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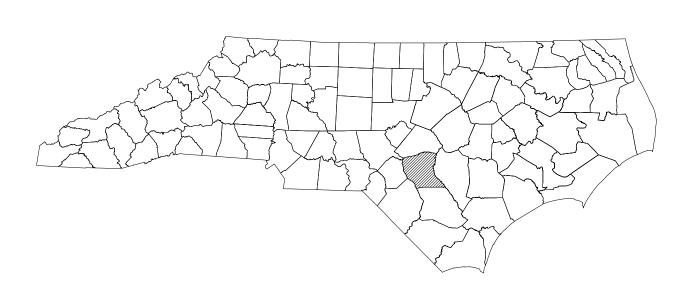
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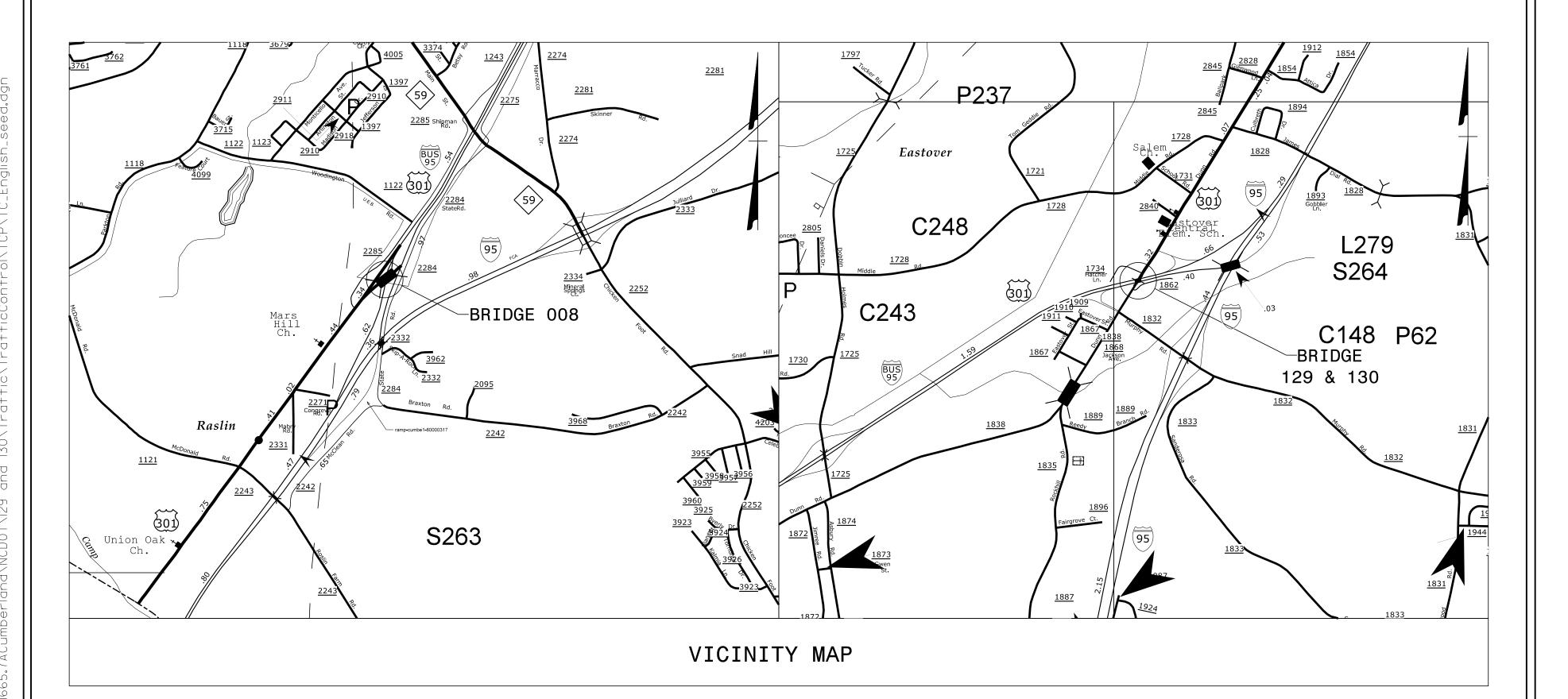
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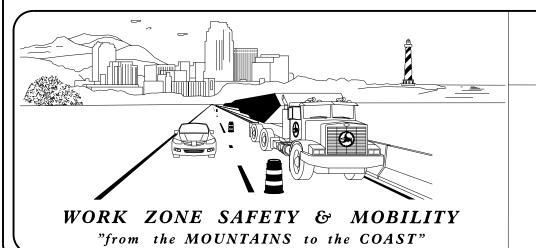
# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

