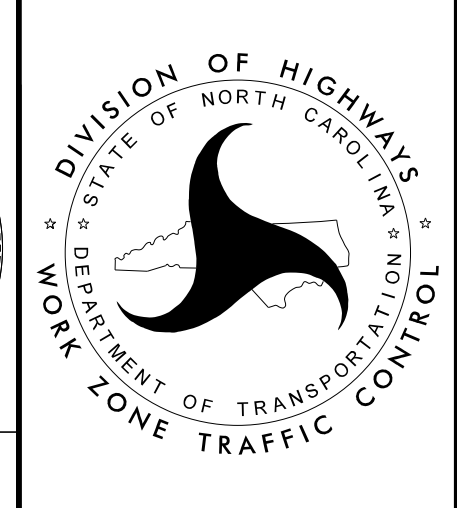
I:\19\2024\11\19\2024\Projects\2022\22128.01\Randolph 305 Div 8\Traffic\Traffic Design\Pre-Let\Plan\WZTC\BP8.R027_TMP_01B_SDL.dgn User:AHayes

X BARRICADES
-WITH MOUNTED SIGNING

X SIGNING
-STATIONARY MOUNTED

ETHERILL ENGINEERING
 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 License No. F-0377
 Bus: 919 851 8077
 Fax: 919 851 8107

APPROVED: *Lawrence H. Green*
 DATE: 4/30/2025
 SEAL 028137
 NORTH CAROLINA PROFESSIONAL ENGINEER
 LAWRENCE H. GREEN



SIGN AND DEVICE LEGEND

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GENERAL NOTES

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

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

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

AND

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

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

AND

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

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

TRAFFIC CONTROL DEVICES

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

MANAGEMENT STRATEGIES

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

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:
ONE-LANE, TWO WAY OPERATION (FLAGGING)
OFF-SITE DETOURS

LOCAL NOTES

- 1) IN ORDER TO HAVE TIME TO ADEQUATELY REROUTE SCHOOL BUSESSES, RANDOLPH COUNTY SCHOOLS WILL BE CONTACTED AT (336) 633-5000 AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.
- 2) RANDOLPH COUNTY EMERGENCY MANAGEMENT WILL BE CONTACTED AT (336) 318-6922 LEAST ONE MONTH PRIOR TO ROAD CLOSURE TO MAKE THE NECESSARY TEMPORARY REASSIGNMENTS TO PRIMARY RESPONSE UNITS.

PHASING

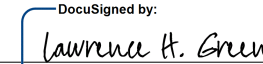
- STEP 1) INSTALL ALL OFFSITE DETOUR SIGNING AND ROAD CLOSURE SIGNING. COVER SIGNS USING AN APPROVED METHOD PER THE DISCRETION OF THE ENGINEER. INSTALL SIGN ASSEMBLY "H" EVERY 0.90 MILES ON NC 705 AND SR 2862 (RALPH LAWRENCE RD), STARTING FROM THE BEGINNING OF EACH DIRECTION OF EACH LEG OF THE OFF-SITE DETOUR. [SEE SHEETS TMP-01B & 04]
- STEP 2) WHEN READY TO CLOSE THE ROADWAY, UNCOVER THE DETOUR AND ROAD CLOSURE SIGNING, CLOSE -L- (SR 2863), AND DETOUR TRAFFIC. [SEE SHEETS TMP-01B & 04]
- STEP 3) AWAY FROM TRAFFIC, REMOVE EXISTING BRIDGE, AND CONSTRUCT PROPOSED -L- STRUCTURE AND APPROACHES FROM THE BEGIN PROJECT LIMITS TO THE END PROJECT LIMITS UP TO AND INCLUDING THE FINAL LIFT OF SURFACE COURSE, AND FINAL PAVEMENT MARKINGS. [SEE ROADWAY PLANS AND FINAL PAVEMENT MARKING PLAN]
- STEP 4) OPEN -L- TO THE FINAL TRAFFIC PATTERN, AND REMOVE ALL ROAD CLOSURE SIGNING, OFFSITE DETOUR SIGNING, TEMPORARY TRANSPORTATION MANAGEMENT DEVICES. [SEE SHEET TMP-04 FOR SIGN LOCATIONS]

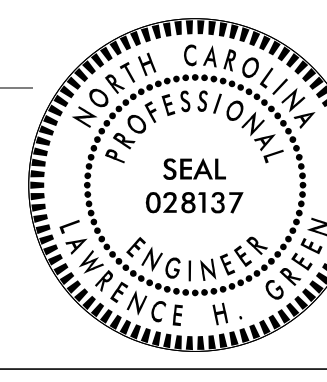
I:\19\2024\11\19\2024\projects\2022\22128.01\Randolph 305 Div 8\Traffic\Traffic Design\Pre-Let\Plan\WZTC\BP8.R027_TMP_02_GN&P.dgn User:AHayes



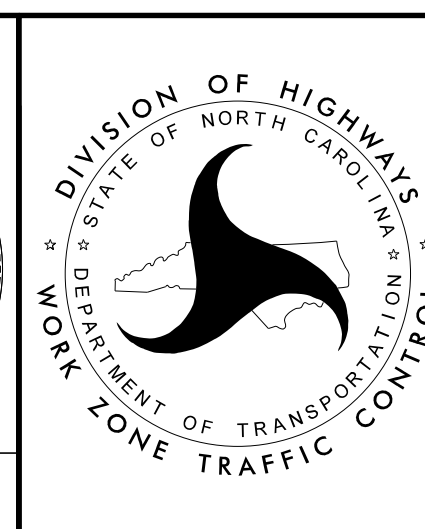
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

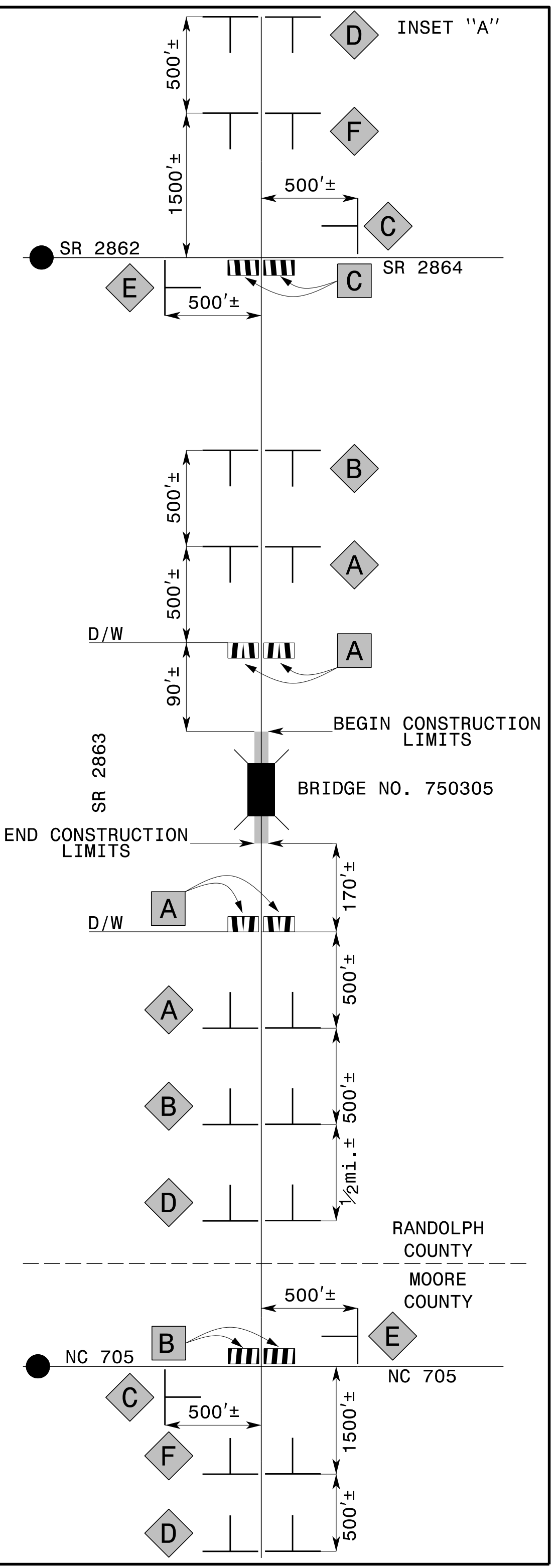
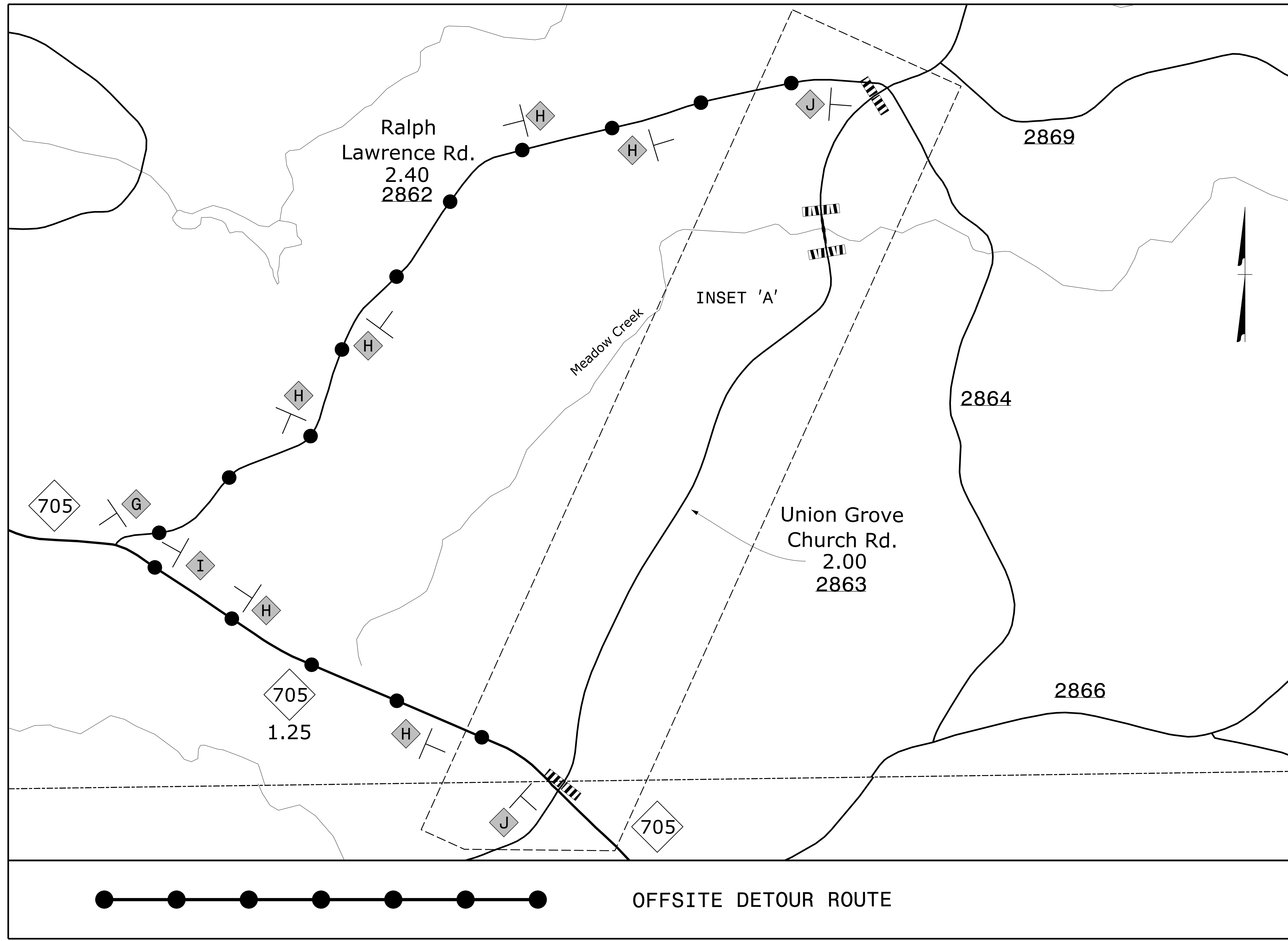
APPROVED: 
DATE: 4/30/2025



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



TRANSPORTATION OPERATIONS
PLAN: (MANAGEMENT
STRATEGIES AND GENERAL
NOTES) AND PHASING



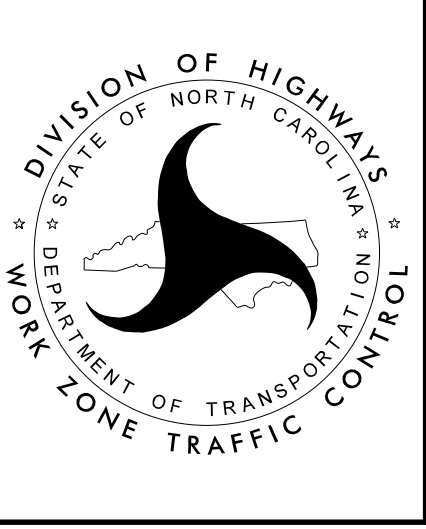
I:\19\2024
 \wei-fs01\projects\2022\22128.01\Randolph 305 Div 8\Traffic\Traffic Design\Pre-Let\Plan\WZTC\BP8.R027_TMP_04_05D.dgn
 User: AHayes

- NOTES:**
- 1) REFER TO SHEET TMP-01B FOR SIGN AND DEVICE LEGEND.
 - 2) FOR INSET "A", REFER TO ROADWAY STANDARD DRAWINGS 1101.03, SHEETS 1 & 2 OF 9 FOR APPLICABLE NOTES.

1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 License No. F-0377
 Bus: 919 851 8077
 Fax: 919 851 8107

APPROVED: *Lawrence H. Green*
 DATE: 4/30/2025

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



OFFSITE DETOUR

4/30/2025 \\wetherill\p01\projects\2022\22028\0\Randolph 305 Div 8\Traffic\Traffic Design\Pre-Let\Plan\Pavement Markings\BP8.R027_PMP_01 Title.dgn User:AHayes

CONTRACT: N/A T.I.P.: BP8-R027

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
RANDOLPH COUNTY**

<small>TIP NO.</small> BP8-R027	<small>SHEET NO.</small> PMP-01
<small>APPROVED:</small> LAWRENCE H. GREEN	
<small>DATE:</small> 4/30/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

INDEX

<small>SHEET NO.</small>	<small>DESCRIPTION</small>
PMP-01	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-02	PAVEMENT MARKING DETAIL

ROADWAY STANDARD DRAWING

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

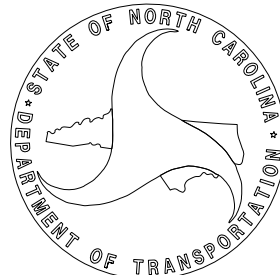
<small>STD. NO.</small>	<small>TITLE</small>
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS -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

FINAL PAVEMENT MARKING SCHEDULE

<small>SYMBOL</small>	<small>DESCRIPTION</small>	<small>PAY ITEM</small>
T1	WHITE SOLID EDGE LINE	THERMOPLASTIC (4", 90 MIL)
T13	YELLOW DOUBLE CENTER	THERMOPLASTIC (4", 90 MIL)

PLAN SUBMITTED TO:

Ayman I. Alqudwah, P.E., Signing and Delineation Regional Engineer



GENERAL NOTES

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

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

<small>ROAD NAME</small>	<small>MARKING</small>	<small>MARKER</small>
SR 1928	THERMOPLASTIC	NONE
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
- E) ALL STATIONS ARE CONSIDERED +/- UNLESS OTHERWISE SHOWN ON THE PLANS.

PLAN PREPARED BY: Wetherill Engineering, Inc.

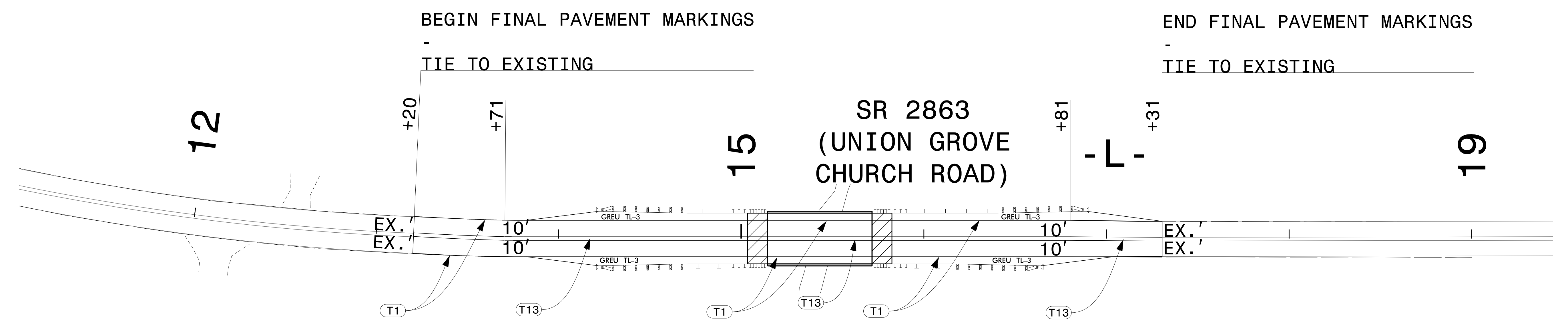
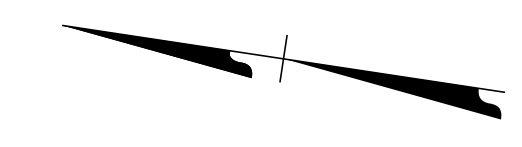
LARRY GREEN, P.E. PROJECT MANAGER
D. ALLEN HAYES, E.I. TRAFFIC DESIGN ENGINEER



TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 License No. F-0377
 Bus: 919 851 8077
 Fax: 919 851 8107

TIP NO. BP8 - R027	SHEET NO. PMP - 02
APPROVED: <i>Lawrence H. Green</i>	
DATE: 4/30/2025	
SEAL	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



NOTE: PROPOSED STRUCTURE IS A CORED SLAB BRIDGE WITH AN ASPHALT DECK WEARING SURFACE.

I:\9\2024\Projects\2022\22028\01\Randolph 305 Div 8\Traffic\Traffic Design\Pre-Let\Plan\Pavement Markings\BP8.R027.PMP_02.DTL.dgn
User: AHAYES

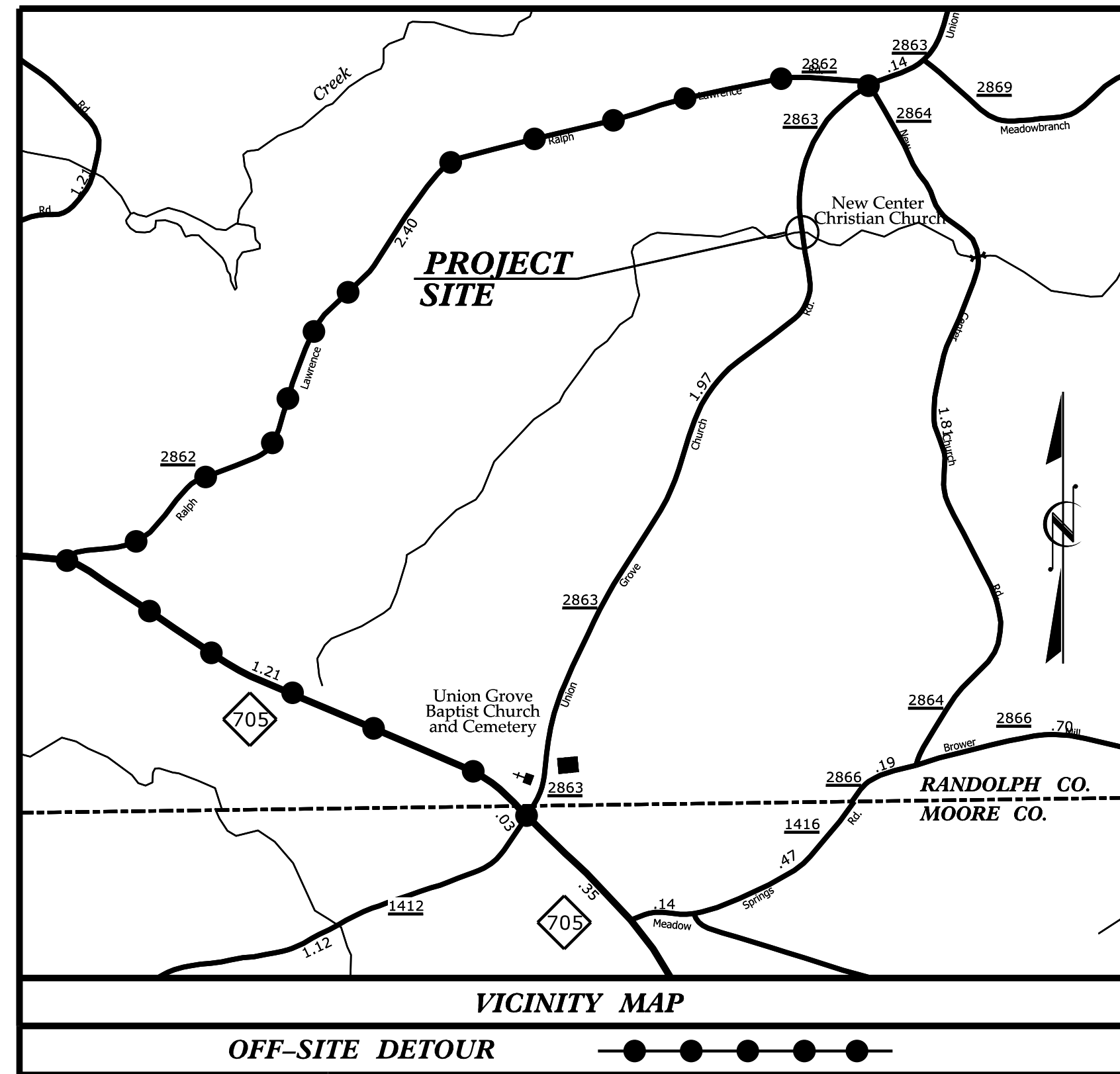
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PAVEMENT MARKING DETAIL

PROJECT: BP8.R027

See Sheet 1A For Index of Sheets
 See Sheet 1B For Conventional Symbols
 See Sheet RW01 TO RW04 For Survey Control Sheets



STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

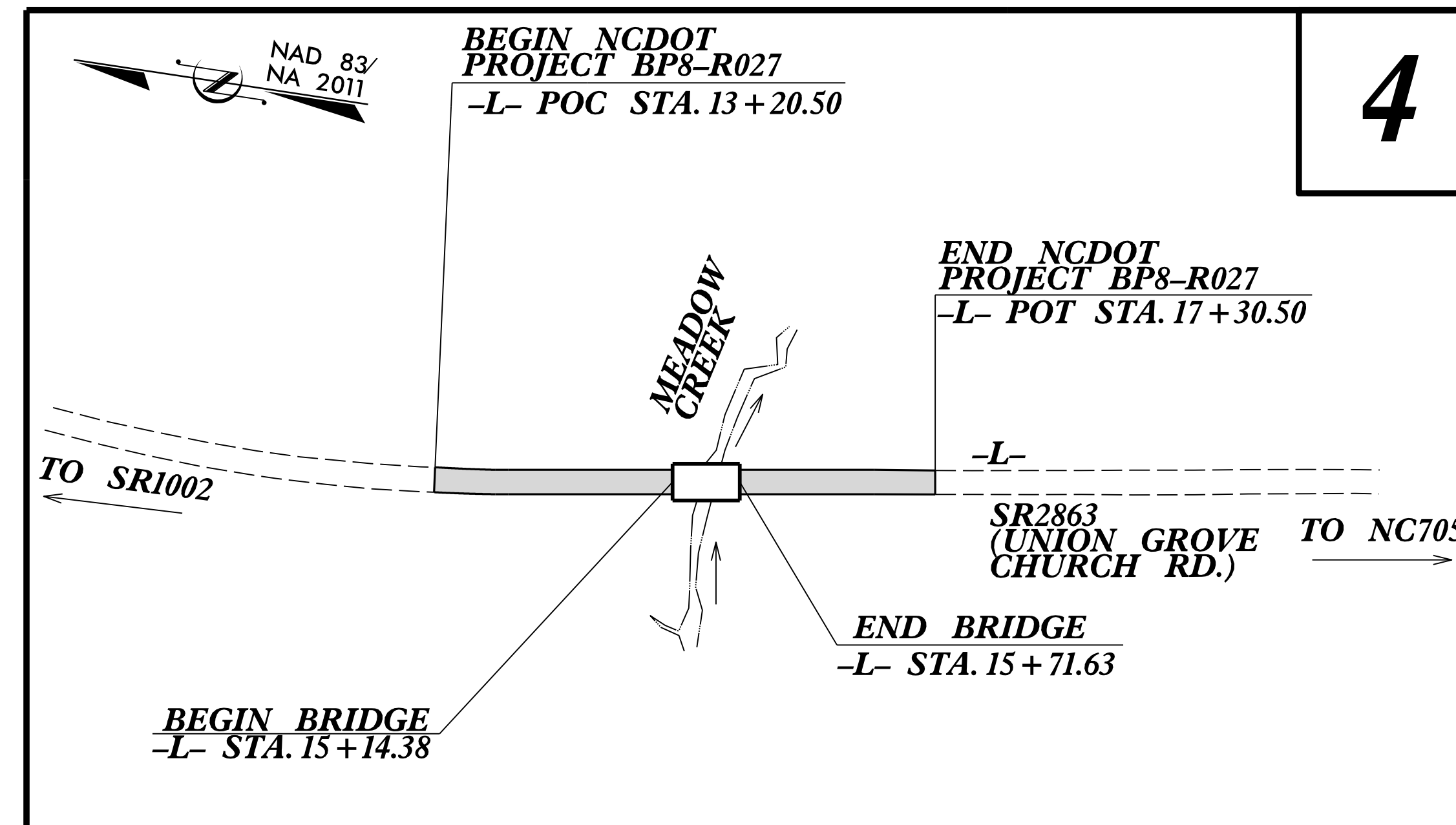
PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL

RANDOLPH COUNTY

**LOCATION: BRIDGE NO. 750305 OVER MEADOW CREEK
 ON SR 2863 (UNION GROVE CHURCH ROAD)**

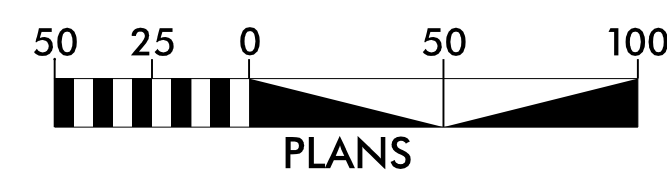
TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP8.R027	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	



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

GRAPHIC SCALE



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



1223 JONES FRANKLIN ROAD
 RALEIGH, N.C. 27606
 License No. F-20377
 Bus: 919 851 8077
 Fax: 919 851 8107

Prepared in the Office of:
WETHERILL ENGINEERING, INC.
 1223 JONES FRANKLIN ROAD
 RALEIGH, NC 27606

Designed by:
KATIE ESTEP **4485**
 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

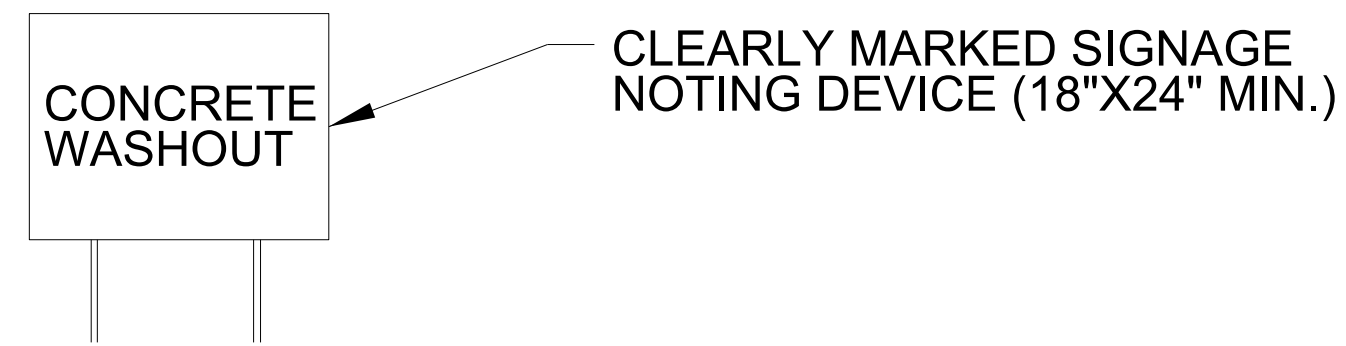
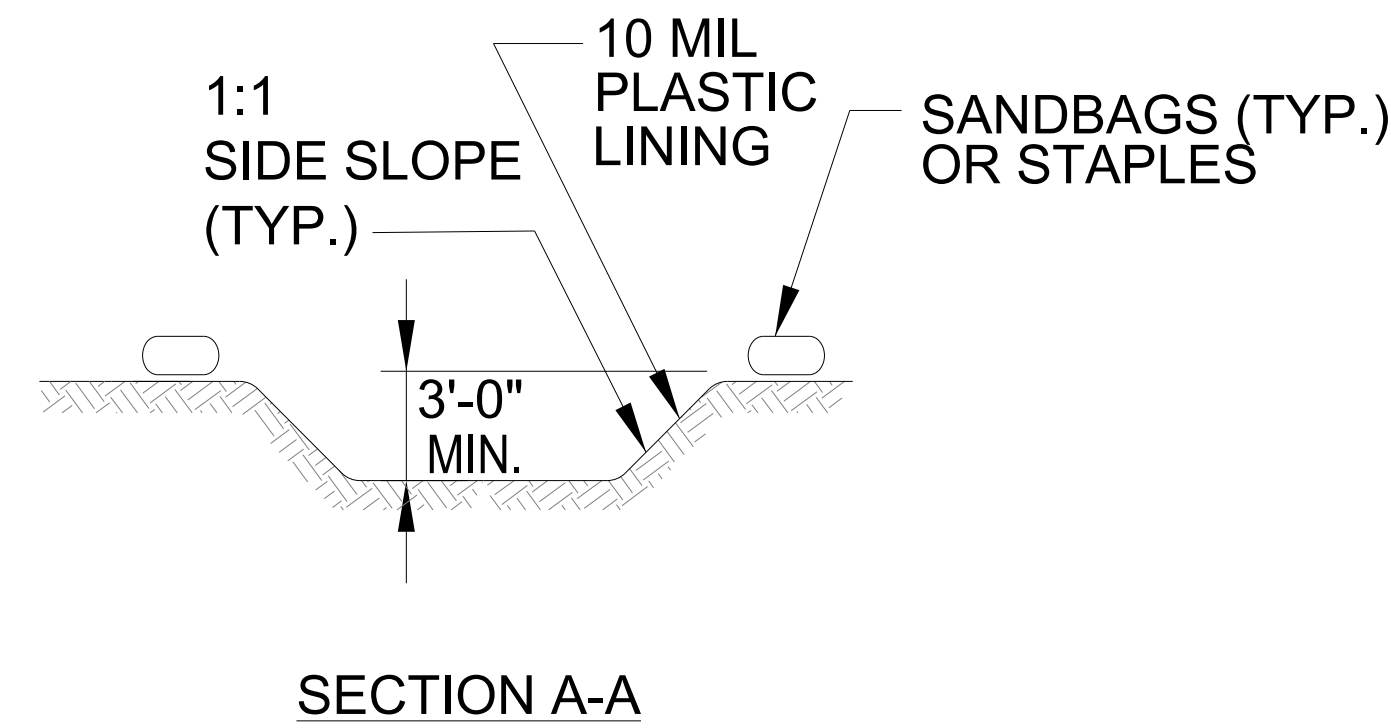
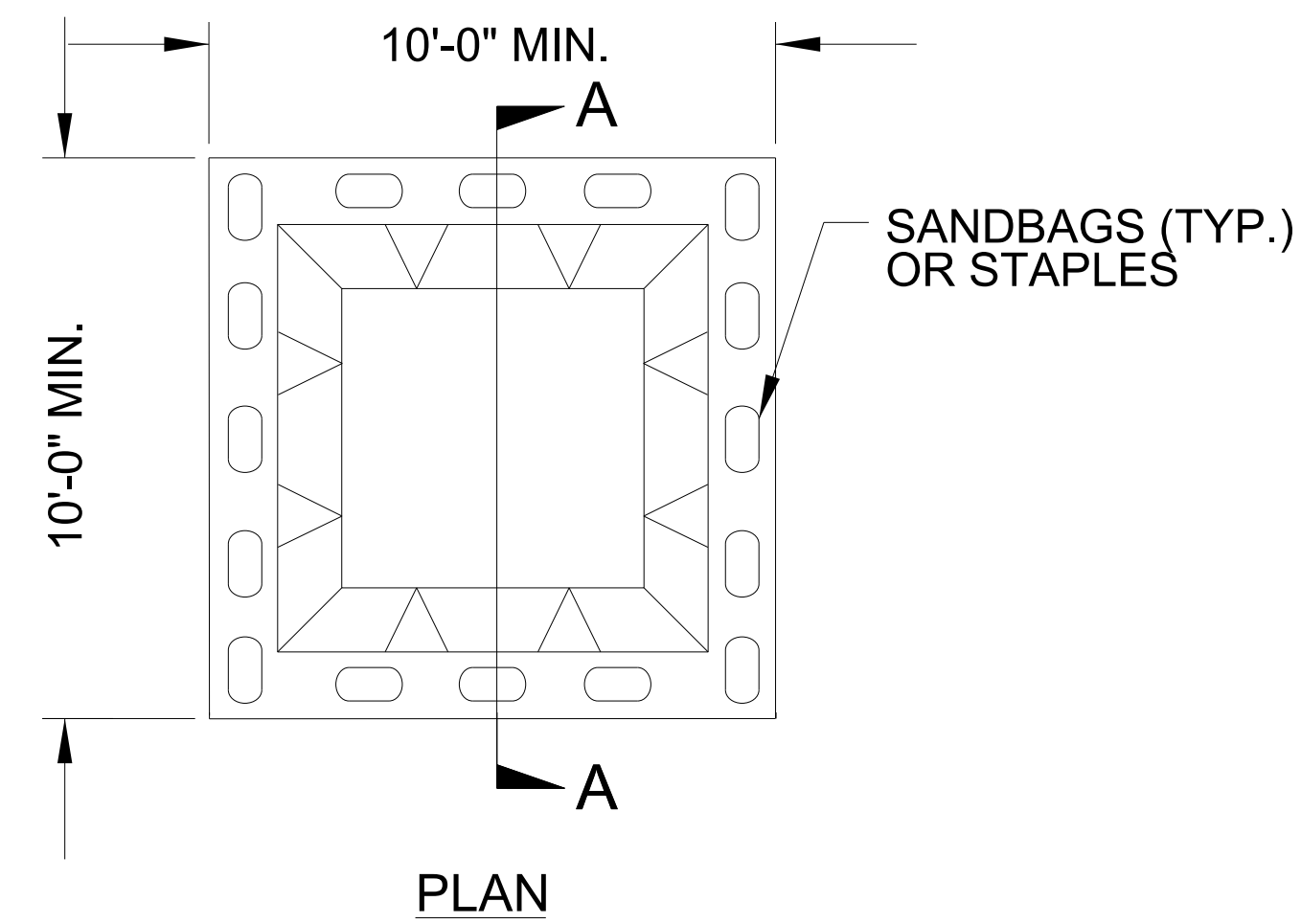
PROJECT REFERENCE NO. BP8.R027	SHEET NO. EC-2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION & SEDIMENT CONTROL LEGEND

