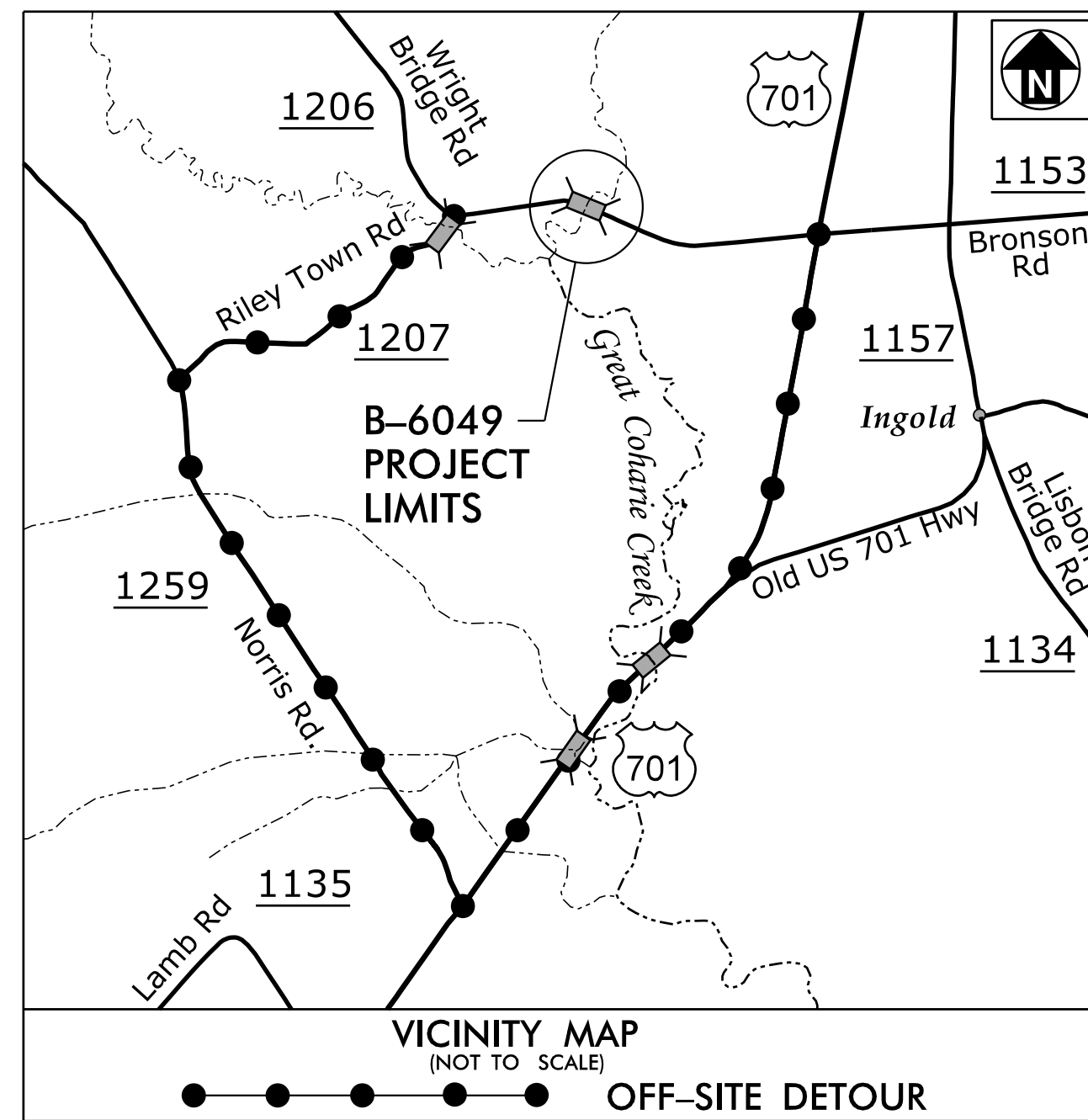


**TIP PROJECT: B-6049**

**CONTRACT: DC00443**



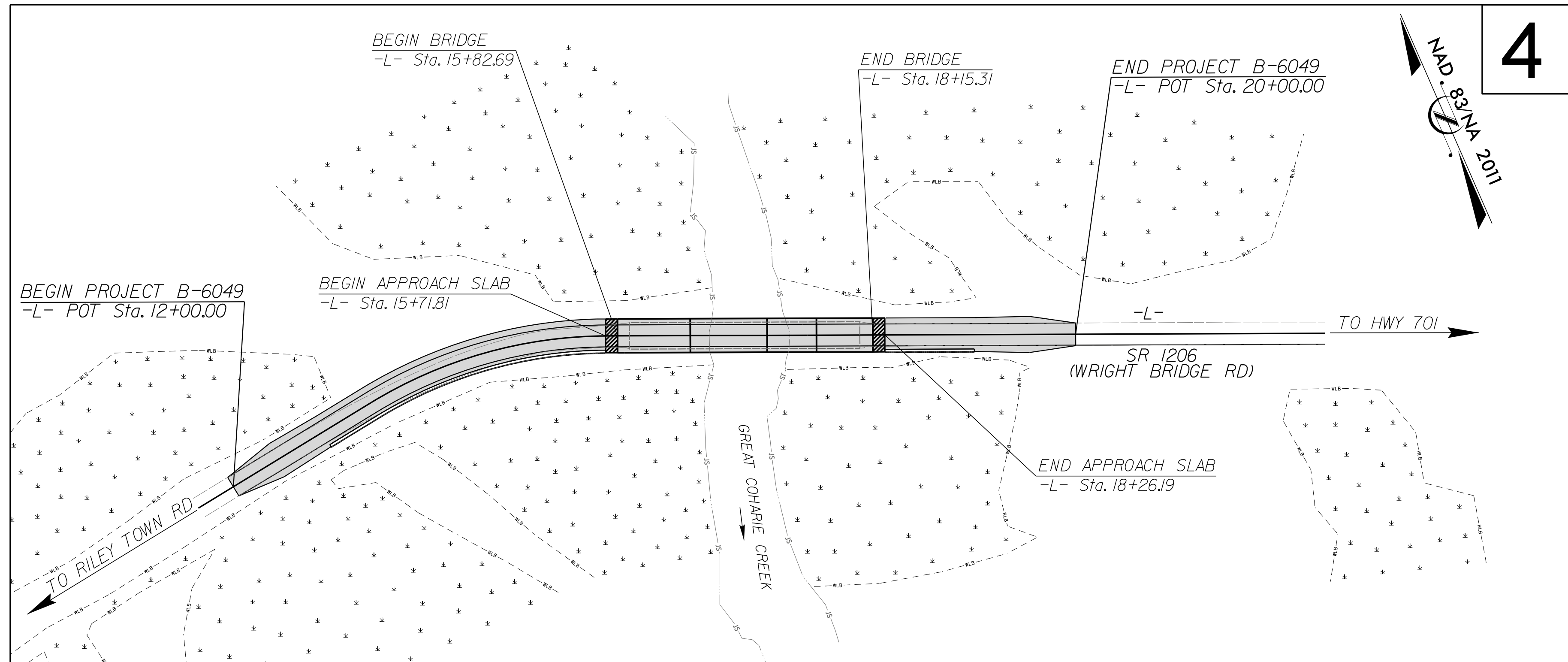
See Sheet 1A For Index of Sheets,  
See Sheet 1B For Conventional Symbols

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**SAMPSON COUNTY**

**LOCATION: BRIDGE NO. 72 OVER GREAT COHARIE CREEK ON  
SR 1206 (WRIGHT BRIDGE ROAD)**

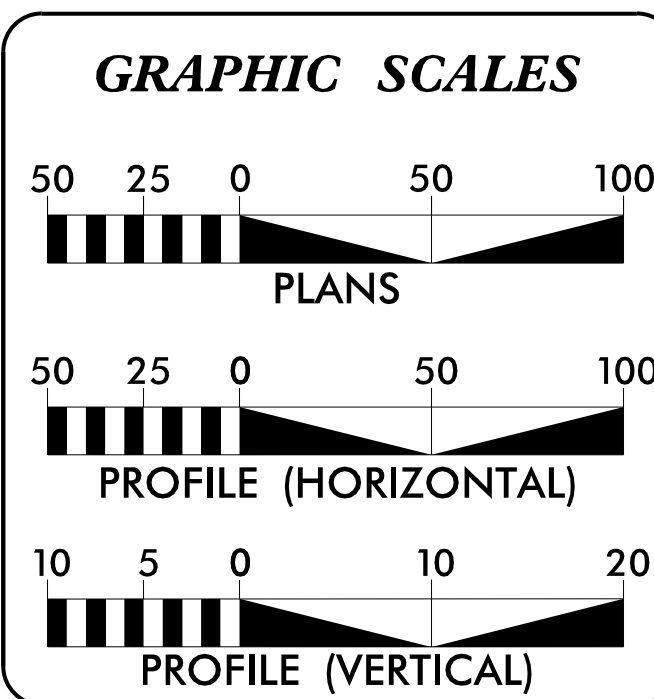
**TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-6049	1	
STATE PROJECT NO.	F.A. PROJ. NO.	DESCRIPTION	
48324.1.1	BRZ-1206(011)	PE	
48324.2.1	BRZ-1206(011)	RW, UTL	
48324.3.1	BRZ-1206(011)	CONST	



\*DESIGN EXCEPTION:  
MIN. HORIZ. CURVE RADIUS  
HORIZ. SSD

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



**DESIGN DATA**

ADT 2023 = 463  
ADT 2045 = 600  
K = TBD  
D = TBD  
T = 2% \*  
V = 55 MPH  
\* TTST N/A DUAL 2%  
FUNC CLASS =  
SUB REGIONAL TIER  
LOCAL

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT = 0.108 MILES

LENGTH STRUCTURE TIP PROJECT = 0.044 MILES

TOTAL LENGTH TIP PROJECT = 0.152 MILES

PLANS PREPARED FOR THE NCDOT BY:

**M M**  
MOTT  
MACDONALD  
7621 Purfoy Road, Suite 115  
Fayetteville, NC 27526  
(919) 552-2253  
(919) 552-2254 (Fax)  
www.mottmac.com/americas  
LICENSE NO. F-0669

2018 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
DECEMBER 15, 2022

**LETTING DATE:**  
DECEMBER 7, 2023

**TIM JORDAN, PE**  
PROJECT ENGINEER

**PADDY JORDAN**  
PROJECT DESIGN ENGINEER

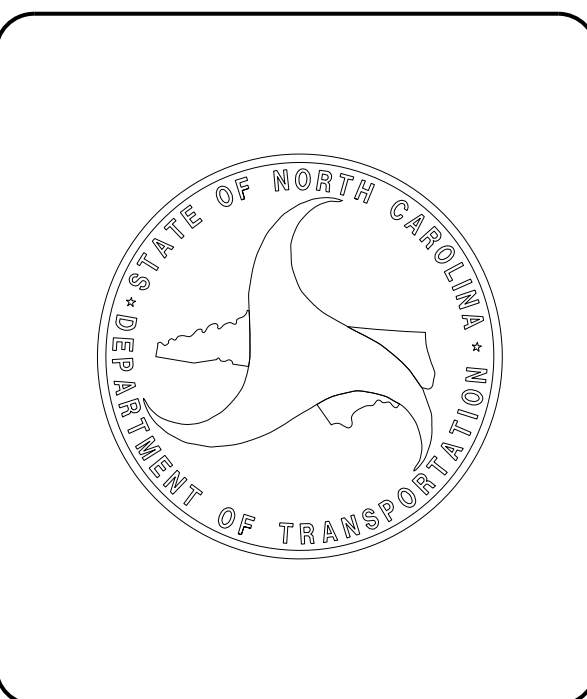
**DEREK PIELECH, PE**  
DIVISION BRIDGE PROGRAM MANAGER

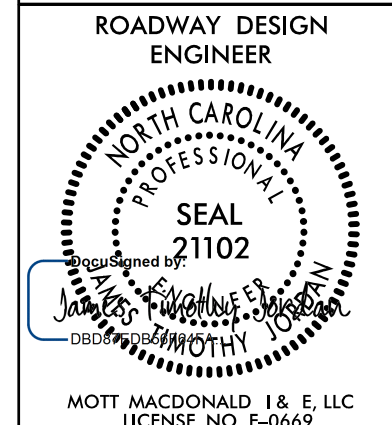

**ROADWAY DESIGN ENGINEER**

**HYDRAULICS ENGINEER**

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 21102  
Signature: J. T. JORDAN P.E.

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 34364  
Signature: DEREK J. PIELECH P.E.



PROJECT REFERENCE	SHEET NO.
B-6049	1A
ROADWAY DESIGN ENGINEER	
	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
Prepared in the Office of:	
	MOTT MACDONALD 7621 Purfoy Road, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com

## GENERAL NOTES

GENERAL NOTES: 2018 SPECIFICATIONS EFFECTIVE: 01-16-18

### 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.

### SUBSURFACE DRAINS:

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

### GUARDRAIL:

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

### SUBSURFACE PLANS:

SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT FOR THE STRUCTURE ONLY. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

### END BENTS:

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

### UTILITIES:

UTILITY OWNER ON THIS PROJECT IS FOUR COUNTY ELECTRIC. 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.

## LIST OF ROADWAY STANDARD DRAWINGS

2018 ROADWAY ENGLISH STANDARD DRAWINGS (UNLESS SHOWN OTHERWISE)

EFF. 01-16-2018

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
<b>DIVISION 2 - EARTHWORK</b>	
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
<b>DIVISION 3 - PIPE CULVERTS</b>	
300.01	Method of Pipe Installation
<b>DIVISION 4 - MAJOR STRUCTURES</b>	
423.01	Bridge Approach Fills - Type I Approach Fill for Bridge Abutment (2024 Standard)
<b>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</b>	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
<b>DIVISION 8 - INCIDENTALS</b>	
815.02	Subsurface Drain
815.03	Pipe Underdrain and Blind Drain
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
876.02	Guide for Rip Rap at Pipe Outlets

## INDEX OF SHEETS

SHEET NUMBER	DESCRIPTION
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1	GUARDRAIL INSTALLATION DETAIL
2C-2	GUARDRAIL ANCHOR UNITS DETAIL
2C-3	MODIFIED METHOD III CLEARING DETAIL
2C-4	ROCK PLATING DETAIL
2C-5	8' GUARDRAIL POST DETAIL
3B-1	GUARDRAIL, EARTHWORK, AND SHOULDER BERM GUTTER SUMMARY
3D-1	DRAINAGE SUMMARY
3G-1	GEOTECHNICAL SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
RW01 THRU RW04	SURVEY CONTROL SHEETS
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1 THRU X-6	CROSS-SECTIONS
S-1 THRU S-25	STRUCTURE PLANS
SN	STRUCTURE NOTES

# 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	(123)
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	---S---
Potential Contamination Area: Soil	---S---
Known Contamination Area: Water	---W---
Potential Contamination Area: Water	---W---
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	---C---
Proposed Slope Stakes Fill	---F---
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----
<b>VEGETATION:</b>	
Single Tree	○
Single Shrub	○
Hedge	-----

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

## EXISTING STRUCTURES:

<b>MAJOR:</b>	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
<b>MINOR:</b>	
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)

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

## TELEPHONE:

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

## WATER:

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

## TV:

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

## GAS:

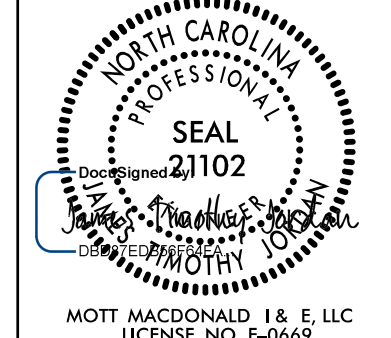
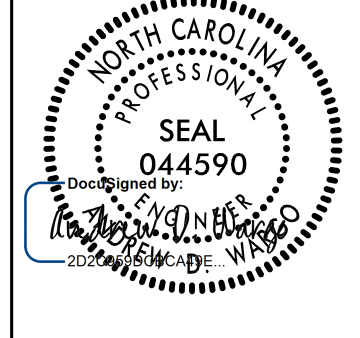
Gas Valve	◇
Gas Meter	⊕
U/G Gas Line Test Hole (SUE - LOS A)*	⊕
U/G Gas Line (SUE - LOS B)*	-----
U/G Gas Line (SUE - LOS C)*	-----
U/G Gas Line (SUE - LOS D)*	-----
Above Ground Gas Line	-----

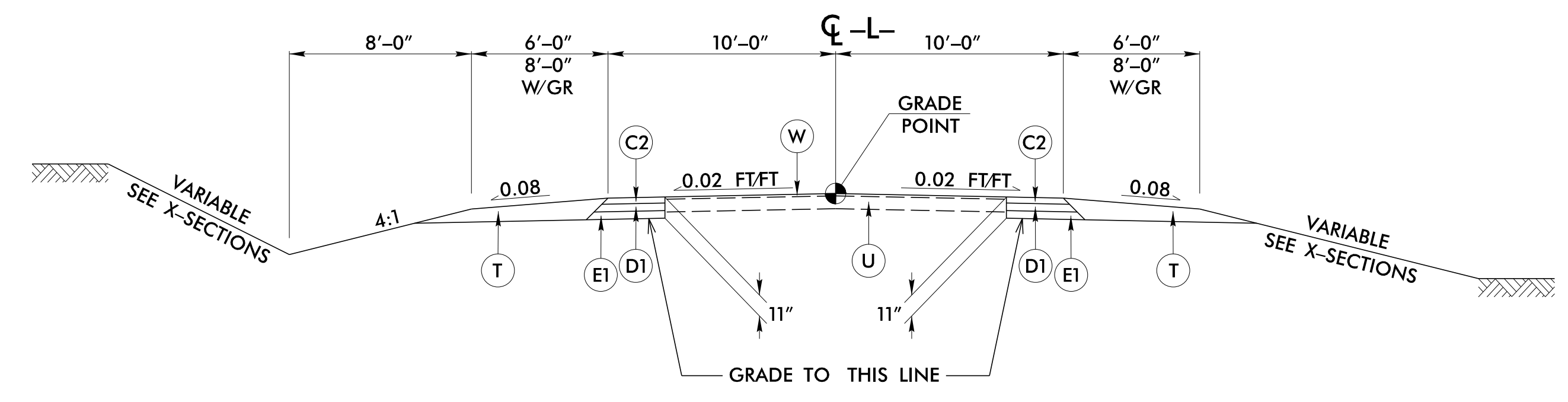
## SANITARY SEWER:

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

## MISCELLANEOUS:

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

PROJECT REFERENCE B-6049	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
Prepared in the Office of: <b>M</b> MOTT MACDONALD 7621 Purfoy Road, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com	
GRAPHIC SCALE 25' 0 25' 50'	

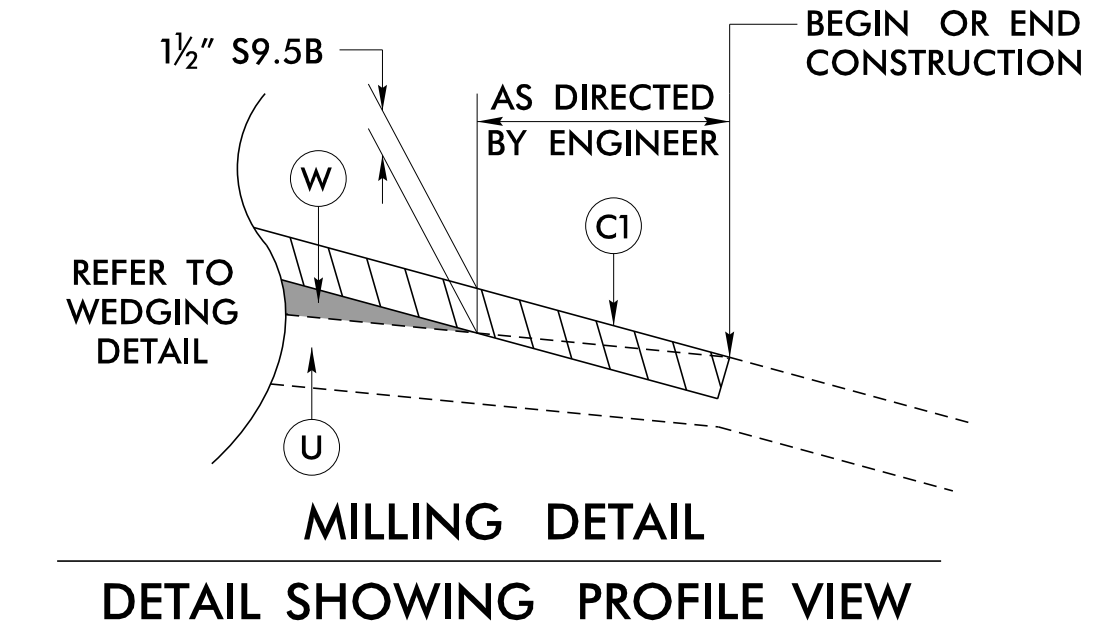


**TYPICAL SECTION NO. 1**

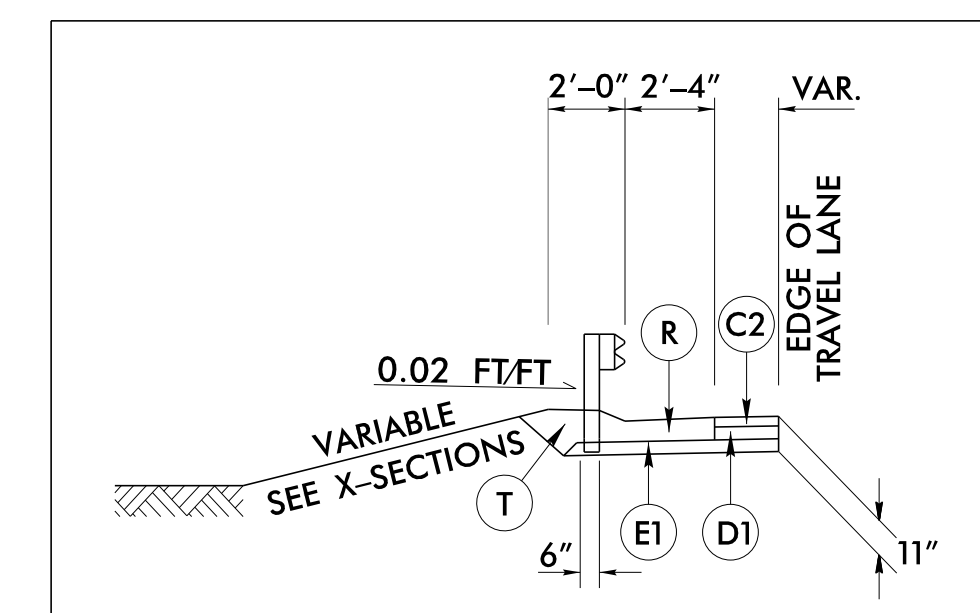
TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1:  
-L- STA 12+00.00 TO 12+50.00

USE TYPICAL SECTION NO. 1:  
-L- STA 12+50.00 TO 15+25.00  
-L- STA 18+75.00 TO 19+50.00

TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING:  
-L- STA 19+50.00 TO 20+00.00

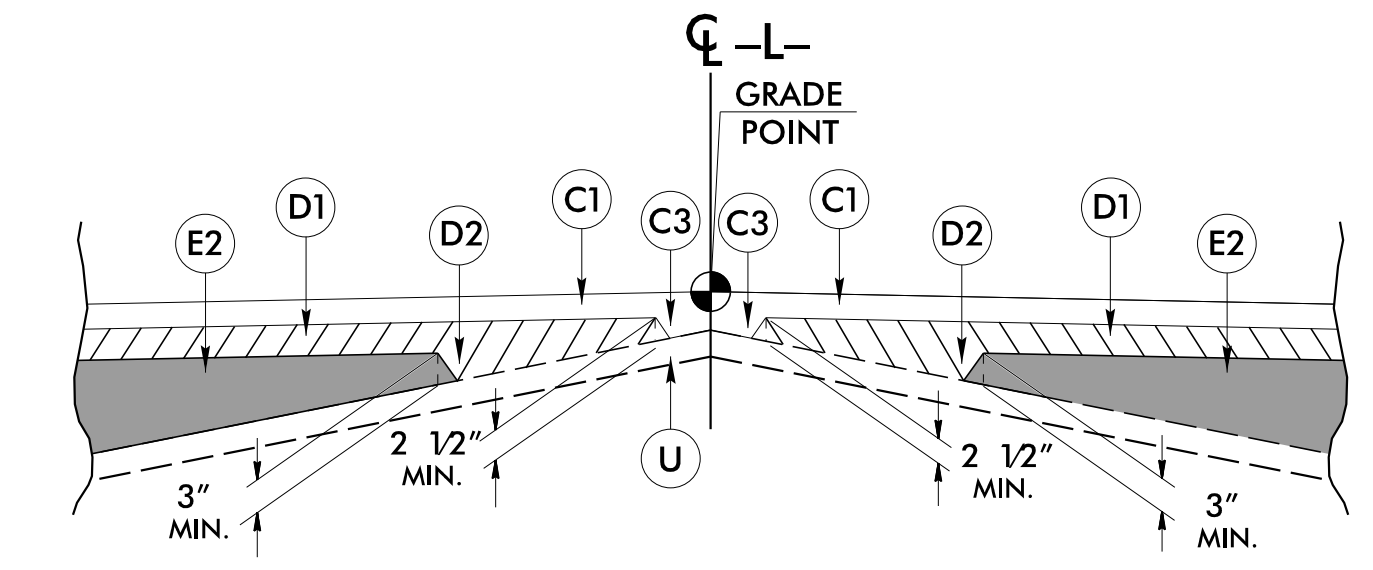


**MILLING DETAIL  
DETAIL SHOWING PROFILE VIEW**

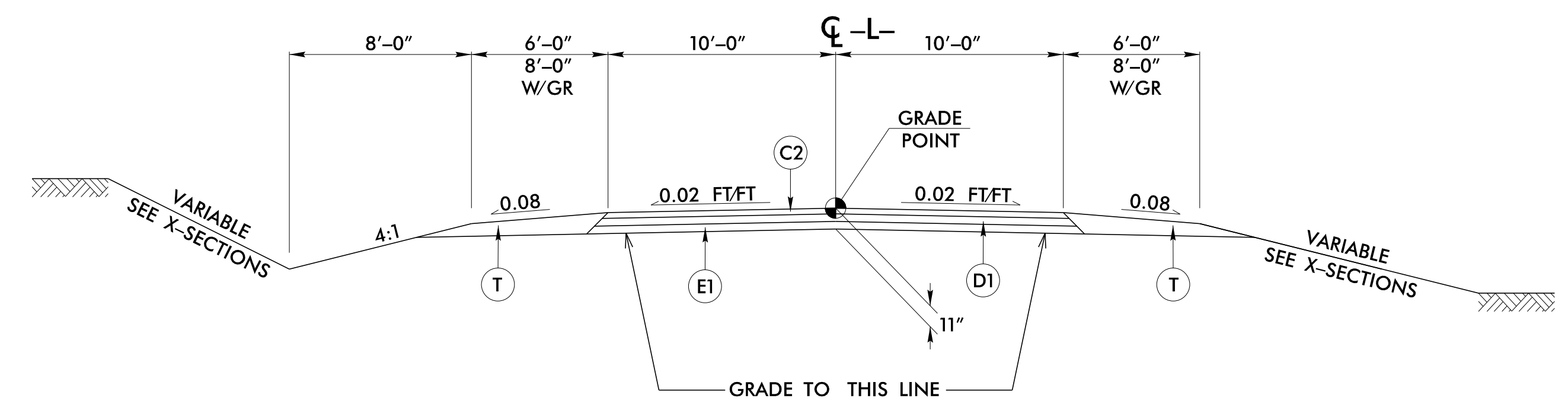


**DETAIL FOR SHOULDER BERM GUTTER IN CONJUNCTION WITH GUARDRAIL**

-L- STA 12+95 TO 15+71.77 RT  
-L- STA 18+26.19 TO 19+07 RT

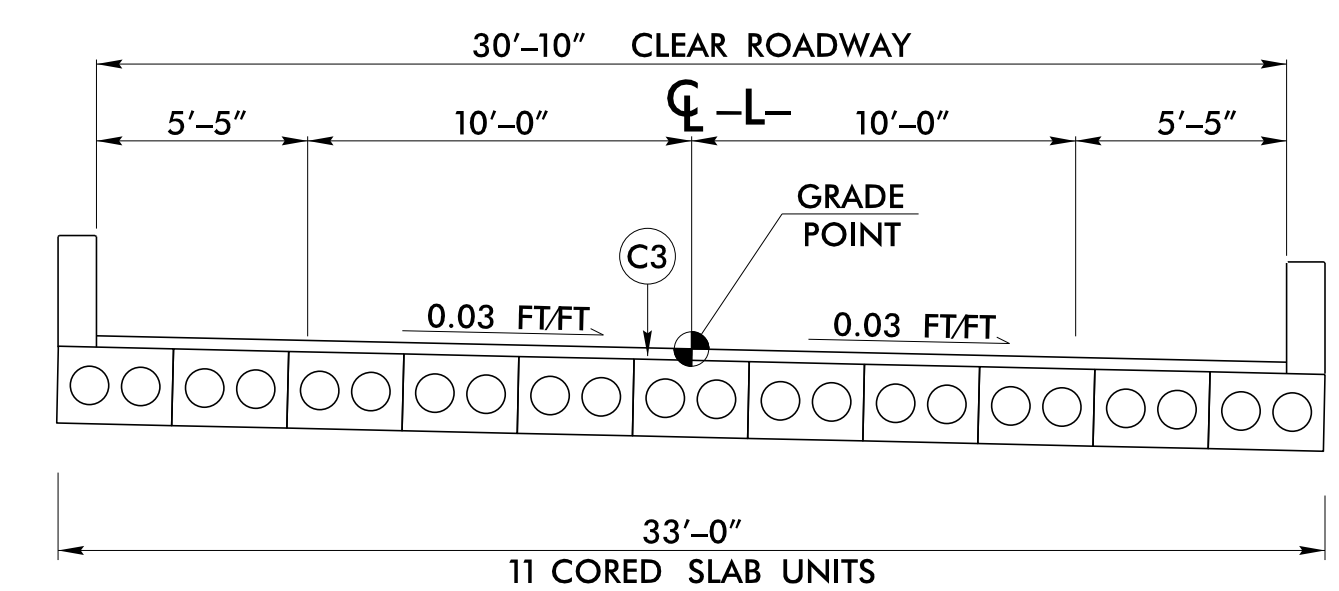


**DETAIL SHOWING METHOD OF WEDGING**



**TYPICAL SECTION NO. 2**

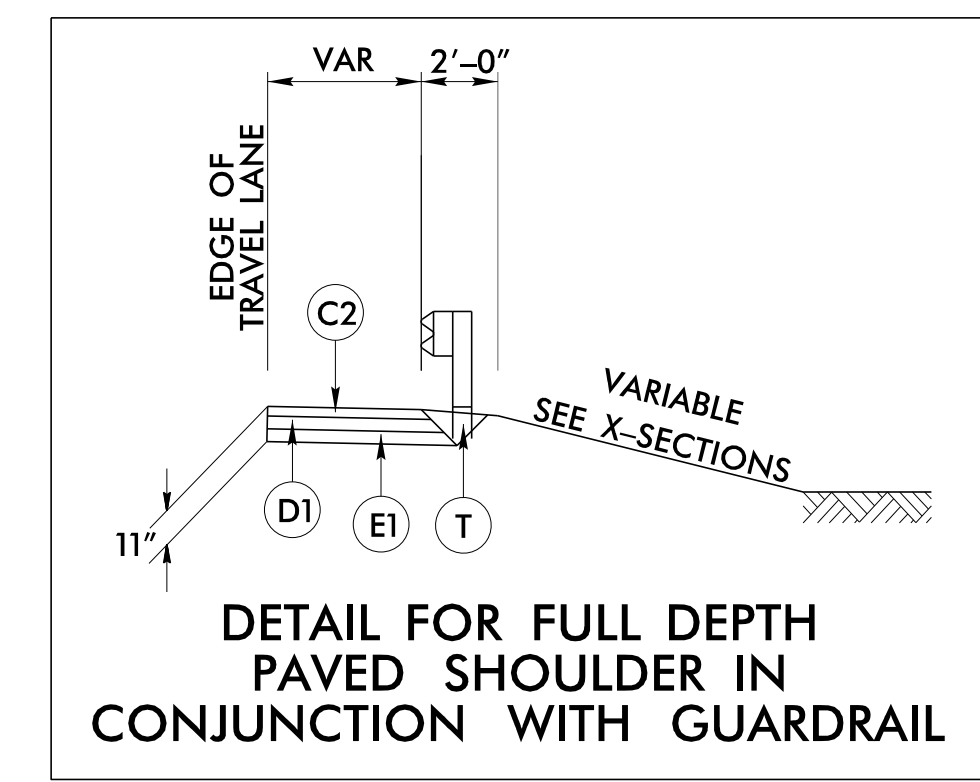
USE TYPICAL SECTION NO. 2:  
-L- STA 15+25.00 TO 15+82.69 (BEGIN BRIDGE)  
-L- STA 18+15.31 (END BRIDGE) TO 18+75.00



**TYPICAL SECTION NO. 3**

USE TYPICAL SECTION NO. 3:  
-L- STA 15+82.69 (BEGIN BRIDGE) TO 18+15.31 (END BRIDGE)

NOTE: SEE STRUCTURE PLANS FOR PAVEMENT DEPTHS ON STRUCTURE



**DETAIL FOR FULL DEPTH PAVED SHOULDER IN CONJUNCTION WITH GUARDRAIL**

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" 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 1/2" 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.
R	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING (SEE DETAIL SHOWING METHOD OF WEDGING).

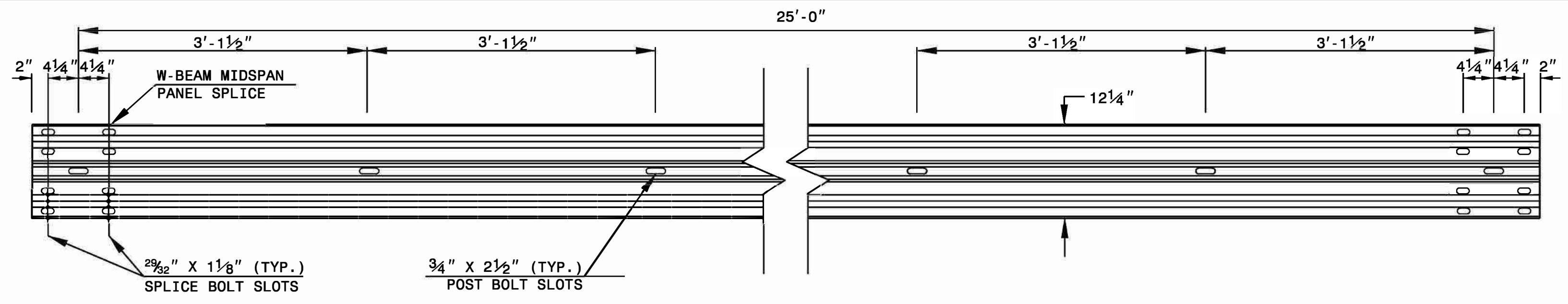
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

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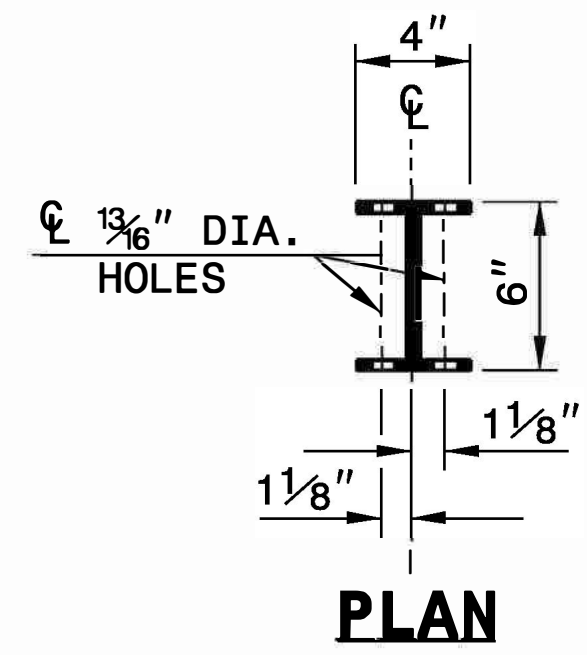
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

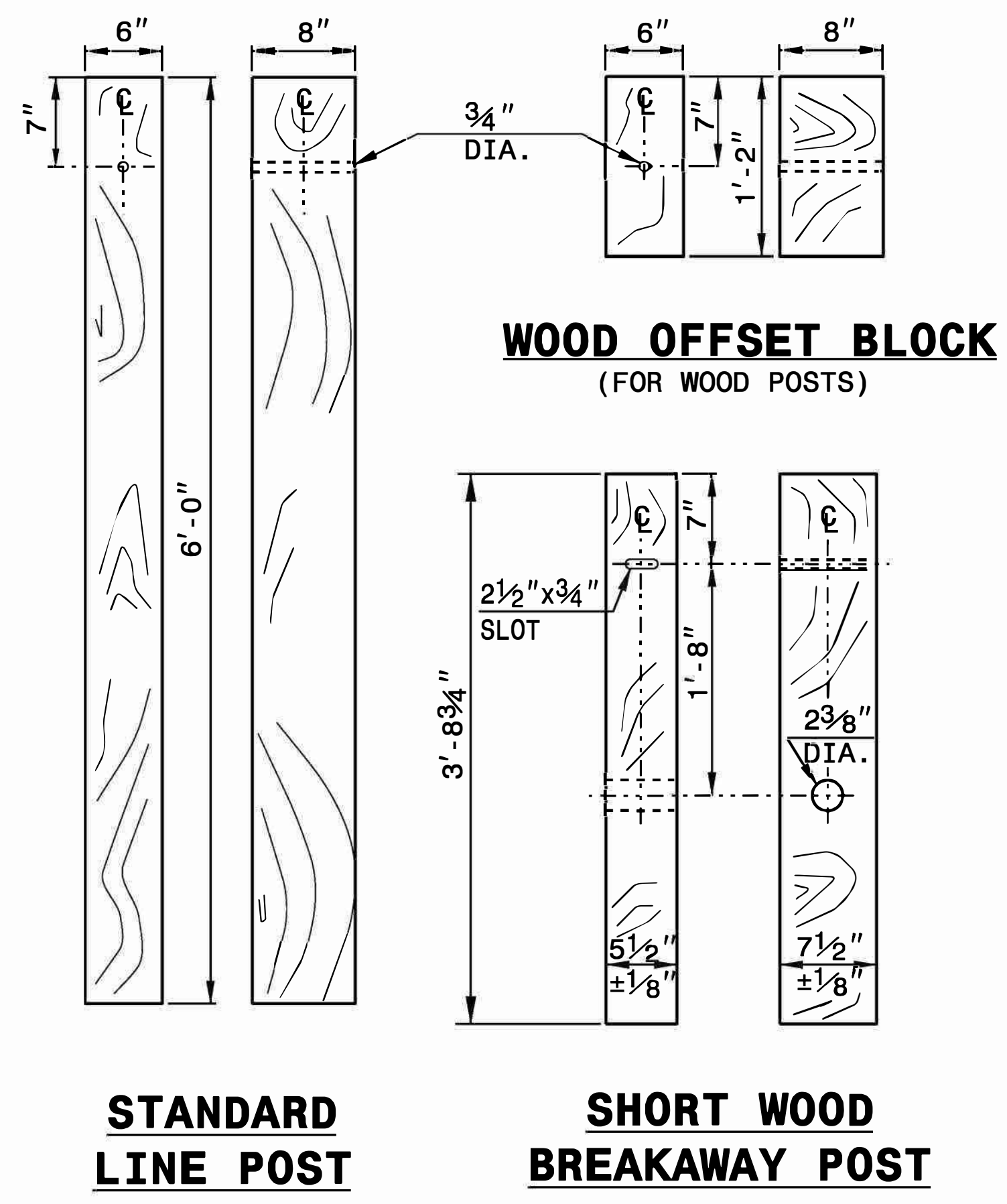
SHEET 6 OF 8  
**862D02**



**STANDARD W-BEAM GUARDRAIL**

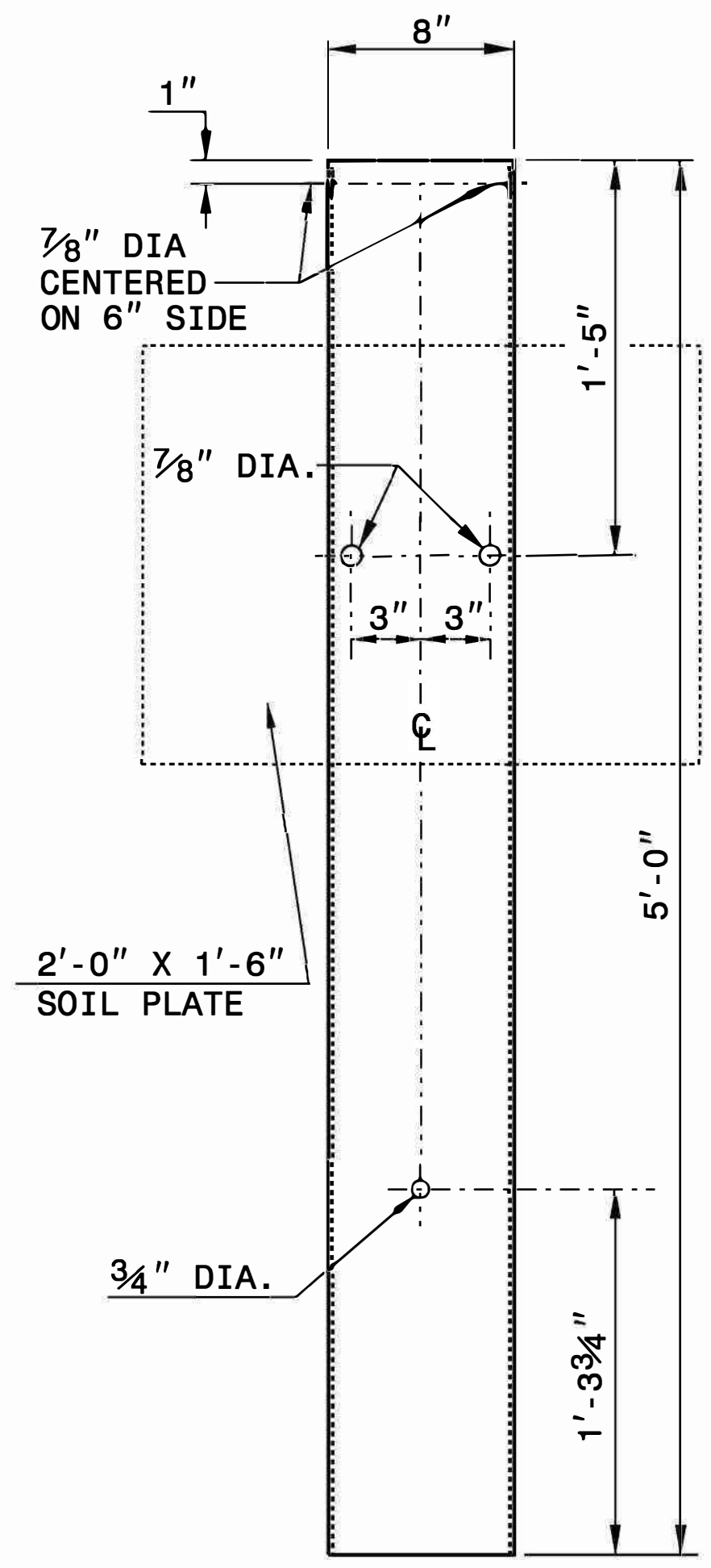


**PLAN**

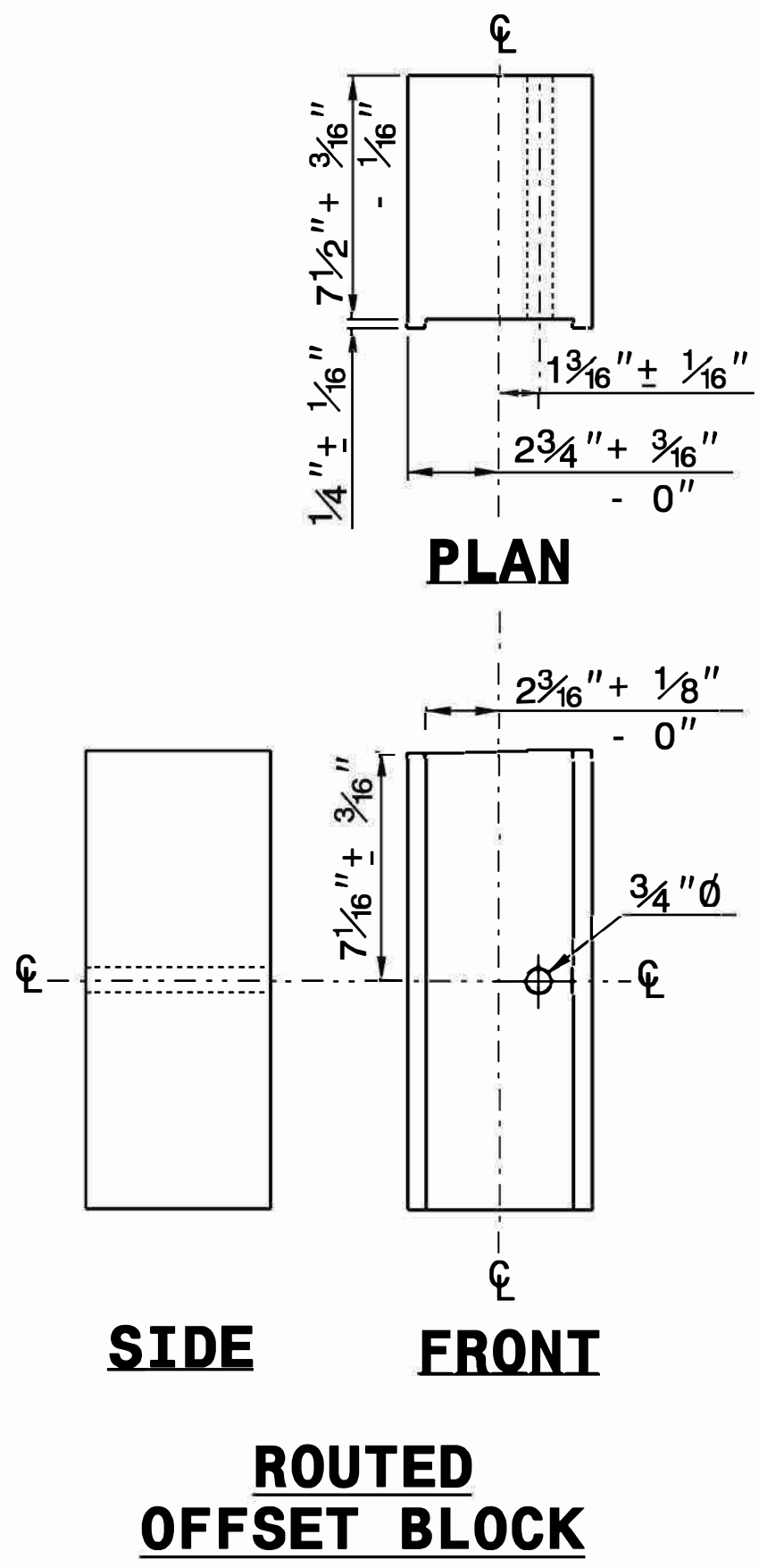


**STANDARD LINE POST**

**SHORT WOOD BREAKAWAY POST**



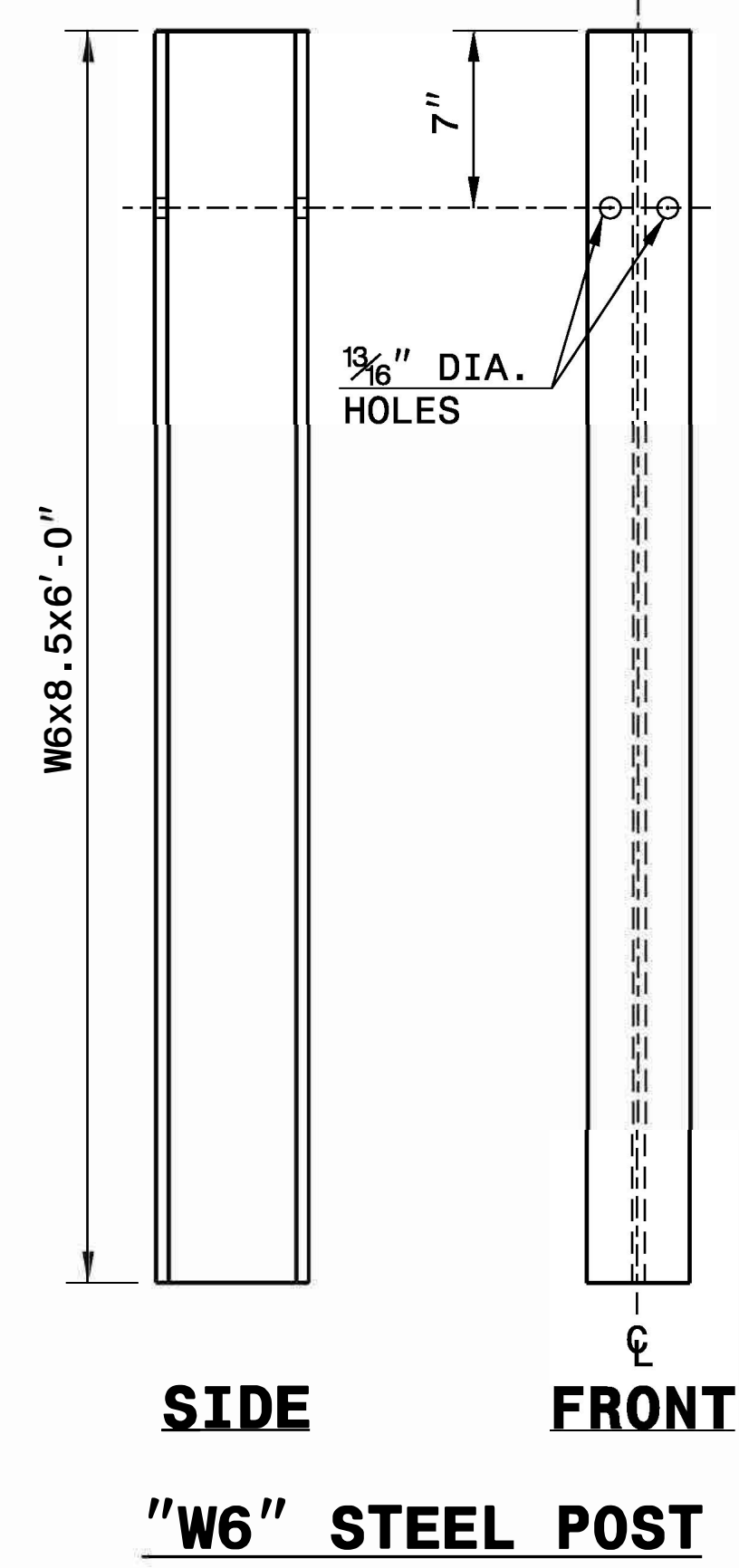
**STEEL TUBE**  
TS 6"x8"x0.1875"



**SIDE**

**FRONT**

**ROUTED OFFSET BLOCK**



**SIDE**

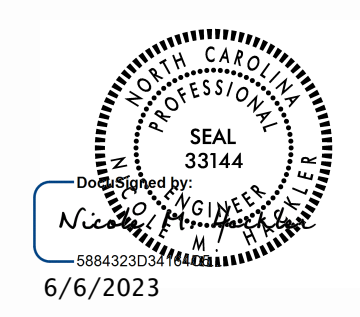
**FRONT**

**"W6" STEEL POST**

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

ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 6 OF 8  
**862D02**



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

**SEE TITLE BLOCK**

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

I4-DEC-2017 10:36 S:\Contracts\2018\Standard Drawings\Standard Drawings\Details in Lieu of Standards\Division 8\0862d0301.dgn  
 Jhowerton AT CSU-212855

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ROADWAY DETAIL DRAWING FOR <b>STRUCTURE ANCHOR UNITS</b> GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE	SHEET 1 OF 7 <b>862D03</b>
<p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.</li> <li>*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.</li> <li>-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" X 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.</li> <li>-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).</li> <li>-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.</li> <li>-SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.</li> </ul>		

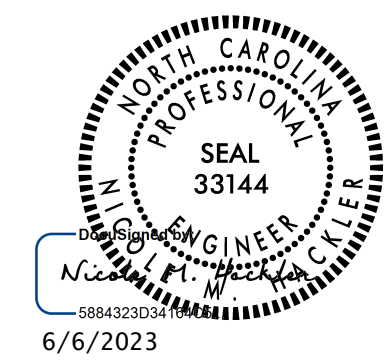
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ROADWAY DETAIL DRAWING FOR <b>STRUCTURE ANCHOR UNITS</b> GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER	SHEET 2 OF 7 <b>862D03</b>
<p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.</li> <li>*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.</li> <li>-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" X 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.</li> <li>-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).</li> <li>-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.</li> <li>-SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.</li> </ul>		

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON	DATE: 06-22-12
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

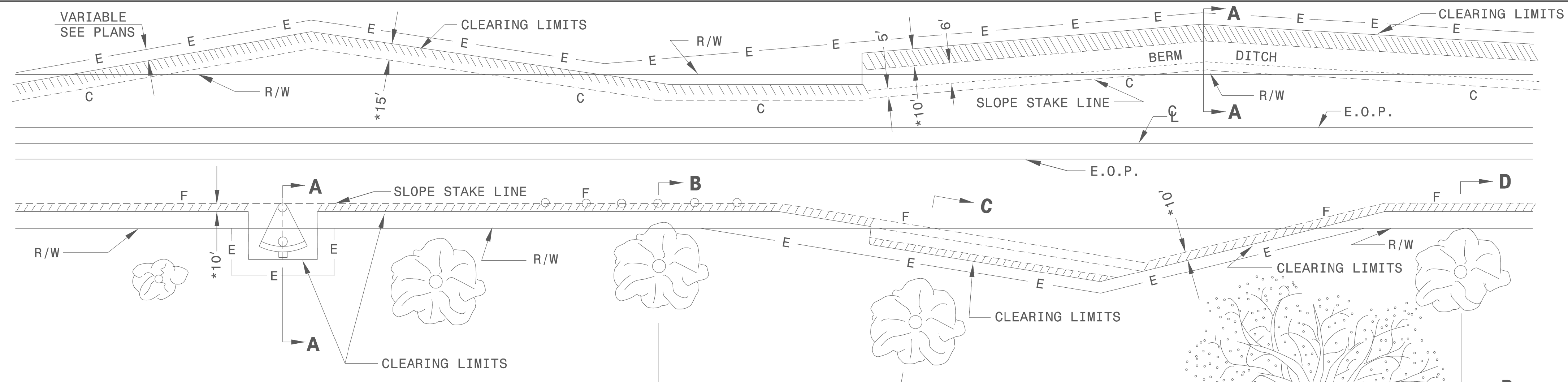


STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**METHOD OF CLEARING**  
MODIFIED METHOD - III

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

ENGLISH DETAIL DRAWING FOR  
**METHOD OF CLEARING**  
MODIFIED METHOD - III

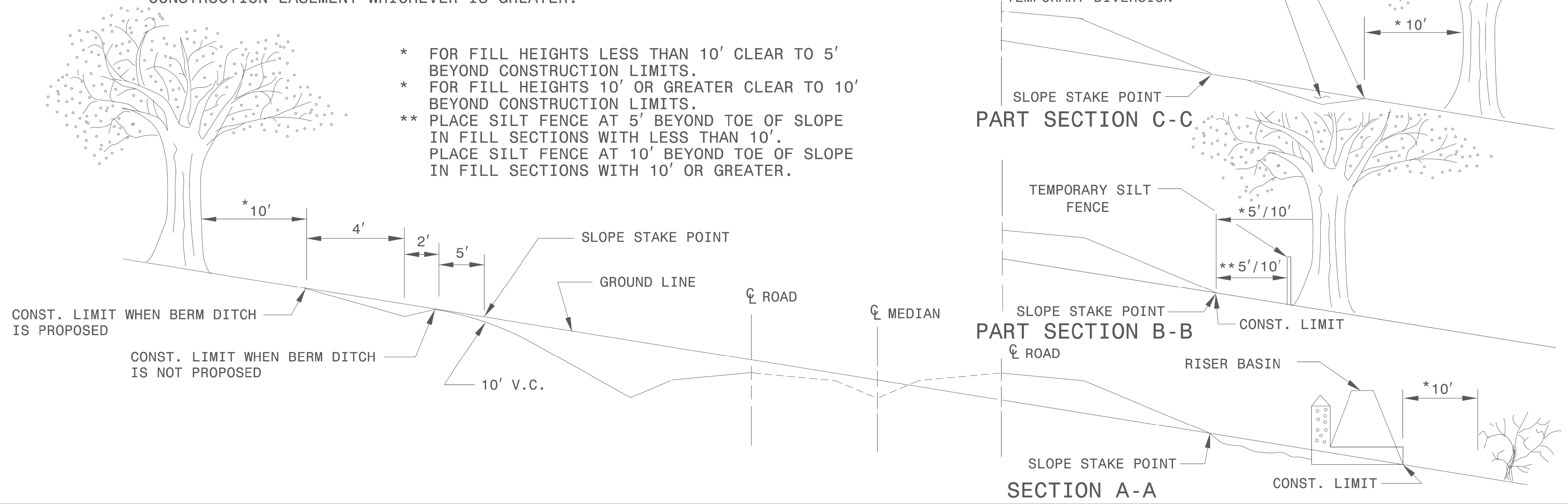


- GENERAL NOTES:**
1. REMOVE TREES OUTSIDE THE CLEARING LIMIT WHEN, IN THE OPINION OF THE ENGINEER, THE UTILITY OF A TREE WILL BE DESTROYED BY THE CONSTRUCTION OR THE CLEARING OPERATION.
  2. CLEAR IN ACCORDANCE WITH THIS STANDARD EXCEPT WHERE ADDITIONAL CLEARING IS REQUIRED FOR SAFETY AS SHOWN ON THE PLANS.

**METHOD III CLEARING LIMITS**

- (A) CUTS -- CLEAR TO CONSTRUCTION LIMITS.
- (B) FILLS - CLEAR TO 5'/10' \* BEYOND CONSTRUCTION LIMITS, UNLESS SPECIFIED OTHERWISE BY WETLAND PERMIT.
- (C) CUTS AND FILLS - WHEN THE CLEARING LIMITS (A AND B) EXCEED THE PROPOSED R/W OR PROPOSED CONSTRUCTION EASEMENTS, THEN CLEAR ONLY TO THE R/W OR CONSTRUCTION EASEMENT WHICHEVER IS GREATER.

- \* FOR FILL HEIGHTS LESS THAN 10' CLEAR TO 5' BEYOND CONSTRUCTION LIMITS.
- \* FOR FILL HEIGHTS 10' OR GREATER CLEAR TO 10' BEYOND CONSTRUCTION LIMITS.
- \*\* PLACE SILT FENCE AT 5' BEYOND TOE OF SLOPE IN FILL SECTIONS WITH LESS THAN 10'. PLACE SILT FENCE AT 10' BEYOND TOE OF SLOPE IN FILL SECTIONS WITH 10' OR GREATER.



SHEET 1 OF 1  
**200D03**

SHEET 1 OF 1  
**200D03**

JOR66165  
E:\Documents 9-23-21\HMM Project Info\Details\Method III Clearing Modified Drawing.dgn  
4/4/2022 8:20:26 AM

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

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

**SEE TITLE BLOCK**

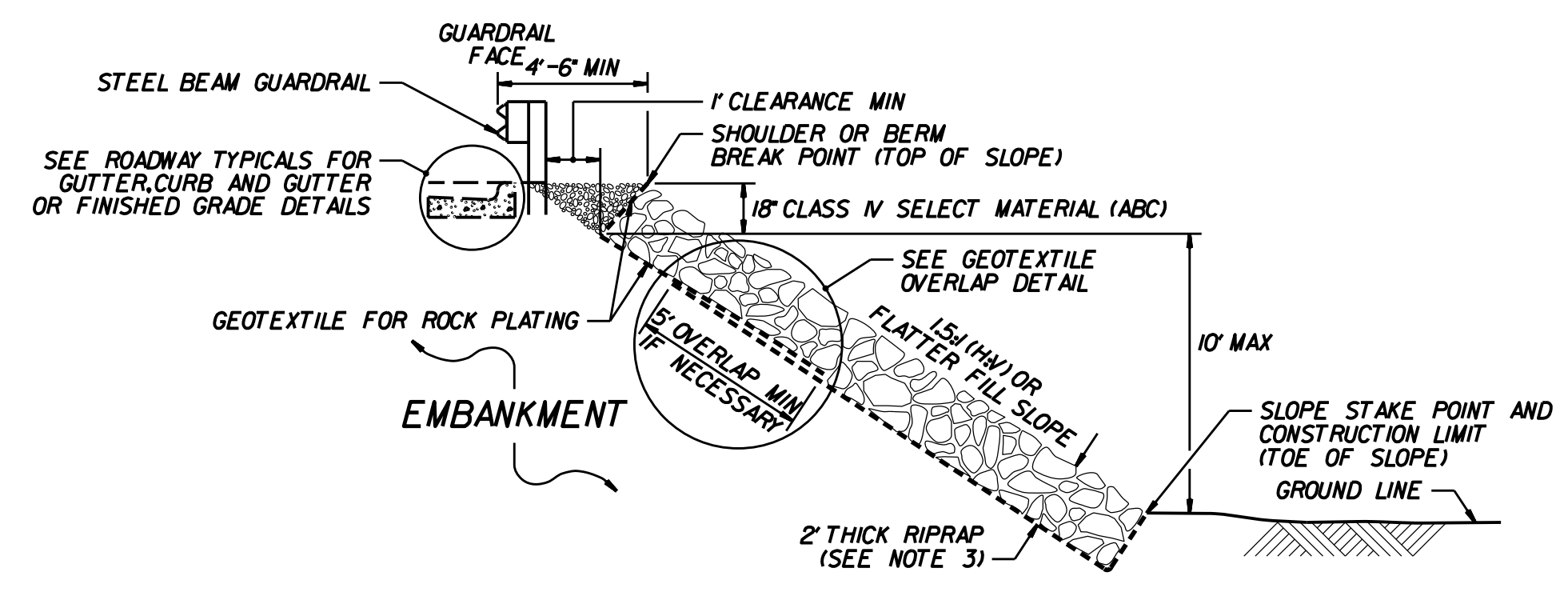
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 MODIFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 FILE SPEC: \_\_\_\_\_

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

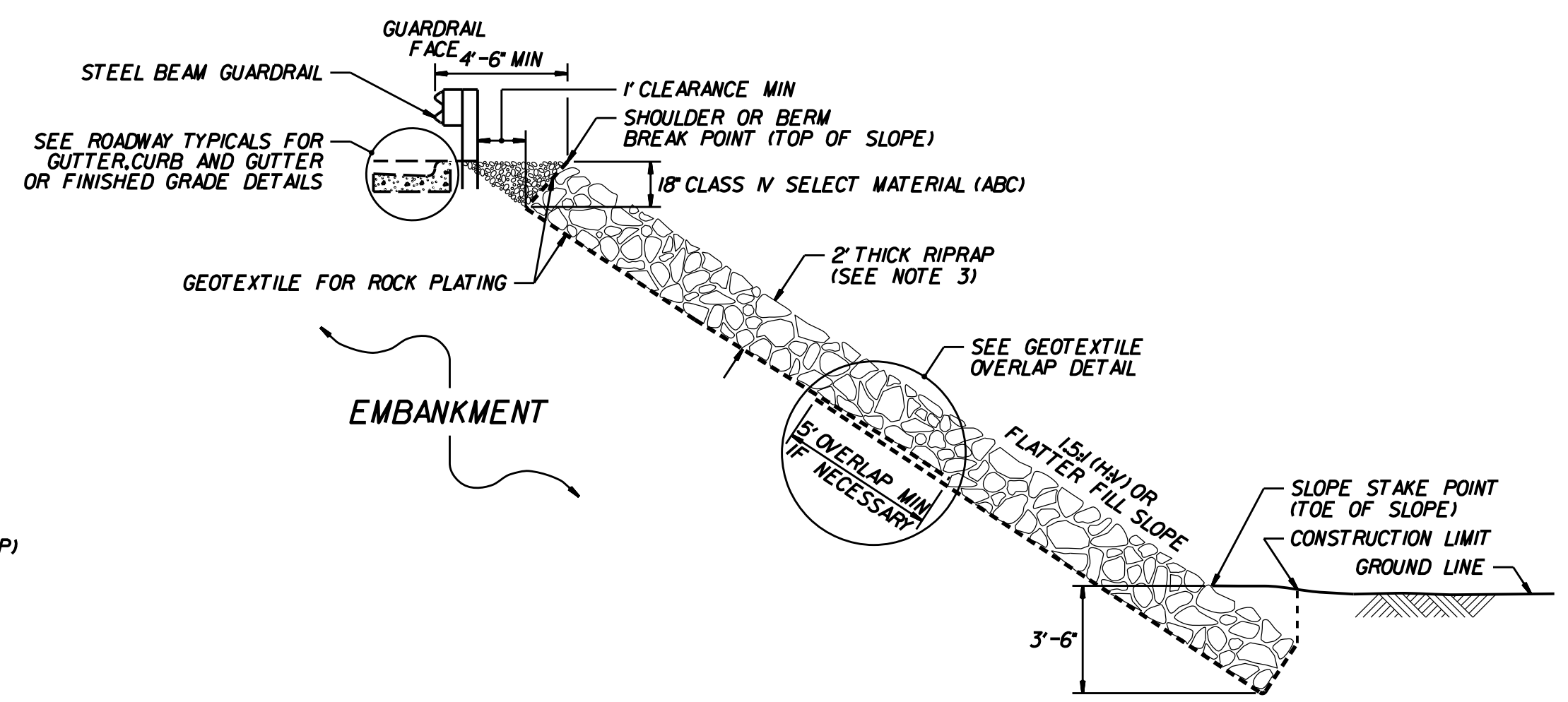
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**ROCK PLATING**

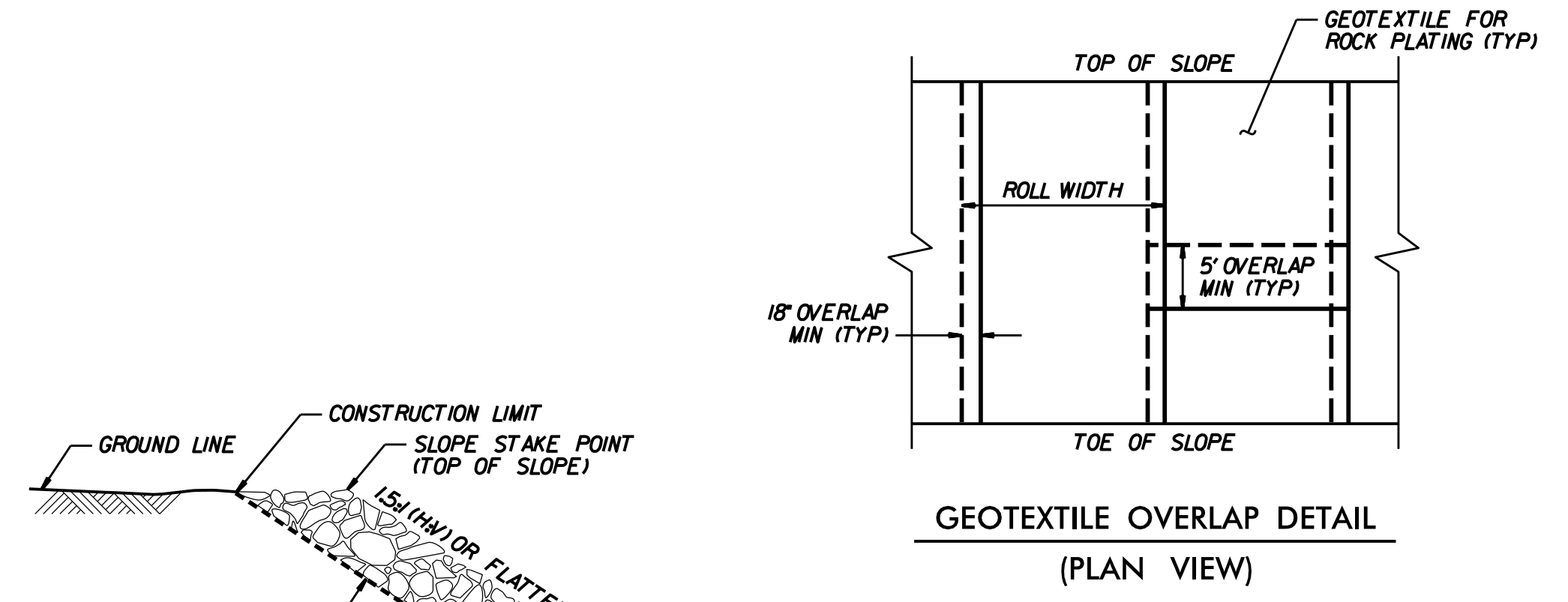
ROADWAY DETAIL DRAWING FOR  
**ROCK PLATING**



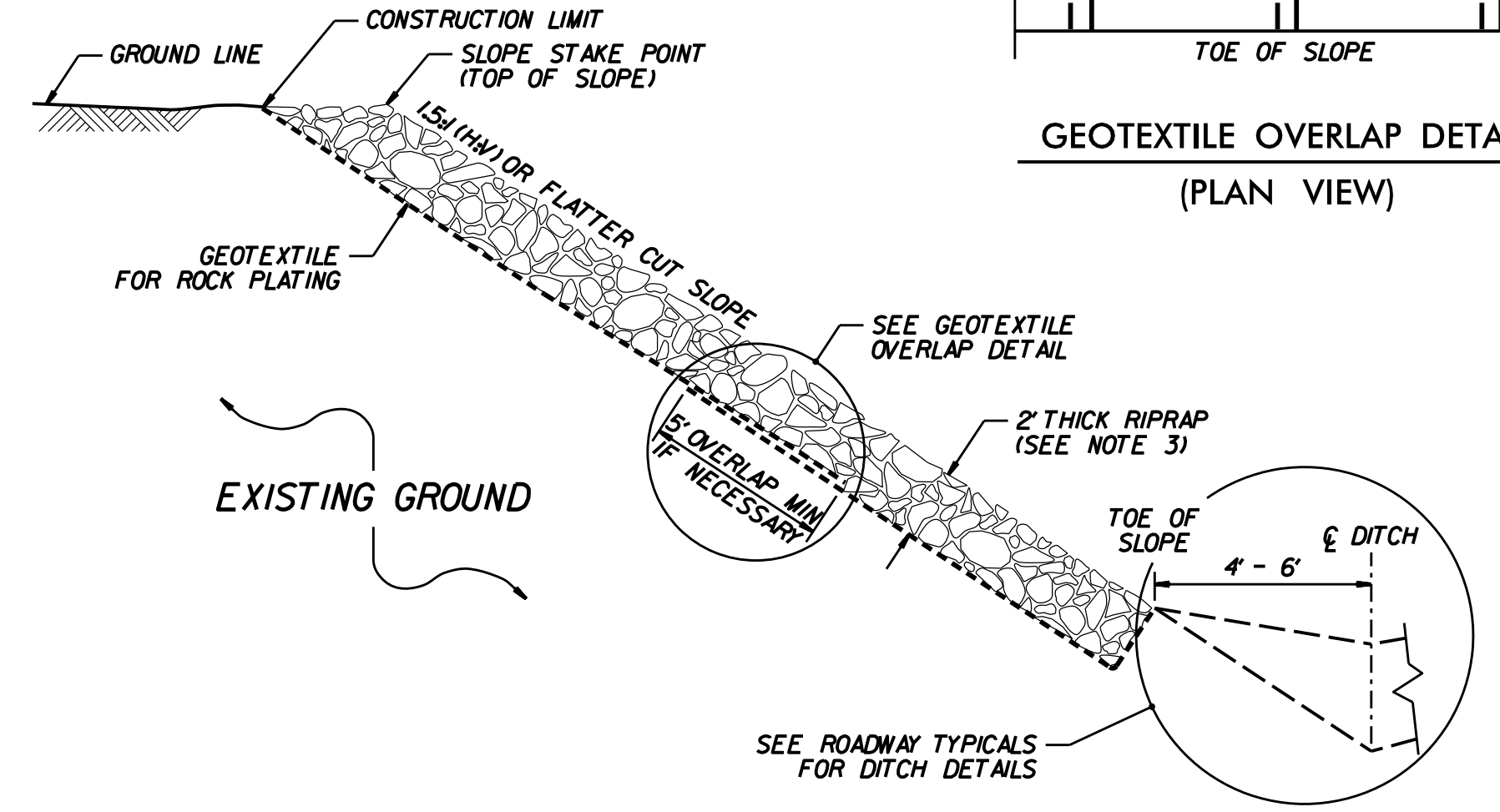
ROCK PLATING DETAIL NO. 1 - TYPICAL SECTION



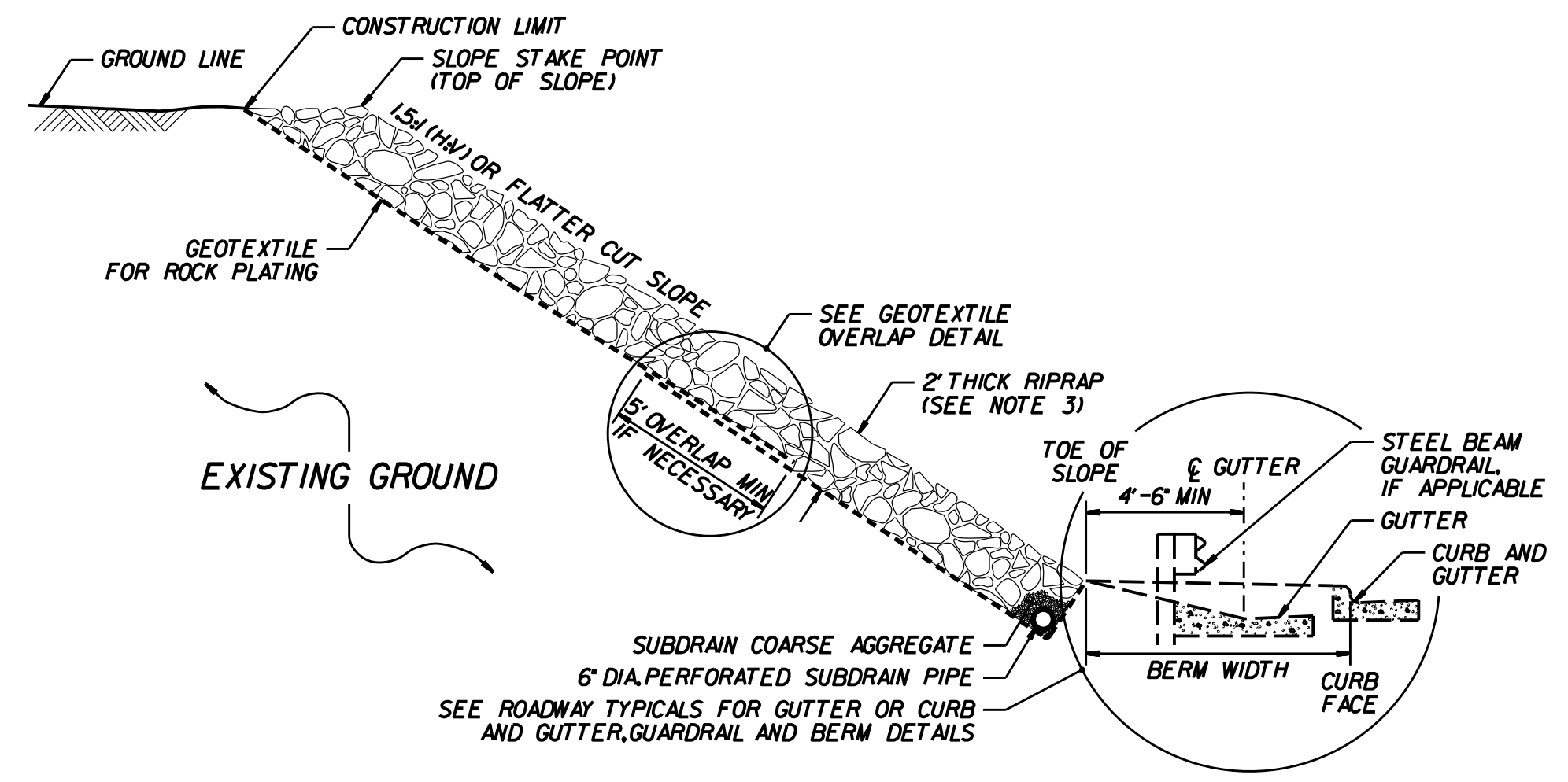
ROCK PLATING DETAIL NO. 2 - TYPICAL SECTION



GEOTEXTILE OVERLAP DETAIL  
(PLAN VIEW)



ROCK PLATING DETAIL NO. 3 - TYPICAL SECTION

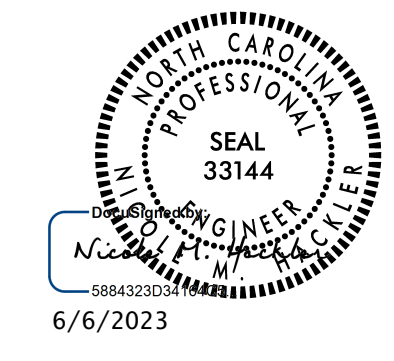


ROCK PLATING DETAIL NO. 4 - TYPICAL SECTION

- NOTES:**
1. SEE ROADWAY PLANS AND SUMMARY SHEETS FOR ROCK PLATING LOCATIONS.
  2. FOR ROCK PLATING, SEE SECTION 275 OF THE STANDARD SPECIFICATIONS.
  3. USE CLASS I, 2 OR B RIPRAP UNLESS REQUIRED OTHERWISE IN THE ROADWAY SUMMARY SHEETS.

