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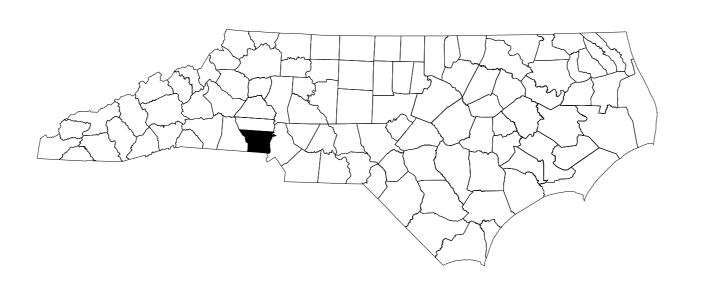
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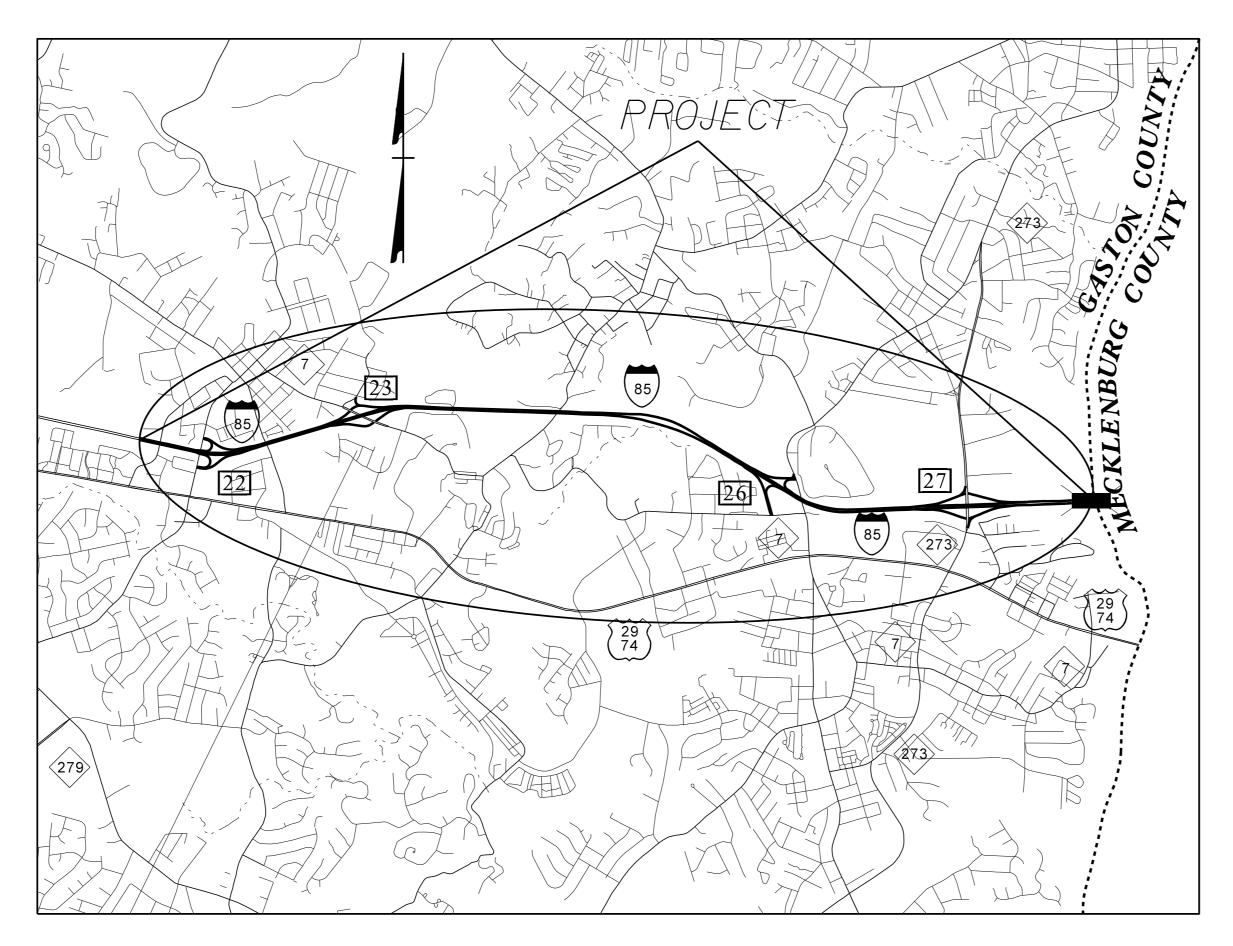
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STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