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

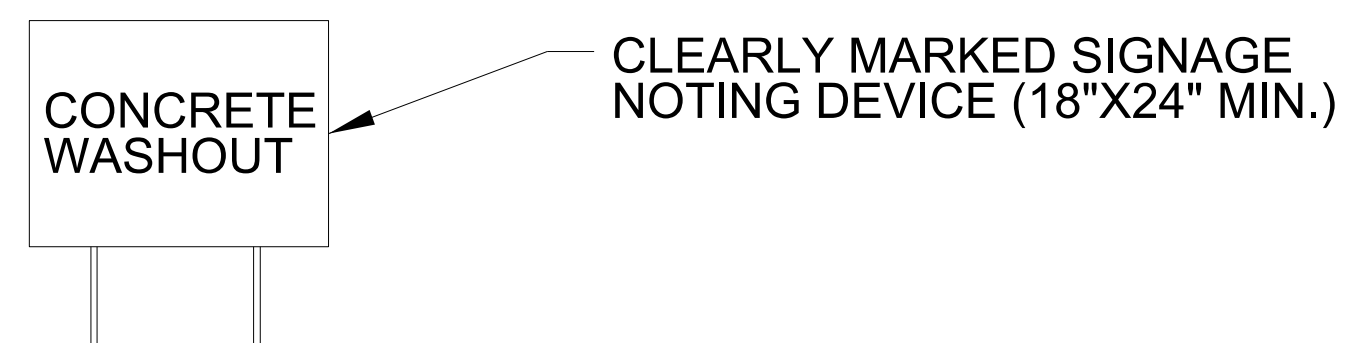
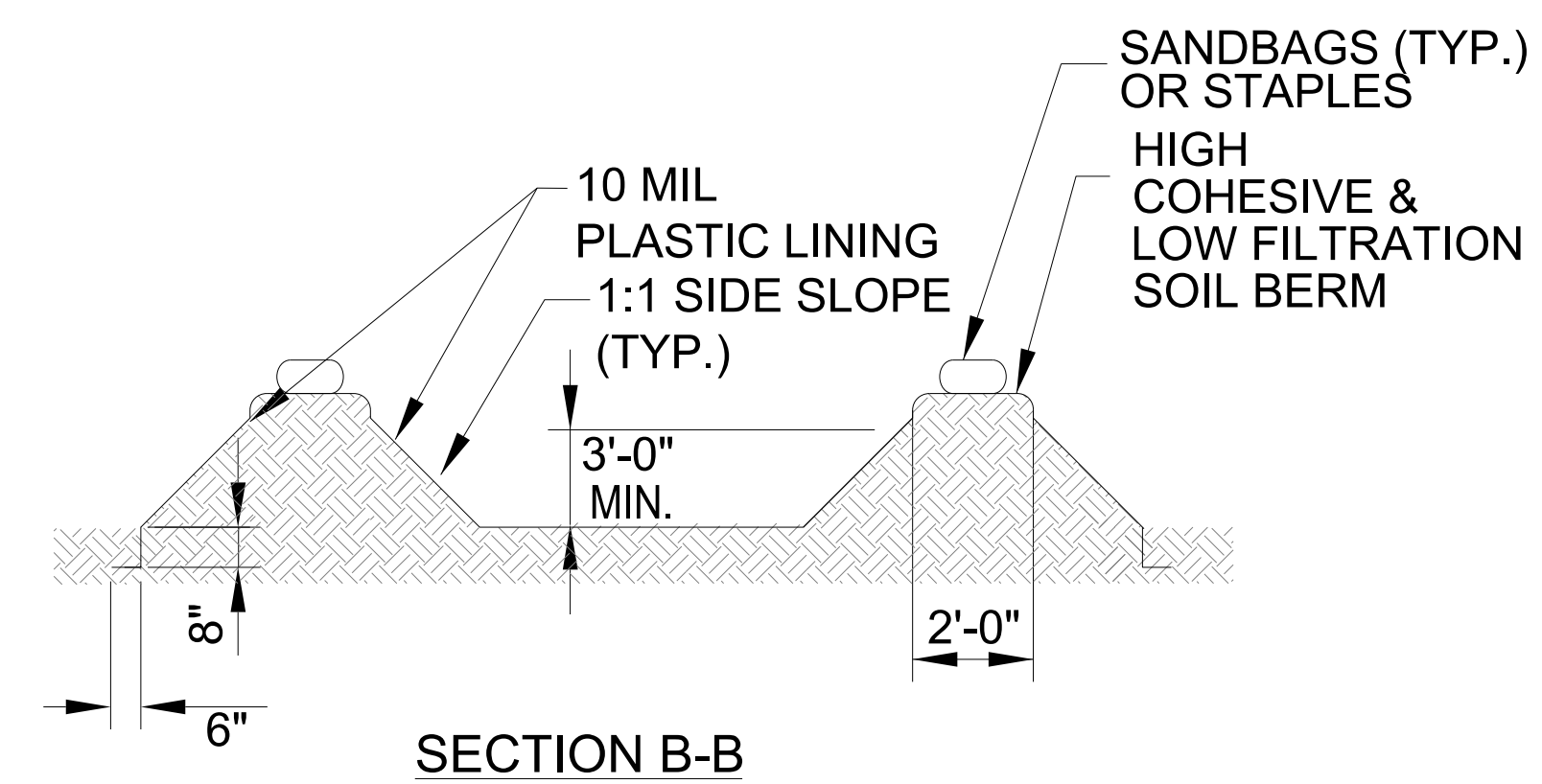
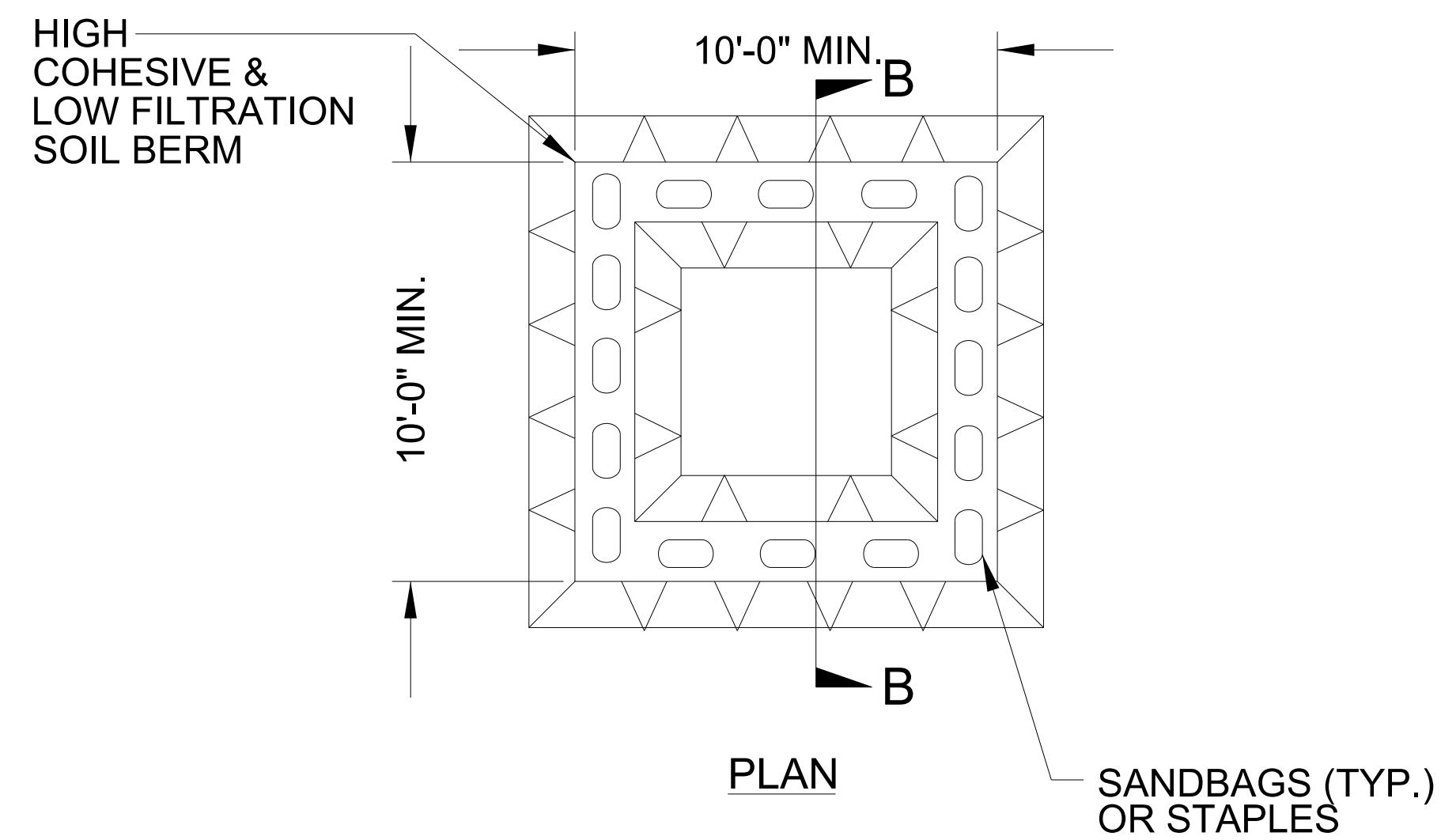
PROJECT REFERENCE NO. <i>BP8,R027</i>	SHEET NO. <i>EC-2A</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

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



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

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

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>BP8,R027</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

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

8/17/99

BEGIN NCDOT PROJECT BP8-R027 -L- POC STA. 13+20.50

END BRIDGE
STA. 15+71.63

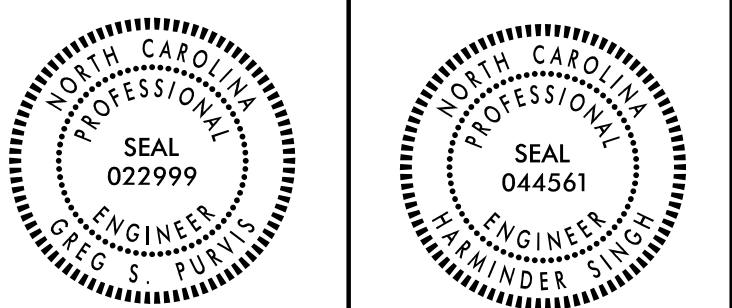
SHALEA H. CHRISCOE
DB 2408 PG 1107
PB 137 PG 58

BRIDGE NO. 750305

PROJECT REFERENCE NO. SHEET NO.
BP8-R027 EC-5/CONST. 4

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

R/W SHEET NO. ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

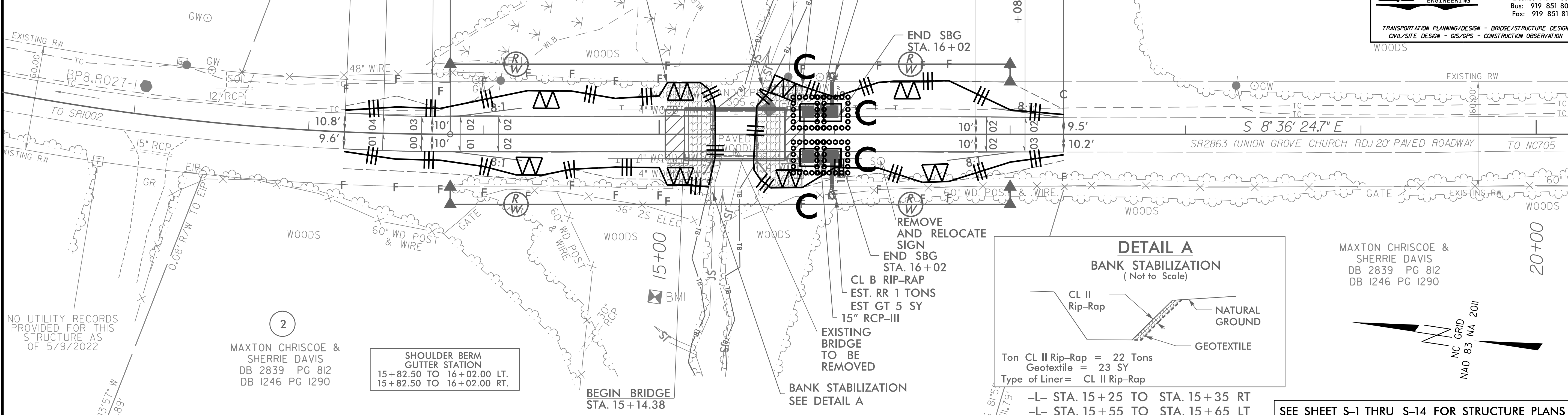


1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

END NCDOT PROJECT BP8-R027 -L- POT STA. 17+30.50

TOMMY R. PIERCE
DB 2314 PG 1581

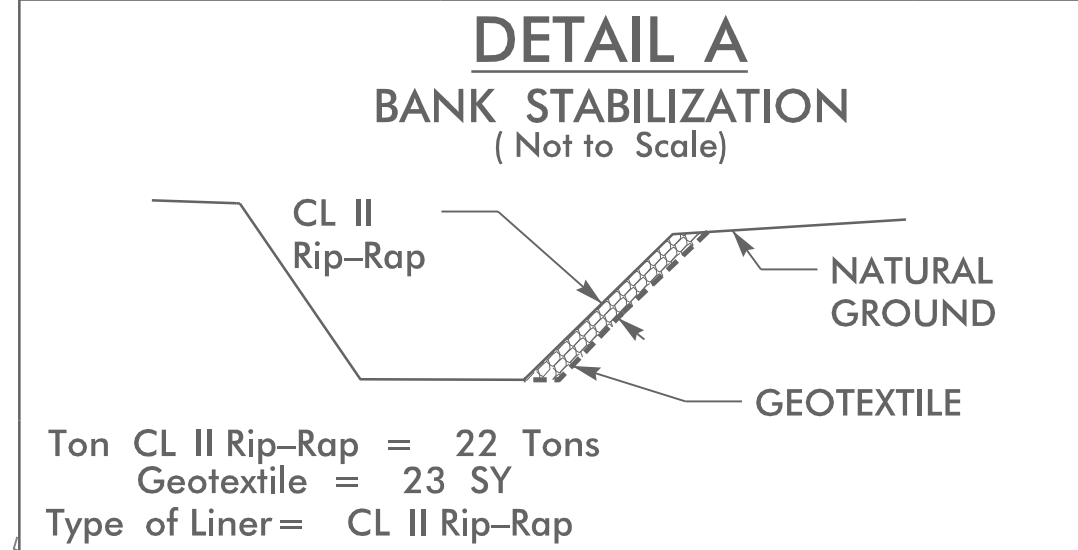


REVISIONS

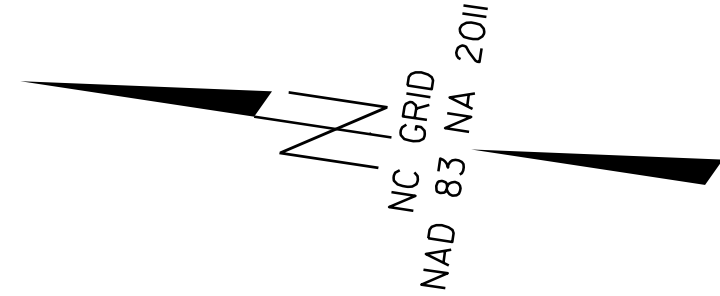
NO UTILITY RECORDS
PROVIDED FOR THIS
STRUCTURE AS
OF 5/9/2022

MAXTON CHRISCOE &
SHERRIE DAVIS
DB 2839 PG 812
DB 1246 PG 1290

SHOULDER BERM
GUTTER STATION
15+82.50 TO 16+02.00 LT.
15+82.50 TO 16+02.00 RT.

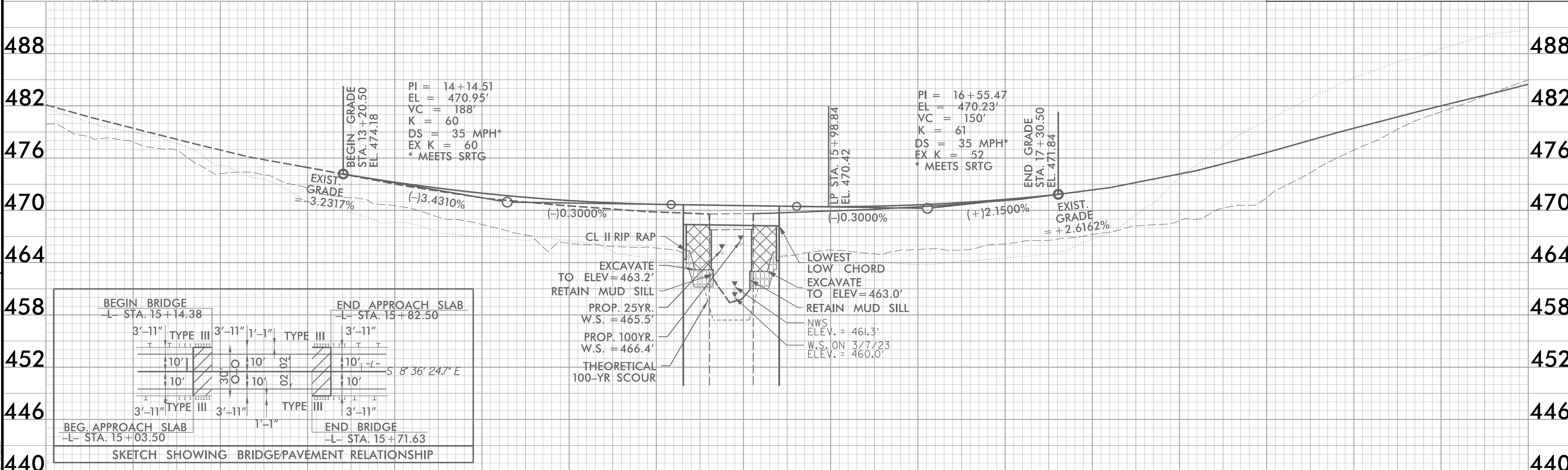


MAXTON CHRISCOE &
SHERRIE DAVIS
DB 2839 PG 812
DB 1246 PG 1290



-L- STA. 15+25 TO STA. 15+35 RT
-L- STA. 15+55 TO STA. 15+65 LT

SEE SHEET S-1 THRU S-14 FOR STRUCTURE PLANS



4/7/2025
1:15:57 W
0.89
4/7/2025
1:15:57 W
0.89
4/7/2025
1:15:57 W
0.89

09/08/99

PROJECT: BP8.R027.1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
RANDOLPH COUNTY**

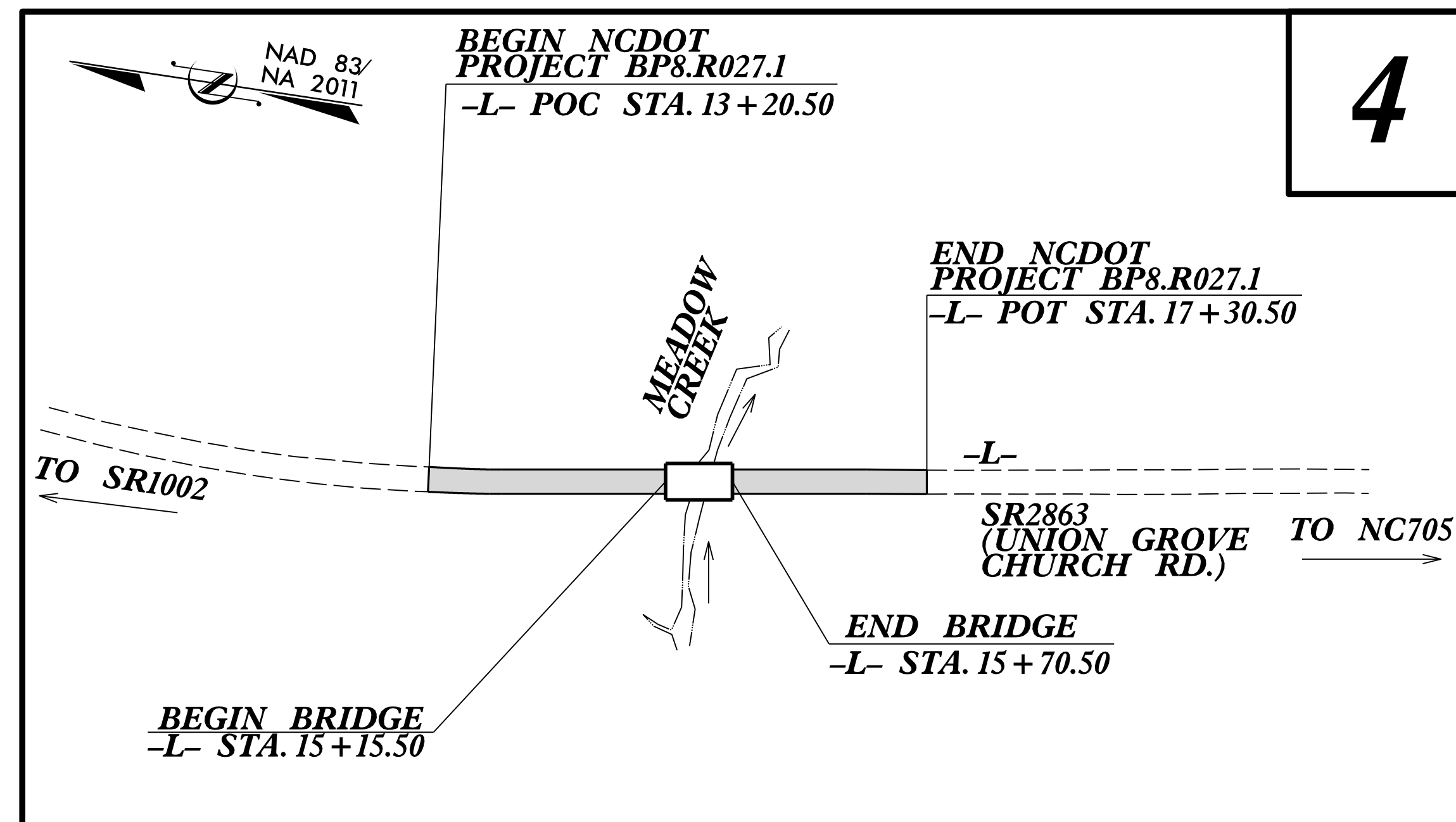
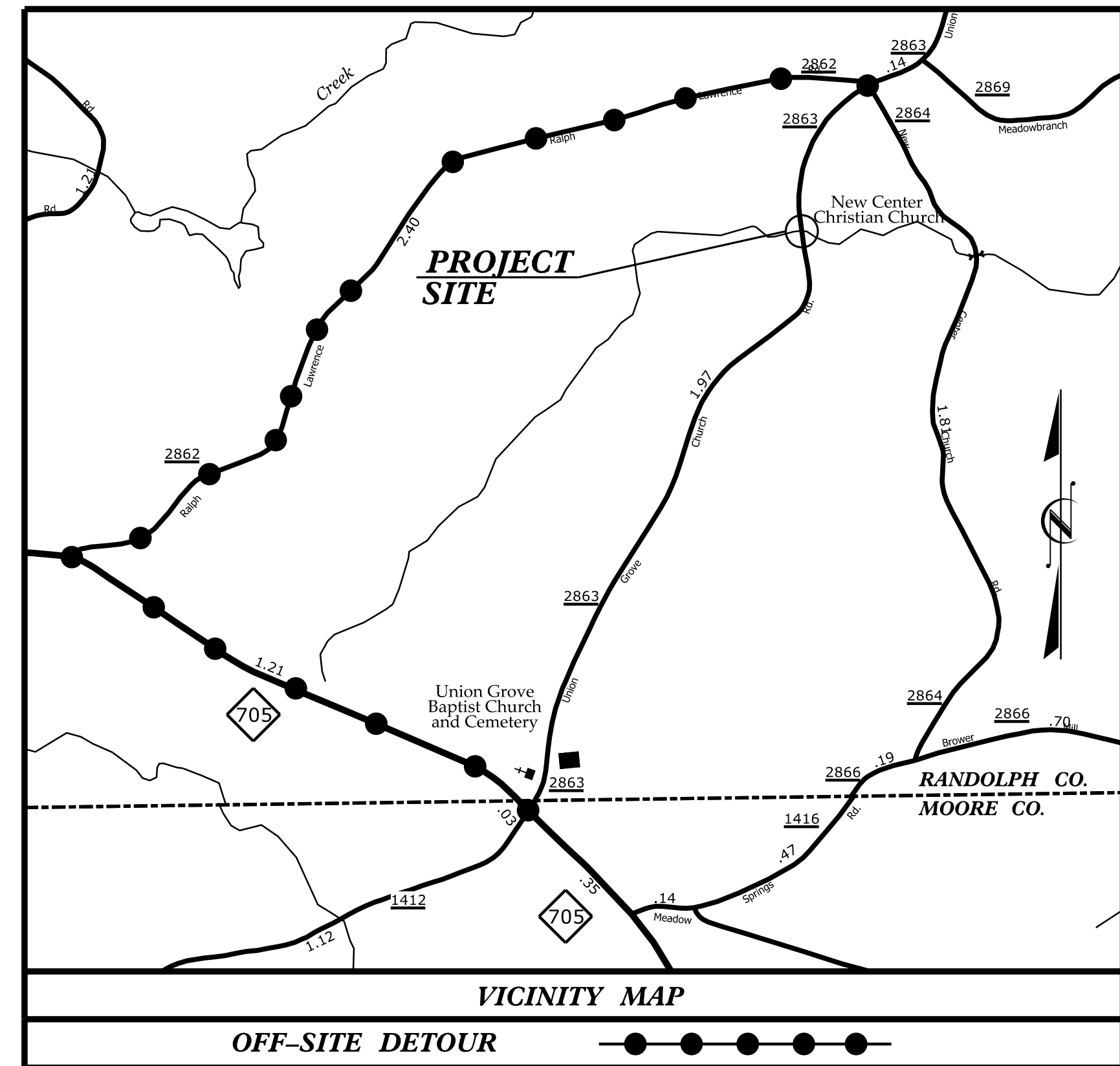
**LOCATION: BRIDGE NO. 750305 OVER MEADOW CREEK
ON SR 2863 (UNION GROVE CHURCH ROAD)**

TYPE OF WORK: UTILITY RELOCATION BY OTHERS

STATE PROJECT REFERENCE NO.	SHEET NO.
BP8.R027.1	UO-1

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

BRIDGE NO. 750305



4

LET DATE: AUGUST 2024

DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED

GRAPHIC SCALES



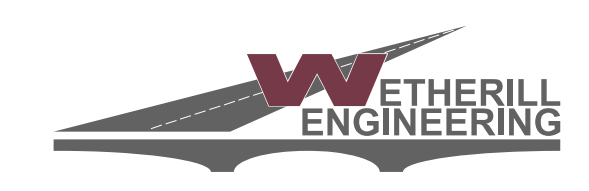
INDEX OF SHEETS

<u>SHEET NO.:</u>	<u>DESCRIPTION:</u>
UO-1	TITLE SHEET
UO-2	SYMBOLOLOGY SHEET
UO-3	SHEET OMITTED
UO-4	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

(A) RANDOLPH TELEPHONE MEMBERSHIP CORP

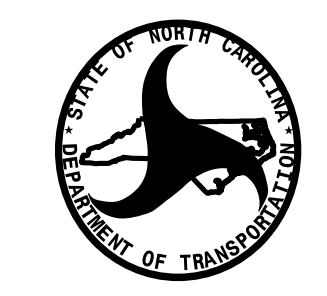
PREPARED IN THE OFFICE OF:



1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - SURVEY/SUE - UTILITIES - CONSTRUCTION OBSERVATION

PANKIL K. PATEL UTILITY PROJECT MANAGER
TREVER REEVES PROJECT UTILITY COORDINATOR



**DIVISION OF HIGHWAYS
DIVISION 8**

121 DOT Drive
Carthage, 28327

TRAVIS L. MORGAN, PE DIVISION UTILITY ENGINEER
TRENT CAVINESS DIVISION UTILITY COORDINATOR

5/9/2024
\\UBO\ProJ\BP8.R027_u\T.L.TSH.dgn
USER: Treves

NOTES:

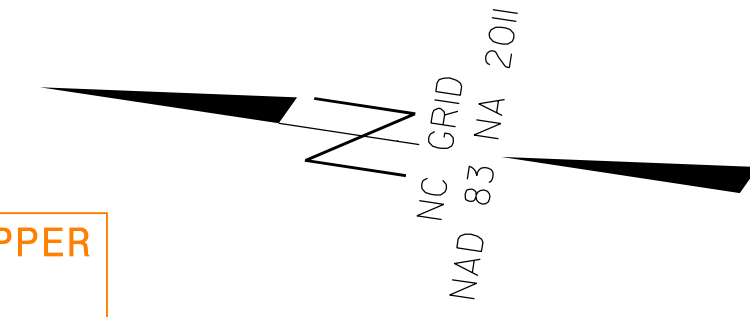
1. EXISTING FIBER CABLE WILL BE RAISED AS HIGH AS POSSIBLE ON THE NEW OVERHEAD ALIGNMENT.
2. TELEPHONE FIBER AND COPPER CABLES ON THE BOTTOM ATTACHMENT WILL BE REMOVED.
3. TEMPORARY COPPER CABLE WILL BE INSTALLED WITH THE FIBER CABLE AT THE TOP OF THE POLES

PROJECT REFERENCE NO.	SHEET NO.
BP8.R027.1	U0-4
THIS SHEET CORRESPONDS TO RDY-4	

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.

WETHERILL ENGINEERING
 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 License No. F-0377
 Bus: 919 851 8077
 Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - SURVEY/SUE - UTILITIES - CONSTRUCTION OBSERVATION



EXISTING TELEPHONE POLE TO REMAIN
 (SEE NOTE 1)
 (RANDOLPH TELEPHONE MEMBERSHIP CORP)

PROPOSED OVERHEAD TELEPHONE FIBER AND TEMPORARY COPPER
 (SEE NOTE 3)
 (RANDOLPH TELEPHONE MEMBERSHIP CORP)

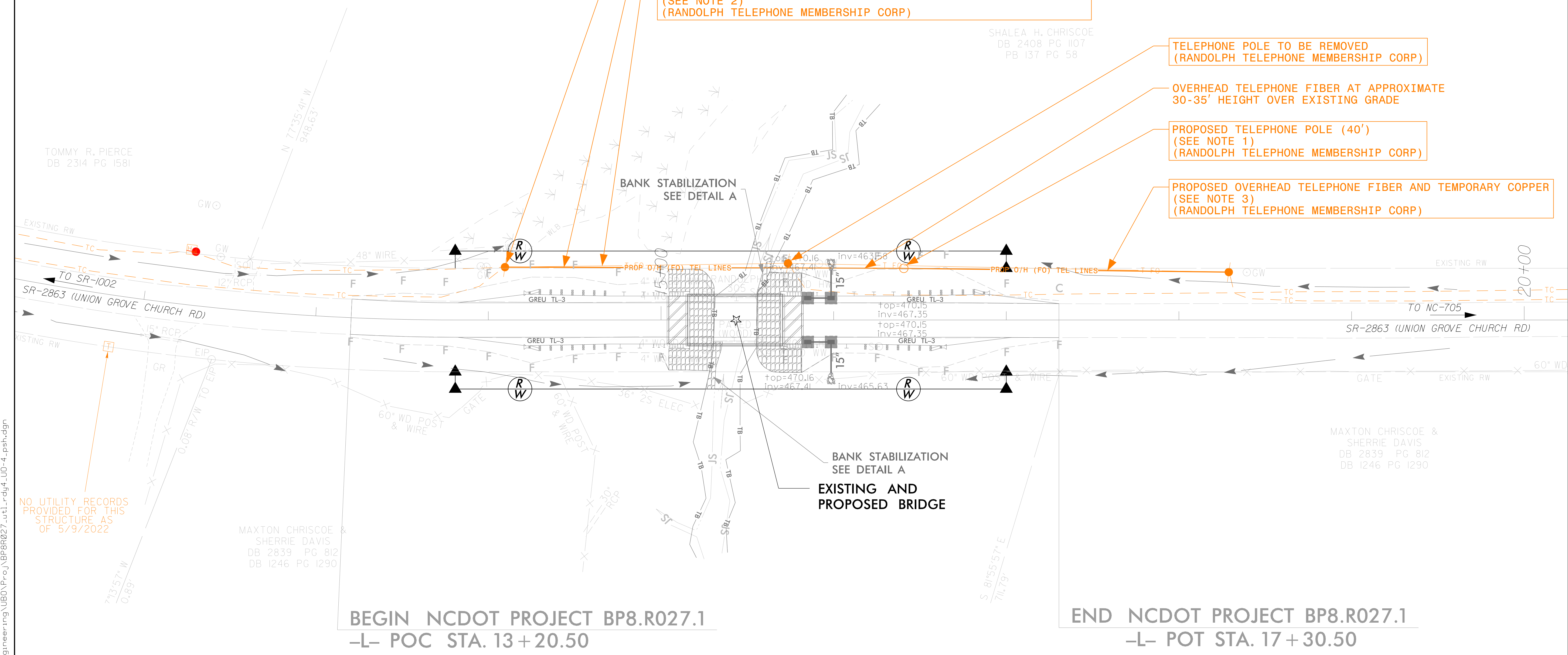
OVERHEAD TELEPHONE COPPER AND TELEPHONE FIBER TO BE ABANDONED
 (SEE NOTE 2)
 (RANDOLPH TELEPHONE MEMBERSHIP CORP)

TELEPHONE POLE TO BE REMOVED
 (RANDOLPH TELEPHONE MEMBERSHIP CORP)

OVERHEAD TELEPHONE FIBER AT APPROXIMATE
 30-35' HEIGHT OVER EXISTING GRADE

PROPOSED TELEPHONE POLE (40')
 (SEE NOTE 1)
 (RANDOLPH TELEPHONE MEMBERSHIP CORP)

PROPOSED OVERHEAD TELEPHONE FIBER AND TEMPORARY COPPER
 (SEE NOTE 3)
 (RANDOLPH TELEPHONE MEMBERSHIP CORP)



8/17/99
 I:\Projects\2022\22128.01_Randolph_305_Div_8\Utilities\Engineering\UB0\Proj\BP8R027_1.dwg
 5/25/2024

SCALE 1" = 30'

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJ. REFERENCE NO.	SHEET NO.
BP8-R027	X-1A

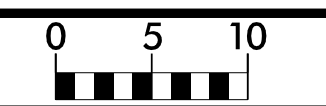
NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

CROSS-SECTION SUMMARY

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing and removal of existing pavement will be paid for at the lump sum price for "Grading".