SHEET 1 OF 1  
**275D01**

SHEET 1 OF 1  
**275D01**



CONTRACT STANDARDS  
AND DEVELOPMENT UNIT  
Office 919-707-6900 FAX 919-250-4119

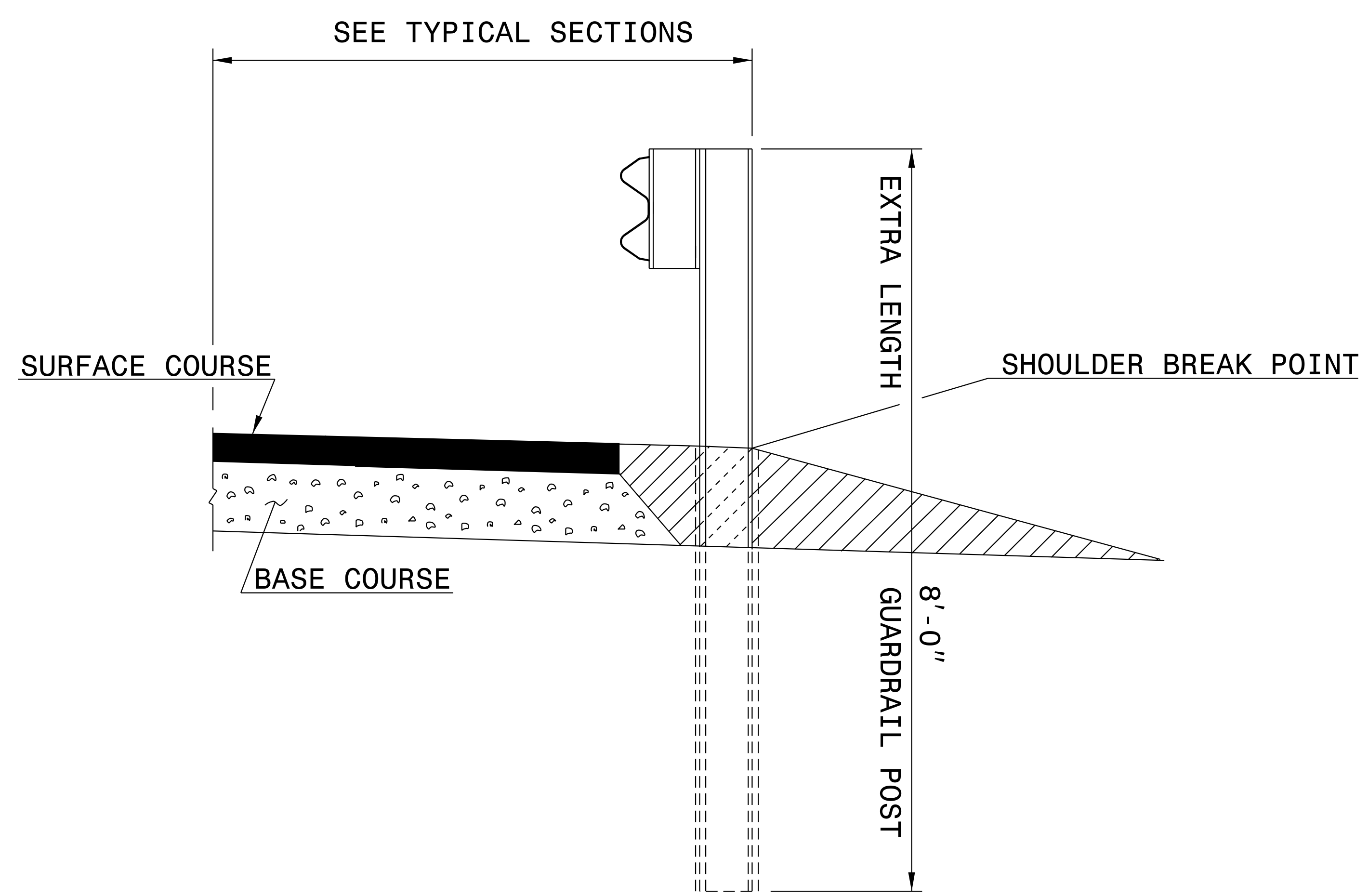
**SEE TITLE BLOCK**

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 MODIFIED BY: DATE: \_\_\_\_\_  
 CHECKED BY: DATE: \_\_\_\_\_  
 FILE SPEC.: \_\_\_\_\_

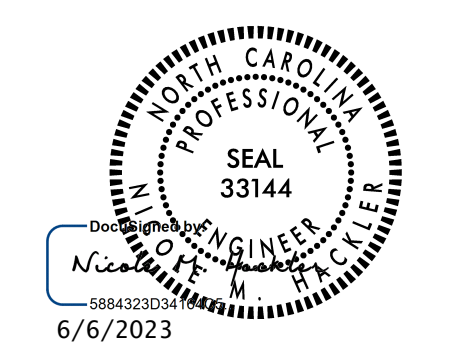
SYTIME  
C:\PROGRAMS\AUTOCAD\PLT\PLTNAME



PROJECT REFERENCE NO.	SHEET NO.
B-6049	2C-5



09-MAY-2018 14:21  
 S:\Contracts\Projects\Special Details\Howerton\7'postguardrail.dgn  
 Howerton AT\_CSD-232595



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>8' GUARDRAIL POST</b>	
ORIGINAL BY: L. Robinson	DATE: 1995
MODIFIED BY: L. Robinson	DATE: Feb, 1996
CHECKED BY:	DATE:
FILE SPEC.: s:7'postguardrail.dgn	

"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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS					IMPACT ATTENUATOR TYPE 350			EXTRA LENGTH POSTS	REMARKS				
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	AT-1	GREU TL-3	TYPE III								NO.	PERMITTED G	NG	
-L-	12+51.44	15+82.69	RT	331.25'			12+50.00	15+82.69	6'	8'																56	USE 8' STEEL POSTS (-L- 13+00 TO 15+25); SEE SHEET 2C-5	
-L-	12+38.94	15+82.69	LT	343.75'			15+82.69	12+50.00	6'	8'																38	USE 8' STEEL POSTS (-L- 13+00 TO 14+50); SEE SHEET 2C-5	
-L-	18+15.31	19+59.06	RT	143.75'			18+15.31	19+50.00	6'	8'																		
-L-	18+15.31	19+59.06	LT	143.75'			19+00.00	18+15.31	6'	8'																		
SUBTOTAL				962.50'																								
LESS ANCHOR DEDUCTIONS																												
				GREU TL-3	4 x 50.00'	=	-200.00'																					
				TYPE III	4 x 18.75'	=	-75.00'																					
TOTAL				687.50'																						94	5 ADDITIONAL GUARDRAIL POSTS	

## SUMMARY OF EARTHWORK IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
-L- 12+00.00 TO 15+82.69 (BEGIN BRIDGE)	438		588	150	
-L- 18+15.31 (END BRIDGE) TO 20+00.00	59		305	246	
SUBTOTAL	497		893	396	
WASTE IN LIEU OF BORROW					
PROJECT TOTAL	497		893	396	
5% TO REPLACE BORROW				20	
GRAND TOTAL	497			416	
SAY	530			440	

## SUMMARY OF SHOULDER BERM GUTTER

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	LENGTH
-L-	12+95.00	15+71.77	RT	276.77'
-L-	18+26.19	19+07.00	RT	80.81'
TOTAL:				357.58'
SAY:				380'

NOTE: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing and Removal of Existing Asphalt Pavement will be paid for at the contract Lump Sum price for "Grading".



**STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS**

**SUMMARY OF SUBSURFACE DRAINAGE**

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
	CONTINGENCY			SD	200
				<b>TOTAL LF:</b>	200

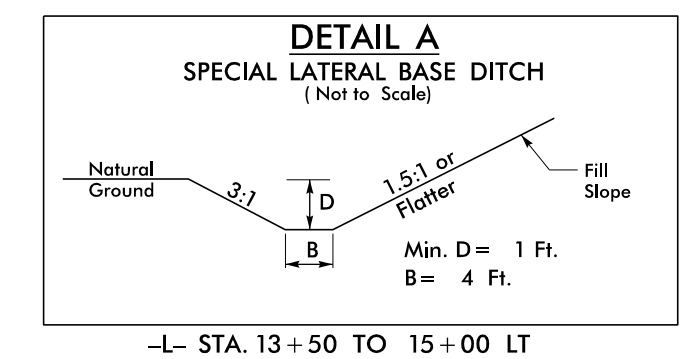
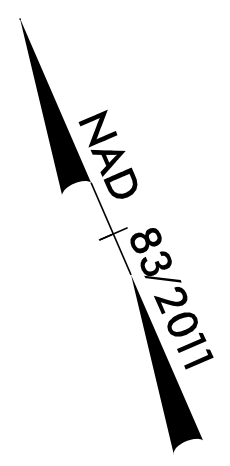
\*UD = Underdrain  
 \*BD = Blind Drain  
 \*SD = Subsurface Drain

**SUMMARY OF ROCK PLATING**

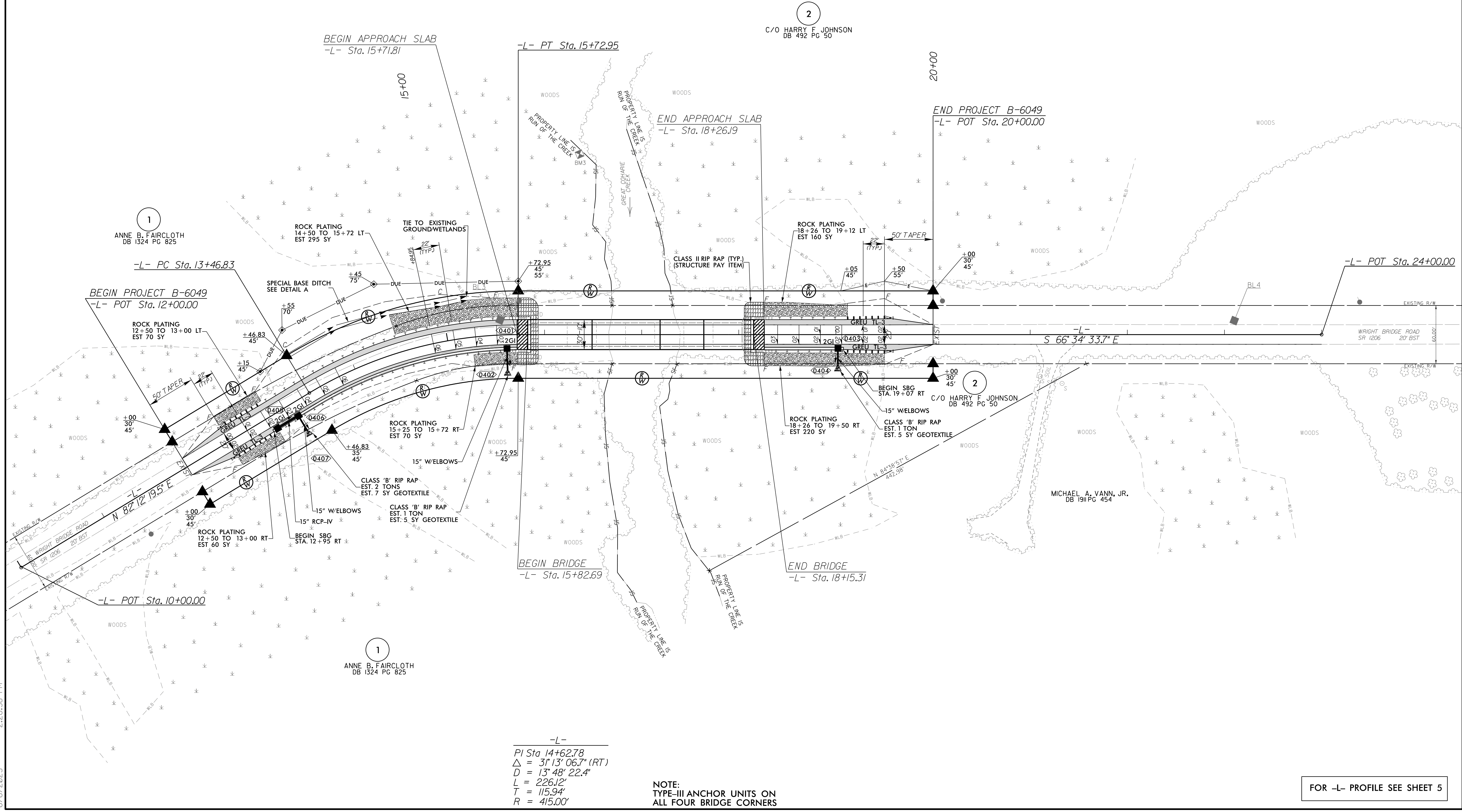
LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
-L-	1.5:1	12+50	2:1	13+00	LT	1	*	70
-L-	1.5:1	12+50	2:1	13+00	RT	1	*	60
-L-	2:1	14+50	VAR	15+72	LT	1	*	295
-L-	1.5:1	15+25	1.5:1	15+72	RT	1	*	70
-L-	1.5:1	18+26	2:1	19+12	LT	1	*	160
-L-	1.5:1	18+26	2:1	19+50	RT	1	*	220
							<b>TOTAL SY:</b>	875

\*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.

\*DESIGN EXCEPTION:  
MIN. HORIZ. CURVE RADIUS  
HORIZ. SSD



PROJECT REFERENCE		SHEET NO.	
B-6049		4	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
<b>DOCUMENT NOT CONSIDERED FINAL</b>			
<b>UNLESS ALL SIGNATURES COMPLETED</b>			
Prepared in the Office of:		<b>M</b> MOTT MACDONALD	
		7621 Purfoy Road, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com	



-L-  
 PI Sta 14+62.78  
 $\Delta = 31' 13'' 06.7''$  (RT)  
 $D = 13' 48'' 22.4''$   
 $L = 226.12'$   
 $T = 115.94'$   
 $R = 415.00'$

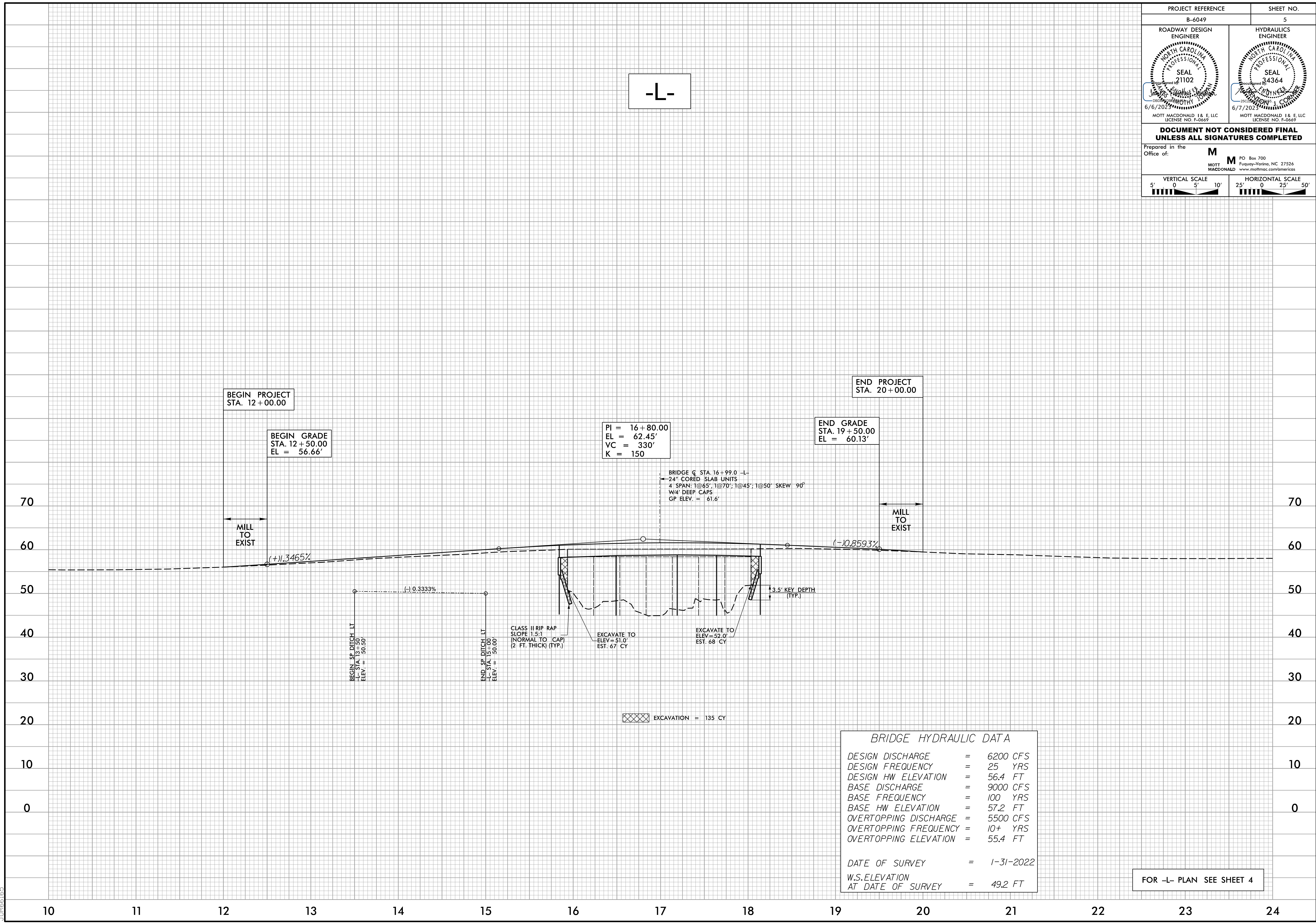
NOTE:  
TYPE-III ANCHOR UNITS ON  
ALL FOUR BRIDGE CORNERS

FOR -L- PROFILE SEE SHEET 5

JOR66165  
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 6/6/2023 2:28:36 PM

PROJECT REFERENCE B-6049	SHEET NO. 5
ROADWAY DESIGN ENGINEER SEAL 21102 MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	HYDRAULICS ENGINEER SEAL 34364 MOTT MACDONALD I & E, LLC LICENSE NO. F-0669
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
Prepared in the Office of: <b>M</b> MOTT MACDONALD I & E, LLC PO Box 700 Fayetteville, NC 27526 www.mottmcc.com/americas	
VERTICAL SCALE 5' 0 5' 10'	HORIZONTAL SCALE 25' 0 25' 50'

-L-



BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 6200 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 56.4 FT
BASE DISCHARGE	= 9000 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 57.2 FT
OVERTOPPING DISCHARGE	= 5500 CFS
OVERTOPPING FREQUENCY	= 10+ YRS
OVERTOPPING ELEVATION	= 55.4 FT
DATE OF SURVEY	= 1-31-2022
W.S. ELEVATION AT DATE OF SURVEY	= 49.2 FT

FOR -L- PLAN SEE SHEET 4

6/6/2023 2:28:41 PM  
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 JOR66165

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-6049	RW01	5

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

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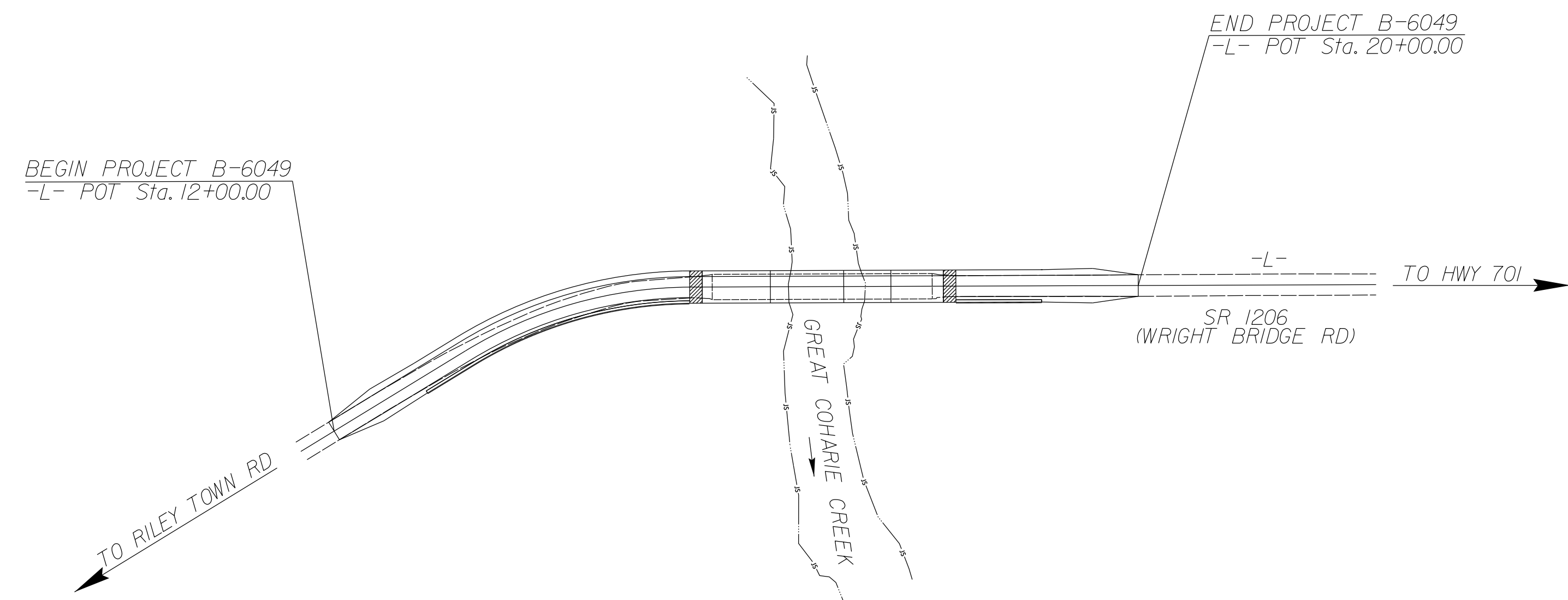
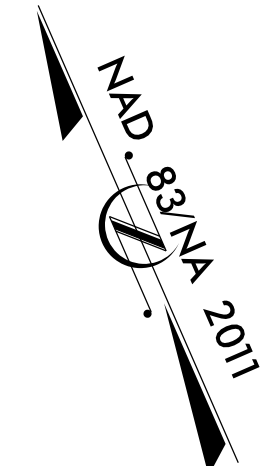
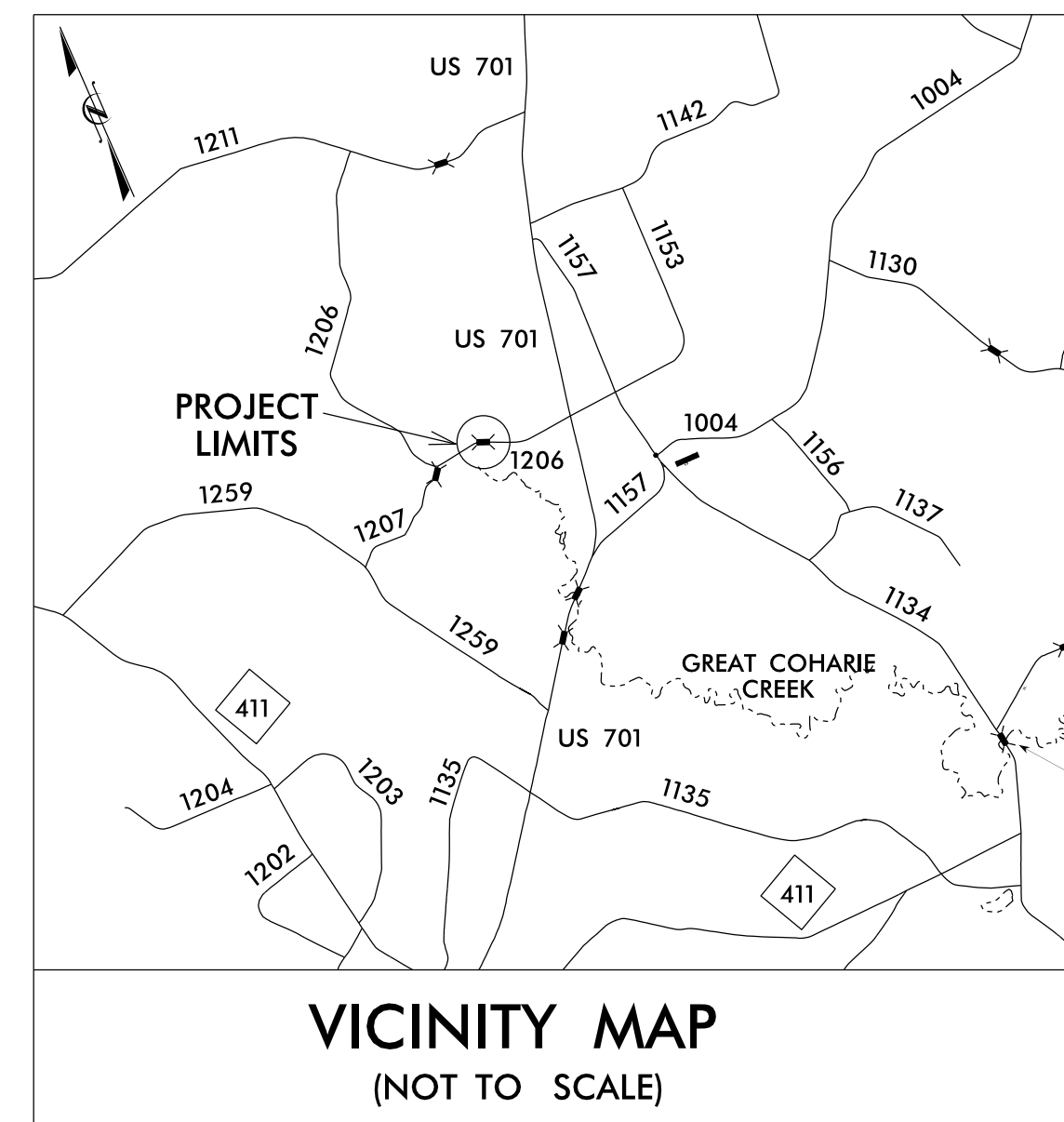
SURVEY CONTROL, EXISTING CENTERLINES,  
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

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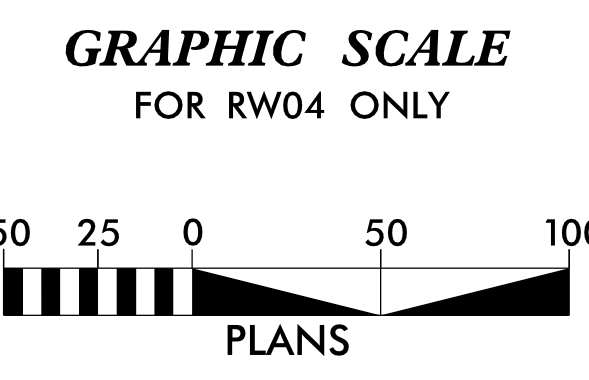
## SAMPSON COUNTY

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**LOCATION: BRIDGE NO. 72 OVER GREAT COHARIE CREEK ON  
SR 1206 (WRIGHT BRIDGE ROAD)**



**TIP PROJECT: B-6049**



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "B6049-1" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF  
NORTHING: 395099.6336(ft) EASTING: 2193760.0296(ft)  
ELEVATION: 77.616(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999013328

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B6049-1" TO -L- STATION 10+00.00 IS  
N 83°47'06.7" W 3,939.39(ft)

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

Prepared in the Office of:

**LOCATION AND SURVEYS UNIT  
DIVISION 3  
5310 BARBADOS BLVD., SUITE 102  
CASTLE HAYNE, NORTH CAROLINA 28429**

2018 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
**DECEMBER 15, 2022**

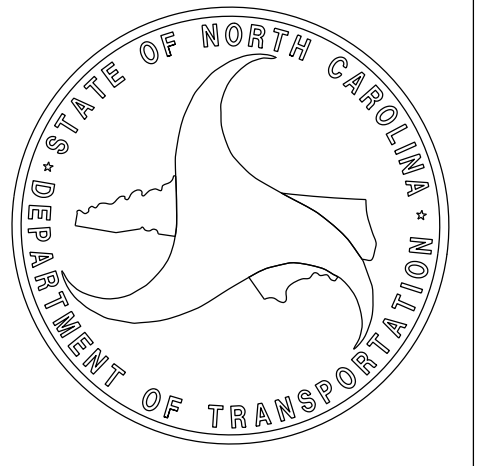
**LETTING DATE:**  
**DECEMBER 7, 2023**

**PROFESSIONAL LAND  
SURVEYOR**



DocuSigned by:  
Christopher J. Simpson 10/27/2023  
SIGNATURE: \_\_\_\_\_

Date: \_\_\_\_\_



# SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



\*\*\*\*\*  
 BM3 ELEVATION = 54.31  
 N 395688 E 2190540  
 EL STATION 19+31.00 186 LEFT  
 RRS IN 36" CYPRESS  
 \*\*\*\*\*

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

Class of survey: **AA**  
 Type of GPS field procedure: RTN  
 Dates of survey: MARCH 2022  
 Datum/Epoch: NAD 1983/NA 2011  
 Published/Fixed-control use: N/A FOR RTN  
 Localized around: B6049-1  
 Northing: 395099.6336  
 Easting: 2193760.0296  
 Combined grid factor: 0.9999013328  
 Geoid model: 12BNC  
 Units: SURVEY FEET

PROJECT REFERENCE NO.	SHEET NO.
B-6049	RW02C-1
<b>Location and Surveys</b>	
LOCATIONS AND SURVEYS UNIT DIVISION 3 5310 BARBADOS BLVD., SUITE 102 CASTLE HAYNE, NORTH CAROLINA 28409	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

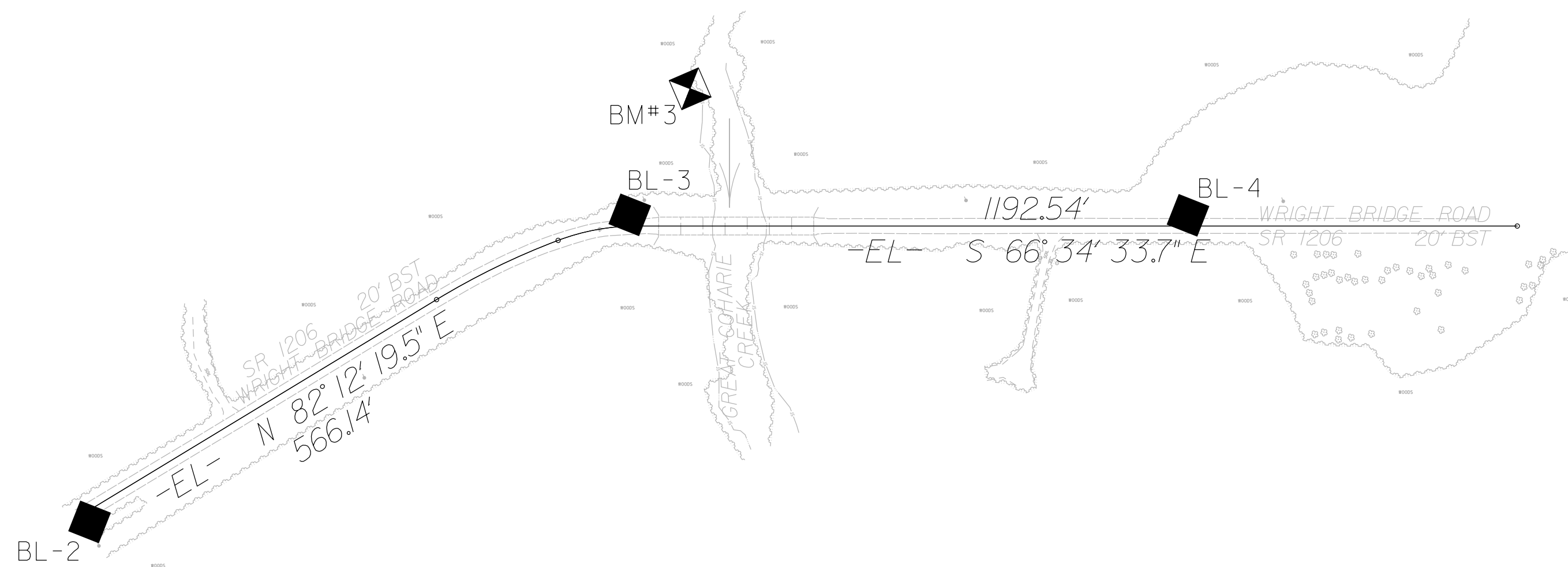
BL	POINT	DESC.	NORTH	EAST	ELEVATION
BL-1	TRV CAP & REBAR		395364.1750	2188749.8600	54.77
BL-2	TRV CAP & REBAR		395473.4450	2189561.0970	54.79
BL-3	TRV CAP & REBAR		395564.0010	2190397.4840	58.97
BL-4	TRV CAP & REBAR		395262.9370	2191090.7470	56.94
BL-5	TRV CAP & REBAR		394960.4020	2191795.0640	60.64
BL-6	TRV CAP & REBAR		394956.6610	2192440.7970	64.29
BL-7	TRV CAP & REBAR		395024.1000	2193101.1400	67.96
B6049-1	PK NAIL & WASHER		395099.6336	2193760.0296	77.62
B6049-2	GPS CAP & REBAR		396267.0724	2194029.7106	81.41

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 MARCH 2022, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 16th day of February, 2023.

DocuSigned by:  
  
 9700532E1D01467  
 Professional Land Surveyor L-4526

EL	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT		395486.027	2189551.057							
LINE				N 82°12'19.5" E	566.14					
PC		395562.808	2190111.969							
CURVE				N 87°27'32.3" E	183.13	10°30'25.4"(RT)	05°43'46.5"	183.38	91.95	1000.00
PCC		395570.927	2190294.915							
CURVE				S 76°55'54.4" E	107.86	20°42'41.3"(RT)	19°05'54.9"	108.44	54.82	300.00
PT		395546.540	2190399.977							
LINE				S 66°34'33.7" E	1192.54					
POT		395072.466	2191494.241							



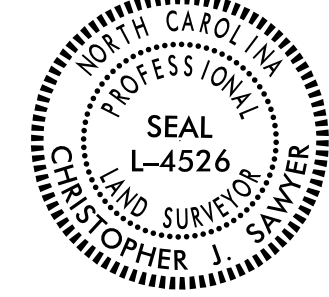
**NOTES:**

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.

REVISIONS

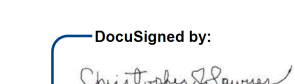


# PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO. B-6049	SHEET NO. RW02D-1
Location and Surveys	
LOCATION AND SURVEYS UNIT DIVISION 3 5310 BARBADOS BLVD., SUITE 102 CASTLE HAYNE, NORTH CAROLINA 28429	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

This 16th day of February, 2023.

  
 Professional Land Surveyor L-4526


REVISIONS

TYPE	STATION	NORTH	EAST
POT	10+00.00	395526.0981	2189843.7898
PC	13+46.83	395573.1364	2190187.4198
PT	15+72.95	395542.7699	2190408.6785
POT	25+23.86	395164.7548	2191281.2185

**NOTES:**

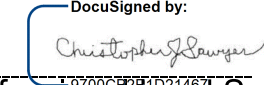
1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

# RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO. B-6049	SHEET NO. RW03E-1
Location and Surveys	
LOCATION AND SURVEYS UNIT DIVISION 3 5310 BARBADOS BLVD, SUITE 102 CASTLE HAYNE, NORTH CAROLINA 28429	
<div style="display: flex; justify-content: center; align-items: center;"> <div style="text-align: center; margin-right: 10px;">PROJECT SURVEYOR</div>  </div>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Christopher J. Sawyer, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed February 8, 2023, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 16th day of February, 2023.

DocuSigned by:  
  
Professional Land Surveyor L-4526

### ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+00.00	-45.00	395597.8067	2190035.8390
L	12+00.00	-30.00	395582.9453	2190037.8733
L	12+00.00	30.00	395523.4997	2190046.0106
L	12+00.00	45.00	395508.6383	2190048.0449
L	13+46.83	-45.00	395617.7207	2190181.3168
L	13+46.83	45.00	395528.5522	2190193.5228
L	15+72.95	-45.00	395584.0614	2190426.5674
L	15+72.95	45.00	395501.4785	2190390.7895
L	20+00.00	-45.00	395414.2971	2190818.4199
L	20+00.00	45.00	395331.7141	2190782.6420
L	20+00.00	-30.00	395400.5333	2190812.4569
L	20+00.00	30.00	395345.4780	2190788.6050

### ROW MARKER PERMANENT EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+15.00	-45.00	395613.4032	2190149.7765
L	13+55.00	-70.00	395643.6908	2190187.3931
L	14+45.00	-75.00	395649.4981	2190292.8662
L	15+72.95	-55.00	395593.2373	2190430.5427


PK NAIL SET IN FALLEN MAPLE

**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 FEBRUARY 8, 2023.

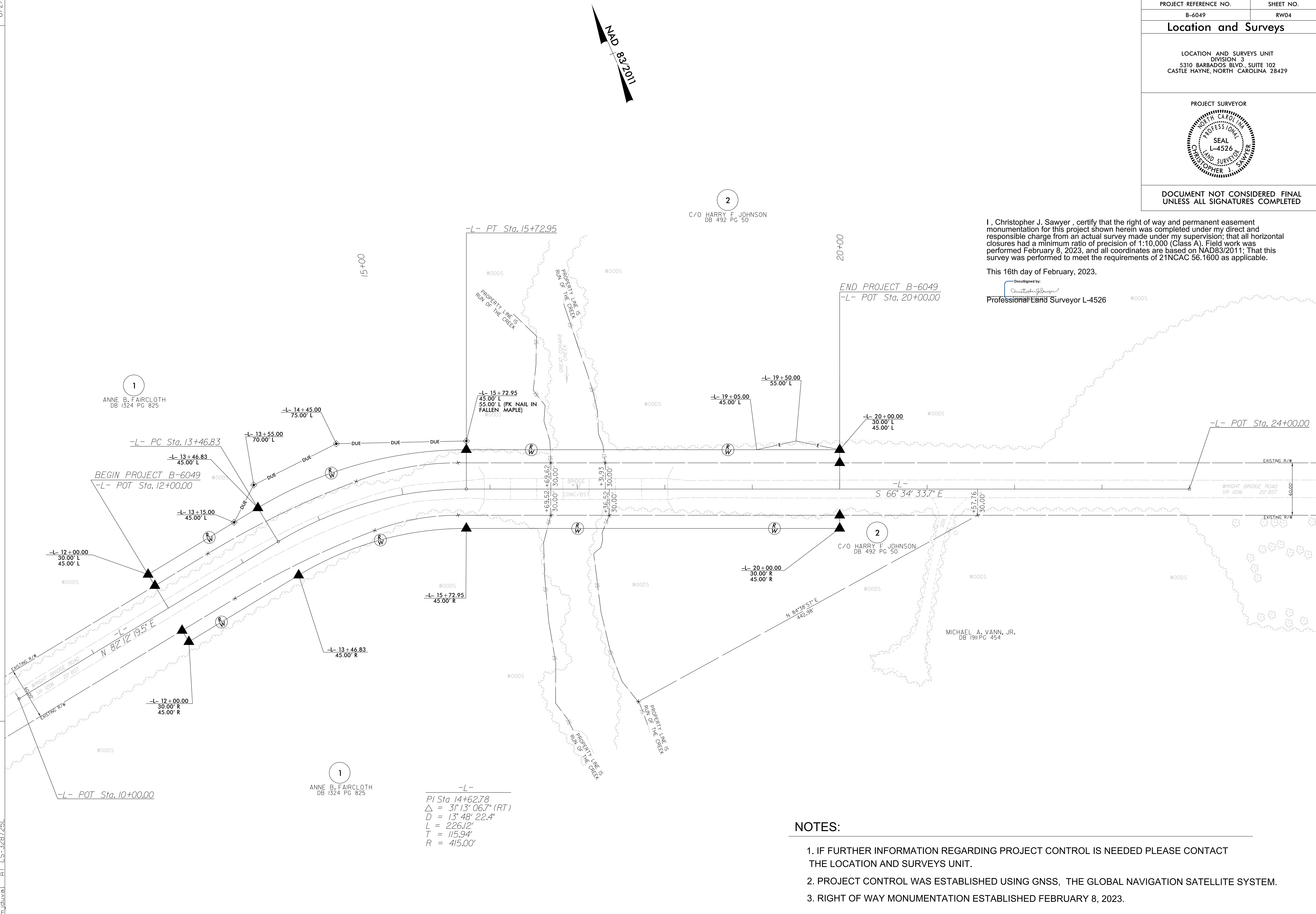
REVISIONS

6/2/199

PROJECT REFERENCE NO.	SHEET NO.
B-6049	RW04
<b>Location and Surveys</b>	
LOCATION AND SURVEYS UNIT DIVISION 3 5310 BARBADOS BLVD., SUITE 102 CASTLE HAYNE, NORTH CAROLINA 28429	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

REVISIONS

IC:\FEB-2023\08556\Projects\BRIDGE\Compson\B6049\0072 Working\Contr-01 Sheets\B6049.LS.RW04.dgn  
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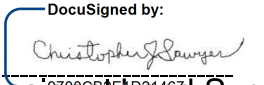
2  
C/O HARRY F. JOHNSON  
DB 492 PG 50

1  
ANNE B. FAIRCLOTH  
DB 1324 PG 825

1  
ANNE B. FAIRCLOTH  
DB 1324 PG 825

-L-  
 PI Sta 14+62.78  
 $\Delta = 31^{\circ}13'06.7''$  (RT)  
 $D = 13^{\circ}48'22.4''$   
 $L = 226.12'$   
 $T = 115.94'$   
 $R = 415.00'$

I, Christopher J. Sawyer, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed February 8, 2023, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 16th day of February, 2023.  
 Documented by:  
  
 Professional Land Surveyor L-4526

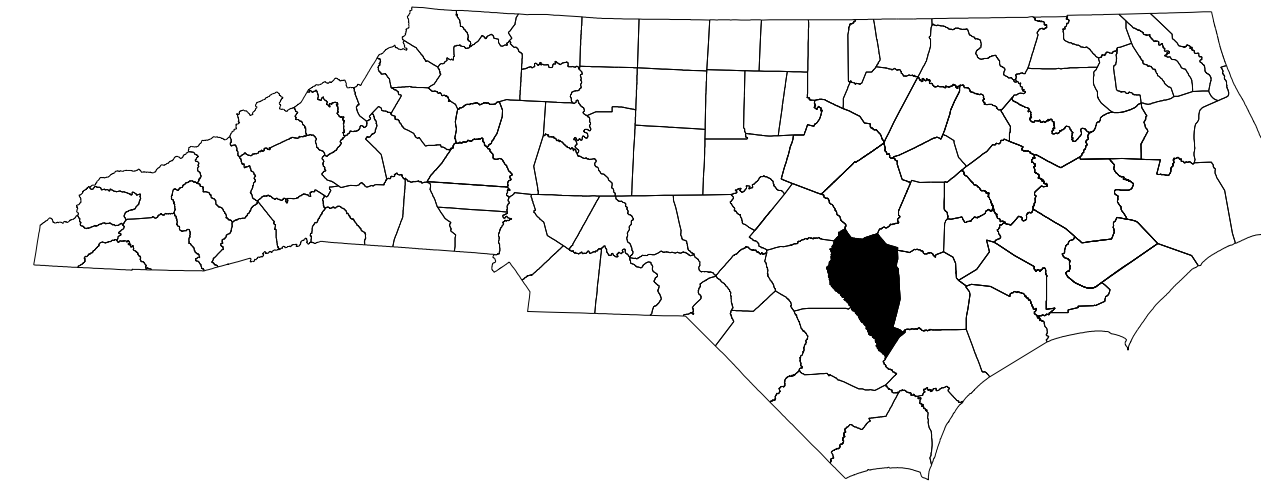
**NOTES:**

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 FEBRUARY 8, 2023.

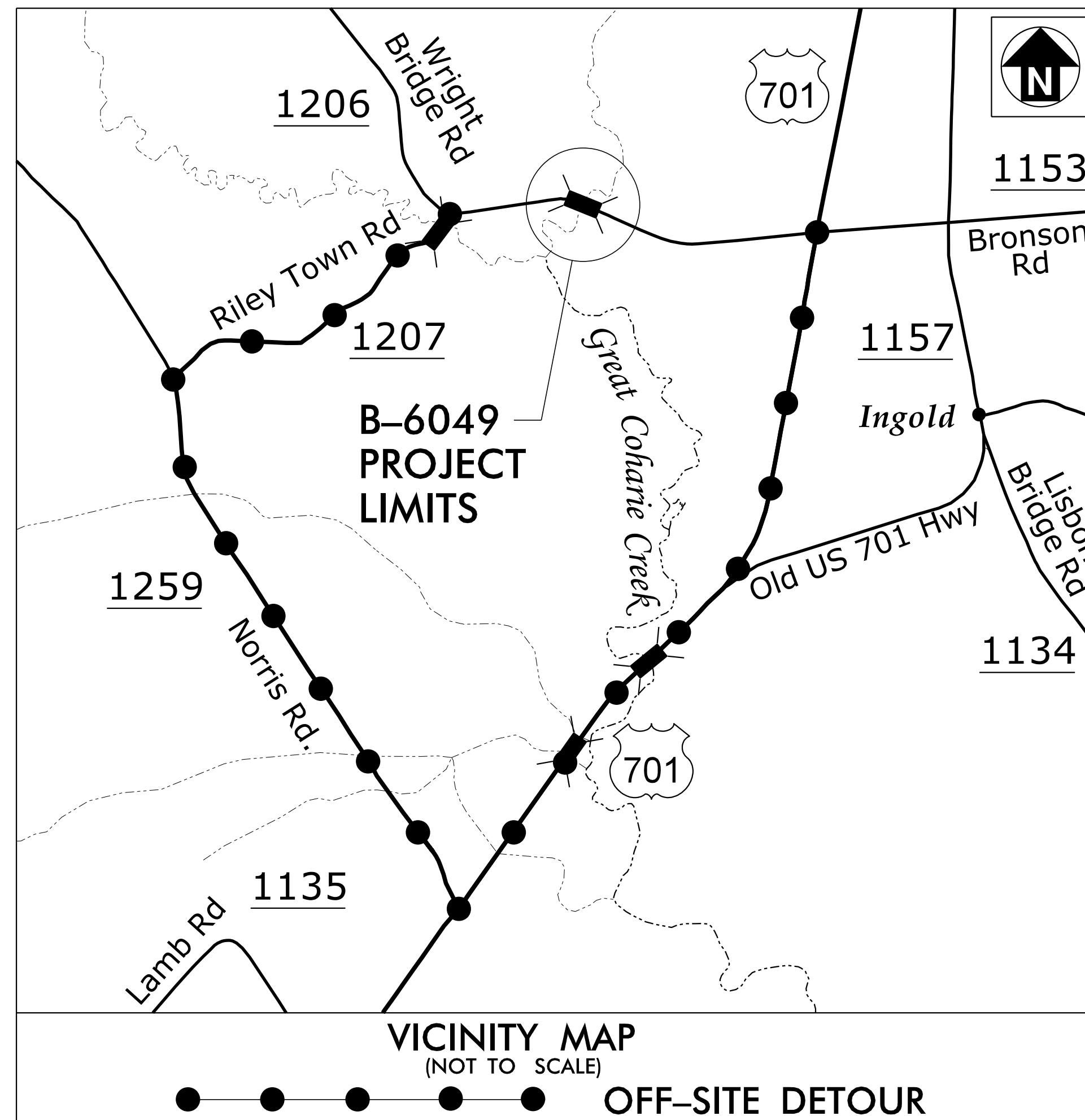
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**SAMPSON COUNTY**



LOCATION: BRIDGE NO. 72 OVER GREAT COHARIE CREEK ON  
SR 1206 (WRIGHT BRIDGE ROAD)



**INDEX OF SHEETS**

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: GENERAL NOTES, LOCAL NOTES & TEMPORARY TRAFFIC CONTROL PHASING
TMP-2	SPECIAL SIGN DESIGN
TMP-3	TEMPORARY TRAFFIC CONTROL - DETOUR

SHEET NO.  
TMP-1

**B-6049**

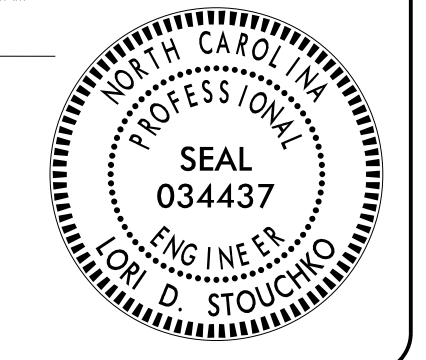
**TIP PROJECT:**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

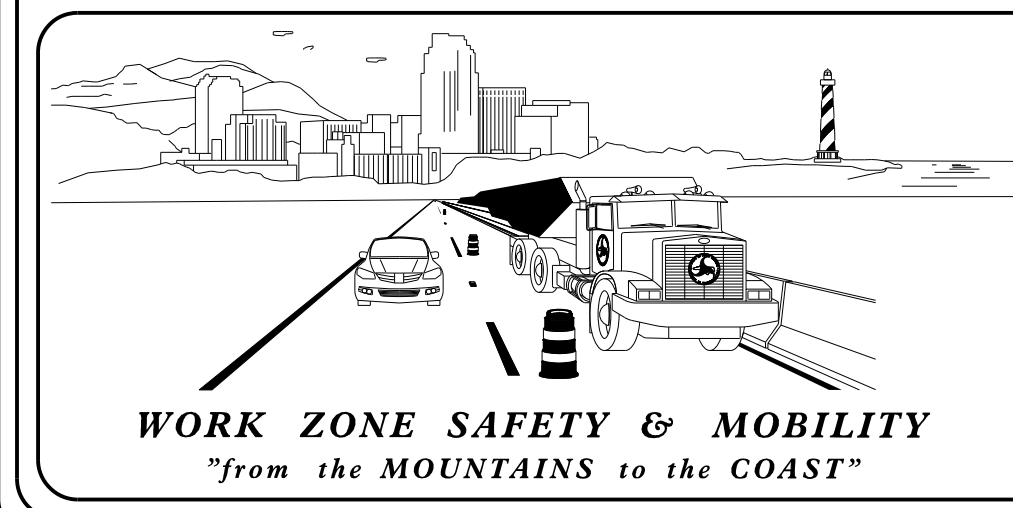
APPROVED: *Lois D. Stouchko*  
FF586C7596C645A

DATE: \_\_\_\_\_

SEAL

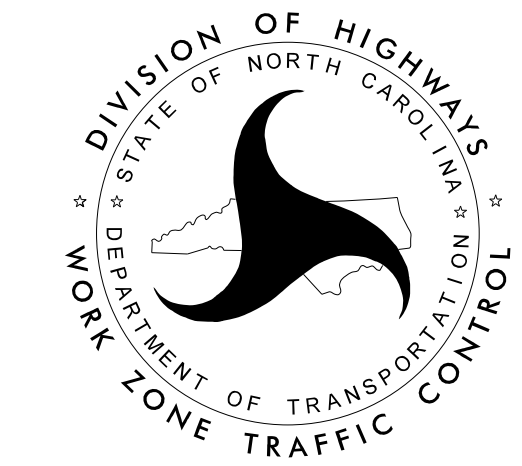


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PLANS PREPARED FOR THE NCDOT BY:  
**M** MOTT MACDONALD 1 & E, LLC  
1101 HAYNES STREET, SUITE 101  
RALEIGH, NC 27604  
**M** MOTT MACDONALD NC LICENSE NO. F-0669

NCDOT CONTACTS:  
**DEREK PIELECH, PE**  
DIVISION BRIDGE  
PROGRAM MANAGER



# ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES

# LEGEND

## GENERAL

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

## SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

## PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

## TRAFFIC CONTROL DEVICES

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

## TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

## PAVEMENT MARKERS

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

## PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

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APPROVED: <i>Lori D. Stouchko</i> <small>FF586C7596C045A...</small>			<b>ROADWAY STANDARD DRAWINGS &amp; LEGEND</b>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

PROJ. REFERENCE NO.	SHEET NO.
B-6049	TMP-1B

PLANS PREPARED FOR THE NCDOT BY:

**M** MOTT MACDONALD I & E, LLC  
 1101 HAYNES STREET, SUITE 101  
 RALEIGH, NC 27604  
**M**  
 MOTT MACDONALD NC LICENSE NO. F-0669

**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.

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.

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.

PAVEMENT MARKINGS AND MARKERS

- F) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

**LOCAL NOTES**

- 1) IN ORDER TO HAVE TIME TO ADEQUATELY REROUTE SCHOOL BUSES, SAMPSON COUNTY SCHOOLS WILL BE CONTACTED AT (910) 592-1401 AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.
- 2) SAMPSON COUNTY EMERGENCY MANAGEMENT WILL BE CONTACTED AT (910) 592-8996 AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE TO MAKE THE NECESSARY TEMPORARY REASSIGNMENTS TO PRIMARY RESPONSE UNITS.

**PHASING**

STEP 1: USING RSD 1101.03, SHEET 1 OF 9, AND SHEET TMP-3, PLACE TEMPORARY DETOUR SIGNS AND COVER

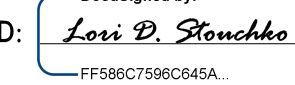
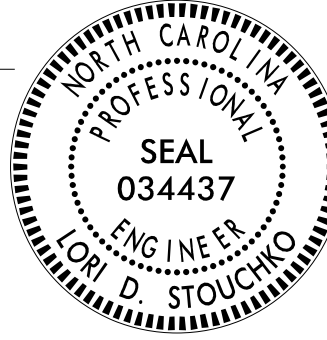
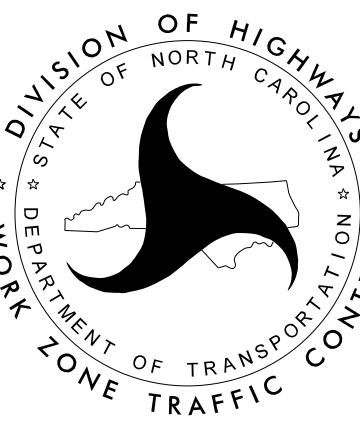
STEP 2: UNCOVER TEMPORARY DETOUR SIGNS AND CLOSE -L- TO TRAFFIC

STEP 3: CONSTRUCT PROPOSED -L- AND PROPOSED STRUCTURE AS SHOWN IN THE CONTRACT DOCUMENTS; INCLUDING, BUT NOT LIMITED TO, THE REMOVAL OF THE EXISTING STRUCTURE OVER GREAT COHARIE CREEK

PLACE FINAL PAVEMENT MARKINGS ON -L-

STEP 4: REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES AND OPEN -L- TO TRAFFIC

IV/7/2023  
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 User:ST086227

APPROVED:  <small>DocuSigned by: Lori D. Stouchko FF586C7596C645A</small> DATE: _____ 		<p style="text-align: center;">TRANSPORTATION          OPERATIONS PLAN:          GENERAL NOTES,          LOCAL NOTES &amp;          TEMPORARY TRAFFIC          CONTROL PHASING</p>
<b>DOCUMENT NOT CONSIDERED FINAL          UNLESS ALL SIGNATURES COMPLETED</b>		

SIGN NUMBER: SP-1      BACKG COLOR: Fluorescent Orange  
 TYPE: STATIONARY      COPY COLOR: Black  
 QUANTITY: SEE PLANS

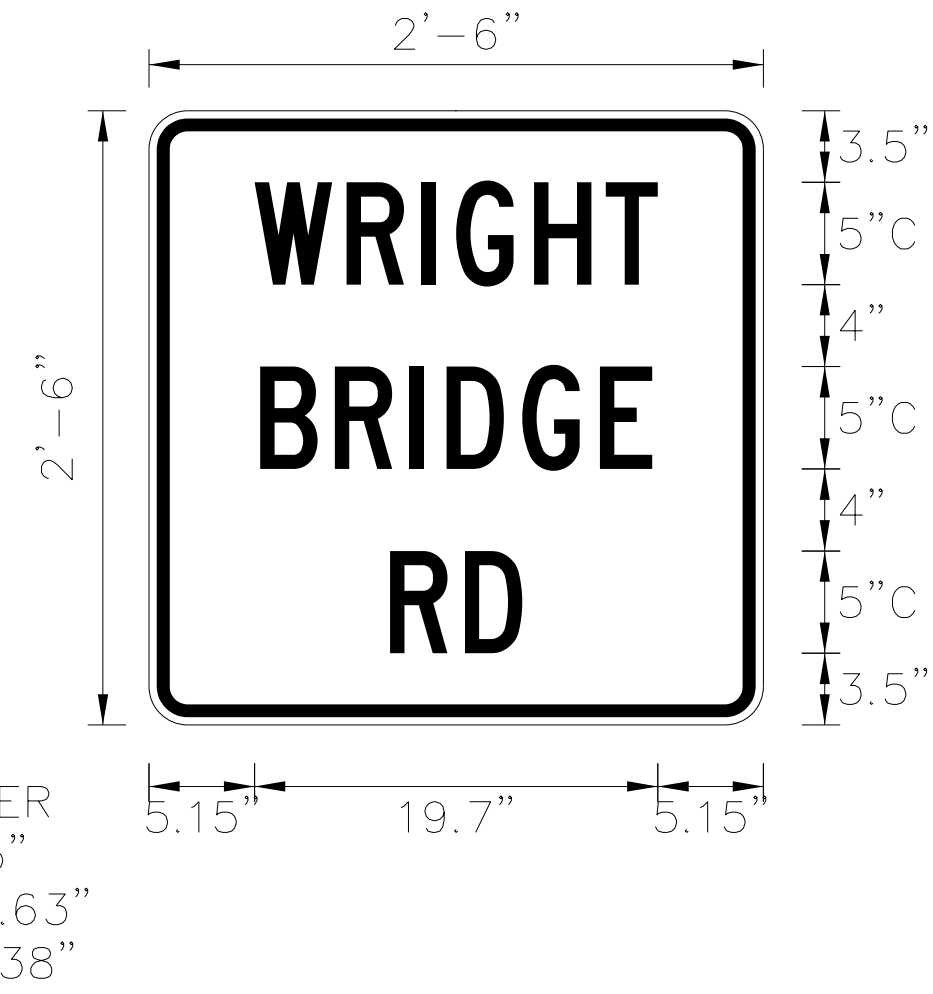
SYMBOL	X	Y	WID	HT

SIGN WIDTH: 2'-6"  
 HEIGHT: 2'-6"  
 TOTAL AREA: 6.3 Sq.Ft.

