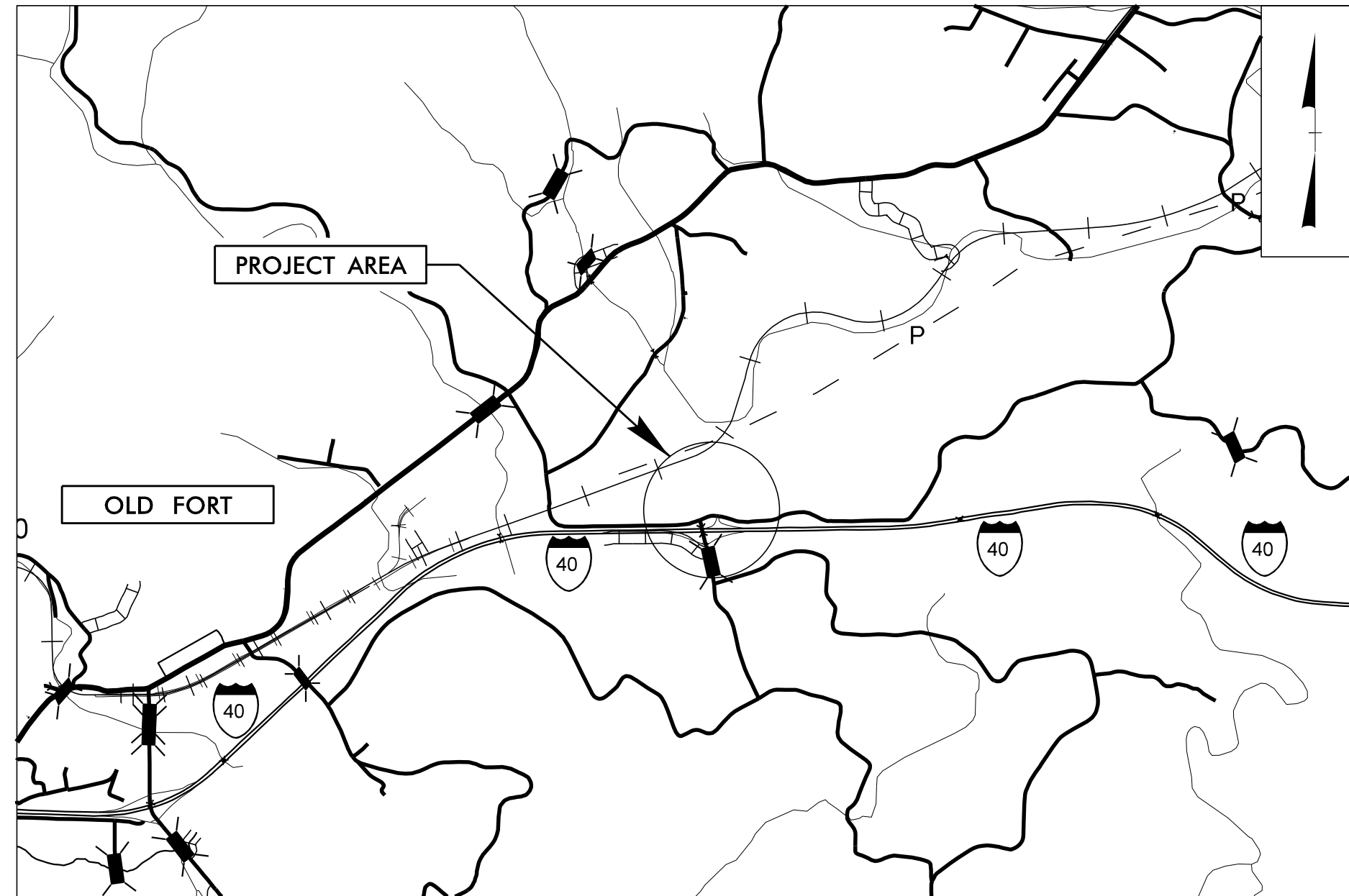


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**MCDOWELL COUNTY**



**VICINITY MAP**

LOCATION: REPLACE BRIDGE NO. 84 ON SR 1234  
(PARKER PADGETT RD.) OVER I-40  
TYPE OF WORK: GRADING, DRAINAGE, PAVING, & STRUCTURE

**INDEX OF SHEETS**

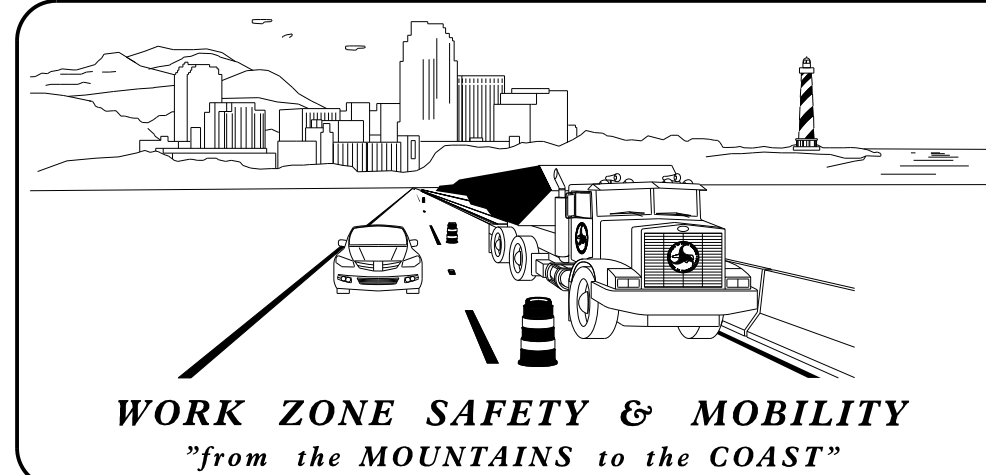
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B-1C	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)
TMP-2	TEMPORARY SHORING DATA
TMP-2A	RAMP D OFFSITE DETOUR DETAILS
TMP-2B	RAMP C OFFSITE DETOUR DETAILS
TMP-2C	I-40 CLOSURE FOR GIRDERS/BRIDGE DEMOLITION DETAILS
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4 THRU TMP-7	PHASE I DETAILS
TMP-8	PHASE II DETAILS

SHEET NO.  
TMP-1

**BR-0033**

**TIP PROJECT:**

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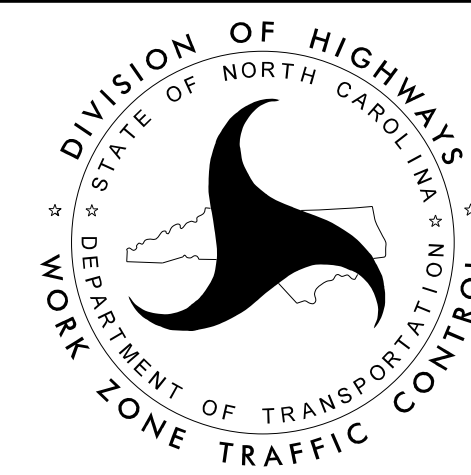
PLANS PREPARED BY:

M. A. AKLILU

NCDOT CONTACTS:

DON PARKER, P.E.  
PROJECT ENGINEER

KARMEN DAIS, P.E.  
PROJECT DESIGN ENGINEER



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

APPROVED: Don A. Parker

DATE: 01/11/2022

SEAL



# ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	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
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMP
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1205.15	PAVEMENT MARKINGS - SUPERSTREETS
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
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

# LEGEND

## GENERAL

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

## SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

## PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

- P1 - PAINT - WHITE EDGELINE - (4")
- P2 - PAINT - WHITE SOLID LANE LINE - (4")
- P5 - PAINT - 2 FT- 6 FT WHITE MINISKIP - (4")
- P10 - PAINT - YELLOW EDGELINE - (4")
- P13 - PAINT - YELLOW DOUBLE CENTER - (4")
- P20 - PAINT - WHITE EDGELINE - (6")
- P21 - PAINT - WHITE SOLID LANE LINE - (6")
- P30 - PAINT - YELLOW EDGELINE - (6")
- P42 - PAINT - YELLOW DIAGONAL - (8")
- P50 - PAINT - WHITE GORELINE (12")
- P61 - PAINT - WHITE STOPBAR - (24")
- P70 - PAINT - LEFT TURN ARROW
- P80 - PAINT - WRONG-WAY RAMP ARROW
- C1(IV) - COLD APPLIED PLASTIC (TYPE 4) - WHITE EDGELINE - (4")
- C2(IV) - COLD APPLIED PLASTIC (TYPE 4) - WHITE SOLID LANE LINE - (4")
- C4(IV) - COLD APPLIED PLASTIC (TYPE 4) - 3 FT- 9 FT WHITE MINISKIP - (4")
- C13(IV) - COLD APPLIED PLASTIC (TYPE 4) - YELLOW DOUBLE CENTER - (4")
- C70(IV) - COLD APPLIED PLASTIC (TYPE 4) - LEFT TURN ARROW
- MM - MARKER - TEMPORARY RAISED (CRYSTAL & CRYSTAL)

## TRAFFIC CONTROL DEVICES

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

## TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

## PAVEMENT MARKERS

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

## PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

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APPROVED: DATE: 01/11/2022			<h3>ROADWAY STANDARD DRAWINGS &amp; LEGEND</h3>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

# MANAGEMENT STRATEGIES

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

**RECOMMENDED STRATEGIES:**

**TRAFFIC MANAGEMENT STRATEGIES:**

- ROLLING ROADBLOCK
- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- NIGHT WORK
- WEEKEND WORK
- WORK HOUR RESTRICTIONS FOR PEAK TRAVEL
- OFF-SITE DETOURS

## GENERAL NOTES / LOCAL 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.

**TIME RESTRICTIONS**

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

ROAD NAME	DAY AND TIME RESTRICTIONS
I-40	SUNDAY-SATURDAY 6:00 AM - 7:00 PM

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

ROAD NAME
I-40

**HOLIDAY**

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 AM DECEMBER 31st TO 7:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 PM THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 AM THURSDAY AND 7:00 PM MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY TO 7:00 PM TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 AM THE DAY BEFORE INDEPENDENCE DAY AND 7:00 PM THE DAY AFTER INDEPENDENCE DAY.  
  
IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY AND 7:00 PM TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 AM TUESDAY TO 7:00 PM MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

9. FOR WEEKENDS BETWEEN OCTOBER 12TH AND OCTOBER 31ST BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. MONDAY

**C) DO NOT CLOSE ROAD AS FOLLOWS:**

ROAD NAME	DAY & TIME RESTRICTIONS	OPERATION
I-40	SUNDAY-SATURDAY 6:00 AM - 11:00 PM	GIRDER INSTALLATION AND BRIDGE DEMOLITION

**LANE AND SHOULDER CLOSURE REQUIREMENTS**

- D) 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.**
- E) 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.**
- F) 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.**
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 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) 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.**

**PAVEMENT EDGE DROP OFF REQUIREMENTS**

- I) 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.
- J) 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) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.**

**TRAFFIC PATTERN ALTERATIONS**

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

**SIGNING**

- L) 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.**
- M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.**
- N) 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.

- O) 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.

**TRAFFIC CONTROL DEVICES**

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

**PAVEMENT MARKINGS AND MARKERS**

- R) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:**

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	CRYSTAL/CRYSTAL
BRIDGE DECK	COLD APPLIED PLASTIC TYPE IV (REMOVABLE TAPE)	NONE

- S) FOR I-40, PLACE TWO APPLICATIONS OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A THIRD APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.**
- FOR OTHER ROADS, 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.
- T) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.**
- U) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.**

**TRAFFIC BARRIER**

- V) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.**

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

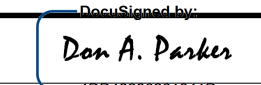
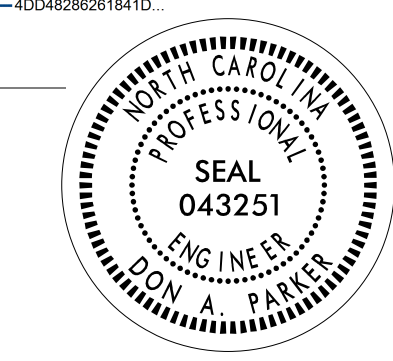

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

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<p>APPROVED: </p> <p>DATE: 01/11/2022</p>			<h3 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h3>
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**GENERAL NOTES /  
LOCAL NOTES  
CONTINUED**

W) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.



PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

LOCAL NOTES

1) REFER TO SPECIAL PROVISION FOR SEQUENTIAL FLASHING WARNING LIGHTS TO BE INSTALLED ON I-40 FOR NIGHTTIME LANE CLOSURES.

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<p align="center"><b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b></p>		

SHORING LOCATION NO. 1

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

TEMPORARY SHORING IS REQUIRED FOR THE BRIDGE END BENT CONSTRUCTION FROM STATION 15+00+/- -L- 32 FT. LT, TO STATION 15+30+/- -L- 32 FT. LT.

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 15+00+/- -L- 32 FT. LT, TO STATION 15+30+/- -L- 32 FT. LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT ( $\gamma$ ) = 120 LB/CF  
 FRICTION ANGLE ( $\phi$ ) = 30 DEGREES  
 COHESION (C) = 0 LB/SF  
 GROUNDWATER ELEVATION = 1370 FT

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 15+00+/- -L- 32 FT. LT, TO STATION 15+30+/- -L- 32 FT. LT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 15+00+/- -L- 32 FT. LT, TO STATION 15+30+/- -L- 32 FT. LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION NO. 2

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

TEMPORARY SHORING IS REQUIRED FOR THE BRIDGE END BENT CONSTRUCTION FROM STATION 17+30+/- -L- 32 FT. LT, TO STATION 17+60+/- -L- 32 FT. LT.

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 17+30+/- -L- 32 FT. LT, TO STATION 17+60+/- -L- 32 FT. LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

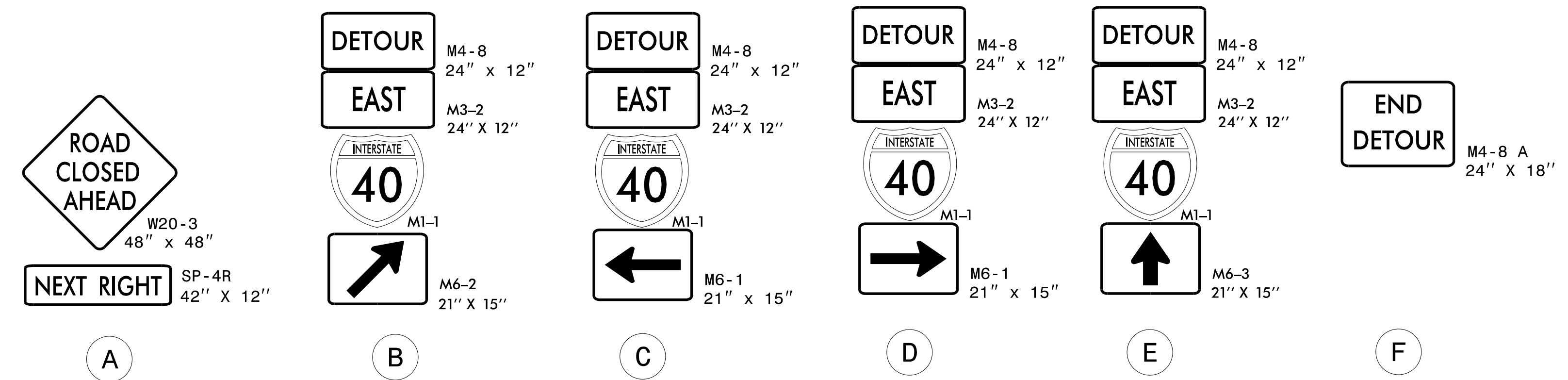
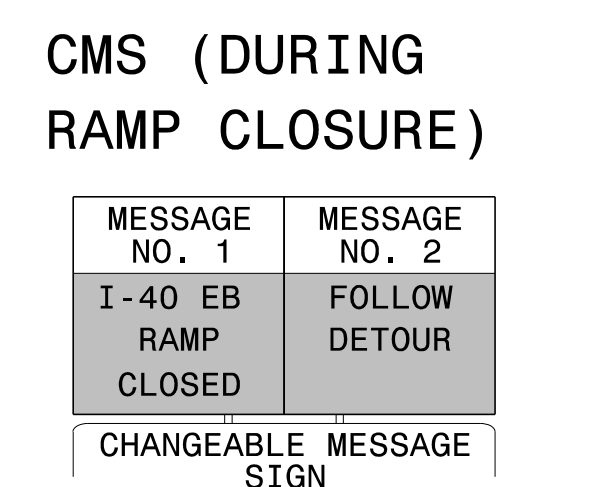
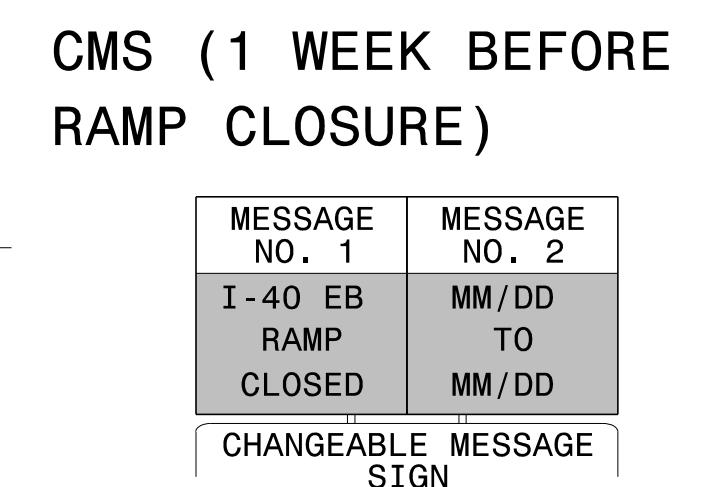
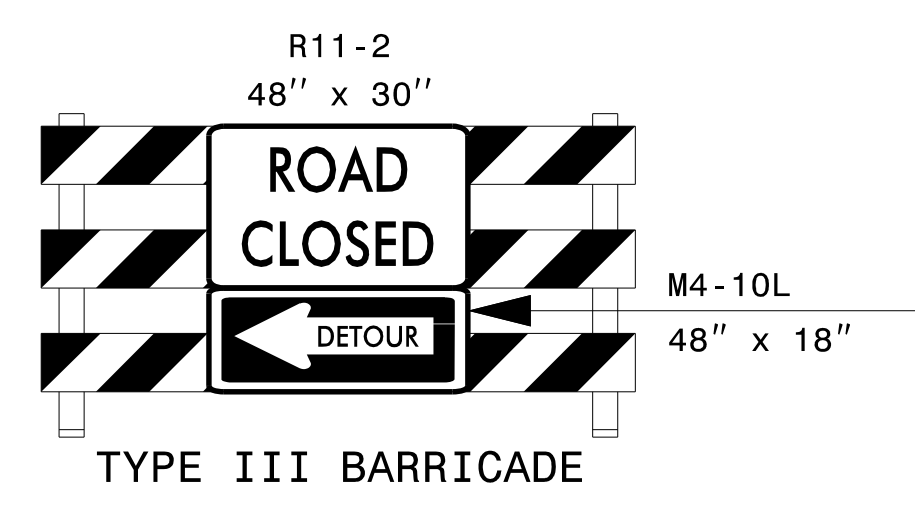
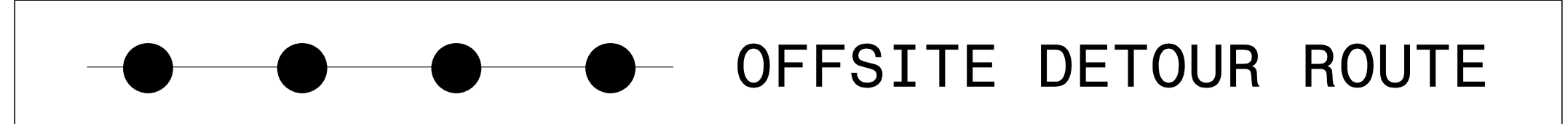
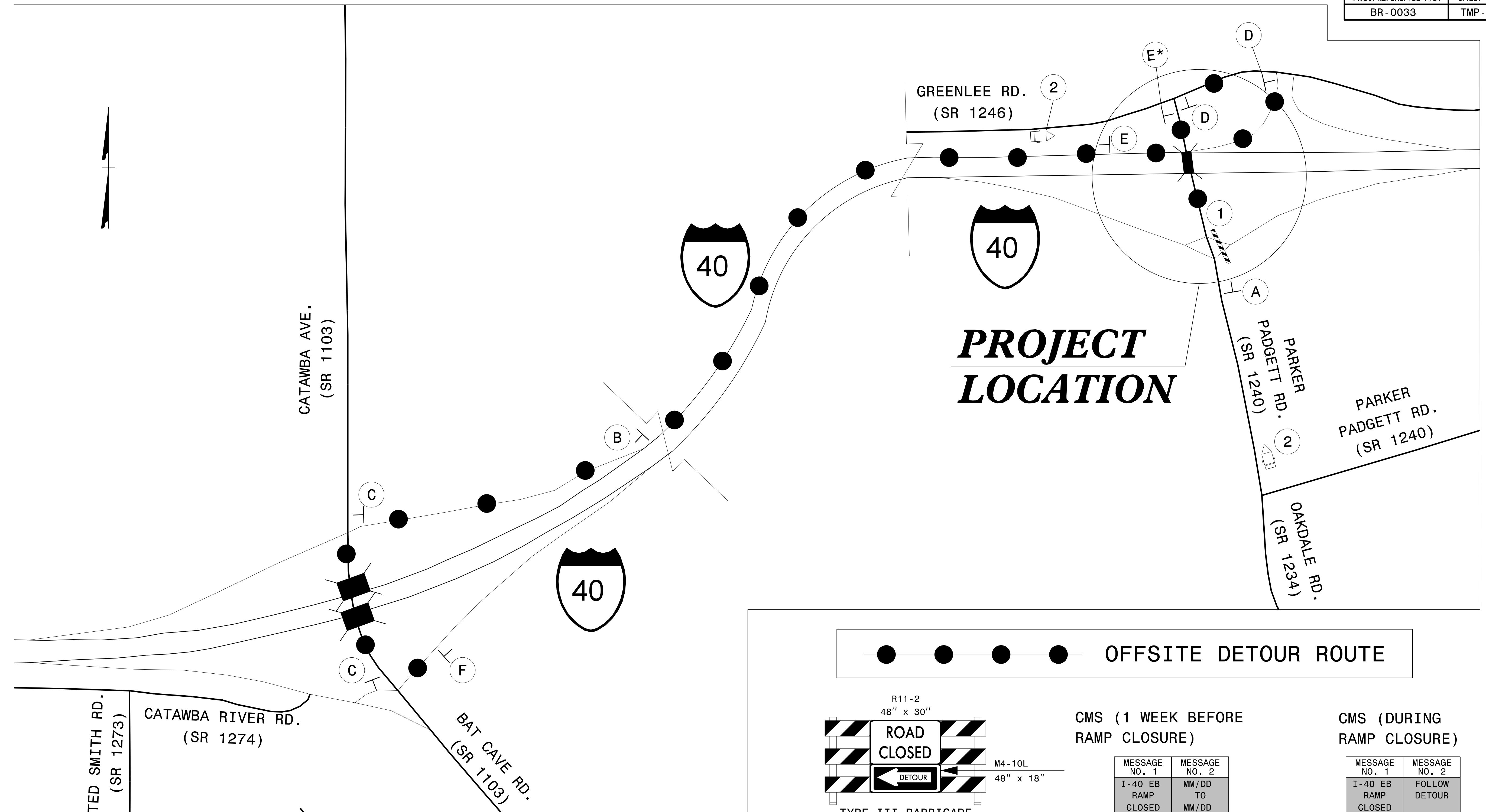
UNIT WEIGHT ( $\gamma$ ) = 120 LB/CF  
 FRICTION ANGLE ( $\phi$ ) = 30 DEGREES  
 COHESION (C) = 0 LB/SF  
 GROUNDWATER ELEVATION = 1370 FT

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 17+30+/- -L- 32 FT. LT, TO STATION 17+60+/- -L- 32 FT. LT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 17+30+/- -L- 32 FT. LT, TO STATION 17+60+/- -L- 32 FT. LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

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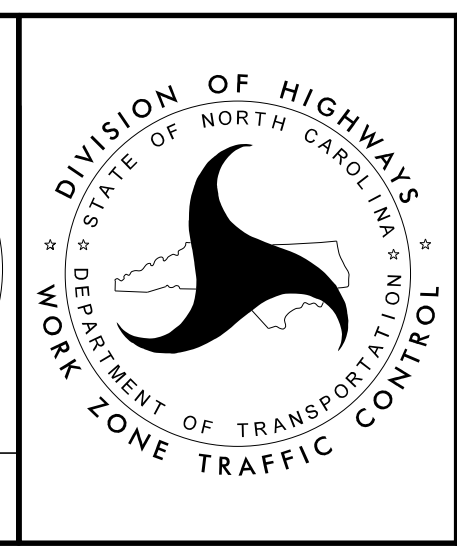


