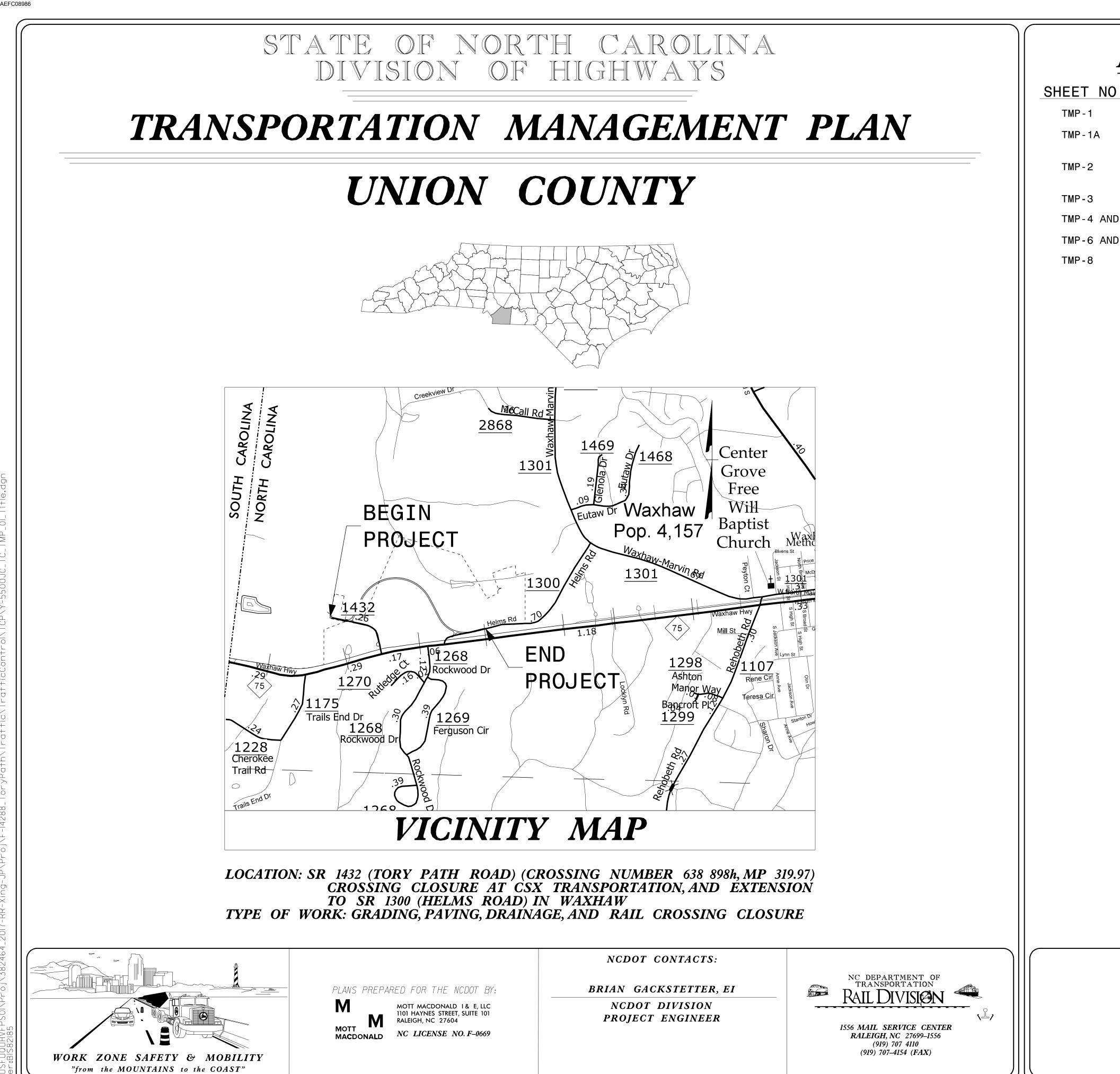
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	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND TRANSPORTATION OPERATIONS PLAN (MANAGEMENT STRATEGIES AND GENERAL NOTES) TEMPORARY TRAFFIC CONTROL PHASING TEMPORARY TRAFFIC CONTROL PHASE I TEMPORARY TRAFFIC CONTROL PHASE II TEMPORARY TRAFFIC CONTROL PHASE III	<u>TITLE</u> TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS	DEX OF SHEETS	
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# ROADWAY STANDARD DRAWI