BORDER TYPE: INSET  
 RECESS: 0.38"  
 WIDTH: 0.63"  
 RADII: 1.5"

NO. Z BARS:      MAT'L: 0.080" (2.0 mm) ALUMINUM  
 LENGTH:

DESIGN BY: S COLEMAN      CHECKED BY:      Jan 17, 2023  
 PROJECT ID: B-6049      LOCATION:      DIV: 3



Spacing Factor is 1 unless specified otherwise

**LETTER POSITIONS**

Letter spacings are to start of next letter										Series/Size	Text Length
5.2	4.5	3.7	1.7	3.8	3.5	2.6	5.2			C 2000	19.7
5.4	3.6	3.7	1.8	3.7	3.8	2.6	5.4			C 2000	19.2
11.8	3.7	2.8	11.8							C 2000	6.5

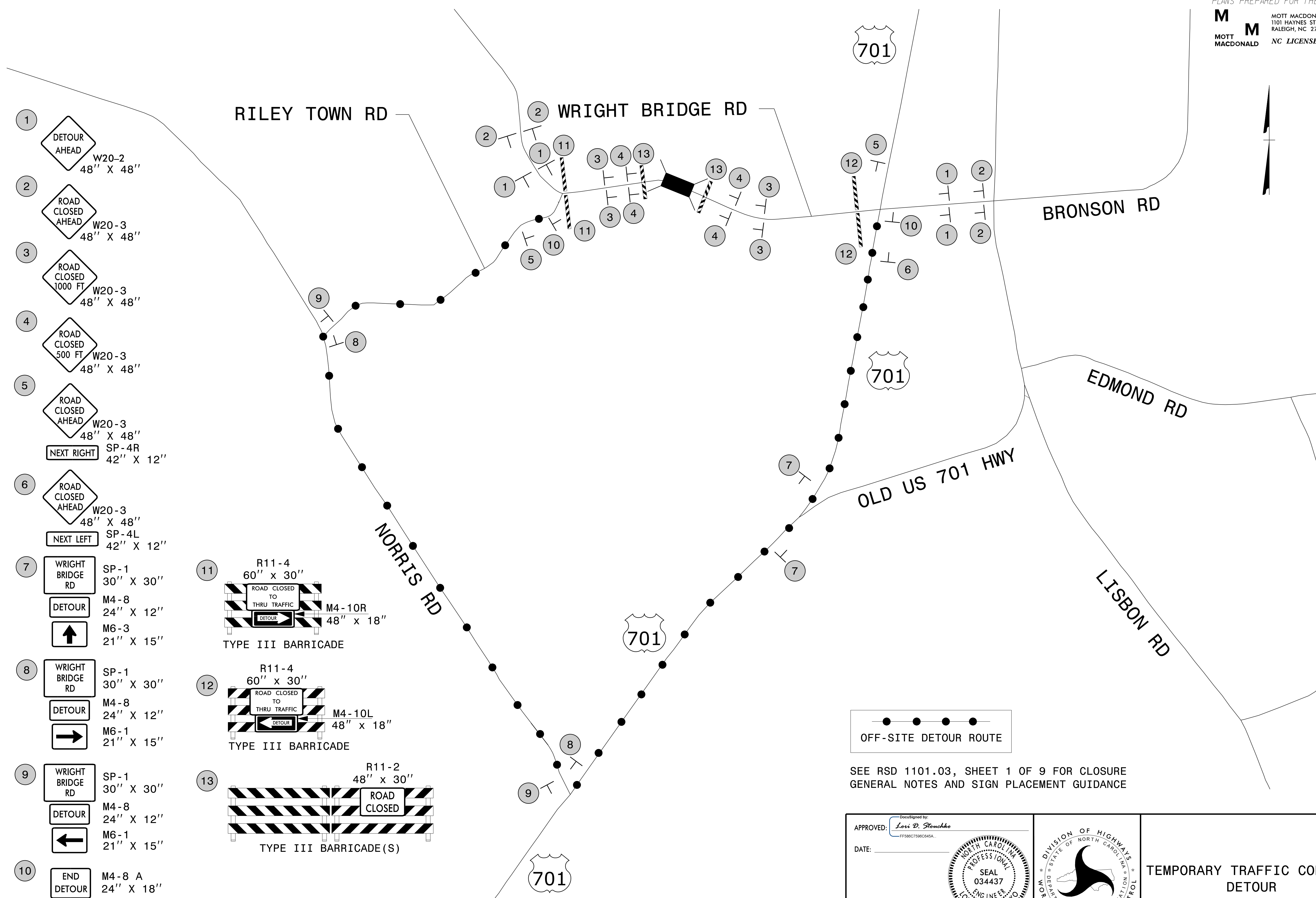
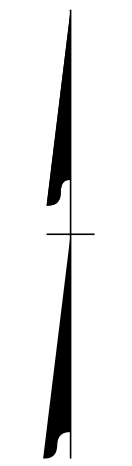
FILENAME: B-6049\_TC\_TMP\_Sign Design

NORTH CAROLINA D.O.T. SIGN DETAIL

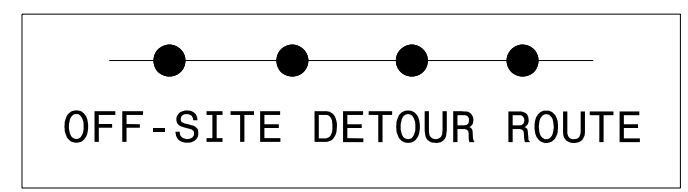
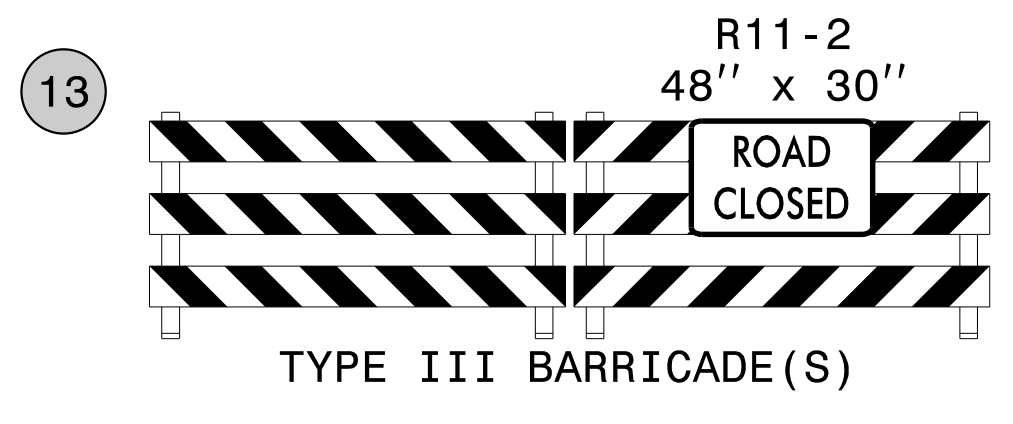
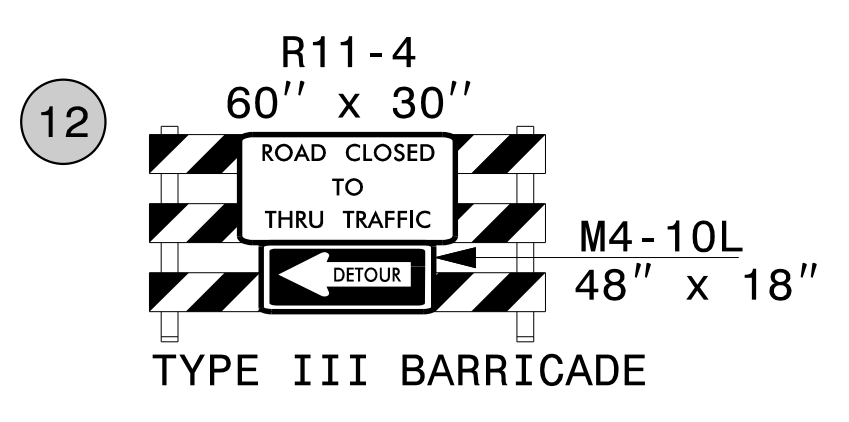
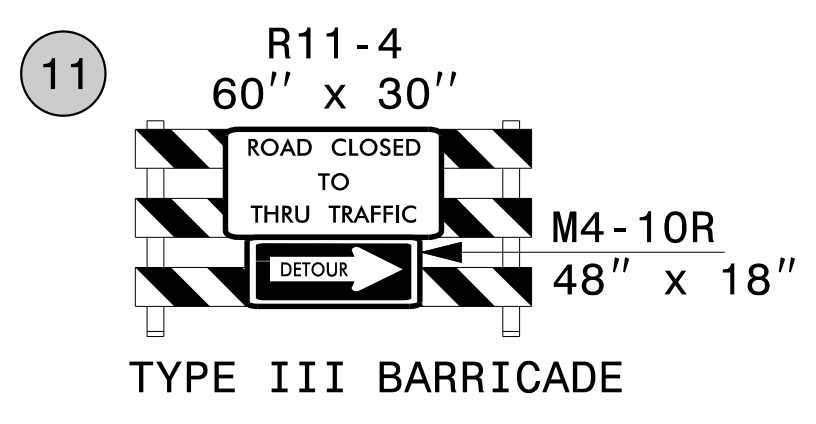
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 User:ST086227

APPROVED: <i>Lori D. Stoucho</i> <small>FF586C7596C845A</small> DATE: _____			<b>SPECIAL SIGN DESIGN</b>
<b>DOCUMENT NOT CONSIDERED FINAL          UNLESS ALL SIGNATURES COMPLETED</b>			

PLANS PREPARED FOR THE NCDOT BY:  
**M** MOTT MACDONALD I & E, LLC  
 1101 HAYNES STREET, SUITE 101  
 RALEIGH, NC 27604  
**M** MOTT MACDONALD NC LICENSE NO. F-0669



- 1 DETOUR AHEAD W20-2 48" X 48"
- 2 ROAD CLOSED AHEAD W20-3 48" X 48"
- 3 ROAD CLOSED 1000 FT W20-3 48" X 48"
- 4 ROAD CLOSED 500 FT W20-3 48" X 48"
- 5 ROAD CLOSED AHEAD W20-3 48" X 48"  
NEXT RIGHT SP-4R 42" X 12"
- 6 ROAD CLOSED AHEAD W20-3 48" X 48"  
NEXT LEFT SP-4L 42" X 12"
- 7 WRIGHT BRIDGE RD SP-1 30" X 30"  
DETOUR M4-8 24" X 12"  
M6-3 21" X 15"  
↑
- 8 WRIGHT BRIDGE RD SP-1 30" X 30"  
DETOUR M4-8 24" X 12"  
M6-1 21" X 15"  
→
- 9 WRIGHT BRIDGE RD SP-1 30" X 30"  
DETOUR M4-8 24" X 12"  
M6-1 21" X 15"  
←
- 10 END DETOUR M4-8 A 24" X 18"



SEE RSD 1101.03, SHEET 1 OF 9 FOR CLOSURE GENERAL NOTES AND SIGN PLACEMENT GUIDANCE

APPROVED: *Lori D. Stouchko*  
FF586C7586C845A

DATE: \_\_\_\_\_

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

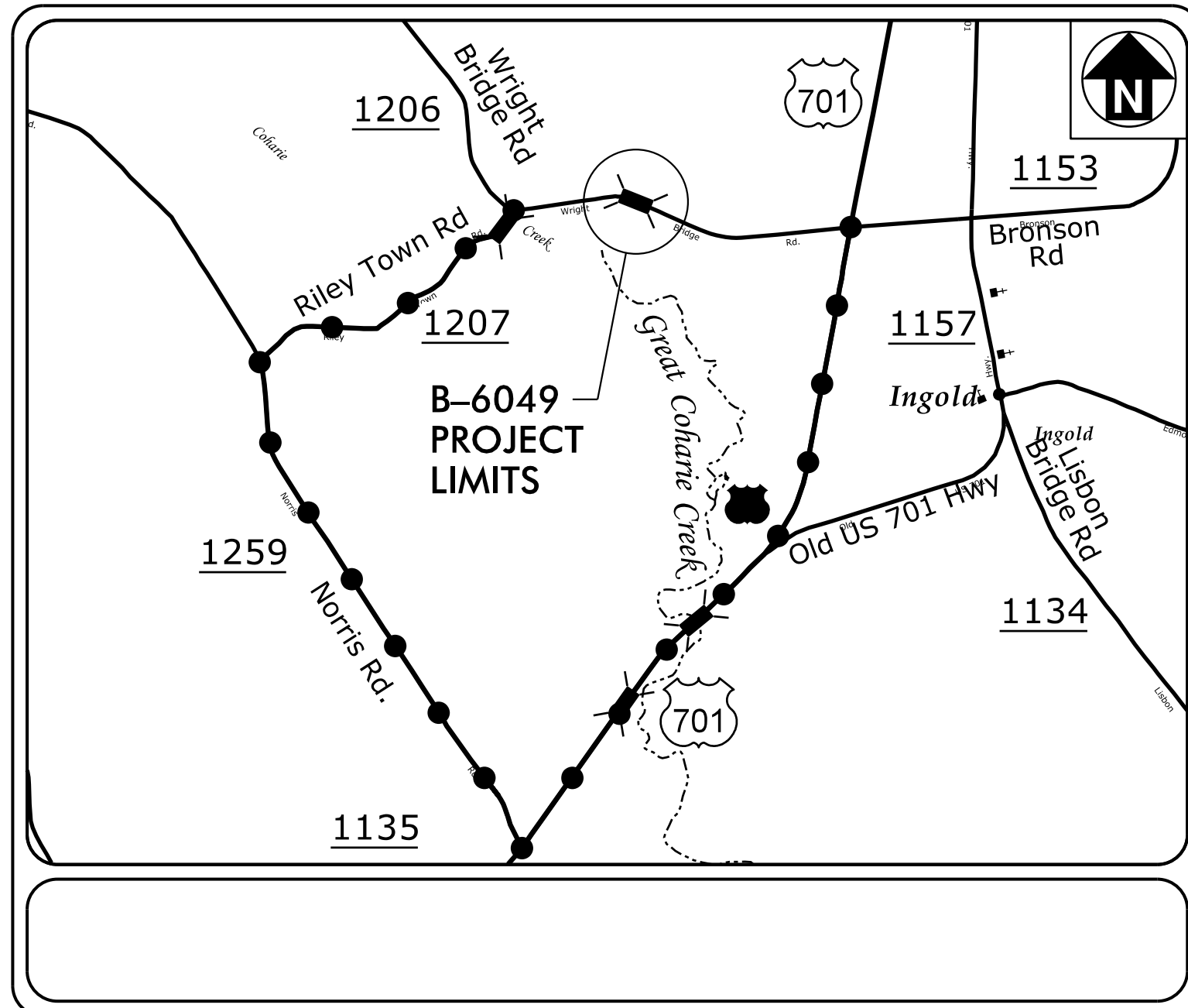


**TEMPORARY TRAFFIC CONTROL DETOUR**

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**TIP PROJECT: B-6049**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

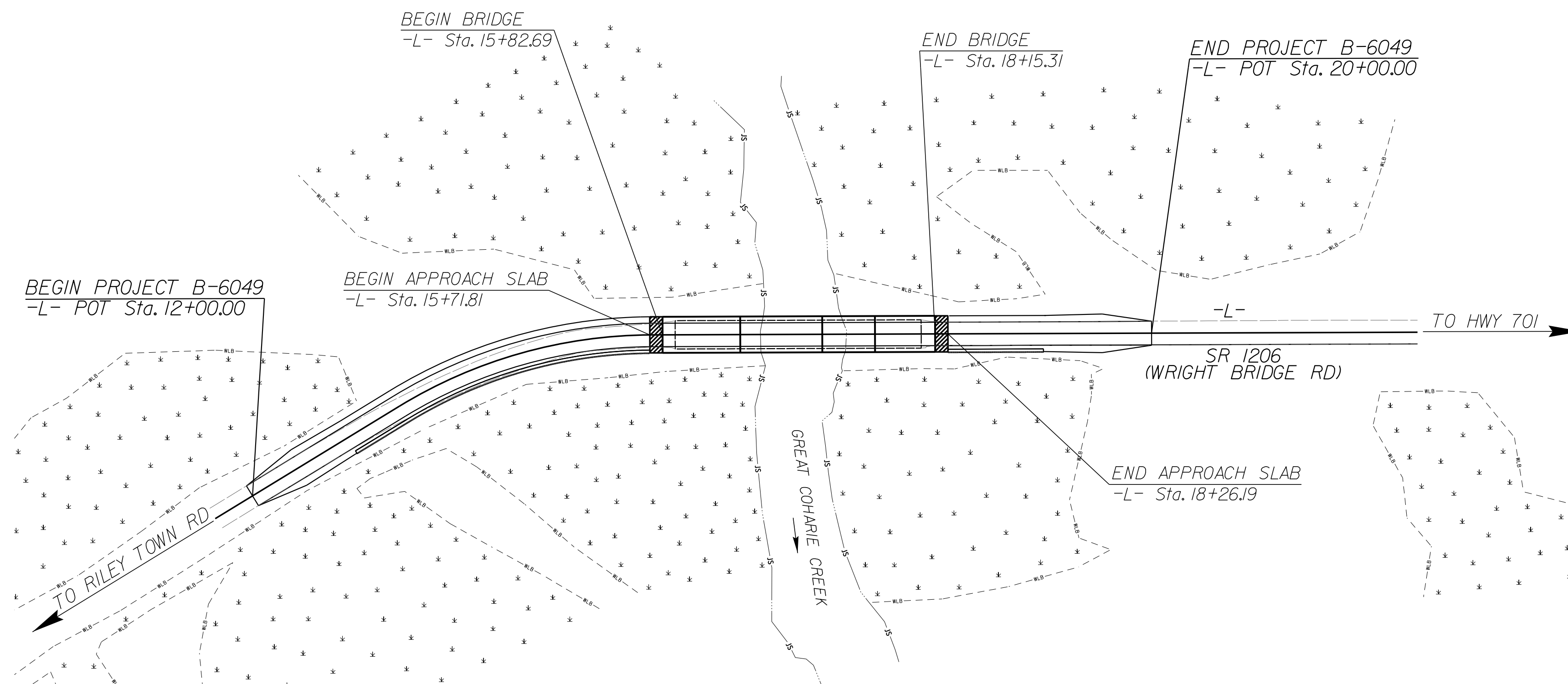
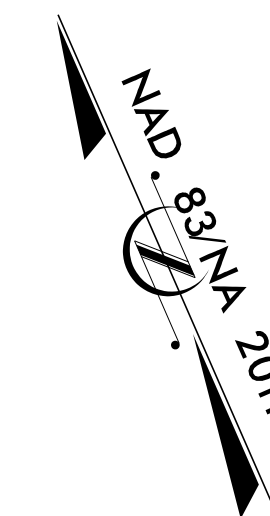
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PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL

---

SAMPSON COUNTY

**LOCATION: BRIDGE NO. 72 OVER GREAT COHARIE CREEK ON  
SR 1206 (WRIGHT BRIDGE ROAD)**



**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	▤
1622.01	Temporary Berms and Slope Drains	—
1650.02	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▩
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▩
1633.02	Temporary Rock Silt Check Type-B	▩
	Wattle/Coir Fiber Wattle	—
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	—
1634.01	Temporary Rock Sediment Dam Type-A	▩
1634.02	Temporary Rock Sediment Dam Type-B	▩
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⊓
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊓
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

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

**THIS PROJECT HAS  
BEEN DESIGNED TO  
SENSITIVE WATERSHED  
STANDARDS.**

**ENVIRONMENTALLY  
SENSITIVE AREA(S) EXIST  
ON THIS PROJECT**

*Refer To E. C. Special Provisions  
for Special Considerations.*

**GRAPHIC SCALE**



**THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH  
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000  
GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019  
AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.**

**M M**  
**MOTT  
MACDONALD**

LEVEL III CERTIFIED BY:  
TRENTON J. CORMIER, P.E., CPESC  
CERTIFICATION NUMBER: 3377  
ISSUED: JUNE 7, 2023

*Prepared in the Office of:*

**MOTT MACDONALD**  
7621 Purfoy Road, Suite 115  
Fuquay-Varina, NC 27526  
(919) 552-2253  
(919) 552-2254 (Fax)  
www.mottmac.com  
NC License No. F-0669

*Designed by:*

**TRENTON J. CORMIER, P.E., CPESC 3377**  
NAME LEVEL III  
CERTIFICATION NO.

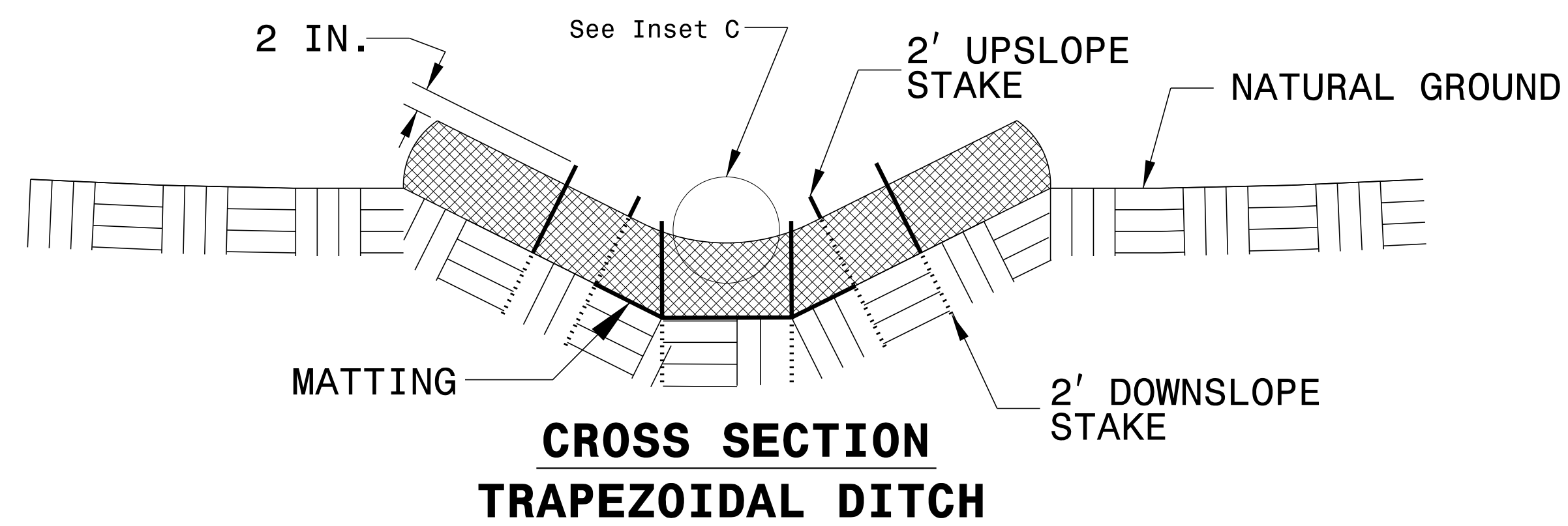
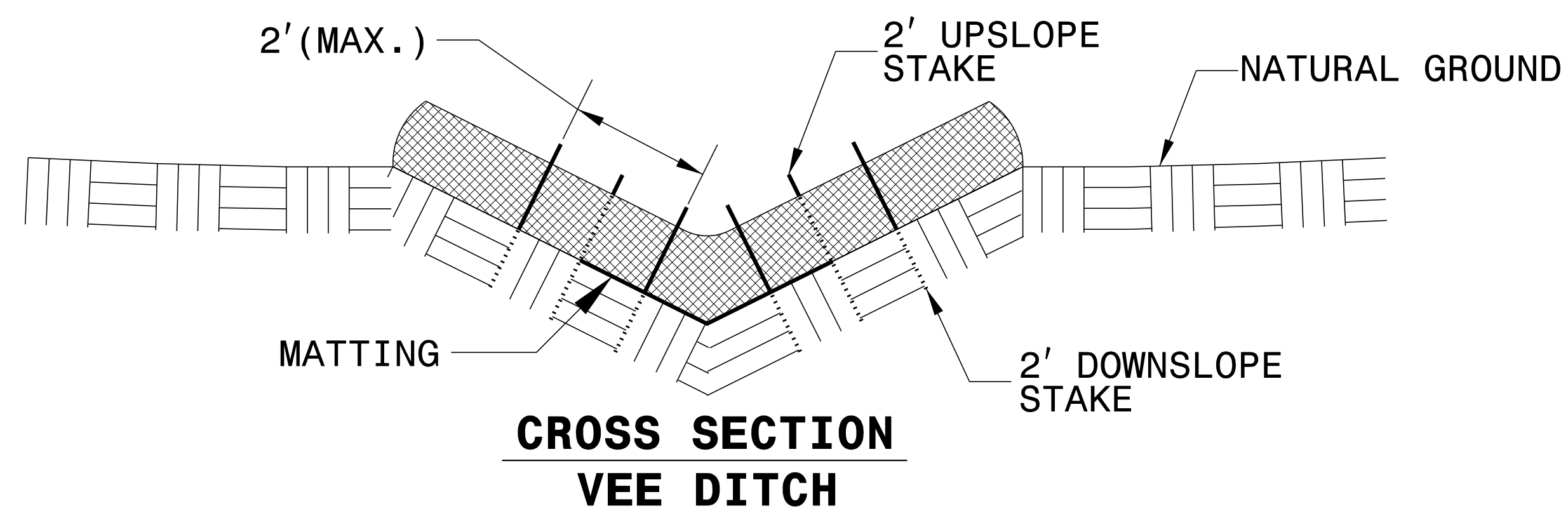
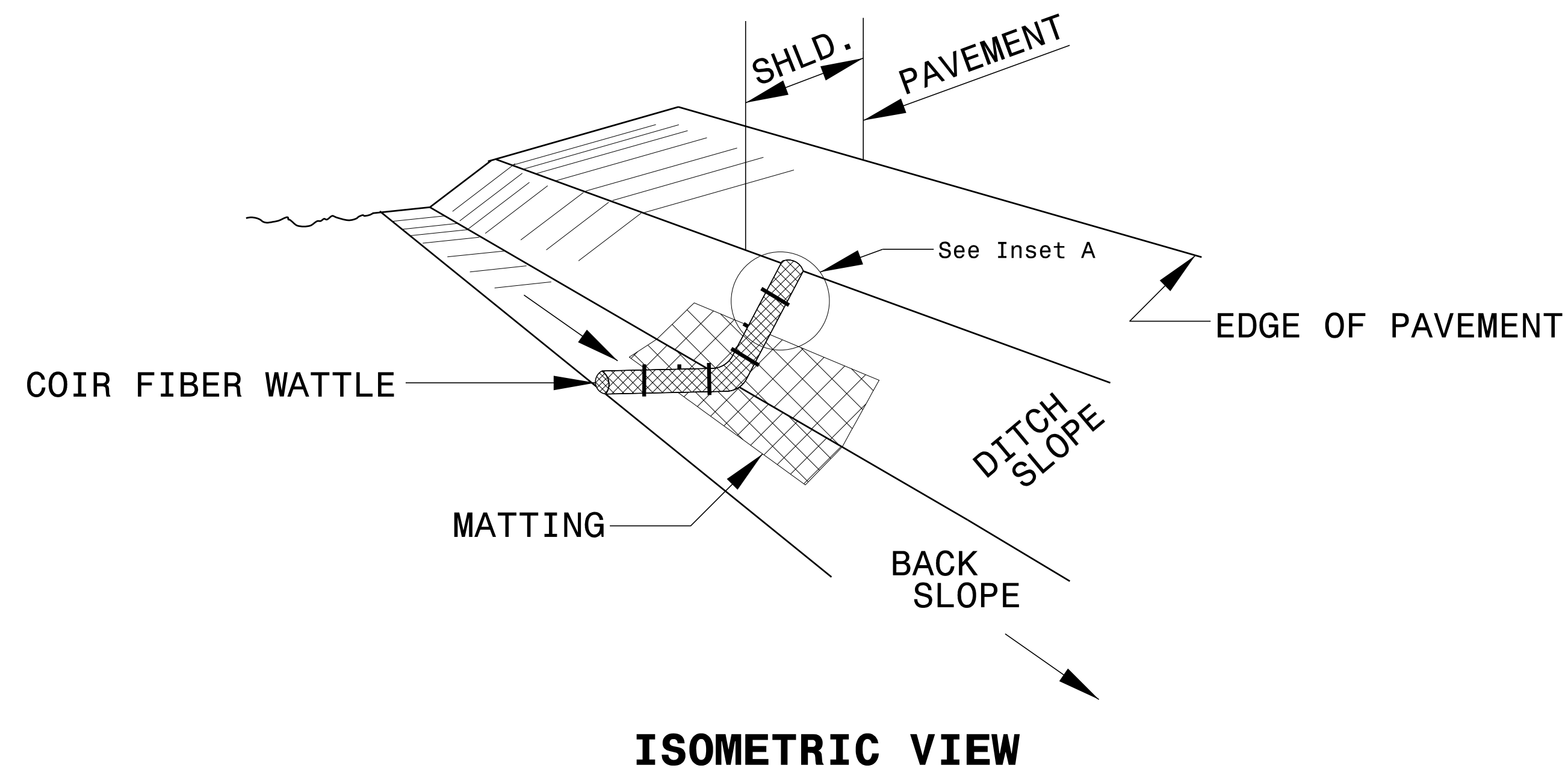
**Roadway Standard Drawings**

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1633.03 Temporary Rock Silt Check Type C
1630.02 Silt Basin Type 1	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	1640.01 Coir Fiber Wattle
1631.01 Matting Installation	1645.01 Temporary Stream Crossing

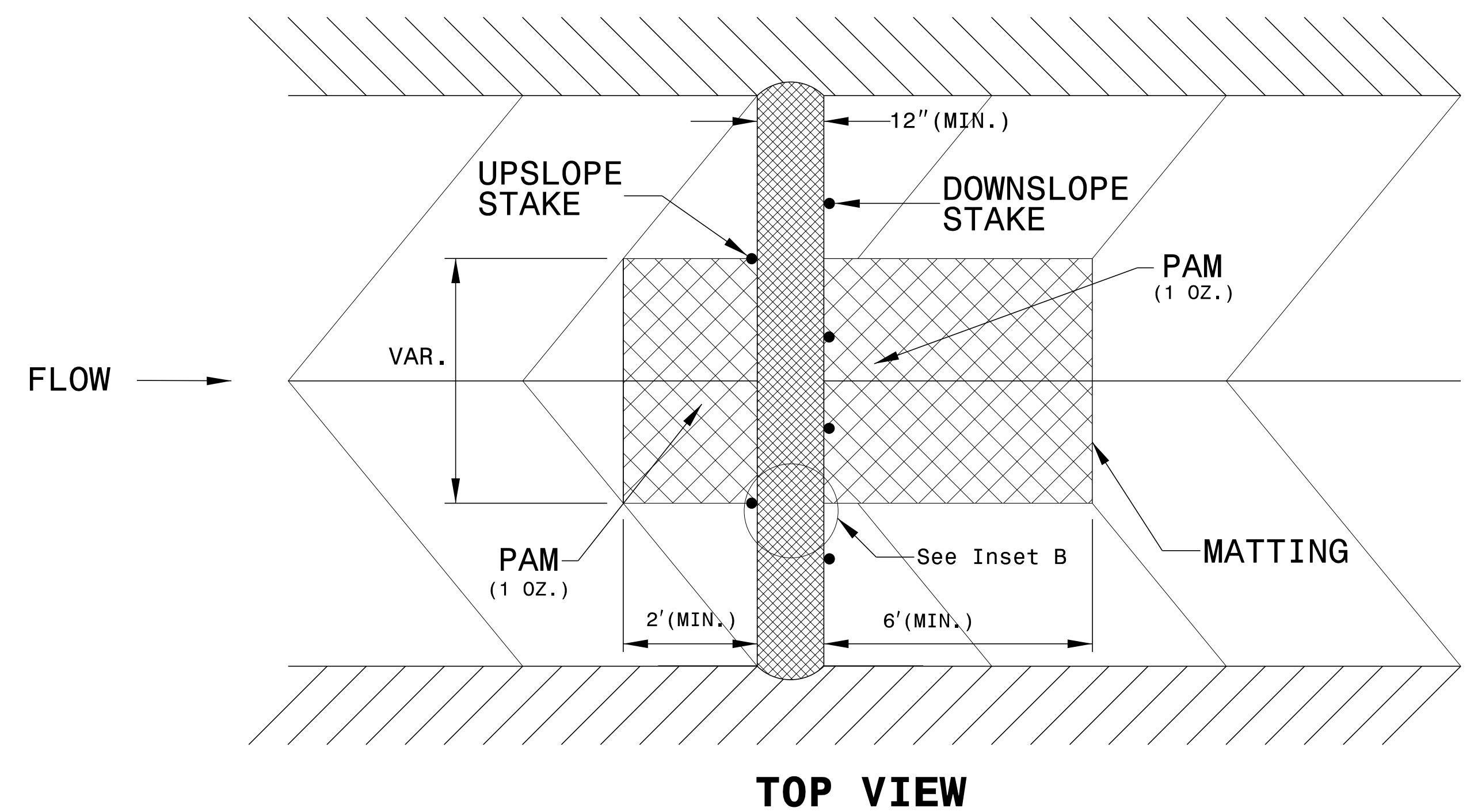
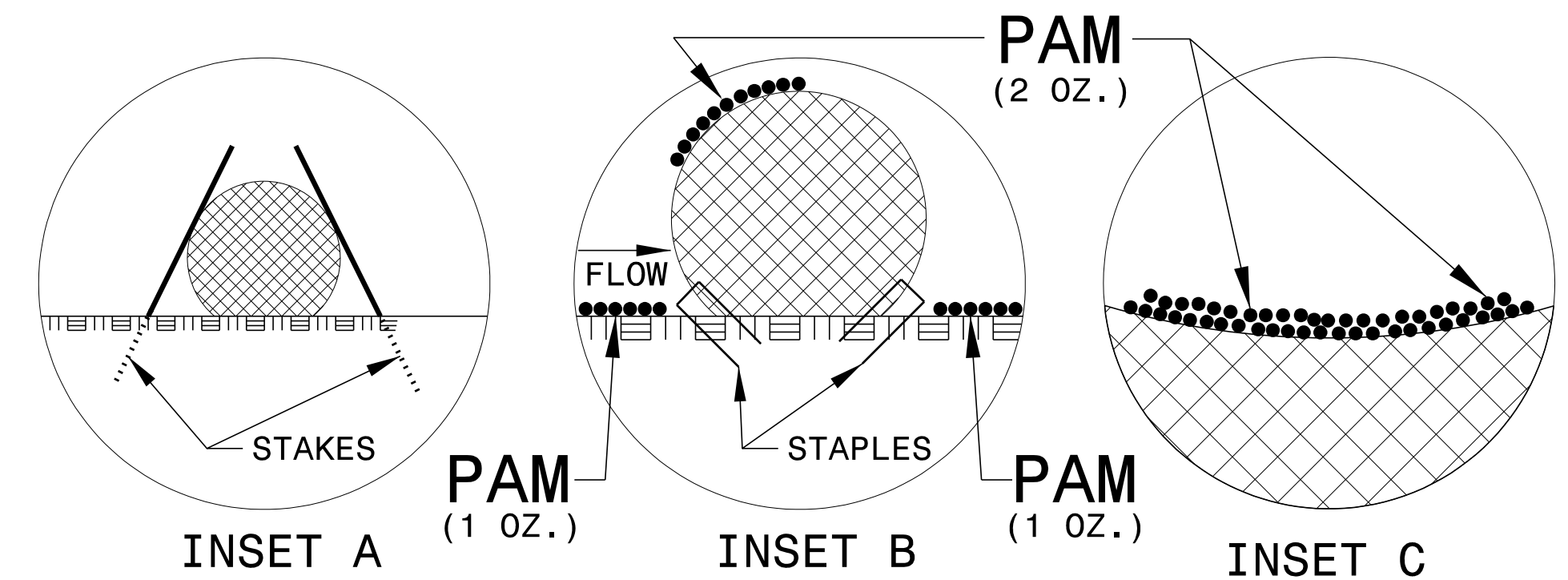
PROJECT REFERENCE NO. B-6049	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



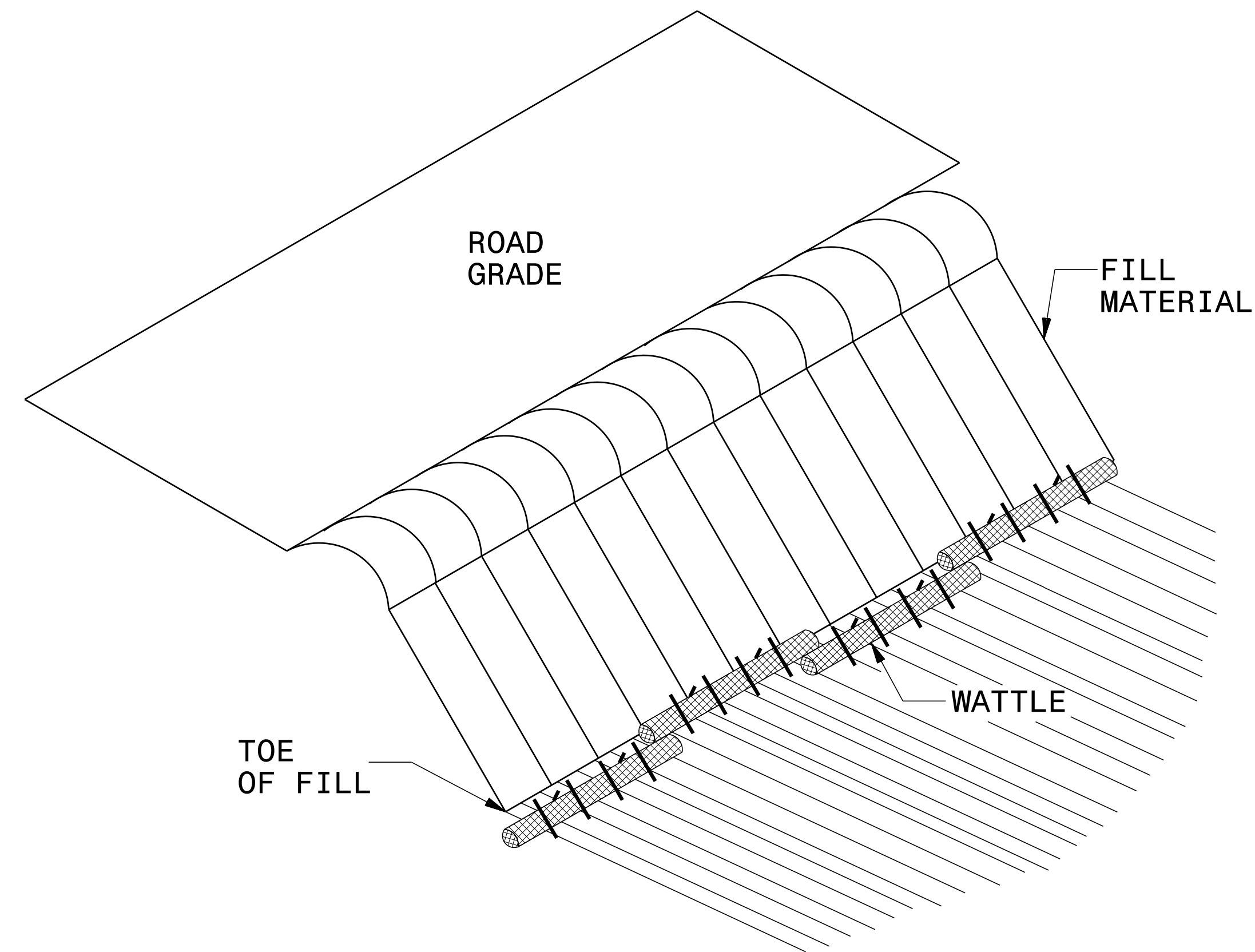
**NOTES:**

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

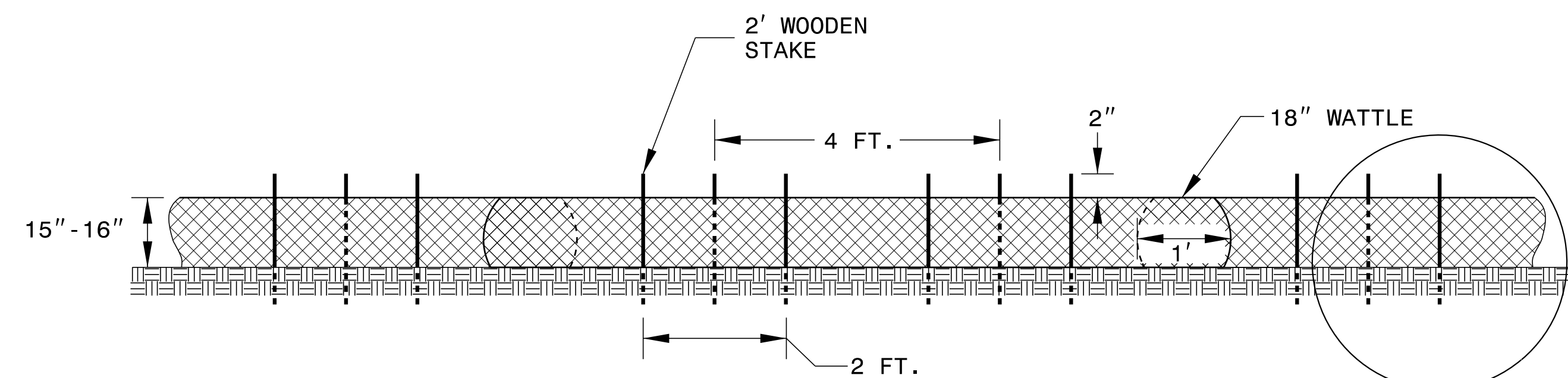


PROJECT REFERENCE NO. B-6049	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER WATTLE BARRIER DETAIL



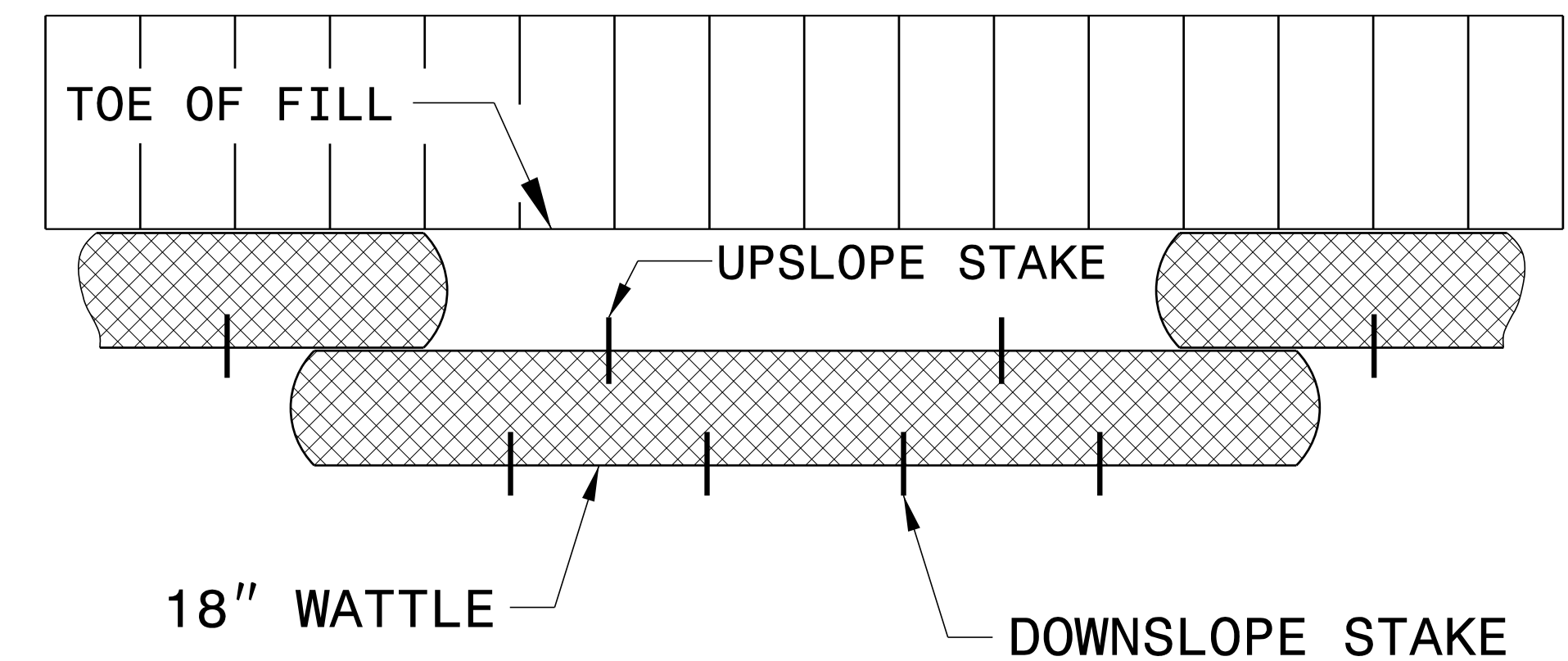
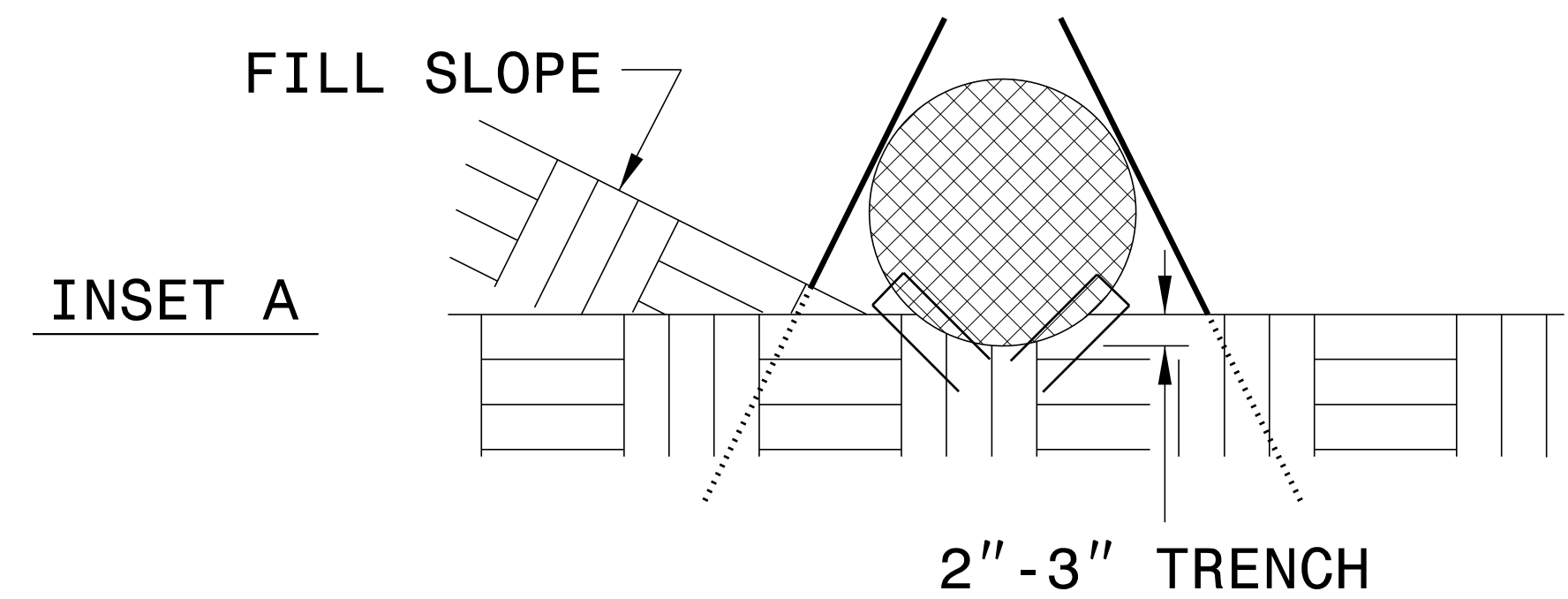
**ISOMETRIC VIEW**



**FRONT VIEW**

**NOTES:**

- USE MINIMUM 18 IN. NOMINAL DIAMETER COIR FIBER (COCONUT) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLES ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 25 FT.



**TOP VIEW**

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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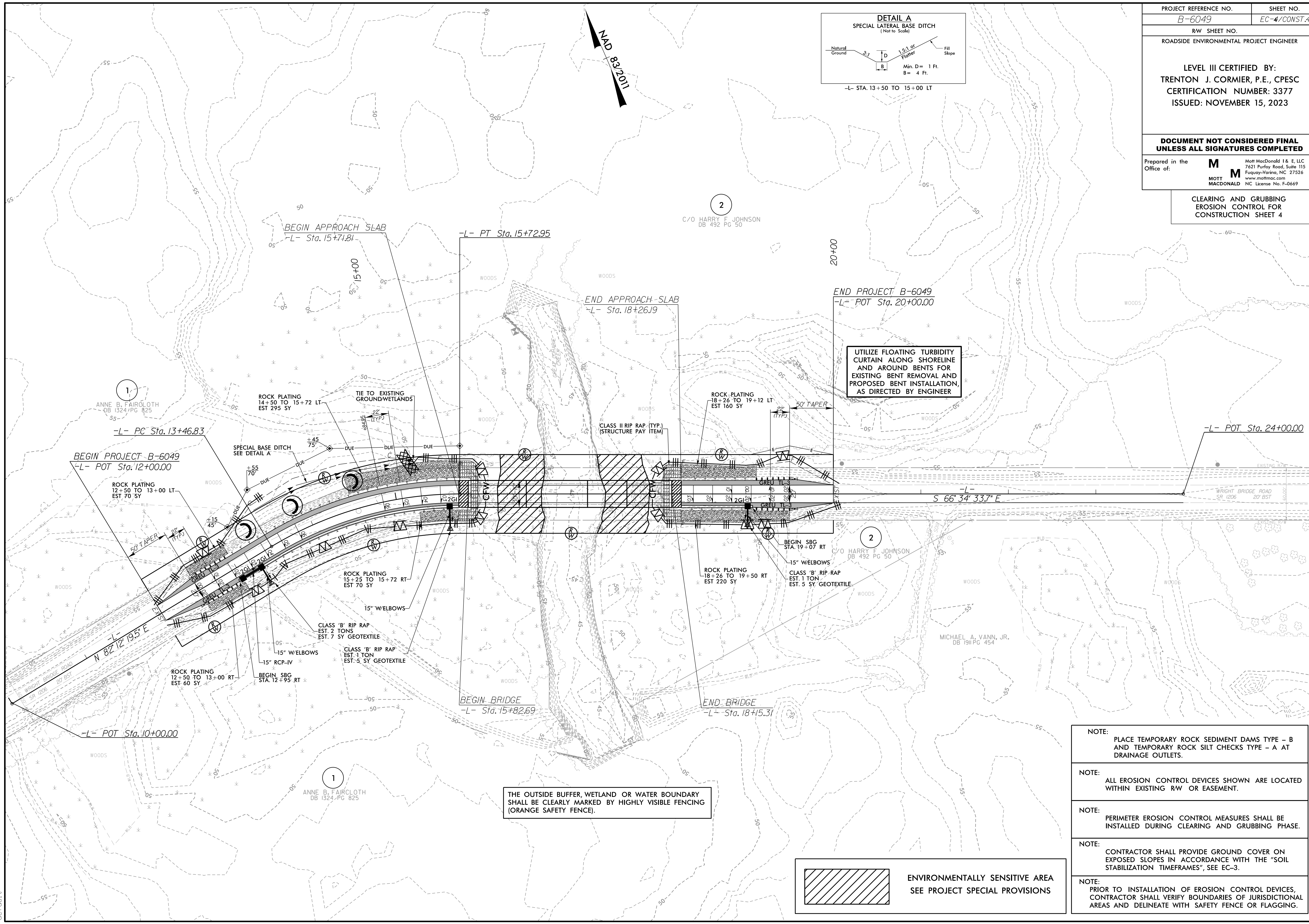
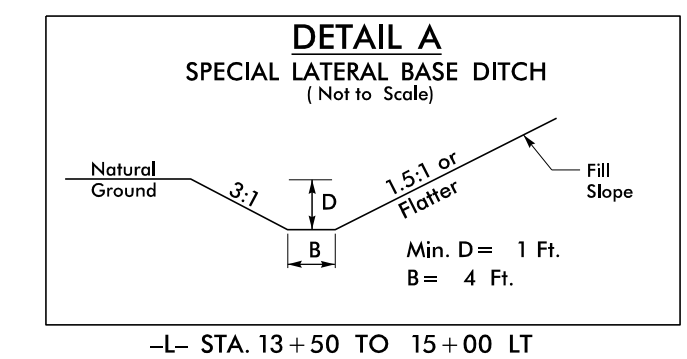
PROJECT REFERENCE NO. <i>B-6049</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ***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.

PROJECT REFERENCE NO.	SHEET NO.
B-6049	EC-4/CONST.4
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY:	
TRENTON J. CORMIER, P.E., CPESC	
CERTIFICATION NUMBER: 3377	
ISSUED: NOVEMBER 15, 2023	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
Prepared in the Office of:	Mott MacDonald I & E, LLC 7621 Purfoy Road, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com
MOTT MACDONALD	NC License No. F-0669

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4



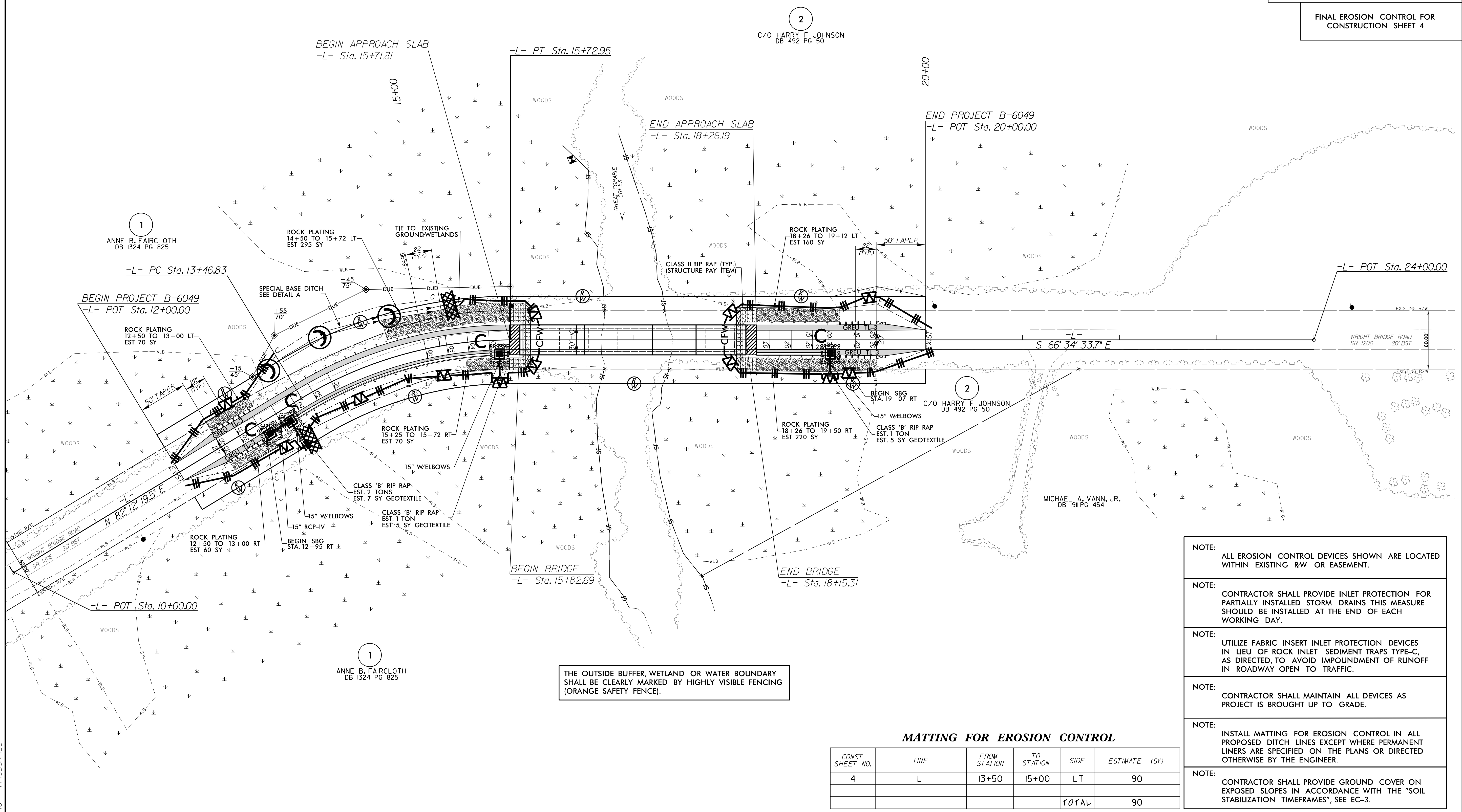
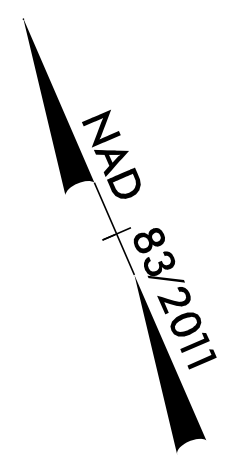
UTILIZE FLOATING TURBIDITY CURTAIN ALONG SHORELINE AND AROUND BENTS FOR EXISTING BENT REMOVAL AND PROPOSED BENT INSTALLATION, AS DIRECTED BY ENGINEER

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

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

- NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.
- NOTE: ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.
- NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.
- NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.
- NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

11/15/2023  
R:\Erosion Control\B6049\_ec\_cg\_psh04.dgn  
default



- NOTE: ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.
- NOTE: CONTRACTOR SHALL PROVIDE INLET PROTECTION FOR PARTIALLY INSTALLED STORM DRAINS. THIS MEASURE SHOULD BE INSTALLED AT THE END OF EACH WORKING DAY.
- NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS TYPE-C, AS DIRECTED TO AVOID IMPOUNDMENT OF RUNOFF IN ROADWAY OPEN TO TRAFFIC.
- NOTE: CONTRACTOR SHALL MAINTAIN ALL DEVICES AS PROJECT IS BROUGHT UP TO GRADE.
- NOTE: INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES EXCEPT WHERE PERMANENT LINERS ARE SPECIFIED ON THE PLANS OR DIRECTED OTHERWISE BY THE ENGINEER.
- NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	L	13+50	15+00	LT	90
				TOTAL	90

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 MOTT MACDONALD

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T.I.P.: B-6049

**STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION**

**SIGNING AND PAVEMENT MARKING PLAN  
SAMPSON COUNTY**

TIP NO. B-6049	SHEET NO. SIGN-1
APPROVED:	
DATE: _____	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

**INDEX**

SHEET NO.	DESCRIPTION
SIGN-1	SIGNING AND PAVEMENT MARKING PLAN TITLE SHEET, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES, PAVEMENT MARKING SCHEDULE, AND SUMMARY OF QUANTITIES
SIGN-1A	REVISED SIGNING ROADWAY STANDARD DRAWING 904D50 SHEET 1 OF 2
SIGN-2	TYPE E SIGNS
SIGN-3	SIGNING AND PAVEMENT MARKING DETAIL
SIGN-4	EXISTING SIGNING 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 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

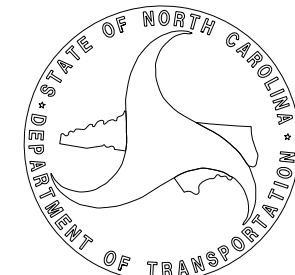
STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

**SUMMARY OF QUANTITIES**

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903 SUPPORTS, 3-LB STEEL U-CHANNEL	100	LF.
4102000000	904 SIGN ERECTION, TYPE E	8	EA.
4155000000	907 DISPOSAL OF SIGN SYSTEM, U-CHANNEL	8	EA.

**NCDOT CONTACT:**

**DEREK PIELECH, PE** DIVISION BRIDGE PROGRAM MANAGER



**GENERAL NOTES**

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

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

ROAD NAME	MARKING	MARKER
SR 1206 (WRIGHT BRIDGE RD)	THERMOPLASTIC	RAISED
- 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) SIGNS FURNISHED BY STATE.
- F) CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.
- G) WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- H) ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- I) THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- J) SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

**SUMMARY OF QUANTITIES**

SYMBOL	ITEM DESCRIPTION	MATERIAL	QUANTITY	UNIT
T1	WHITE EDGELINE (4", 90 MILS)	THERMOPLASTIC	1600	LF
T11	YELLOW SINGLE CENTER (4", 90 MILS)	THERMOPLASTIC	95	LF
T12	10 FT. YELLOW SKIP (4", 90 MILS)	THERMOPLASTIC	24	LF
T13	YELLOW DOUBLE CENTER (4", 90 MILS)	THERMOPLASTIC	1410	LF
MA	YELLOW/YELLOW	PERMANENT RAISED MARKER	13	EA

**PLAN PREPARED BY: MOTT MACDONALD**

**DAVID W BISSETTE, PE** PRINCIPAL PROJECT MANAGER  
**SAM COLEMAN, PE** PROJECT ENGINEER

PLANS PREPARED FOR THE NCDOT BY:

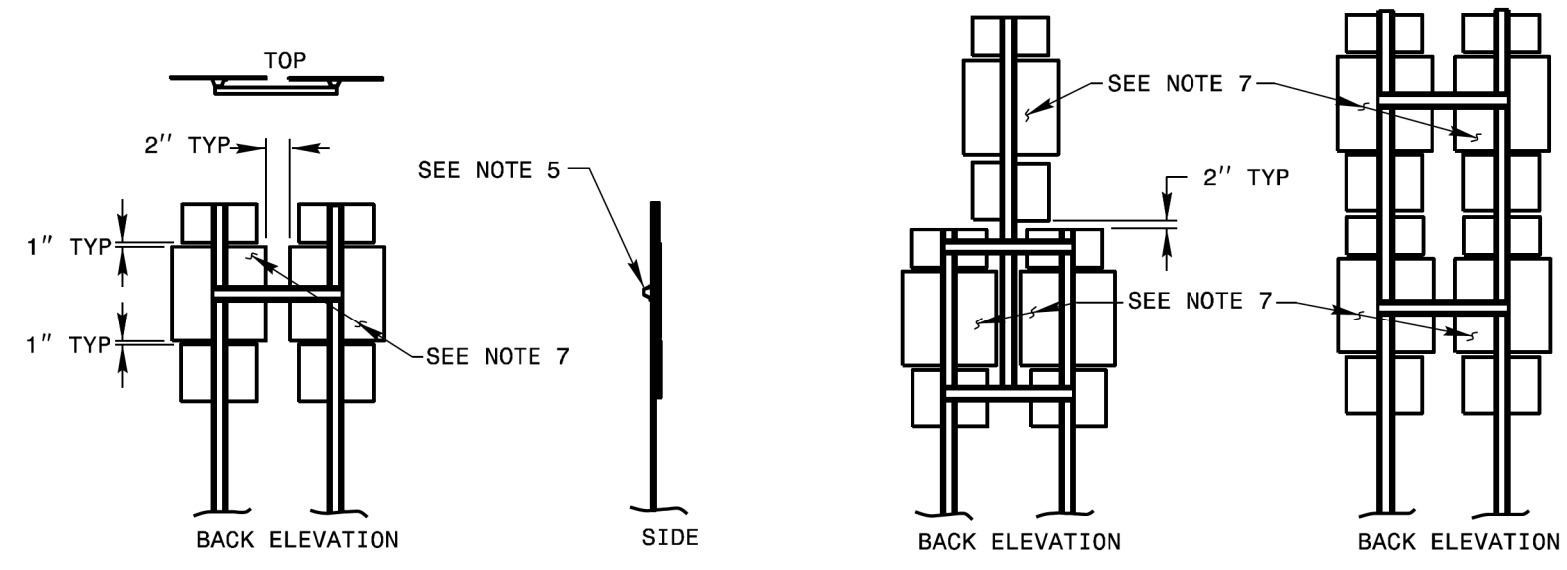
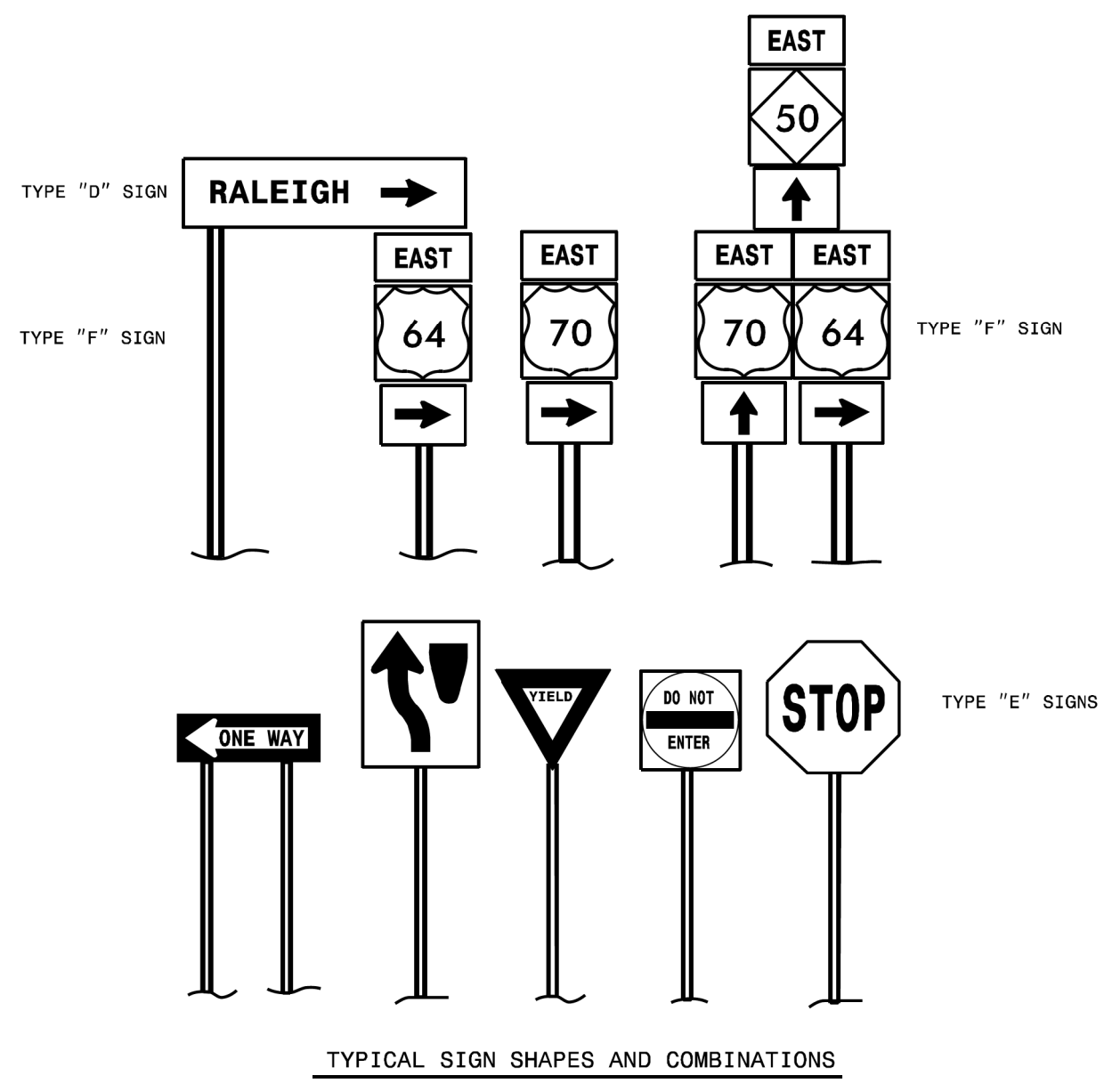
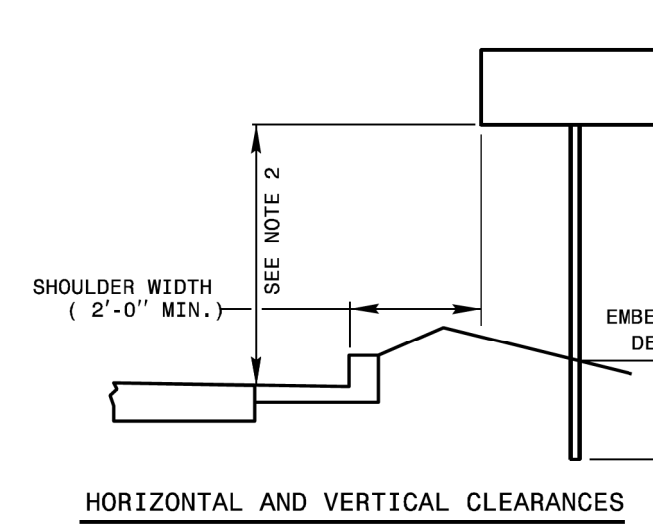
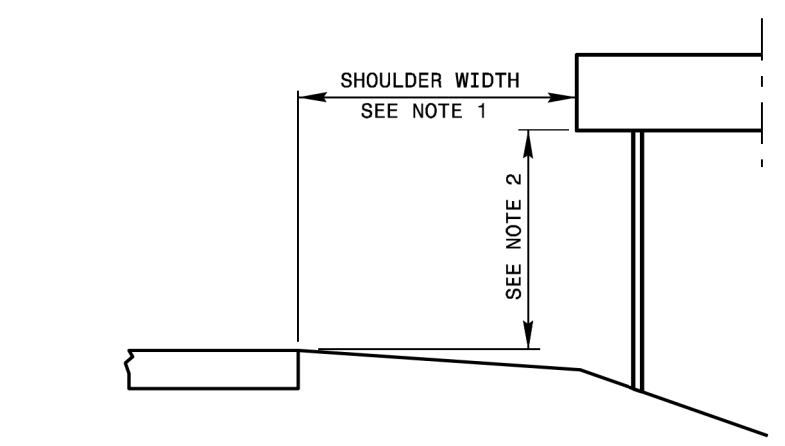
**M**  
**MOTT MACDONALD**  
 MOTT MACDONALD I & E, LLC  
 1101 HAYNES STREET, SUITE 101  
 RALEIGH, NC 27604  
 NC LICENSE NO. F-0669

TIP NO.	SHEET NO.
B-6049	DocuSigned by SIGN-1A
APPROVED:	Matthew V. Springer
DATE:	6/23/2021
SEAL	

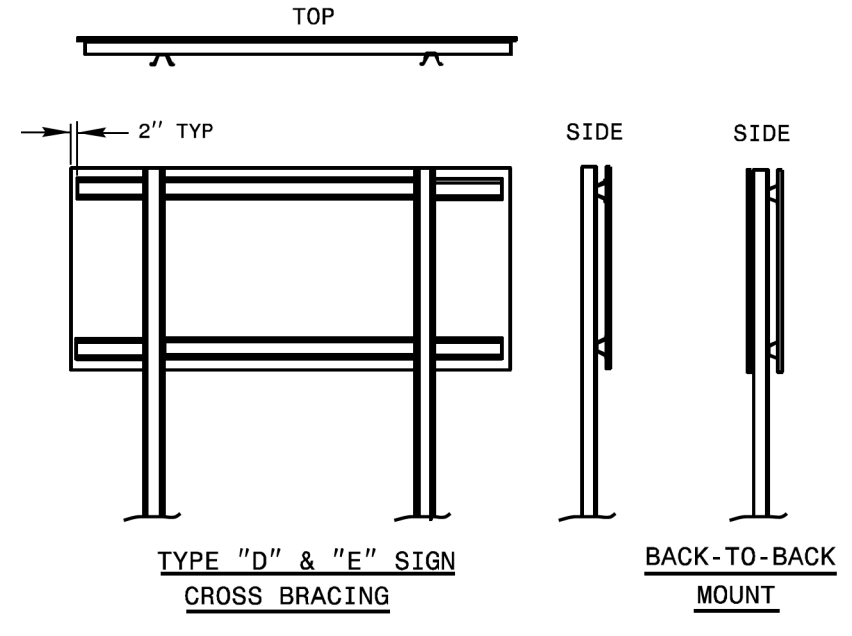
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

6-21  
ENGLISH DETAIL DRAWING FOR  
MOUNTING OF  
TYPE 'D', 'E', AND 'F' SIGNS  
ON 'U' CHANNEL POSTS

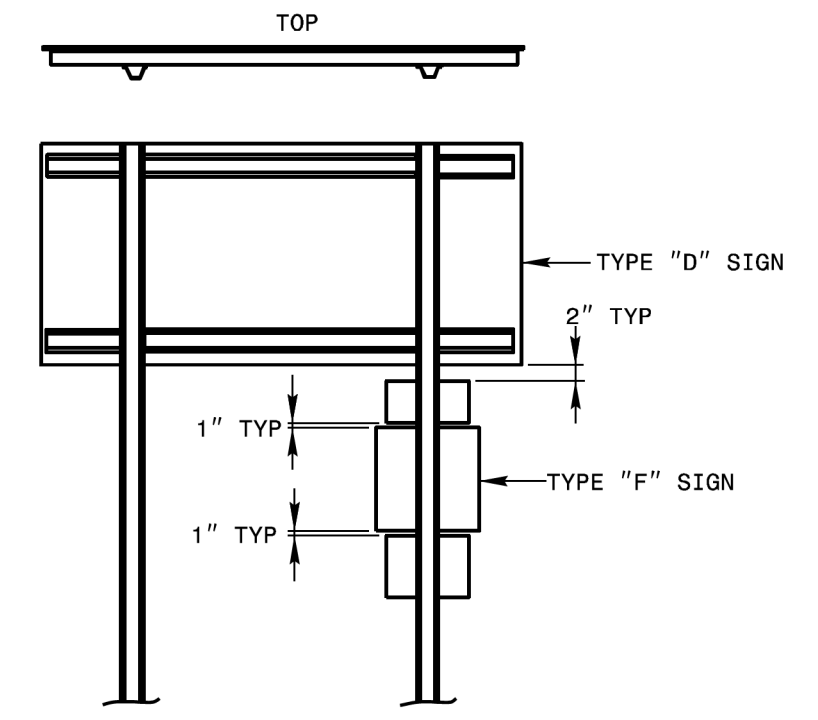
SHEET 1 OF 2  
904D50



FRAMING AND CROSS-BRACING DETAILS  
TYPE "F" SIGNS



FRAMING AND CROSS BRACE DETAILS  
FOR COMBINATION TYPE "D" & "E" SIGNS  
WIDE SIDE OF CROSS BRACE GOES TO BACK OF SIGN



FRAMING AND CROSS BRACE DETAILS  
FOR COMBINATION TYPE "D" & "F" SIGNS  
WIDE SIDE OF FLANGE TO BACK OF "F" SIGN

NOTES:

1. ERECT TYPE "D", "E", AND "F" SIGNS ON FREEWAYS WITH THE NEAR EDGE OF THE SIGN 20 FT. FROM THE TRAVEL LANE. ERECT ALL OTHER "D", "E", AND "F" SIGNS WITH THE NEAR EDGE OF THE SIGN AT THE EDGE OF THE SHOULDER BREAK (6 FT. MINIMUM CLEARANCE, 12 FT. DESIRABLE, FROM THE EDGE OF TRAVEL LANE), OR AS DIMENSIONED ON PLAN SHEETS.
2. ERECT TYPE "D", "E", AND "F" SIGNS WITH THE BOTTOM OF SIGN ASSEMBLY AT LEAST 7 FT. ABOVE THE EDGE OF THE TRAVEL LANE ON ROADS WITH 2 OR MORE LANES IN THE SAME DIRECTION AND AT LEAST 5 FT. ON OTHER ROUTES. THE VERTICAL CLEARANCE IS 7 FT. WHERE REQUIRED FOR PEDESTRIAN TRAFFIC AND/OR PARKED VEHICLES.
3. THE VERTICAL DIMENSION BETWEEN MOUNTING HOLE CENTERS ON ALL TYPES "D", "E", AND "F" SIGNS IS 30" MAXIMUM. THE VERTICAL AND HORIZONTAL DIMENSIONS BETWEEN MOUNTING HOLES IS TO THE WHOLE INCH. EACH SIGN PANEL HAS A MINIMUM OF 2 BOLTS PER SUPPORT.
4. ATTACH SIGN W/ 5/8" HEX HEAD BOLT, NYLON WASHER, SHIM, FLAT WASHER, LOCK WASHER, HEX NUT. NO BUCKLING OF THE SIGN WILL BE PERMITTED. SEE ASSEMBLY DETAIL SHEET# 2 OF 904.50.
5. FURNISH AND INSTALL CROSS-BRACING AS SHOWN IN DETAIL. PAINT ENDS OF CROSS BRACES W/ APPROVED. ZINC PAINT
6. INSTALL POST AND CROSS-BRACING WITH THE WIDE SIDE OF THE FLANGE TOWARD THE BACK OF SIGN(S) FOR COMBINATION TYPE "D" AND "F" SIGNS.
7. THE SHIELD HEIGHTS IN THESE ASSEMBLIES CAN NOT BE LARGER THAN 24".
8. IF SIGN ASSEMBLIES REQUIRE MORE THAN TWO U-CHANNEL SUPPORTS, THE SUPPORTS SHALL BE PLACED A MINIMUM OF 4 FT. BETWEEN POSTS. NO MORE THAN TWO POSTS SHALL FALL WITHIN 7 FT. PATH, OR THE SIGN ASSEMBLY MUST BE PLACED BEHIND BARRIER PROTECTION.

