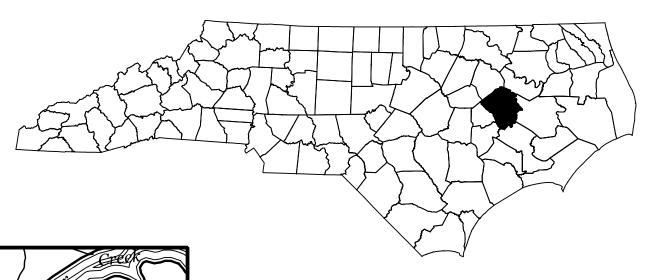
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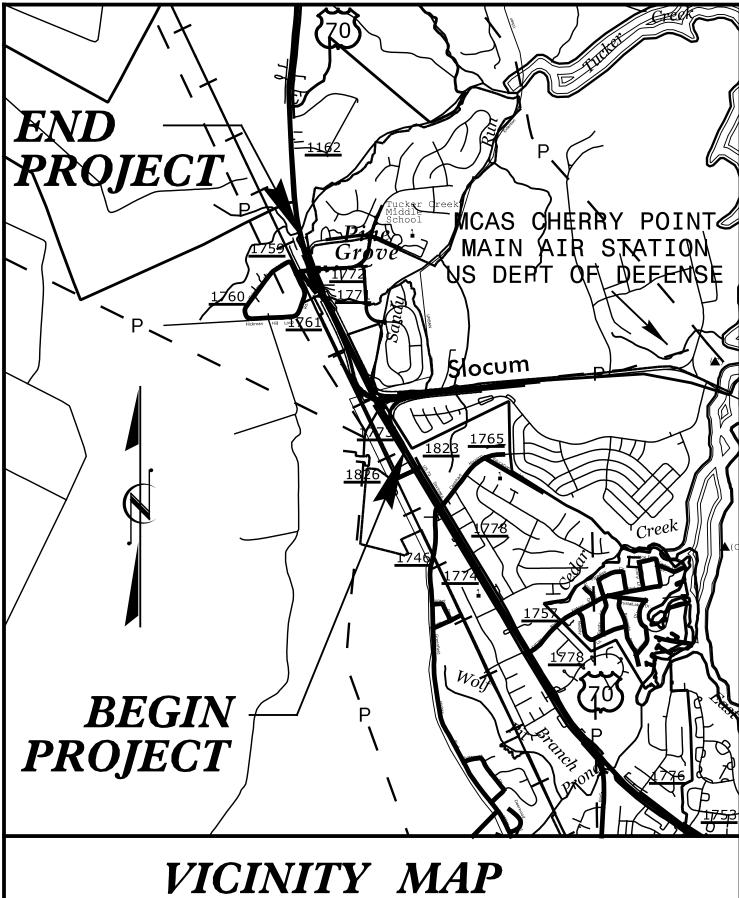
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TRANSPORTATION MANAGEMENT PLAN

CRAVEN COUNTY





LOCATION: INTERCHANGE FROM US 70 TO SLOCUM ROAD AT CHERRY POINT MILITARY BASE

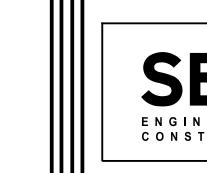
TYPE OF WORK: GRADING, PAVING, DRAINAGE, CULVERT, STRUCTURE, AND SIGNALS

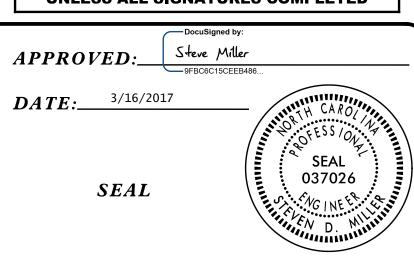
INDEX OF SHEETS

SHEET NO.

SHEET NO.	<u>TITLE</u>
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND TEMPORARY PAVEMENT MARKING SCHEDULE
TMP-1B-1C	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES)
TMP-2	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
TMP-2A	TEMPORARY SHORING DATA
TMP-3	PHASING
TMP-4-8	PHASE I DETAILS
TMP-9-19	PHASE II DETAILS
TMP-20-25	CROSSOVER DETAILS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





WORK ZONE SAFETY & MOBILITY

"from the MOUNTAINS to the COAST"

STATE TRAFFIC MANAGEMENT ENGINEER J. S. KITE, P.E. TRAFFIC CONTROL PROJECT ENGINEER

M. V. SPRINGER, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER

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) 814-5000 FAX: (919) 771-2745

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.	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD 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
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION - REFLECTIVE END TREATMENT
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	POSITIVE PROTECTION
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
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
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE
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 DIRECTION OF PEDESTRIAN TRAFFIC FLOW --- EXIST. PVMT. NORTH ARROW — PROPOSED PVMT. TEMP. SHORING (LOCATION PURPOSES ONLY) WORK AREA REMOVAL

ONGOING CONSTRUCTION

SIGNALS

¦∰¦EXISTING

USER DEFINED (IF NEEDED)

PROPOSED ETEMPORARY

PAVEMENT MARKINGS

EXISTING LINES ----TEMPORARY LINES TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

DRUM SKINNY DRUM O 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

TEMPORARY PAVEMENT MARKING SCHEDULE

PAINT (4'')

P8 2 FT. - 6 FT./SP WHITE MINISKIP

PA WHITE EDGELINE

PB YELLOW EDGELINE

PC 10 FT. WHITE SKIP

PD 3 FT. - 9 FT./SP WHITE MINISKIP

PE WHITE SOLID LANE LINE

PI SOLID DOUBLE YELLOW CENTERLINE

PAINT (8") PN WHITE GORELINE

PAINT (24") P2 WHITE STOPBAR

PAVEMMENT MARKERS MH YELLOW/YELLOW TEMPORARY RAISED

PAINT MARKING SYMBOLS

QA LEFT TURN ARROW

QB RIGHT TURN ARROW

QC STRAIGHT ARROW

QE COMBO. RIGHT/STRAIGHT ARROW

QF COMBO. LEFT/RIGHT ARROW



ROADWAY STANDARD DRAWINGS & LEGEND

1025 Wade Avenue Raleigh, NC 27605 Tel:919-789-9977 ENGINEERING & Fax:919-789-9591
CONSTRUCTION License: C-2197

MANAGEMENT STRATEGIES

- LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES WILL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION

- PROVIDE ONE MONTH NOTICE TO THE ENGINEER, CRAVEN COUNTY EMERGENCY SERVICES, AND CRAVEN COUNTY SCHOOL OFFICIALS PRIOR TO ALTERING TRAFFIC PATTERN

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

US 70 AND SLOCUM RD.

DAY AND TIME RESTRICTIONS

MONDAY-SUNDAY

4:00 A.M. TO 9:00 A.M.

3:00 P.M. TO 9:00 P.M.

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

ROAD NAME

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 4:00 A.M. DECEMBER 31ST TO 9:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 P.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 4:00 A.M. THURSDAY AND 9:00 P.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 4:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 4:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN BETWEEN THE HOURS OF 4:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 4:00 A.M. FRIDAY AND 9:00 P.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 4:00 A.M. TUESDAY TO 9:00 P.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 4:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME RESTRICTIONS OPERATION

US 70 MONDAY-SUNDAY 30 MINUTES

DAY AND TIME

US 70 MONDAY-SUNDAY 30 MINUTES 4:00 A.M. - 9:00 P.M. GIRDER HANGING

D) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- E) 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.
- F) 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.
- G) 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.

- H) 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.
- I) 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

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) 500 FEET IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

L) NOTIFY THE ENGINEER ONE MONTH PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

DURATION AND

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.

SHEET NO.

TMP-1B

PROJ. REFERENCE NO

R-5516

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

TRAFFIC BARRIER

O) 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.

P) 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.

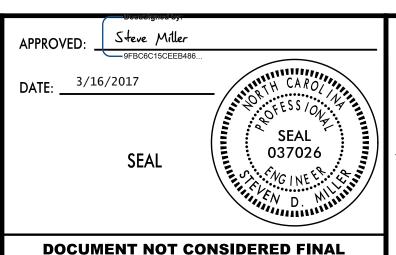
PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

MINIMUM	OFFSET
15	FT
20	FT
25	FT
30	FT
	15 20 25

TRAFFIC CONTROL DEVICES

Q) 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.





UNLESS ALL SIGNATURES COMPLETED



TRANSPORTATION
OPERATIONS
PLAN

2/24/2017 X:\2013\TR13.017.00

PROJ. REFERENCE NO. SHEET NO. TMP-1C

GENERAL NOTES (CONT.)

- R) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- S) 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

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

ROAD NAME	MARKING	MARKER
US 70	PAINT	TEMPORARY RAISED
SLOCUM RD.	PAINT	TEMPORARY RAISED
PINE GROVE RD.	PAINT	TEMPORARY RAISED
HICKMAN HILL RD.	PAINT	TEMPORARY RAISED

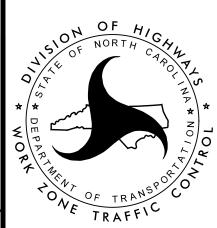
- U) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- V) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- W) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- X) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS.

MISCELLANEOUS

- Y) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- Z) 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) 500 FEET AND 1000 FEET RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.
- AA) 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.



