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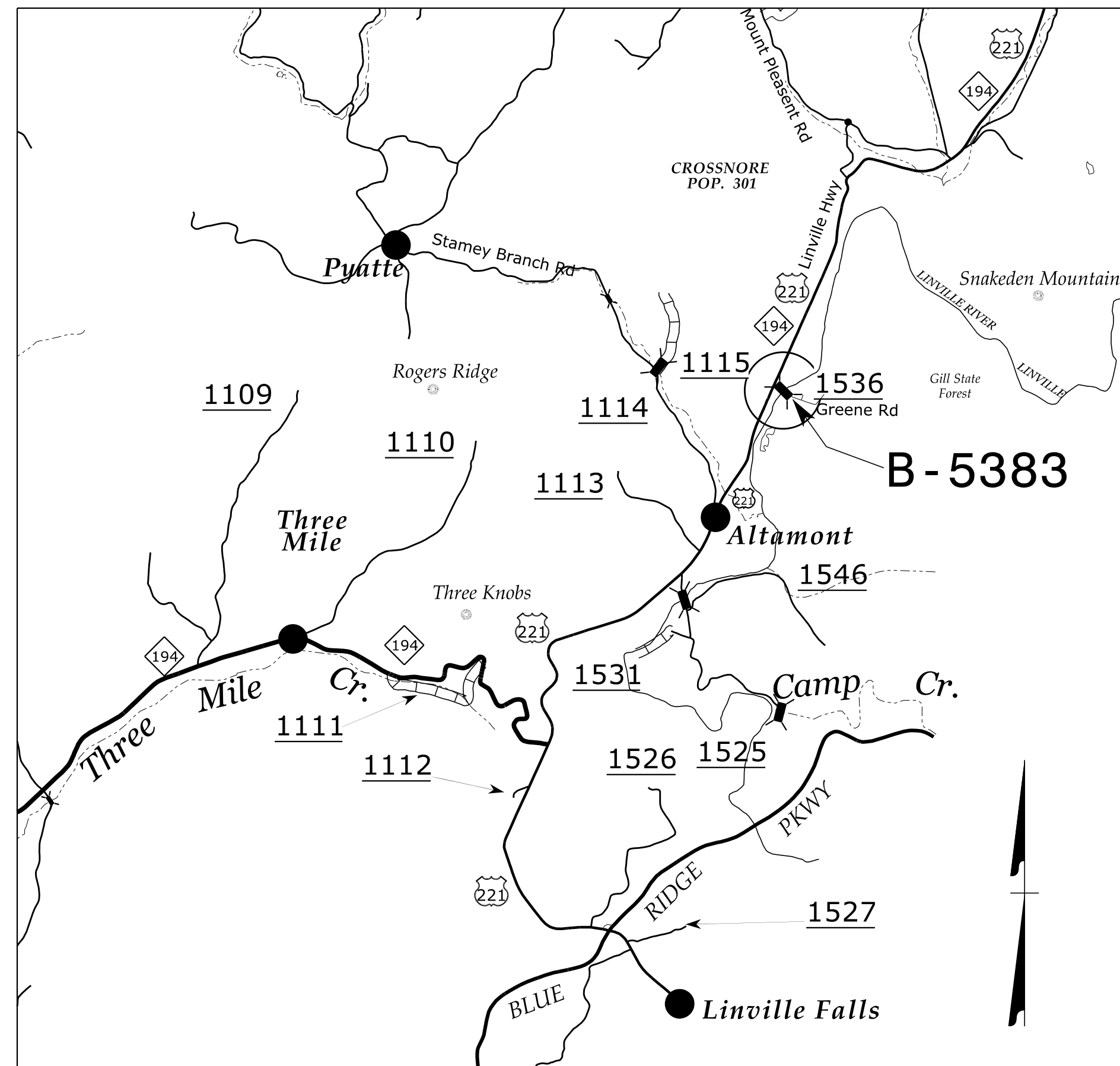
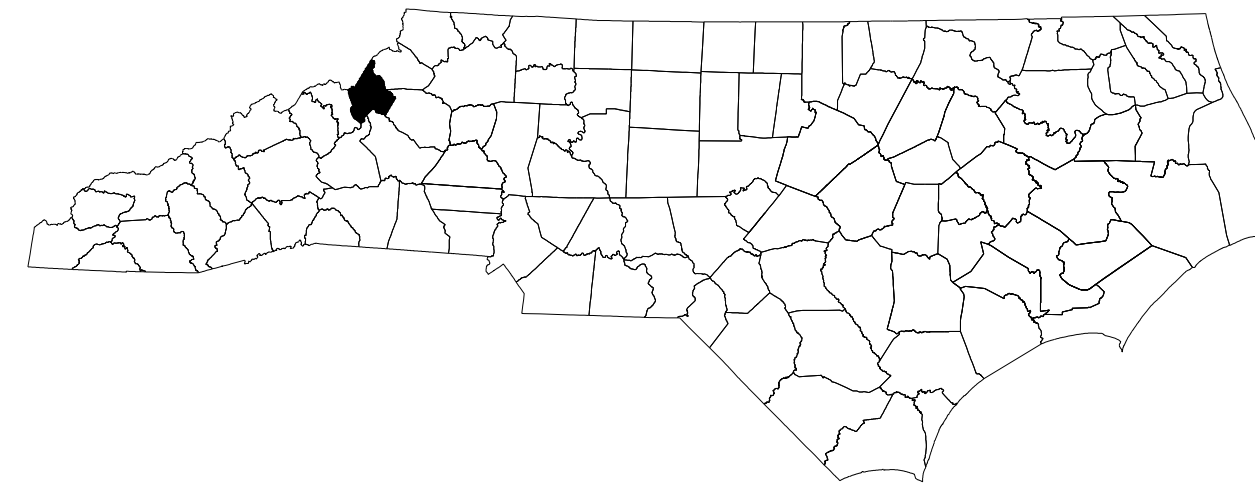
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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**AVERY COUNTY**



LOCATION: BRIDGE NO. 143 OVER LINVILLE RIVER ON SR 1536 (GREENE ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, GUARDRAIL, STRUCTURES

**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 AND GENERAL NOTES)
TMP-2	PHASING
TMP-3	PHASE I
TMP-4	PHASE II
TMP-5	PHASE III (STEP 1B)
TMP-6	DETAIL DRAWING FOR ONE-WAY ADVANCE WORK ZONE WARNING SIGNS

