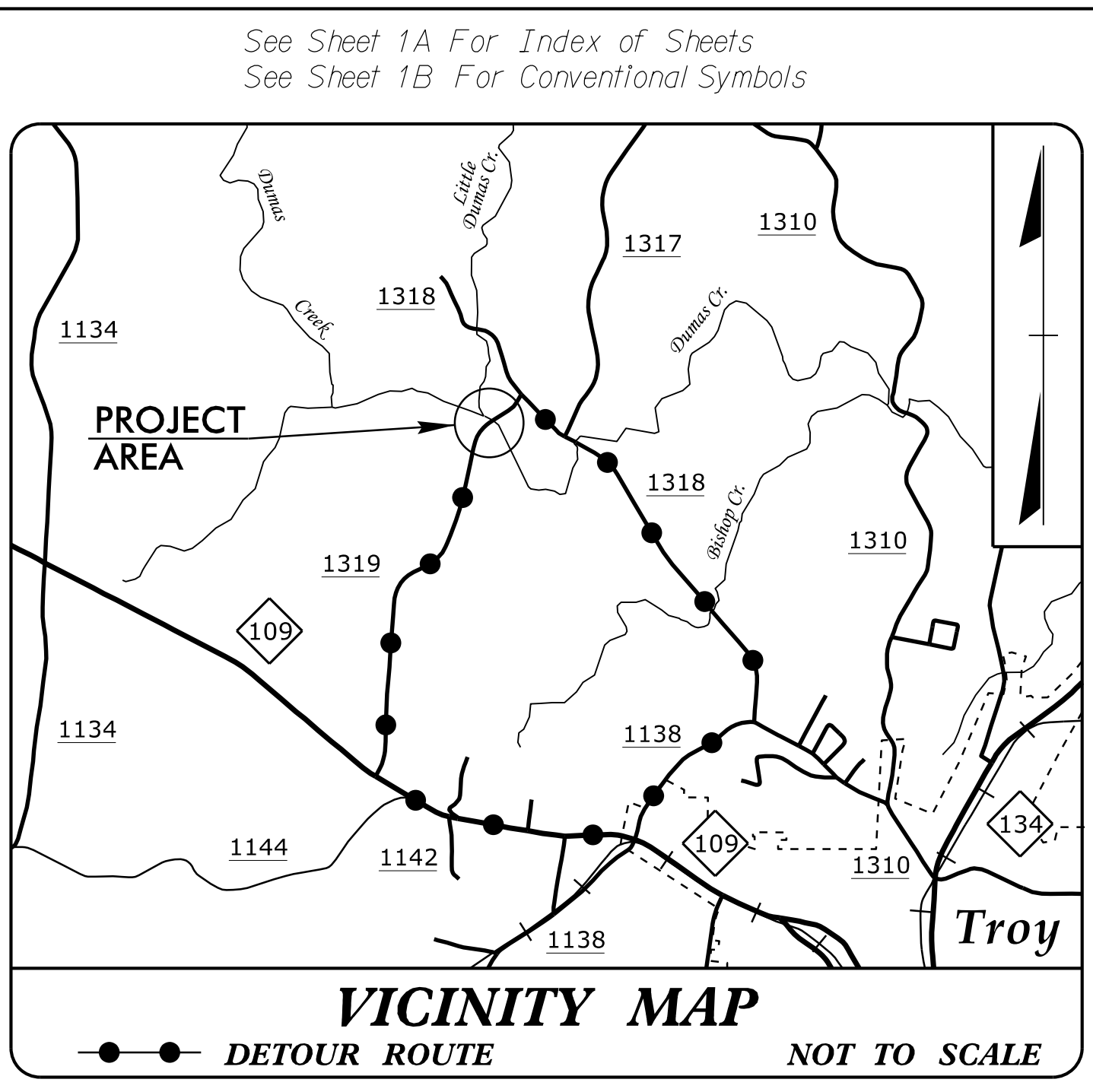


09/08/2019

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\$\$\$\$\$SERNAME\$\$\$\$\$

TIP PROJECT: BP8-R020

CONTRACT: DH00562



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

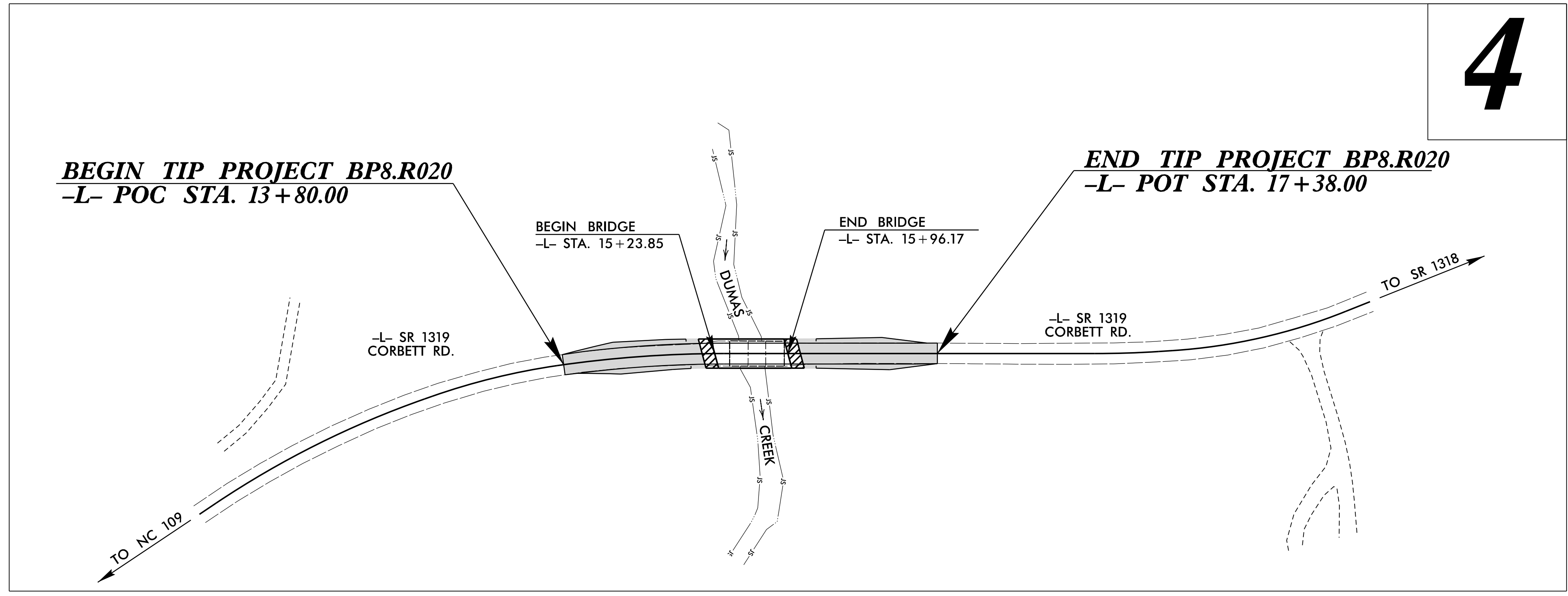
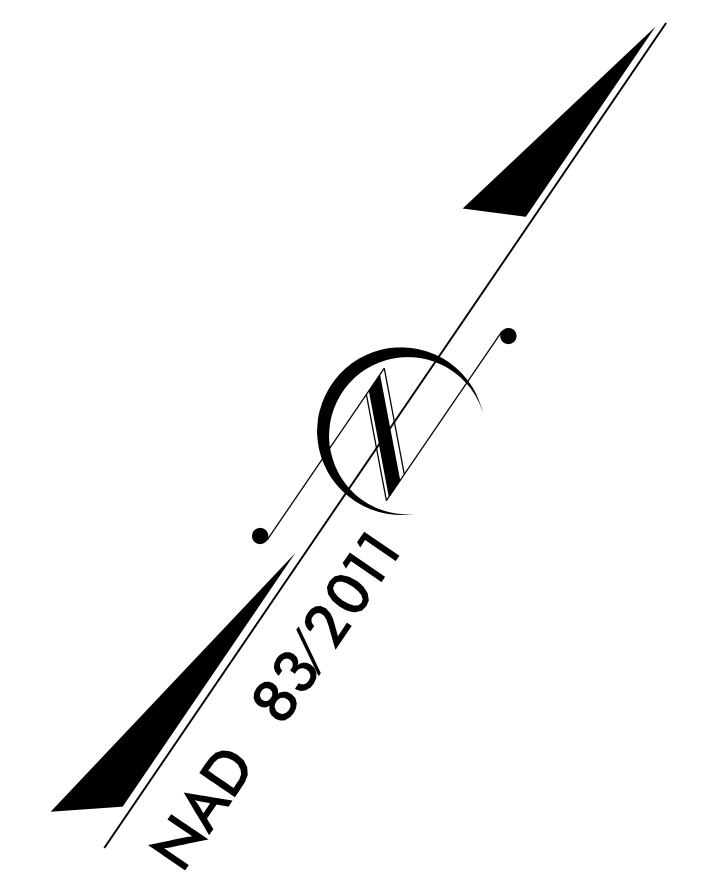
MONTGOMERY COUNTY

**LOCATION: REPLACE BRIDGE NO. 203 ON SR 1319
(CORBETT RD.) OVER DUMAS CREEK**

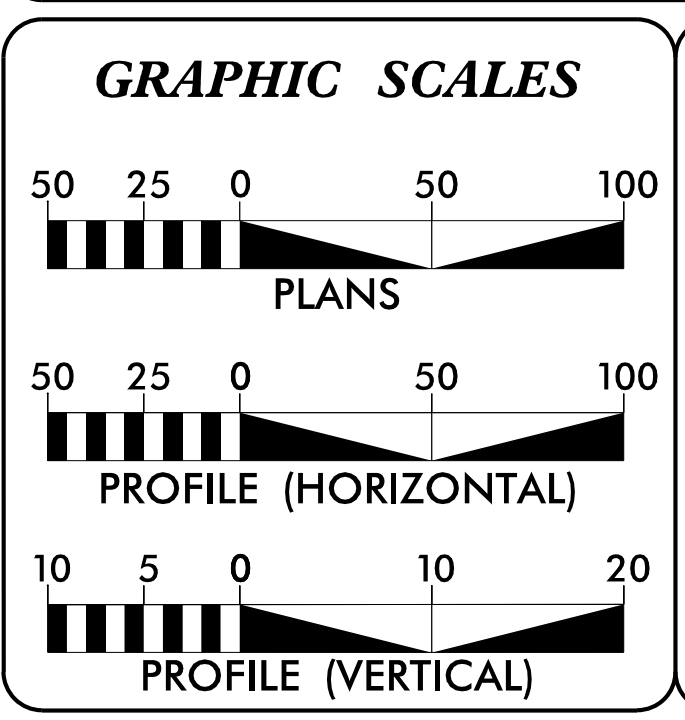
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP8-R020	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP8.R020.1		PE	
BP8.R020.2		RW & UTILITIES	
BP8.R020.3		CONSTRUCTION	

FINAL PLANS



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2024 = 100
(ESTIMATED)

V = 60 MPH

FUNC CLASS =
LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT BP8.R020 = 0.054 MILES

LENGTH STRUCTURE PROJECT BP8.R020 = 0.014 MILES

TOTAL LENGTH PROJECT BP8.R020 = 0.068 MILES

Plans Prepared By:
 ms consultants, inc.
5444 Wade Park Blvd.
Suite 150
Raleigh, NC 27607
NC License Number: C-3239

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 7, 2024

LETTING DATE:
OCTOBER 22, 2024

Plans Prepared For:
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - DIVISION 8
121 DOT DRIVE
CARTHAGE, NC 28327

TIM WELCH, PE
NCDOT PROJECT ENGINEER

M. TRAVIS POTTS, PE
PROJECT ENGINEER

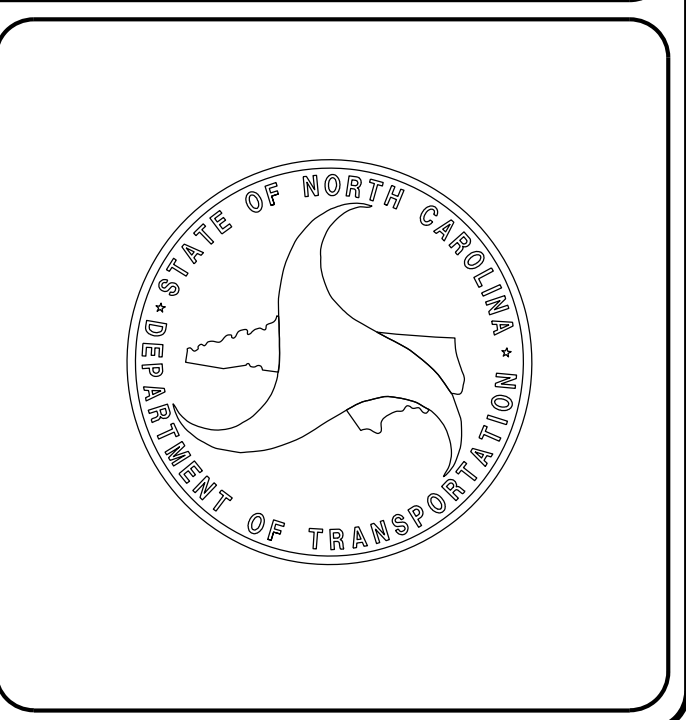
N. K. BOAYUE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

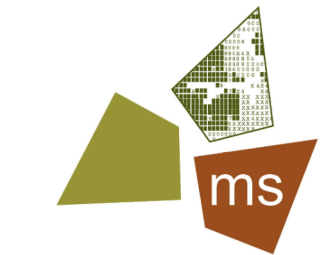
DocuSigned by:
 Andrew Nottingham 8/27/2024
02F940DF9D07A475
P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by:
 M. Travis Potts 8/27/2024
45181E5B504DF
P.E.



8/17/99



ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

PROJECT REFERENCE NO. SHEET NO.
BP8-R020 1A
ROADWAY DESIGN ENGINEER SEAL 041453
NORTH CAROLINA PROFESSIONAL ENGINEERS
TRAVIS POTTS
8/26/2024
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS
SHEET NUMBER SHEET
1 TITLE SHEET
1A INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B CONVENTIONAL SYMBOLS
2A-1 PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1 SUMMARIES OF EARTHWORK, PAVEMENT REMOVAL, SHOULDER BERM GUTTER, AND GUARDRAIL
3D-1 DRAINAGE SUMMARY
3G-1 GEOTECHNICAL SUMMARIES
4 PLAN AND PROFILE SHEET
RW01 THRU RW04 RIGHT-OF-WAY PLANS
TMP-1 THRU TMP-2 TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2 PAVEMENT MARKING PLANS
EC-1 THRU EC-5 EROSION CONTROL PLANS
RF-1 REFORESTATION PLANS
UO-1 THRU UO-2 UTILITIES BY OTHERS PLANS
X-1 CROSS-SECTION SUMMARY SHEET
X-2 THRU X-6 CROSS-SECTIONS
S-1 THRU S-16 STRUCTURE PLANS

GENERAL NOTES: 2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

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

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

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

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

UTILITIES:
UTILITY OWNER ON THIS PROJECT IS RANDOLPH EMC
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 CONTRACT.

- 2024 ROADWAY ENGLISH STANDARD DRAWINGS
The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:
STD.NO. TITLE
DIVISION 2 - EARTHWORK
200.03 Method of Clearing - Method III
225.02 Guide for Grading Subgrade - Secondary and Local
225.04 Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS
300.01 Method of Pipe Installation
DIVISION 4 - MAJOR STRUCTURES
423.01 Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS
560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS
806.01 Concrete Right-of-Way Marker
806.02 Granite Right-of-Way Marker
815.02 Subsurface 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
876.01 Rip Rap in Channels and Ditches
876.02 Guide for Rip Rap at Pipe Outlets

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USER:RDJ

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	☒
Potential Contamination Area: Soil	☒
Known Contamination Area: Water	☒
Potential Contamination Area: Water	☒
Contaminated Site: Known or Potential	☠

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	JS
Buffer Zone 1	BZ 1
Buffer Zone 2	BZ 2
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	WLB
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

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

ROADS AND RELATED FEATURES:

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

Woods Line	-----
Orchard	○
Vineyard	□

EXISTING STRUCTURES:

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

UTILITIES:

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

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

TELEPHONE:

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

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)*	W
U/G Water Line (SUE - LOS C)*	W
U/G Water Line (SUE - LOS D)*	W
Above Ground Water Line	A/G Water
TV:	
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	PH
U/G TV Test Hole (SUE - LOS A)*	○
U/G TV Cable (SUE - LOS B)*	TV
U/G TV Cable (SUE - LOS C)*	TV
U/G TV Cable (SUE - LOS D)*	TV
U/G Fiber Optic Cable (SUE - LOS B)*	TV FO
U/G Fiber Optic Cable (SUE - LOS C)*	TV FO
U/G Fiber Optic Cable (SUE - LOS D)*	TV FO

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

ME000112017

COMPUTED BY: KTE DATE: 01-25-2024
CHECKED BY: ATN DATE: 01-25-2024

PROJECT NO. SHEET NO.
BP8-R020 3D-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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

Table with columns for Line & Station, Offset, Structure Number, Invert Elevation, Minimum Required Slope, Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP Pipe), C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, and Abbreviations. Includes rows for L 15+04 and L 15+07, and summary rows for SHEET TOTALS and PROJECT TOTALS.

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

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

*UD = Underdrain

*BD = Blind Drain

*SD = Subsurface Drain

8/17/24

-L- CURVE DATA

PI Sta 11+31.59 Δ = 14° 27' 55.6" (RT) D = 6' 28" 29.2" L = 223.41' T = 112.30' R = 884.91'	PI Sta 13+12.14 Δ = 11° 01' 49.5" (RT) D = 8' 56" 59.9" L = 123.25' T = 61.81' R = 640.18'	PI Sta 14+53.82 Δ = 8° 17' 10.1" (RT) D = 5' 10" 19.8" L = 160.21' T = 80.24' R = 1,107.77'	PI Sta 19+19.32 Δ = 3° 45' 15.0" (LT) D = 6' 08" 04.7" L = 61.20' T = 30.61' R = 933.97'	PI Sta 20+49.16 Δ = 18° 00' 31.3" (LT) D = 10' 33" 59.6" L = 170.43' T = 85.92' R = 542.24'
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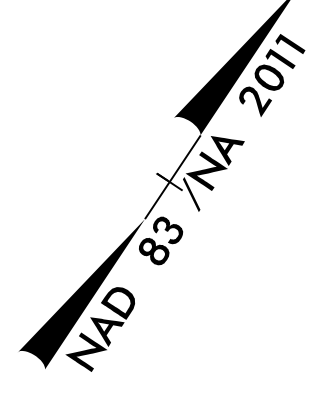
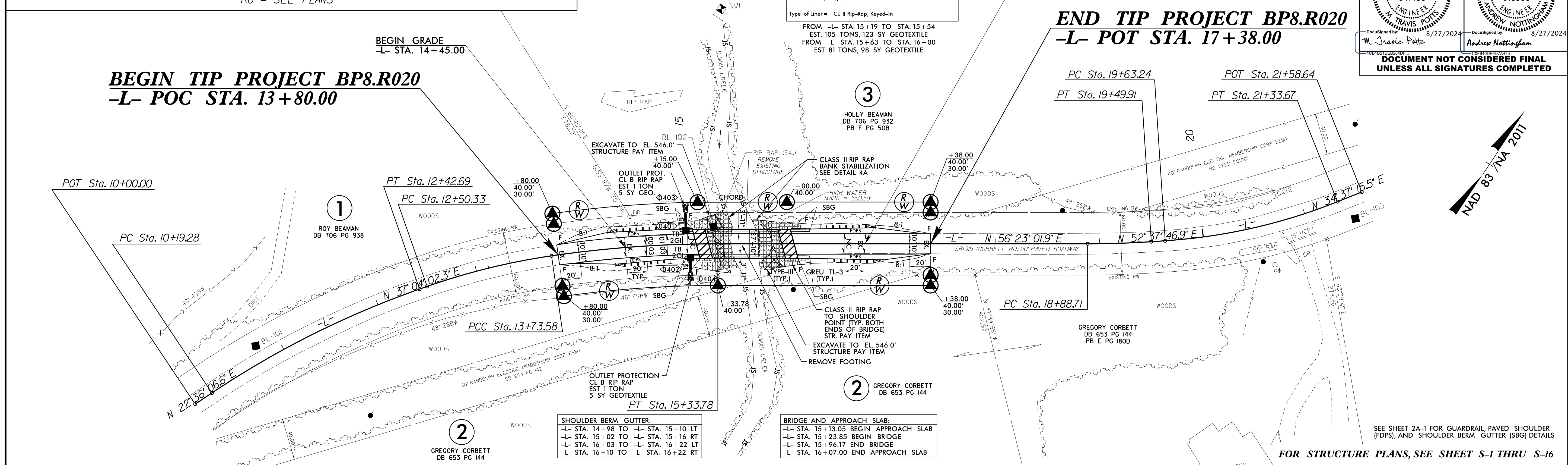
ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

PROJECT REFERENCE NO. BP8-R020	SHEET NO. 4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	SEAL 018533 ANDREW NOTTINGHAM
DocuSigned by: M. Travis Potts 8/27/2024	DocuSigned by: Andrew Nottingham 8/27/2024

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

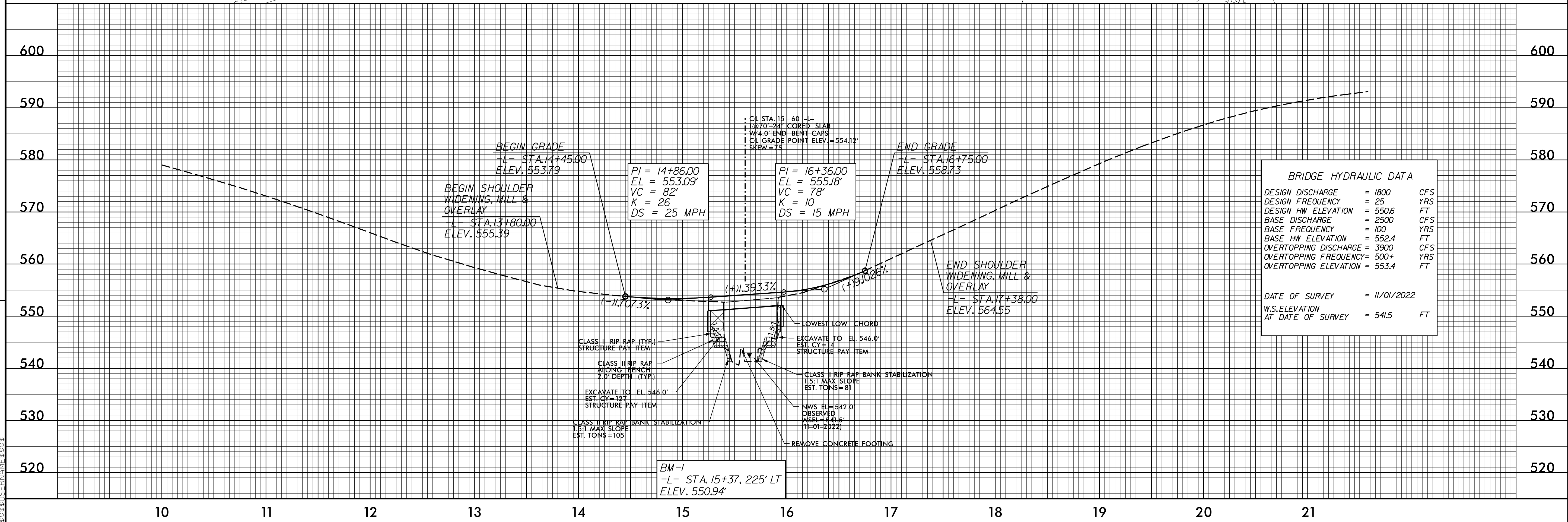
BEGIN TIP PROJECT BP8.R020
-L- POC STA. 13+80.00

END TIP PROJECT BP8.R020
-L- POT STA. 17+38.00



SEE SHEET 2A-1 FOR GUARDRAIL, PAVED SHOULDER (FDPS), AND SHOULDER BERM GUTTER (SBG) DETAILS

FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-16



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1800	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 550.6	FT
BASE DISCHARGE	= 2500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 552.4	FT
OVERTOPPING DISCHARGE	= 3900	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 553.4	FT

DATE OF SURVEY = 11/01/2022
W.S. ELEVATION AT DATE OF SURVEY = 541.5 FT

REVISIONS

22-AUG-2024 10:12:28
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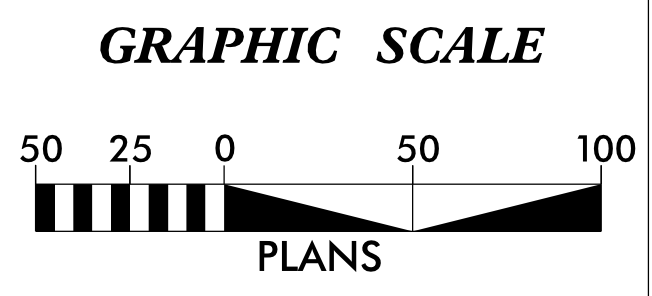
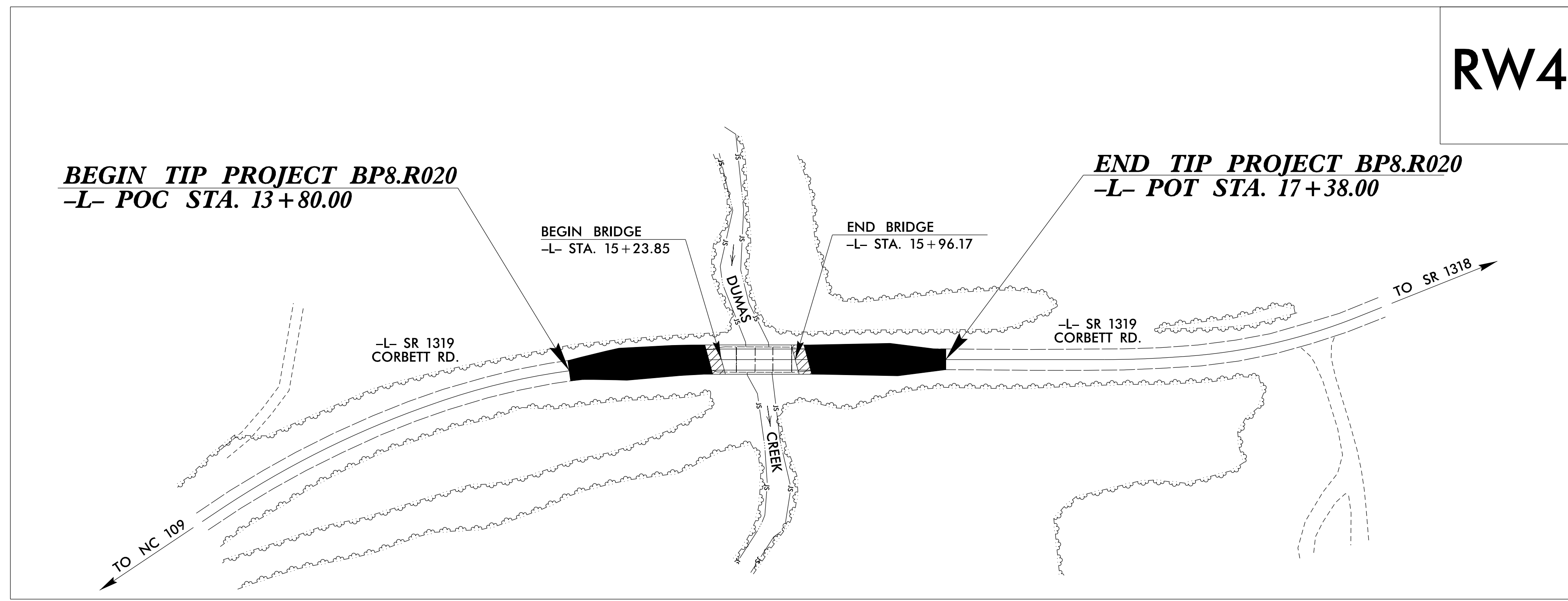
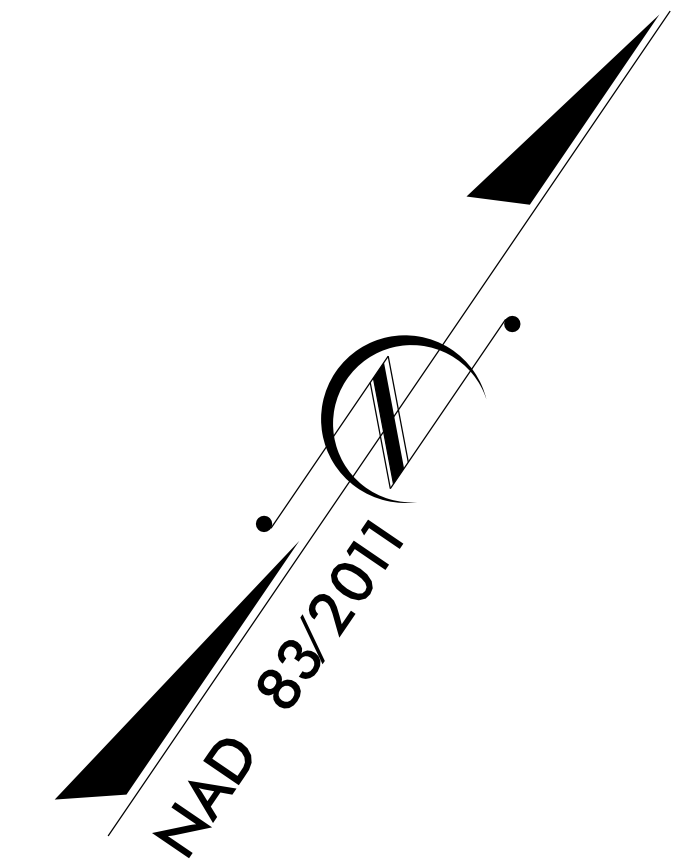
TIP PROJECT: BP8.R020.1

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP8.R020.1	RW01	7

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

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

MONTGOMERY COUNTY



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "BP8.R020-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 598540.273(ft) EASTING: 1723778.277(ft)
 ELEVATION: 598.897(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99985167

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BP8.R020-2" TO -L- sta 13+80 S21°46'58.7"W 810.56

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

Prepared in the Office of:

4300 Edwards Mill Rd Suite 200,
 RALEIGH, NC 27612
 (P) 919-233-8091

2018 STANDARD SPECIFICATIONS

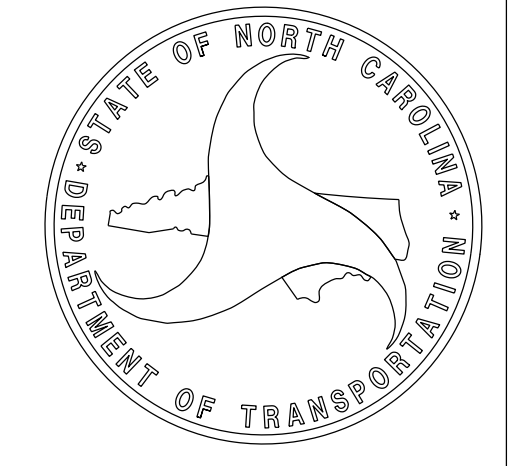
RIGHT OF WAY DATE: 01/29/24

LETTING DATE: 11/26/24

PROFESSIONAL LAND SURVEYOR

DocuSigned by:
 Jeffrey Aker
 4/8/2024

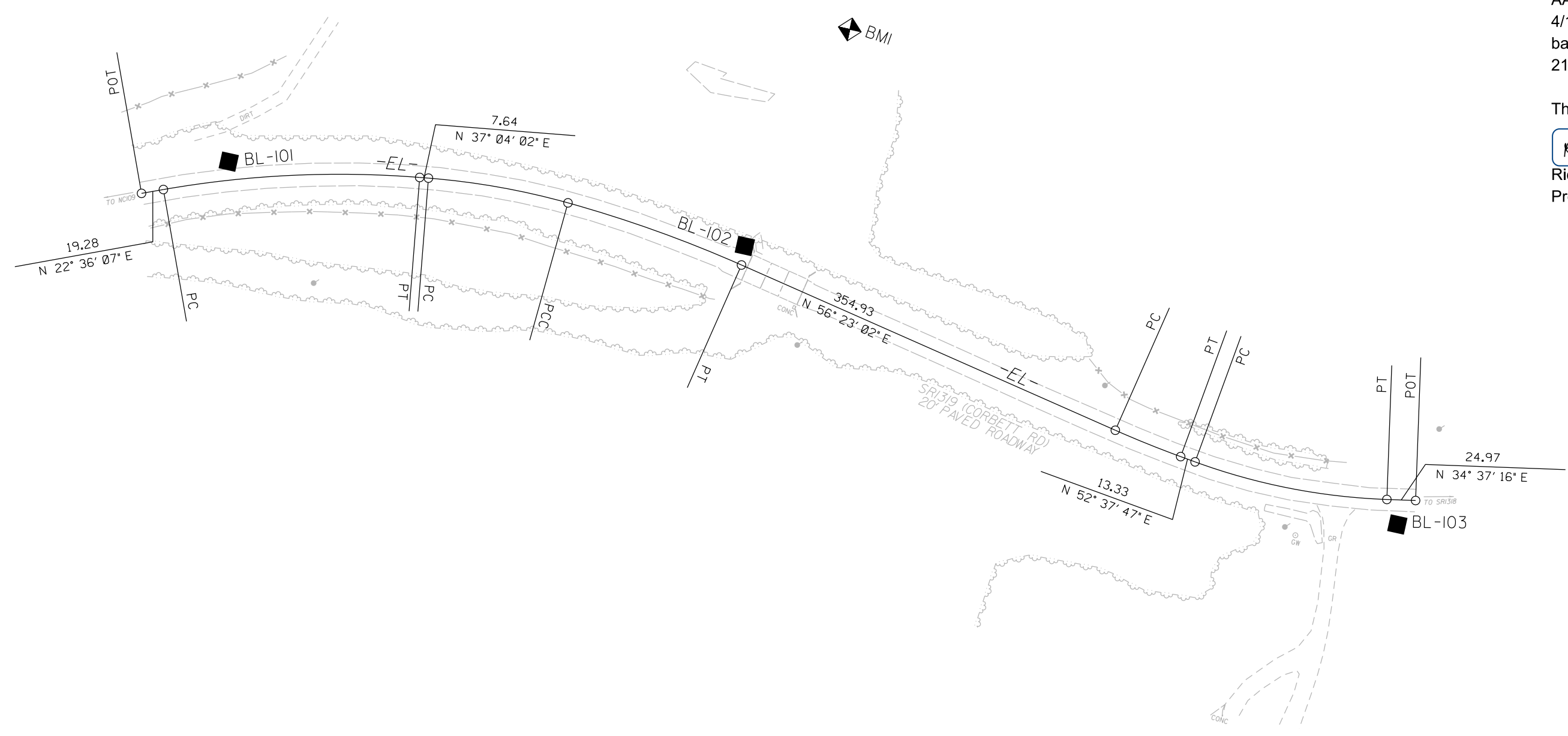
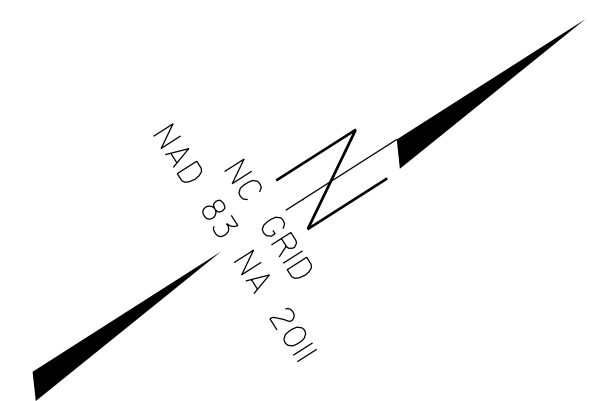
SIGNATURE: _____ Date: _____



SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. BP8.R020.1	SHEET NO. RW02C-1
Location and Surveys	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



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

Class of survey: **AA**
 Type of GPS field procedure: RTN
 Dates of survey: 4/07/22-4/18/22
 Datum/Epoch: NAD 1983/NA 2011
 Published/Fixed-control use: N/A
 Localized around: BP8.R020-2
 Northing: 598540.273
 Easting: 1723778.277
 Combined grid factor: 0.99985167
 Geoid model: G18US
 Units: USFT

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 4/07/22 to 4/15/22, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 22nd day of April, 2022.
 Digitally signed by: 04/22/2022
 Richard A. Mitchell
 Professional Land Surveyor L-5060

**SEE SHEET RW02C-2
 FOR FURTHER
 ALIGNMENT DETAILS**

NOTES:

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

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. BP8.R020.1	SHEET NO. RW02C-2
Location and Surveys	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

Class of survey: **AA**
 Type of GPS field procedure: RTN
 Dates of survey: 4/07/22-4/18/22
 Datum/Epoch: NAD 1983/NA 2011
 Published/Fixed-control use: N/A
 Localized around: BP8.R020-2
 Northing: 598540.273
 Easting: 1723778.277
 Combined grid factor: 0.99985167
 Geoid model: G18US
 Units: USFT

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 4/07/22 to 4/15/22, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 22nd day of April, 2022.