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

6-21  
ENGLISH DETAIL DRAWING FOR  
MOUNTING OF  
TYPE 'D', 'E', AND 'F' SIGNS  
ON 'U' CHANNEL POSTS

SHEET 1 OF 2  
904D50

REVISED SIGNING  
ROADWAY STANDARD DRAWING

6/18/2021 Standards Group\Standards and Drawings\Drawings\2018 Standard Dwg\Division 9 Final\0904.50\_sgn\_sht01\_Luchannel.post\_6-21.dgn

66-39-21



APPROVED: *David W. Bisette*

DATE:

SEAL

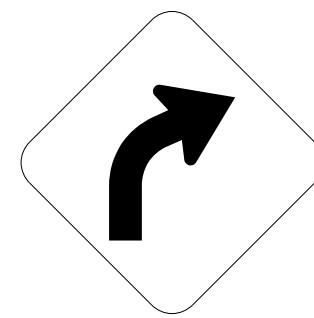


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED FOR THE NCDOT BY:

**M** MOTT MACDONALD 1 & E, LLC  
1101 HAYNES STREET, SUITE 101  
RALEIGH, NC 27604  
**M** MOTT MACDONALD NC LICENSE NO. F-0669

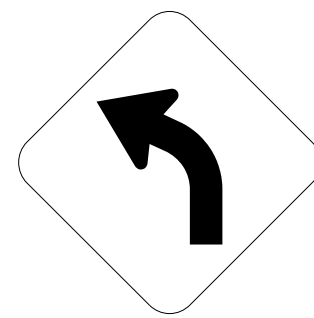
401 QUANTITY REQ'D 1



30" X 30"  
W1-2R

ONE "U" POST PER SIGN

402 QUANTITY REQ'D 1



30" X 30"  
W1-2L

ONE "U" POST PER SIGN

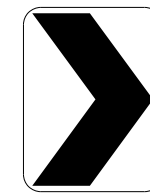
403 QUANTITY REQ'D 2



18" X 18"  
W13-1P

MOUNTED BELOW SIGN 401  
IN 2 INSTALLATIONS

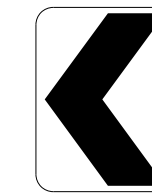
404 QUANTITY REQ'D 3



18" X 24"  
W1-8R

ONE "U" POST PER SIGN

405 QUANTITY REQ'D 3

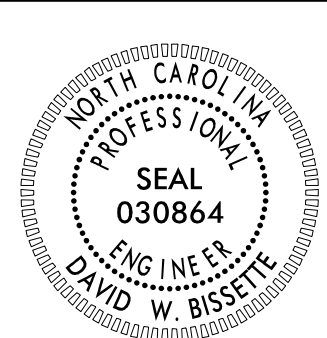


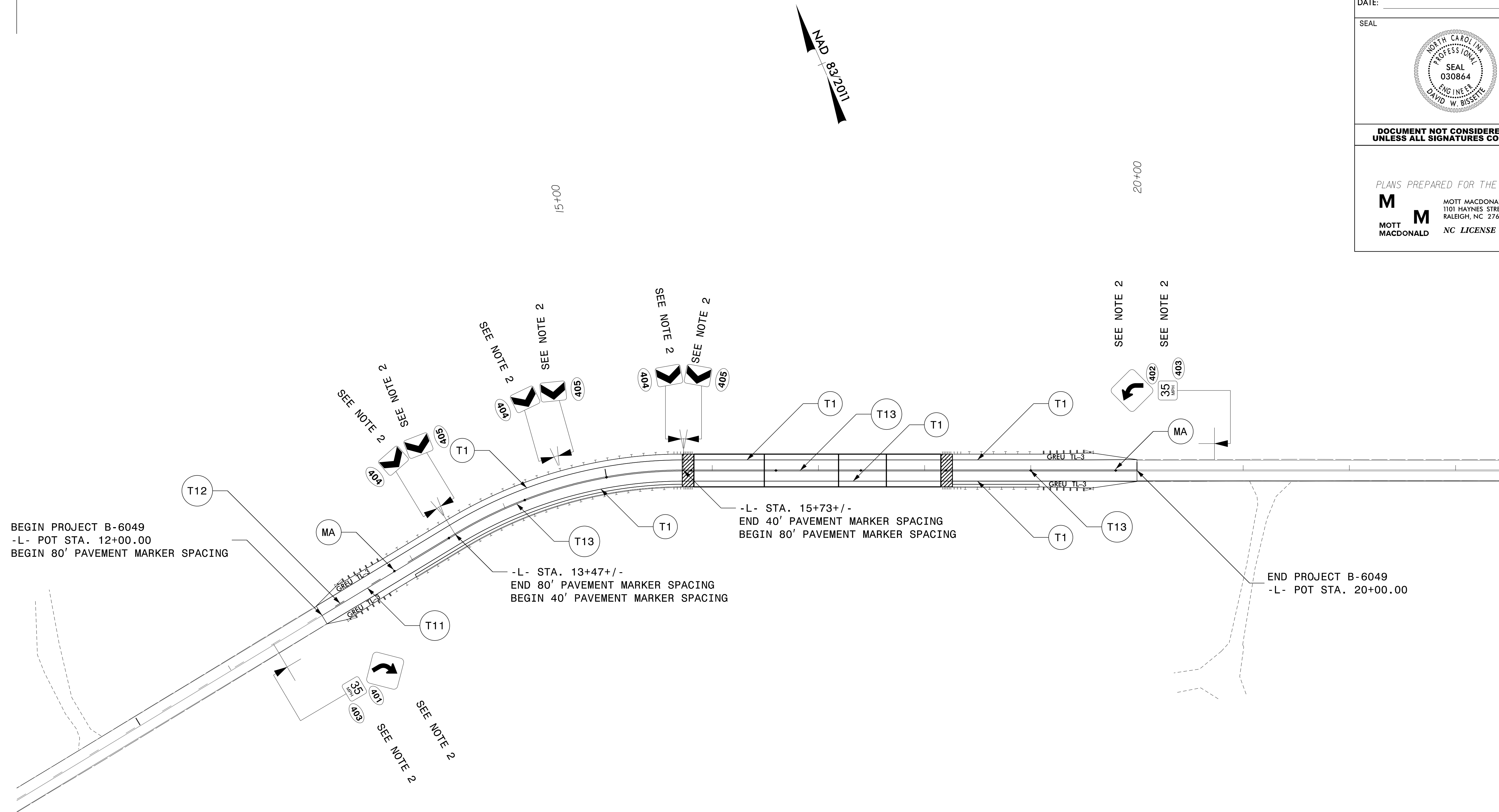
18" X 24"  
W1-8L

ONE "U" POST PER SIGN

TYPE "E" SIGNS

5/23/2017 10:23:03 AM  
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 User: BISSETTE

TIP NO. B-6049	SHEET NO. SIGN-3
APPROVED: <i>David W. Bisette</i> <small>01F5041EA784D1...</small>	
DATE: _____	
SEAL	
	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
PLANS PREPARED FOR THE NCDOT BY: <b>M</b> MOTT MACDONALD 1 & E, LLC 1101 HAYNES STREET, SUITE 101 RALEIGH, NC 27604 <b>M</b> MOTT MACDONALD NC LICENSE NO. F-0669	

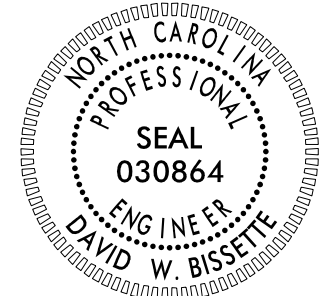


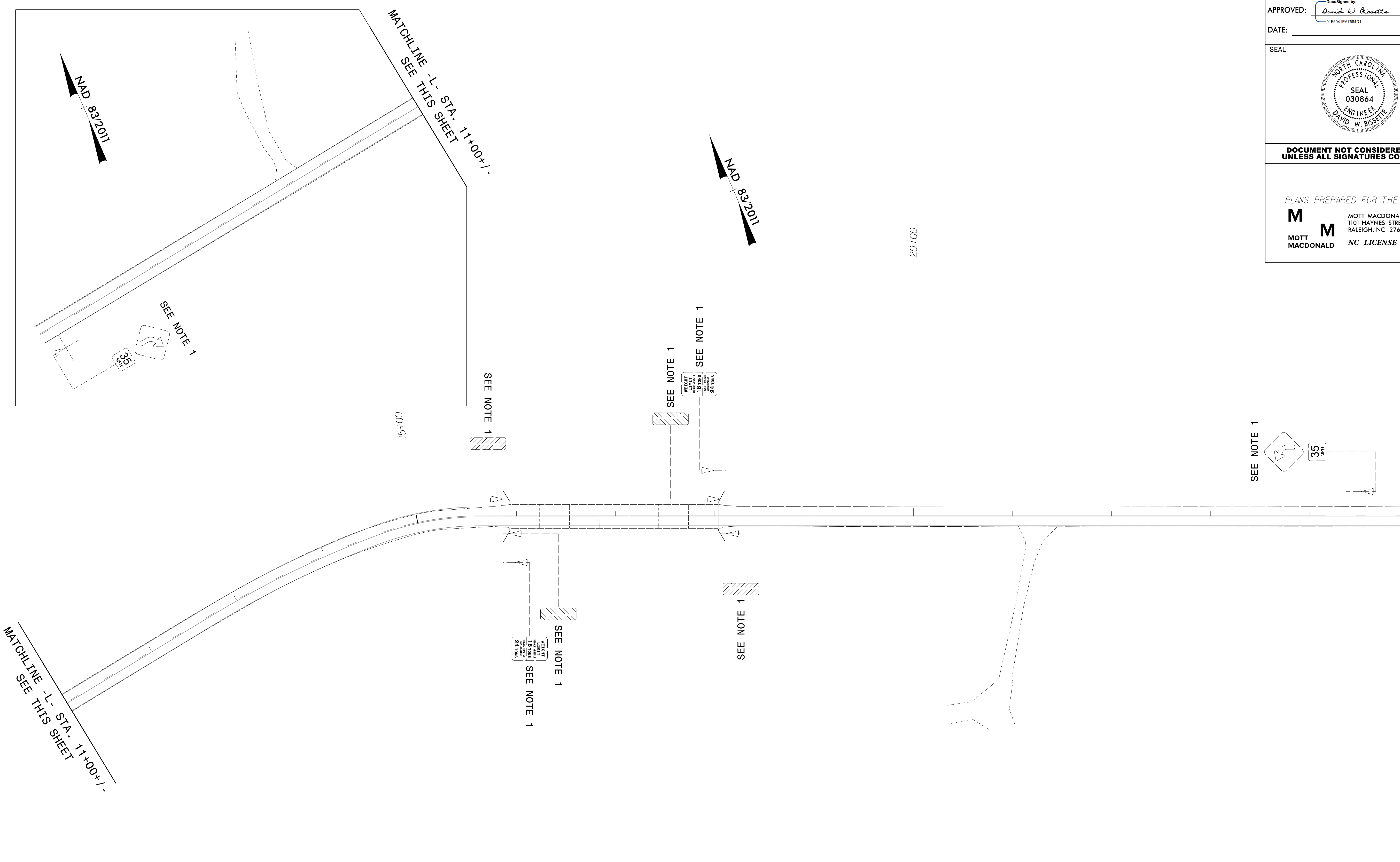
**PROJECT NOTES**

- 1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 SIGN ERECTION, TYPE D, E, AND F

**SIGNING AND  
PAVEMENT MARKING DETAIL**

5/23/2017 10:23:06 AM User: B1582185  
 C:\36666\2017\_NCDOT\_BridgeDesign\_LSA\Proj\B-6049\Traffic\Signing\CADD\Signing\_Layout\_Plans\B-6049\_Sgn\_SGN\_04.dgn

TIP NO. B-6049	SHEET NO. SIGN-4
APPROVED: <i>David W. Bisette</i> <small>01F5041EA784D1...</small>	
DATE: _____	
SEAL 	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
PLANS PREPARED FOR THE NCDOT BY: <b>M</b> MOTT MACDONALD I & E, LLC 1101 HAYNES STREET, SUITE 101 RALEIGH, NC 27604 <b>M</b> MOTT MACDONALD NC LICENSE NO. F-0669	



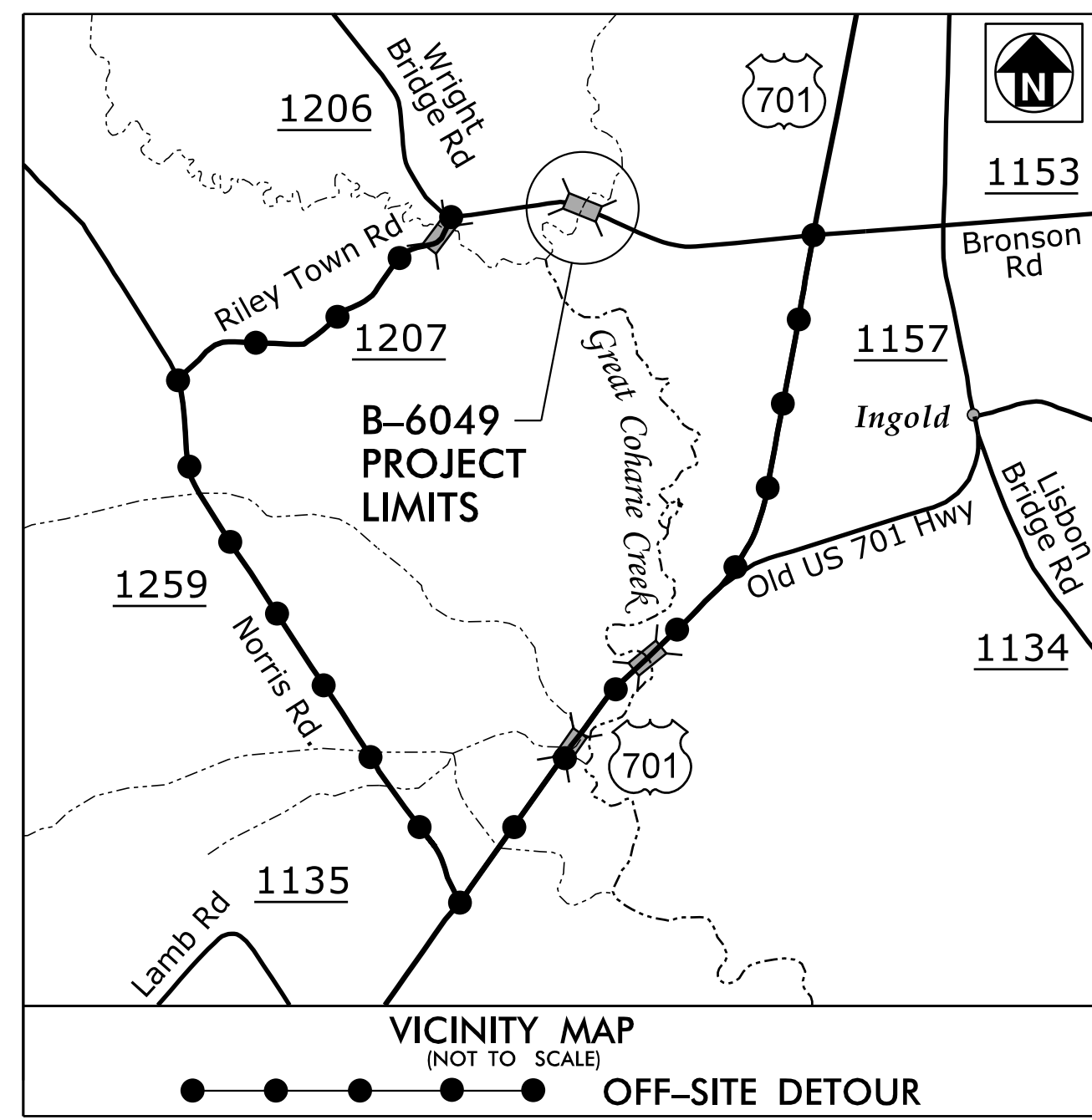
**PROJECT NOTES**

1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL  
 2 SIGN ERECTION, TYPE D, E, AND F

**EXISTING SIGNING AND  
PAVEMENT MARKING DETAIL**

09/08/99

**TIP PROJECT: B-6049**



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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

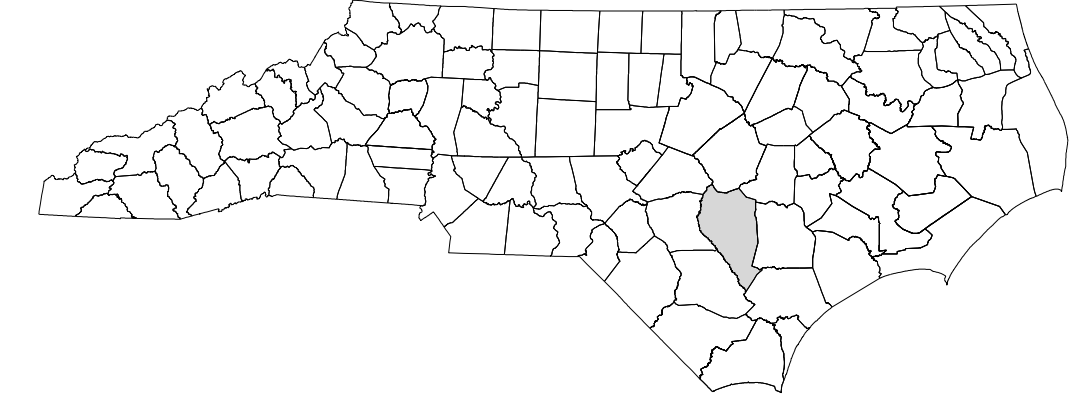
**UTILITIES BY OTHERS PLANS  
SAMPSON COUNTY**

**LOCATION: BRIDGE NO. 72 OVER GREAT COHARIE CREEK ON  
SR 1206 (WRIGHT BRIDGE ROAD)**

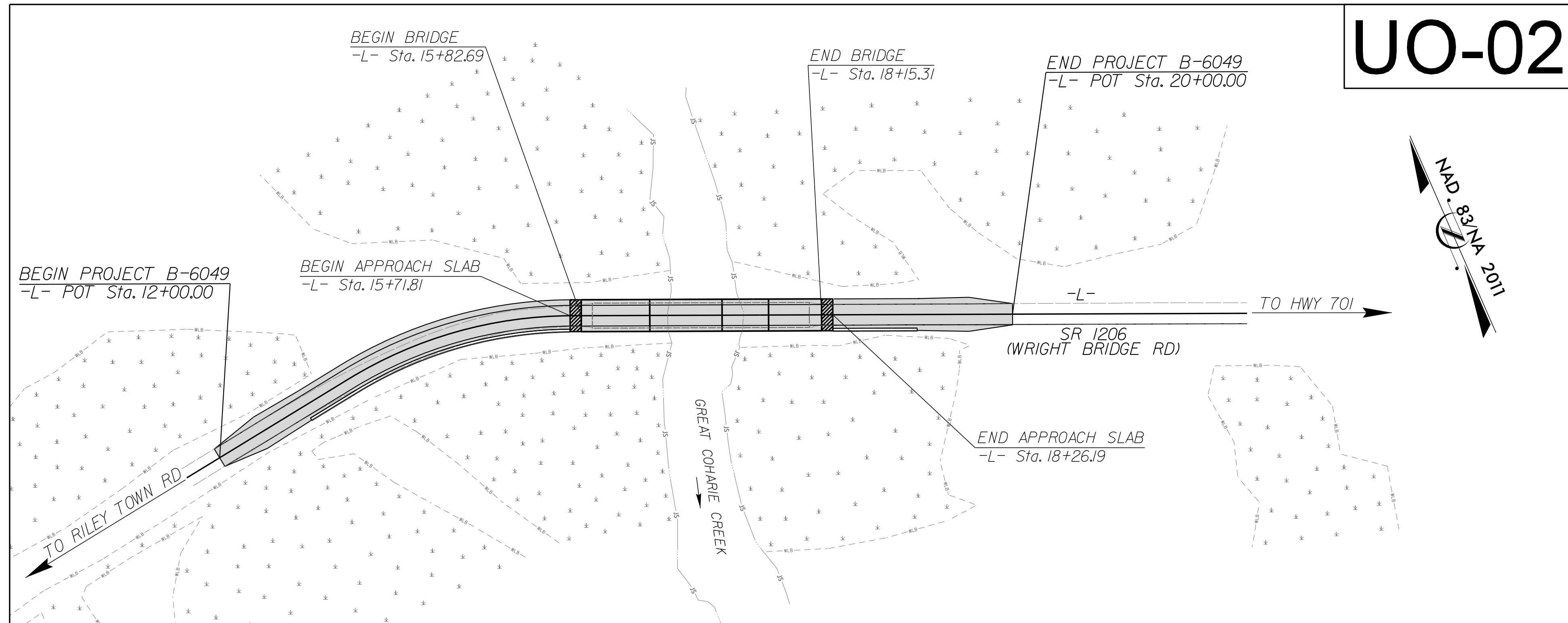
**TYPE OF WORK: RELOCATION OF POWER**

T.I.P. NO.	SHEET NO.
<b>B-6049</b>	<b>UO-01</b>

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



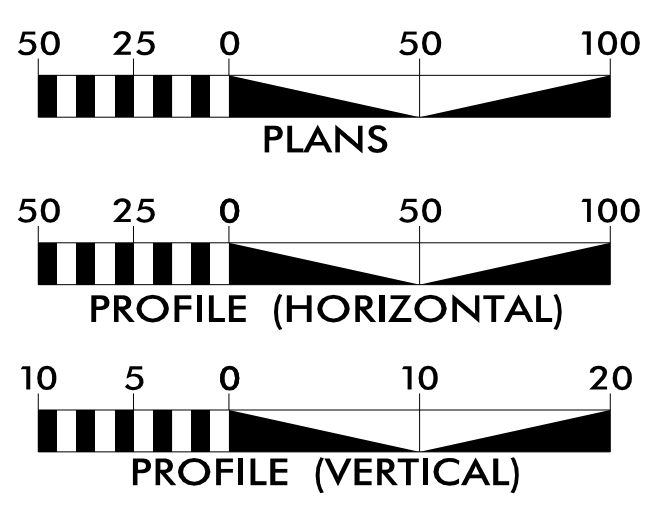
**UO-02**



**\*DESIGN EXCEPTION:**  
MIN. HORIZ. CURVE RADIUS  
HORIZ. SSD

**CONTRACT:**

**GRAPHIC SCALES**



**INDEX OF SHEETS**

SHEET NO.:	DESCRIPTION:
UO-01	TITLE SHEET
UO-02	UBO PLAN SHEET

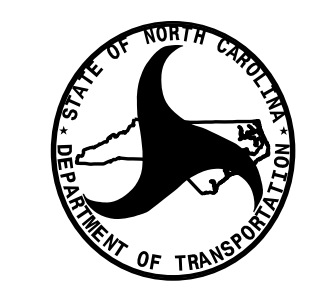
**UTILITY OWNERS WITH CONFLICTS**

(A) POWER - FOUR COUNTY ELECTRIC  
MEMBERSHIP CORPORATION

**PREPARED IN THE OFFICE OF:**

**M M**  
MOTT  
MACDONALD  
7621 Purfoy Rd Suite 115  
Fuquay-Varina, NC 27526  
(919) 552-2253  
(919) 552-2254 (Fax)  
www.mottmac.com  
LICENSE NO. F-0669

**FELTON PERRY** PROJECT UTILITY COORDINATOR



**DIVISION OF HIGHWAYS  
UTILITIES UNIT - DIV. 3**  
5501 BARBADOS BLVD.  
CASTLE HAYNE, NC 28429  
PHONE (919) 341-2000  
FAX (910) 675-0143

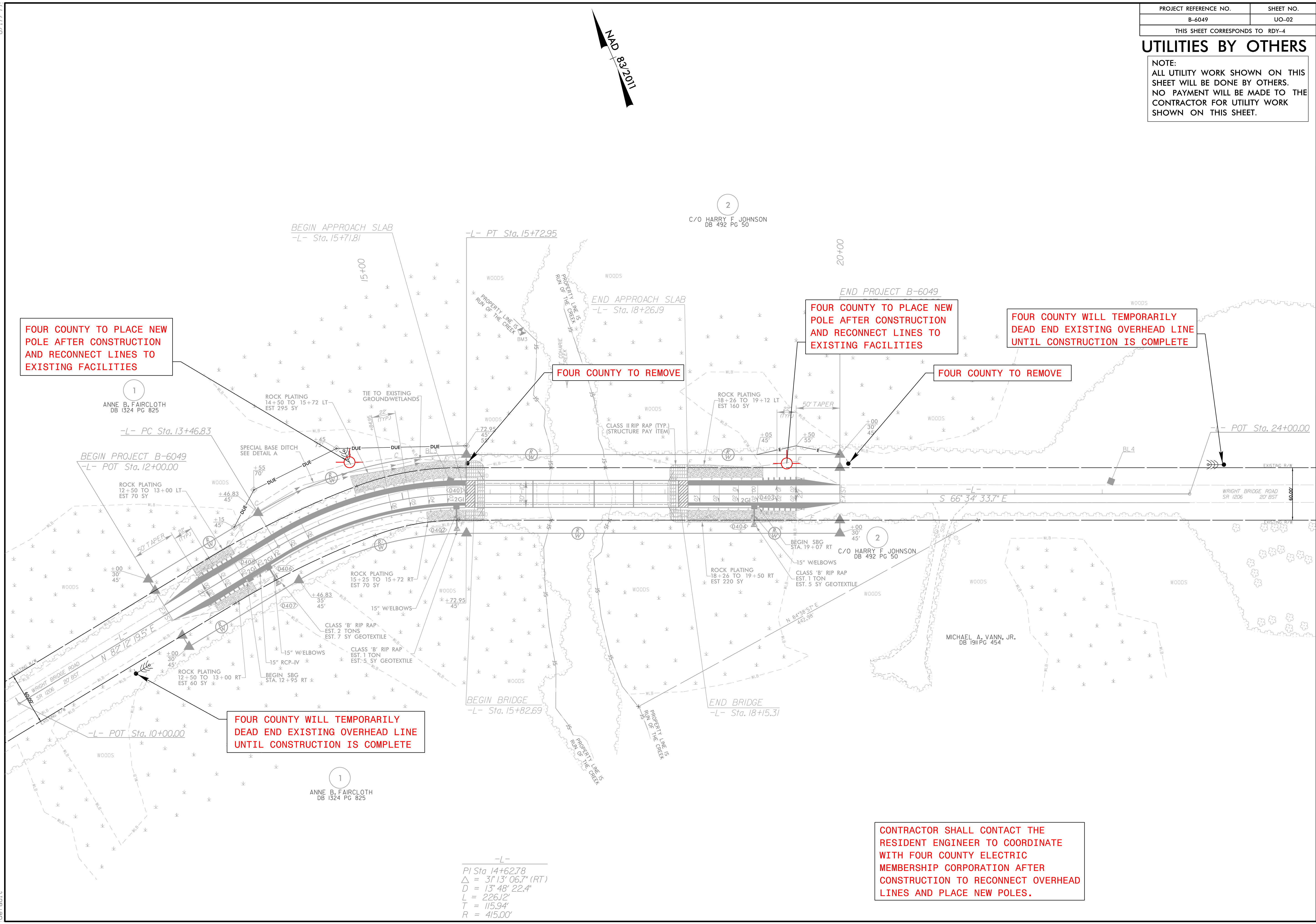
**ERIC MATUSZEWSKI** DIVISION UTILITY COORDINATOR

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deFault

## UTILITIES BY OTHERS

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.

8/17/99  
 10:47:58 AM  
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 U002.dgn  
 default



**FOUR COUNTY TO PLACE NEW POLE AFTER CONSTRUCTION AND RECONNECT LINES TO EXISTING FACILITIES**

**FOUR COUNTY TO REMOVE**

**FOUR COUNTY TO PLACE NEW POLE AFTER CONSTRUCTION AND RECONNECT LINES TO EXISTING FACILITIES**

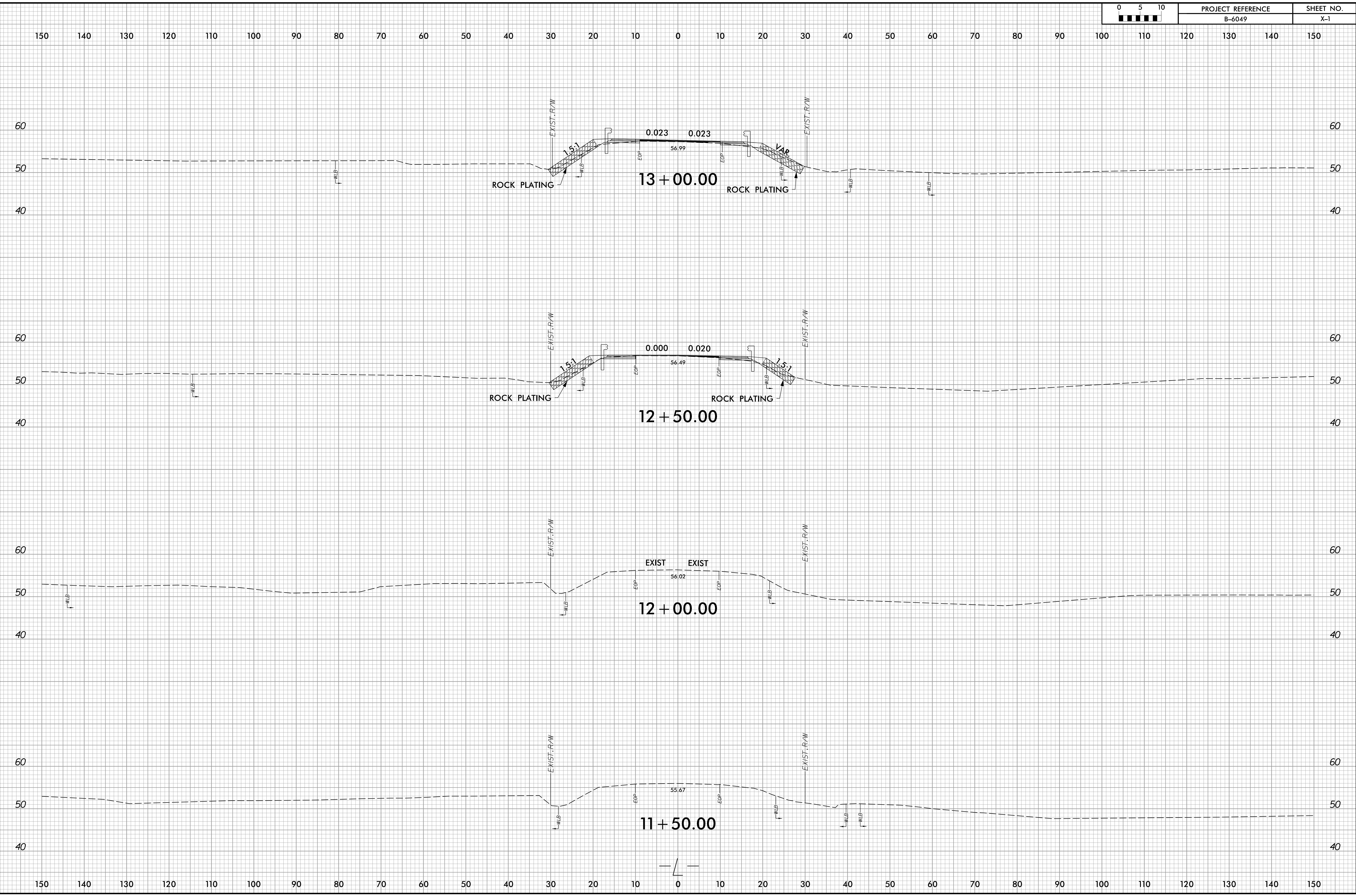
**FOUR COUNTY WILL TEMPORARILY DEAD END EXISTING OVERHEAD LINE UNTIL CONSTRUCTION IS COMPLETE**

**FOUR COUNTY TO REMOVE**

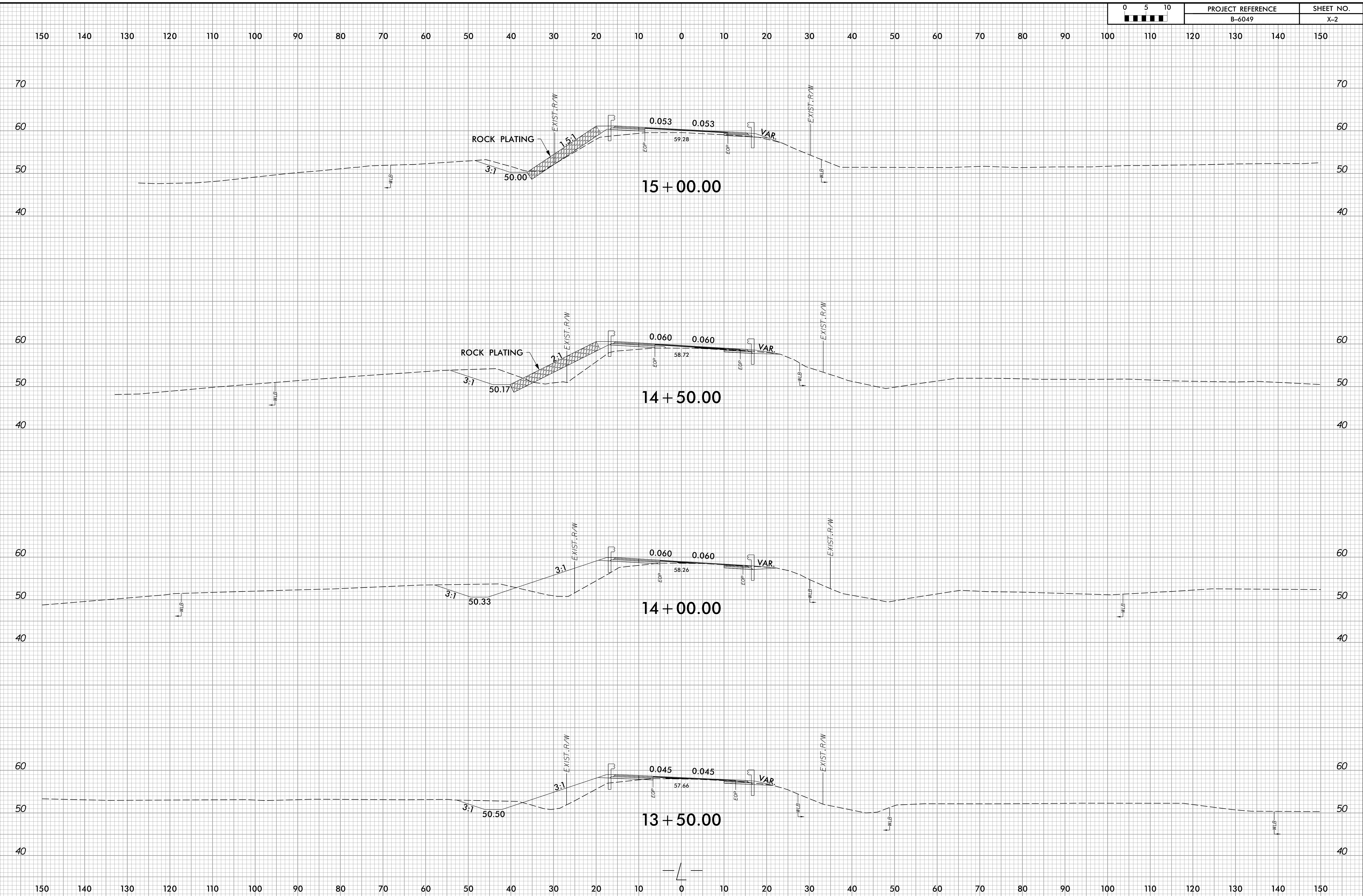
**FOUR COUNTY WILL TEMPORARILY DEAD END EXISTING OVERHEAD LINE UNTIL CONSTRUCTION IS COMPLETE**

**CONTRACTOR SHALL CONTACT THE RESIDENT ENGINEER TO COORDINATE WITH FOUR COUNTY ELECTRIC MEMBERSHIP CORPORATION AFTER CONSTRUCTION TO RECONNECT OVERHEAD LINES AND PLACE NEW POLES.**

-L-  
 PI Sta 14+62.78  
 $\Delta = 31' 13" 06.7" (RT)$   
 $D = 13' 48" 22.4"$   
 $L = 226.12'$   
 $T = 115.94'$   
 $R = 415.00'$

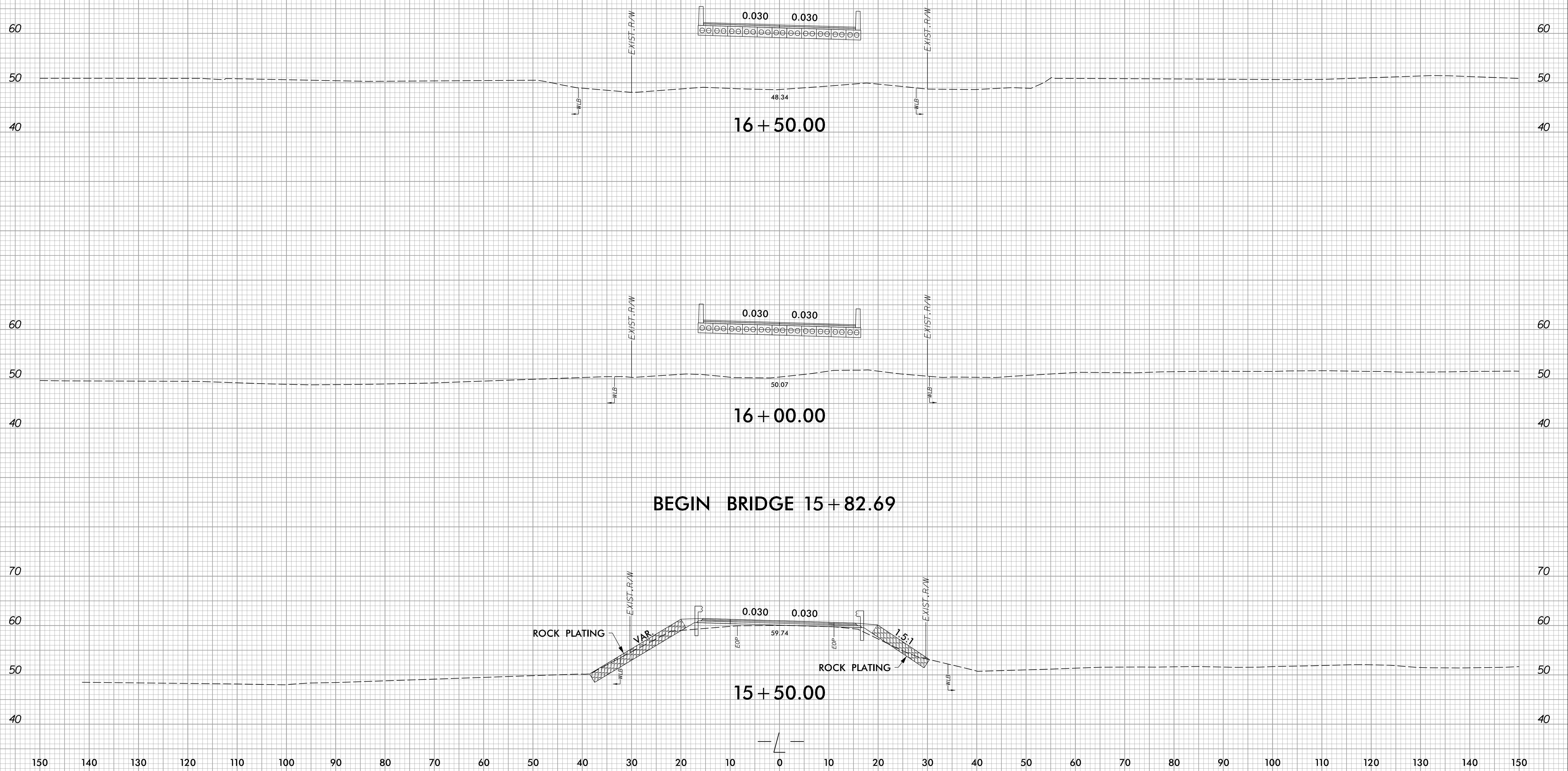


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 JDB\B6049



6/16/2023 2:28:48 PM  
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 10/6/2015

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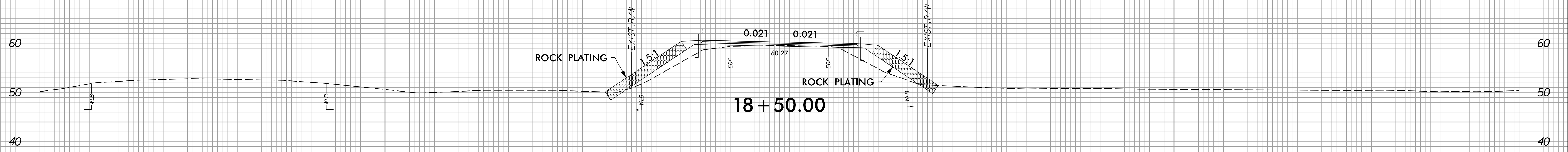


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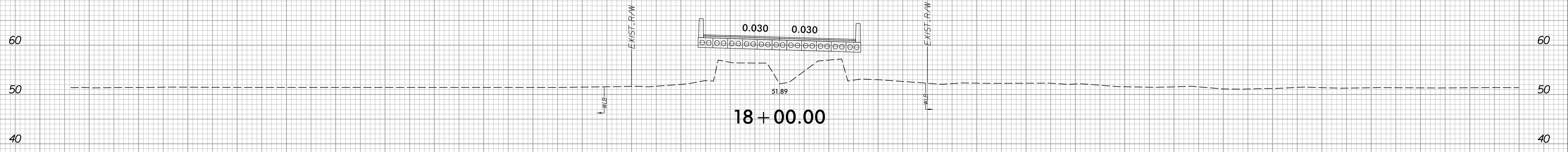


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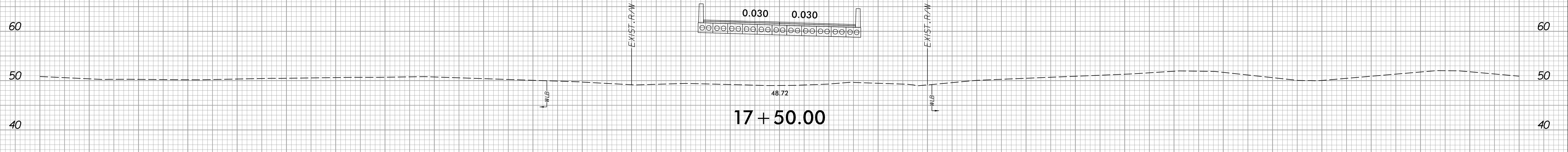


18 + 50.00

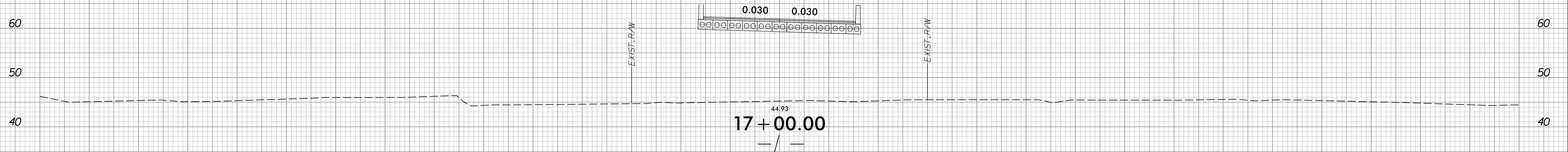
END BRIDGE 18 + 15.31



18 + 00.00

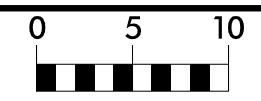


17 + 50.00



17 + 00.00

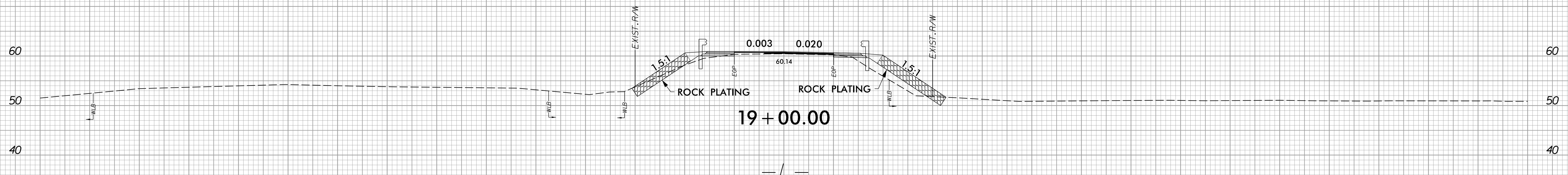
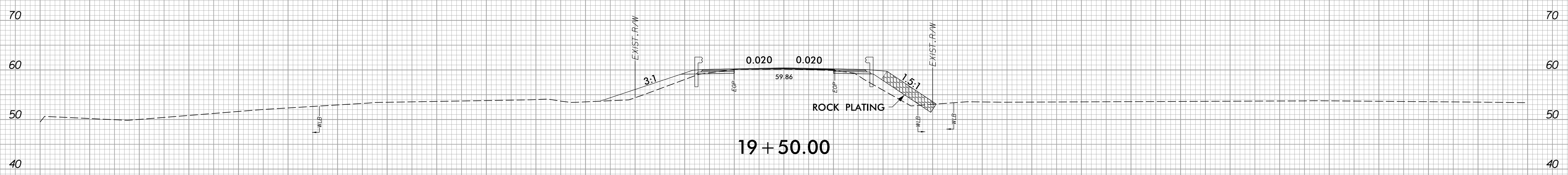
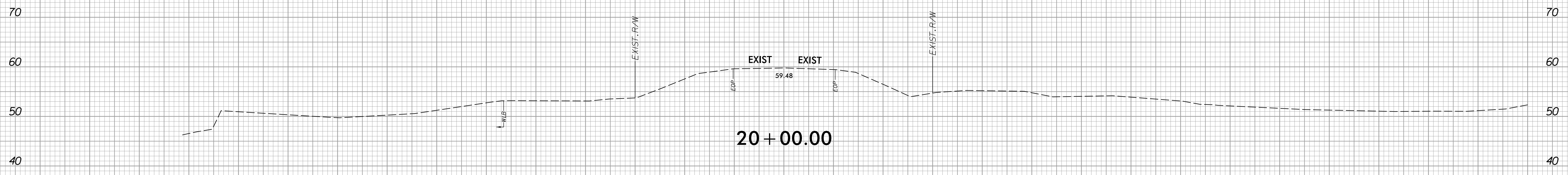
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PROJECT REFERENCE  
B-6049

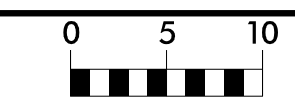
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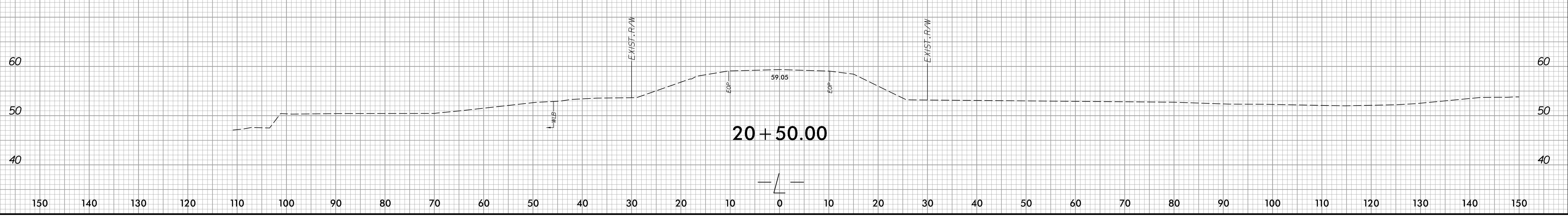
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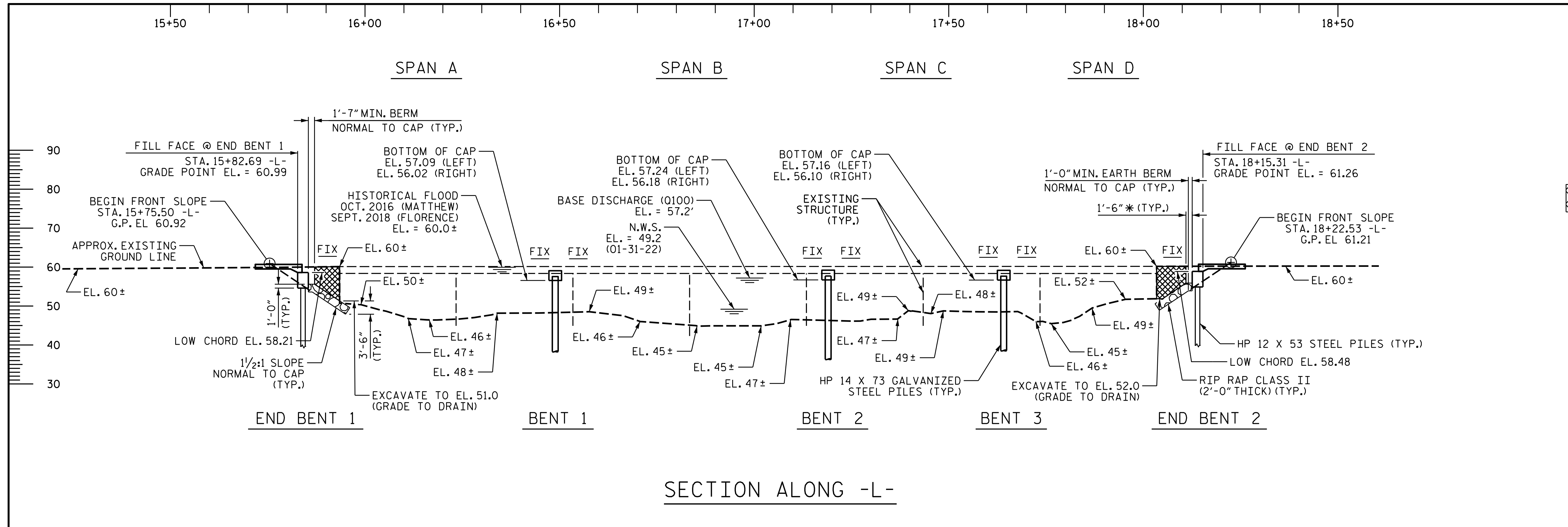
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**GRADE DATA**

(+)1.3465% (-)0.8593%

PI STA 16+80.00 -L-  
EL. 62.45  
VC = 330'

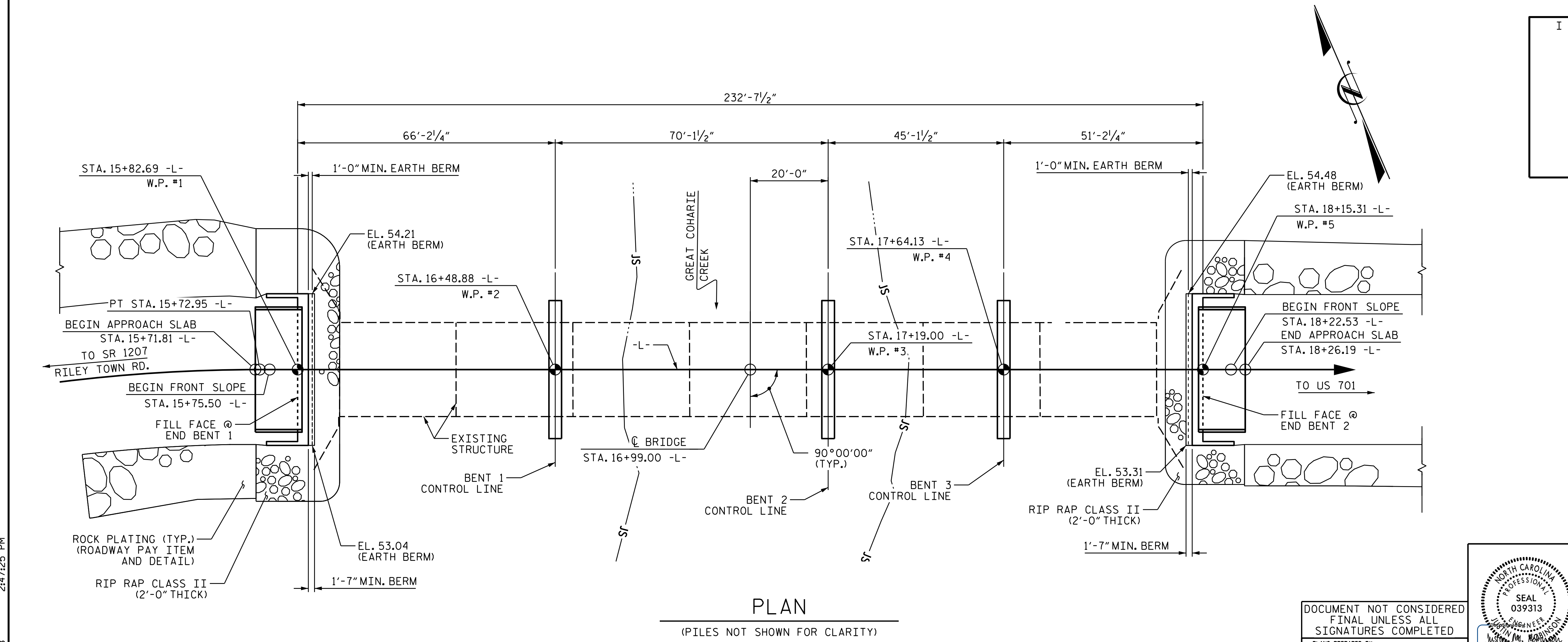
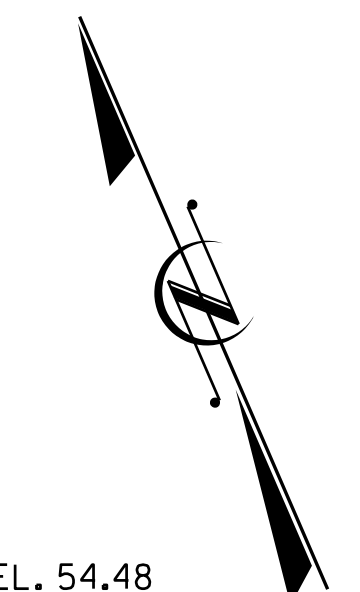
UNCLASSIFIED STRUCTURE EXCAVATION

\* TO LIMIT OF UNCLASSIFIED STRUCTURE EXCAVATION (TYP.) (NORMAL TO CAP)

**HORIZONTAL CURVE DATA -L-**

PI STA 14+62.78 -L-  
Δ = 31°13' 06.7" (RT)  
D = 13°48' 22.4"  
L = 226.12'  
T = 115.94'  
R = 415.00'

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS



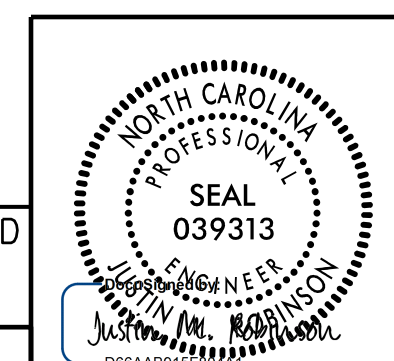
PROJECT NO. B-6049  
SAMPSON COUNTY  
STATION: 16+99.00 -L-

SHEET 1 OF 4 REPLACES BRIDGE #810072

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**GENERAL DRAWING**

BRIDGE ON SR 1206  
(WRIGHT BRIDGE RD.) OVER  
GREAT COHARIE CREEK  
BETWEEN SR 1207 AND US 701



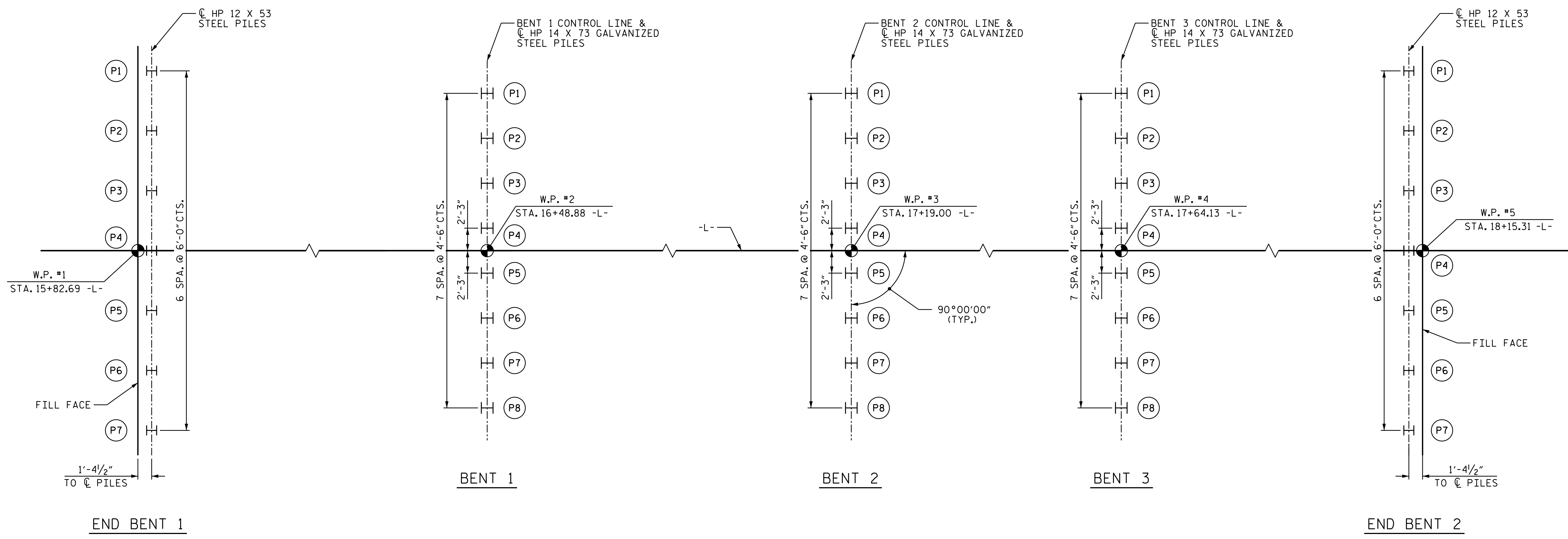
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:  
MOTT MACDONALD  
7621 Purfoy Rd., Suite 115  
Fuquay-Varina, NC 27526  
(919) 552-2253  
www.mottmac.com  
LICENSE NO. F-0669

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			25

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DRAWN BY: D. E. CLAFF/R. L. DICKE DATE: 3-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023



### FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES SHOWN TO THE CENTERLINES OF PILES  
 ALL PIPES SHALL BE DRIVEN VERTICAL  
 (P#) - PILE NUMBER

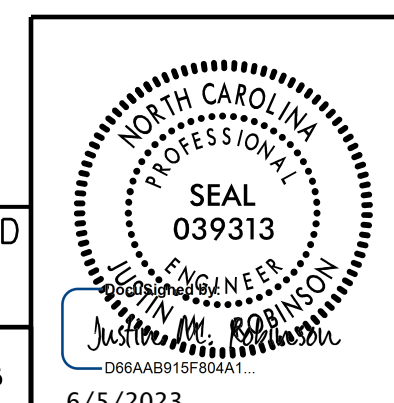
### NOTES:

FOR PILES, SEE PILES PROVISION AND SECTION 450 OF THE STANDARD SPECIFICATIONS.  
 IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 20,000 TO 30,000 FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT NO.1 AND END BENT NO.2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUBARTICLE 450-3(D)(2) OF THE STANDARD SPECIFICATIONS.

PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 BRIDGE ON SR 1206  
 (WRIGHT BRIDGE RD.) OVER  
 GREAT COHARIE CREEK  
 BETWEEN SR 1207 AND US 701



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED  
 PLANS PREPARED BY:  
**M** MOTT MACDONALD  
 7621 Purfoy Rd., Suite 115  
 Fuquay-Varina, NC 27526  
 (919) 552-2253  
 www.mottmac.com  
 LICENSE NO. F-0669

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			25

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DRAWN BY: L. L. BLANKENSHIP DATE: 3-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

### SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Resistance per Pile TONS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Driven Piles			Predrilling for Piles*			Drilled-In Piles		
					Min Pile Tip (Tip No Higher Than) Elev FT	Required Driving Resistance (RDR)** per Pile TONS	Total Pile Redrives Quantity EACH	Predrilling Length per Pile Lin FT	Predrilling Elevation (Elev Not To Predrill Below) FT	Maximum Predrilling Dia INCHES	Pile Excavation (Bottom of Hole) Elev FT	Pile Exc Not In Soil per Pile Lin FT	Pile Exc In Soil per Pile Lin FT
End Bent No. 1, Piles 1-7	78	See Substructure Plans	55			105							
Bent No. 1, Piles 1-8	140		70	39	16	230							
Bent No. 2, Piles 1-8	125		75	37	12	195	19						
Bent No. 3, Piles 1-8	117.5		70	39	16	195							
End Bent No. 2, Piles 1-7	67		50			90							

\*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.

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

### SUMMARY OF PDA/PILE ORDER LENGTHS

(Blank entries indicate item is not applicable to structure)

Pile Driving Analyzer (PDA)				Pile Order Lengths	
End Bent/ Bent No	PDA Testing Required? YES or MAYBE	PDA Test Pile Length FT	Total PDA Testing Quantity EACH	End Bent/ Bent No(s)	Pile Order Length Basis* EST or PDA
End Bent No. 1	Yes	60	2		
Bent No. 1	Yes	75			
Bent No. 2	Maybe	80			
Bent No. 3	Maybe	75			
End Bent No. 2	Maybe	55			

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

### PILE DESIGN INFORMATION

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile TONS	Factored Downdrag Load per Pile TONS	Factored Dead Load* per Pile TONS	Dynamic Resistance Factor	Nominal Downdrag Resistance per Pile TONS	Nominal Scour Resistance per Pile TONS	Scour Resistance Factor (Default = 1.00)
End Bent No. 1, Piles 1-7	78			0.75			1.00
Bent No. 1, Piles 1-8	140			0.75		42.5	1.00
Bent No. 2, Piles 1-8	125			0.75		27.5	1.00
Bent No. 3, Piles 1-8	117.5			0.75		34.5	1.00
End Bent No. 2, Piles 1-7	67			0.75			1.00

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

### SUMMARY OF PILE ACCESSORIES

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Pipe Pile Plates Required? YES or MAYBE	Steel Pile Points			Steel Pile Tips Required? YES
		Pipe Pile Cutting Shoes Required? YES	Pipe Pile Conical Points Required? YES	H-Pile Points Required? YES	
End Bent No. 1, Piles 1-7				Yes	
Bent No. 1, Piles 1-8				Yes	
Bent No. 2, Piles 1-8				Yes	
Bent No. 3, Piles 1-8				Yes	
End Bent No. 2, Piles 1-7				Yes	
<b>TOTAL QTY:</b>				38	

**NOTES:**


- The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (J. Shane Johnson, PE No. 0.37422) on 3/1/2023.
- Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance.
- The Engineer will determine the need for PDA Testing and Pipe Pile Plates when PDAs or plates may be required.

PROJECT NO. B-6049

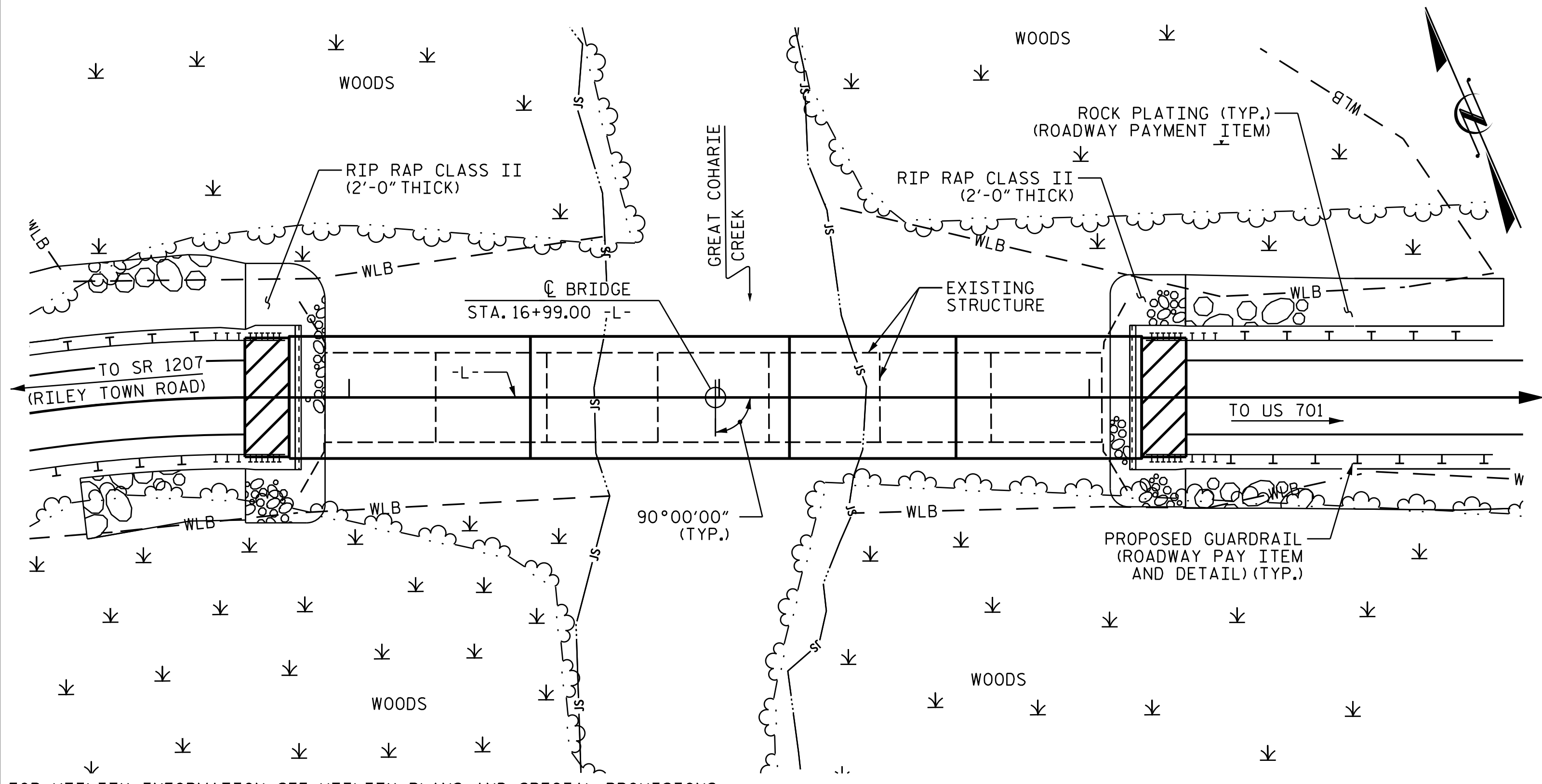
SAMPSON COUNTY

STATION: 16+99.00 -L-

Sheet 3 of 4

	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						<h2>PILE FOUNDATION TABLES</h2>
	SIGNATURE _____ DATE _____						
REVISIONS						SHEET NO. S-3	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED							
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS	
1			3			25	
2			4				

BM3: RR SPIKE IN 36" CYPRESS, -L- STA 16+36.07, 185.83 LT., ELEV. = 54.31'



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.  
 THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.  
 THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.  
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.  
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.  
 FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.  
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.  
 FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.  
 THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPLICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.  
 FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.  
 THIS BRIDGE SHALL BE CONSTRUCTED USING TOP-DOWN CONSTRUCTION METHODS. THE USE OF A TEMPORARY CAUSEWAY OR WORK BRIDGE IS NOT PERMITTED. TOP DOWN CONSTRUCTION SHALL ONLY BE ALLOWED FROM SPAN C AND SPAN D.  
 AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING STRUCTURE CONSISTING OF 7 SPANS (1 @ 30'-3", 5 @ 30'-0", 1 @ 30'-3") CONCRETE DECK ON PRECAST PRESTRESSED CONCRETE CHANNEL BEAMS; CLEAR ROADWAY WIDTH OF 24'-5" ON CONCRETE CAP ON TIMBER PILE BENTS, LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS CURRENTLY POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

NOTES (CONT'D):

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. 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 COSTS INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.  
 REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.  
 FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND REMOVAL ACTIVITIES, SEE SPECIAL PROVISIONS.  
 THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18 - EVALUATING SCOUR AT BRIDGES."  
 ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.  
 THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET 1 OF 4 SHALL BE EXCAVATED FOR A DISTANCE OF 34 FT EACH SIDE OF THE CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.  
 FOR ALL INTERIOR BENTS, ONLY PARTIAL GALVANIZING OF THE PILES IS REQUIRED. SEE INTERIOR BENT SHEETS FOR REQUIRED GALVANIZED LENGTHS. PAYMENT FOR PARTIALLY GALVANIZED PILES WILL BE MADE UNDER THE CONTRACT UNIT PRICE FOR GALVANIZED STEEL PILES.  
 THE SCOUR CRITICAL ELEVATION FOR BENTS NO. 1 AND NO. 3 IS ELEVATION 40.0 AND FOR BENT NO. 2 IS ELEVATION 38.0. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

HYDRAULIC DATA:

DESIGN DISCHARGE	= 6,200 CFS
FREQUENCY OF DESIGN FLOOD	= 25 YEAR
DESIGN HIGH WATER ELEVATION	= 56.4
DRAINAGE AREA	= 205 SQ. MI.
BASE DISCHARGE (Q 100)	= 9,000 CFS
BASE HIGH WATER ELEVATION	= 57.2

OVERTOPPING FLOOD DATA:

OVERTOPPING DISCHARGE	= 5,500 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 10± YEAR
OVERTOPPING FLOOD ELEVATION	= 55.4 *
* OVERTOPPING AT APPROX. -L- STA. 10+50 OUTSIDE THE PROJECT LIMITS.	
WS EL. TAKEN AT RIVER STATION 54714	

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE AT STATION 16+99.00 -L-	ASBESTOS ASSESSMENT	PDA TESTING	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION 16+99.00 -L-	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES	PILE DRIVING EQUIPMENT SETUP FOR HP 14 X 73 GALVANIZED STEEL PILES	HP 12 X 53 STEEL PILES		HP 14 X 73 GALVANIZED STEEL PILES		PILE REDRIVES	STEEL PILE POINTS
										NO.	LIN. FT.	NO.	LIN. FT.		
	LUMP SUM	LUMP SUM	EA.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	EA.	EA.	NO.	LIN. FT.	NO.	LIN. FT.	EA.	EA.
SUPERSTRUCTURE						LUMP SUM									
END BENT 1					21.8		2,627	7		7	385				7
BENT 1					10.7		2,129		8			8	560		8
BENT 2					10.7		2,129		8			8	600		8
BENT 3					10.7		2,129		8			8	560		8
END BENT 2					21.8		2,627	7		7	350				7
TOTAL	LUMP SUM	LUMP SUM	2	LUMP SUM	75.7	LUMP SUM	11,641	14	24	14	735	24	1,720	19	38
	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" x 2'-0" PRESTRESSED CONC. CORED SLABS										
	LIN. FT.	TON	S.Y.	LUMP SUM	NO.	LIN. FT.									
SUPERSTRUCTURE	461.0			LUMP SUM	44	2,530									
END BENT 1		153	170												
BENT 1															
BENT 2															
BENT 3															
END BENT 2		125	139												
TOTAL	461.0	278	309	LUMP SUM	44	2,530									

SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE: SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND  $f_y = 60$ ksi.

PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 BRIDGE ON SR 1206  
 (WRIGHT BRIDGE RD.) OVER  
 GREAT COHARIE CREEK  
 BETWEEN SR 1207 AND US 701



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED  
 PLANS PREPARED BY:  
**M** MOTT MACDONALD  
 7621 Purfoy Rd., Suite 115  
 Fuquay-Varina, NC 27526  
 (919) 552-2253  
 www.mottmac.com  
 LICENSE NO. F-0669

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			25

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DRAWN BY: R. L. DICKE DATE: 2-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

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

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

**LOAD FACTORS:**

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

**NOTES:**

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

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

**COMMENTS:**

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

# CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

2 DESIGN LOAD RATING (HS-20)

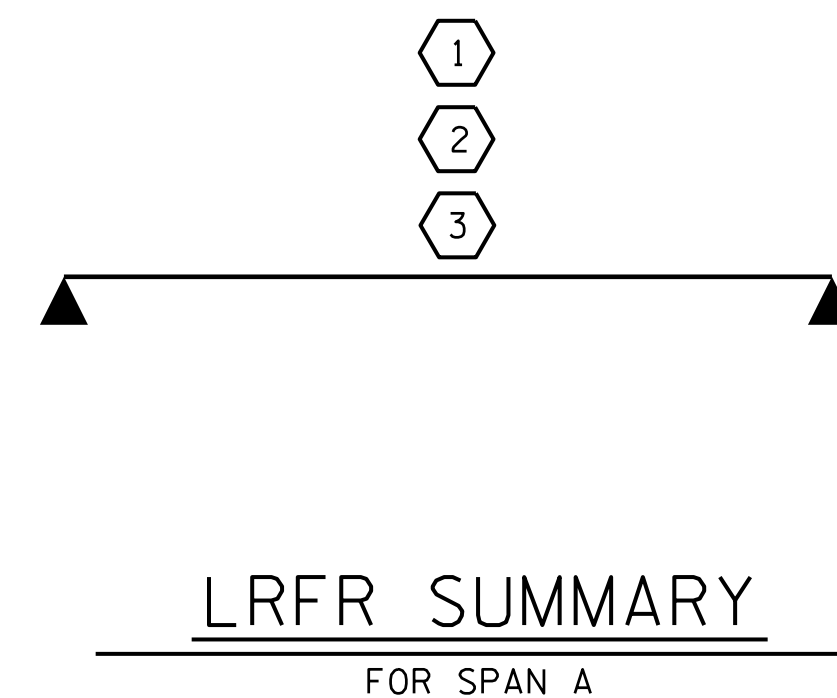
3 LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE

---

GIRDER LOCATION

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

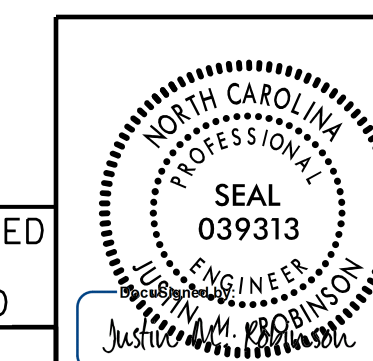


PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

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



DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

PLANS PREPARED BY:  
**M** MOTT MACDONALD  
 7621 Purfoy Rd., Suite 115  
 Fuquay-Varina, NC 27526  
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 www.mottmac.com  
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			25

DRAWN BY: R. L. DICKE DATE: 2-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023



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

LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE					COMMENT NUMBER			
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.006	--	1.75	0.273	1.03	70'	EL	34.5	0.507	1.32	70'	EL	6.9	0.80	0.273	1.01	70'	EL	34.5		
	HL-93(Opr)	N/A	--	1.341	--	1.35	0.273	1.34	70'	EL	34.5	0.507	1.72	70'	EL	6.9	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.306	47.02	1.75	0.273	1.34	70'	EL	34.5	0.507	1.65	70'	EL	6.9	0.80	0.273	1.31	70'	EL	34.5		
	HS-20(Opr)	36.000	--	1.74	62.64	1.35	0.273	1.74	70'	EL	34.5	0.507	2.14	70'	EL	6.9	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.917	39.379	1.4	0.273	3.75	70'	EL	34.5	0.507	4.87	70'	EL	6.9	0.80	0.273	2.92	70'	EL	34.5	
		SNGARBS2	20.000	--	2.187	43.741	1.4	0.273	2.81	70'	EL	34.5	0.507	3.47	70'	EL	6.9	0.80	0.273	2.19	70'	EL	34.5	
		SNAGRIS2	22.000	--	2.077	45.69	1.4	0.273	2.67	70'	EL	34.5	0.507	3.23	70'	EL	6.9	0.80	0.273	2.08	70'	EL	34.5	
		SNCOTTS3	27.250	--	1.452	39.565	1.4	0.273	1.87	70'	EL	34.5	0.507	2.43	70'	EL	6.9	0.80	0.273	1.45	70'	EL	34.5	
		SNAGGRS4	34.925	--	1.218	42.554	1.4	0.273	1.57	70'	EL	34.5	0.507	2.03	70'	EL	6.9	0.80	0.273	1.22	70'	EL	34.5	
		SNS5A	35.550	--	1.191	42.346	1.4	0.273	1.53	70'	EL	34.5	0.507	2.06	70'	EL	6.9	0.80	0.273	1.19	70'	EL	34.5	
		SNS6A	39.950	--	1.095	43.747	1.4	0.273	1.41	70'	EL	34.5	0.507	1.88	70'	EL	6.9	0.80	0.273	1.10	70'	EL	34.5	
	SNS7B	42.000	--	1.043	43.801	1.4	0.273	1.34	70'	EL	34.5	0.507	1.85	70'	EL	6.9	0.80	0.273	1.04	70'	EL	34.5		
	TTST	TNAGRIT3	33.000	--	1.336	44.087	1.4	0.273	1.72	70'	EL	34.5	0.507	2.23	70'	EL	6.9	0.80	0.273	1.34	70'	EL	34.5	
		TNT4A	33.075	--	1.342	44.401	1.4	0.273	1.72	70'	EL	34.5	0.507	2.17	70'	EL	6.9	0.80	0.273	1.34	70'	EL	34.5	
		TNT6A	41.600	--	1.1	45.746	1.4	0.273	1.41	70'	EL	34.5	0.507	1.98	70'	EL	6.9	0.80	0.273	1.10	70'	EL	34.5	
		TNT7A	42.000	--	1.106	46.462	1.4	0.273	1.42	70'	EL	34.5	0.507	1.94	70'	EL	6.9	0.80	0.273	1.11	70'	EL	34.5	
		TNT7B	42.000	--	1.147	48.18	1.4	0.273	1.47	70'	EL	34.5	0.507	1.8	70'	EL	6.9	0.80	0.273	1.15	70'	EL	34.5	
		TNAGRIT4	43.000	--	1.089	46.838	1.4	0.273	1.4	70'	EL	34.5	0.507	1.74	70'	EL	6.9	0.80	0.273	1.09	70'	EL	34.5	
TNAGT5A		45.000	--	1.026	46.175	1.4	0.273	1.32	70'	EL	34.5	0.507	1.74	70'	EL	6.9	0.80	0.273	1.03	70'	EL	34.5		
TNAGT5B	45.000	3	1.013	45.579	1.4	0.273	1.3	70'	EL	34.5	0.507	1.66	70'	EL	6.9	0.80	0.273	1.01	70'	EL	34.5			

**LOAD FACTORS:**

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

**NOTES:**

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

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

**COMMENTS:**

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

# CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

2 DESIGN LOAD RATING (HS-20)

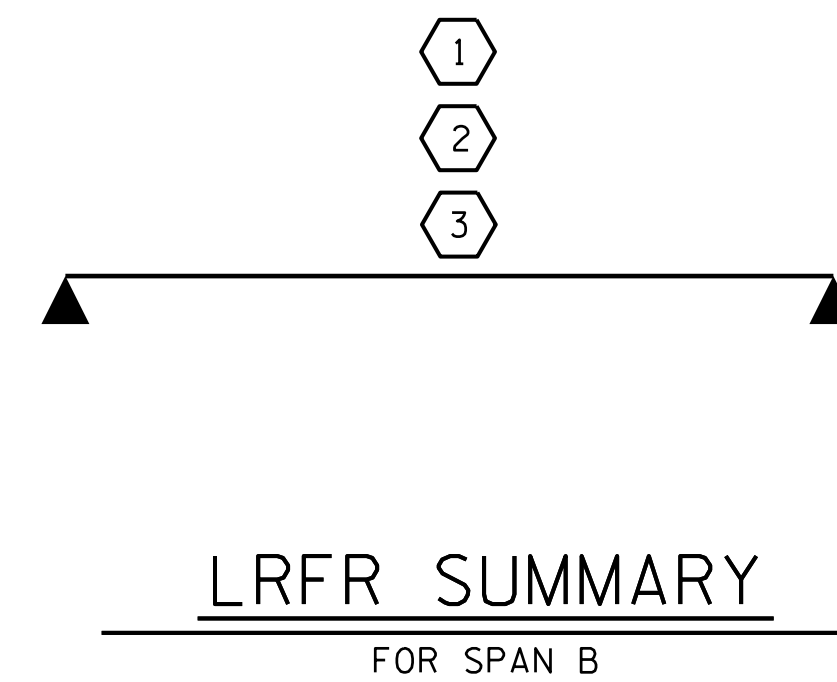
3 LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE

---

GIRDER LOCATION

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



PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 2 OF 4

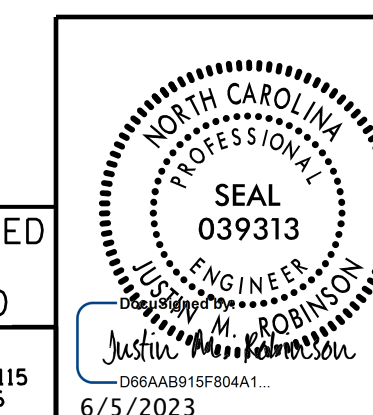
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			25

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:  
**M** MOTT MACDONALD  
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 LICENSE NO. F-0669



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DRAWN BY: R. L. DICKE DATE: 2-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

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

LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE					COMMENT NUMBER			
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	2.36	--	1.75	0.272	3.94	45'	EL	17.5	0.575	<b>2.36</b>	45'	EL	1.9	0.80	0.272	4.62	45'	EL	22.0		
	HL-93(0pr)	N/A	--	3.09	--	1.35	0.272	5.11	45'	EL	17.5	0.575	3.09	45'	EL	1.9	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	2.81	101.16	1.75	0.272	4.80	45'	EL	17.5	0.575	<b>2.81</b>	45'	EL	1.9	0.80	0.272	5.67	45'	EL	22.0		
	HS-20(0pr)	36.000	--	3.67	132.12	1.35	0.272	6.23	45'	EL	17.5	0.575	3.67	45'	EL	1.9	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	7.91	106.785	1.4	0.272	11.90	45'	EL	22.0	0.575	7.91	45'	EL	1.9	0.80	0.272	11.08	45'	EL	22.0	
		SNGARBS2	20.000	--	5.78	115.6	1.4	0.272	9.35	45'	EL	17.5	0.575	5.78	45'	EL	1.9	0.80	0.272	8.94	45'	EL	17.5	
		SNAGRIS2	22.000	--	5.44	119.68	1.4	0.272	9.04	45'	EL	17.5	0.575	5.44	45'	EL	1.9	0.80	0.272	8.64	45'	EL	17.5	
		SNCOTTS3	27.250	--	3.92	106.82	1.4	0.272	5.94	45'	EL	22.0	0.575	3.92	45'	EL	1.9	0.80	0.272	5.53	45'	EL	22.0	
		SNAGGRS4	34.925	--	3.37	117.697	1.4	0.272	5.24	45'	EL	22.0	0.575	3.37	45'	EL	1.9	0.80	0.272	4.88	45'	EL	22.0	
		SNS5A	35.550	--	3.49	124.07	1.4	0.272	5.11	45'	EL	22.0	0.575	3.49	45'	EL	1.9	0.80	0.272	4.76	45'	EL	22.0	
		SNS6A	39.950	--	3.24	129.438	1.4	0.272	4.81	45'	EL	22.0	0.575	3.24	45'	EL	1.9	0.80	0.272	4.48	45'	EL	22.0	
	SNS7B	42.000	--	3.26	136.92	1.4	0.272	4.59	45'	EL	22.0	0.575	3.26	45'	EL	1.9	0.80	0.272	4.27	45'	EL	22.0		
	TTST	TNAGRIT3	33.000	--	3.80	125.4	1.4	0.272	5.90	45'	EL	22.0	0.575	3.80	45'	EL	1.9	0.80	0.272	5.50	45'	EL	22.0	
		TNT4A	33.075	--	3.66	121.055	1.4	0.272	5.94	45'	EL	17.5	0.575	3.66	45'	EL	1.9	0.80	0.272	5.56	45'	EL	22.0	
		TNT6A	41.600	--	3.55	147.68	1.4	0.272	5.01	45'	EL	22.0	0.575	3.55	45'	EL	1.9	0.80	0.272	4.66	45'	EL	22.0	
		TNT7A	42.000	--	3.26	136.92	1.4	0.272	5.10	45'	EL	22.0	0.575	3.26	45'	EL	1.9	0.80	0.272	4.75	45'	EL	22.0	
		TNT7B	42.000	--	3.12	131.04	1.4	0.272	5.19	45'	EL	17.5	0.575	3.12	45'	EL	1.9	0.80	0.272	4.95	45'	EL	22.0	
		TNAGRIT4	43.000	--	3.00	129.0	1.4	0.272	4.96	45'	EL	17.5	0.575	3.00	45'	EL	1.9	0.80	0.272	4.71	45'	EL	22.0	
TNAGT5A		45.000	--	3.06	137.7	1.4	0.272	4.71	45'	EL	22.0	0.575	3.06	45'	EL	1.9	0.80	0.272	4.39	45'	EL	22.0		
TNAGT5B	45.000	3	2.84	127.8	1.4	0.272	4.60	45'	EL	22.0	0.575	<b>2.84</b>	45'	EL	1.9	0.80	0.272	4.28	45'	EL	22.0			

**LOAD FACTORS:**

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

**NOTES:**

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

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

**COMMENTS:**

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

# CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE

---

GIRDER LOCATION

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



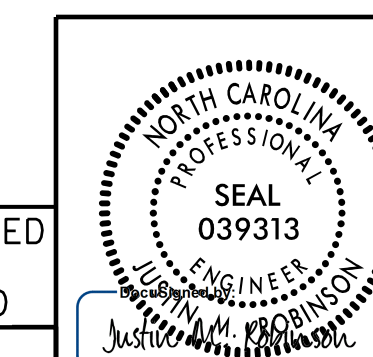
LRFR SUMMARY  
FOR SPAN C

PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

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



DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

PLANS PREPARED BY:  
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 www.mottmac.com  
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1			3			TOTAL SHEETS
2			4			25

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

LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE					COMMENT NUMBER			
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT						
							DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	2.053	--	1.75	0.276	2.26	50'	EL	29.5	0.52	<b>2.05</b>	50'	EL	<b>5.9</b>	0.80	0.276	2.22	50'	EL	29.5		
	HL-93(Opr)	N/A	--	2.661	--	1.35	0.276	2.93	50'	EL	29.5	0.52	2.66	50'	EL	5.9	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	2.47	88.93	1.75	0.276	2.86	50'	EL	29.5	0.52	<b>2.47</b>	50'	EL	<b>5.9</b>	0.80	0.276	2.81	50'	EL	29.5		
	HS-20(Opr)	36.000	--	3.202	115.279	1.35	0.276	3.71	50'	EL	29.5	0.52	3.2	50'	EL	5.9	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	6.053	81.711	1.4	0.276	7.7	50'	EL	29.5	0.52	7.14	50'	EL	5.9	0.80	0.276	6.05	50'	EL	29.5	
		SNGARBS2	20.000	--	4.634	92.672	1.4	0.276	5.89	50'	EL	29.5	0.52	5.14	50'	EL	5.9	0.80	0.276	4.63	50'	EL	29.5	
		SNAGRIS2	22.000	--	4.43	97.466	1.4	0.276	5.65	50'	EL	29.5	0.52	4.8	50'	EL	5.9	0.80	0.276	4.43	50'	EL	29.5	
		SNCOTTS3	27.250	--	3.015	82.171	1.4	0.276	3.84	50'	EL	29.5	0.52	3.57	50'	EL	5.9	0.80	0.276	3.02	50'	EL	29.5	
		SNAGGRS4	34.925	--	2.567	89.643	1.4	0.276	3.27	50'	EL	29.5	0.52	3.01	50'	EL	5.9	0.80	0.276	2.57	50'	EL	29.5	
		SNS5A	35.550	--	2.507	89.116	1.4	0.276	3.19	50'	EL	29.5	0.52	3.07	50'	EL	5.9	0.80	0.276	2.51	50'	EL	29.5	
		SNS6A	39.950	--	2.32	92.685	1.4	0.276	2.95	50'	EL	29.5	0.52	2.82	50'	EL	5.9	0.80	0.276	2.32	50'	EL	29.5	
	SNS7B	42.000	--	2.21	92.825	1.4	0.276	2.81	50'	EL	29.5	0.52	2.8	50'	EL	5.9	0.80	0.276	2.21	50'	EL	29.5		
	TTST	TNAGRIT3	33.000	--	2.835	93.559	1.4	0.276	3.61	50'	EL	29.5	0.52	3.34	50'	EL	5.9	0.80	0.276	2.84	50'	EL	29.5	
		TNT4A	33.075	--	2.853	94.369	1.4	0.276	3.63	50'	EL	29.5	0.52	3.24	50'	EL	5.9	0.80	0.276	2.85	50'	EL	29.5	
		TNT6A	41.600	--	2.352	97.863	1.4	0.276	2.99	50'	EL	29.5	0.52	3.03	50'	EL	5.9	0.80	0.276	2.35	50'	EL	29.5	
		TNT7A	42.000	--	2.375	99.744	1.4	0.276	3.02	50'	EL	29.5	0.52	2.89	50'	EL	5.9	0.80	0.276	2.37	50'	EL	29.5	
		TNT7B	42.000	--	2.475	103.971	1.4	0.276	3.16	50'	EL	29.5	0.52	2.71	50'	EL	5.9	0.80	0.276	2.48	50'	EL	29.5	
		TNAGRIT4	43.000	--	2.343	100.737	1.4	0.276	2.98	50'	EL	29.5	0.52	2.62	50'	EL	5.9	0.80	0.276	2.34	50'	EL	29.5	
TNAGT5A		45.000	--	2.2	98.988	1.4	0.276	2.8	50'	EL	29.5	0.52	2.63	50'	EL	5.9	0.80	0.276	2.20	50'	EL	29.5		
TNAGT5B	45.000	3	<b>2.165</b>	97.428	1.4	0.276	2.75	50'	EL	29.5	0.52	2.49	50'	EL	5.9	0.80	0.276	<b>2.17</b>	50'	EL	<b>29.5</b>			

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.  
ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

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

# CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

2 DESIGN LOAD RATING (HS-20)

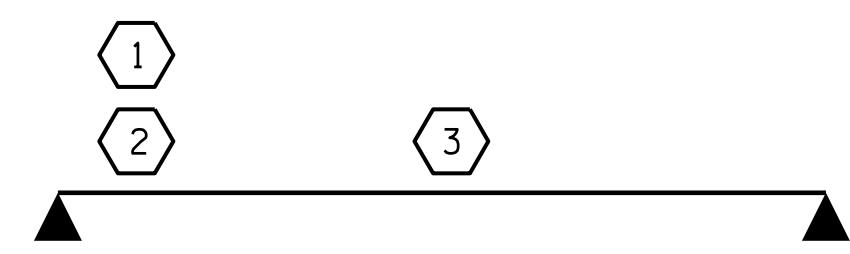
3 LEGAL LOAD RATING \*\*

\*\* SEE CHART FOR VEHICLE TYPE

---

GIRDER LOCATION

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



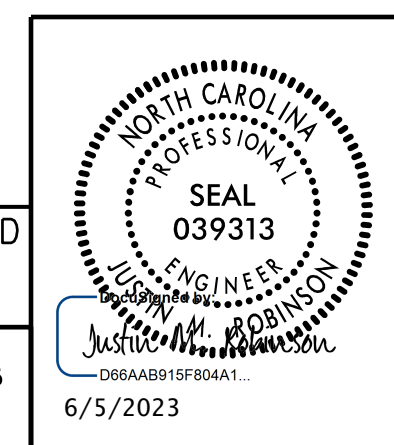
LRFR SUMMARY  
FOR SPAN D

PROJECT NO. B-6049  
SAMPSON COUNTY  
STATION: 16+99.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

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



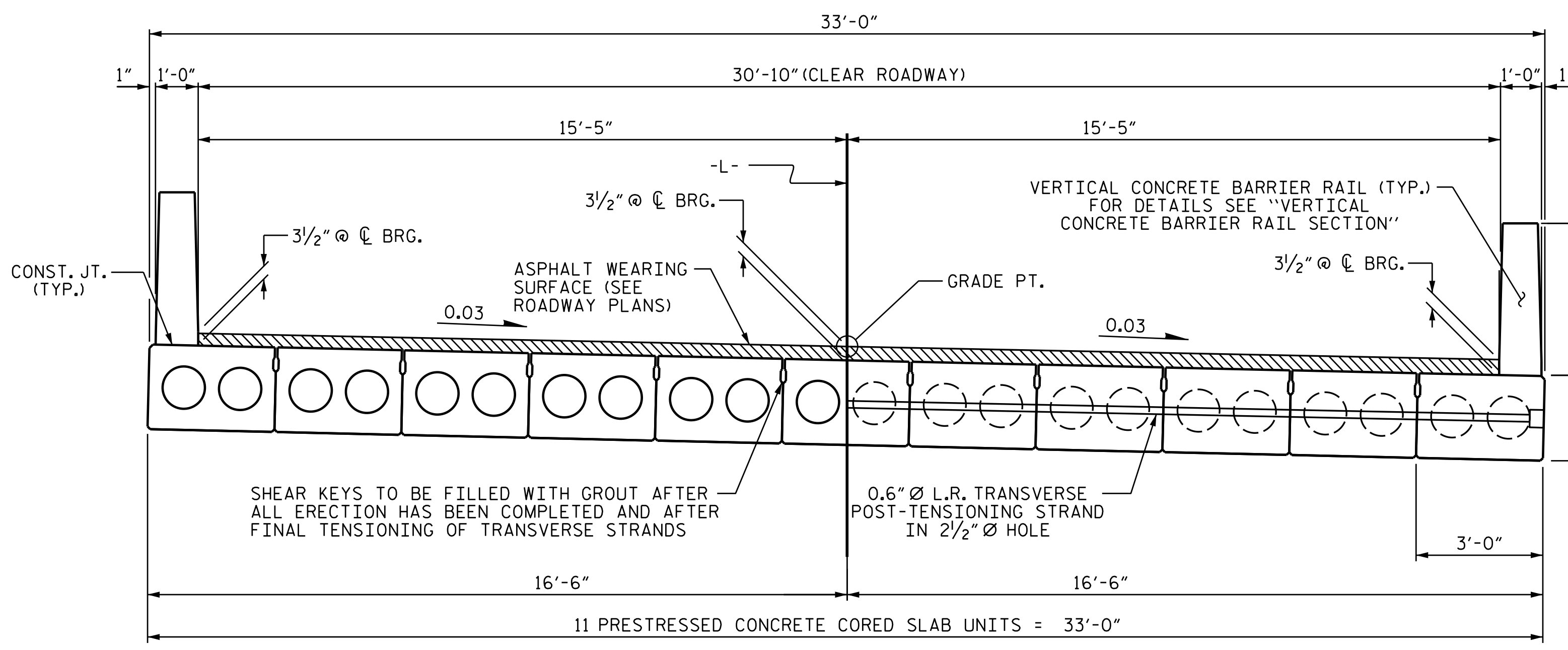
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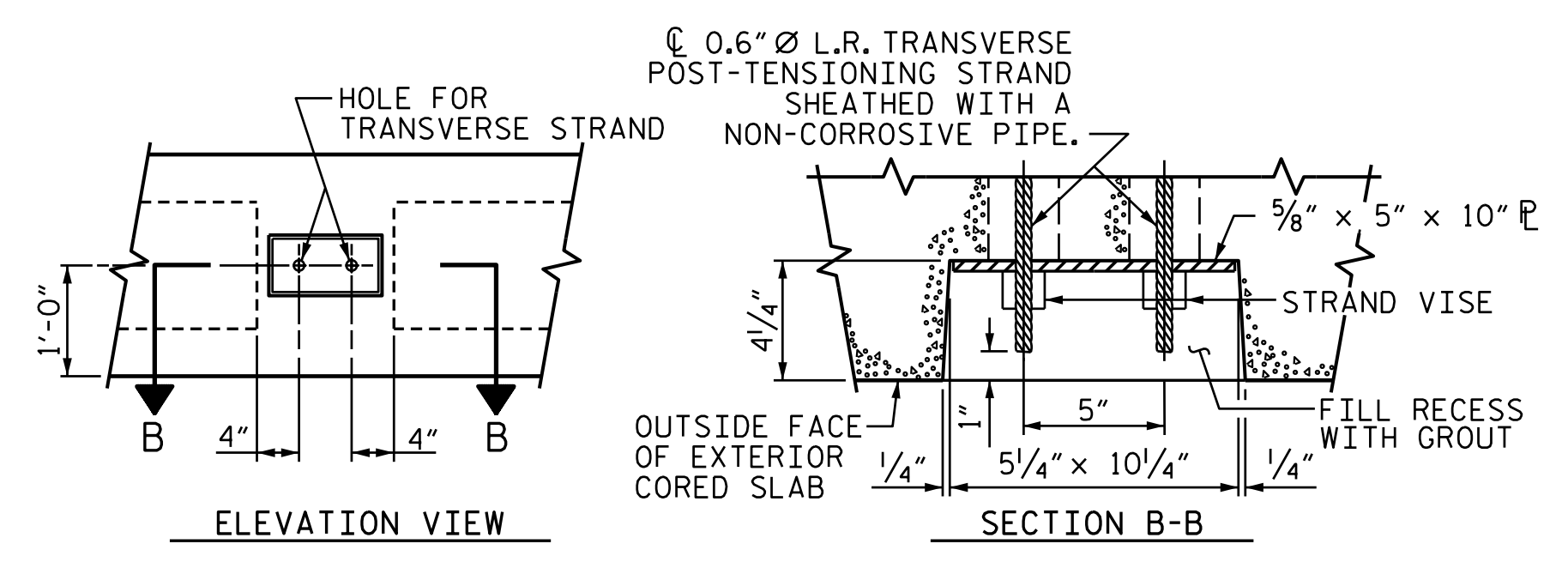
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DRAWN BY: R. L. DICKE DATE: 2-2023  
CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023



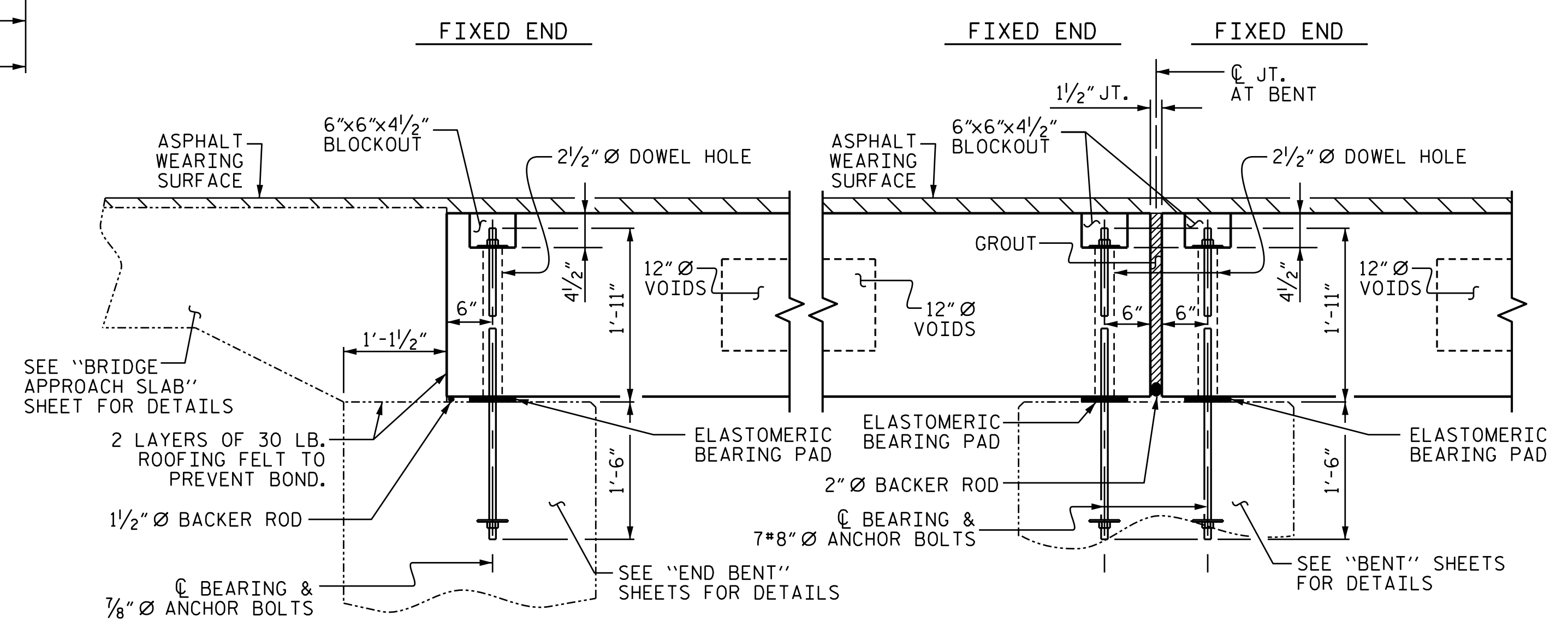
HALF SECTION THROUGH VOIDS      TYPICAL SECTION      HALF SECTION AT INTERMEDIATE DIAPHRAGMS

\* - 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 "GUTTERLINE ASPHALT THICKNESS AND RAIL HEIGHT" TABLE ON SHEET 8 OF 8.



ELEVATION VIEW      SECTION B-B

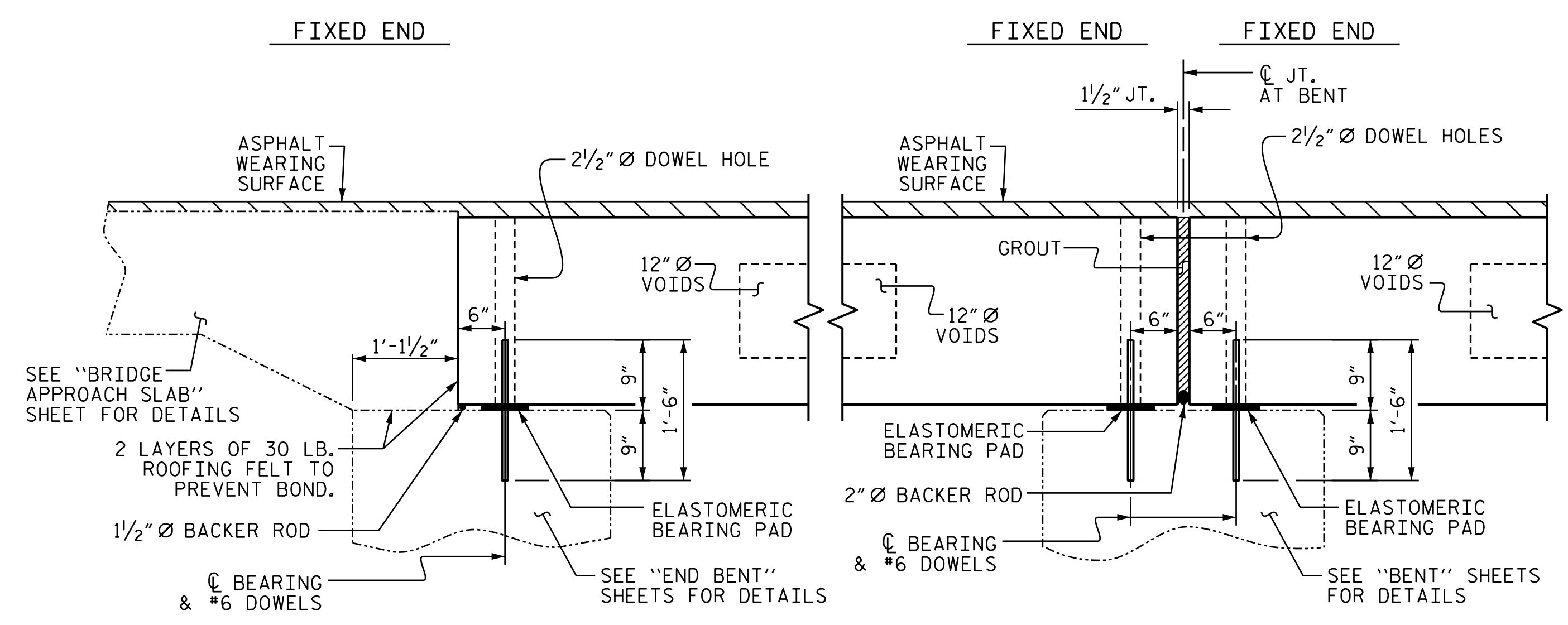
GROUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS



SECTION AT END BENT      SECTION AT BENT

SECTIONS FOR EXTERIOR CORED SLAB UNITS

FOR "BLOCKOUT DETAIL FOR ANCHOR BOLTS", SEE SHEET 3 OF 8.



SECTION AT END BENT      SECTION AT BENT

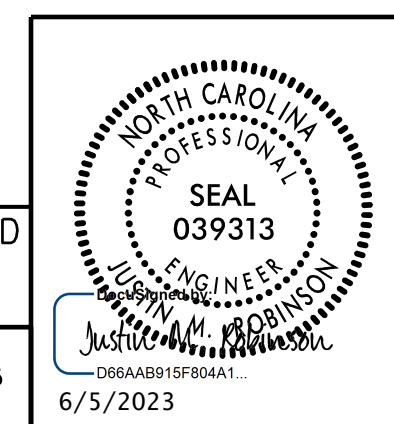
SECTIONS FOR INTERIOR CORED SLAB UNITS

PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 1 OF 8

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

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



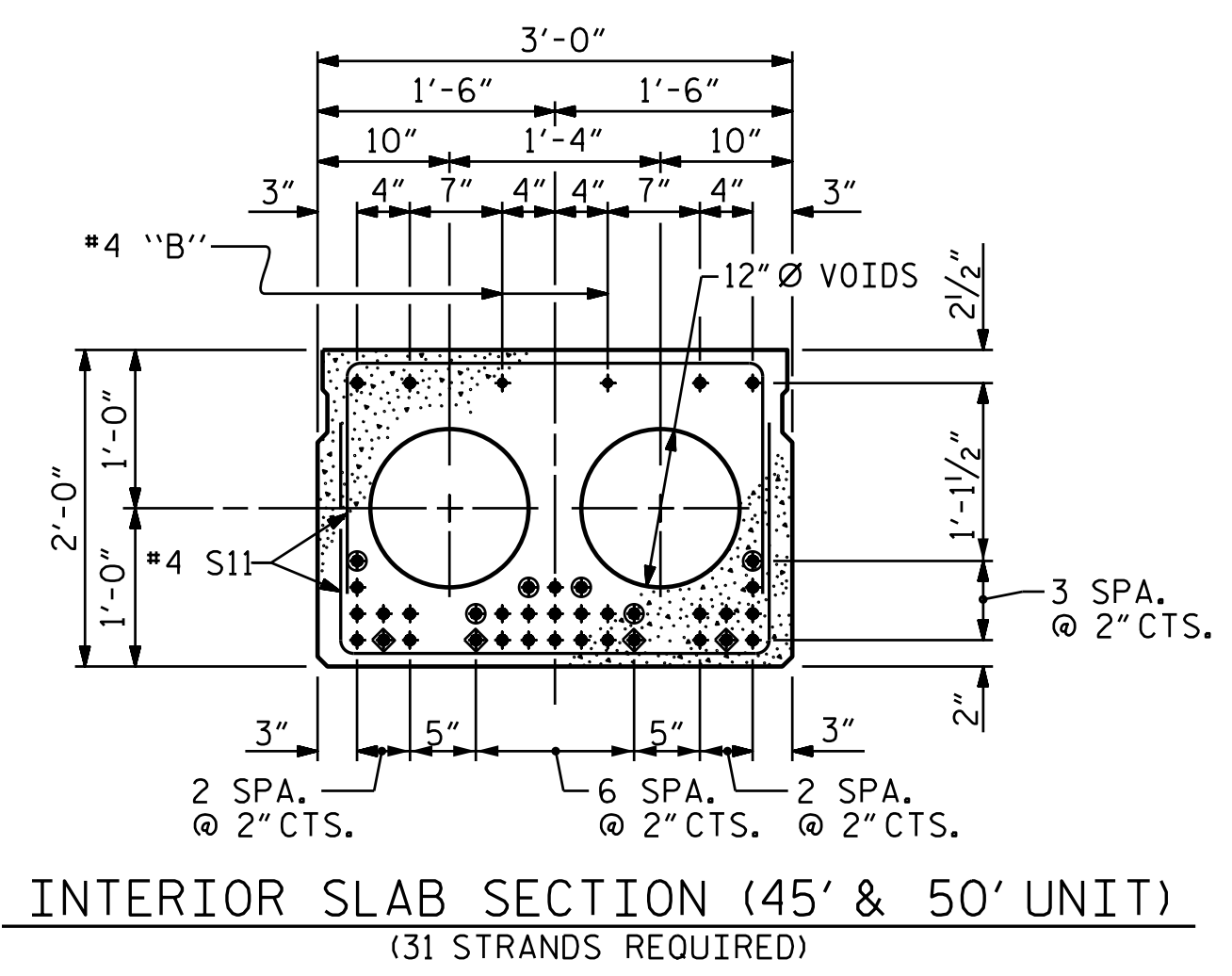
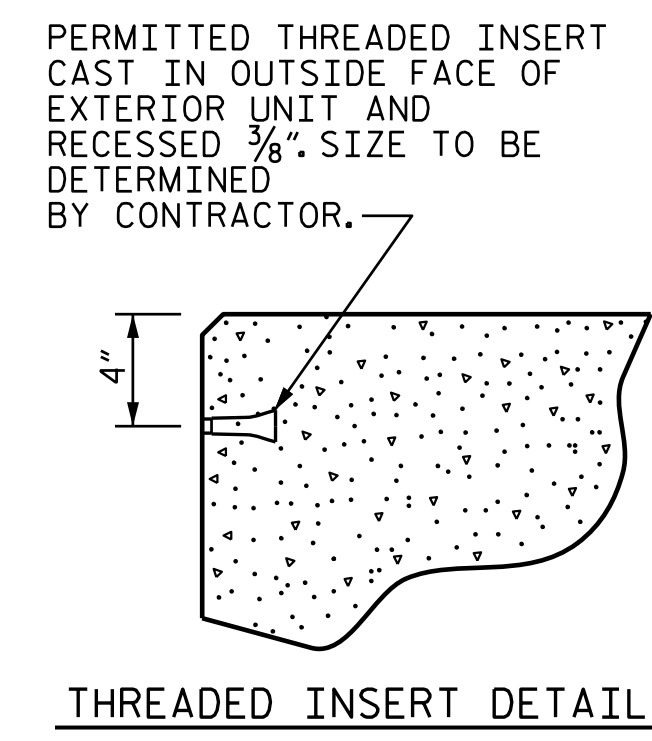
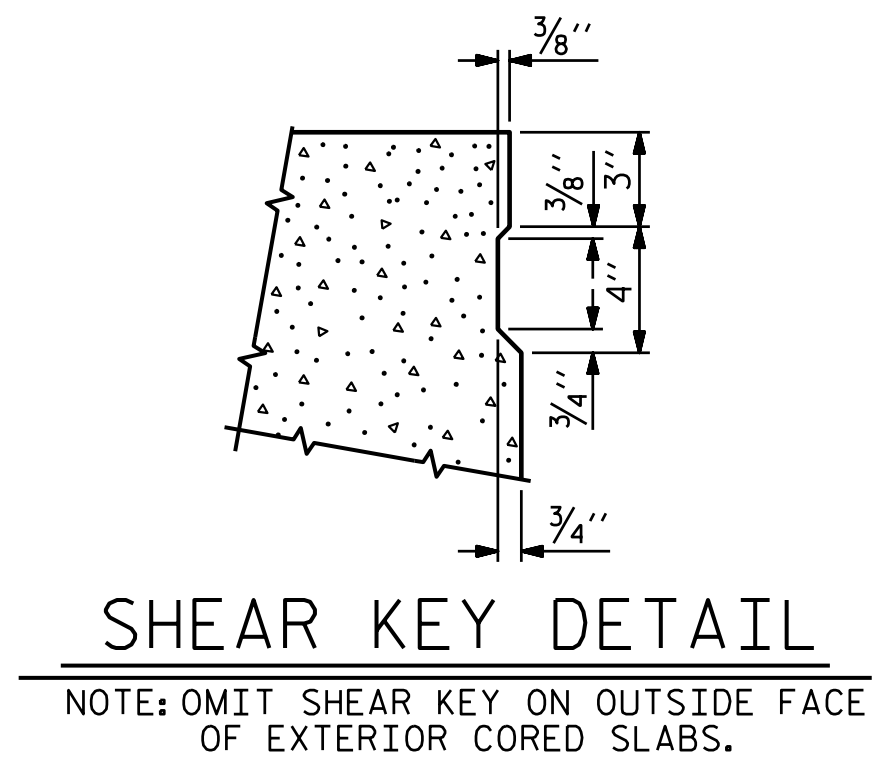
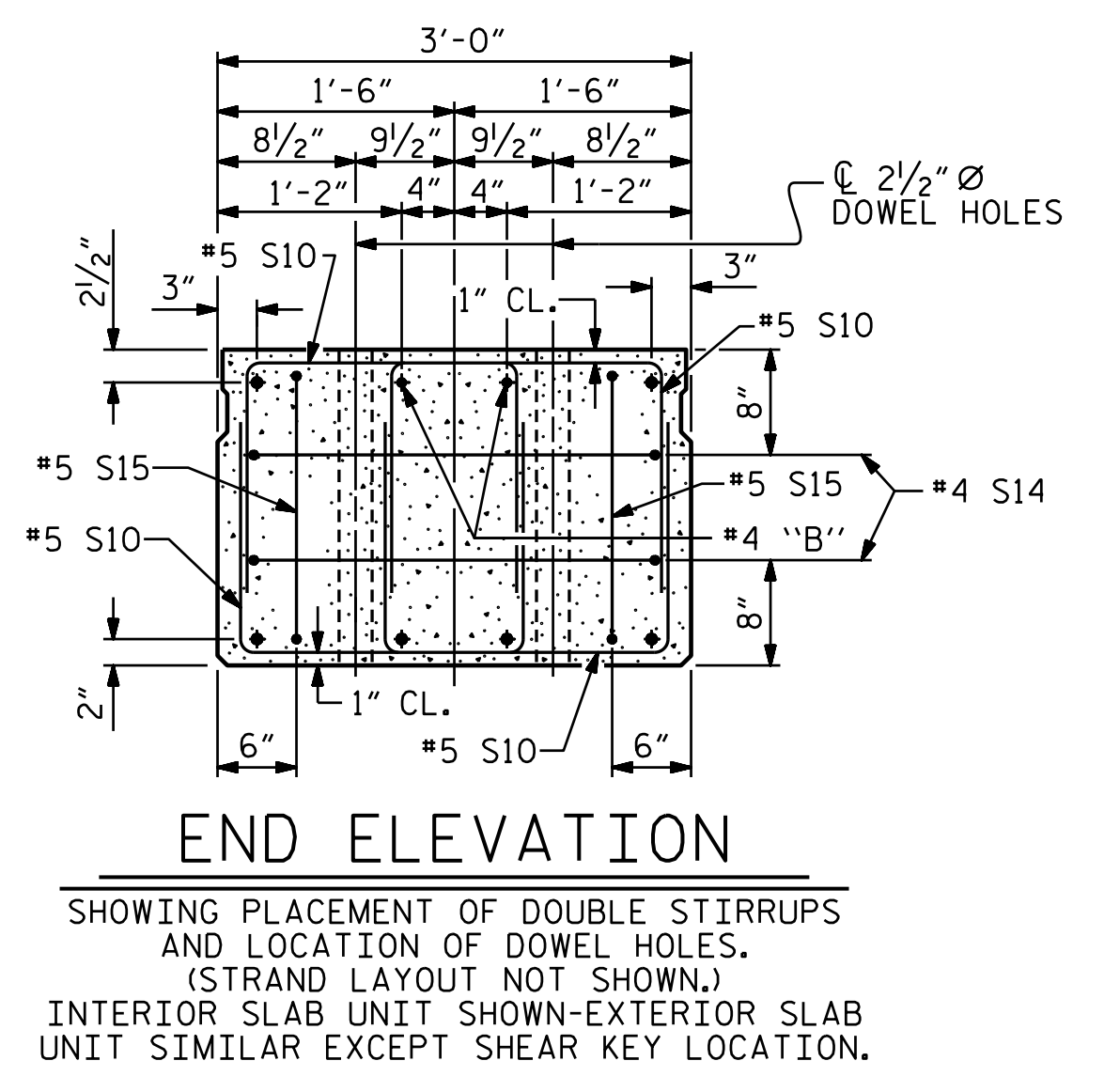
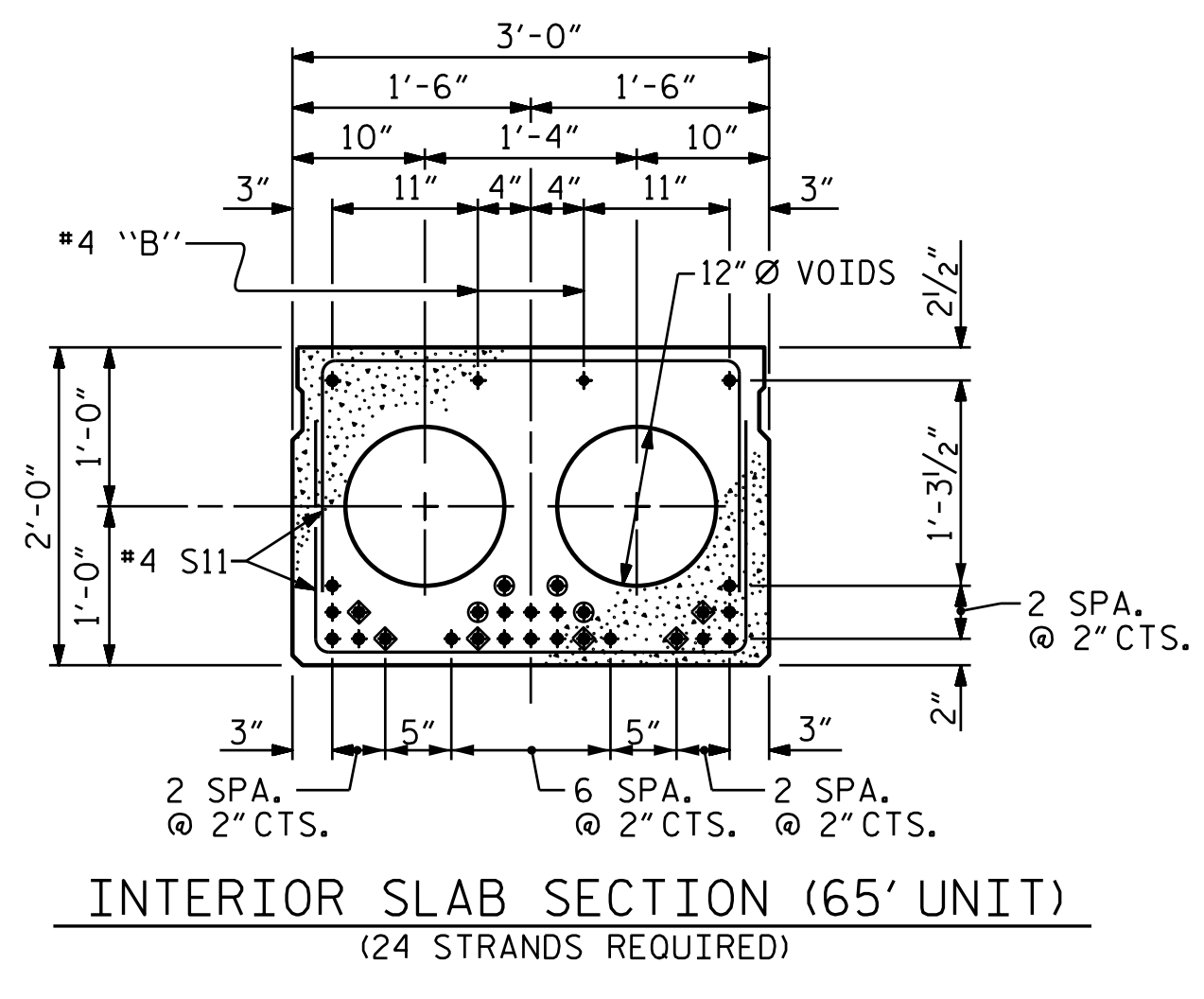
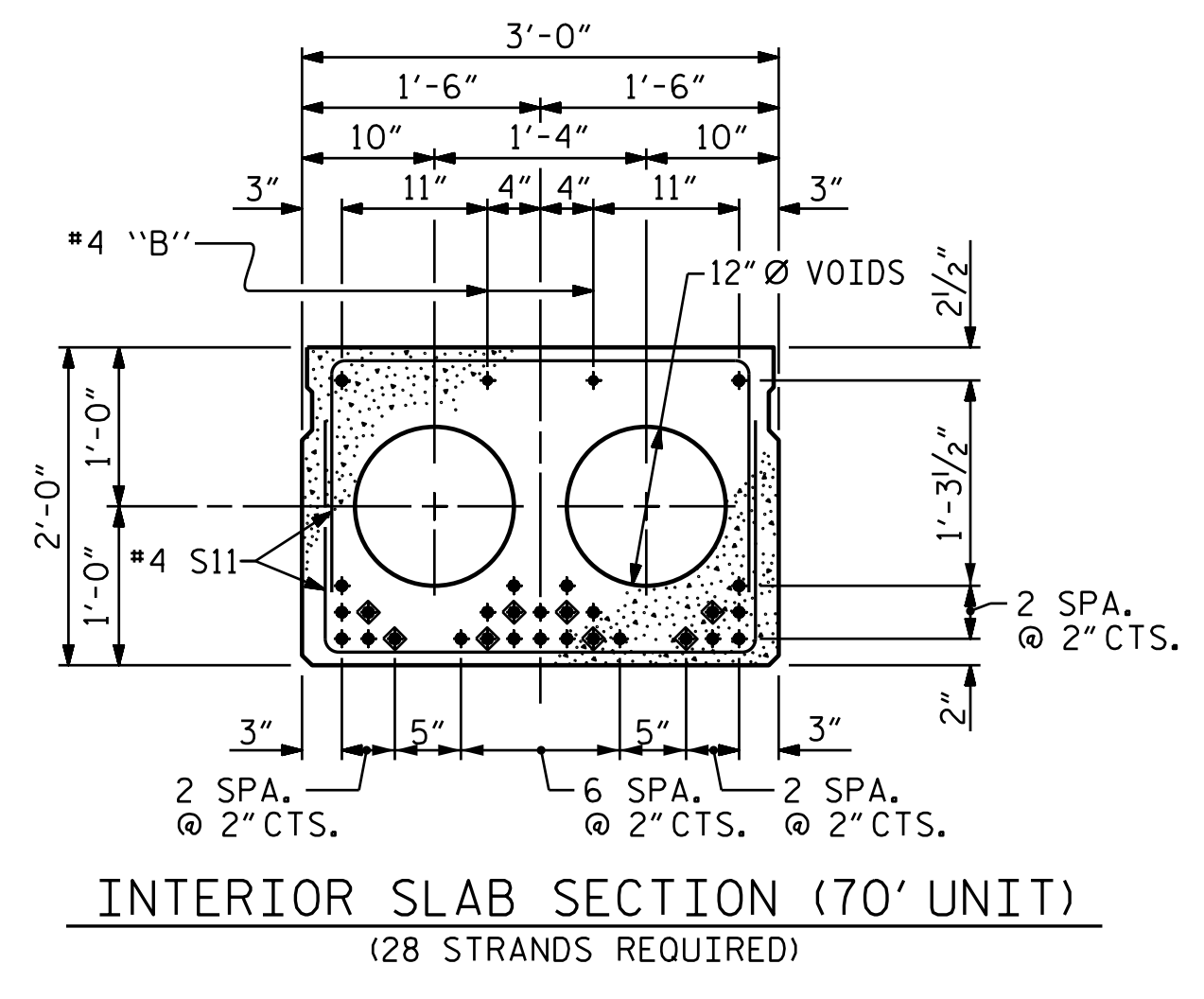
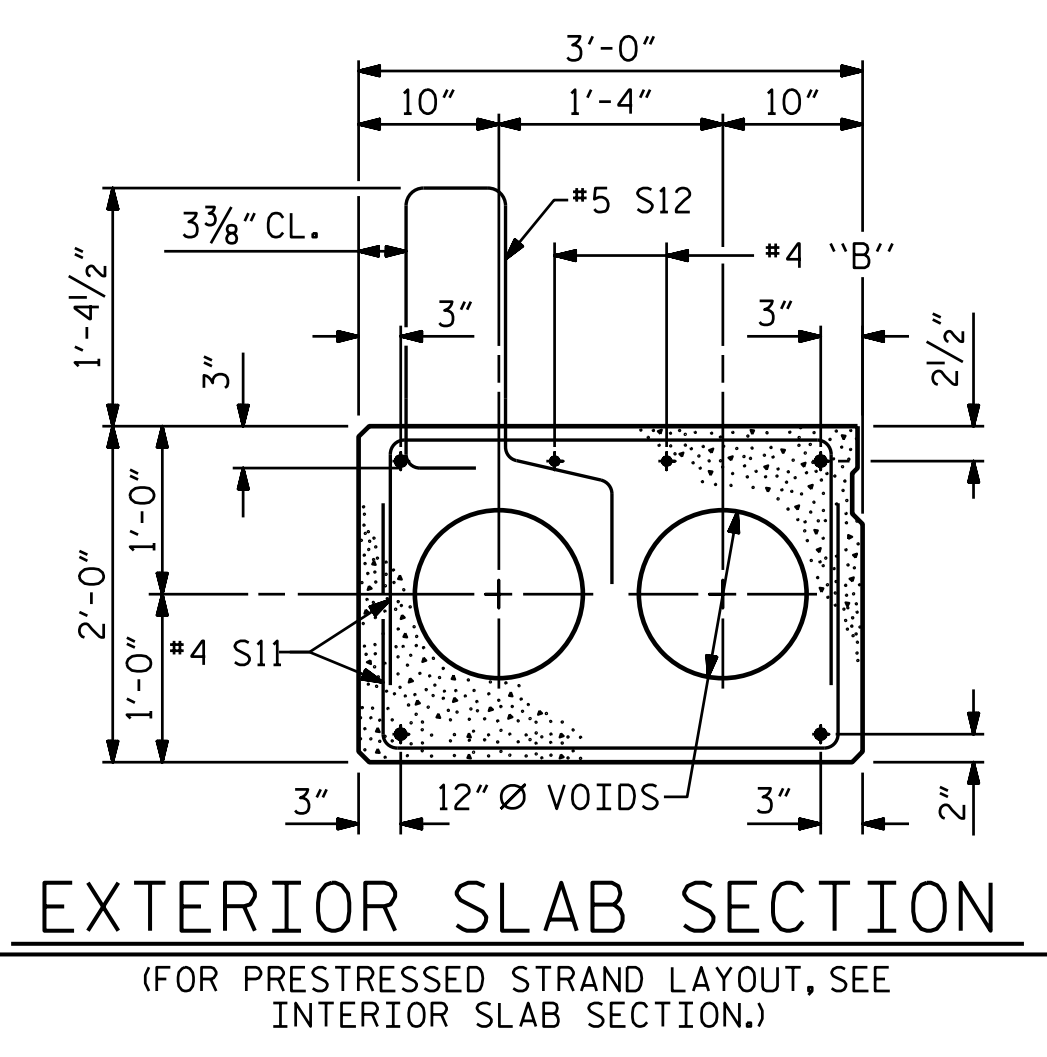
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PLANS PREPARED BY:  
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 www.mottmac.com  
 LICENSE NO. F-0669

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 CHECKED BY: J. T. WILLIAMS      DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON      DATE: 3-2023



**0.6" Ø LOW RELAXATION STRAND LAYOUT**

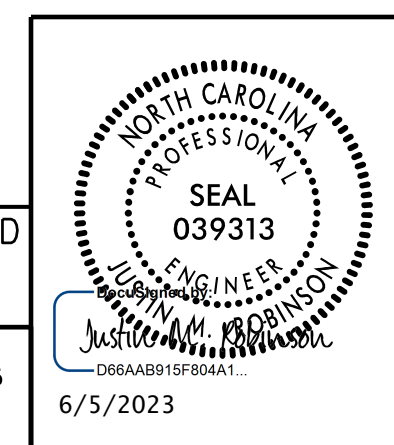
- ◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- OPTIONAL FULL LENGTH DEBONDED STRANDS. THESE STRANDS ARE NOT REQUIRED, IF THE FABRICATOR CHOOSES TO INCLUDE THESE STRANDS IN THE CORED SLAB UNIT, THE STRANDS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

**DEBONDING LEGEND**

PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 2 OF 8

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

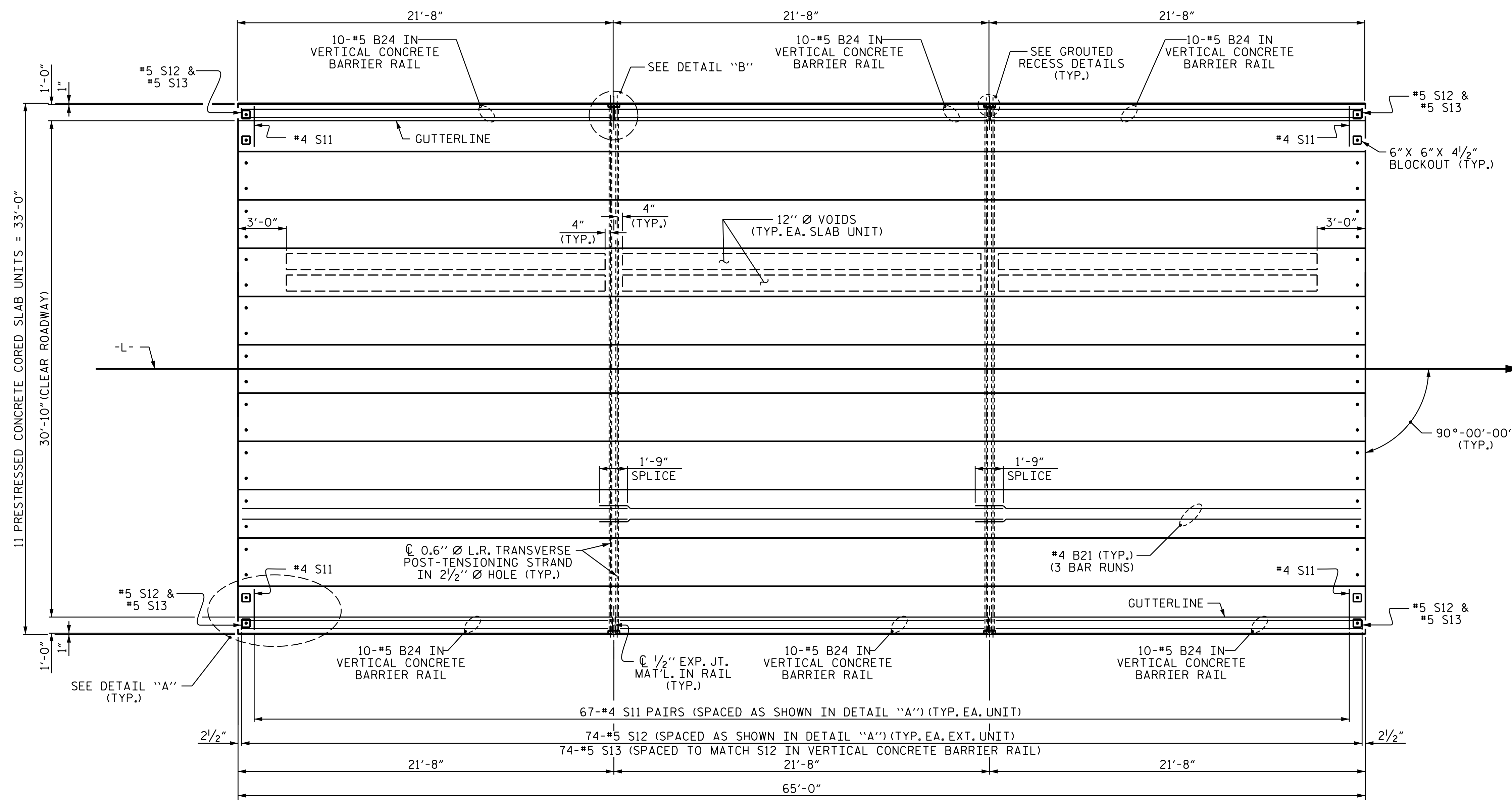


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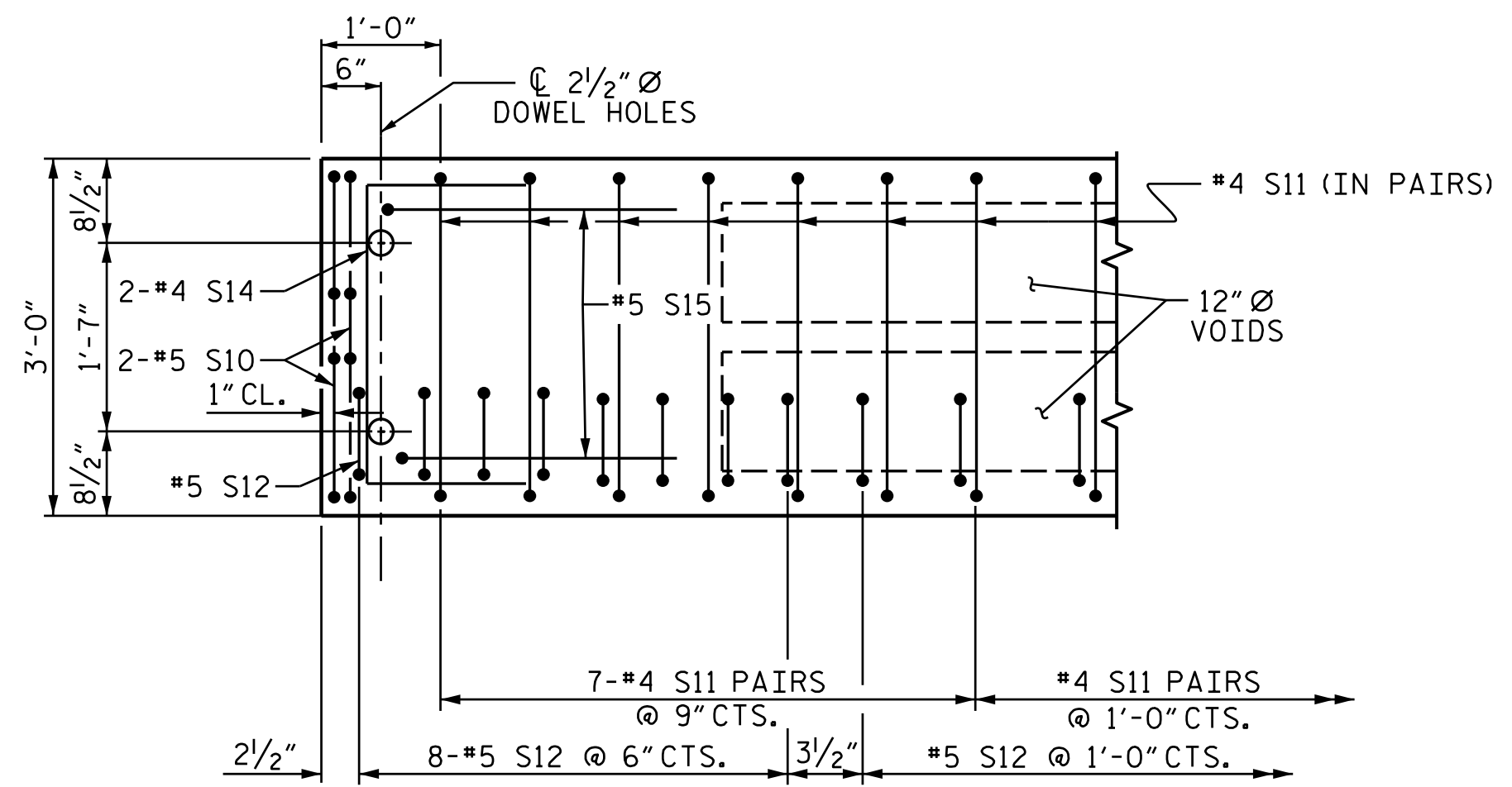
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 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023



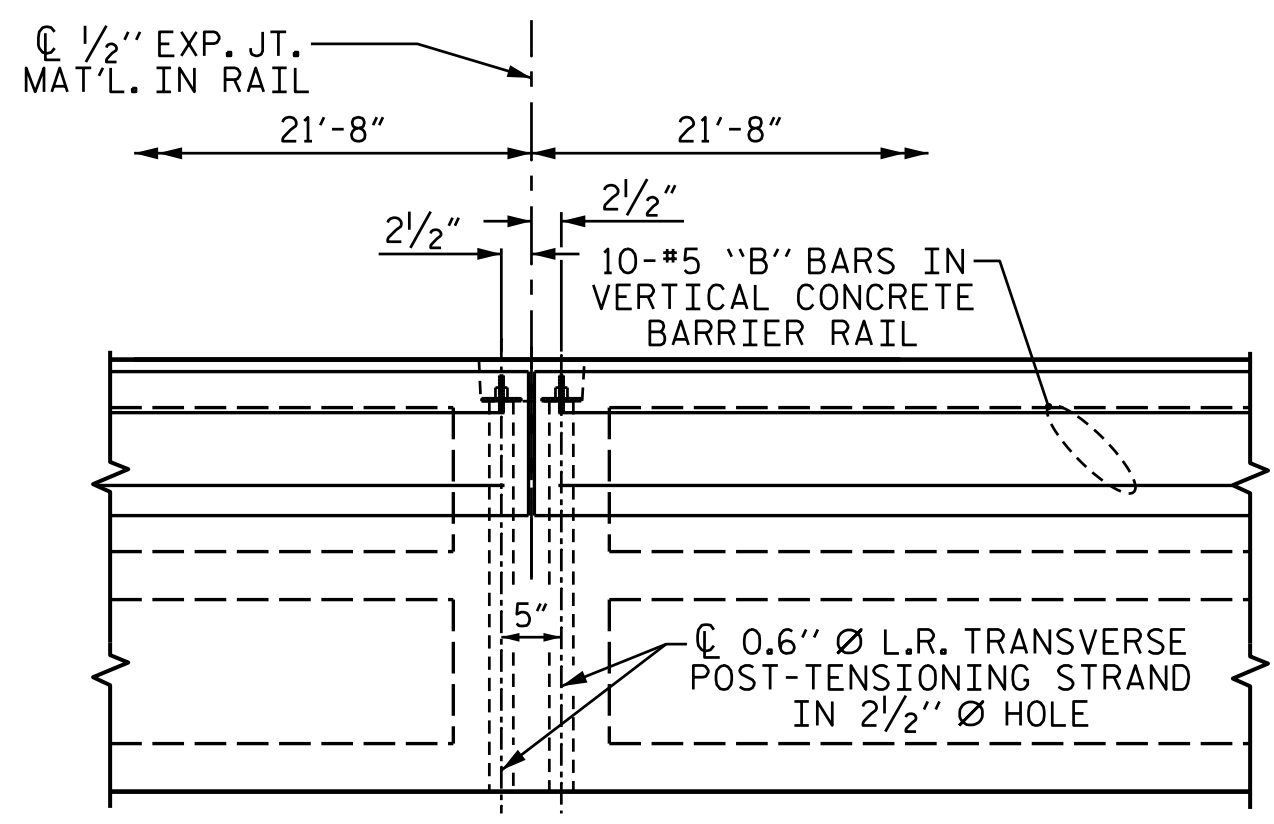
**PLAN OF UNIT**

SPAN A  
 EXTERIOR CORED SLAB UNITS SHALL BE ANCHORED WITH 7/8" Ø ANCHOR BOLTS. SEE "BLOCK OUT DETAIL FOR ANCHOR BOLTS" AND NOTES.