# TRANSPORTATION MANAGEMENT PLAN

# CUMBERLAND COUNTY







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)

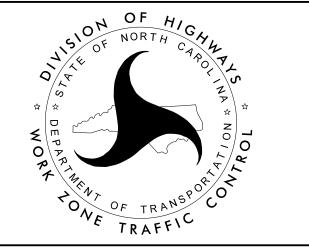
PHONE: (919) 773-2800 FAX: (919) 771-2745

JOSEPH HUMMER, P.E. STATE TRAFFIC MANAGEMENT ENGINEER

STEVE KITE, P.E. TRAFFIC CONTROL PROJECT ENGINEER

MATT SPRINGER, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER

\_ TRAFFIC CONTROL DESIGN ENGINEER



## INDEX OF SHEETS

SHEET NO.

TMP - 1

TITLE

TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS,

AND LEGEND

TMP-2-2A TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)

TMP-3 PHASING NOTES
TMP-4-7 DETOUR PLANS

#### 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:

| STD. NO. | <u>TITLE</u>   |
|----------|--|
| 1101.01  | WORK ZONE ADVANCE WARNING SIGNS                          |
| 1101.03  | TEMPORARY ROAD CLOSURES                                  |
| 1101.04  | TEMPORARY SHOULDER CLOSURES                              |
| 1101.11  | TRAFFIC CONTROL DESIGN TABLES                            |
| 1110.01  | STATIONARY WORK ZONE SIGNS                               |
| 1145.01  | BARRICADES   |
| 1205.01  | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS               |
| 1205.02  | PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE 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

PROPOSED PVMT.

----- EXIST. PVMT.

NORTH ARROW

TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

TEMPORARY SIGNING

STATIONARY SIGN



940 Main Campus Drive, Suite 500 Raleigh, NC 27606

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

JOSEPH LEWIS, PE
TRAFFIC CONTROL
PROJECT ENGINEER

A. MATTHEW THIGPEN, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER DATE:

SEAL

SEAL

SEAL

TMP-1

PROJECT: 41665.7A

# 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.

#### TIME RESTRICTIONS

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

US 301 DAY AND TIME RESTRICTIONS
5:00 A.M. FRIDAY TO
12:00 A.M. MONDAY

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

ROAD NAME

US 301

BUS I-95

#### 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 A.M.
  DECEMBER 31st TO 7:00 P.M. JANUARY 2ND. IF NEW
  YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR
  MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M.
  THE DAY BEFORE INDEPENDENCE DAY AND 7:00 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 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY AND 7:00 P.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

| PROJ. REFERENCE NO. | SHEET NO. |
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| 41665.7A            | TMP-2     |

C) DO NOT STOP TRAFFIC AS FOLLOWS:

DAY AND TIME DURATION AND OPERATION

US 301

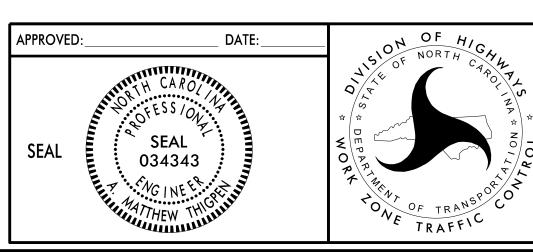
FRIDAY 5:00 AM THRU
MONDAY 11:00 PM AND
TUESDAY THRU THURSDAY,
5:00 AM TO 11:00 PM

#### 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.

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.

- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRANSPORTATION MANAGEMENT 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.
- 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.
- I) DO NOT INSTALL MORE THAN 1/2 MILE OF LANE CLOSURE ON US 74
  MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF
  THE LANE CLOSURE.
- J) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON US 301.
- K) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING.



TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)

## GENERAL NOTES CONTINUED

#### 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 AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

#### TRAFFIC PATTERN ALTERATIONS

N) NOTIFY THE ENGINEER TWENTY ONE (21) 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) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRANSPORTATION MANAGEMENT PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRANSPORTATION MANAGEMENT PLANS.

Q) 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.