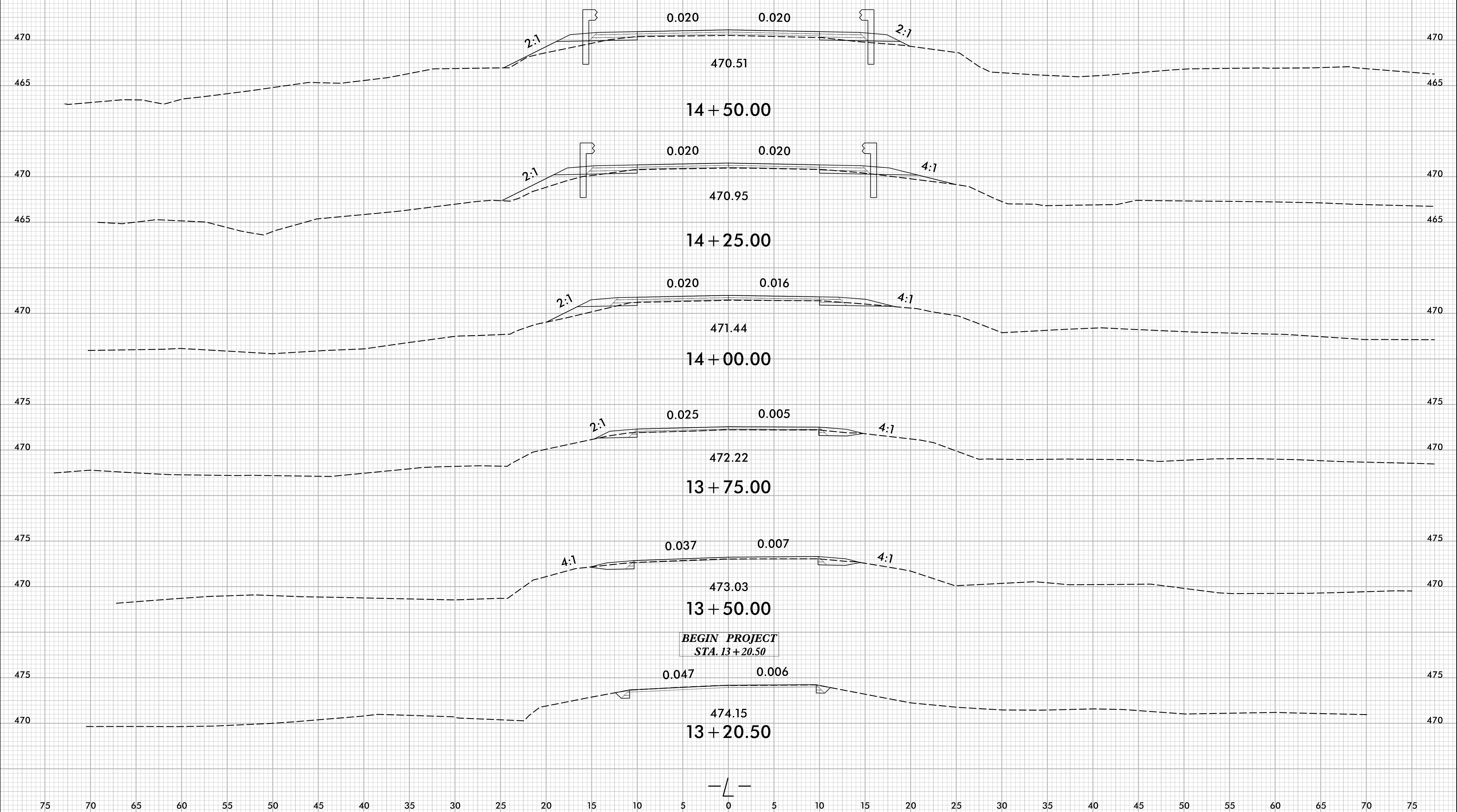
Station	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)	Station	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)	Station	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)	Station	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
L - 13+20.50 to 15+14.38															
13+20.50	0	0	0												
13+50.00	3	0	0												
13+75.00	3	0	0												
14+00.00	3	2	0												
14+25.00	2	6	0												
14+50.00	1	7	0												
14+75.00	3	4	0												
15+00.00	3	4	0												
15+14.38	0	4	0												
L - 15+71.63 to 17+30.50															
15+71.63	0	0	0												
16+00.00	8	6	0												
16+25.00	7	6	0												
16+50.00	3	20	0												
16+65.00	1	20	0												
17+00.00	4	24	0												
17+30.50	3	0	0												

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
BP8-R027	X-2

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

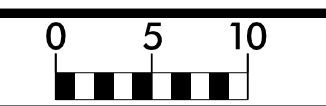


BEGIN PROJECT
STA. 13 + 20.50

1/2/2025
13:54:02
13:54:02
13:54:02

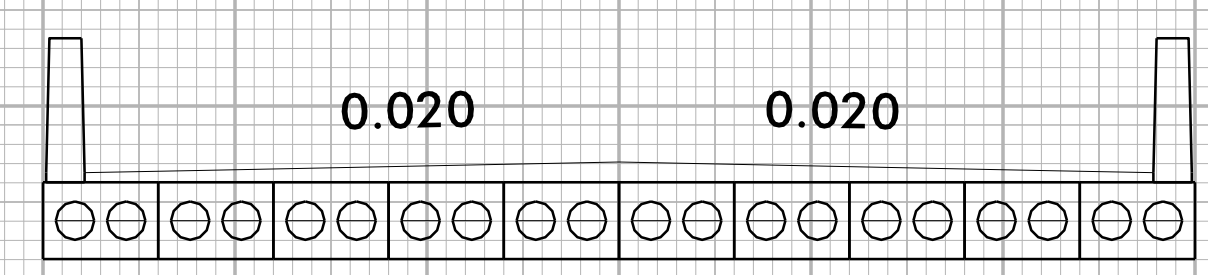
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

8/23/99



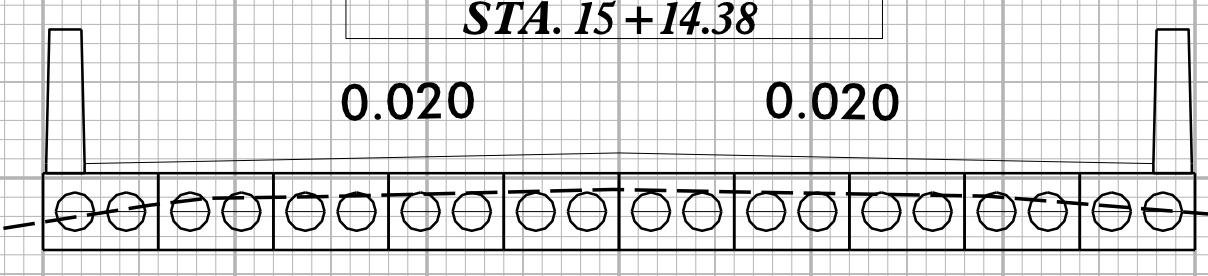
PROJ. REFERENCE NO.	SHEET NO.
BP8-R027	X-3

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



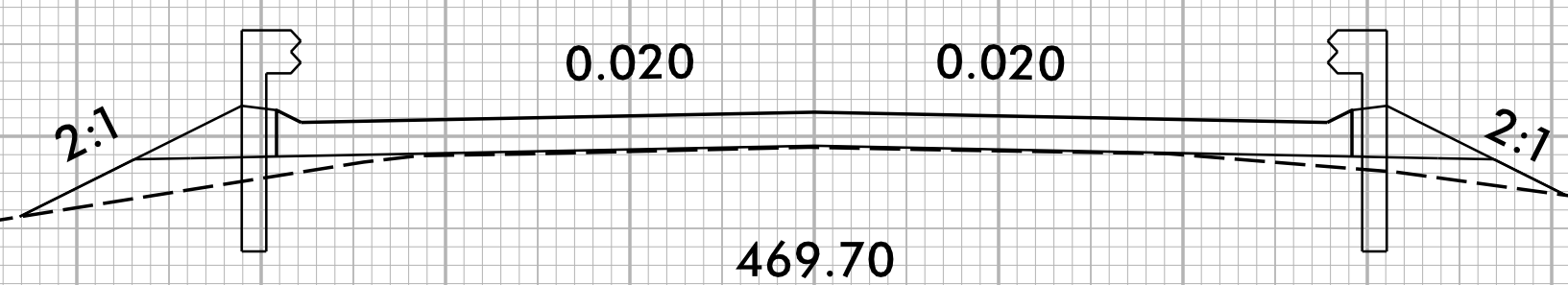
0.020 0.020

BEGIN BRIDGE
STA. 15+14.38



0.020 0.020

15 + 14.38

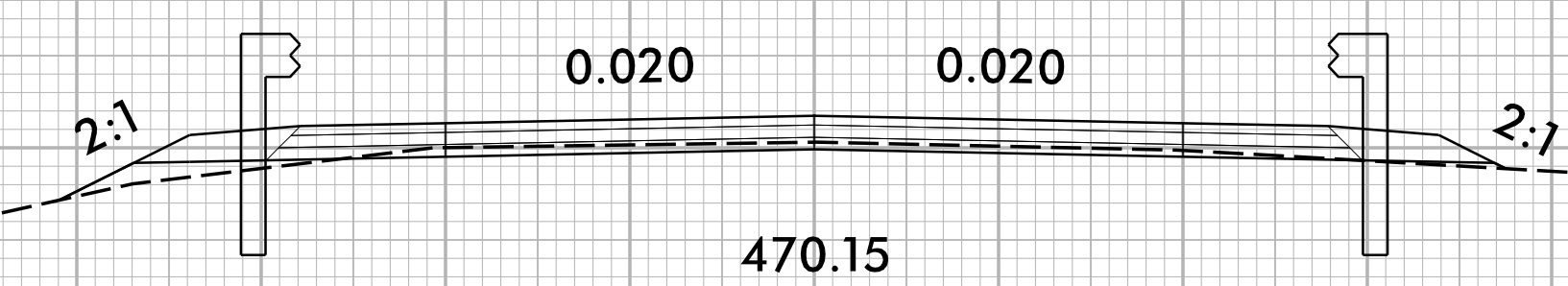


0.020 0.020



0.020 0.020

15 + 00.00



0.020 0.020

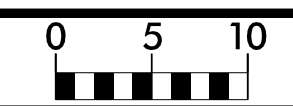
14 + 75.00

— / —

1/2/2025
13:54:02
13:54:02
13:54:02

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

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
BP8-R027	X-5

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

END PROJECT
STA. 17+30.50

0.017 0.040

471.84

17+30.50

0.020 0.026

471.13

17+00.00

0.020 0.020

470.58

16+65.00

— / —

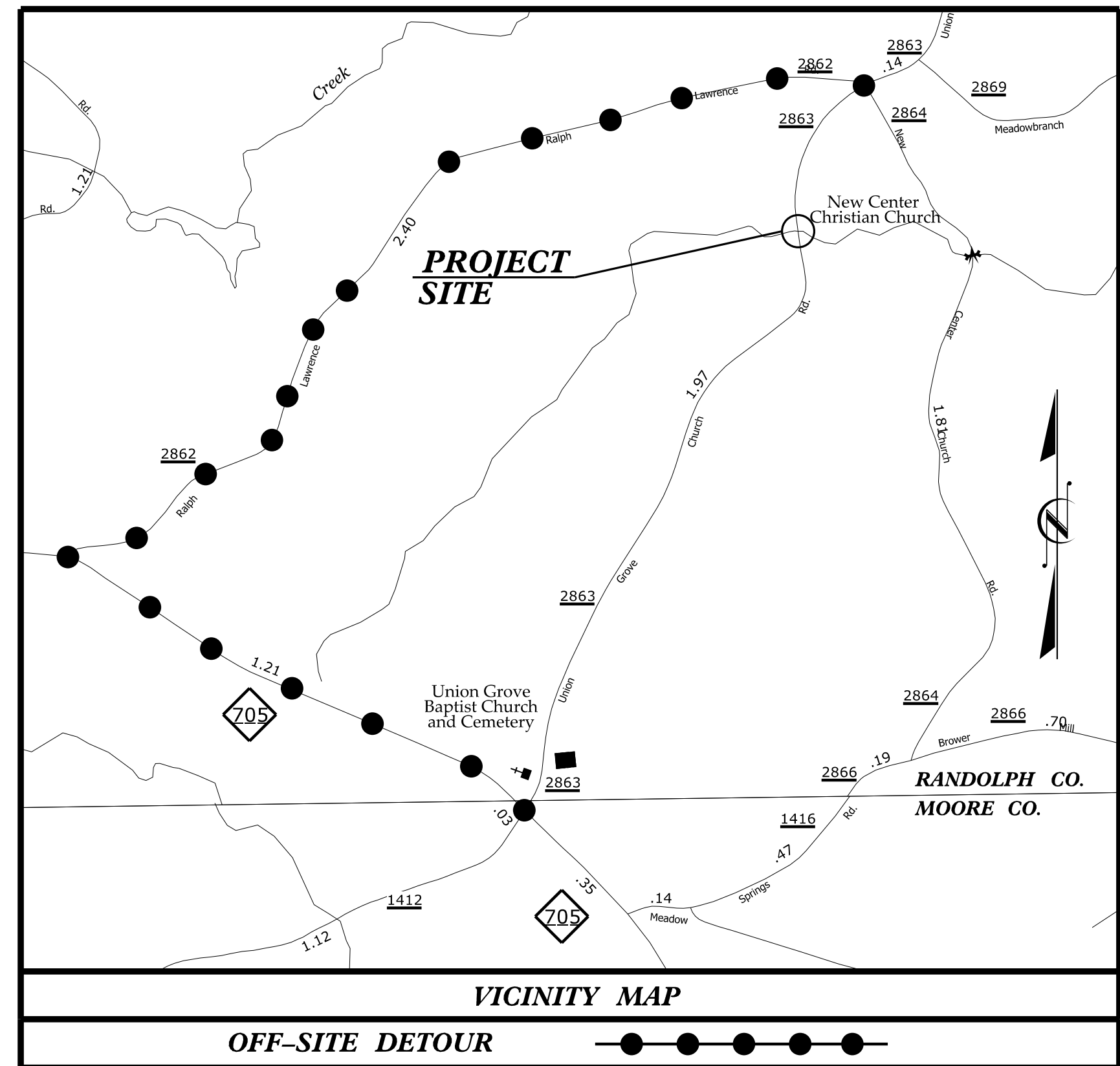
1/2/2025
13:54:00
I:\BP8-R027_rfdy-xpl.dgn
13:54:00

09/08/2025

9/25/2025 3:22:10 PM P:\2022\22128.01\Randolph_305_Div_8\Structures\DCN\BP8-R027-SD_TSH-750305.dgn

PROJECT: BP8-R027

CONTRACT: DH00592



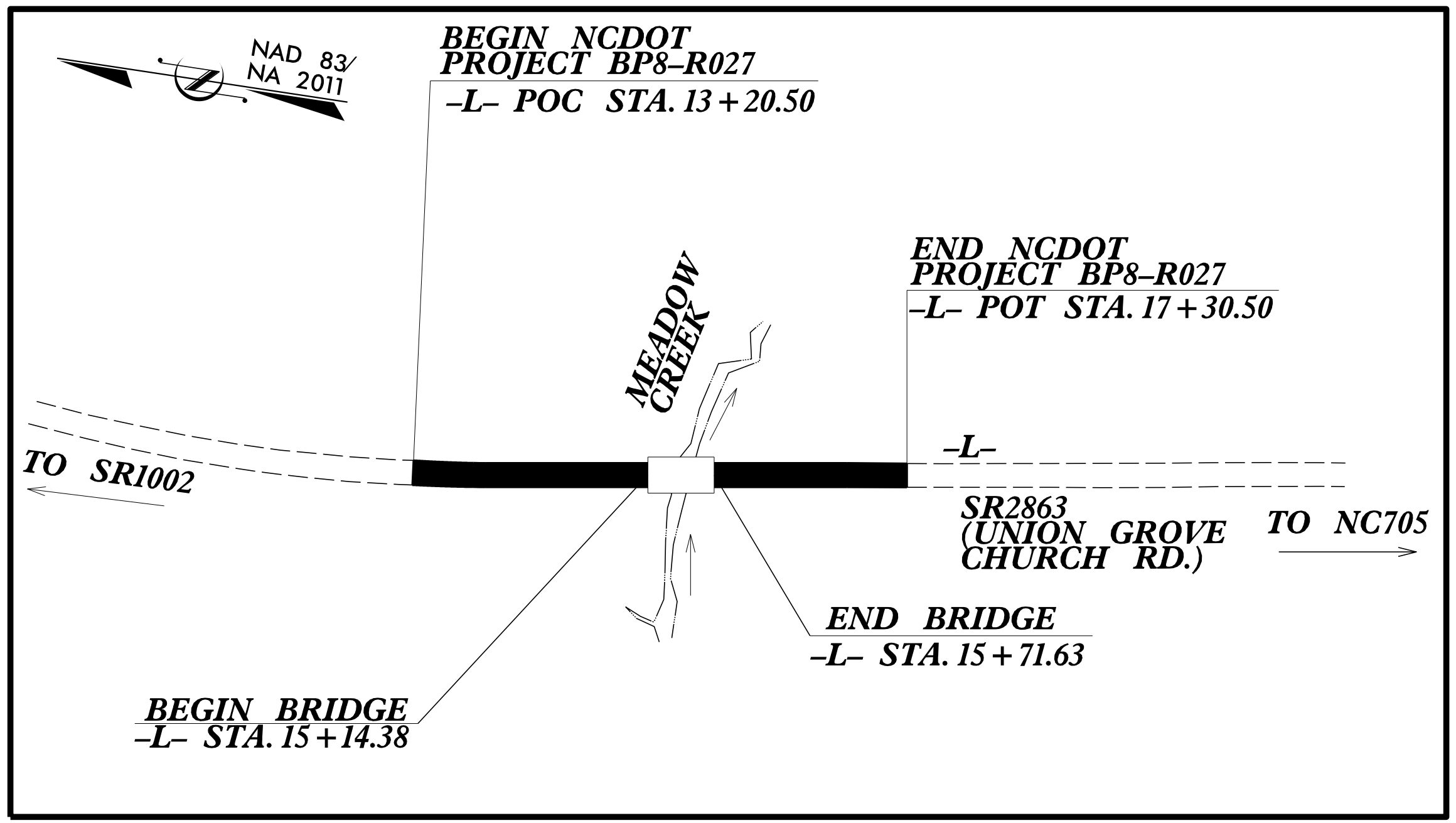
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RANDOLPH COUNTY

**LOCATION: BRIDGE NO. 750305 OVER MEADOW CREEK
ON SR 2863 (UNION GROVE CHURCH ROAD)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

STRUCTURE PLANS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP8-R027		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP8-R027.1		PE	
BP8-R027.2		ROW, UTIL.	
BP8-R027.3		CONST.	

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-03777
Bus: 919 851 8077
Fax: 919 851 8107

WETHERILL ENGINEERING

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

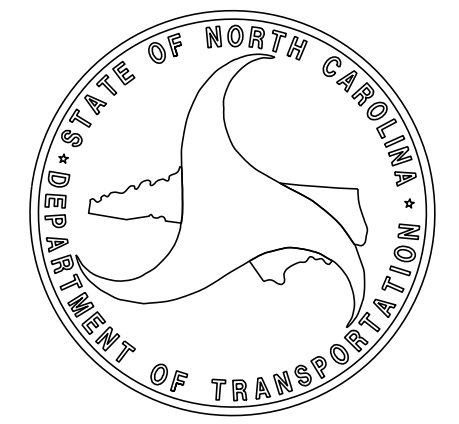
BRIDGE NO. 750305

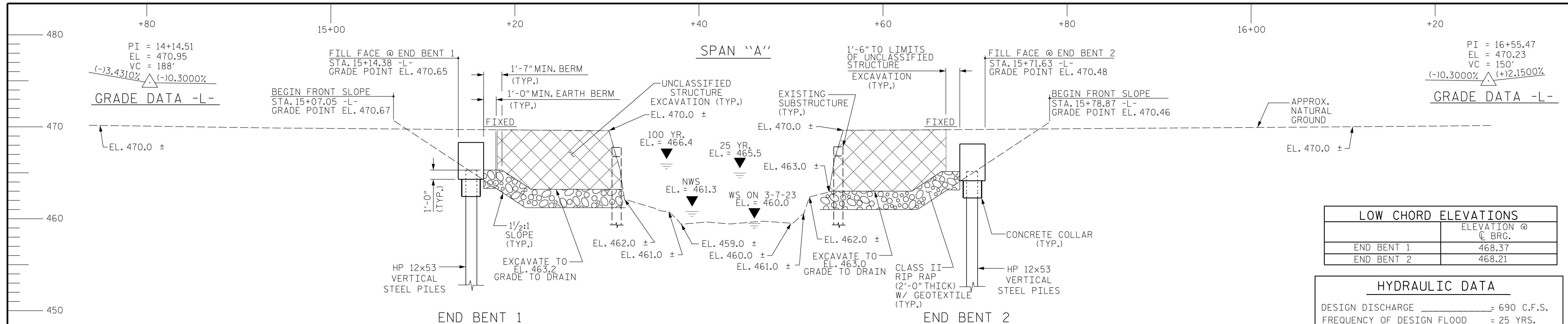
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DESIGN DATA	
ADT 2022 =	580
T =	6 % *
V =	55 MPH
* (TTST = 3% + DUAL = 3%)	
FUNC CLASS =	LOCAL SUBREGIONAL TIER

PROJECT LENGTH	
LENGTH ROADWAY PROJECT BP8-R027 =	0.067 MILES
LENGTH STRUCTURES PROJECT BP8-R027 =	0.011 MILES
TOTAL LENGTH PROJECT BP8-R027 =	0.078 MILES
NCDOT CONTACT:	TIM WELCH, PE DIVISION 8 BRIDGE PROGRAM MANAGER

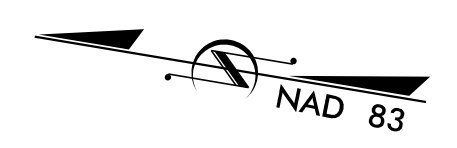
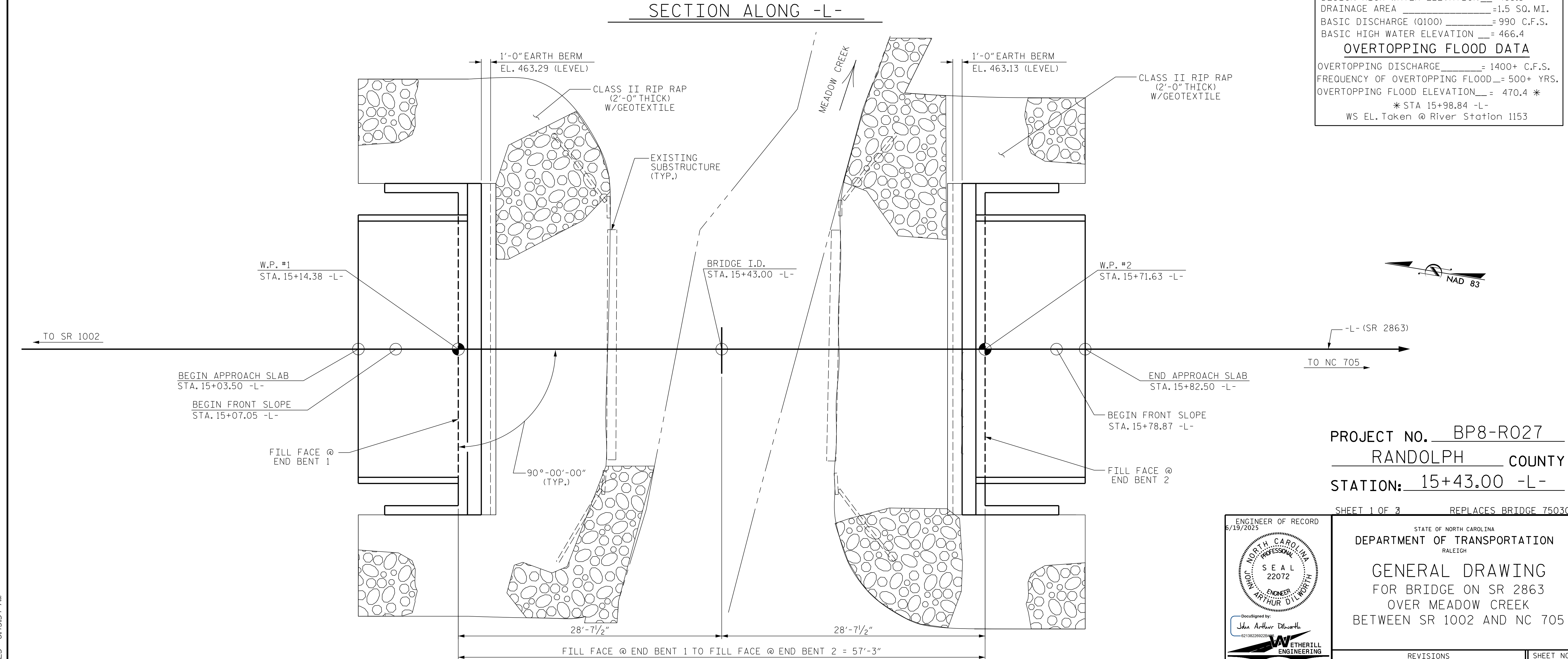
Prepared for: DIVISION OF HIGHWAYS DIVISION EIGHT 121 DOT DRIVE, CARTHAGE NC, 28327	
2024 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: MARCH 6, 2024	EDWARD G. WETHERILL, PE PROJECT ENGINEER
LETTING DATE: AUGUST 26, 2025	JOHN A. DILWORTH, PE PROJECT DESIGN ENGINEER





LOW CHORD ELEVATIONS	
	ELEVATION @ C. BRG.
END BENT 1	468.37
END BENT 2	468.21

HYDRAULIC DATA	
DESIGN DISCHARGE	= 690 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= 465.5
DRAINAGE AREA	= 1.5 SQ. MI.
BASIC DISCHARGE (Q100)	= 990 C.F.S.
BASIC HIGH WATER ELEVATION	= 466.4
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 1400+ C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 470.4 *
* STA 15+98.84 -L- WS EL. Taken @ River Station 1153	



PROJECT NO. BP8-R027
RANDOLPH COUNTY
 STATION: 15+43.00 -L-
 SHEET 1 OF 3 REPLACES BRIDGE 750305

ENGINEER OF RECORD
 6/19/2025

DocuSigned by:
 John Arthur Dilworth
 WETHERILL ENGINEERING

1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 LICENSE NO. F-0377

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

DRAWN BY : J. PENDERGRAFT DATE : 5-23
 CHECKED BY : J. DILWORTH DATE : 8-23

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

P:\2022\2212801 Randolph 305 Div 8 Structures\OGM\BP8R027_SD_GD_750305.dgn
 6/19/2025 8:43:54 AM

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 Exc 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	85	465.29	15								454.0	5.0	7.0
End Bent 2, Piles 1-5	85	465.13	15								454.0	6.0	6.0

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

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

PILE DESIGN INFORMATION

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile TONS	Factored Downdrag Load per Pile TONS	Factored Dead Load* per Pile TONS	Dynamic Resistance Factor	Nominal Downdrag Resistance per Pile TONS	Nominal Scour Resistance per Pile TONS	Scour Resistance Factor (Default = 1.00)
End Bent 1, Piles 1-5	85						
End Bent 2, Piles 1-5	85						

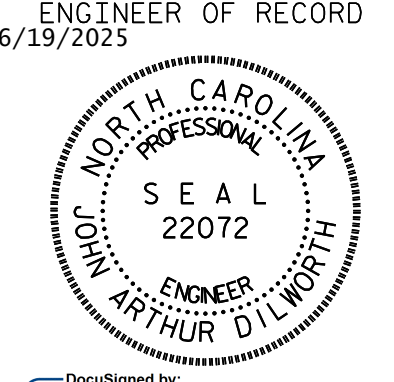
*Factored Dead Load is factored weight of pile above the ground line.

NOTES:

1. The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Cheng Wang and #048123) on 11-20-2023.
2. 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.
3. The Engineer will determine the need for PDA Testing and Pipe Pile Plates when PDAs or plates may be required.

PROJECT NO. BP8-R027
RANDOLPH COUNTY
 STATION: 15+43.00 -L-

SHEET 2 OF 3

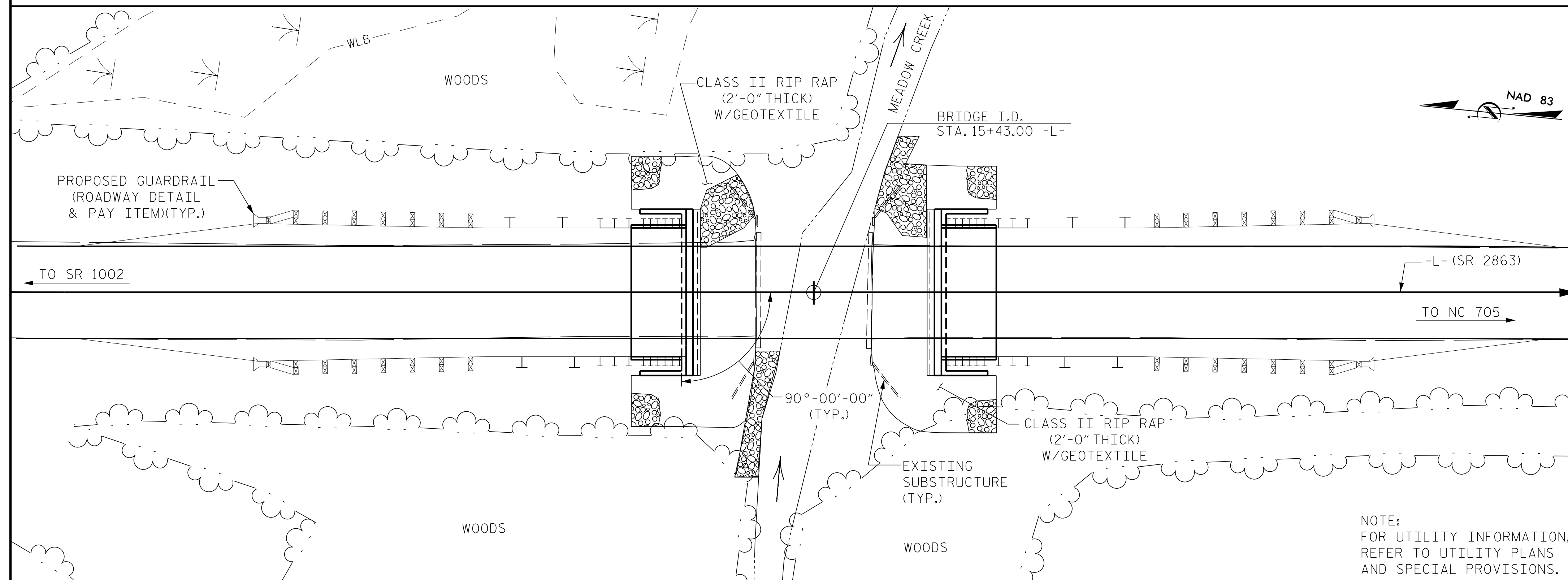
		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PILE FOUNDATION TABLES	
DocuSigned by: John Arthur Dilworth 021382260220438		WETHERILL ENGINEERING 1223 Jones Franklin Rd. Raleigh, N.C. 27606 Bus: 919 851 8077 Fax: 919 851 8107 LICENSE NO. F-0377	
REVISIONS			
NO.	BY:	DATE:	SHEET NO.
1			S-2
2			TOTAL SHEETS 14

DRAWN BY : J. PENDERGRAFT DATE : 11-23
 CHECKED BY : J. DILWORTH DATE : 11-23

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

P:\2022\2212801 Randolph 305 Div 8\Structures\06M\BP8R027_SD_GD_750305.dgn
 6/19/2025 8:46:57 AM

BM-1 BENCH TIE SET IN 36" OAK -L- STA 14+97.52 92.8' RT ELEV. 468.47, N649349, E1787863



LOCATION SKETCH

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	ASBESTOS ASSESSMENT	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 x 53 STEEL PILES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS		
	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	LIN. FT.	TONS	SQ. YD.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE										110.00					10	550.00
END BENT 1			35	25		20.0		2449	5	75		133	148			
END BENT 2			30	30		20.0		2449	5	75		129	143			
TOTAL	LUMP SUM	LUMP SUM	65	55	LUMP SUM	40.0	LUMP SUM	4898	10	150	110.00	262	291	LUMP SUM	10	550.00

FOUNDATION NOTES :

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
 FILL HOLES FOR PILE EXCAVATION AT END BENT NO. 1 AND END BENT NO. 2 WITH CONCRETE OR GROUT.

NOTES :

- ASSUMED LIVE LOAD = HL93 OR ALTERNATE LOADING.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- THE BRIDGE IS LOCATED IN SEISMIC ZONE 1.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S-1 SHALL BE EXCAVATED FOR A DISTANCE OF 20' AT EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.
- THE EXISTING STRUCTURE CONSISTS OF 1 SPAN @ 25'-10" WITH A TIMBER DECK ON STEEL I BEAMS SUPERSTRUCTURE AND A CLEAR ROADWAY WIDTH OF 25'-2" ON A SUBSTRUCTURE CONSISTING OF TIMBER CAPS ON TIMBER PILES LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING STRUCTURE IS PRESENTLY POSTED FOR LOAD LIMIT.
- REMOVAL OF THE EXISTING STRUCTURE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES".
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
- ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.
- 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.
- INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 15+43.00 -L-".
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.

