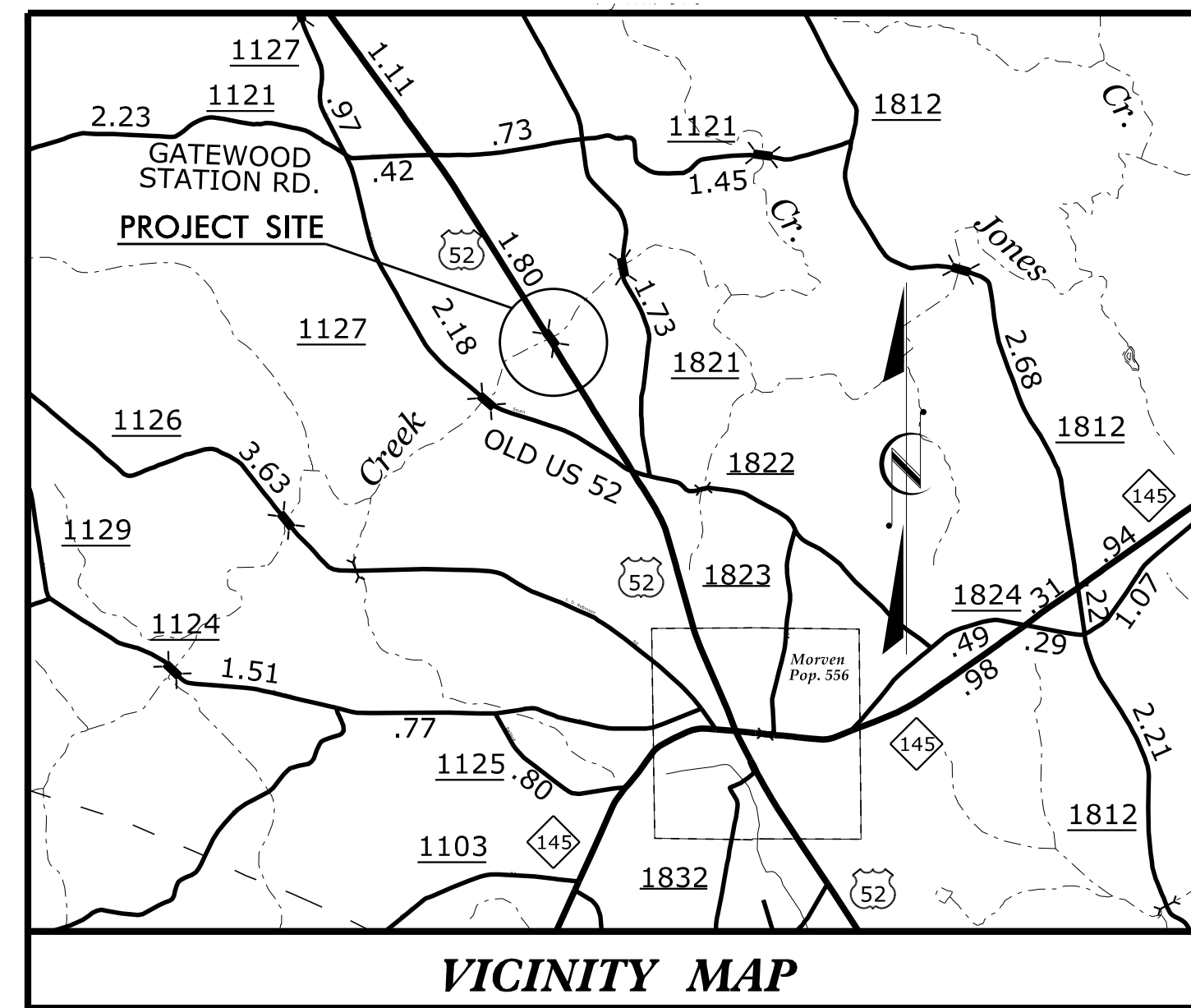
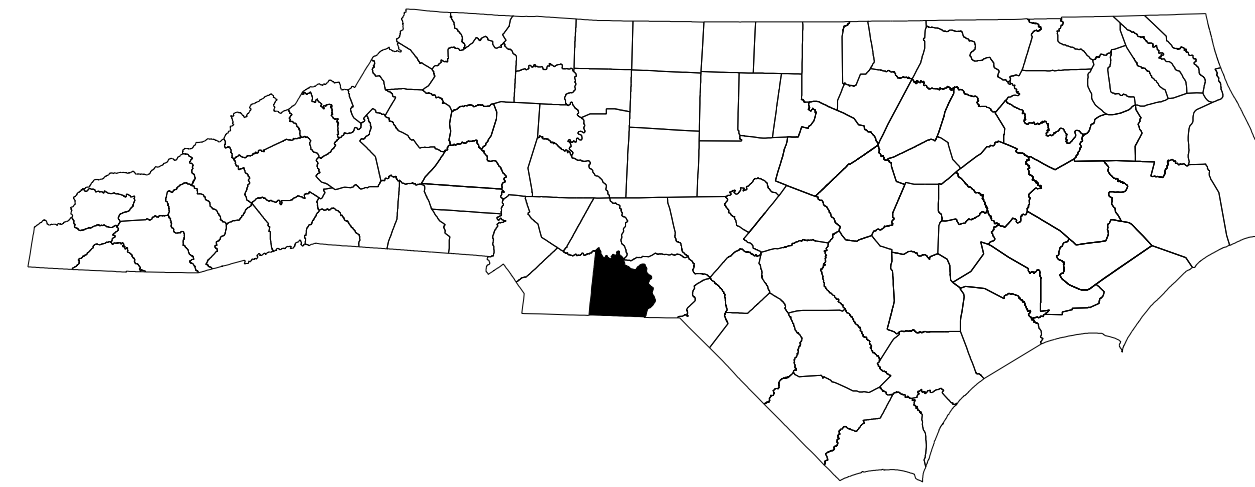


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**ANSON COUNTY**



**LOCATION: REPLACEMENT OF BRIDGE 030014 OVER SOUTH FORK JONES CREEK ON US 52**

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

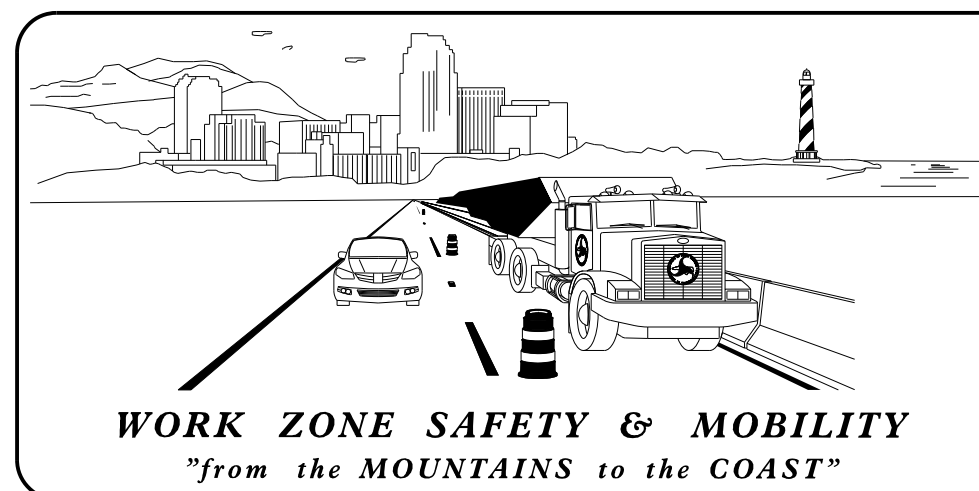
<u>SHEET NO.</u>	<u>TITLE</u>
TMP-01	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-01A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-01B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES)
TMP-02	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
TMP-02A	TEMPORARY SHORING DATA
TMP-03	PHASING
TMP-04	PHASE I DETAIL
TMP-05	PHASE II DETAIL
TMP-06	PHASE III DETAIL
TMP-07 THRU 10	TEMPORARY CUT SECTION DESIGNS

SHEET NO.  
TMP-01

**BR-0062**

**TIP PROJECT:**

2/22/2024 \\wei-fs01\projects\2020\20130\01\_BR-0062\Traffic\Traffic Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_01 Title.dgn User:AHayes

