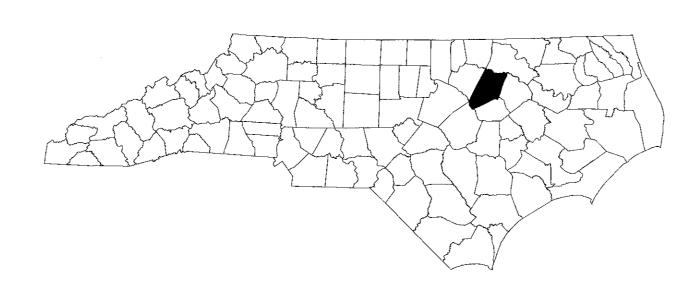
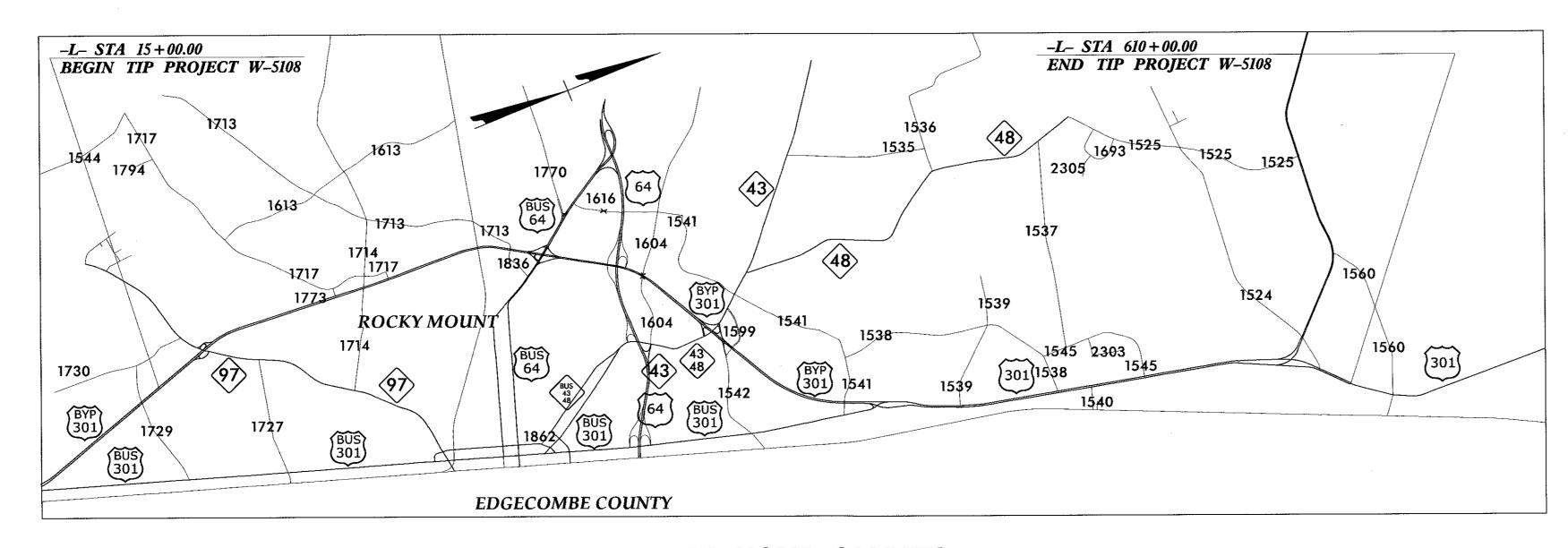
# STATE OF NORTH CAROLINA

# TRANSPORTATION MANAGEMENT PLAN

# NASH COUNTY





LOCATION: US-301 IN NASH COUNTY TYPE OF WORK: GRADING, DRAINAGE AND PAVING

# 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

TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES) TMP-2 & 2A

PHASING TMP-3

TEMPORARY TRAFFIC CONTROL DETAILS

WORK ZONE SAFETY & MOBILITY "from the MOUNTAINS to the COAST"

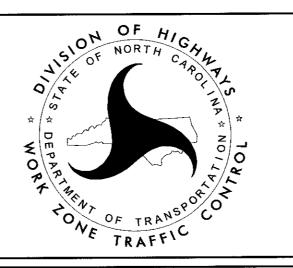
N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

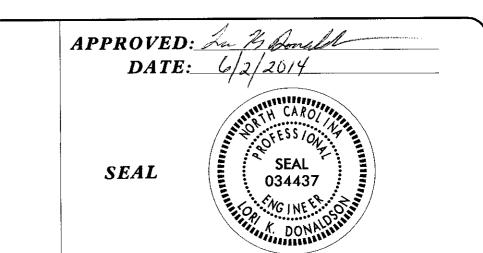
J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER

J. S. KITE, P.E. TRAFFIC CONTROL PROJECT ENGINEER D. W. BISSETTE, P.E.

TRAFFIC CONTROL PROJECT DESIGN ENGINEER

L. K. DONALDSON, P.E. TRAFFIC CONTROL DESIGN ENGINEER





# 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.

#### TITLE

| 1101.01 | WORK ZONE ADVANCE WARNING SIGNS                      |  |
|---------|--|--|
| 1101.02 | TEMPORARY LANE CLOSURES                              |  |
| 1101.04 | TEMPORARY SHOULDER CLOSURES                          |  |
| 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 | DRUM   |  |
| 1145.01 | BARRICADES   |  |
| 1150.01 | FLAGGING DEVICES                                     |  |
| 1205.01 | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS           |  |
| 1205.02 | PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS |  |
| 1205.04 | PAVEMENT MARKINGS - INTERSECTIONS                    |  |
| 1205.05 | PAVEMENT MARKINGS - TURN LANES                       |  |
| 1205.06 | PAVEMENT MARKINGS - LANE DROPS                       |  |
| 1205.08 | PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES        |  |
| 1205.09 | PAVEMENT MARKINGS - PAINTED ISLANDS                  |  |
| 1205.13 | PAVEMENT MARKINGS - LANE REDUCTIONS                  |  |
| 1250.01 | RAISED PAVEMENT MARKERS - INSTALLATION SPACING       |  |
| 1251.01 | RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY    |  |

# **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

USER DEFINED (IF NEEDED)

USER DEFINED (IF NEEDED)

#### SIGNALS







### PAVEMENT MARKINGS

----EXISTING LINES

----TEMPORARY LINES

### TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III) 

DRUM SKINNY DRUM STUBULAR 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

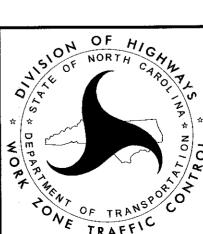
CRYSTAL/RED

◆ YELLOW/YELLOW

### PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

APPROVED: 20 3 Gonald DATE: 4/2/2019



ROADWAY STANDARD DRAWINGS & LEGEND CONSTRUCT PROPOSED WIDENING OF US 301 USING LANE CLOSURES.

CONSTRUCT PROPOSED DRAINAGE STRUCTURE AND UPGRADES TO EXISTING DRAINAGE STRUCTURES USING LANE CLOSURES.

#### 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:

ROAD NAME

DAY AND TIME RESTRICTIONS

US 301, BETWEEN SUNSET AVE. AND TIFFANY BLVD.

MONDAY THROUGH THURSDAY
FROM 6:00 A.M. TO 9:00 A.M. AND
FROM 4:00 P.M. TO 7:00 P.M.

FRIDAY
FROM 6:00 A.M TO 9:00 A.M. AND
FROM 12:00 P.M. TO 7:00 P.M.

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

ROAD NAME

US 301

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 9:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 A.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 9:00 A.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 A.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 A.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 9:00 A.M. THE MONDAY AFTER INDEPENDENCE DAY.

- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 A.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 9:00 A.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- 9. THE MONTH OF DECEMBER BETWEEN SUNSET AVE. AND TIFFANY BLVD. BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 A.M. MONDAY.

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) 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.

| ROJ. REFERENCE NO. | SHEET NO. |
|--------------------|-----------|
| W-5108             | TMP-2     |

- D) 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.
- E) 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.

- F) 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.
- G) 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.
- H) DO NOT INSTALL MORE THAN 2 MILES OF LANE CLOSURE ON US 301 MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.
- I) PROVIDE A MINIMUM OF 2 MILES BETWEEN LANE CLOSURES, MEASURED FROM THE END OF ONE CLOSURE TO THE FIRST SIGN OF THE NEXT LANE CLOSURE.

PAVEMENT EDGE DROP OFF REQUIREMENTS

J) 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.

K) 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) 350 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

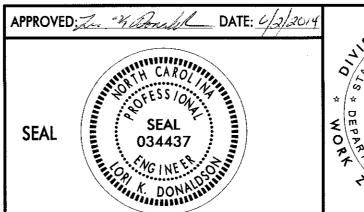
L) NOTIFY THE ENGINEER TWHIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

#### SIGNING

- M) 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.
- N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 FT 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), 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.
- ) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.