PROJECT NO. BP8-R027
RANDOLPH COUNTY
 STATION: 15+43.00 -L-

SHEET 3 OF 3

ENGINEER OF RECORD
 6/19/2025

DocuSigned by:
 John Arthur Dilworth
 62138229228

ETHERILL ENGINEERING
 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 LICENSE NO. F-0377

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON SR 2863
 OVER MEADOW CREEK
 BETWEEN SR 1002 AND NC 705

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

DRAWN BY : J. PENDERGRAFT DATE : 11-23
 CHECKED BY : J. DILWORTH DATE : 11-23

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

P:\2022\2212801 Randolph 305 Div 8 Structures\06M\BP8R027_SD_GD_750305.dgn
 6/19/2025 8:58:06 AM

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

LOAD TYPE	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE						COMMENT NUMBER		
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS (γ LL)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	LIVE-LOAD FACTORS (γ LL)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD	HL-93 (INVENTORY)	N/A	1	1.055	-	1.75	0.275	1.23	55'	EL	27	0.523	1.23	55'	EL	5.4	0.80	0.275	1.05	55'	EL	27		
	HL-93 (OPERATING)	N/A		1.591	-	1.35	0.275	1.59	55'	EL	27	0.523	1.59	55'	EL	5.4	N/A	-	-	-	-	-		
	HS-20 (INVENTORY)	36.000	2	1.322	47.585	1.75	0.275	1.54	55'	EL	27	0.523	1.47	55'	EL	5.4	0.80	0.275	1.32	55'	EL	27		
	HS-20 (OPERATING)	36.000		1.900	68.396	1.35	0.275	1.99	55'	EL	27	0.523	1.90	55'	EL	5.4	N/A	-	-	-	-	-		
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		2.776	37.476	1.4	0.275	4.04	55'	EL	27	0.523	4.17	55'	EL	5.4	0.80	0.275	2.78	55'	EL	27	
		SNGARBS2	20.000		2.155	43.095	1.4	0.275	3.14	55'	EL	27	0.523	3.02	55'	EL	5.4	0.80	0.275	2.15	55'	EL	27	
		SNAGRIS2	22.000		2.079	45.734	1.4	0.275	3.03	55'	EL	27	0.523	2.83	55'	EL	5.4	0.80	0.275	2.08	55'	EL	27	
		SNCOTTS3	27.250		1.384	37.708	1.4	0.275	2.01	55'	EL	27	0.523	2.09	55'	EL	5.4	0.80	0.275	1.38	55'	EL	27	
		SNAGGRS4	34.925		1.189	41.527	1.4	0.275	1.73	55'	EL	27	0.523	1.77	55'	EL	5.4	0.80	0.275	1.19	55'	EL	27	
		SNS5A	35.550		1.160	41.255	1.4	0.275	1.69	55'	EL	27	0.523	1.82	55'	EL	5.4	0.80	0.275	1.16	55'	EL	27	
		SNS6A	39.950		1.079	43.102	1.4	0.275	1.57	55'	EL	27	0.523	1.68	55'	EL	5.4	0.80	0.275	1.08	55'	EL	27	
	SNS7B	42.000		1.028	43.175	1.4	0.275	1.50	55'	EL	27	0.523	1.67	55'	EL	5.4	0.80	0.275	1.03	55'	EL	27		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.320	43.556	1.4	0.275	1.92	55'	EL	27	0.523	1.98	55'	EL	5.4	0.80	0.275	1.32	55'	EL	27	
		TNT4A	33.075		1.330	43.979	1.4	0.275	1.94	55'	EL	27	0.523	1.91	55'	EL	5.4	0.80	0.275	1.33	55'	EL	27	
		TNT6A	41.600		1.101	45.811	1.4	0.275	1.60	55'	EL	27	0.523	1.83	55'	EL	5.4	0.80	0.275	1.10	55'	EL	27	
		TNT7A	42.000		1.114	46.804	1.4	0.275	1.62	55'	EL	27	0.523	1.71	55'	EL	5.4	0.80	0.275	1.11	55'	EL	27	
		TNT7B	42.000		1.163	48.848	1.4	0.275	1.69	55'	EL	27	0.523	1.62	55'	EL	5.4	0.80	0.275	1.16	55'	EL	27	
		TNAGRIT4	43.000		1.101	47.330	1.4	0.275	1.60	55'	EL	27	0.523	1.56	55'	EL	5.4	0.80	0.275	1.10	55'	EL	27	
TNAGT5A		45.000		1.031	46.405	1.4	0.275	1.50	55'	EL	27	0.523	1.58	55'	EL	5.4	0.80	0.275	1.03	55'	EL	27		
TNAGT5B	45.000	3	1.013	45.582	1.4	0.275	1.47	55'	EL	27	0.523	1.48	55'	EL	5.4	0.80	0.275	1.01	55'	EL	27			
EMERGENCY VEHICLE (EV)	EV2	28.750		1.617	46.483	1.3	0.275	2.37	55'	EL	27	0.523	2.27	55'	EL	5.4	0.80	0.275	1.62	55'	EL	27		
	EV3	43.000	4	1.049	45.107	1.3	0.275	1.54	55'	EL	27	0.523	1.53	55'	EL	5.4	0.80	0.275	1.05	55'	EL	27		

LOAD FACTORS:

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

NOTES:

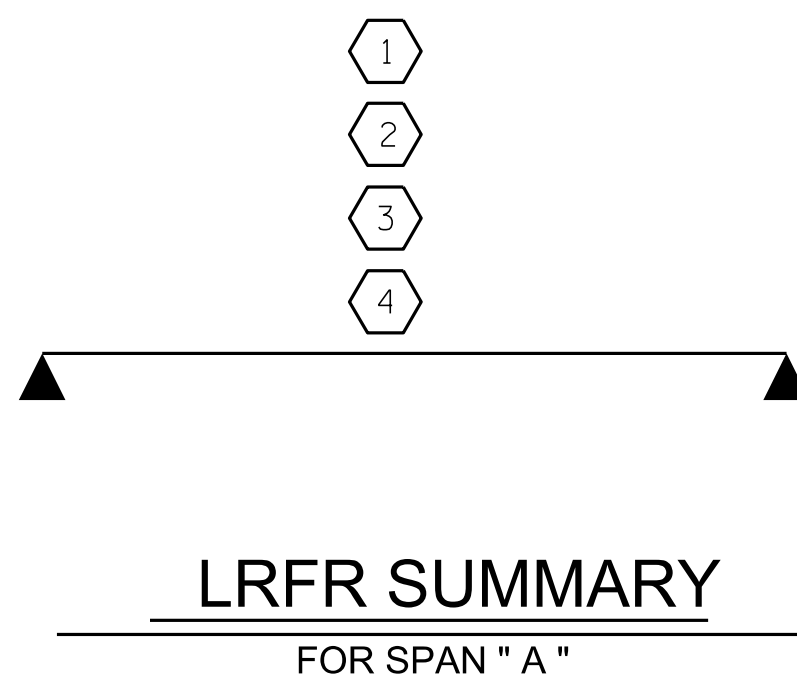
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

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

COMMENTS:

- 1.
- 2.
- 3.
- 4.

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



PROJECT NO. BP8-R027
RANDOLPH COUNTY
STATION: 15+43.00 -L-

ASSEMBLED BY: J. PENDERGRAFT	DATE: 9-23
CHECKED BY: J. DILWORTH	DATE: 9-23
DRAWN BY: MAA 1/08	REV. 11/12/08RR MAA/GM
CHECKED BY: GM/DI 2/08	REV. 10/11/11 MAA/GM
	REV. 04/23 BNB/AAI

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

ENGINEER OF RECORD
6/19/2025

DocuSigned by:
John Arthur Dillworth
42138229228

ETHERILL
ENGINEERING

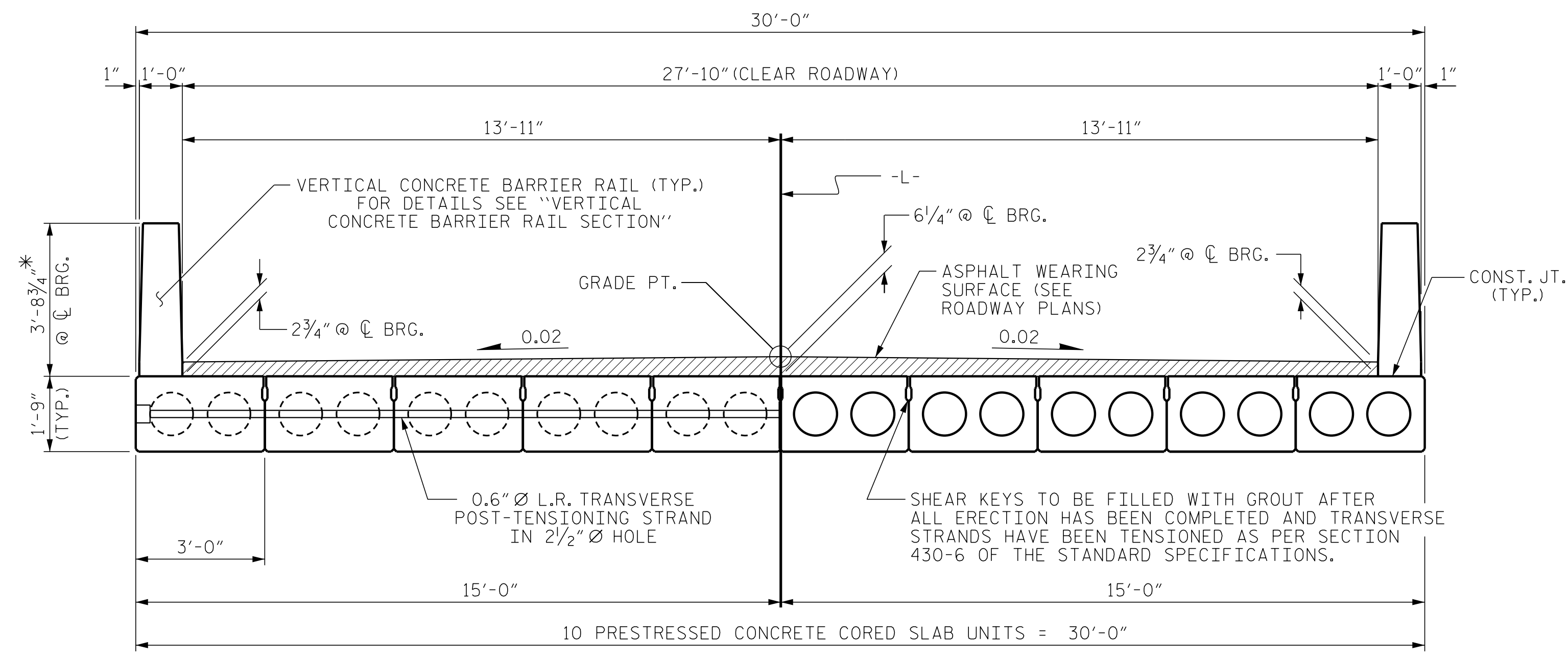
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107
LICENSE NO. F-0377

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

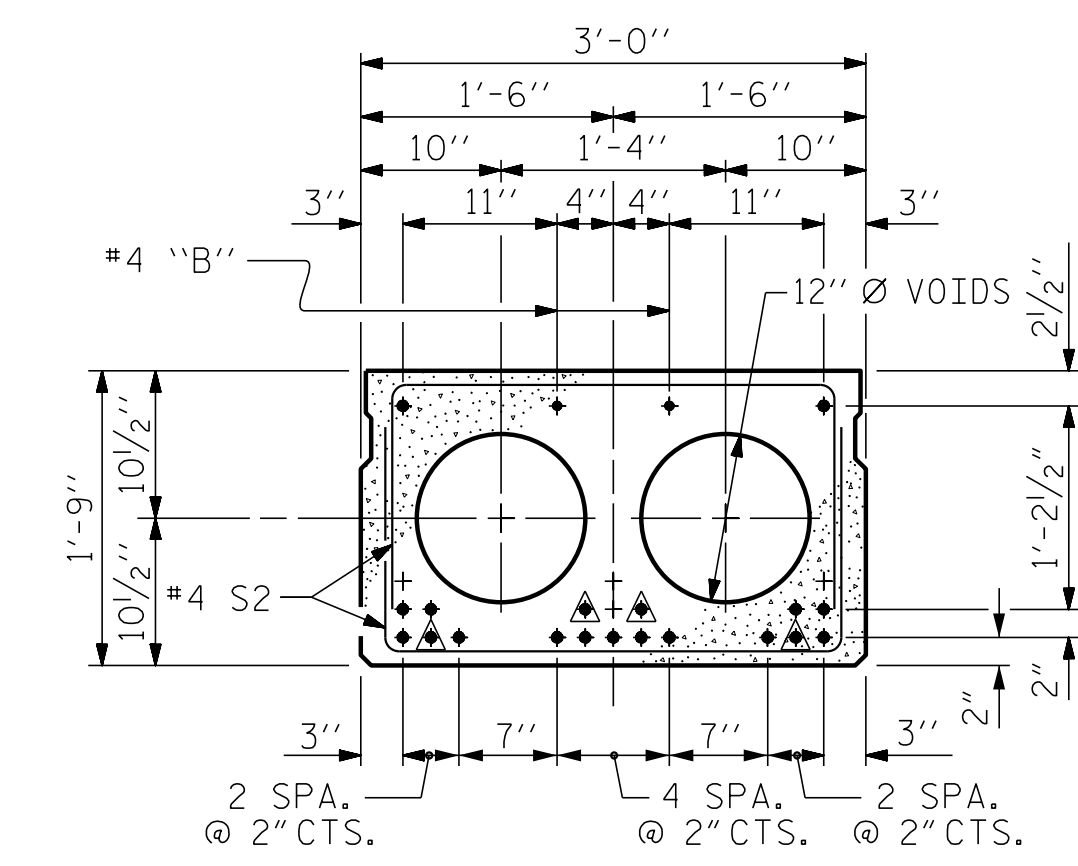
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			14

STD. NO. 21LRFR1_90S_55L

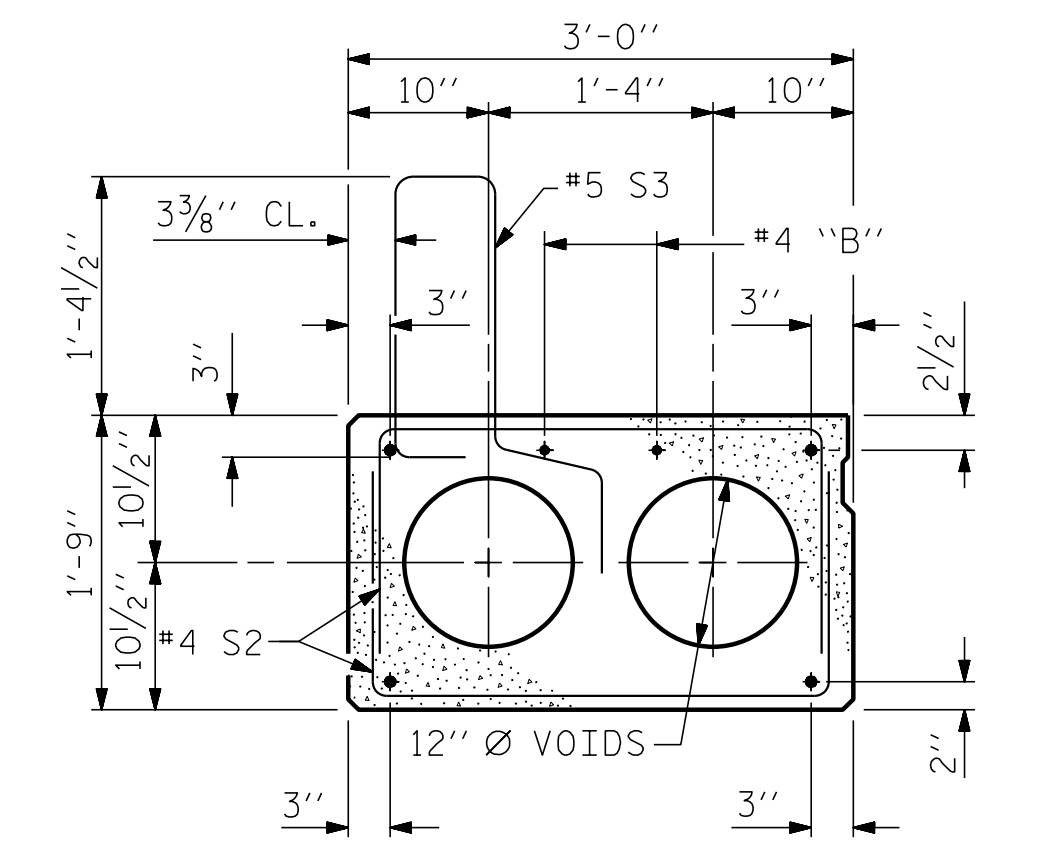


HALF SECTION AT INTERMEDIATE DIAPHRAGMS
 HALF SECTION THROUGH VOIDS
TYPICAL SECTION

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



INTERIOR SLAB SECTION (55' UNIT)
 (19 STRANDS REQUIRED)



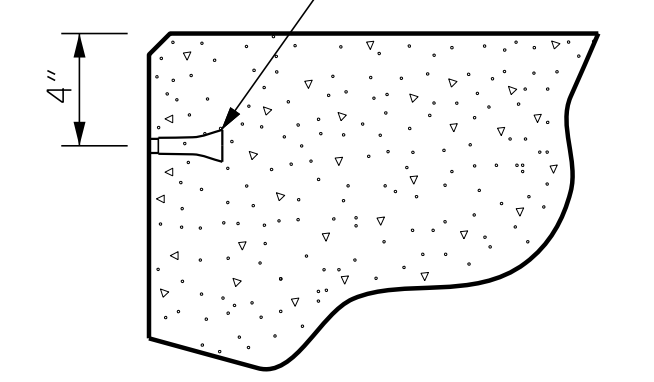
EXT. SLAB SECTION
 (FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)

0.6" Ø LOW RELAXATION STRAND LAYOUT

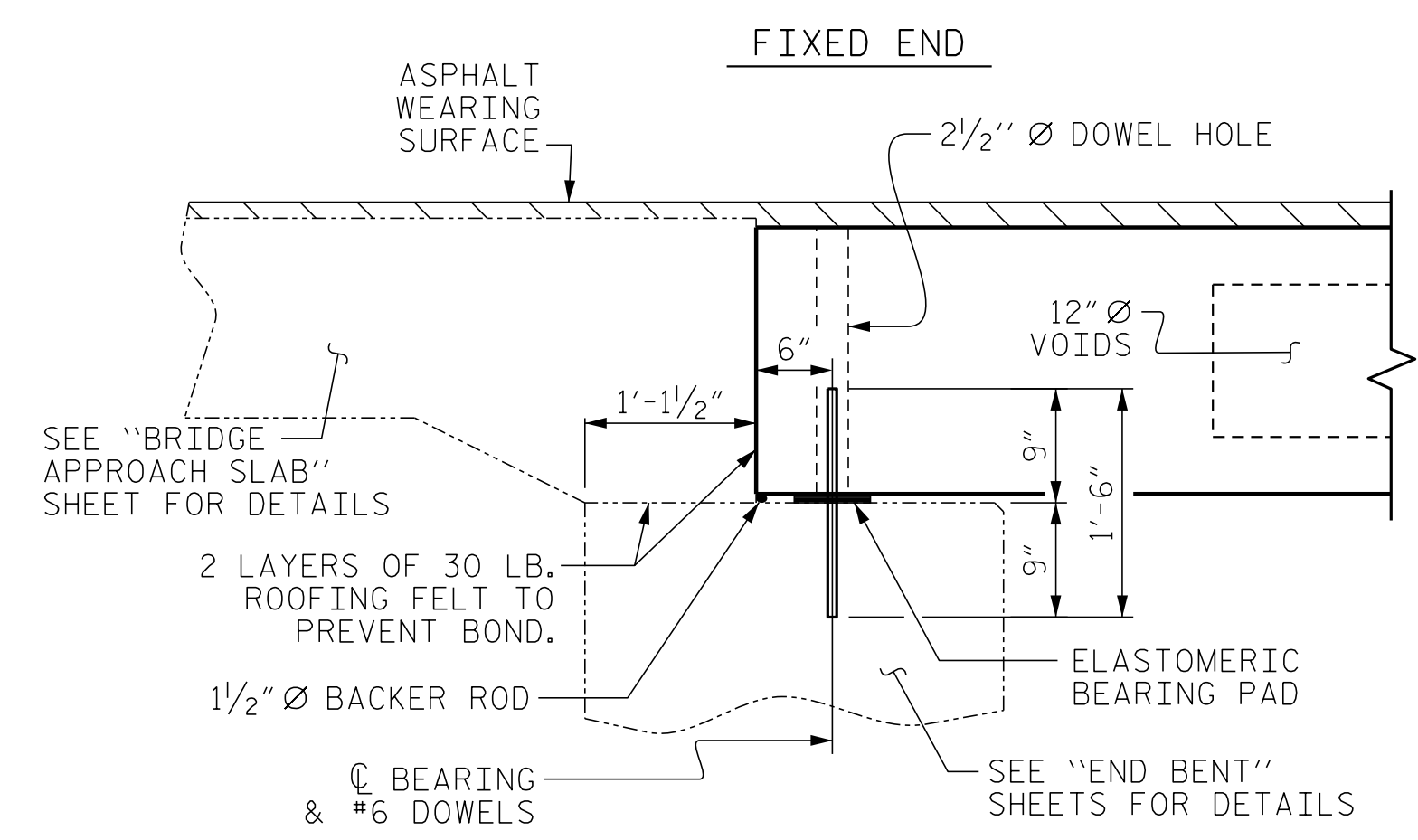
▲ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 6'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND

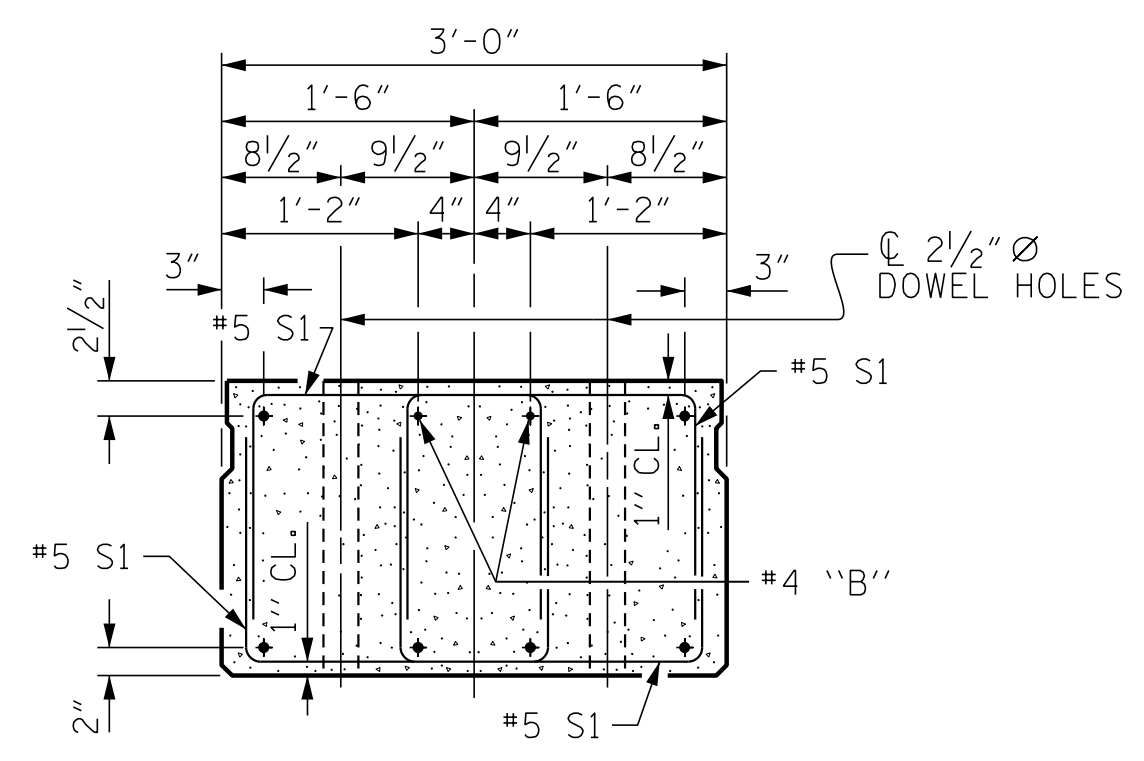
PERMITTED THREADED INSERT CAST IN OUTSIDE FACE OF EXTERIOR UNIT AND RECESSED 3/8" SIZE TO BE DETERMINED BY CONTRACTOR.



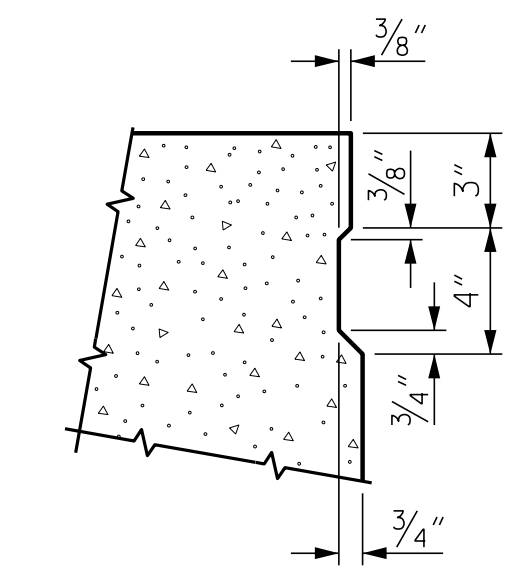
THREADED INSERT DETAIL



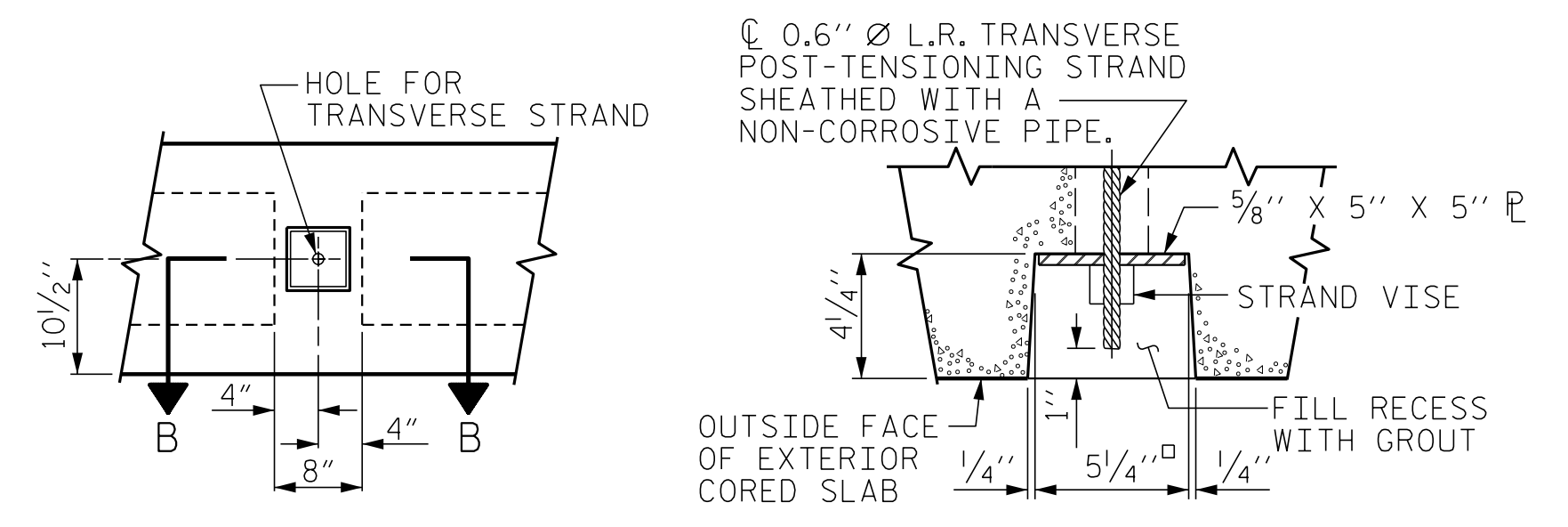
SECTION AT END BENT



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.



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



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

PROJECT NO. BP8-R027
RANDOLPH COUNTY
 STATION: 15+43.00 -L-
 SHEET 1 OF 3

ENGINEER OF RECORD
 6/19/2025

 DocuSigned by:
 John Arthur Dilworth
 62138229923151

 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 LICENSE NO. F-0377

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD 3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT 90° SKEW					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-5					TOTAL SHEETS 14

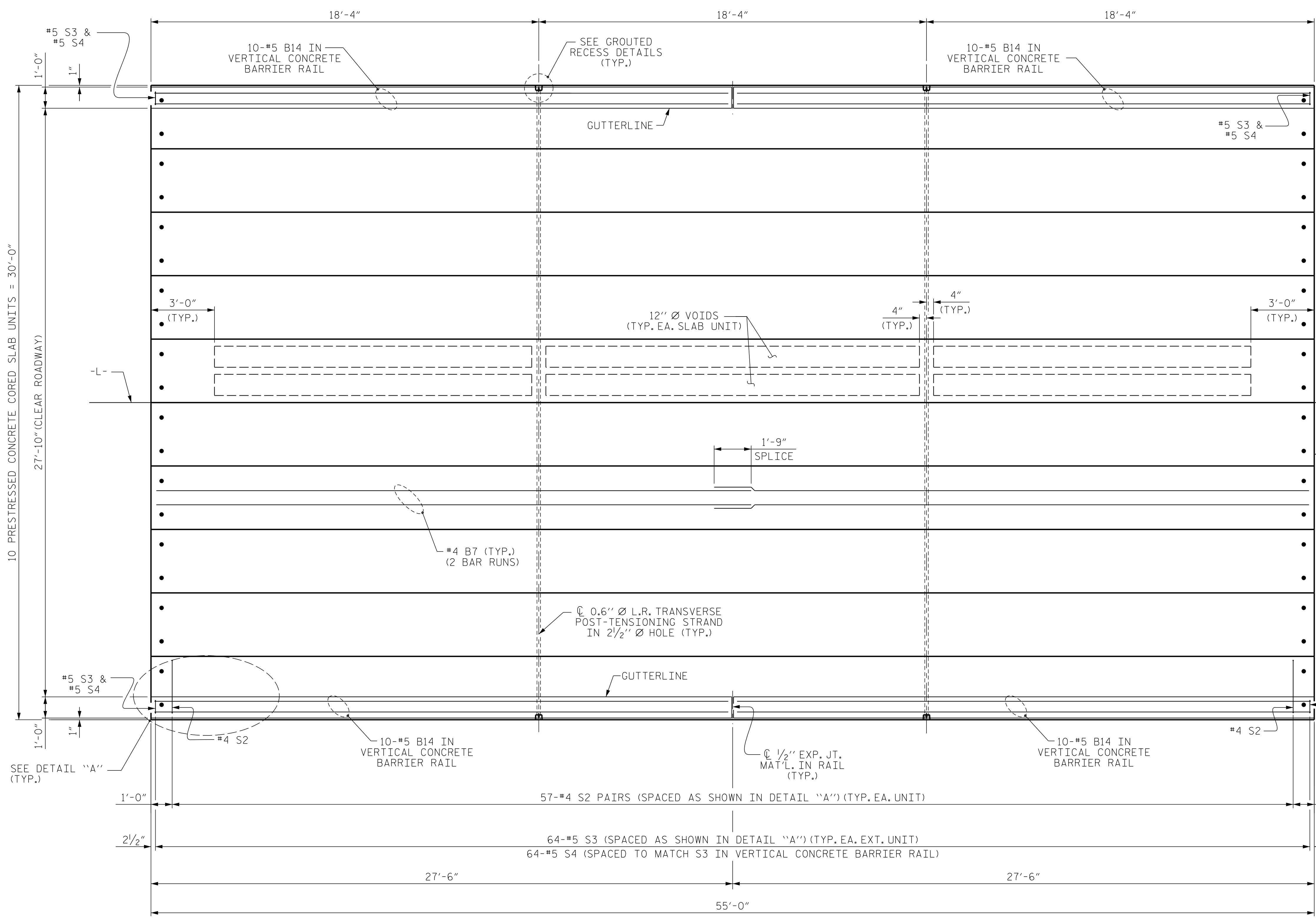
DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

STD. NO. 21" PCS2_30_90S

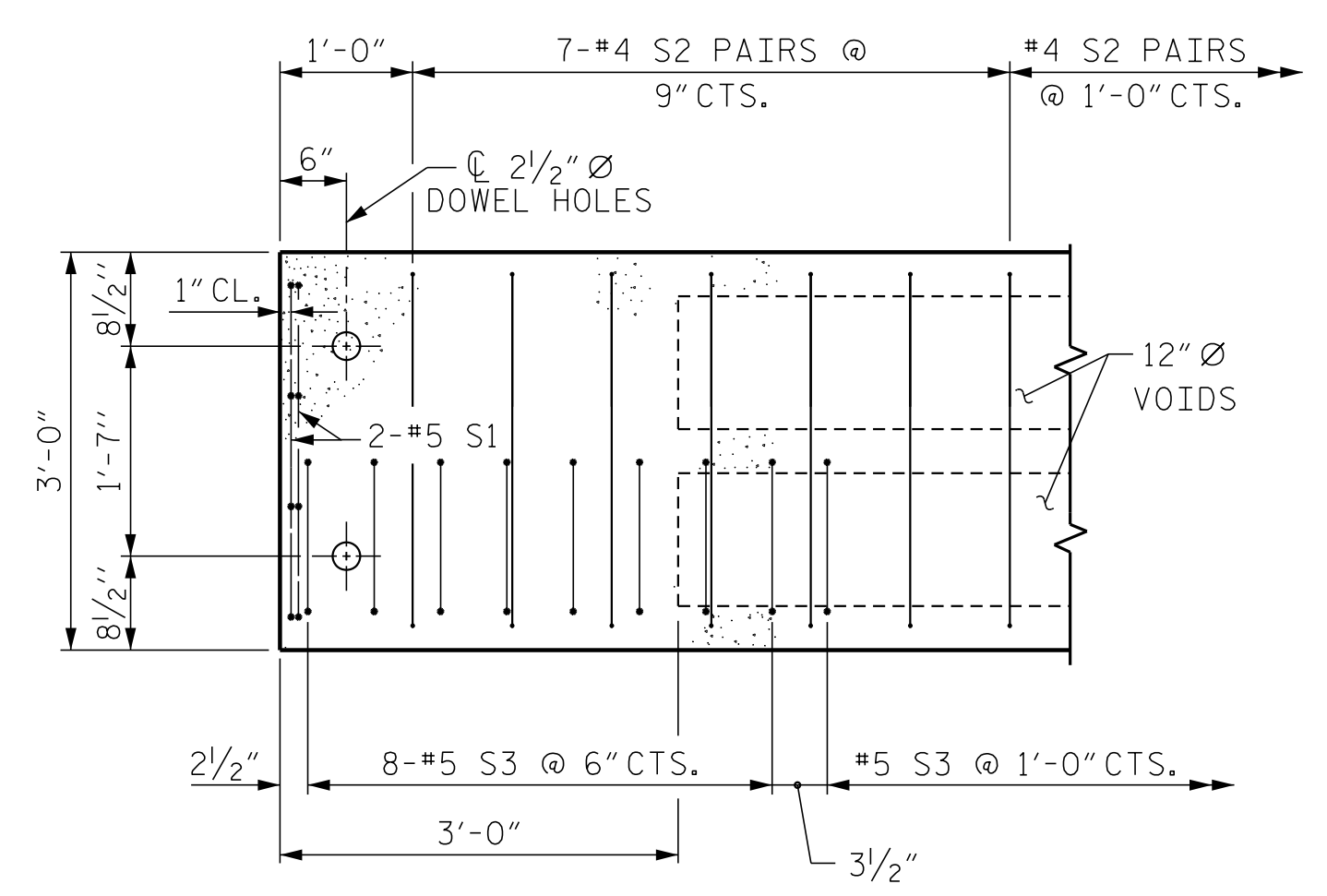
P:\2022\2212801 Randolph 305 Div 8\Structures\OGM\BP8R027_SD_Ts_750305.dgn
 6/19/2025 9:05:01 AM