- R) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- S) 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.

| PROJ. REFERENCE NO. | SHEET NO. |
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| 41665.7A            | TMP-2A    |

#### TRAFFIC CONTROL DEVICES

- V) 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.
- W) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- X) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES (DRUMS)
  PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN
  UNOPENED LANES ARE CLOSED TO TRAFFIC.

#### PAVEMENT MARKINGS AND MARKERS

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

| ROAD NAME | MARKING | MARKER           |  |
|-----------|---------|------------------|--|
| US 301    | PAINT   | TEMPORARY RAISED |  |
| BUS I-95  | PAINT   | TEMPORARY RAISED |  |

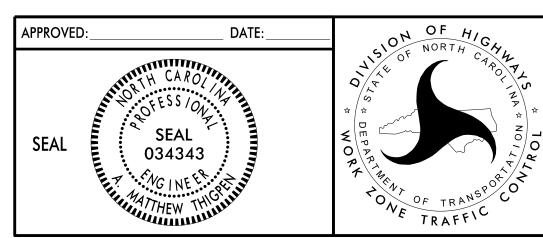
- Z) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- AA) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

#### MISCELLANEOUS

BB) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.

# LOCAL NOTES

- LN-1) WHEN DEMOLISHING EXISTING BRIDGE, HANGING PROPOSED GIRDERS AND INSTALLING CROSS DRAIN ON -L- BRIDGE, CLOSE BUS I-95 SB AT NIGHT AND DETOUR TRAFFIC AS SHOWN ON TMP-5. PATCH PAVEMENT AND RESTORE TRAFFIC TO ITS PRIOR PATTERN BY THE END OF THE WORK PERIOD.
- LN-2) WHEN DEMOLISHING EXISTING BRIDGE AND WHEN HANGING PROPOSED GIRDERS ON
  -L1- AND -L2- BRIDGES, CLOSE US 301 AT NIGHT USING RSD 1101.03, SHEET 8 OF 9.



TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)

# PHASING

BRIDGE 008

CONTRACTOR IS TO COMPLETE CONSTRUCTION OF BRIDGE 008 PRIOR TO CONSTRUCTION OF BRIDGES 129 AND 130.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING DRIVEWAYS AS DIRECTED BY THE ENGINEER.

PHASE I

STEP 1

INSTALL WORK ZONE ADVANCE WARNING SIGNS (SEE RSD 1101.01). DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

STEP 2

PRIOR TO ANY CONSTRUCTION OPERATIONS, INSTALL AND COVER DETOUR SIGNS AS SHOWN ON TMP-4 AND IN ACCORDANCE WITH ROADWAY STANDARD 1101.03 SHEET 1 OF 9.

STEP 3

INSTALL BARRICADES AND UNCOVER DETOUR SIGNS. CLOSE -L- (US 301 FLYOVER FOR BUS 95) TO TRAFFIC AS SHOWN ON TMP-4.

THE CONTRACTOR SHALL COMPLETE THE WORK OF EXISTING BRIDGE DEMOLITION, PROPOSED GIRDER INSTALLATION AND PROPOSED CROSS PIPE INSTALLATION ON US 301 FLYOVER UNDER INTERMEDIATE CONTRACT TIME. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

STEP 4

WITH -L- CLOSED TO TRAFFIC AND USING RSD 1101.02, SHEET 1 OF 15, AS NECESSARY, DEMO EXISTING BRIDGE AND CONSTRUCT -L- STA 21+06 +/- TO 25+30 +/-, INCLUDING BRIDGE, UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE. (SEE LOCAL NOTE LN-1 FOR EXISTING BRIDGE DEMOLITION, PROPOSED GIRDER AND CROSS PIPE INSTALLATION).

STEP 5

UPON COMPLETION OF BRIDGE, APPROACHES AND ROADWAY, PLACE FINAL PAVEMENT MARKINGS AND MARKERS IN ACCORDANCE WITH ROADWAY STANDARD DRAWINGS AND PAVEMENT MARKING PLANS. REMOVE ALL ROAD CLOSURE SIGNS AND BARRICADES AND OPEN -L- (US 301 FLYOVER FOR BUS 95) TO THROUGH TRAFFIC.

BRIDGE 129 & 130

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING DRIVEWAYS AS DIRECTED BY THE ENGINEER.

PHASE I

STEP 1

INSTALL WORK ZONE ADVANCE WARNING SIGNS (SEE RSD 1101.01). DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

STEP 2

PRIOR TO ANY CONSTRUCTION OPERATIONS, INSTALL AND COVER DETOUR SIGNS AS SHOWN ON TMP-6, TMP-7 AND IN ACCORDANCE WITH ROADWAY STANDARD 1101.03 SHEET 1 OF 9.