MANAGEMENT STRATEGIES & GENERAL NOTES

| ROJ. REFERENCE NO. | SHEET NO. |
|--------------------|-----------|
| W-5108             | TMP-2A    |

# GENERAL NOTES CONTINUED

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME

MARKING

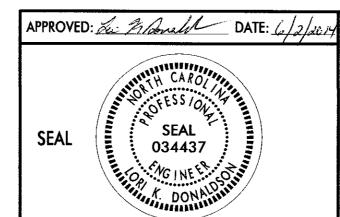
PAINT

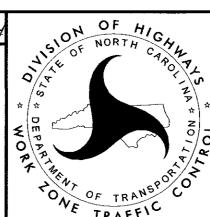
US 301

- T) 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.
- U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- V) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

- W) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- X) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.
- Y) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).





MANAGEMENT STRATEGIES & GENERAL NOTES

| PROJ. REFERENCE NO. | SHEET NO. |
|---------------------|-----------|
| W-5108              | TMP-3     |

## **PHASING**

#### NOTES:

- 1) MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES UNLESS OTHERWISE DIRECTED BY ENGINEER.
- 2) CONSTRUCT PROPOSED DRAINAGE STRUCTURES AND PROPOSED DRAINAGE STRUCTURE UPGRADES IN SUCH A MANNER, INCLUDING SAFING UP ALL DROP OFFS, THAT ENSURES TRAFFIC WILL BE RETURNED TO EXISTING TRAFFIC PATTERN AT THE END OF EACH WORK DAY.
- STEP 1) USING RSD 1101.02 AND LANE CLOSURES AS NEEDED, INSTALL WORK ZONE ADVANCE WARNING SIGNS AS SHOWN ON RSD 1101.01, SHEET 2 OF 3.
- STEP 2) USING RSD 1101.02, SHEET 3 OF 15 AND LANE CLOSURES AS NEEDED:

CONSTRUCT PROPOSED DRAINAGE STRUCTURES AND UPGRADES TO EXISTING DRAINAGE STRUCTURES AS SHOWN IN ROADWAY PLANS AND AS DIRECTED BY ENGINEER. COORDINATE WORK WITH PROPOSED WIDENING SHOWN IN TMP-3 THROUGH TMP-8.

AREA 1, AREA 2, AREA 4, AREA 5, AREA 6, AREA 8, AREA 9, AREA 10, AREA 13 AND AREA 17

- A. CONSTRUCT PROPOSED WIDENING OF EXSITING ROADWAY SHOWN ON TMP-4 THROUGH TMP-9. REPLACE EXISTING PAVEMENT MARKINGS AS NEEDED TO MAINTAIN TRAFFIC IN EXISTING PATTERN OR AS DIRECTED BY ENGINEER.
- B. PLACE FINAL PAVEMENT MARKINGS AND OPEN PROPOSED ROADWAY TO TRAFFIC.

#### AREA 3

- A. CONSTRUCT PROPOSED WIDENING AS SHOWN ON TMP-4. REPLACE EXISTING PAVEMENT MARKINGS AS NEEDED TO MAINTAIN TRAFFIC IN EXISTING PATTERN OR AS DIRECTED BY ENGINEER. BEGIN REVISION TO TRAFFIC SIGNAL AND COVER SIGNAL HEAD.
- B. CONSTRUCT PROPOSED CONCRETE ISLAND AS SHOWN ON TMP-4.
- C. COMPLETE REVISION TO TRAFFIC SIGNAL AND/OR REMOVE COVER ON SIGNAL HEAD. PLACE FINAL PAVEMENT MARKINGS AND OPEN PROPOSED ROADWAY TO TRAFFIC.

#### AREA 7

- A. CONSTRUCT PROPOSED WIDENING AS SHOWN ON TMP-4. REPLACE EXISTING PAVEMENT MARKINGS AS NEEDED TO MAINTAIN TRAFFIC IN EXISTING PATTERN OR AS DIRECTED BY ENGINEER. BEGIN REVISION TO TRAFFIC SIGNAL AND COVER SIGNAL HEAD.
- B. COMPLETE REVISION TO TRAFFIC SIGNAL AND/OR REMOVE COVER ON SIGNAL HEAD. PLACE FINAL PAVEMENT MARKINGS AND OPEN PROPOSED ROADWAY TO TRAFFIC.

#### AREA 8

- A. CLOSE LEFT TURN LANE AND MEDIAN CROSSOVER AS SHOWN ON TMP-7.
- B. REMOVE EXISTING PAVEMENT AS SHOWN ON TMP-7.
- C. PLACE FINAL PAVEMENT MARKINGS AND OPEN ROADWAY TO TRAFFIC.

#### AREA 12

- A. CLOSE LEFT TURN LANE AND MEDIAN CROSSOVER AS SHOWN ON TMP-7.
- B. CONSTRUCT PROPOSED WIDENING AND REMOVE EXISTING PAVEMENT AS SHOWN ON TMP-7. REPLACE EXISTING PAVEMENT MARKINGS WITH TEMPORARY YELLOW EDGELINE AS NEEDED OR AS DIRECTED BY ENGINEER.
- C. PLACE FINAL PAVEMENT MARKINGS AND OPEN ROADWAY TO TRAFFIC.

