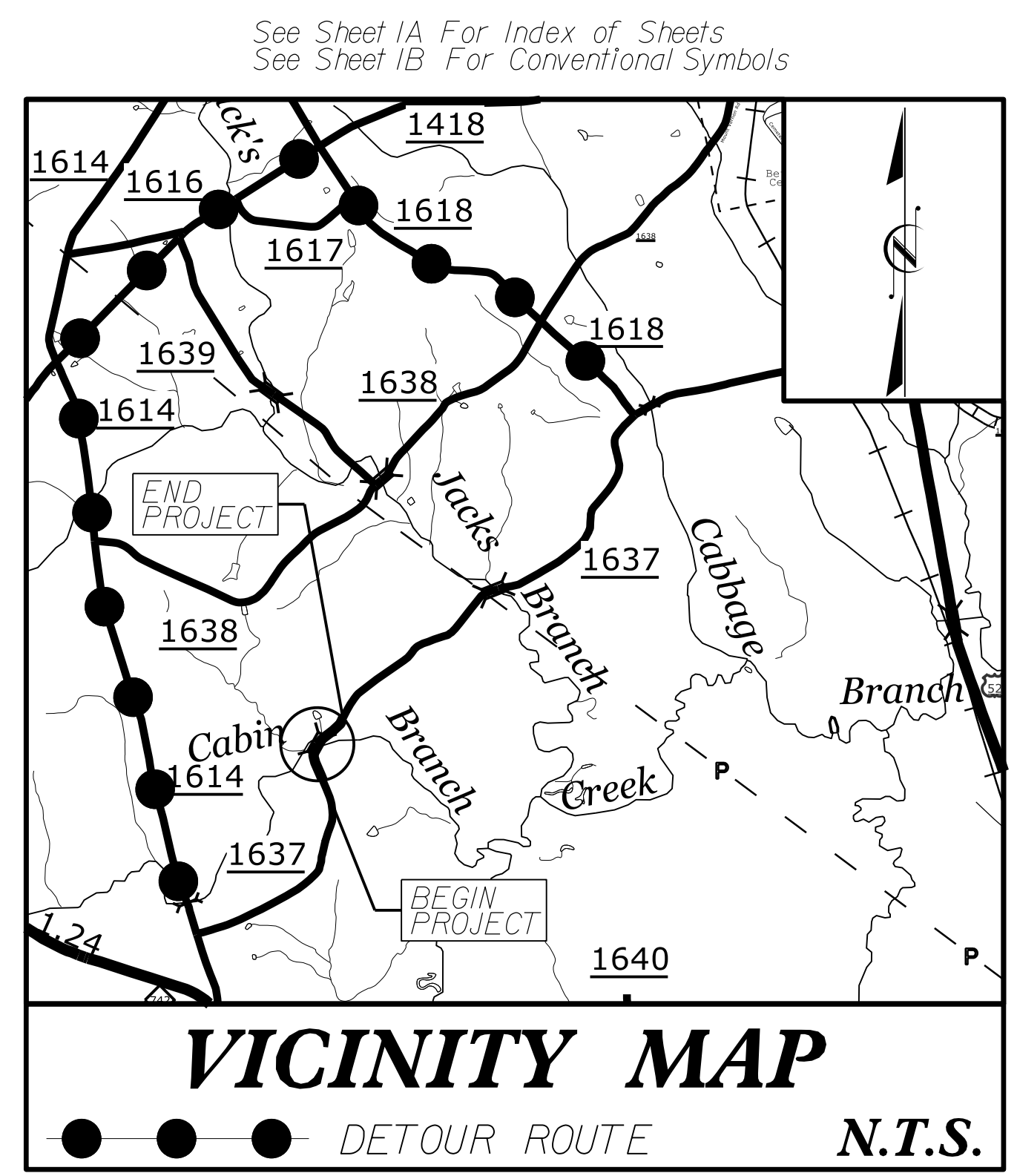


09/08/19

TIP PROJECT: BP10-R033

CONTRACT: DJ00524



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ANSON COUNTY

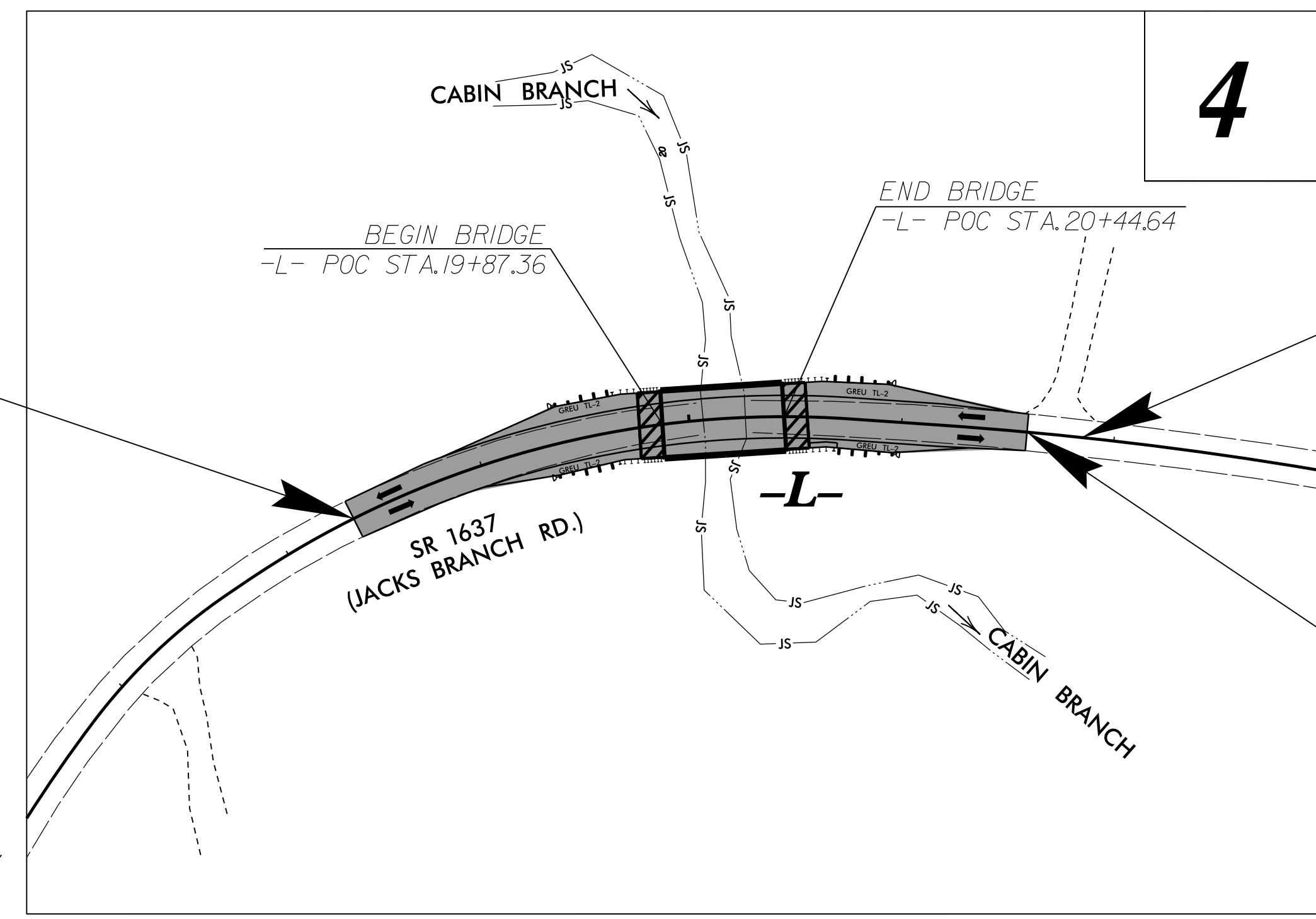
LOCATION: REPLACE BRIDGE NO. 030231 OVER CABIN BRANCH ON SR 1637 (JACKS BRANCH RD.)

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP10-R033	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP10.R033.1	N/A	P.E.	
BP10.R033.2	N/A	ROW/UTIL	
BP10.R033.3	N/A	CONST.	

BEGIN PROJECT BP10-R033
-L- POC STA. 18+35.00

TO SR 1614

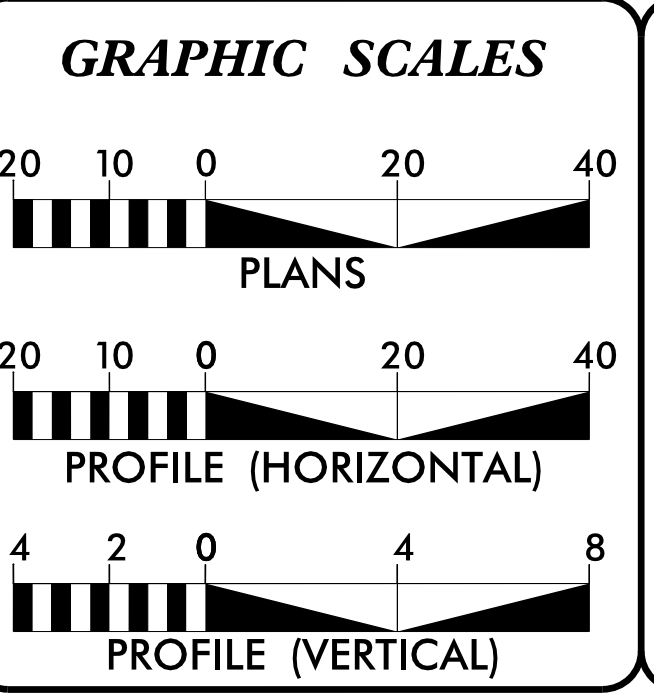


END CONSTRUCTION BP10-R033
-L- POC STA. 21+84.87

TO US 52

END PROJECT BP10-R033
-L- POC STA. 21+59.00

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2023 = 150 VPD
ADT 2043 = 200 VPD
K = N/A
D = N/A
T = 6%
V = 40 MPH
TTST = 3% DUALS = 3%
FUNC CLASS =
LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT BP10-R033	=	0.050 MILES
LENGTH BRIDGE PROJECT BP10-R033	=	0.011 MILES
TOTAL LENGTH PROJECT BP10-R033	=	0.061 MILES

Prepared in the Office of:
CDM Smith
4600 Park Rd
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 10, 2023

LETTING DATE:
AUGUST 7, 2024

KIT A. PERSIANI, P.E.
PROJECT ENGINEER

KEVIN P. SABO, E.I.
PROJECT DESIGN ENGINEER

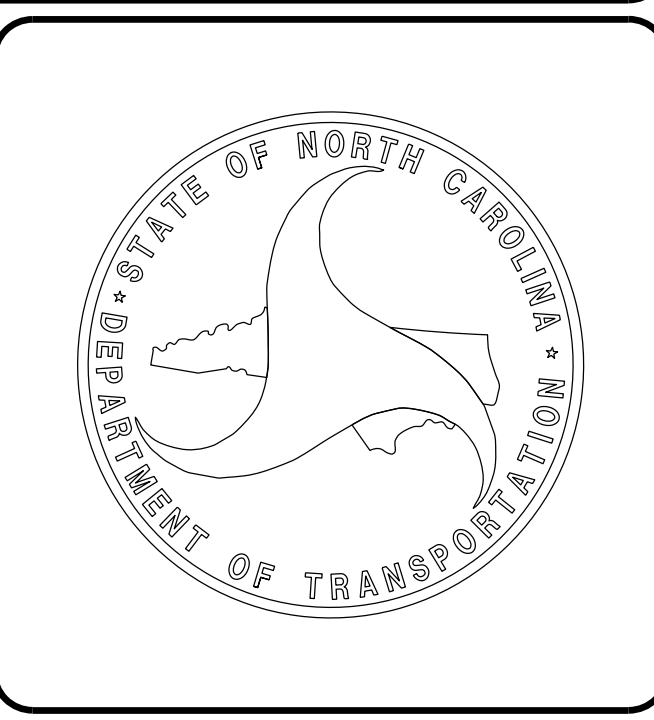
YANWEI MA, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

DocuSigned by:
Andrew T. Nottingham
SIGNATURE: 6/25/2024

ROADWAY DESIGN ENGINEER

DocuSigned by:
Kit A. Persiani
SIGNATURE: 6/25/2024



8/17/24

PROJECT REFERENCE NO.	SHEET NO.
BPI0-R033	1A
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SHEET NUMBER	INDEX OF SHEETS
SHEET	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	ROADWAY SUMMARIES
3D-1	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
4	PLAN SHEET
5	PROFILE SHEET
RW01 THRU RW04	SURVEY CONTROL, EXIST. CENTERLINES, ROW, EASEMENT, & PROPERTY TIES
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
X-1 THRU X-4	CROSS SECTIONS
S-1 THRU S-15	STRUCTURE PLANS

EFF. 01-16-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
423.03	Bridge Approach Fills - Type 2 Approach Fill for Bridge Abutment with MSE Wall
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
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
876.04	Drainage Ditches with Class 'B' Rip Rap

GENERAL NOTES:

2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

GRADE LINE:
GRADING AND SURFACING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

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.

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.

RIGHT-OF-WAY MARKERS:

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

ROADWAY DESIGN
ENGINEER

CDM Smith Inc.
850 Park Rd
Suite 240
Charlotte, NC 28209-3733
NC CCA No. F-1255

-SYS TIME: 8/17/24 10:03:33 -Rdy -psh -1A.dgn
1:15:56:34 PM

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	○
Computed Property Corner	×
Existing Concrete Monument (ECM)	◻
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-
Existing Historic Property Boundary	-HPB-
Known Contamination Area: Soil	-S-S-
Potential Contamination Area: Soil	-S-S-
Known Contamination Area: Water	-W-W-
Potential Contamination Area: Water	-W-W-
Contaminated Site: Known or Potential	☠ ?

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⊥
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)	◆
Proposed C/A Monument	▲
Proposed C/A Monument (Rebar and Cap)	▲
Proposed C/A Monument (Concrete)	⊙
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Existing Control of Access Line	-----
Proposed Control of Access Line	-----
Proposed ROW and CA Line	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage/Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Curb Ramp	CR
Existing Metal Guardrail	T T T
Proposed Guardrail	T T T
Existing Cable Guiderail	T T T
Proposed Cable Guiderail	T T T
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	⊕
H-Frame Pole	●
U/G Power Line Test Hole (SUE - LOS A)*	⊕
U/G Power Line (SUE - LOS B)*	-----
U/G Power Line (SUE - LOS C)*	-----
U/G Power Line (SUE - LOS D)*	-----

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

MISCELLANEOUS:

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

9/10/2021

6/2/2024

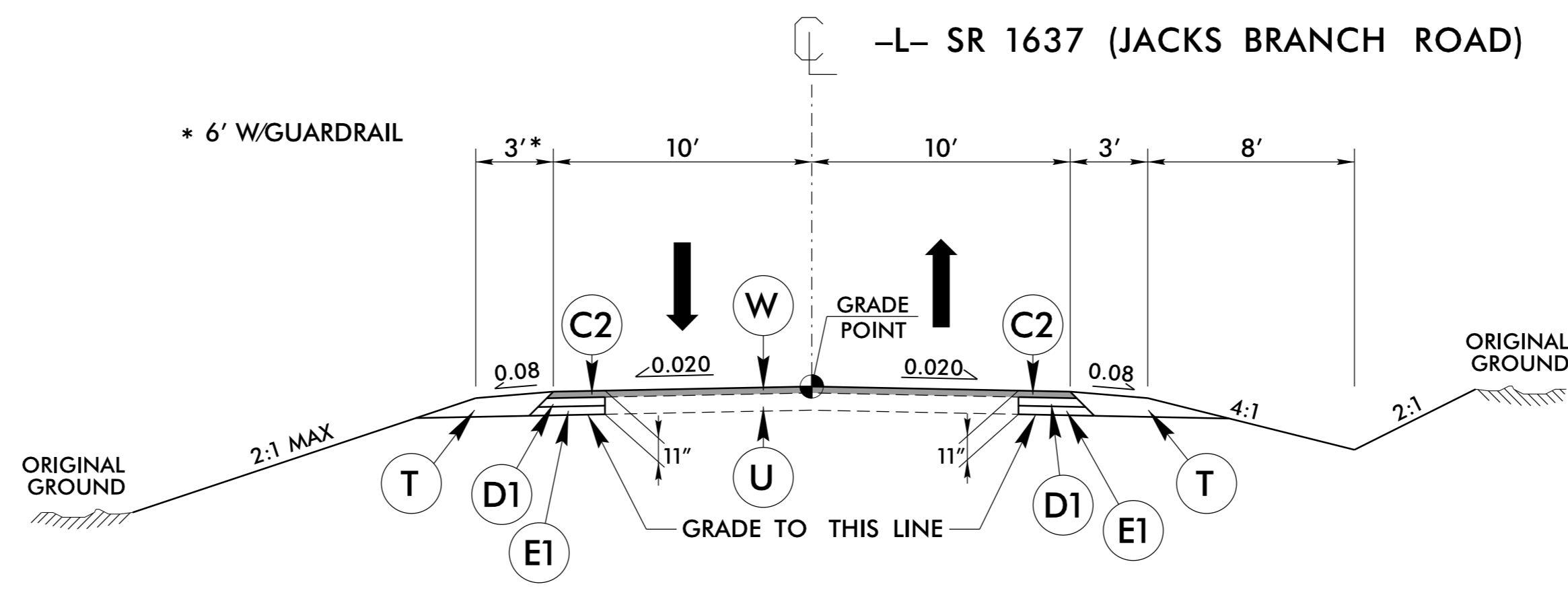
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PAVEMENT SCHEDULE <i>(FINAL PAVEMENT DESIGN)</i>	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1.5" IN DEPTH.
D1	PROP APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE -L- WEDGING DETAIL)

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

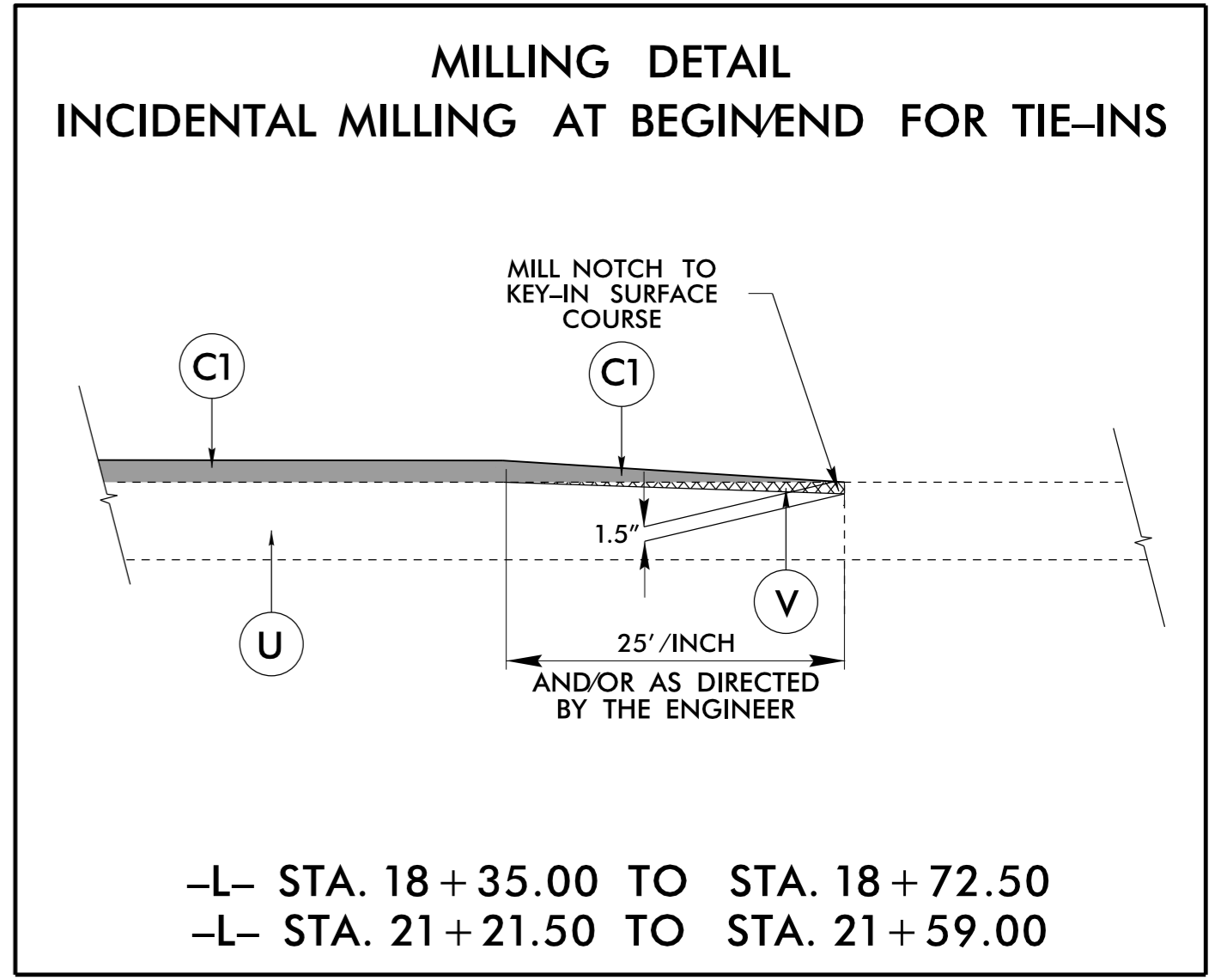
PROJECT REFERENCE NO. <i>BPI0-R033</i>	SHEET NO. <i>2A-1</i>
ROADWAY DESIGN ENGINEER <i>[Signature]</i> SEAL 021655 RIT A. PERSIANI 7/21/2024	PAVEMENT DESIGN ENGINEER <i>[Signature]</i> SEAL 044590 ANDREW D. WARGO 8/24/2024
CDM Smith 4500 Park Rd Suite 340 Charlotte, NC 28209-3730 NC CDM No. F-0295	NC DEPARTMENT OF TRANSPORTATION PAVEMENT MANAGEMENT UNIT 1505 MAIL SERVICE CENTER RALEIGH, NC 27699-1693