\* COVER EXISTING I-40 EB SIGN

NOTE: PLACE CMS ON LOCATION WITH ADEQUATE SHOULDER WITHOUT BLOCKING SIGHT DISTANCE

APPROVED: *Don A. Parker*  
DATE: 01/11/2022

SEAL  
043251  
ENGINEER  
DON A. PARKER

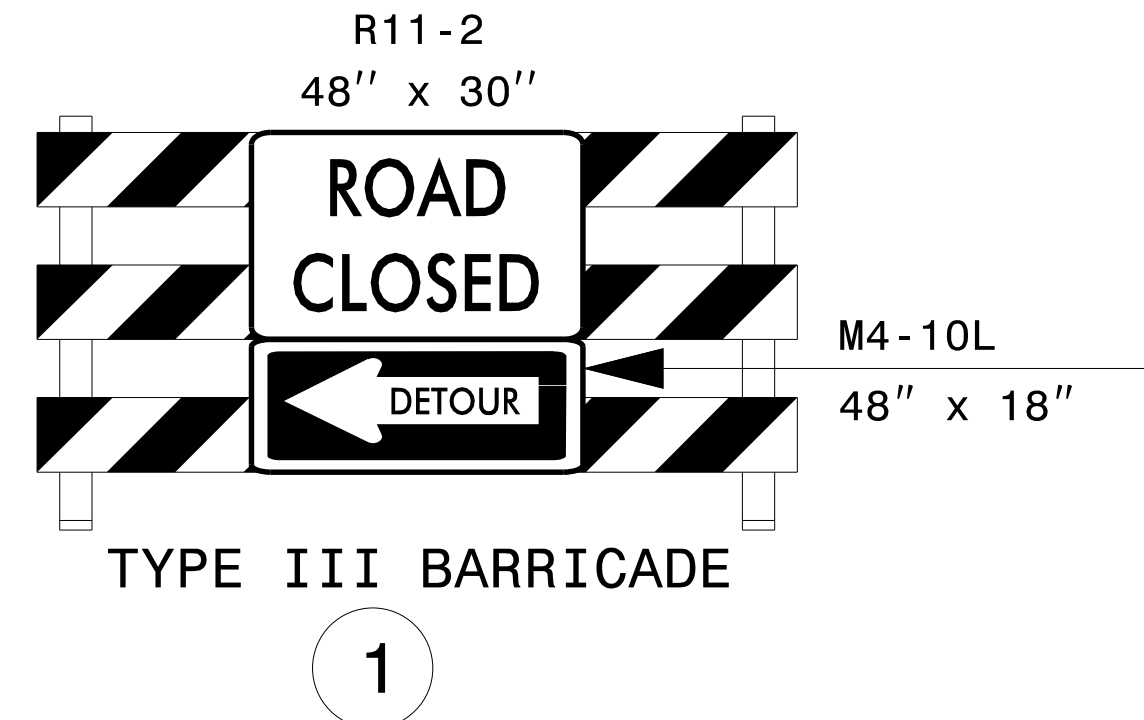
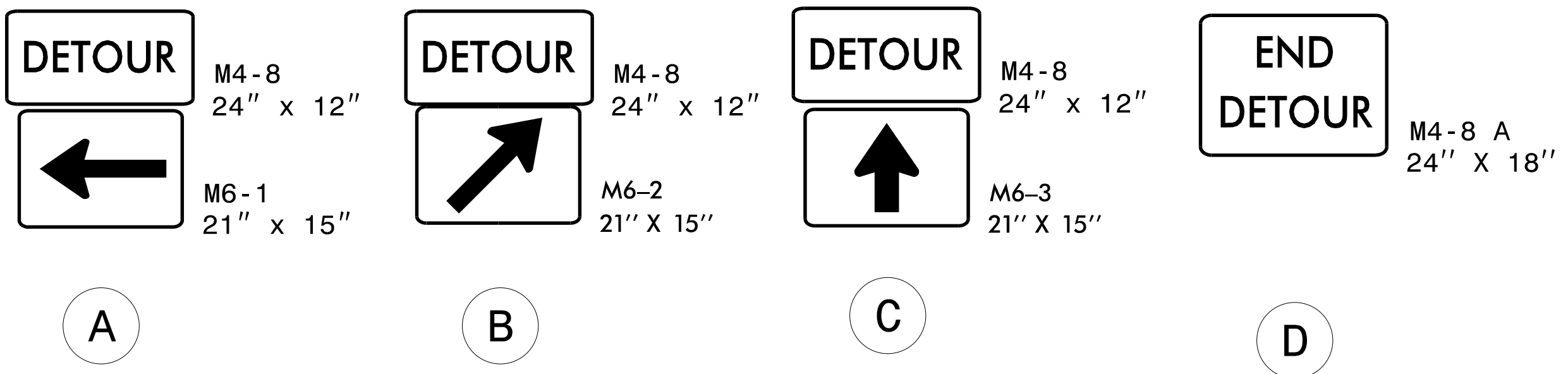
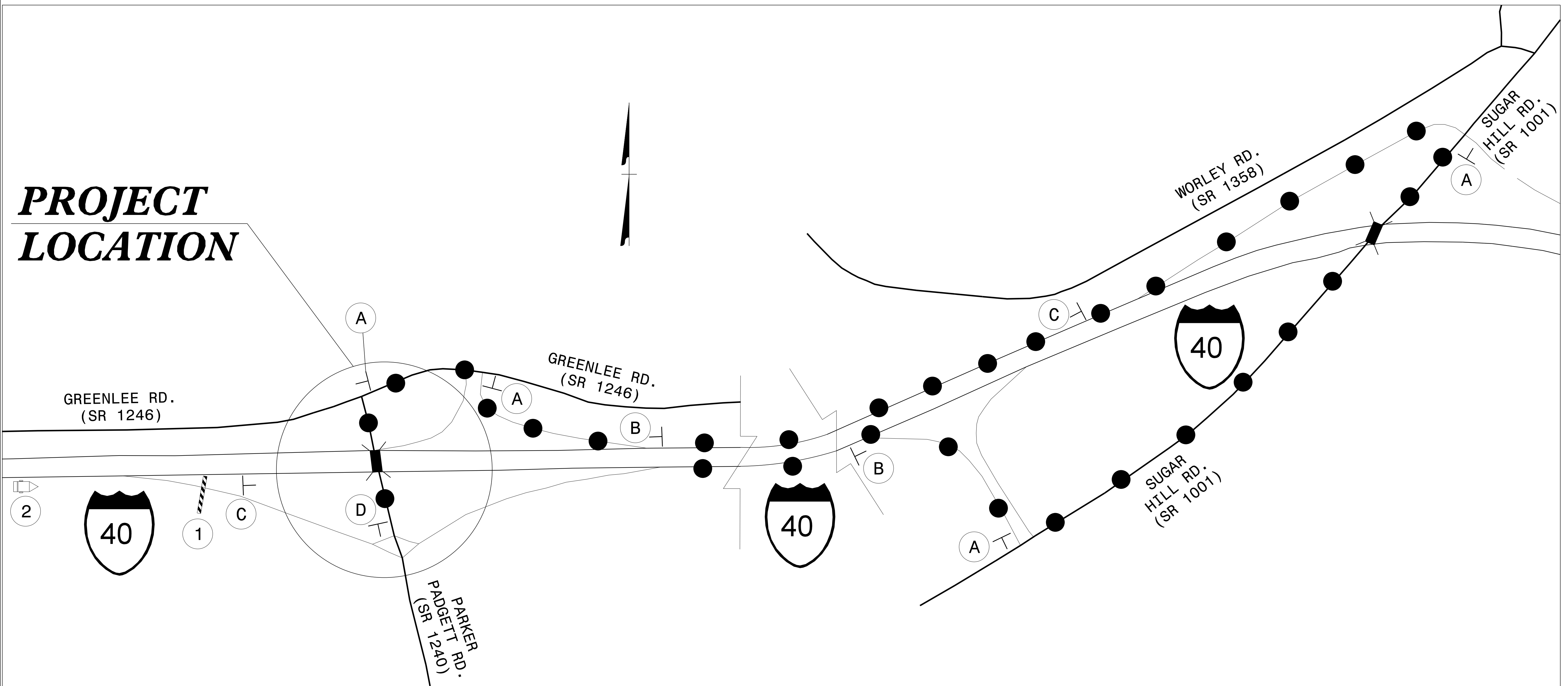


RAMP D  
OFFSITE DETOUR  
DETAILS

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 User:mackillu

# PROJECT LOCATION



**CMS (1 WEEK BEFORE RAMP CLOSURE)**

MESSAGE NO. 1 EXIT 75 CLOSED	MESSAGE NO. 2 MM/DD TO MM/DD
------------------------------------	---------------------------------------

CHANGEABLE MESSAGE SIGN

**CMS (DURING RAMP CLOSURE)**

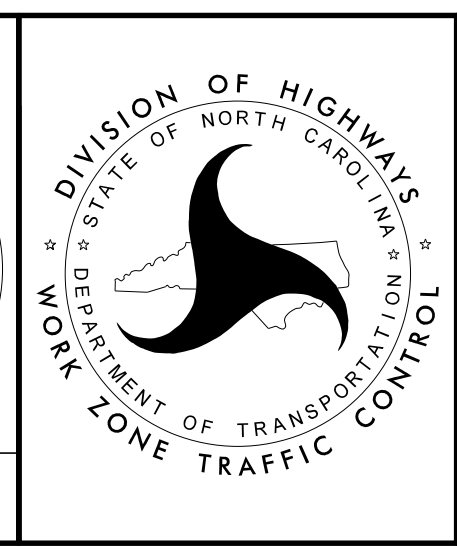
MESSAGE NO. 1 EXIT 75 CLOSED	MESSAGE NO. 2 FOLLOW DETOUR
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CHANGEABLE MESSAGE SIGN