UNLESS ALL SIGNATURES COMPLETED

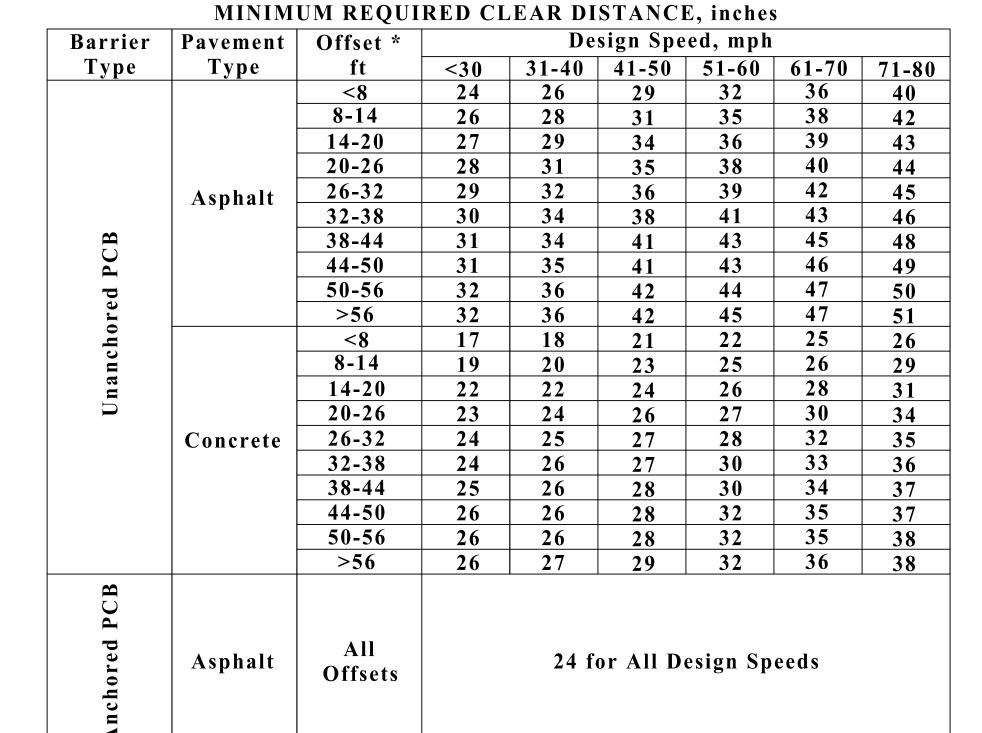


TRANSPORTATION
OPERATIONS
PLAN

FIGURE A

NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- 2- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 3- PCB IS REQUIRED IF TEMPORARY SHORING IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).
- 4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.
- 8- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS AND OR AS APPROVED BY THE ENGINEER.
- 9- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.
- 10- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200 FT IN LENGTH AND WET OR DRY PAVEMENT.



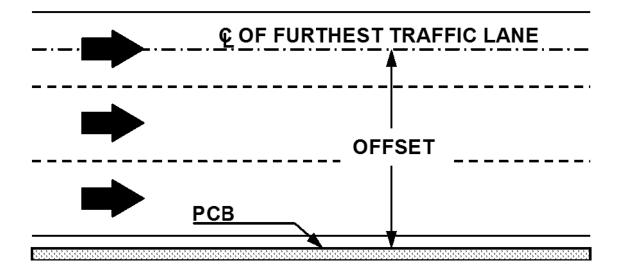
* See Figure Below

Concrete (including

bridge

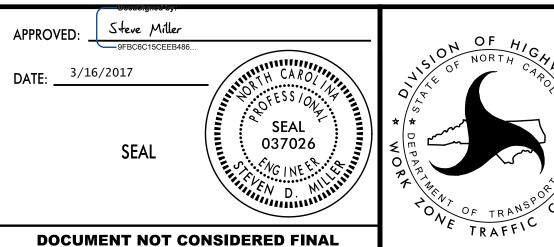
approach slabs)

Offsets



12 for All Design Speeds

FIGURE B



UNLESS ALL SIGNATURES COMPLETED

PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS

CONSTRUCTION License: C-2197

PROJ. REFERENCE NO.	SHEET NO.
R-5516	TMP-2A

TEMPORARY SHORING NO. 1

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

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM -L- STA. 74+90+/- 12.9 FT. LEFT TO -L- STA. 75+40+/- 12.9 FT. LEFT. FRO 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 ELEV=21.9 FT

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM -L-STA. 74+90+/- 12.9 FT. LEFT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- STA. 74+90+/- 12.9 FT. LEFT TO -L- STA. 75+40+/- 12.9 FT. LEFT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

TEMPORARY SHORING NO. 2

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

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM -L- STA. 74+90+/- 17.1 FT. RIGHT TO -L- STA. 75+40+/- 17.1 FT. RIGHT. FRO 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 ELEV=21.9 FT

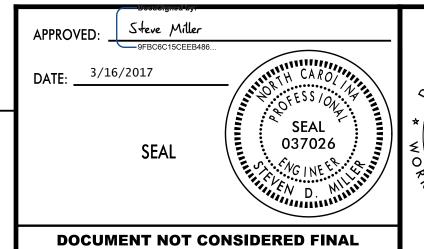
DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM -L-STA. 74+90+/- 17.1 FT. RIGHT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- STA. 74+90+/- 17.1 FT. RIGHTT TO -L- STA. 75+40+/- 17.1 FT. RIGHT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

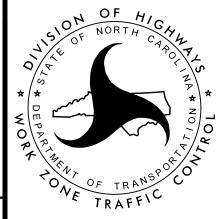
THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT.

THE DOCUMENT WAS SUBMITTED TO WORK ZONE TRAFFIC CONTROL ON NOVEMBER 21, 2016 AND SEALED BY A PROFESSIONAL ENGINEER, JAMES R BATTS, JR, LICENSE # 018899.





UNLESS ALL SIGNATURES COMPLETED



TEMPORARY SHORING DATA

PHASING

PHASE I

- STEP 1: USING ROADWAY STANDARD DRAWINGS (RSD) 1101.01 SHEETS 2 AND 3 OF 3 INSTALL ADVANCE WARNING SIGNS ON US 70, SLOCUM ROAD, AND ALL -Y- LINES.
- STEP 2: USING RSD 1101.02 SHEETS 1 AND 3 OF 15 AND RSD 1101.04 SHEET 1 OF 1 AS NECESSARY PERFORM THE FOLLOWING:

-BEGIN CONSTRUCTION ON BENT #1, BEGIN CONSTRUCTION AWAY FROM TRAFFIC FROM:

-YEB01- STA 10+00 +/- TO -YEB01- STA 29+00 +/--Y09A- STA 10+00 +/- TO -Y09A- STA 28+48 +/--Y10A- STA 24+00 +/- TO -Y10A- STA 34+86 +/-AS SHOWN ON TMP-5 THROUGH TMP-8.

-PLACE TEMPORARY PAVEMENT FROM:

- -L- STA 67+97 +/- LEFT TO -L- STA 84+03 +/- LEFT
- -L- STA 73+37 +/- RIGHT TO -L- STA 80+68 +/- RIGHT
- -L- STA 76+58 +/- CENTER TO -L- STA 77+38 +/- CENTER
- -L- STA 79+81 +/- CENTER TO -L- STA 84+26 +/- CENTER AS SHOWN ON TMP-4 AND 5.
- -BEGIN PLACING TEMPORARY PAVEMENT FROM -L- 64+25 +/- TO -L-69+08 +/- AS SHOWN ON TMP-4.
- -CONSTRUCT THE TEMPORARY INTERSECTION AND PORTION OF -LRB-INCLUDING DRAINAGE FROM STRUCTURE 0508 TO STRUCTURE 0510 AND FROM STRUCTURE 0521 TO STRUCTURE 0522 AS SHOWN ON TMP-5.
- STEP 3: USING RSD 1101.02 SHEET 1 AND 3 OF 15 PERFORM THE FOLLOWING IN A CONTINUOUS MANNER:
 - A) USE WEDGING TO CONSTRUCT A TIE-IN FROM EXISTING SLOCUM ROAD TO THE -LRB- ALIGNMENT AS SHOWN ON TMP-14.
 - B) PLACE TEMPORARY PAVEMENT MARKINGS AND DEVICES AS SHOWN ON TMP-9, TMP-10, AND TMP-14.
 - C) SHIFT TRAFFIC TO THE ALIGNMENT SHOWN ON TMP-9, TMP-10, AND TMP-14 AND ACTIVATE TEMPORARY SIGNAL.

PHASE II

STEP 1: USING RSD 1101.02 SHEET 1 AND 3 OF 15, PLACE REMAINING PHASE II TRAFFIC CONTROL DEVICES AS SHOWN ON TMP-11 THROUGH TMP-15 AND TMP-17 THROUGH TMP-19. BEGIN/CONTINUE CONSTRUCTION FROM: -L- 60+00 +/- T0 -L- 121+72 +/--Y01- 10+00 +/- T0 13+98 +/--Y02- 10+00 +/- T0 12+26 +/--Y09A- 10+00 +/- T0 -Y09A- 28+48 +/--Y10A- 11+82 +/- T0 -Y10A- 40+75 +/--Y11A- 18+27 +/- TO -Y11A- 23+90 +/--YEB01- 8+08 +/- TO -YEB01- 59+75 +/--YWB01- 12+00 +/- TO -YWB01- 38+75 +/--LRA- 10+00 +/- TO -LRA- 20+31 +/-

-LRB- 10+00 +/- TO -LRB- 22+58 +/-

SURFACE COURSE AS SHOWN ON TMP-15.

UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS SHOWN ON TMP-9 THROUGH TMP-15 AND TMP-17 THROUGH TMP-19.

PLACE ANCHORED PORTABLE CONCRETE BARRIER AS SHOWN ON TMP-9 AND 10. INSTALL TEMPORARY SHORING LOCATION 1 AND TEMPORARY SHORING LOCATION 2 AS SHOWN ON TMP-10. BEGIN BENT 2 CONSTRUCTION.

STEP 2: USING RSD 1101.02 SHEET 1 OF 15, CONSTRUCT TEMPORARY PAVEMENT FROM -YWB01- 27+89 +/- TO -YWB01- 38+06 +/- AS SHOWN ON TMP-15. COMPLETE THE SOUTHERN PORTION OF THE TWO 66 INCH RCP PIPES NEAR -YEB01- STATION 54+60. COMPLETE CONSTRUCTION ON THE RIGHT FROM -YEB01- 49+67 +/- TO -YEB01- 58+06 +/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF

> USING RSD 1101.02 SHEET 1 OF 15, PERFORM THE FOLLOWING IN A CONTINUOUS MANNER:

A) USE WEDGING TO CONSTRUCT A TIE-IN FROM THE EXISTING SLOCUM ROAD PATTERN TO THE PATTERN SHOWN ON TMP-16.