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

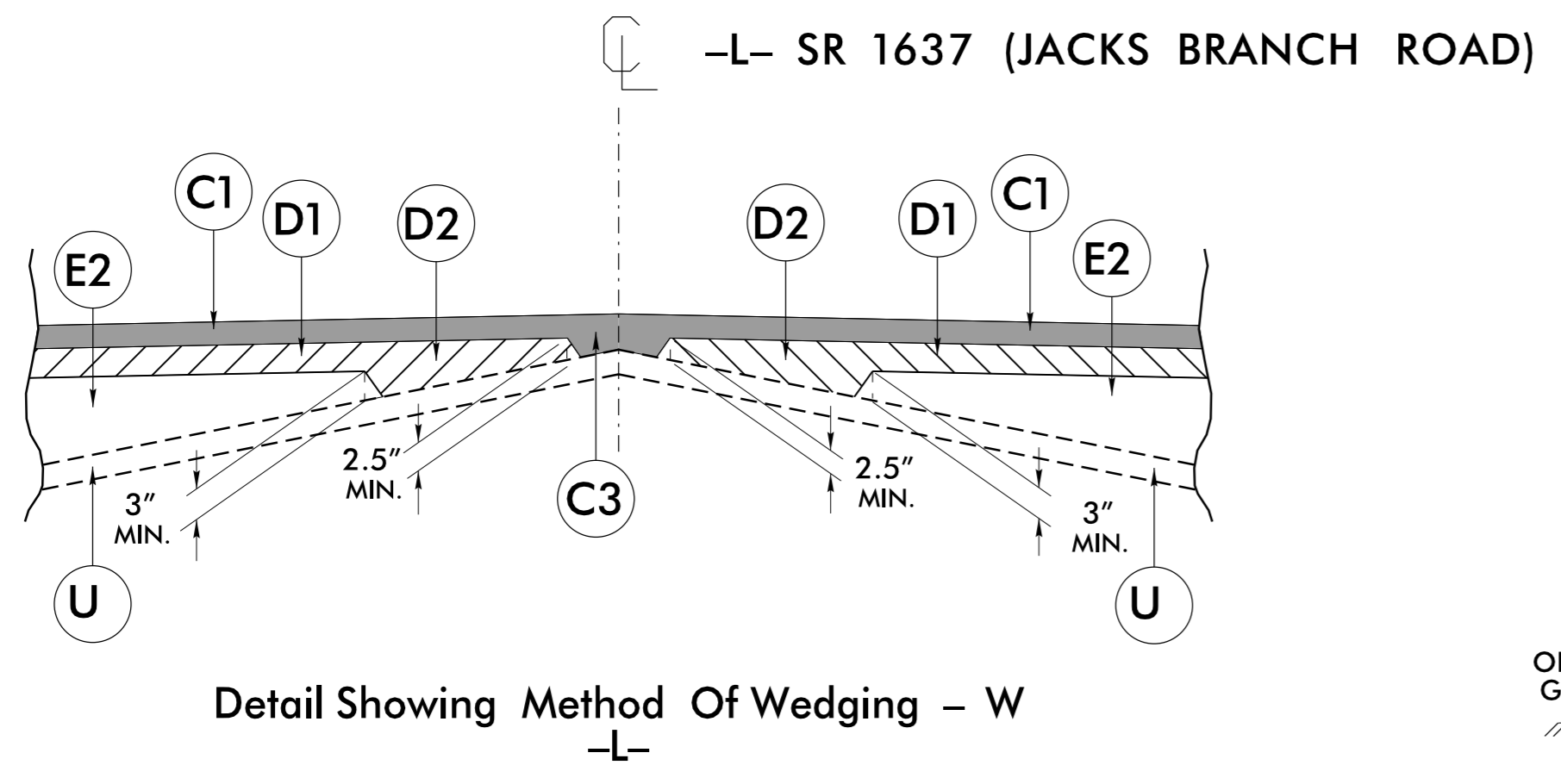


TYPICAL SECTION NO. 1

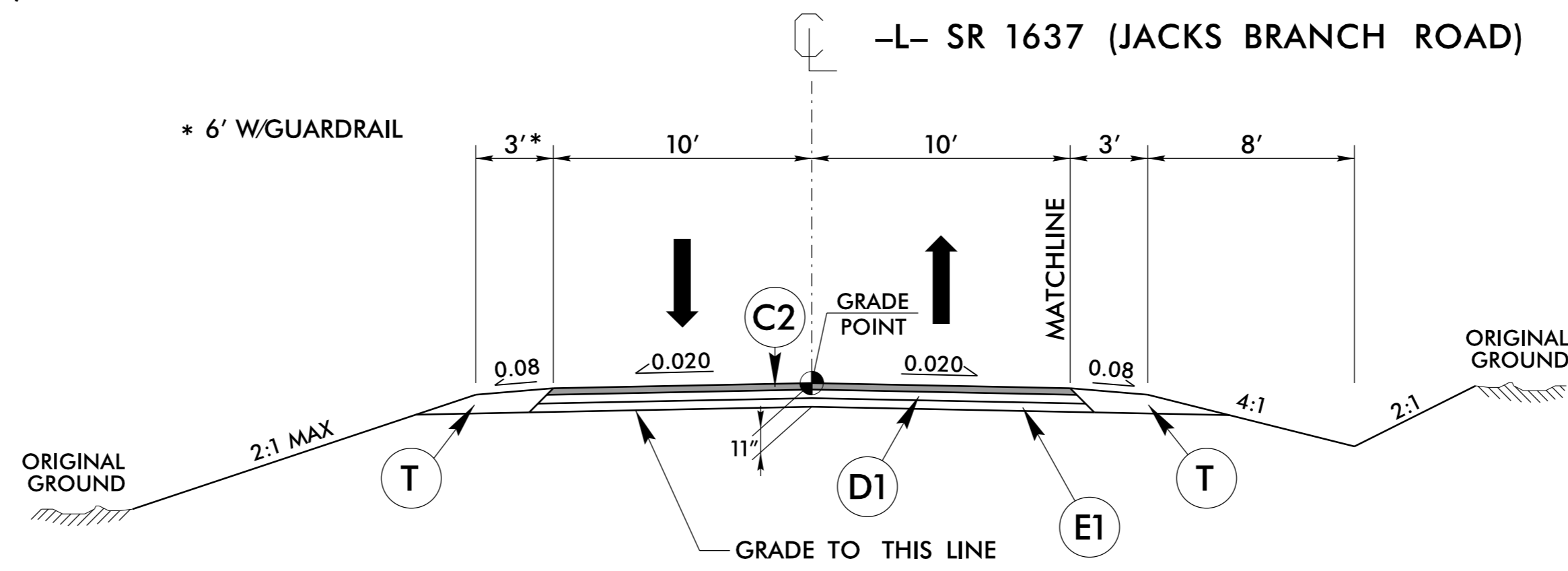
USE ON:
-L- STA. 18+35.00 TO STA. 18+91.00
-L- STA. 21+21.50 TO STA. 21+59.00



-L- STA. 18+35.00 TO STA. 18+72.50
-L- STA. 21+21.50 TO STA. 21+59.00

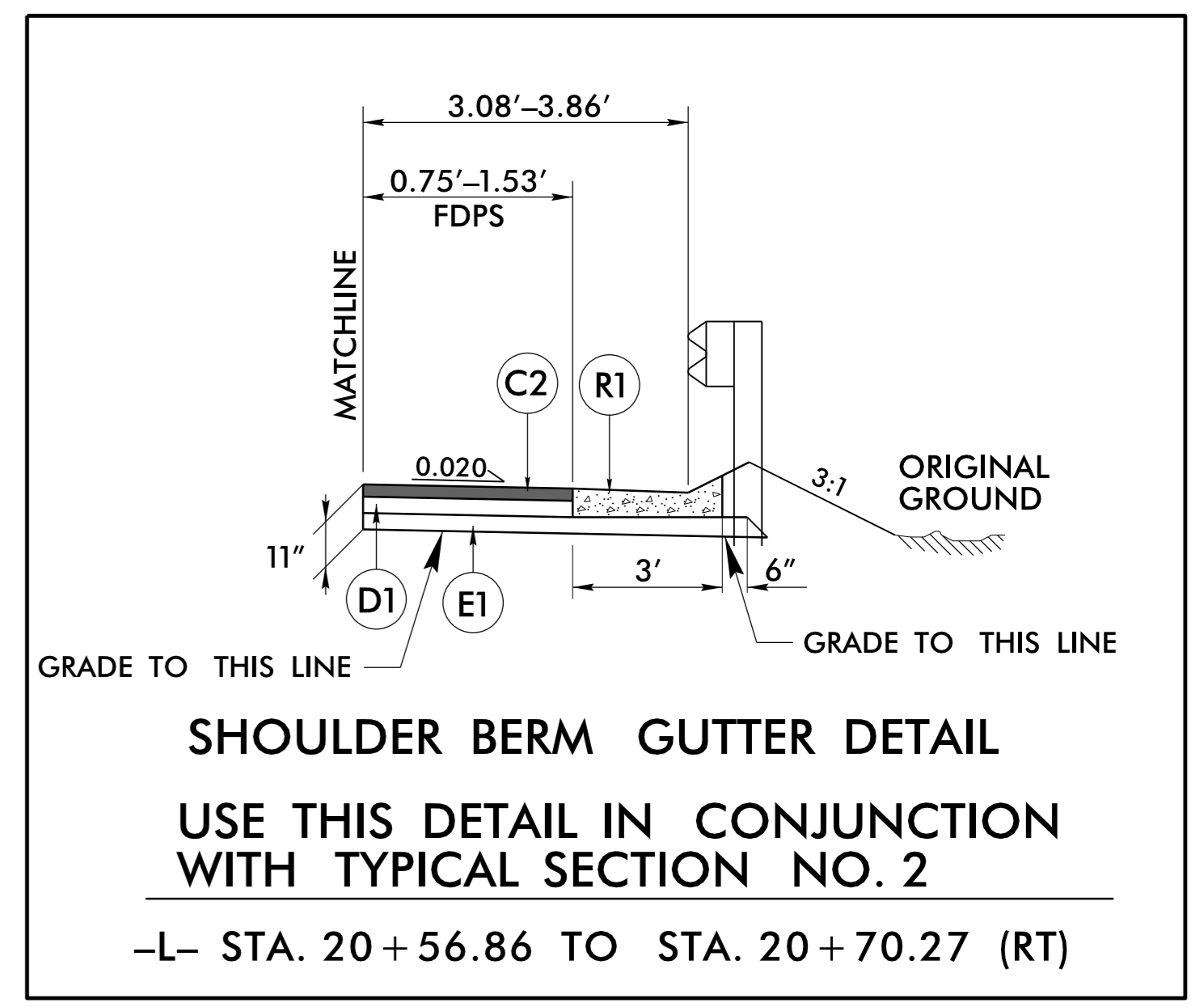


Detail Showing Method Of Wedging - W



TYPICAL SECTION NO. 2

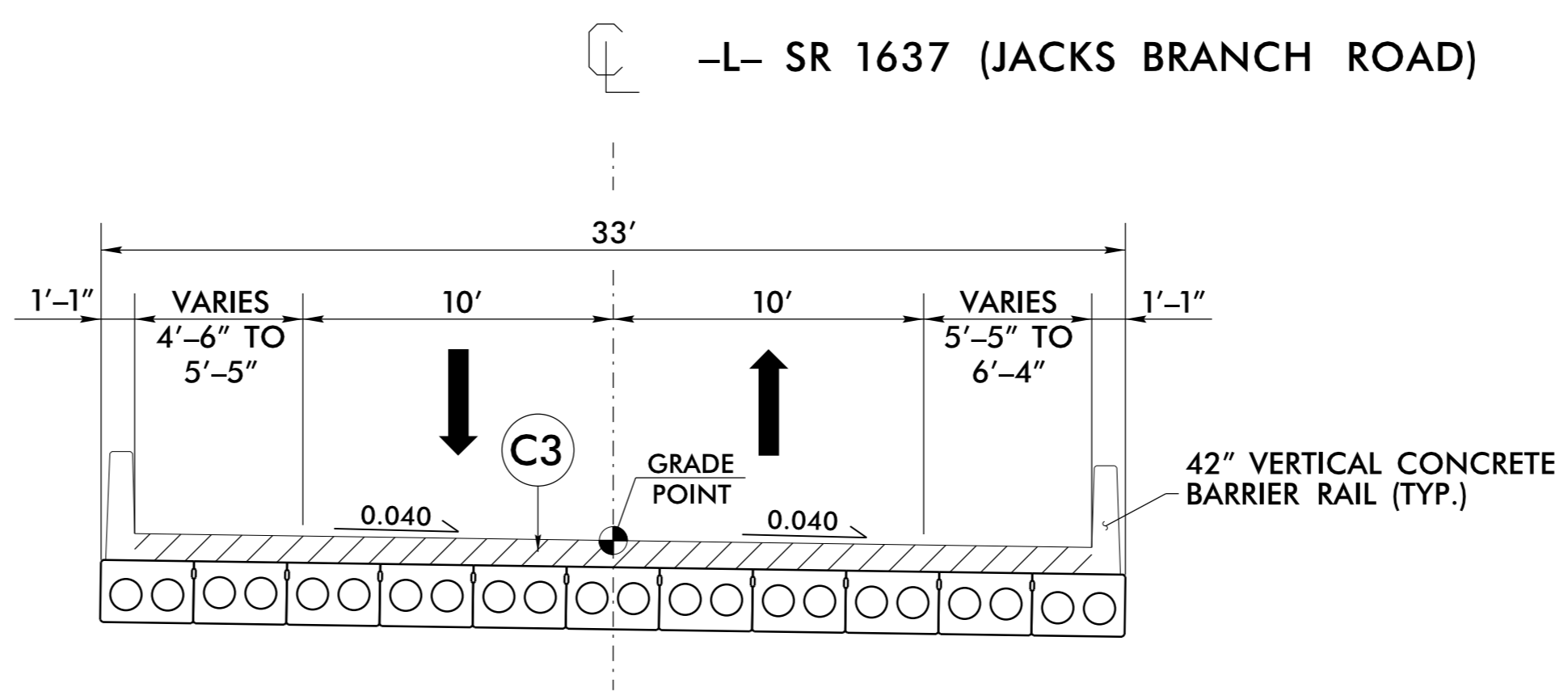
USE ON:
-L- STA. 18+91.00 TO STA. 19+87.36 (BEGIN BRIDGE)
-L- STA. 20+44.64 (END BRIDGE) TO STA. 21+21.50



SHOULDER BERM GUTTER DETAIL
USE THIS DETAIL IN CONJUNCTION WITH TYPICAL SECTION NO. 2

-L- STA. 20+56.86 TO STA. 20+70.27 (RT)

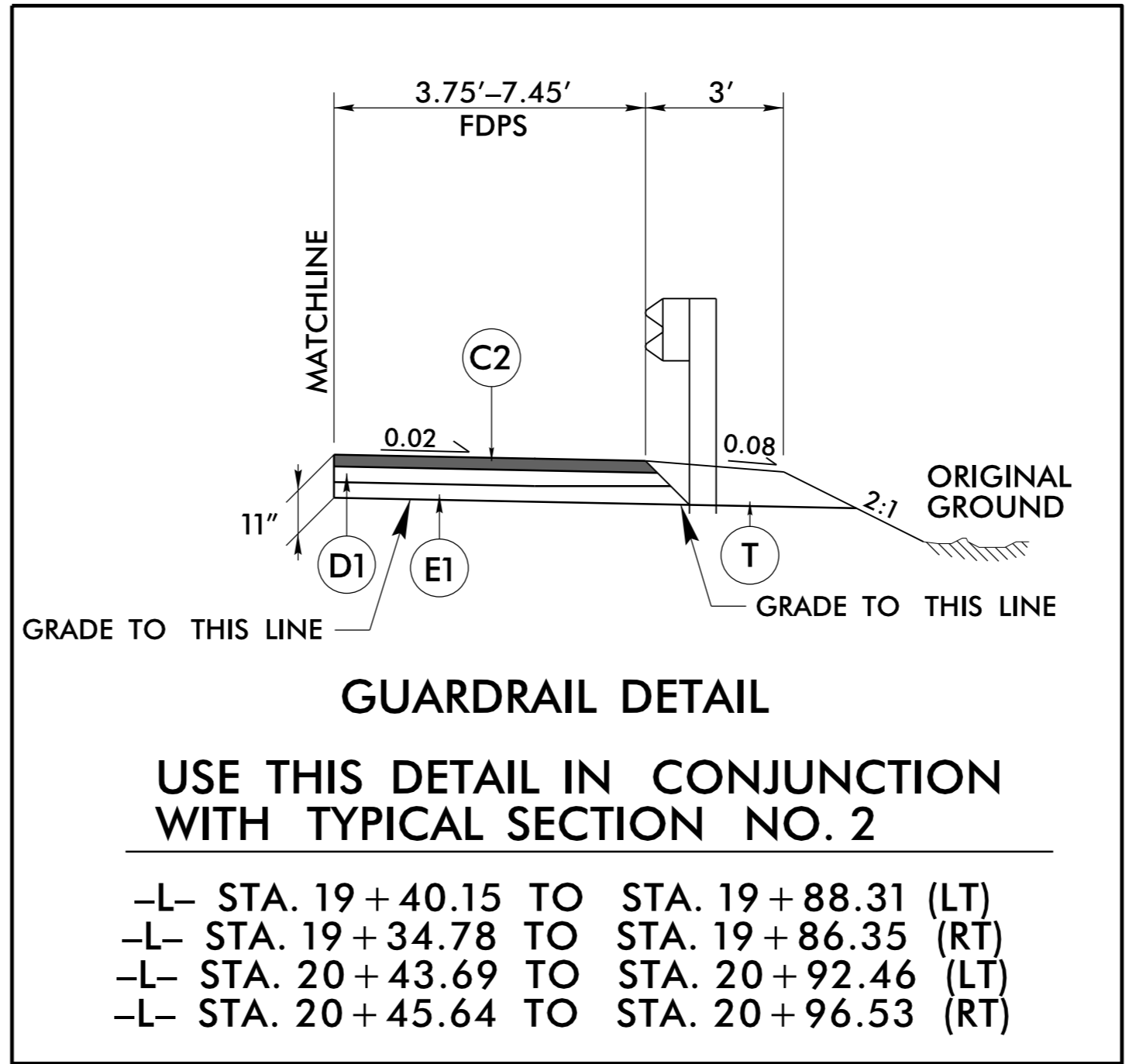
PROJECT REFERENCE NO. <i>BPI0-R033</i>	SHEET NO. <i>2A-2</i>
ROADWAY DESIGN ENGINEER <i>[Signature]</i> SEAL 021655 RIT A. PERSIANI 6/21/2024	PAVEMENT DESIGN ENGINEER <i>[Signature]</i> SEAL 044590 ANDREW D. WARGO 6/24/2024
CDM Smith CDM Smith Inc. 4500 Park Rd Suite 340 Charlotte, NC 28209-3730 NC CDA No. F-1226	NC DEPARTMENT OF TRANSPORTATION PAVEMENT MANAGEMENT UNIT 1505 MAIL SERVICE CENTER RALEIGH, NC 27699-1505
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-L- STA. 19+87.36 (BEGIN BRIDGE) TO STA. 20+44.64 (END BRIDGE)

PAVEMENT SCHEDULE <i>(FINAL PAVEMENT DESIGN)</i>	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. S9.5B
D1	4" I19.0C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	INCIDENTAL MILLING
W	WEDGING

PAVEMENT EDGESLOPES 1:1
UNLESS NOTED OTHERWISE



(5-15-18)

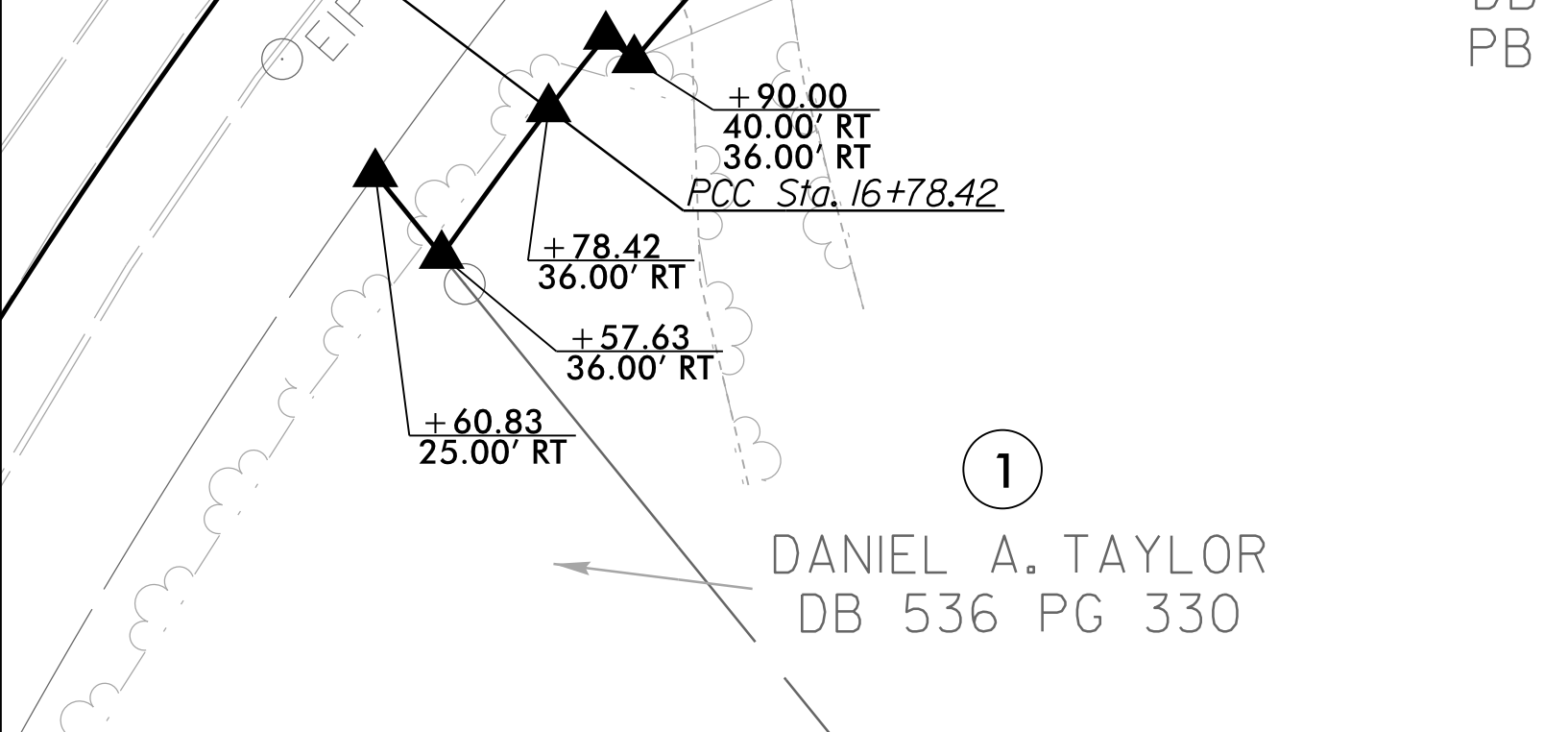
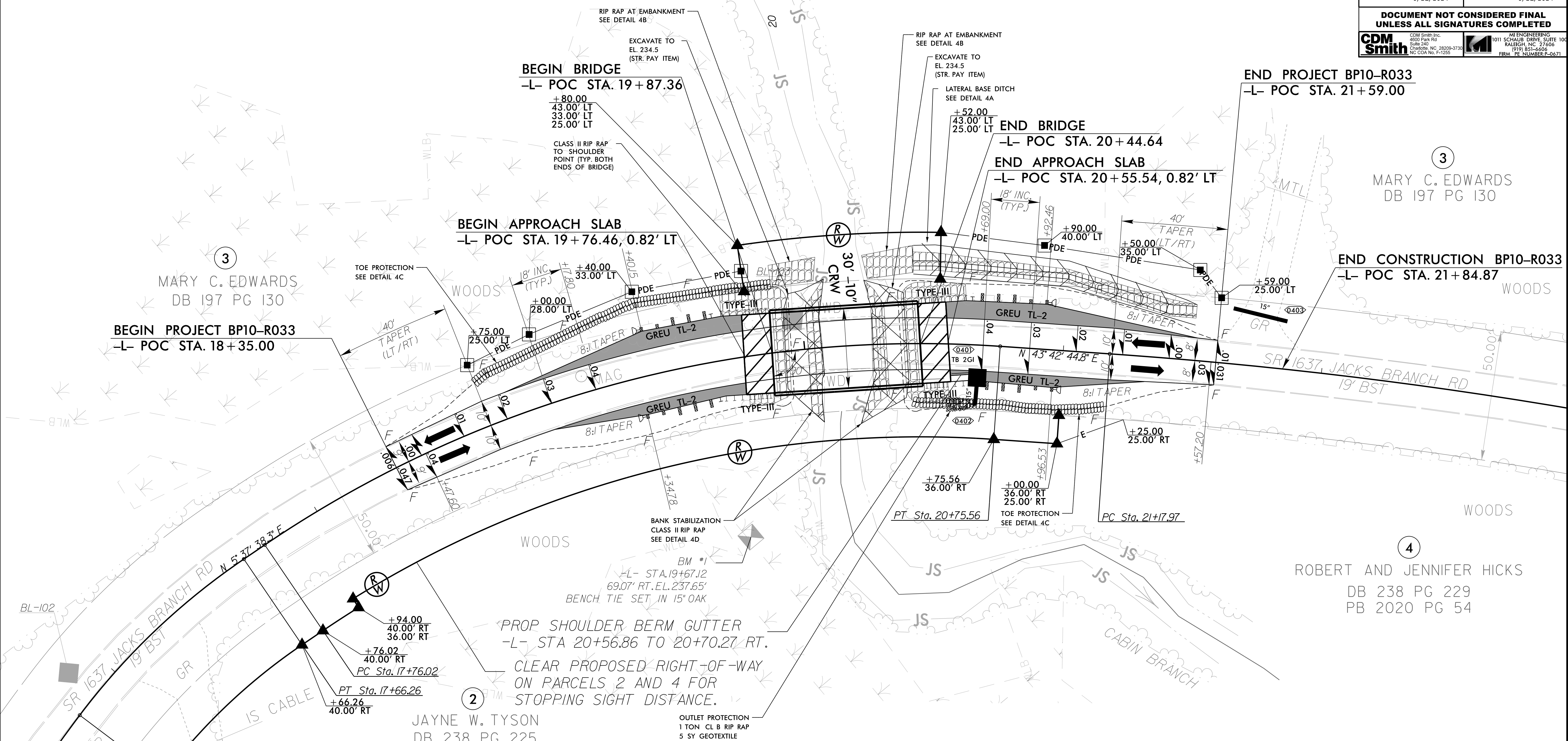
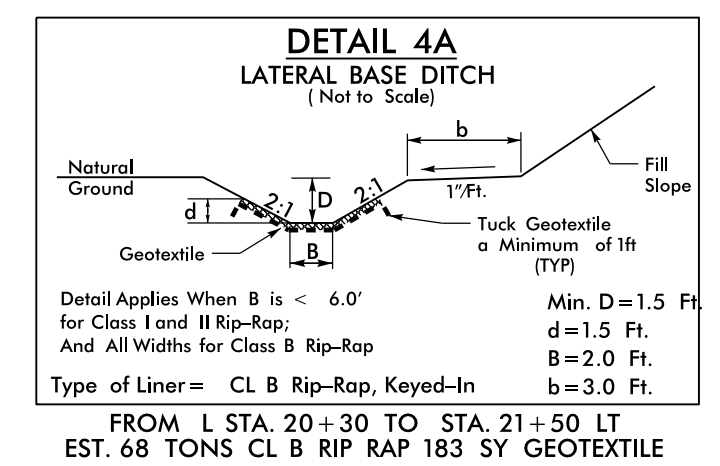
**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