APPROVED: *Don A. Parker*  
 DATE: 01/11/2022

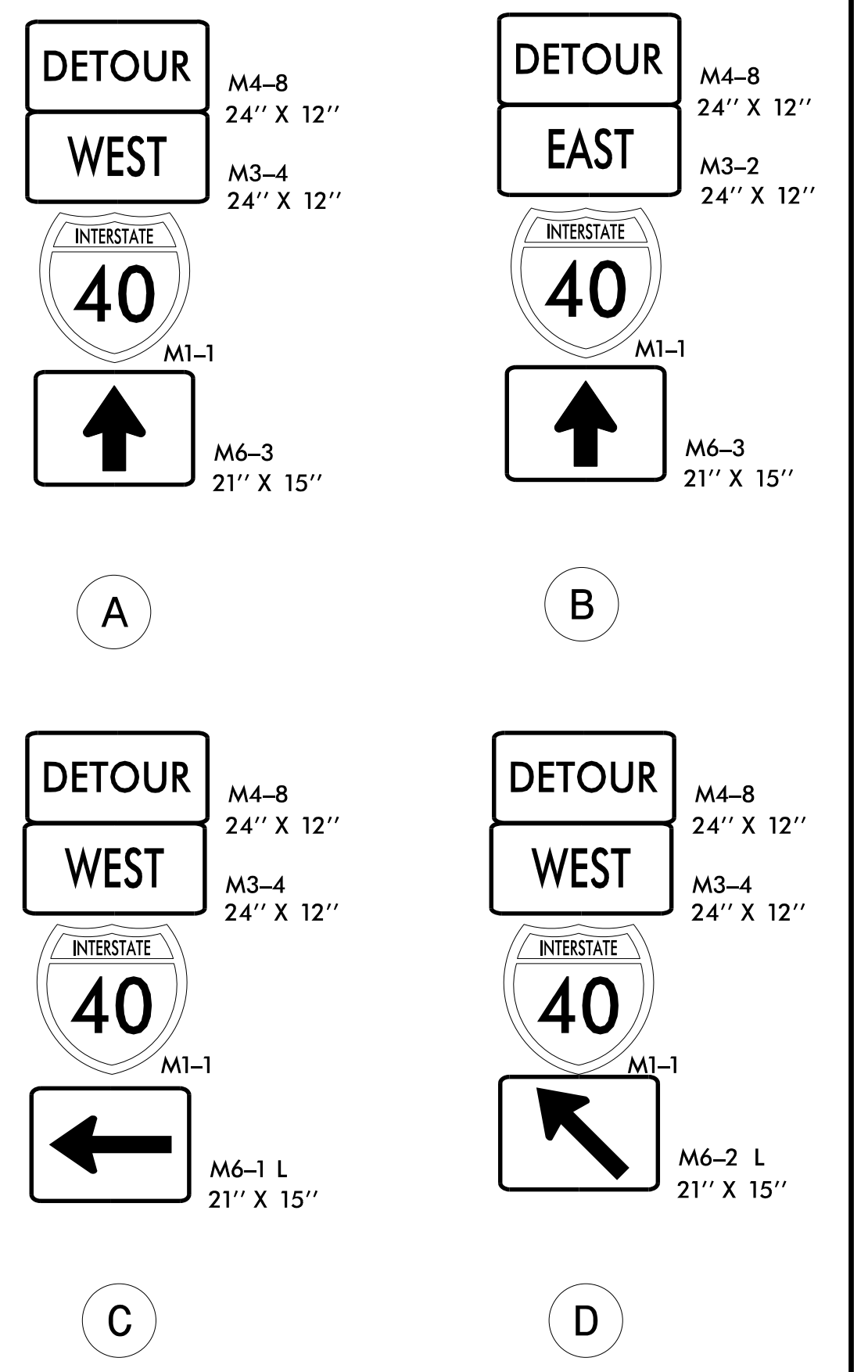
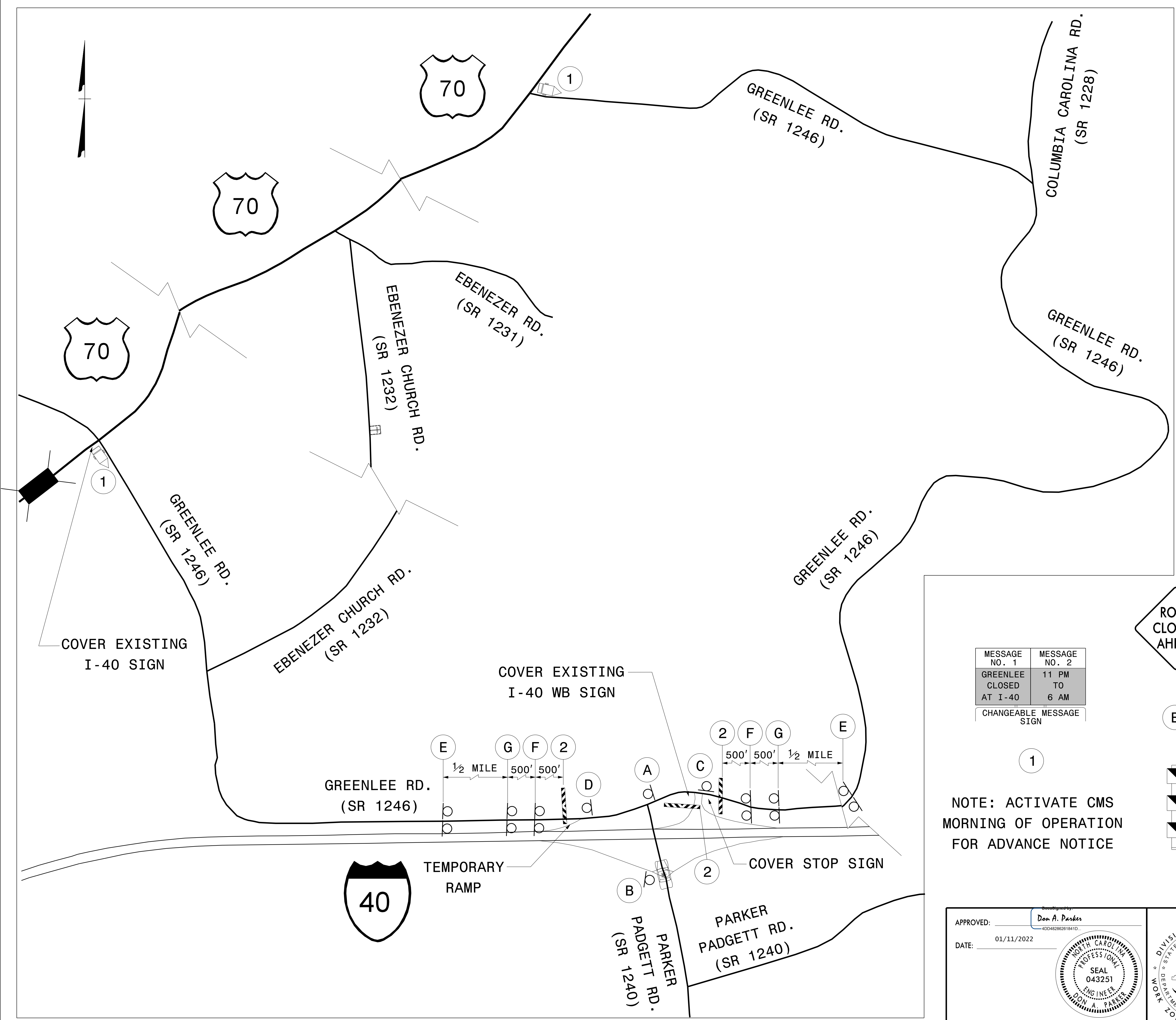
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 043251  
 ENGINEER  
 DON A. PARKER

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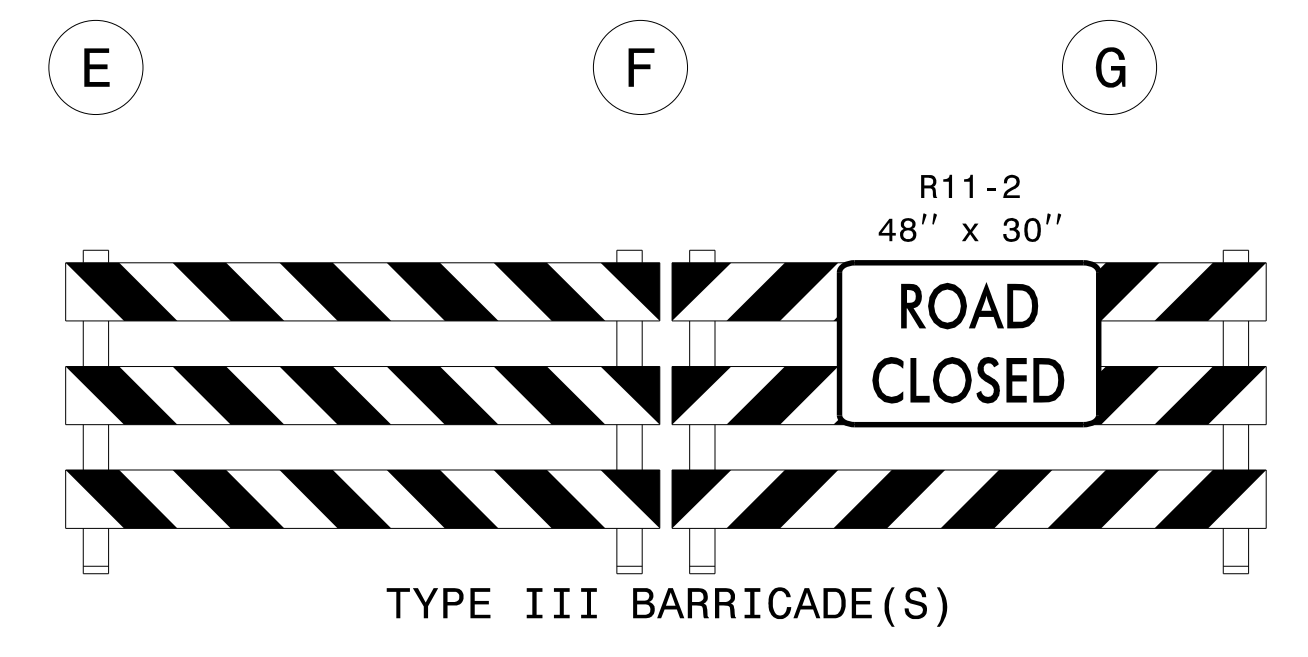
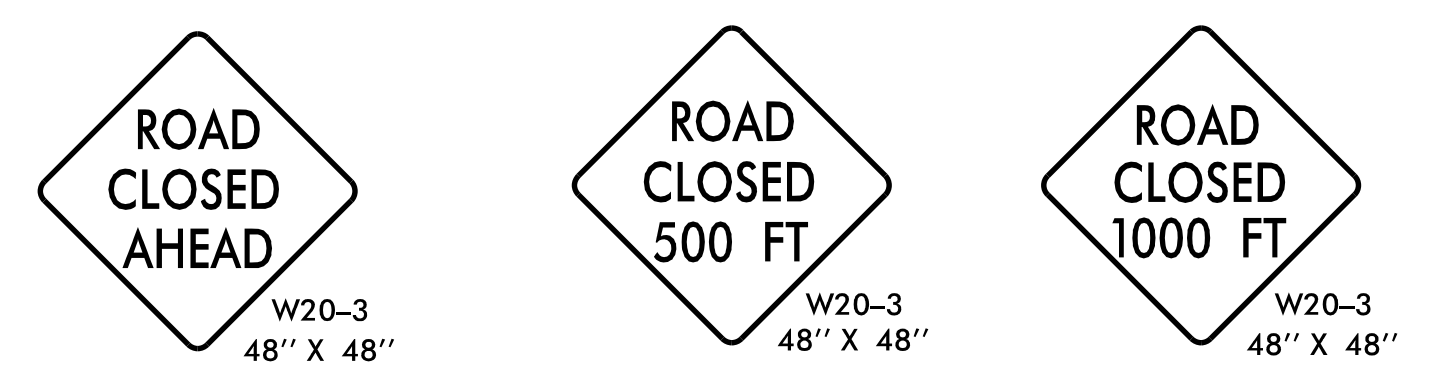
**RAMP C  
 OFFSITE DETOUR  
 DETAILS**

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 User:mackillu



MESSAGE NO. 1	MESSAGE NO. 2
GREENLEE CLOSED AT I-40	11 PM TO 6 AM

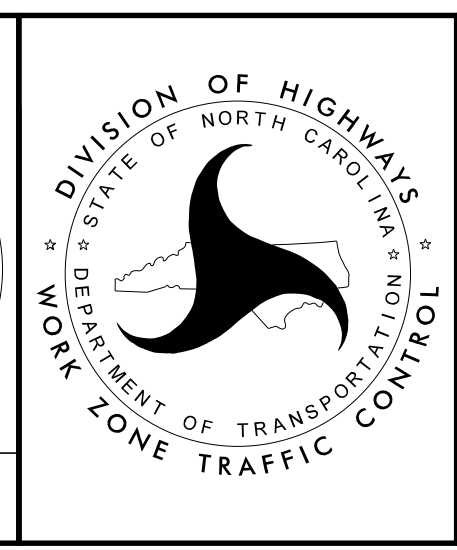
CHANGEABLE MESSAGE SIGN



NOTE: ACTIVATE CMS MORNING OF OPERATION FOR ADVANCE NOTICE

APPROVED: *Don A. Parker*  
 DATE: 01/11/2022

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 ENGINEER  
 DON A. PARKER



I-40 CLOSURE FOR GIRDERS/BRIDGE DEMOLITION DETAILS

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 User:moakillu



## TEMPORARY TRAFFIC CONTROL PHASING

PRIOR TO CONSTRUCTION, INSTALL ADVANCE WARNING SIGNS ON SR 1234 (PARKER PADGETT RD), SR 1246 (GREENLEE RD), AND I-40 PER RSD 1101.01, SHEETS 1 & 3, AND TMP-5

### PHASE I

STEP 1 -- USING RSD 1101.02, SHEET 4 IN CONJUNCTION WITH RSD 1101.02, SHEET 10 AND TMP-4, COMPLETE I-40 EASTBOUND OUTSIDE SHOULDER RECONSTRUCTION. REFER TO ROADWAY PLANS FOR PAVEMENT TYPICAL.