ASSEMBLED BY : J. PENDERGRAFT	DATE : 9-23
CHECKED BY : J. DILWORTH	DATE : 9-23
DRAWN BY : DCE 5/09	REV. 8/14 MAA/TMG
CHECKED BY : BCH 6/09	REV. 5/23 BNB/AAI

PA-2022-22 128.01 Randolph 305 Div 8 Structures\OGM\BP8R027_SD_Ps_750305.dgn
6/19/2025 9:07:45 AM



PLAN OF UNIT



DETAIL "A"

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

PROJECT NO. BP8-R027
RANDOLPH COUNTY
STATION: 15+43.00 -L-
SHEET 2 OF 3

ENGINEER OF RECORD
6/19/2025

DocuSigned by:
John Arthur Dilworth
621382289228

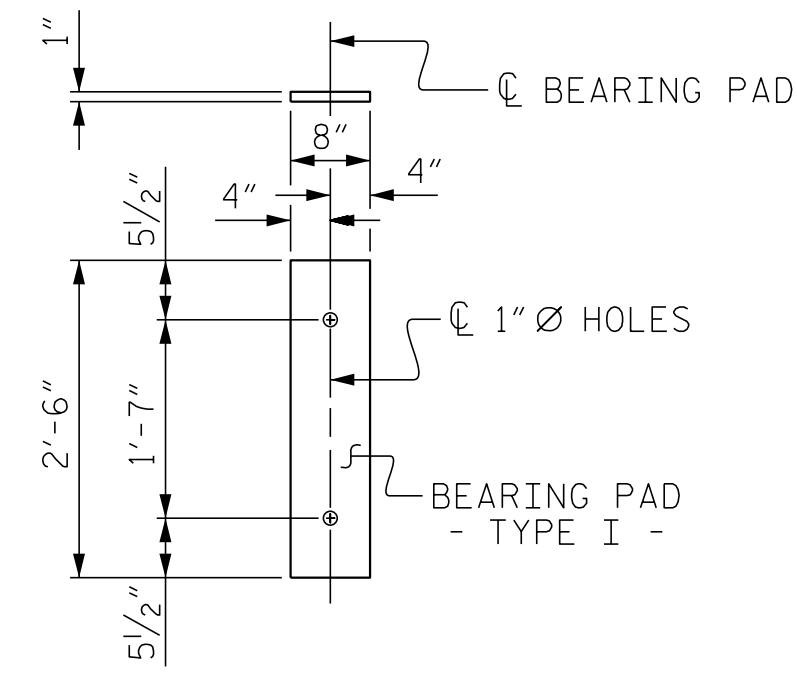
ETHERILL
ENGINEERING

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107
LICENSE NO. F-0377

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PLAN OF 55' UNIT 27'-10" CLEAR ROADWAY 90° SKEW					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-6
TOTAL SHEETS					14

ASSEMBLED BY : J. PENDERGRAFT	DATE : 9-23
CHECKED BY : J. DILWORTH	DATE : 9-23
DRAWN BY : DCE 3/09	REV. 12/5/11 MAA/AAC
CHECKED BY : BCH 3/09	REV. 8/14 MAA/TMG

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



FIXED END
(TYPE I - 20 REQ'D)

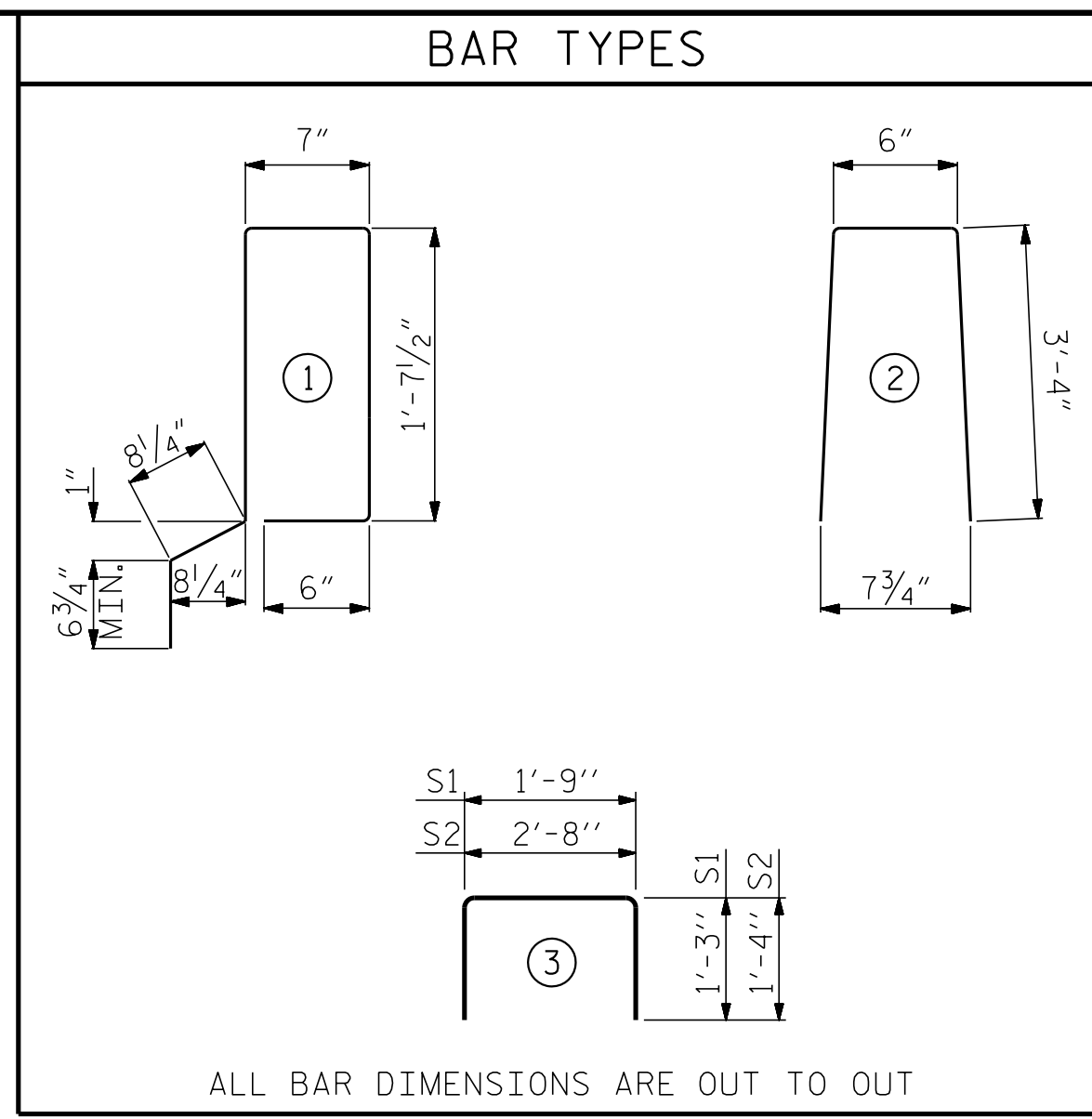
ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 50 DUROMETER HARDNESS.

CORED SLABS REQUIRED			
55' UNIT	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	2	55'-0"	110'-0"
INTERIOR C.S.	8	55'-0"	440'-0"
TOTAL	10		550'-0"

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	55' UNIT					
*B14	40	40	#5	STR	27'-1"	1130
*S4	128	128	#5	2	7'-2"	957
* EPOXY COATED REINFORCING STEEL						LBS. 2087
CLASS AA CONCRETE						CU.YDS. 14.1
TOTAL VERTICAL CONCRETE BARRIER RAIL						LN.FT. 110.00

BILL OF MATERIAL FOR ONE 55' CORED SLAB UNIT							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT LENGTH	EXTERIOR UNIT WEIGHT	INTERIOR UNIT LENGTH	INTERIOR UNIT WEIGHT
B7	4	#4	STR	28'-3"	75	28'-3"	75
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	114	#4	3	5'-4"	406	5'-4"	406
*S3	64	#5	1	5'-7"	373		
REINFORCING STEEL				LBS.	516		516
* EPOXY COATED REINFORCING STEEL				LBS.	373		
6500 P.S.I. CONCRETE				CU. YDS.	7.8		7.8
0.6" Ø L.R. STRANDS				No.	19		19



ALL BAR DIMENSIONS ARE OUT TO OUT

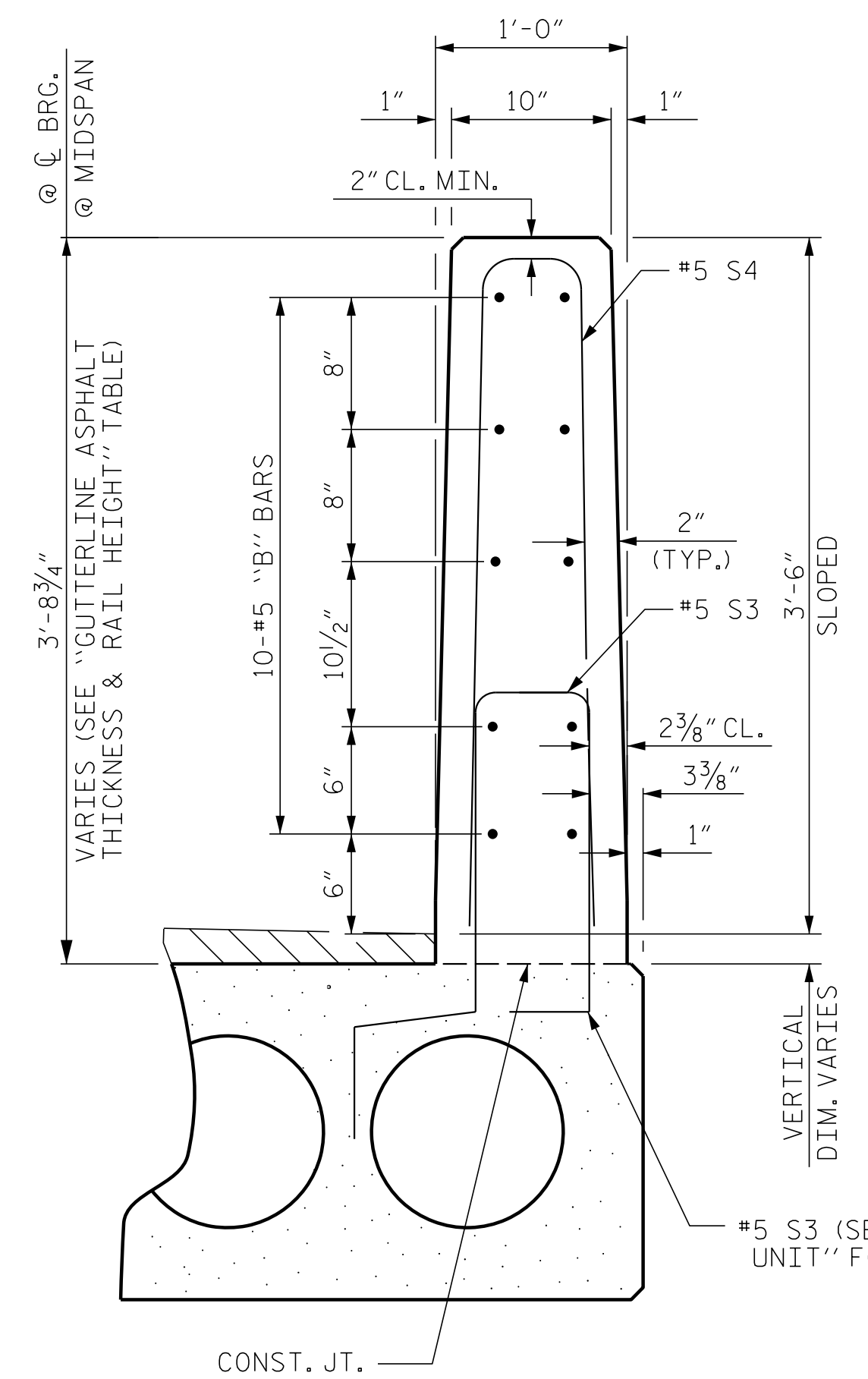
DEAD LOAD DEFLECTION AND CAMBER	
55' CORED SLAB UNIT	3'-0" x 1'-9" 0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	1/2" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	3/8" ↓
FINAL CAMBER	1/8" ↑

** INCLUDES FUTURE WEARING SURFACE

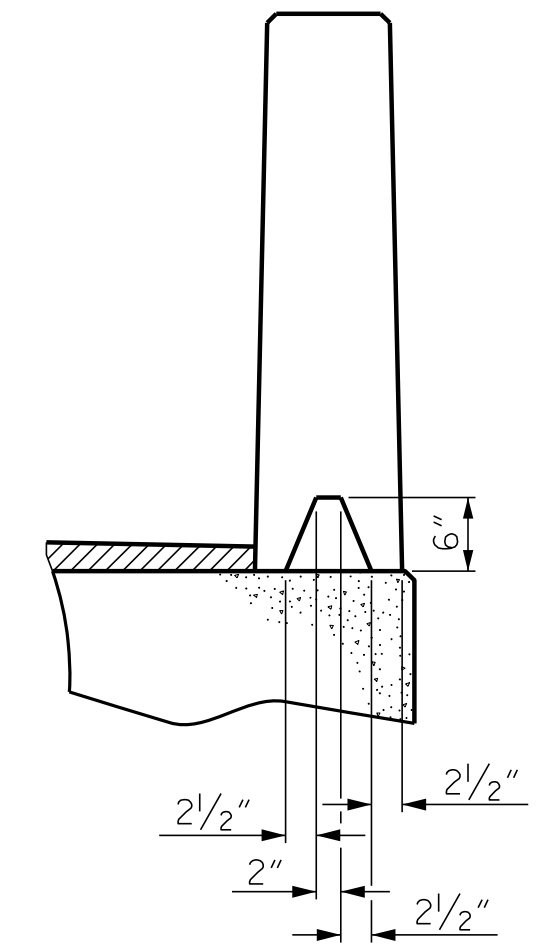
GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT		
	ASPHALT OVERLAY THICKNESS	RAIL HEIGHT
	@ MID-SPAN	@ MID-SPAN
55' UNITS	1 5/8"	3'-7 5/8"

CONCRETE RELEASE STRENGTH	
UNIT	PSI
55' UNITS	4900

GRADE 270 STRANDS	
	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

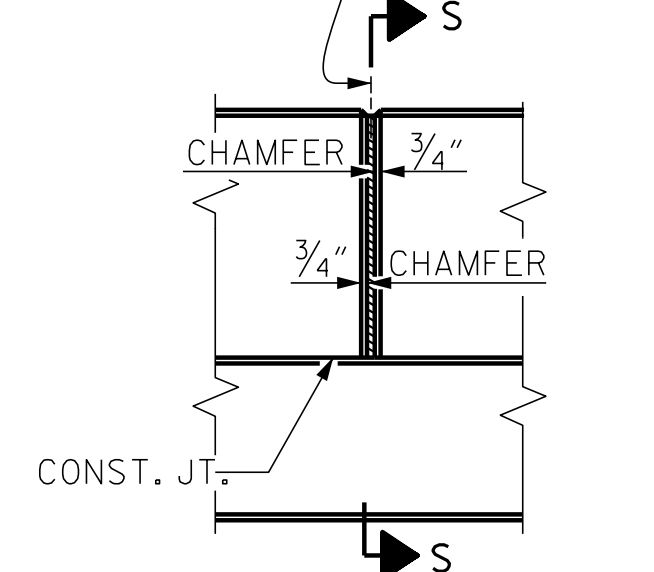


VERTICAL CONCRETE BARRIER RAIL SECTION

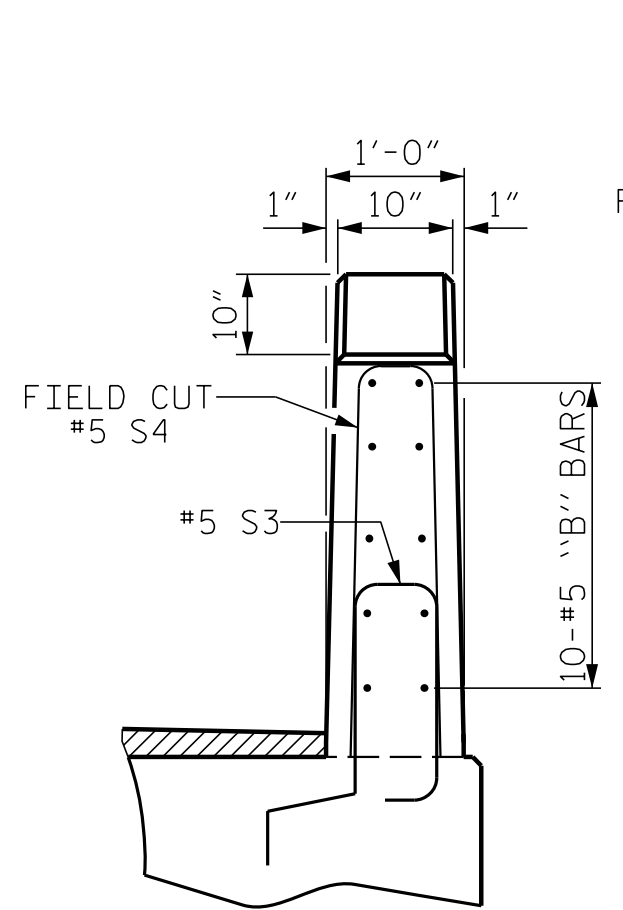


SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)

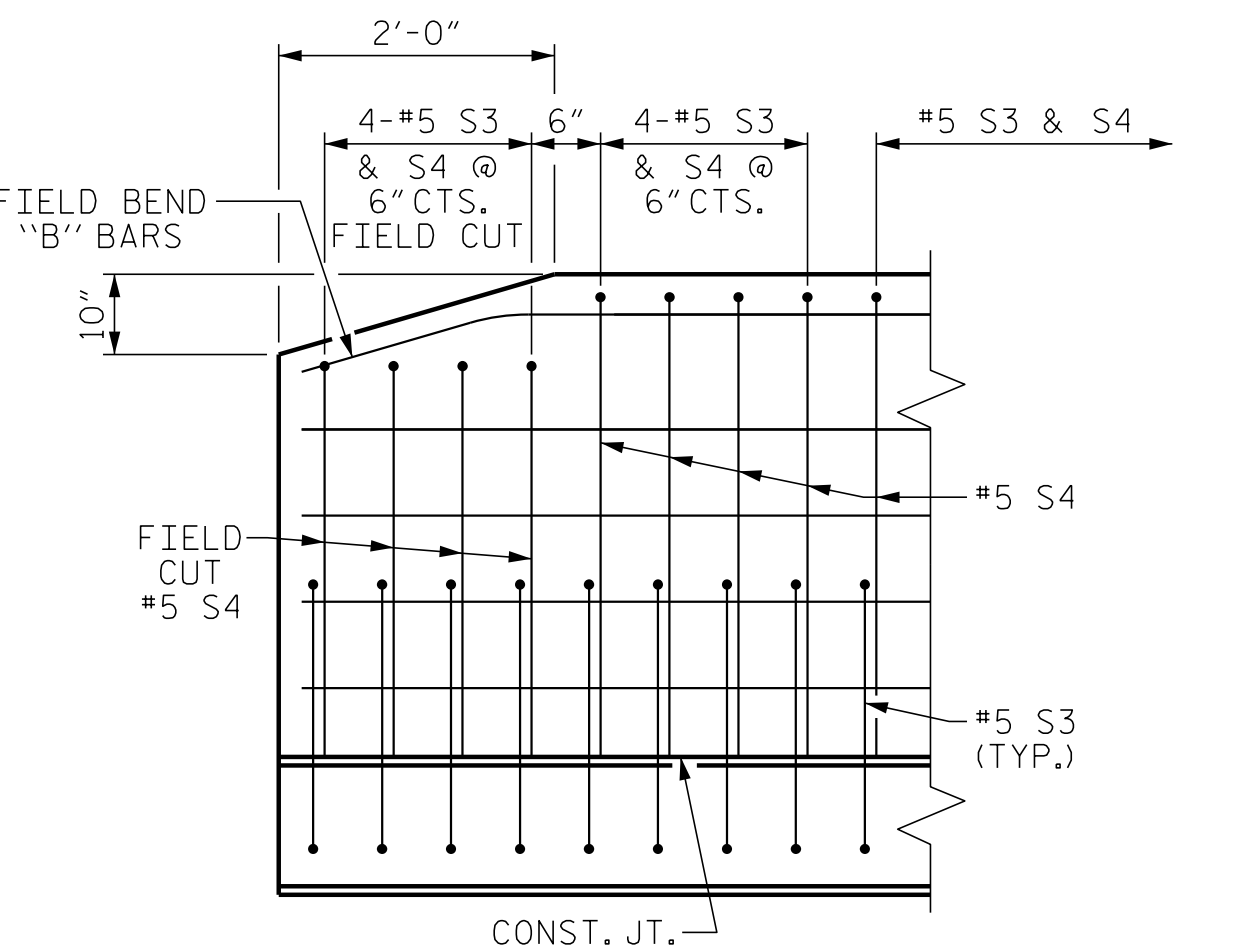
1/2" EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS.
(NOTE: OMIT EXP. JT. MAT'L. WHEN SLIP FORM IS USED)



ELEVATION AT EXPANSION JOINTS



END VIEW



SIDE VIEW

END OF RAIL DETAILS

NOTES

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

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

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

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

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

WHEN CORED SLABS ARE CAST, AN INTERNAL HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDWAYS. AT LEAST SIX WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

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

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

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

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

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN THE REQUIRED STRENGTH SHOWN IN THE "CONCRETE RELEASE STRENGTH" TABLE.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

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

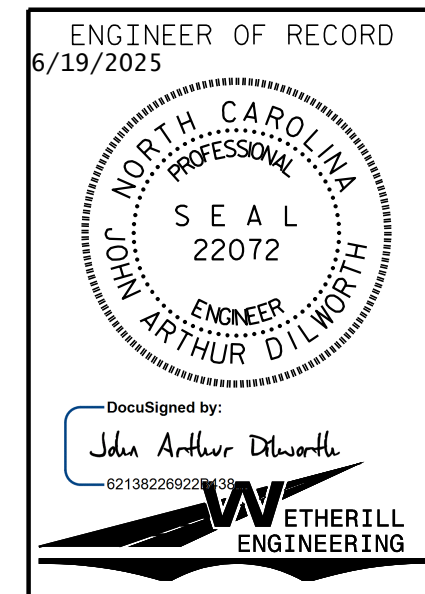
THE PERMITTED THREADED INSERTS IN THE EXTERIOR UNITS SHALL BE SIZED BY THE CONTRACTOR, SPACED AT 4'-0" CENTERS AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. STAINLESS STEEL THREADED INSERTS MAY BE USED AS AN ALTERNATE.

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

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

PROJECT NO. BP8-R027
RANDOLPH COUNTY
STATION: 15+43.00 -L-

SHEET 3 OF 3



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

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

SHEET NO. S-7
TOTAL SHEETS 14

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107
LICENSE NO. F-0377

P:\2022\2212801 Randolph 305 Div 8\Structures\OGM\BP8R027_SD_CS_750305.dgn
 6/19/2025 9:10:49 AM

NOTES

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

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

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

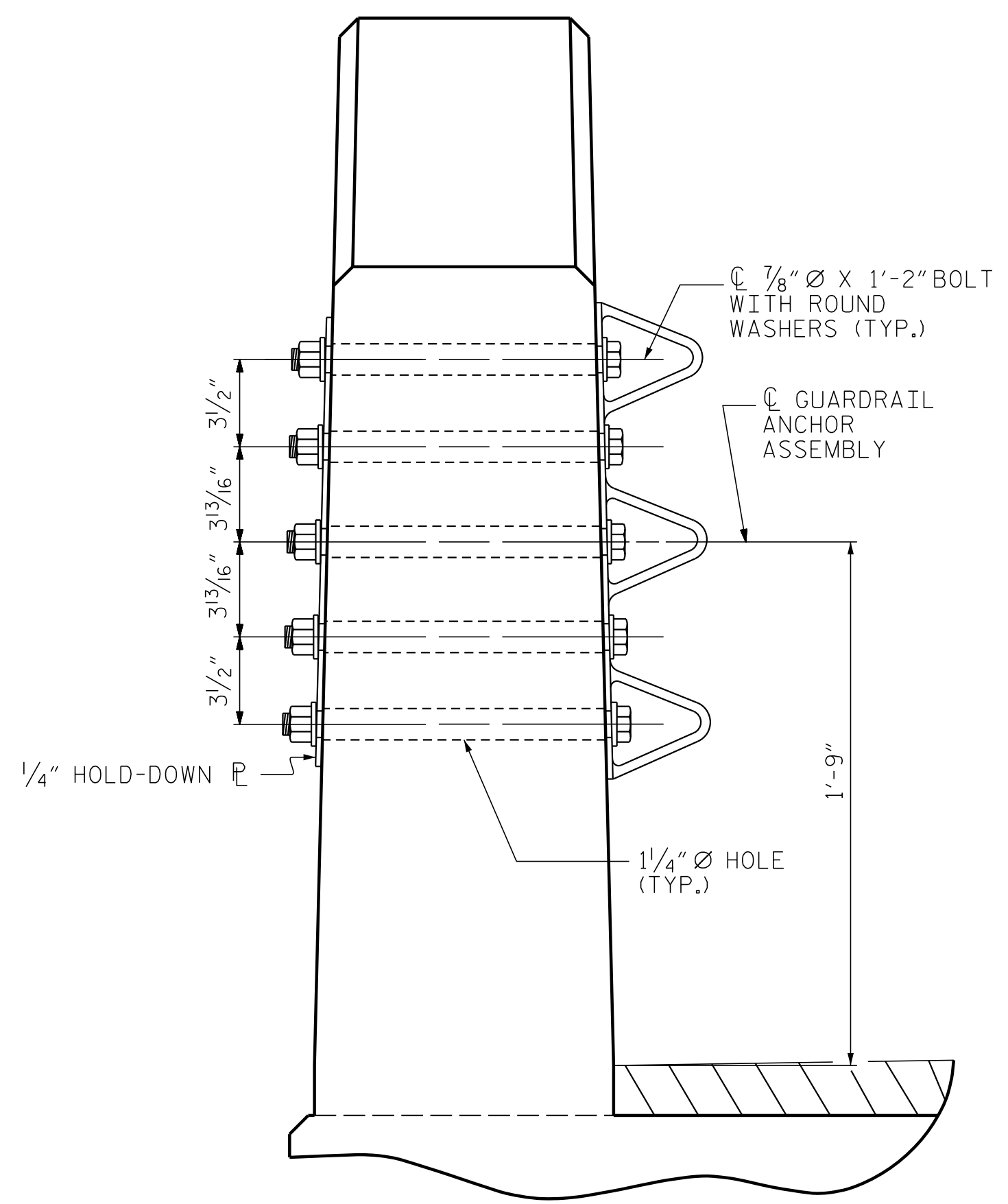
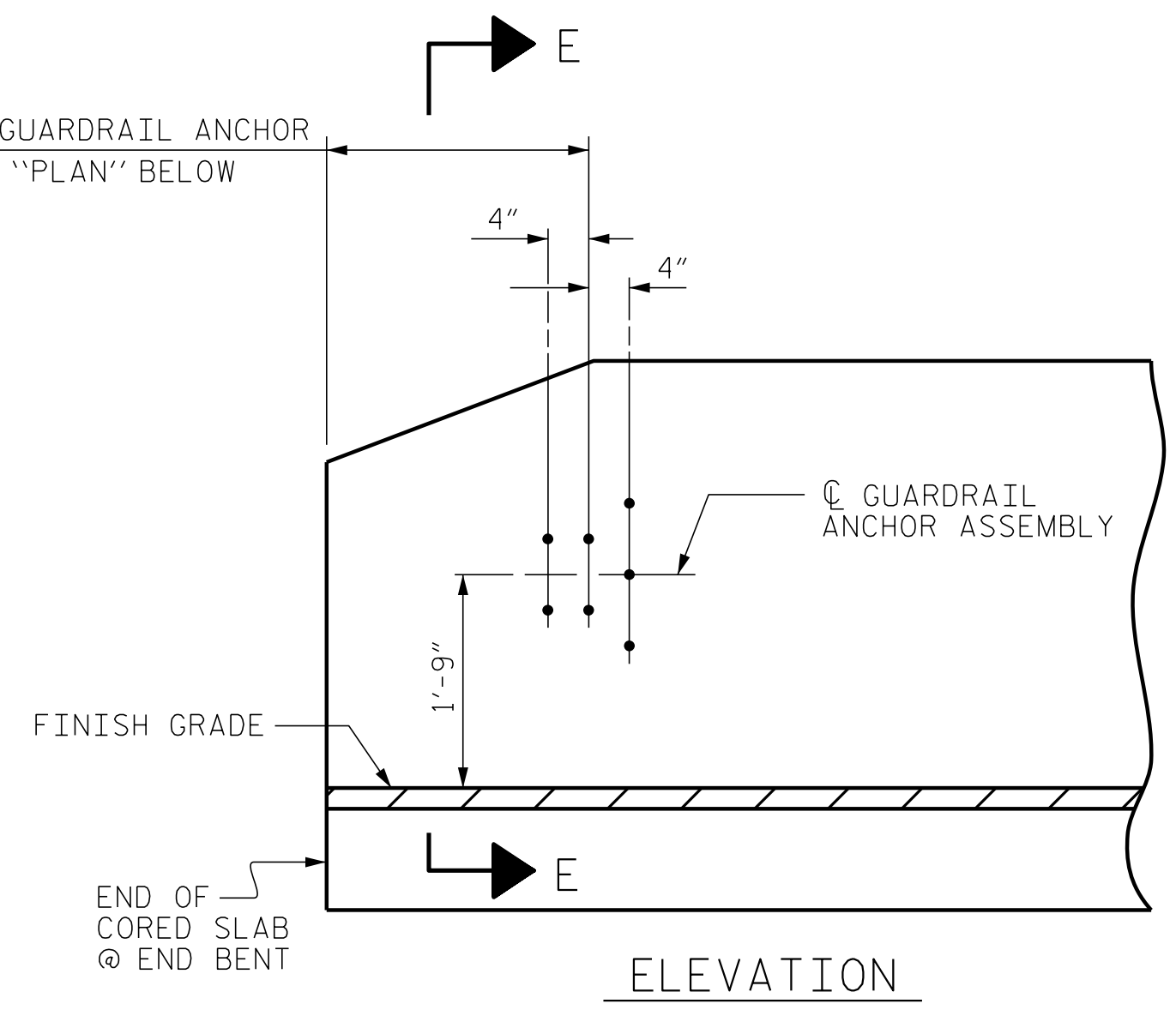
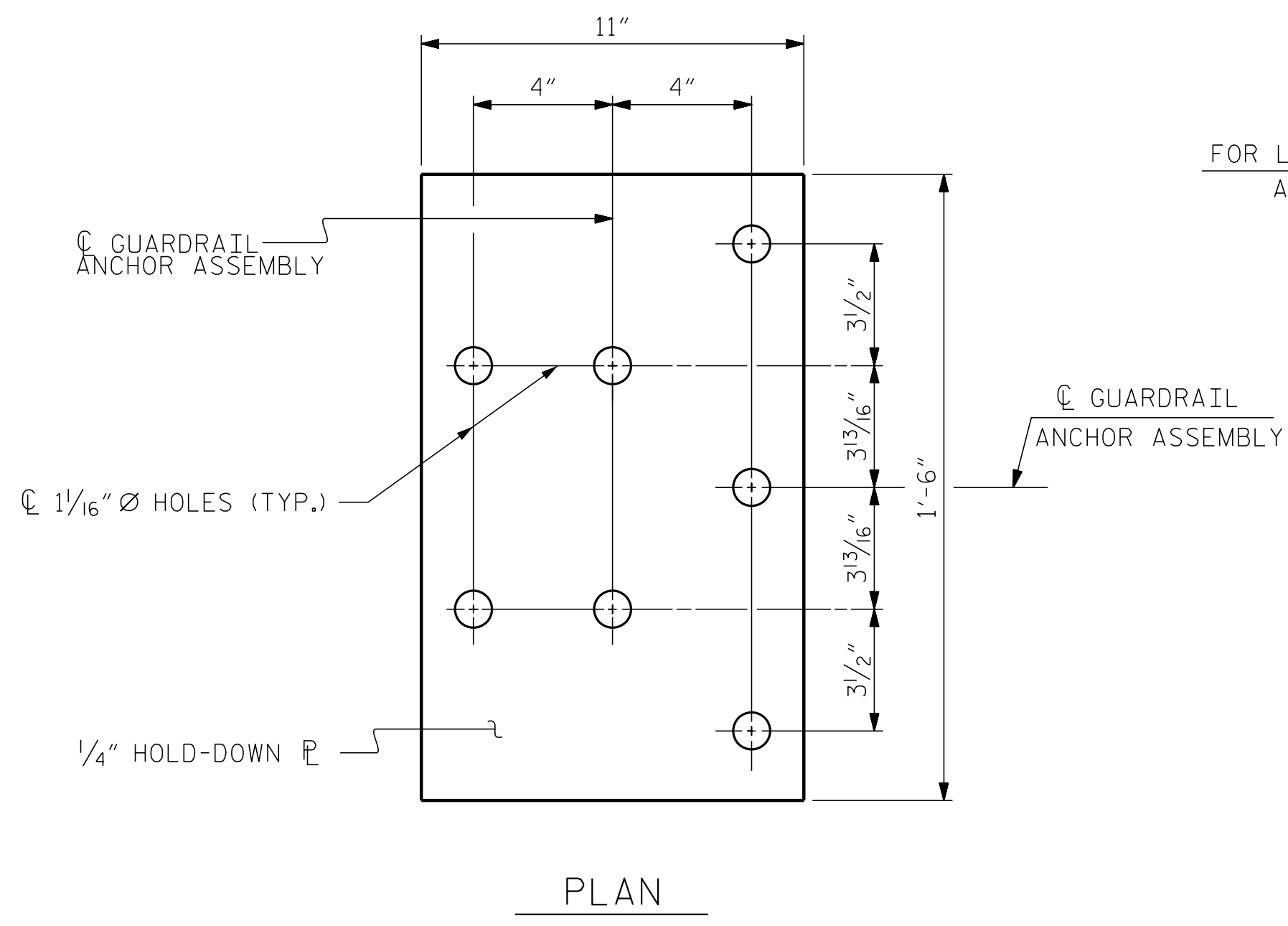
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