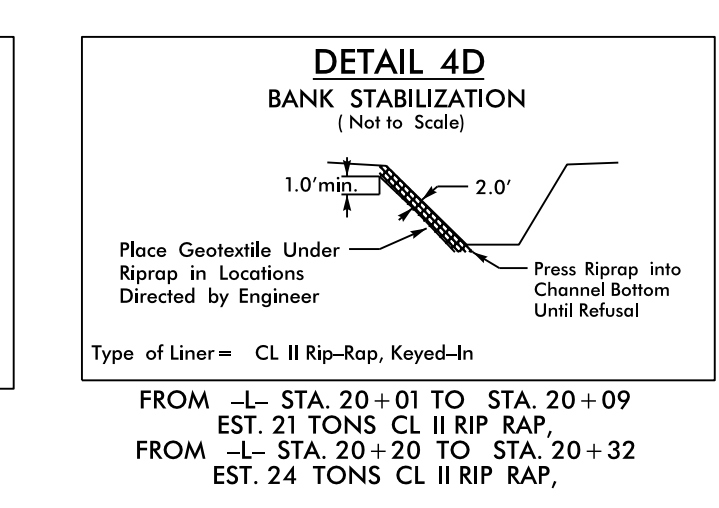
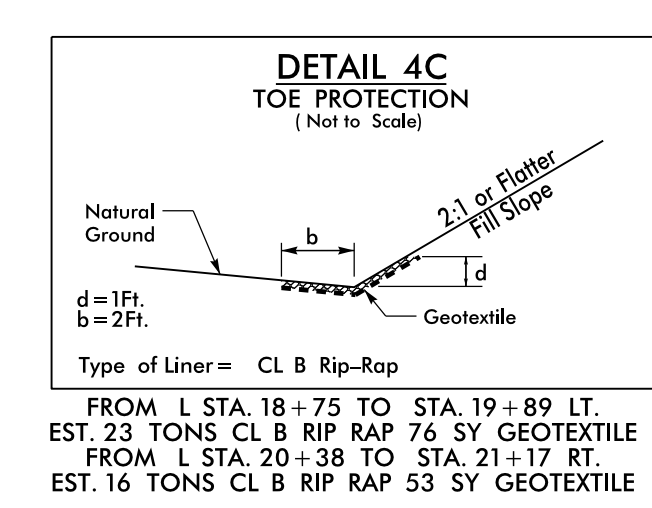
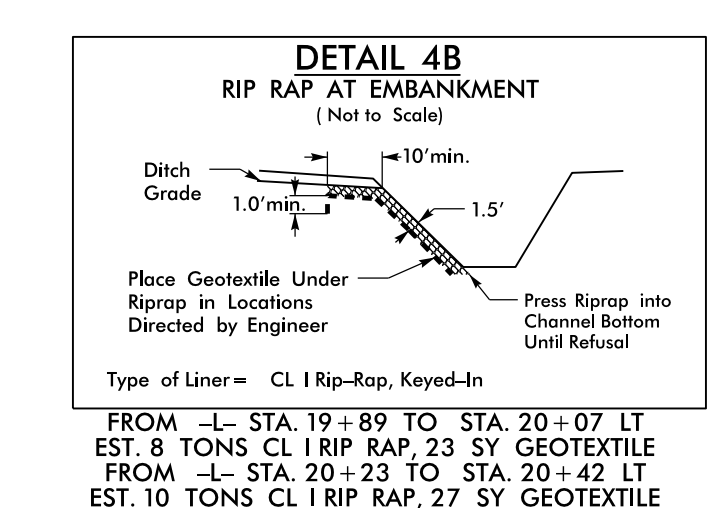
LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
			CONTINGENCY	SD	200
				TOTAL LF:	200

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

PROJECT REFERENCE NO. BP10-R033	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
8/21/2024	8/21/2024
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-L-	-L-	-L-	-L-
PI Sta 16+22.34 Δ = 9' 29" 13.3" (RT) D = 8' 26' 17.3" L = 112.43' T = 56.34' R = 679.01' e = EXIST. RO = EXIST.	PI Sta 17+22.74 Δ = 18' 49' 51.9" (RT) D = 21' 26' 21.7" L = 87.83' T = 44.32' R = 267.25' e = EXIST. RO = EXIST.	PI Sta 19+31.56 Δ = 38' 05' 06.5" (RT) D = 12' 42' 51.6" L = 299.54' T = 155.54' R = 450.64' e = .04 RO = 72' DS = 35 MPH	PI Sta 22+77.93 Δ = 10' 08' 46.1" (RT) D = 3' 10' 47.8" L = 319.07' T = 159.95' R = 1,801.79' e = EXIST. RO = EXIST.



FOR -L- PROFILE, SEE SHEET 5

PLANS

REVISIONS

-SYSTEM:BP10-R033_Rdy_psh_04.dgn

5/14/99

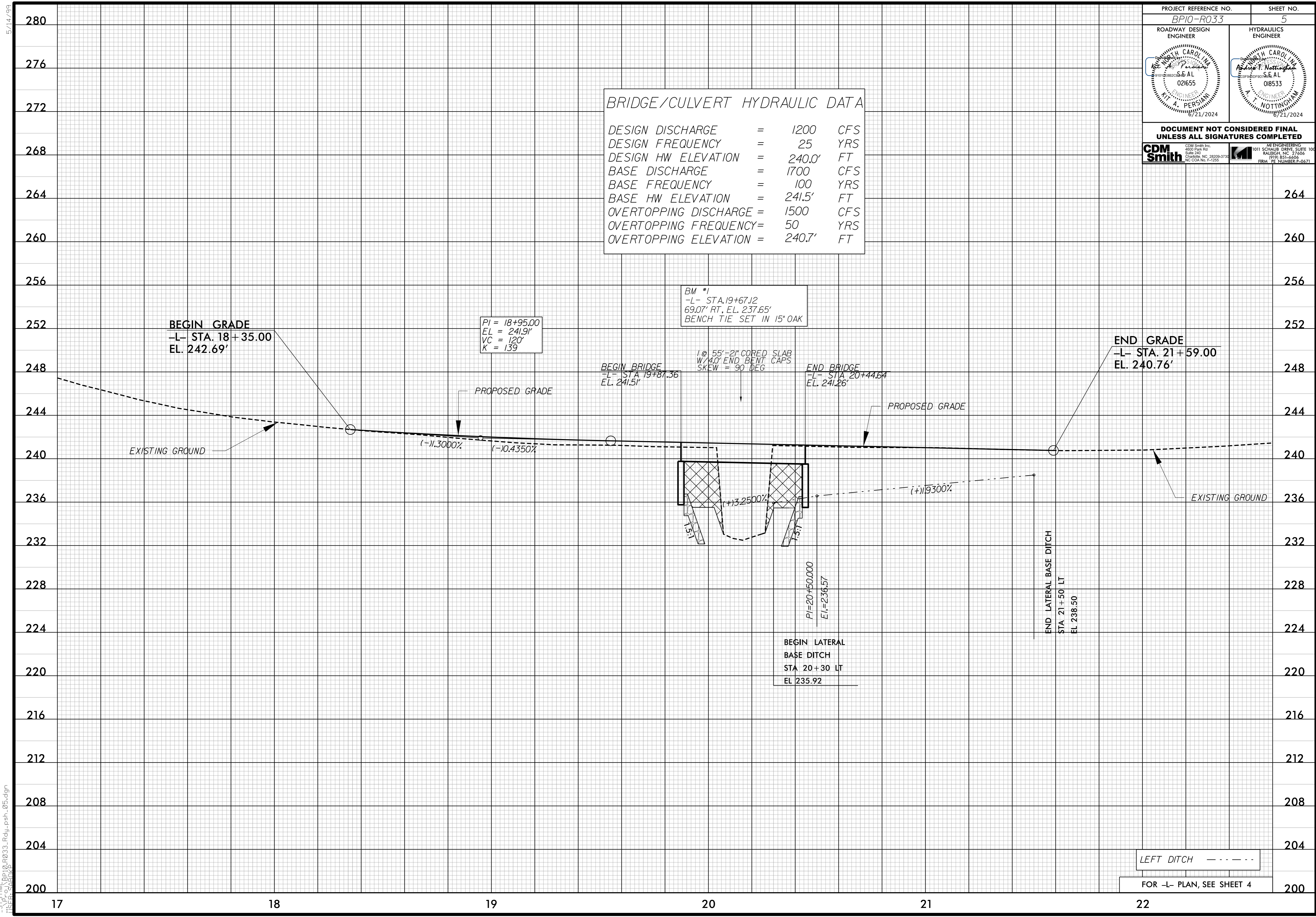
PROJECT REFERENCE NO. BP10-R033	SHEET NO. 5
ROADWAY DESIGN ENGINEER <i>[Signature]</i> 021655	HYDRAULICS ENGINEER <i>[Signature]</i> 018533
<small>CDM Smith Inc. 4500 Park Rd. Suite 200 Raleigh, NC 27606-3734 NC COA No. F-1255</small>	

BRIDGE/CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	1200	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	240.0'	FT
BASE DISCHARGE	=	1700	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	241.5'	FT
OVERTOPPING DISCHARGE	=	1500	CFS
OVERTOPPING FREQUENCY	=	50	YRS
OVERTOPPING ELEVATION	=	240.7'	FT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CDM Smith 1011 SCHAUER DRIVE, SUITE 100 RALEIGH, NC 27606-3734 (919) 851-6606 FAX (919) 851-6607



-SYTIME BP10-R033-Rdly-psht_05.dgn
JTS/EG-CAR/IK

LEFT DITCH - - - - -

FOR -L- PLAN, SEE SHEET 4

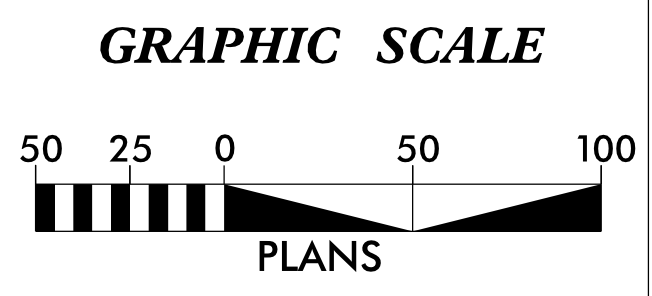
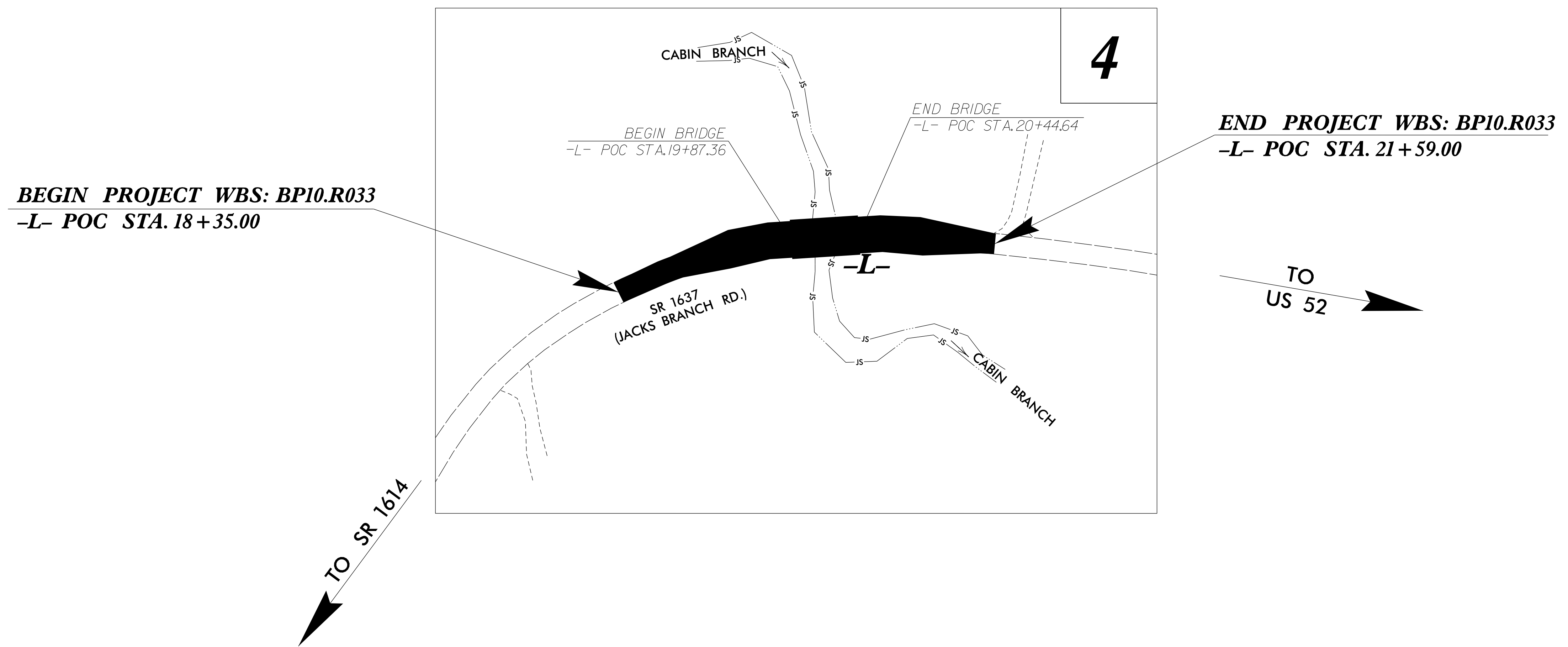
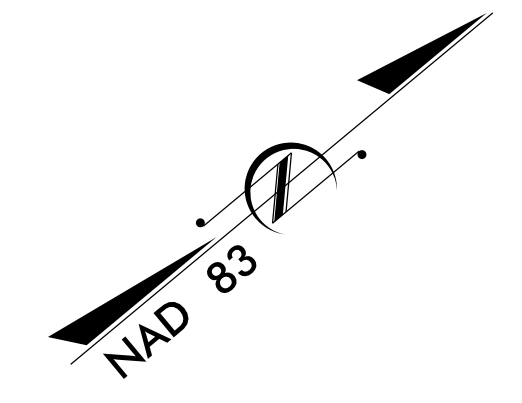
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	03-0231	RW01	7

TIP PROJECT: 03-0231

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

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

ANSON COUNTY



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MCK FOR MONUMENT 030231-1 WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 479380.634(ft) EASTING: 1657817.673(ft) ELEVATION: 380.90(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999870390972

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM 030231-1 TO -L- STATION 25+61.98 IS S 35°20'30" W 464.76(ft)

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

Prepared in the Office of:



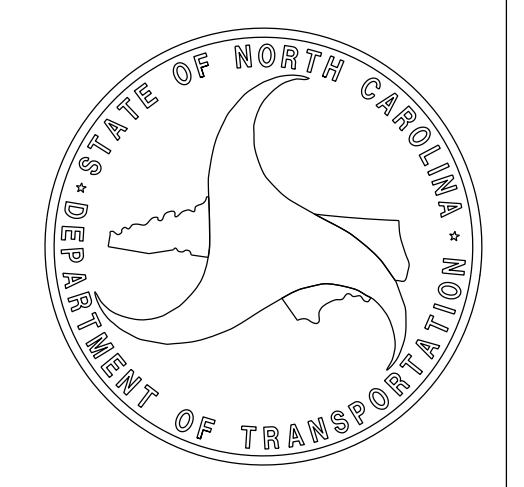
WSP USA Inc.
 128 TALBERT ROAD
 SUITE A
 MOORESVILLE, NC 28117
 TEL: 704.662.0100
 WWW.WSP.COM

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

PROFESSIONAL LAND SURVEYOR





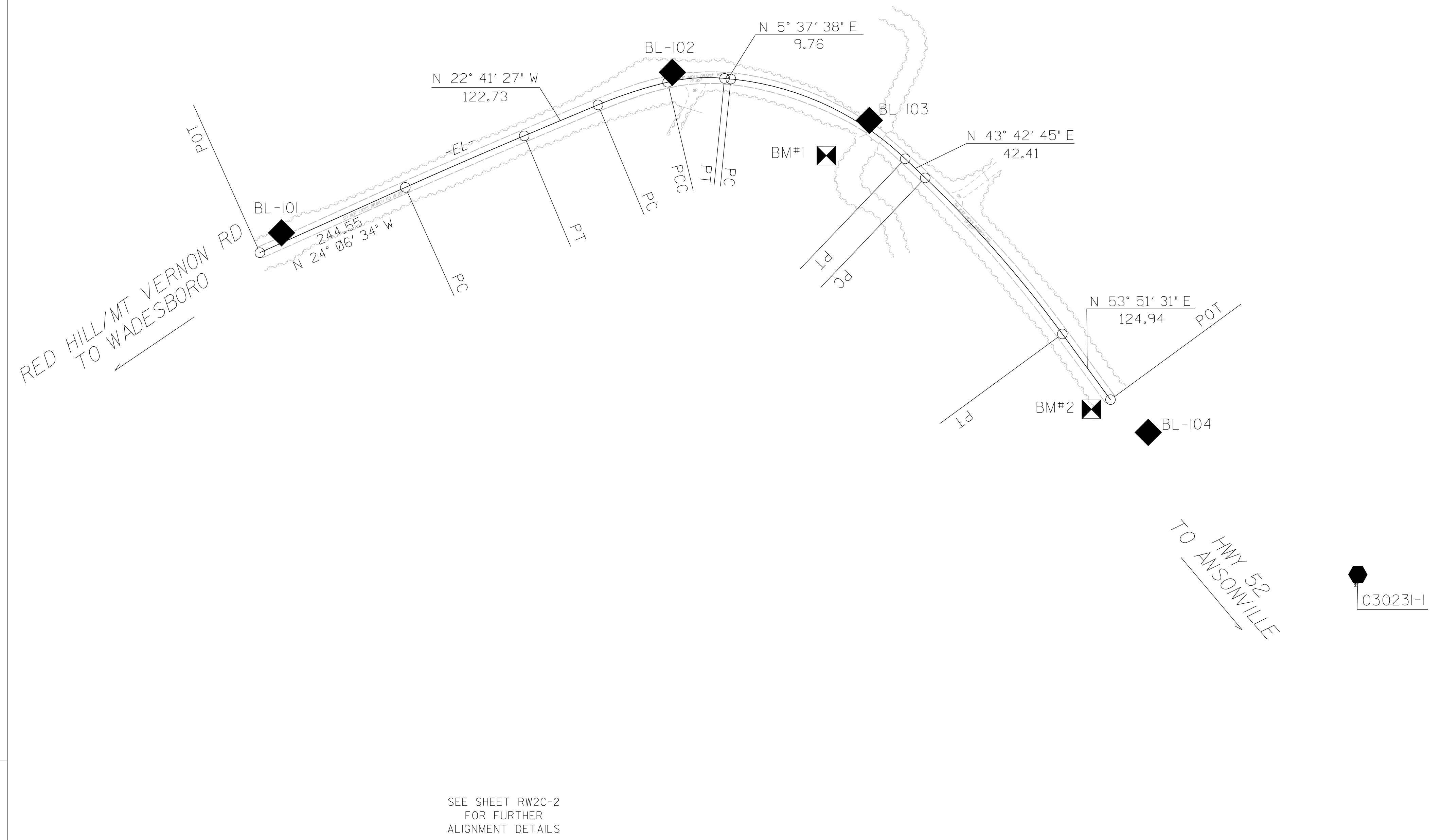
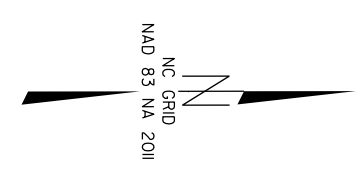
DocuSigned by:
 cal.schenck
 SIGNATURE:

Date:

SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. 03-0231	SHEET NO. RW02C-1
Location and Surveys	
 WSP USA, Inc. 128 TALBERT ROAD SUITE A MOORESVILLE, NC 28117 TEL: 704.662.0100 WWW.WSP.COM	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



I, Cal R. Scheinert, PLS, certify that the Project Control was verified 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: 7/11-7/12/2023
 Datum/Epoch: 2023.199
 Published/Fixed-control use: N/A
 Localized around: 030231-1
 Northing: 479380.634
 Easting: 1657817.673
 Combined grid factor: 0.999870390972
 Geoid model: 18
 Units: US Survey Feet

This 19th day of July, 2023.