STEP 2-- USING RSD 1101.02, SHEET 4, TMP-4, TMP-5 AND TMP-6, COMPLETE THE FOLLOWING:

- A. INSTALL TEMPORARY PAVEMENT MARKINGS AND ADVANCE WARNING SIGNS ON I-40 EASTBOUND AND SHIFT TRAFFIC TO TEMPORARY TRAFFIC PATTERN. INSTALL W21-5A "LEFT SHOULDER CLOSED" AND W16-2 "1500 FT" SIGNS 1500 FT IN ADVANCE OF I-40 WESTBOUND PORTABLE CONCRETE BARRIER.
- B. INSTALL PORTABLE CONCRETE BARRIER ON I-40 EASTBOUND AND WESTBOUND SHOULDERS.
- C. CONSTRUCT TEMPORARY ON-RAMP FROM GREENLEE RD TO I-40 WESTBOUND AND I-40 WESTBOUND OUTSIDE SHOULDER RECONSTRUCTION. REFER TO ROADWAY PLANS FOR PAVEMENT TYPICAL. INSTALL TYPE III BARRICADES PER TMP-5.

PHASE I, STEPS 3 & 4 MAY BE PERFORMED CONCURRENTLY.

STEP 3 -- USING RSD 1101.02, SHEETS 1 & 4, AS NECESSARY, CONSTRUCT PROPOSED -L- INCLUDING TEMPORARY SHORING, BRIDGE, AND APPROACHES UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE TMP-6):

-L- STA. 13+55 +/- TO STA. 18+55 +/-

--FOR GIRDER DELIVERY AND INSTALLATION:

COVER SIGNS, ACTIVATE CMS AND INSTALL TYPE III BARRICADES PER TMP-2C AND CLOSE GREENLEE ROAD TO TRAFFIC.

I-40 EASTBOUND: USING RSD 1101.03, SHEET 7 AND TMP-5, UTILIZE RAMPS C AND D AND LAW ENFORCEMENT TO RETURN TRAFFIC TO I-40 EASTBOUND.

I-40 WESTBOUND: USING RSD 1101.03, SHEET 7 AND TMP-5, UTILIZE RAMP A AND TEMPORARY ON-RAMP CONSTRUCTED IN STEP 2 TO RETURN TRAFFIC TO I-40 WESTBOUND.

UNCOVER SIGNS, DEACTIVATE CMS, AND REMOVE TYPE III BARRICADES AND REOPEN GREENLEE ROAD/I-40 TO TRAFFIC.

STEP 4 -- USING RSD 1101.02, SHEET 1, AS NECESSARY, CONSTRUCT -L- STA. 10+30 +/- TO STA. 13+12 +/-

COMPLETE THE WORK REQUIRED OF PHASE I, STEP 5, WITHIN 10 CALENDAR DAYS. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

STEP 5 -- USING TMP-2A AND RSD 1101.02, SHEET 1, AS NECESSARY:

- A. INSTALL OFFSITE DETOUR SIGNING AND TYPE III BARRICADES AND CLOSE -RAMP D- TO TRAFFIC AND DETOUR TRAFFIC OFFSITE.
- B. COMPLETE PROPOSED CONSTRUCTION OF -RAMP D- UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE.
- C. INSTALL TEMPORARY PAVEMENT MARKINGS ON -RAMP D- AND -L- PER TMP-8.
- D. OPEN -RAMP D- AND -L- TO THE FINAL TRAFFIC PATTERN.
- E. REMOVE ALL OFFSITE DETOUR SIGNING.

### PHASE II

PHASE II, STEPS 1 & 2 MAY BE PERFORMED CONCURRENTLY.

STEP 1 -- USING RSD 1101.02, SHEET 1, REMOVE EXISTING BRIDGE AND ROADWAY PER ROADWAY PLANS, REMOVE TEMPORARY SHORING, AND COMPLETE FINAL GRADING AND DRAINAGE.

-- FOR DEMOLITION OF THE EXISTING BRIDGE:

COVER SIGNS, ACTIVATE CMS AND INSTALL TYPE III BARRICADES PER TMP-2C AND CLOSE GREENLEE ROAD TO TRAFFIC.

I-40 EASTBOUND: USING RSD 1101.03, SHEET 7 AND TMP-5, UTILIZE RAMPS C AND D AND LAW ENFORCEMENT TO RETURN TRAFFIC TO I-40 EASTBOUND.

I-40 WESTBOUND: USING RSD 1101.03, SHEET 7 AND TMP-5, UTILIZE RAMP A AND TEMPORARY ON-RAMP CONSTRUCTED IN STEP 2 TO RETURN TRAFFIC TO I-40 WESTBOUND.

UNCOVER SIGNS, DEACTIVATE CMS, AND REMOVE TYPE III BARRICADES AND REOPEN GREENLEE ROAD/I-40 TO TRAFFIC.

COMPLETE THE WORK REQUIRED OF PHASE II, STEP 2, WITHIN 10 CALENDAR DAYS. SEE INTERMEDIATE CONTRACT TIMES AND LIQUIDATED DAMAGES.

STEP 2 -- USING TMP-2B AND RSD 1101.02, SHEET 1:

A. INSTALL OFFSITE DETOUR SIGNING AND TYPE III BARRICADES AND CLOSE -RAMP C- TO TRAFFIC AND DETOUR TRAFFIC OFFSITE.

B. COMPLETE PROPOSED CONSTRUCTION OF -RAMP C- UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE.

C. INSTALL TEMPORARY PAVEMENT MARKINGS IN THE -RAMP C- FINAL PATTERN. REFER TO PAVEMENT MARKINGS PLANS.


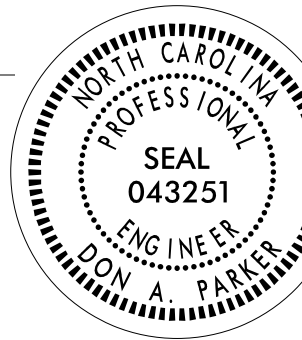
D. REOPEN -RAMP C- TO TRAFFIC.

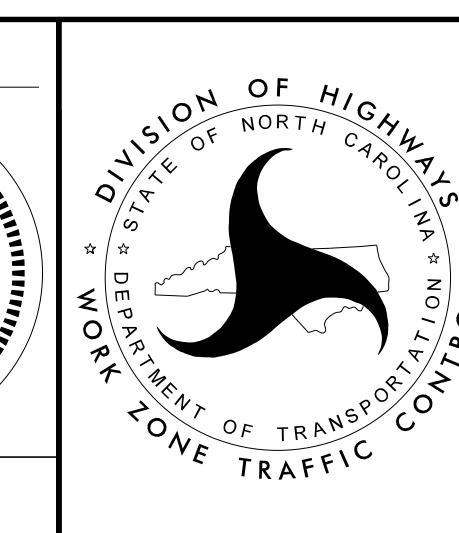
E. REMOVE ALL OFFSITE DETOUR SIGNING.

STEP 3 -- USING RSD 1101.02, SHEET 4, REMOVE PORTABLE CONCRETE BARRIER ON I-40 EASTBOUND AND WESTBOUND, REMOVE TEMPORARY PAVEMENT MARKINGS AND INSTALL PERMANENT PAVEMENT MARKINGS PER THE ORIGINAL TRAFFIC PATTERN AND RETURN TRAFFIC TO ITS ORIGINAL PATTERN.

STEP 4 -- USING RSD 1101.02, SHEET 1, COMPLETE CONSTRUCTION OF -L-, -Y- LINES AND RAMPS, INCLUDING FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS. REFER TO THE PAVEMENT MARKING PLAN. REMOVE TEMPORARY ON RAMP FROM GREENLEE RD TO I-40 WESTBOUND.

STEP 5 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

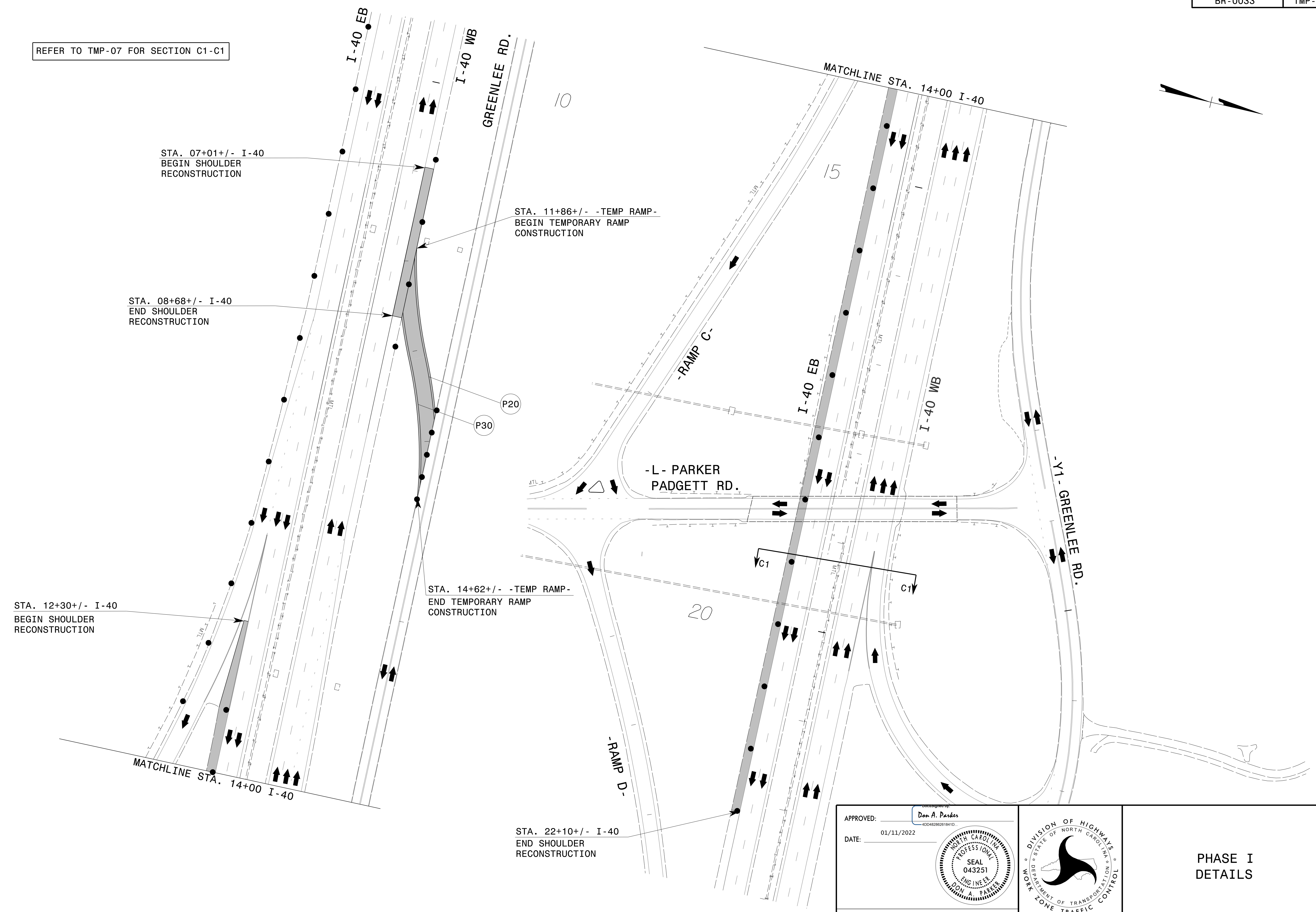
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TEMPORARY TRAFFIC CONTROL PHASING

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REFER TO TMP-07 FOR SECTION C1-C1