**DETAIL "A"**

(TYPICAL EACH END OF UNIT)  
 NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S12 BARS. BLOCKOUT FOR EXTERIOR UNIT IS NOT SHOWN

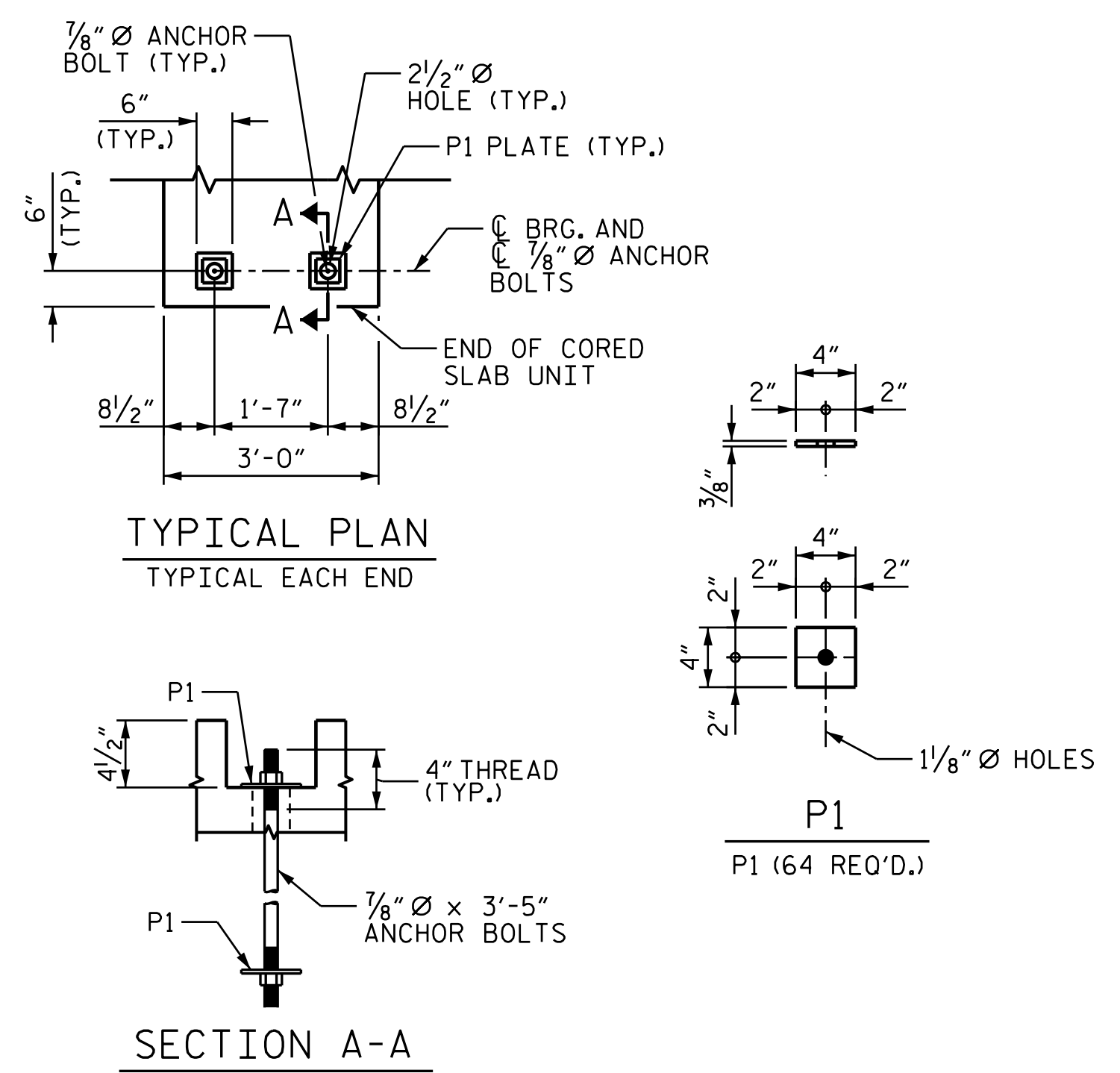


**DETAIL "B"**

#4 S11 BARS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO GROUDED RECESS AND 2.5" Ø TRANSVERSE POST-TENSIONING STRAND HOLES

**NOTES:**

- EXTERIOR SLAB UNITS SHALL BE ANCHORED WITH 7/8" Ø ANCHOR BOLTS.
- THE 2.5" ANCHOR BOLT HOLES SHALL BE FILLED WITH NON-SHRINK GROUT. SEE GROUT FOR STRUCTURES SPECIAL PROVISIONS.
- ANCHOR BOLTS SHALL BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN.
- ANCHOR BOLT BLOCKOUTS SHALL BE FILLED WITH NON-SHRINK GROUT AFTER TIGHTENING OF THE ANCHOR BOLTS AND PRIOR TO PLACEMENT OF ASPHALT WEARING SURFACE.
- THE VERTICAL FACES OF THE ANCHOR BOLT BLOCKOUTS SHALL BE FINISHED WITH A ROUGHENED SURFACE.
- HOLD DOWN PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- PAYMENT FOR HOLD DOWN PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.



**BLOCKOUT DETAIL FOR ANCHOR BOLTS**  
 FOR EXTERIOR CORED SLAB UNITS

PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 3 OF 8

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SUPERSTRUCTURE**  
**PLAN OF 65' UNIT**  
**30'-10" CLEAR ROADWAY**  
**90° SKEW**



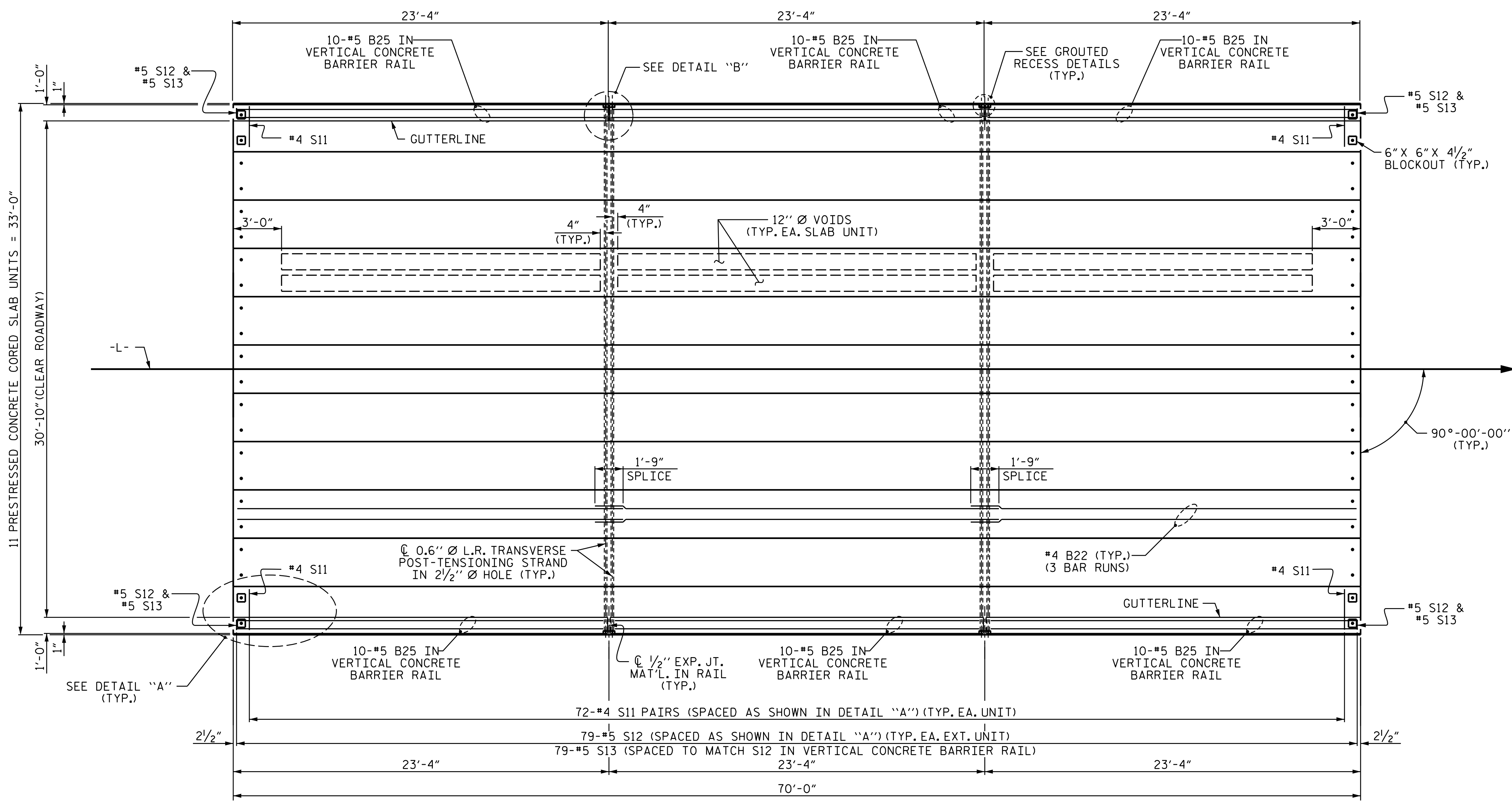
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2			4			25

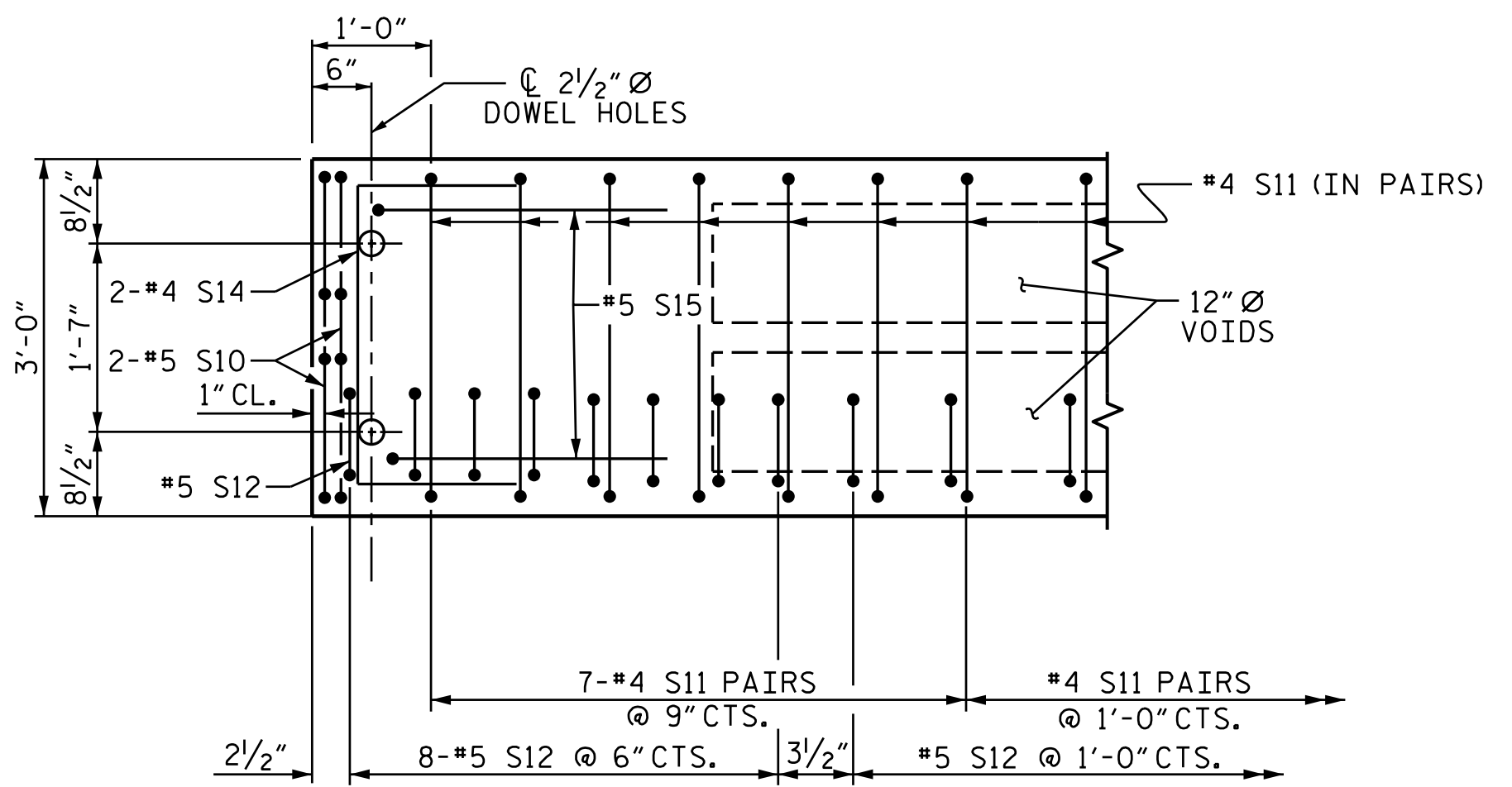
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 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023



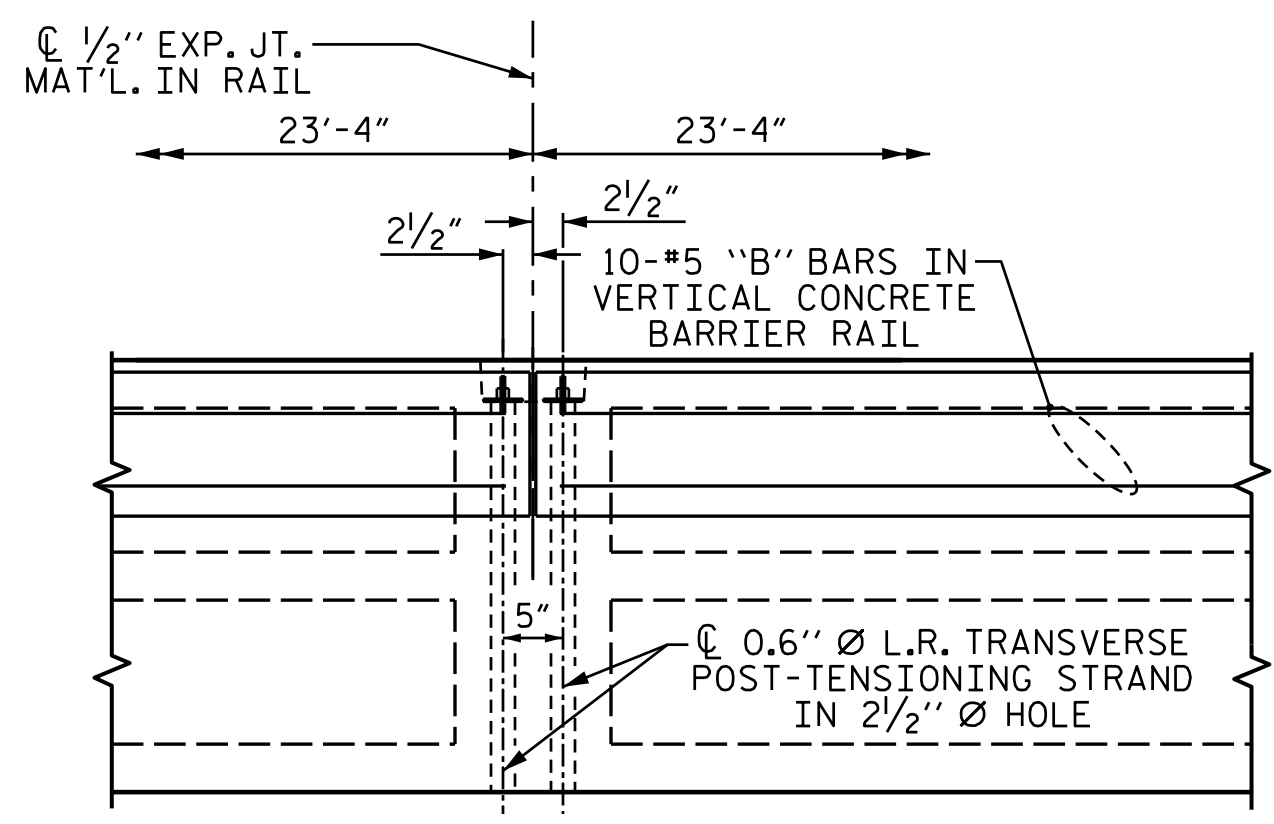
**PLAN OF UNIT**

SPAN B  
 EXTERIOR CORED SLAB UNITS SHALL BE ANCHORED WITH 1/8" Ø ANCHOR BOLTS. SEE "BLOCK OUT DETAIL FOR ANCHOR BOLTS" AND NOTES, SHEET 3 OF 8.



**DETAIL "A"**

(TYPICAL EACH END OF UNIT)  
 NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S12 BARS. BLOCKOUT FOR EXTERIOR UNIT IS NOT SHOWN.



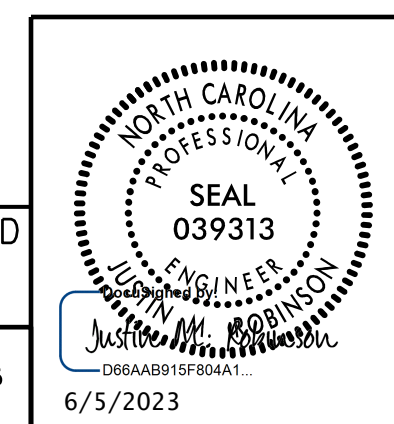
**DETAIL "B"**

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

PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 4 OF 8

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUPERSTRUCTURE  
 PLAN OF 70' UNIT  
 30'-10" CLEAR ROADWAY  
 90° SKEW

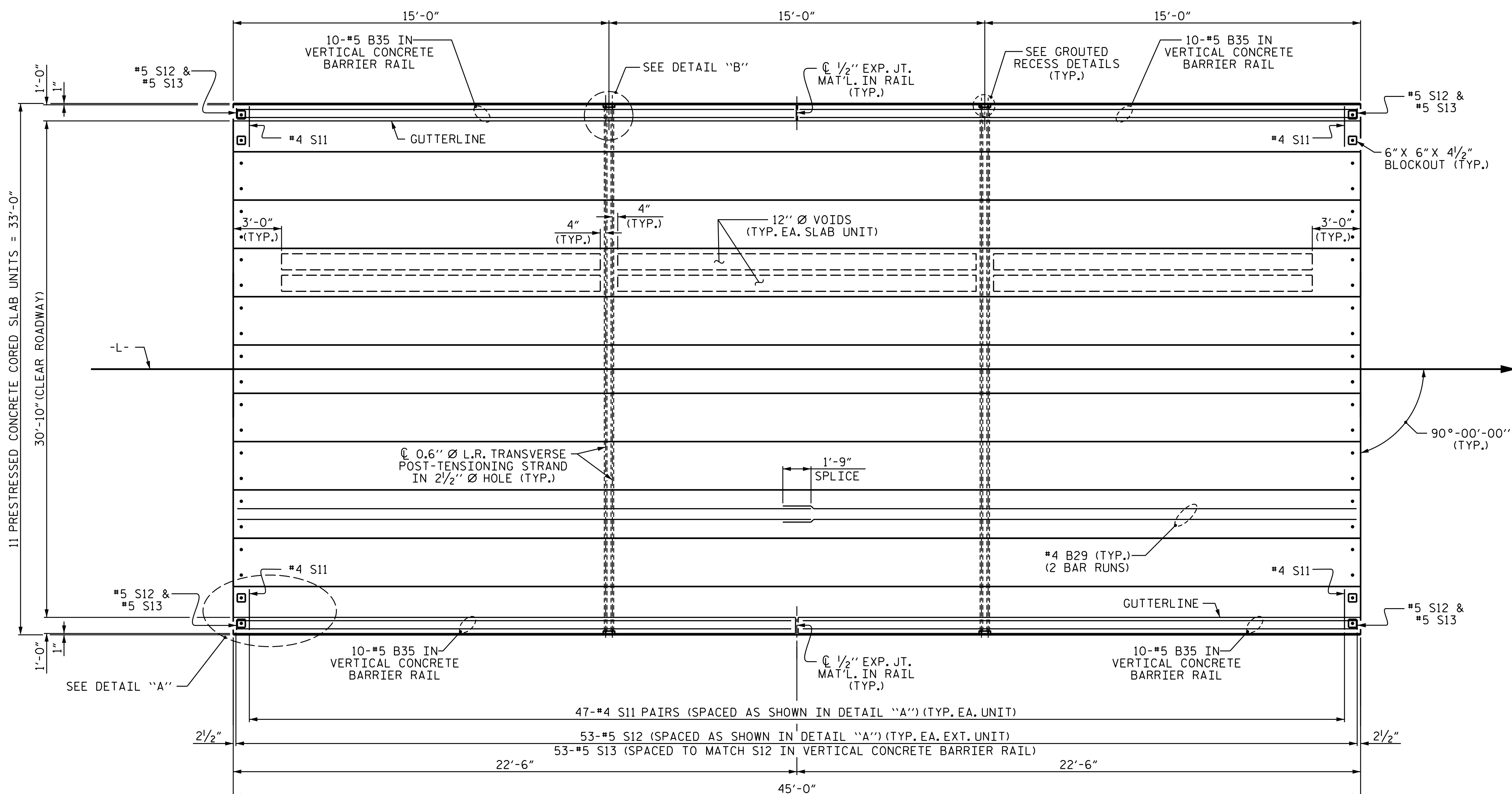


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 PLANS PREPARED BY:  
**M** MOTT MACDONALD  
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 (919) 552-2253  
 www.mottmac.com  
 LICENSE NO. F-0669

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			25

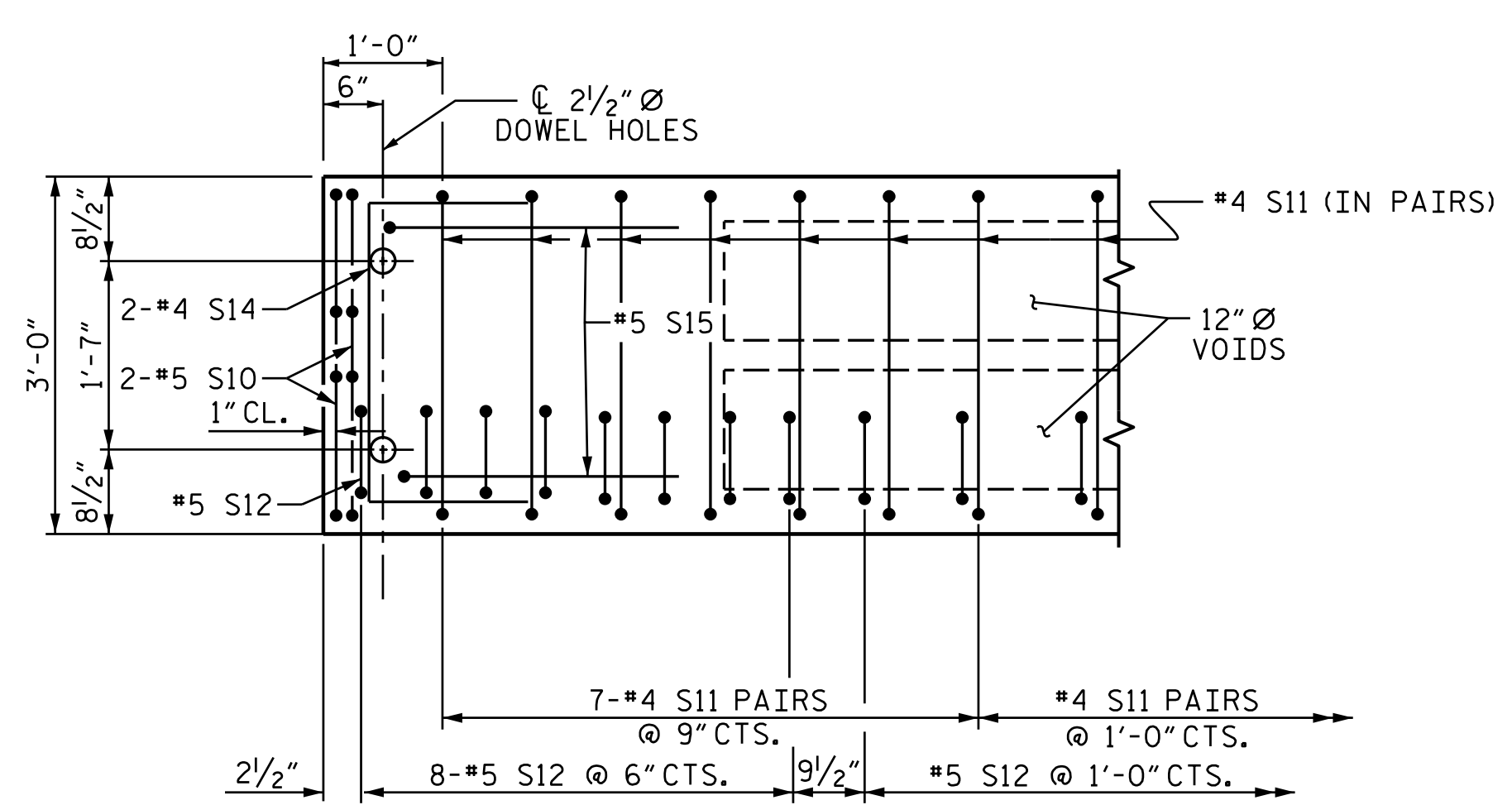
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DRAWN BY: R. L. DICKE DATE: 2-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023



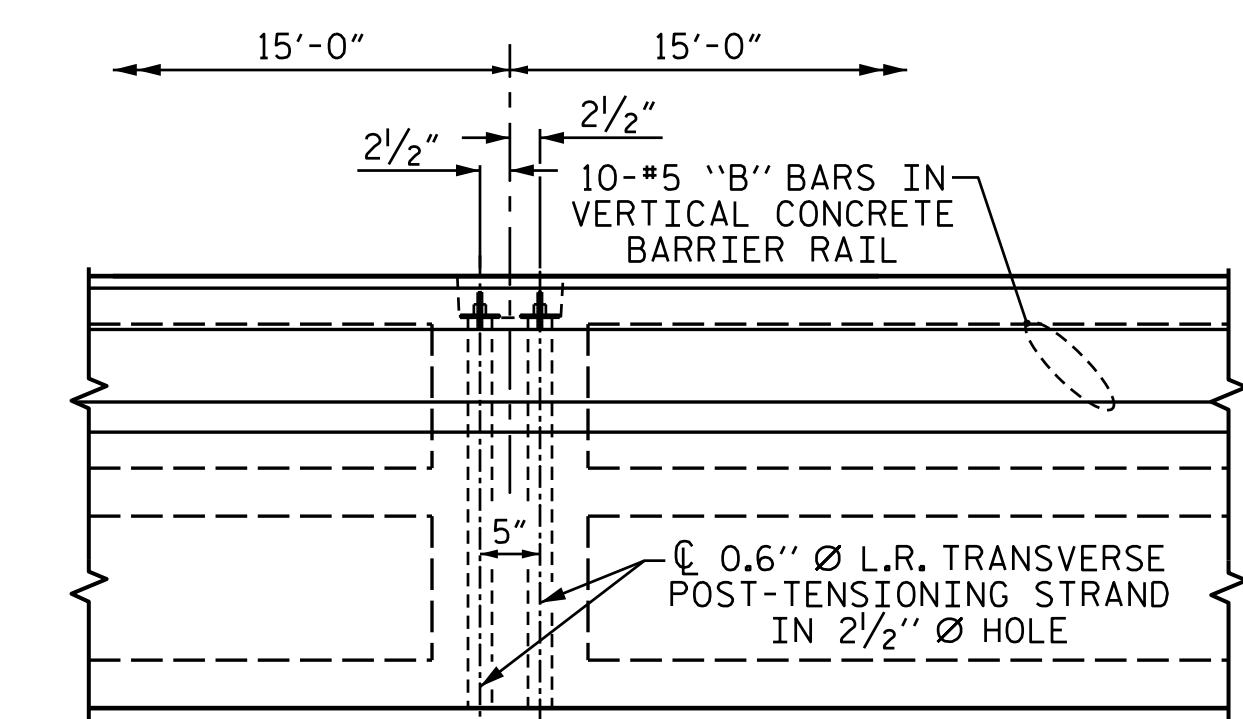
**PLAN OF UNIT**

SPAN C  
EXTERIOR CORED SLAB UNITS SHALL BE ANCHORED WITH 1/8" Ø ANCHOR BOLTS. SEE "BLOCK OUT DETAIL FOR ANCHOR BOLTS" AND NOTES, SHEET 3 OF 8.



**DETAIL "A"**

(TYPICAL EACH END OF UNIT)  
NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S12 BARS. BLOCKOUT FOR EXTERIOR UNIT IS NOT SHOWN



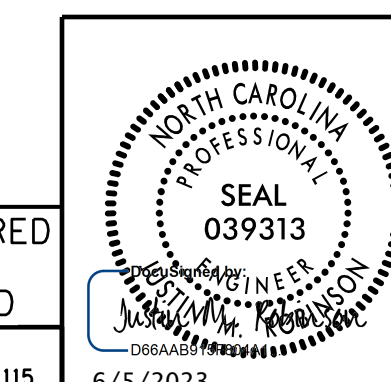
**DETAIL "B"**

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

PROJECT NO. B-6049  
SAMPSON COUNTY  
STATION: 16+99.00 -L-

SHEET 5 OF 8

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUPERSTRUCTURE  
PLAN OF 45' UNIT  
30'-10" CLEAR ROADWAY  
90° SKEW



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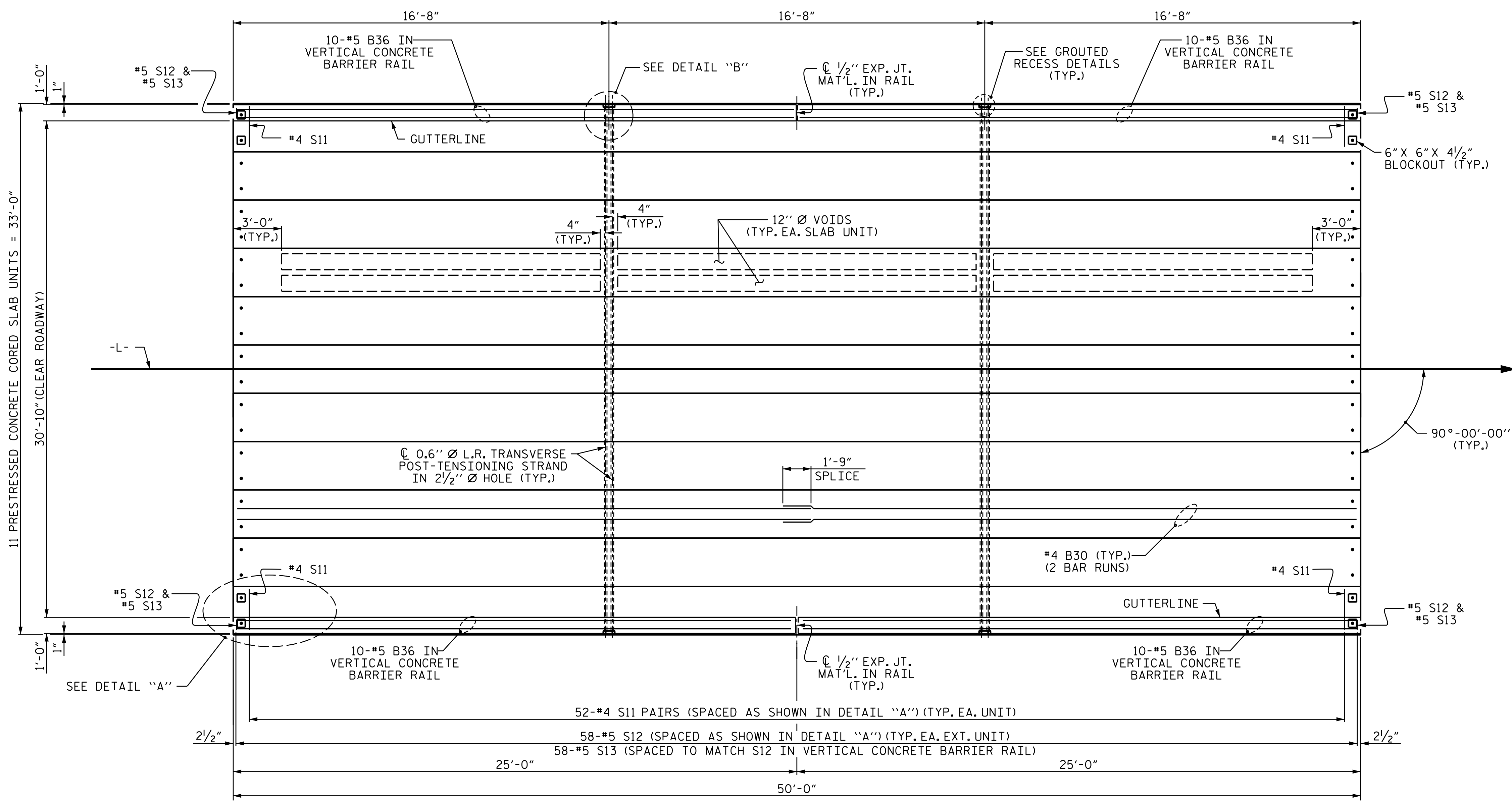
PLANS PREPARED BY:  
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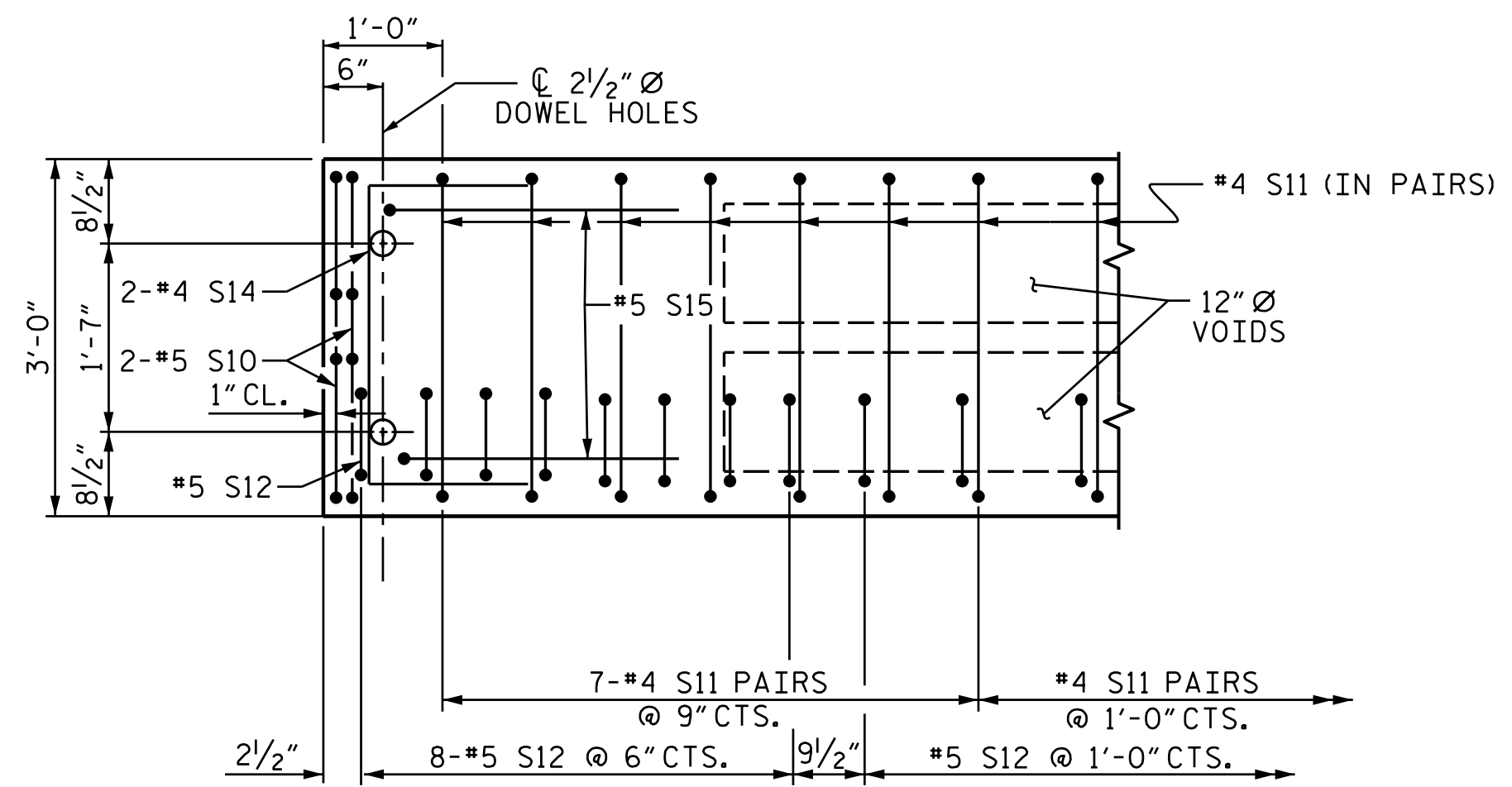
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 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023





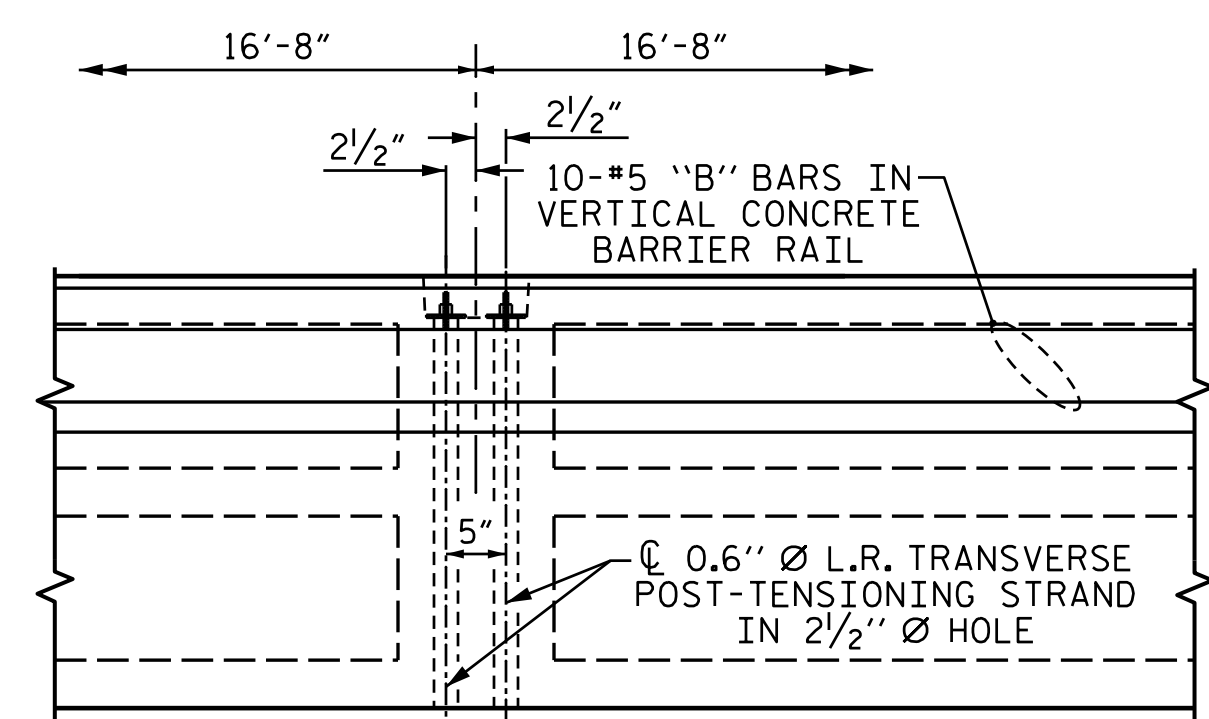
**PLAN OF UNIT**

SPAN D  
EXTERIOR CORED SLAB UNITS SHALL BE ANCHORED WITH 1/8" Ø ANCHOR BOLTS. SEE "BLOCK OUT DETAIL FOR ANCHOR BOLTS" AND NOTES, SHEET 3 OF 8.



**DETAIL "A"**

(TYPICAL EACH END OF UNIT)  
NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S12 BARS. BLOCKOUT FOR EXTERIOR UNIT IS NOT SHOWN.



**DETAIL "B"**

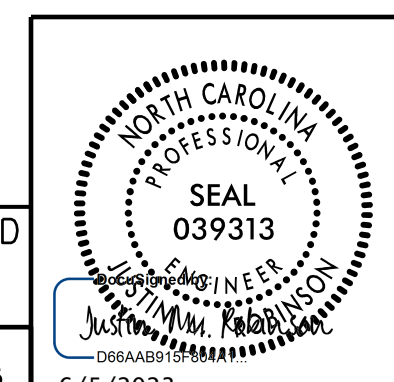
#4 S11 BARS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO GROUDED RECESS AND 2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES

PROJECT NO. B-6049  
SAMPSON COUNTY  
STATION: 16+99.00 -L-

SHEET 6 OF 8

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUPERSTRUCTURE  
PLAN OF 50' UNIT  
30'-10" CLEAR ROADWAY  
90° SKEW



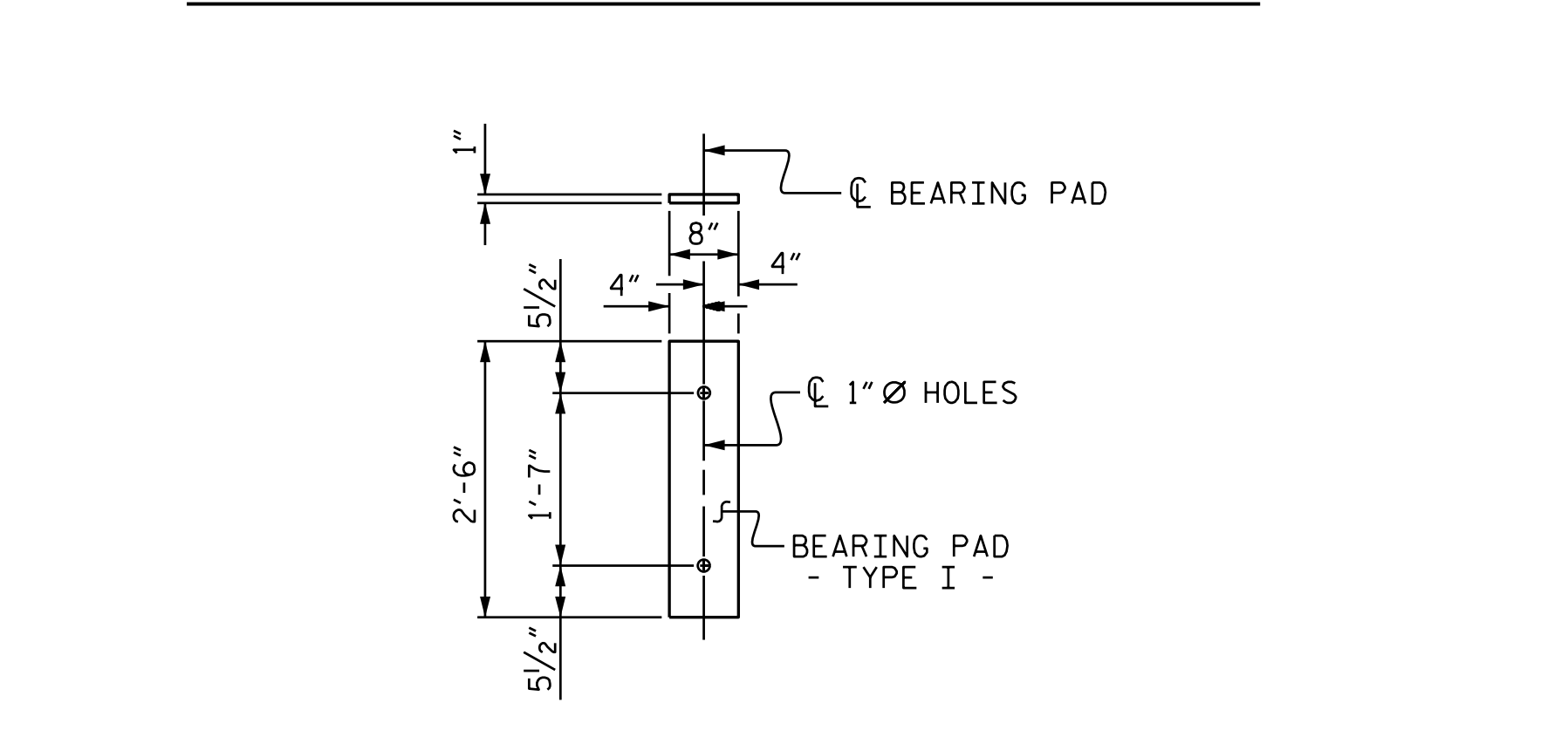
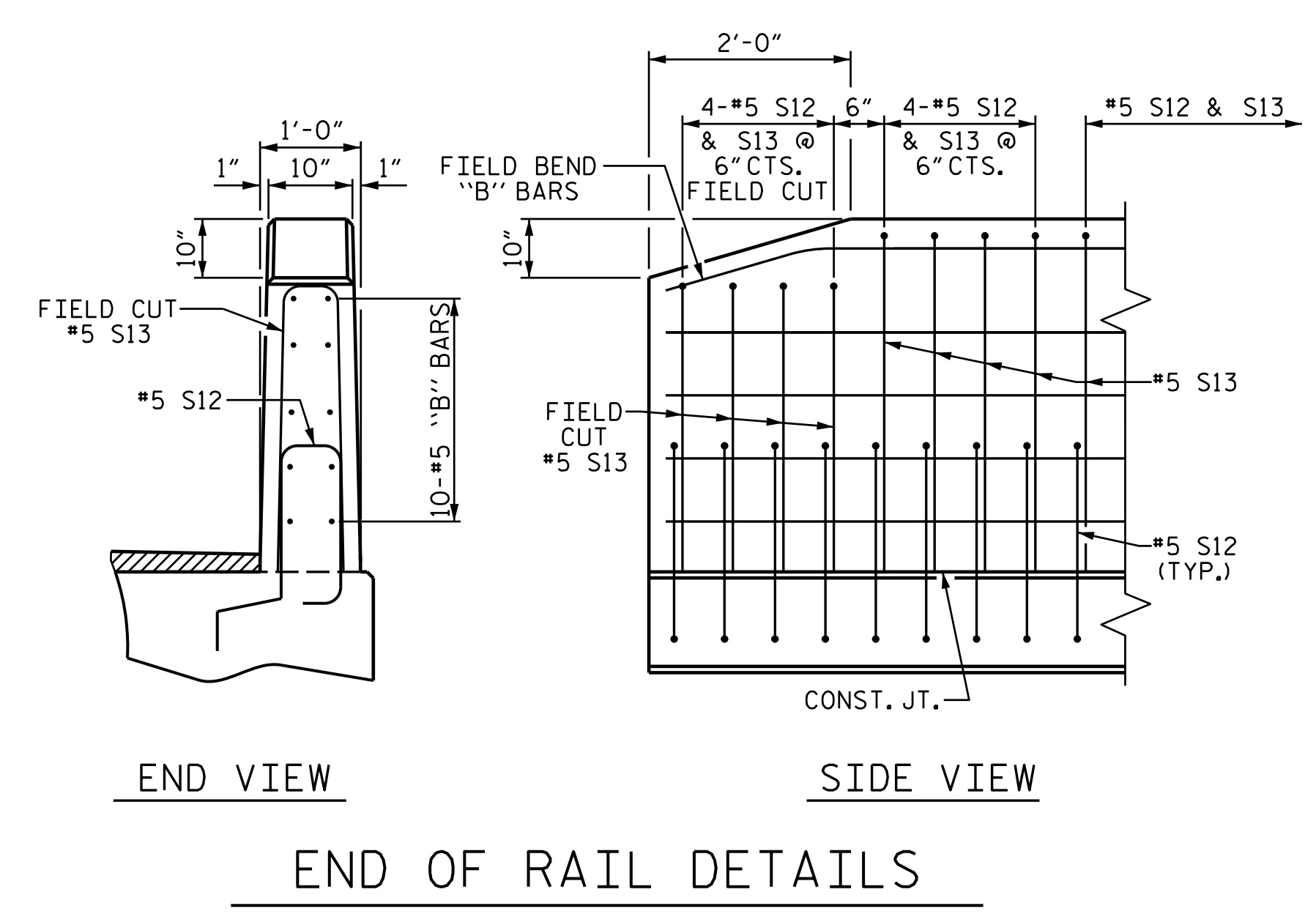
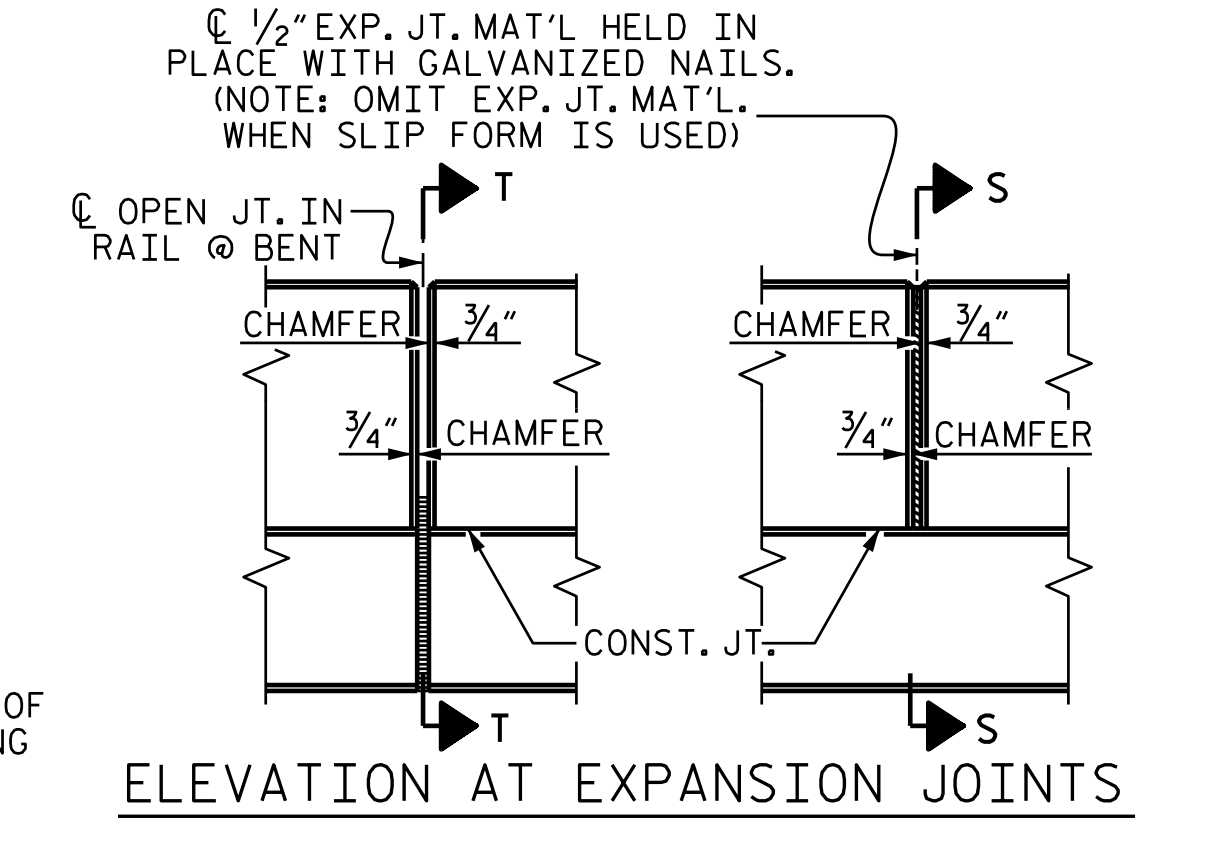
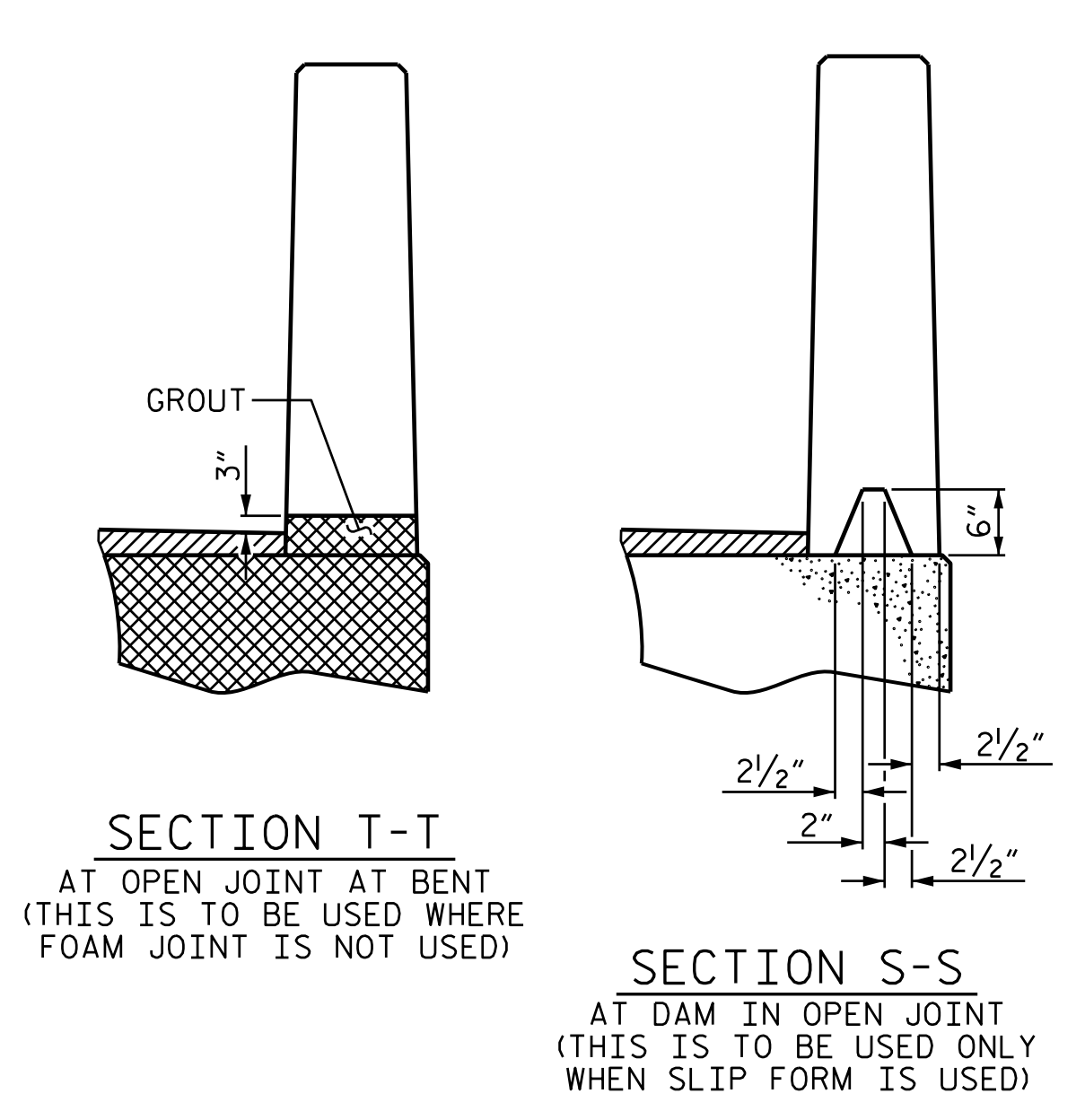
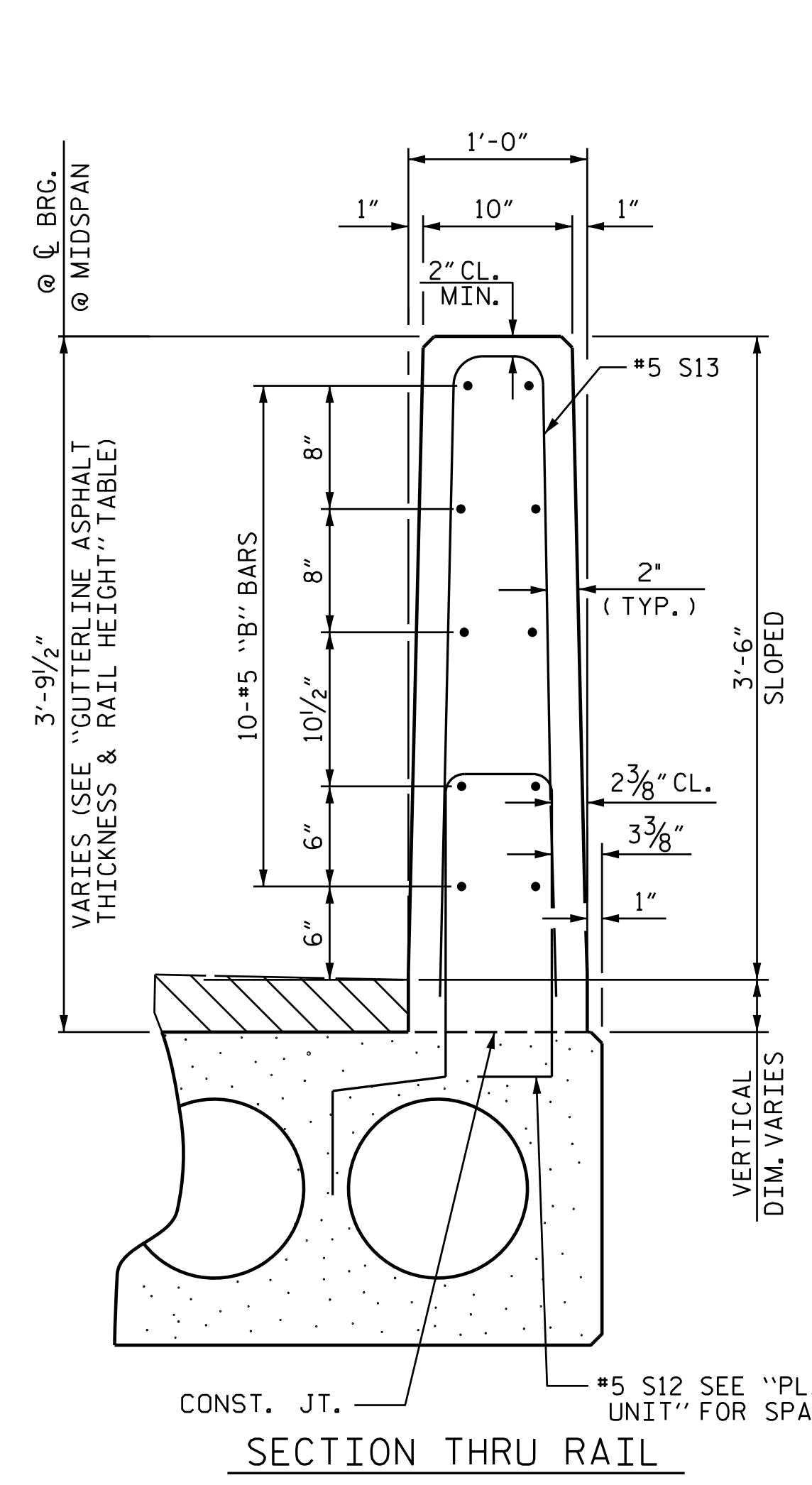
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**VERTICAL CONCRETE BARRIER RAIL DETAILS**

**ELASTOMERIC BEARING DETAILS**

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
45' UNIT						
*B35	40	40	#5	STR	22'-1"	921
*S13	106	106	#5	2	7'-2"	792
* EPOXY COATED REINFORCING STEEL				LBS.		1713
CLASS AA CONCRETE				CU.YDS.		11.7
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		90.25

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
65' UNIT						
*B24	60	60	#5	STR	21'-3"	1330
*S13	148	148	#5	2	7'-2"	1106
* EPOXY COATED REINFORCING STEEL				LBS.		2436
CLASS AA CONCRETE				CU.YDS.		16.9
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		130.25

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
50' UNIT						
*B36	40	40	#5	STR	24'-7"	1026
*S13	116	116	#5	2	7'-2"	867
* EPOXY COATED REINFORCING STEEL				LBS.		1893
CLASS AA CONCRETE				CU.YDS.		13.0
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		100.25

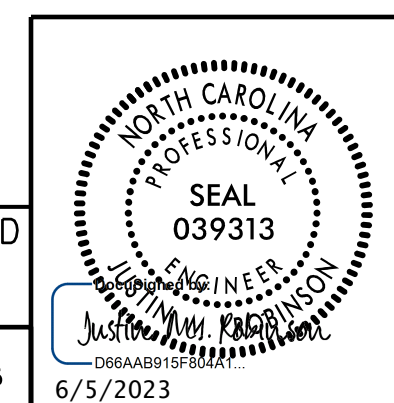
BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
70' UNIT						
*B25	60	60	#5	STR	22'-11"	1434
*S13	158	158	#5	2	7'-2"	1181
* EPOXY COATED REINFORCING STEEL				LBS.		2615
CLASS AA CONCRETE				CU.YDS.		18.1
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		140.25

PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 7 OF 8

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

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



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DRAWN BY: R. L. DICKE DATE: 2-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

CORED SLABS REQUIRED table with columns for UNIT, NUMBER, LENGTH, TOTAL LENGTH. Includes rows for 45' UNIT, EXTERIOR C.S., INTERIOR C.S., and TOTAL.

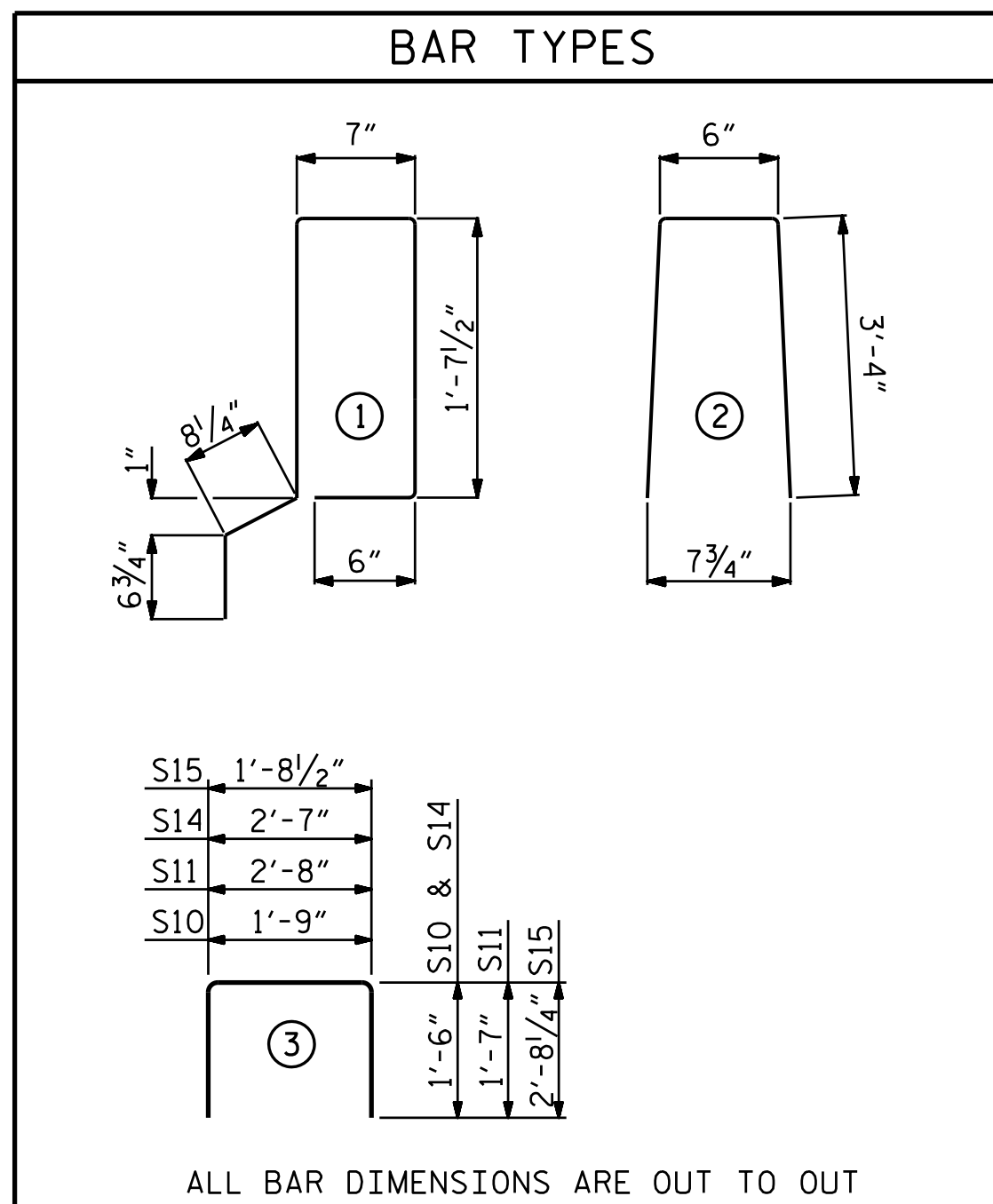
CORED SLABS REQUIRED table with columns for UNIT, NUMBER, LENGTH, TOTAL LENGTH. Includes rows for 50' UNIT, EXTERIOR C.S., INTERIOR C.S., and TOTAL.

CONCRETE RELEASE STRENGTH table with columns for UNIT and PSI. Lists values for 45' & 50' UNITS, 65' UNITS, and 70' UNITS.

CORED SLABS REQUIRED table with columns for UNIT, NUMBER, LENGTH, TOTAL LENGTH. Includes rows for 65' UNIT, EXTERIOR C.S., INTERIOR C.S., and TOTAL.

CORED SLABS REQUIRED table with columns for UNIT, NUMBER, LENGTH, TOTAL LENGTH. Includes rows for 70' UNIT, EXTERIOR C.S., INTERIOR C.S., and TOTAL.

GRADE 270 STRANDS table with columns for AREA (SQUARE INCHES), ULTIMATE STRENGTH (LBS. PER STRAND), and APPLIED PRESTRESS (LBS. PER STRAND).



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 SIDEWAYS. 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.

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.

ALL REINFORCING STEEL IN VERTICAL CONCRETE BARRIER RAILS 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.

MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

THE #4 S11 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESS.

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.

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT table with columns for ASPHALT OVERLAY THICKNESS @ MID-SPAN and RAIL HEIGHT @ MID-SPAN. Lists values for 45' UNITS, 50' UNITS, 65' UNITS, and 70' UNITS.

BILL OF MATERIAL FOR ONE 45' CORED SLAB UNIT table with columns for BAR, NUMBER, SIZE, TYPE, LENGTH, WEIGHT. Includes summary rows for REINFORCING STEEL, EPOXY COATED REINFORCING STEEL, 8500 P.S.I. CONCRETE, and 0.6" Ø L.R. STRANDS.

BILL OF MATERIAL FOR ONE 50' CORED SLAB UNIT table with columns for BAR, NUMBER, SIZE, TYPE, LENGTH, WEIGHT. Includes summary rows for REINFORCING STEEL, EPOXY COATED REINFORCING STEEL, 8500 P.S.I. CONCRETE, and 0.6" Ø L.R. STRANDS.

BILL OF MATERIAL FOR ONE 65' CORED SLAB UNIT table with columns for BAR, NUMBER, SIZE, TYPE, LENGTH, WEIGHT. Includes summary rows for REINFORCING STEEL, EPOXY COATED REINFORCING STEEL, 6000 P.S.I. CONCRETE, and 0.6" Ø L.R. STRANDS.

BILL OF MATERIAL FOR ONE 70' CORED SLAB UNIT table with columns for BAR, NUMBER, SIZE, TYPE, LENGTH, WEIGHT. Includes summary rows for REINFORCING STEEL, EPOXY COATED REINFORCING STEEL, 7000 P.S.I. CONCRETE, and 0.6" Ø L.R. STRANDS.

DEAD LOAD DEFLECTION AND CAMBER

Table showing dead load deflection and camber for 45' CORED SLAB UNIT. Values include camber (slab alone in place) of 1/4", deflection due to superimposed dead load of 1/8", and final camber of 1/8".

\*\* INCLUDES FUTURE WEARING SURFACE

DEAD LOAD DEFLECTION AND CAMBER

Table showing dead load deflection and camber for 50' CORED SLAB UNIT. Values include camber (slab alone in place) of 1/2", deflection due to superimposed dead load of 1/8", and final camber of 3/8".

\*\* INCLUDES FUTURE WEARING SURFACE

DEAD LOAD DEFLECTION AND CAMBER

Table showing dead load deflection and camber for 65' CORED SLAB UNIT. Values include camber (slab alone in place) of 1 1/8", deflection due to superimposed dead load of 1/2", and final camber of 1 3/8".

\*\* INCLUDES FUTURE WEARING SURFACE

DEAD LOAD DEFLECTION AND CAMBER

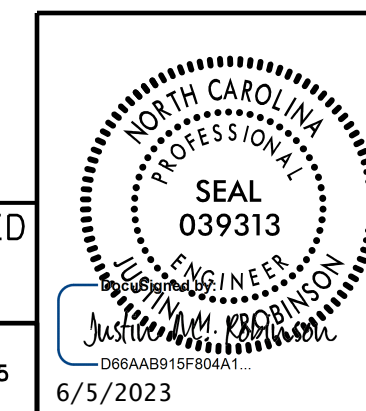
Table showing dead load deflection and camber for 70' CORED SLAB UNIT. Values include camber (slab alone in place) of 2 1/4", deflection due to superimposed dead load of 3/4", and final camber of 1 1/2".