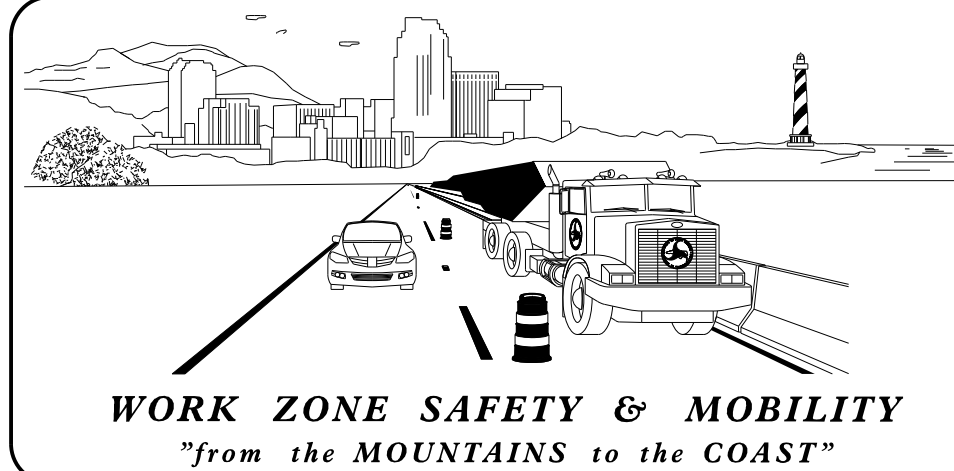
SHEET NO.

TMP-1

**B-5383**

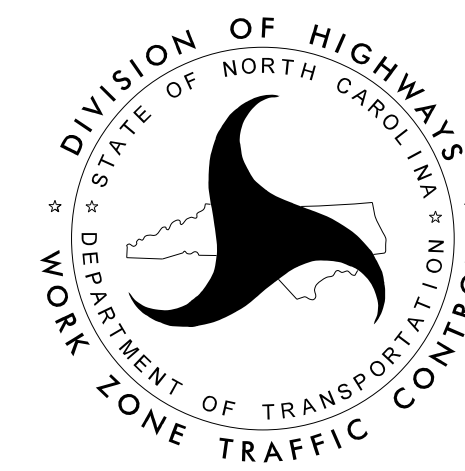
**TIP PROJECT:**

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**N.C.D.O.T. WORK ZONE TRAFFIC CONTROL**  
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561  
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)  
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER  
D. A. PARKER, P.E. TRAFFIC CONTROL PROJECT ENGINEER  
R. M. GARRETT TRAFFIC CONTROL PROJECT DESIGN ENGINEER  
K. E. DAIS TRAFFIC CONTROL DESIGN ENGINEER



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SEAL



## ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM
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

## LEGEND

### GENERAL

- DIRECTION OF TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.



WORK AREA



REMOVAL

### PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

### TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- FLAGGER
- TRUCK MOUNTED ATTENUATOR (TMA)

### TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

### PAVEMENT MARKERS

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

### TEMPORARY PAVEMENT MARKING

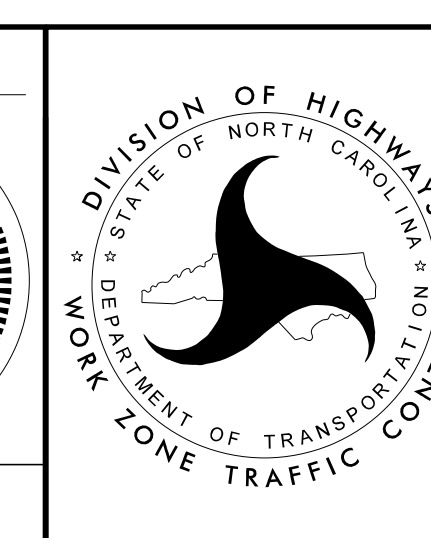
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PA WHITE EDGELINE

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ROADWAY STANDARD  
DRAWINGS AND LEGEND

## MANAGEMENT STRATEGIES

SR 1536 EXISTS AS A ONE-LANE/TWO-WAY ROAD. A ONE-LANE/TWO-WAY TRAFFIC PATTERN WILL BE MAINTAINED DURING PROPOSED CONSTRUCTION BY AN ONSITE DETOUR.

TRAFFIC WILL REMAIN IN A ONE-LANE/TWO-WAY PATTERN ON THE NEWLY CONSTRUCTED BRIDGE AND ROADWAY UNTIL PERMANENT GUARDRAIL HAS BEEN INSTALLED AT ALL FOUR QUADRANTS OF THE NEWLY CONSTRUCTED BRIDGE.

FLAGGERS WILL MAINTAIN TRAFFIC DURING COMPLETION OF THE FINAL LAYER OF ASPHALT AND THE FINAL PAVEMENT MARKINGS.

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

- G) 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

- H) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

### SIGNING

- I) 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.
- L) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- M) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

### 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) 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 ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING
SR 1536 (GREENE RD)	PAINT

- S) 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.

### MISCELLANEOUS

- V) 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) AND RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

## 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.

### LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) 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.
- B) 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.
- C) 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.
- D) 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.

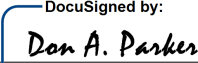
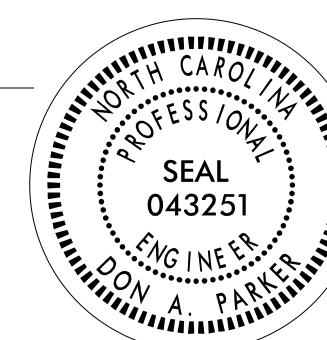
- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

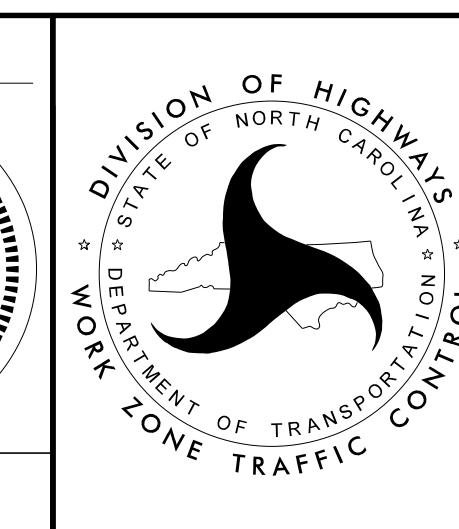
### PAVEMENT EDGE DROP OFF REQUIREMENTS

- F) 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.

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

## PHASING

- RSD REFERS TO 2012 NCDOT ROADWAY STANDARD DRAWINGS
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- MAINTAIN DRIVEWAY ACCESS WITHIN PROJECT LIMITS.

### PHASE I

STEP 1: INSTALL ADVANCE WARNING SIGNS ON US 221/NC 194 AND SR 1536 - GREENE ROAD PER TMP-6.