Richard A. Mitchell
 Professional Land Surveyor L-5060



EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	598980.892	1723868.145	N 22°36'06.6" E	19.28					
LINE									
PC	598998.693	1723875.556	N 29°50'04.5" E	222.82	14°27'55.6"(RT)	06°28'29.2"	223.41	112.30	884.91
CURVE									
PT	599191.981	1723986.408	N 37°04'02.3" E	7.64					
LINE									
PC	599198.074	1723991.011	N 42°34'57.0" E	123.06	11°01'49.5"(RT)	08°56'59.9"	123.25	61.81	640.18
CURVE									
PCC	599288.680	1724074.276	N 52°14'26.9" E	160.07	08°17'10.1"(RT)	05°10'19.8"	160.21	80.24	1107.77
CURVE									
PT	599386.696	1724200.824	N 56°23'01.9" E	354.93					
LINE									
PC	599583.195	1724496.397	N 54°30'24.4" E	61.19	03°45'15.0"(LT)	06°08'04.7"	61.20	30.61	933.97
CURVE									
PT	599618.720	1724546.214	N 52°37'46.9" E	13.33					
LINE									
PC	599626.810	1724556.806	N 43°37'31.2" E	169.73	18°00'31.3"(LT)	10°33'59.6"	170.43	85.92	542.24
CURVE									
PT	599749.672	1724673.910	N 34°37'15.5" E	24.97					
LINE									
POT	599770.218	1724688.094							

NOTES:

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

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. BP8.R020.1	SHEET NO. RW02C-3
Location and Surveys	
	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

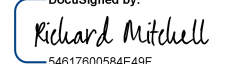
BL	POINT	DESC.	NORTH	EAST	ELEVATION
1		BP8.R020-1	597921.2330	1723640.3300	616.578
2		BP8.R020-2	598540.2730	1723778.2770	598.897
101		BL-101	599059.5320	1723885.6040	574.366
102		BL-102	599397.9760	1724188.3860	551.652
103		BL-103	599745.6220	1724697.0380	592.060

.....
 BM1 ELEVATION = 550.940
 N 599576 E 1724079
 BENCH TIE SET IN 13" HICKORY

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

Class of survey: **AA**
 Type of GPS field procedure: RTN
 Dates of survey: 4/07/22-4/18/22
 Datum/Epoch: NAD 1983/NA 2011
 Published/Fixed-control use: N/A
 Localized around: BP8.R020-2
 Northing: 598540.273
 Easting: 1723778.277
 Combined grid factor: 0.99985167
 Geoid model: G18US
 Units: USFT



I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 4/07/22 to 4/15/22, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 22nd day of April, 2022.
 04/22/2022
 Richard A. Mitchell
 Professional Land Surveyor L-5060

NOTES:

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

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
BP8.R020.1	RW03E-1
Location and Surveys	
 4300 Edwards Mill Rd, Suite 200, RALEIGH, NC 27612 (P) 919-233-8051	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

REVISIONS

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+80.00	-40.00	599322.8822	1724052.5281
L	13+80.00	-30.00	599315.4008	1724059.1635
L	13+80.00	30.00	599270.5121	1724098.9756
L	13+80.00	40.00	599263.0306	1724105.6109
L	15+33.78	40.00	599353.3857	1724222.9687
L	17+38.00	40.00	599466.4457	1724393.0336
L	17+38.00	-40.00	599533.0669	1724348.7435
L	17+38.00	-30.00	599524.7392	1724354.2797
L	17+38.00	30.00	599474.7733	1724387.4973
L	16+00.00	-40.00	599456.6665	1724233.8219
L	15+15.00	-40.00	599409.0959	1724162.5641

I, Jeffrey D. Aker, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further 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.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 8th day of April, 2024.

DocuSigned by:

 B5C6B8C345942D...

Professional Land Surveyor

L-4234
 PLS #

Seal

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 3/5/2024 .

REVISIONS

I, Jeffrey D. Aker, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further 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.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).


Witness my original signature, registration number and seal this 5th day of April, 2024.

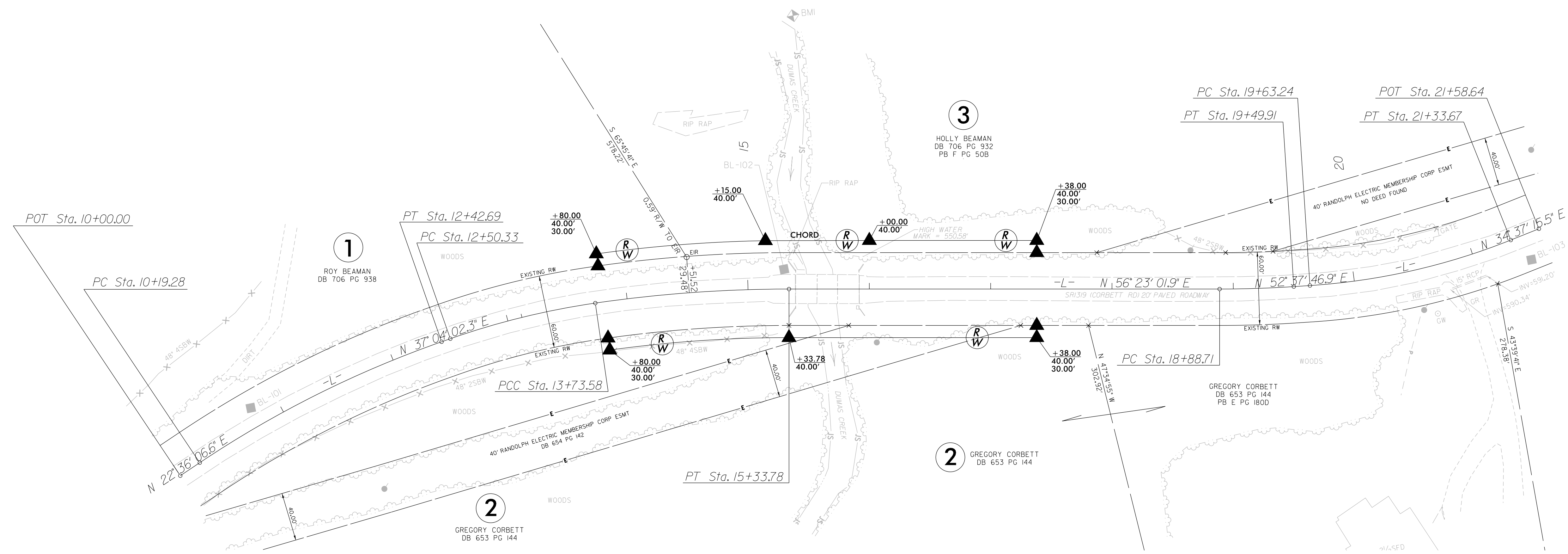
DocuSigned by:
Jeffrey Aker

Professional Land Surveyor

L-4234
PLS #

Seal

PROJECT REFERENCE NO. BP8.R020.1	SHEET NO. RW04
Location and Surveys	
INSERT CONSULTANT'S NAME MCKIM & CREED	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

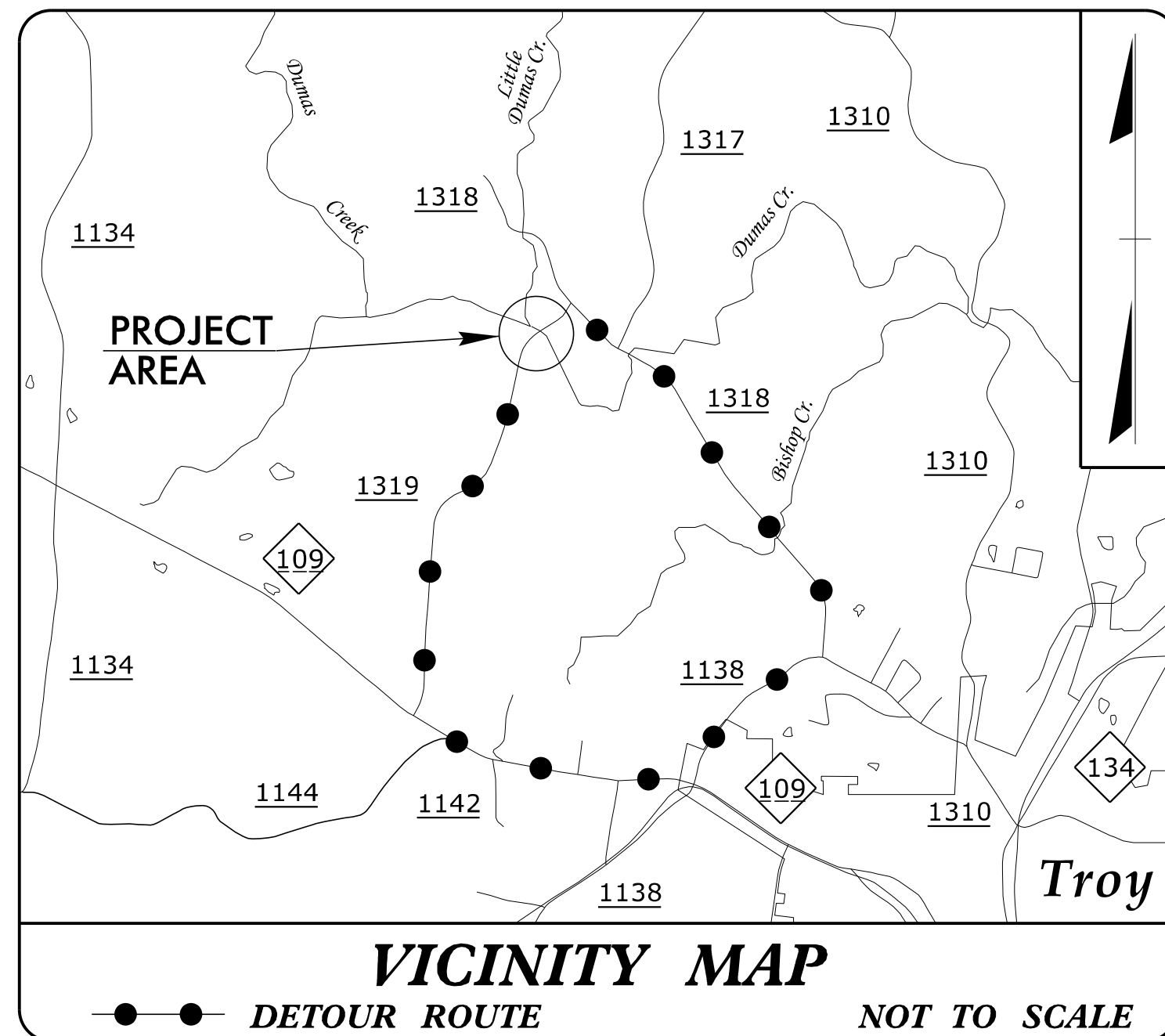
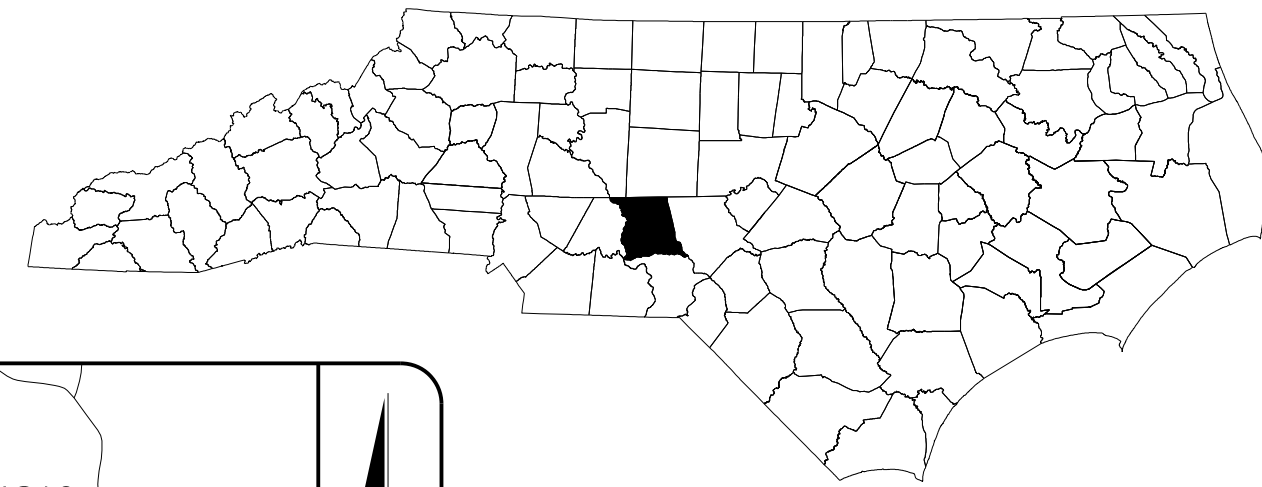


NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 3/5/2024.

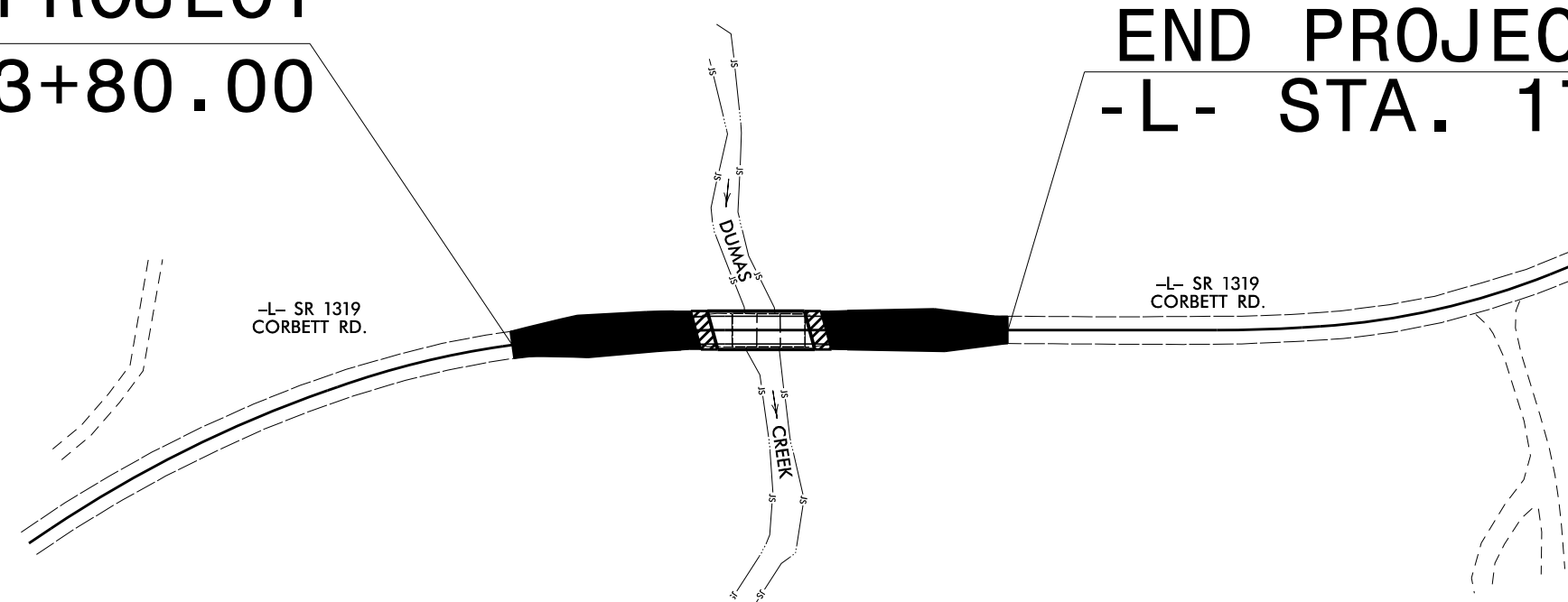
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
MONTGOMERY COUNTY

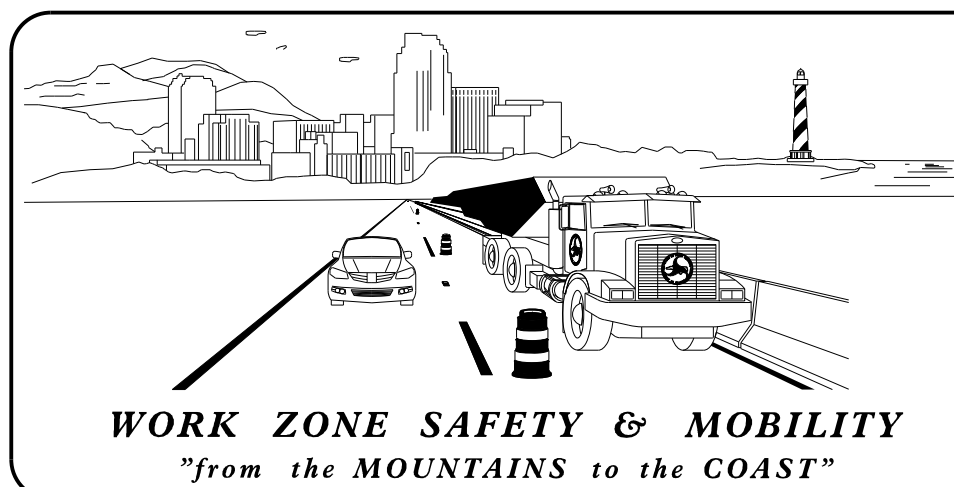


BEGIN PROJECT
-L- STA. 13+80.00

END PROJECT
-L- STA. 17+38.00

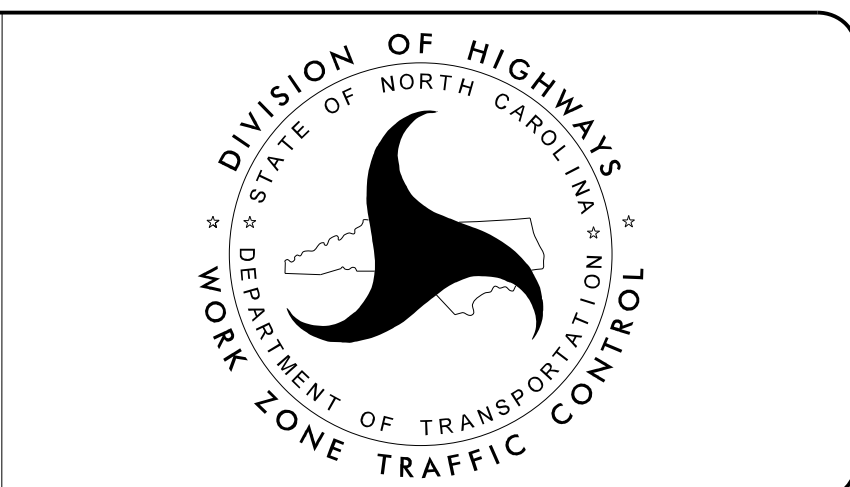


8/26/2024
N:\D0160\08391-00_BP8.R020_MONTGOMERY_203\TrafficControl\CP\BP8R020_TMP_title.dgn
User: tgraves



PLANS PREPARED BY:
TYSON A. GRAVES, PE
PAYTON L. NELSON

NCDOT CONTACTS:
KENNETH C. THORNEWELL, PE
PROJECT ENGINEER
JUSTIN D. BEAVER, PE



ms consultants, inc.
5444 Wake Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

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UNLESS ALL SIGNATURES COMPLETED**

APPROVED:
DATE: 8-26-2024
SEAL



SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES, PHASING, AND LEGEND
TMP-2	DETOUR ROUTE AND SIGNING
TMP-3	WORK ZONE SIGN DESIGN

SHEET NO.
TMP-1

BP8-R020

TIP PROJECT:

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN STANDARDS
1110.01	STATIONARY WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES

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) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 10 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- C) 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.
- D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

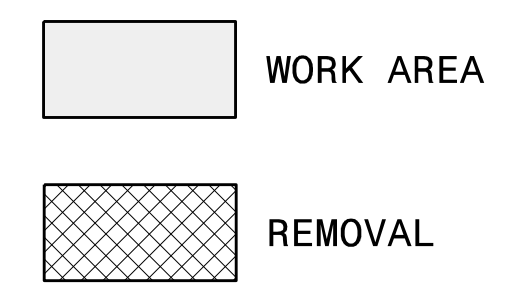
COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- E) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

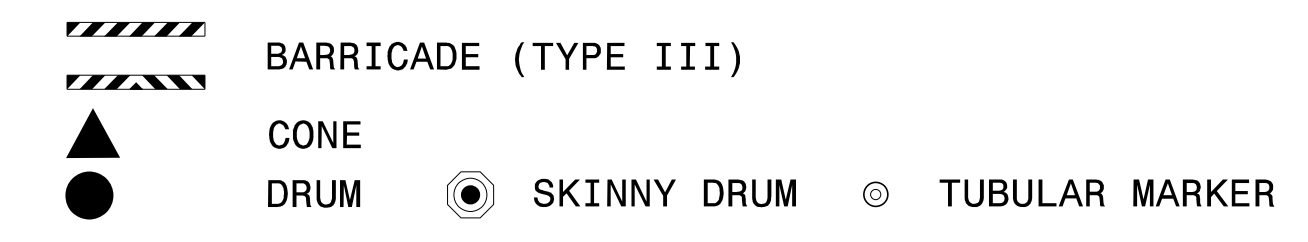
- F) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

LEGEND

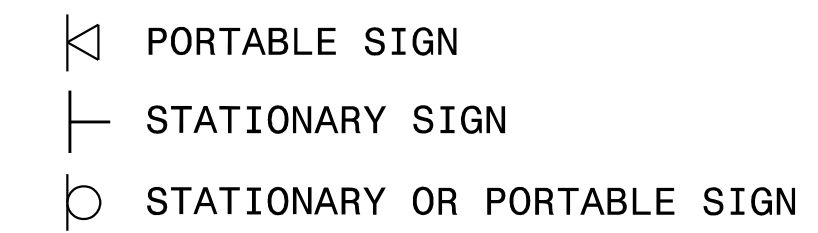
GENERAL



TRAFFIC CONTROL DEVICES



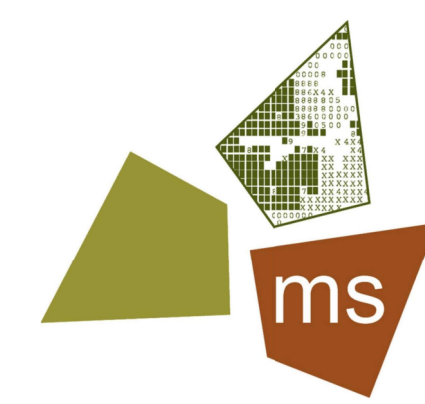
TEMPORARY SIGNING



PHASING

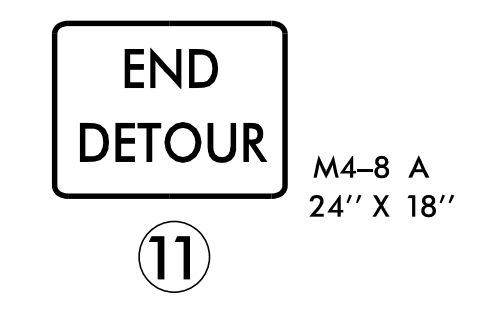
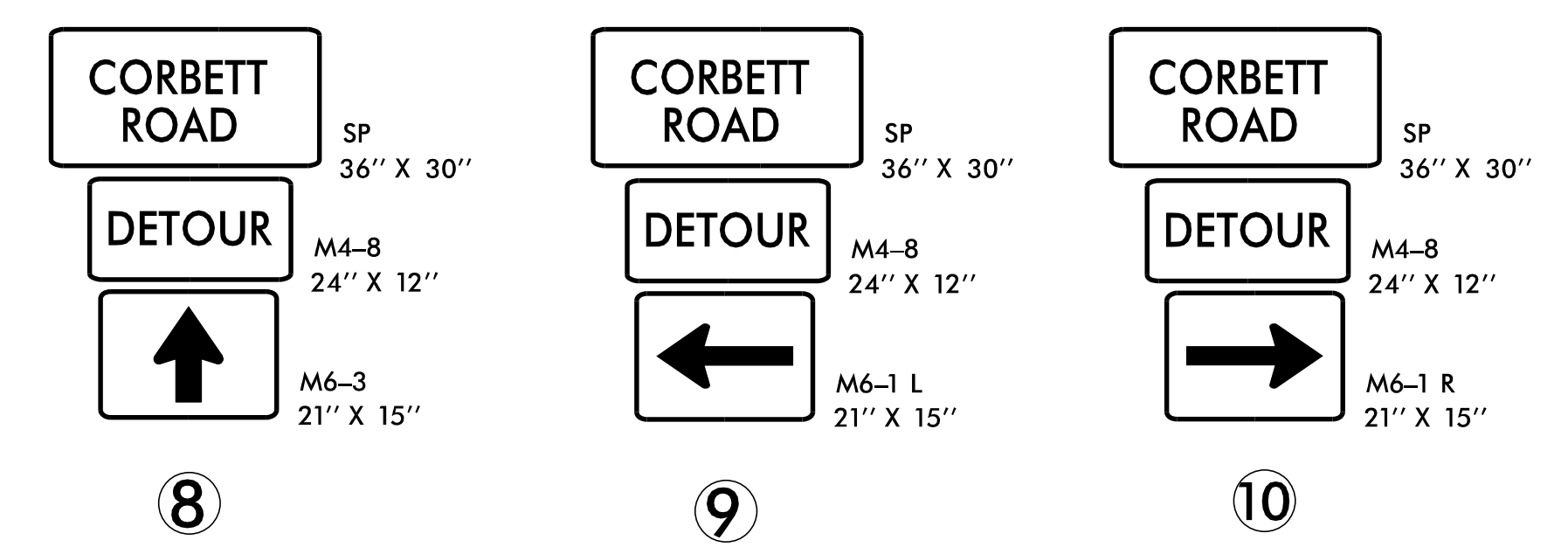
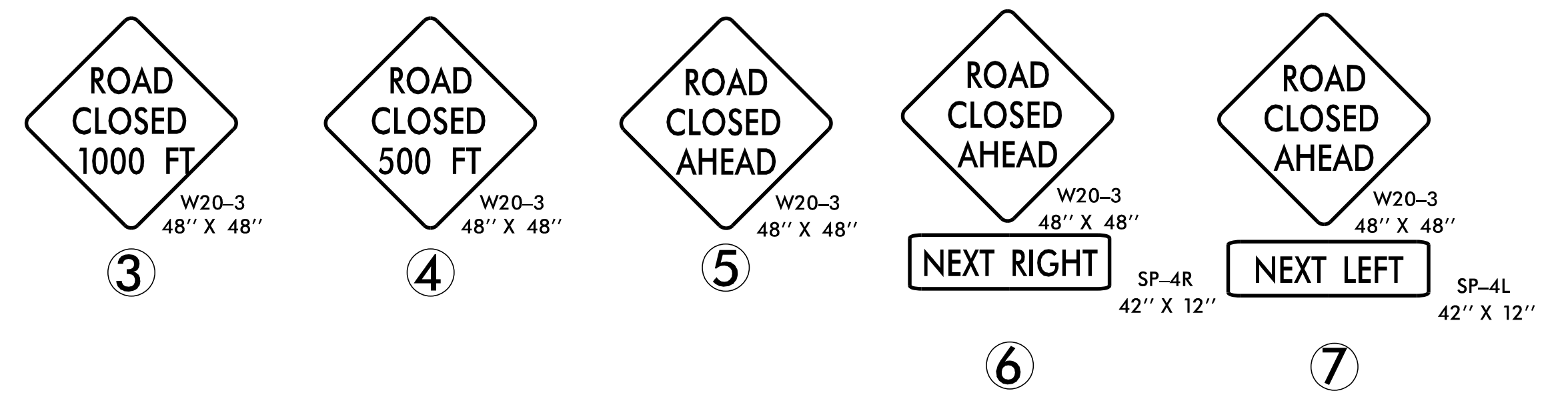
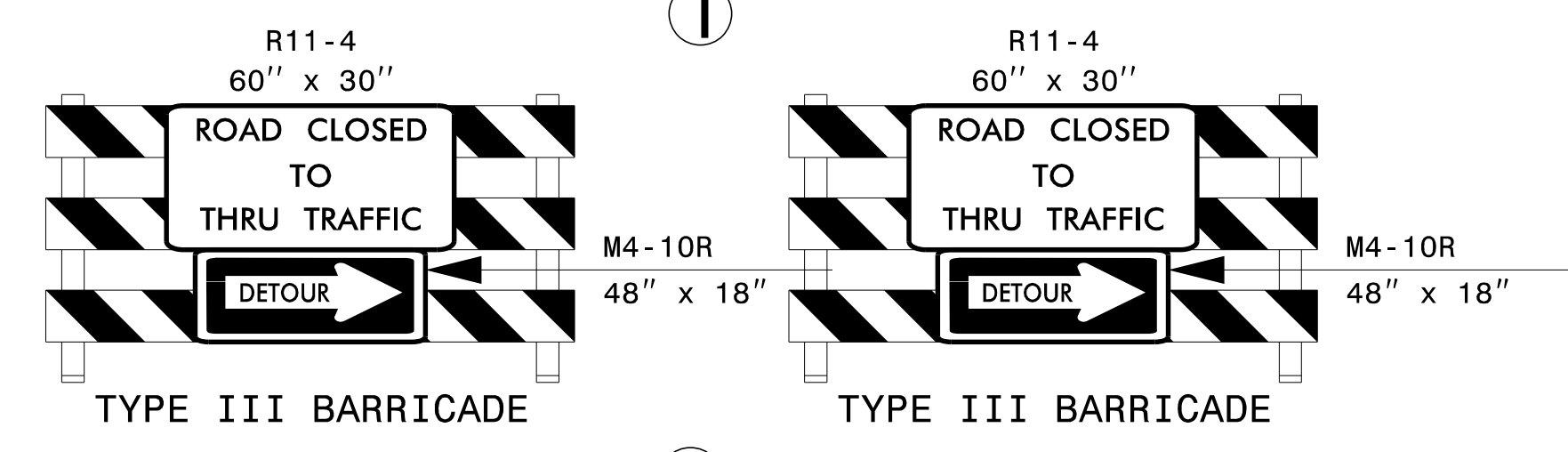
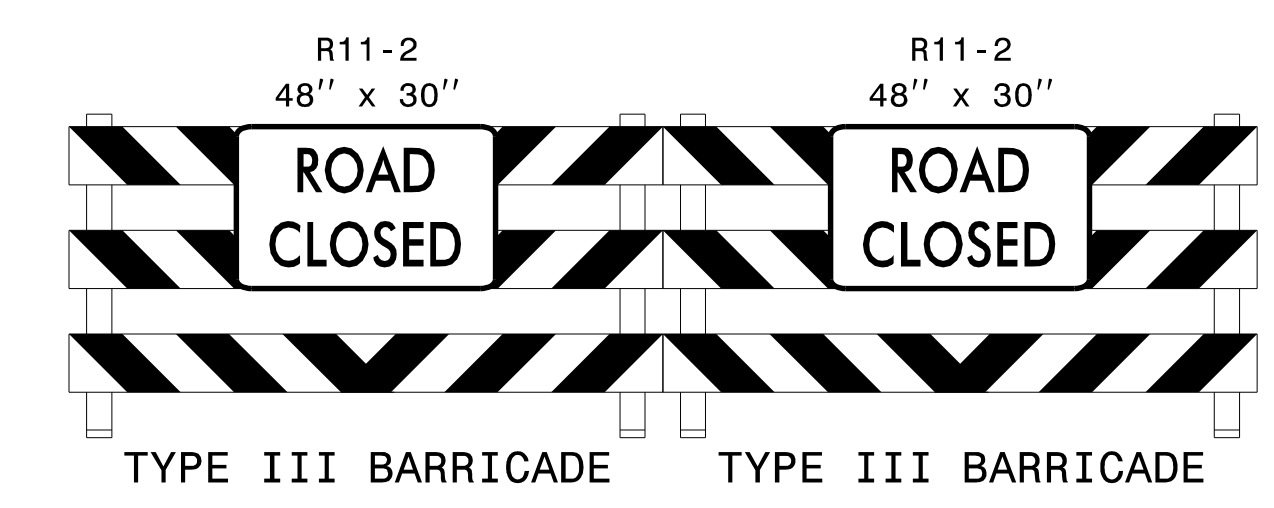
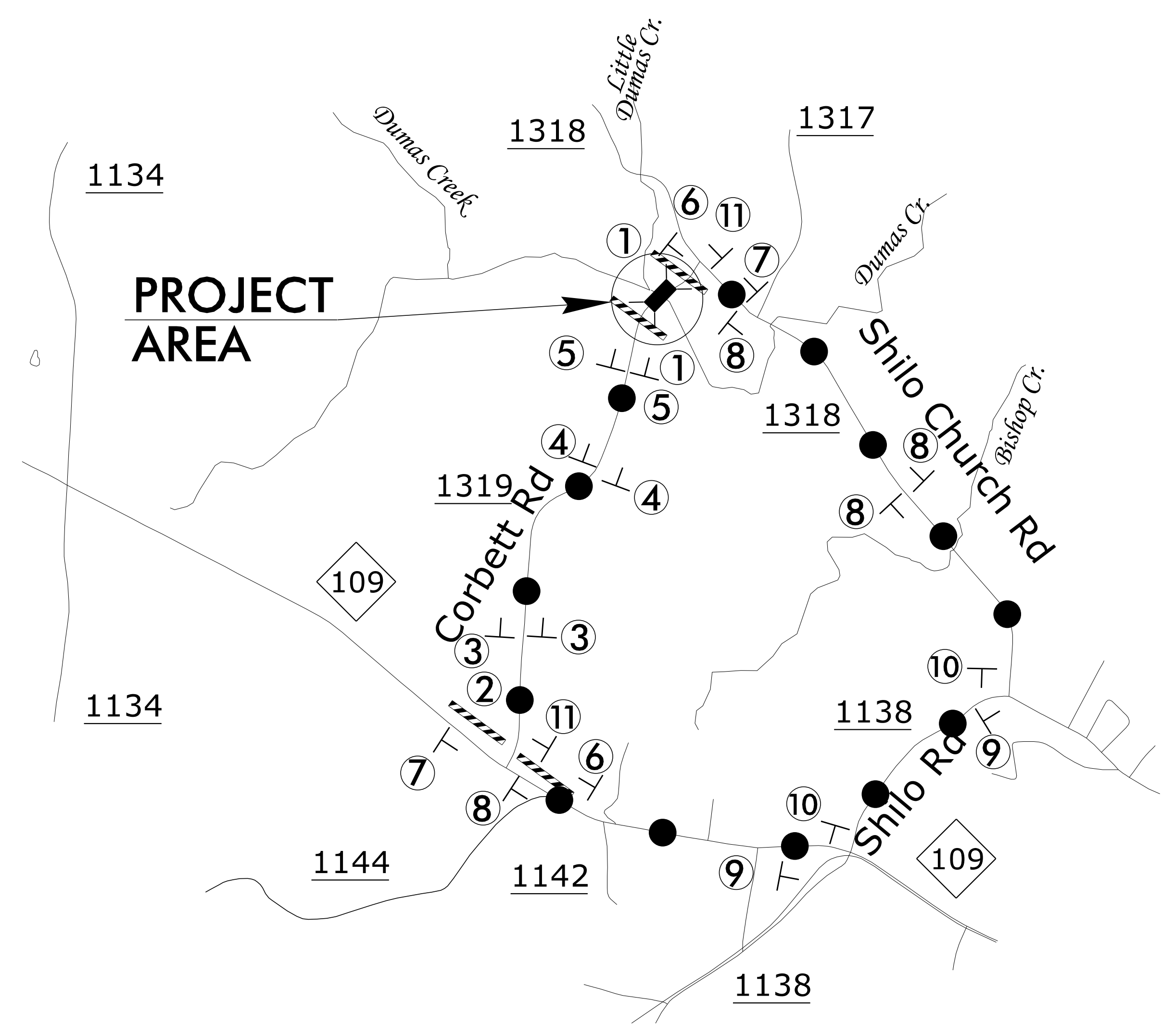
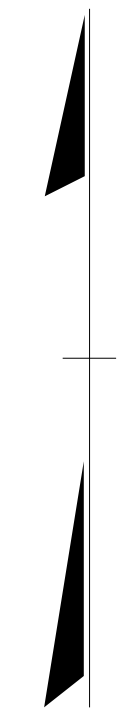
- STEP 1 - INSTALL ADVANCE WARNING SIGNS ACCORDING TO ROADWAY STANDARD DRAWING 1101.01 (SHEET 3 OF 3).
- STEP 2 - INSTALL DETOUR SIGNS AS SHOWN ON TMP-2, AND COVER.
- STEP 3 - USING ROADWAY STANDARD DRAWING 1101.03 (SHEET 1 OF 9) , INSTALL TYPE III BARRICADES AS SHOWN ON TMP-2, UNCOVER DETOUR SIGNS, AND CLOSE ROAD.
- STEP 4 - REMOVE EXISTING STRUCTURE, AND CONSTRUCT BRIDGE AND APPROACHES.
- STEP 5 - INSTALL PERMANENT PAVEMENT MARKINGS AND MARKERS.
- STEP 6 - REMOVE DETOUR SIGNS, AND OPEN ROAD TO TRAFFIC.