DocuSigned by:

 Cal R. Scheinert L-5528

REVISIONS

I8-JUL-2023 15:40
 C:\Users\USSV789137\Desktop\Projects\NCDDOT\BPI\0R-RW\03-0231 (BPI\0R\033)\03-0231-1s-rw02c-1.dgn
 AT 7FME5M3

NOTES:

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

REVISIONS

C:\Users\jussv70137\Documents\Projects\NCDDOT\BPI\0R-RW\03-0231 (BPI\0R033)\03-0231.ls-rw02c-2.dgn
05-JUL-2023 13:24
AT 7FME5M3

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
03-0231	RW02C-2
Location and Surveys	
	WSP USA Inc. 128 TALBERT ROAD SUITE A MOORESVILLE, NC 28117 TEL: 704.662.0100 WWW.WSP.COM

BL	POINT	DESC.	NORTH	EAST	ELEVATION
3		BL-101	477730.6052	1657291.2405	277.70
4		BL-102	478330.1948	1657045.6931	247.52
5		BL-103	478632.2653	1657119.8196	240.36
6		BL-104	479059.3591	1657599.0160	244.39
1		030231-1	479380.6345	1657817.6729	260.64
2		030231-2	479825.4302	1658124.0278	280.43

BM1 ELEVATION = 237.65
 N 478566 E 1657174
 BL STATION 14+08.00 68 RIGHT
 BENCH TIE SET IN 15" OAK

BM2 ELEVATION = 242.74
 N 478972 E 1657564
 BL STATION 20+16.00 42 RIGHT
 BENCH TIE SET IN 8" PINE

NOTES:

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

REVISIONS

C:\Users\jss5770137\Desktop\Projects\NCDDT\BPI\0R-RW\03-0231 (BPI\0R\033)\03-0231.ls-rw02c-3.dgn
 AT 7:58:53 AM
 05-JUL-2003 13:31

SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. 03-0231	SHEET NO. RW02C-3
Location and Surveys	
WSP USA Inc. 128 TALBERT ROAD SUITE A MOORESVILLE, NC 28117 TEL: 704.662.0100 WWW.WSP.COM	

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	477697.398	1657321.768							
LINE			N 24°06'34.3" W	244.55					
PC	477920.612	1657221.875							
CURVE			N 23°24'00.5" W	198.71	01°25'07.4"(RT)	00°42'50.2"	198.72	99.36	8025.26
PT	478102.980	1657142.956							
LINE			N 22°41'26.8" W	122.73					
PC	478216.209	1657095.613							
CURVE			N 17°56'50.2" W	112.30	09°29'13.3"(RT)	08°26'17.3"	112.43	56.34	679.01
PCC	478323.046	1657061.008							
CURVE			N 03°47'17.6" W	87.44	18°49'51.9"(RT)	21°26'21.5"	87.83	44.32	267.25
PT	478410.295	1657055.231							
LINE			N 05°37'38.3" E	9.76					
PC	478420.009	1657056.188							
CURVE			N 24°40'11.6" E	294.06	38°05'06.5"(RT)	12°42'51.6"	299.54	155.54	450.64
PT	478687.230	1657178.926							
LINE			N 43°42'44.8" E	42.41					
PC	478717.886	1657208.235							
CURVE			N 48°47'07.9" E	318.65	10°08'46.1"(RT)	03°10'47.8"	319.07	159.95	1801.79
PT	478927.839	1657447.939							
LINE			N 53°51'31.0" E	124.94					
POT	479001.525	1657548.835							


NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
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REVISIONS

05-JUL-2007 17:34
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US5V703137 AT FME5M3

PROPOSED ALIGNMENT CONTROL SHEET


PROJECT REFERENCE NO. 03-0231	SHEET NO. RW02D-1
Location and Surveys	
	
<small>WSP USA Inc. 128 TALBERT ROAD SUITE A MOORESVILLE, NC 28117 TEL: 704.662.0100 WWW.WSP.COM</small>	

TYPE	STATION	L	
		NORTH	EAST
POT	10+00.00	477697.3975	1657321.7677
PC	12+44.55	477920.6117	1657221.8747
PT	14+43.26	478102.9800	1657142.9563
PC	15+65.99	478216.2088	1657095.6131
PCC	16+78.42	478323.0463	1657061.0081
PT	17+66.26	478410.2947	1657055.2311
PC	17+76.02	478420.0089	1657056.1882
PT	20+75.56	478687.2299	1657178.9260
PC	21+17.97	478717.8865	1657208.2348
PT	24+37.04	478927.8388	1657447.9393
POT	25+61.98	479001.5252	1657548.8353

NOTES:

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RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
03-0231	RW02E-1
Location and Surveys	
	
<small>WSP USA Inc. 128 TALBERT ROAD SUITE A MOORESVILLE, NC 28117 TEL: 704.662.0100 WWW.WSP.COM</small>	

REVISIONS

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	17+94.00	40.00	478432.3576	1657097.9272
L	17+94.00	36.00	478432.9083	1657093.9653
L	21+00.00	36.00	478680.0164	1657221.8349
L	21+00.00	25.00	478687.6179	1657213.8839
L	16+90.00	40.00	478341.8134	1657097.9102
L	16+90.00	36.00	478341.0693	1657093.9800
L	16+05.00	36.00	478264.5677	1657115.5632
L	16+05.00	25.00	478260.9140	1657105.1877
L	20+75.56	36.00	478662.3525	1657204.9474
L	17+76.02	40.00	478416.0866	1657095.9955
L	17+66.26	40.00	478406.3724	1657095.0383
L	16+78.42	36.00	478331.2693	1657096.0564
L	19+80.00	-43.00	478634.2040	1657084.0400
L	19+80.00	-25.00	478624.7823	1657099.3773
L	20+52.00	-43.00	478697.8305	1657130.5045
L	20+52.00	-25.00	478686.0888	1657144.1475

ROW MARKER PERMANENT EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
L	18+75.00	-25.00	478524.4750	1657052.8437
L	19+00.00	-28.00	478550.3899	1657058.9871
L	19+40.00	-33.00	478591.4380	1657071.7407
L	19+80.00	-33.00	478628.9686	1657092.5608
L	20+90.00	-40.00	478725.3073	1657159.9904
L	21+50.00	-35.00	478765.4690	1657205.7052
L	21+59.00	-25.00	478764.8977	1657219.2475

I:\JUL-2023\154789137\DeskTop\Projects\NCDOT\BPI\03-0231\03-0231\03-0231.ls.rw02e-1.dgn
US577093137 AT 7:15 PM '23

I, Cal R. Scheinert, PLS, 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) (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 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 19th day of July, 2023.

DocuSigned by:

 057898748907495
 Professional Land Surveyor


L-5528
 PLS # Seal



NOTES:

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

8/17/2023 15:47
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 AT: F:\FME\37

PROJECT REFERENCE NO.	SHEET NO.
03-0231	RW04
Location and Surveys	
	
WSP USA Inc. 128 TALBERT ROAD SUITE A MOORESVILLE, NC 28117 TEL: 704.662.0100 WWW.WSP.COM	

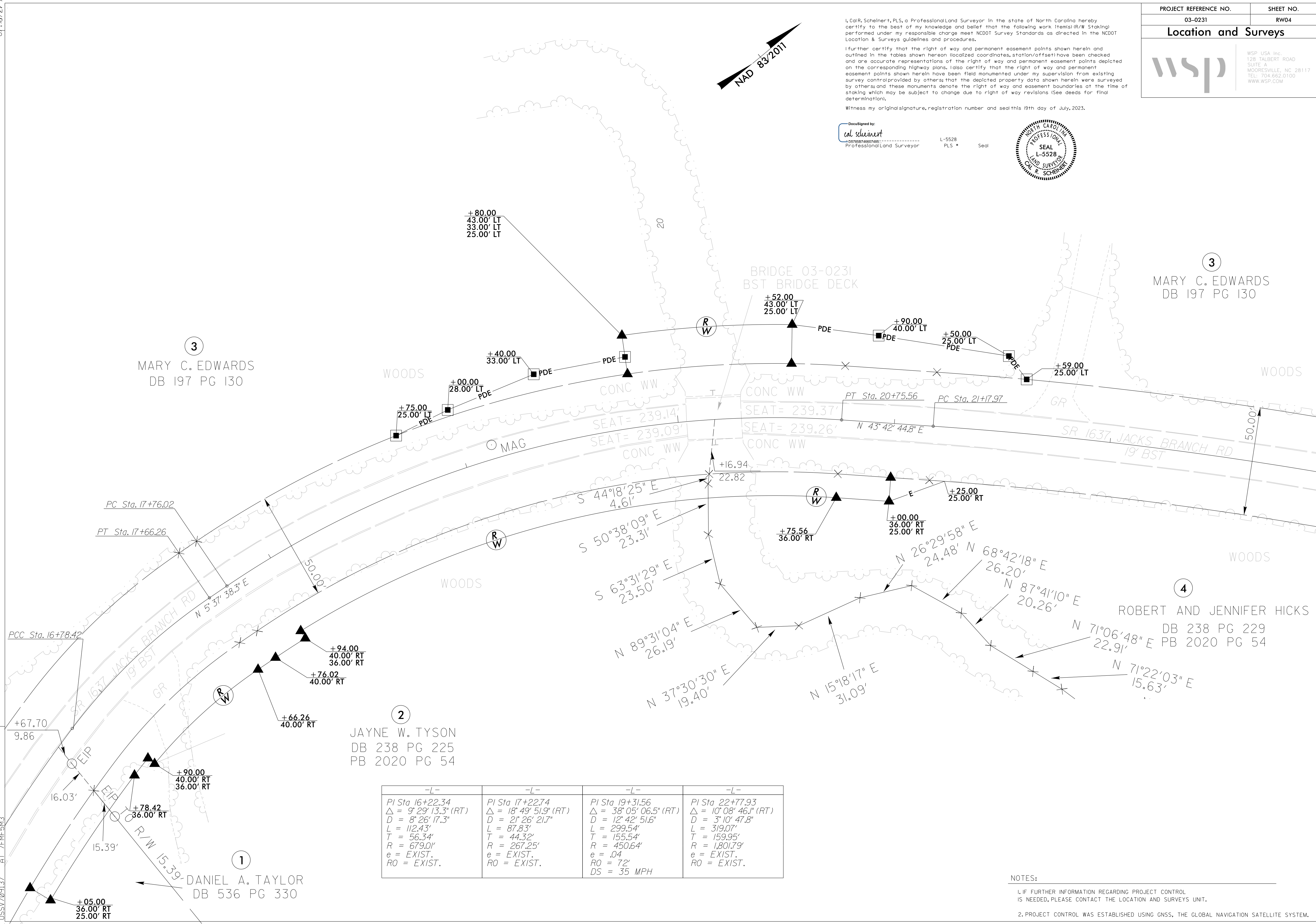
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Witness my original signature, registration number and seal this 19th day of July, 2023.

DocuSigned by:
 Cal Scheinert
 Professional Land Surveyor

L-5528
 PLS # Seal



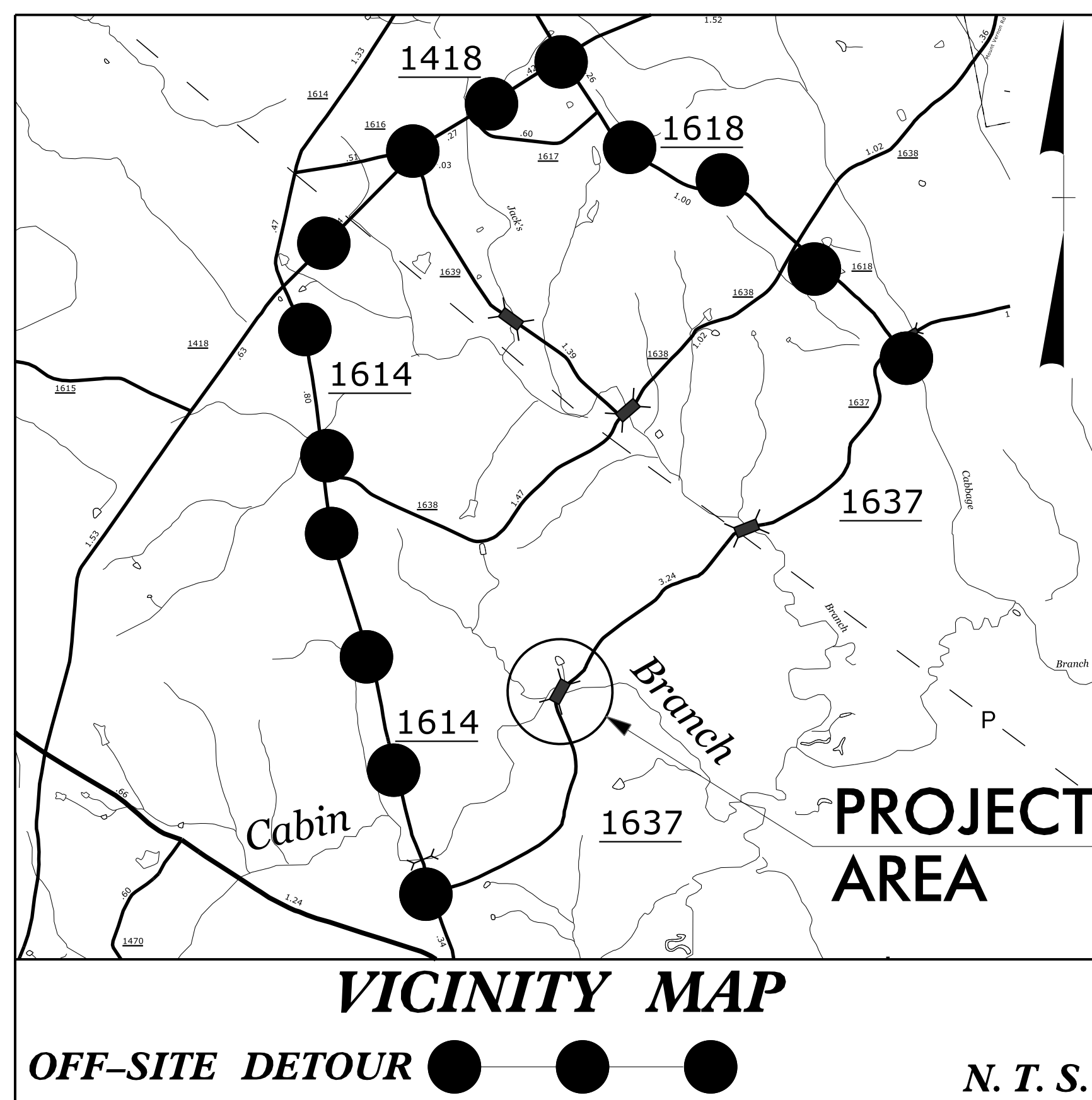
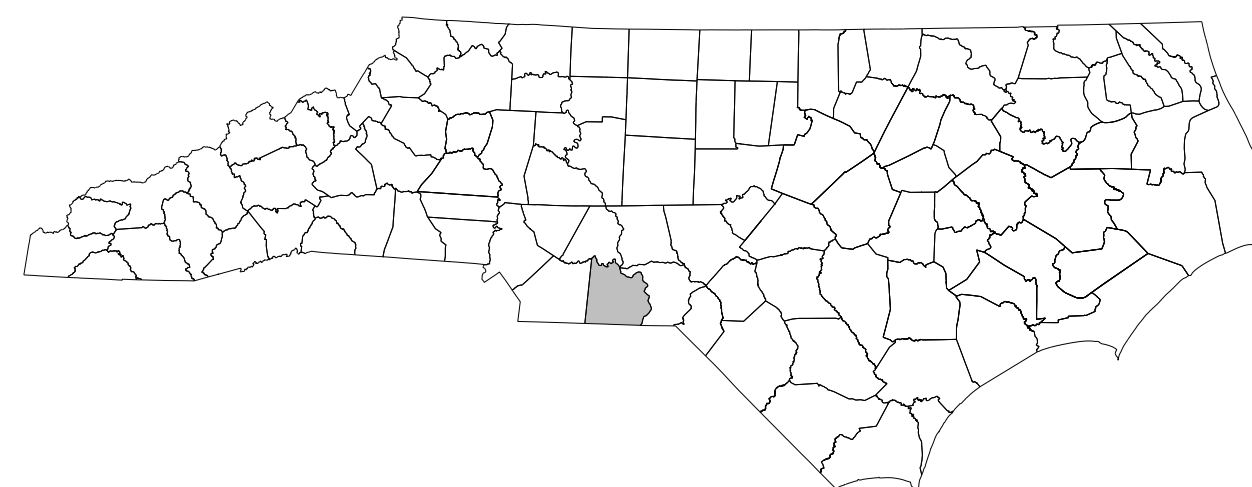
-L-	-L-	-L-	-L-
PI Sta 16+22.34 Δ = 9° 29' 13.3" (RT) D = 8' 26' 17.3" L = 112.43' T = 56.34' R = 679.01' e = EXIST. RO = EXIST.	PI Sta 17+22.74 Δ = 18° 49' 51.9" (RT) D = 21' 26' 21.7" L = 87.83' T = 44.32' R = 267.25' e = EXIST. RO = EXIST.	PI Sta 19+31.56 Δ = 38° 05' 06.5" (RT) D = 12' 42' 51.6" L = 299.54' T = 155.54' R = 450.64' e = .04 RO = 72' DS = 35 MPH	PI Sta 22+77.93 Δ = 10° 08' 46.1" (RT) D = 3' 10' 47.8" L = 319.07' T = 159.95' R = 1,801.79' e = EXIST. RO = EXIST.

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.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ANSON COUNTY



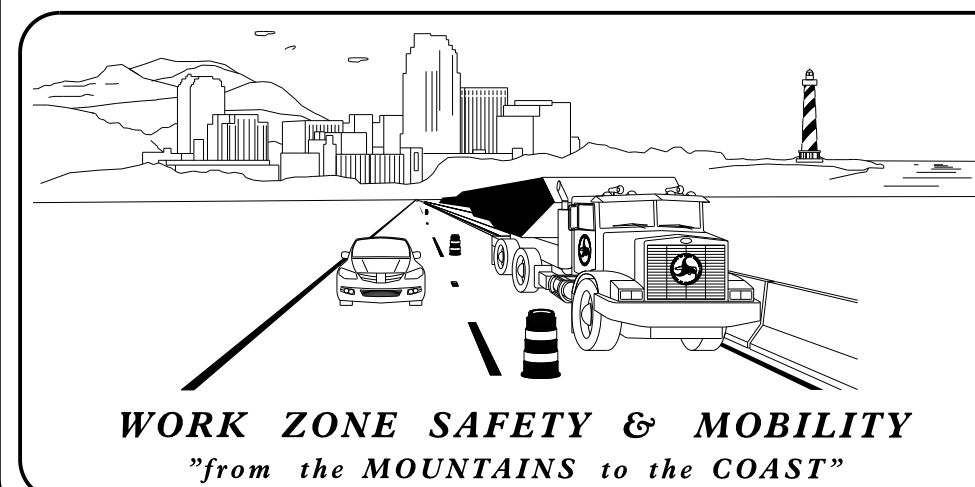
INDEX OF SHEETS

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

SHEET NO.
TMP-1

PROJECT: BPI0-R033

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



PLANS PREPARED BY:

KIT A. PERSIANI, P.E.
PROJECT ENGINEER

KEVIN P. SABO, E.I.
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:

ZACHARY L. GARDNER
DIVISION TRAFFIC ENGINEER

RICK W. BAUCOM, P.E.
DIVISION CONSTRUCTION ENGINEER



CDM Smith
CDM Smith Inc.
4600 Park Road
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

APPROVED: *kt A. Persiani*
DATE: 6/21/2024

SEAL

5/6/2024 P:\csm\smith-az02-pw.ben\hey.com\pw_pil\Documents\117240\27308\10 Transportation\04 Client Folder Structure\BPI0-R033\TrafficControl\TCP\BPI0-R033_TMP_TC01.dgn User:rsb0k

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
1101.03	TEMPORARY ROAD CLOSURES - CLOSURE BEYOND DETOUR POINT
1101.11	TRAFFIC CONTROL DESIGN TABLES - SPACING OF TEMPORARY SIGNS IN SERIES
1110.01	STATIONARY WORK ZONE SIGNS - MOUNTING HEIGHT & LATERAL CLEARANCE
1110.01	STATIONARY WORK ZONE SIGNS - SPLICING DETAIL
1110.01	STATIONARY WORK ZONE SIGNS - PERFORATED SQUARE STEEL TUBING
1145.01	BARRICADES - TYPE-III

LEGEND

GENERAL

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

SIGNALS

- EXISTING
- PORTABLE
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

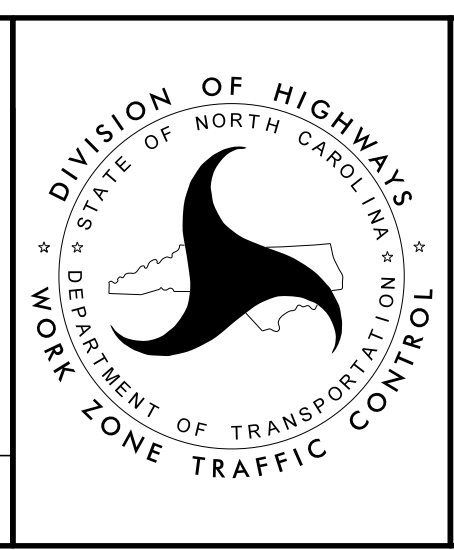
PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

5/6/2024
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 User:SHDKP

CDM Smith
 CDM Smith Inc.
 4600 Park Road
 Suite 240
 Charlotte, NC 28209-3730
 NC COA No. F-1255

APPROVED:
 DATE: 6/21/2024
 SEAL
 DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



ROADWAY STANDARD DRAWINGS & LEGEND

MANAGEMENT STRATEGIES

- 1- CLOSE SR 1637 (JACKS BRANCH RD.) TO TRAFFIC AND DETOUR TRAFFIC OFF-SITE.
- 2- LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES WILL BE MAINTAINED BETWEEN CLOSURE POINTS AT ALL TIMES DURING CONSTRUCTION.

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 40 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.

PHASING

- STEP 1: USING RSD 1101.03 (SHEET 1 OF 9), INSTALL DETOUR ROUTE SIGNING TO CLOSE SR 1637 (JACKS BRANCH RD.) FROM -L- STA. 18+35+/- TO STA. 21+59+/-.
- STEP 2: AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION OF PROPOSED BRIDGE AND ROADWAY APPROACHES, INCLUDING DRAINAGE, GUARDRAIL, AND FINAL PAVEMENT MARKINGS ON PROPOSED -L- FROM STA. 18+35+/- TO STA. 21+59+/-.
- STEP 3: REMOVE TEMPORARY TRAFFIC CONTROL DEVICES AND OPEN -L- TO PROPOSED 2-LANE, 2-WAY TRAFFIC PATTERN.

LOCAL NOTES

- 1- NOTIFY ANSON COUNTY EMERGENCY SERVICES AND PUBLIC SCHOOLS AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.