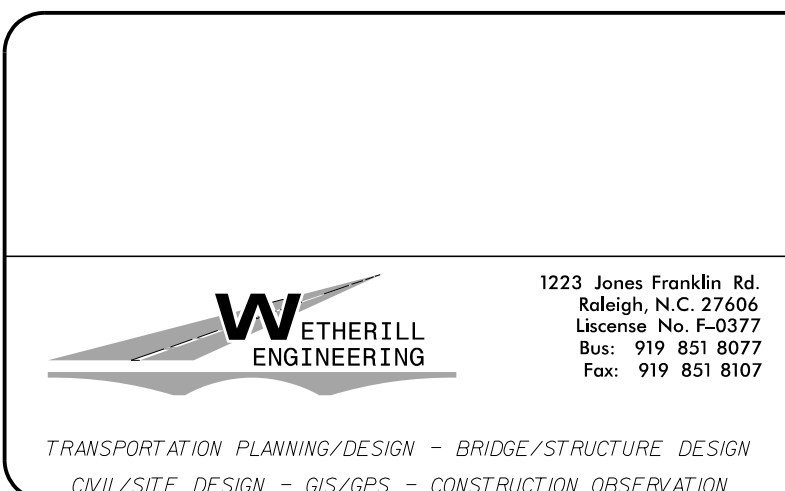


**PLANS PREPARED BY:**  
GREG PURVIS, P.E.  
  
D. ALLEN HAYES, E.I.

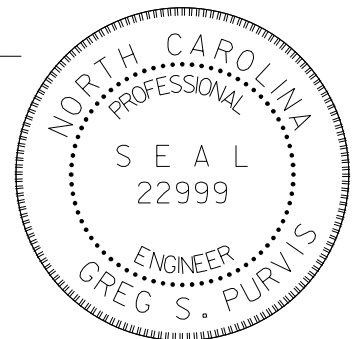
**NCDOT CONTACTS:**  
ZACHARY CLARK, P.E.  
**PROJECT ENGINEER**  
  
**PROJECT DESIGN ENGINEER**



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



**APPROVED:** *Greg S. Purvis*  
**DATE:** 2/23/2024  
  
**SEAL**

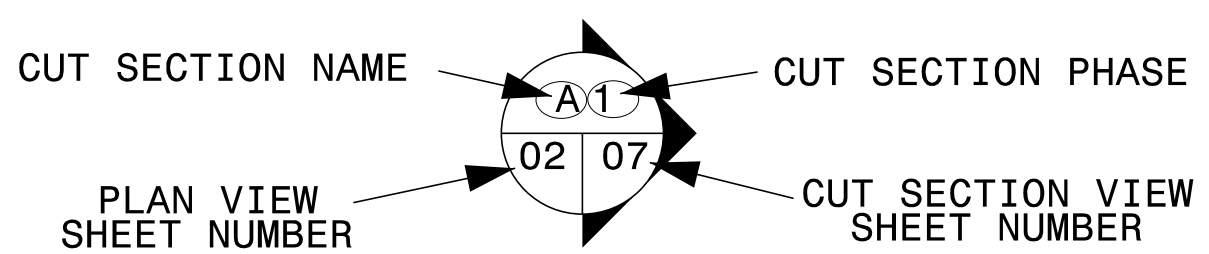


TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

# ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION



# LEGEND

## GENERAL

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

## TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- DRUM

## TEMPORARY SIGNING

- STATIONARY SIGN

## PAVEMENT MARKING SYMBOLS

- EXISTING PAVEMENT MARKING

## PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

## TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION	PAY ITEM
C1	WHITE SOLID EDGE LINE	COLD APPLIED
C13	YELLOW DOUBLE CENTER	COLD APPLIED
P1	WHITE SOLID EDGE LINE	PAINT
P13	YELLOW DOUBLE CENTER	PAINT
MH	YELLOW & YELLOW	TEMPORARY RAISED MARKER

2/22/2024 \\wei-f501\projects\2020\20130101\BR-0062\Traffic\Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_01A\_ Legend.dgn User:AHayes

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

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

APPROVED:   
DATE: 2/23/2024

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

LIST OF APPLICABLE  
ROADWAY STANDARD  
DRAWINGS, AND LEGEND

## 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 UNDESIRABLE 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.

### TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. US 52	6:00 A.M. - 10:00 A.M. 3:00 P.M. - 6:00 P.M. MONDAY THRU FRIDAY

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

1. US 52

HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE DAY AFTER INDEPENDENCE DAY.  
  
IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
1. US 52	6:00 A.M. - 10:00 A.M. 3:00 P.M. - 6:00 P.M. MONDAY THRU FRIDAY	WEDGING, PAVEMENT MARKING, AND SHOULDER CONSTRUCTION OPERATIONS

D) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

### LANE AND SHOULDER CLOSURE REQUIREMENTS

E) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

I) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

J) DO NOT INSTALL MORE THAN 1/2 MI OF LANE CLOSURE ON US 52 MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

K) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON US 52.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

L) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

M) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE OF THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

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

### SIGNING

O) 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.

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

Q) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

### TRAFFIC CONTROL DEVICES

R) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADIUS, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

T) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

### PAVEMENT MARKINGS AND MARKERS

U) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. US 52	PAINT/COLD APPLIED TYPE IV	RAISED

V) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

W) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

X) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

### MISCELLANEOUS

Z) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 500 FT AND 500 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

AA) ALL STATIONS ARE CONSIDERED +/- UNLESS OTHERWISE SHOWN ON THE PLANS.

### TEMPORARY DRAINAGE

BB) WHEN CONSTRUCTING DRAINAGE STRUCTURES ADJACENT TO TRAFFIC, INSTALL TEMPORARY STEEL PLATES, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR MAY WORK EACH LOCATION INDEPENDENTLY OR CONCURRENTLY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

## MANAGEMENT STRATEGIES

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

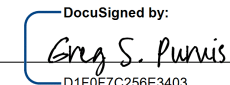
### RECOMMENDED STRATEGIES:

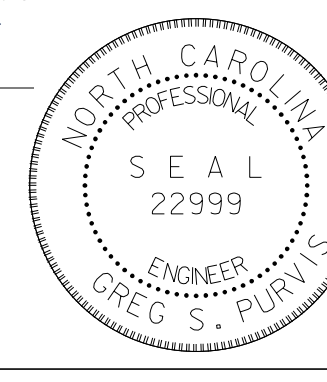
TRAFFIC MANAGEMENT STRATEGIES:  
SHOULDER CLOSURES  
ONE-LANE, TWO WAY OPERATION (FLAGGING)  
WORK HOUR RESTRICTIONS FOR PEAK TRAVEL  
ON-SITE DETOURS

2/22/2024 \\net-f50\projects\2020\20130101\BR-0062\Traffic\Traffic\Pre-Let\Plan\WZTC\BR-0062\_TMP\_01B\_CN.dgn User: AHayes