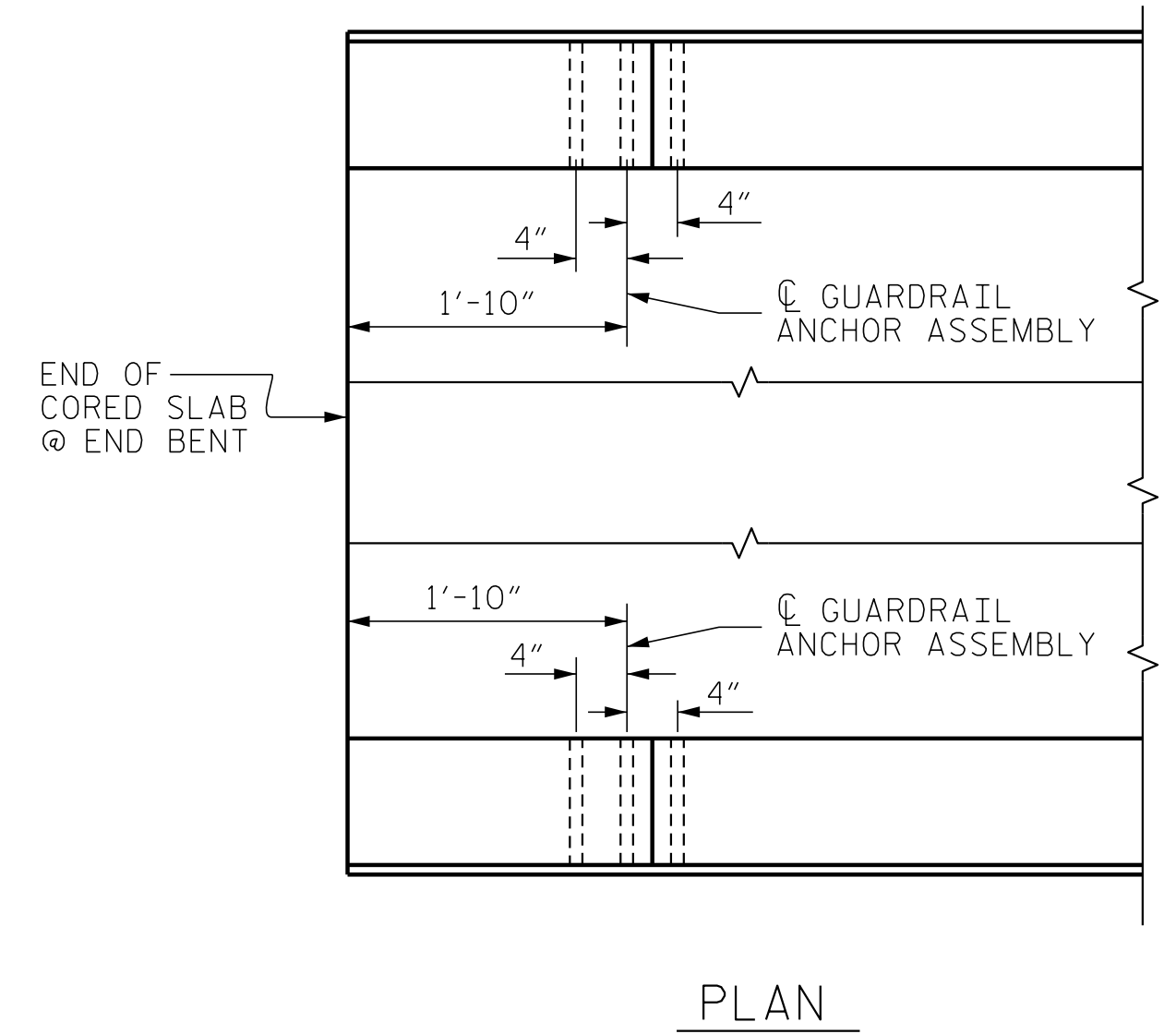
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

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

THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

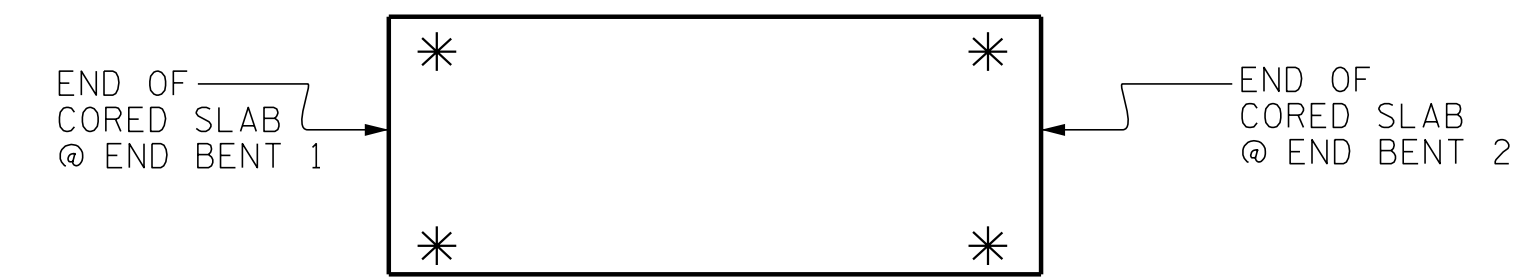


SECTION E-E
GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

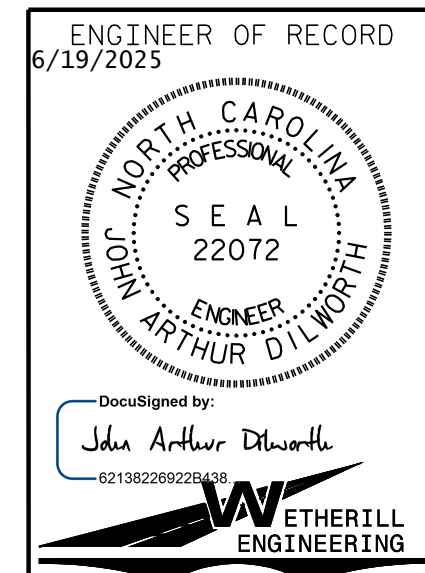
END BENT #1 SHOWN, END BENT #2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. BP8-R027
RANDOLPH COUNTY
 STATION: 15+43.00 -L-



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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			14

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 LICENSE NO. F-0377

(SHT 1) STD. NO. GRA3

P:\2022\2212801 Randolph 305 Div 8 Structures\06M\BP8R027_SD_Gr_750305.dgn
 6/19/2025 9:14:38 AM

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

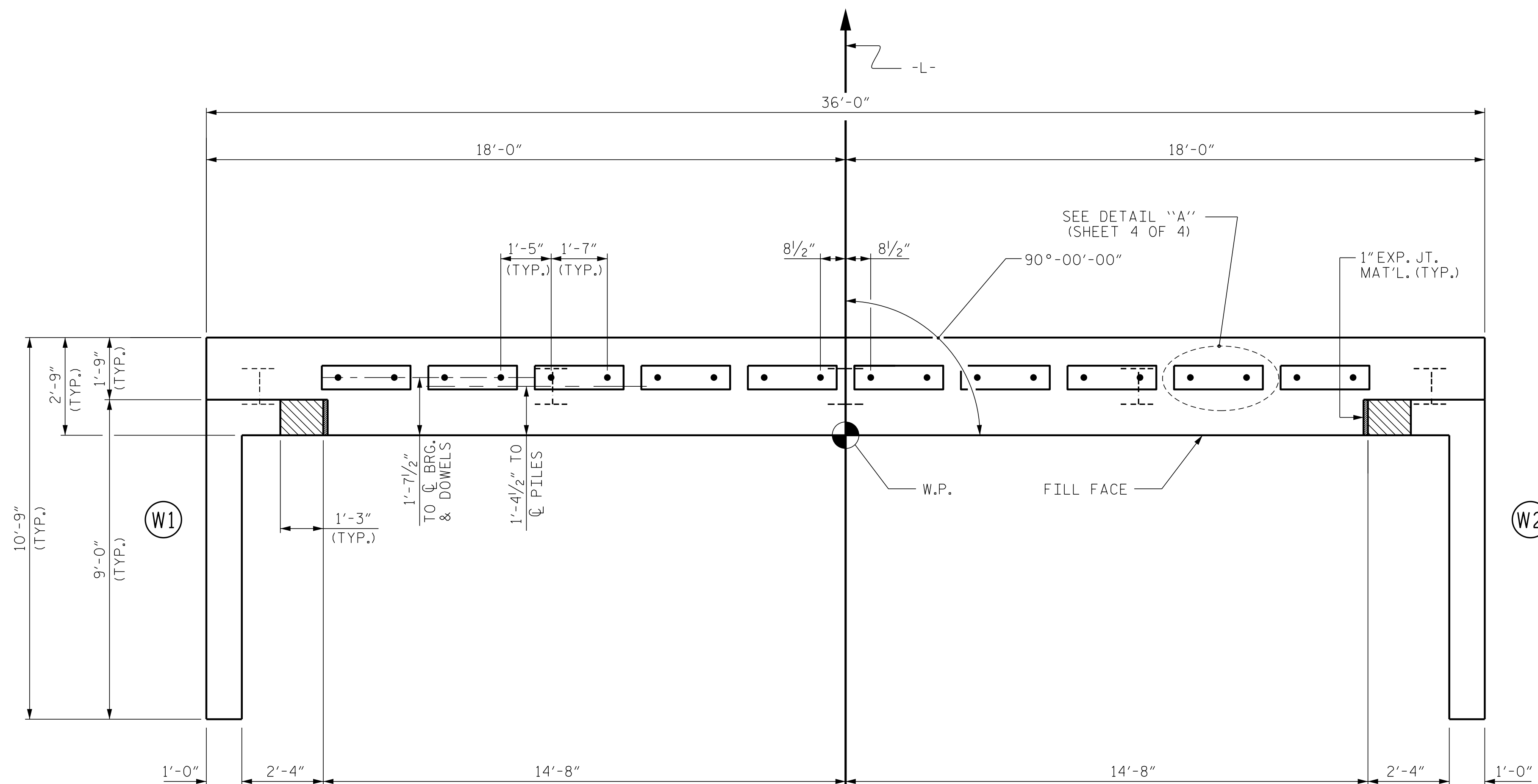
NOTES

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

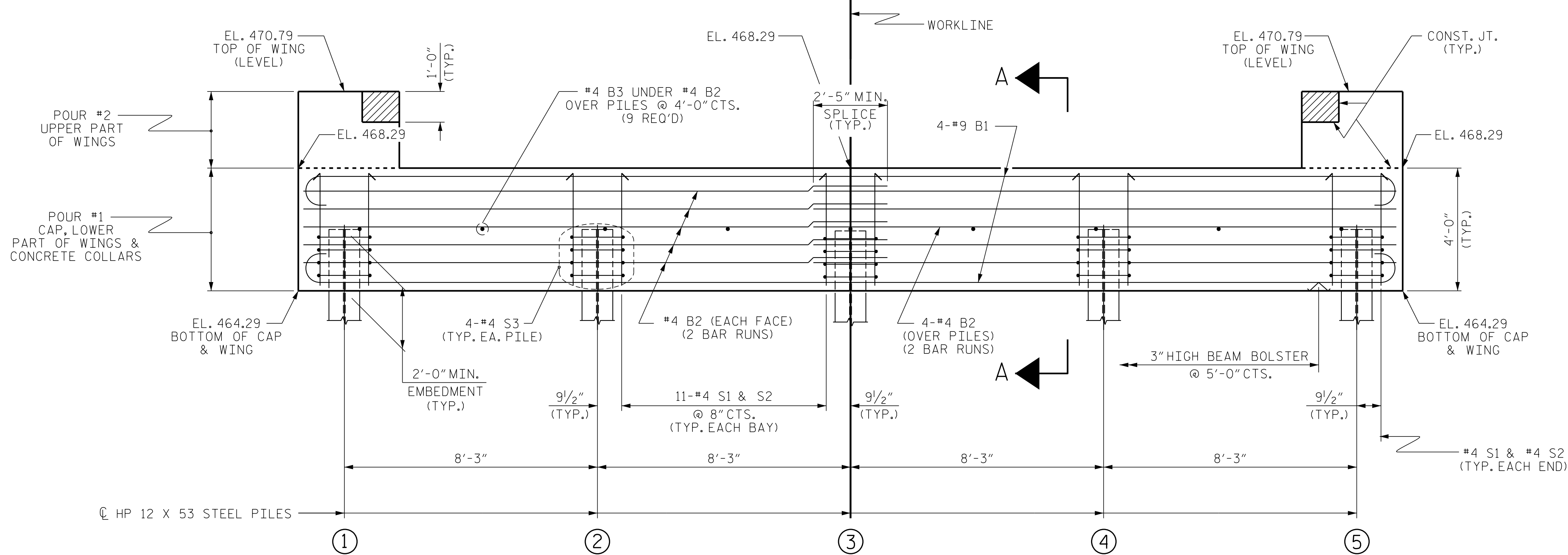
THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.



PLAN

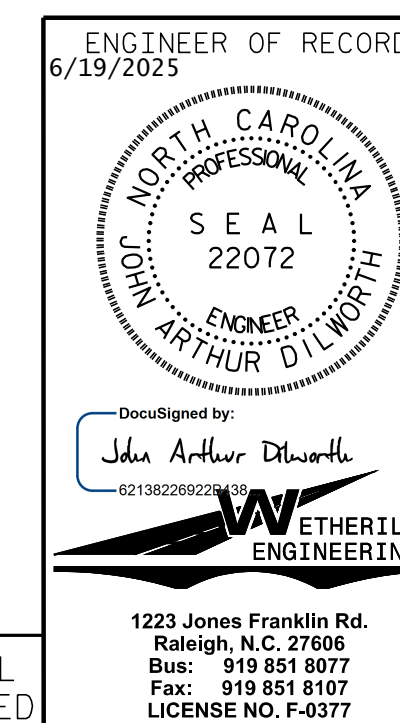


ELEVATION

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

PROJECT NO. BP8-R027
RANDOLPH COUNTY
STATION: 15+43.00 -L-

SHEET 1 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
END BENT No. 1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			14

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107
LICENSE NO. F-0377

STD. NO. EB_30_90S4

P:\2022\2212801 Randolph 305 Div 8\Structures\06M\BP8R027_SD_EB_750305.dgn
 6/19/2025 9:16:49 AM

ASSEMBLED BY : J. PENDERGRAFT	DATE : 9-23
CHECKED BY : J. DILWORTH	DATE : 9-23
DRAWN BY : DGE	01/10
CHECKED BY : MKT	01/10
REV. 4/15	MAA/TMG

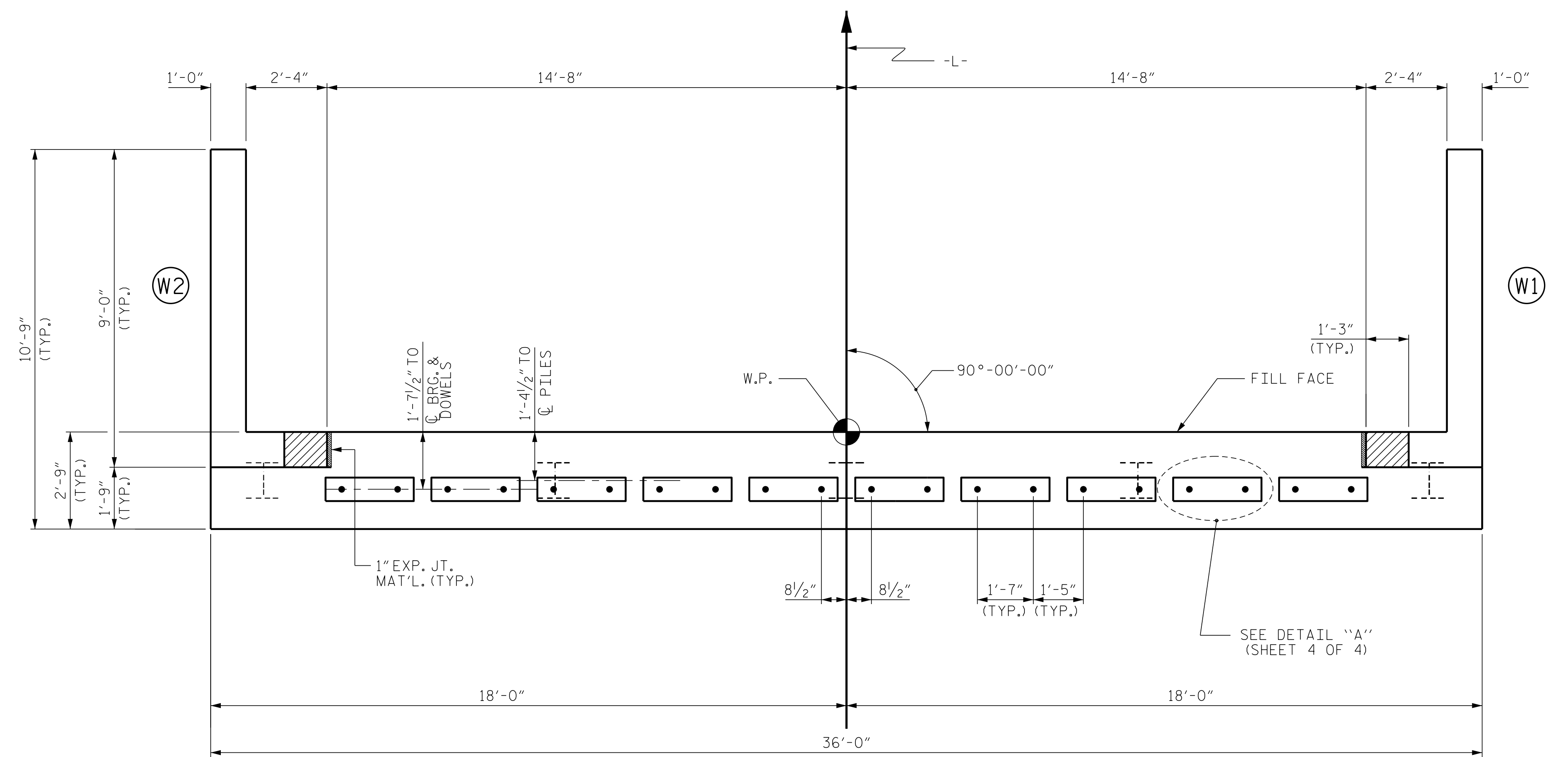
NOTES

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

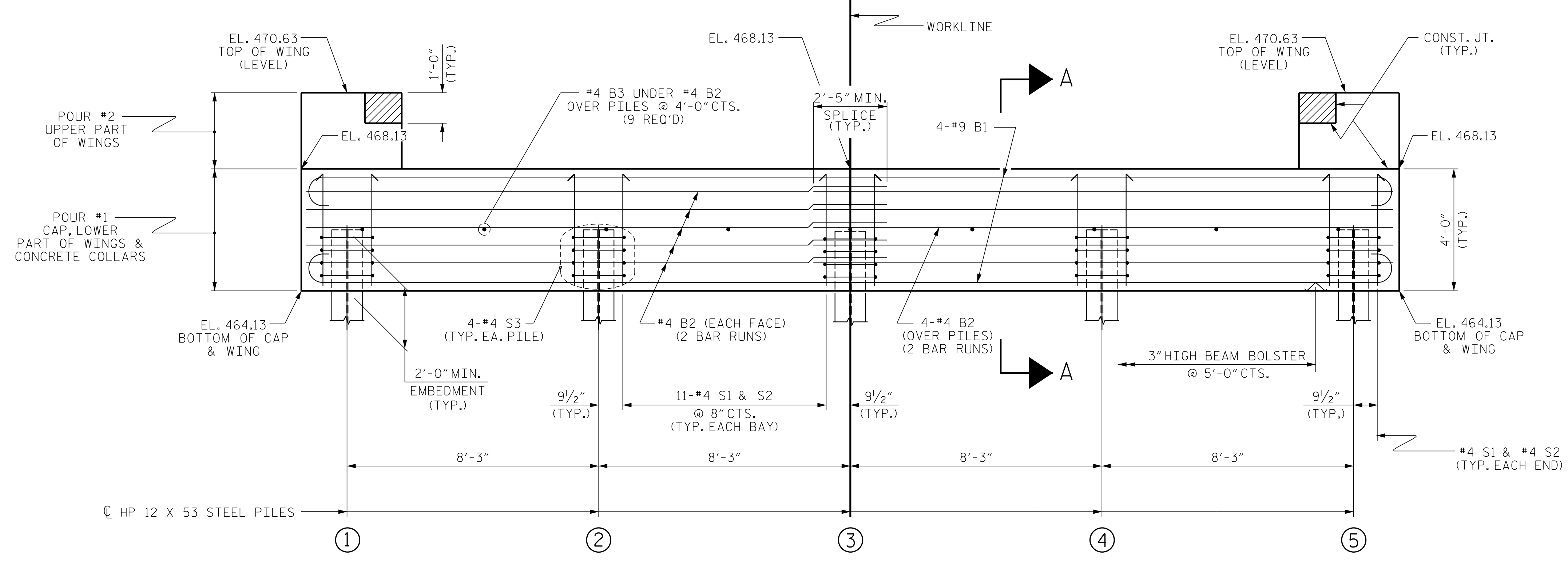
THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.



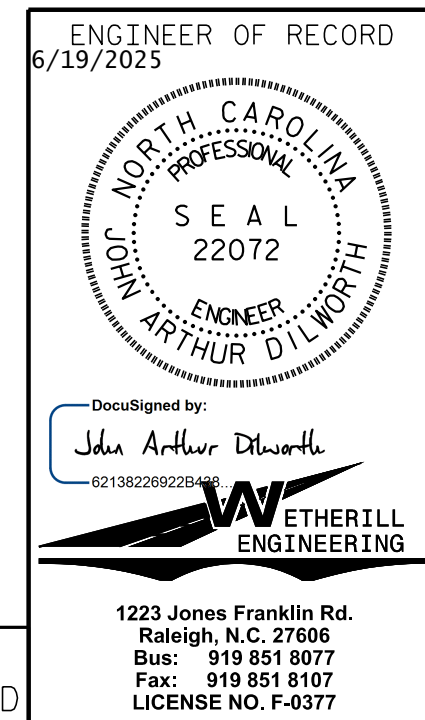
PLAN



ELEVATION

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

PROJECT NO. BP8-R027
RANDOLPH COUNTY
STATION: 15+43.00 -L-
SHEET 2 OF 4



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT No. 2					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-10
TOTAL SHEETS					14

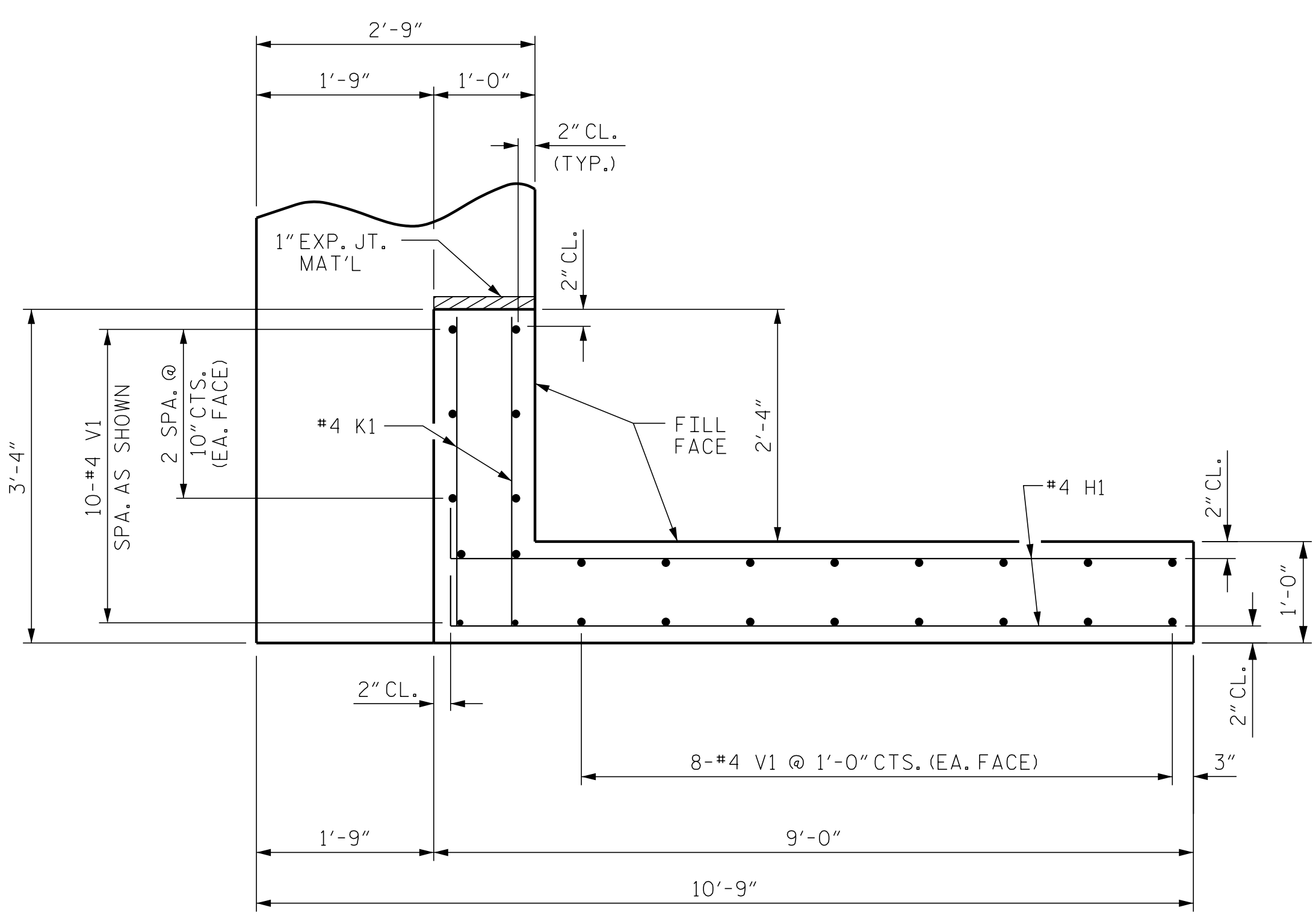
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107
LICENSE NO. F-0377

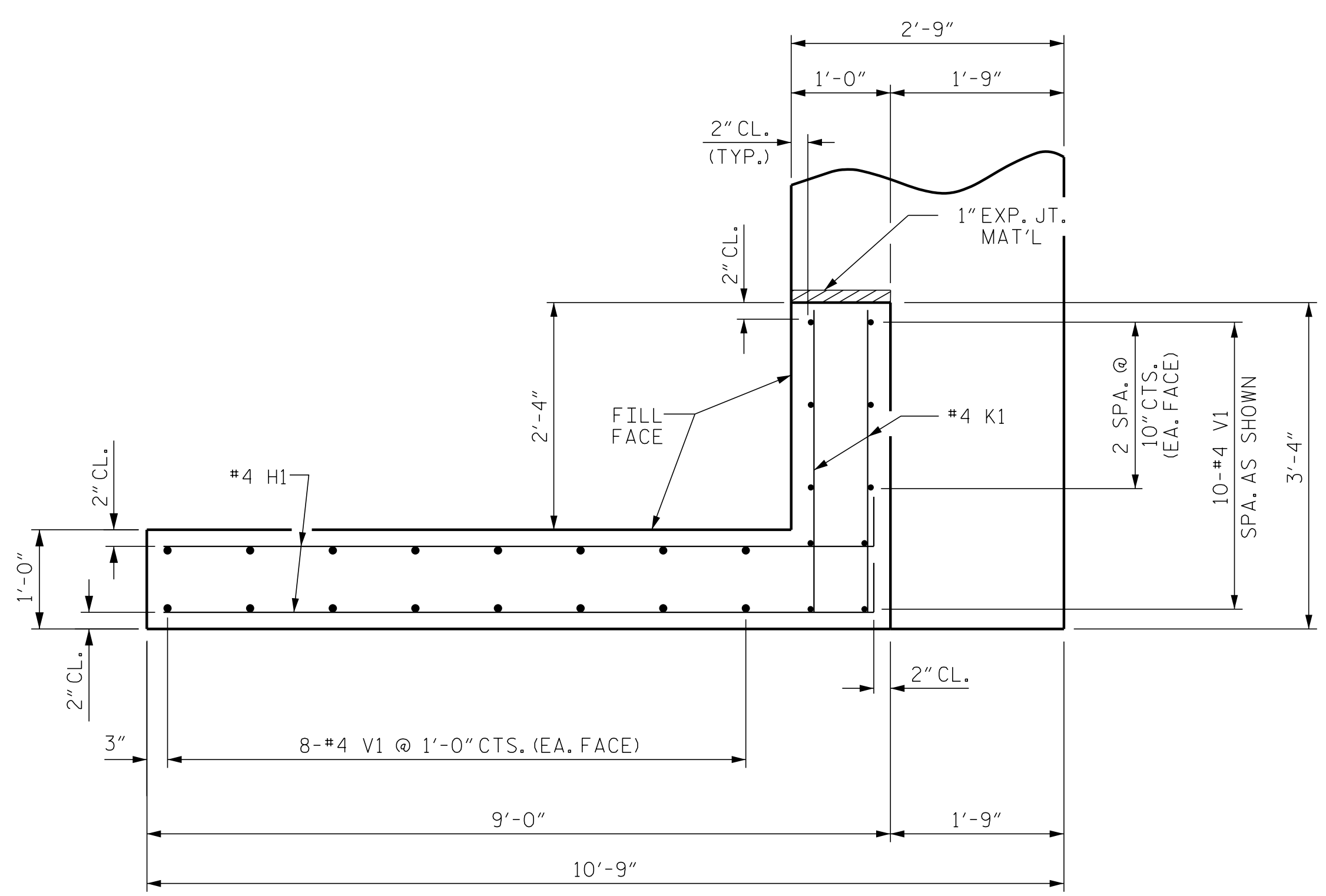
STD. NO. EB_30_90S4

P:\2022\2212801_Randolph_305_Div_8\Structures\06M\BP8R027_SD_EB_750305.dgn
 6/19/2025 9:21:01 AM

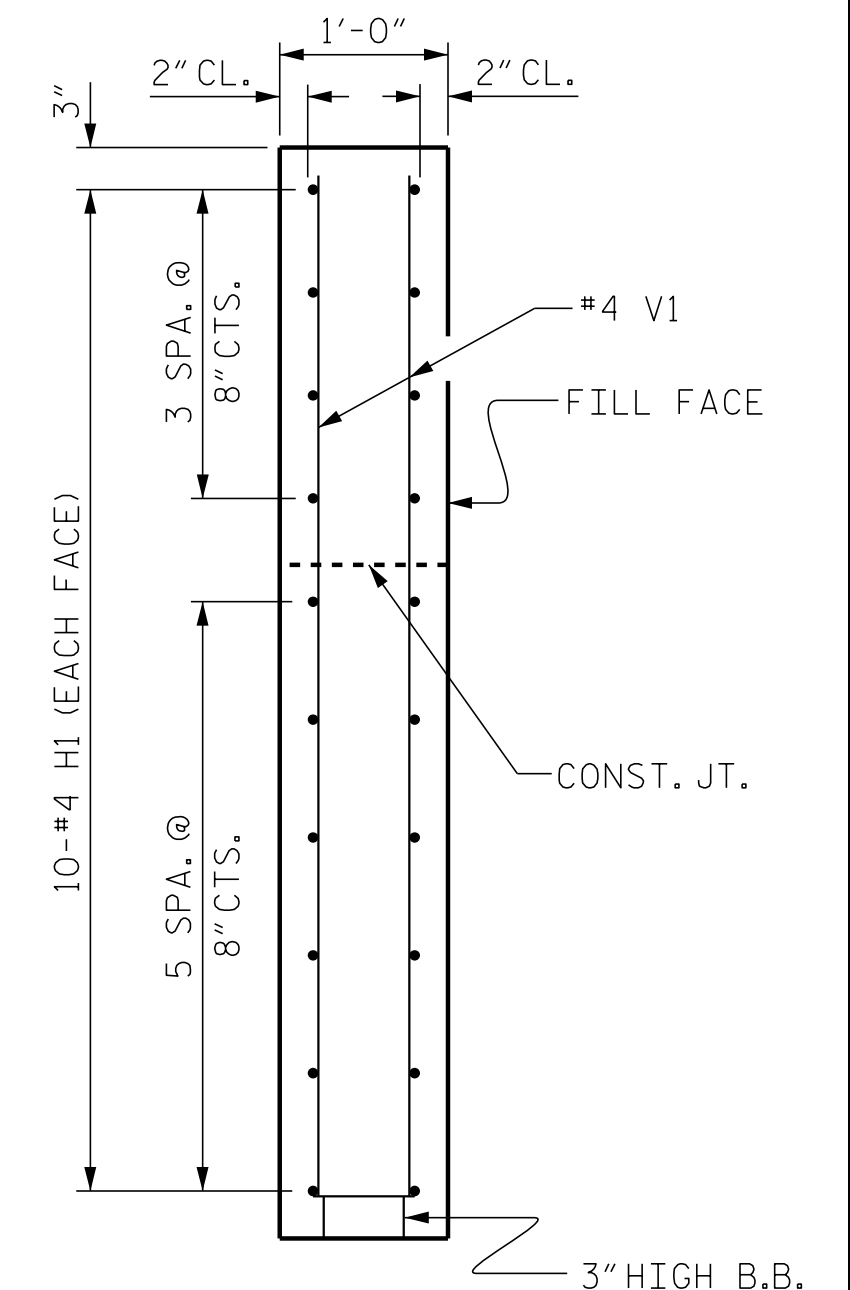
ASSEMBLED BY : J. PENDERGRAFT	DATE : 9-23
CHECKED BY : J. DILWORTH	DATE : 9-23
DRAWN BY : DGE	01/10
CHECKED BY : MKT	01/10
REV. 4/15	MAA/TMG