- B) PLACE TEMPORARY PAVEMENT MARKINGS AND DEVICES AS SHOWN ON TMP-16.
- C) SHIFT TRAFFIC TO THE ALIGNMENT SHOWN ON TMP-16.
- STEP 3: USING RSD 1101.02 SHEET 1 OF 15, COMPLETE THE NORTHERN PORTION OF THE TWO 66 INCH RCP PIPES NEAR -YEB01- STATION 54+60. BEGIN/CONTINUE CONSTRUCTION ON -YEB01-, -YWB01-, -Y01-, AND - Y02 - .

TRAFFIC MAY BE RETURNED TO THE PATTERN SHOWN ON TMP-15 ONCE THE TWO 66 INCH RCP PIPES NEAR -YEB01- STATION 54+60 ARE COMPLETED. BEGIN REMOVAL OF TEMPORARY PAVEMENT FROM - YWB01-27+89 +/- TO -YWB01- 38+06 +/-.

GIRDER ERECTION

STEP 4: USING RSD 1101.02 SHEET 3 OF 15 AS NECESSARY, COMPLETE THE -YEB01- BENTS AND STRUCTURE. REMOVE TEMPORARY SHORING 1 AND 2. REMOVE PORTABLE CONCRETE BARRIER WHEN A HAZARD IS NO LONGER PRESENT.

COMPLETE TEMPORARY PAVEMENT FROM -L- 64+25 +/- TO -L- 69+08

SEE TMP-20 THROUGH TMP-22 FOR CLOSING US 70 WESTBOUND IN ORDER TO CONSTRUCT STRUCTURE SECTION 4 AND SECTION 5. USE RSD 1101.03 SHEET 8 OF 9 TO STOP TRAFFIC AS NECESSARY TO CONSTRUCT STRUCTURE SECTION 4.

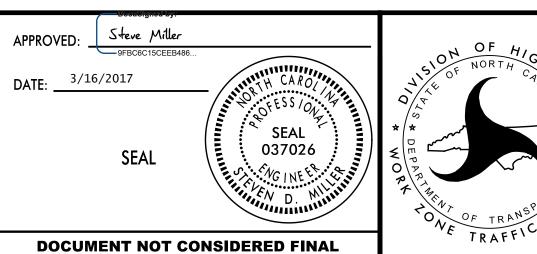
SEE TMP-23 THROUGH TMP-25 FOR CLOSING US 70 EASTBOUND IN ORDER TO CONSTRUCT STRUCTURE SECTION 3.

- STEP 5: USING RSD 1101.02 SHEET 1 AND 3 OF 15, PERFORM THE FOLLOWING IN A CONTINUOUS MANNER:
 - A) COMPLETE -L-, -Y01-, -Y02-, -Y09A-, -Y10A-, -Y11A-, -YEB01-, -YWB01-, -LRA-, AND -LRB- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
 - B) PLACE TEMPORARY PAVEMENT MARKINGS IN THE SAME LOCATION AS THE FINAL PAVEMENT MARKINGS.
 - C) ACTIVATE FINAL SIGNAL. DEACTIVATE TEMPORARY SIGNAL. SHIFT TRAFFIC TO THE FINAL PATTERN.

PHASE III

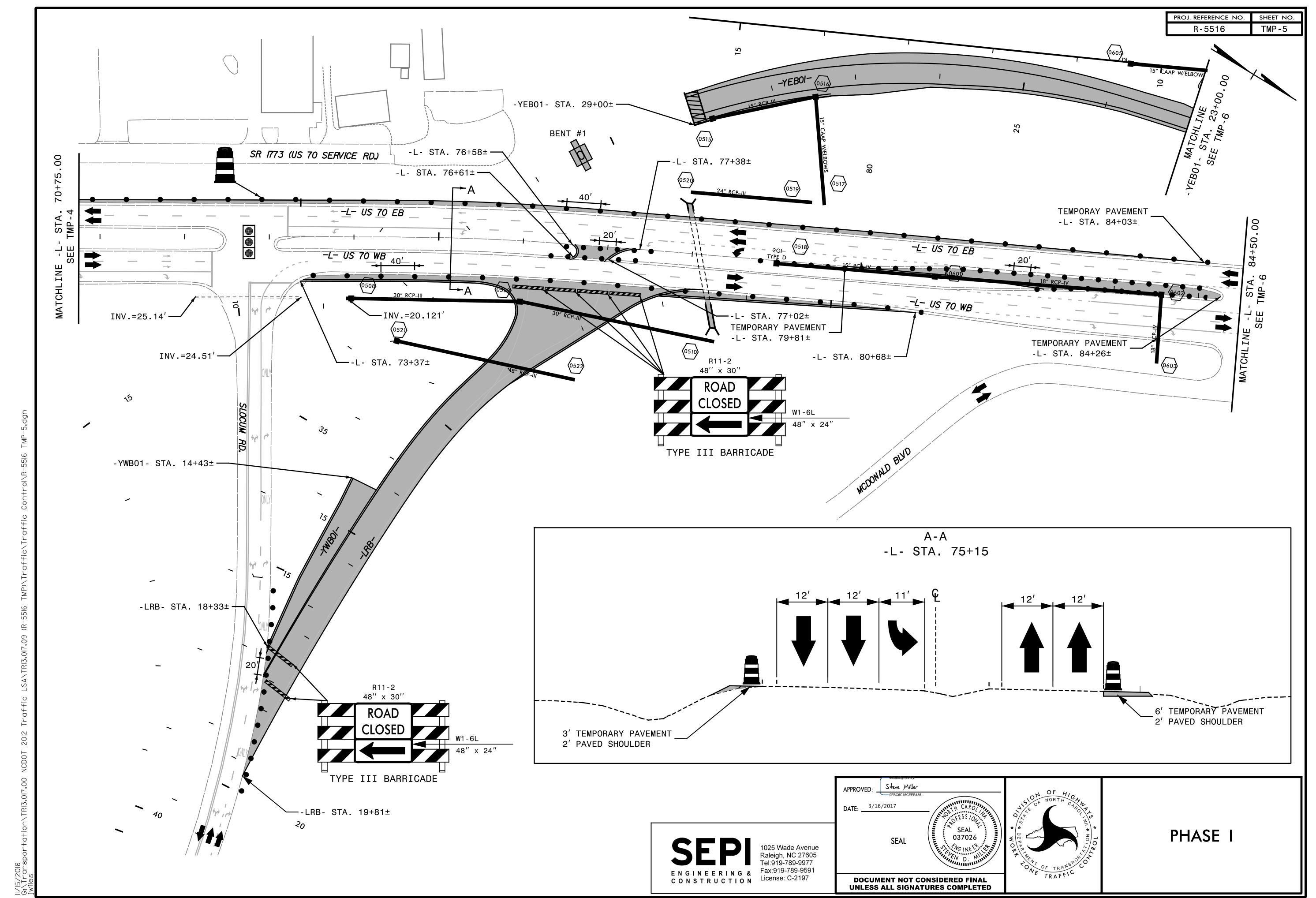
- STEP 1: USING RSD 1101.02 SHEET 1 AND 3 OF 15, REMOVE TEMPORARY PAVEMENT THROUGHOUT THE PROJECT.
- STEP 2: PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.
- STEP 3: REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES.





UNLESS ALL SIGNATURES COMPLETED

PHASING

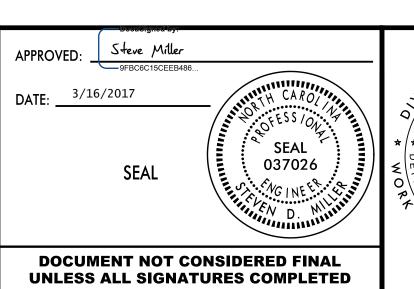


PROJ. REFERENCE NO. SHEET NO.