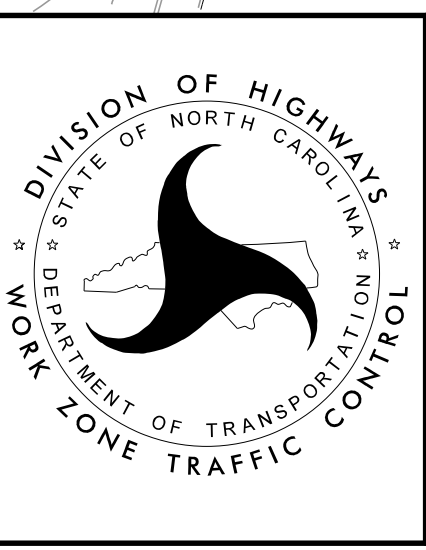


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 User:tmackillu

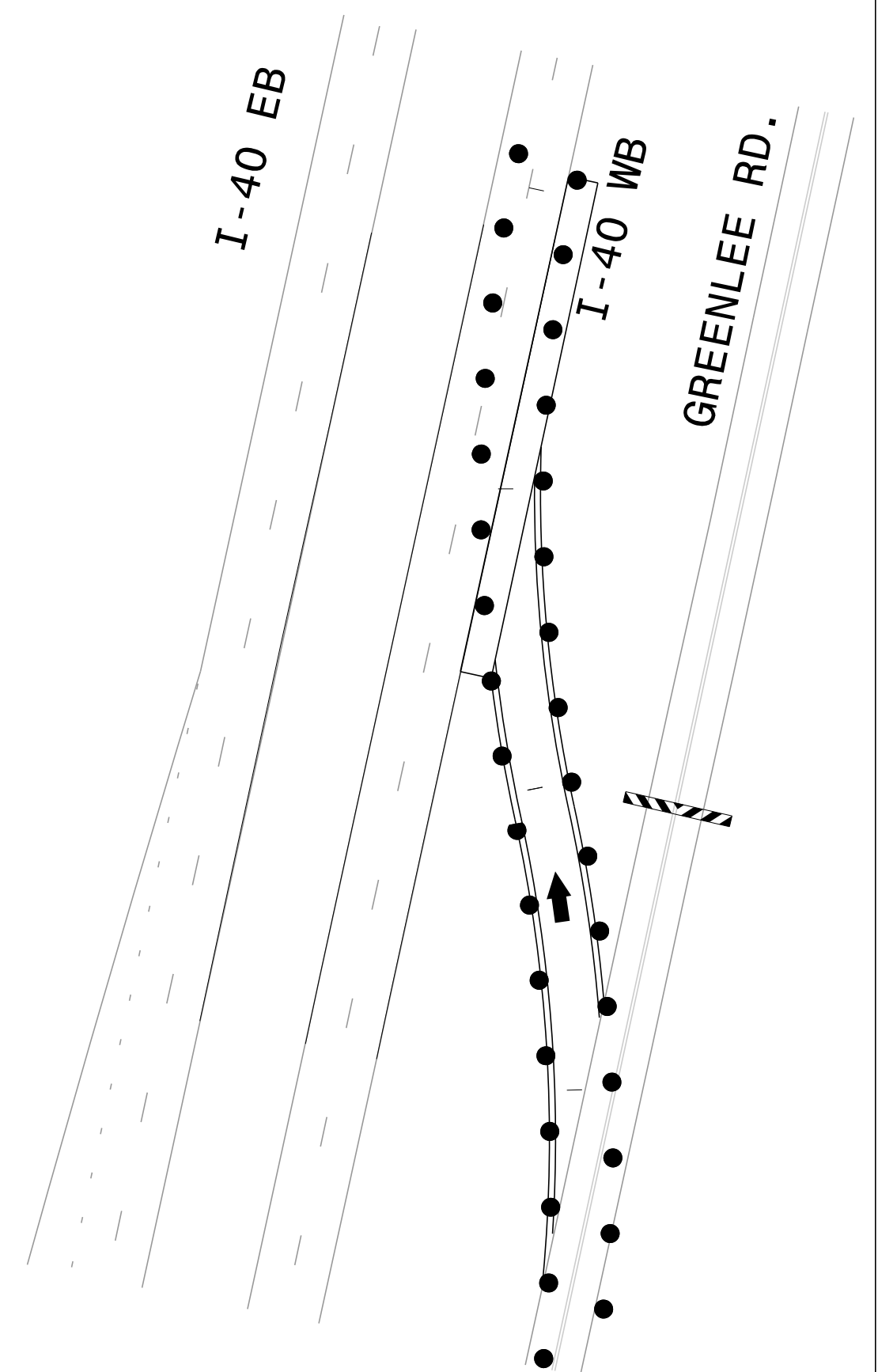
APPROVED: *Don A. Parker*  
 DATE: 01/11/2022

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 043251  
 ENGINEER  
 DON A. PARKER

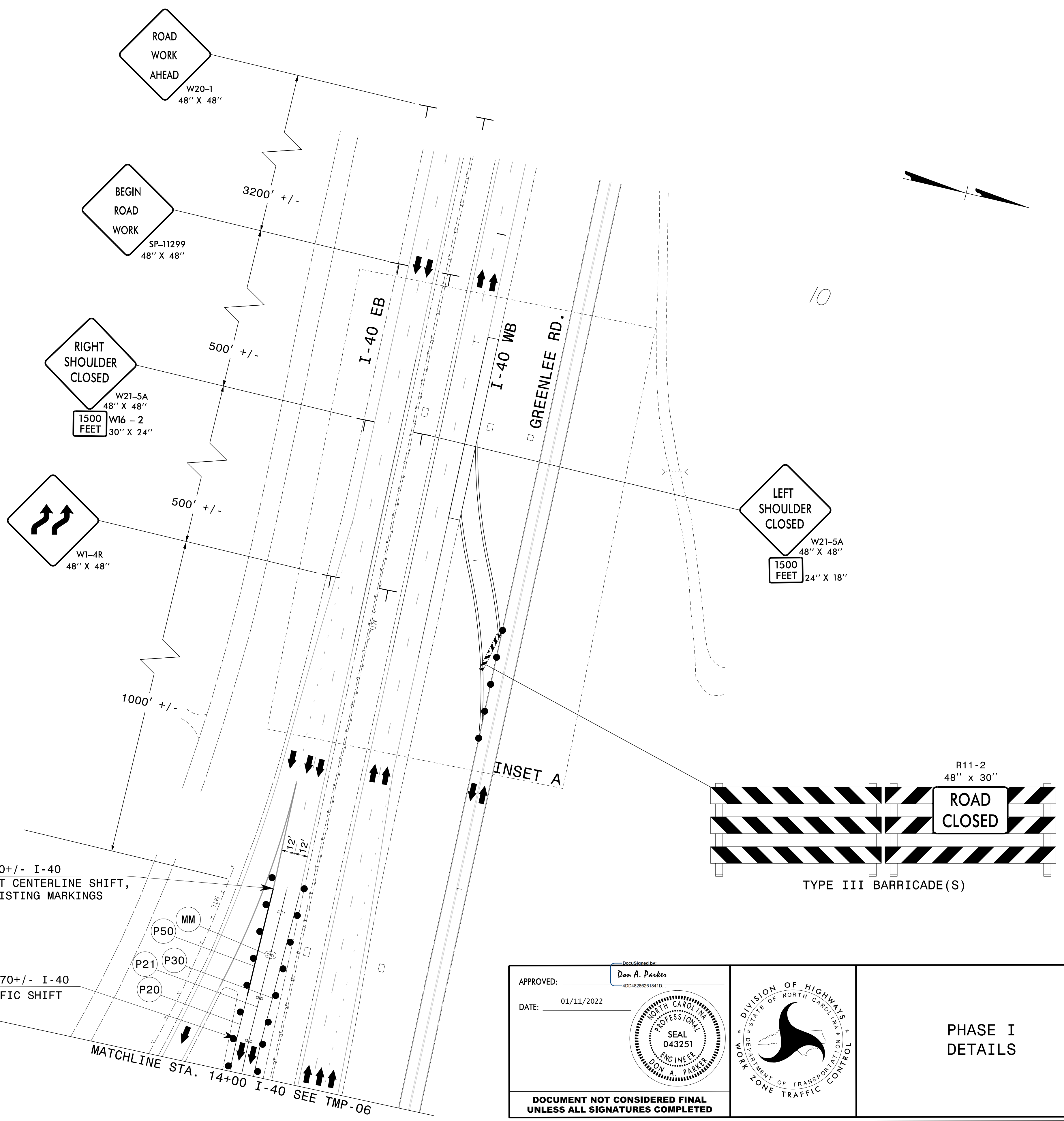
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**PHASE I  
 DETAILS**



INSET A- TEMPORARY RAMP IN USE

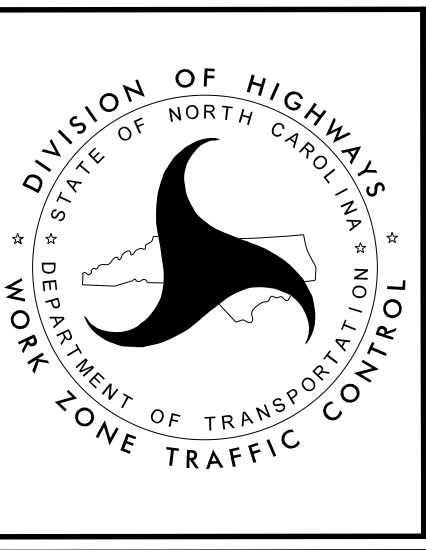


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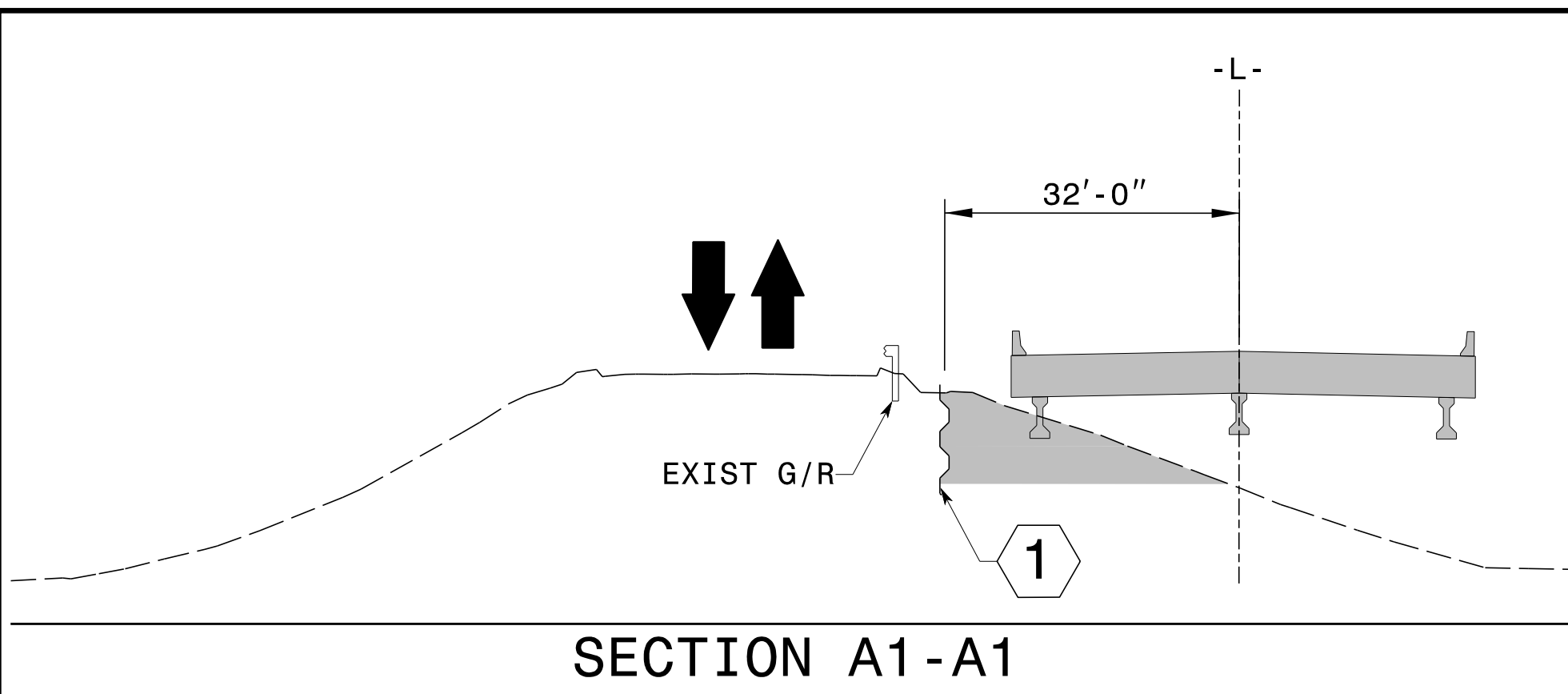
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 DATE: 01/11/2022