STEP 3

INSTALL BARRICADES AND UNCOVER DETOUR SIGNS. CLOSE -L1- (95 BUSINESS NORTHBOUND) TO TRAFFIC AS SHOWN ON TMP-6.

INSTALL BARRICADES AND UNCOVER DETOUR SIGNS. CLOSE -L2- (95 BUSINESS SOUTHBOUND) TO TRAFFIC AS SHOWN ON TMP-7.

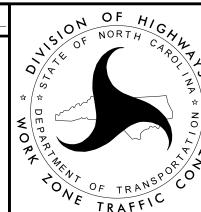
STEP 4

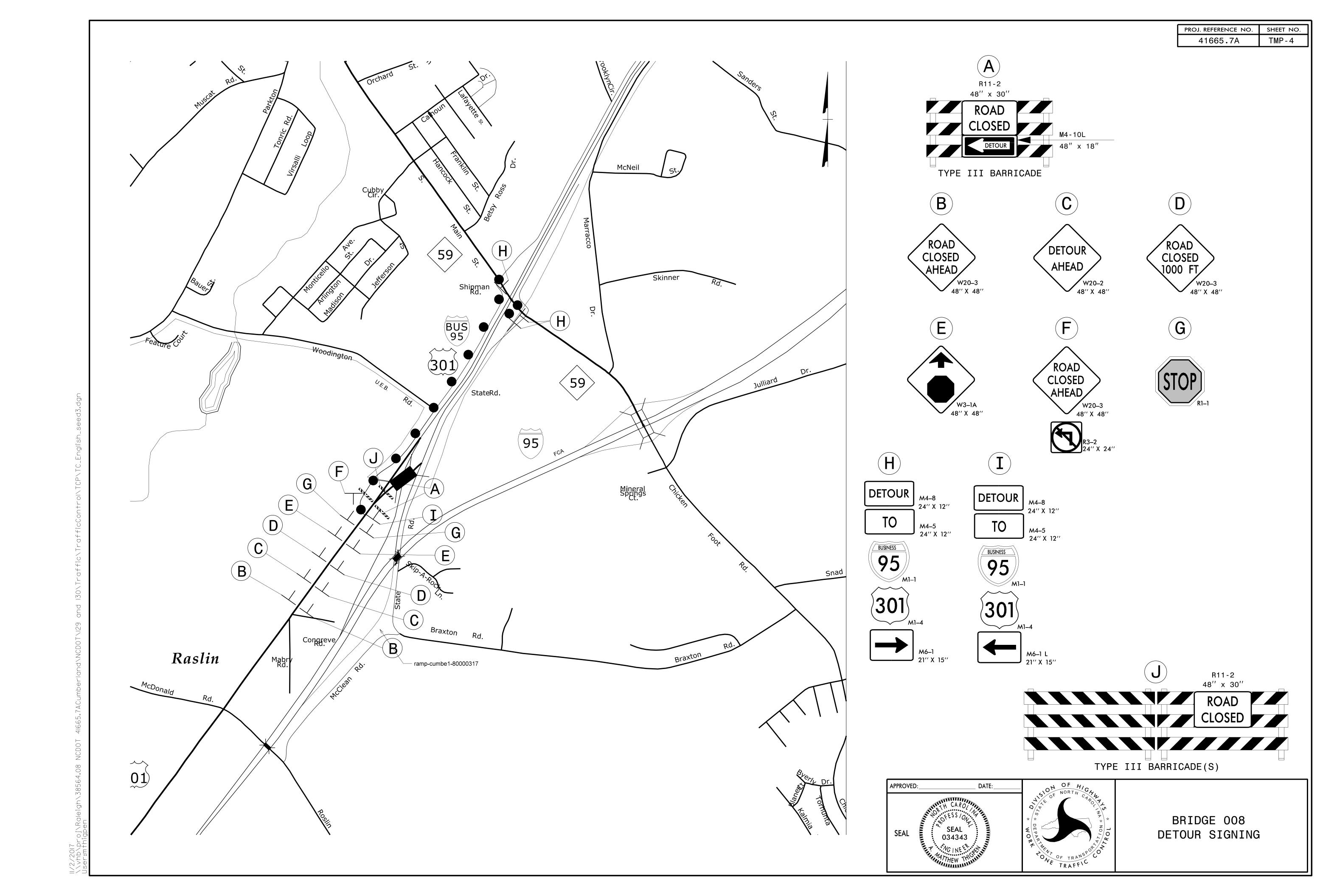
WITH -L1 AND -L2- CLOSED TO TRAFFIC AND USING RSD 1101.02, SHEET 1 OF 15, AS NECESSARY, DEMO EXISTING BRIDGE AND CONSTRUCT -L1- AND -L2- STA 102+50 +/- TO 111+50 +/-, INCLUDING BRIDGE, UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE. (SEE LOCAL NOTE LN-2 FOR EXISTING BRIDGE DEMOLITION AND GIRDER INSTALLATION).