TYPE III BARRICADE

VEDOT: STA. 10 00
VEDOT: STA. 10 00-

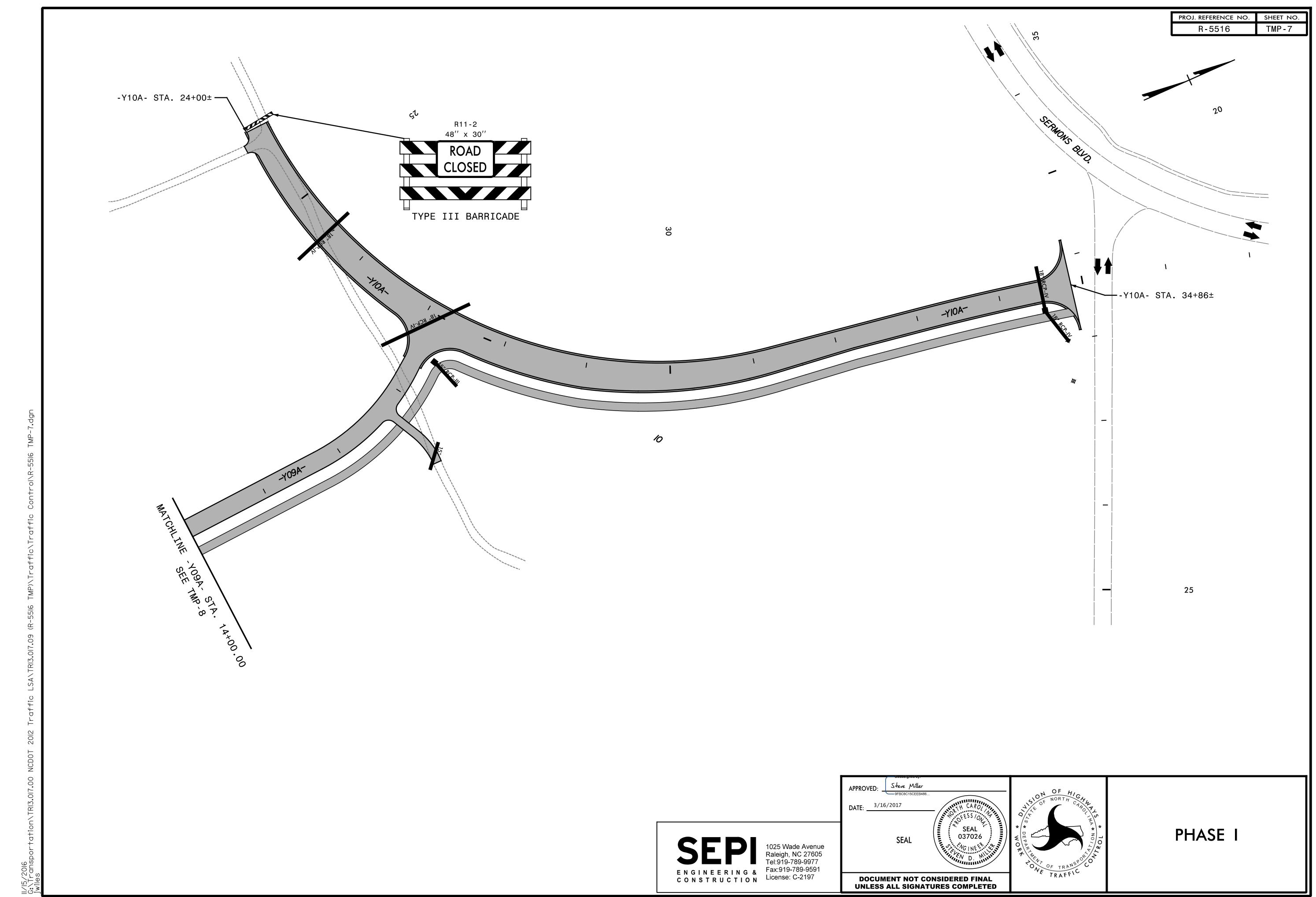
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License: C-2197