Don A. Parker  
 PROFESSIONAL ENGINEER  
 SEAL 043251  
 NORTH CAROLINA  
 DON A. PARKER

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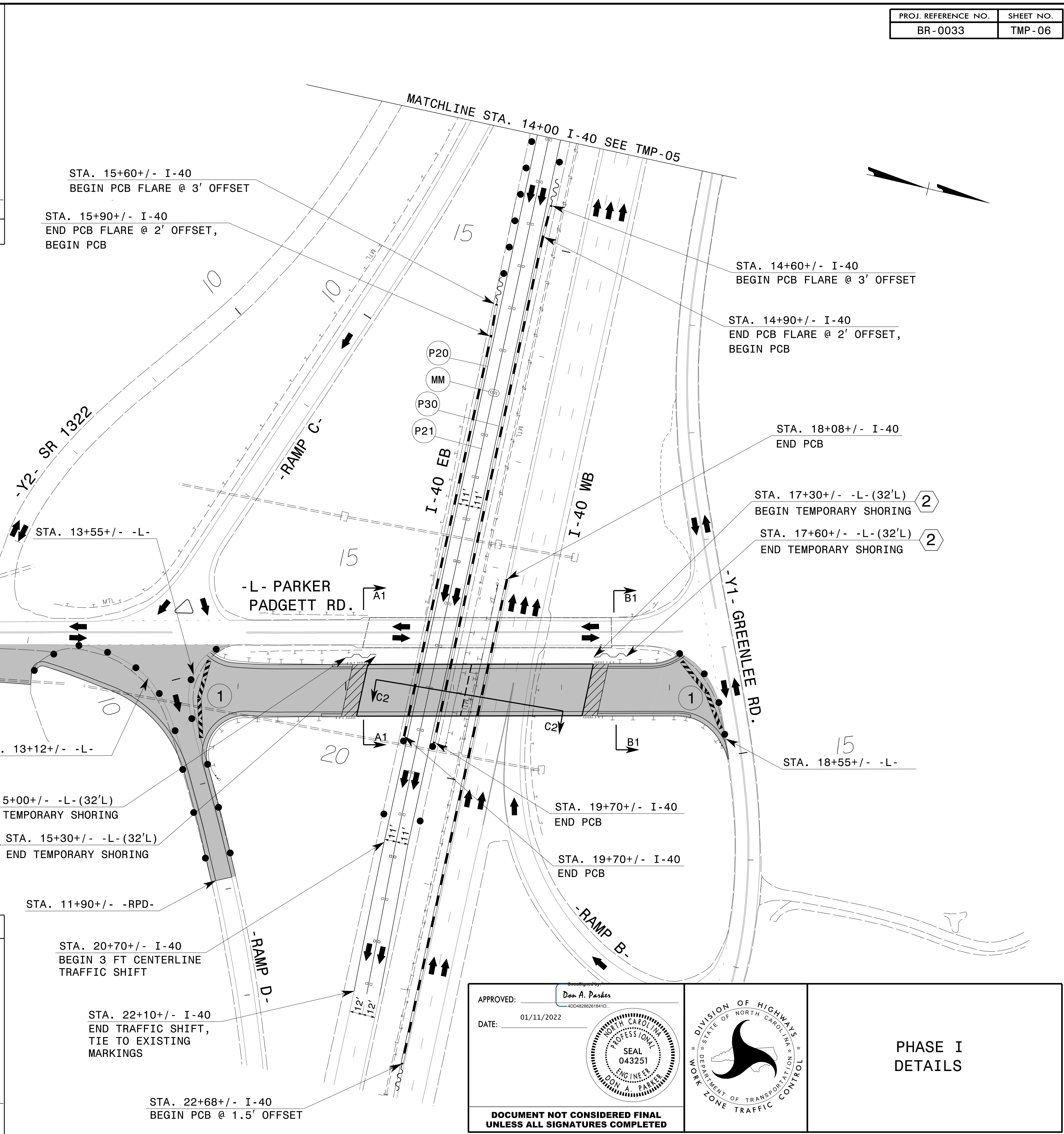
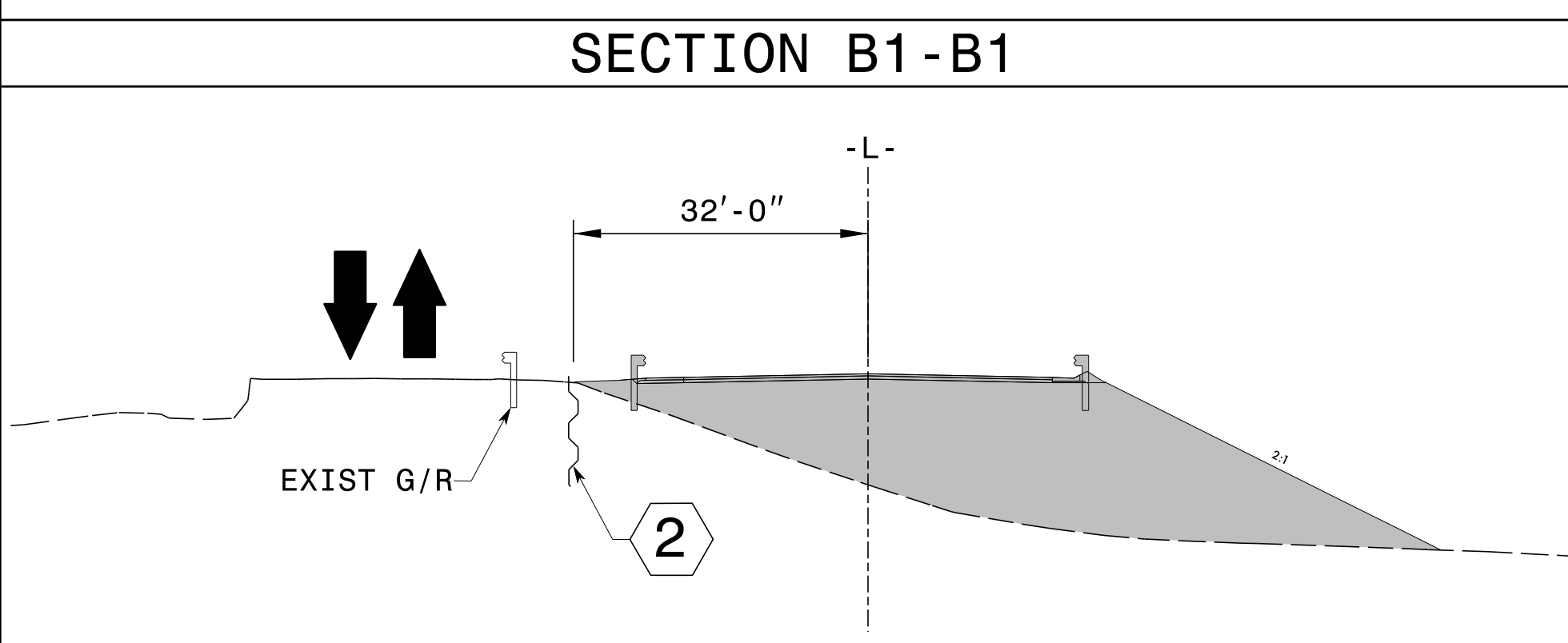
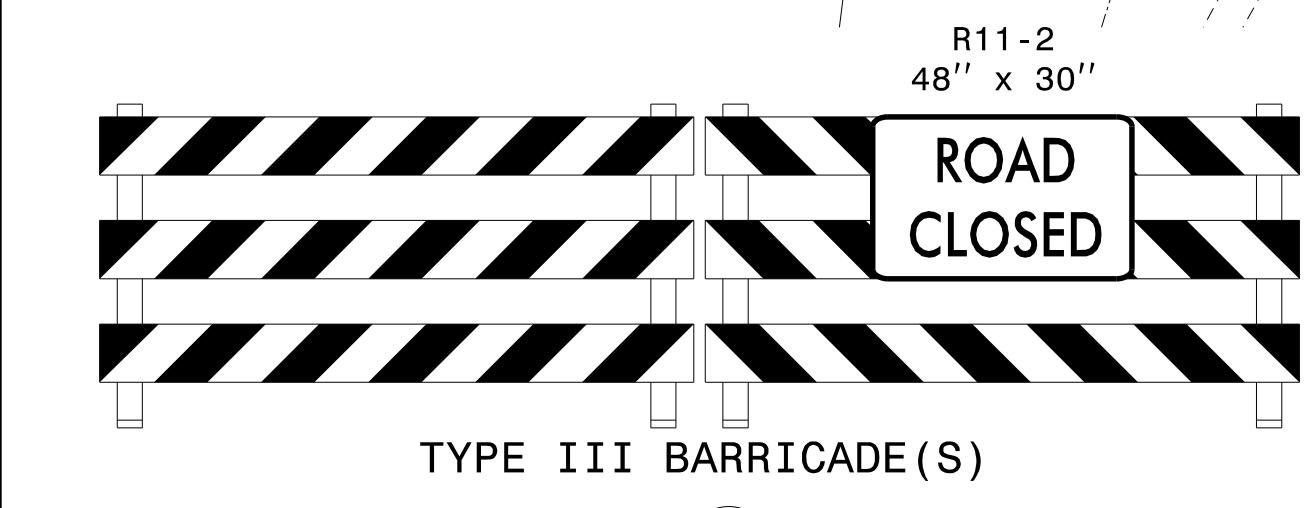
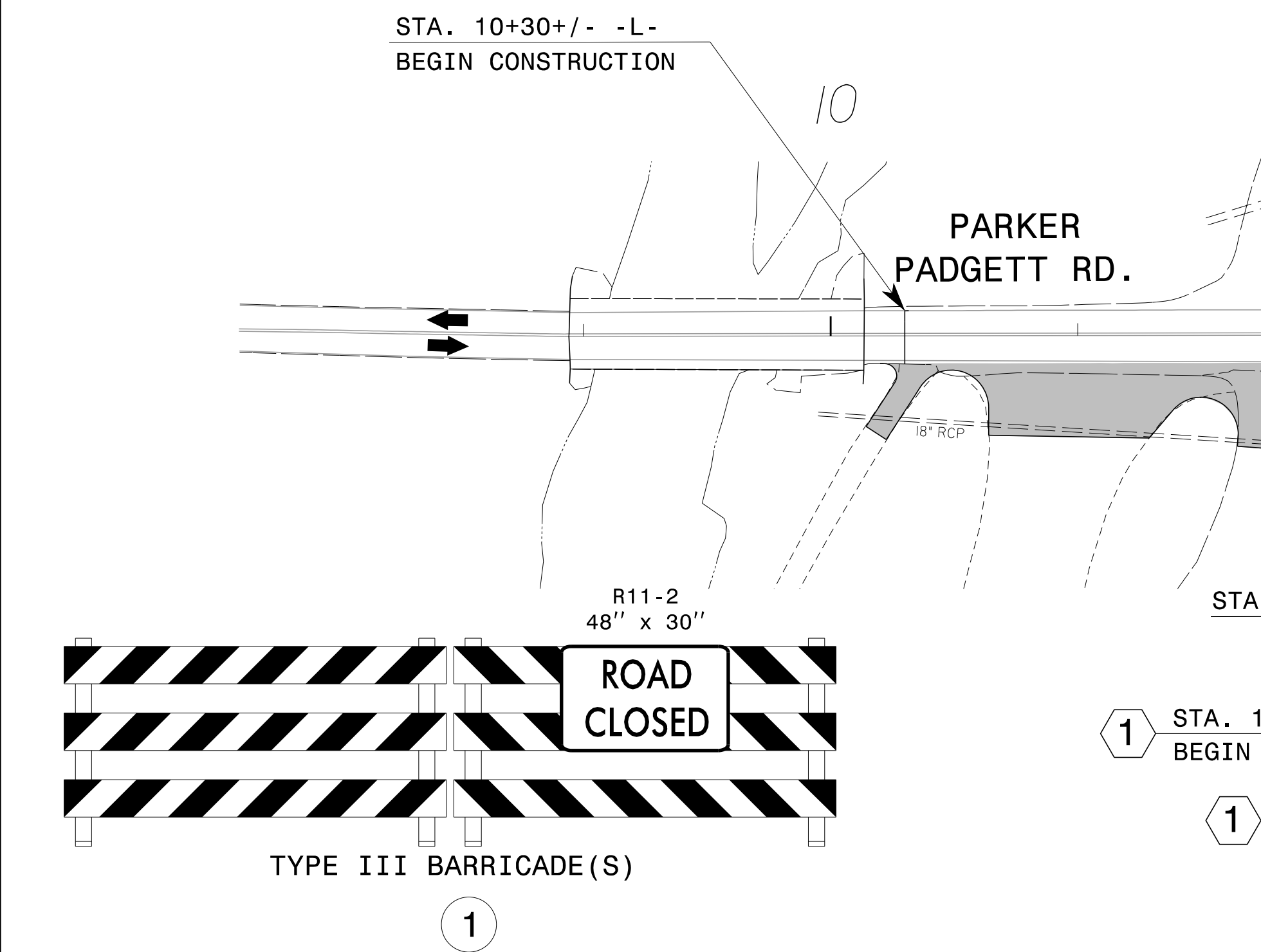


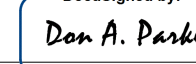
**PHASE I  
 DETAILS**




Shoring I.D. No.	Estimated Average Height (ft.)	Quantity (sq. ft.)
①	13 FT.	390 SQ. FT.
②	15 FT.	450 SQ. FT.