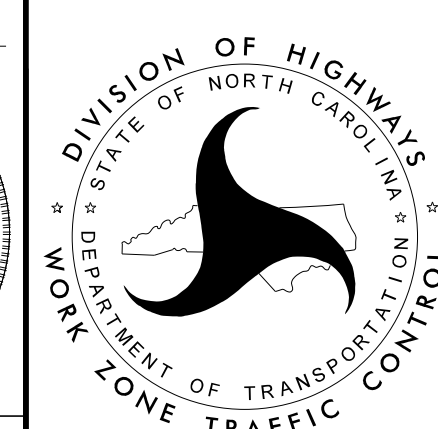


TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

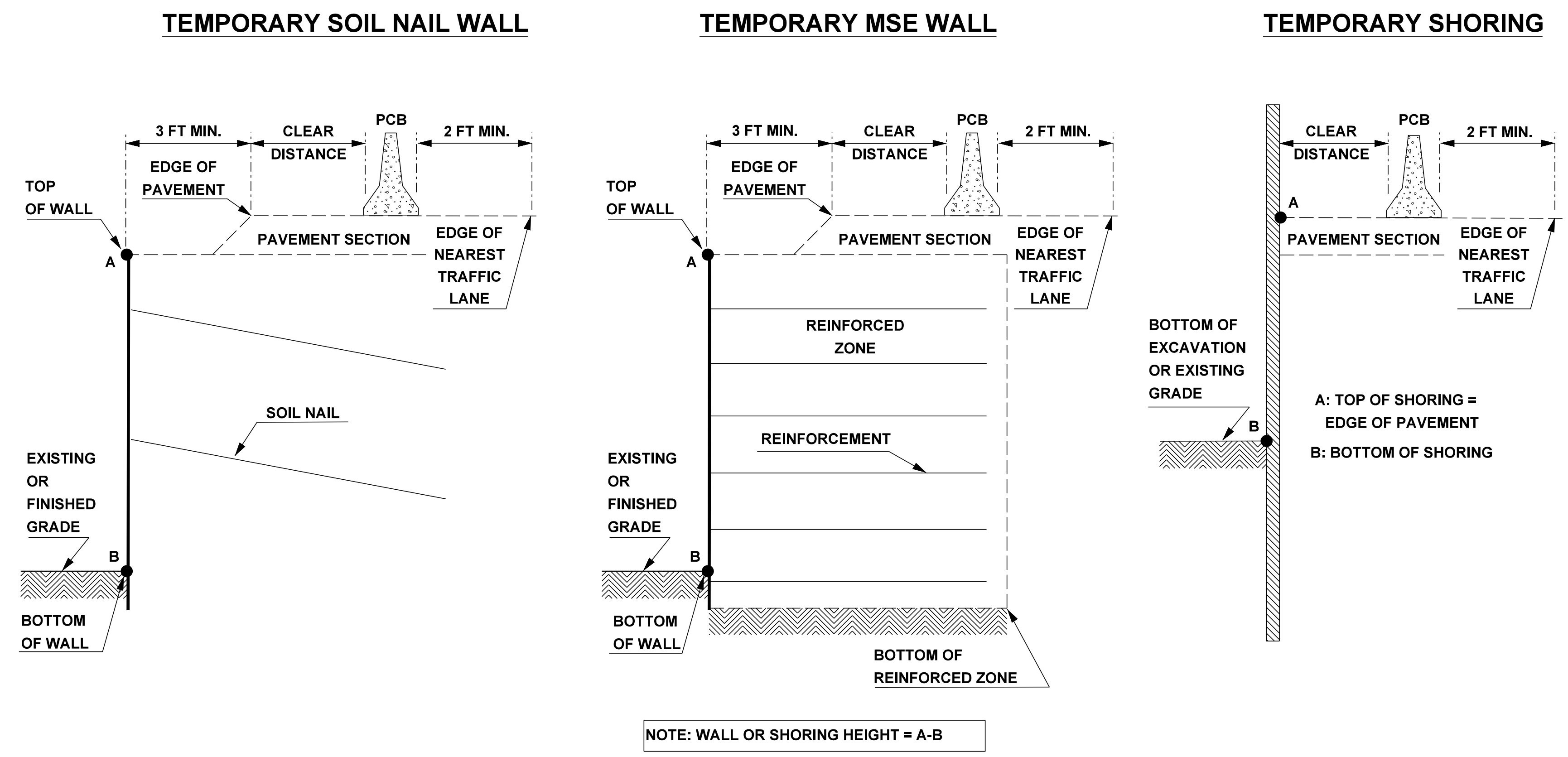
APPROVED:   
DATE: 2/23/2024



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



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



# FIGURE A

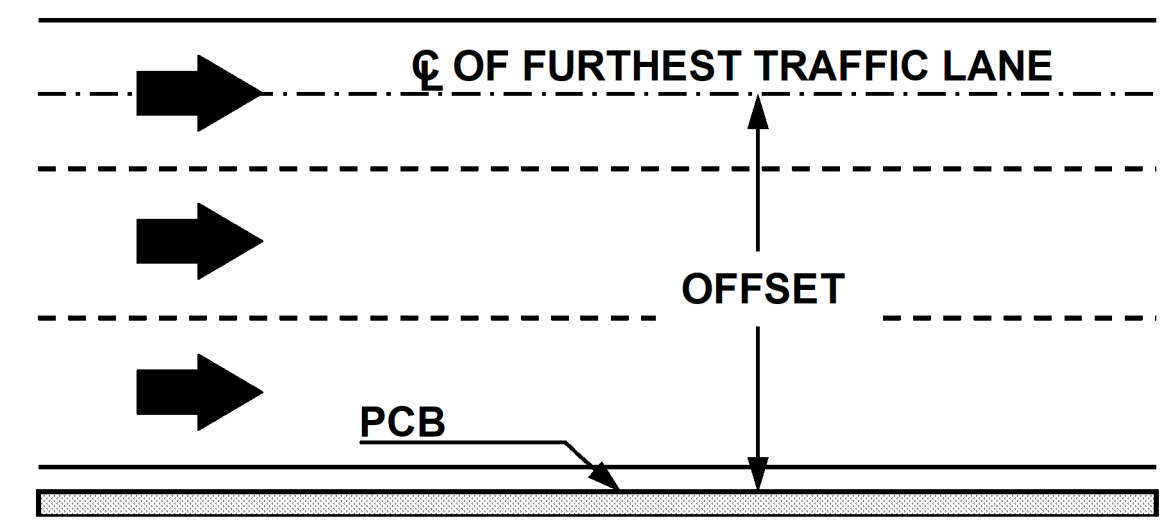
## NOTES

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- 2- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 3- PCB IS REQUIRED IF TEMPORARY SHORING/WALL IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT FOR APPLICABLE PAVEMENT DESIGN).
- 4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING/WALLS EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS OR APPROVED BY THE ENGINEER.
- 8- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THIS MINIMUM REQUIRED DISTANCE IS NOT AVAILABLE, CONTACT THE ENGINEER.
- 9- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS.

**MINIMUM REQUIRED CLEAR DISTANCE, inches**

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph					
			<30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
	44-50	31	35	41	43	46	49	
	50-56	32	36	42	44	47	50	
	>56	32	36	42	45	47	51	
	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
26-32		24	25	27	28	32	35	
32-38		24	26	27	30	33	36	
38-44		25	26	28	30	34	37	
44-50	26	26	28	32	35	37		
50-56	26	26	28	32	35	38		
>56	26	27	29	32	36	38		
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

\* See Figure Below



# FIGURE B

2/22/2024 \\wei-f501\projects\2020\20130101\BR-0062\Traffic\Traffic Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_02\_Ts.dgn User:AHayes

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

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

APPROVED: *Greg S. Purvis*  
 DATE: 2/23/2024

**NORTH CAROLINA PROFESSIONAL SEAL 22999**  
 ENGINEER GREG S. PURVIS

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



**PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS**

# Shoring Location Nos. ① and ②

TEMPORARY SHORING FROM STATION 16+21 -DET-, 25.2' LT TO STATION 16+66 -DET-, 21.6' LT AND FROM STATION 17+93 -DET-, 21.6' LT TO STATION 18+51 -DET-, 24.8' LT, MAYBE BE REQUIRED FOR THE CONSTRUCTION OF THE DETOUR ALIGNMENT AND NEW ALIGNMENT.

AT THE CONTRACTORS OPTION, A TEMPORARY 1.5:1 (H:V) SLOPE CAN BE USED INSTEAD OF TEMPORARY SHORING.

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

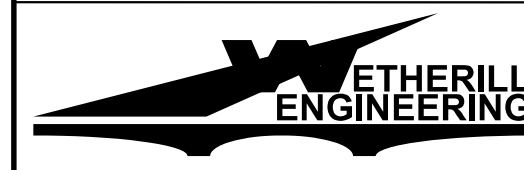
DESIGN TEMPORARY SHORING FROM STATION 16+21 -DET-, 25.2' LT TO STATION 16+66 -DET-, 21.6' LT AND FROM STATION 17+93 -DET-, 21.6' LT TO STATION 18+51 -DET-, 24.8' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT ( $\gamma$ ) = 120 PCF
- FRICTION ANGLE ( $\phi$ ) = 30 DEGREES
- COHESION (c) = 0 PSF
- GROUNDWATER ELEVATION = 227 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 16+21 -DET-, 25.2' LT TO STATION 16+66 -DET-, 21.6' LT AND FROM STATION 17+93 -DET-, 21.6' LT TO STATION 18+51 -DET-, 24.8' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

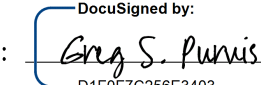
AT THE CONTRACTOR'S OPTION, USE STANDARD SHORING FOR TEMPORARY SHORING FROM STATION 16+21 -DET-, 25.2' LT TO STATION 16+66 -DET-, 21.6' LT AND FROM STATION 17+93 -DET-, 21.6' LT TO STATION 18+51 -DET-, 24.8' LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING AND DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.


5/8/2024  
\\wei-fs01\projects\2020\20130101\BR-0062\Traffic Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_02A\_TSD.dgn  
User: AHayes



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

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

APPROVED:   
DATE: 5/8/2024



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



TEMPORARY SHORING DATA

# PHASING

## PHASE I

STEP 1) USING ROADWAY STANDARD DRAWING (RSD) 1101.01, INSTALL ALL ADVANCE WARNING SIGNING ON PROJECT.