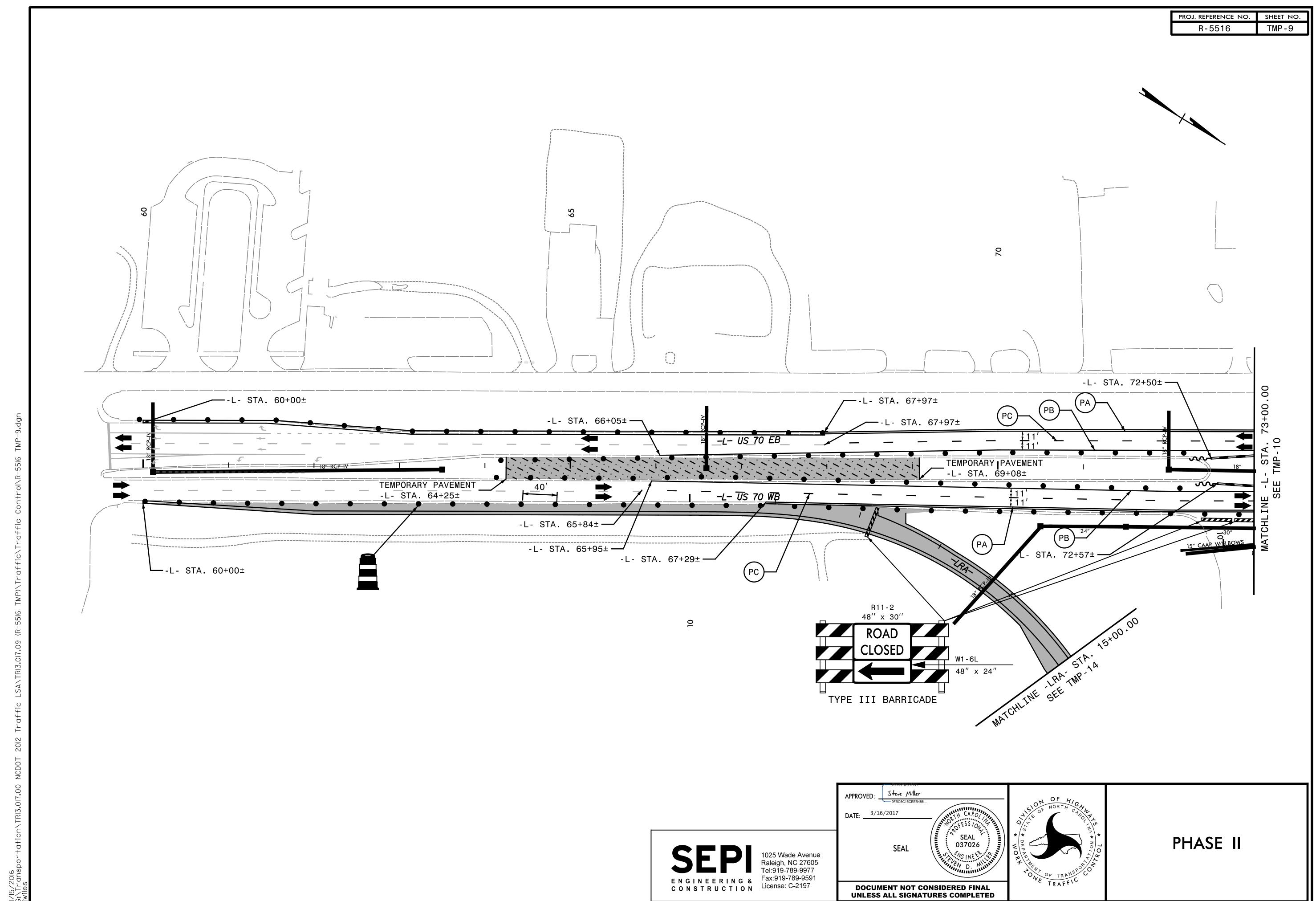
PHASE I

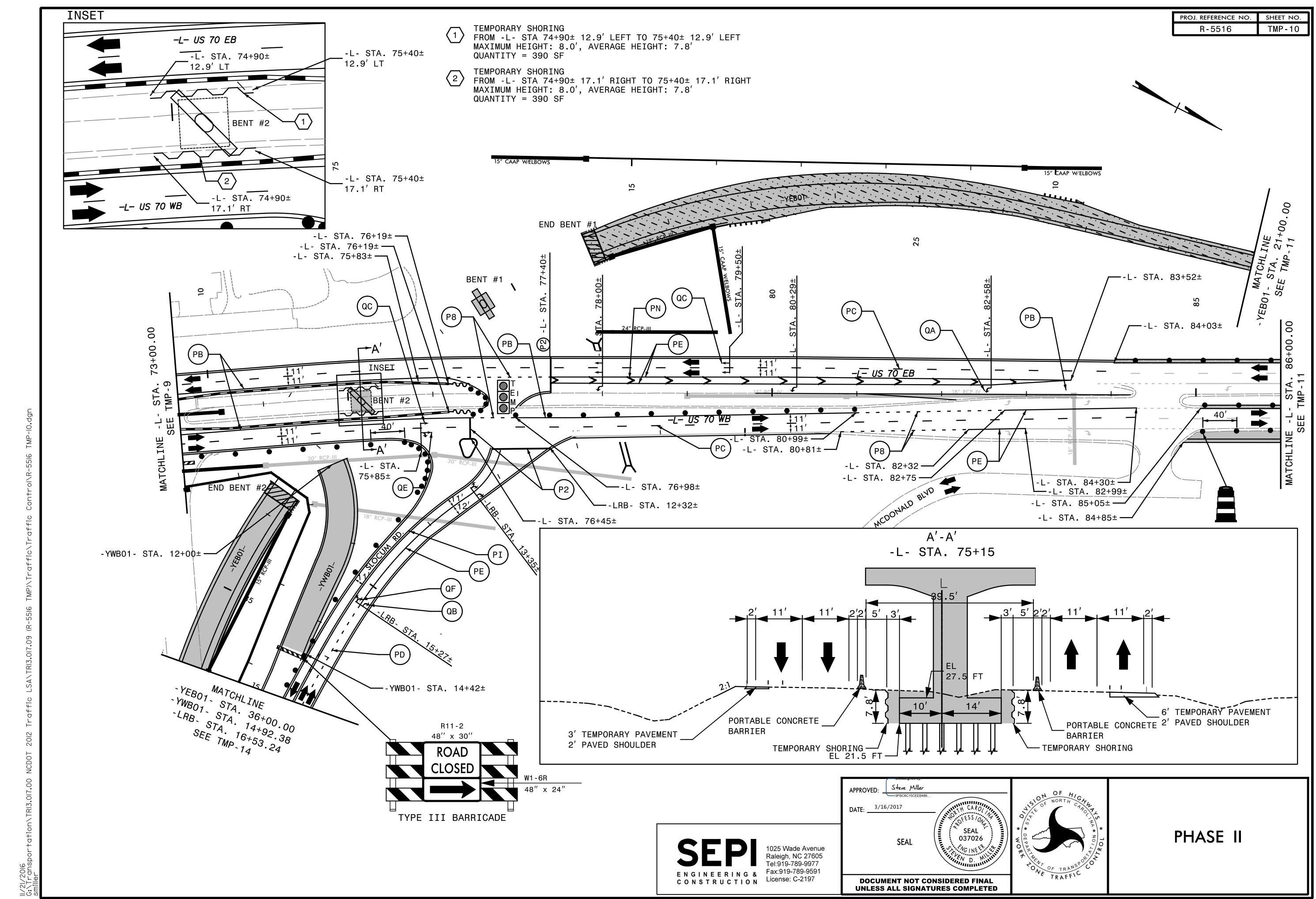
TMP-6

/I5/2016

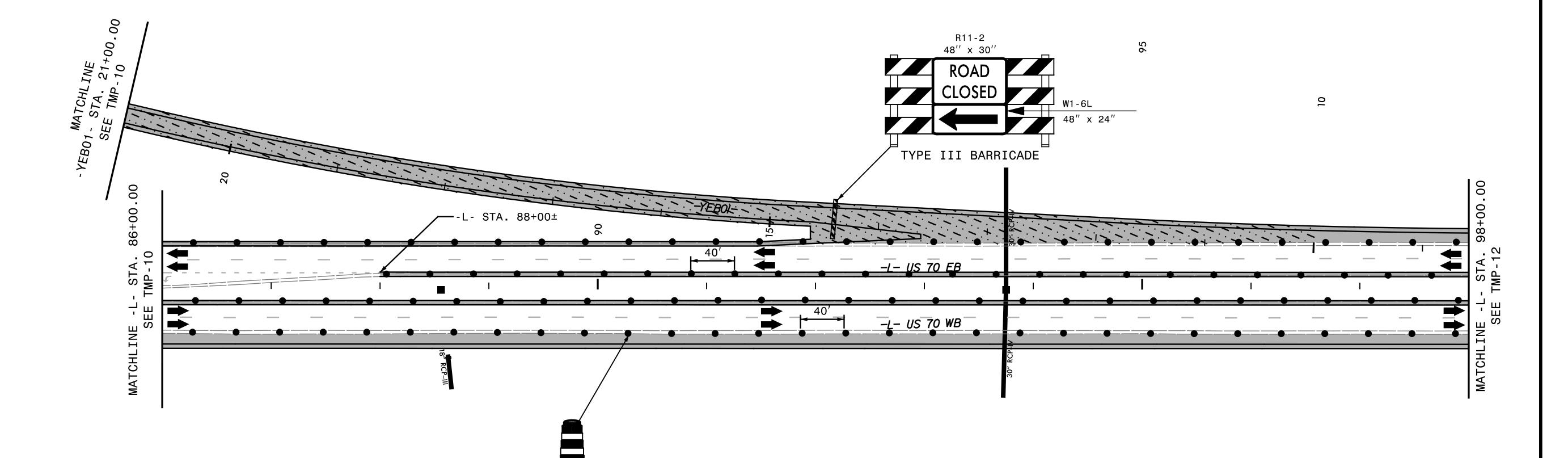


PROJ. REFERENCE NO. SHEET NO. R-5516 TMP-8 _Y09A-R11-2 48" x 30" TYPE III BARRICADE(S) MCDONALD BLVD. -Y09A- STA. 28+48± APPROVED: Steve Miller
9FBC6C15CEEB486. PHASE I SEAL 1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
ENGINEERING &
CONSTRUCTION
Fax:919-789-9591
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PROJ. REFERENCE NO.
R-5516 TMP-11



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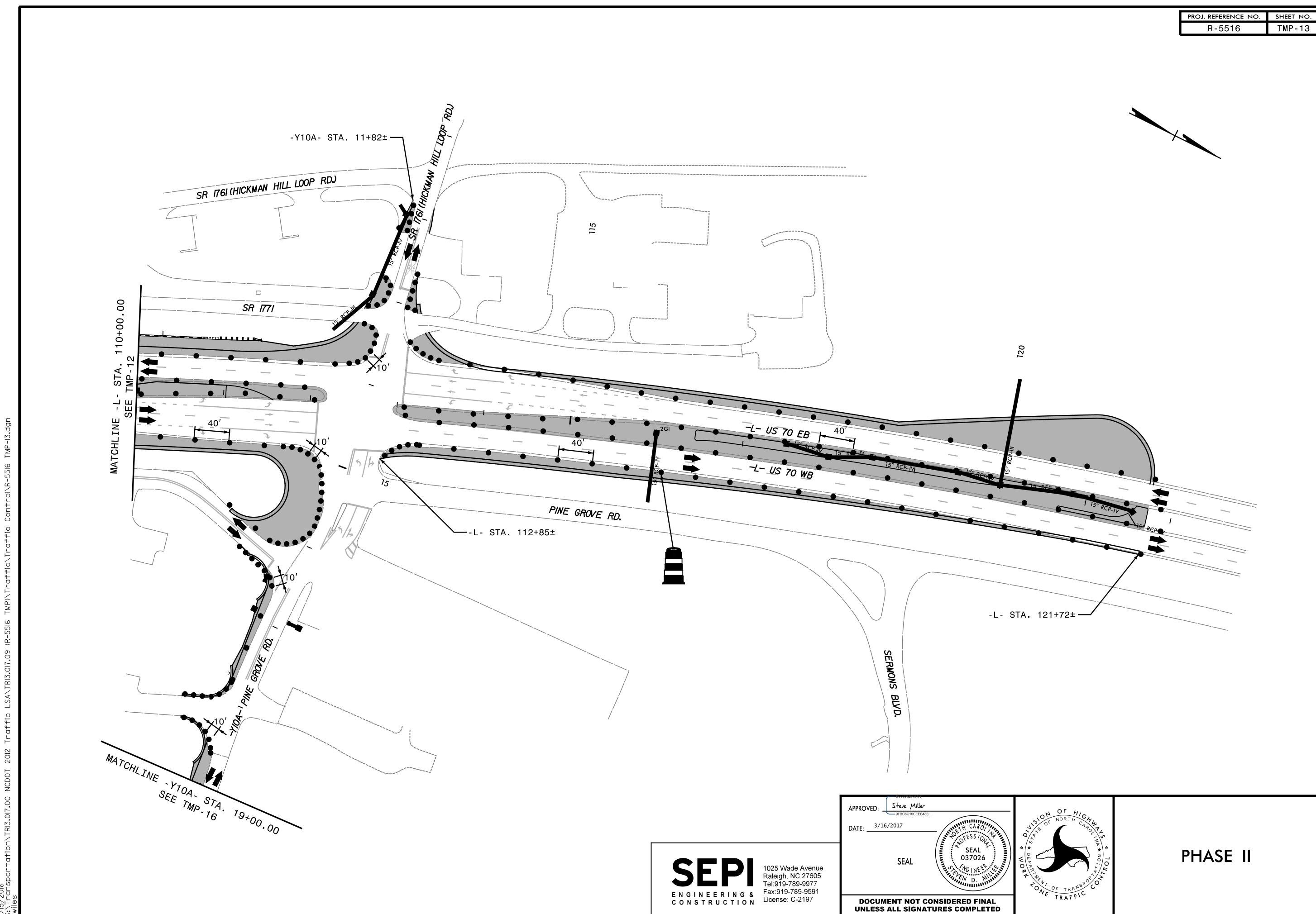
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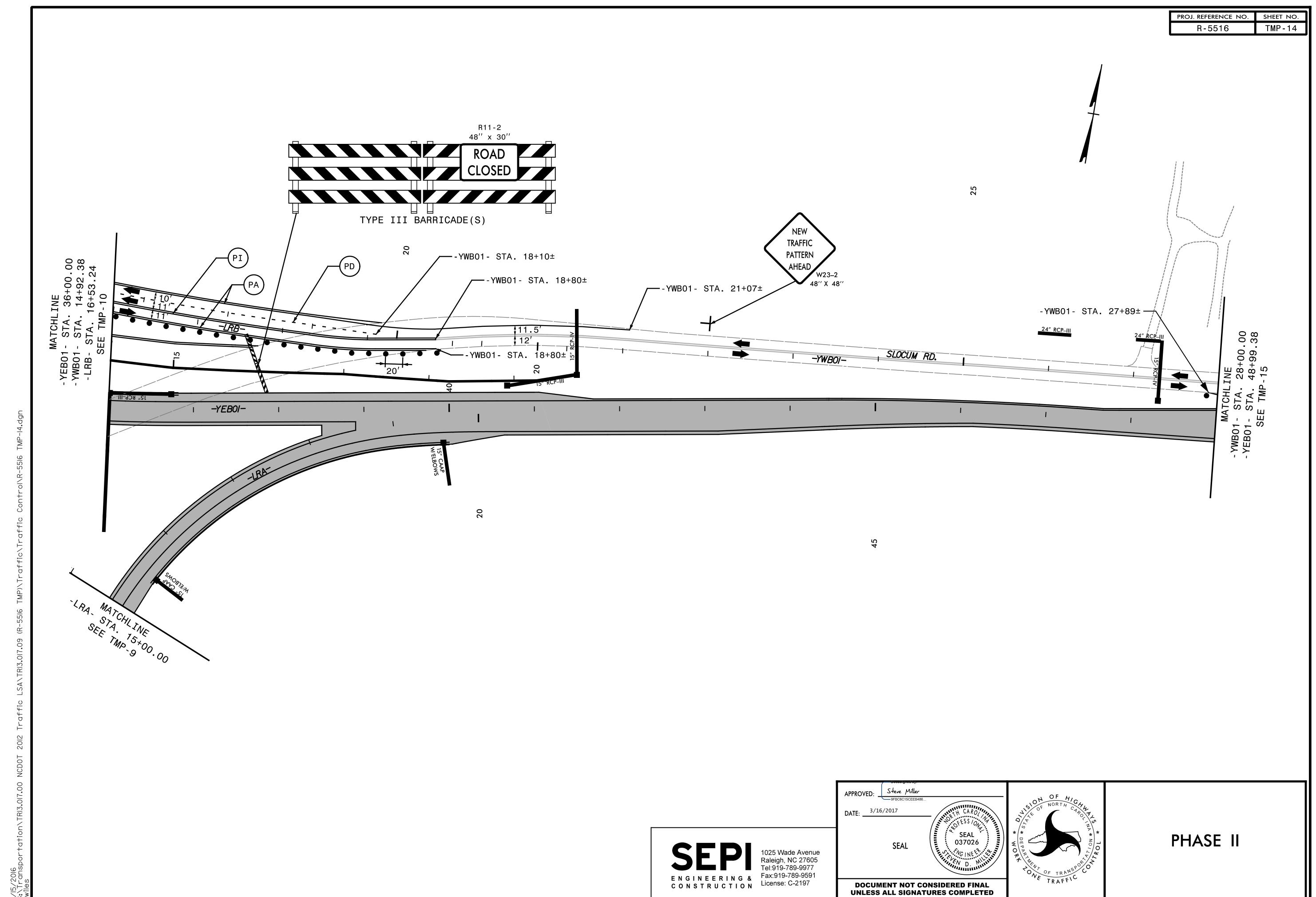
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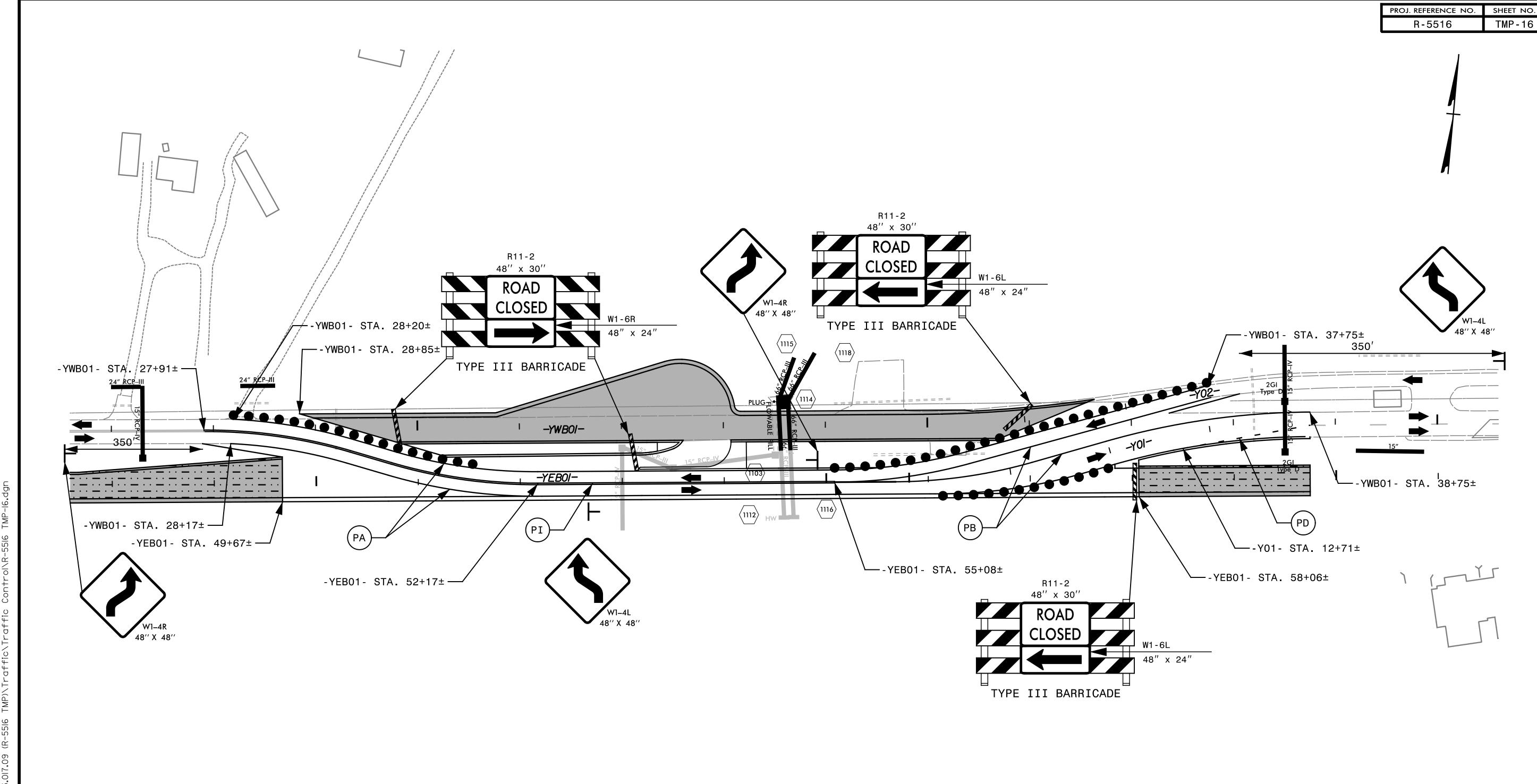
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PROJ. REFERENCE NO. SHEET NO. TMP-12 R-5516 SR 1761 (HICKMAN HILL RDJ SR 1771 -L- US 70 WB APPROVED: Steve Miller
9FBC6C15CEEB486... DATE: 3/16/2017 PHASE II 1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
ENGINEERING &
CONSTRUCTION