8/26/2024 8:00:00 AM N:\D0160\08391-00_BP8.R020_MONTGOMERY_203\TrafficControl\CP\BP8R020_TMP_title_1a.dgn User:traves

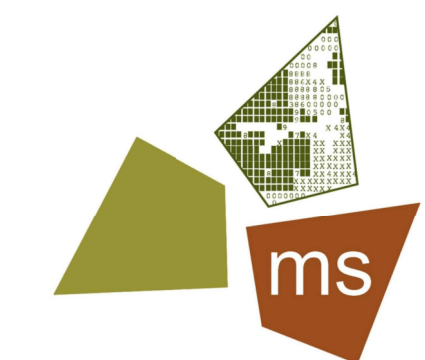


ms consultants, inc.
 5444 Wake Park Blvd.
 Suite 160
 Raleigh, NC 27607
 NC License Number : C-3239

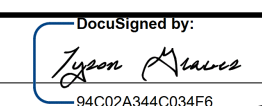
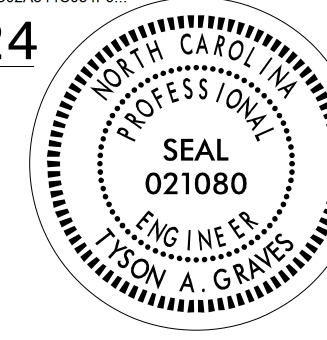
APPROVED: DATE: 8-26-2024 SEAL			ROADWAY STANDARD DRAWINGS, LEGEND, GENERAL NOTES, & PHASING
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

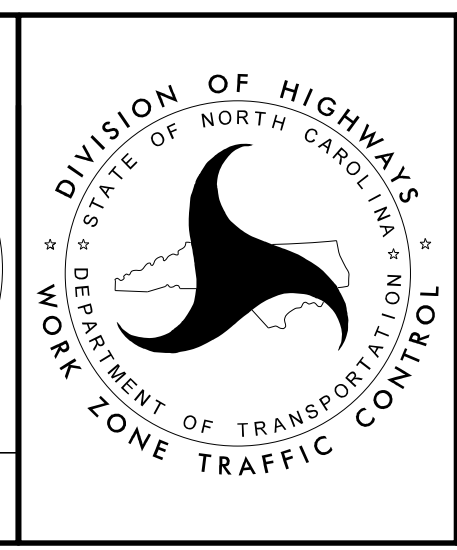


● ● **DETOUR ROUTE**



ms consultants, inc.
5444 Wake Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

APPROVED: 
DATE: 8-26-2024
SEAL 



DETOUR ROUTE AND SIGNS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

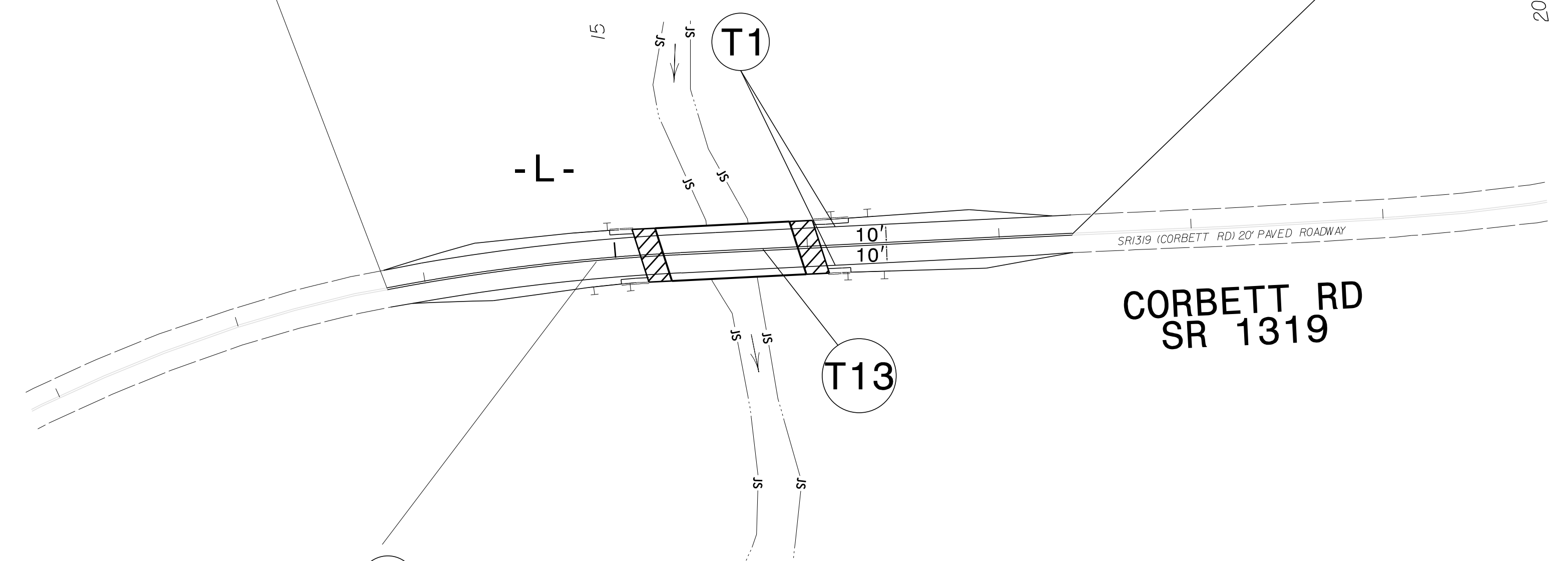
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PROJ. REFERENCE NO.	SHEET NO.
BP8 - R020	PMP - 2

STA. 13+80+/-
TIE TO EXISTING



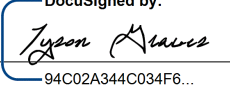
STA. 17+38+/-
TIE TO EXISTING




PLACE ME ACCORDING TO RSD 1250.01

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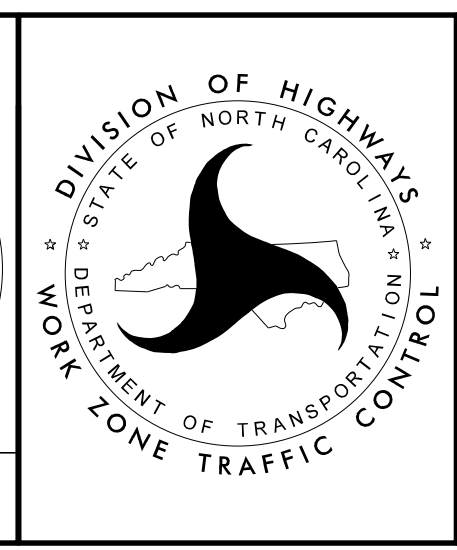
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Suite 160
Raleigh, NC 27607
NC License Number : C-3239

APPROVED: 
DATE: 8-26-2024

SEAL



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UNLESS ALL SIGNATURES COMPLETED**



FINAL PAVEMENT MARKINGS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
BP8.R020	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION & SEDIMENT CONTROL LEGEND

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

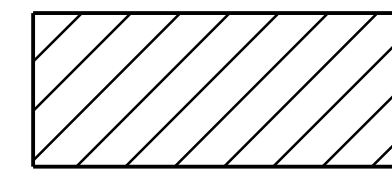
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
<i>BP8.R020</i>	<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 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES

8/17/99



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE
INSTALLED DURING CLEARING AND GRUBBING PHASE.

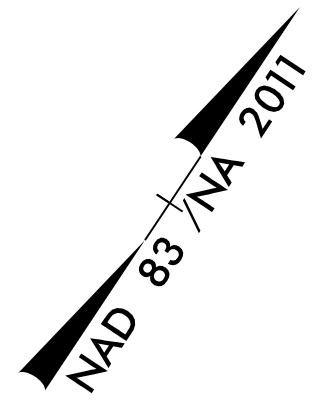
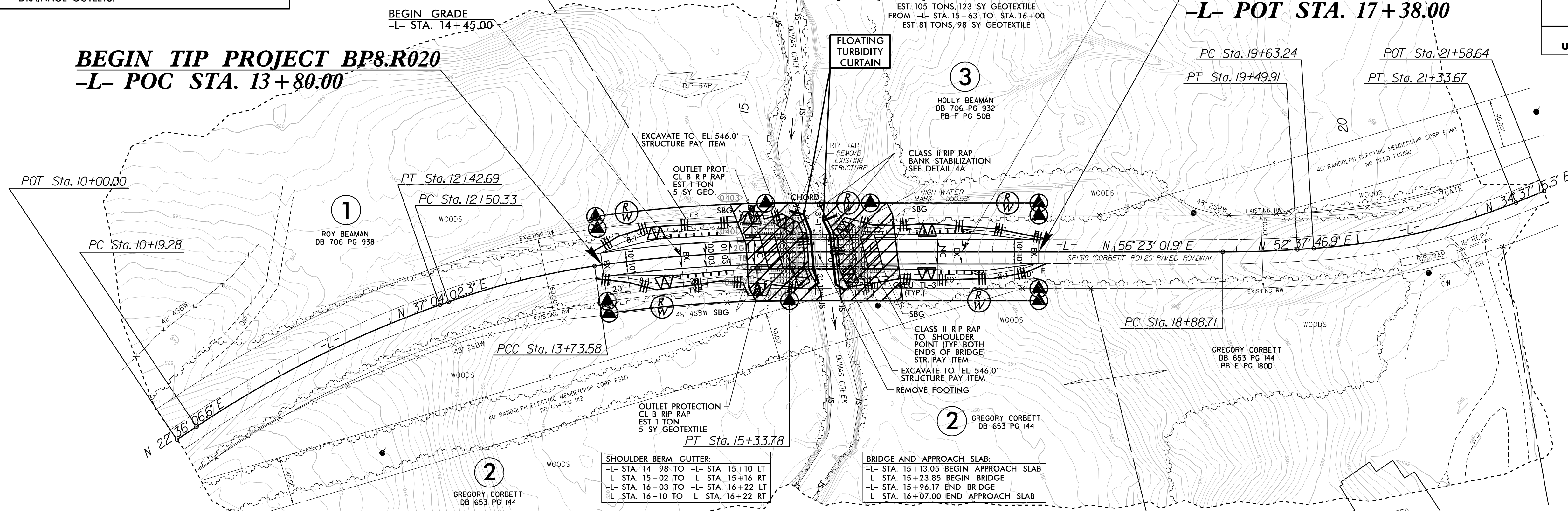
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

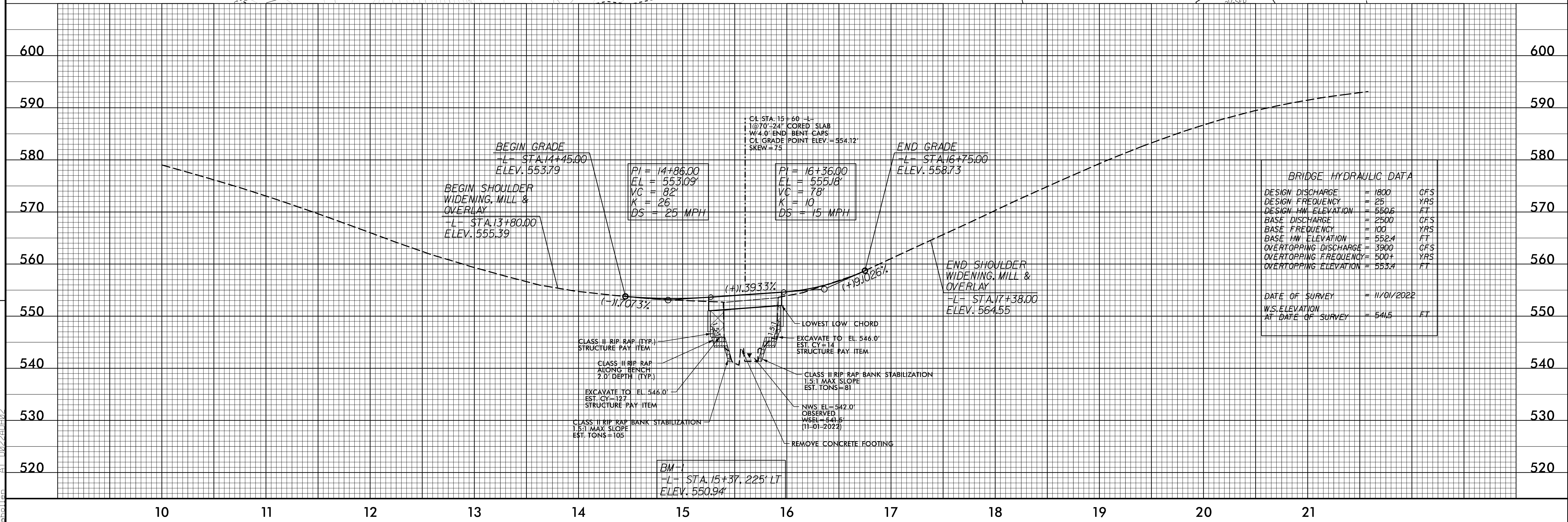
PROJECT REFERENCE NO. <i>BP8.R020</i>	SHEET NO. <i>EC-4/CONST.4</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

BEGIN TIP PROJECT BP8.R020
-L- POC STA. 13+80.00

END TIP PROJECT BP8.R020
-L- POT STA. 17+38.00



REVISIONS



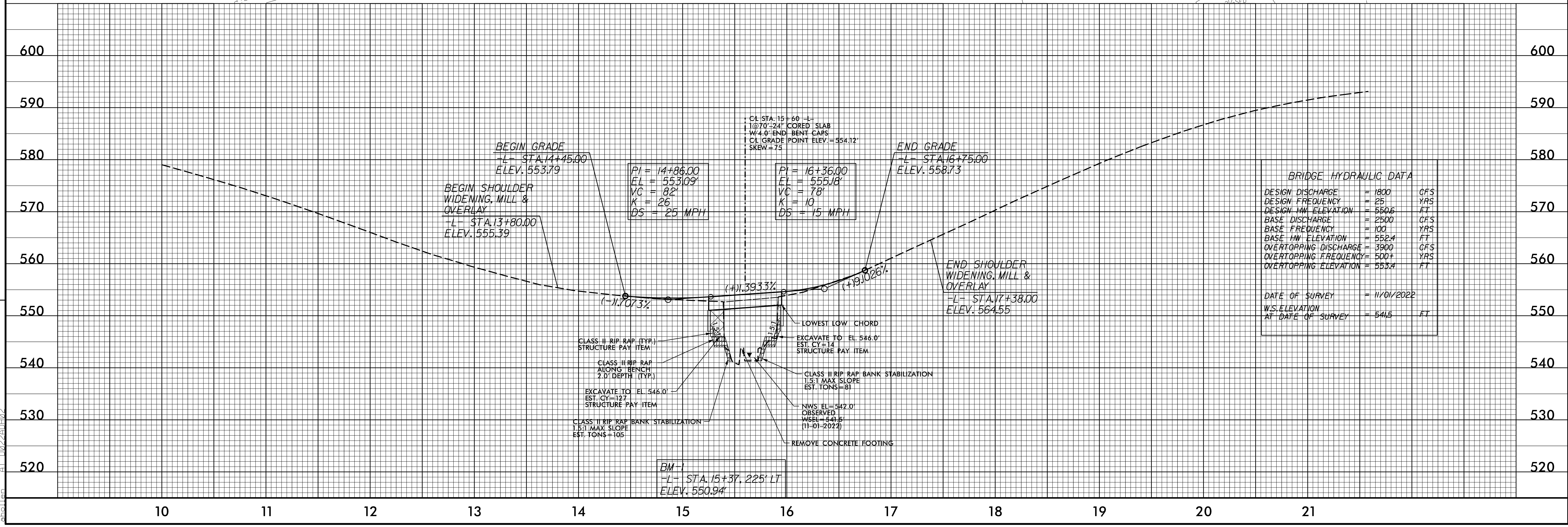
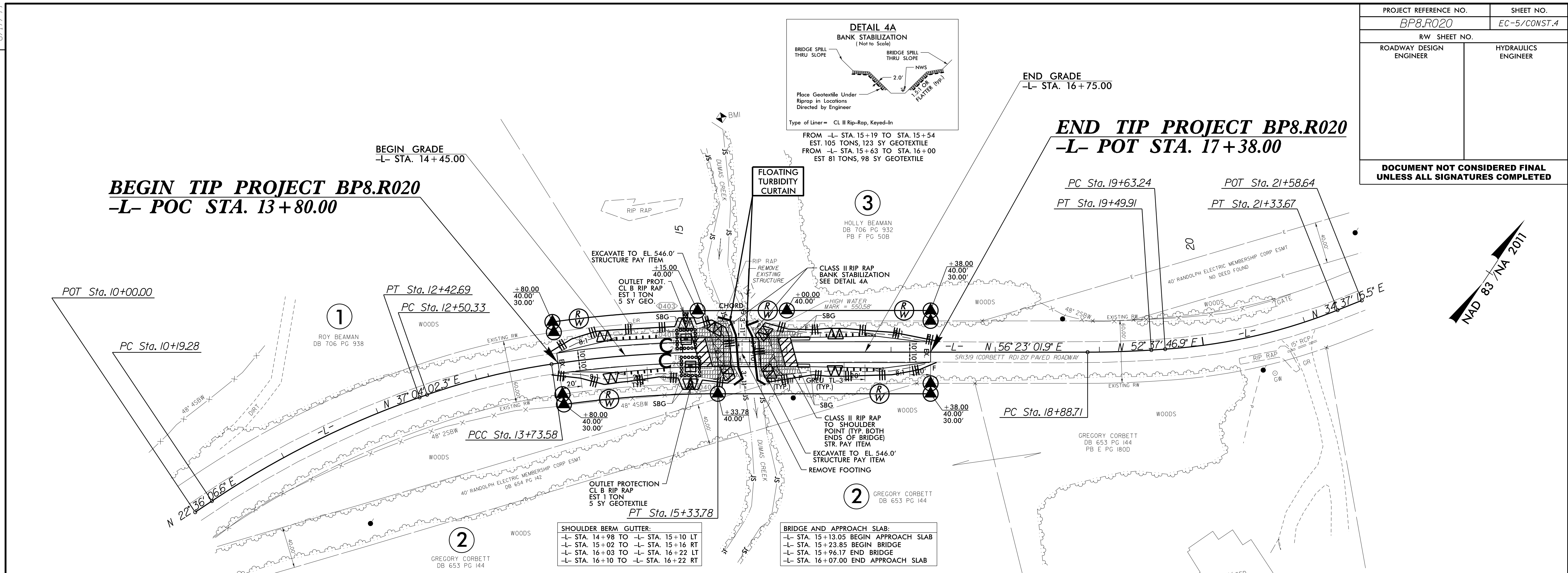
R2-11-2024 15:12:00 BP8.R020 MONTGOMERY 2023\Feston Control\Design\BP8R020_EC.psh_04.dgn

PROJECT REFERENCE NO.	SHEET NO.
BP8.R020	EC-5/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

REVISIONS

BEGIN TIP PROJECT BP8.R020
-L- POC STA. 13+80.00

END TIP PROJECT BP8.R020
-L- POT STA. 17+38.00



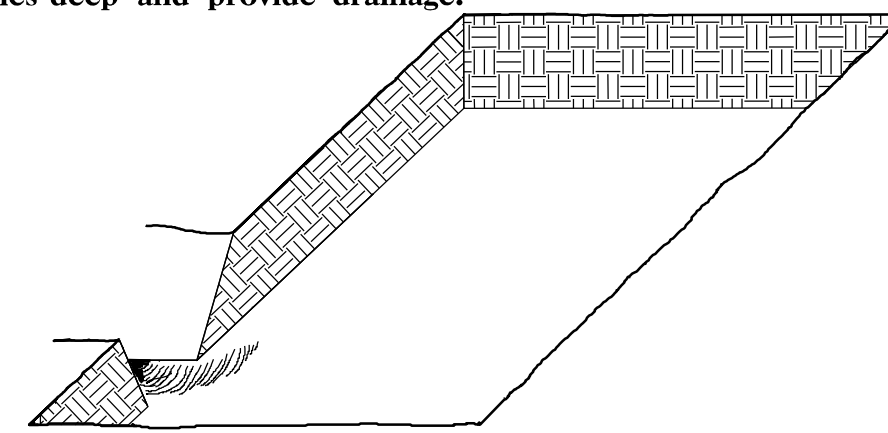
8/17/99
2024.15.13
R:\05\60\06\381\200 BP8.R020 MONTGOMERY 2023\Festation Control\Design\BP8R020_EC.psh_05.dgn
AT 002200

PLANTING DETAILS

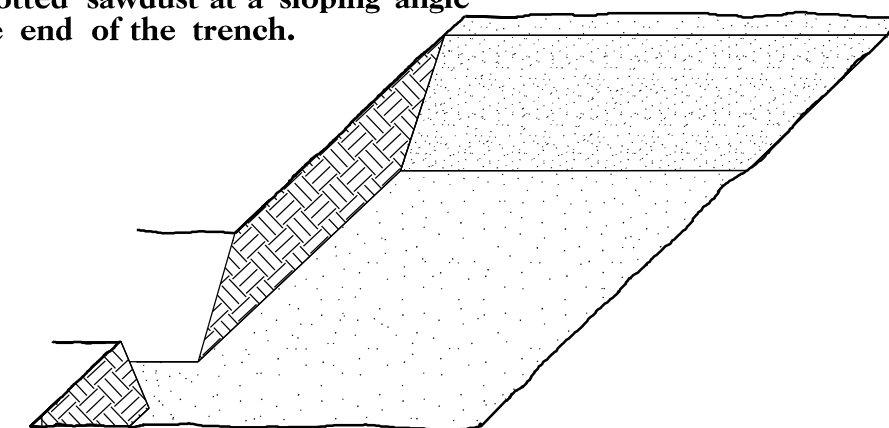
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

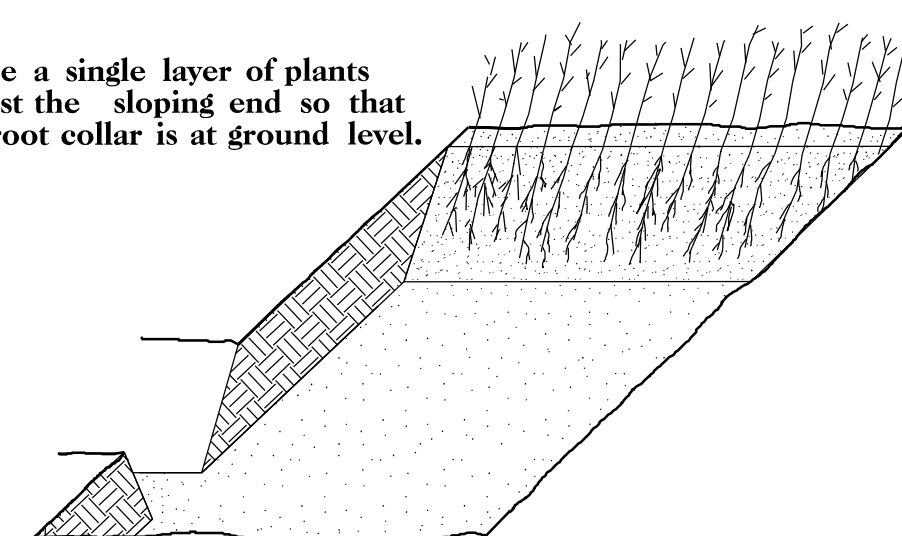
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



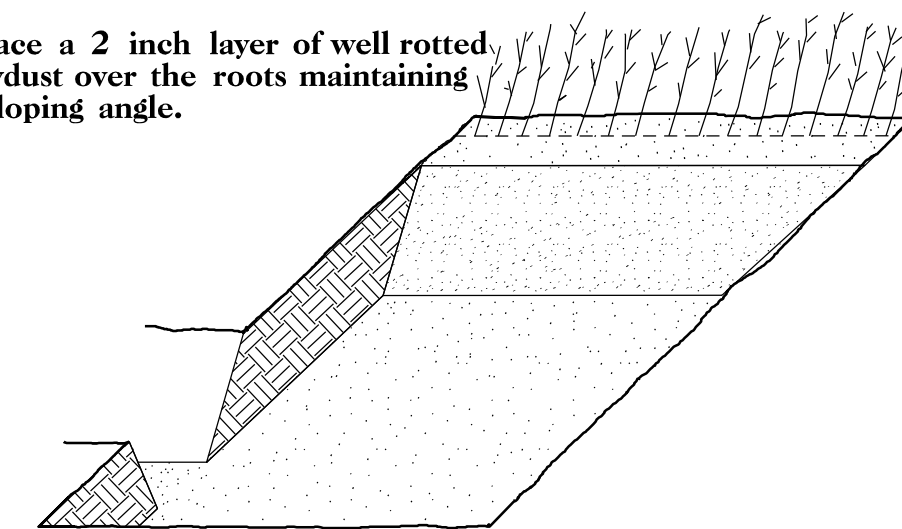
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

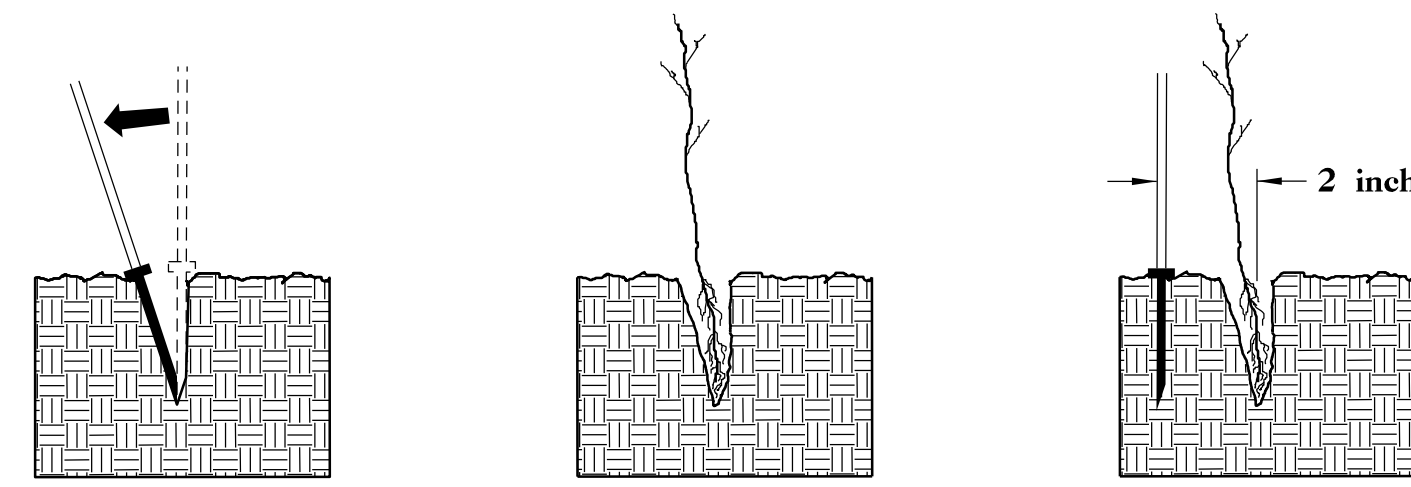


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

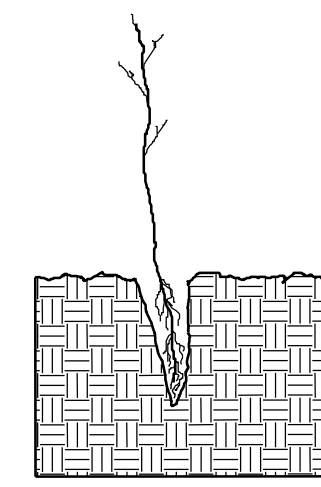


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

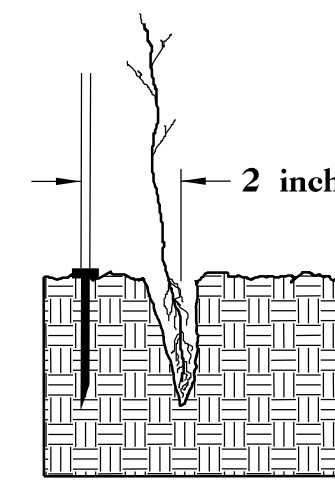
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



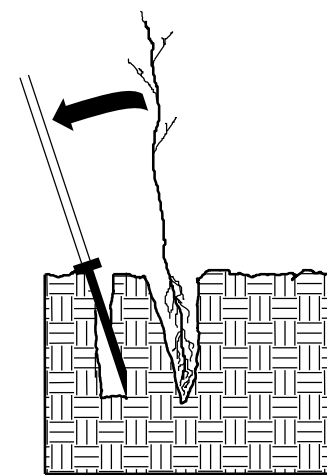
1. Insert planting bar as shown and pull handle toward planter.



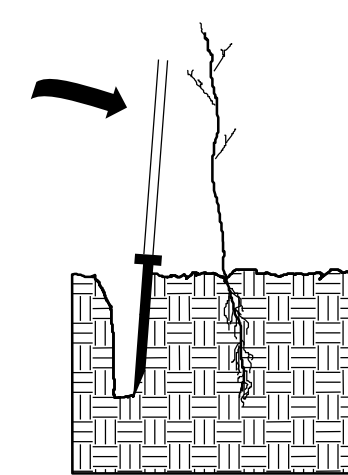
2. Remove planting bar and place seedling at correct depth.



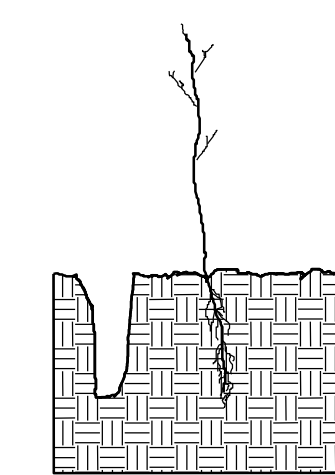
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



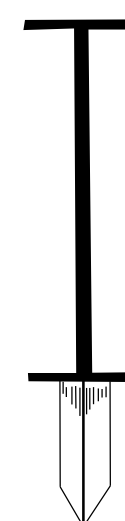
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

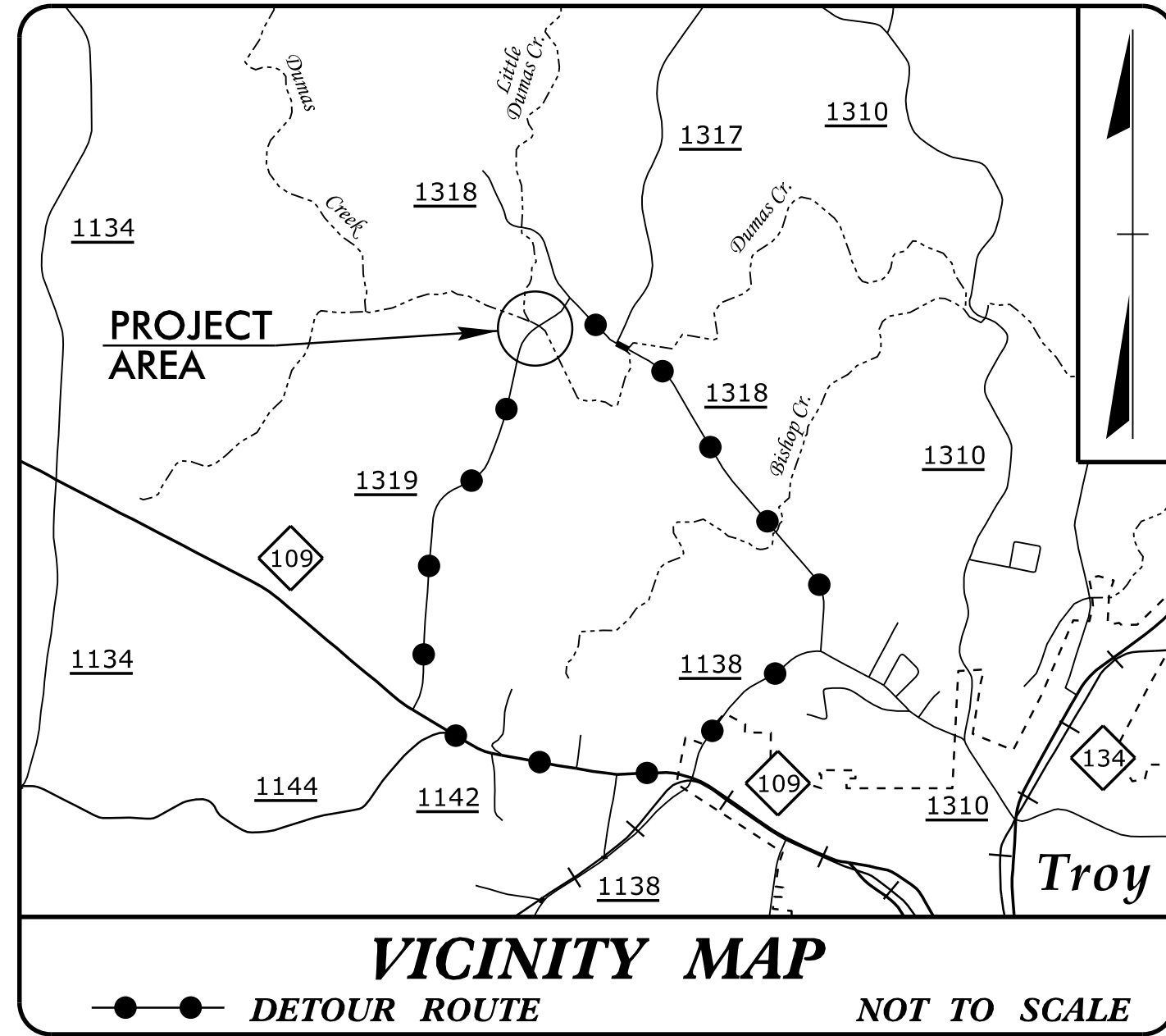
33%	LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
33%	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR
34%	BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

09/08/99

TIP PROJECT: BP8.R020



STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

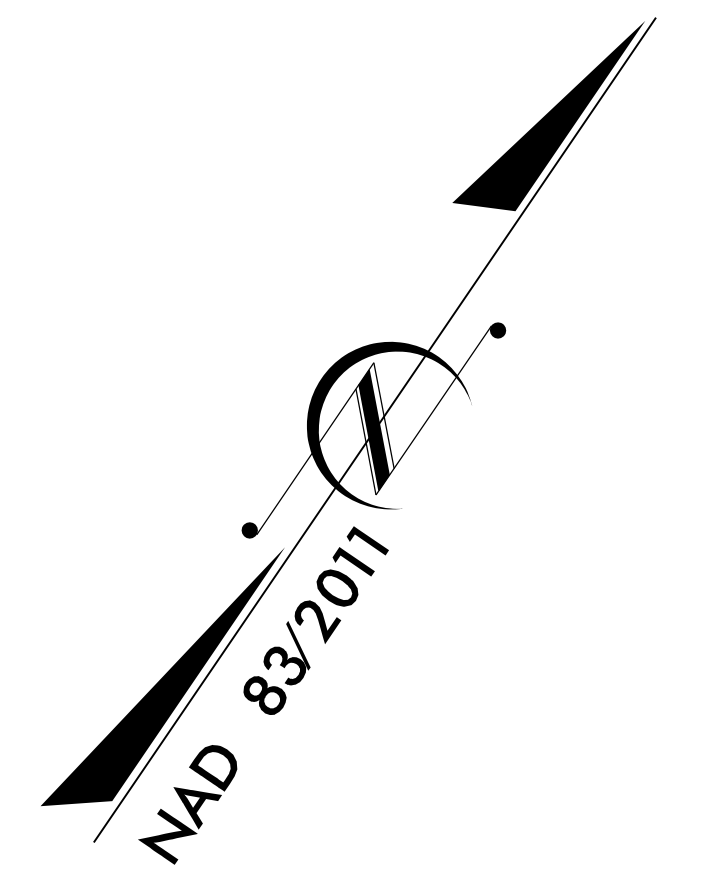
**UTILITIES BY OTHERS PLANS
 MONTGOMERY COUNTY**

LOCATION: REPLACE BRIDGE NO. 203 ON SR 1319
 (CORBETT RD.) OVER DUMAS CREEK

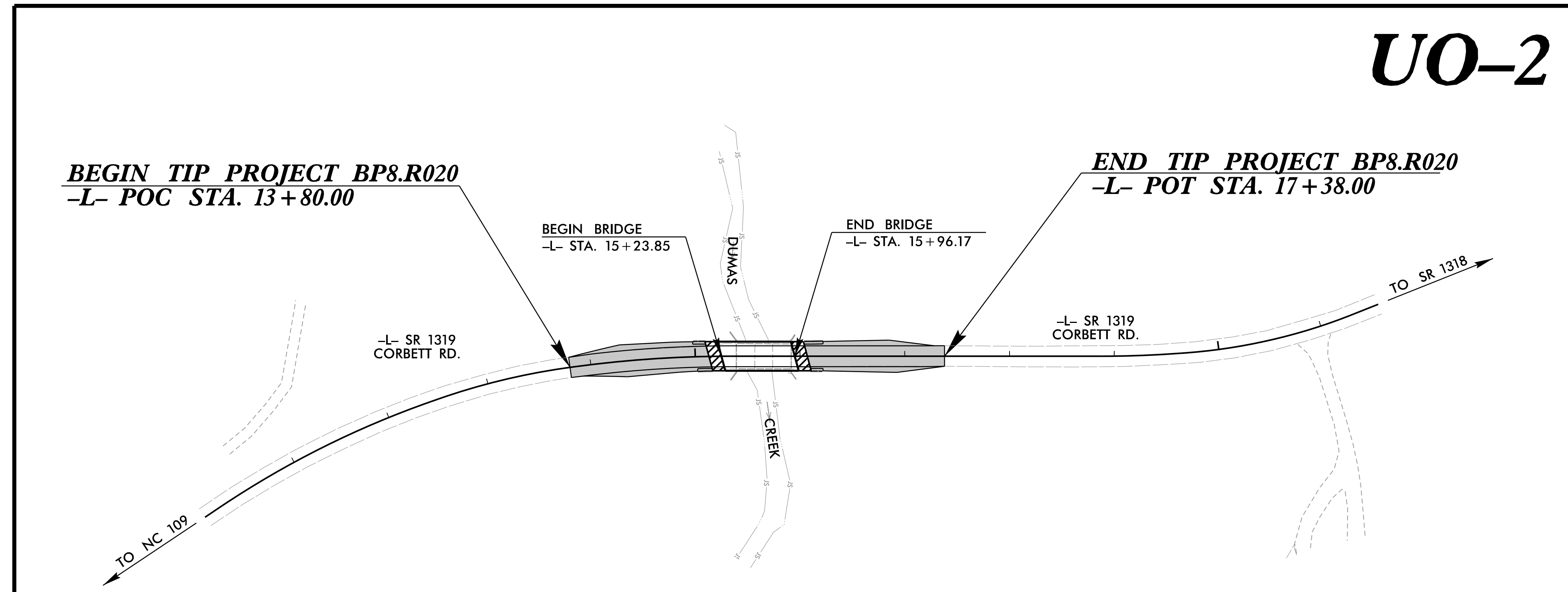
TYPE OF WORK: UTILITY RELOCATION

T.I.P. NO.	SHEET NO.
BP8.R020	UO-1

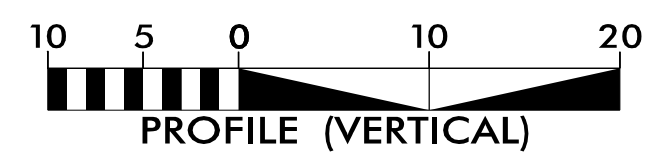
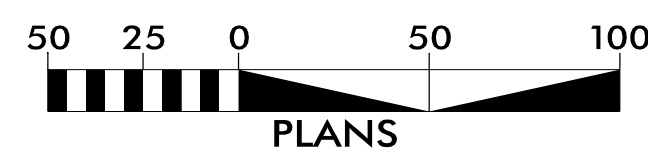
NOTE:
 ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