STEP 2: USING RSD 1101.02, SHEET 1 OF 15, AS NECESSARY, COMPLETE THE FOLLOWING:

- A. INSTALL TRAFFIC CONTROL DEVICES PER TMP-3.
- B. CONSTRUCT THE PROPOSED DETOUR STRUCTURE AND ROADWAY FROM -DET- STA. 11+26± TO -DET- STA. 13+76± UP TO THE EXISTING TRAVEL EDGE AND ELEVATION.

### PHASE II

STEP 1: USING RSD 1101.02, SHEET 1 OF 15, AS NECESSARY, COMPLETE THE FOLLOWING IN A CONTINUOUS MANNER:

- A. COMPLETE THE TIE-INS FOR -DET- AND PLACE TEMPORARY PAVEMENT MARKINGS PER TMP-4.
- B. SHIFT TRAFFIC TO -DET- AND CLOSE THE EXISTING ROAD PER TMP-4.

STEP 2: USING RSD 1101.02, SHEET 1 OF 15, AS NECESSARY, COMPLETE THE FOLLOWING:

- A. REMOVE THE EXISTING STRUCTURE.
- B. CONSTRUCT THE PROPOSED STRUCTURE.
- C. CONSTRUCT -L-, UP TO THE -DET- TRAVEL EDGE AND ELEVATION, AND NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

### PHASE III

STEP 1: USING RSD 1101.02, SHEET 1 OF 15, AS NECESSARY, COMPLETE THE FOLLOWING IN A CONTINUOUS MANNER:

- A. COMPLETE THE TIE-INS FOR -L-.
- B. SHIFT TRAFFIC TO -L- IN A ONE-LANE / TWO-WAY TRAFFIC PATTERN USING DRUMS TO KEEP THE -L- RT LANE CLOSED UNTIL ALL PROPOSED GUARDRAIL INSTALLED. (SEE TMP-5)
- C. REMOVE THE DRUMS AND OPEN SR 1536 TO THE FINAL TRAFFIC PATTERN.

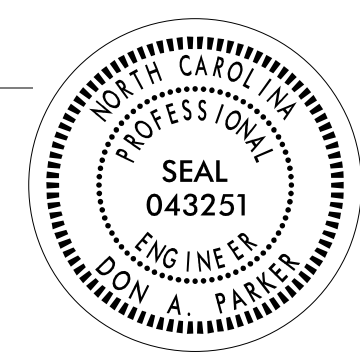

STEP 2: USING RSD 1101.02, SHEET 1 OF 15, REMOVE TEMPORARY DETOUR STRUCTURE AND ROADWAY.