5/6/2024 P:\cdmsmith-az02-pw.bentley.com\pw.pil\Documents\117240\27308\10 Transportation\04 Client\ Folder Structure\BP10.R033\TrafficControl\TCP\BP10.R033_TMP_TC01B.dgn User:SSBOKP



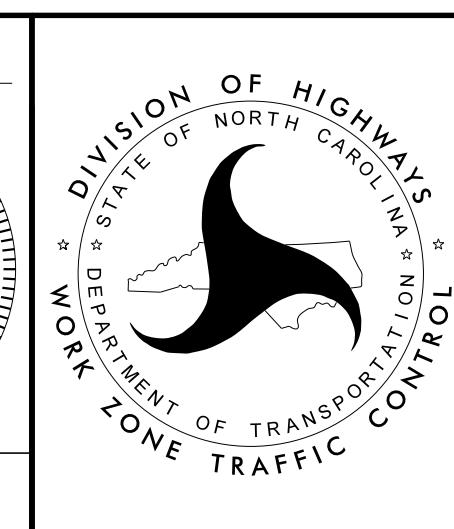
CDM Smith Inc.
4600 Park Road
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

APPROVED: *Kit A. Persiani*
DATE: 6/21/2024

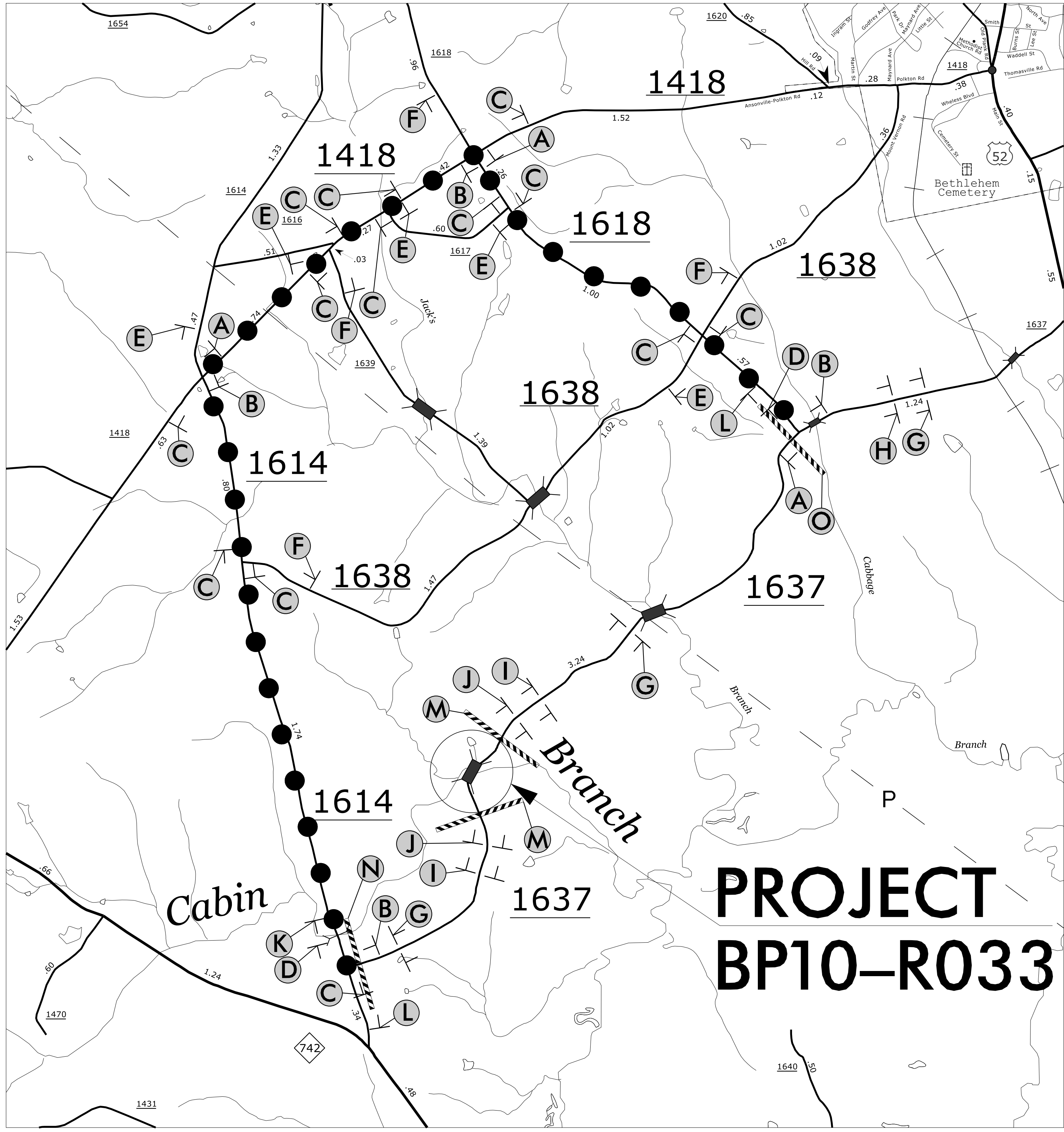
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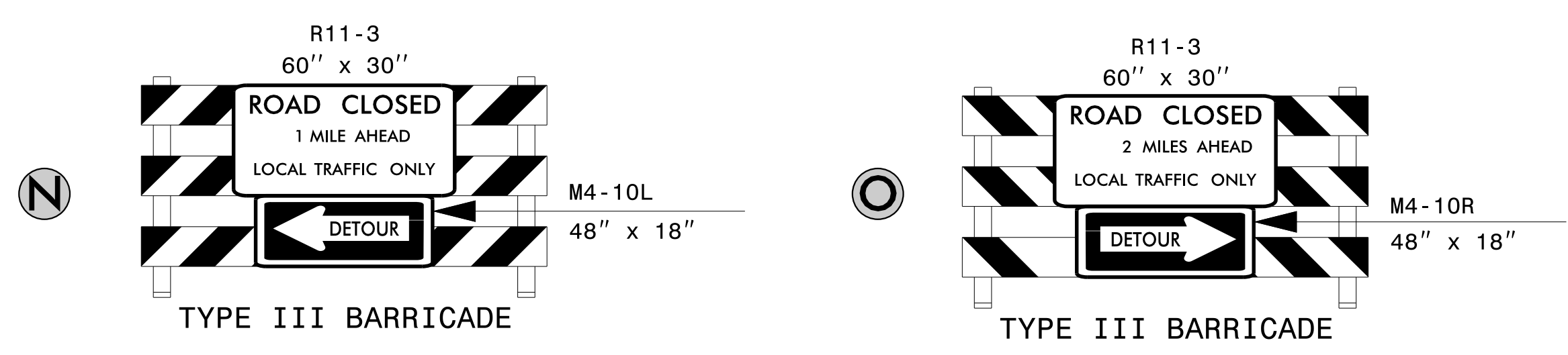
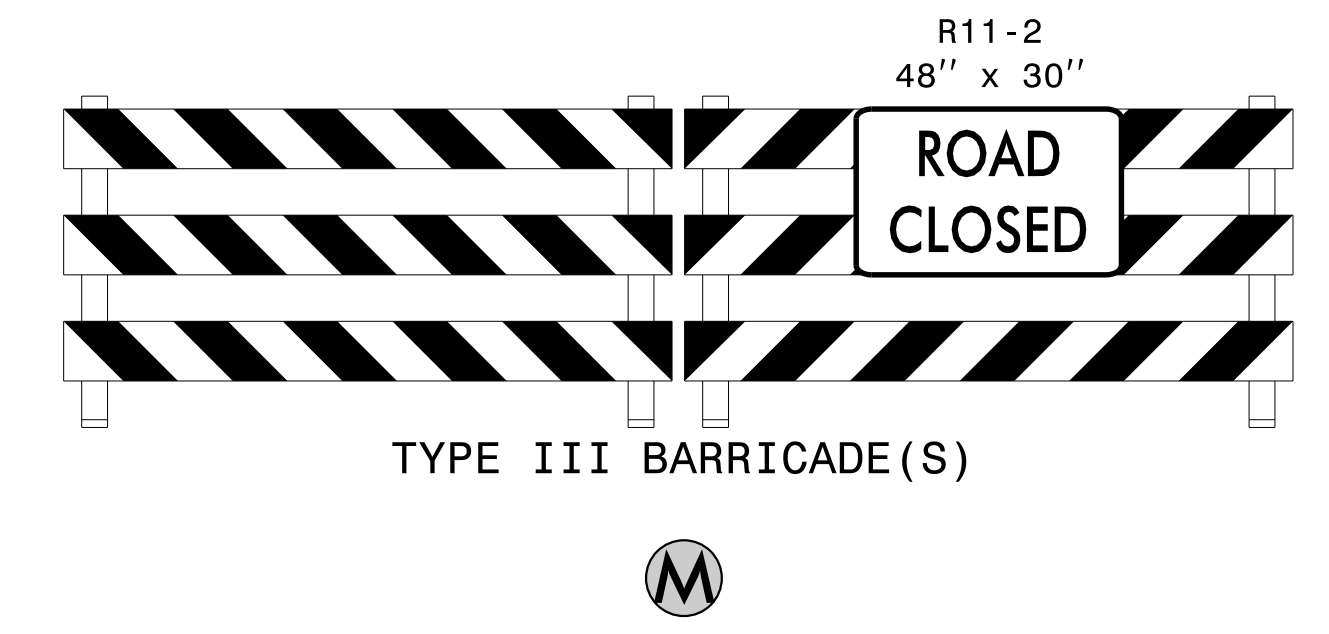
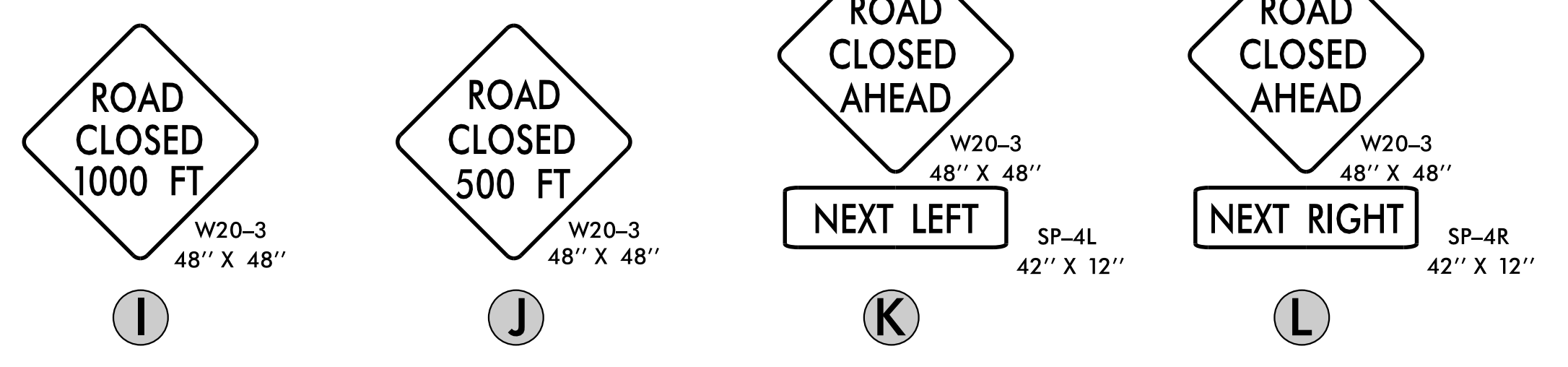
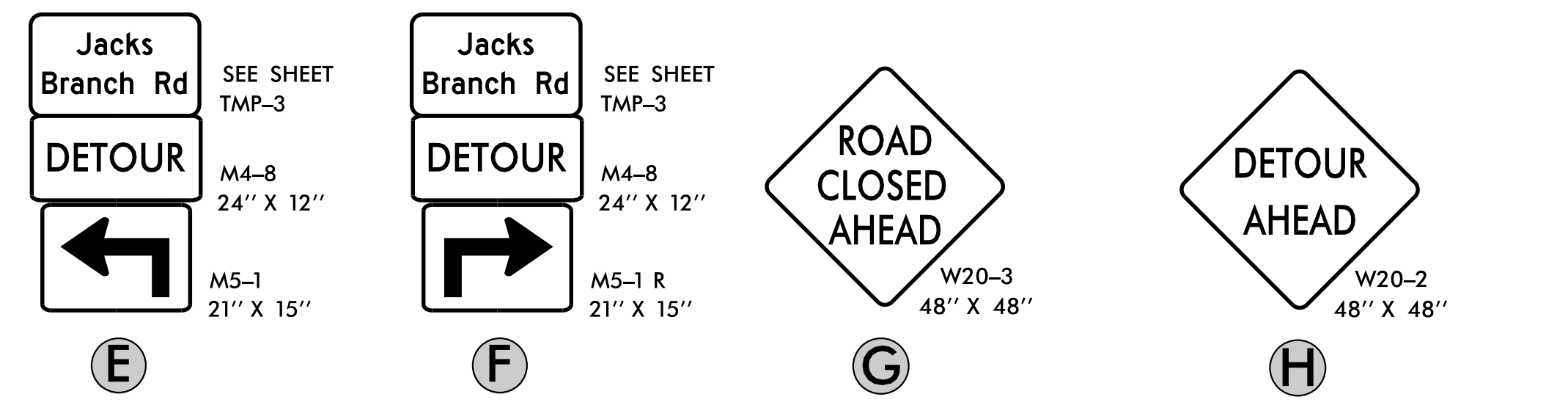
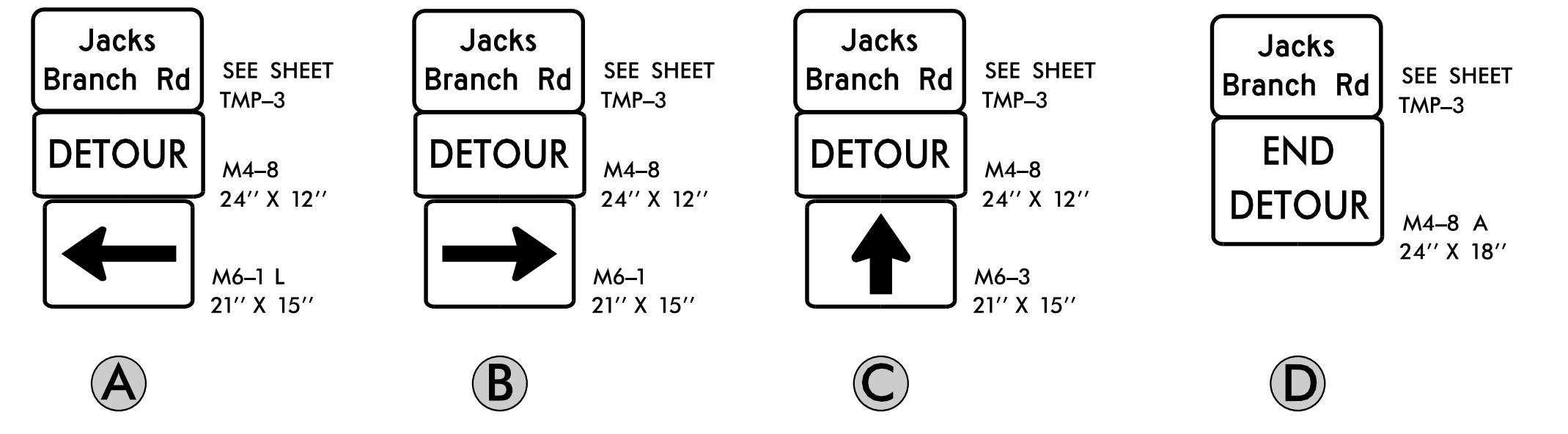


TRANSPORTATION
OPERATIONS
PLAN



PROJECT BP10-R033

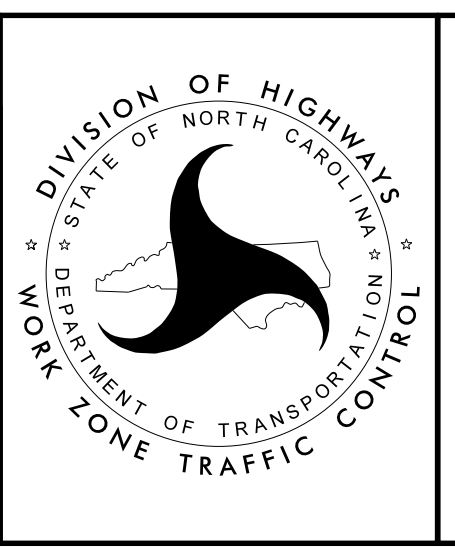
● ● ●
OFF-SITE DETOUR ROUTE



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CDM Smith
CDM Smith Inc.
4600 Park Road
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

APPROVED: *kt A. Persiani*
DATE: 6/21/2024
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
KIT A. PERSIANI
021655



OFF-SITE DETOUR

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

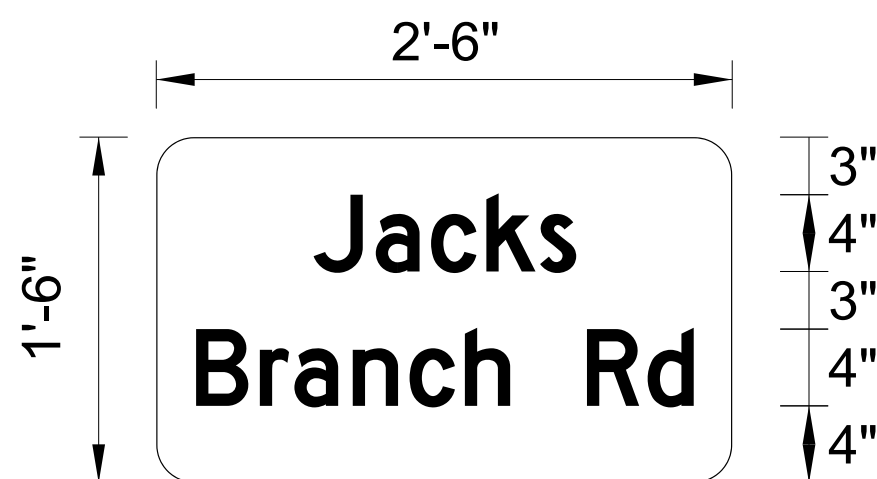
SIGN NUMBER: 1
TYPE: STATIONARY
QUANTITY: SEE PLANS
SIGN WIDTH: 2'-6"
HEIGHT: 1'-6"
TOTAL AREA: 3.8 Sq.Ft.
BORDER TYPE: INSET
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"
NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange	DESIGN BY: KPS	CHECKED BY: KAP	Jan 30, 2023
COPY COLOR: Black	PROJECT ID: BP10.R033	LOCATION: ANSON	DIV: 10
SYMBOL	X	Y	WID
HT			

MAT'L: 0.080" (2.0 mm) ALUMINUM

USE NOTES: 1,2

- 1. Legend and border shall be direct applied black non-reflective sheeting.
- 2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.



BORDER
 R=1.5"
 TH=0.63"
 IN=0.47"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter													Series/Size	
													Text Length	
		J	a	c	k	s								D 2000
8.2	3.2	2.9	2.9	2.8	1.9	8.1								13.7
		B	r	a	n	c	h	R	d					D 2000
2.1	3.3	1.8	3	3	2.9	2.4	4	3.2	2.4	2				25.9

FILENAME: BP10.R033_TMP_TC03

NORTH CAROLINA D.O.T. SIGN DETAIL

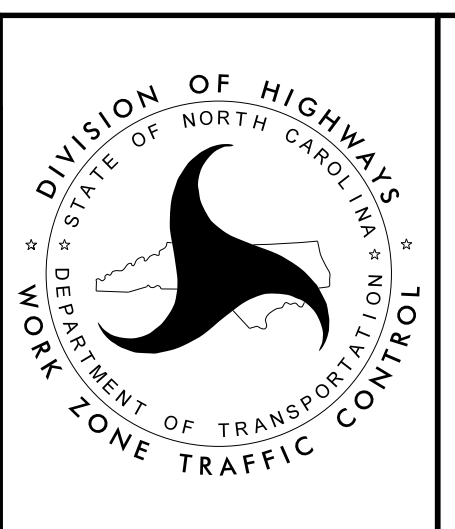
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APPROVED: *Kit A. Persiani*
 DATE: 6/21/2024

SEAL

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



SIGN DESIGN

05/06/24 P:\a\sgarner\th-oz02-pw\berntley.com\p-w-p11\Documents\117240\27308\10 Transportation\04 Client Folder Structure\BP10.R033\CADD\BP10.R033_TMP_PMP_01.dgn

CONTRACT: DJ00524 TIP PROJECT: BP10-R033

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
ANSON COUNTY**

**LOCATION: REPLACE BRIDGE NO. 030231 OVER CABIN BRANCH
ON SR 1637 (JACKS BRANCH RD.)**

TIP NO. BP10-R033	SHEET NO. PMP-1
APPROVED: <small>DocuSigned by: Kit A. Persiani 91010E802CB448F...</small>	
DATE: 6/21/2024	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

ROADWAY STANDARD DRAWING

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

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

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
ALL	THERMOPLASTIC	NONE
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
- E) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING THERMOPLASTIC PAVEMENT MARKING MATERIAL.

SUMMARY OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4685000000-E	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	1,300	L.F.