UO-2



GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2	UBO PLAN SHEET

UTILITY OWNERS IN THE VICINITY

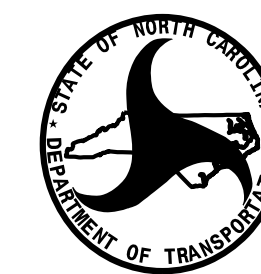
(A) POWER - RANDOLPH EMC

PREPARED IN THE OFFICE OF:



PENNONI ASSOCIATES INC.
 5430 WADE PARK BLVD., SUITE 106,
 RALEIGH, NC 27607
 (919) 929-1173 NC LICENSE #F-1267

UTILITIES PROJECT COORDINATOR
 WAYNE WILEY



DIVISION OF HIGHWAYS
 DIVISION 8

121 DOT DRIVE
 CARTHAGE NC 28327

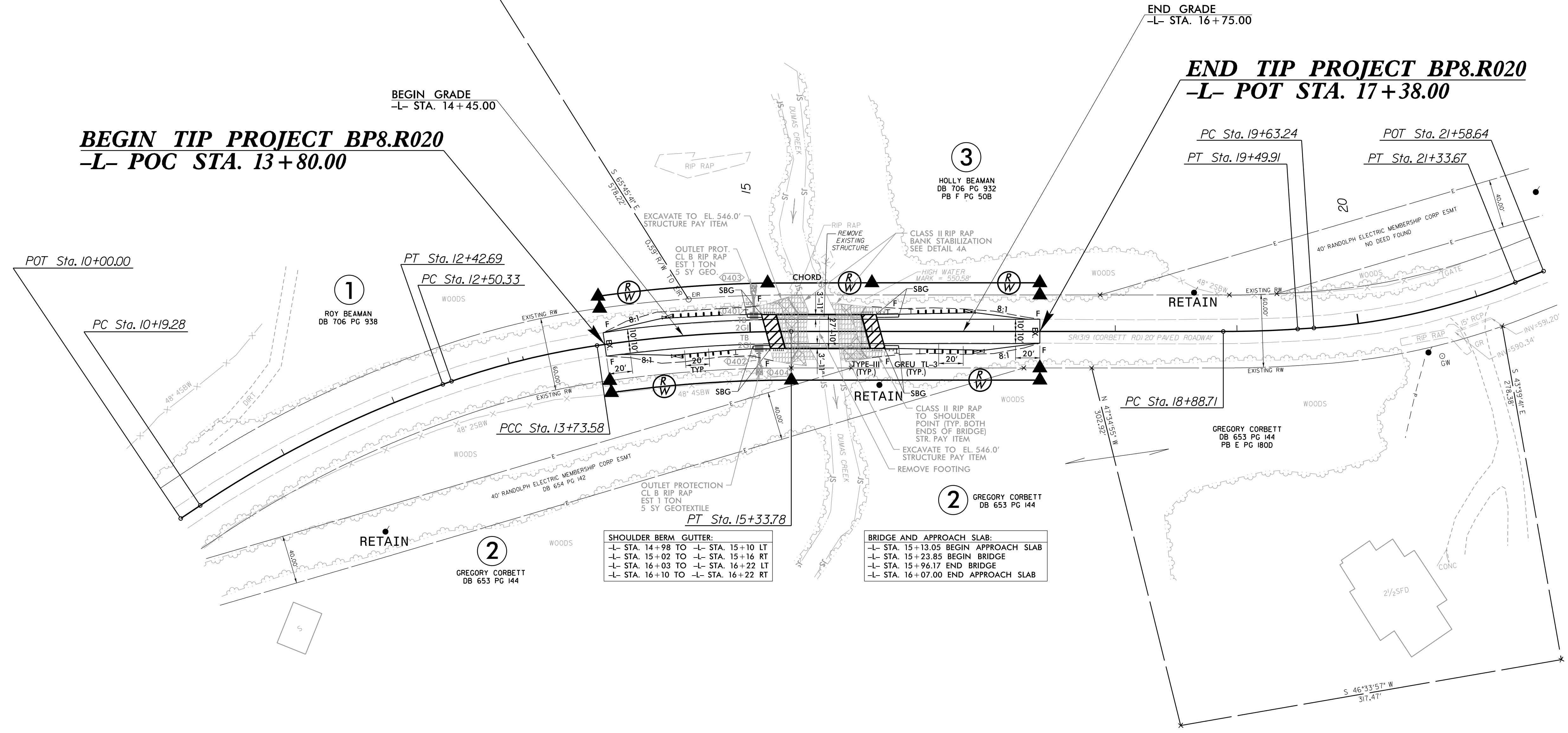
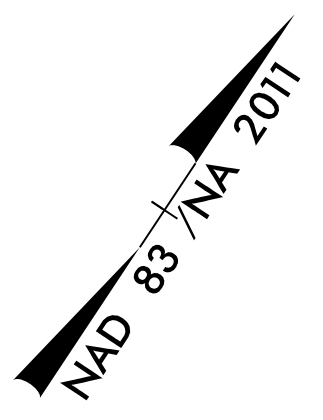
TIM WELCH, PE DIV. BRIDGE PROG. MANAGER
 MICHAEL RICKETTS DIV. UTILITIES ENGINEER
 TRENT CAVINESS DIV. UTILITIES COORDINATOR

7/23/2024
 R:\Utilities\Engineering\UBO\Proj\BP8R020_ut-fsh_uoi.dgn
 -USERNAME-

UTILITIES BY OTHERS

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

5/14/99



1
ROY BEAMAN
DB 706 PG 938

2
GREGORY CORBETT
DB 653 PG 144

3
HOLLY BEAMAN
DB 706 PG 932
PB F PG 508

2
GREGORY CORBETT
DB 653 PG 144

SHOULDER BERM GUTTER:
 -L STA. 14+98 TO -L STA. 15+10 LT
 -L STA. 15+02 TO -L STA. 15+16 RT
 -L STA. 16+03 TO -L STA. 16+22 LT
 -L STA. 16+10 TO -L STA. 16+22 RT

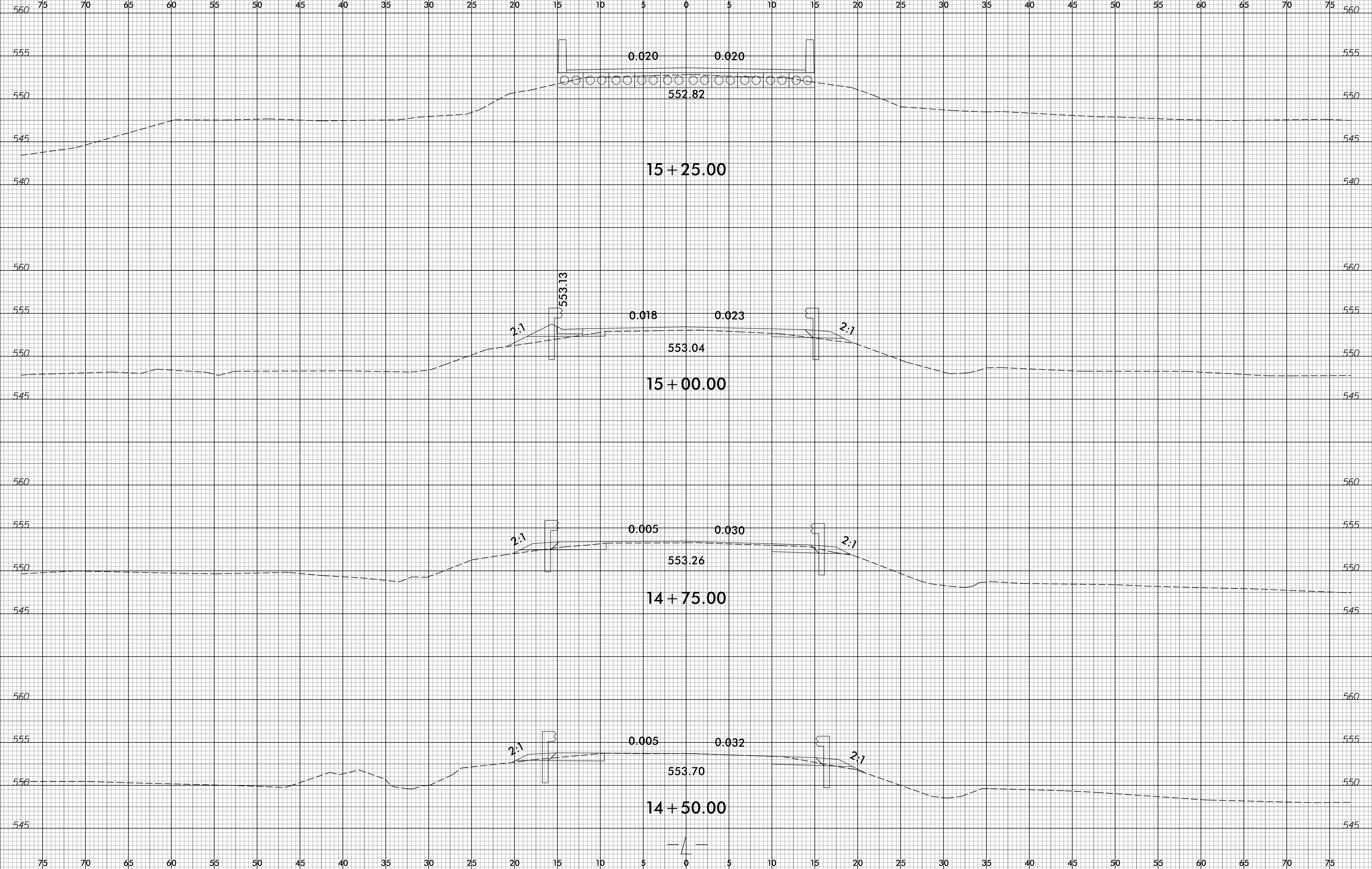
BRIDGE AND APPROACH SLAB:
 -L STA. 15+13.05 BEGIN APPROACH SLAB
 -L STA. 15+23.85 BEGIN BRIDGE
 -L STA. 15+96.17 END BRIDGE
 -L STA. 16+07.00 END APPROACH SLAB

7/23/2024 10:00 AM \\P01\Projects\BP8.R020\rdy4_uo2.psh.dgn

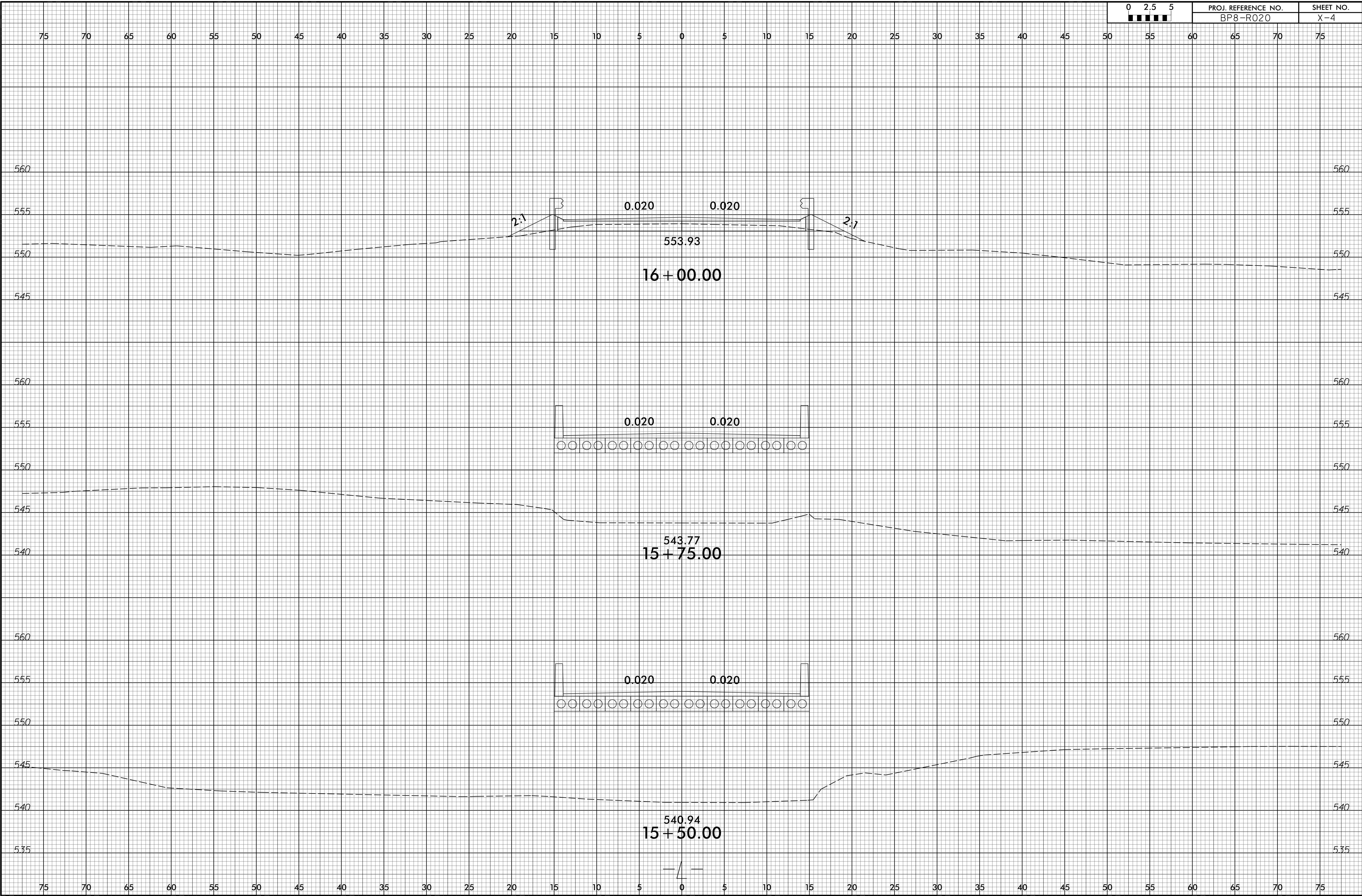
6/23/16



PROJ. REFERENCE NO.	SHEET NO.
BP8-R020	X-3



24-JUL-2024 15:18
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 2023\Roadway\CorridorModeling\BP8R020_r.dwg

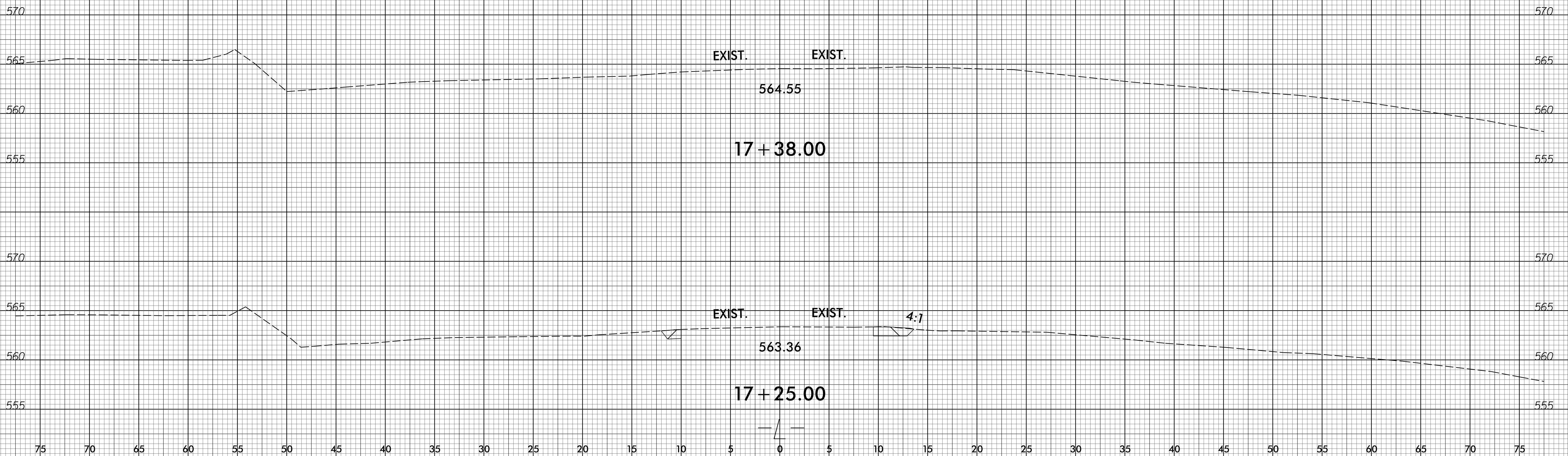


6/23/16



PROJ. REFERENCE NO.	SHEET NO.
BP8-R020	X-6

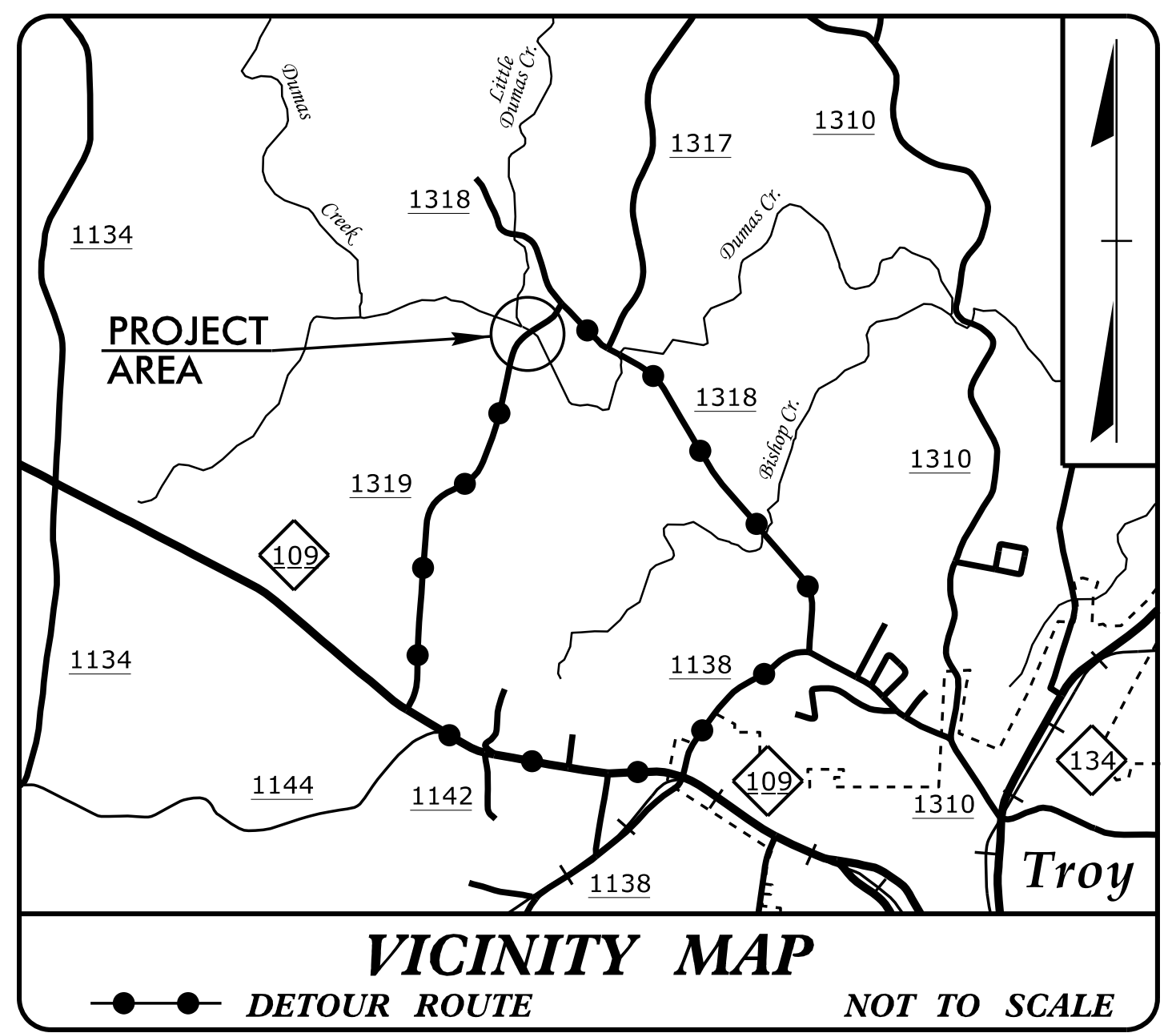
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24-JUL-2024 15:18 20\Roadway\CorridorModeling\BP8R020_rdy_xpl.dgn
 20\Roadway\CorridorModeling\BP8R020_rdy_xpl.dgn
 20\Roadway\CorridorModeling\BP8R020_rdy_xpl.dgn

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP8.R020	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP8.R020.1		PE	
BP8.R020.2		RW & UTILITIES	
BP8.R020.3		CONSTRUCTION	

TIP PROJECT: BP8.R020

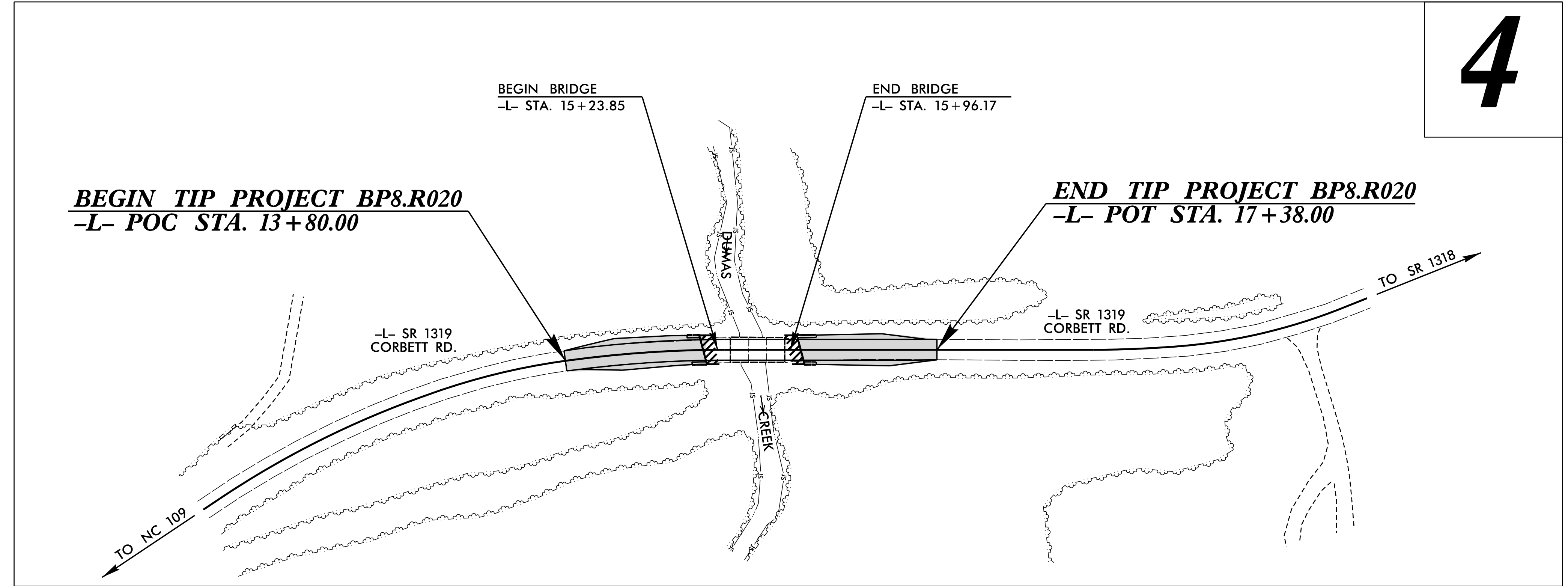
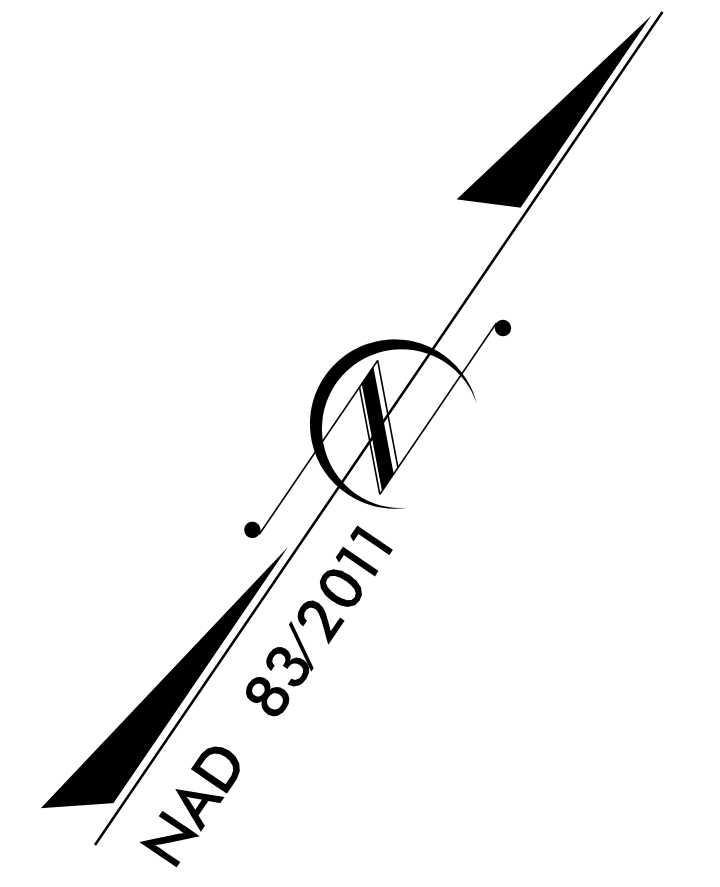


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MONTGOMERY COUNTY

**LOCATION: REPLACE BRIDGE NO. 203 ON SR 1319
(CORBETT RD.) OVER DUMAS CREEK**

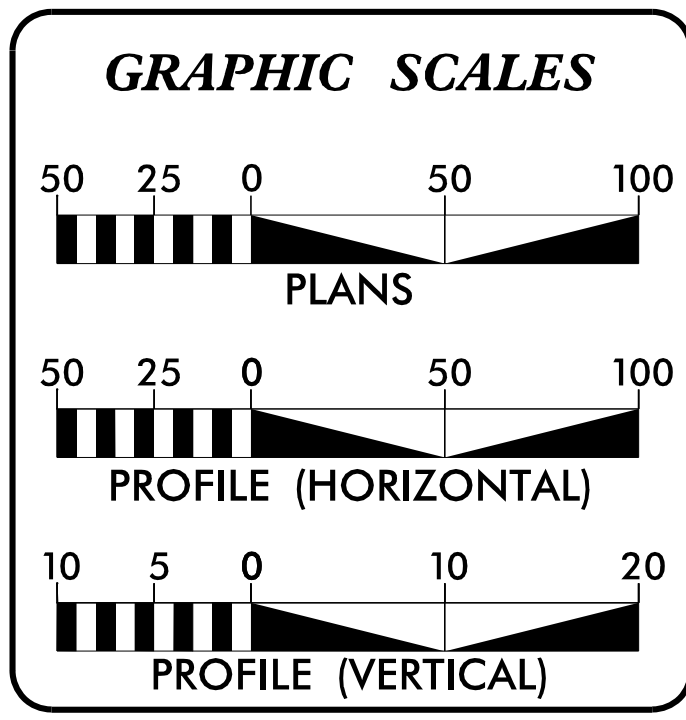
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE



STRUCTURES

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT:



DESIGN DATA

ADT 2020 = 150

V = 60 MPH

FUNC CLASS = LOCAL SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT BP8.R020	=	0.054 MILES
LENGTH STRUCTURE PROJECT BP8.R020	=	0.014 MILES
TOTAL LENGTH PROJECT BP8.R020	=	0.068 MILES

Plans Prepared By:



ms consultants, inc.
5444 Waste Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number: C-3239

2024 STANDARD SPECIFICATIONS

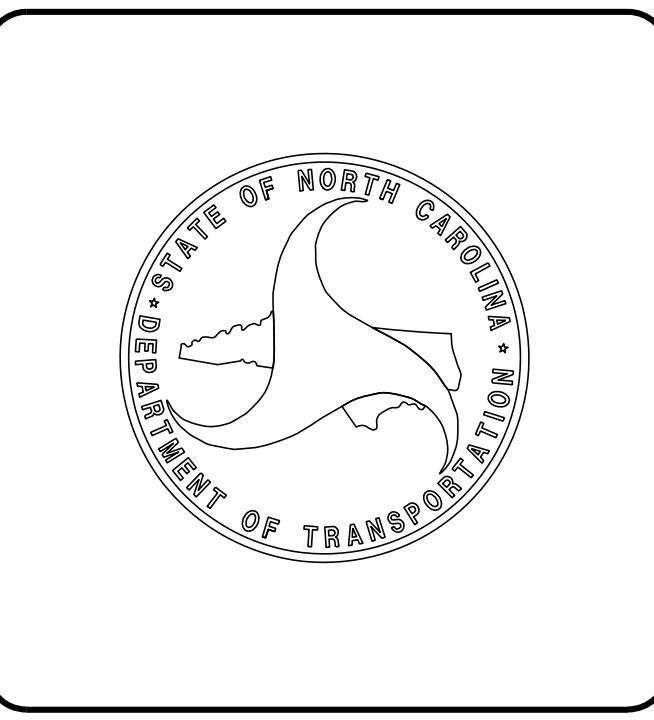
RIGHT OF WAY DATE:
MARCH 7, 2024

LETTING DATE:
OCTOBER 22, 2024

Plans Prepared For:

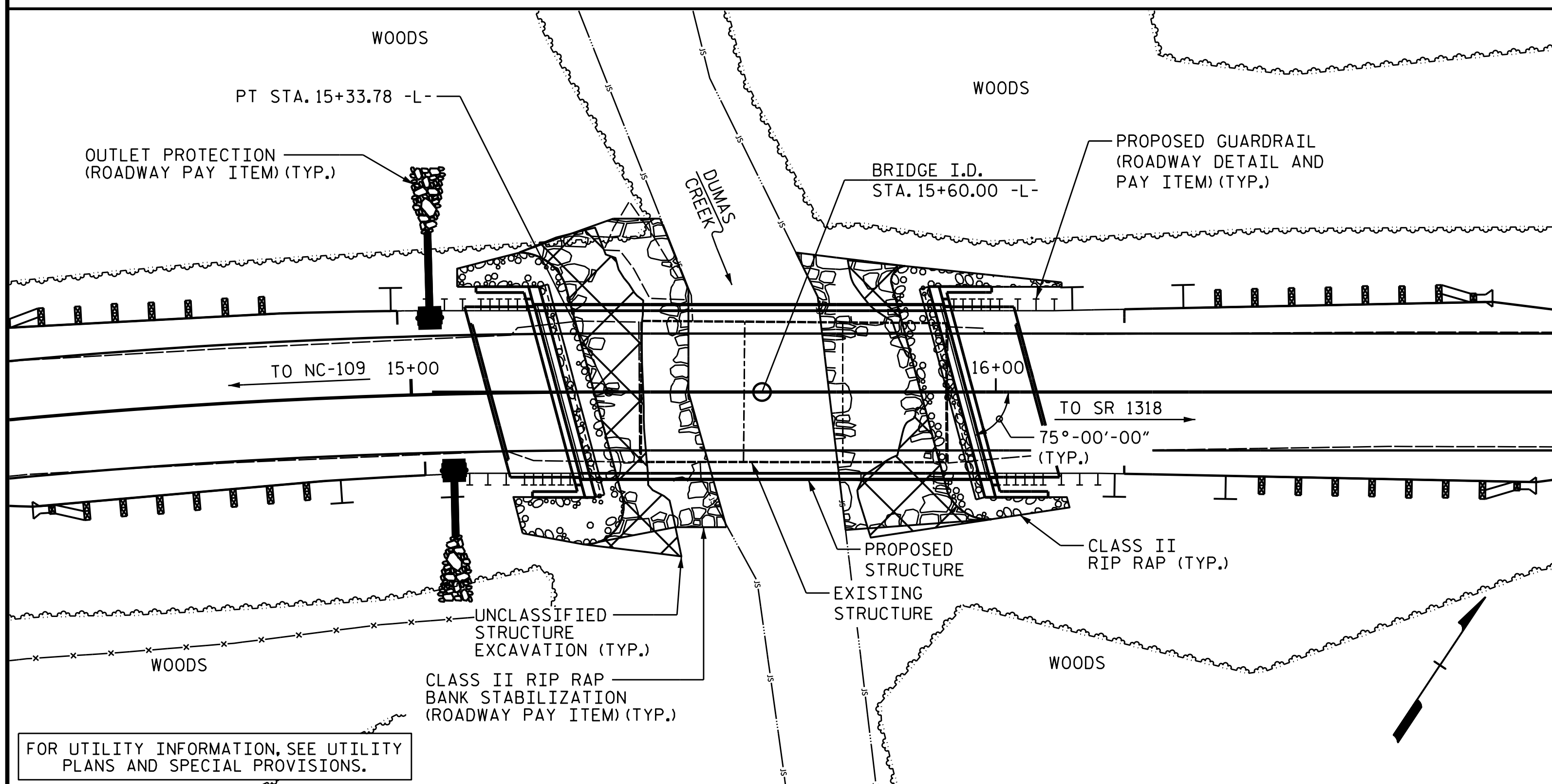
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - DIVISION 8
121 DOT DRIVE
CARTHAGE, NC 28327

TIM WELCH, PE
NCDOT PROJECT ENGINEER



TOTAL BILL OF MATERIAL																	
	REMOVAL OF EXISTING STRUCTURE @ STA. 15+60.00	ASBESTOS ASSESSMENT	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	UNCLASSIFIED STRUCTURE EXCAVATION AT STA. 15+60.00	CLASS A CONCRETE	BRIDGE APPROACH SLABS AT STA. 15+60.00	REINFORCING STEEL	PILE DRIVING EQUIPMENT SET UP FOR HPI2X53 STEEL PILES	HP 12 X 53 STEEL PILES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS		
	LUMP SUM	LUMP SUM	LIN.FT.	LIN.FT.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	EA	NO.	LIN.FT.	LIN.FT.	TONS	SO. YDS.	LUMP SUM	NO.	LIN.FT.
SUPERSTRUCTURE							LUMP SUM				140.26					10	700
END BENT NO. 1			39.5	10.5		20.7		2522	5	5	75		50	55			
END BENT NO. 2			39.0	11.0		20.7		2522	5	5	75		40	44			
TOTAL	LUMP SUM	LUMP SUM	78.5	21.5	LUMP SUM	41.4	LUMP SUM	5044	10	10	150	140.26	90	99	LUMP SUM	10	700

BM. #1 - BENCH TIE SET IN 13" HICKORY TREE, 225.17' LT. OF -L- STA. 15+37.09 EL. 550.94 (NAVD 88)



LOCATION SKETCH

NOTES:

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.
- FOR 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 MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE UP TO 29 FT EACH SIDE OF THE CENTERLINE OF ROADWAY AT END BENT 1 AND 25 FT EACH SIDE OF THE CENTERLINE OF ROADWAY AT END BENT 2 AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.
- THE EXISTING STRUCTURE CONSISTING OF THREE SPANS (2 @ 17'-9", 17'-0") WITH A CLEAR ROADWAY WIDTH OF 24'-0" AND REINFORCED CONCRETE DECK SUPPORTED BY TIMBER BEAMS ON TIMBER BENTS AND END BENTS LOCATED AT THE PROPOSED STRUCTURE SITE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY 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.
- THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES."
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
- ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.
- FOR ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.