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAW N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDE A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.11	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 ROAD
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS

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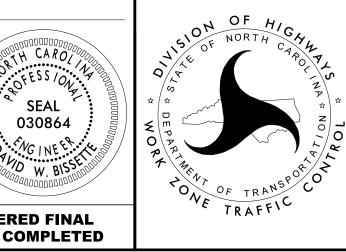
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OWAYS	WEDGING WEDGING TEMPORARY PAVEMENT SIGNALS EXISTING PROPOSED PROPOSED PAVEMENT MARKINGS EXISTING LINES TEMPORARY LINES
	TEMPORARY PAVEMENT
	PAVEMENT MARKING LINES PAVEME
	PAINT (4") P1 WHITE EDGE LINE P5 2 FT - 6 FT/SP WHITE MINISKIP P100 A P13 YELLOW DOUBLE CENTER
	PAINT (16") P60 WHITE LINE RR X
	PAINT (24") P61 WHITE STOPBAR
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### ROADWAY STANDARD DRAWINGS & LEGEND

# MANAGEMENT STRATEGIES

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

**RECOMMENDED STRATEGIES:** 

TRAFFIC MANAGEMENT STRATEGIES: LANE SHIFTS OR CLOSURES SHOULDER CLOSURES ONE-LANE, TWO WAY OPERATION (FLAGGING)

## **GENERAL NOTES**

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL SIGNING DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING J) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT OF DEVICES. MODIFICATION MAY INCLUDE: MOVING. SUPPLEMENTING. COVERING. FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER. TO THE BEGINNING OF CONSTRUCTION. THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE K) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR TRAFFIC PATTERN. DIRECTED BY THE ENGINEER. INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS L) (W8-1) 200 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE LANE AND SHOULDER CLOSURE REQUIREMENTS ENGINEER. 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 TRAFFIC CONTROL DEVICES LONGER NEEDED OR AS DIRECTED BY THE ENGINEER. M) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY (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 STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED. STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS. WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER C) N) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY. STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL. PAVEMENT MARKINGS AND MARKERS WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF 0) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS D) TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS: ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL MARKING MARKER ROAD NAME PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE. ALL ROADS PAINT NONE DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN E) TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED P) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. WITH GUARDRAIL OR BARRIER. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE F) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ENGINEER. ON ANY ROAD. Q) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING PAVEMENT EDGE DROP OFF REQUIREMENTS LINES. G) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING R) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION. PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS: MISCELLANEOUS BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER. S) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER. BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH. T) 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) BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT. AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 200 FT AND 400 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS. H) LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 200 FT IN ADVANCE AND A V) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA. PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT. TRAFFIC PATTERN ALTERATIONS

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

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#### TRANSPORTATION OPERATIONS PLAN

# TRAFFIC CONTROL PHASING

NOTE: THE FINAL LAYER OF SURFACE COURSE AND THE FINAL PAVEMENT MARKINGS SHOULD NOT BE PLACED ON ANY SURFACES UNTIL PHASE IV.

PHASE I

- STEP 1. USING RSD 1101.02 SHEETS 1 AND 2 OF 14 INSTALL THE WORK ZONE ADVANCE WARNING SIGNS. SEE ROADWAY STANDARD DRAWING (RSD) 1101.01 SHEET 3 OF 3.
- STEP 2. WORKING AWAY FROM TRAFFIC AND USING RSD 1101.02, SHEETS 1 AND 2 OF 14 AS NEEDED, BEGIN CONSTRUCTION OF THE PROPOSED -L- STATION 13+25+/- TO STATION 53+00+/-. MAINTAIN TRAFFIC IN THE EXISTING PATTERNS ON HELMS ROAD AND TORY PATH ROAD USING WEDGING AND INCIDENTAL STONE AS NEEDED. CLOSE THE PROPOSED -L- (TORY PATH ROAD / HELMS ROAD CONNECTOR) WITH BARRICADES. SEE TMP-4 AND TMP-5.