INDEX

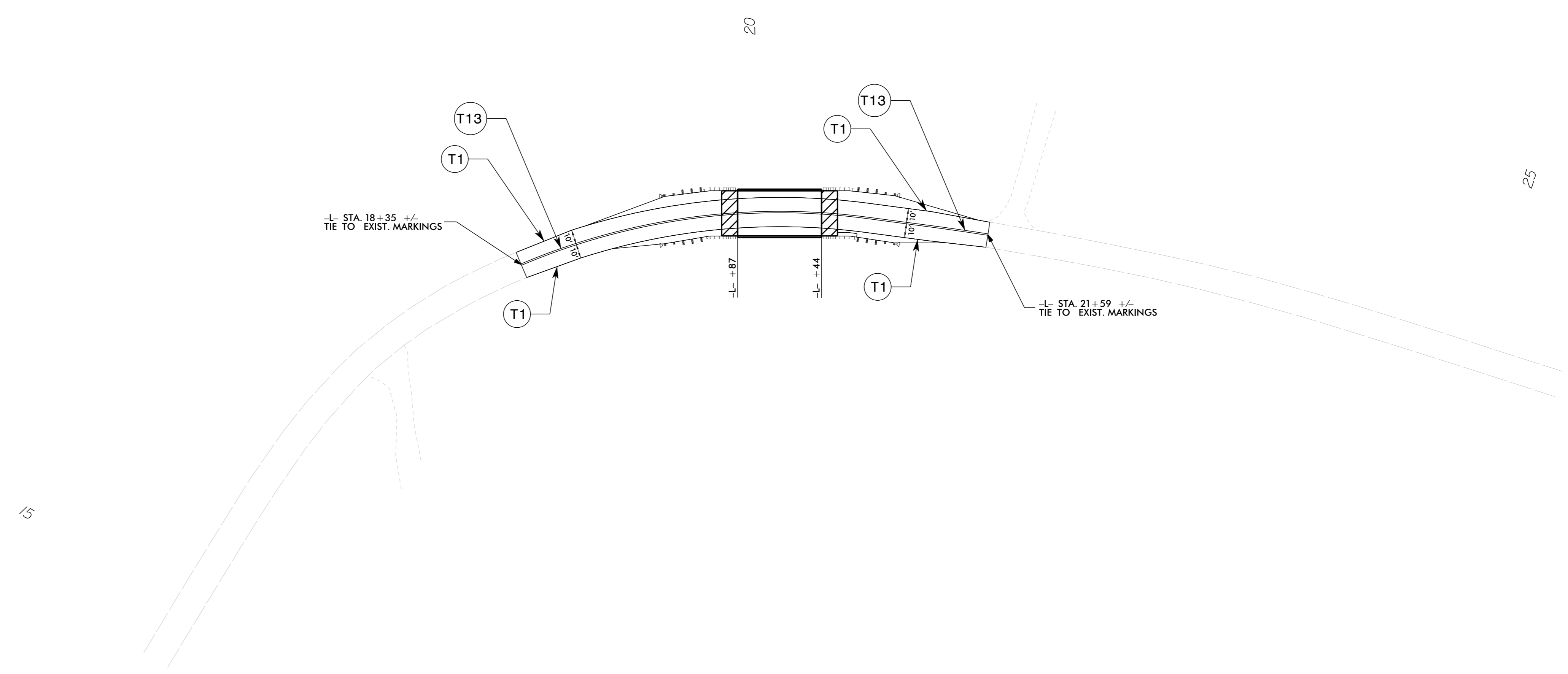
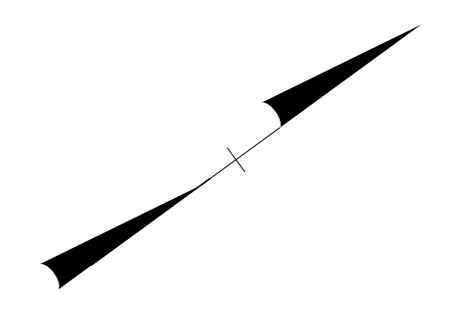
SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE SHEET
PMP-2	PAVEMENT MARKING SCHEDULE/PAVEMENT MARKING DETAIL

PLAN PREPARED BY: CDM SMITH, INC.	
KIT A. PERSIANI, P.E. PROJECT MANAGER	CDM Smith Inc. 4600 Park Rd Suite 240 Charlotte, NC 28209-3730 NC COA No. F-1255
KEVIN P. SABO, E.I. PROJECT DESIGN ENGINEER	

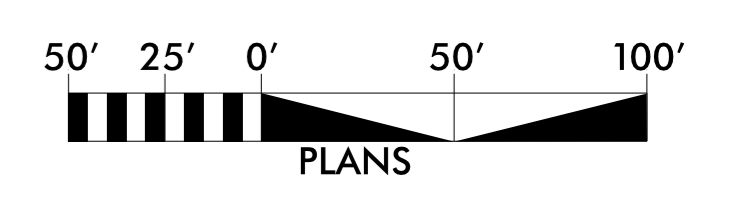
PLAN REVIEWED BY: N.C.D.O.T. DIVISION 10	
ZACHARY L. GARDNER DIVISION TRAFFIC ENGINEER	
RICK W. BAUCOM, P.E. DIVISION CONSTRUCTION ENGINEER	

06/21/24
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User: SABOKP

TIP NO. BP10-R033	SHEET NO. PMP - 2
APPROVED: <i>Kit A. Persiani</i> 91010E82C8446F...	
DATE: 6/21/2024	
SEAL	
CDM Smith CDM Smith Inc. 4600 Park Rd Suite 240 Charlotte, NC 28209-3730 NC COA No. F-1255	

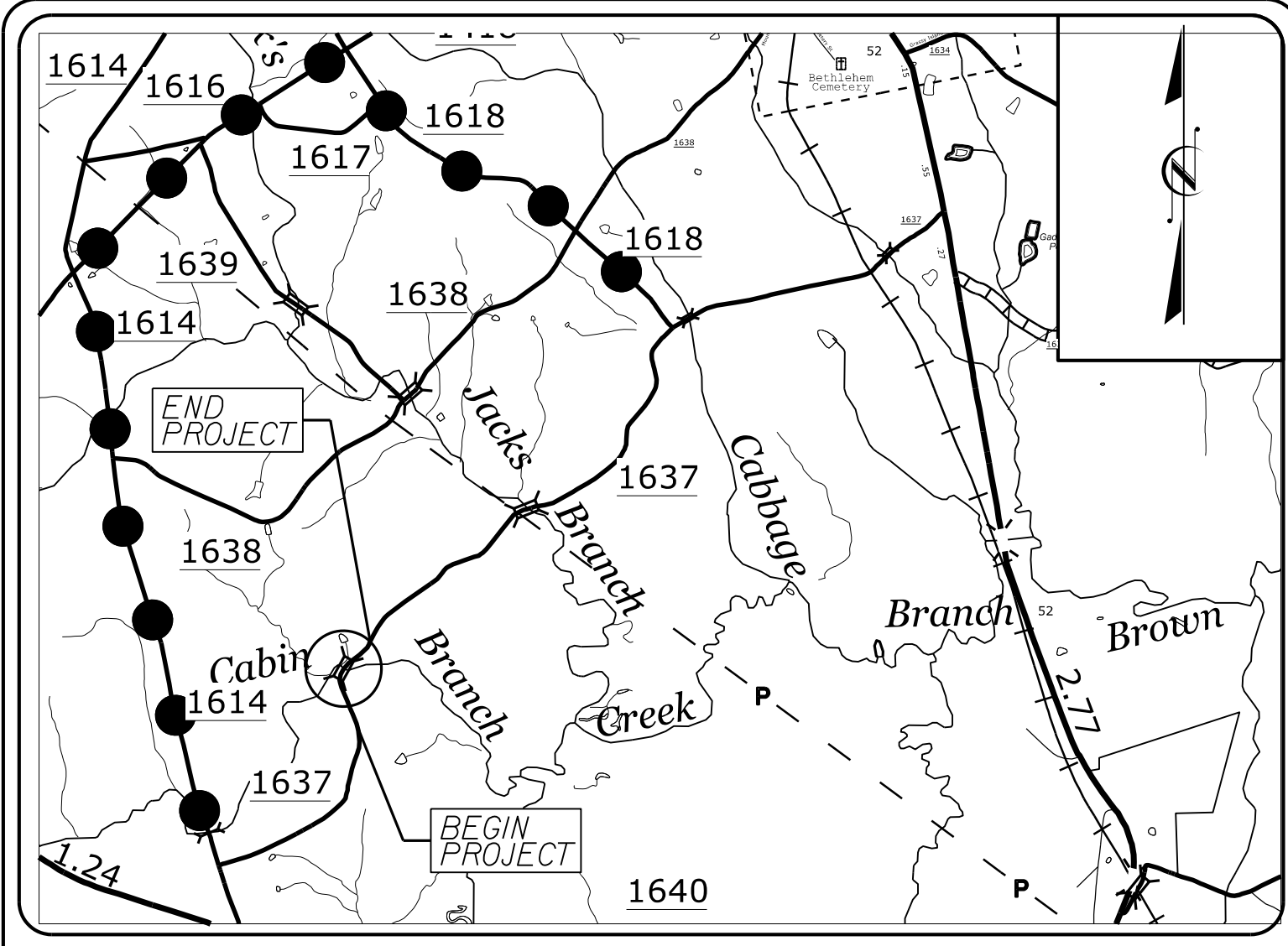


PAVEMENT MARKING SCHEDULE	
SYMBOL	DESCRIPTION
T1	THERMOPLASTIC (4", 90 MILS)
T1	WHITE EDGELINE
T13	YELLOW DOUBLE CENTER



PAVEMENT MARKING DETAIL

TIP PROJECT: BP10-R033



VICINITY MAP
 ●—●—●— DETOUR ROUTE N.T.S.

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL

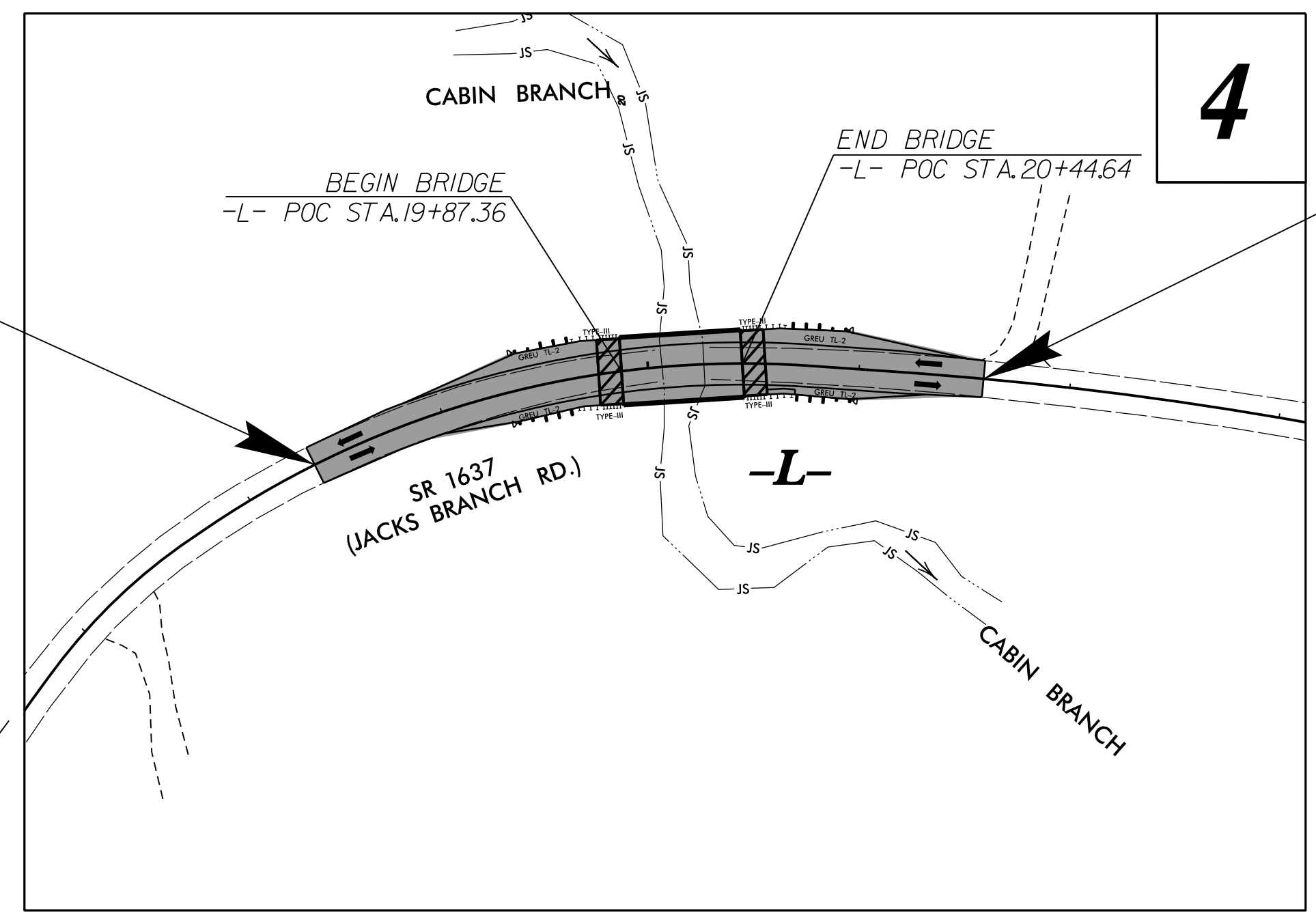
ANSON COUNTY

**LOCATION: REPLACE BRIDGE NO. 030231 OVER CABIN BRANCH
 ON SR 1637 (JACKS BRANCH RD.)**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP10-R033	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

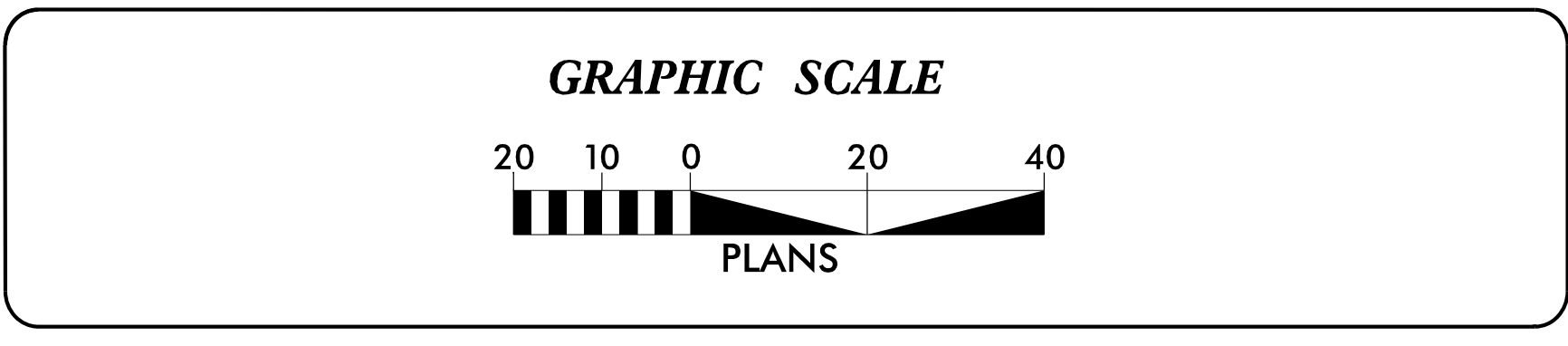
BEGIN PROJECT BP10-R033
 -L- POC STA. 18+35.00



END PROJECT BP10-R033
 -L- POC STA. 21+59.00

THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.

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



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


 LEVEL III CERTIFIED BY:
 KAREN HEFNER, PE
 CERTIFICATION NUMBER: 3824
 ISSUED: JUNE 19, 2024

Prepared in the Office of:
MI ENGINEERING, PLLC
 1011 SCHAUB DR, SUITE 100
 RALEIGH, NC 27606
 (919) 851-6606
 FIRM PE NUMBER: P-0671

Designed by:
KAREN HEFNER, PE 3824
 NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

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

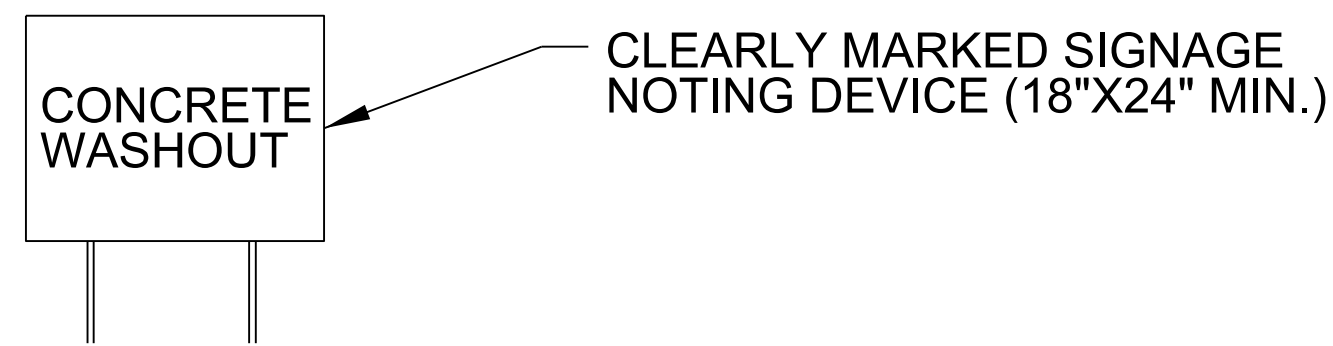
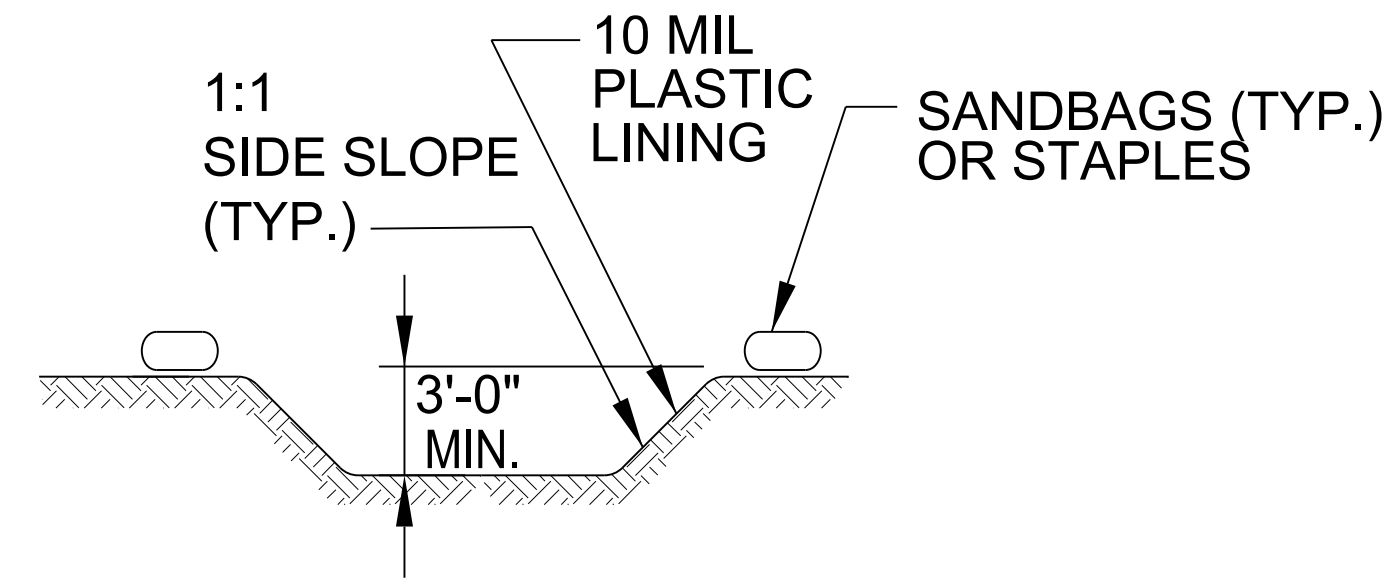
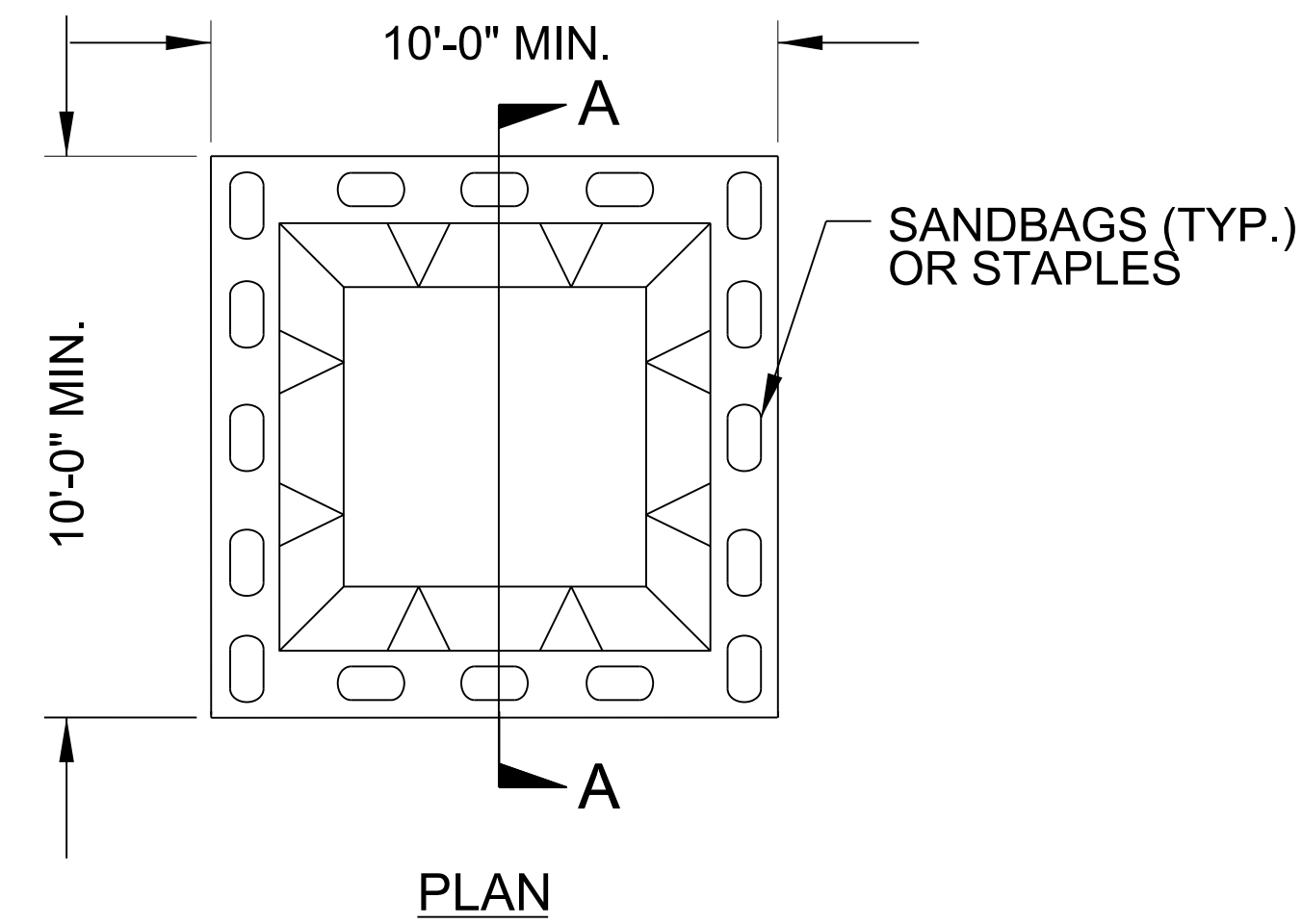
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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