PROJECT NO. BP8.R020
MONTGOMERY COUNTY
 STATION: 15+60.00 -L-

SHEET 4 OF 5

HYDRAULIC DATA

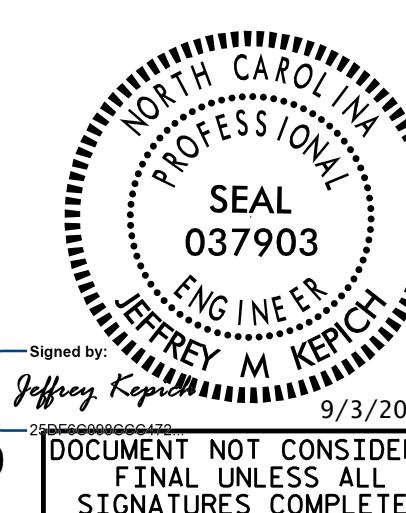
DESIGN DISCHARGE = 1800 C.F.S.
 FREQUENCY OF DESIGN DISCHARGE = 25 YRS.
 DESIGN HIGH WATER ELEVATION = 550.6
 DRAINAGE AREA = 7.1 SQ. MI.
 BASE DISCHARGE (Q100) = 2500 C.F.S.
 BASE HIGH WATER ELEVATION = 552.4

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 3900 C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD = 500(+) YRS.
 OVERTOPPING FLOOD ELEVATION = 553.4
 OVER TOPPING AT -L- STA. 14+90.15, SAG POINT
 WATER SURFACE ELEVATION TAKEN AT RIVER STATION 22712

DRAWN BY : J.M. KEPICH DATE : 03/24
 CHECKED BY : P.L. NELSON DATE : 04/24
 DESIGN ENGINEER OF RECORD : J.M. KEPICH DATE : 07/24

ms consultants, inc.
 5444 Wake Park Blvd.
 Suite 160
 Raleigh, NC 27607
 NC License Number : C-3239



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 BRIDGE 203 ON SR 1319
 OVER DUMAS CREEK
 BETWEEN NC 109 AND SR 1318

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

LOAD TYPE	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE					COMMENT NUMBER			
						MOMENT					SHEAR					MOMENT								
						LIVE-LOAD FACTORS (γ LL)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	LIVE-LOAD FACTORS (γ LL)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD	HL-93 (INVENTORY)	N/A	1	1.014	--	1.75	0.269	1.04	70'	EL	34.482	0.608	1.10	70'	EL	3.448	0.80	0.269	1.01	70'	EL	34.482		
	HL-93 (OPERATING)	N/A		1.355	--	1.35	0.269	1.35	70'	EL	34.482	0.608	1.43	70'	EL	3.448	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	2	1.315	47.356	1.75	0.269	1.36	70'	EL	34.482	0.608	1.38	70'	EL	3.448	0.80	0.269	1.32	70'	EL	34.482		
	HS-20 (OPERATING)	36.000		1.757	63.236	1.35	0.269	1.76	70'	EL	34.482	0.608	1.79	70'	EL	3.448	N/A	--	--	--	--	--		
LEGAL LOAD	SINGLE VEHICLE (SV)	SN5H	13.500		2.938	39.656	1.4	0.269	3.78	70'	EL	34.482	0.608	4.12	70'	EL	3.448	0.80	0.269	2.94	70'	EL	34.482	
		SNGARBS2	20.000		2.203	44.052	1.4	0.269	2.84	70'	EL	34.482	0.608	2.93	70'	EL	3.448	0.80	0.269	2.20	70'	EL	34.482	
		SNAGRIS2	22.000		2.092	46.016	1.4	0.269	2.69	70'	EL	34.482	0.608	2.72	70'	EL	3.448	0.80	0.269	2.09	70'	EL	34.482	
		SNCOTTS3	27.250		1.462	39.844	1.4	0.269	1.88	70'	EL	34.482	0.608	2.06	70'	EL	3.448	0.80	0.269	1.46	70'	EL	34.482	
		SNAGGRS4	34.925		1.227	42.856	1.4	0.269	1.58	70'	EL	34.482	0.608	1.71	70'	EL	3.448	0.80	0.269	1.23	70'	EL	34.482	
		SNS5A	35.550		1.200	42.646	1.4	0.269	1.54	70'	EL	34.482	0.608	1.73	70'	EL	3.448	0.80	0.269	1.20	70'	EL	34.482	
		SNS6A	39.950		1.103	44.058	1.4	0.269	1.42	70'	EL	34.482	0.608	1.58	70'	EL	3.448	0.80	0.269	1.10	70'	EL	34.482	
	SNS7B	42.000		1.050	44.113	1.4	0.269	1.35	70'	EL	34.482	0.608	1.55	70'	EL	3.448	0.80	0.269	1.05	70'	EL	34.482		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.345	44.401	1.4	0.269	1.73	70'	EL	34.482	0.608	1.88	70'	EL	3.448	0.80	0.269	1.35	70'	EL	34.482	
		TNT4A	33.075		1.352	44.717	1.4	0.269	1.74	70'	EL	34.482	0.608	1.83	70'	EL	3.448	0.80	0.269	1.35	70'	EL	34.482	
		TNT6A	41.600		1.108	46.073	1.4	0.269	1.43	70'	EL	34.482	0.608	1.65	70'	EL	3.448	0.80	0.269	1.11	70'	EL	34.482	
		TNT7A	42.000		1.114	46.794	1.4	0.269	1.43	70'	EL	34.482	0.608	1.62	70'	EL	3.448	0.80	0.269	1.11	70'	EL	34.482	
		TNT7B	42.000		1.155	48.526	1.4	0.269	1.49	70'	EL	34.482	0.608	1.51	70'	EL	3.448	0.80	0.269	1.16	70'	EL	34.482	
		TNAGRIT4	43.000		1.097	47.174	1.4	0.269	1.41	70'	EL	34.482	0.608	1.46	70'	EL	3.448	0.80	0.269	1.10	70'	EL	34.482	
TNAGT5A		45.000		1.033	46.505	1.4	0.269	1.33	70'	EL	34.482	0.608	1.45	70'	EL	3.448	0.80	0.269	1.03	70'	EL	34.482		
TNAGT5B	45.000	3	1.020	45.905	1.4	0.269	1.31	70'	EL	34.482	0.608	1.39	70'	EL	3.448	0.80	0.269	1.02	70'	EL	34.482			
EMERGENCY VEHICLE (EV)	EV2	28.750		1.829	52.587	1.3	0.269	2.13	70'	EL	34.482	0.608	2.20	70'	EL	3.448	0.80	0.269	1.83	70'	EL	34.482		
	EV3	43.000	4	1.196	51.434	1.3	0.269	1.39	70'	EL	34.482	0.608	1.48	70'	EL	3.448	0.80	0.269	1.20	70'	EL	34.482		

LOAD FACTORS:

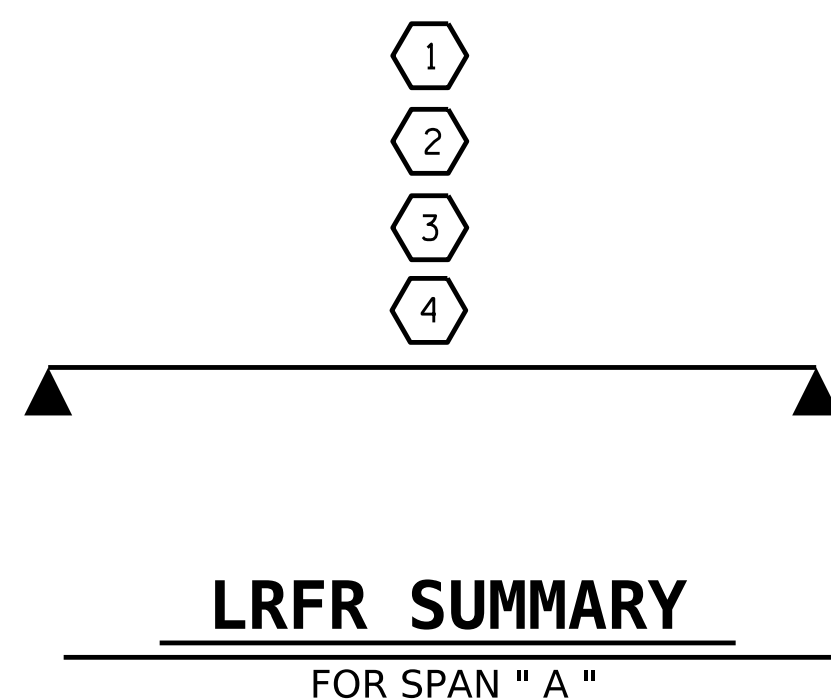
DESIGN LOAD RATING FACTORS	LIMIT STATE	γDC	γDW
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

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

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

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



PROJECT NO. BP8.R020
MONTGOMERY COUNTY
 STATION: 15+60.00 -L-

SHEET 5 OF 5



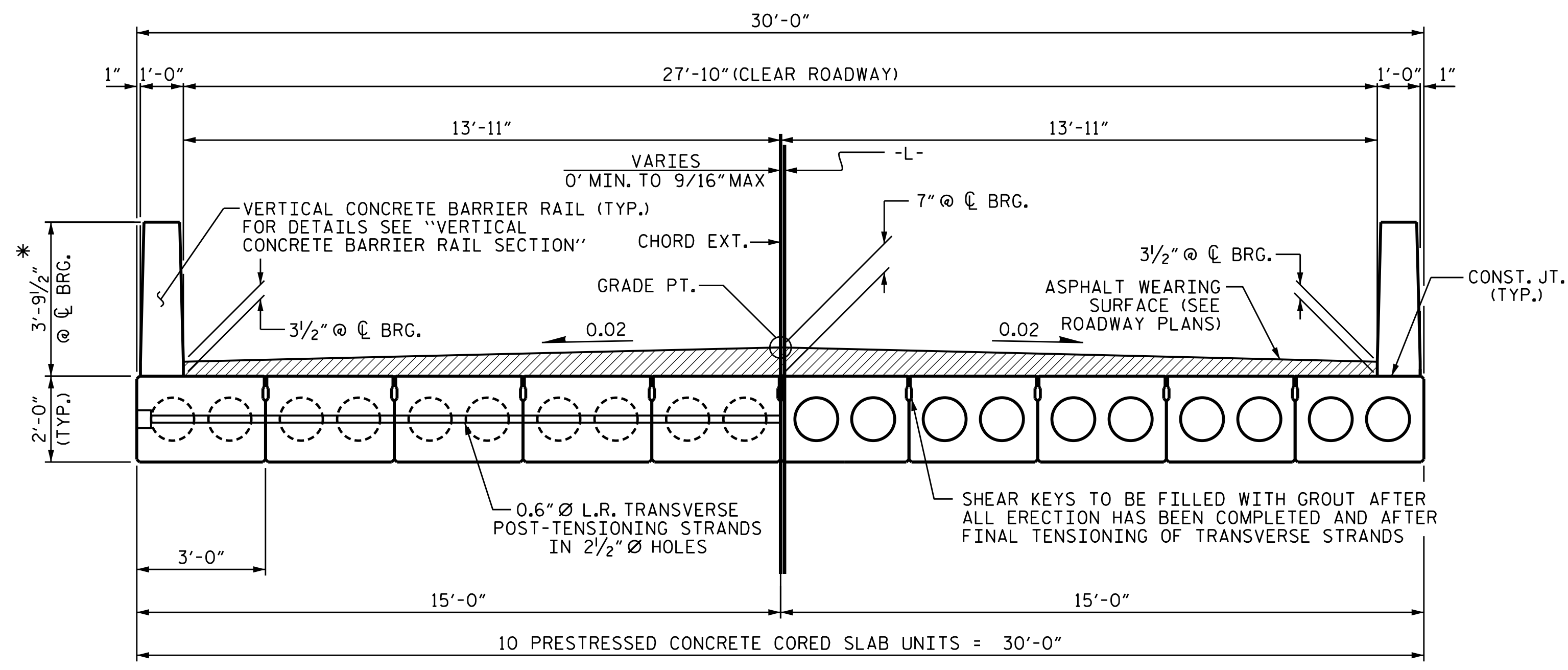
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
**LRFR SUMMARY FOR
 70' CORED SLAB UNIT
 75° SKEW**
 (NON-INTERSTATE TRAFFIC)

ASSEMBLED BY: J.M. KEPICH	DATE: 3/24
CHECKED BY: P.L. NELSON	DATE: 04/24
DRAWN BY: CVC 6/10	REV. BY: BNB/AKP 06/23
CHECKED BY: DNS 6/10	



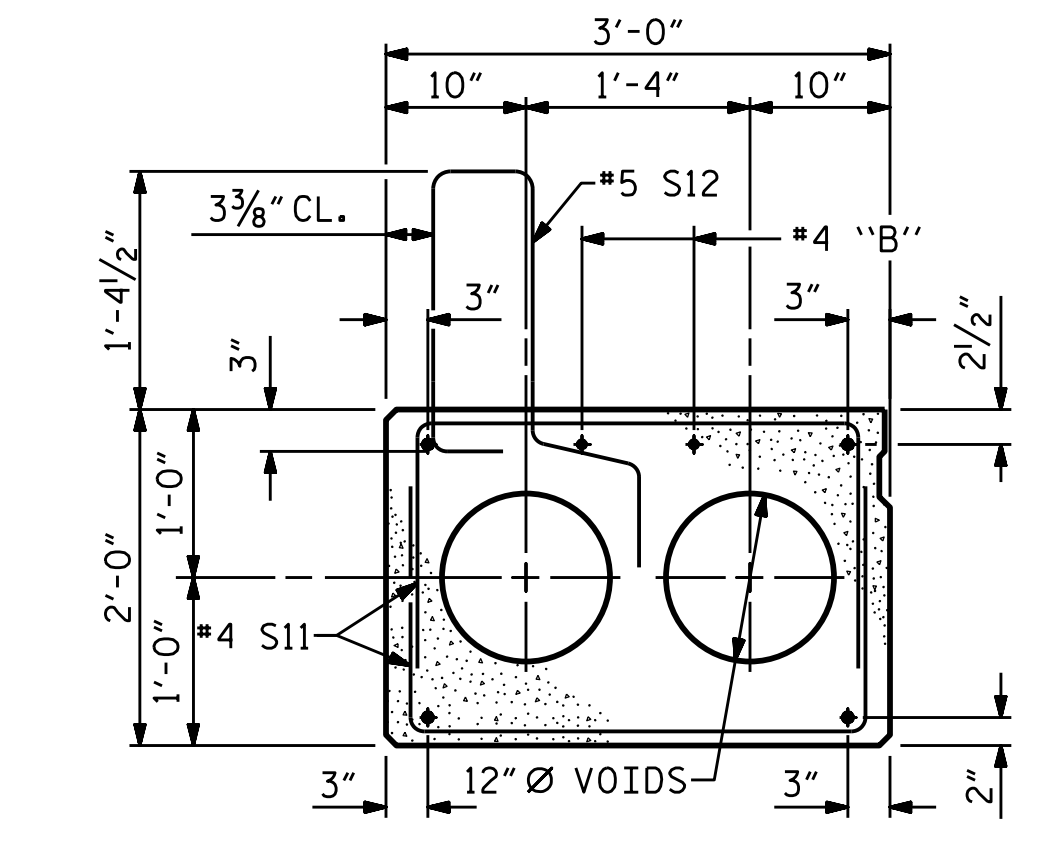
Signed by: *Jeffrey M. Kepich*
 9/3/2024
 DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

NO.	REVISIONS			SHEET NO.
	BY:	DATE:	NO.	
1			3	S-5
2			4	TOTAL SHEETS 16

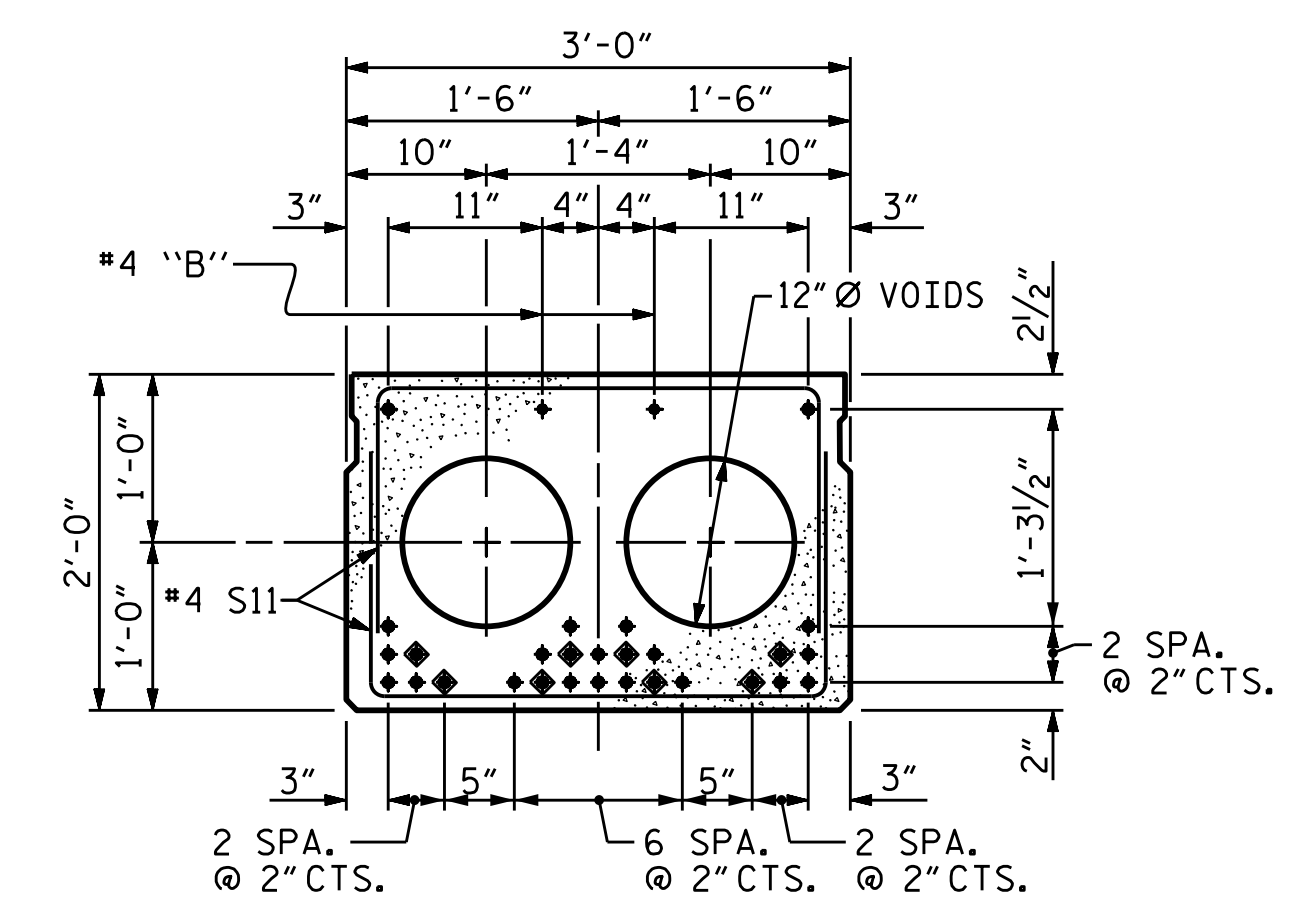


HALF SECTION AT INTERMEDIATE DIAPHRAGMS **TYPICAL SECTION** HALF SECTION THROUGH VOIDS

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

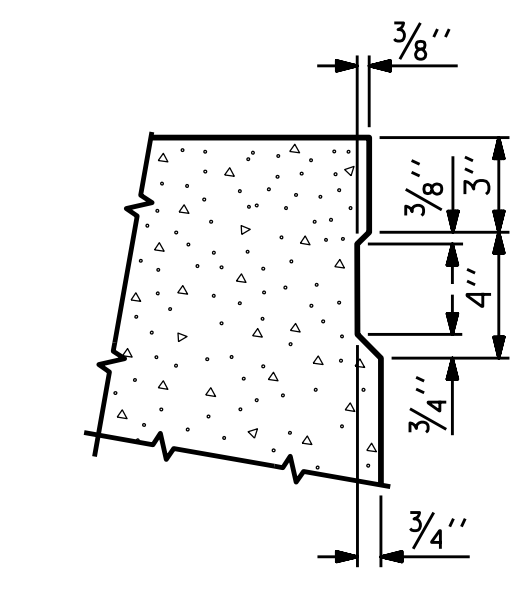


EXTERIOR SLAB SECTION
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)

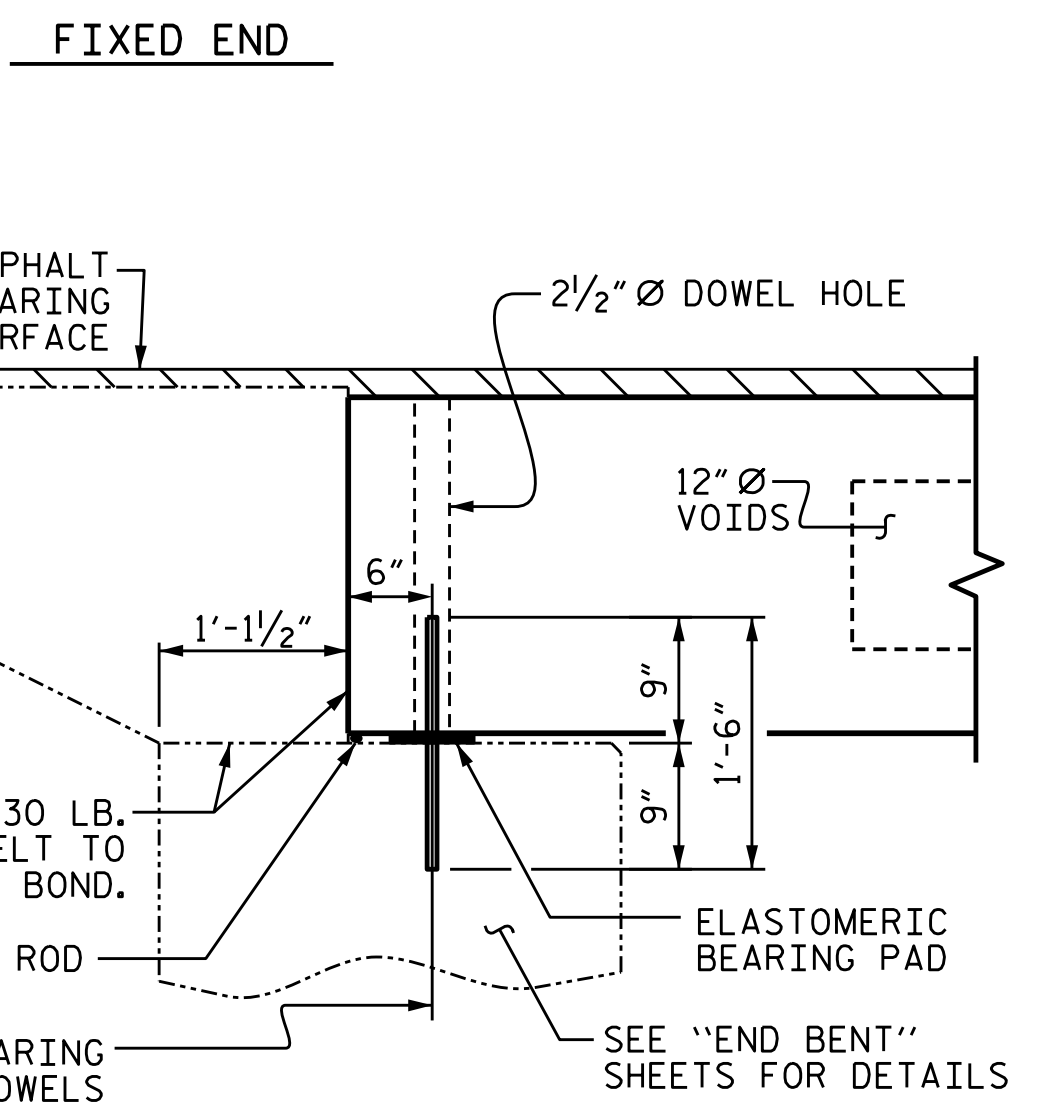


INTERIOR SLAB SECTION (70' UNIT)
(28 STRANDS REQUIRED)
0.6" Ø LOW RELAXATION STRAND LAYOUT

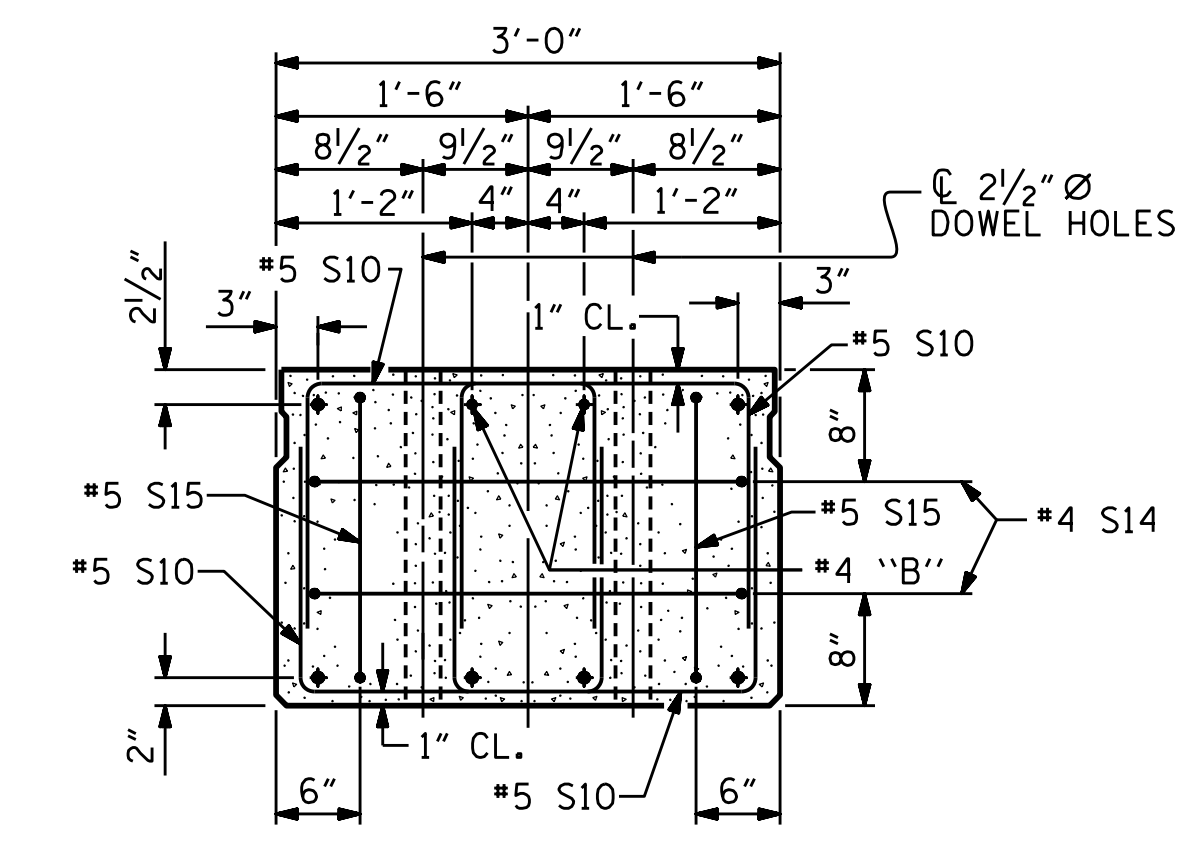
◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.



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



SECTION AT END BENT



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

DEBONDING LEGEND

PROJECT NO. BP8.R020
MONTGOMERY COUNTY
STATION: 15+60.00 -L-
SHEET 1 OF 3

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

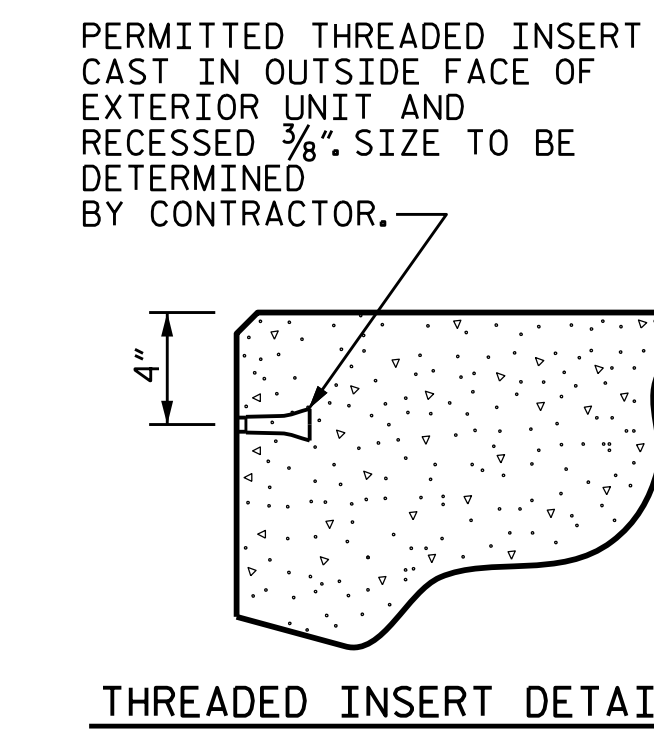


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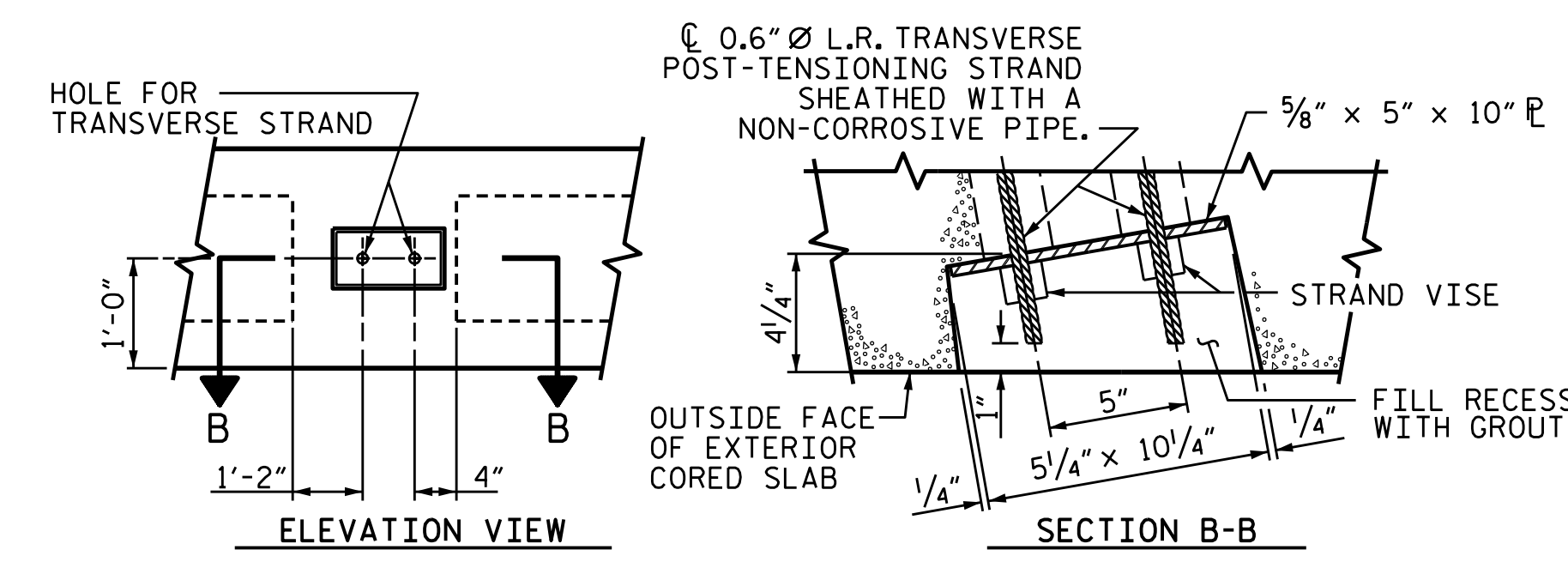
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TOTAL SHEETS: 16

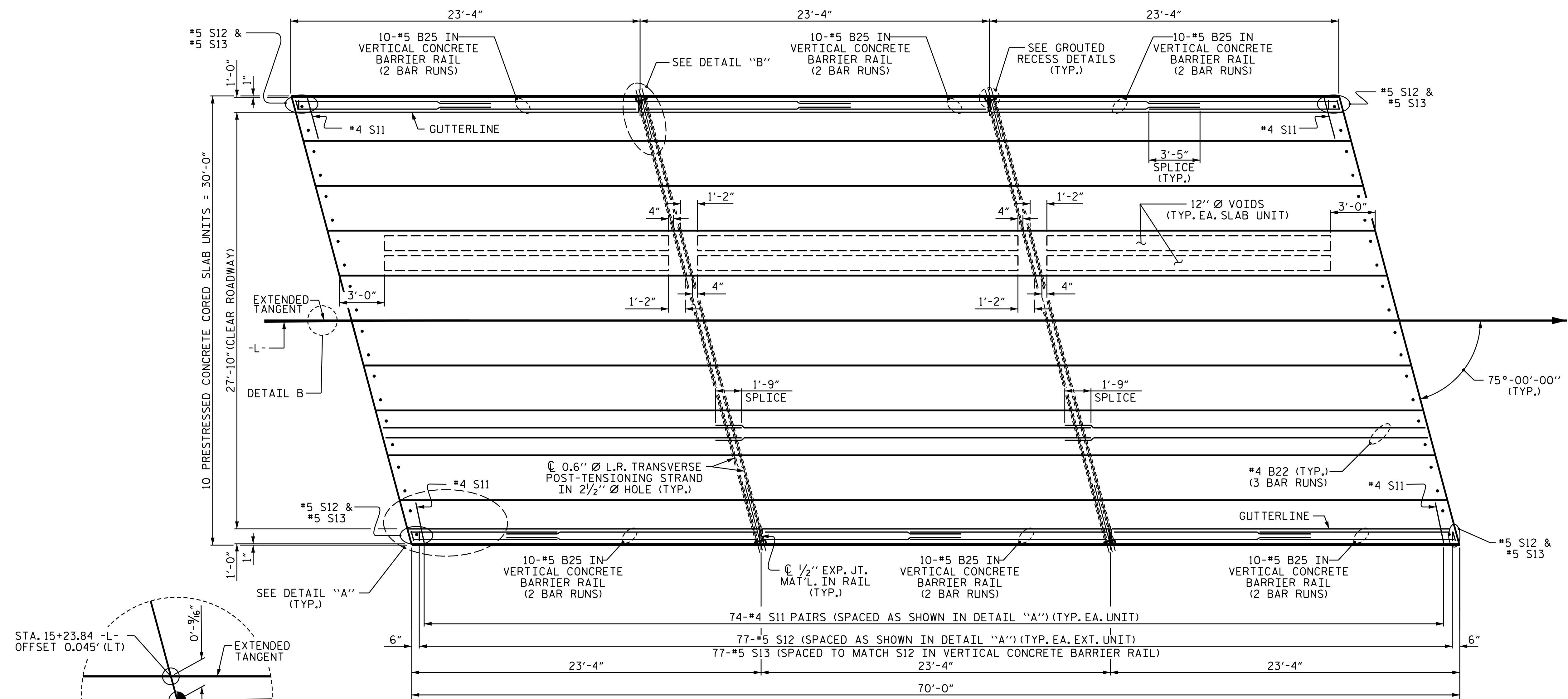


THREADED INSERT DETAIL

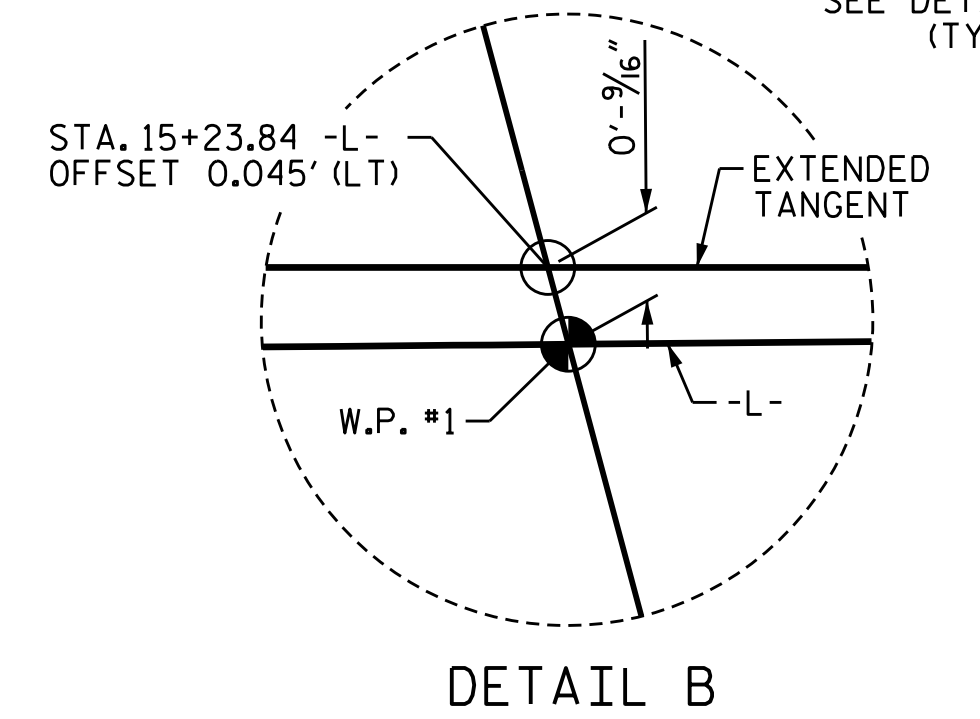


GRouted RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS

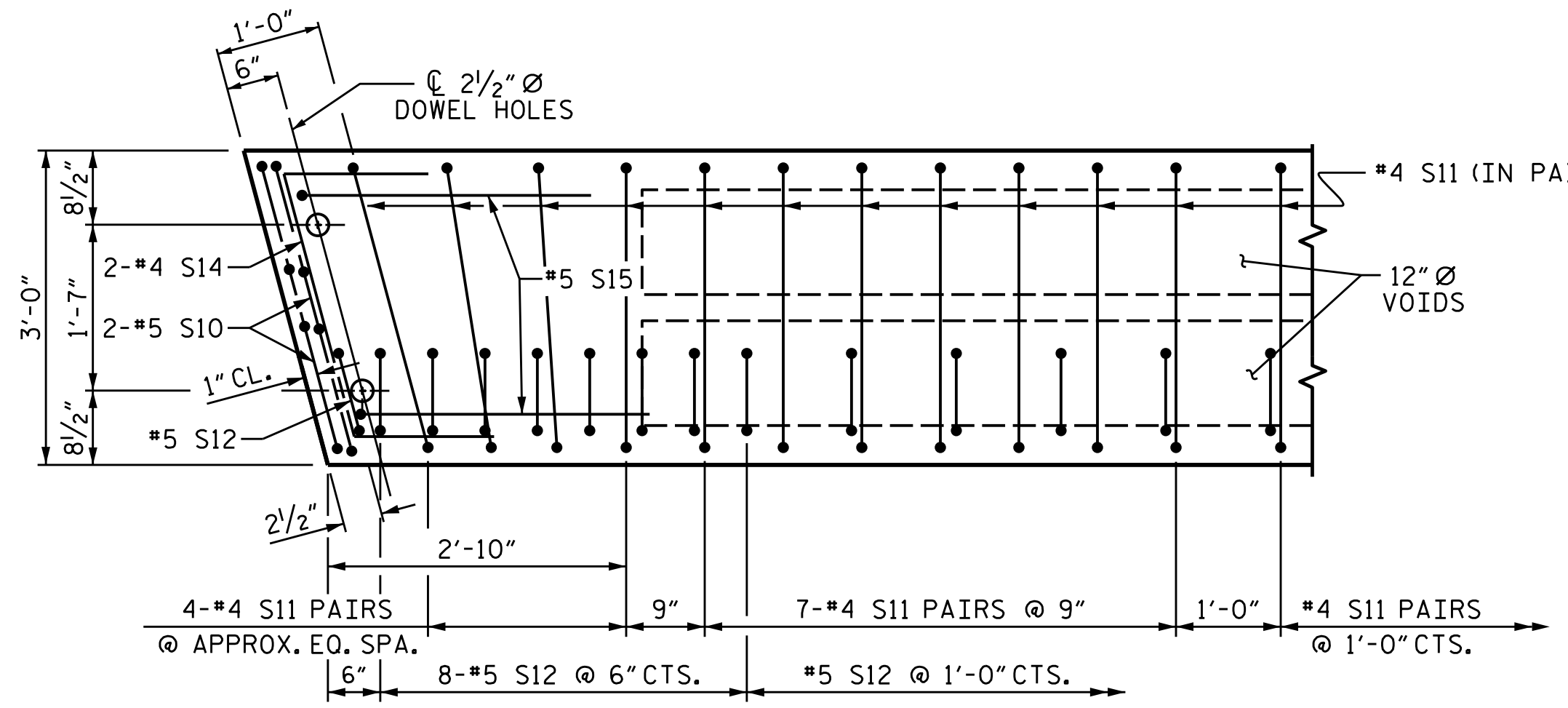
ASSEMBLED BY : J.M. KEPICH	DATE : 03/24
CHECKED BY : P.L. NELSON	DATE : 04/24
DRAWN BY : MAA 6/10	REV. 8/14
CHECKED BY : MKT 7/10	MAA/TMG