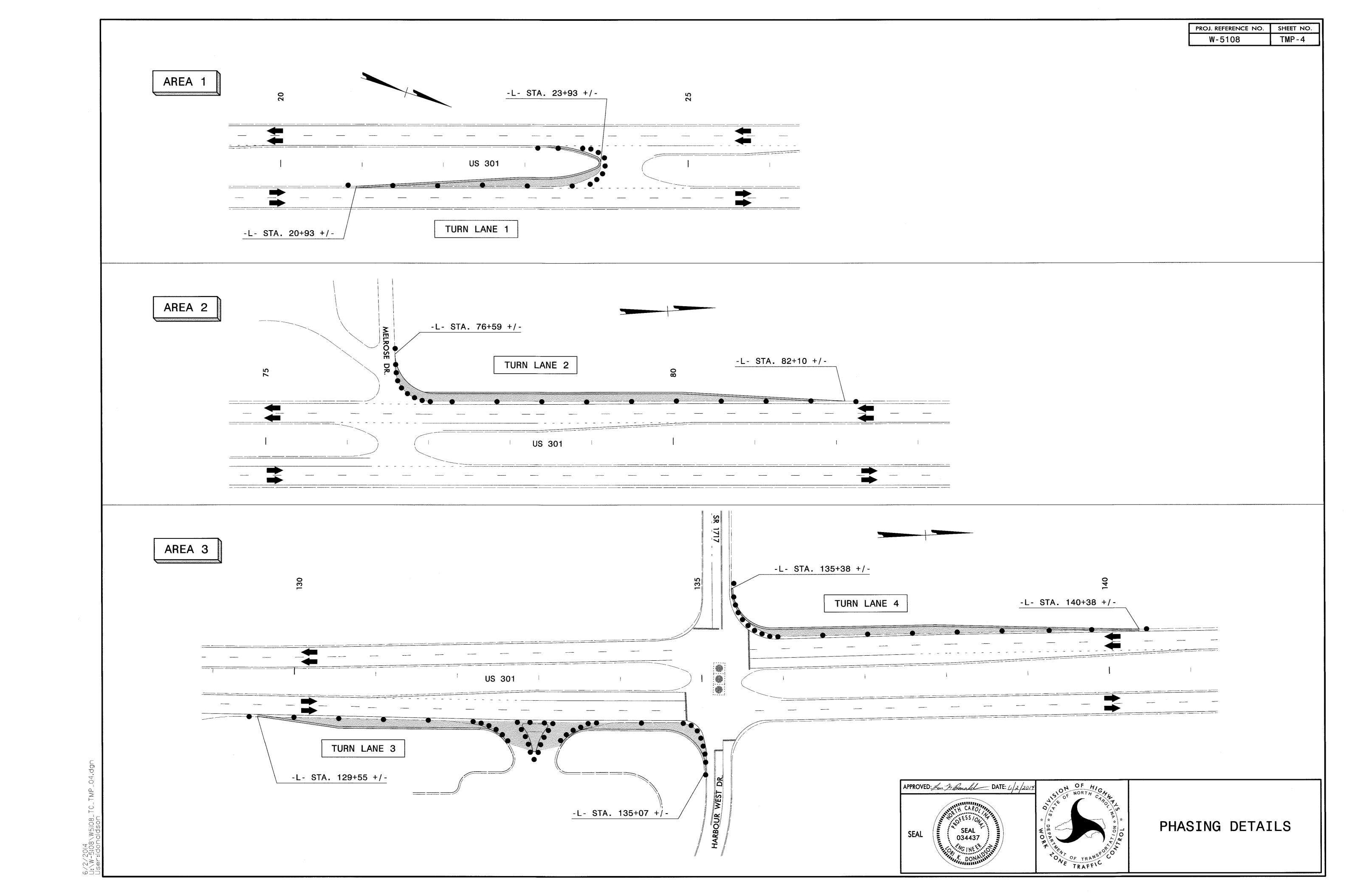
AREA 14, AREA 15, AND AREA 16

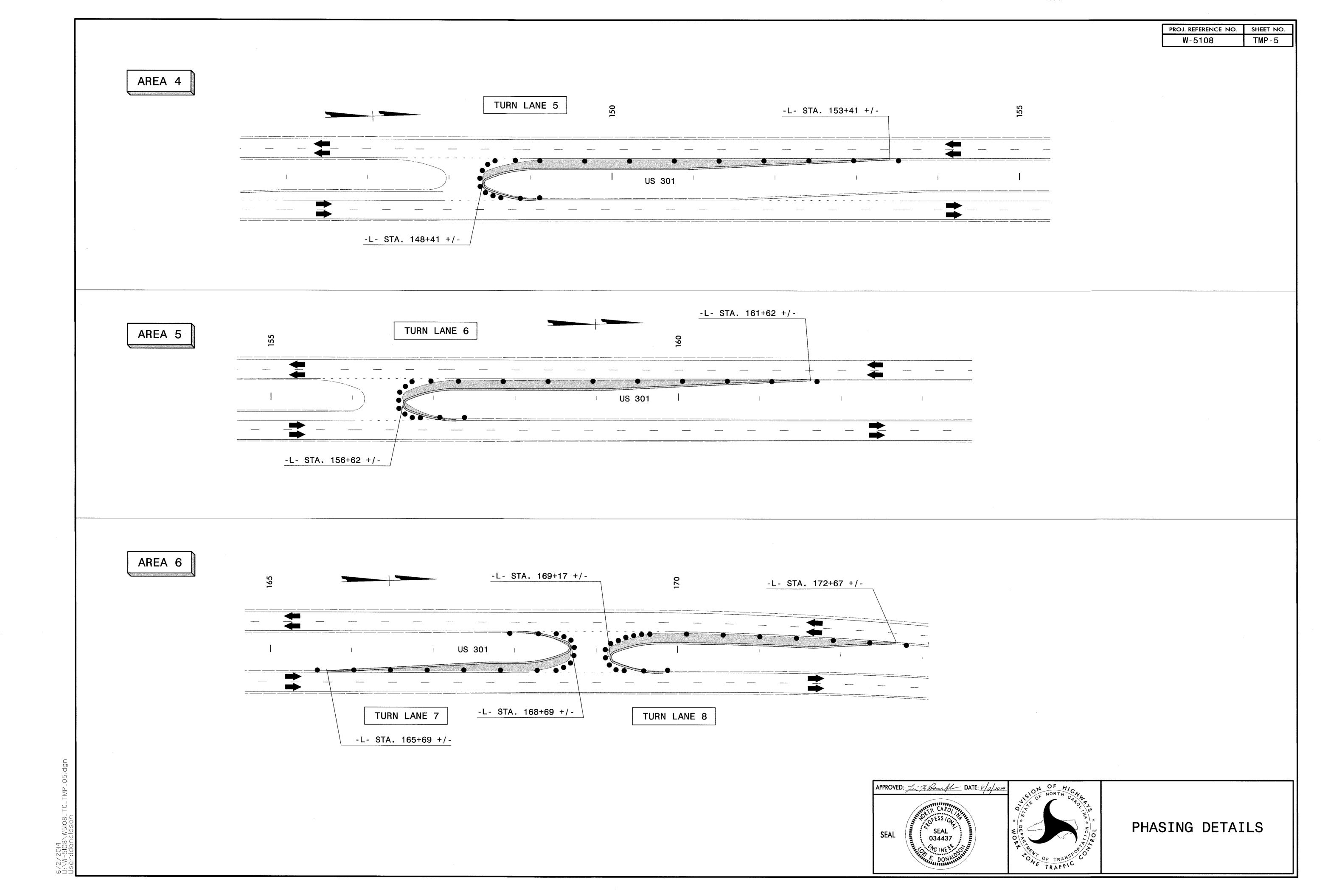
- A. INSTALL TEMPORARY SIGNING AS SHOWN ON TMP-8 AND TMP-9 AND CLOSE MEDIAN CROSSOVER TO LEFT TURN TRAFFIC FROM THE Y-LINES.
- B. CONSTRUCT PROPOSED WIDENING AS SHOWN ON TMP-8 AND TMP-9 MAINTIANING LEFT TURNS FROM THE -L- LINE. REPLACE EXISTING PAVEMENT MARKINGS AS NEEDED OR AS DIRECTED BY ENGINEER.
- C. PLACE FINAL PAVEMENT MARKINGS AND PLACE TRAFFIC INTO FINAL PATTERN.
- D. CONSTRUCT PROPOSED CONCRETE MEDIAN AS SHOWN ON ROADWAY PLANS.