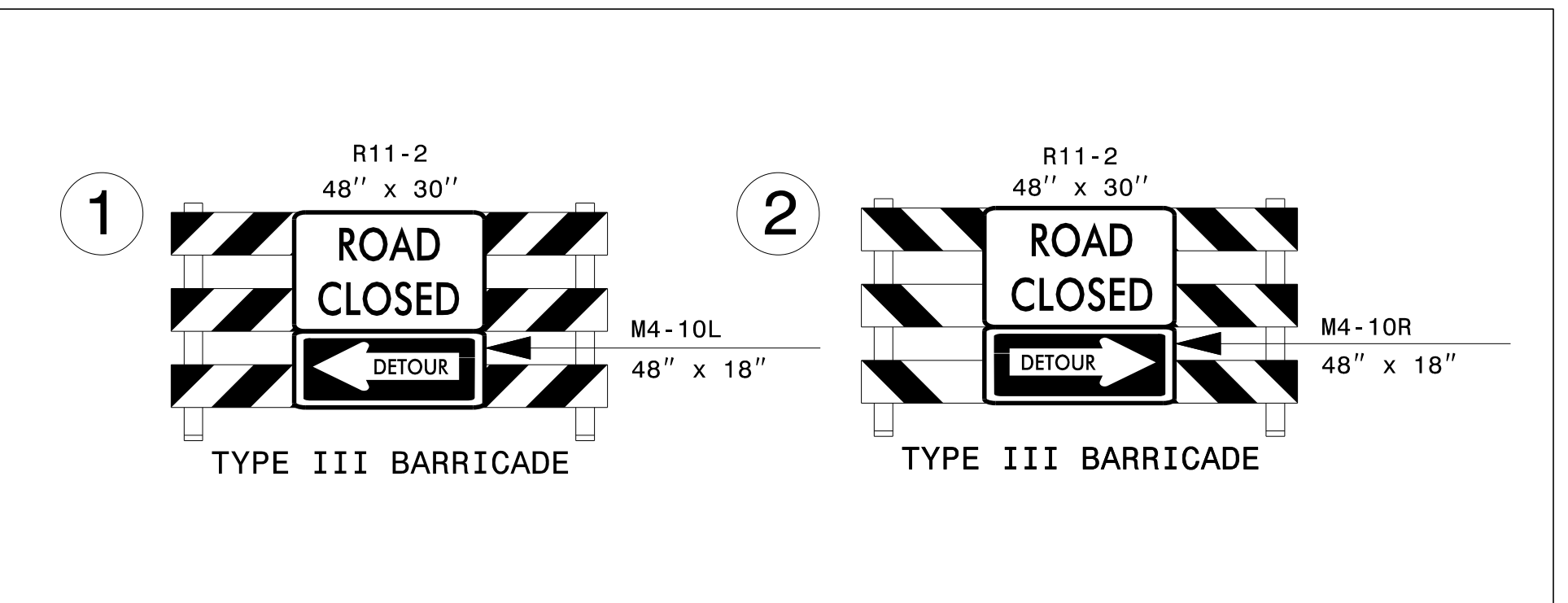
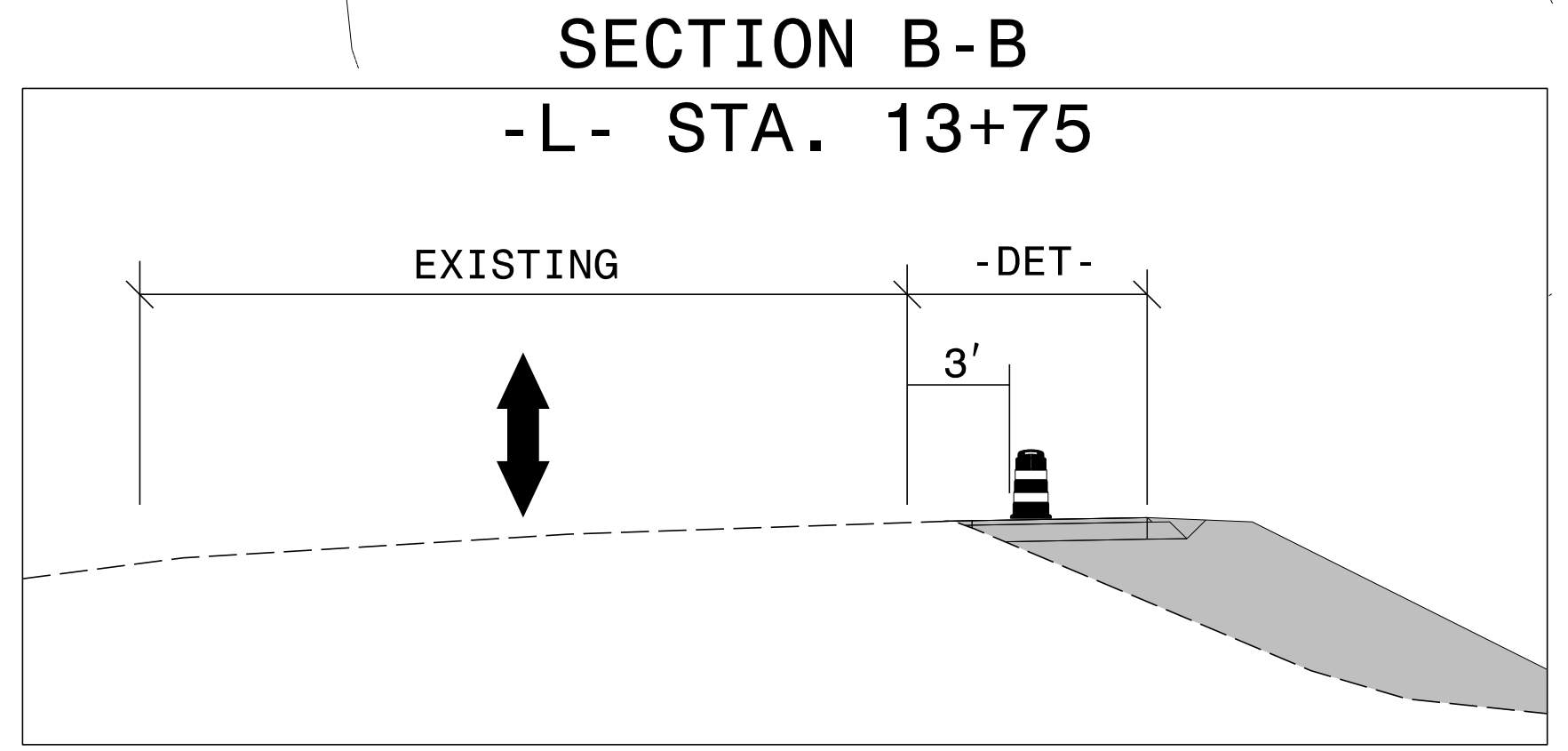
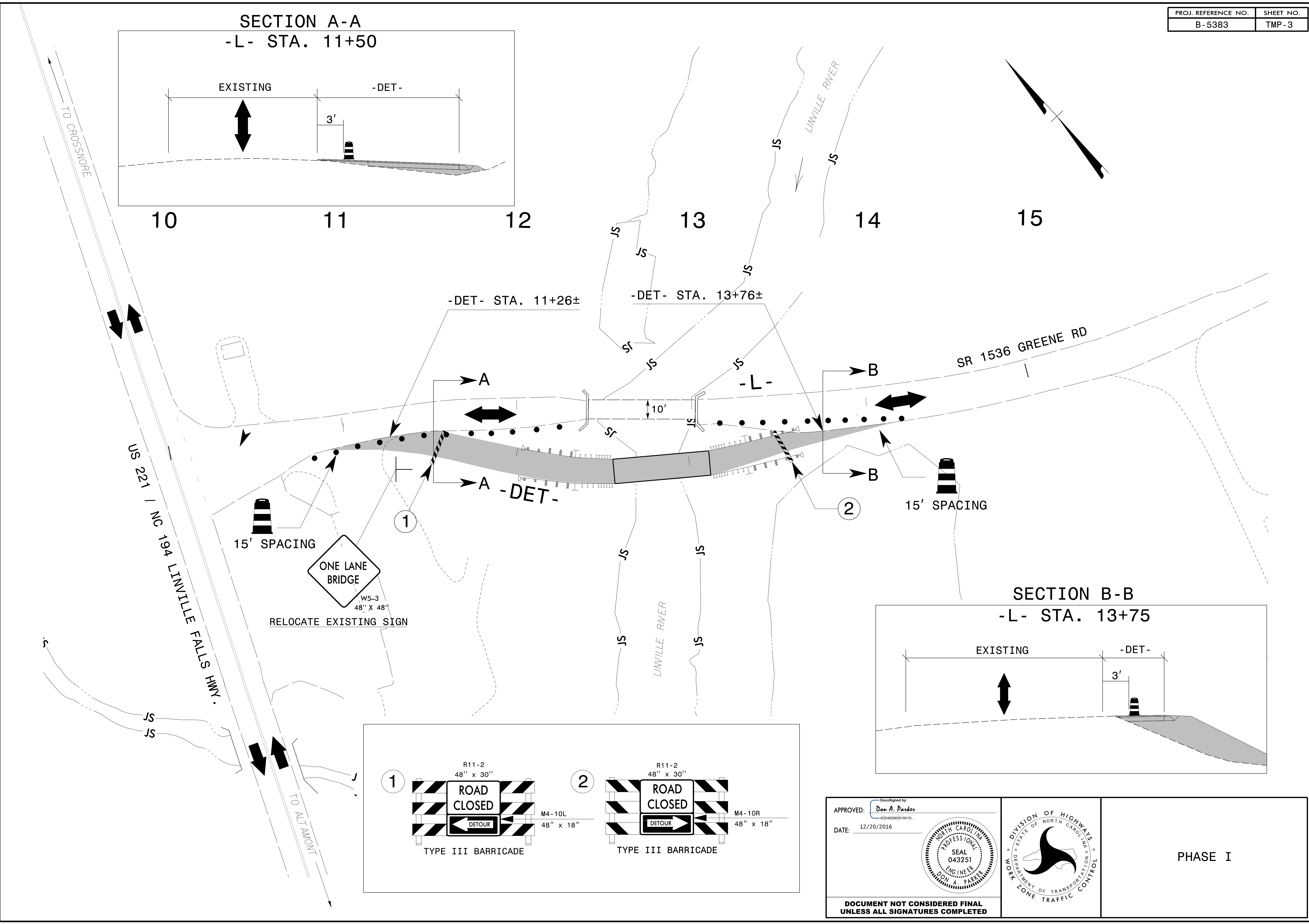