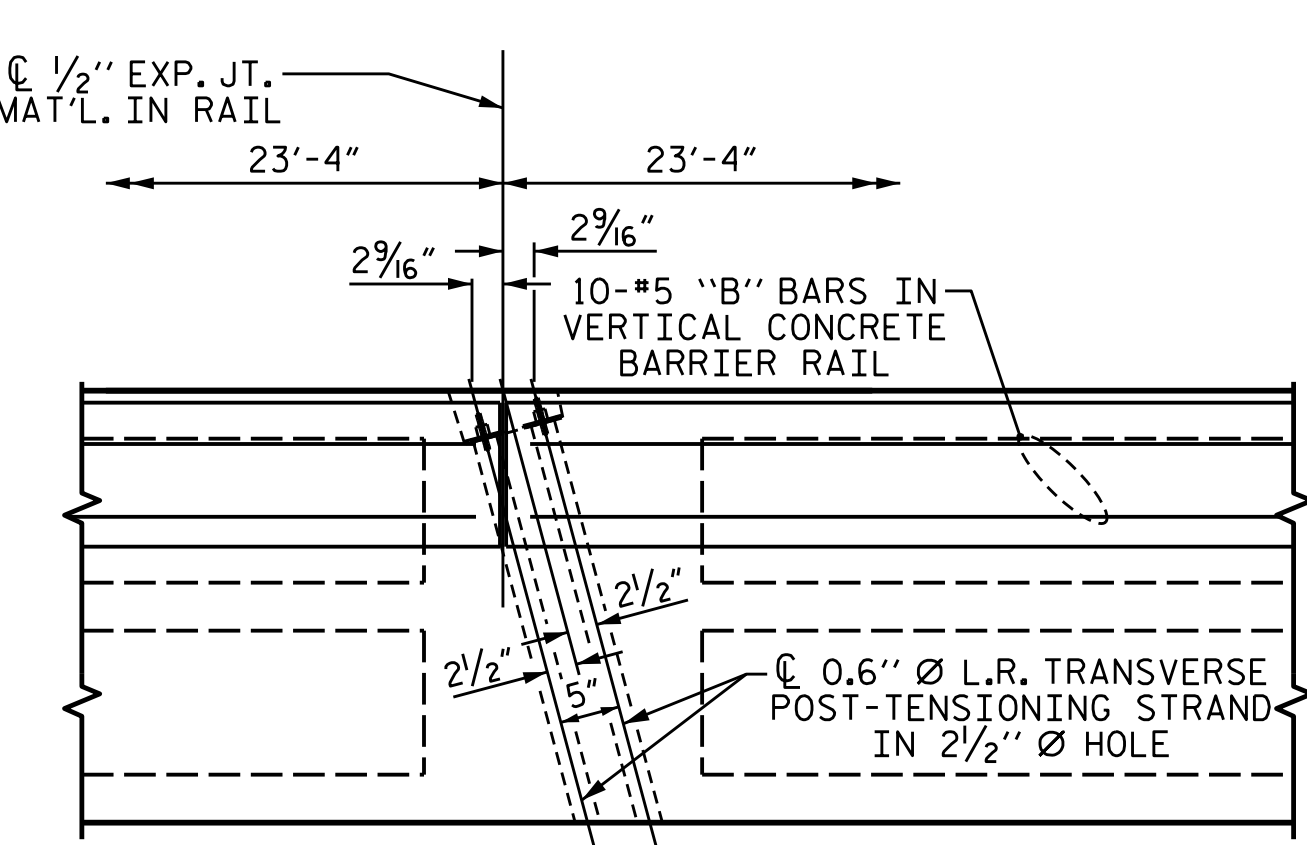
PLAN OF UNIT



DETAIL B



DETAIL "A"



DETAIL "B"

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

ASSEMBLED BY : J.M. KEPICH	DATE : 03/24
CHECKED BY : P.L. NELSON	DATE : 04/24
DRAWN BY : MAA 6/10	REV. 12/5/11 MAA/AAC
CHECKED BY : MKT 7/10	REV. 8/14 MAA/TMG

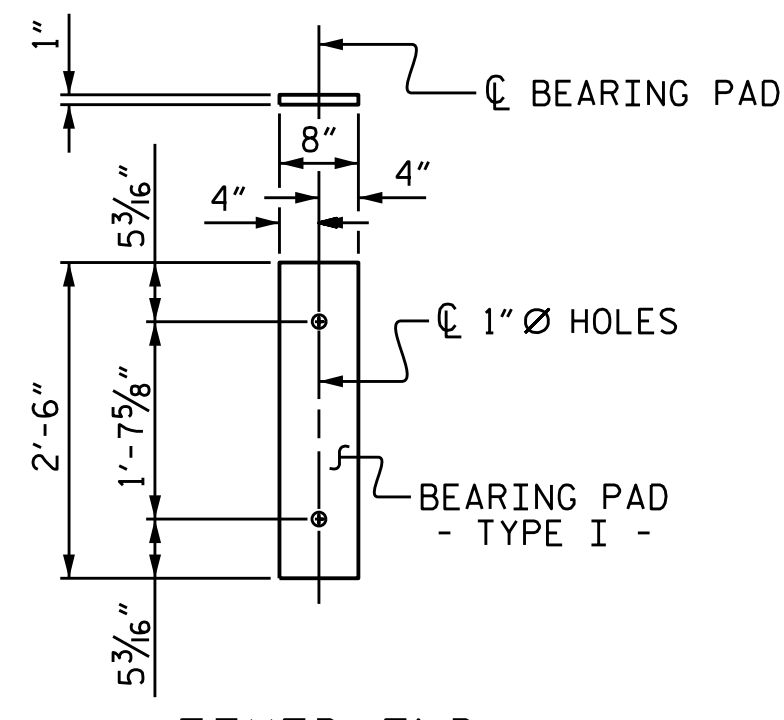
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PROJECT NO. BP8.R020
MONTGOMERY COUNTY
 STATION: 15+60.00 -L-
 SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PLAN OF 70' UNIT 27'-10" CLEAR ROADWAY 75° SKEW					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 16



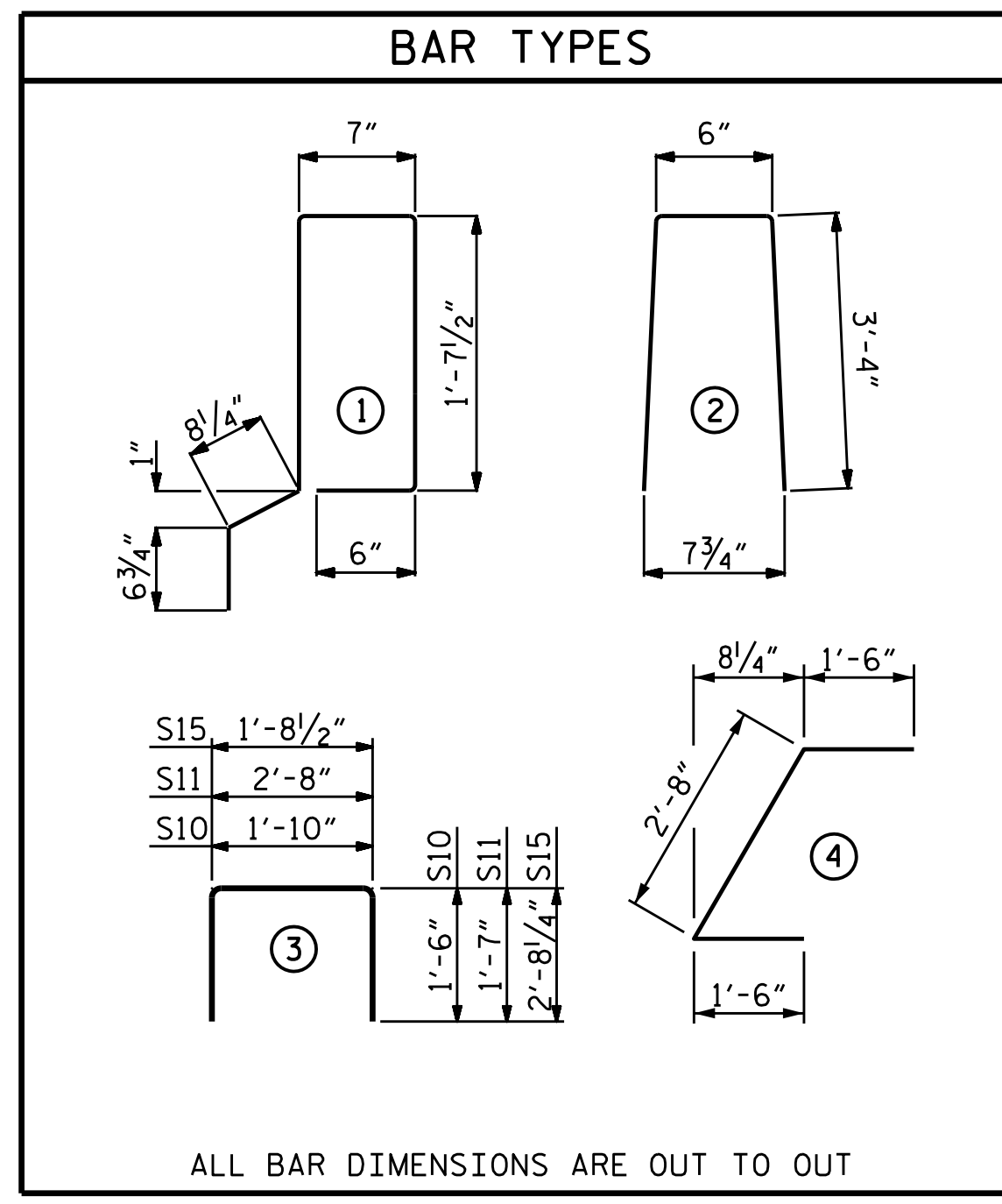
FIXED END
(TYPE I - 20 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
70' UNIT			
EXTERIOR C.S.	2	70'-0"	140'-0"
INTERIOR C.S.	8	70'-0"	560'-0"
TOTAL	10		700'-0"

BILL OF MATERIAL FOR ONE 70' CORED SLAB UNIT							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B22	6	#4	STR	24'-6"	98	24'-6"	98
S10	8	#5	3	4'-10"	40	4'-10"	40
S11	148	#4	3	5'-10"	577	5'-10"	577
*S12	79	#5	1	5'-7"	460		
S14	4	#4	4	5'-8"	15	5'-8"	15
S15	4	#5	3	7'-1"	30	7'-1"	30
REINFORCING STEEL				LBS.	760	LBS.	760
* EPOXY COATED REINFORCING STEEL				LBS.	460		
7000 P.S.I. CONCRETE				CU. YDS.	12.0	CU. YDS.	12.0
0.6" Ø L.R. STRANDS				No.	28	No.	28



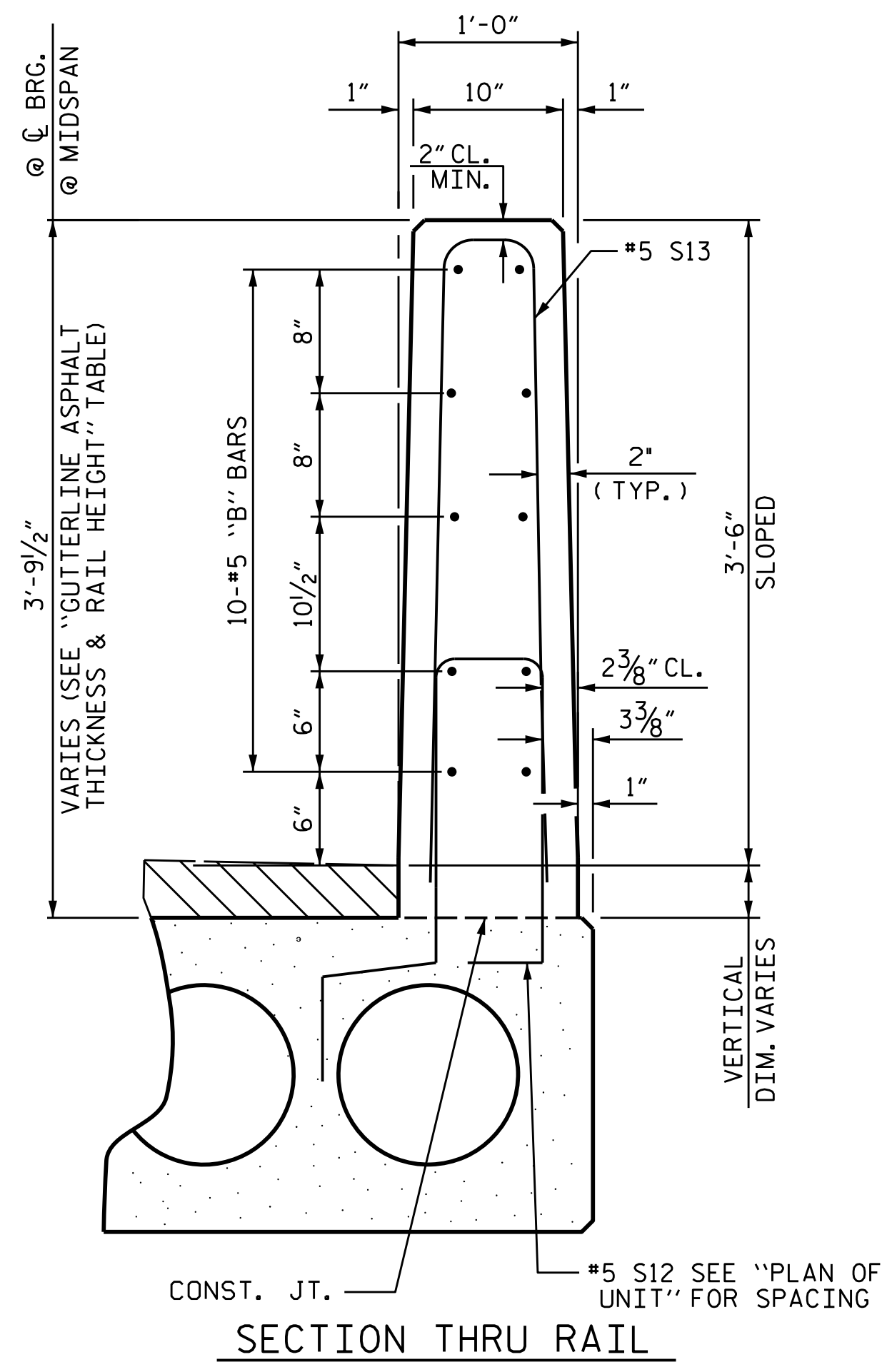
GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT		
	ASPHALT OVERLAY THICKNESS @ MID-SPAN	RAIL HEIGHT @ MID-SPAN
70' UNITS	2"	3'-8"

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
70' UNIT						
*B25	120	120	#5	STR	13'-8"	1711
*S13	158	158	#5	2	7'-2"	1181
* EPOXY COATED REINFORCING STEEL				LBS.	2892	
CLASS AA CONCRETE				CU. YDS.	18.1	
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.	140.26	

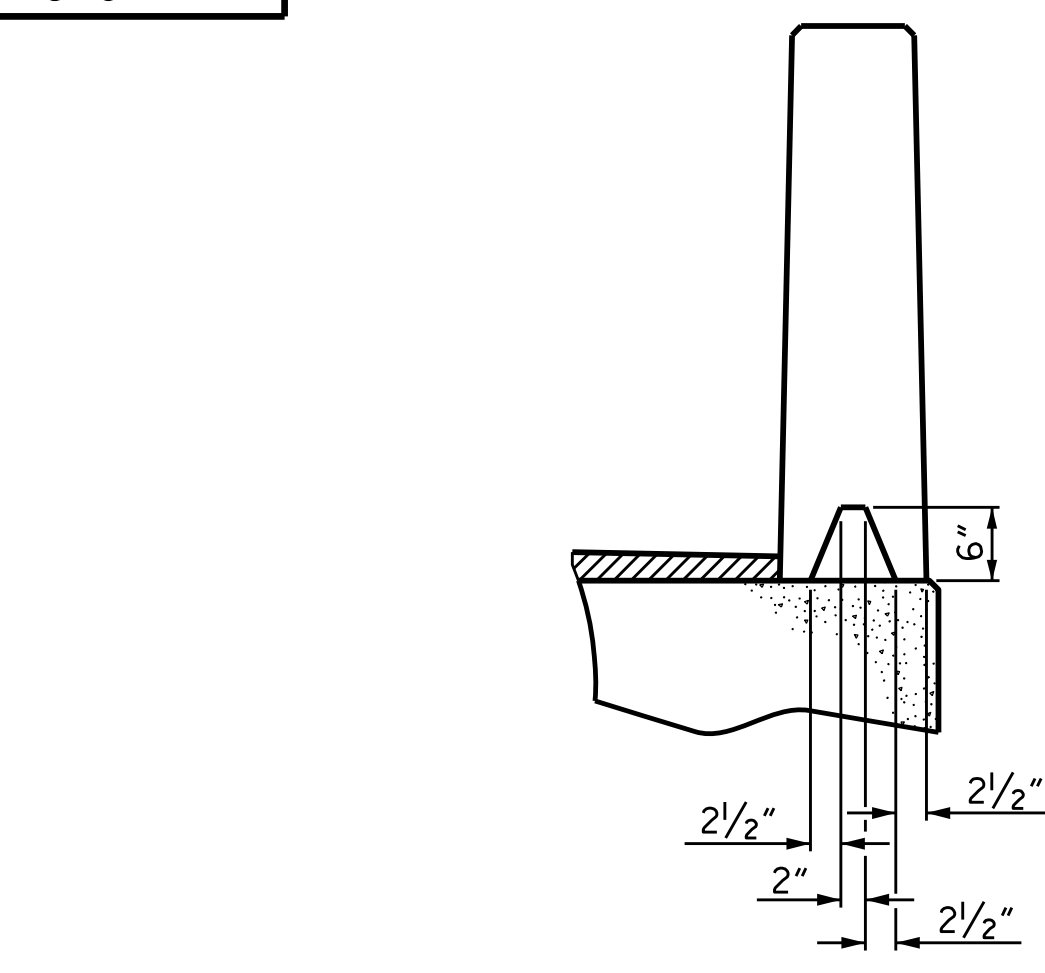
DEAD LOAD DEFLECTION AND CAMBER	
70' CORED SLAB UNIT	3'-0" x 2'-0" 0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	2 1/4" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	3/4" ↓
FINAL CAMBER	1 1/2" ↑

** INCLUDES FUTURE WEARING SURFACE

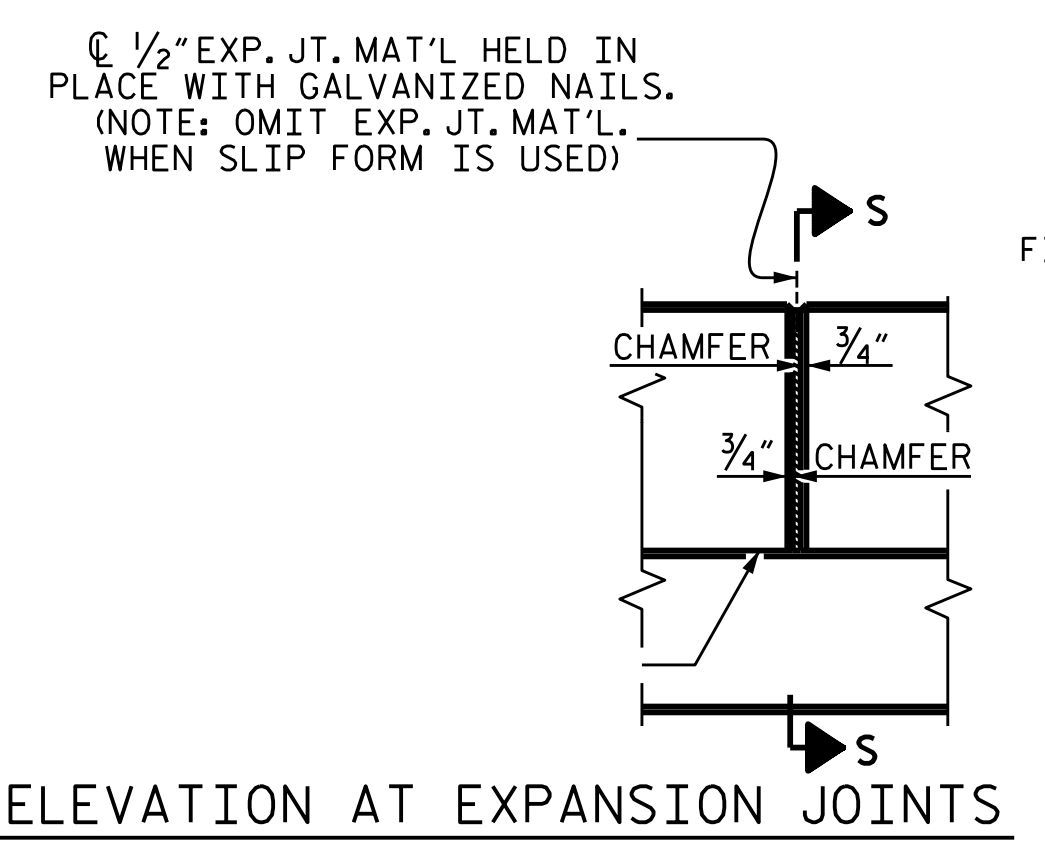
GRADE 270 STRANDS	
	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950



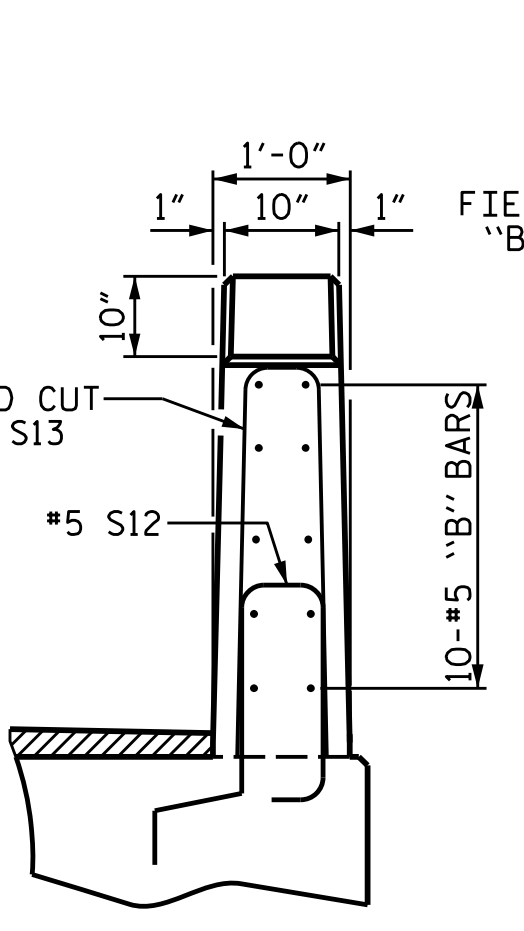
SECTION THRU RAIL



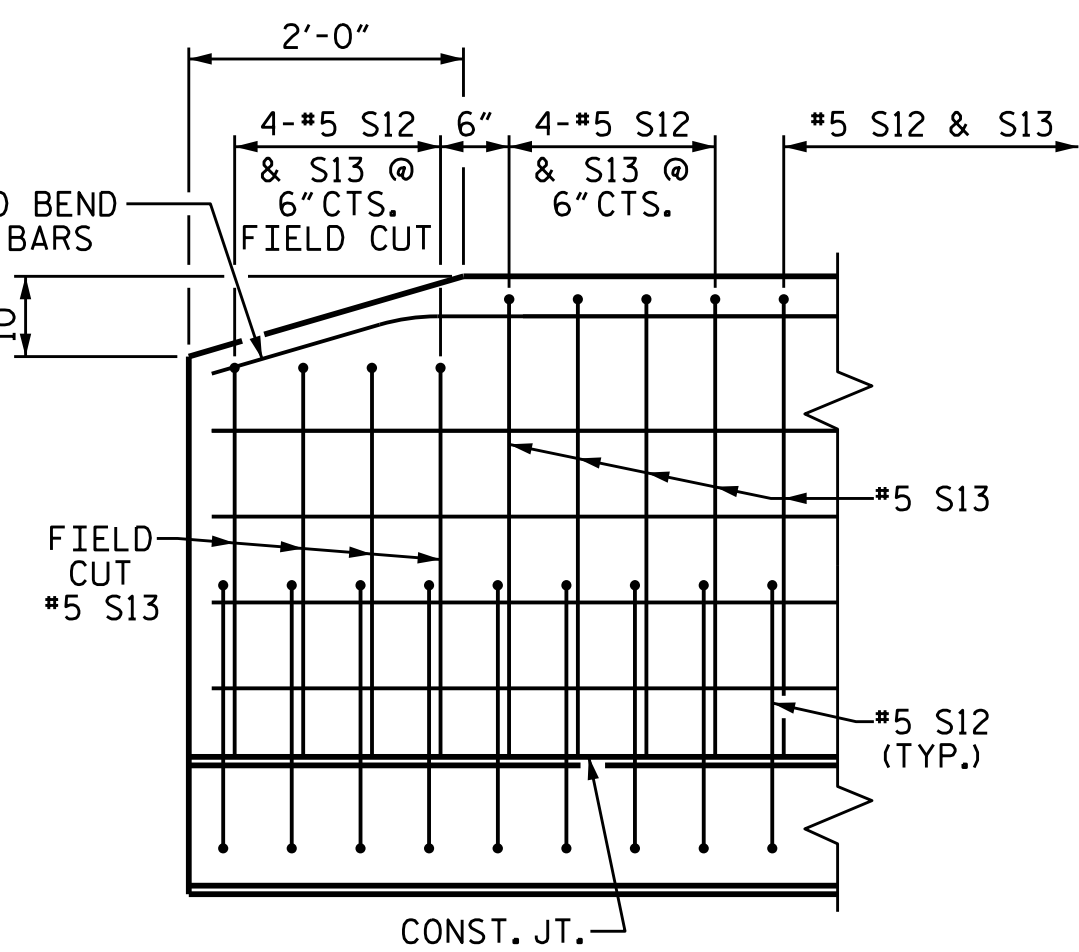
SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)



ELEVATION AT EXPANSION JOINTS



END VIEW



SIDE VIEW

END OF RAIL DETAILS

CONCRETE RELEASE STRENGTH	
UNIT	PSI
70' UNITS	5500

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.

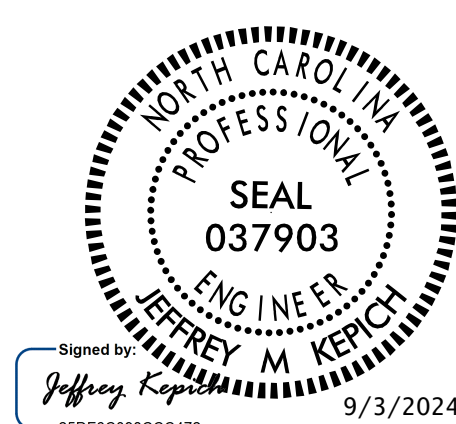
THE PERMITTED THREADED INSERTS IN THE EXTERIOR UNITS SHALL BE SIZED BY THE CONTRACTOR, SPACED AT 4'-0" CENTERS AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. STAINLESS STEEL THREADED INSERTS MAY BE USED AS AN ALTERNATE.

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.

PROJECT NO. BP8.R020
MONTGOMERY COUNTY
STATION: 15+60.00 -L-

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

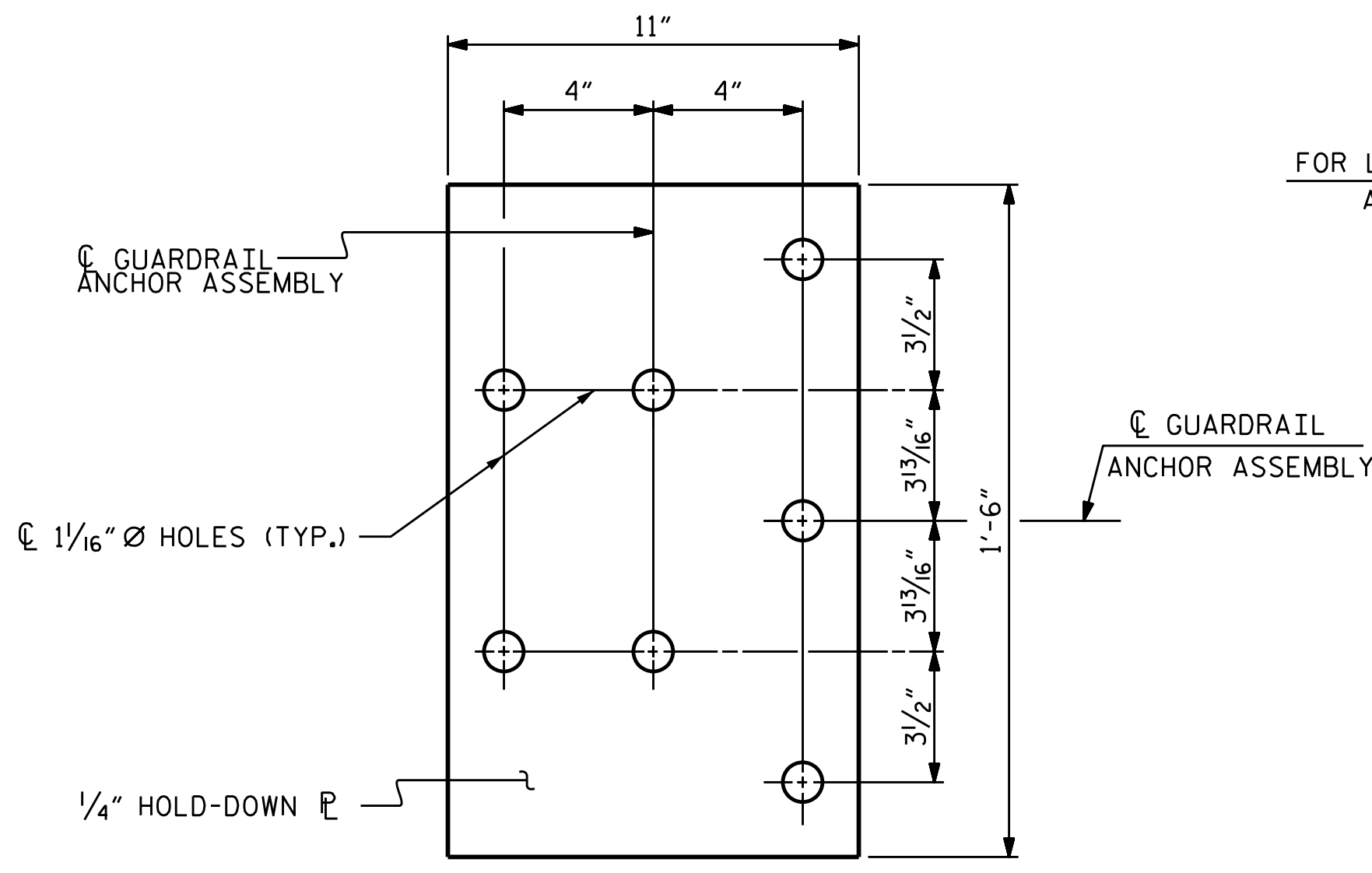


ASSEMBLED BY : J.M. KEPICH	DATE : 03/24
CHECKED BY : P.L. NELSON	DATE : 04/24
DRAWN BY : MAA 6/10	REV. 5/18
CHECKED BY : MKT 7/10	MAA/THC

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NC License Number : C-3239

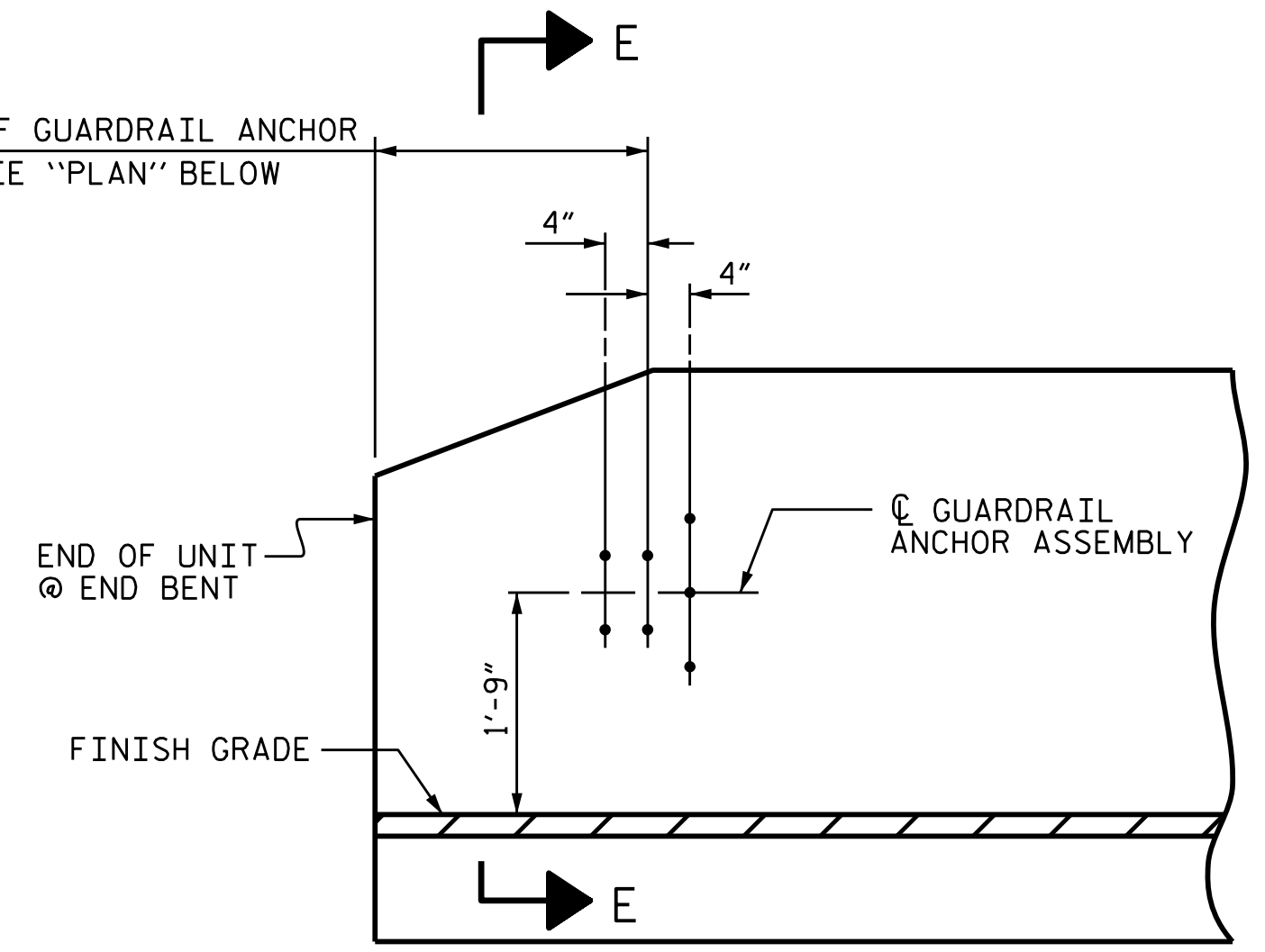
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			SHEETS
2			4			16