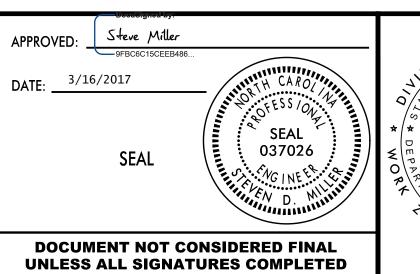
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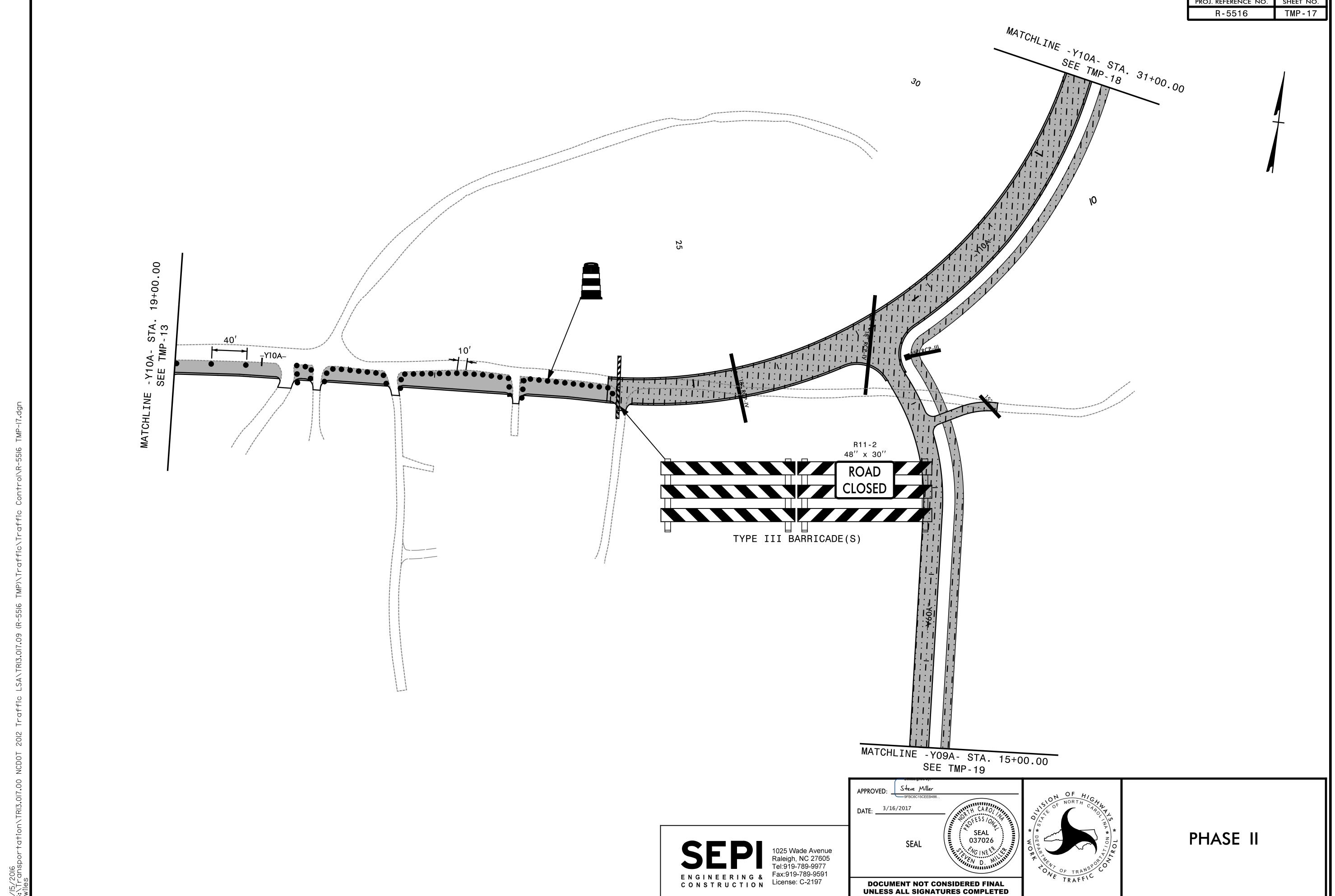