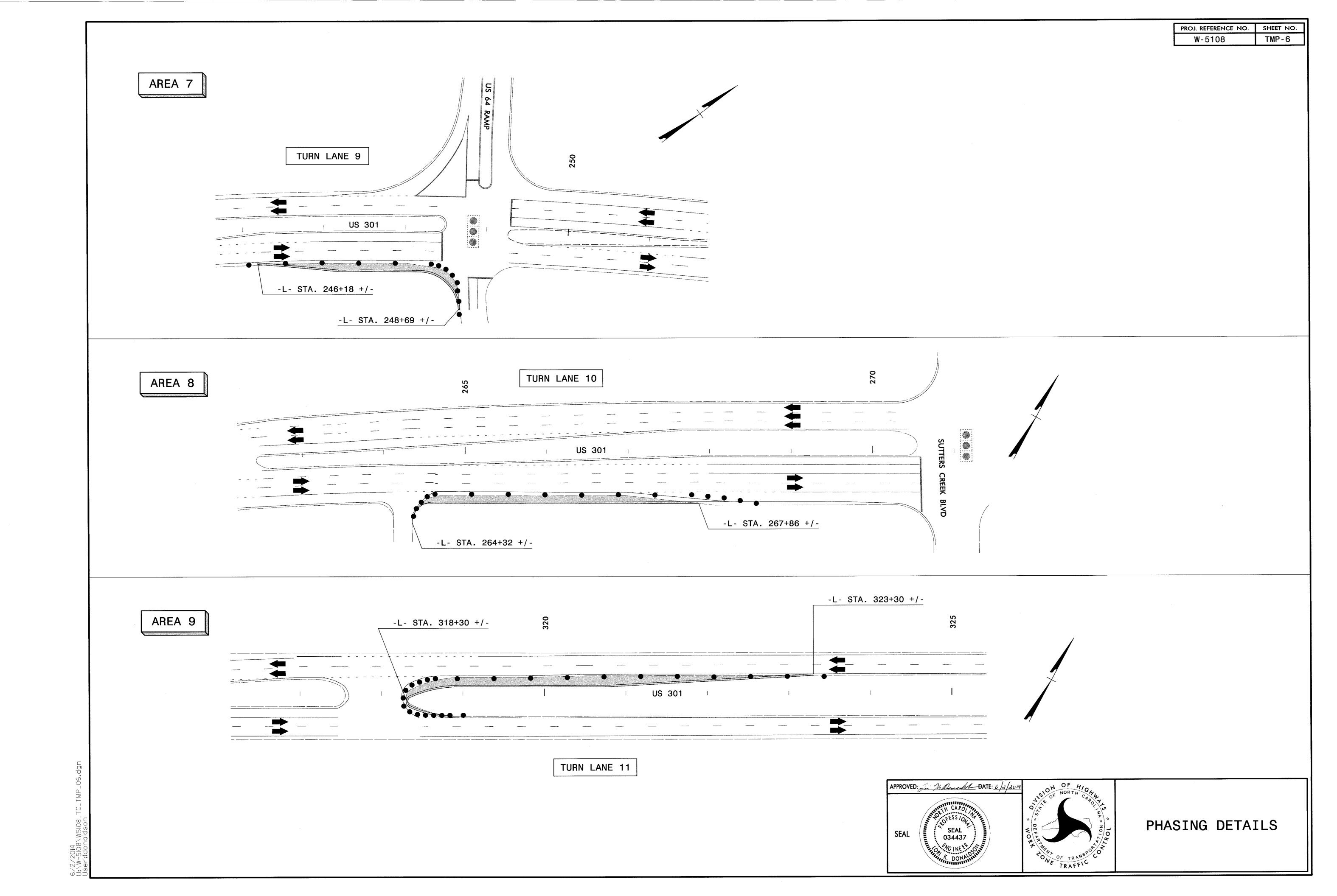
STEP 3) REMOVE ADVANCE WARNING SIGNS AND ALL TEMPORARY TRAFFIC CONTROL DEVICES.