PLAN

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



ELEVATION

NOTES

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

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

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

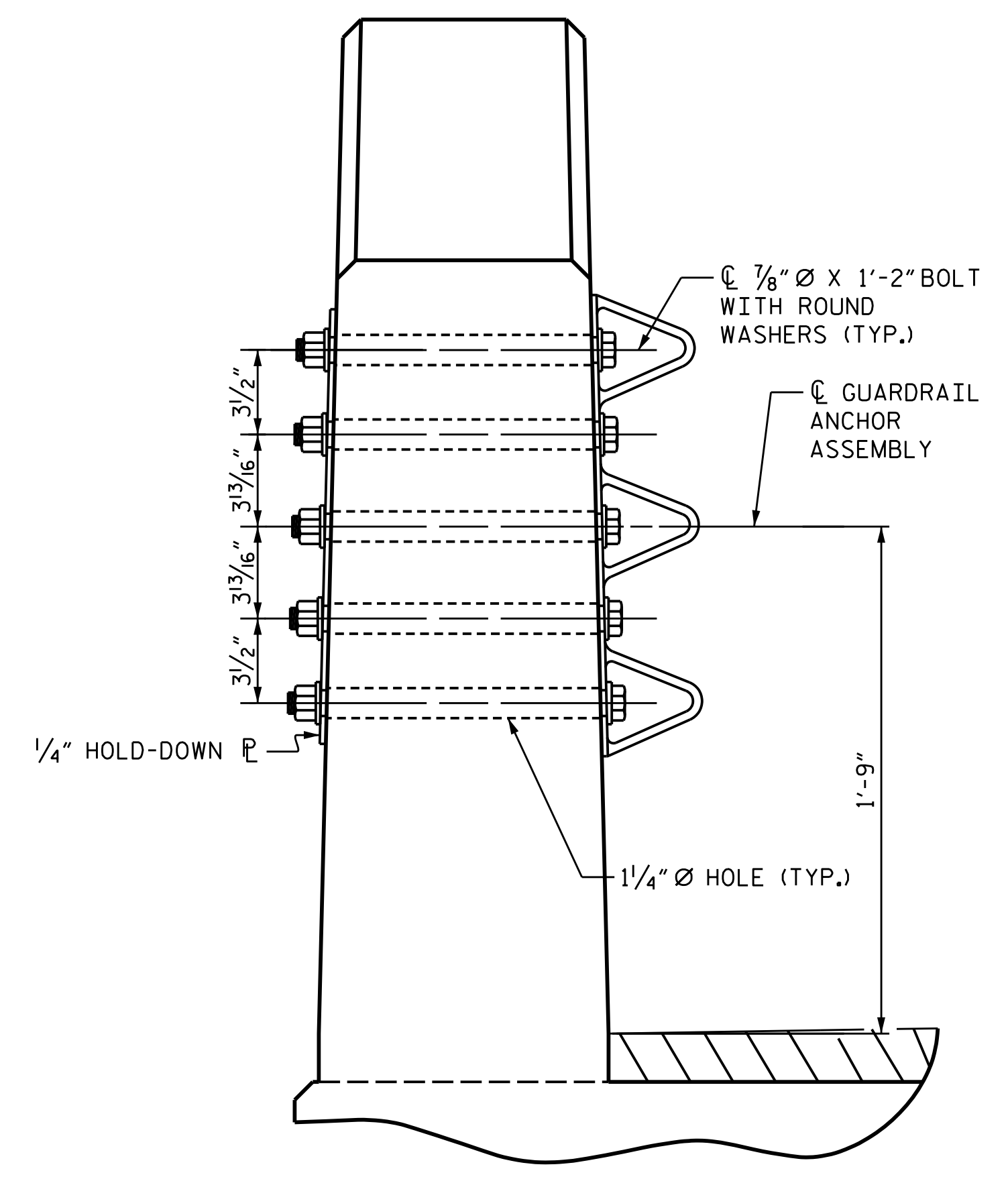
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

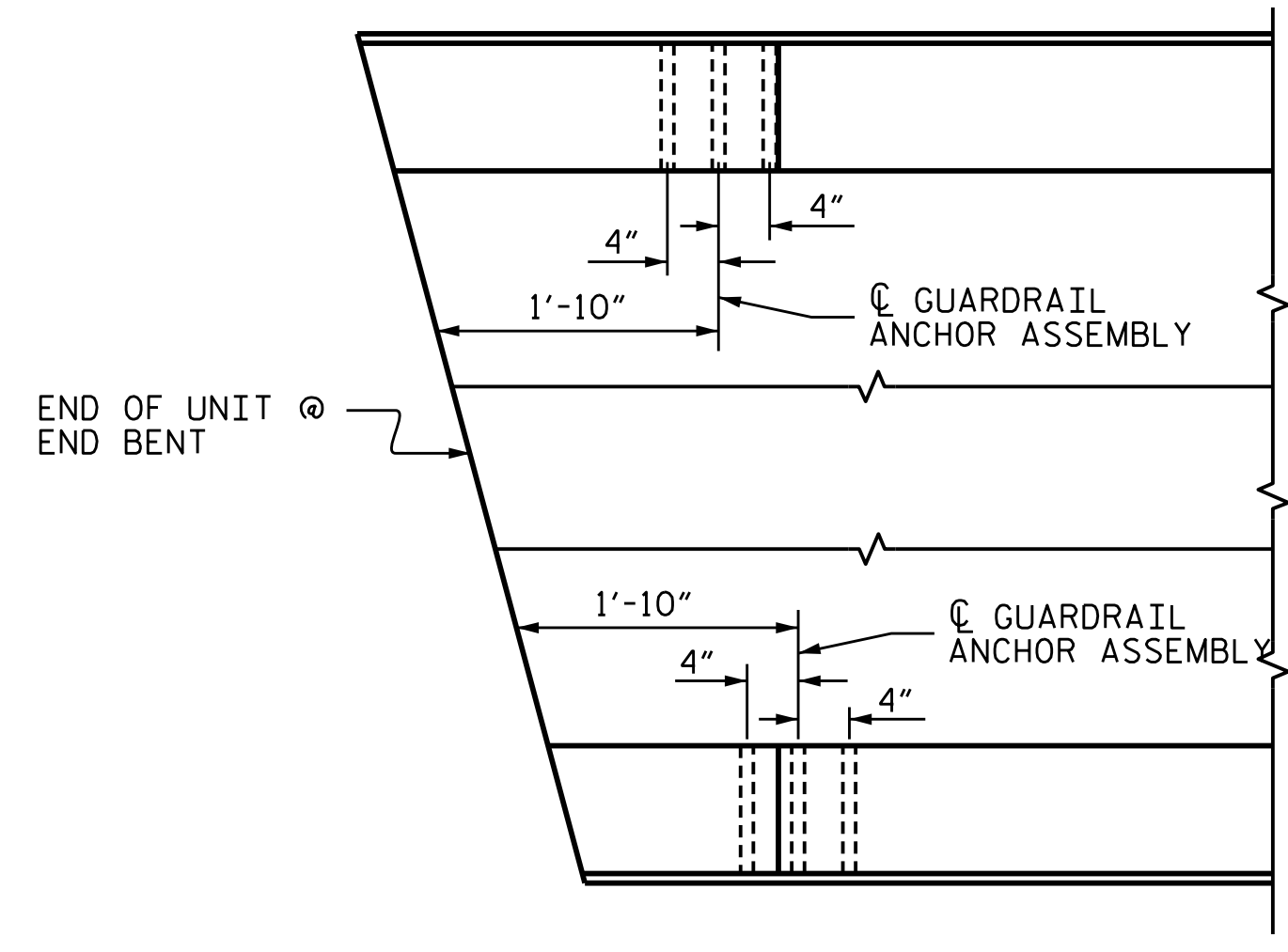
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

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

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



SECTION E-E
GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN
LOCATION OF ANCHORS FOR GUARDRAIL

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



SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. BP8.R020
MONTGOMERY COUNTY
 STATION: 15+60.00 -L-

ASSEMBLED BY : J.M. KEPICH	DATE : 03/24
CHECKED BY : P.L. NELSON	DATE : 04/24
DRAWN BY : MAA 5/10	REV. 1/15 MAA/TMG
CHECKED BY : GM 5/10	REV. 12/17 MAA/THC
	REV. 5/18 MAA/THC

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 Suite 160
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 GUARDRAIL ANCHORAGE
 DETAILS
 FOR VERTICAL CONCRETE
 BARRIER RAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS 16
2			4			

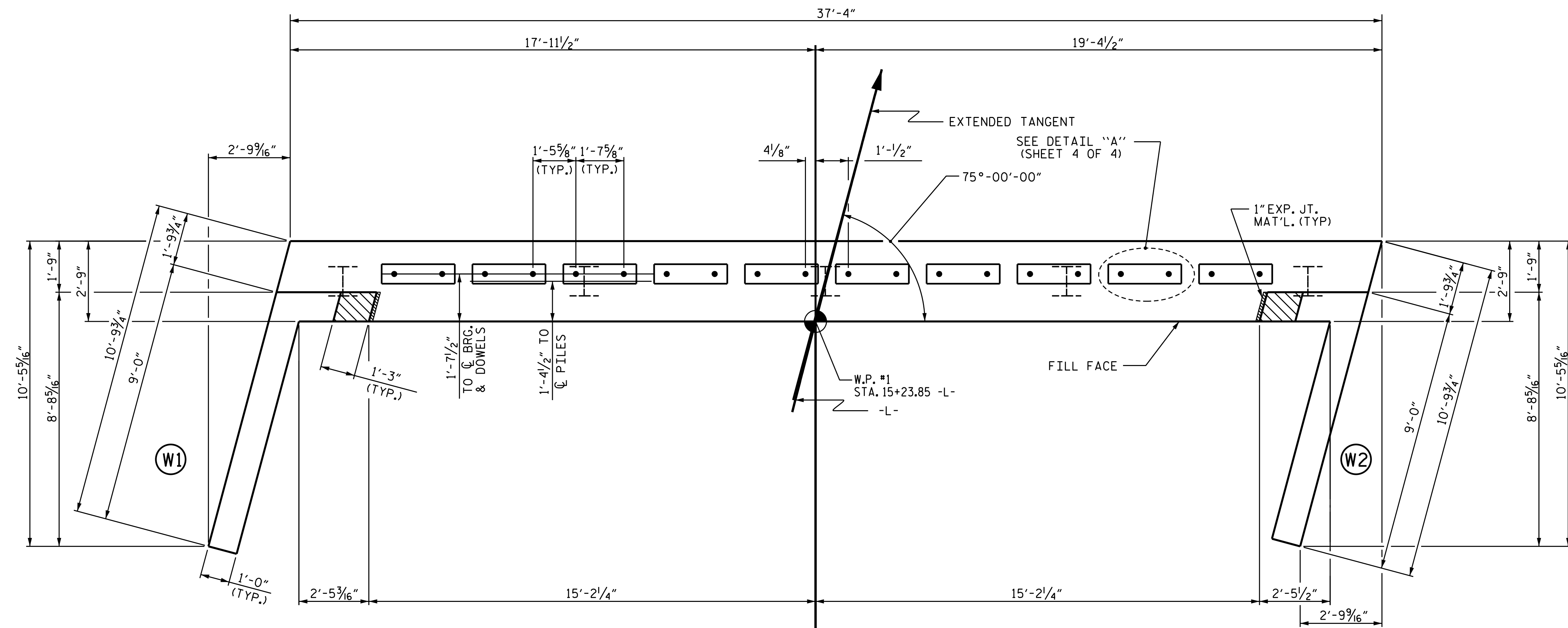
NOTES

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

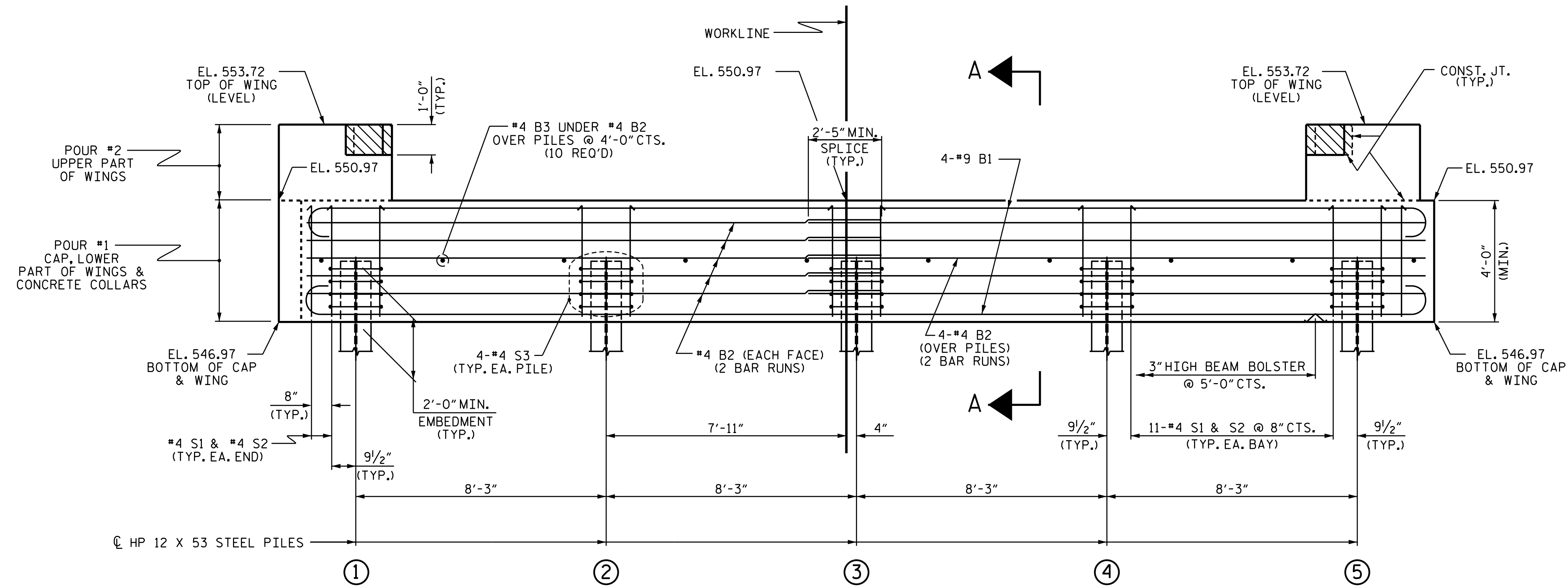
THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.



PLAN



ELEVATION

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

PROJECT NO. BP8.R020
MONTGOMERY COUNTY
 STATION: 15+60.00 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 END BENT No. 1**



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CHECKED BY : P.L. NELSON	DATE : 04/24
DRAWN BY : WJH 12/11	REV. 4/15
CHECKED BY : AAC 12/11	MAA/TMG

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

*****SYTIME*****

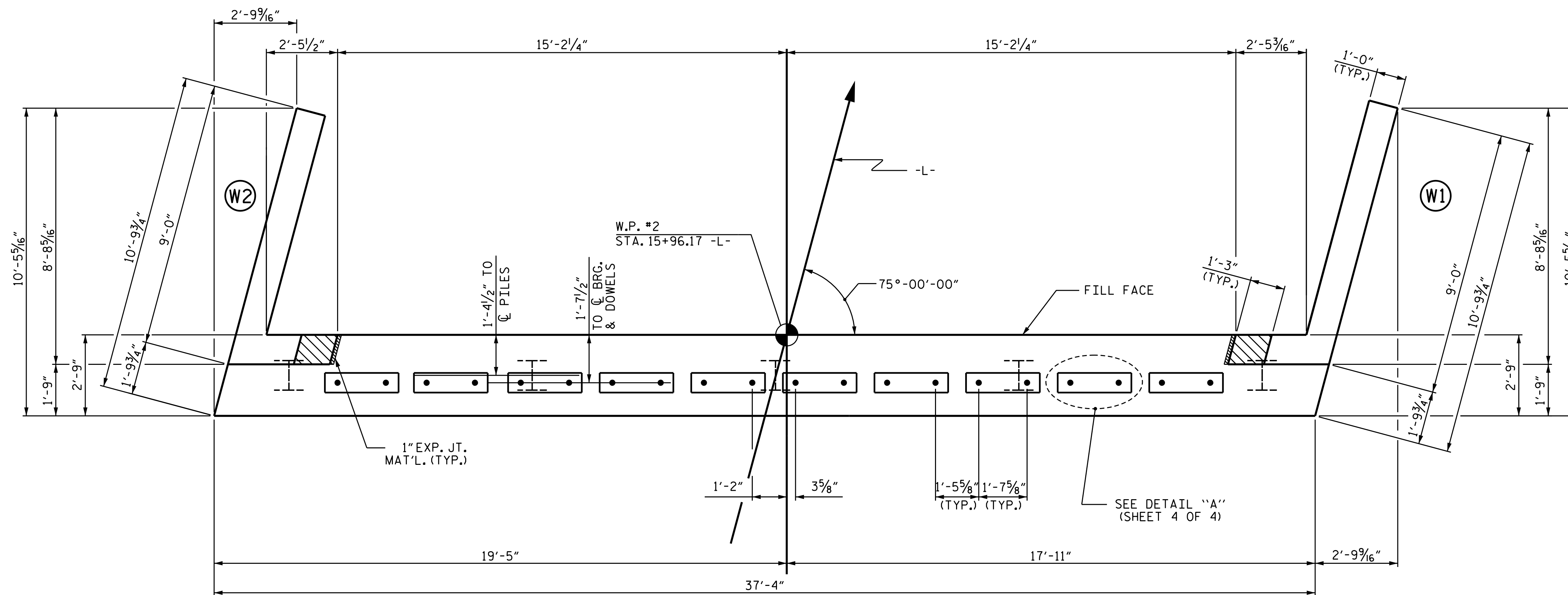
NOTES

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

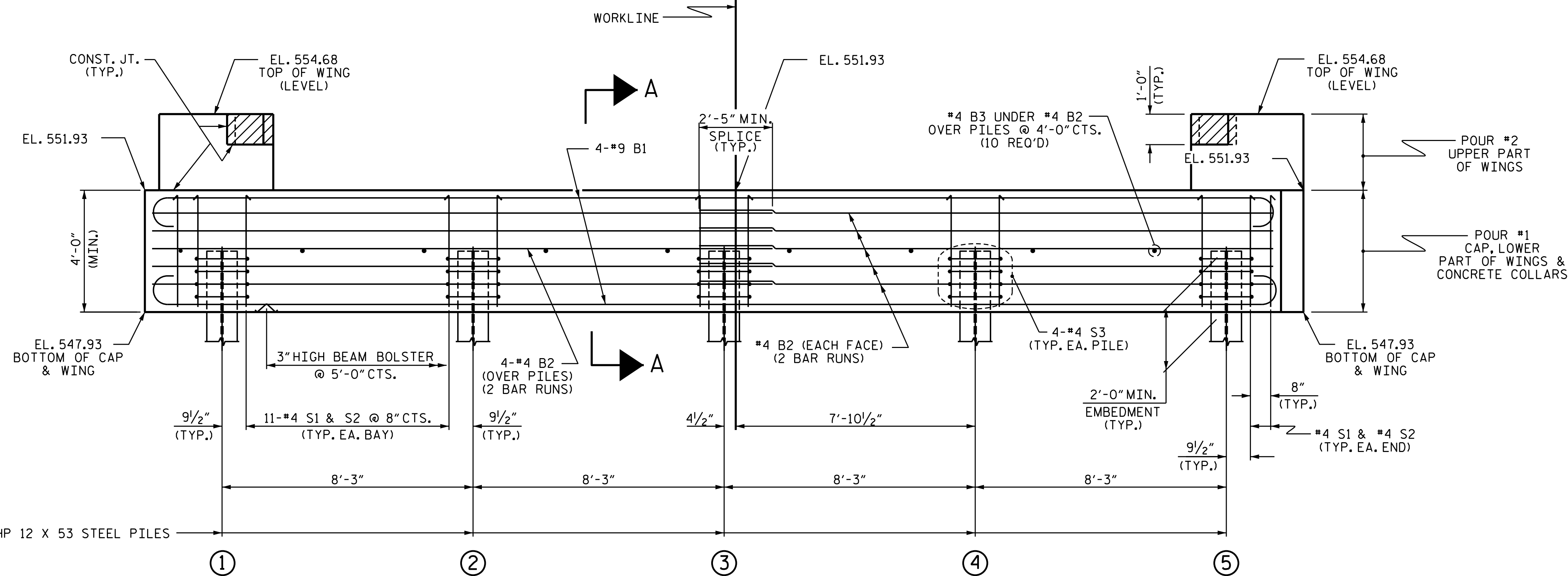
THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.



PLAN



ELEVATION

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

PROJECT NO. BP8.R020
MONTGOMERY COUNTY
 STATION: 15+60.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT No. 2

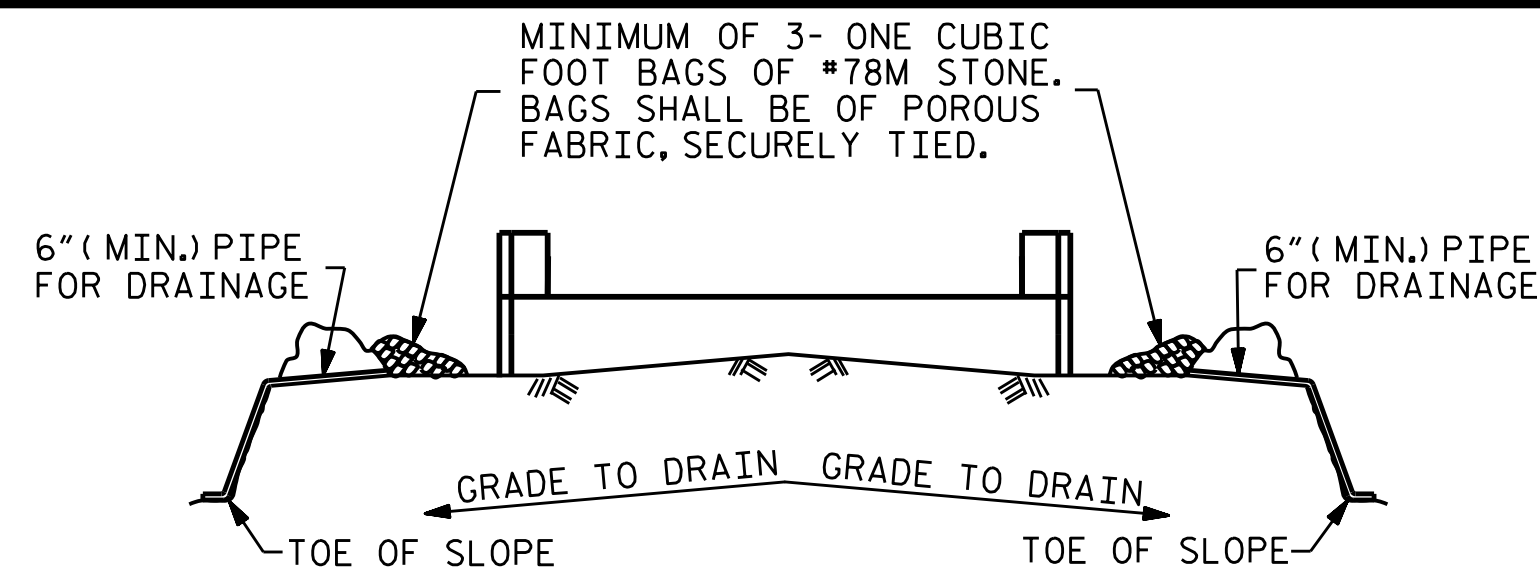


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CHECKED BY : P.L. NELSON	DATE : 04/24
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CHECKED BY : AAC 12/11	MAA/TMG

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

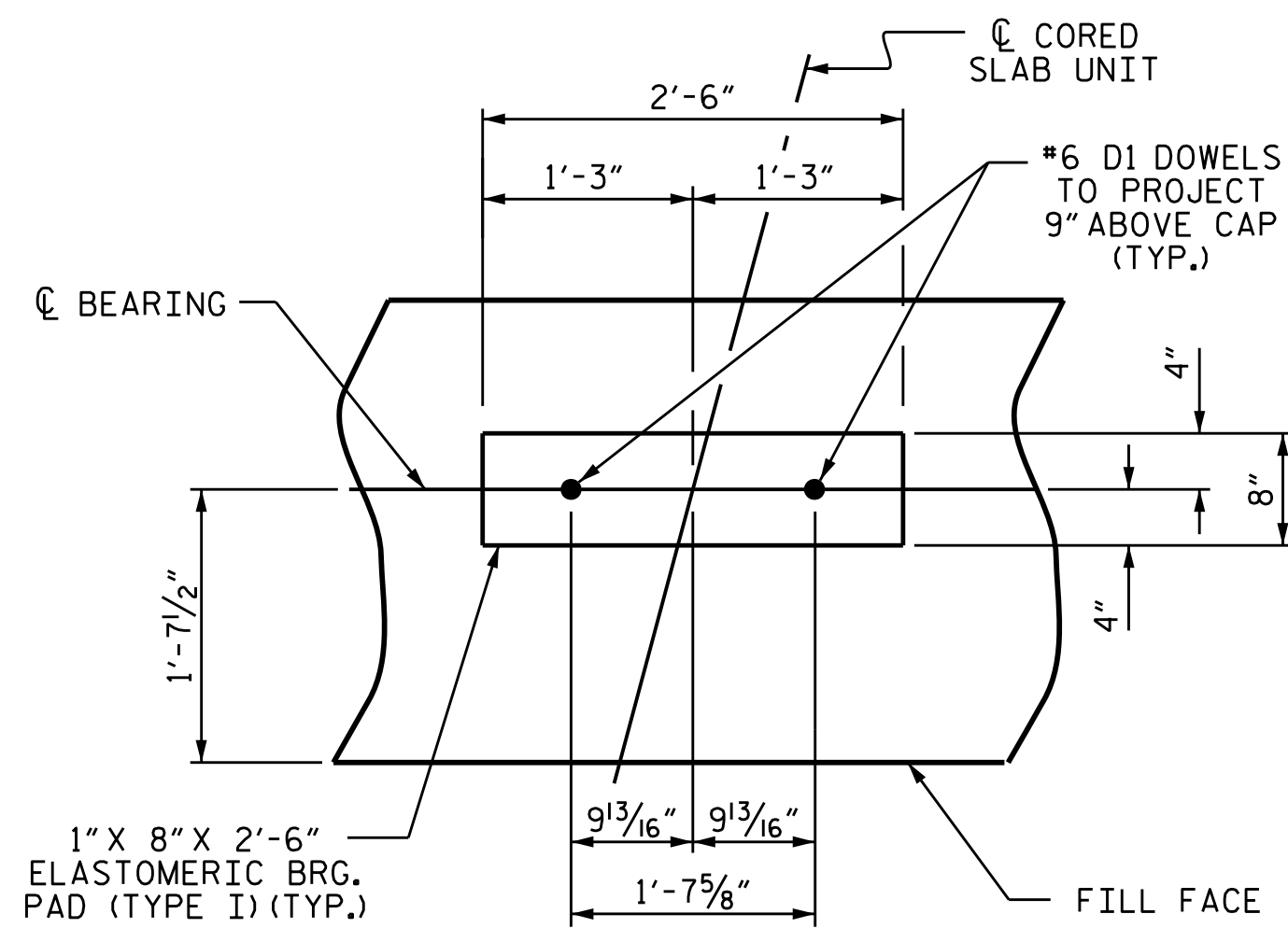


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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

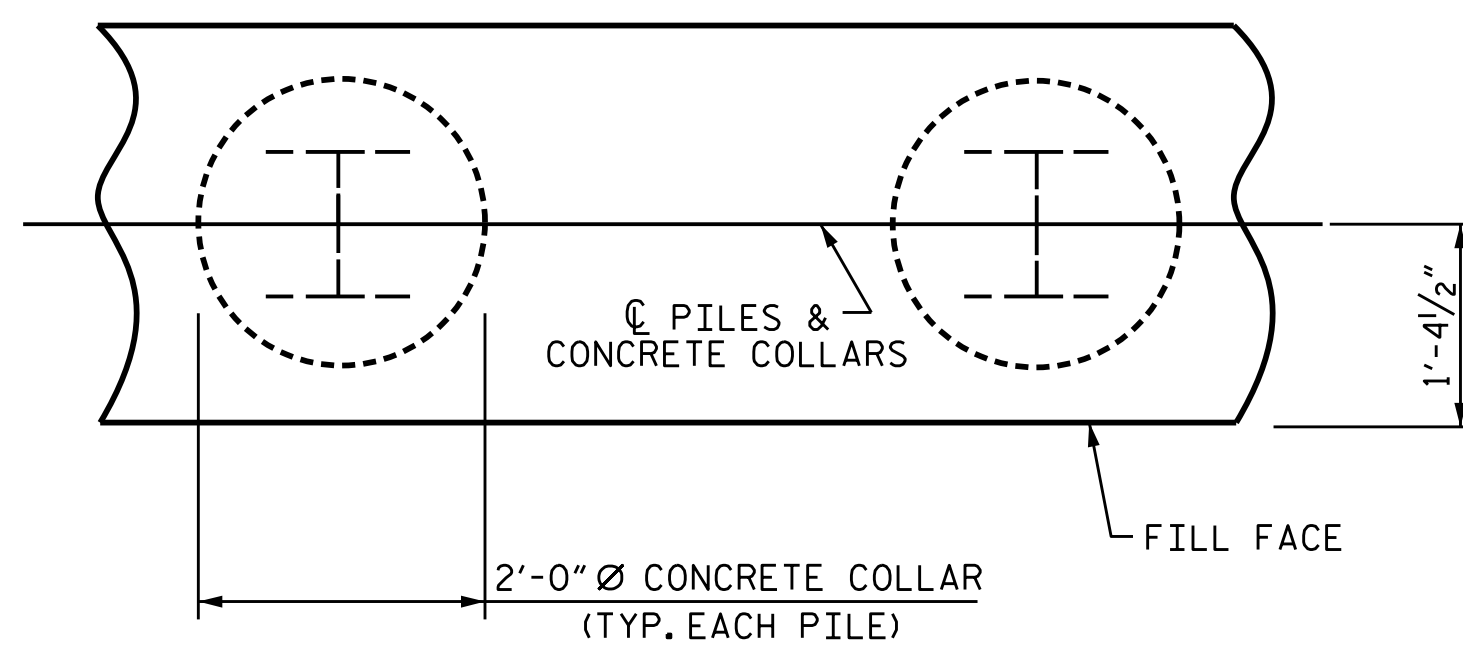
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

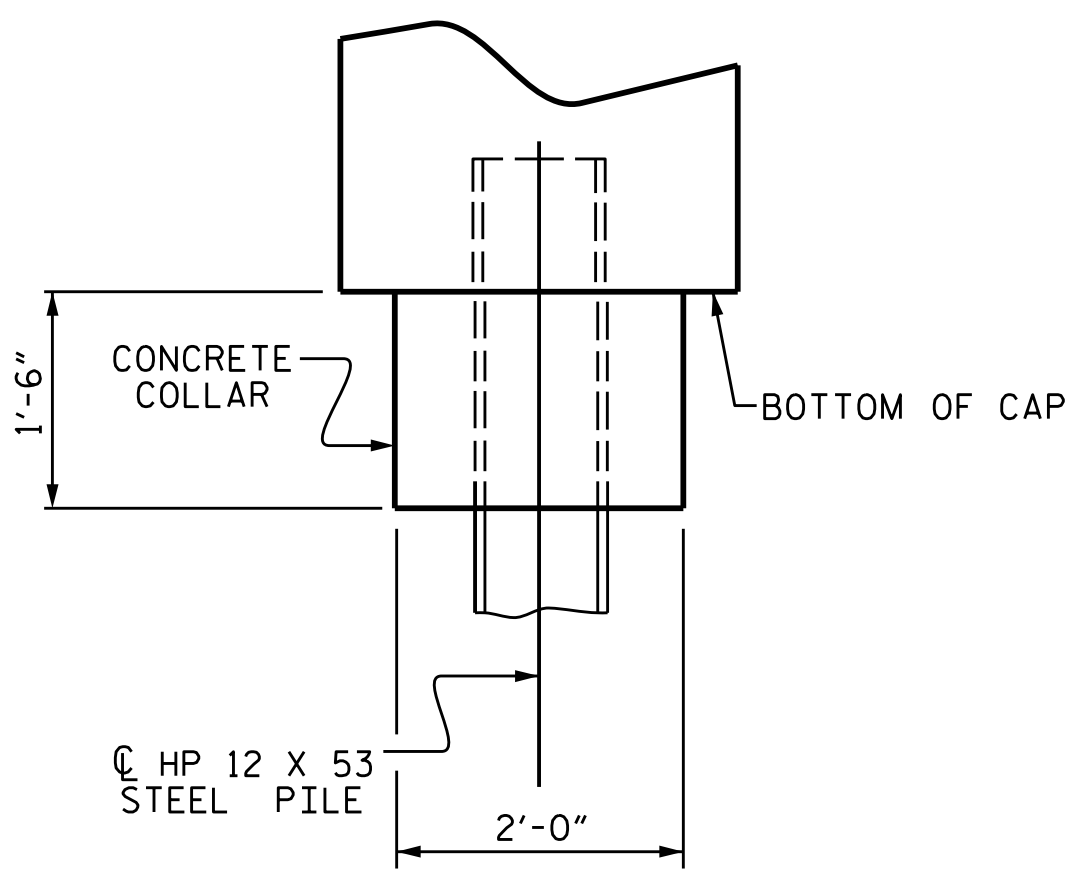


DETAIL "A"