STEP 2) USING RSD 1101.02 AS NEEDED, CONSTRUCT -DET-, INCLUDING TEMPORARY SHORING. THEN, INSTALL TEMPORARY PAVEMENT MARKINGS (PAINT) ONLY ON THE TEMPORARY ROADWAY.

## PHASE II

STEP 1) USING RSD 1101.02, INSTALL TEMPORARY PAVEMENT MARKINGS AND MARKERS ON APPROACHES, AND ANY SIGNING REQUIRED. THEN, STOPPING TRAFFIC AS NEEDED, REMOVE ANY CONFLICTING MARKINGS AND INSTALL REMAINING TEMPORARY PAVEMENT MARKINGS (COLD APPLIED, TYPE IV), AND SHIFT TRAFFIC ONTO -DET-.

STEP 2) AWAY FROM TRAFFIC, CONSTRUCT -L- FROM STA. 13+50 +/- -L- TO STA. 23+00 +/- -L- UP TO AND INCLUDING THE FINAL LIFT OF SURFACE COURSE, INCLUDING TEMPORARY PAVEMENT MARKINGS AND MARKERS.

USING RSD 1101.02 AS NEEDED, WIDEN -L- UP TO THE EXISTING ELEVATION AS FOLLOWS:

- L- 'LEFT' FROM STA. 12+10 +/- -L- TO STA. 13+50 +/- -L-
- L- 'LEFT' FROM STA. 23+00 +/- -L- TO STA. 24+75 +/- -L-
- L- 'RIGHT' FROM STA. 13+15 +/- -L- TO STA. 13+50 +/- -L-
- L- 'RIGHT' FROM STA. 23+00 +/- -L- TO STA. 23+32 +/- -L-

## PHASE III

STEP 1) IN A CONTINUOUS MANNER AND USING RSD 1101.02, COMPLETE IN THE FOLLOWING ORDER:

- REMOVE CONFLICTING TEMPORARY PAVEMENT MARKINGS (COLD APPLIED, TYPE IV)
- WEDGE -L- UP TO BUT NOT INCLUDING THE FINAL LIFT OF SURFACE COURSE FROM STA. 12+10 -L- TO STA. 13+50 -L- AND FROM STA. 23+00 -L- TO STA. 24+75 -L-
- INSTALL PHASE III TEMPORARY MARKINGS (PAINT)
- SHIFT -L- TRAFFIC TO THE PHASE III PATTERN

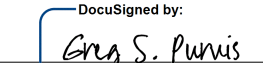
STEP 2) USING RSD 1101.02 AS NEEDED, REMOVE -DET- AS SHOWN AND CONSTRUCT ANY REMAINING SHOULDER ON -L-.

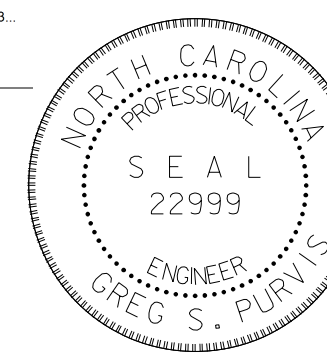
STEP 3) USING RSD 1101.02, REMOVE ALL REMAINING TEMPORARY PAVEMENT MARKINGS (COLD APPLIED, TYPE IV) AND INSTALL THE FINAL LIFT OF SURFACE COURSE, FINAL PAVEMENT MARKINGS AND MARKERS, REMOVE ANY REMAINING TRANSPORTATION MANAGEMENT DEVICES AND SIGNING, AND OPEN -L- TO THE FINAL TRAFFIC PATTERN.

2/22/2024 \\wei-f501\projects\2020\20130101\BR-0062\Traffic\Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_03 Phasing.dgn User:AHayes

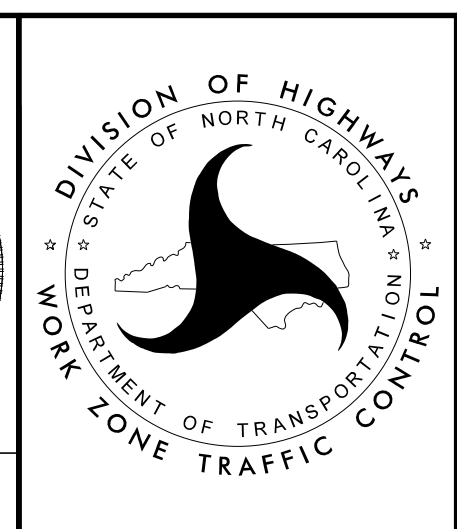


TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED:   
DATE: 2/23/2024



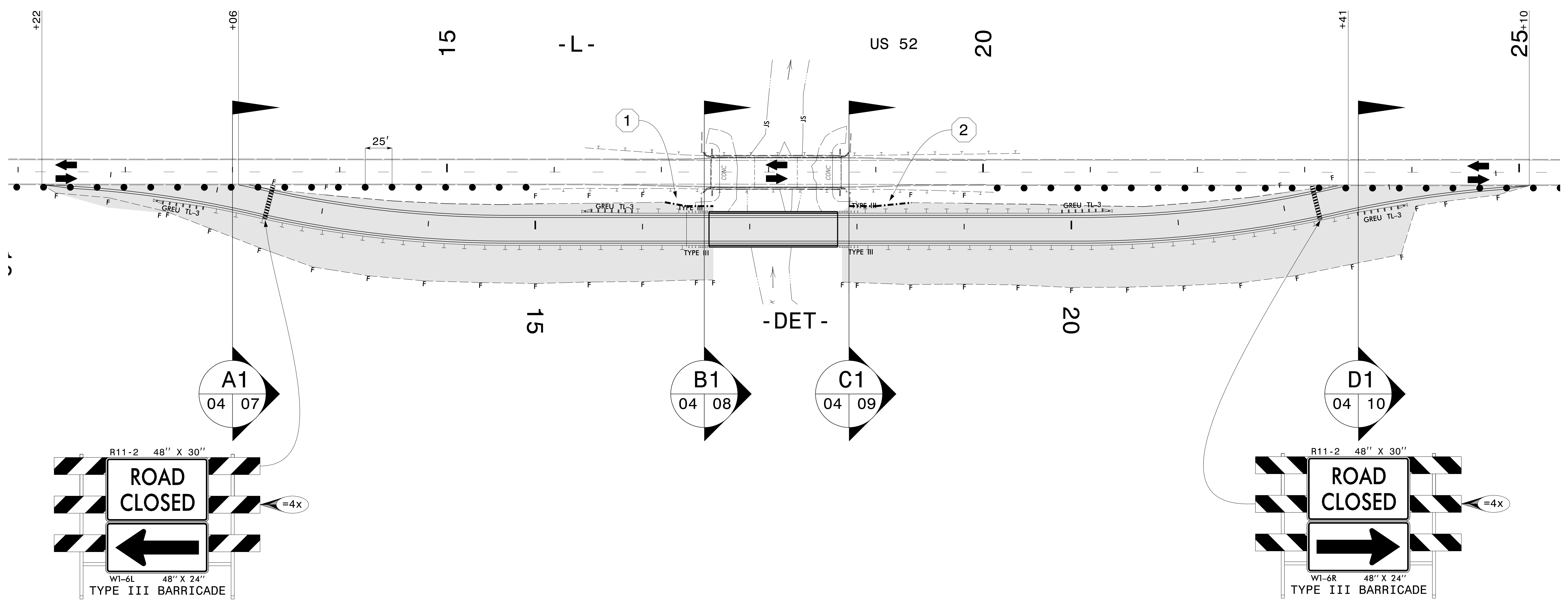
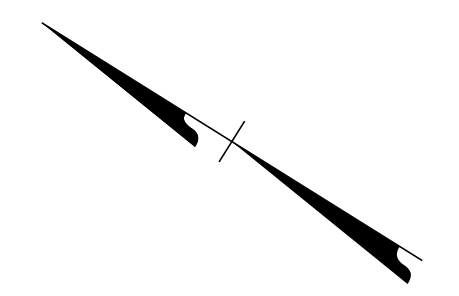
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



# PHASING

1 QUANTITY = 180.0 SF  
 TEMPORARY SHORING  
 FROM STA. 16+21 -DET-, 25.2' LT OF CL  
 TO STA. 16+66 -DET-, 21.6' LT OF CL  
 (SEE SHEET TMP-02A FOR  
 TEMPORARY SHORING DATA)

2 QUANTITY = 240.0 SF  
 TEMPORARY SHORING  
 FROM STA. 17+93 -DET-, 21.6' LT OF CL  
 TO STA. 18+51 -DET-, 24.8' LT OF CL  
 (SEE SHEET TMP-02A FOR  
 TEMPORARY SHORING DATA)



6/4/2024  
 \\wei-fs01\projects\2020\2030\01\BR-0062\Traffic\Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_04\_Phi.dgn  
 User: AHayes

NOTES:  
 1) REFER TO RSD 1101.03, SHEET 3 FOR GENERAL NOTES AND OTHER INFORMATION.