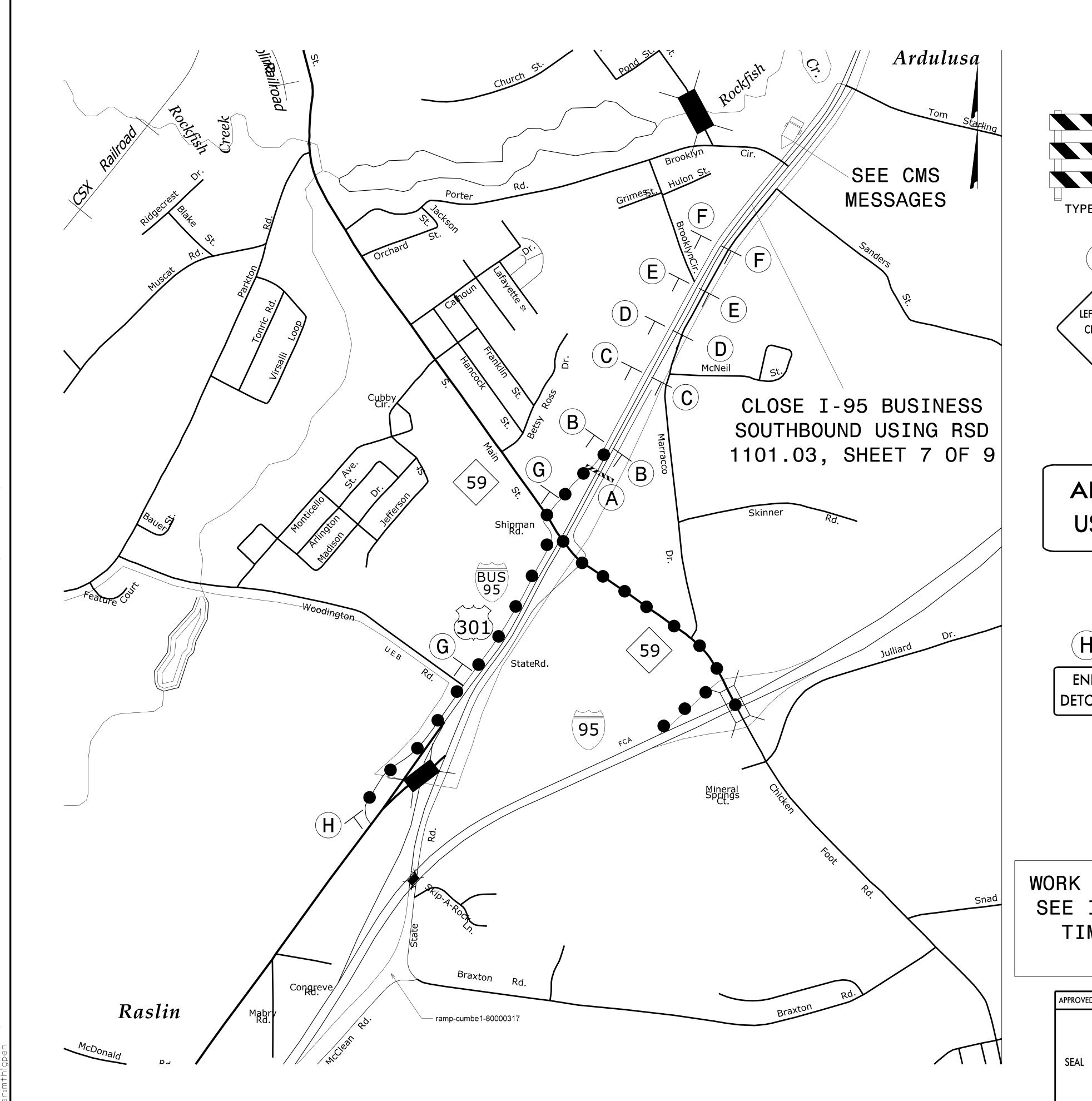
USING RSD 1101.02, SHEET 1 OF 15, AS NECESSARY, CONSTRUCT -Y- (US 301) FROM STA 10+85+/- TO STA 17+00+/- UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE.