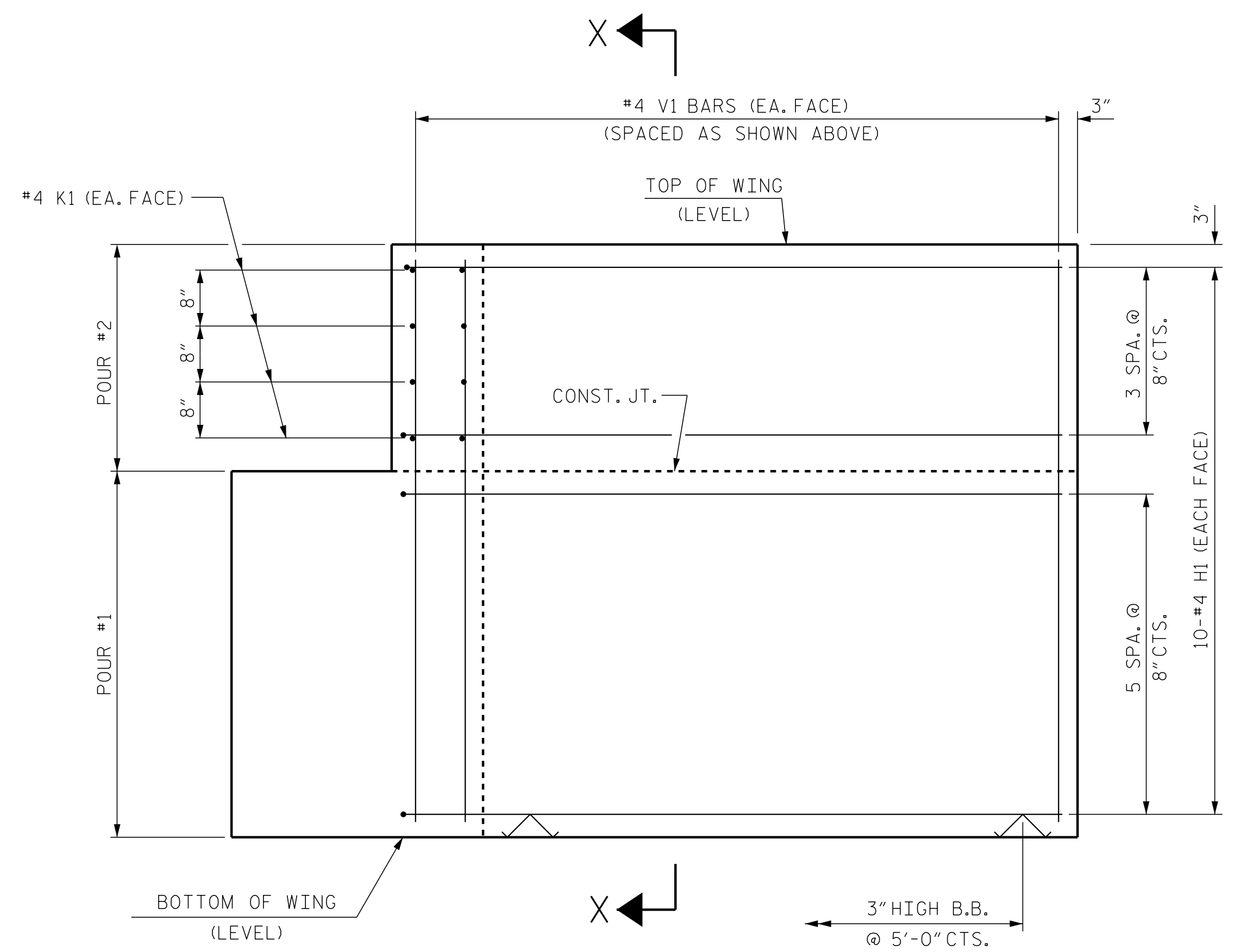
PLAN OF WING (W1)



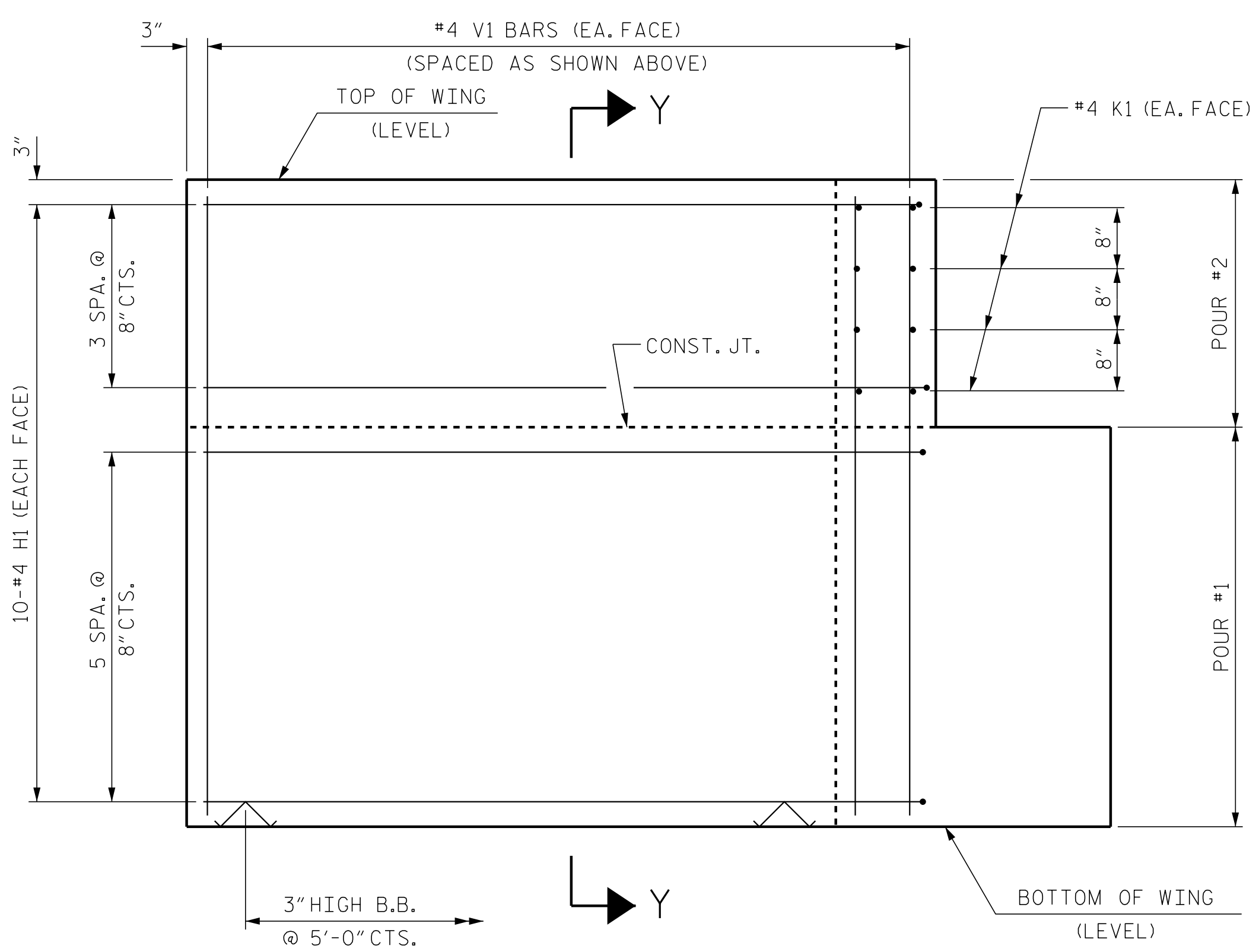
PLAN OF WING (W2)



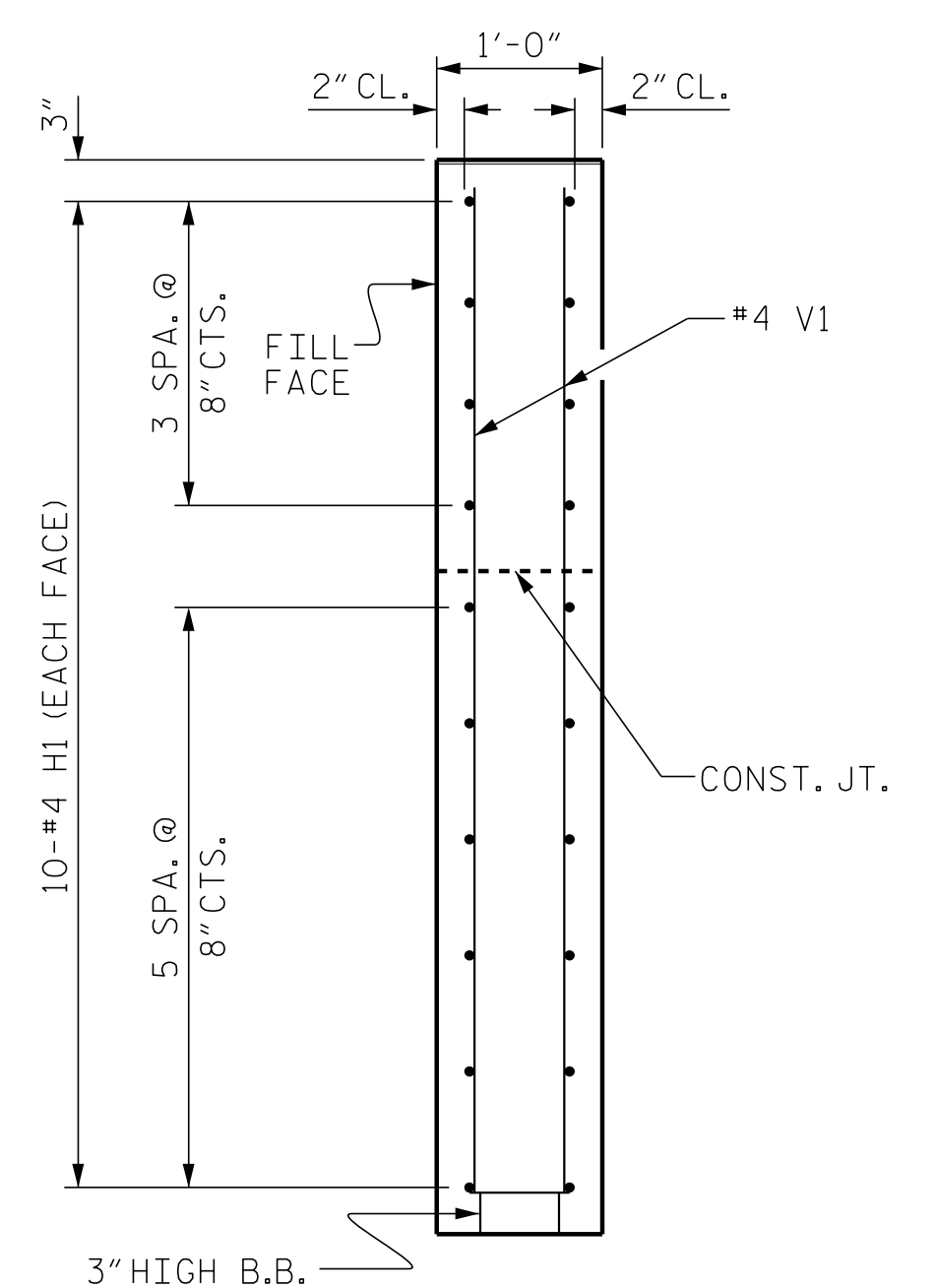
SECTION X-X



ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION Y-Y

PROJECT NO. BP8-R027
RANDOLPH COUNTY
 STATION: 15+43.00 -L-
 SHEET 3 OF 4

WING DETAILS

ASSEMBLED BY : J. PENDERGRAFT	DATE : 9-23
CHECKED BY : J. DILWORTH	DATE : 9-23
DRAWN BY : DGE 02/10	REV. 4/15
CHECKED BY : MKT 02/10	MAA/TMG

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

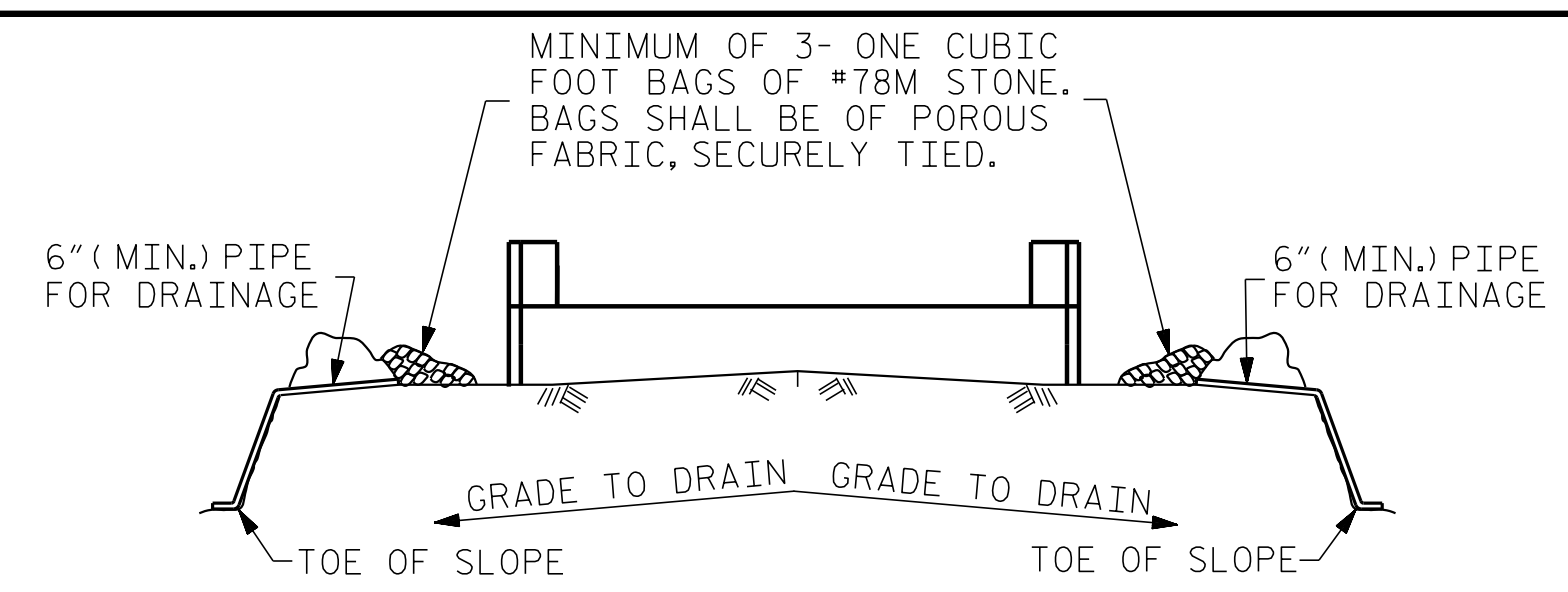
ENGINEER OF RECORD
 6/19/2025

 John Arthur Dilworth
 WETHERILL ENGINEERING
 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 LICENSE NO. F-0377

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT WING DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-11					TOTAL SHEETS 14

STD. NO. EB_30_90S4

P:\2022\2212801 Randolph 305 Div 8\Structures\OGM\BP8R027_SD_EB_750305.dgn
 6/19/2025 9:23:14 AM

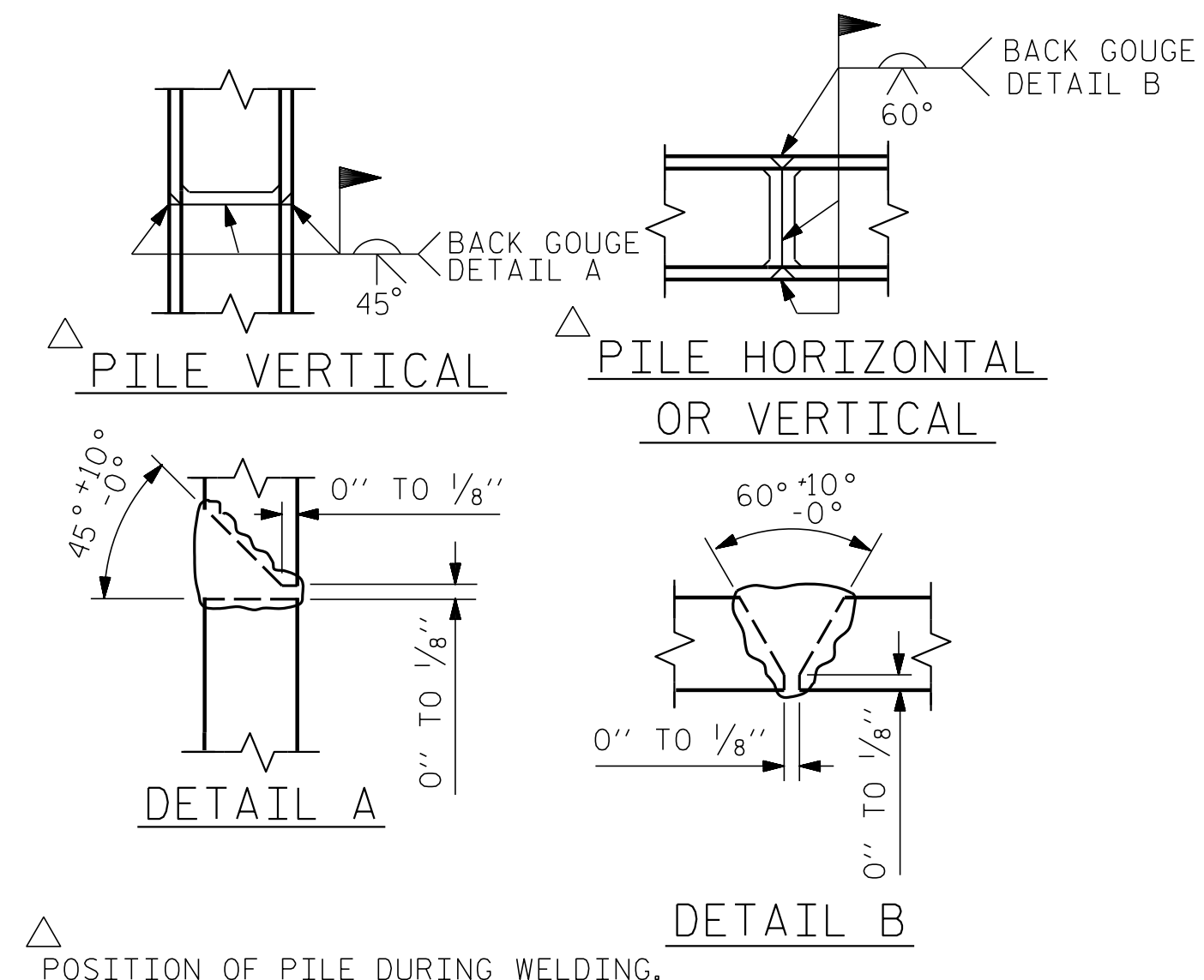


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

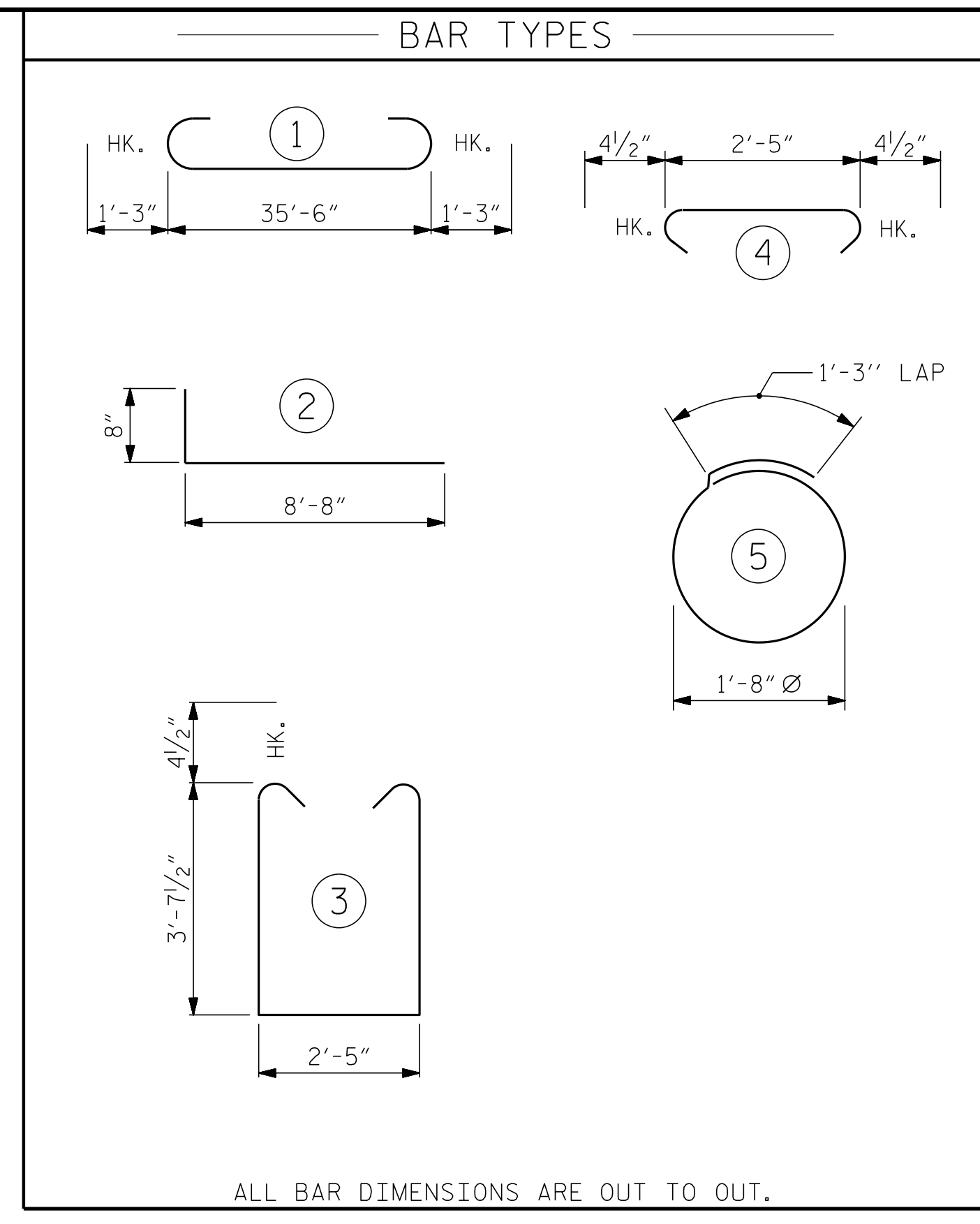
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

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

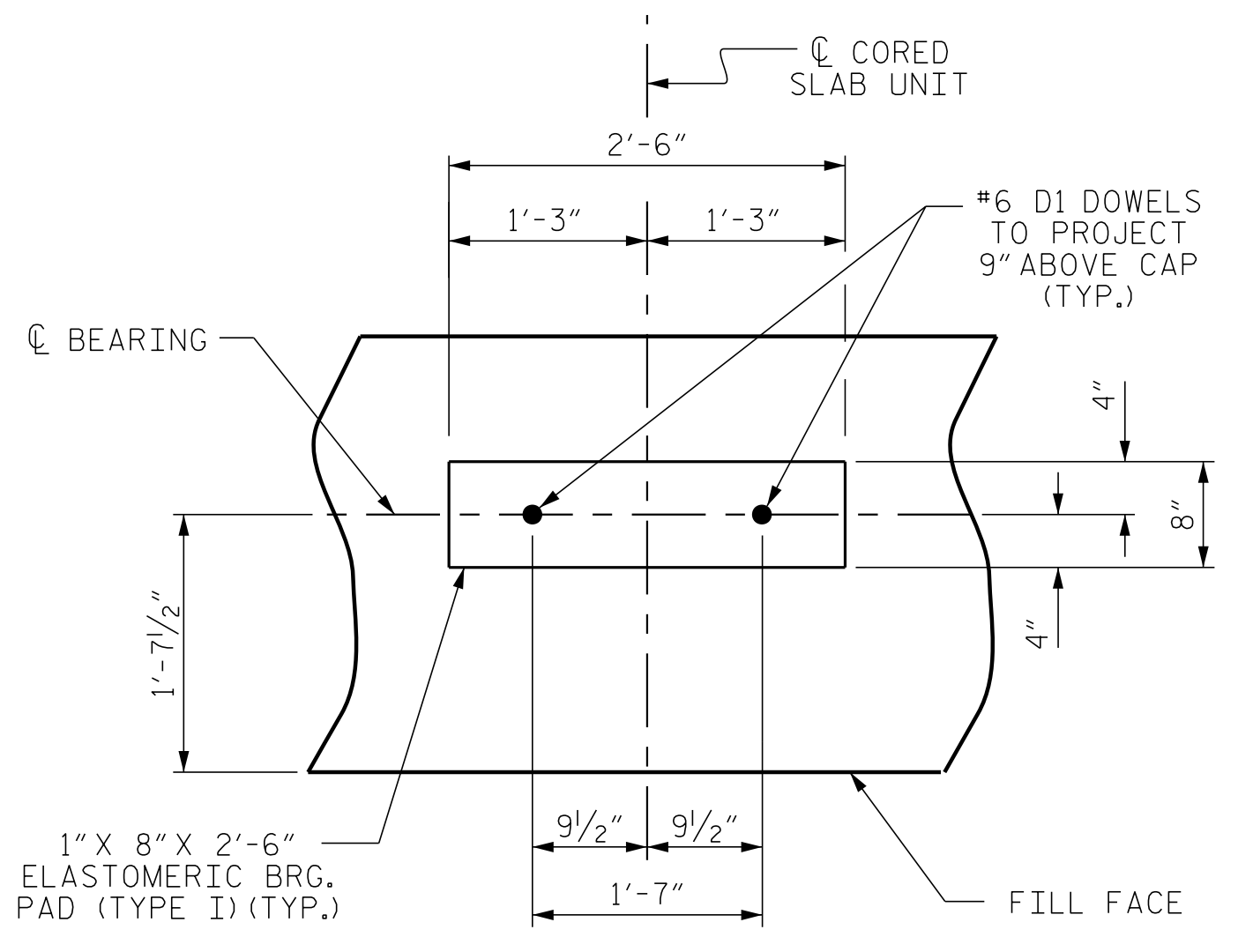
TEMPORARY DRAINAGE AT END BENT



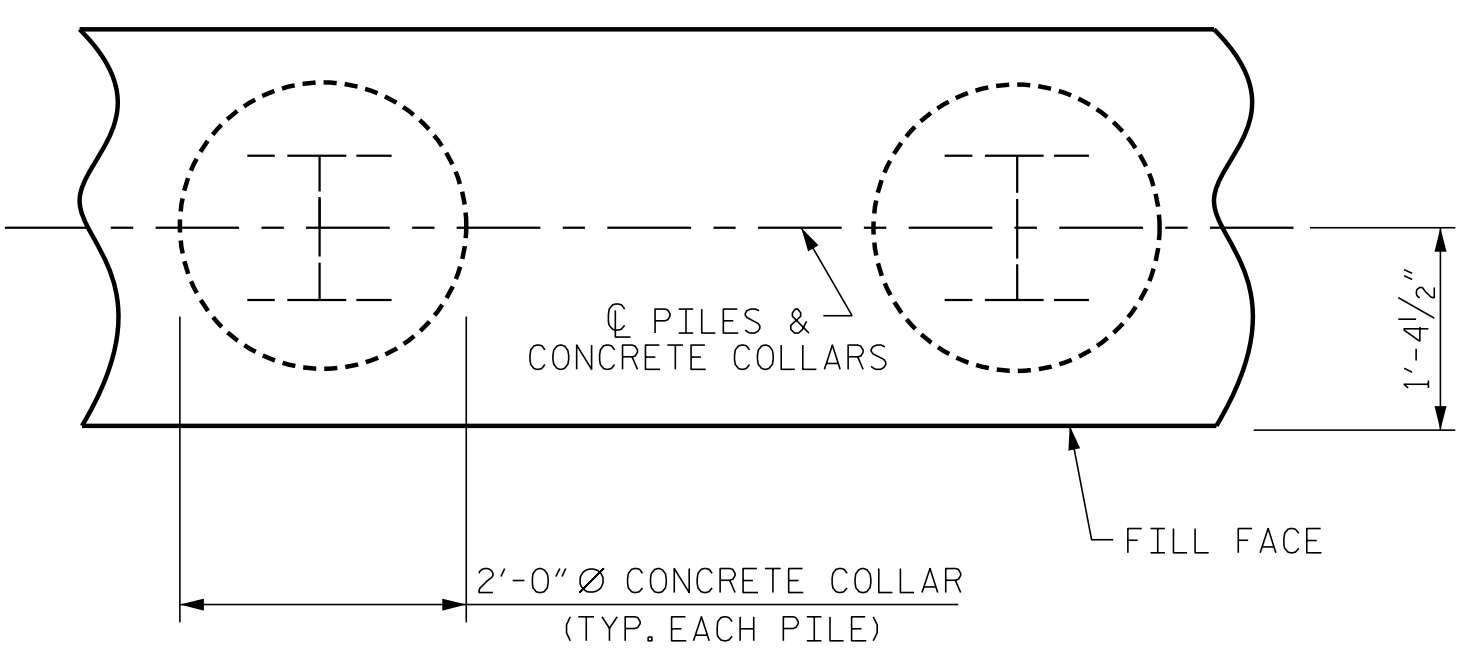
PILE SPLICE DETAILS



BILL OF MATERIAL FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		38'-0"	1034
B2	28	#4	STR	19'-1"	357
B3	9	#4	STR	2'-5"	15
D1	20	#6	STR	1'-6"	45
H1	40	#4	2	9'-4"	249
K1	16	#4	STR	2'-11"	31
S1	46	#4	3	10'-5"	320
S2	46	#4	4	3'-2"	97
S3	20	#4	5	6'-6"	87
V1	52	#4	STR	6'-2"	214
REINFORCING STEEL (FOR ONE END BENT)					2449 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1	CAP, LOWER PART OF WINGS & COLLARS				17.9 C.Y.
POUR #2	UPPER PART OF WINGS				2.1 C.Y.
TOTAL CLASS A CONCRETE					20.0 C.Y.

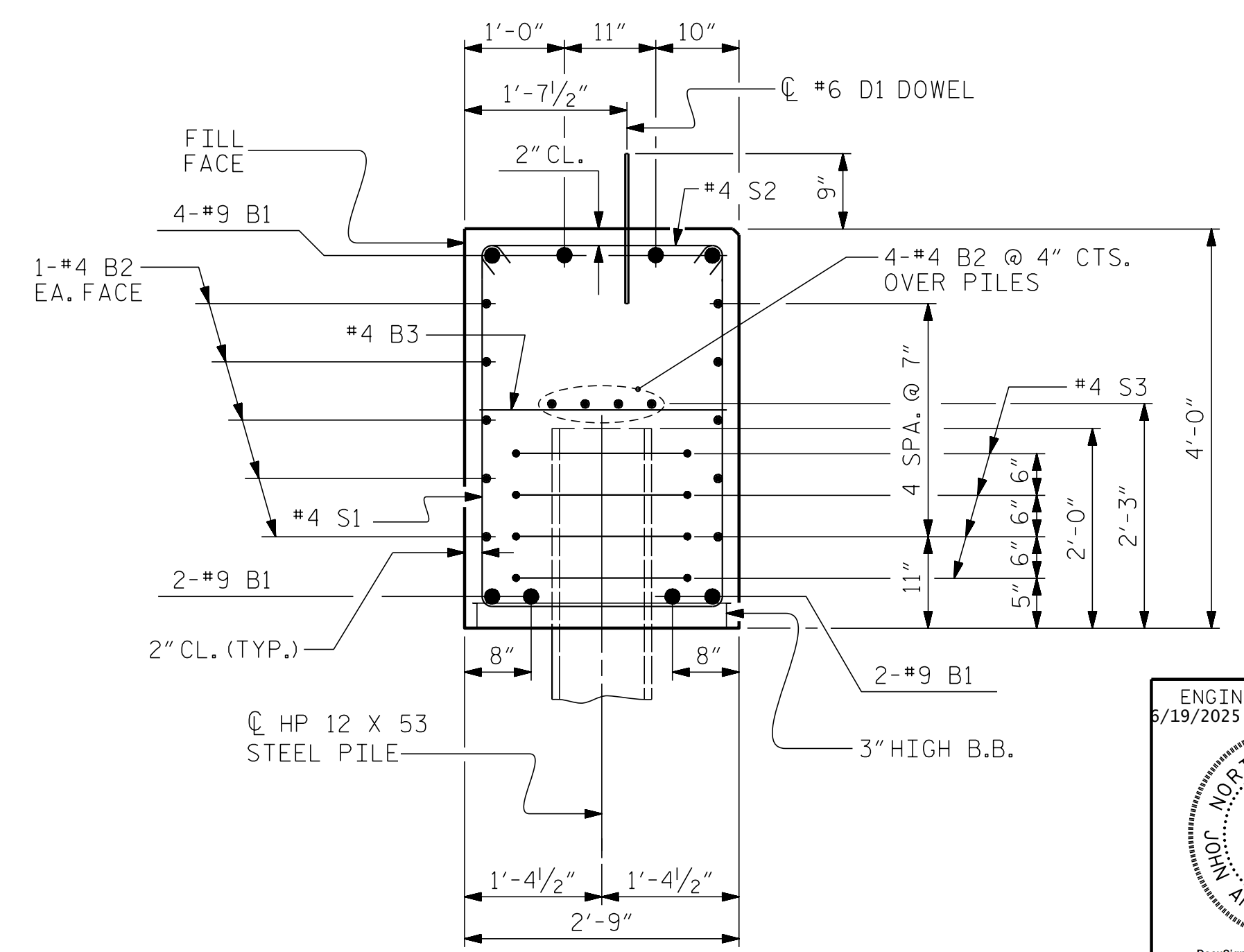
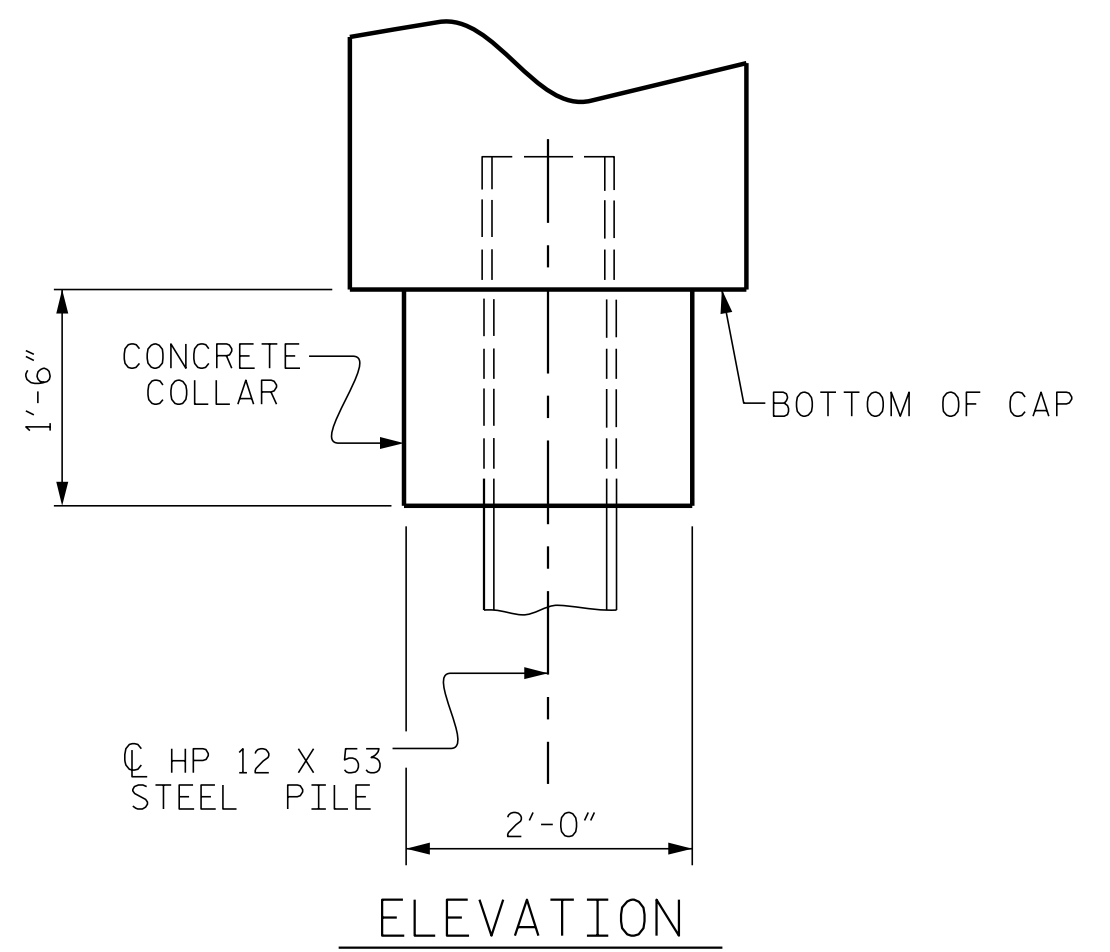