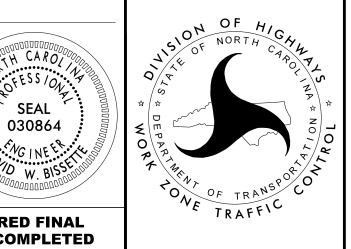
#### PHASE II

- NOTE: PHASE II, STEP 1 AND STEP 2 CAN BE PERFORMED CONCURRENTLY. STEP 2 CAN BE PERFORMED PRIOR STEP 1. EACH STEP SHOULD BE PURSUED TO COMPLETION, ONCE BEGAN.
- NOTE: -L- (TORY PATH ROAD / HELMS ROAD CONNECTOR) WILL REMAIN CLOSED FROM STATION 18+00+/- TO STATION 46+25+/- UNTIL THE END OF PHASE II.
- STEP 1. WORKING IN A CONTINUOUS MANNER AND USING RSD 1101.02, SHEETS 1 AND 2 OF 14 AND SHEET TMP-6, MAINTAIN TRAFFIC ON TORY PATH ROAD USING WEDGING AND INCIDENTAL STONE AS NEEDED, AND COMPLETE THE FOLLOWING:
  - CONSTRUCT THE LEFT SIDE OF -L- (TORY PATH ROAD) FROM STATION 13+25+/- TO STATION 18+00+/-
  - WEDGE -L- (TORY PATH ROAD) FROM STATION 13+25+/- TO STATION 18+00+/- AND -Y1- (TORY PATH ROAD) FROM STATION 10+00+/- TO STATION 11+00+/-
  - -PLACE TEMPORARY PAINT PAVEMENT MARKINGS ON -L- FROM STATION 13+25+/- TO STATION 18+00+/- AND ON -Y1- FROM STATION 10+00+/-TO STATION 11+00+/-
  - -INSTALL TEMPORARY SIGNS R1-1, W1-1L, AND W13-1
  - -SHIFT TORY PATH ROAD TRAFFIC TO THE PROPOSED ALIGNMENT ON -L-FROM STATION 13+25+/- TO STATION 18+00+/- AND ON -Y1- FROM STATION 10+00+/- TO STATION 11+00+/-
  - -CONSTRUCT THE RIGHT SIDE OF -L- (TORY PATH ROAD) FROM STATION 13+25+/- TO STATION 18+00+/-
- NOTE: TEMPORARY SIGNS R1-1, W1-1L, AND W13-1 SHALL BE INSTALLED PRIOR TO THE END OF THE WORK DAY WHEN TRAFFIC IS SHIFTED TO THE PROPOSED PATTERN.
- STEP 2. WORKING IN A CONTINUOUS MANNER AND USING RSD 1101.02, SHEETS 1 AND 2 OF 14 AND SHEET TMP-7, MAINTAIN TRAFFIC ON HELMS ROAD USING WEDGING AND INCIDENTAL STONE AS NEEDED, AND COMPLETE THE FOLLOWING:
  - CONSTRUCT THE LEFT SIDE OF -L- (HELMS ROAD) FROM STATION 46+25+/- TO STATION 53+00+/-
  - WEDGE -L- (HELMS ROAD) FROM STATION 46+25+/- TO STATION 53+00+/- AND -Y2- (HELMS ROAD) FROM STATION 10+00+/- TO STATION 11+40+/-
  - -PLACE TEMPORARY PAINT PAVEMENT MARKINGS ON -L- FROM STATION 46+25+/- TO STATION 53+00+/- AND ON -Y2- FROM STATION 10+00+/-TO STATION 11+40+/-
  - -INSTALL TEMPORARY SIGNS R1-1, R1-3P, W3-1A, W1-1L, AND W10-1
  - -SHIFT TRAFFIC TO THE PROPOSED ALIGNMENT ON -L- FROM STATION 46+25+/- TO STATION 53+00+/- AND ON -Y2- FROM STATION 10+00+/-TO STATION 11+40+/-
  - -CLOSE THE EXISTING HELMS RD ALIGNMENT WITH DRUMS AND BARRICADES
  - -CONSTRUCT THE RIGHT SIDE OF -L- (HELMS ROAD) FROM STATION 46+25+/- TO STATION 53+00+/-
- NOTE: TEMPORARY SIGNS R1-1, R1-3P, W3-1A, W1-1L, AND W10-1 SHALL BE INSTALLED PRIOR TO THE END OF THE WORK DAY WHEN TRAFFIC IS SHIFTED TO THE PROPOSED PATTERN.