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

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

APPROVED: *Greg S. Purvis*  
DocuSigned by: Greg S. Purvis  
 D1F0F7C29E83403

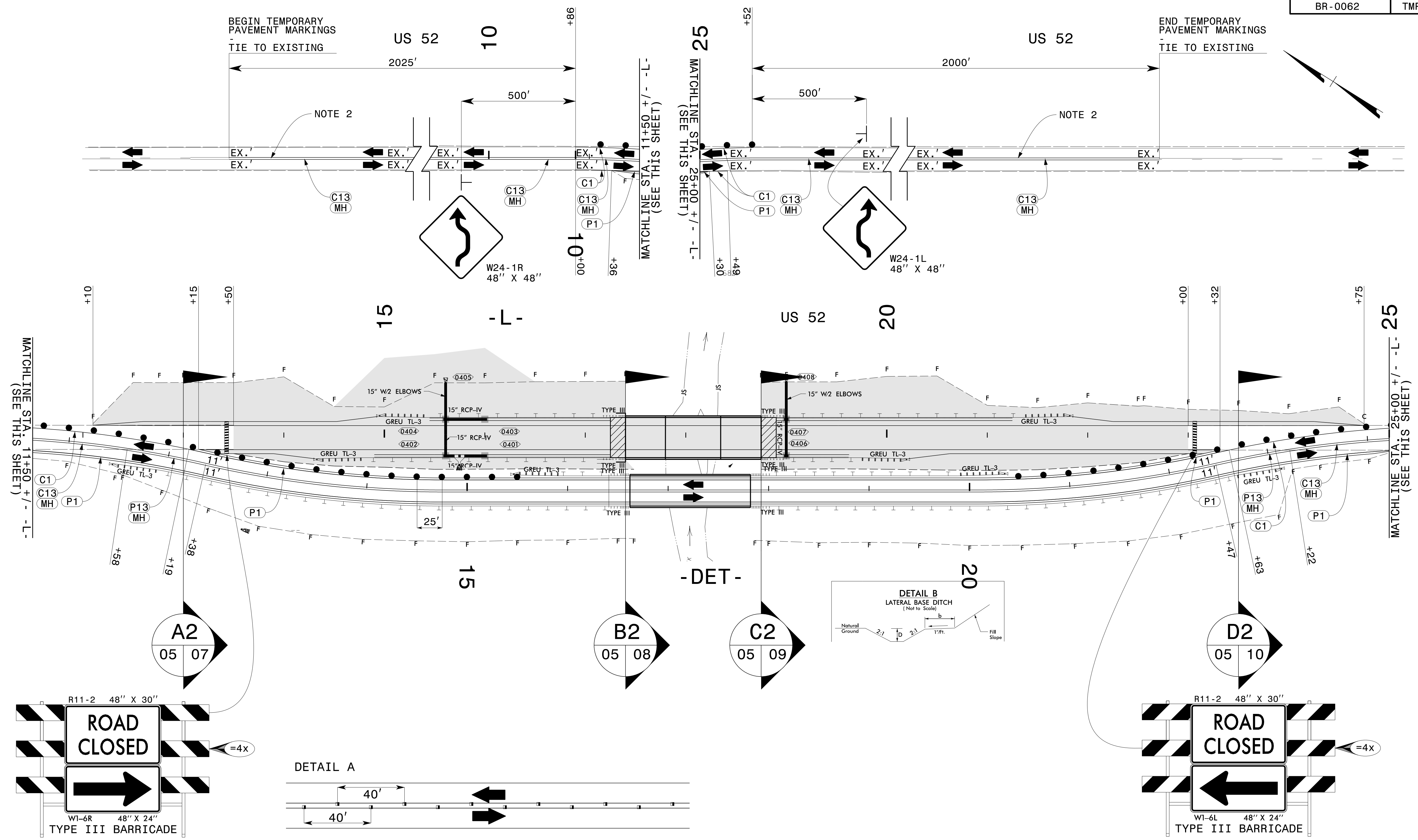
DATE: 6/4/2024

**NORTH CAROLINA PROFESSIONAL SEAL**  
 ENGINEER  
 GREG S. PURVIS

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



PHASE I DETAIL



- NOTES:**
- REFER TO RSD 1101.03, SHEET 3 FOR GENERAL NOTES AND OTHER INFORMATION.
  - INSTALL DOUBLE YELLOW CENTER LINE ON WEST AND EAST APPROACHES, AND TIE TO EXISTING DOUBLE YELLOW CENTER. INSTALL TEMPORARY YELLOW/YELLOW MARKERS AT 40' SPACING OVERLAPPING THE PAVEMENT MARKINGS TO HELP IT TO REMAIN IN PLACE (REFER TO DETAIL A).

**ETHERILL ENGINEERING**

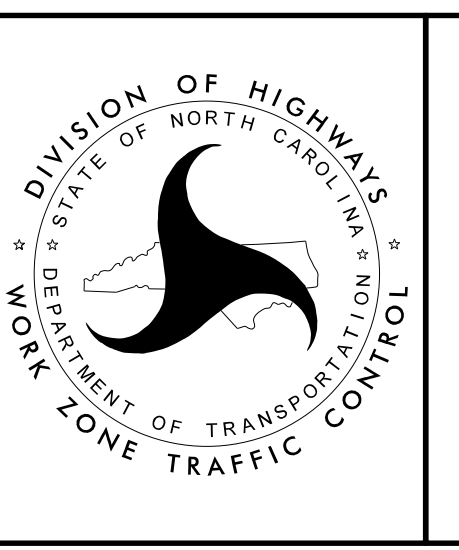
1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

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

APPROVED: *Greg S. Purvis*  
DATE: 2/23/2024

**NORTH CAROLINA PROFESSIONAL SEAL**  
ENGINEER  
GREG S. PURVIS

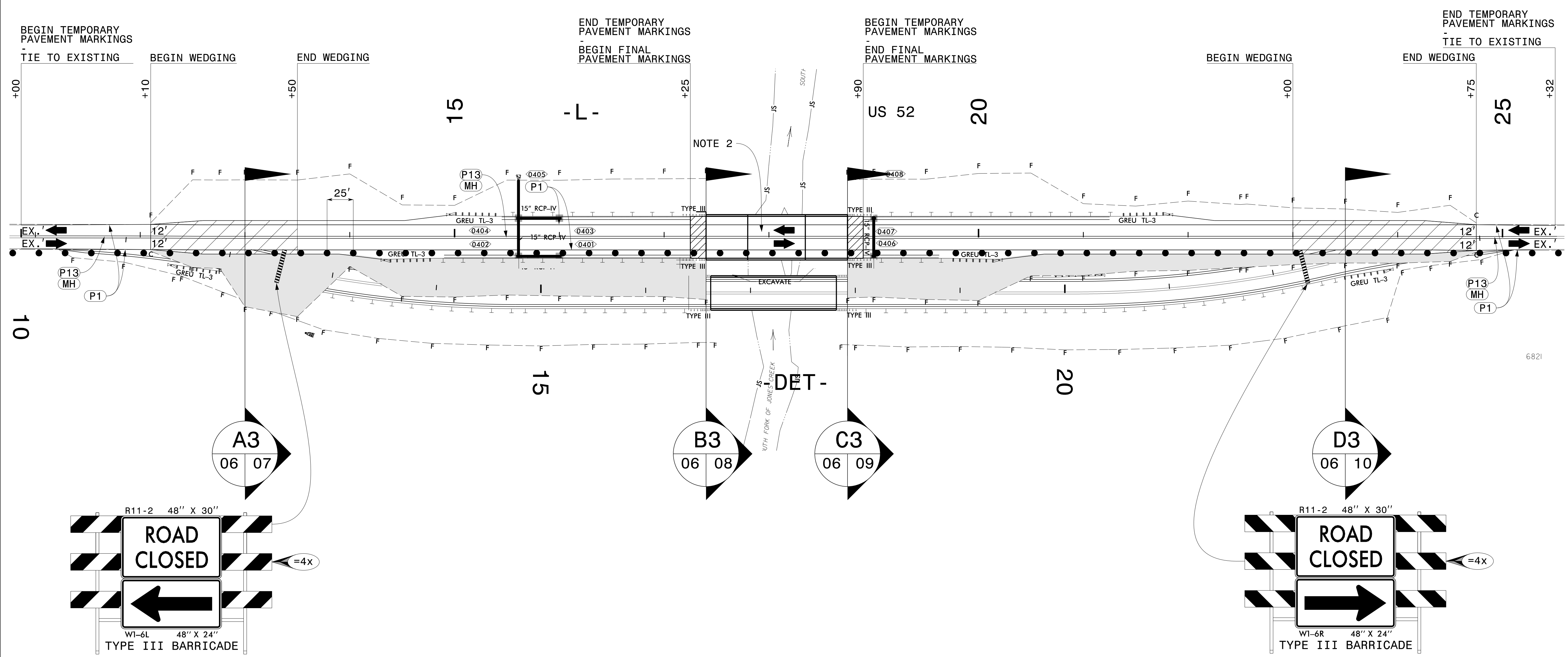
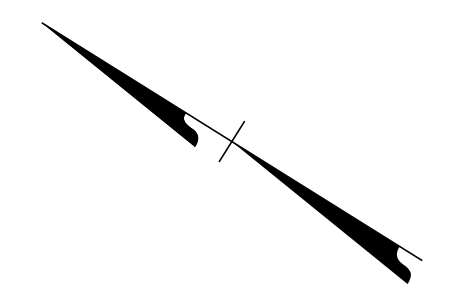
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