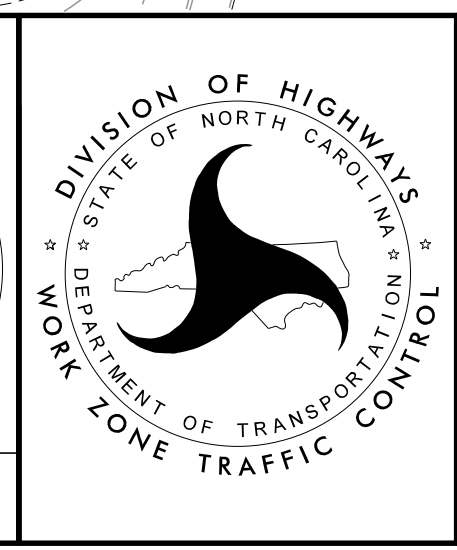
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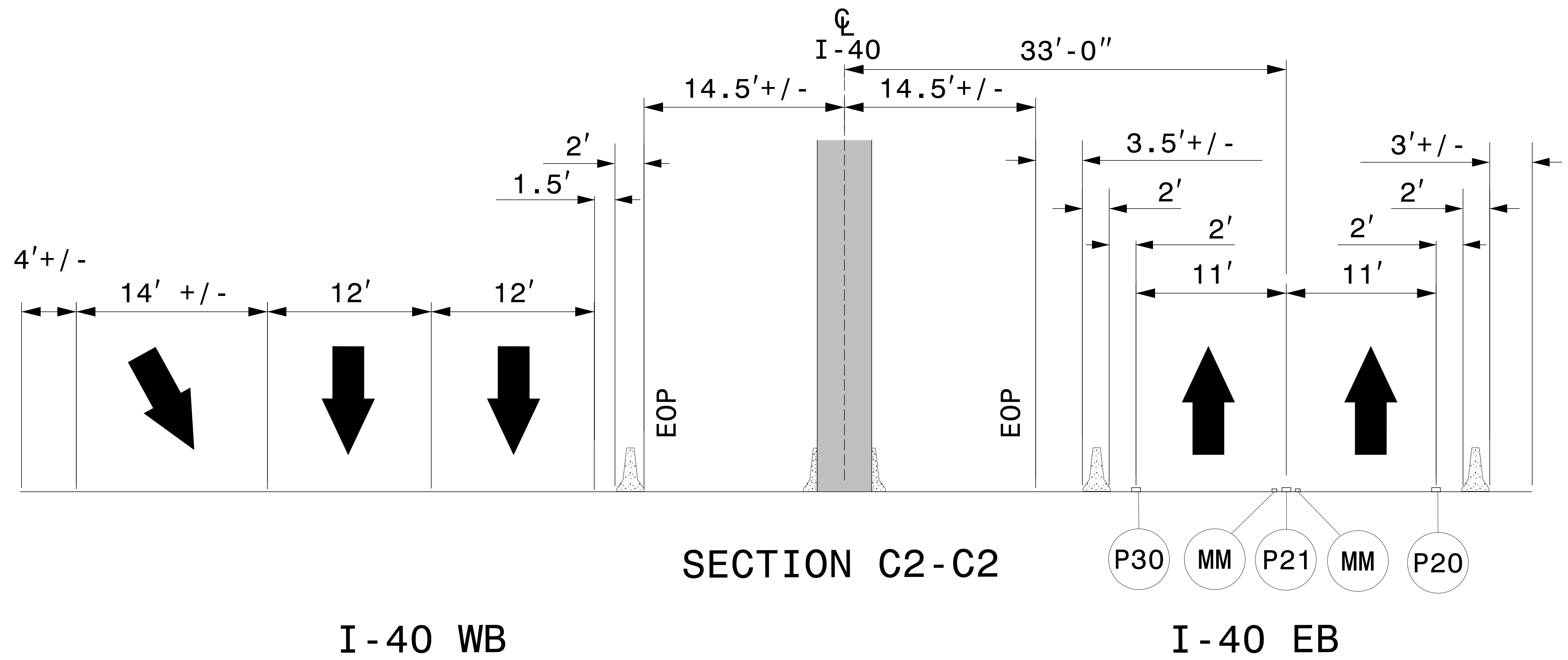
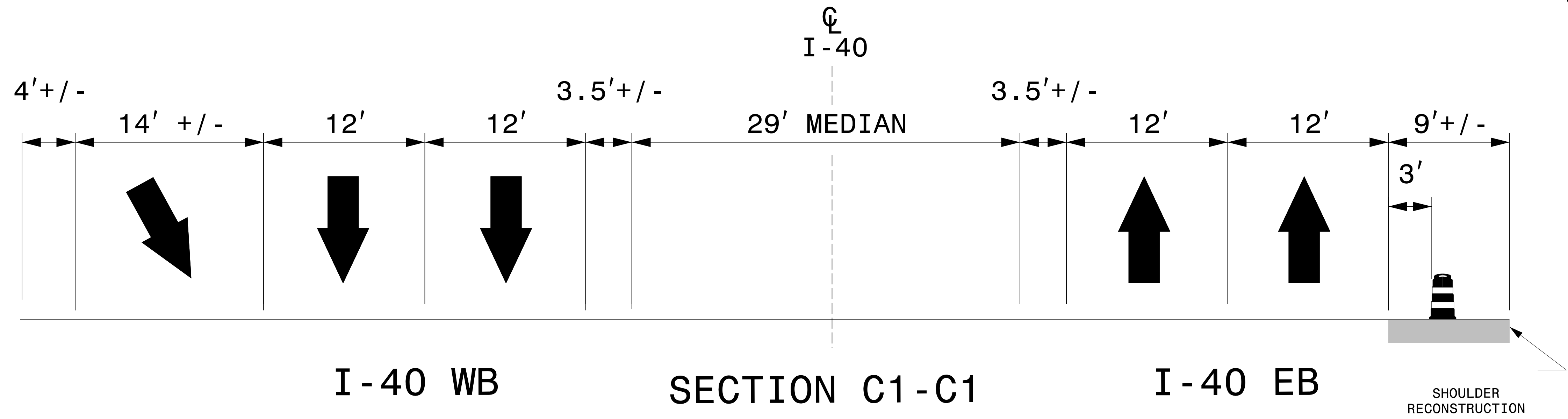


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**PHASE I  
DETAILS**

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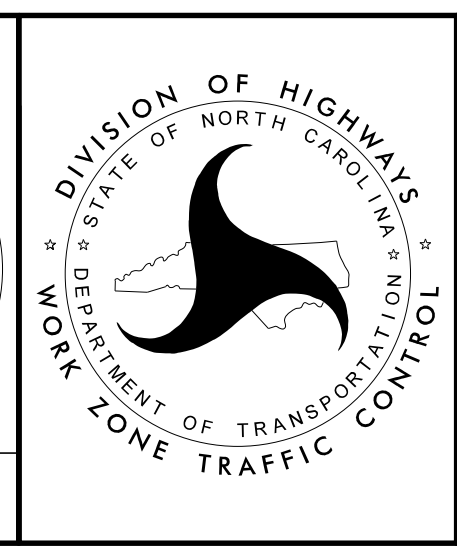


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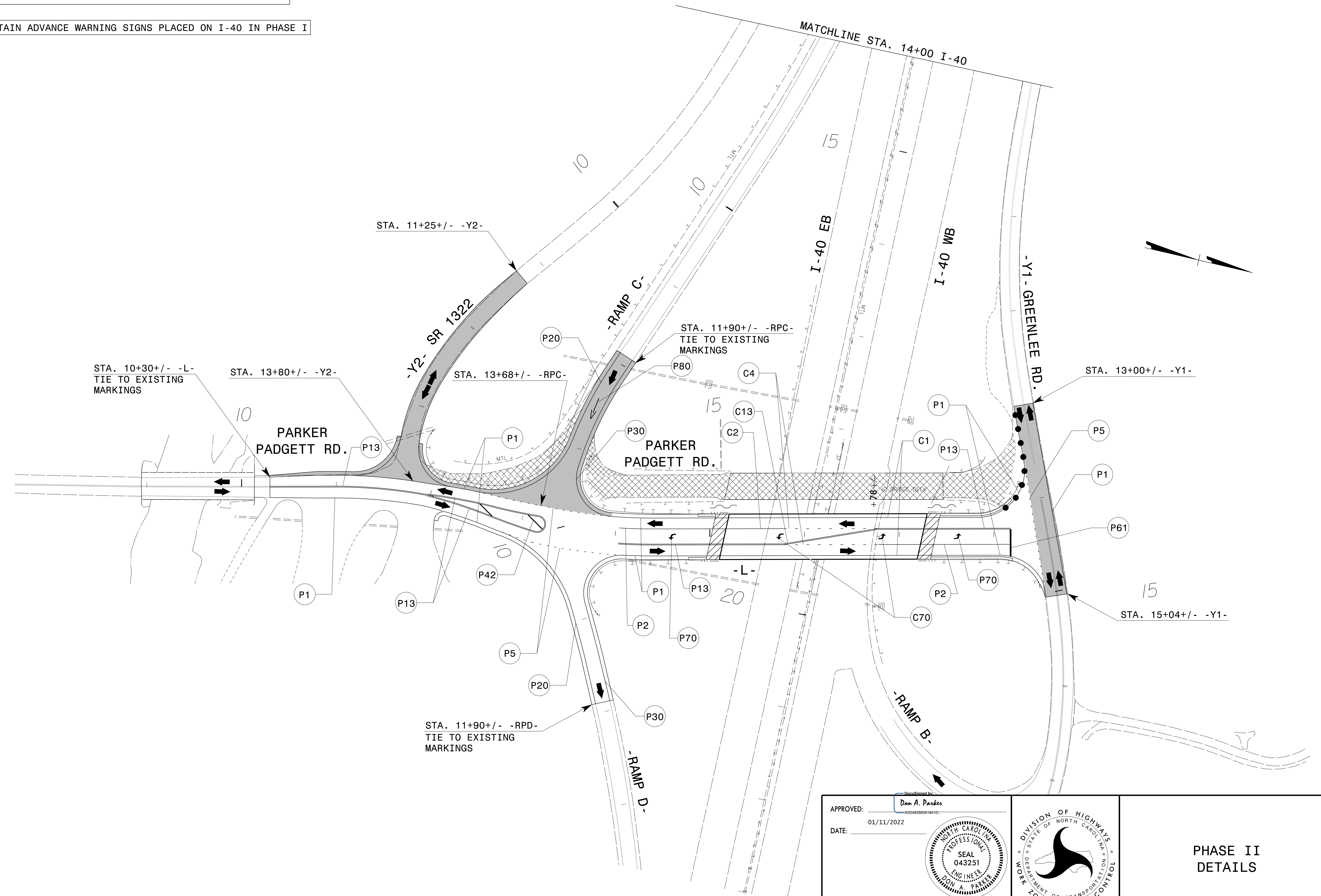
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PHASE I  
DETAILS

SEE FINAL PAVEMENT MARKING PLAN FOR STATIONING AND DIMENSIONS OF TEMPORARY MARKINGS IN THE FINAL PATTERN

MAINTAIN ADVANCE WARNING SIGNS PLACED ON I-40 IN PHASE I

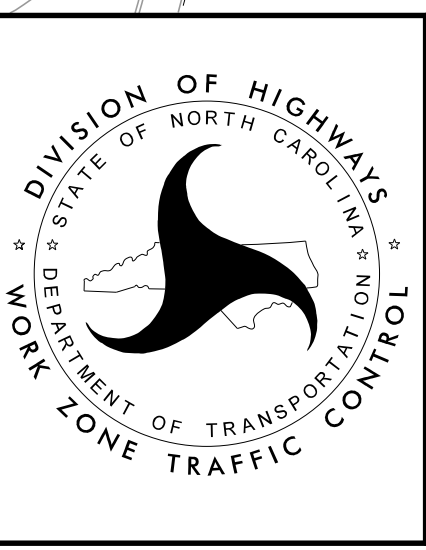


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PHASE II  
 DETAILS