STEP 3. WORKING AWAY FROM TRAFFIC AND USING RSD 1101.02, SHEETS 1 AND 2 OF 14 AS NEEDED, COMPLETE CONSTRUCTION OF THE PROPOSED -L- (TORY PATH ROAD / HELMS ROAD CONNECTOR) FROM STATION 13+25+/- TO STATION 53+00+/-. STEP 4. REMOVE BARRICADES AND OPEN THE PROPOSED -L- (TORY PATH ROAD / HELMS ROAD CONNECTOR) TO TRAFFIC PHASE III STEP 1. USING RSD 1101.02, SHEETS 1 AND 2 OF 14 AND TMP-8, CLOSE -Y1-(TORY PATH ROAD) BETWEEN STATION 19+00+/- AND STATION 20+24+/-NOTE: INSTALL W14-1 SIGN PRIOR TO CLOSING -Y1- (TORY PATH ROAD) NOTE: -Y1- (TORY PATH ROAD) SHALL NOT BE CLOSED UNTIL THE PROPOSED -L-(TORY PATH ROAD / HELMS ROAD CONNECTOR) IS FULLY OPENED. STEP 2. USING RSD 1101.02, SHEETS 1 AND 2 OF 14 AND TMP-8, CONSTRUCT THE PROPOSED - Y1- FROM STATION 10+00+/- TO STATION 18+75+/-PHASE IV STEP 1. USING RSD 1101.02, SHEETS 1 AND 2 OF 14 PLACE THE FINAL LAYER OF SURFACE COURSE AND THE FINAL PAVEMENT MARKINGS. STEP 2. USING RSD 1101.02 SHEETS 1 AND 2 OF 14 REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES INCLUDING THE WORK ZONE ADVANCE WARNING SIGNS. APPROVED: David Bissette DATE: 5/12/2022