**PHASE II DETAIL**

2/22/2024 \\wei-f50\projects\2020\20130101\BR-0062\Traffic\Design\Pre-Let\Plan\WZTC\BR-0062\_TMP-05\_Phil.dgn User: AHayes





NOTES:  
 1) REFER TO RSD 1101.03, SHEET 3 FOR GENERAL NOTES AND OTHER INFORMATION.  
 2) REFER TO FINAL PAVEMENT MARKING PLAN FOR FINAL PAVEMENT MARKINGS AND MARKERS APPLIED TO THE BRIDGE DECK AND APPROACH SLABS.

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

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

APPROVED: *Greg S. Purvis*  
DocuSigned by:  
Greg S. Purvis  
01F07C26E3403...

DATE: 2/23/2024

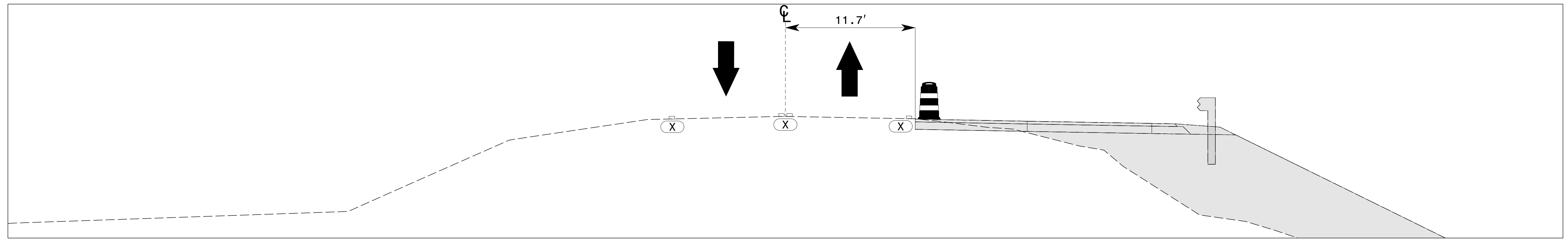
**NORTH CAROLINA PROFESSIONAL SEAL**  
 ENGINEER  
 GREG S. PURVIS

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

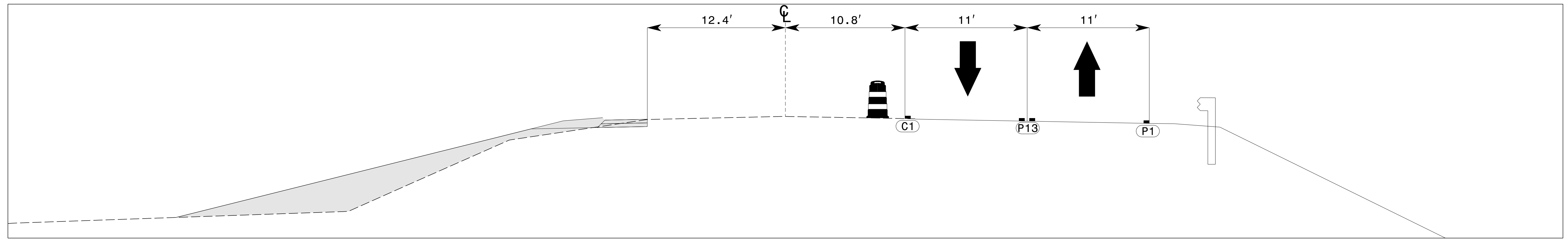


PHASE III DETAIL

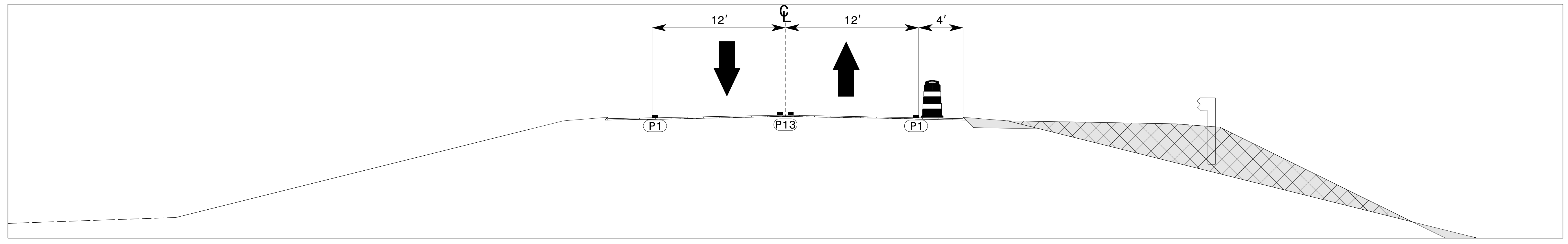
2/22/2024  
 \\wei-f501\projects\2020\20130101\BR-0062\Traffic\Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_06\_Phill.dgn  
 User: AHayes



**A1**  
04 | 07  
STA. 13+00 -L-  
CUT SECTION

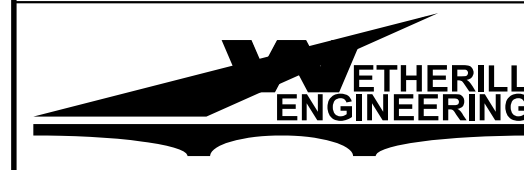


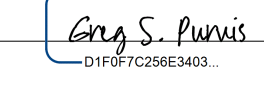
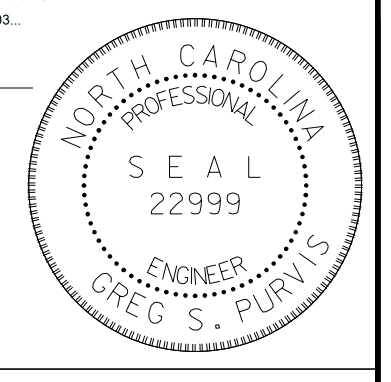
**A2**  
05 | 07  
STA. 13+00 -L-  
CUT SECTION

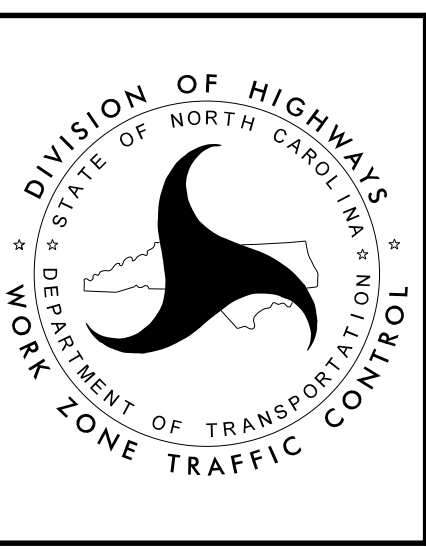


**A3**  
06 | 07  
STA. 13+00 -L-  
CUT SECTION

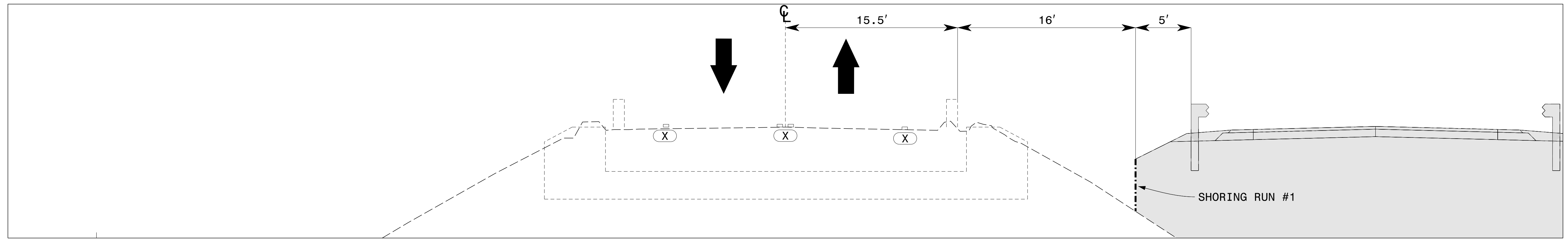
2/22/2024  
 \\wei-f501\projects\2020\20130101\BR-0062\Traffic Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_07\_TCS\_A.dgn  
 User: AHayes