EROSION & SEDIMENT CONTROL LEGEND

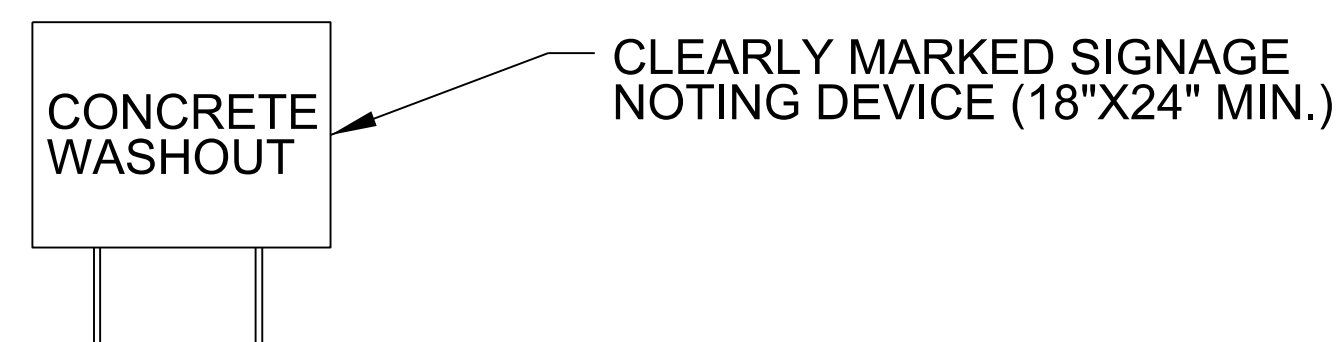
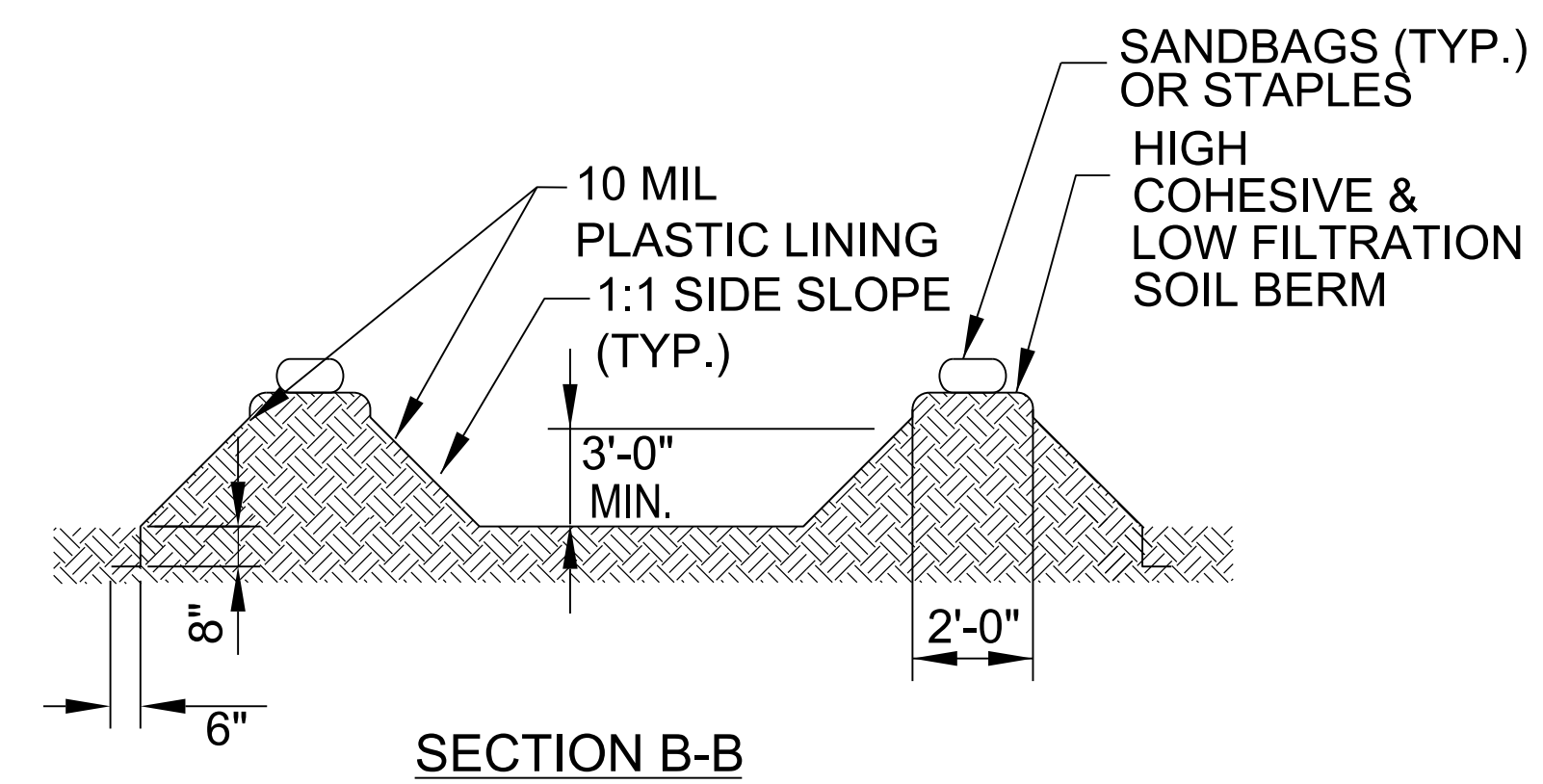
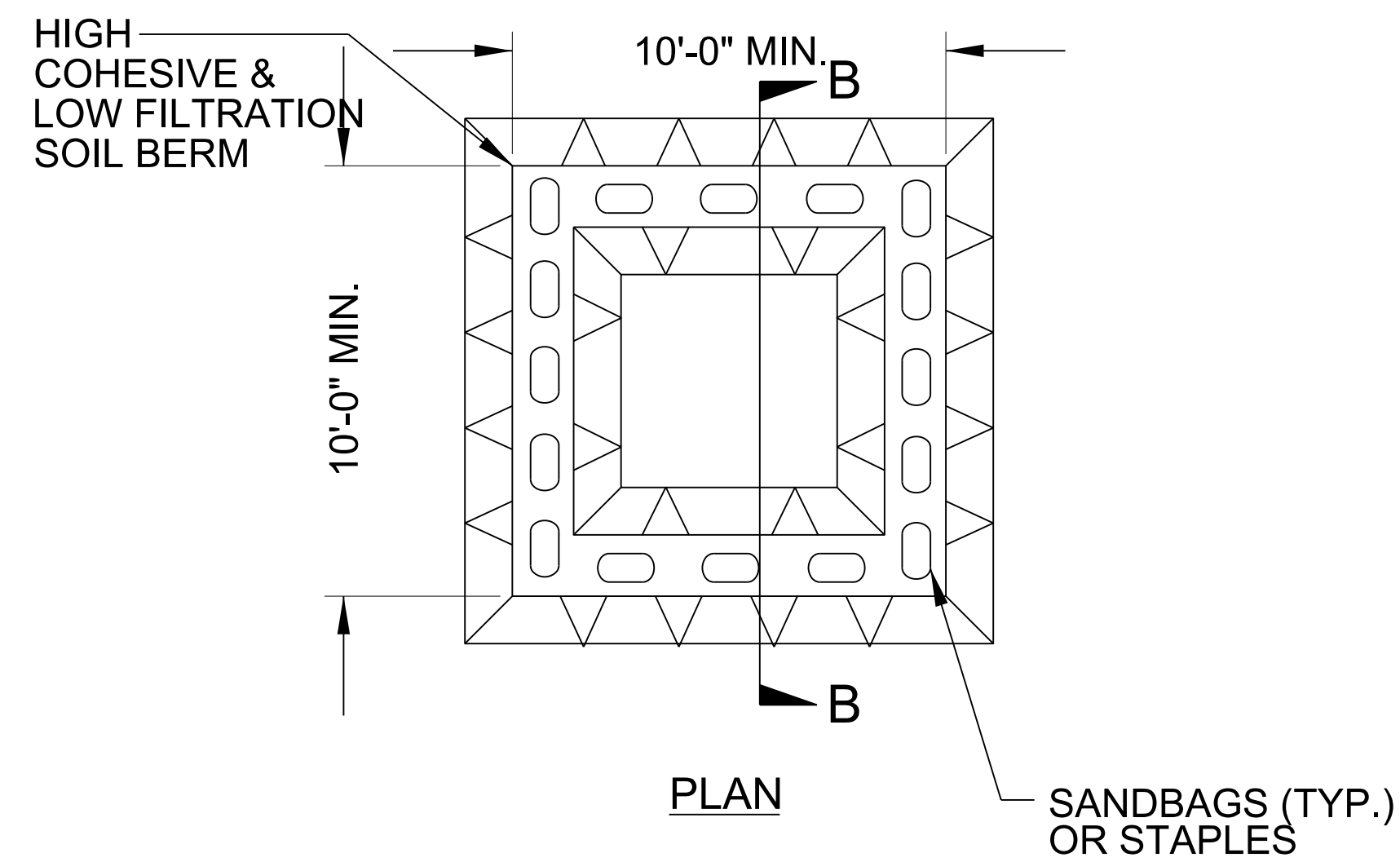
Std. #	Description	Symbol	Std. #	Description	Symbol
1605.01	Temporary Silt Fence		1633.01	Temporary Rock Silt Check Type A	
1606.01	Special Sediment Control Fence		1633.02	Temporary Rock Silt Check Type B	
1622.01	Temporary Berms and Slope Drains		1633.03	Temporary Rock Silt Check Type A with Excelsior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

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

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



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

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

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

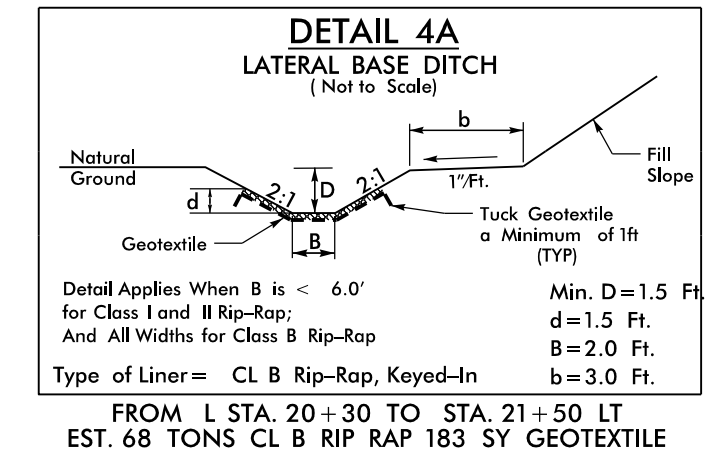
SOIL STABILIZATION TIMEFRAMES

<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

LEVEL III CERTIFIED BY:
KAREN HEFNER, PE
 CERTIFICATION NUMBER: 3824
 ISSUED: JUNE 19, 2024

CDM Smith
 CDM Smith Inc.
 4600 Park Rd
 Suite 240
 Charlotte, NC 28209-3730
 NC COA No. F-1255

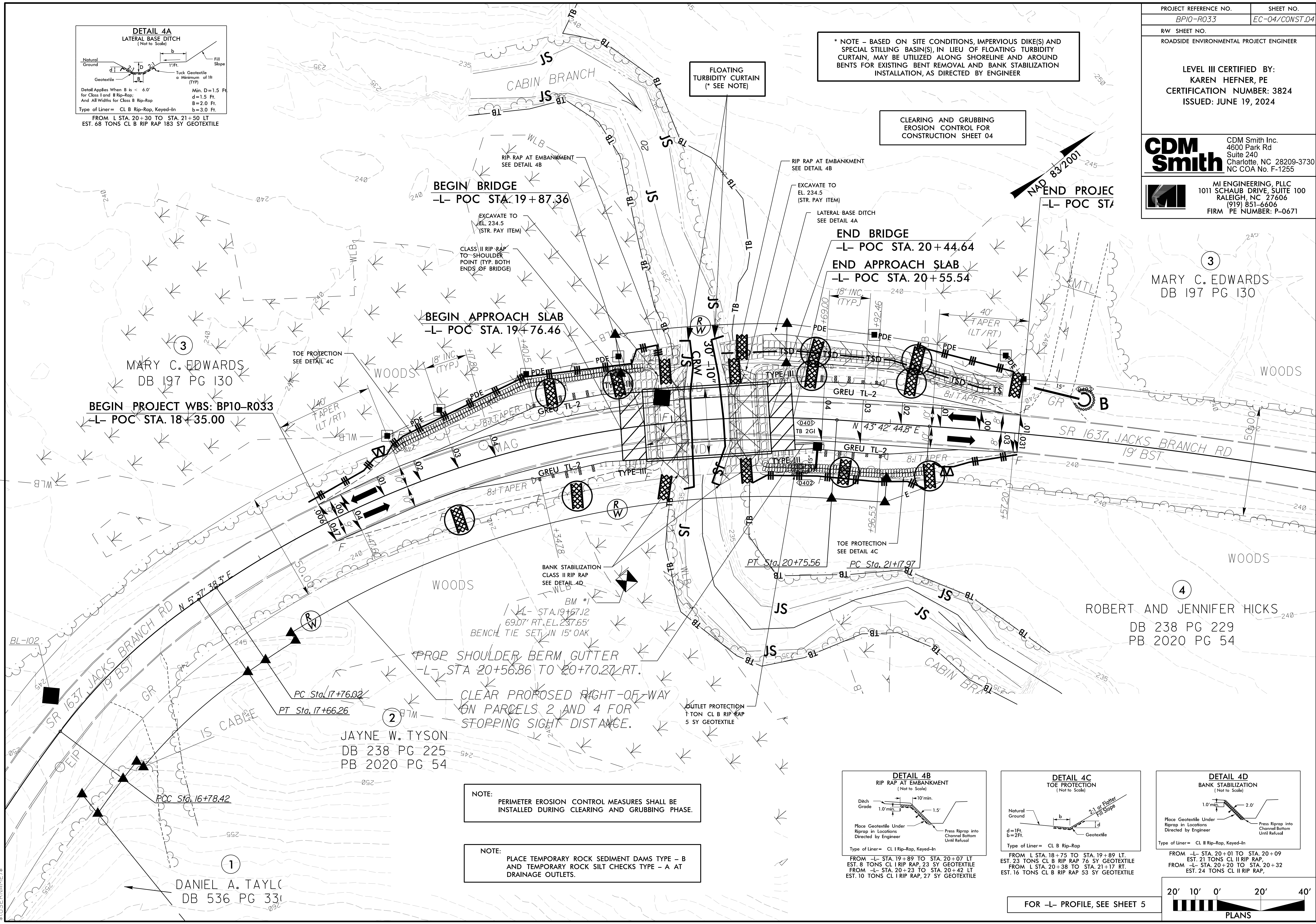
MI ENGINEERING, PLLC
 1011 SCHAUB DRIVE, SUITE 100
 RALEIGH, NC 27606
 (919) 851-6606
 FIRM PE NUMBER: P-0671



* NOTE - BASED ON SITE CONDITIONS, IMPERVIOUS DIKE(S) AND SPECIAL STILLING BASIN(S), IN LIEU OF FLOATING TURBIDITY CURTAIN, MAY BE UTILIZED ALONG SHORELINE AND AROUND BENTS FOR EXISTING BENT REMOVAL AND BANK STABILIZATION INSTALLATION, AS DIRECTED BY ENGINEER

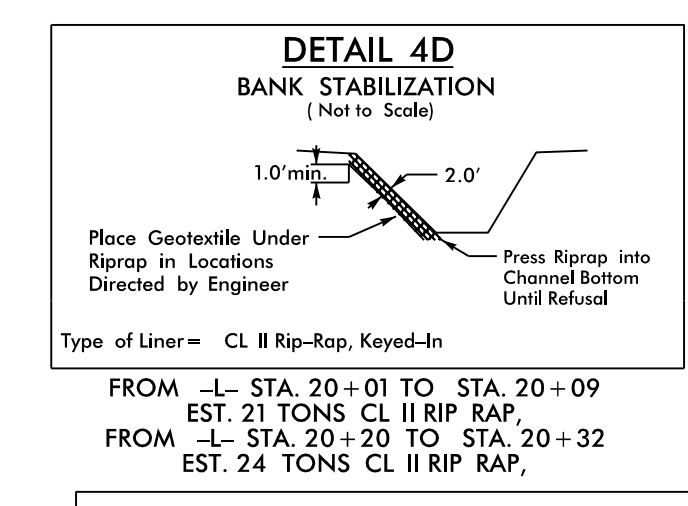
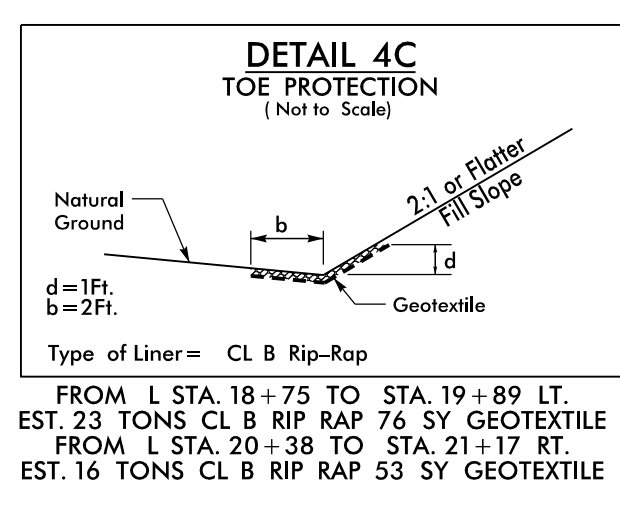
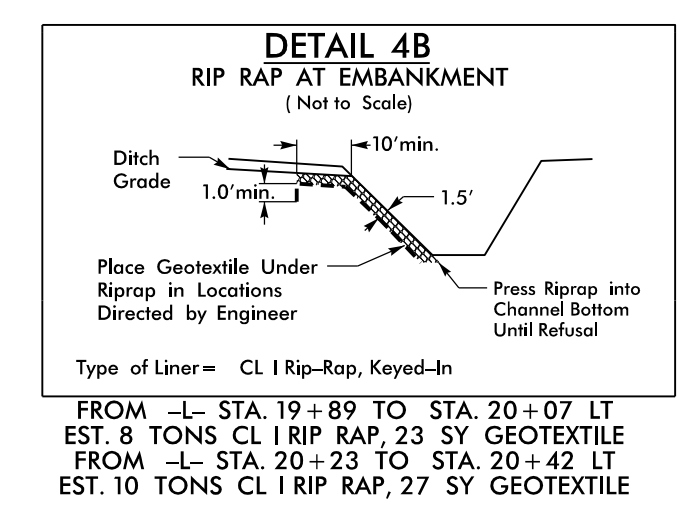
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 04

FLOATING TURBIDITY CURTAIN (* SEE NOTE)

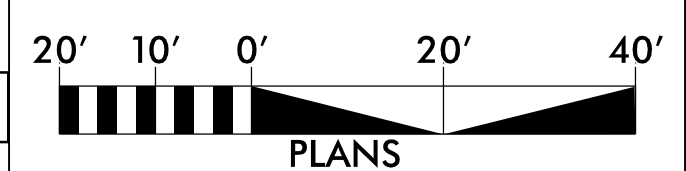


NOTE:
 PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

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



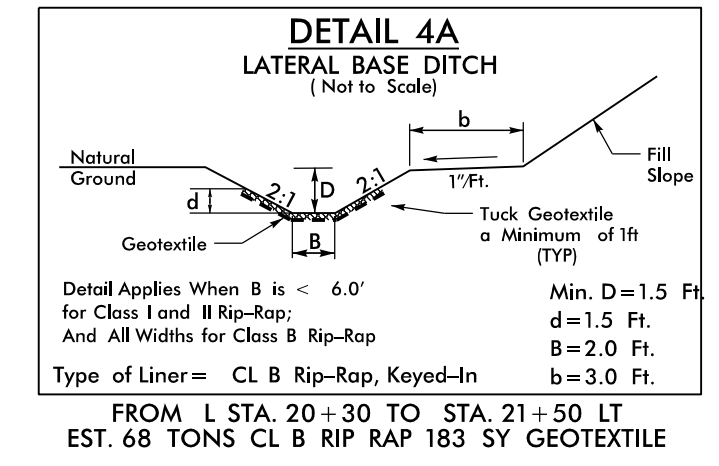
FOR -L- PROFILE, SEE SHEET 5



6/19/2024
 8 FILES
 \$USER\$

3
MARY C. EDWARDS
 DB 197 PG 130

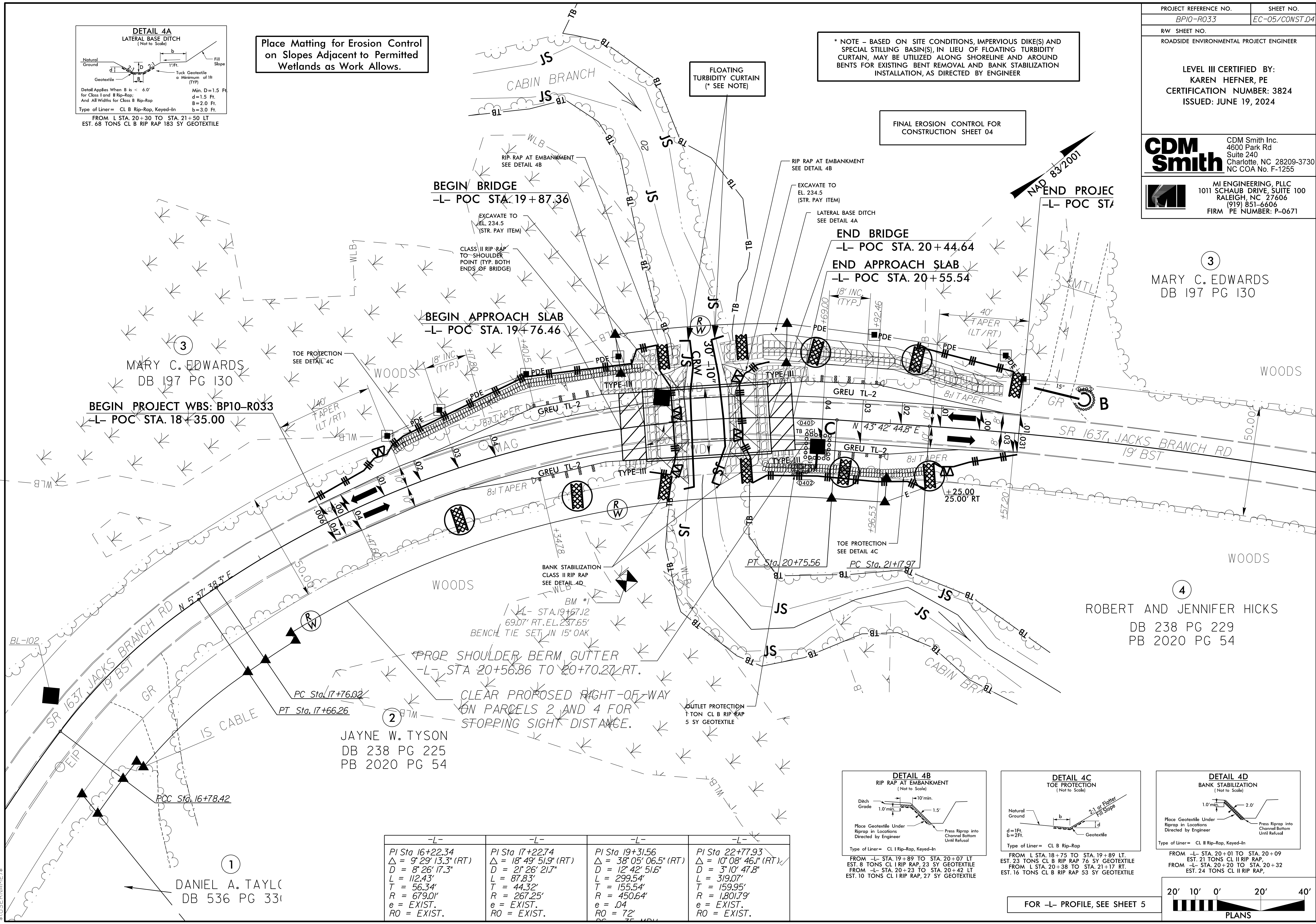
4
ROBERT AND JENNIFER HICKS
 DB 238 PG 229
 PB 2020 PG 54



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

*** NOTE - BASED ON SITE CONDITIONS, IMPERVIOUS DIKE(S) AND SPECIAL STILLING BASIN(S), IN LIEU OF FLOATING TURBIDITY CURTAIN, MAY BE UTILIZED ALONG SHORELINE AND AROUND BENTS FOR EXISTING BENT REMOVAL AND BANK STABILIZATION INSTALLATION, AS DIRECTED BY ENGINEER**