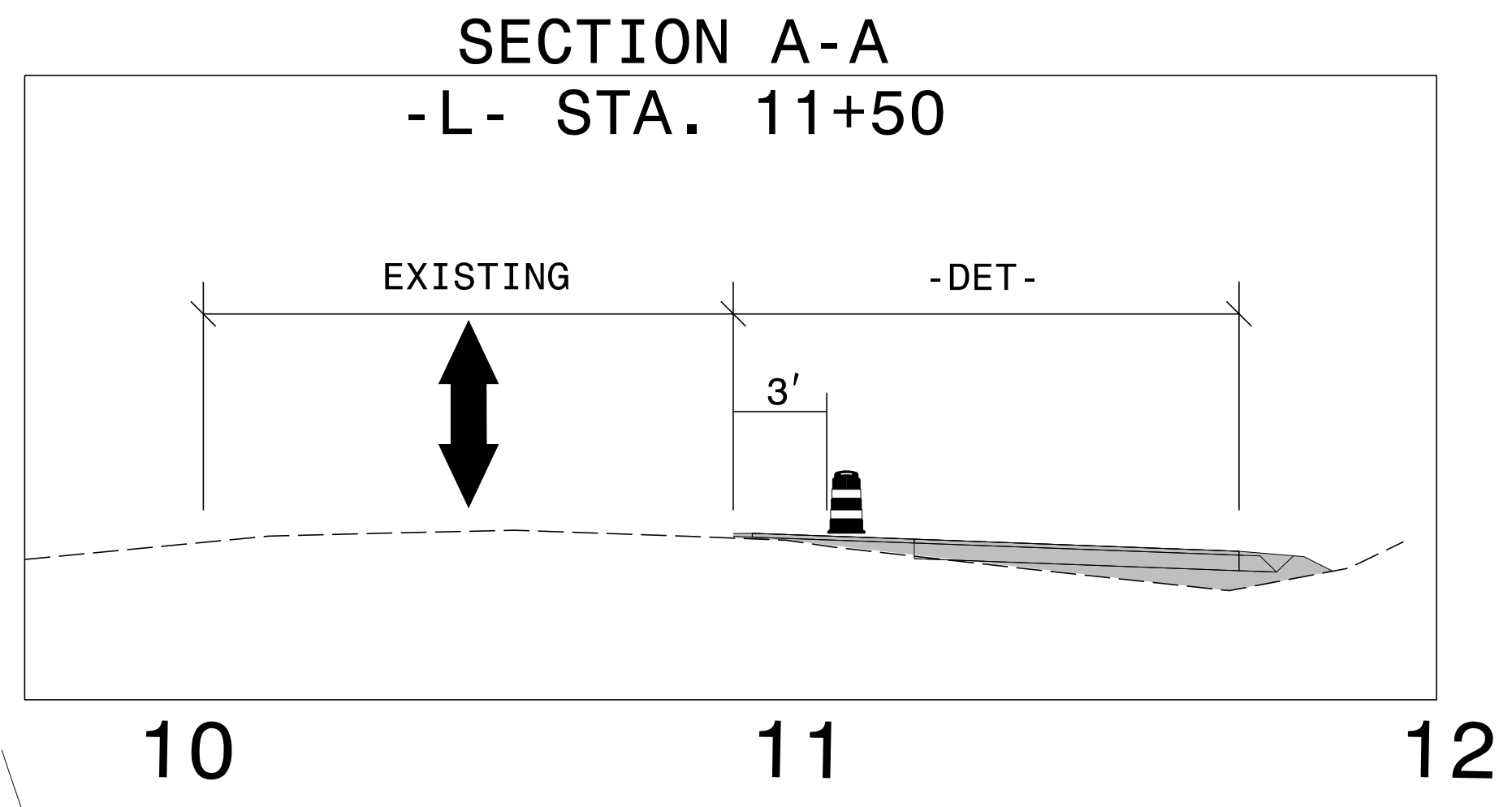
STEP 3: USING RSD 1101.02, SHEET 1 OF 15, AS NECESSARY, COMPLETE THE FOLLOWING:

- A. COMPLETE CONSTRUCTION OF -L- INCLUDING FINAL LAYER OF SURFACE COURSE.

STEP 4: REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES.

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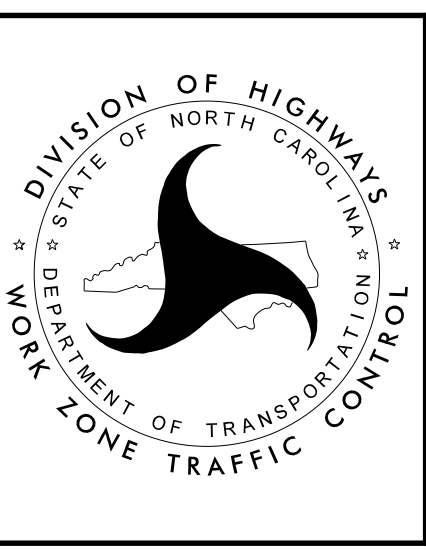
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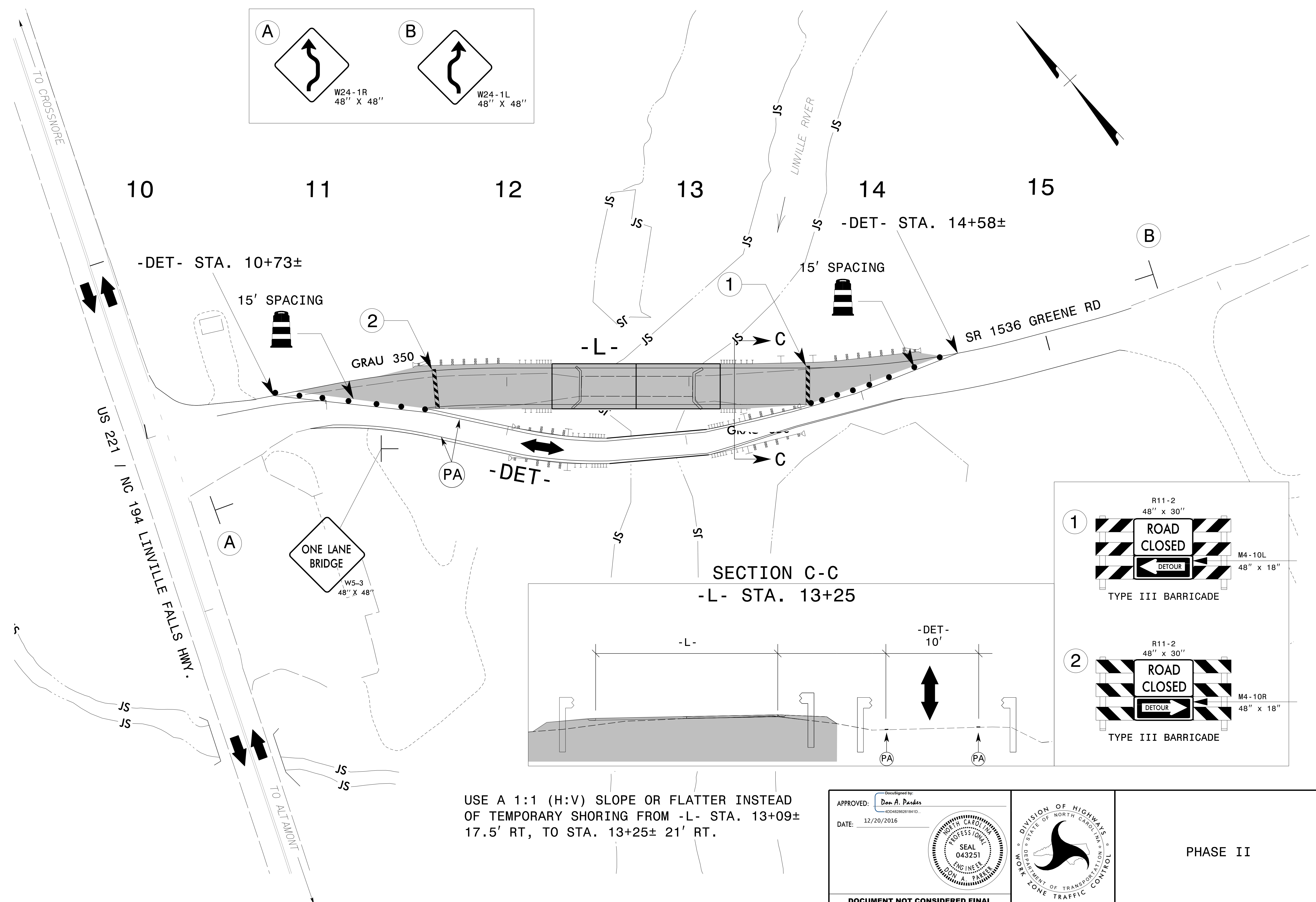
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**PHASE I**

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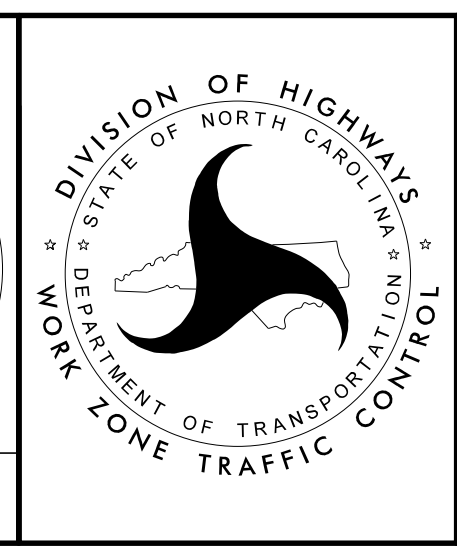


USE A 1:1 (H:V) SLOPE OR FLATTER INSTEAD OF TEMPORARY SHORING FROM -L- STA. 13+09± 17.5' RT, TO STA. 13+25± 21' RT.