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

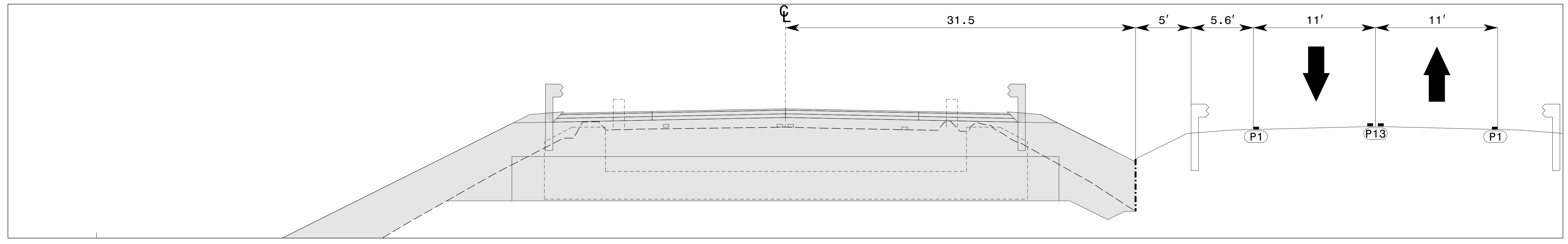
APPROVED:   
 DATE: 2/23/2024  
  
**DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED**



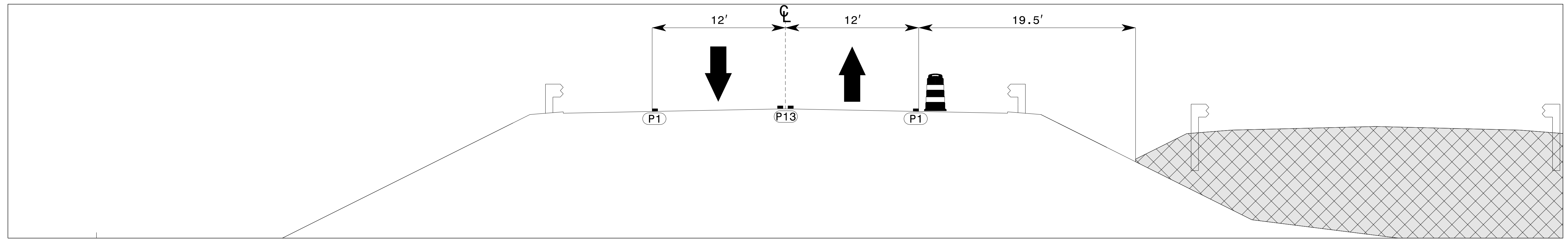
**TEMPORARY CUT SECTION A**



**B1**  
04 | 08  
STA. 17+40 -L-  
CUT SECTION

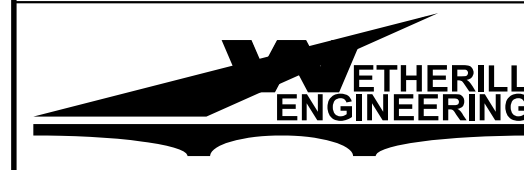


**B2**  
05 | 08  
STA. 17+40 -L-  
CUT SECTION



**B3**  
06 | 08  
STA. 17+40 -L-  
CUT SECTION

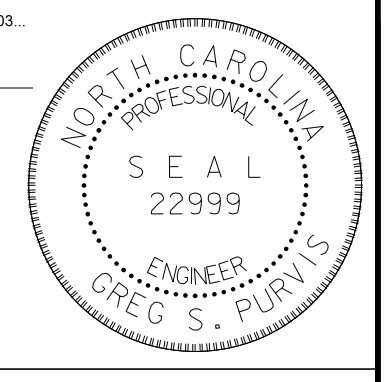
6/4/2024  
\\wei-fs01\projects\2020\20130101\BR-0062\Traffic Design\Pre-Let\Plan\WZTC\Traffic Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_08\_TCS\_B.dgn  
User: AHayes



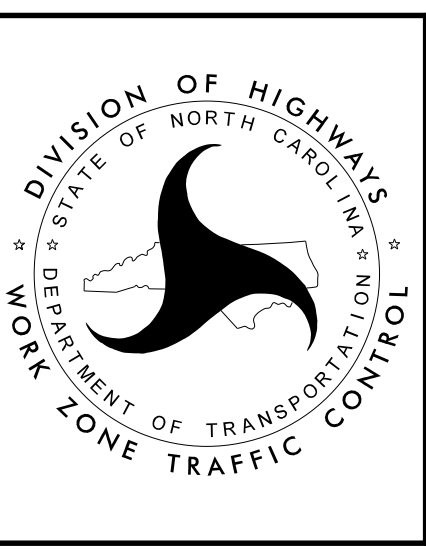
1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

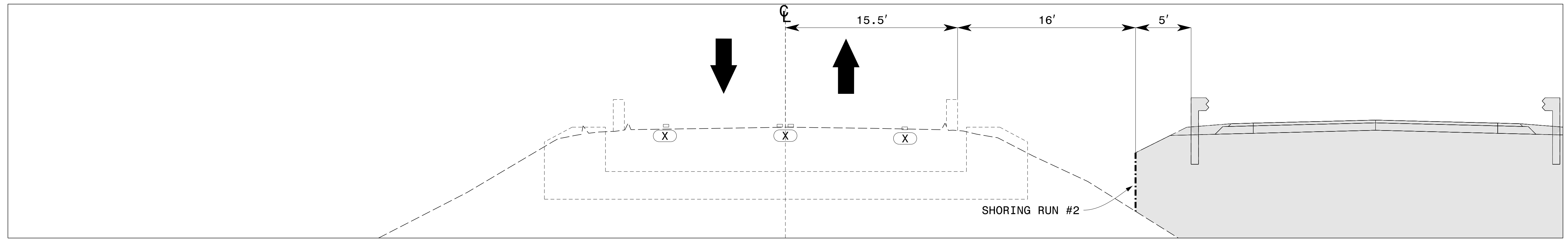
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: *Greg S. Purvis*  
DATE: 6/4/2024