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 04



3
MARY C. EDWARDS
 DB 197 PG 130
BEGIN PROJECT WBS: BP10-R033
-L- POC STA. 18+35.00

BEGIN BRIDGE
-L- POC STA. 19+87.36

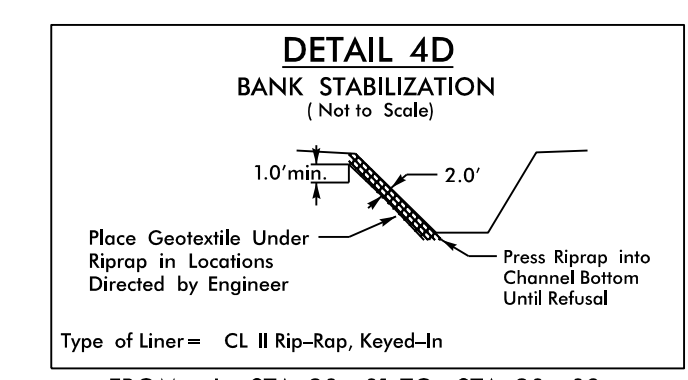
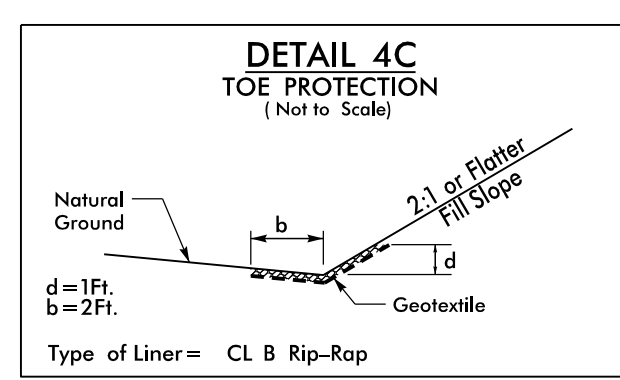
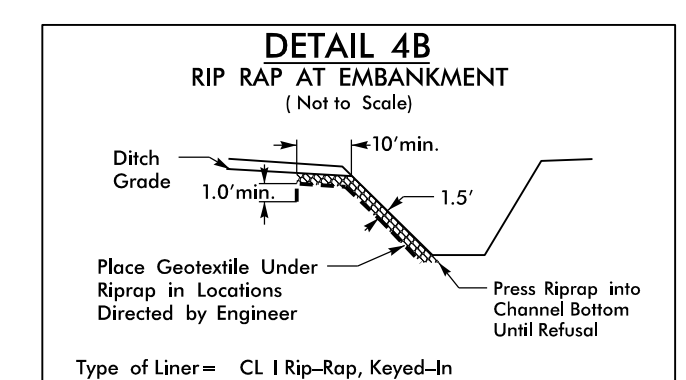
BEGIN APPROACH SLAB
-L- POC STA. 19+76.46

END BRIDGE
-L- POC STA. 20+44.64
END APPROACH SLAB
-L- POC STA. 20+55.54

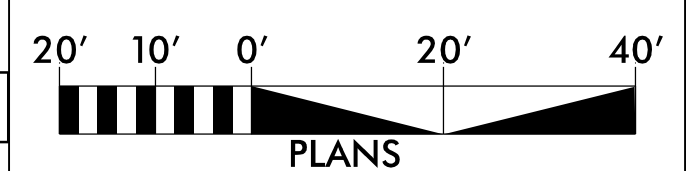
2
JAYNE W. TYSON
 DB 238 PG 225
 PB 2020 PG 54

1
DANIEL A. TAYLOR
 DB 536 PG 331

-L-	-L-	-L-	-L-
PI Sta 16+22.34 Δ = 9' 29" 13.3" (RT) D = 8' 26" 17.3" L = 112.43' T = 56.34' R = 679.01' e = EXIST. RO = EXIST.	PI Sta 17+22.74 Δ = 18' 49" 51.9" (RT) D = 21' 26" 21.7" L = 87.83' T = 44.32' R = 267.25' e = EXIST. RO = EXIST.	PI Sta 19+31.56 Δ = 38' 05" 06.5" (RT) D = 12' 42" 51.6" L = 299.54' T = 155.54' R = 450.64' e = .04 RO = 72'	PI Sta 22+77.93 Δ = 10' 08" 46.1" (RT) D = 3' 10" 47.8" L = 319.07' T = 159.95' R = 1,801.79' e = EXIST. RO = EXIST.



FOR -L- PROFILE, SEE SHEET 5



06/18/24 10:24 AM P:\Projects\117240\27308\10 Transportation\11 Documents\117240\27308\10 Client Folder Structure\BP10.R033\CADD\BP10.R033_TMP_SCN_01.dgn

CONTRACT: DJ00524 TIP PROJECT: BP10-R033

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN
ANSON COUNTY**

**LOCATION: REPLACE BRIDGE NO. 030231 OVER CABIN BRANCH
ON SR 1637 (JACKS BRANCH RD.)**

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	30	L.F.
4102000000-N	904	SIGN ERECTION, TYPE E	4	EA.
4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	9	EA.

ROADWAY STANDARD DRAWING

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

STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL SUPPORTS

GENERAL NOTES

- . SIGNS FURNISHED BY STATE
- . ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- . WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- . SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

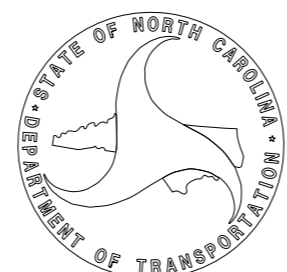
PLAN PREPARED BY: CDM SMITH, INC.

KIT A. PERSIANI, P.E. PROJECT MANAGER
KEVIN P. SABO, E.I. PROJECT DESIGN ENGINEER

CDM Smith
CDM Smith Inc.
4600 Park Rd
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

PLAN REVIEWED BY: N.C.D.O.T. DIVISION 10

ZACHARY L. GARDNER DIVISION TRAFFIC ENGINEER
RICK W. BAUCOM, P.E. DIVISION CONSTRUCTION ENGINEER



TIP NO. BP10-R033	SHEET NO. SIGN-1
APPROVED: <i>Kit A. Persiani</i> 6/21/2024	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

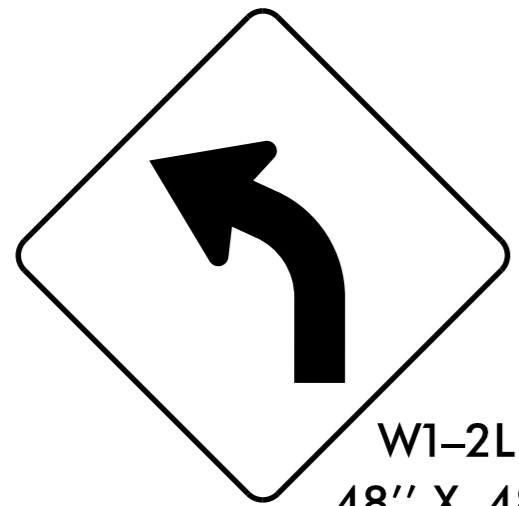
INDEX

SHEET NO.	DESCRIPTION
SIGN-1	SIGNING PLAN TITLE SHEET
SIGN-2	SIGN DESIGNS TYPE E
SIGN-3	EXISTING AND PROPOSED SIGN SHEET

06/18/24
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(401)

QUANTITY REQUIRED 1

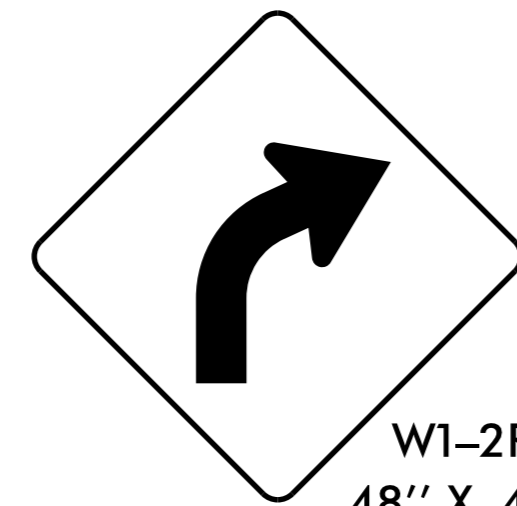


W1-2L
48" X 48"

ONE "U POST" PER SIGN

(402)

QUANTITY REQUIRED 1




W1-2R
48" X 48"

ONE "U POST" PER SIGN

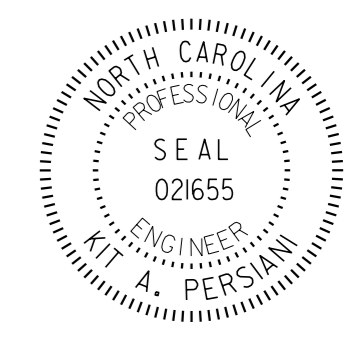
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QUANTITY REQUIRED 2



W13-1
24" X 24"

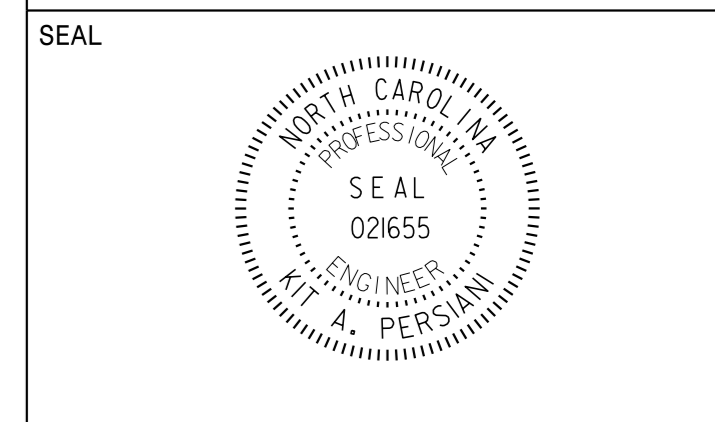
MOUNT SIGN #403 BELOW SIGNS #401
AND #402 IN ONE INSTALLATION EACH

<small>TIP NO.</small> BPI0-R033	<small>SHEET NO.</small> SIGN-2
<small>DocuSigned by:</small> <i>kt A. Puzani</i>	
<small>APPROVED:</small>	
<small>91010E82CB446F...</small> 6/21/2024	
<small>DATE:</small>	
<small>SEAL</small>	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

CDM Smith	<small>CDM Smith Inc. 4600 Park Road Suite 240 Charlotte, NC 28209-3730 NC COA No. F-1255</small>
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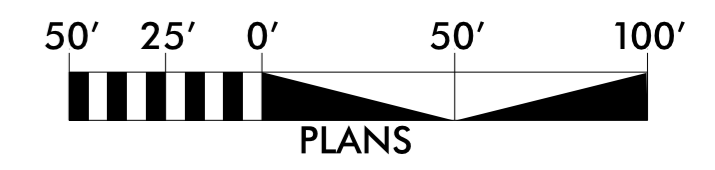
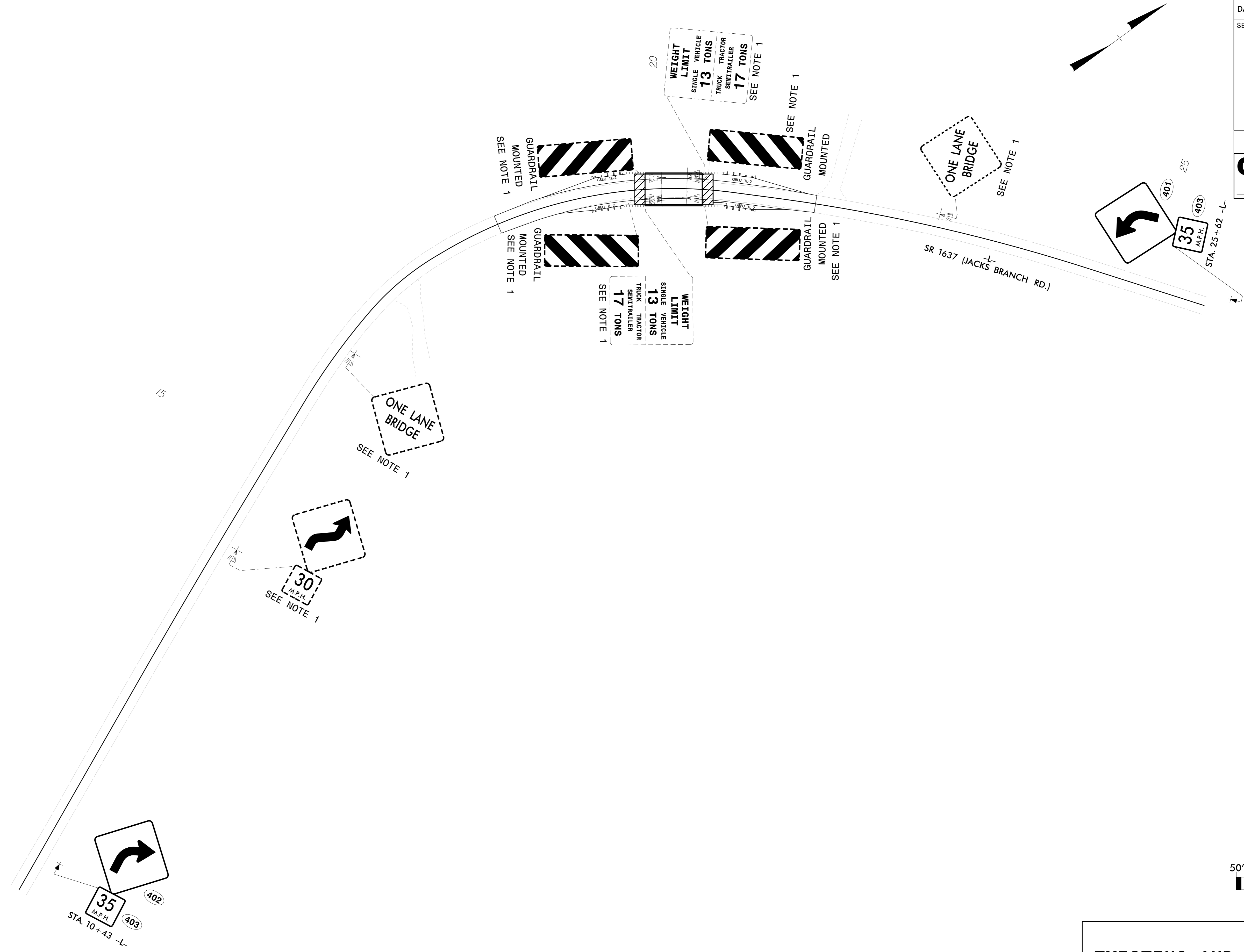
TYPE "E" SIGNS

APPROVED: *Kit A. Persiani*
DATE: 6/21/2024



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CDM Smith
CDM Smith Inc.
4600 Park Road
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255



- NOTES:
1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL

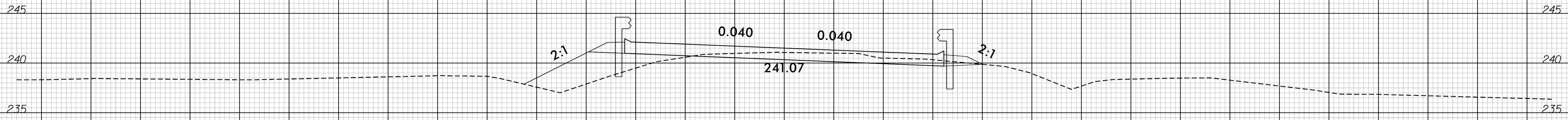
EXISTING AND PROPOSED SIGNS

06/21/24
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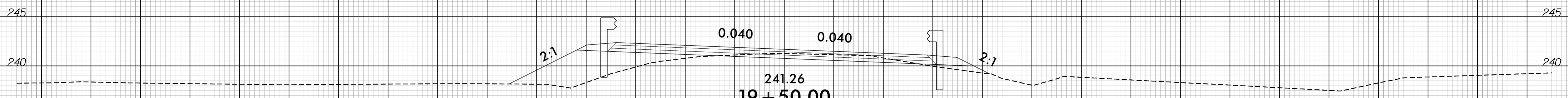
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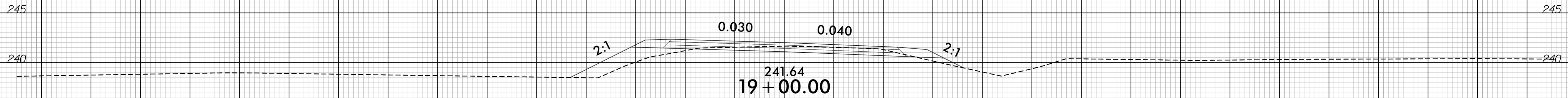
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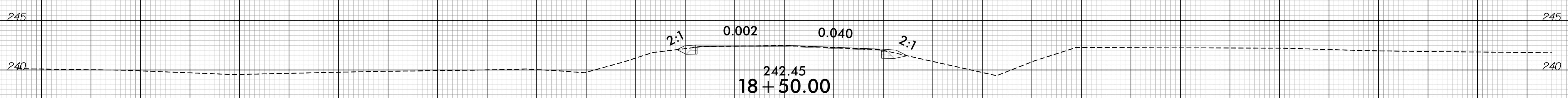
19 + 87.36



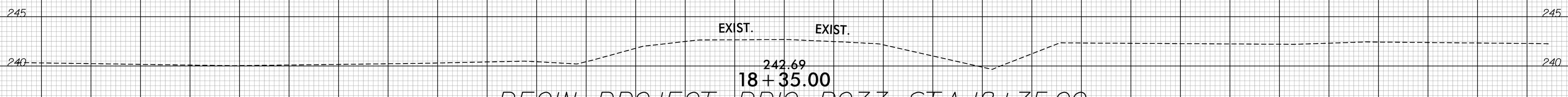
19 + 50.00



19 + 00.00

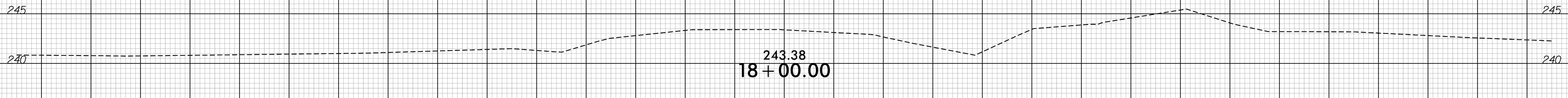


18 + 50.00



18 + 35.00

BEGIN PROJECT BP10-R033 STA. 18+35.00



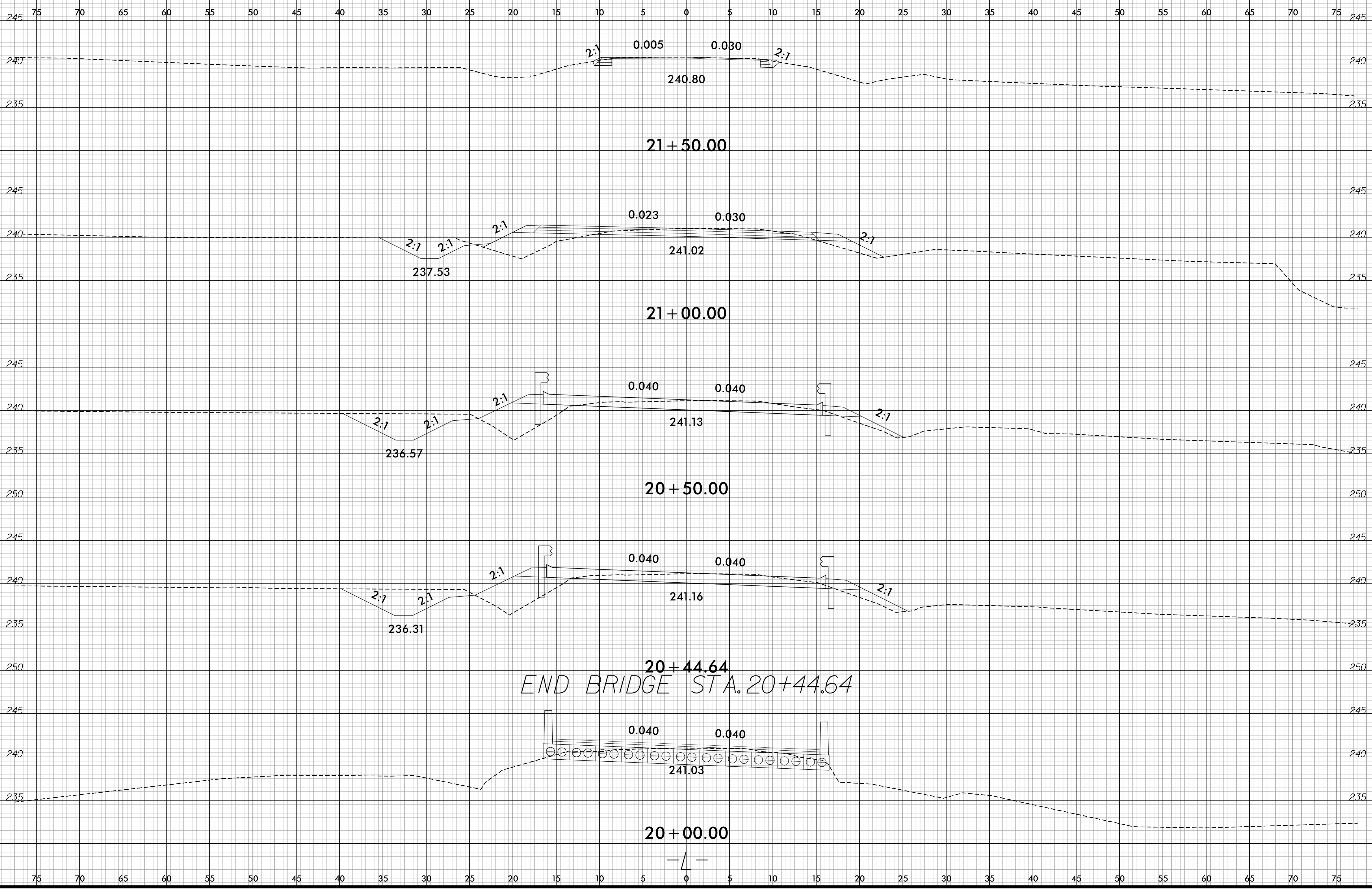
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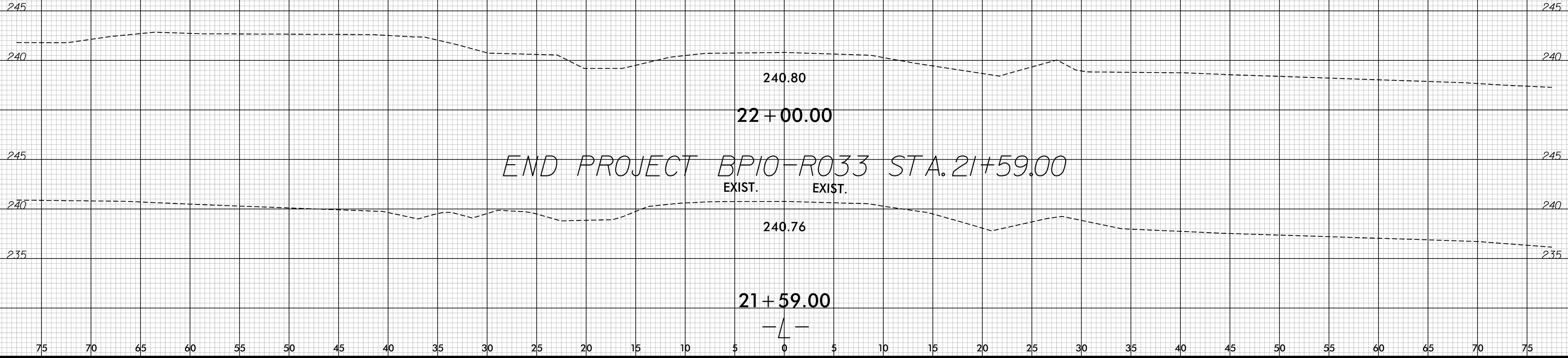
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6/23/16

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