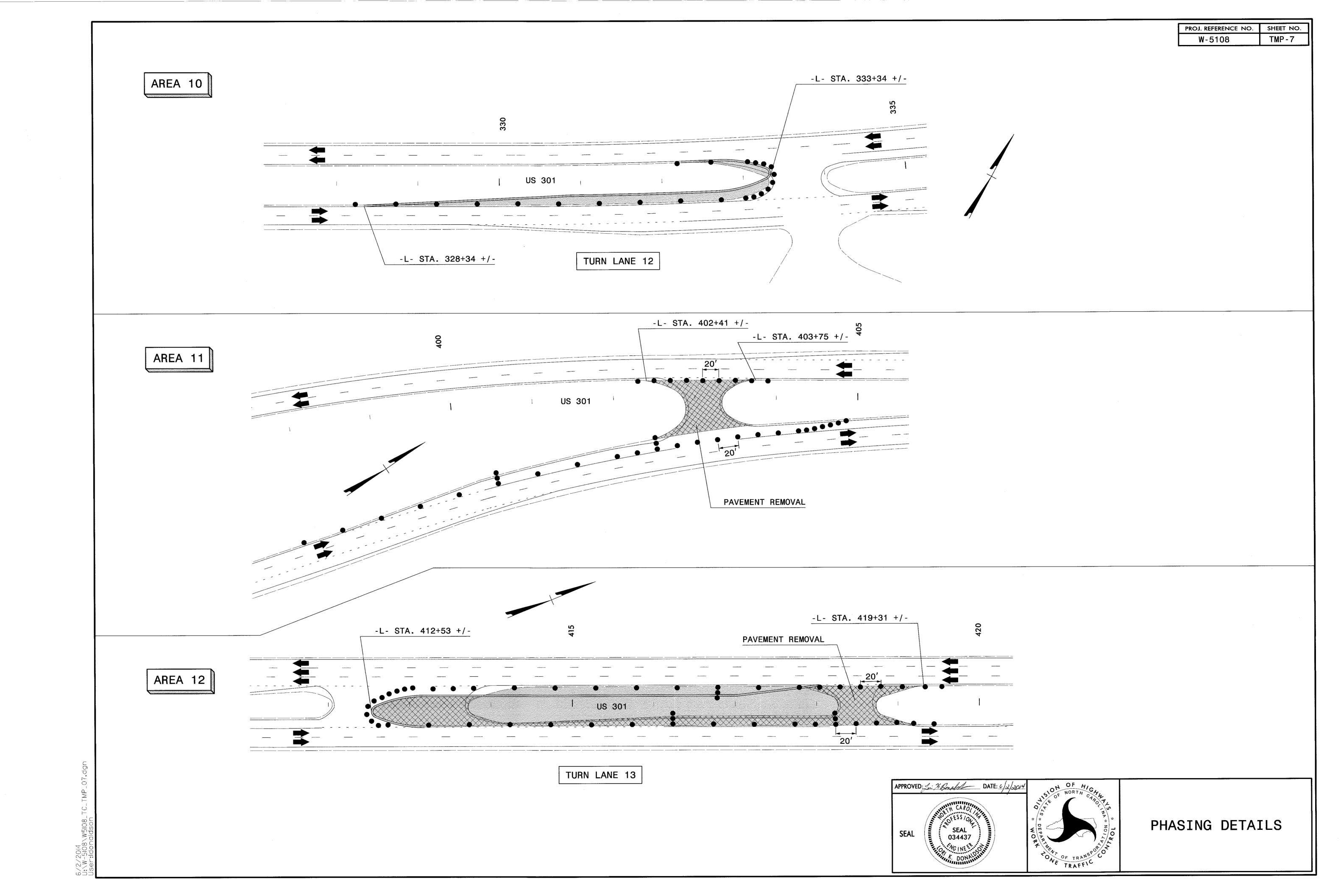


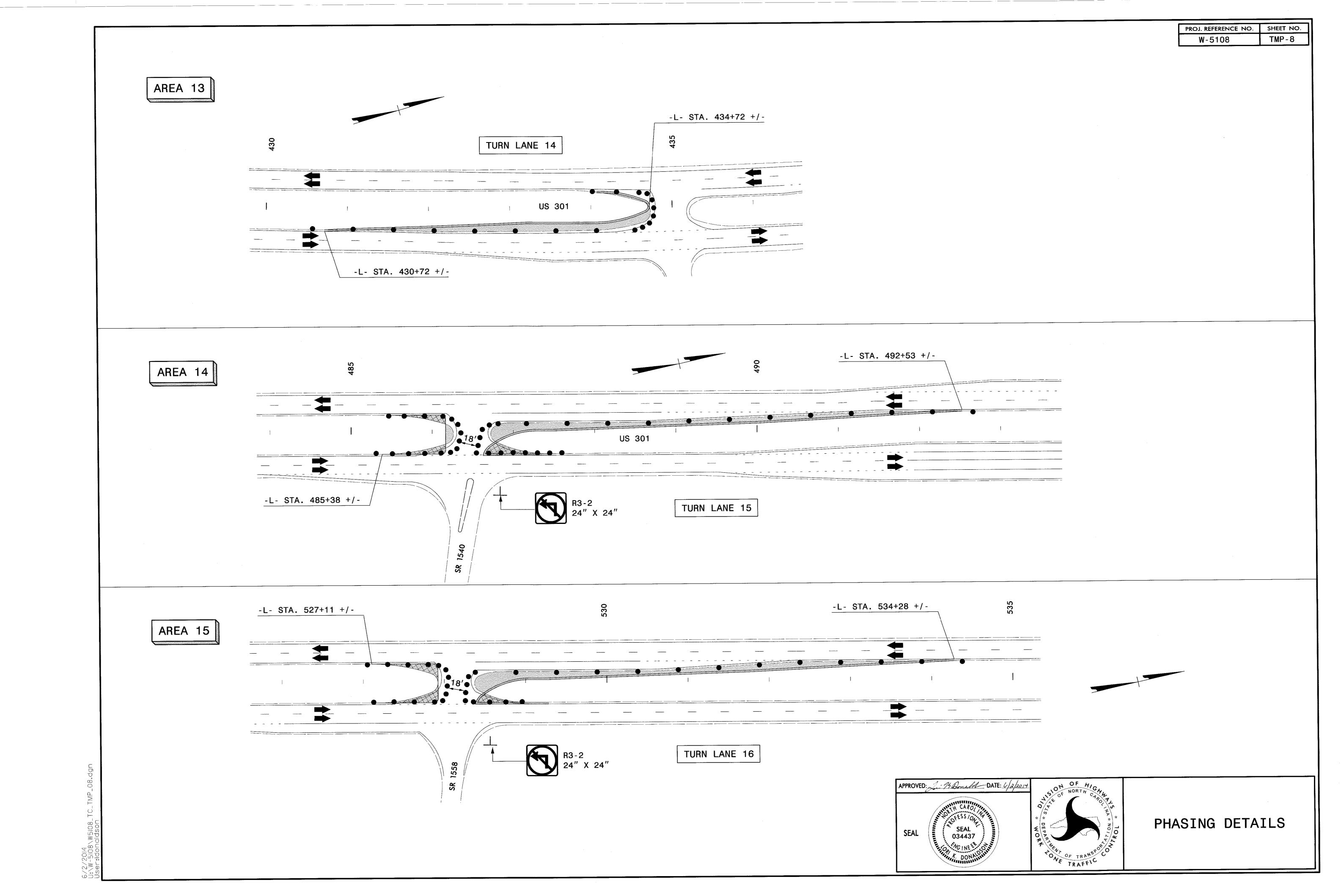
**PHASING** 



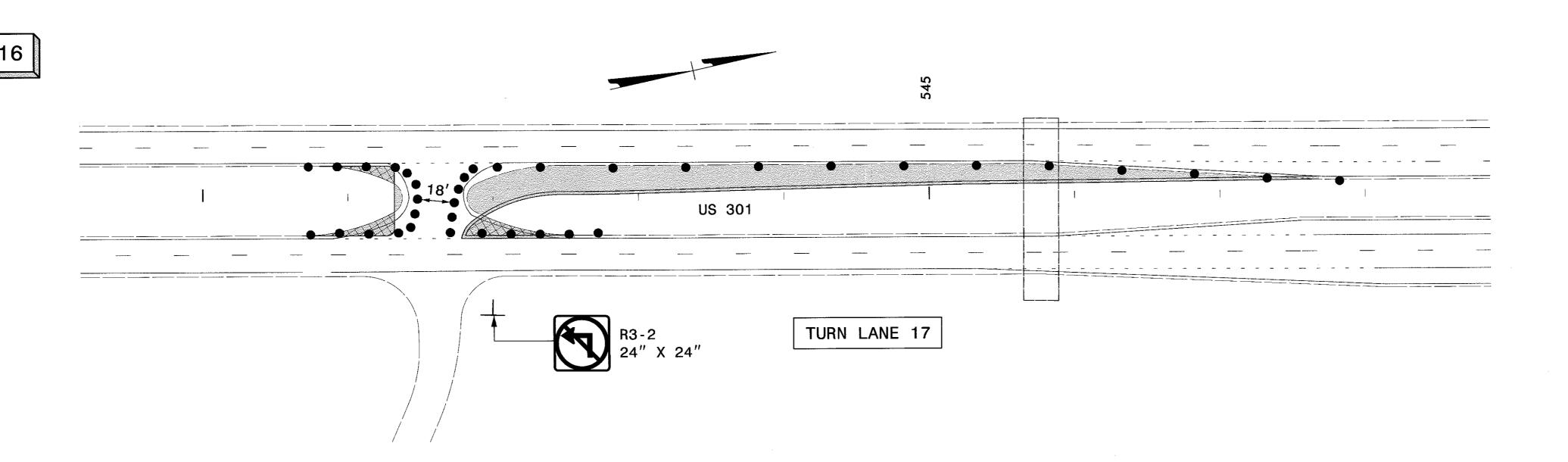






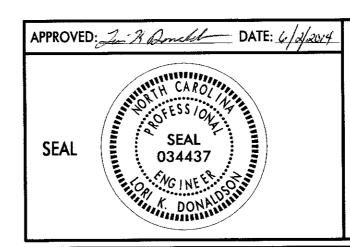


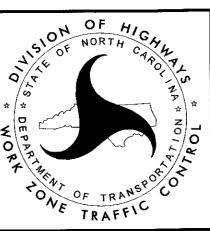
PROJ. REFERENCE NO. SHEET NO. TMP-9



-L- STA. 547+68 +/
US 301

-L- STA. 604+95 +/
TURN LANE 18





PHASING DETAILS