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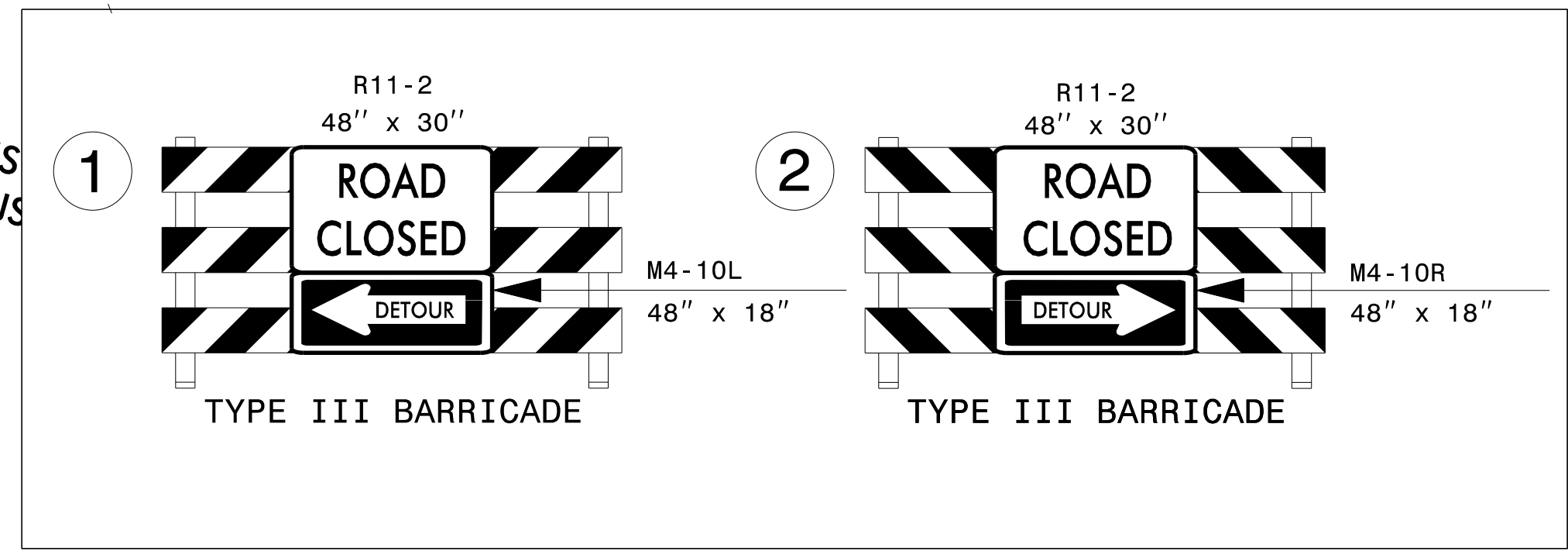
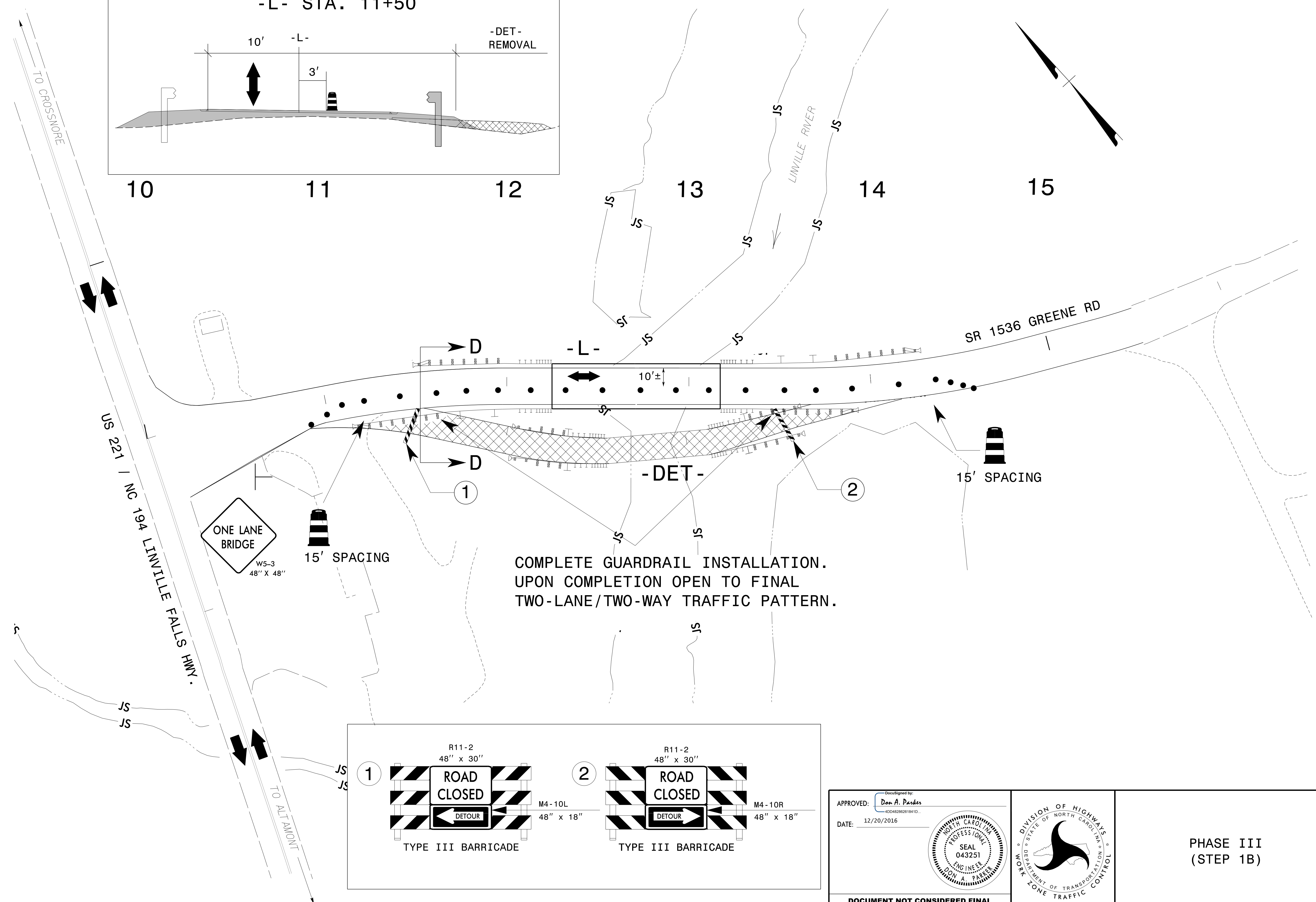
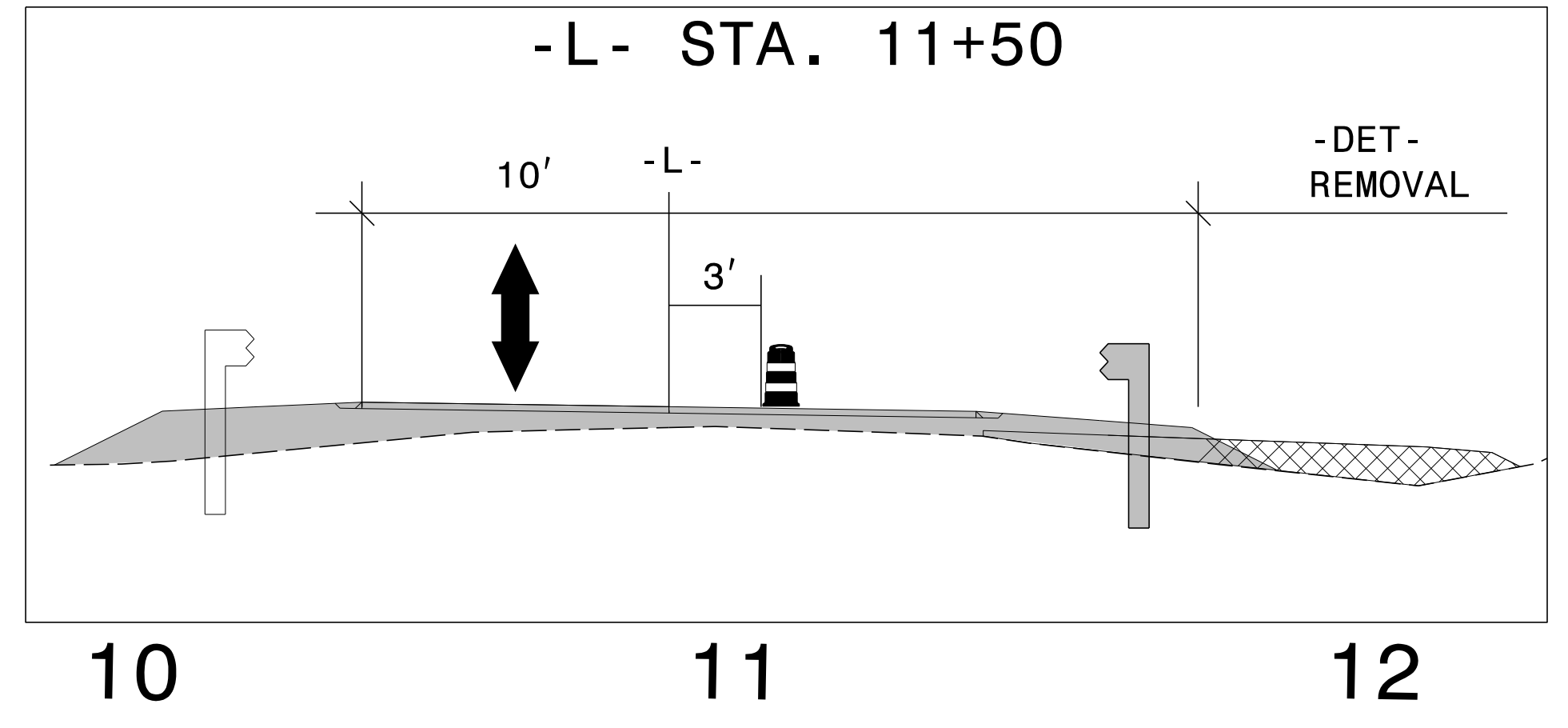
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PHASE II