\*\* INCLUDES FUTURE WEARING SURFACE

PROJECT NO. B-6049  
SAMPSON COUNTY  
STATION: 16+99.00 -L-

SHEET 8 OF 8

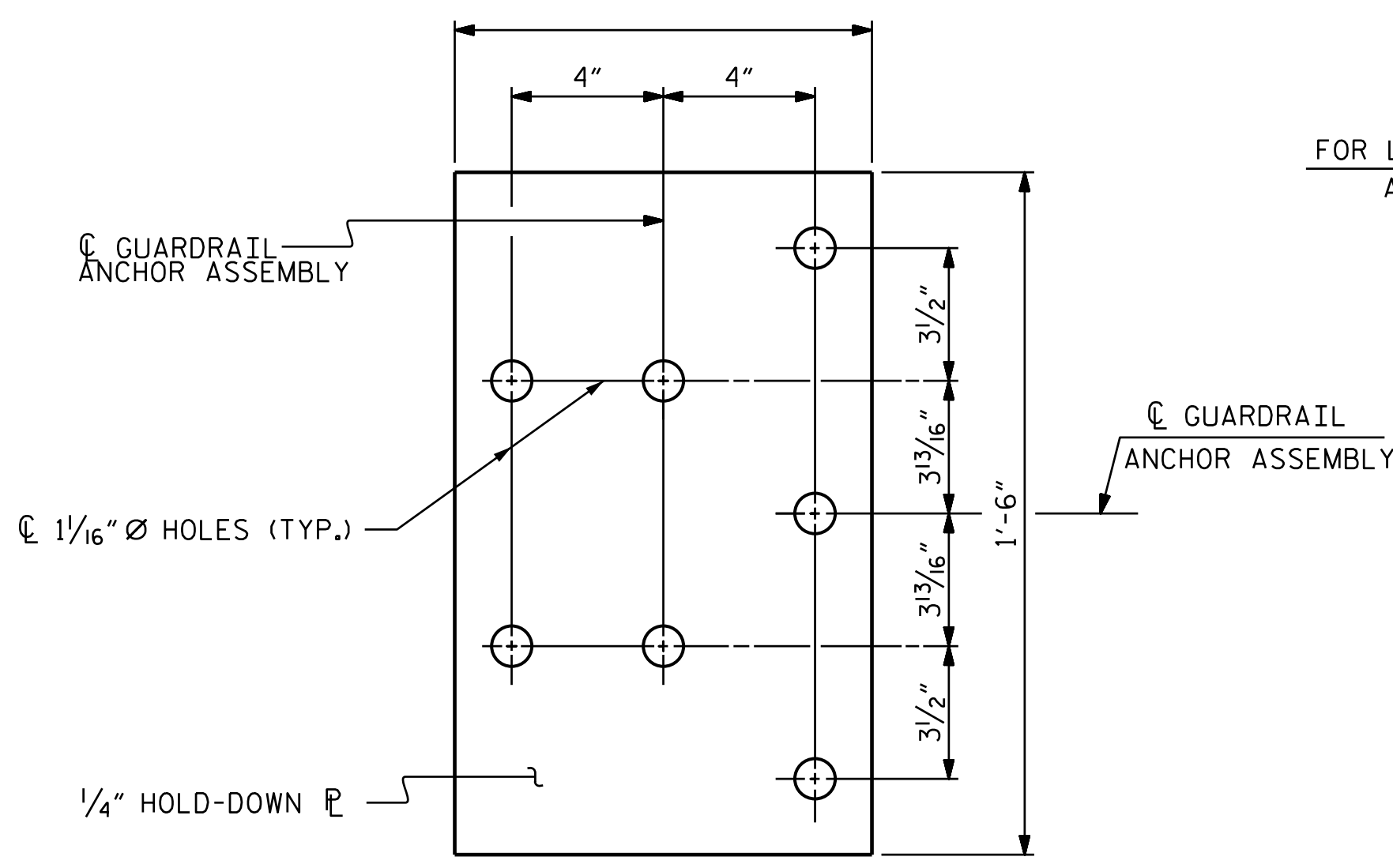
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE 3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLAB UNIT. Includes REVISIONS table and SHEET NO. S-16.



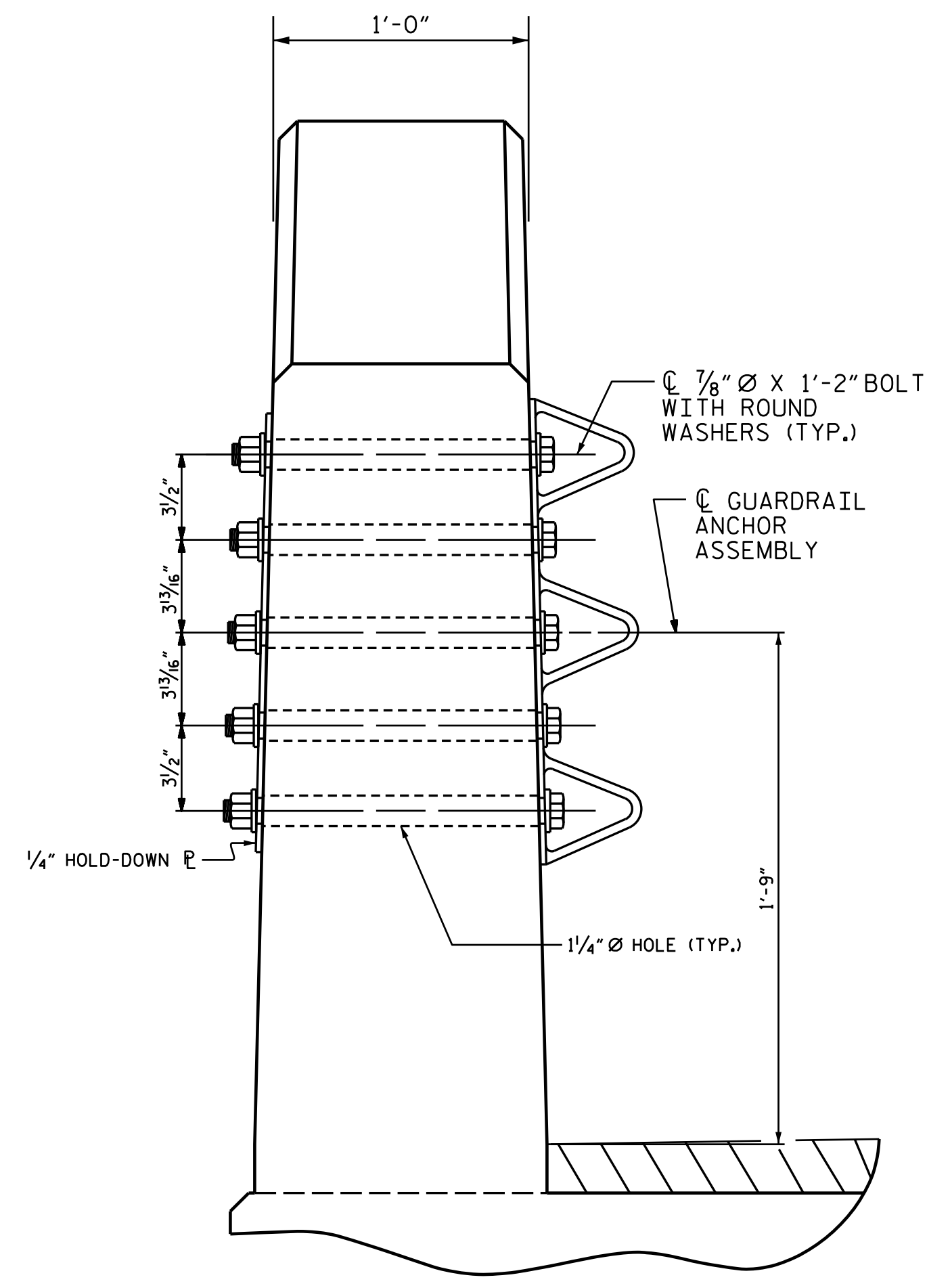
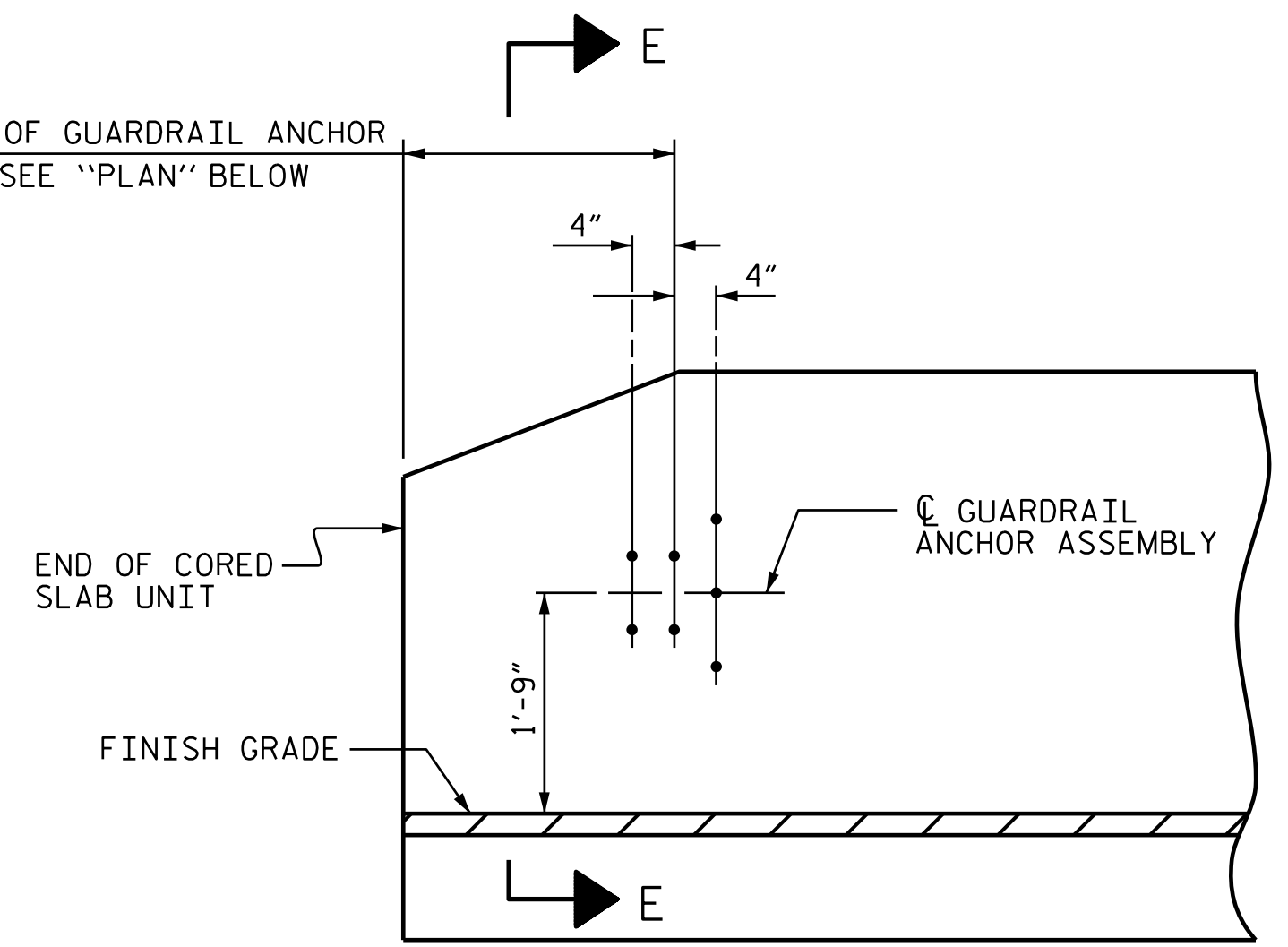
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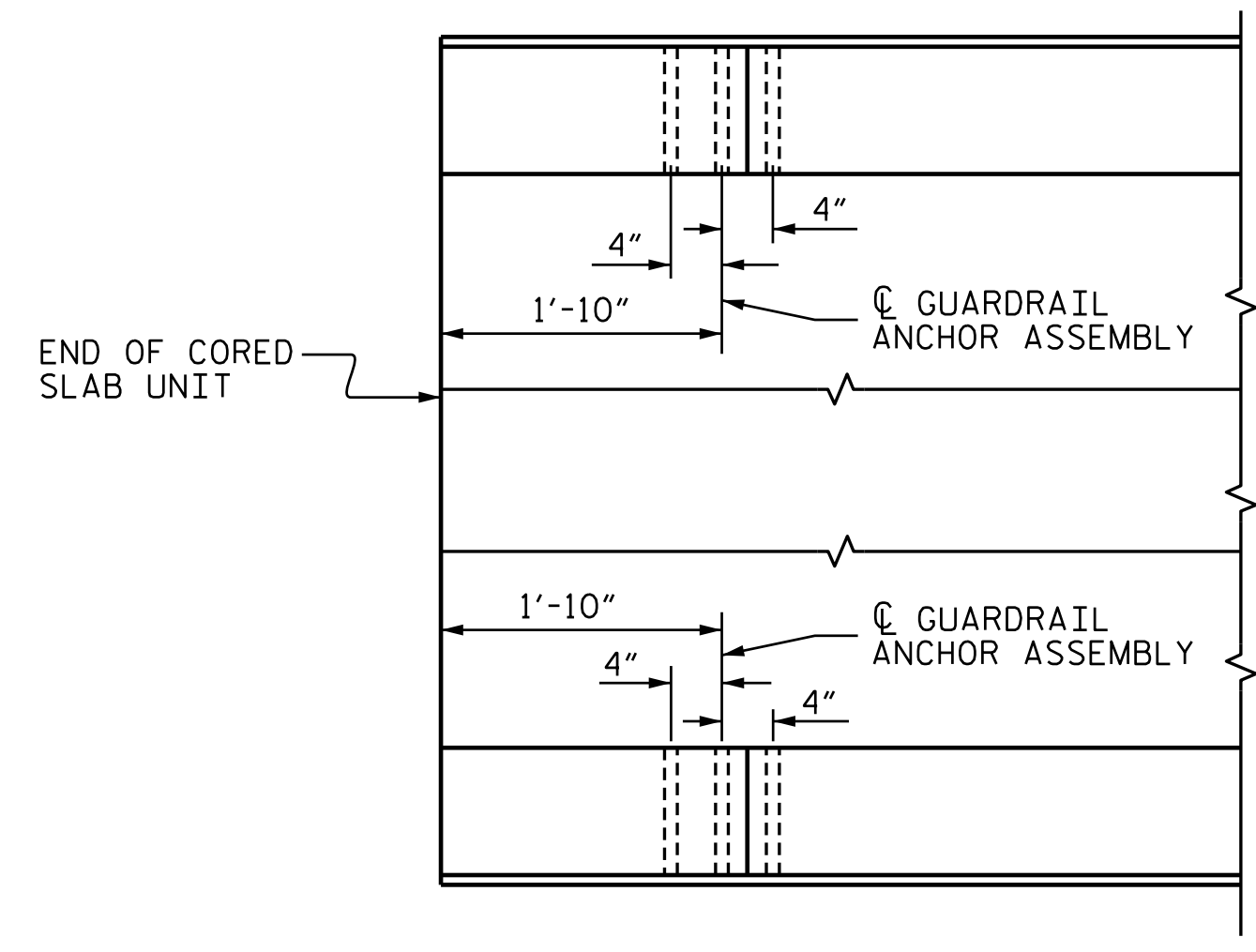
DRAWN BY: R. L. DICKE DATE: 2-2023  
CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023



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



SECTION E-E  
GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

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



NOTES

- THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 1/8"  $\text{O}$  BOLTS WITH NUTS AND WASHERS.
- THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.
- BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1/8"  $\text{O}$  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"  $\text{O}$  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.

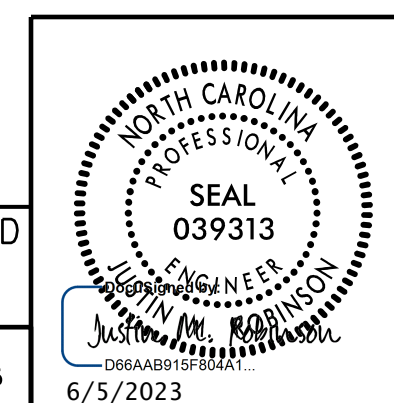
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SAMPSON COUNTY  
 STATION: 16+99.00 -L-

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 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

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

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**NOTES**

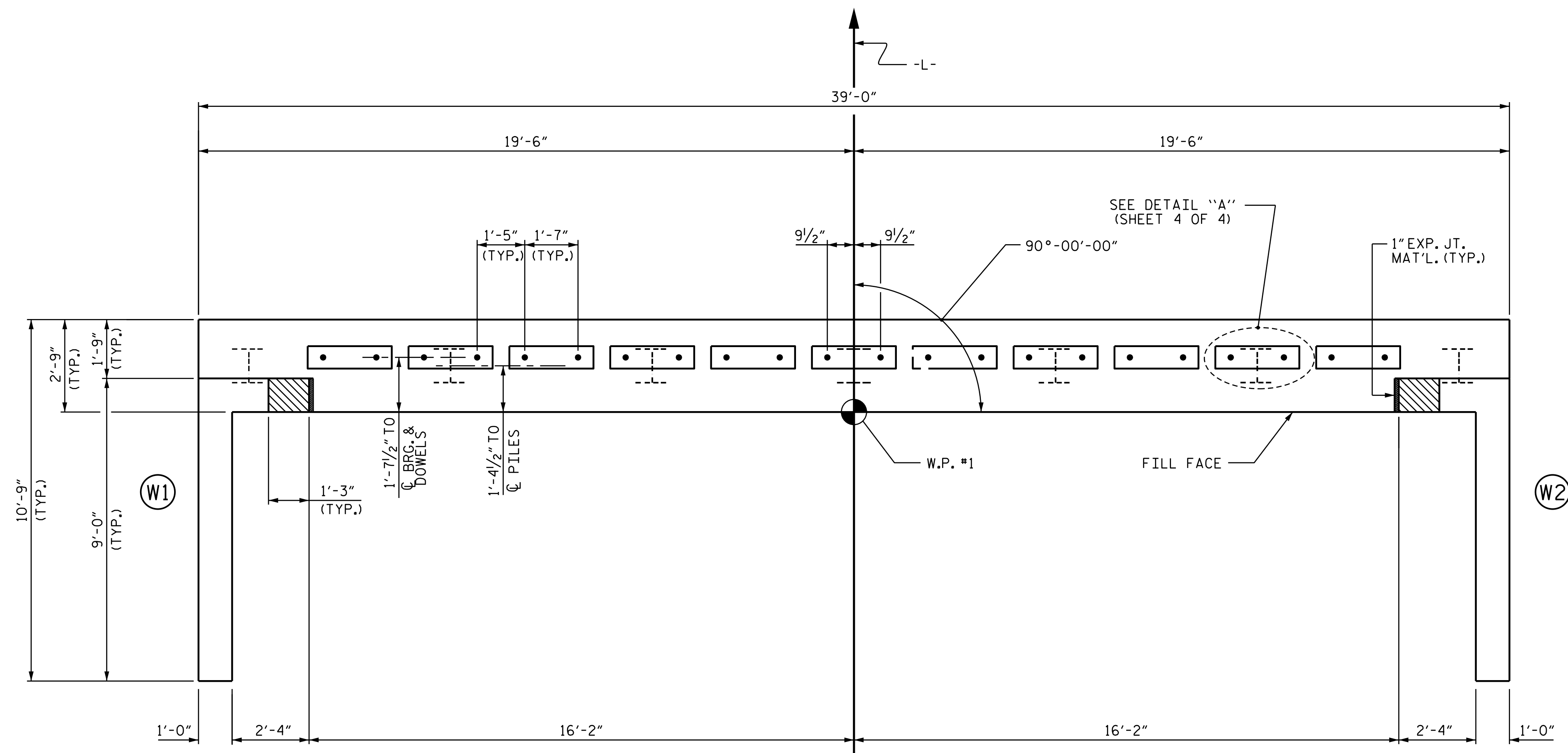
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS AND ANCHOR BOLTS.

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.

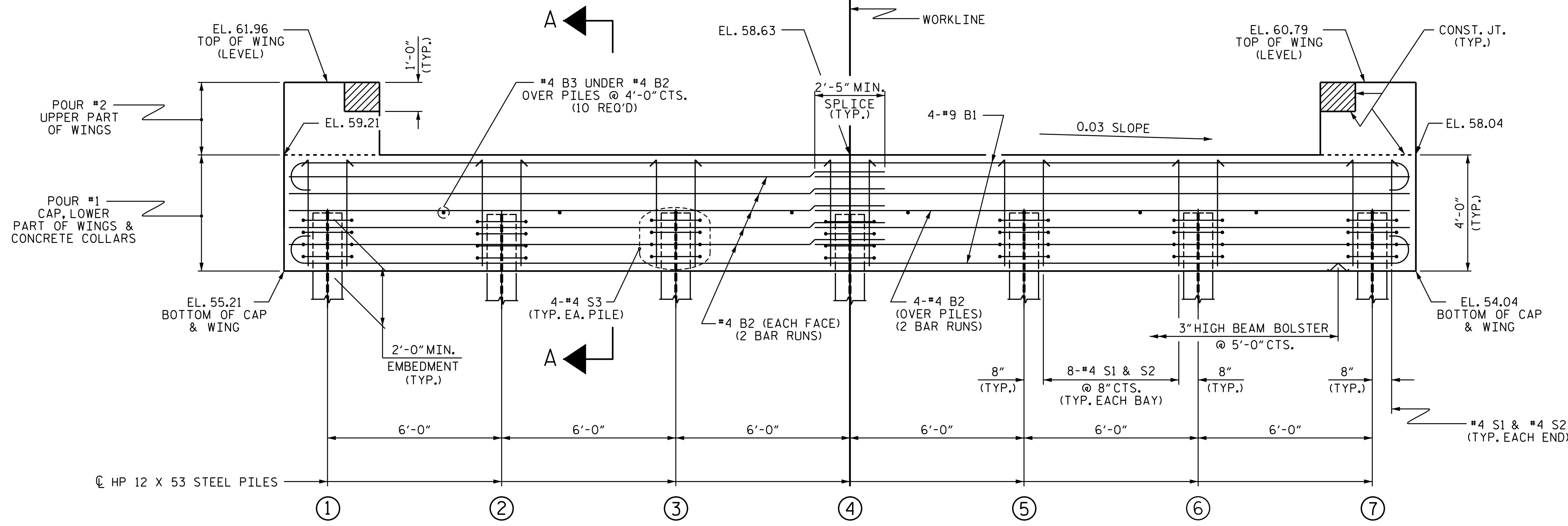
FOR WING DETAILS, SEE SHEET 3 OF 4.

FOR ANCHOR BOLT AND HOLD DOWN PLATE DETAILS AND NOTES, SEE "PLAN OF 65' UNIT - 30'-10" CLEAR ROADWAY - 90° SKEW" SHEET.



**PLAN**

TOP OF PILE ELEVATIONS	
①	57.17
②	56.99
③	56.81
④	56.63
⑤	56.45
⑥	56.27
⑦	56.09



**ELEVATION**

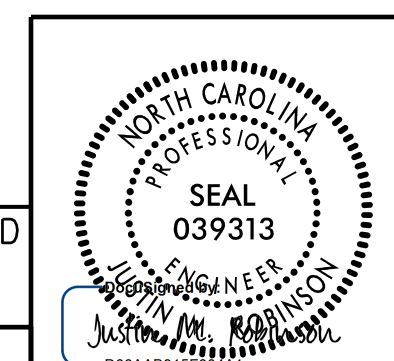
WINGS NOT SHOWN FOR CLARITY.  
FOR SECTION A-A, SEE SHEET 4 OF 4.  
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.  
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

PROJECT NO. B-6049  
SAMPSON COUNTY  
STATION: 16+99.00 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**SUBSTRUCTURE**  
**END BENT No. 1**



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**M** MOTT MACDONALD  
7621 Purfoy Rd., Suite 115  
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LICENSE NO. F-0669

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			25

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DRAWN BY: L. L. BLANKENSHIP DATE: 1-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

**NOTES**

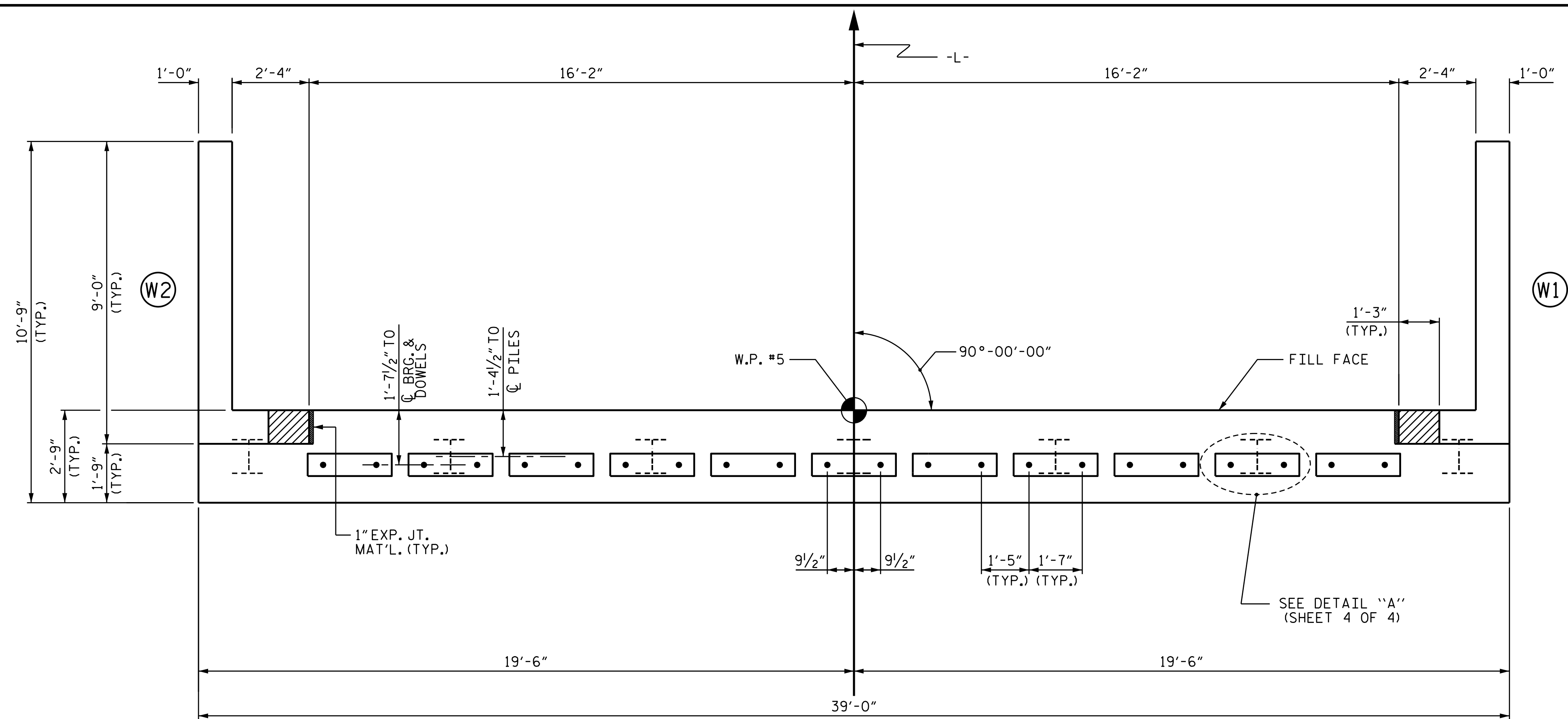
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS AND ANCHOR BOLTS.

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.

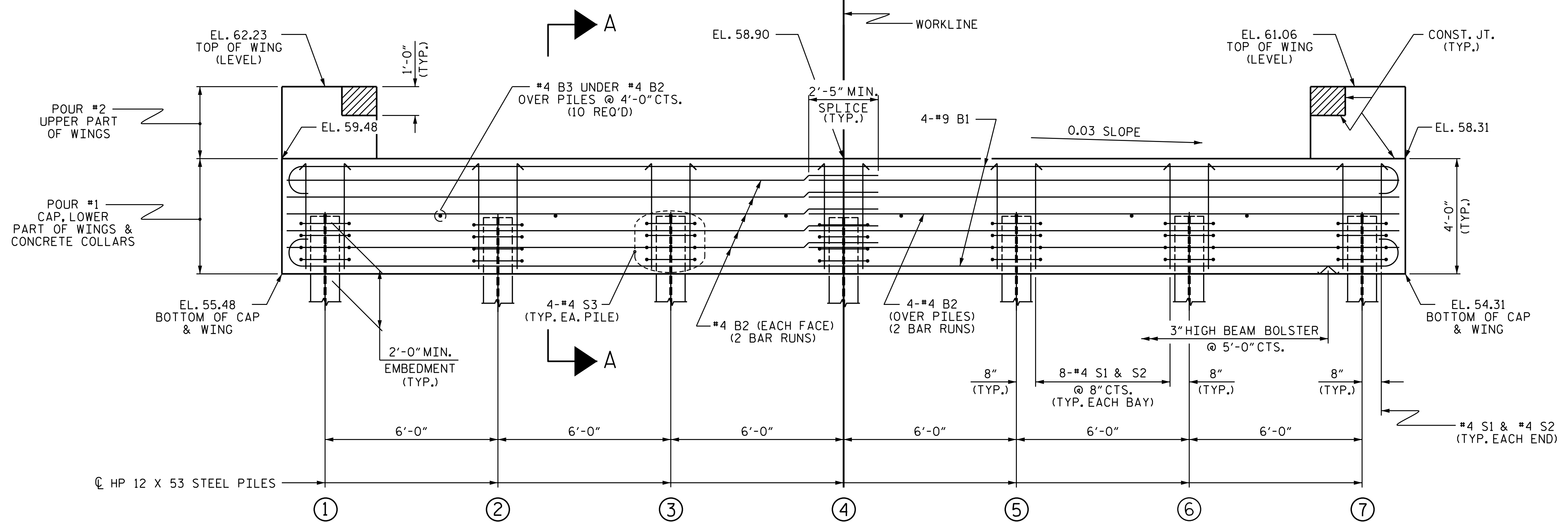
FOR WING DETAILS, SEE SHEET 3 OF 4.

FOR ANCHOR BOLT AND HOLD DOWN PLATE DETAILS AND NOTES, SEE I1PLAN OF 65' UNIT - 30'-10" CLEAR ROADWAY - 90° SKEW" SHEET.



**PLAN**

TOP OF PILE ELEVATIONS	
①	57.43
②	57.25
③	57.07
④	56.89
⑤	56.71
⑥	56.53
⑦	56.35



**ELEVATION**

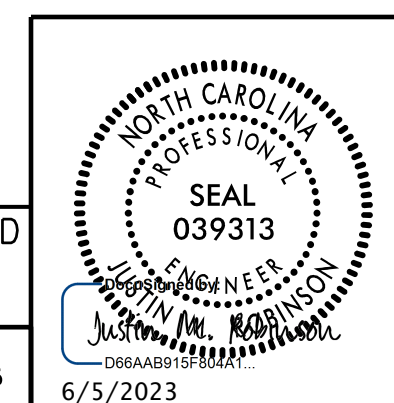
WINGS NOT SHOWN FOR CLARITY.  
FOR SECTION A-A, SEE SHEET 4 OF 4.  
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.  
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

PROJECT NO. B-6049  
SAMPSON COUNTY  
STATION: 16+99.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**SUBSTRUCTURE**  
**END BENT No. 2**



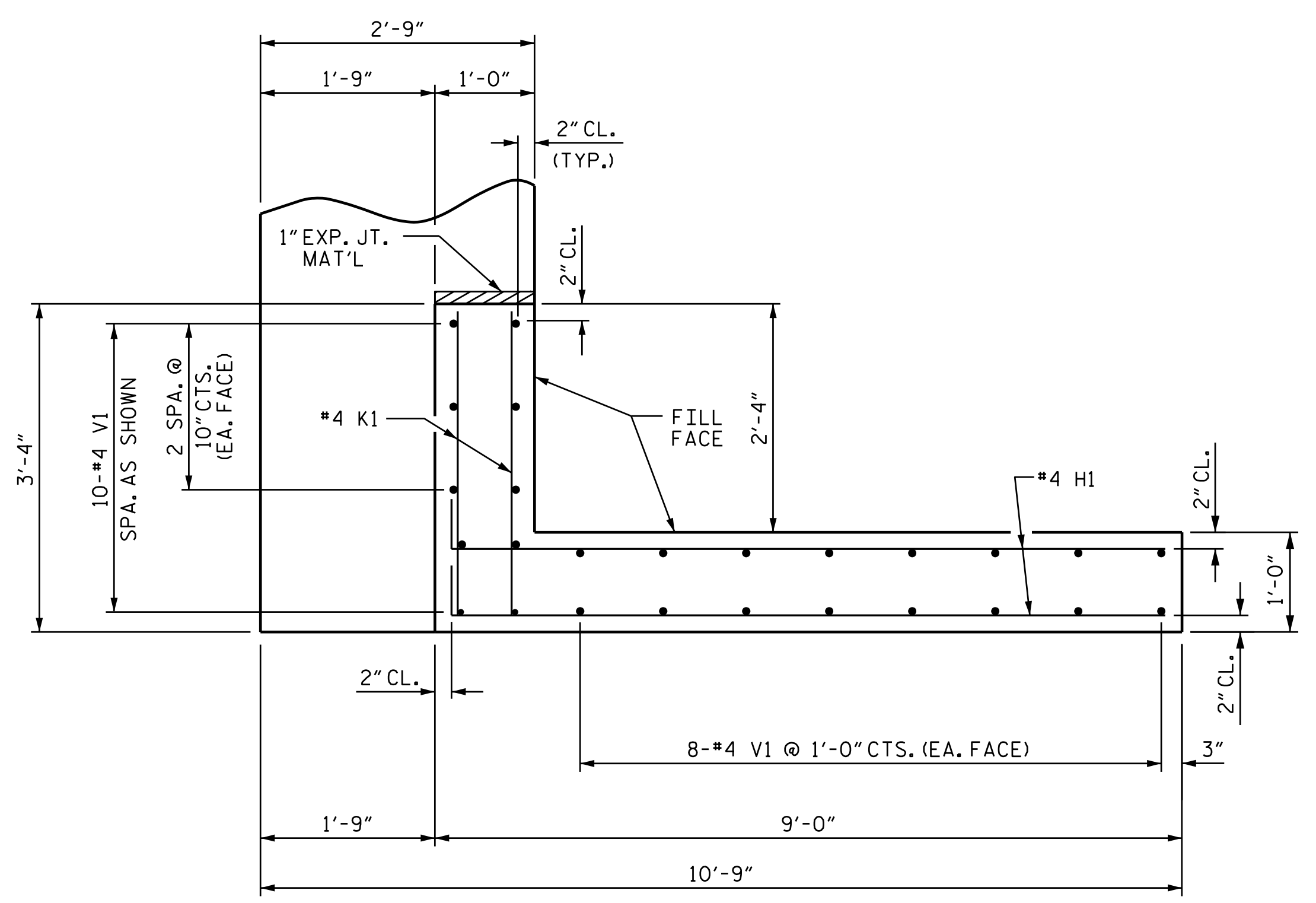
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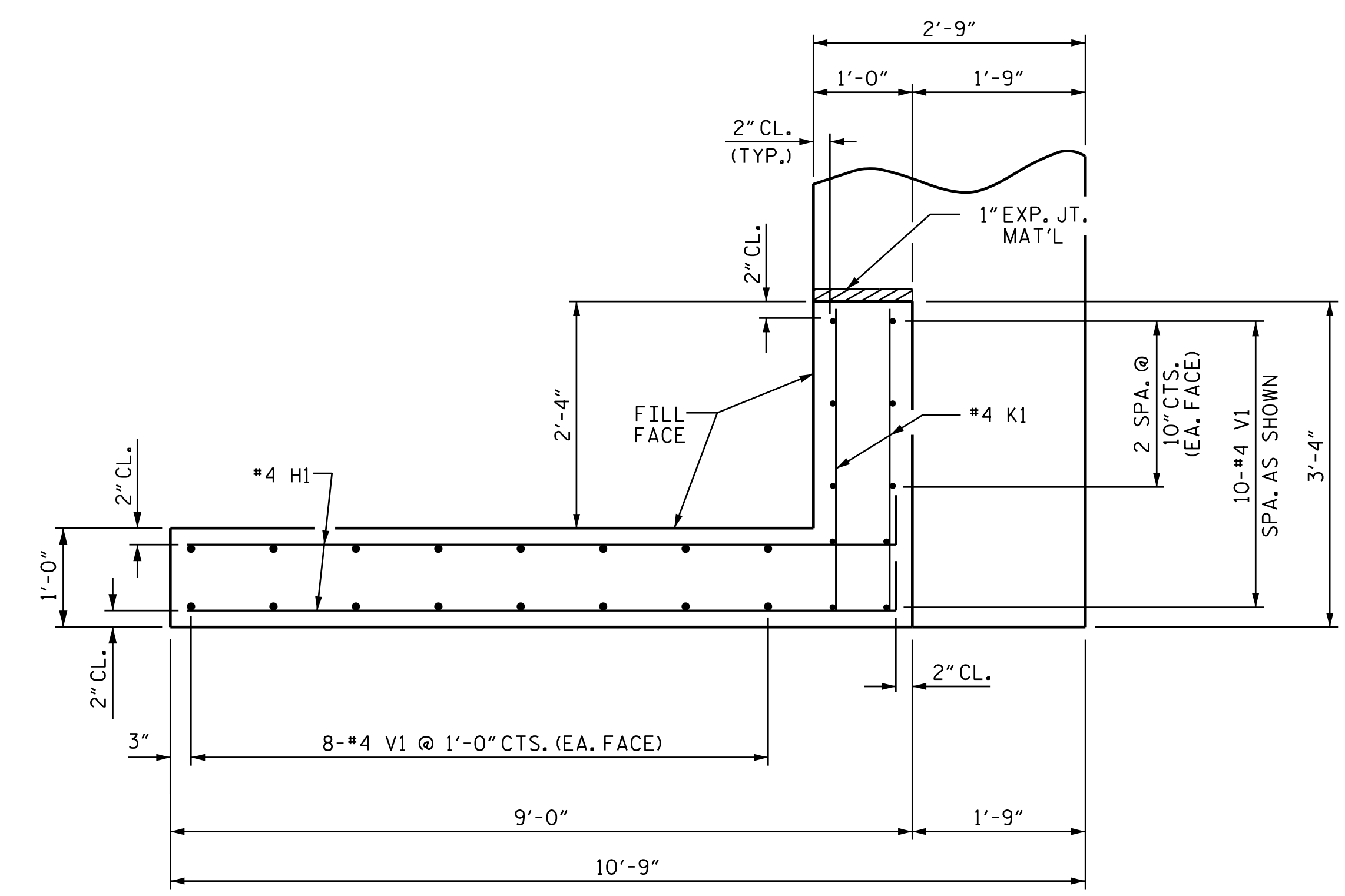
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
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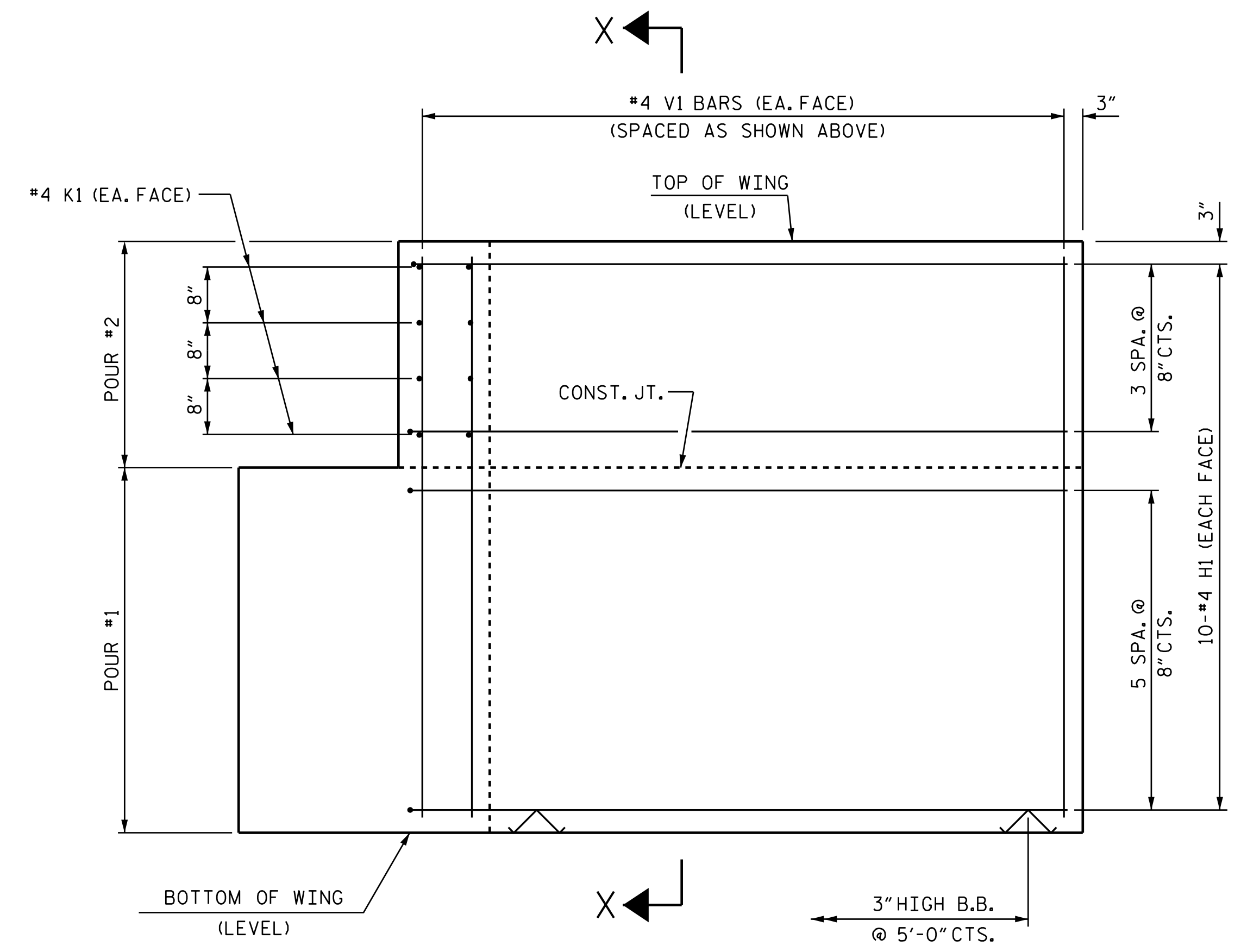
DRAWN BY: L. L. BLANKENSHIP DATE: 1-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023



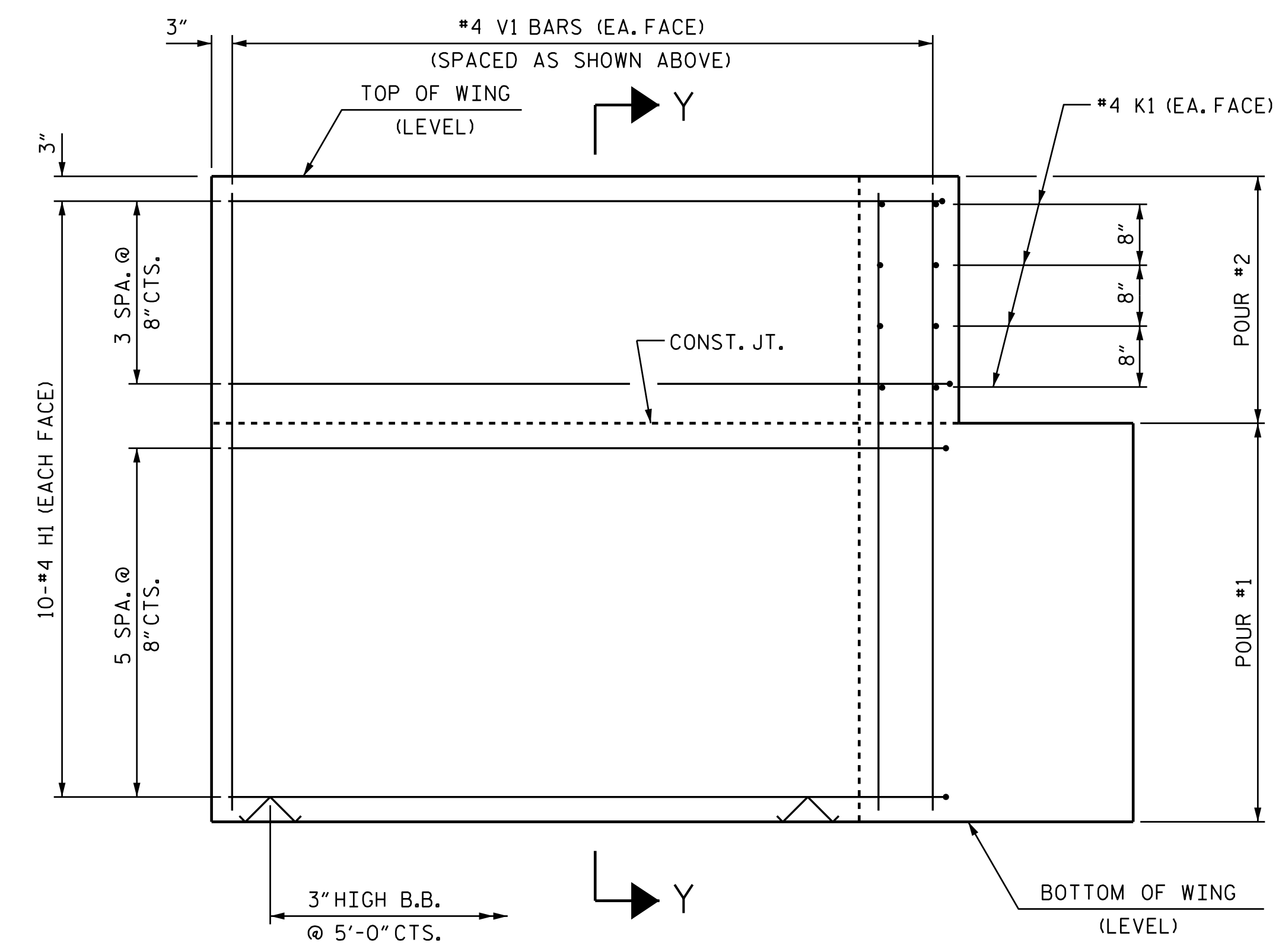
PLAN OF WING (W1)



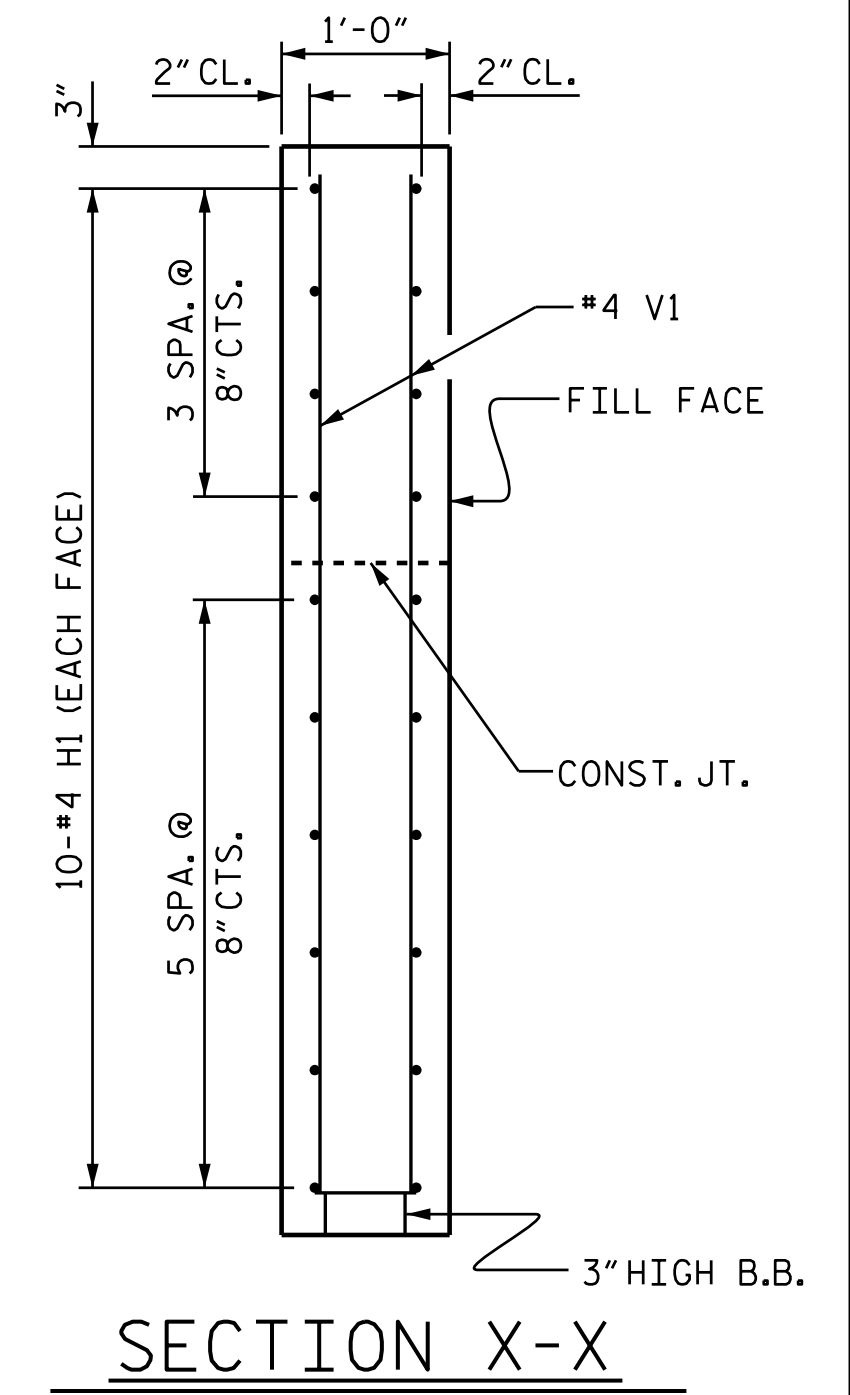
PLAN OF WING (W2)



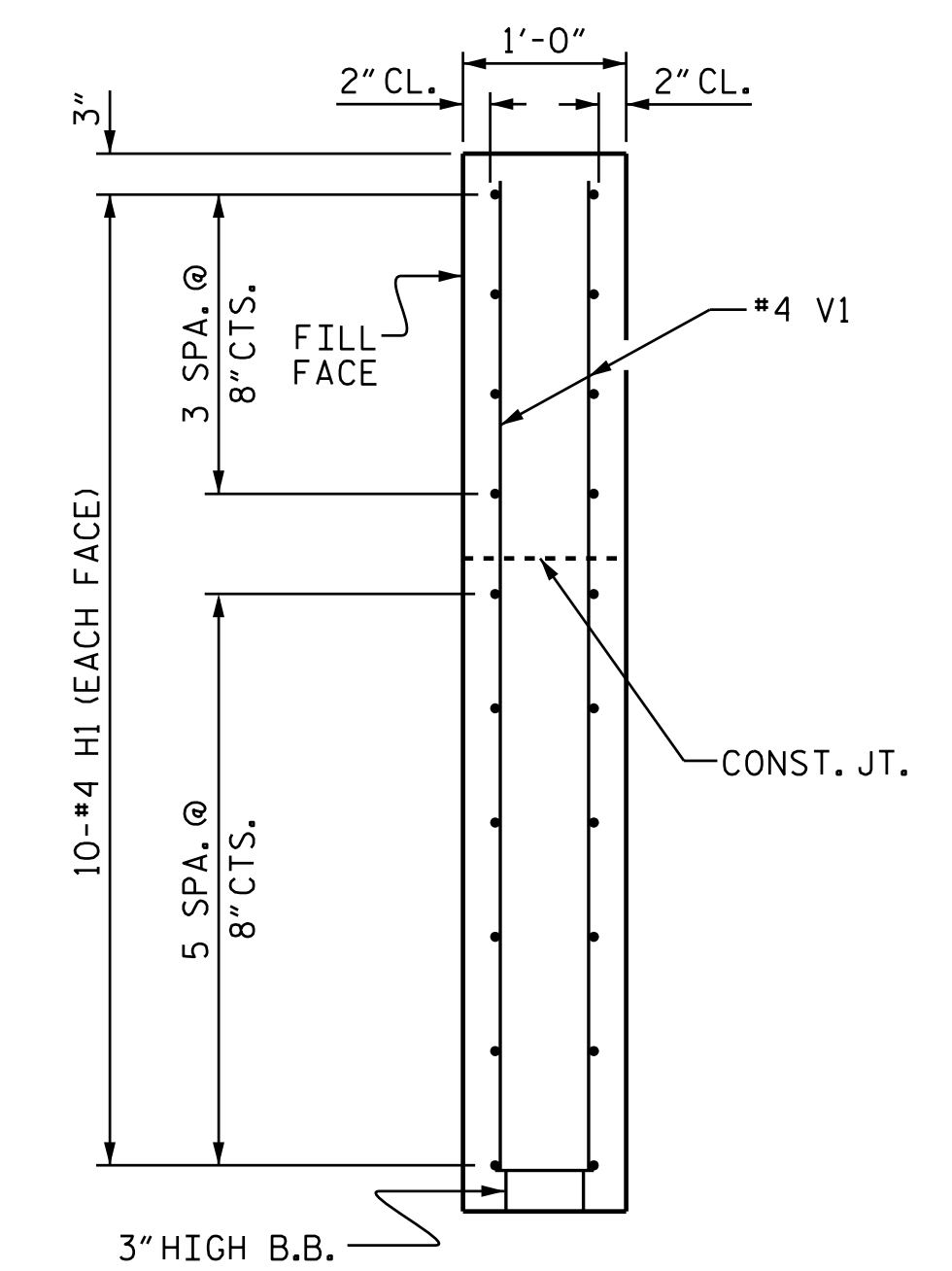
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION X-X



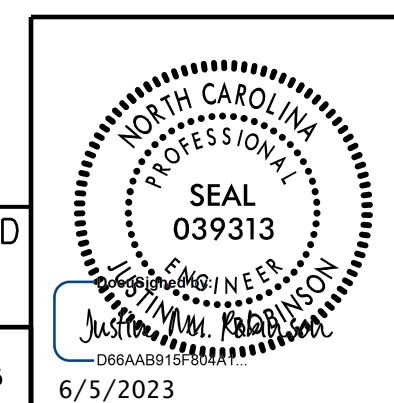
SECTION Y-Y

PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 END BENT  
 WING DETAILS



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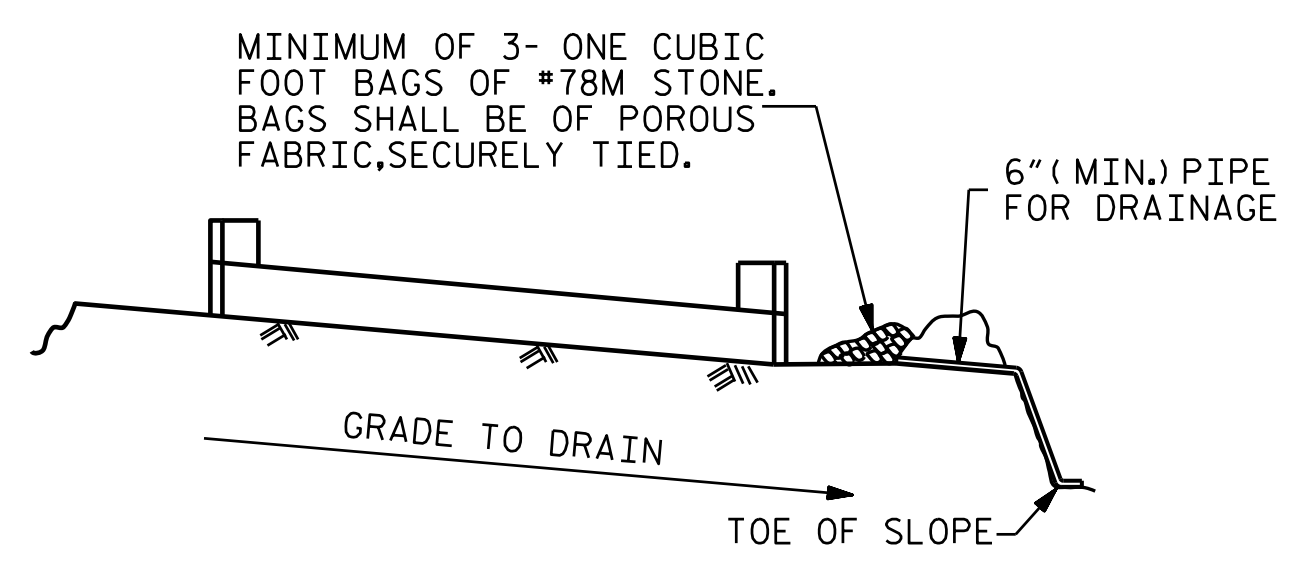
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WING DETAILS

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 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

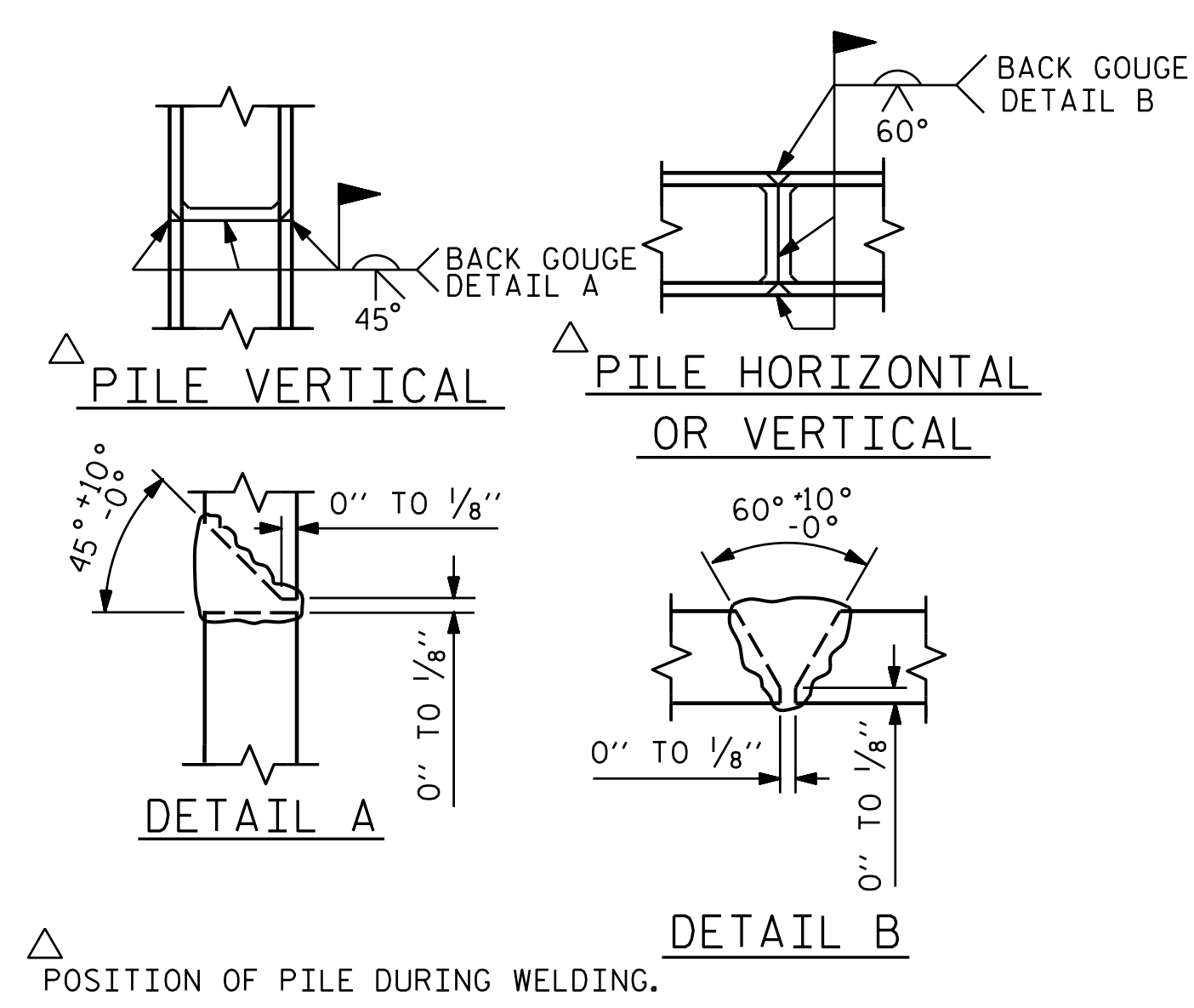


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

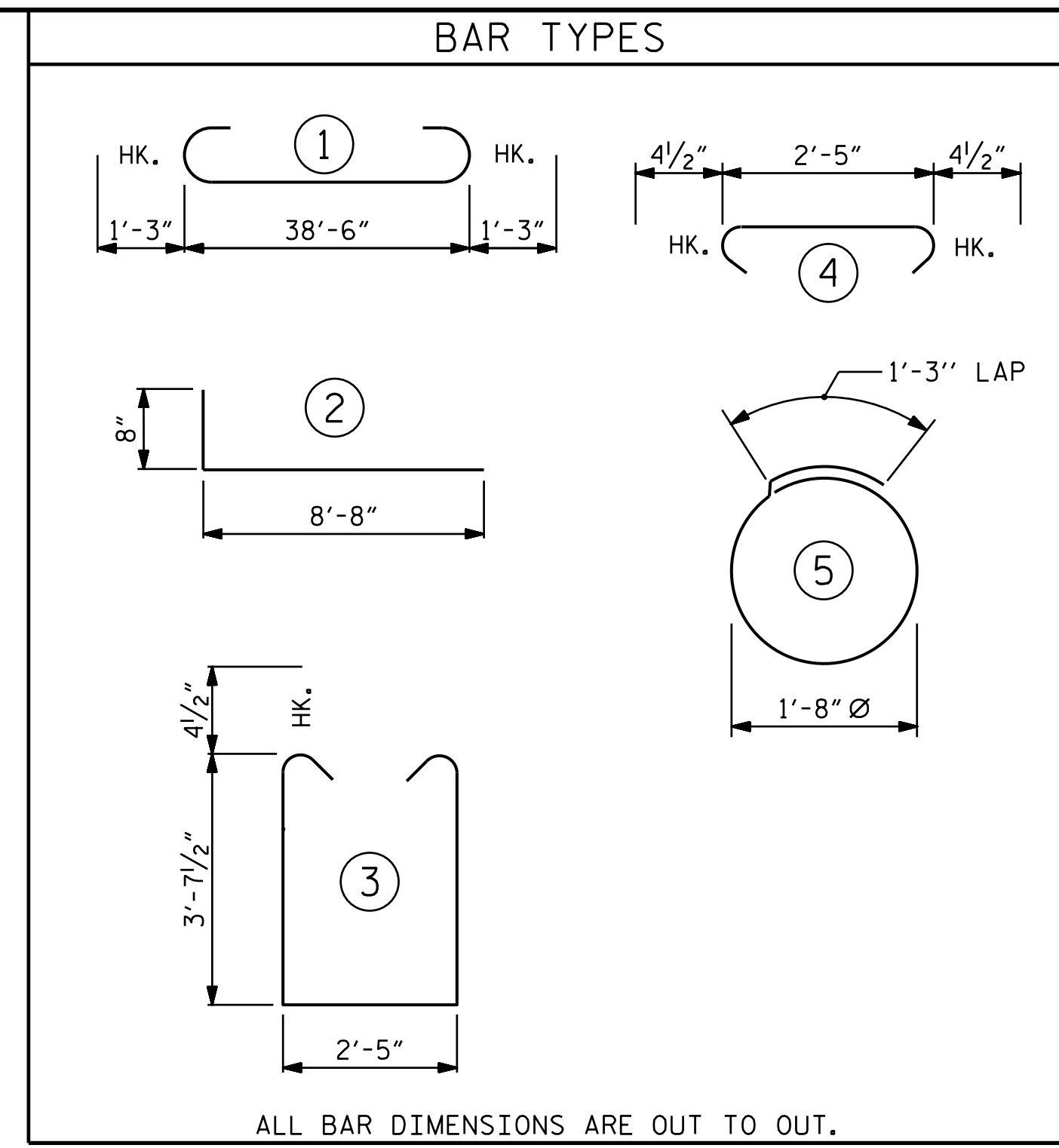
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

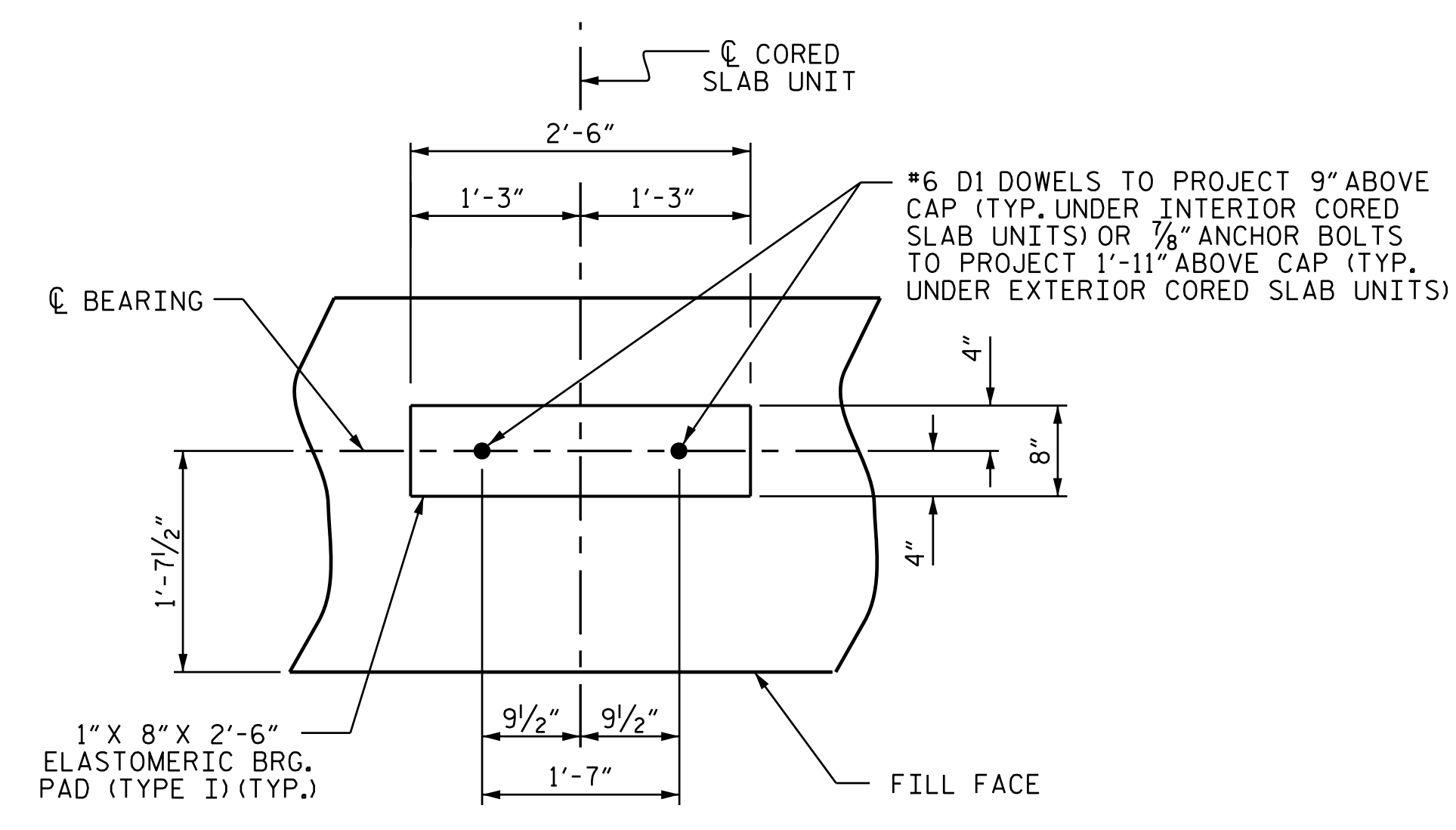
### TEMPORARY DRAINAGE AT END BENT



### PILE SPLICE DETAILS

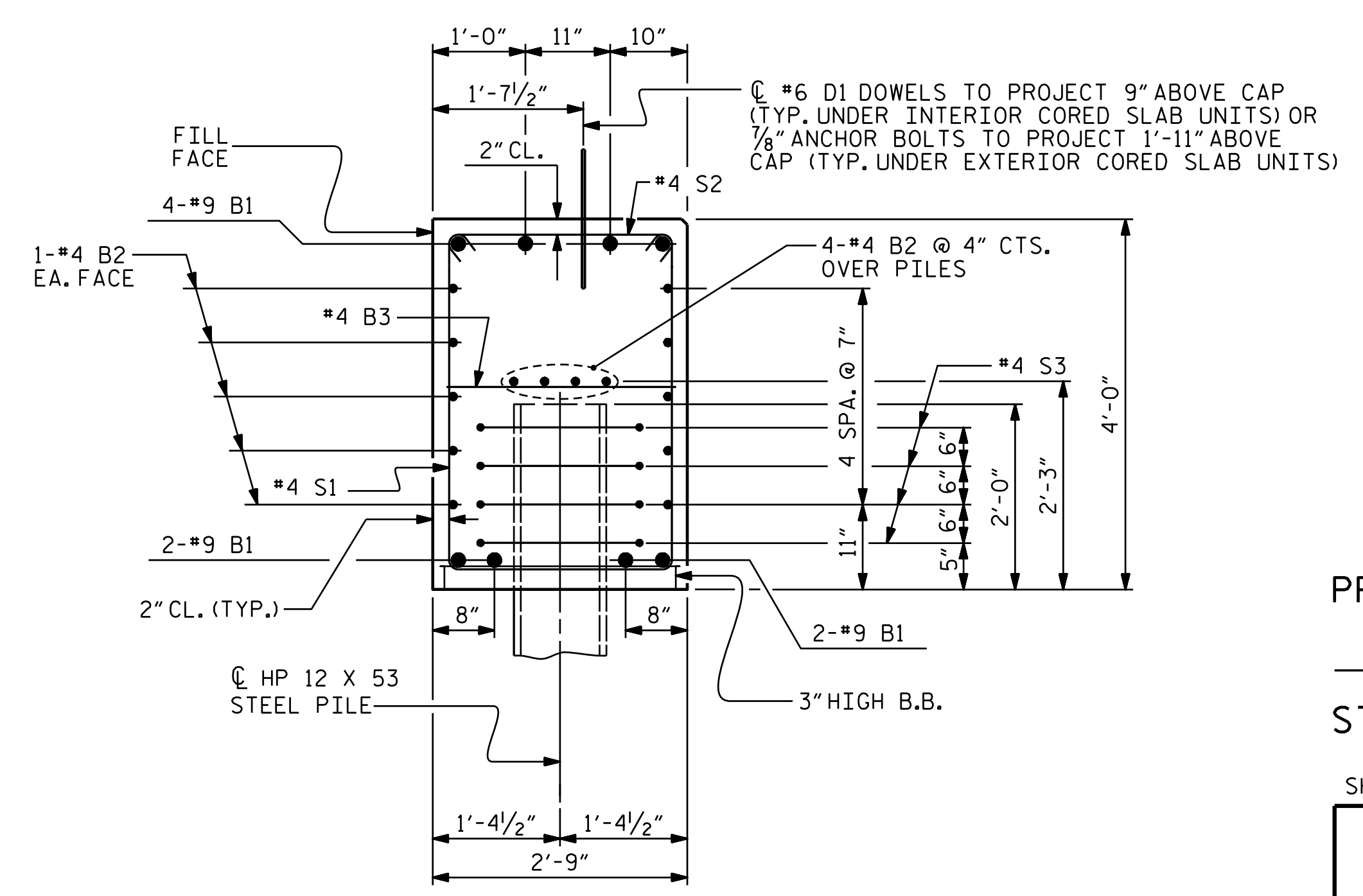


BILL OF MATERIAL FOR ONE END BENT					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	41'-0"	1115
B2	28	#4	STR	20'-7"	385
B3	10	#4	STR	2'-5"	16
D1	18	#6	STR	1'-6"	41
H1	40	#4	2	9'-4"	249
K1	16	#4	STR	2'-11"	31
S1	50	#4	3	10'-5"	348
S2	50	#4	4	3'-2"	106
S3	28	#4	5	6'-6"	122
V1	52	#4	STR	6'-2"	214
REINFORCING STEEL (FOR ONE END BENT)					2627 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1	CAP, LOWER PART OF WINGS & COLLARS				19.5 C.Y.
POUR #2	UPPER PART OF WINGS				2.3 C.Y.
TOTAL CLASS A CONCRETE					21.8 C.Y.