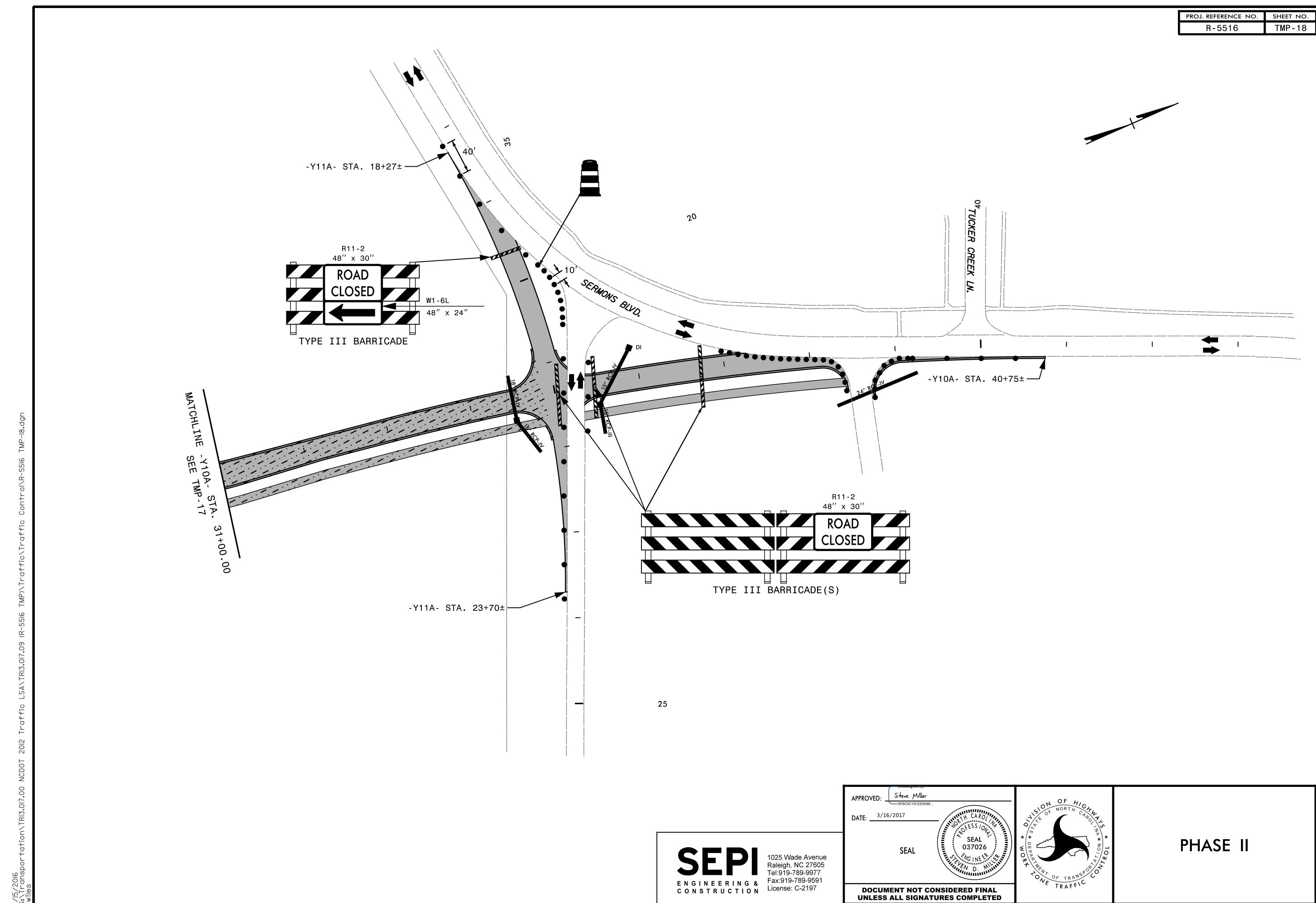






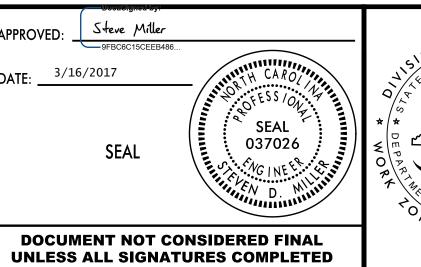
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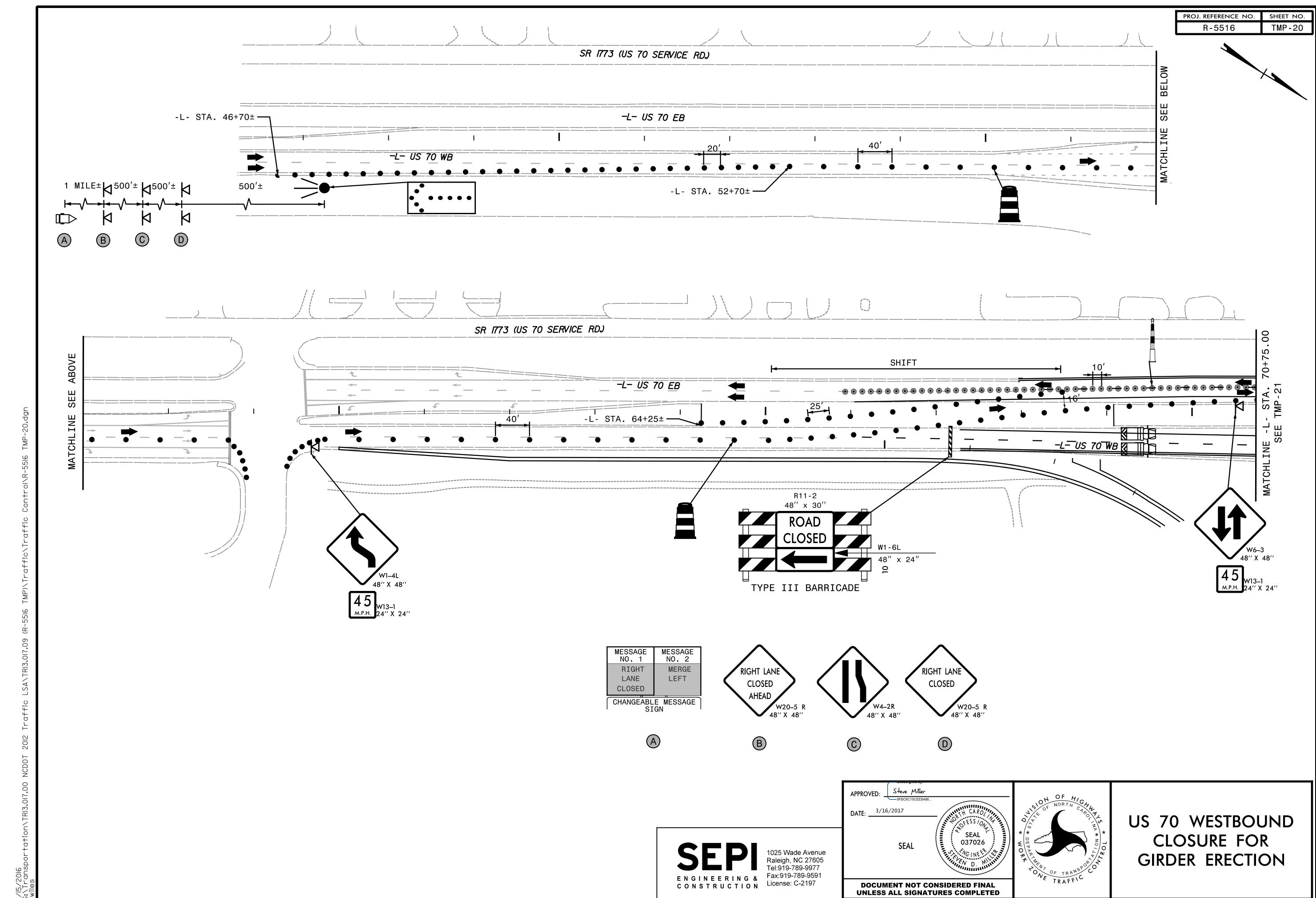