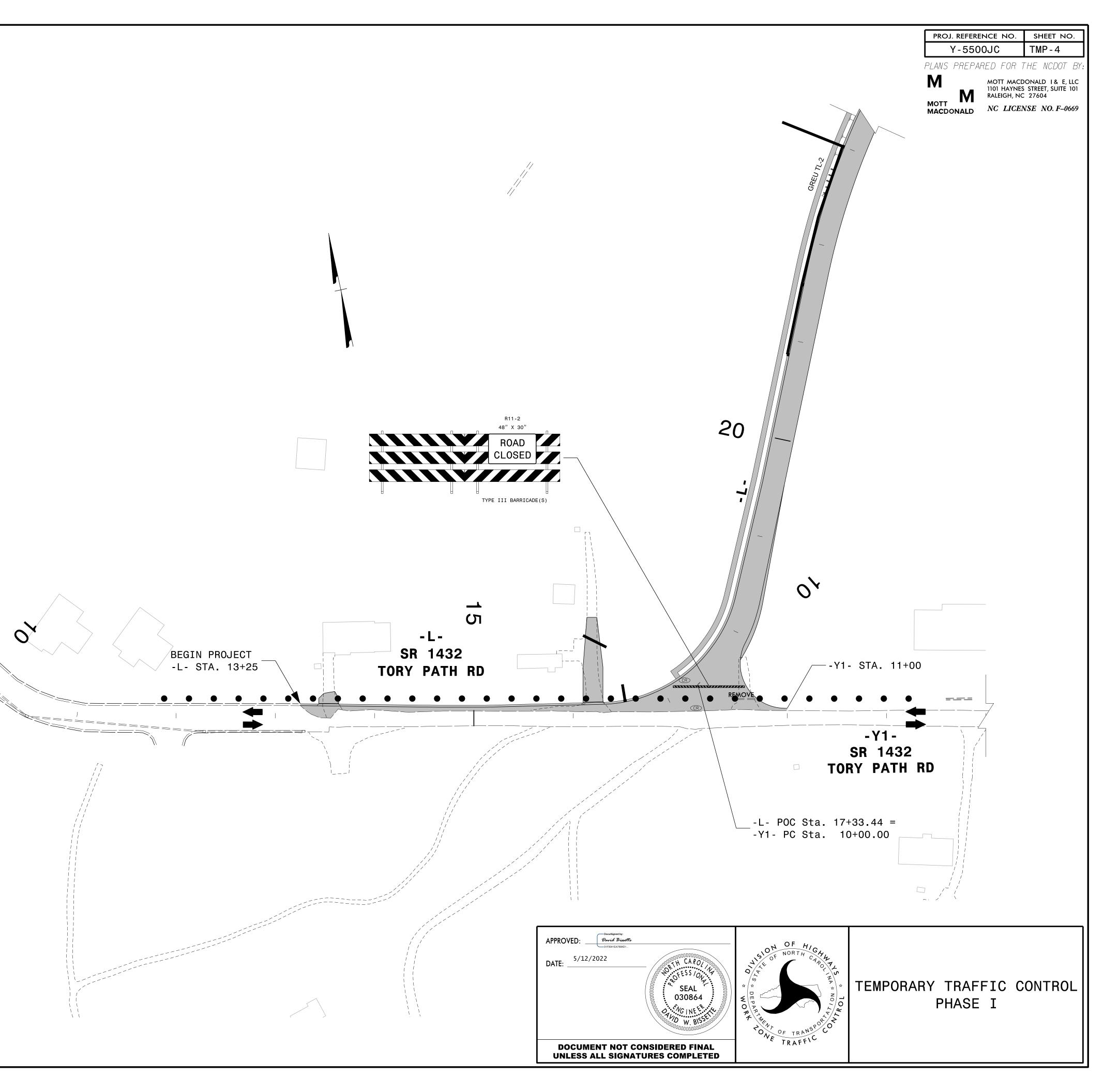
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