(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



CORROSION PROTECTION FOR STEEL PILES DETAIL

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



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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. BP8-R027
RANDOLPH COUNTY
 STATION: 15+43.00 -L-
 SHEET 4 OF 4

ENGINEER OF RECORD
 5/19/2025

DocuSigned by:
 John Arthur Dilworth
 62138289228144

ETHERILL ENGINEERING

1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 LICENSE NO. F-0377

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE					
END BENT No. 1 & 2 DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

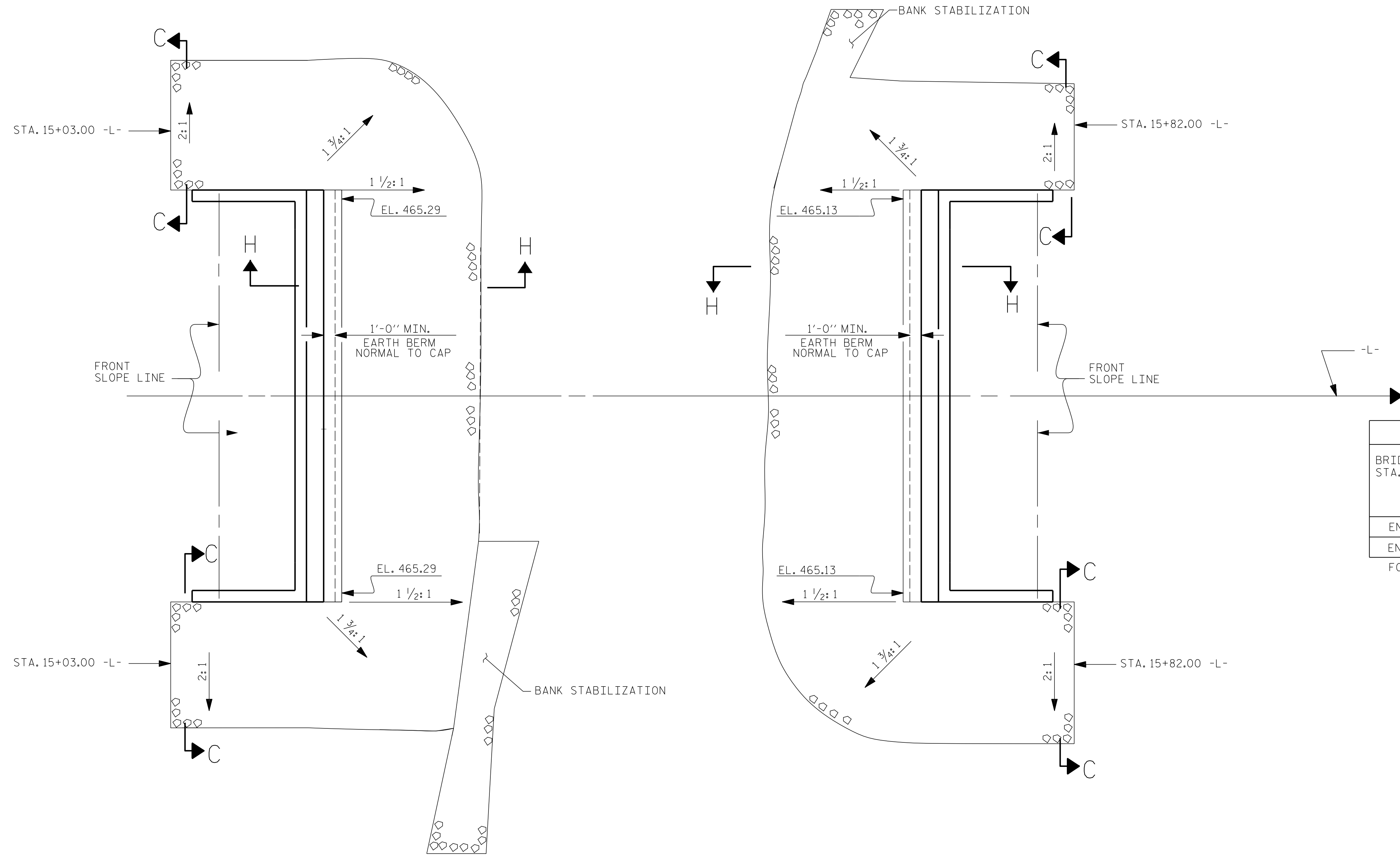
SHEET NO. S-12				
TOTAL SHEETS 14				

STD. NO. EB_30_90S4

PA:2022\2212801_Randolph 305 Div 8\Structures\06M\BP8R027_SD_EB_750305.dgn
 6/19/2025 9:24:54 AM

ASSEMBLED BY : J. PENDERGRAFT	DATE : 9-23
CHECKED BY : J. DILWORTH	DATE : 9-23
DRAWN BY : DGE	12/09
CHECKED BY : MKT	01/10
REV. 4/17	MAA/THC

NOTES :
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.



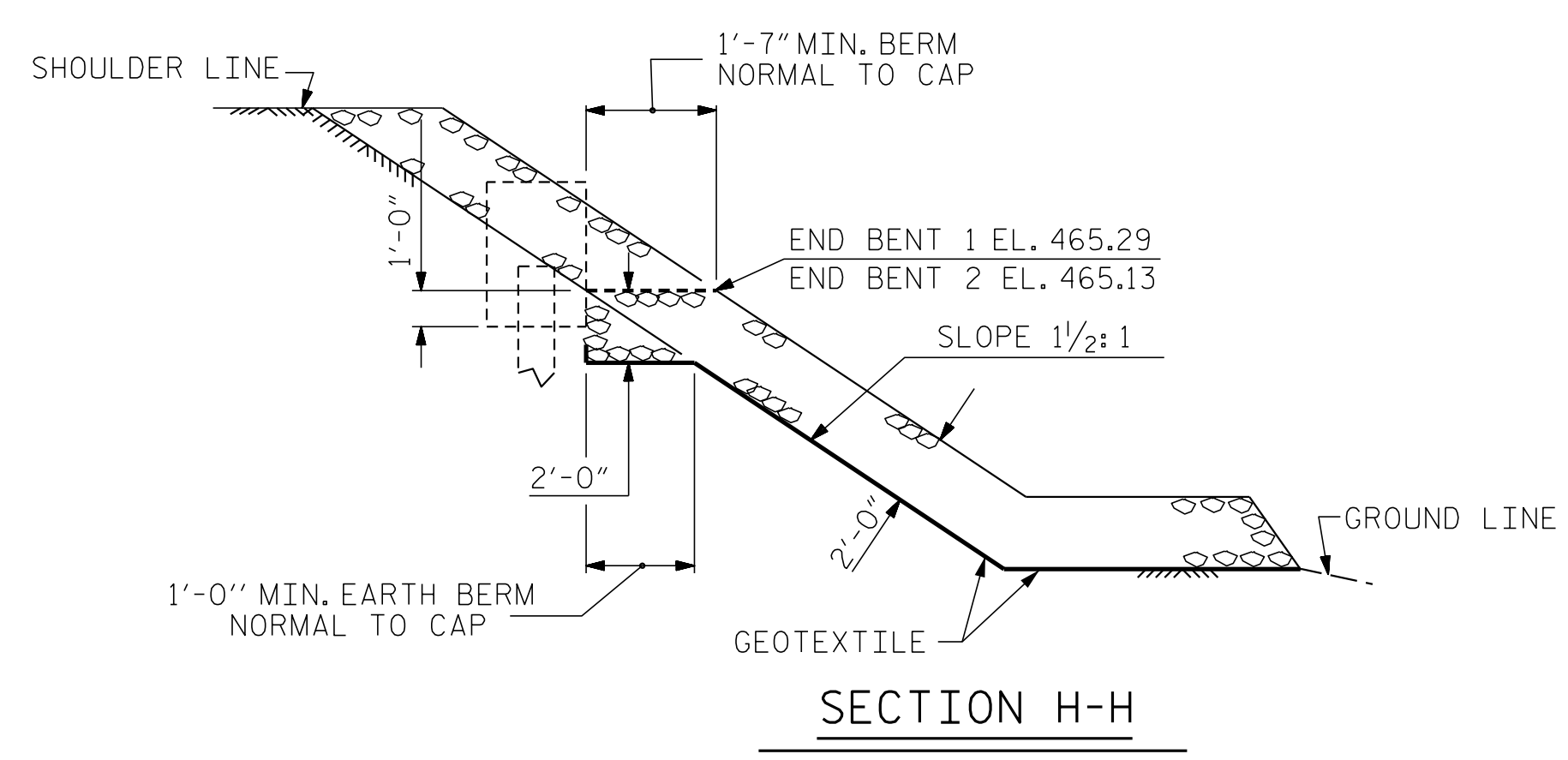
ESTIMATED QUANTITIES		
BRIDGE @ STA. 15+43.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	133	148
END BENT 2	129	143

FOR BANK STABILIZATION, SEE ROADWAY PLANS.

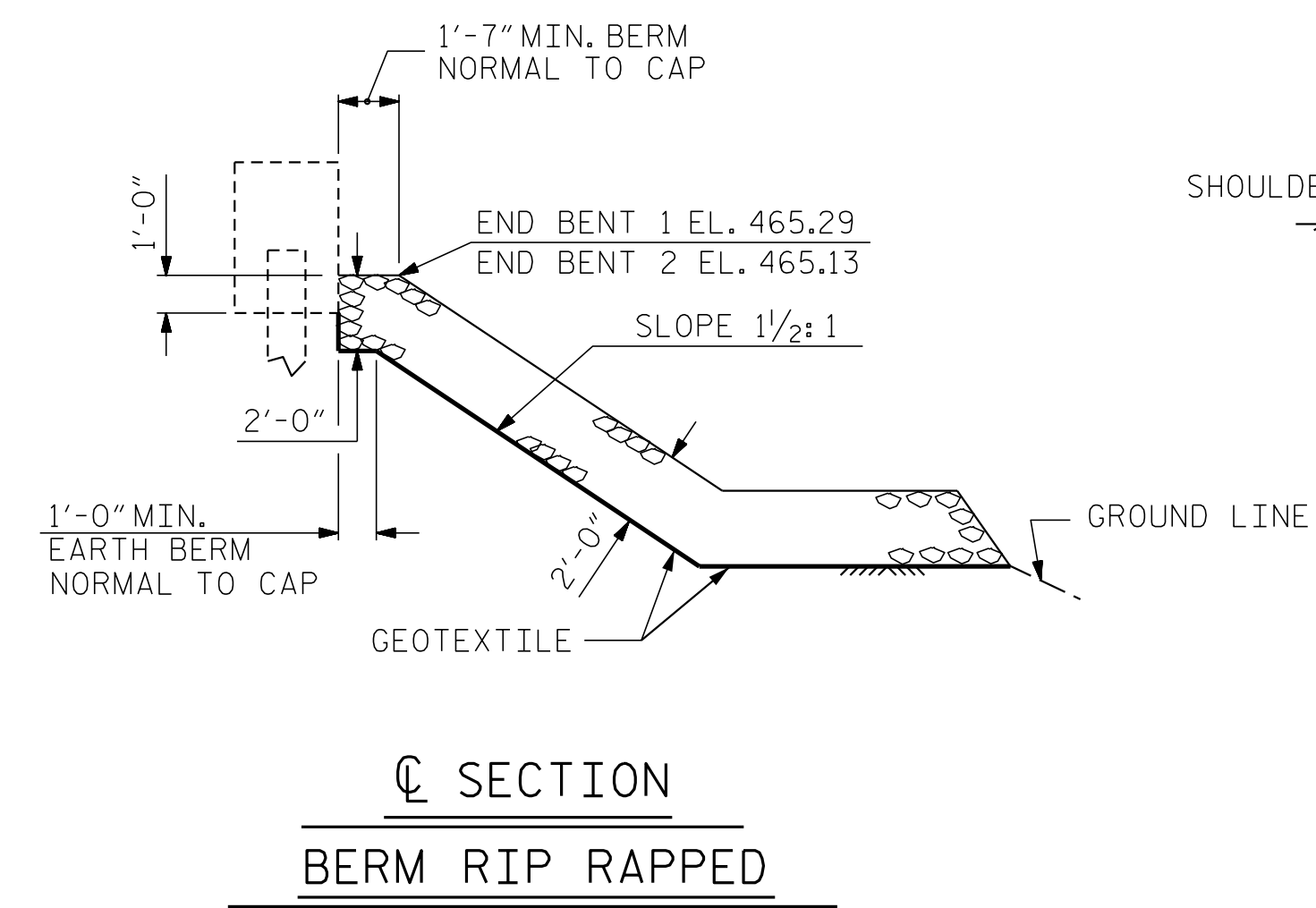
@ END BENT NO. 1

PLAN OF RIP RAP

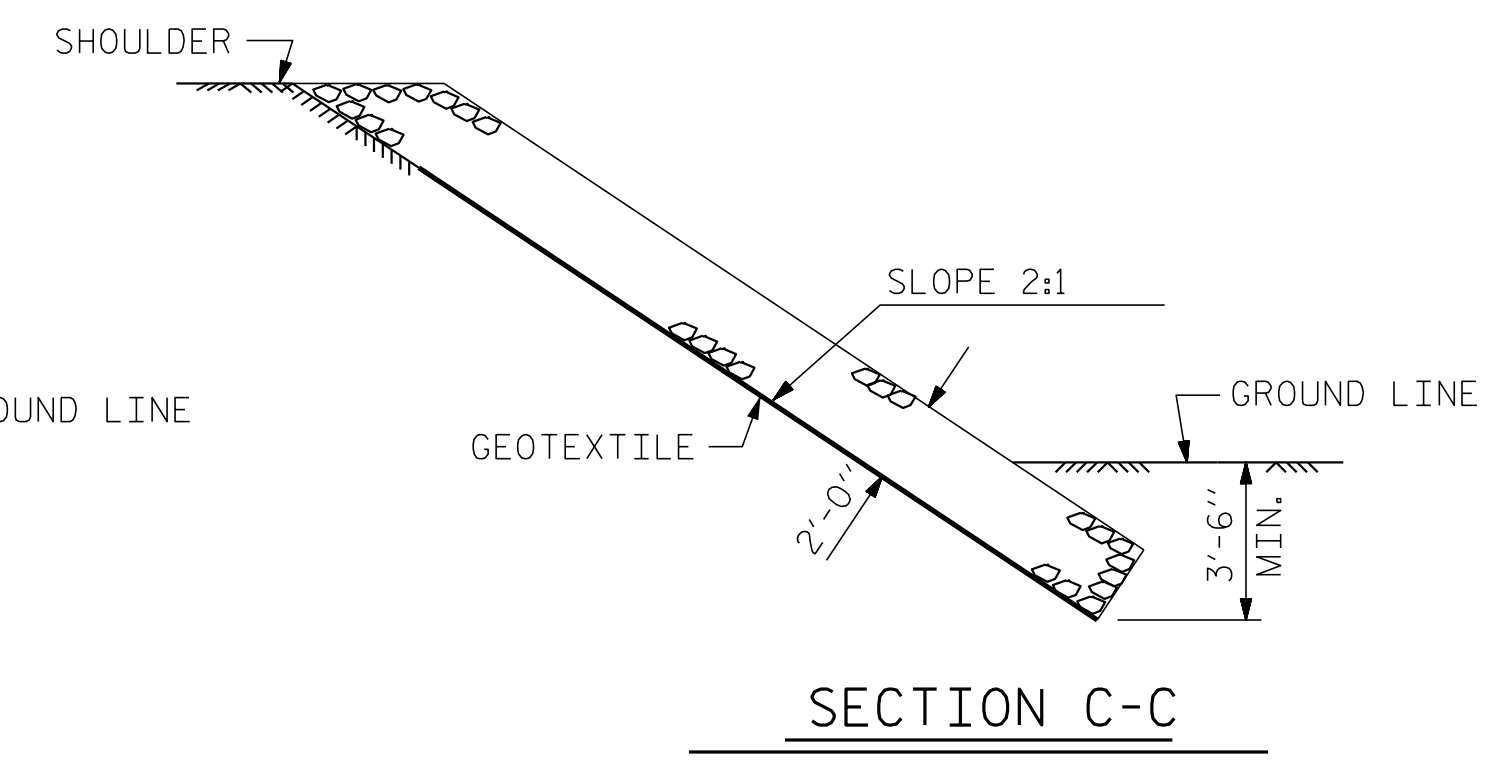
@ END BENT NO. 2



SECTION H-H



SECTION C-C
BERM RIP RAPPED



SECTION C-C

PROJECT NO. BP8-R027
RANDOLPH COUNTY
STATION: 15+43.00 -L-

ENGINEER OF RECORD
6/19/2025

DocuSigned by:
John Arthur Dilworth
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107
LICENSE NO. F-0377

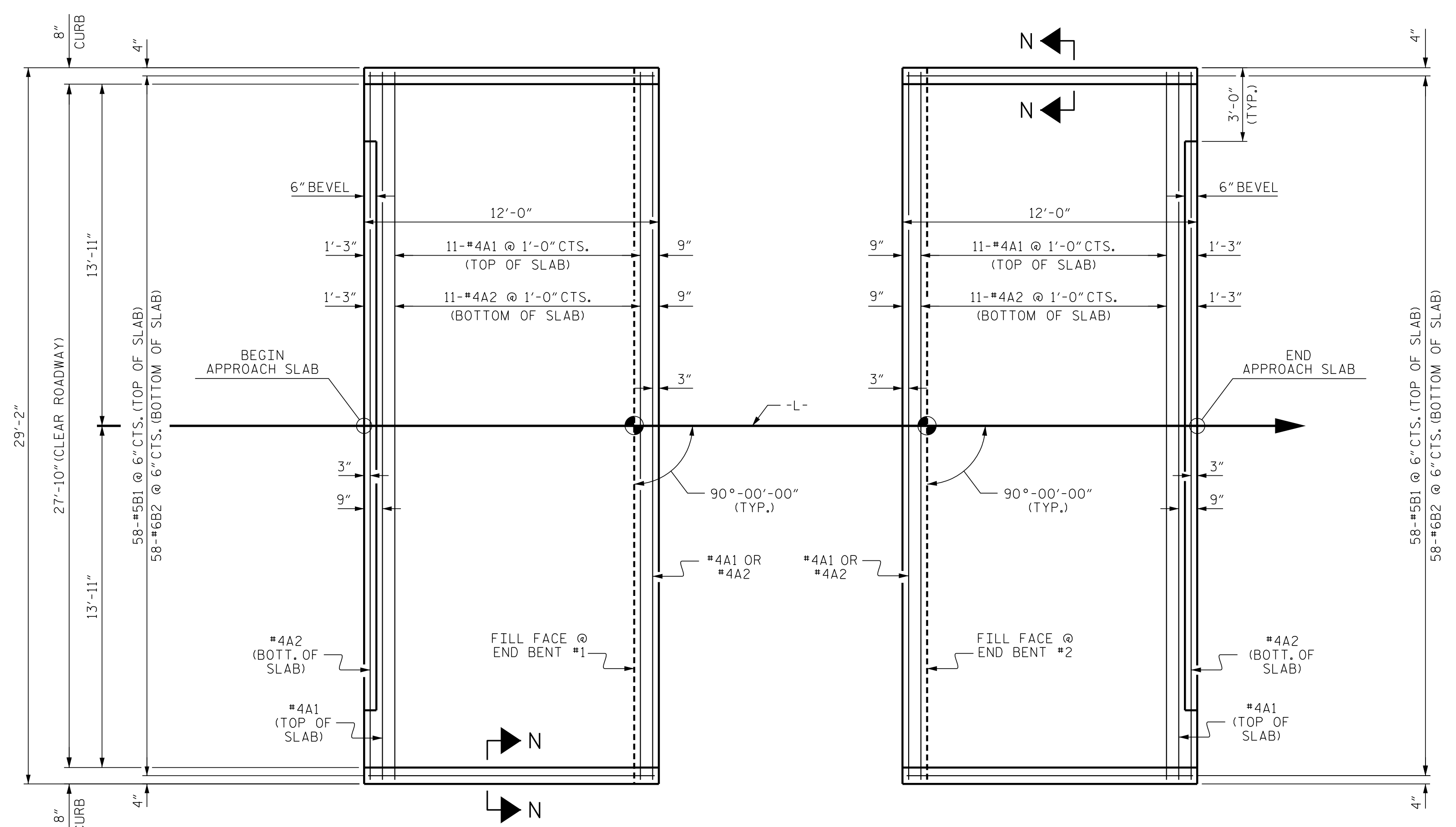
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
2			4			14

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

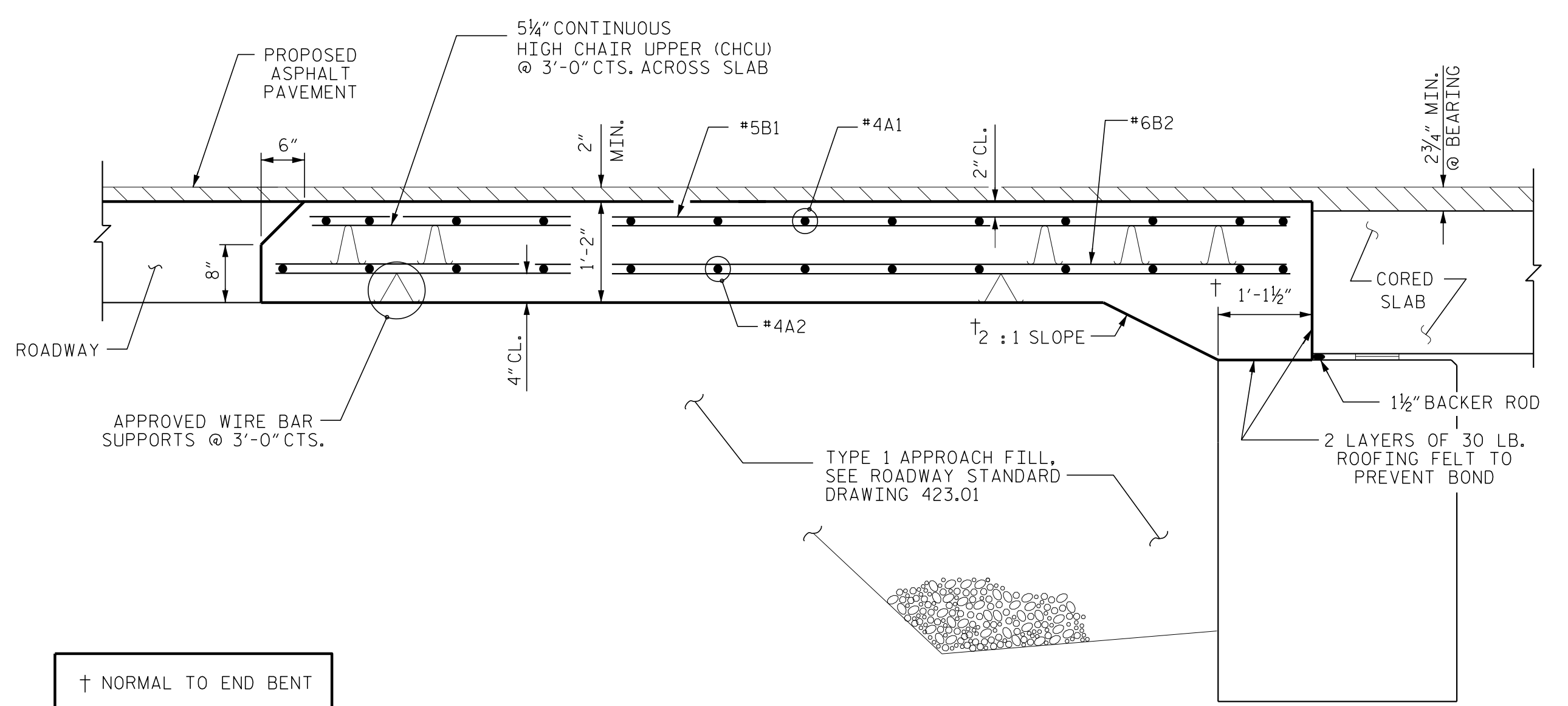
STD. NO. RR1 (Sht 2)

P:\2022\2212801 Randolph 305 Div 8\Structures\OGM\BP8R027_SD_RR_750305.dgn
 6/19/2025 9:27:17 AM

ASSEMBLED BY : J. PENDERGRAFT	DATE : 9-23
CHECKED BY : J. DILWORTH	DATE : 9-23
DRAWN BY : REK 1/84	REV. 10/1/11 MAA/GM
CHECKED BY : RDU 1/84	REV. 12/21/11 MAA/GM
	REV. 12/17 MAA/THC



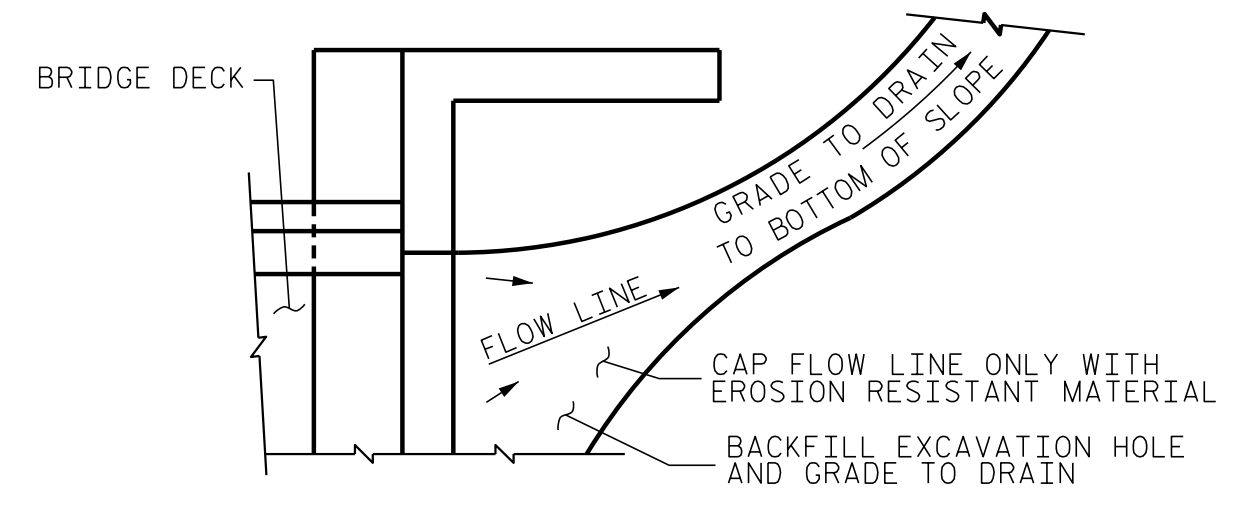
PLAN @ END BENT #1 **PLAN @ END BENT #2**
 DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



SECTION THRU SLAB

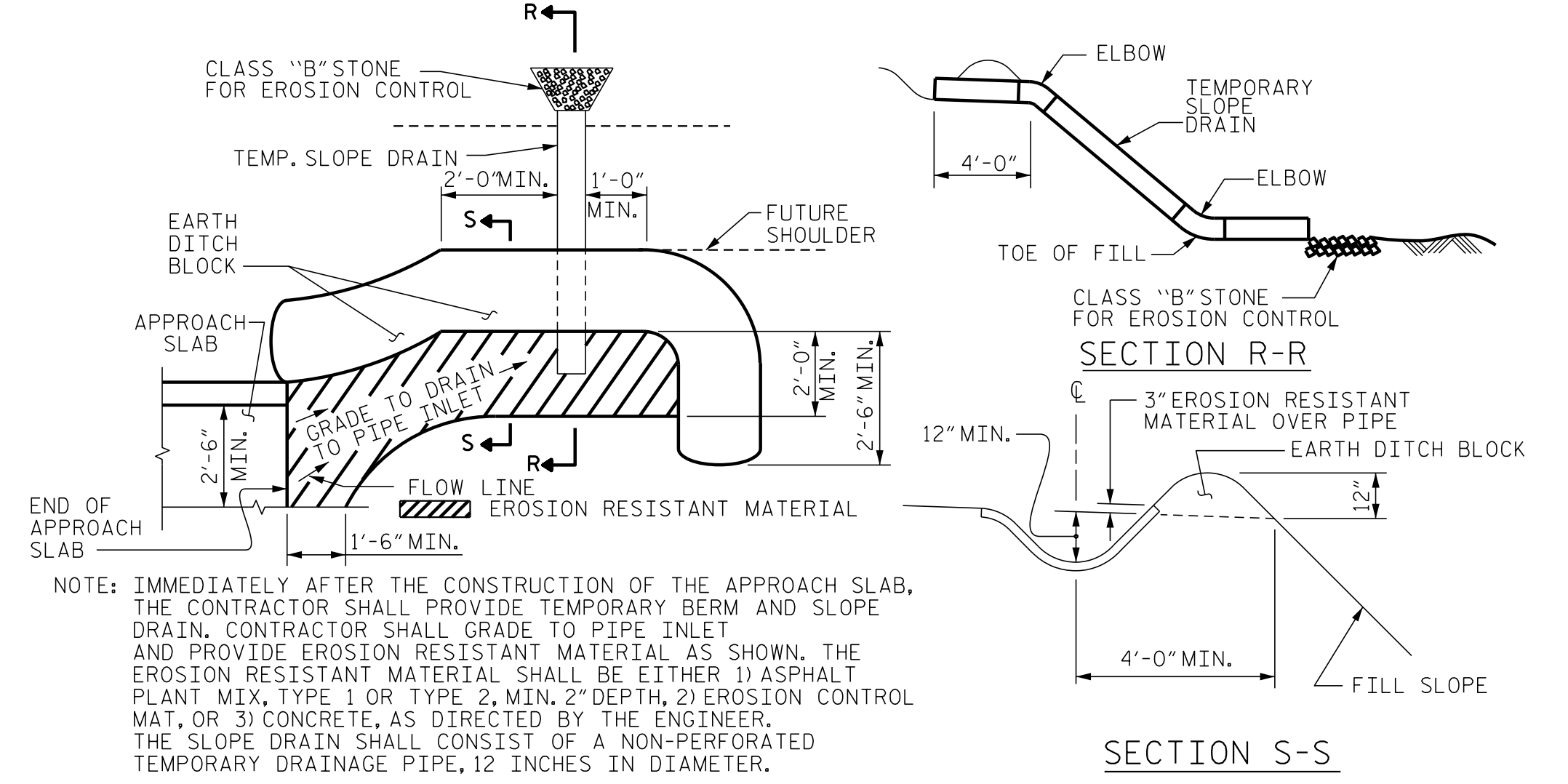
NOTES

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.

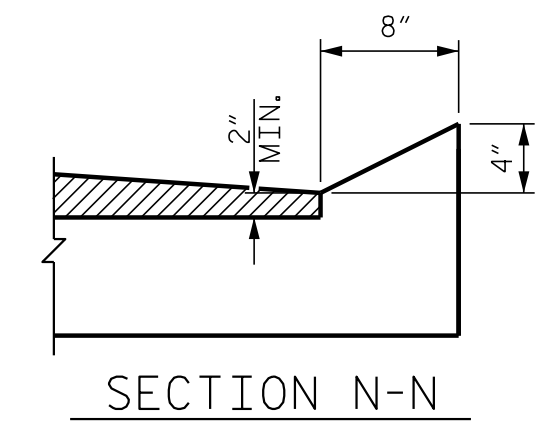


NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT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

TEMPORARY DRAINAGE DETAIL



TEMPORARY BERM AND SLOPE DRAIN DETAILS
 (TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



CURB DETAILS

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

BILL OF MATERIAL						
APPROACH SLAB AT EB #1						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
*A1	13	#4	STR	28'-10"	250	
A2	13	#4	STR	28'-10"	250	
*B1	58	#5	STR	11'-2"	676	
B2	58	#6	STR	11'-8"	1016	
REINFORCING STEEL					LBS.	1266
* EPOXY COATED REINFORCING STEEL					LBS.	926
CLASS AA CONCRETE					C. Y.	16.7
APPROACH SLAB AT EB #2						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
*A1	13	#4	STR	28'-10"	250	
A2	13	#4	STR	28'-10"	250	
*B1	58	#5	STR	11'-2"	676	
B2	58	#6	STR	11'-8"	1016	
REINFORCING STEEL					LBS.	1266
* EPOXY COATED REINFORCING STEEL					LBS.	926
CLASS AA CONCRETE					C. Y.	16.7

PROJECT NO. BP8-R027
 RANDOLPH COUNTY
 STATION: 15+43.00 -L-

ENGINEER OF RECORD
 6/19/2025

 DocuSigned by:
 John Arthur Dilworth
 621382269221610

 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 LICENSE NO. F-0377

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

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

TOTAL SHEETS: 14

ASSEMBLED BY : J. PENDERGRAFT DATE : 11-23
 CHECKED BY : J. DILWORTH DATE : 11-23
 DRAWN BY : SHS/MAA 5-09 REV. 12-17 MAA/THC
 CHECKED BY : BCH 5-09 REV. 08-19 BNB/THC

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

P:\2022\2212801 Randolph 305 Div 8\Structures\OGM\BP8R027_SD_AS_750305.dgn
 6/19/2025 9:29:35 AM

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	- - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	- - - - -	SEE PLANS
IMPACT ALLOWANCE	- - - - -	SEE A.A.S.H.T.O.
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 A.A.S.H.T.O.
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 $\frac{3}{4}$ " WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO $1\frac{1}{2}$ " RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A $\frac{1}{4}$ " 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 $\frac{1}{4}$ " 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 $\frac{7}{8}$ " \emptyset SHEAR STUDS FOR THE $\frac{3}{4}$ " \emptyset STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - $\frac{7}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF $\frac{7}{8}$ " \emptyset STUDS ALONG THE BEAM AS SHOWN FOR $\frac{3}{4}$ " \emptyset STUDS BASED ON THE RATIO OF 3 - $\frac{7}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset 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 $\frac{3}{16}$ " IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY $\frac{1}{16}$ " INCH 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. FINS 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.

ENGLISH

JANUARY, 1990

STD. NO. SN