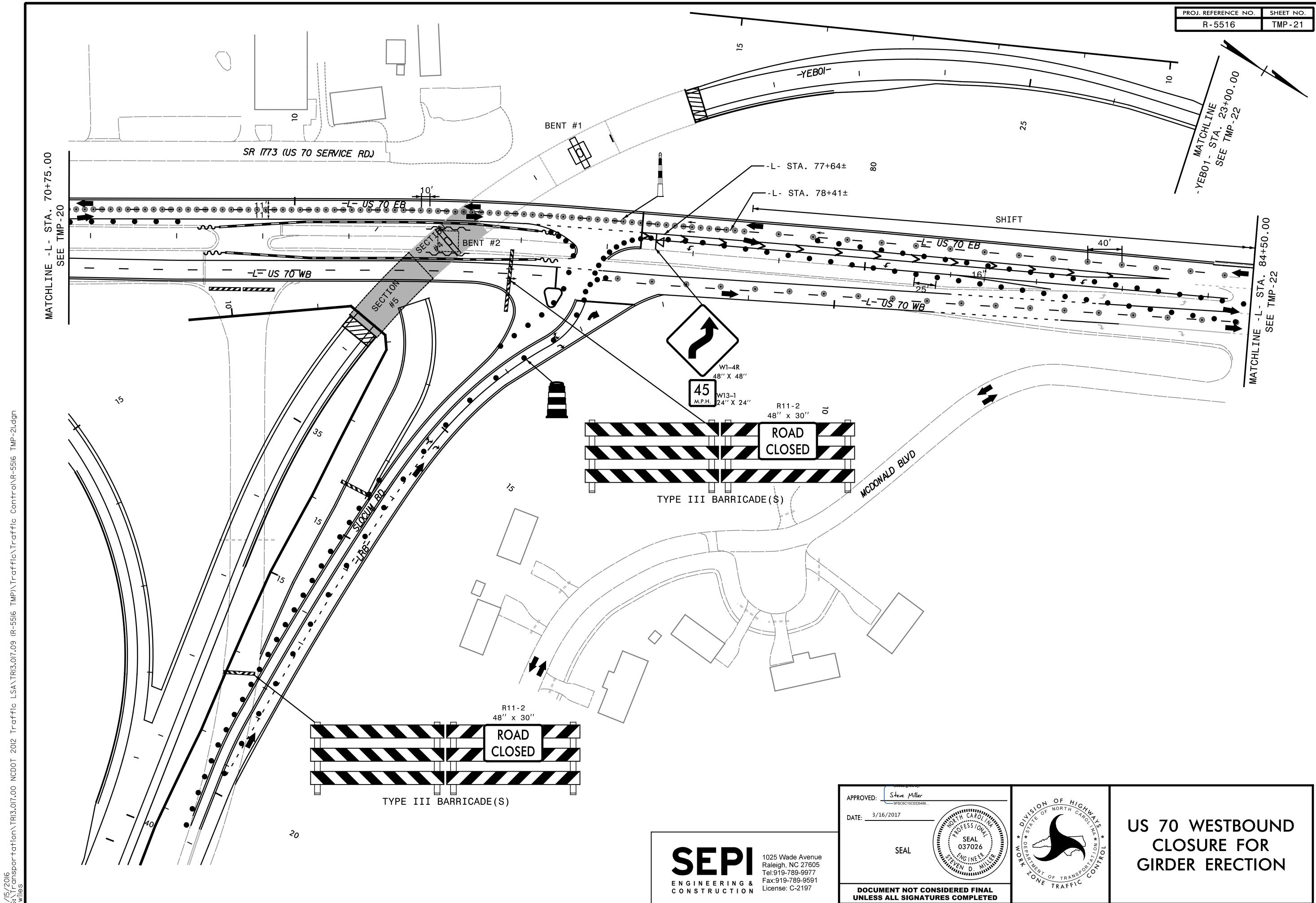


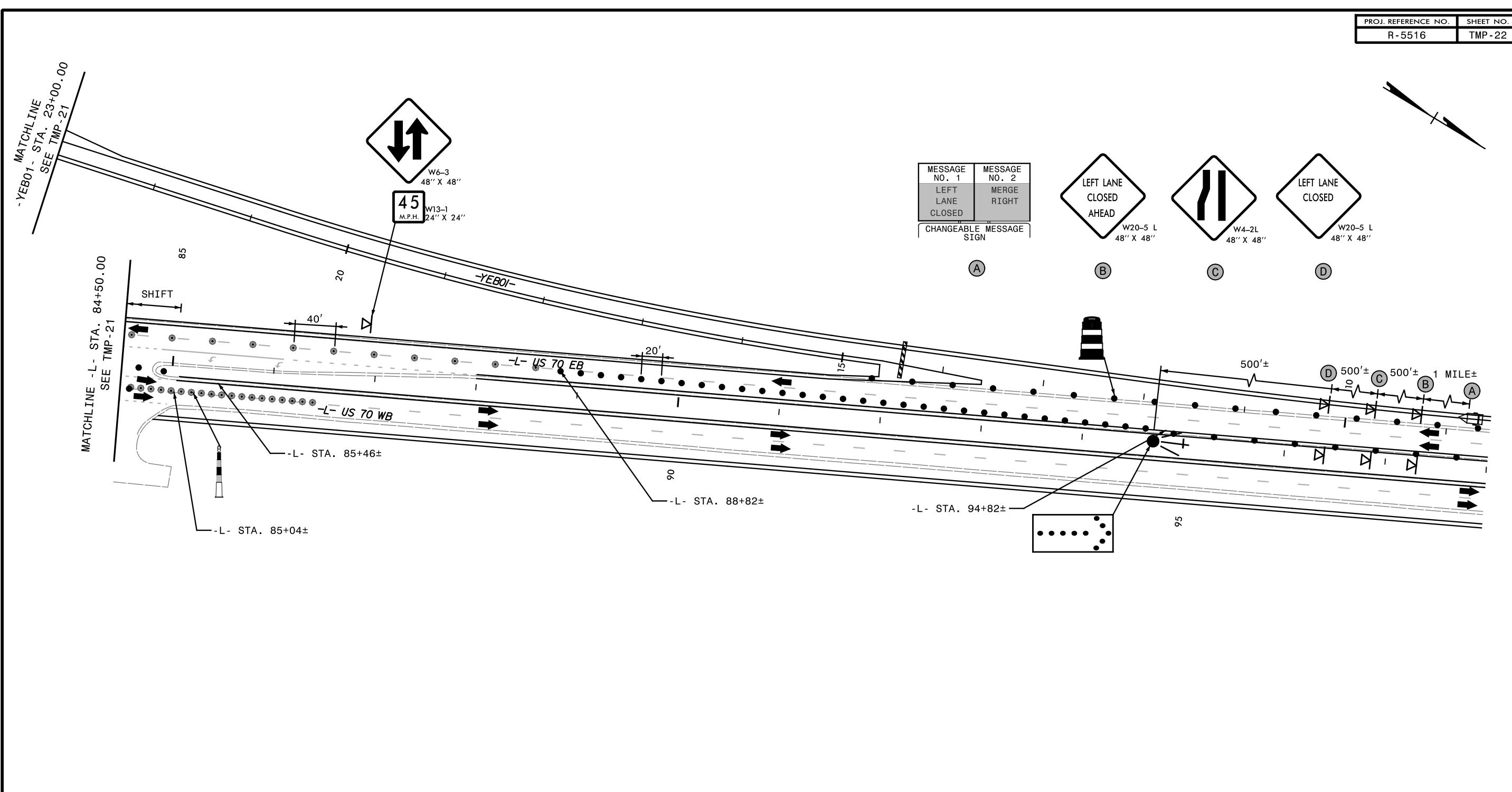
SHEET NO. TMP-19 R-5516 ∕—-Y09A- STA. 28+48± MCDONALD BLVD. R11-2 48" x 30" TYPE III BARRICADE(S) APPROVED: Steve Miller
9FBC6C15CEEB486. PHASE II

1025 Wade Avenue Raleigh, NC 27605 Tel:919-789-9977 ENGINEERING & Fax:919-789-9591 License: C-2197

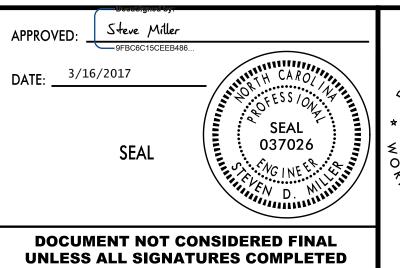


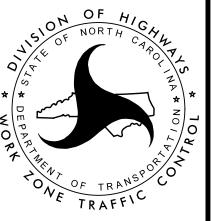




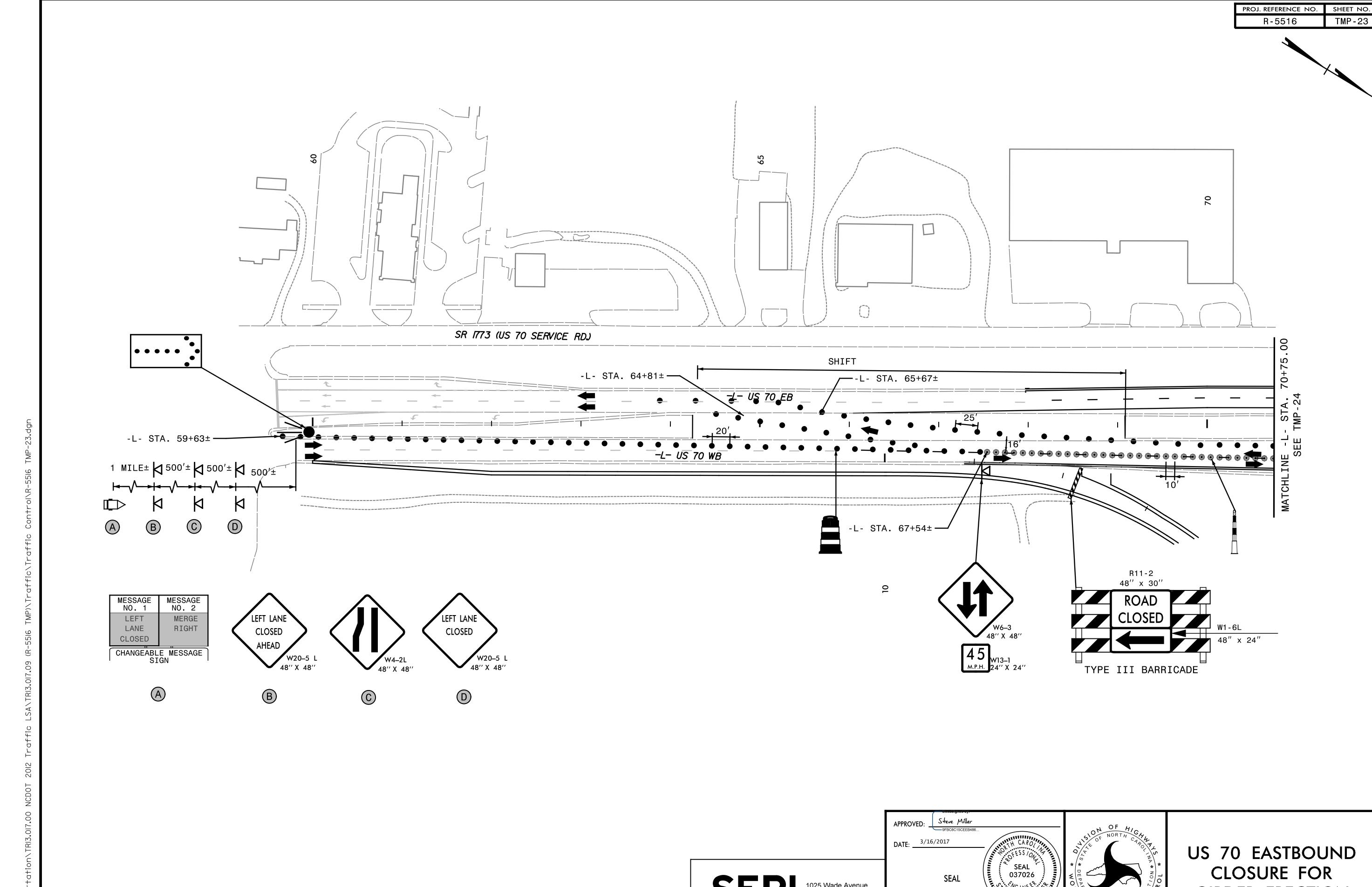






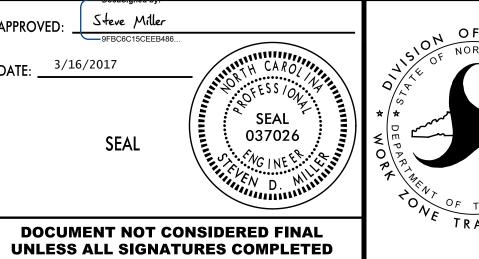


US 70 WESTBOUND
CLOSURE FOR
GIRDER ERECTION



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GIRDER ERECTION