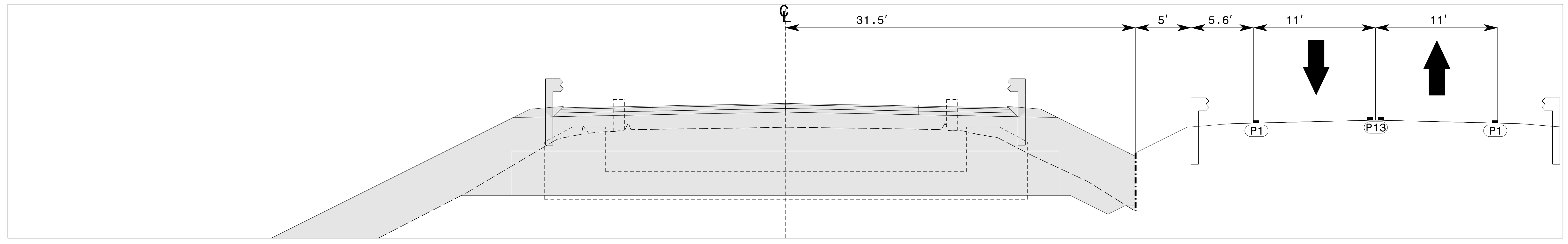


**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

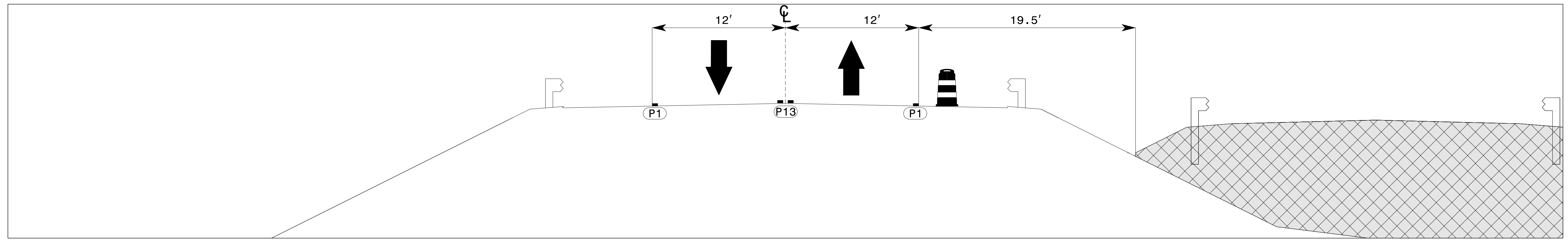




**C1**  
04 | 09  
STA. 18+75 -L-  
CUT SECTION



**C2**  
05 | 09  
STA. 18+75 -L-  
CUT SECTION



**C3**  
06 | 09  
STA. 18+75 -L-  
CUT SECTION

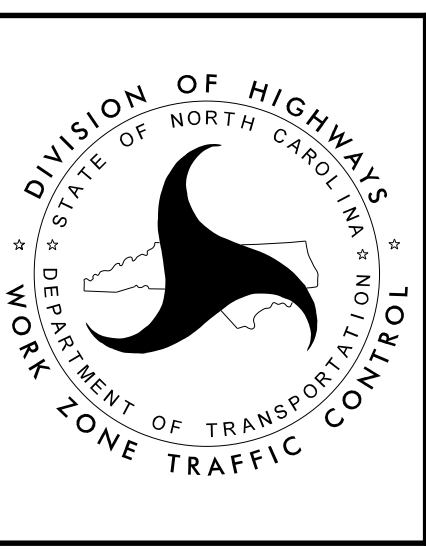
6/4/2024  
\\wei-fs01\projects\2020\20130101\BR-0062\Traffic Design\Pre-Let\Plan\WZTC\Traffic\BR-0062\_TMP\_09\_TCS\_C.dgn  
User: AHayes

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

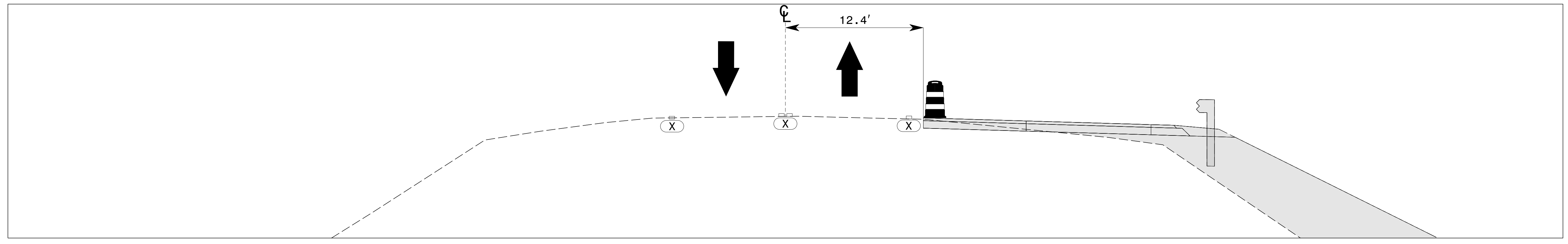
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: *Greg S. Purvis*  
DATE: 6/4/2024

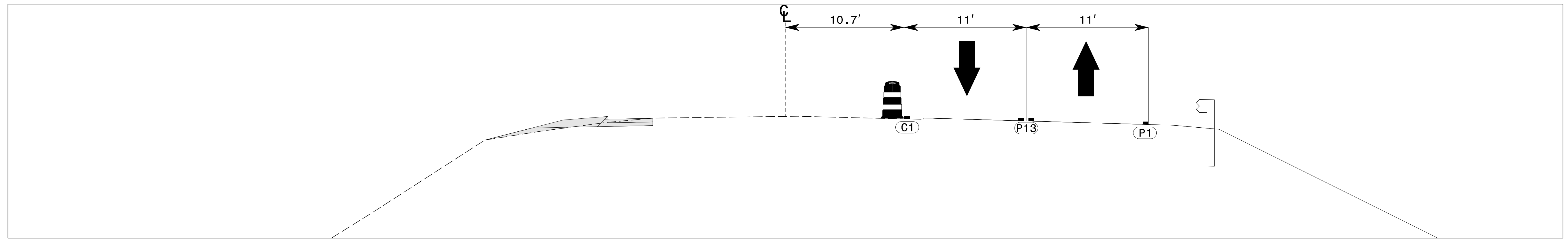
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



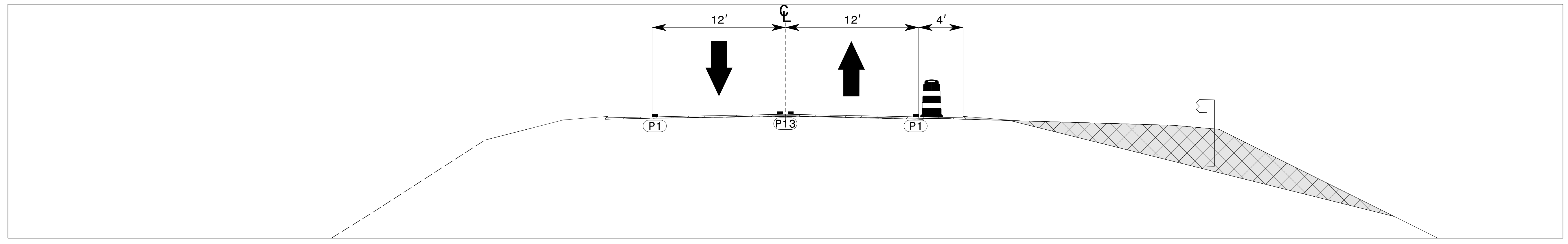
**TEMPORARY CUT SECTION C**



**D1**  
04 | 10  
STA. 23+50 -L-  
CUT SECTION

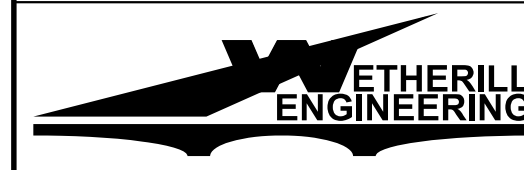


**D2**  
05 | 10  
STA. 23+50 -L-  
CUT SECTION



**D3**  
06 | 10  
STA. 23+50 -L-  
CUT SECTION

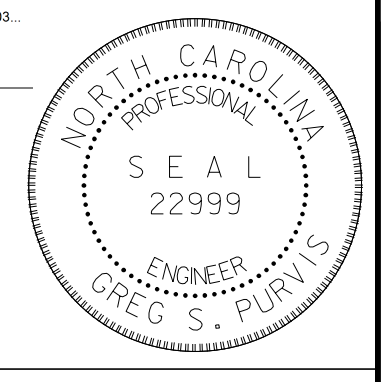
2/22/2024  
\\wei-f501\projects\2020\20130101\BR-0062\Traffic\Design\Pre-Let\Plan\WZTC\BR-0062\_TMP\_10\_TCS\_D.dgn  
User: AHayes



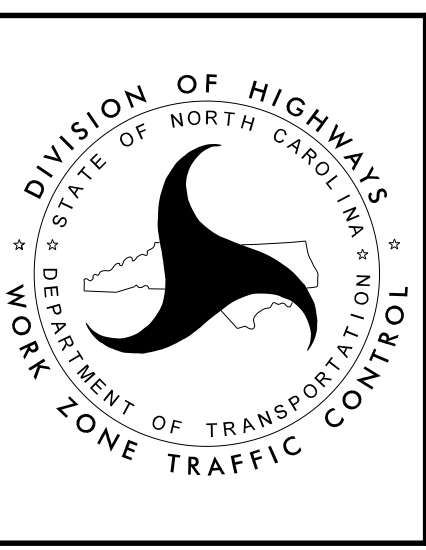
1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

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

APPROVED: *Greg S. Purvis*  
DATE: 2/23/2024



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



TEMPORARY CUT SECTION D