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



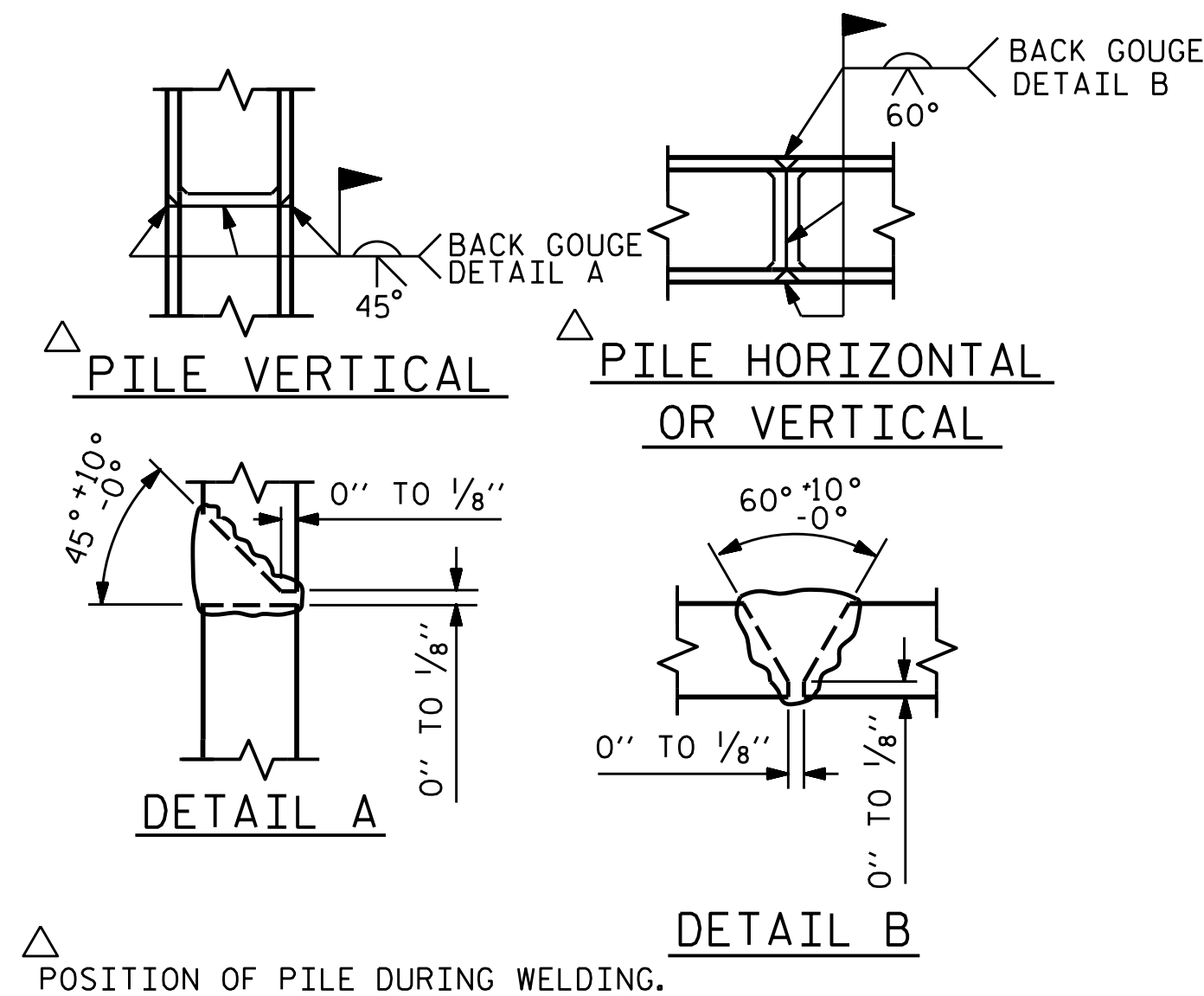
PLAN



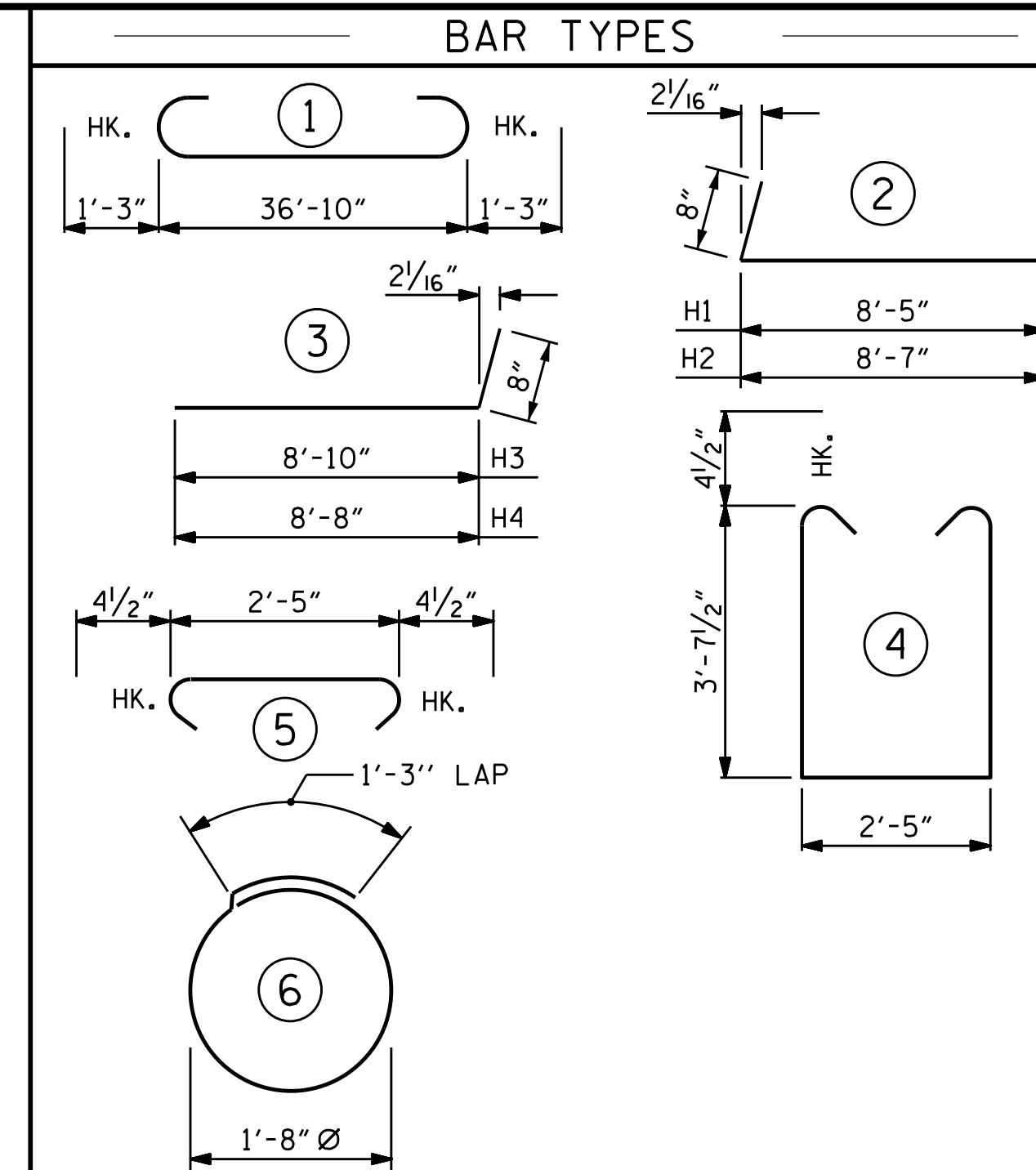
ELEVATION

CORROSION PROTECTION FOR STEEL PILES DETAIL

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

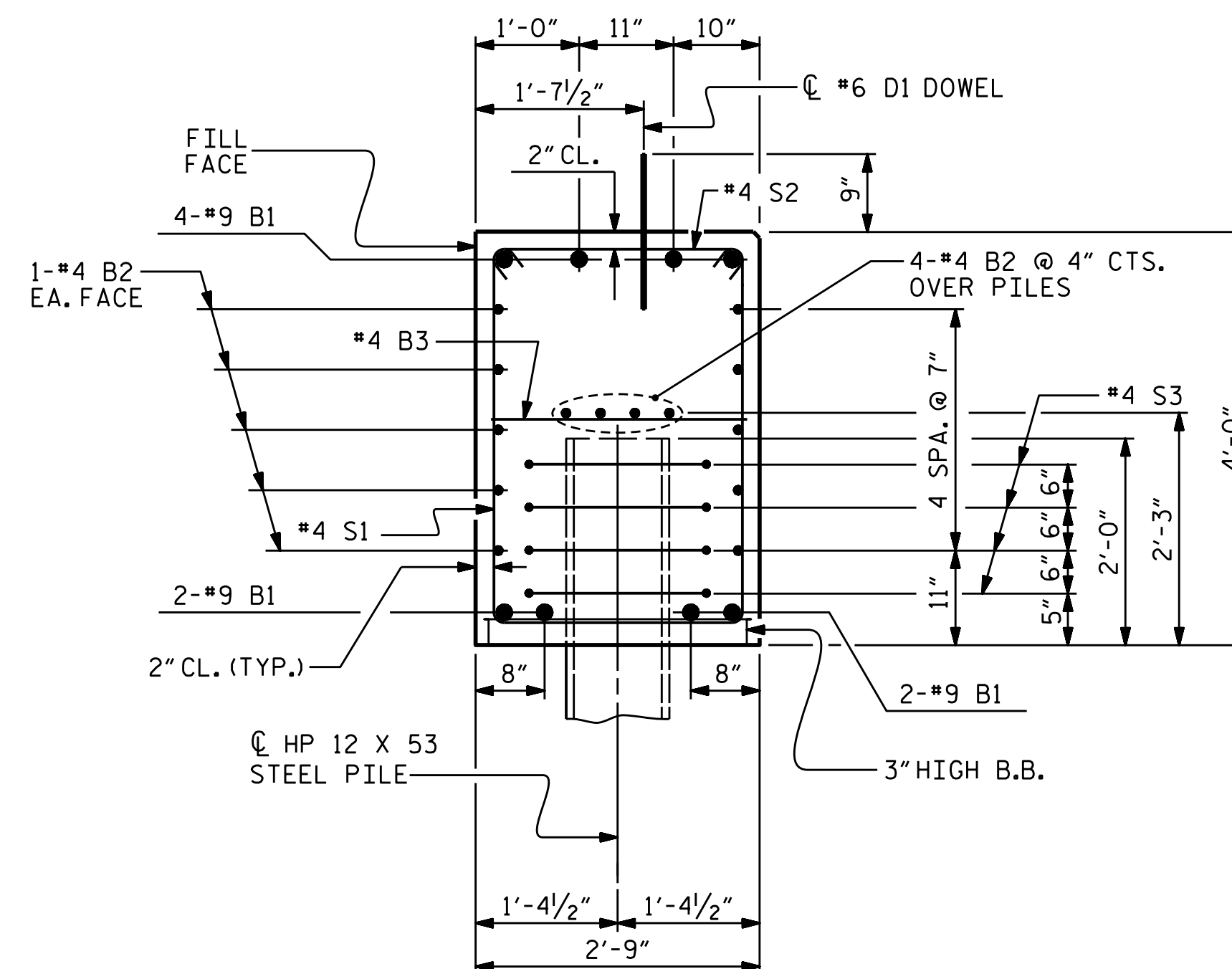


PILE SPLICE DETAILS



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL FOR ONE END BENT					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		39'-4"	1070
B2	28	#4	STR	19'-9"	369
B3	10	#4	STR	2'-5"	16
D1	20	#6	STR	1'-6"	45
H1	10	#4	2	9'-1"	61
H2	10	#4	2	9'-3"	62
H3	10	#4	3	9'-6"	63
H4	10	#4	3	9'-4"	62
K1	16	#4	STR	3'-1"	33
S1	48	#4	4	10'-5"	334
S2	48	#4	5	3'-2"	102
S3	20	#4	6	6'-6"	87
V1	53	#4	STR	6'-2"	218
REINFORCING STEEL (FOR ONE END BENT)					2522 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1	CAP, LOWER PART OF WINGS & COLLARS				18.4 C.Y.
POUR #2	UPPER PART OF WINGS				2.3 C.Y.
TOTAL CLASS A CONCRETE					20.7 C.Y.



SECTION A-A

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

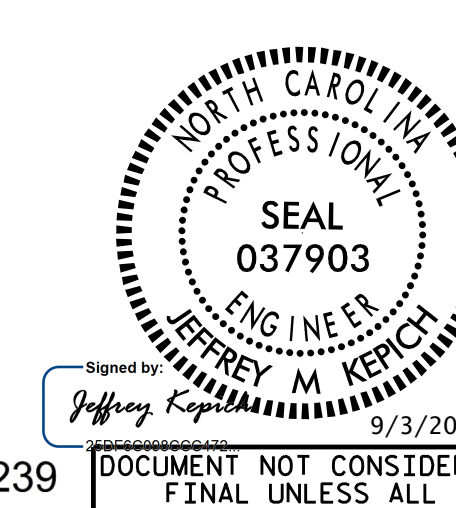
PROJECT NO. BP8.R020
MONTGOMERY COUNTY
 STATION: 15+60.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE

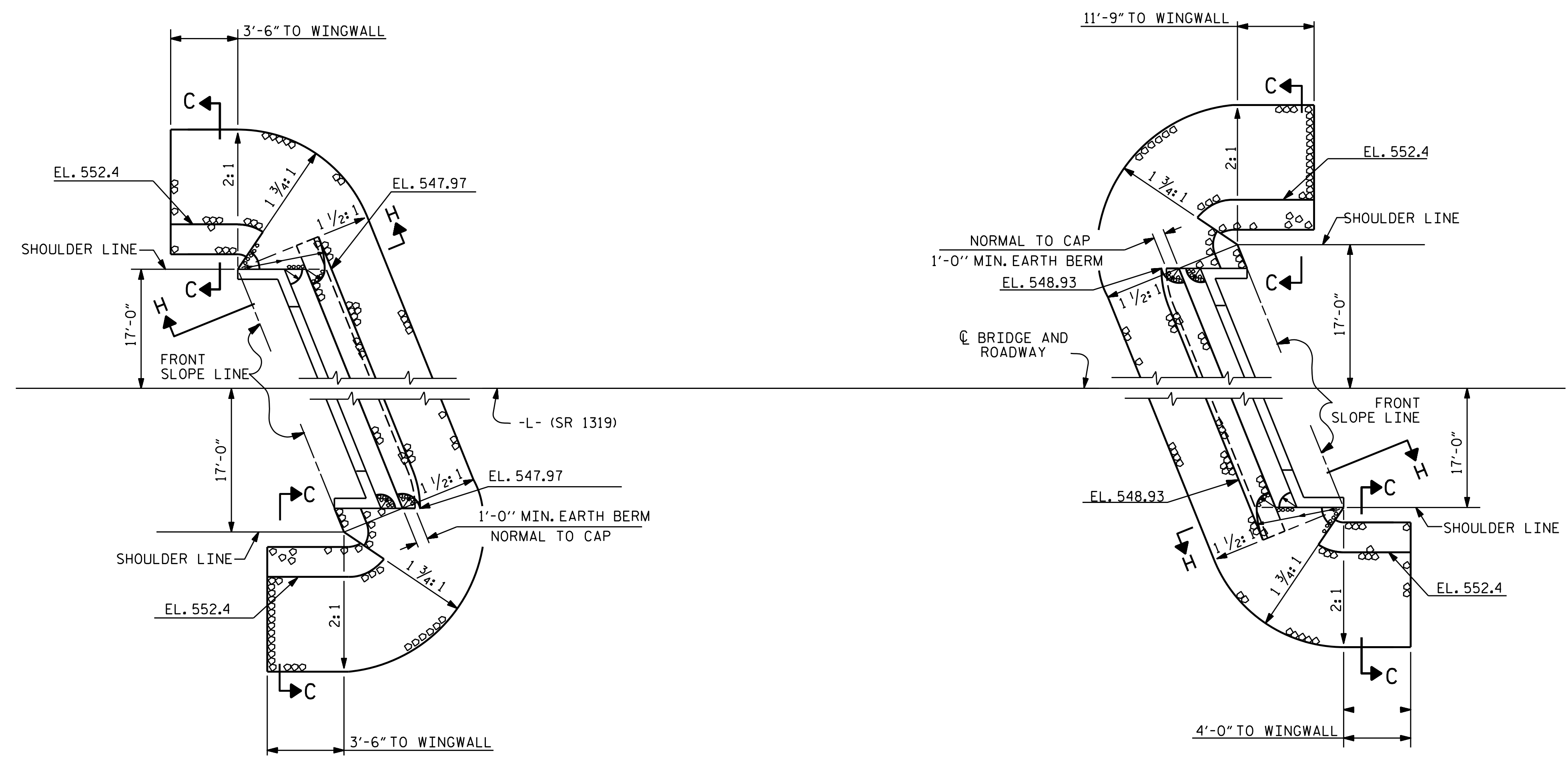
END BENT No. 1 & 2
 DETAILS



REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS 16
2			4			

ASSEMBLED BY : J.M. KEPICH	DATE : 03/24
CHECKED BY : P.L. NELSON	DATE : 04/24
DRAWN BY : WJH 12/11	REV. 4/17
CHECKED BY : AAC 12/11	MAA/THC

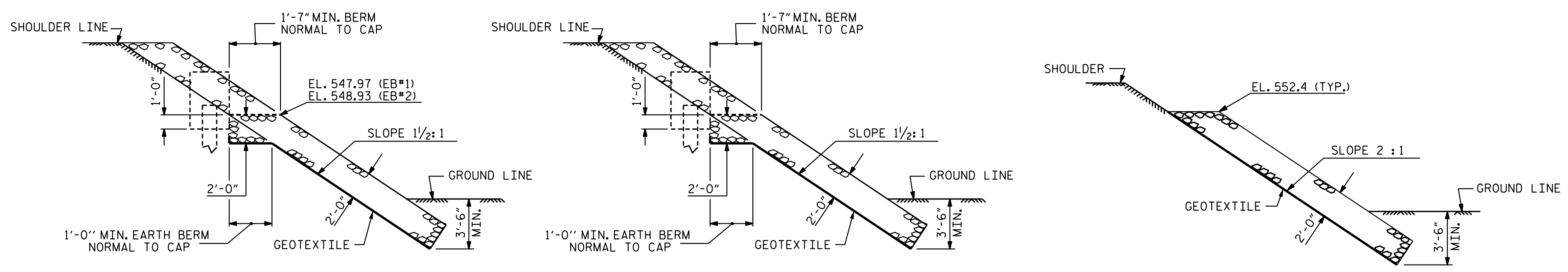
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NOTES :
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.

SHOULDER RIP RAP IS HIGHER THAN BERM RIP RAP

ESTIMATED QUANTITIES		
BRIDGE @ STA. 15+60.00	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	50	55
END BENT 2	40	44



SECTION H-H

SECTION C-C

SECTION C-C

BERM RIP RAPPED

PROJECT NO. BP8.R020
MONTGOMERY COUNTY
STATION: 15+60.00 -L-

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

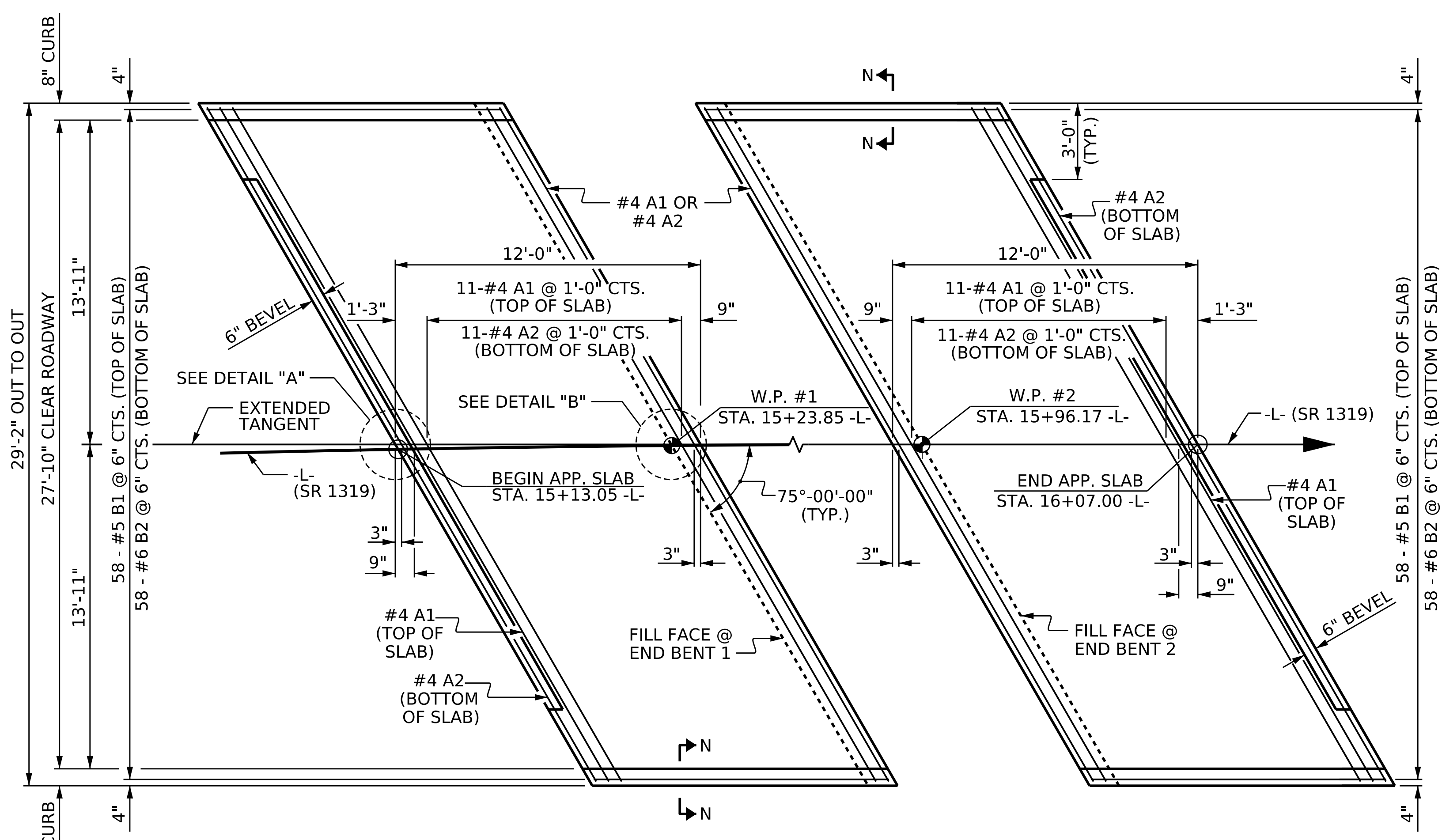


ASSEMBLED BY : J.M. KEPICH	DATE : 03/24
CHECKED BY : P.L. NELSON	DATE : 04/24
DRAWN BY : REK 1/84	REV. 10/1/11 MAA/GM
CHECKED BY : RDU 1/84	REV. 12/21/11 MAA/GM
	REV. 12/17 MAA/THC

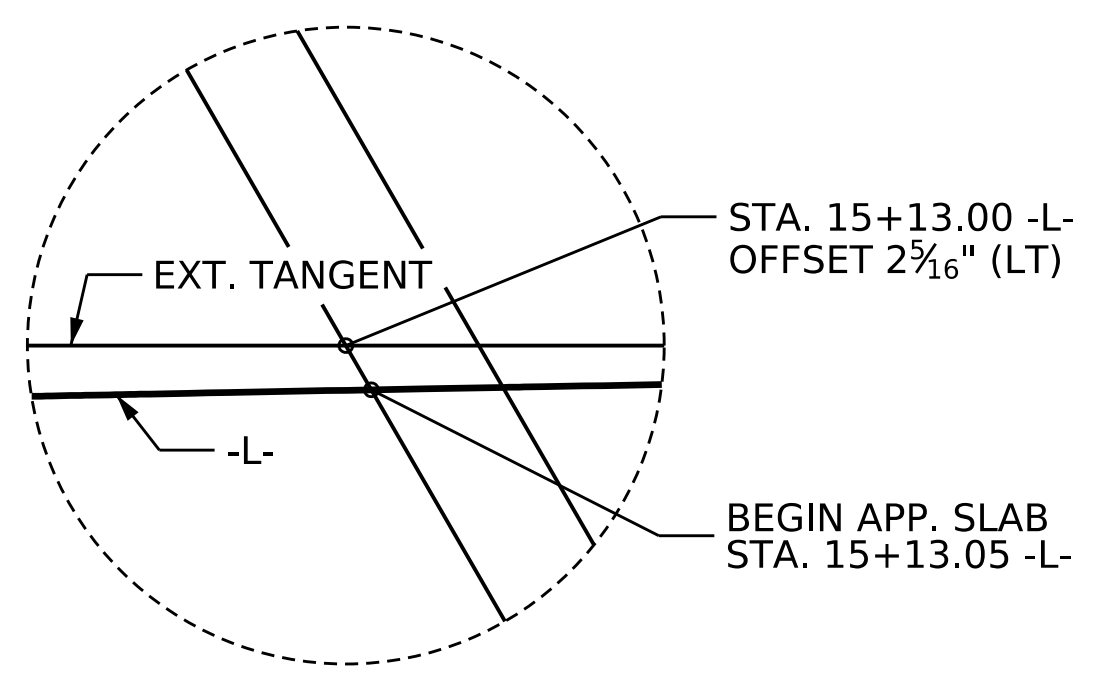
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			16

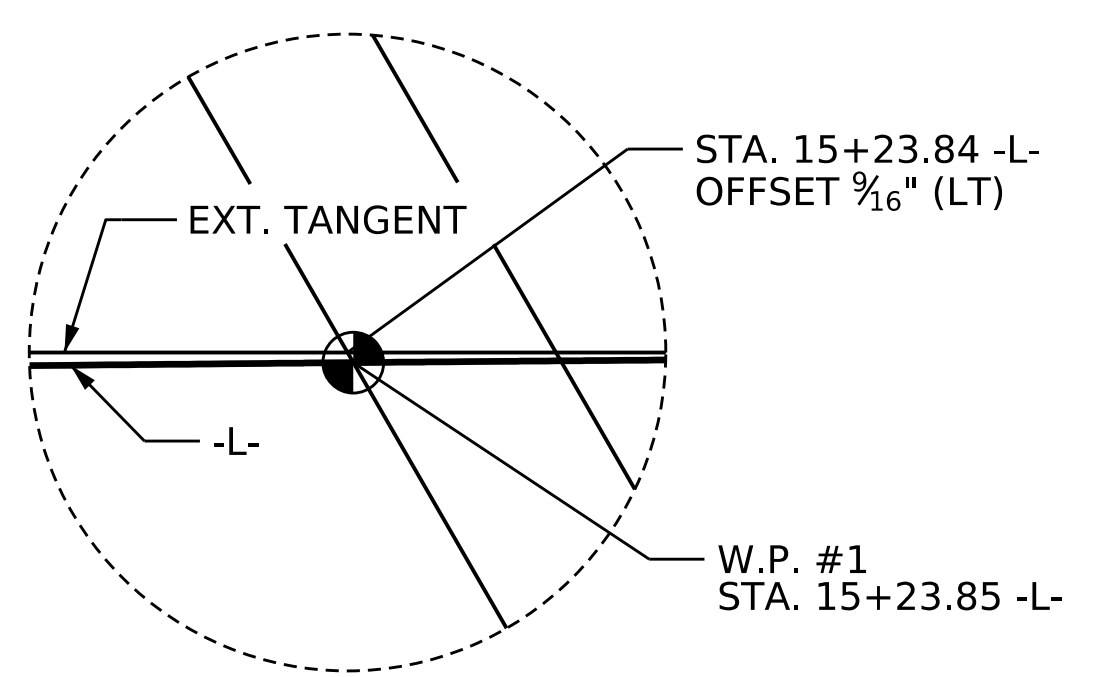
STD. NO. RR1



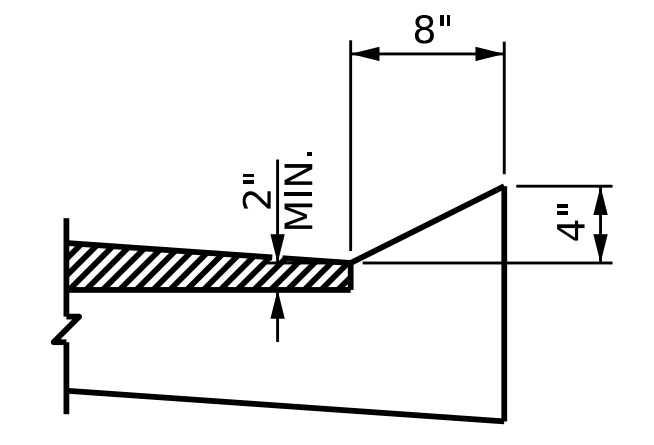
PLAN @ END BENT 1 PLAN @ END BENT 2
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



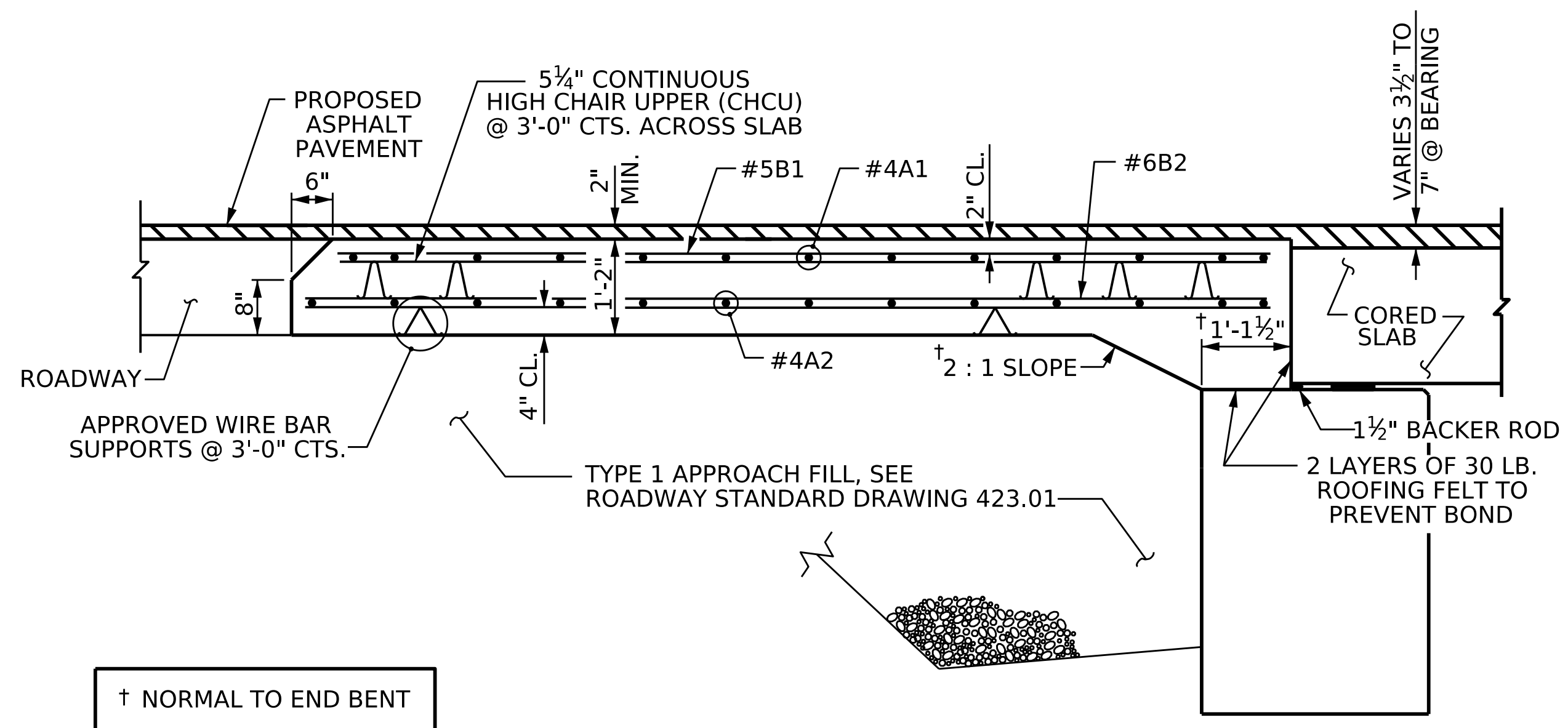
DETAIL "A"



DETAIL "B"



SECTION N-N



SECTION THRU SLAB

NOTES

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.
AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.
APPROACH SLAB GROOVING IS NOT REQUIRED.

BILL OF MATERIAL

APPROACH SLAB AT EB 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	29'-10"	259
A2	13	#4	STR	29'-10"	259
*B1	58	#5	STR	11'-1"	670
B2	58	#6	STR	11'-7"	1009
REINFORCING STEEL					LBS. 1268
* EPOXY COATED REINFORCING STEEL					LBS. 929
CLASS AA CONCRETE					C. Y. 17.7
APPROACH SLAB AT EB 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	29'-10"	259
A2	13	#4	STR	29'-10"	259
*B1	58	#5	STR	11'-1"	670
B2	58	#6	STR	11'-7"	1009
REINFORCING STEEL					LBS. 1268
* EPOXY COATED REINFORCING STEEL					LBS. 929
CLASS AA CONCRETE					C. Y. 17.7

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

PROJECT NO. BP8.R020
MONTGOMERY COUNTY
STATION: 15+60.00 -L-

SHEET 1 OF 2

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

ASSEMBLED BY: J.M. KEPICH	DATE: 03/24
CHECKED BY: P.L. NELSON	DATE: 04/24
DRAWN BY: KMM 3-08	REV. 06/19 MAA/THC
CHECKED BY: GM 3-08	REV. 08/19 ENB/THC
	REV. 07/23 BNB/SNM

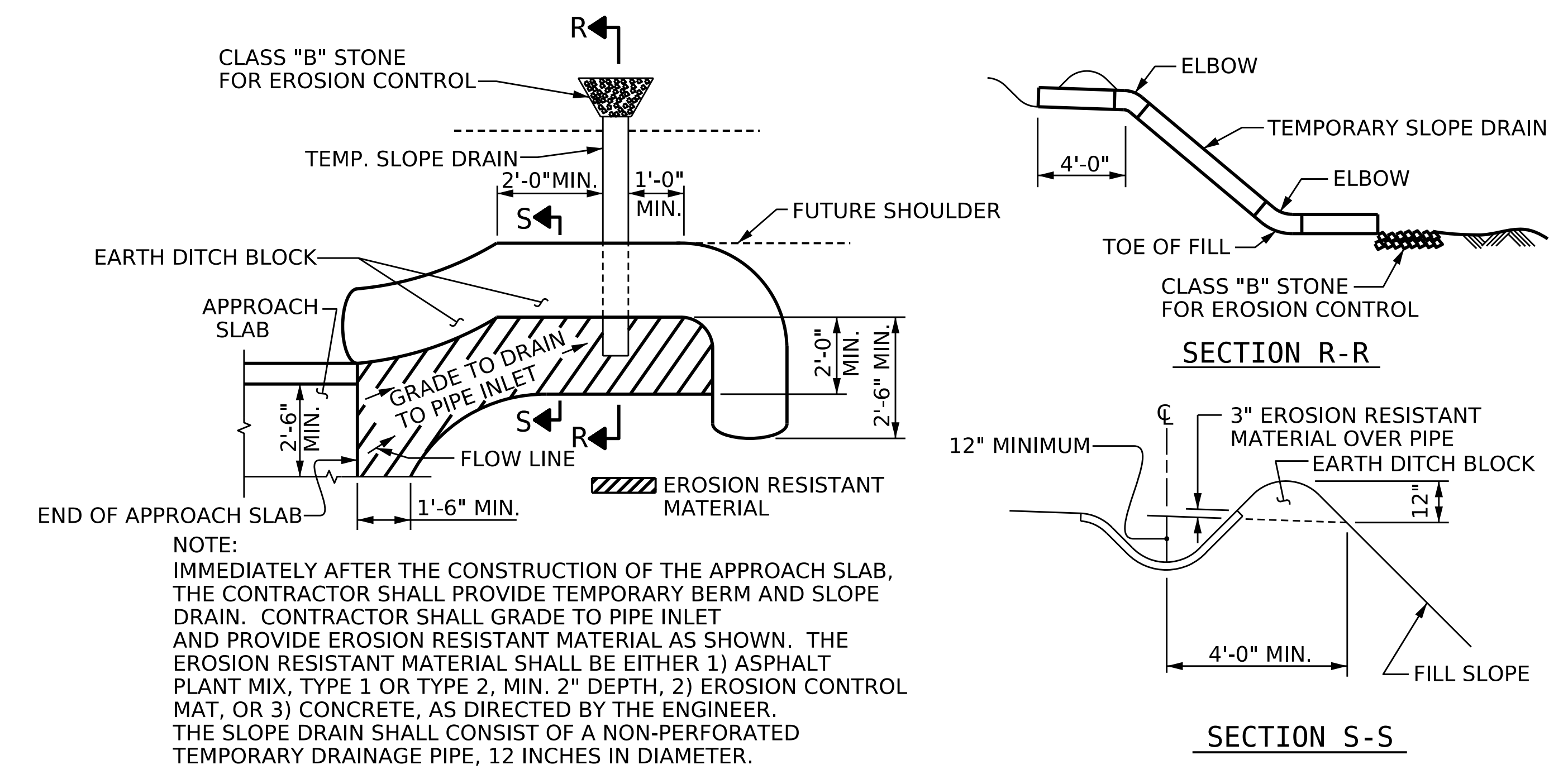
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Suite 160
Raleigh, NC 27607
NC License Number : C-3239

Professional Engineer Seal
JEFFREY M. KEPICH
SEAL 037903
9/3/2024

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

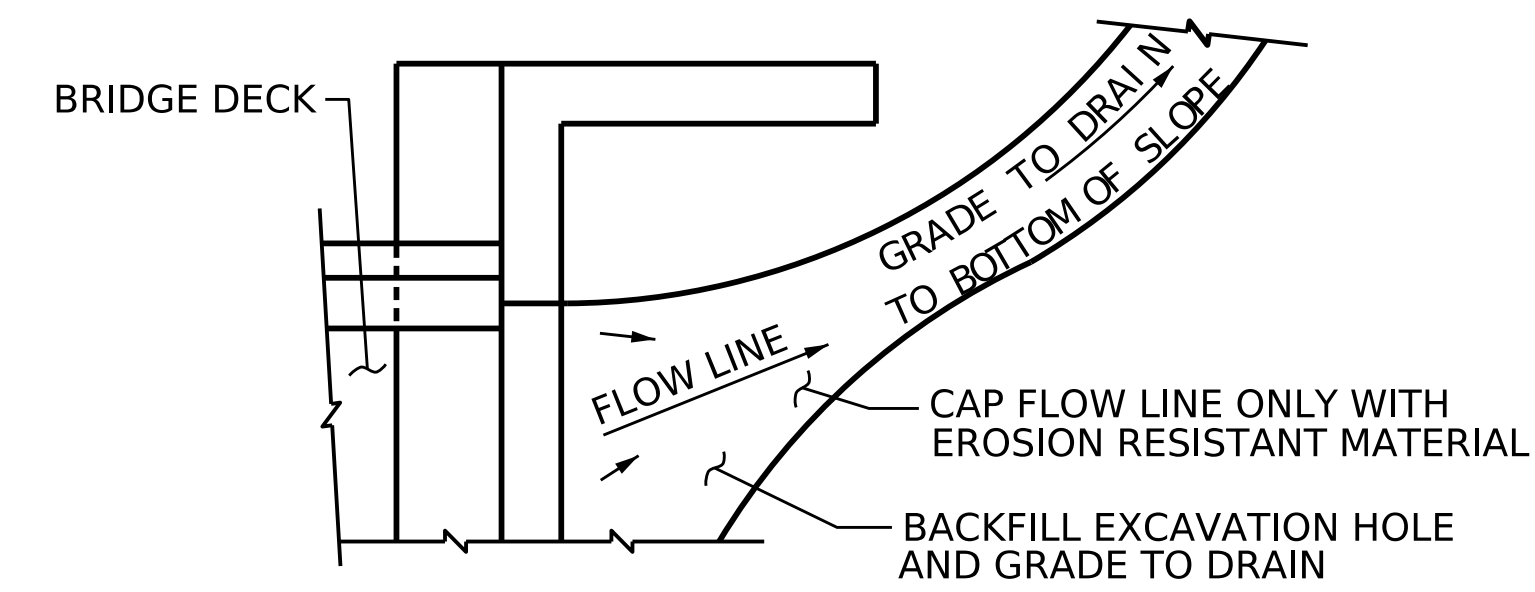
S-15
TOTAL SHEETS 16

8/26/21



NOTE:
 IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

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



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

TEMPORARY DRAINAGE DETAIL

PROJECT NO. BP8.R020
MONTGOMERY COUNTY
 STATION: 15+60.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
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 STANDARD

**BRIDGE APPROACH
 SLAB DETAILS**



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1			3			TOTAL SHEETS
2			4			16

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ASSEMBLED BY: J.M. KEPICH	DATE: 03/24
CHECKED BY: P.L. NELSON	DATE: 04/24
DRAWN BY: FCJ 11/88	REV. 6/13 MAA/GM
CHECKED BY: ARB 11/88	REV. 12/17 MAA/THC
	REV. 5/18 MAA/THC

*****SYSTEM*****
 *****DGN*****
 *****USERNAME*****