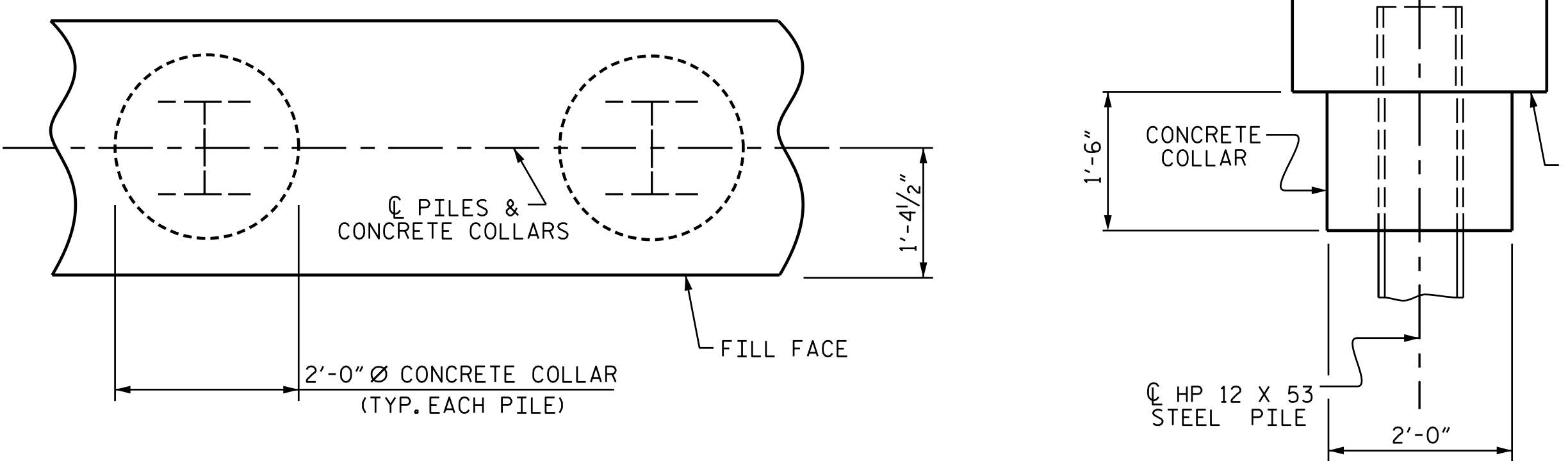
### DETAIL "A"

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



### SECTION A-A

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



### CORROSION PROTECTION FOR STEEL PILES DETAIL

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

PROJECT NO. B-6049  
SAMPSON COUNTY  
STATION: 16+99.00 -L-

SHEET 4 OF 4

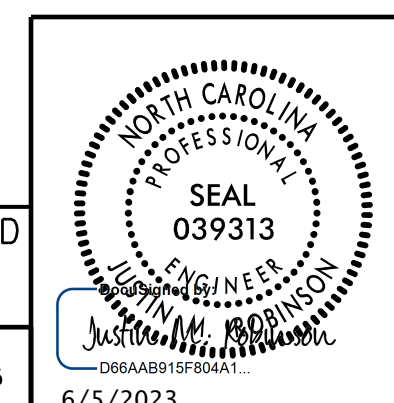
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE  
END BENT No. 1 & 2  
DETAILS

REVISIONS						SHEET NO.
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2			4			25

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DRAWN BY: L. L. BLANKENSHIP DATE: 1-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023



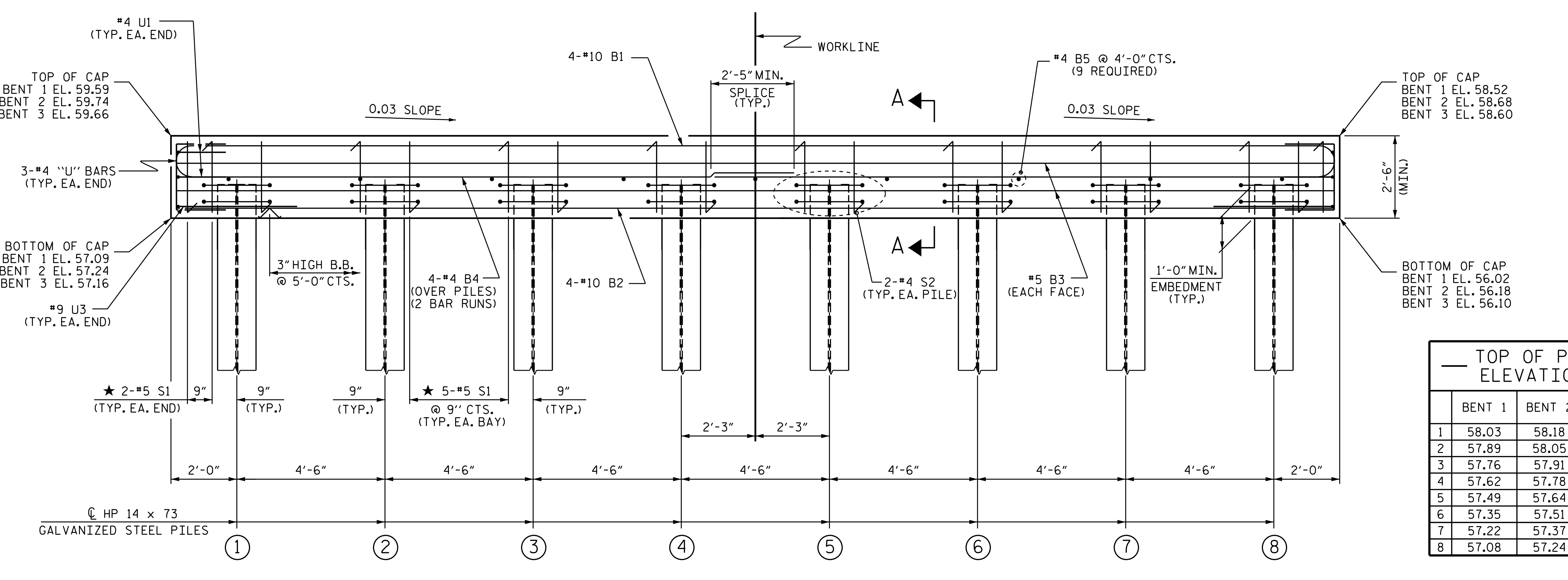
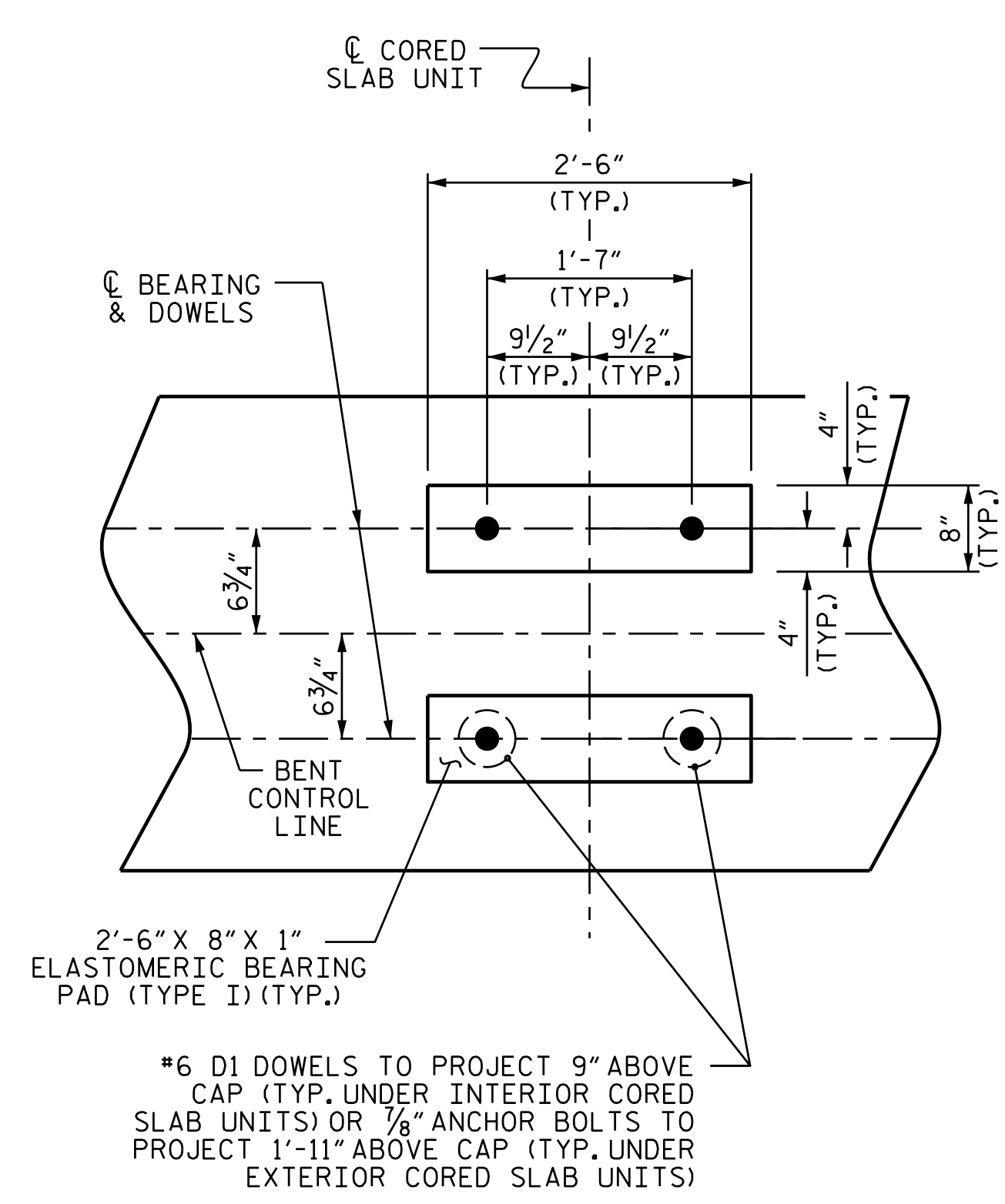
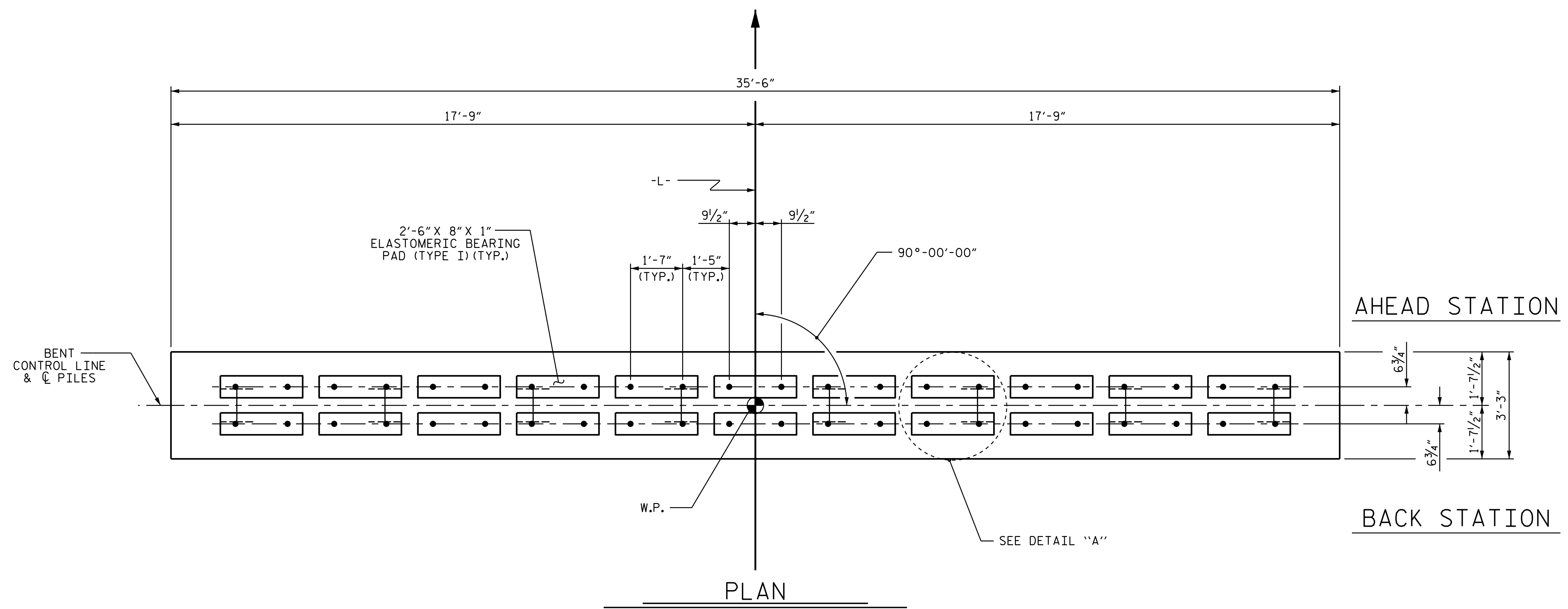
**NOTES**

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

★ INVERT ALTERNATE STIRRUPS.

GALVANIZE THE TOP OF EACH INTERIOR BENT PILE A MINIMUM OF 40 FEET FOR BENTS NO. 1 AND NO. 3, AND 45 FEET FOR BENT NO. 2. GALVANIZE IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.

FOR ANCHOR BOLT AND HOLD DOWN PLATE DETAILS AND NOTES, SEE "PLAN OF 65' UNIT - 30'-10" CLEAR ROADWAY - 90° SKEW" SHEET.



**TOP OF PILE ELEVATIONS**

	BENT 1	BENT 2	BENT 3
1	58.03	58.18	58.10
2	57.89	58.05	57.97
3	57.76	57.91	57.83
4	57.62	57.78	57.70
5	57.49	57.64	57.56
6	57.35	57.51	57.43
7	57.22	57.37	57.29
8	57.08	57.24	57.16

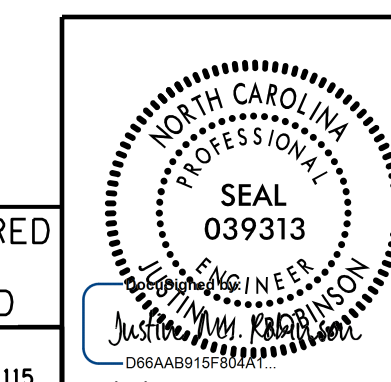
PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SUBSTRUCTURE**  
**BENT No. 1-3**

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			25



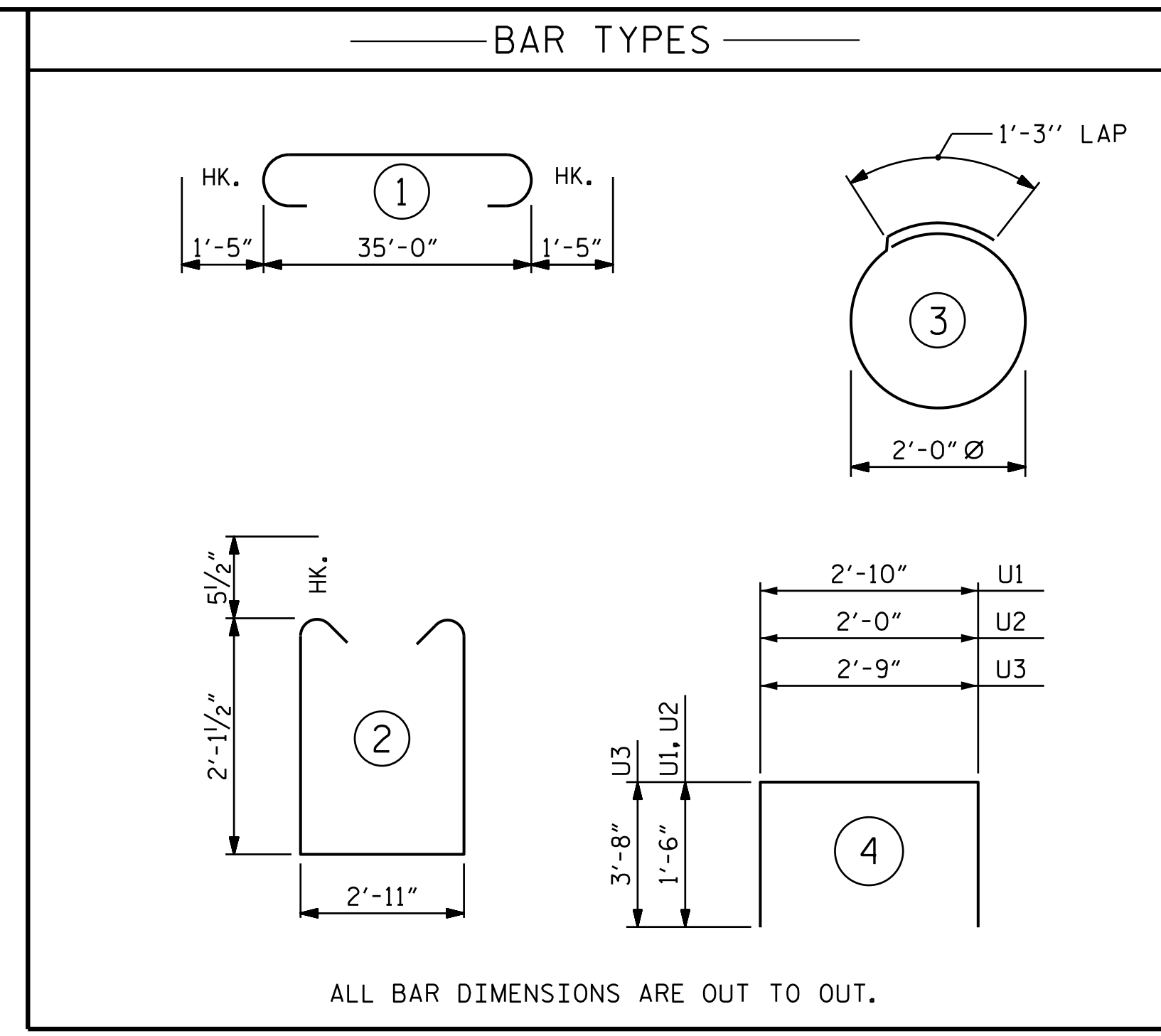
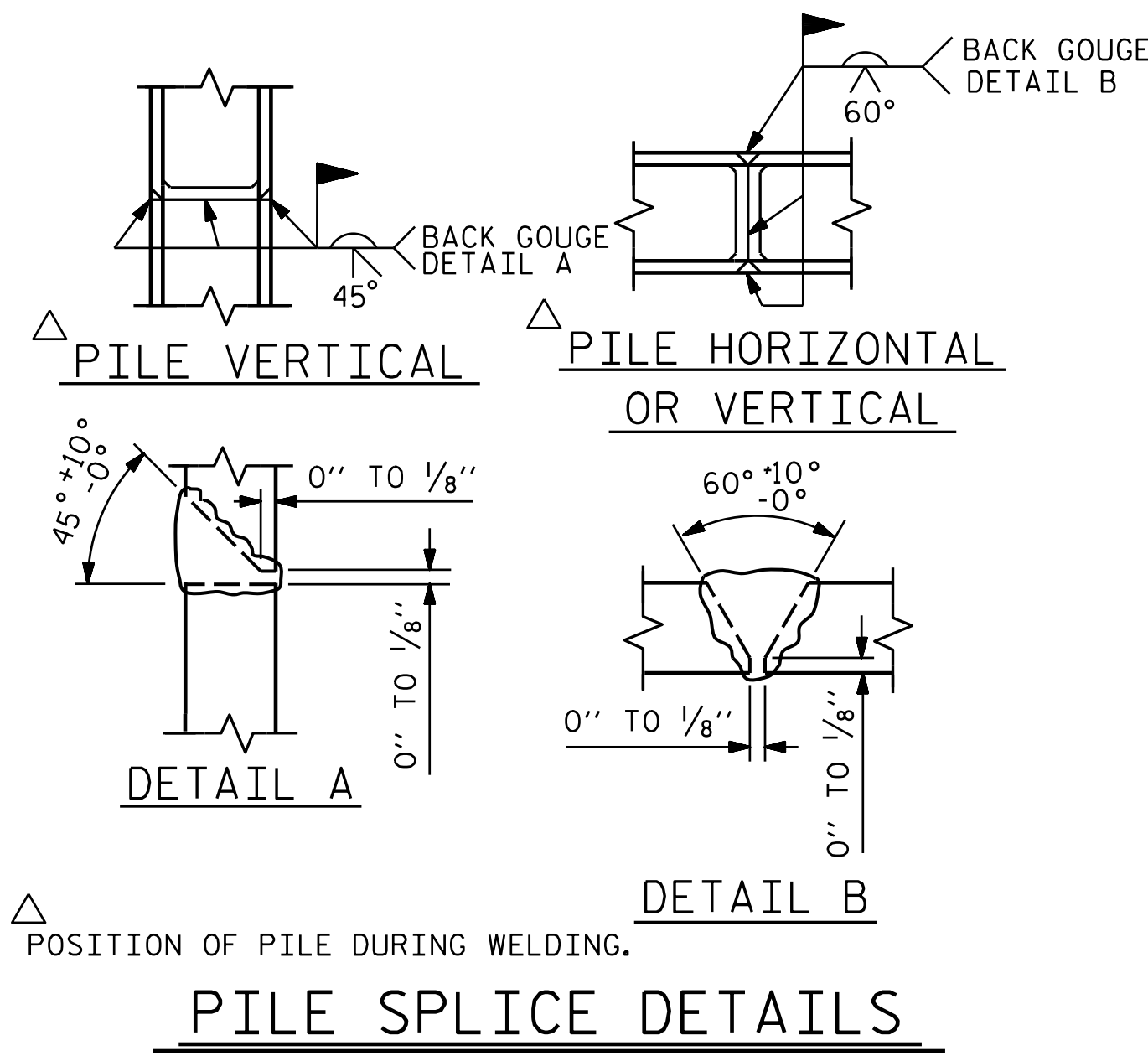
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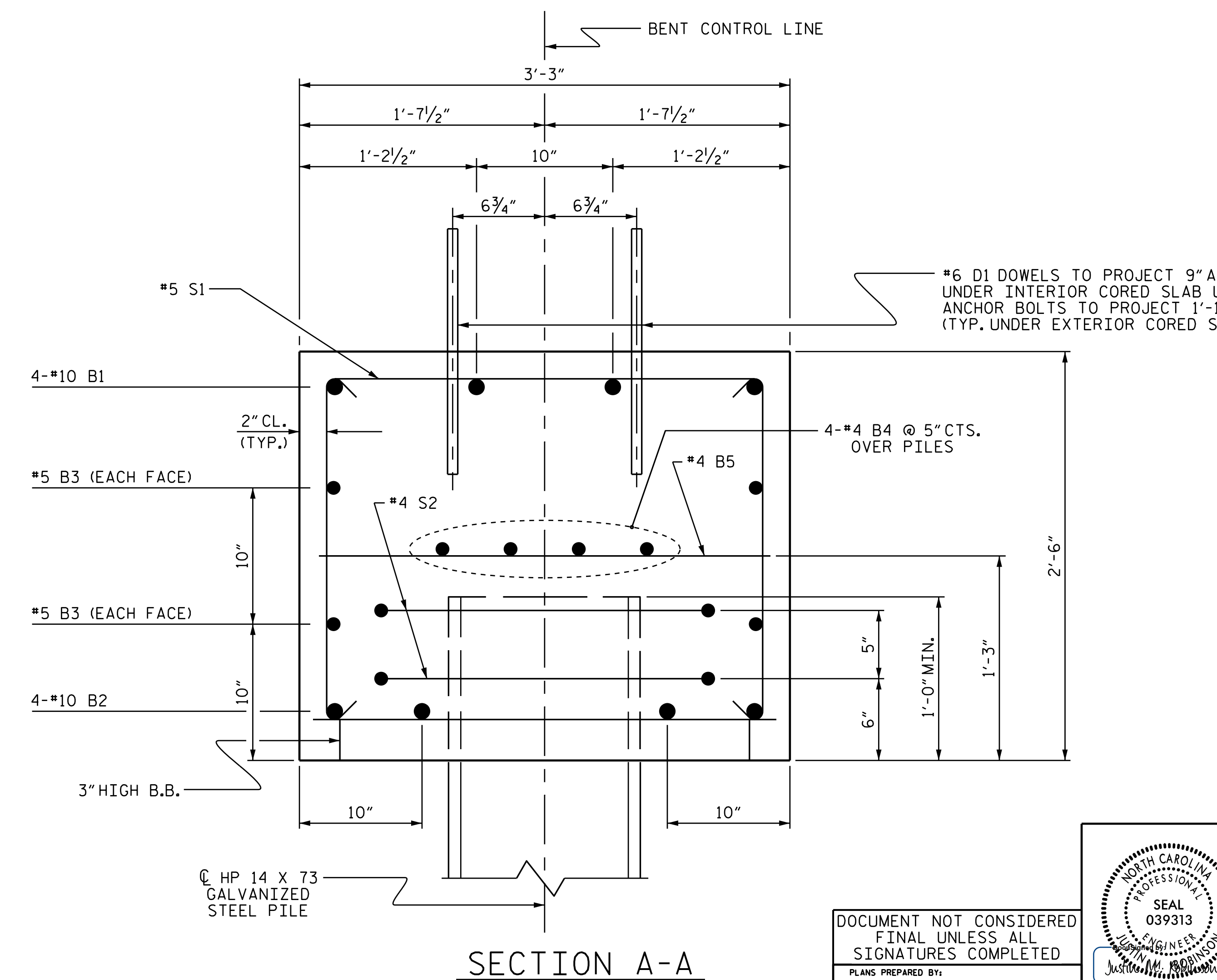
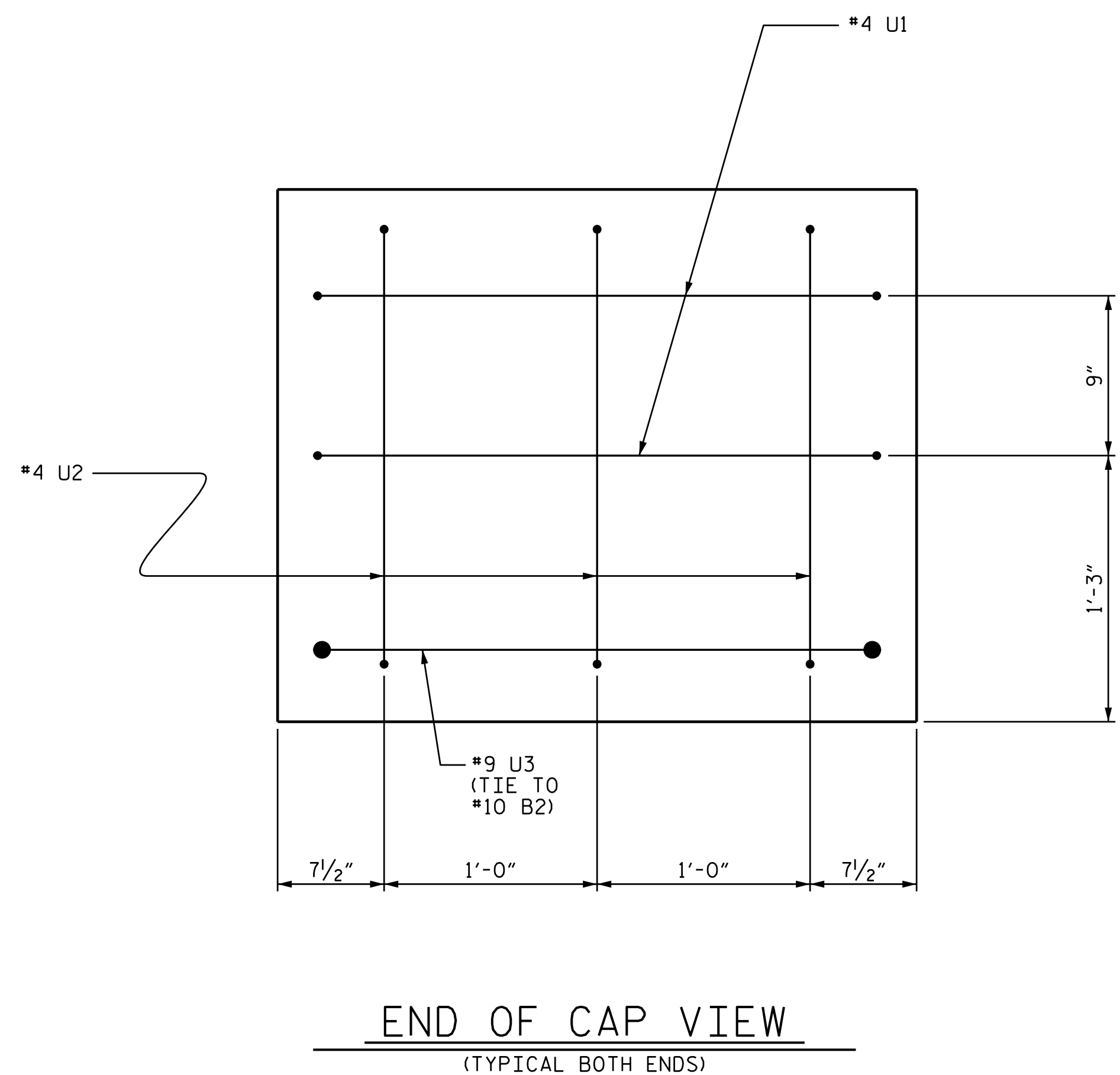
DRAWN BY: L. L. BLANKENSHIP DATE: 3-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

**ELEVATION**  
 FOR SECTION A-A, SEE SHEET 2 OF 2



**BILL OF MATERIAL FOR ONE BENT**

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#10	1	37'-10"	651
B2	4	#10	STR	35'-2"	605
B3	4	#5	STR	35'-2"	147
B4	8	#4	STR	18'-10"	101
B5	9	#4	STR	2'-11"	18
D1	36	#6	STR	1'-6"	81
S1	39	#5	2	8'-1"	329
S2	16	#4	3	7'-7"	81
U1	4	#4	4	5'-10"	16
U2	6	#4	4	5'-0"	31
U3	2	#9	4	10'-1"	69
REINFORCING STEEL (FOR ONE BENT)					2129 LBS
CLASS A CONCRETE BREAKDOWN (FOR ONE BENT)					
TOTAL CLASS A CONCRETE					10.7 C.Y.



PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

SHEET 2 OF 2

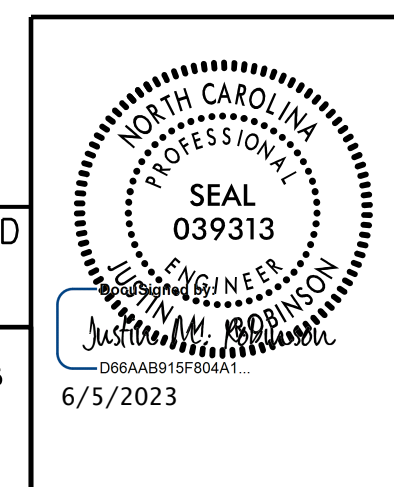
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 BENT No. 1-3  
 DETAILS

REVISIONS						SHEET NO.
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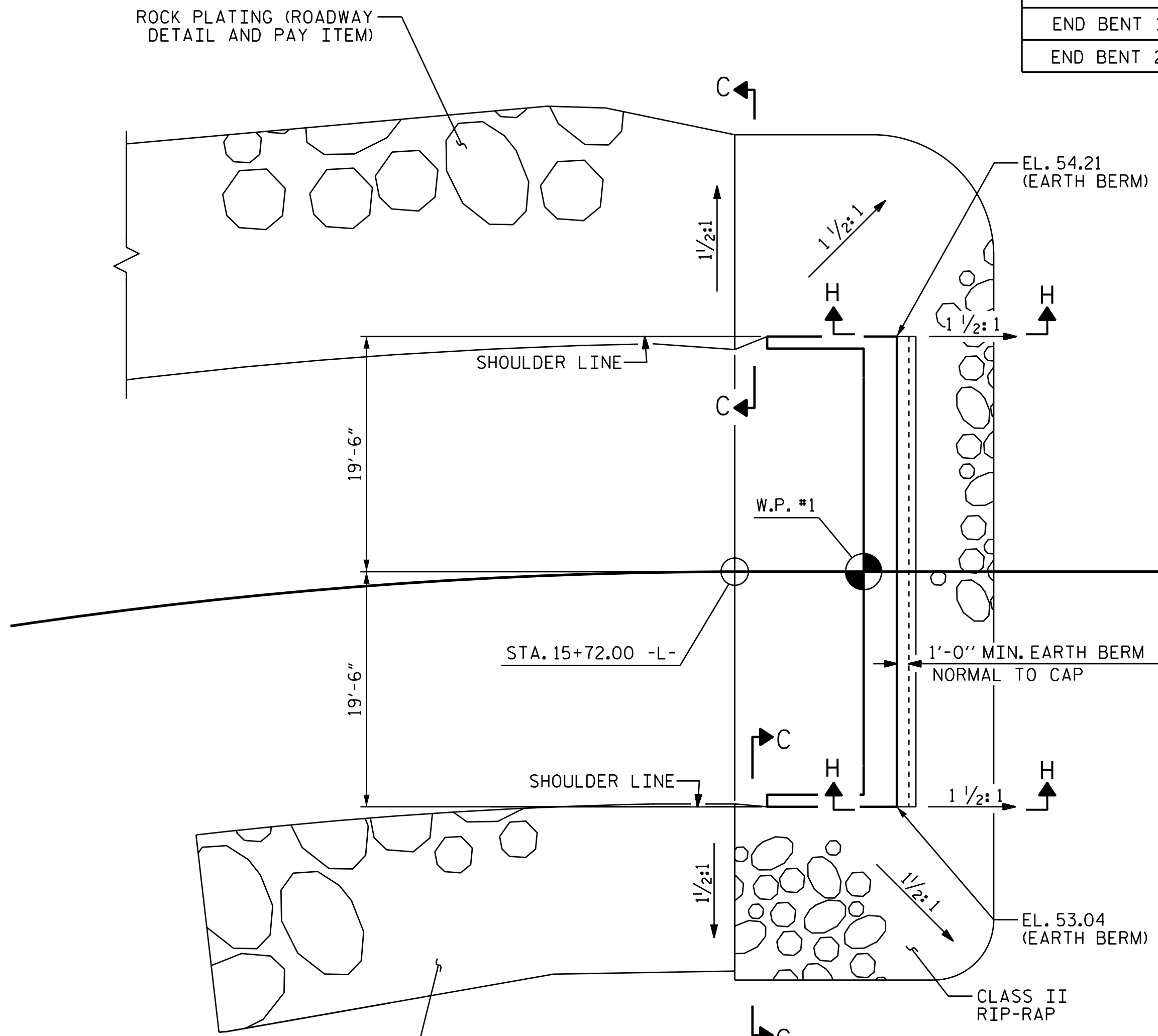


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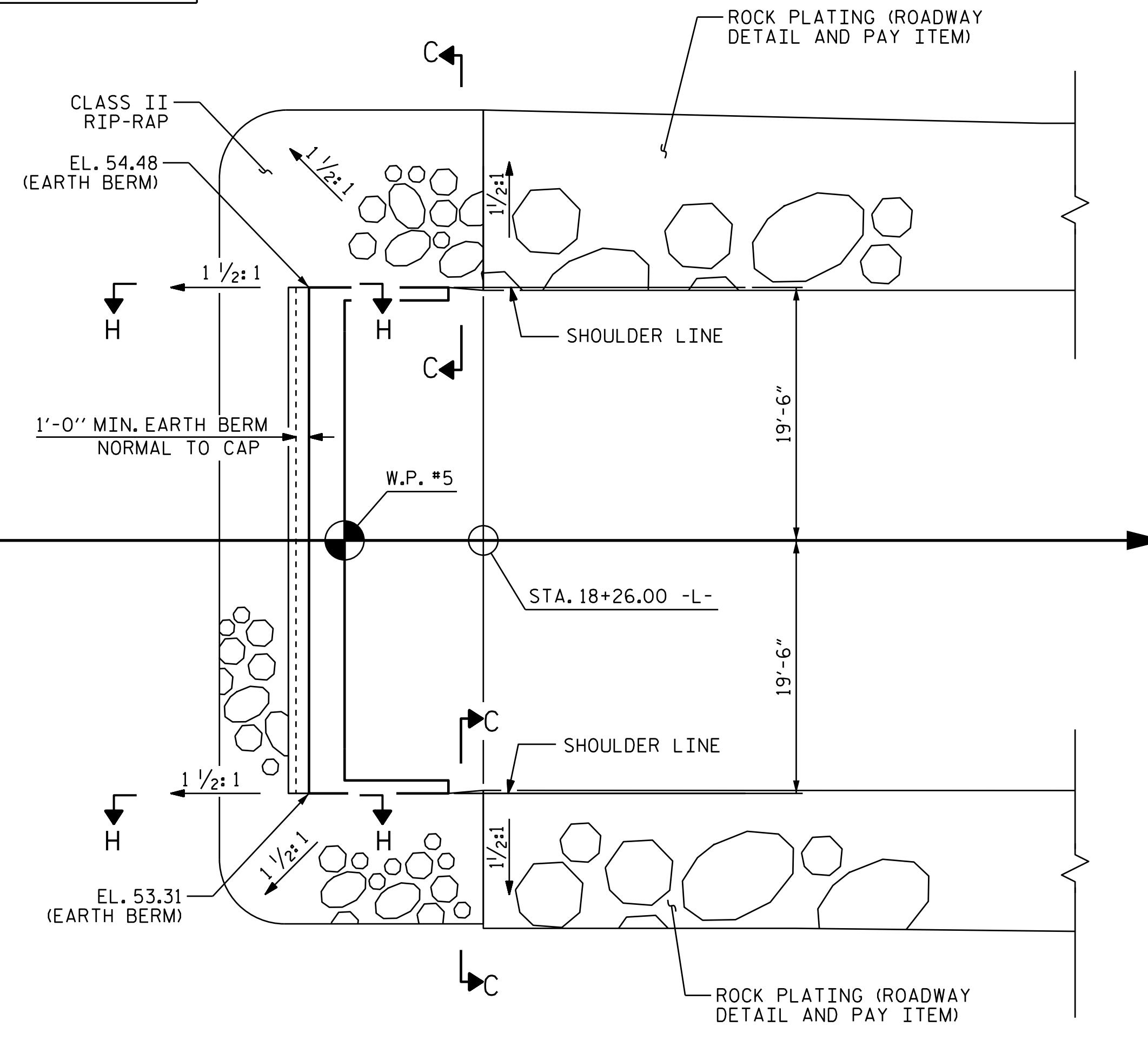
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 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

ESTIMATED QUANTITIES		
BRIDGE @ STA. 16+99.00 -L-	RIE RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	153	170
END BENT 2	125	139

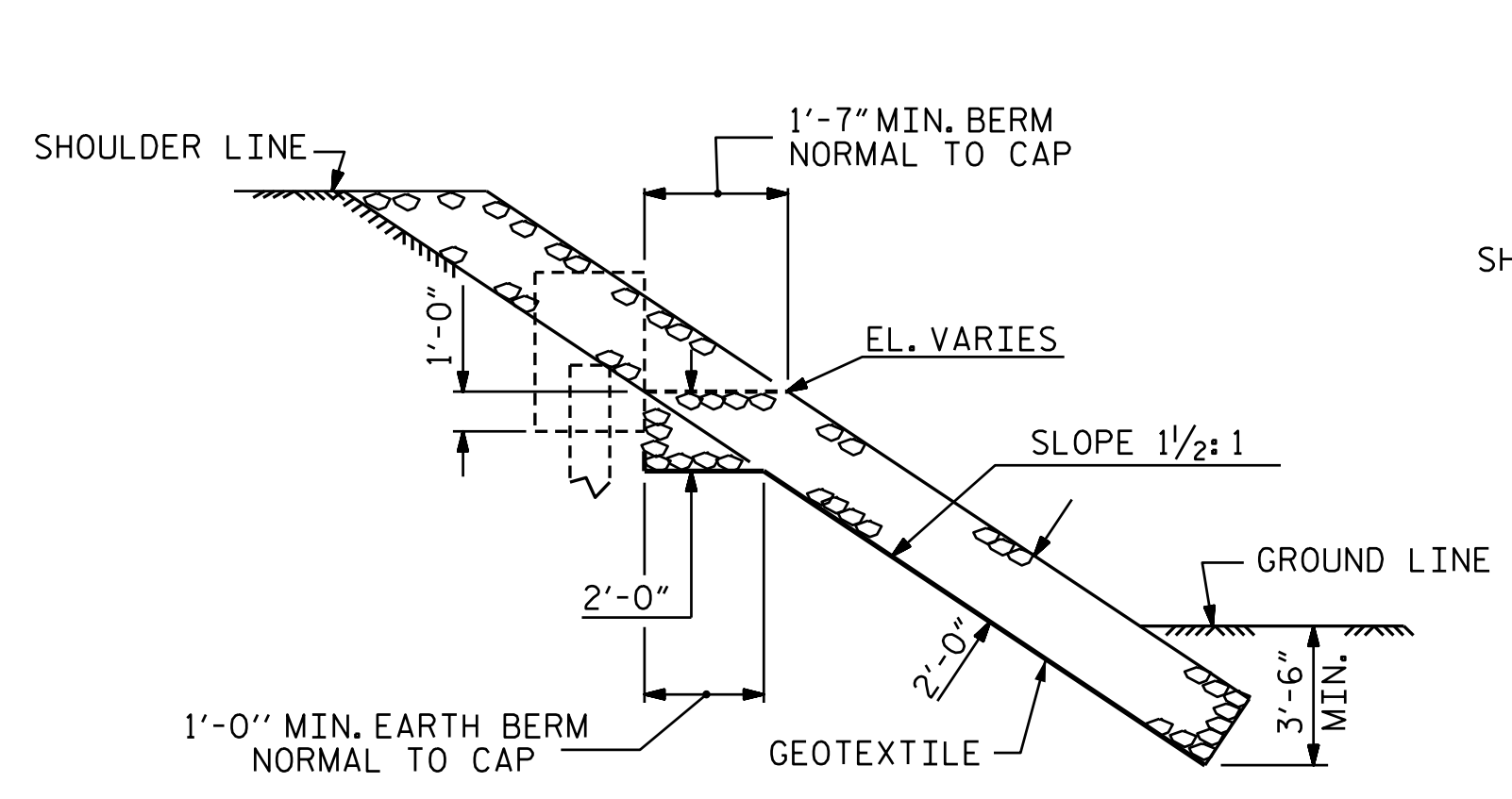
NOTES :  
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.



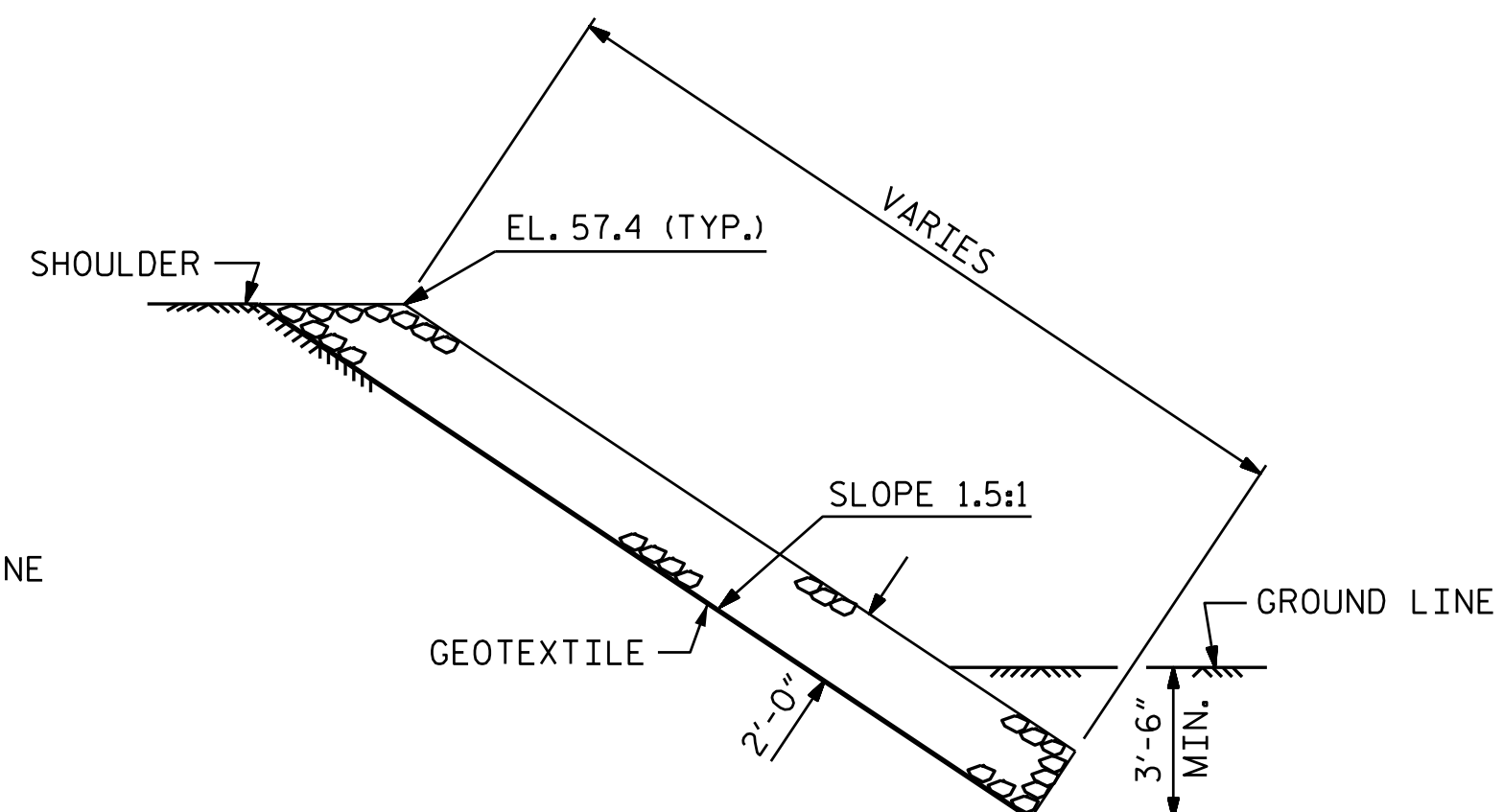
END BENT 1



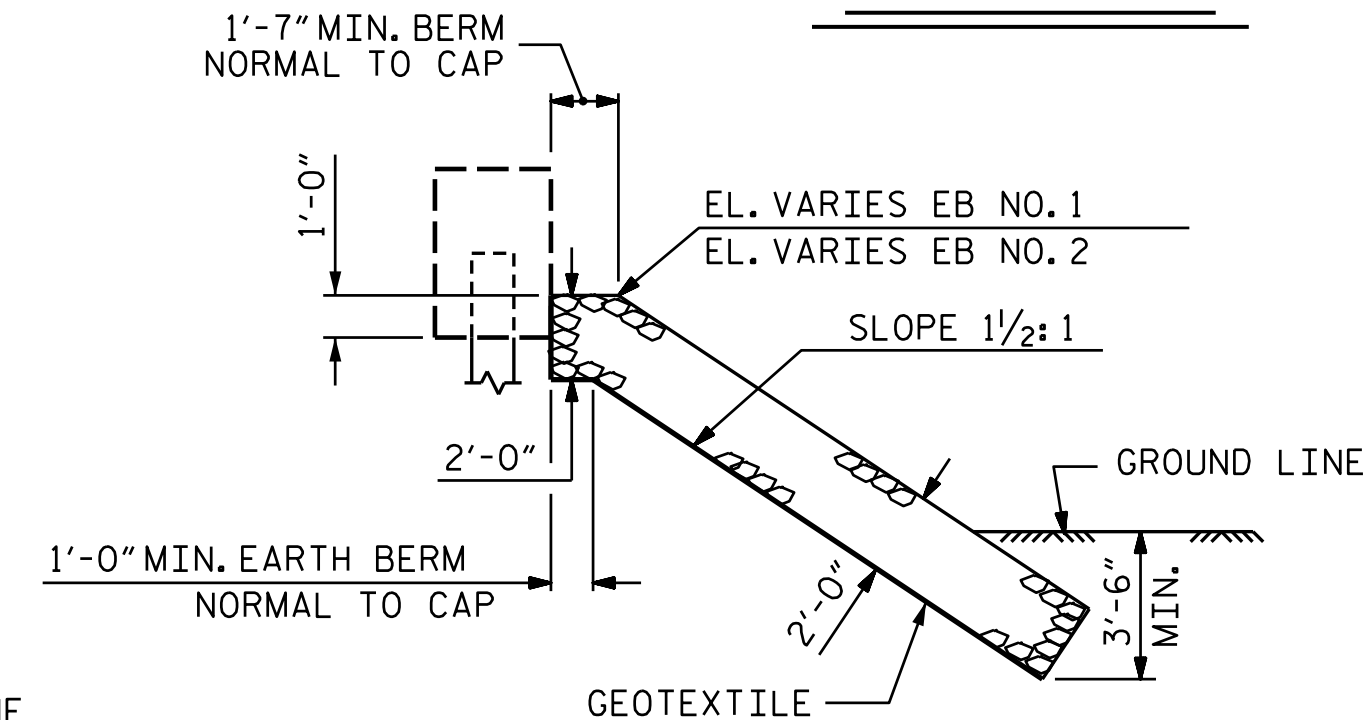
END BENT 2



SECTION H-H



SECTION C-C

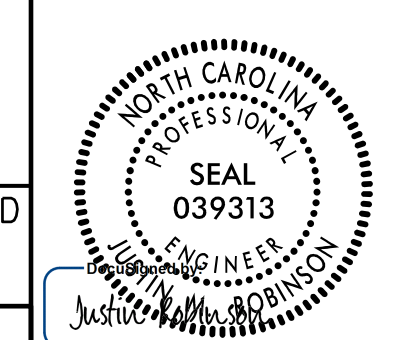


SECTION  
BERM RIP RAPPED

PROJECT NO. B-6049  
SAMPSON COUNTY  
STATION: 16+99.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

RIP RAP DETAILS



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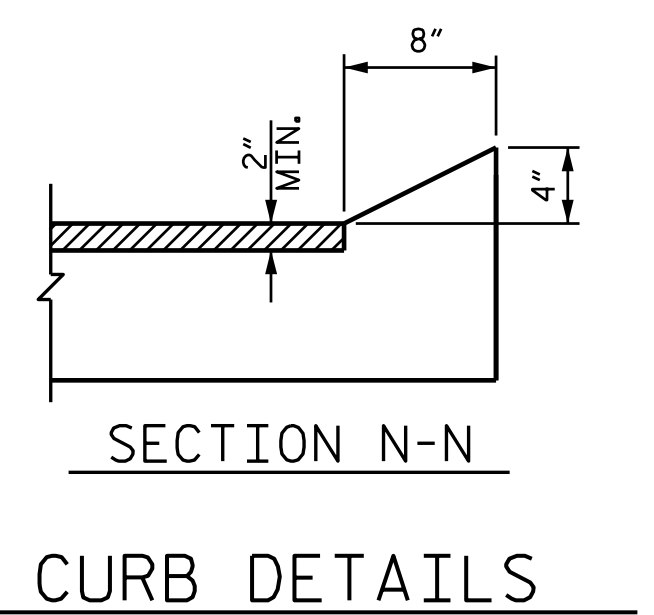
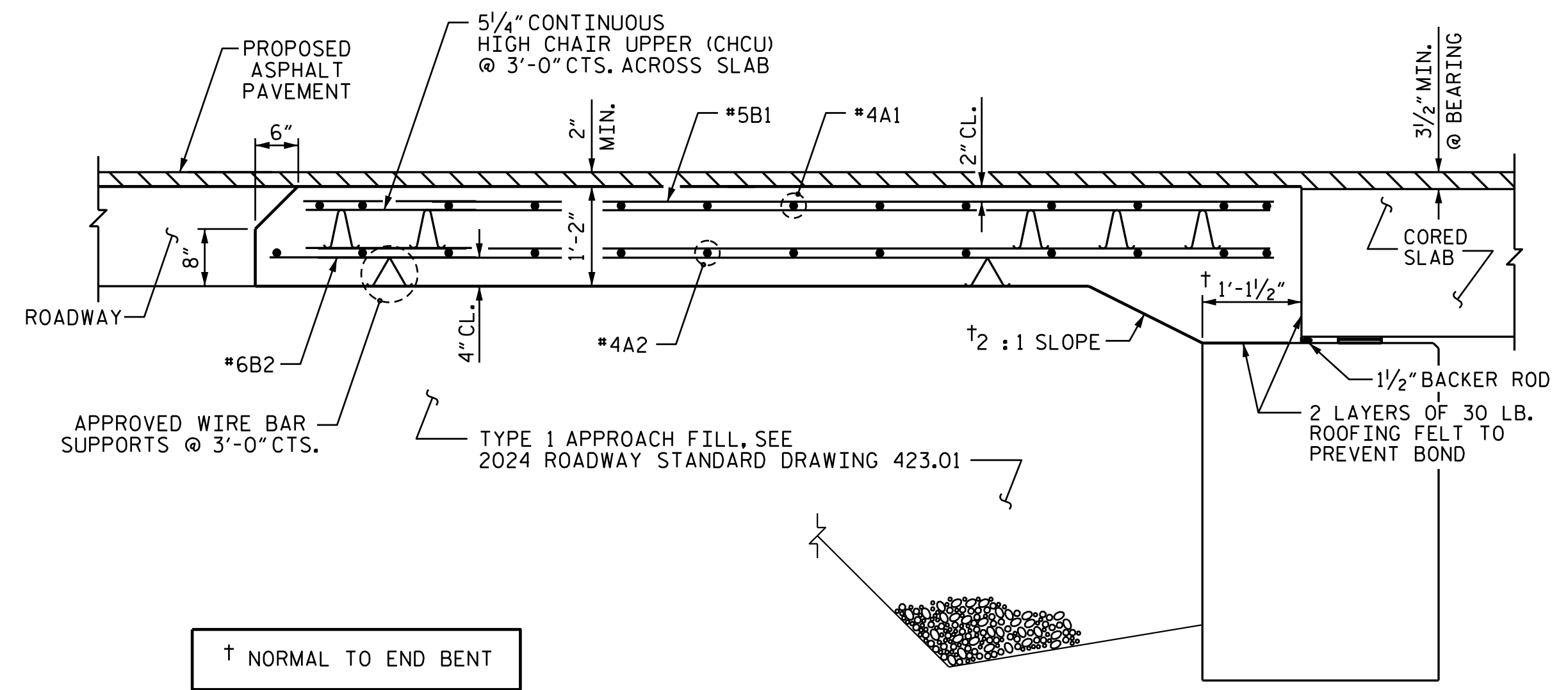
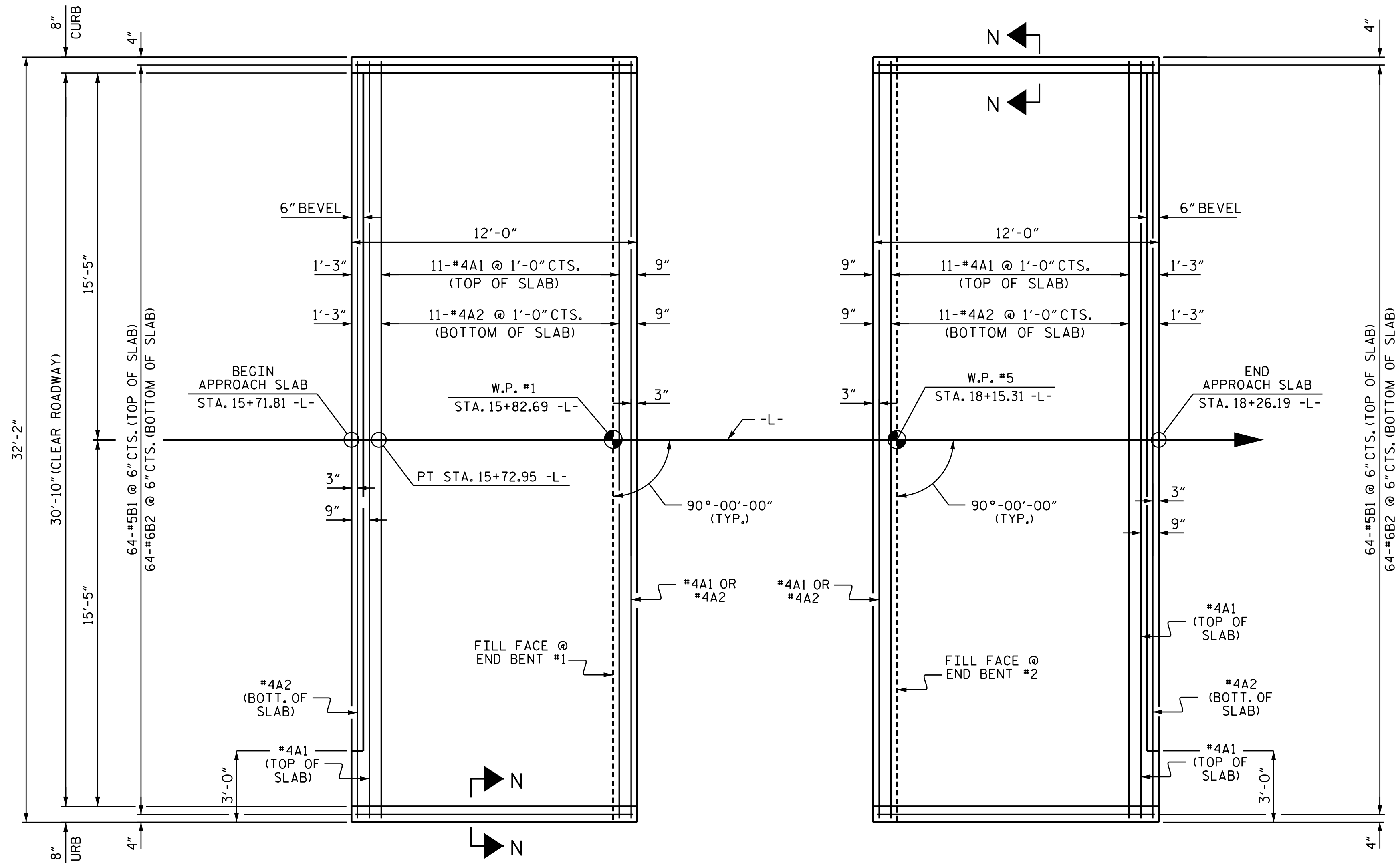
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DRAWN BY: R. L. DICKE DATE: 2-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

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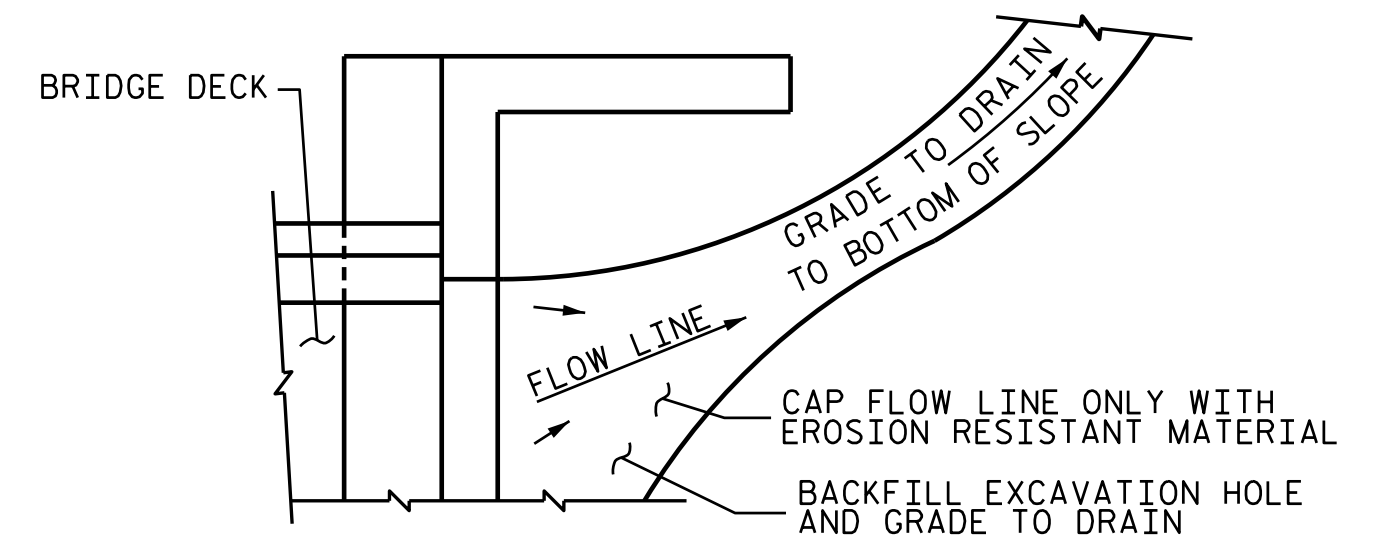
**NOTES**

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.

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

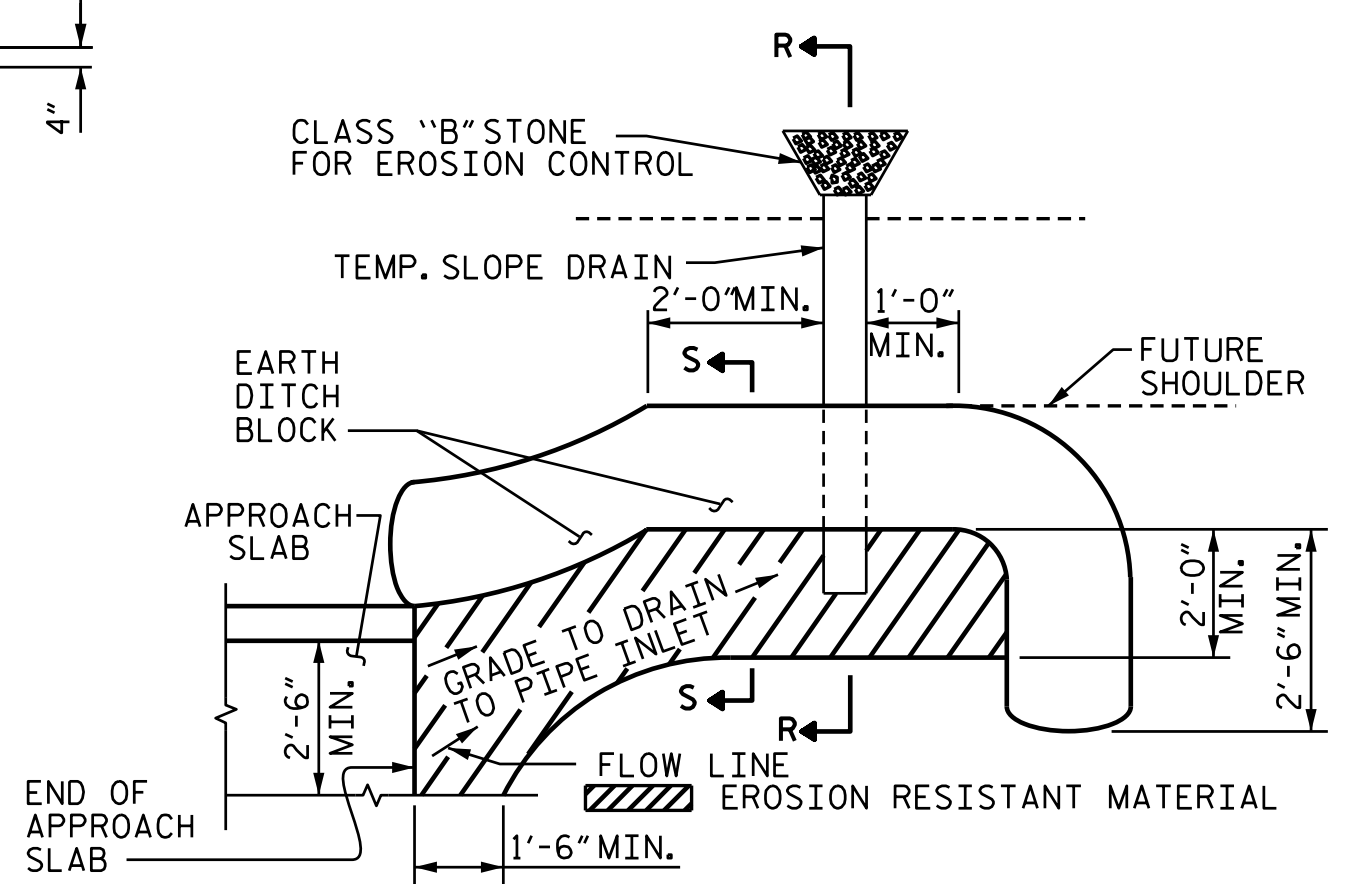
APPROACH SLAB GROOVING IS NOT REQUIRED.

WHEN LAYING OUT AND CONSTRUCTING APPROACH SLAB, IGNORE CURVE IN ALIGNMENT AT END BENT 1.



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.

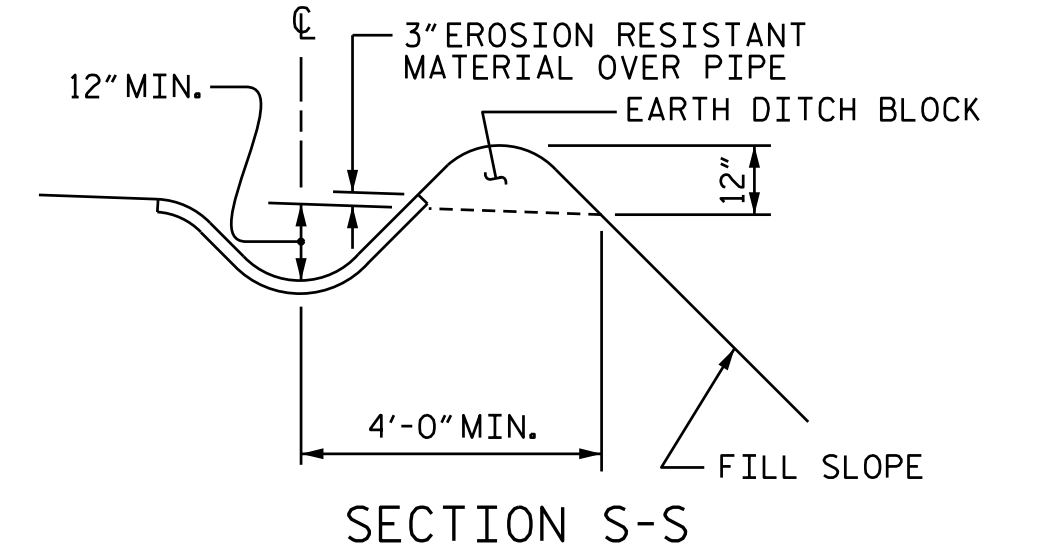
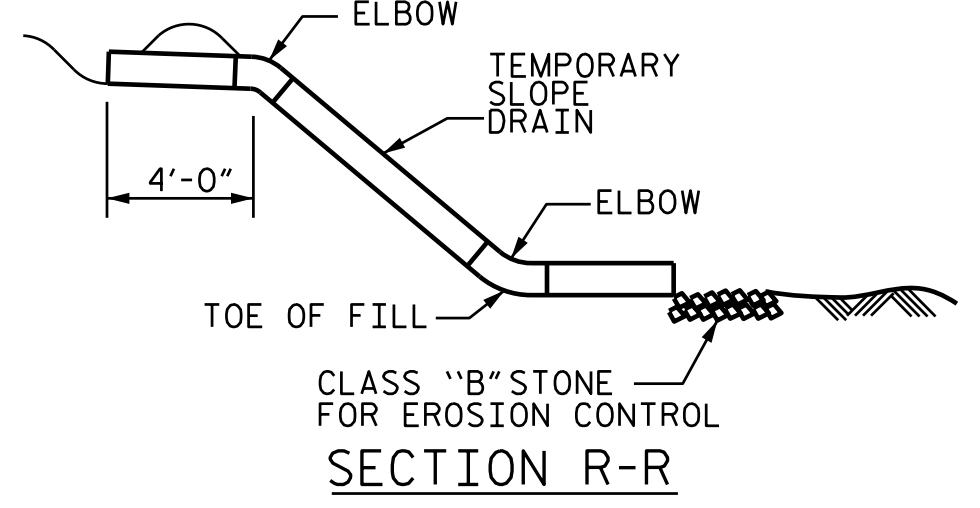
TEMPORARY DRAINAGE DETAIL



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

**BILL OF MATERIAL**

APPROACH SLAB AT EB #1					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	31'-10"	276
A2	13	#4	STR	31'-10"	276
REINFORCING STEEL LBS. 1397					
* EPOXY COATED REINFORCING STEEL LBS. 1021					
CLASS AA CONCRETE C. Y. 19.5					
APPROACH SLAB AT EB #2					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	31'-10"	276
A2	13	#4	STR	31'-10"	276
REINFORCING STEEL LBS. 1397					
* EPOXY COATED REINFORCING STEEL LBS. 1021					
CLASS AA CONCRETE C. Y. 19.5					



PROJECT NO. B-6049  
SAMPSON COUNTY  
 STATION: 16+99.00 -L-

DRAWN BY: R. L. DICKE DATE: 2-2023  
 CHECKED BY: J. T. WILLIAMS DATE: 3-2023  
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 3-2023

**SPLICE LENGTHS**

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED  
 PLANS PREPARED BY:  
**M M**  
 MOTT MACDONALD  
 7621 Purfoy Rd., Suite 115  
 Fuquay-Varina, NC 27526  
 (919) 652-2253  
 www.mottmac.com  
 LICENSE NO. F-0669



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**STANDARD BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB UNIT (SUB-REGIONAL TIER) 90° SKEW**

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

SHEET NO. S-25  
TOTAL SHEETS 25

## 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.
	--	27,000 LBS. PER SQ. IN.
	--	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 2018 "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  $\frac{1}{2}$ " 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