STEP 5

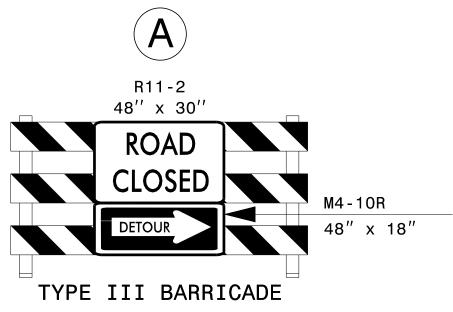
UPON COMPLETION OF BRIDGE, APPROACHES AND ROADWAY, PLACE FINAL PAVEMENT MARKINGS AND MARKERS IN ACCORDANCE WITH ROADWAY STANDARD DRAWINGS AND PAVEMENT MARKING PLANS. REMOVE ALL ROAD CLOSURE SIGNS AND BARRICADES AND OPEN -L1- AND -L2- (BUSINESS I-95) TO THROUGH TRAFFIC.

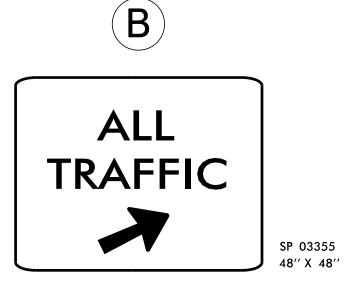


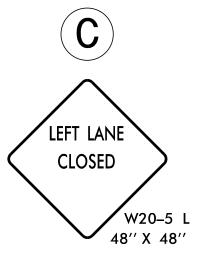


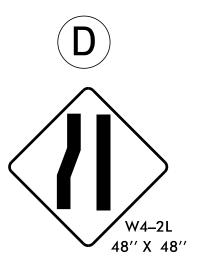


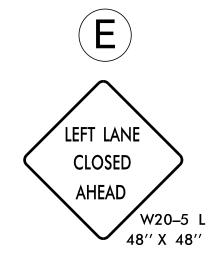
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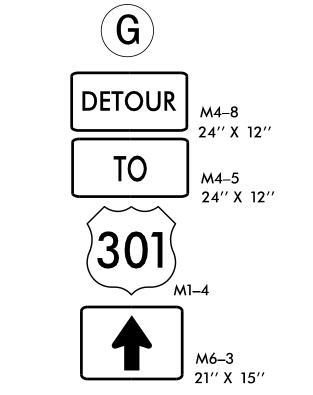


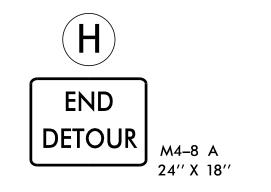


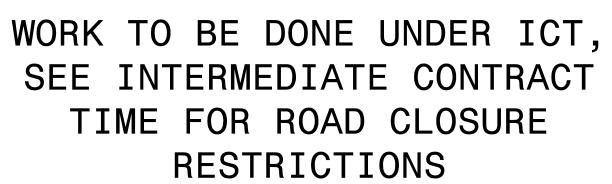




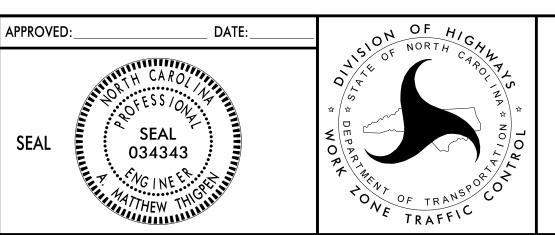








| MESSAGE<br>NO. 1 | MESSAGE<br>NO. 2           |  |  |
|------------------|----------------------------|--|--|
| I-95             | TAKE                       |  |  |
| SOUTH            | NC 59                      |  |  |
| TRAFFIC          | SOUTH                      |  |  |
|                  | CHANGEABLE MESSAGE<br>SIGN |  |  |



BRIDGE 008
DETOUR SIGNING
BRIDGE DEMO, GIRDER &
PIPE INSTALLATION