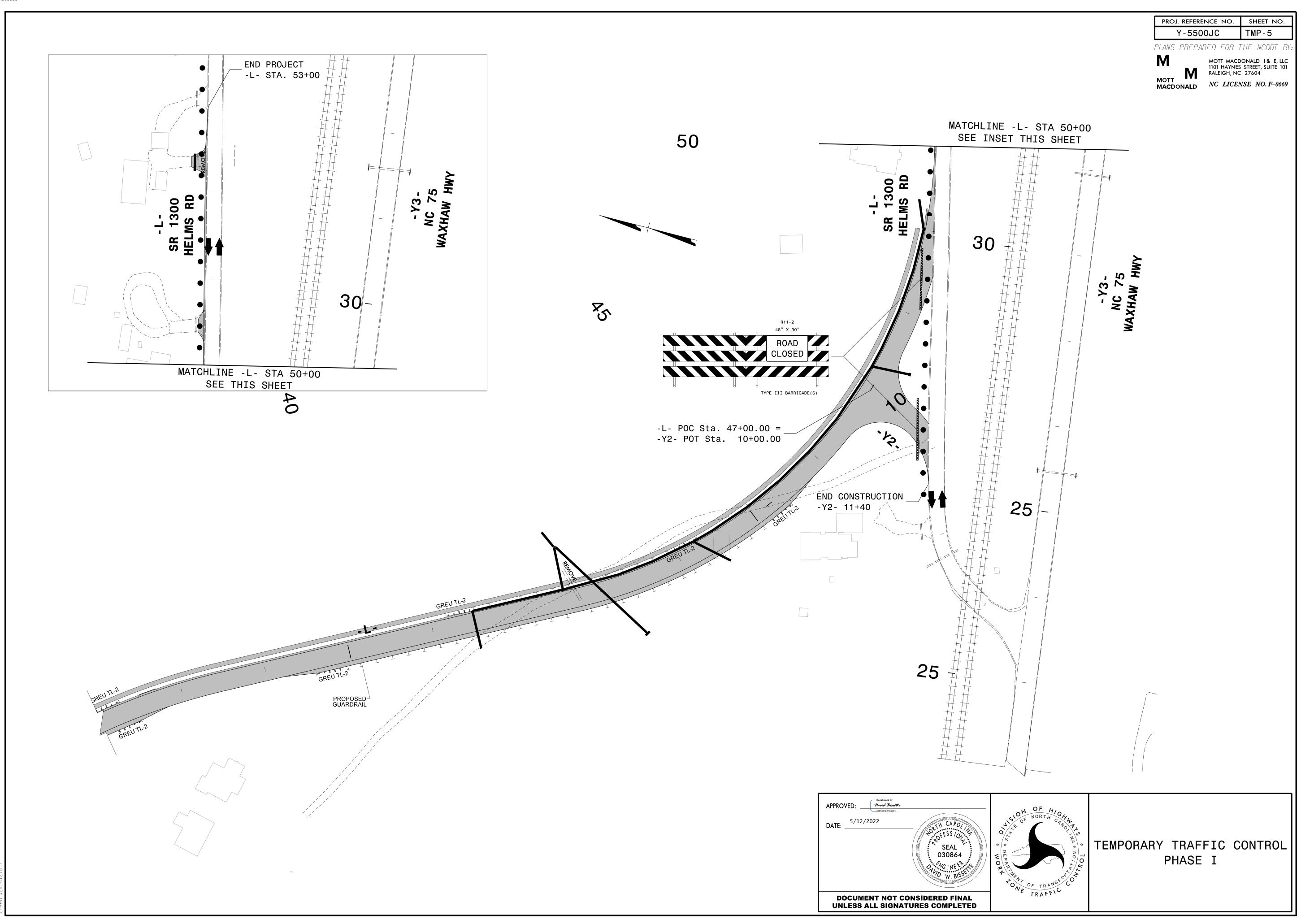
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## TEMPORARY TRAFFIC CONTROL PHASING