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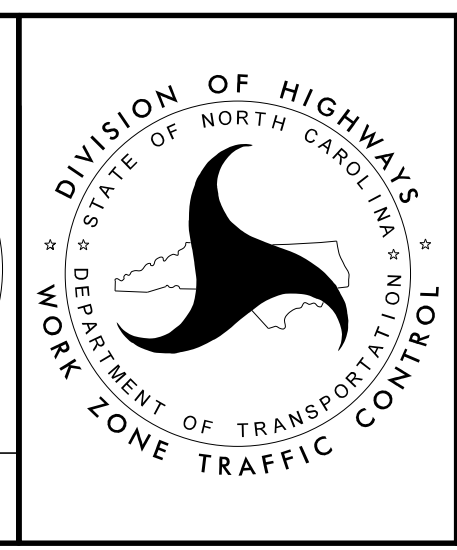
SECTION D-D  
-L- STA. 11+50



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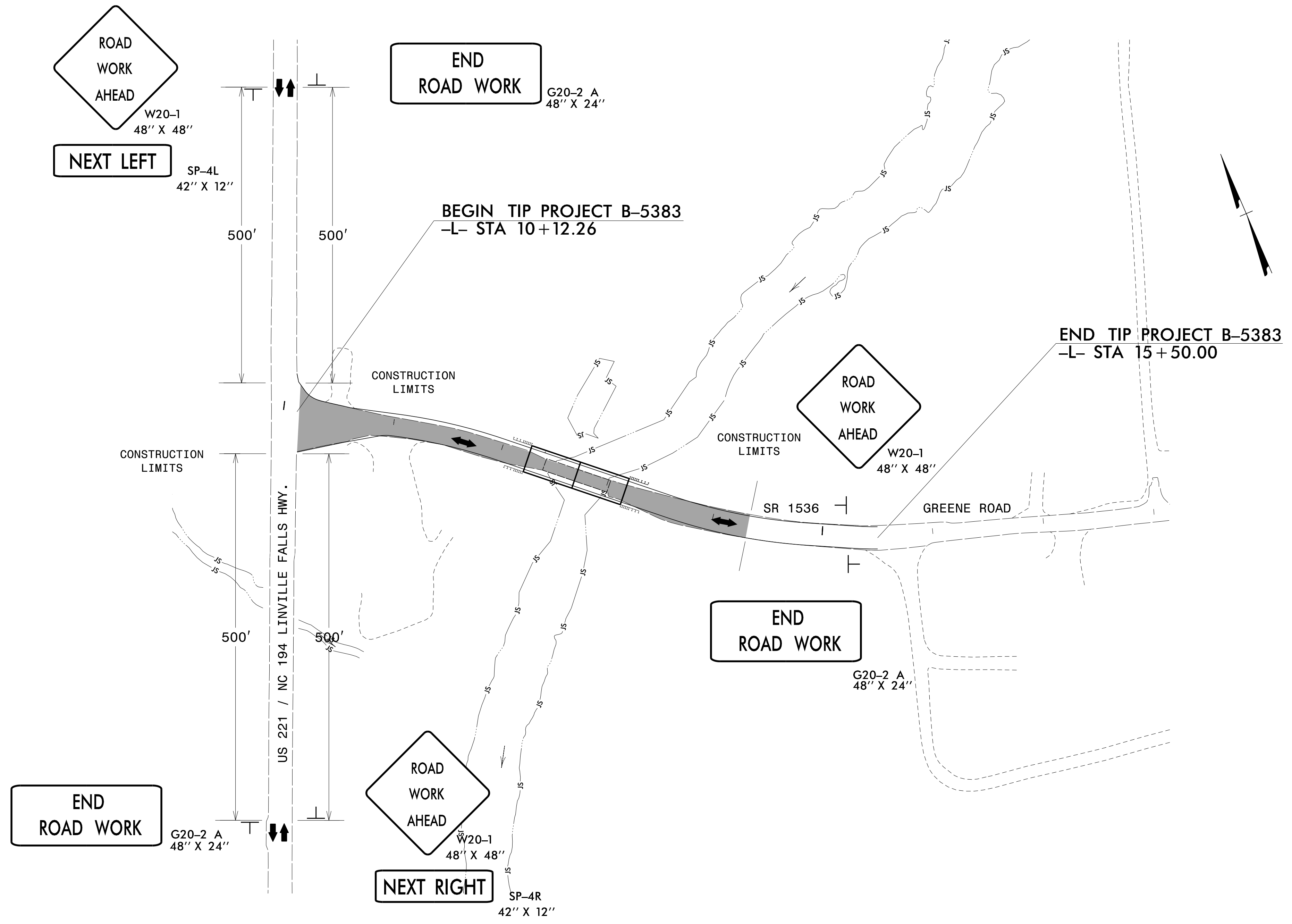
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PHASE III  
(STEP 1B)

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**GENERAL NOTES**

- USE GRADE B FLUORESCENT ORANGE SHEETING ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.

**LEGEND**

T STATIONARY SIGN

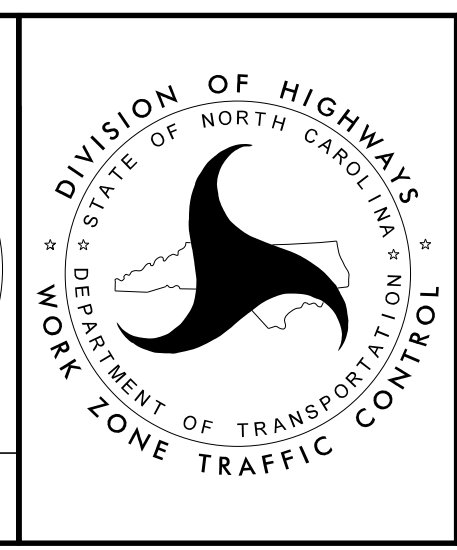
◀ DIRECTION OF TRAFFIC FLOW

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**DETAIL DRAWING FOR  
 ONE-WAY ADVANCE WORK  
 ZONE WARNING SIGNS**

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