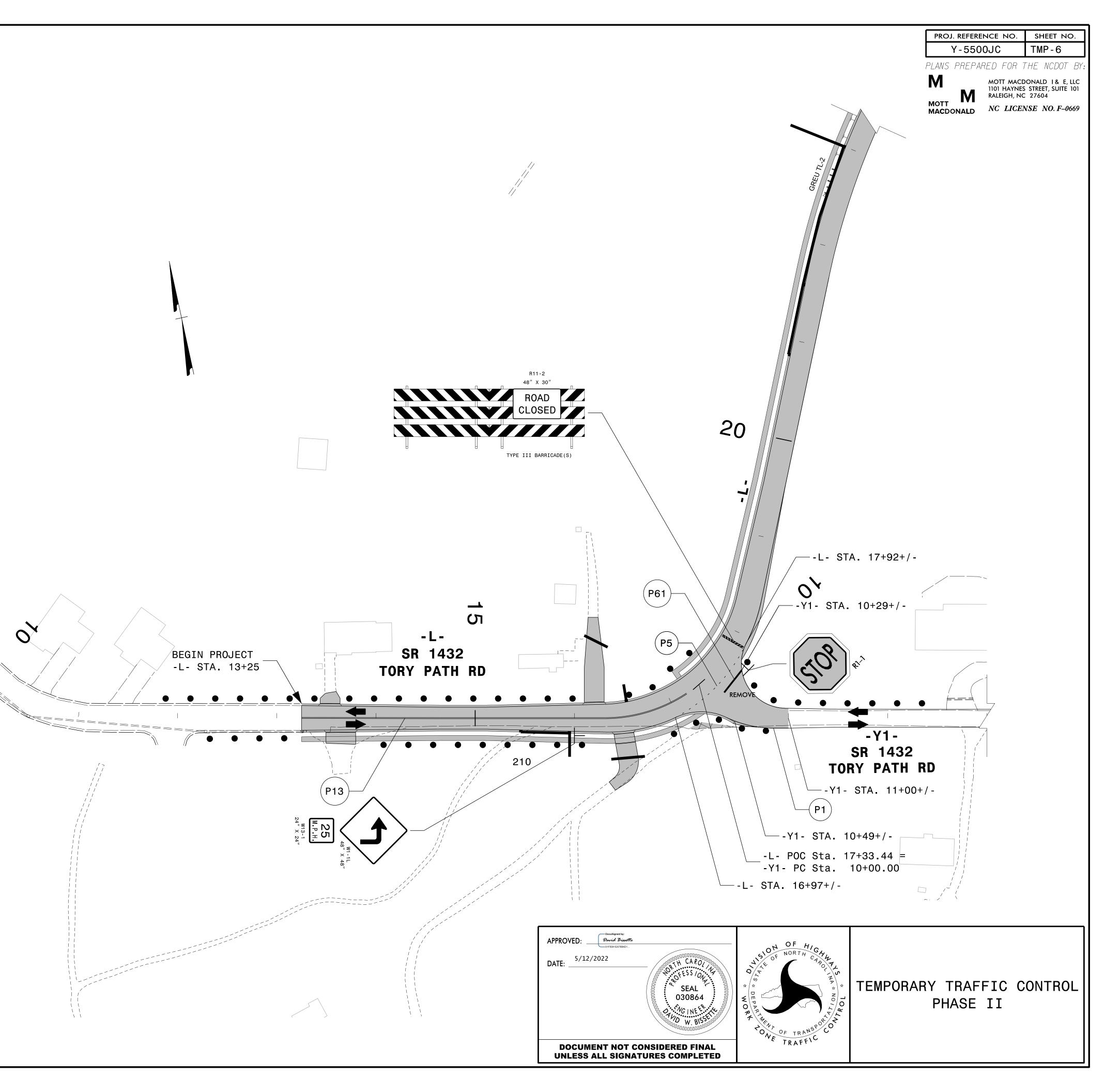
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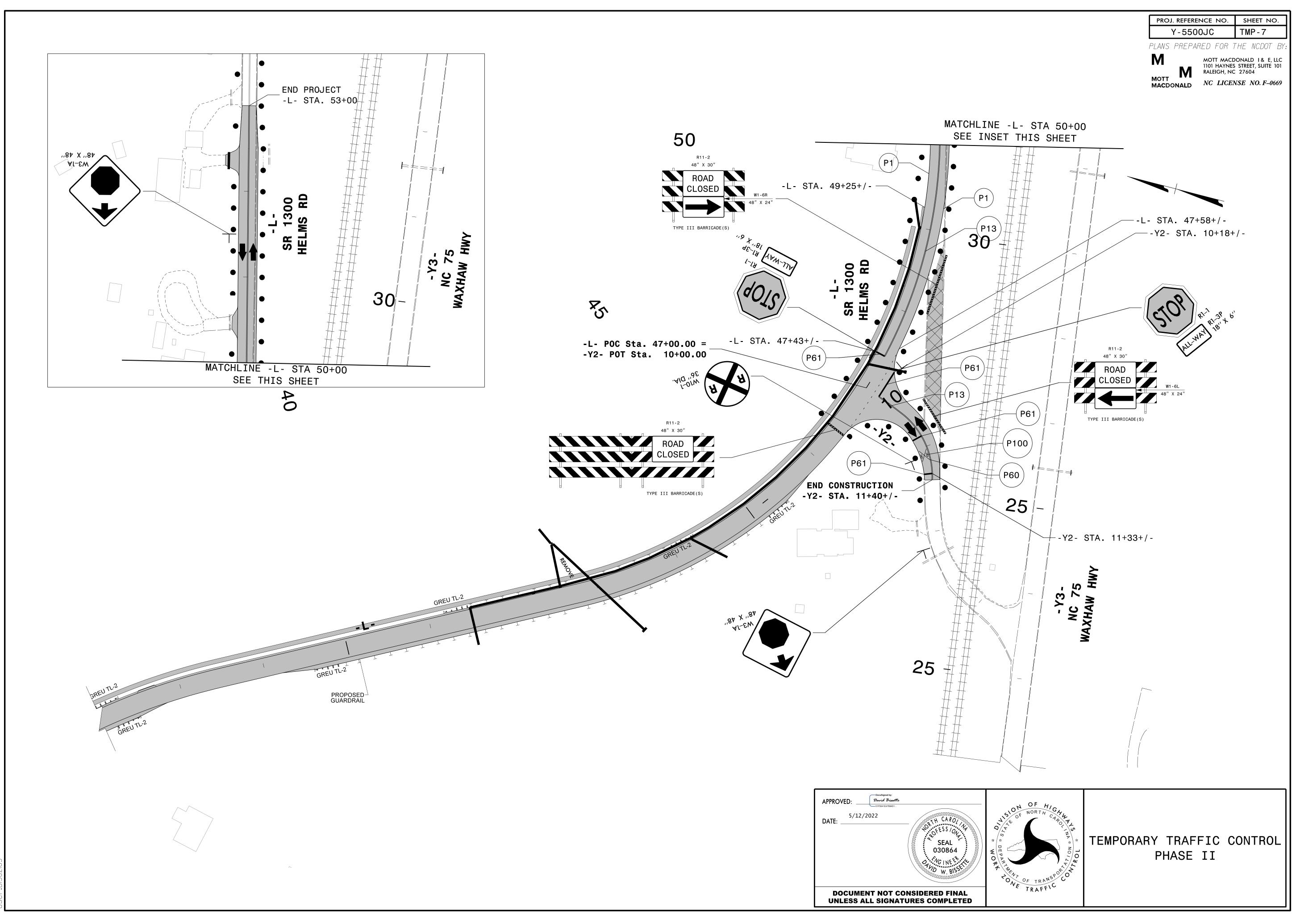






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