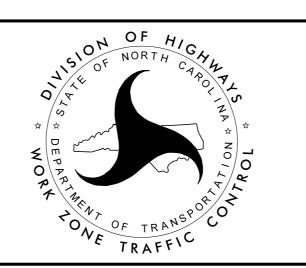
GASTON COUNTY





VICINITY MAP

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 TRAFFIC CONTROL PROJECT ENGINEER WORK ZONE SAFETY & MOBILITY "from the MOUNTAINS to the COAST" TRAFFIC CONTROL DESIGN ENGINEER



INDEX OF SHEETS

SHEET NO.	<u>TITLE</u>	
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, GENERAL NOTES, AND LOCAL NOTES)	
TMP-2-9	DETOURS FOR RAMP AND LOOP CLOSURES	
TMP-10	TMP-10 STATIONARY ADVANCE WARNING SIGNS	
TMP-11	WORK ZONE VARIABLE SPEED LIMIT DIGITAL SIGNS	
TMP-12	WORK ZONE PRESENCE LIGHTING	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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.	O. <u>TITLE</u>				
4404 04 WORK TONE ARMANOE WITTING COOKS					
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				
1150.01	FLAGGING DEVICES				
1160.01	TEMPORARY CRASH CUSHION				
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION				
1180.01	SKINNY-DRUM				
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS				
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE 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				
1205.08	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				
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING				
	• · · · · · · · · · · · · · · · · · · ·				

GUARDRAIL END DELINEATION

OBJECT MARKERS - INSTALLATION

OBJECT MARKERS - TYPES

GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING

LEGEND

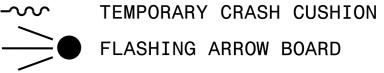
GENERAL

NORTH ARROW

TRAFFIC CONTROL DEVICES



DRUM SKINNY DRUM O TUBULAR MARKER



FLASHING ARROW BOARD

BARRICADE (TYPE III)



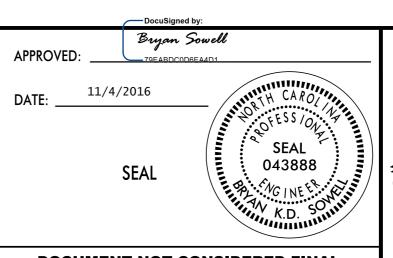
LAW ENFORCEMENT



TRUCK MOUNTED ATTENUATOR (TMA)



CHANGEABLE MESSAGE SIGN



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



ROADWAY STANDARD DRAWINGS & LEGEND

1261.02

1262.01 1264.01

1264.02

GENERAL NOTES / LOCAL 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

- I85 (NB&SB) AND RAMPS & LOOPS MONDAY through SUNDAY 6:00AM TO 8:00PM
- B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

I85 (NB&SB) AND RAMPS&LOOPS

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 8:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 8:00 P.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 8:00 P.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 8:00 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 8:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 8:00 P.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 8:00 P.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 8:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- 9. FOR CAROLINA PANTHER GAMES IN CHAROLOTTE, BETWEEN THE HOURS OF 6:00 A.M. THE DAY OF THE EVENT AND 8:00 P.M. THE DAY AFTER THE EVENT.
- 10. FOR AND NASCAR RACE EVENTS AT CHARLOTTE MOTOR SPEEDWAY BETWEEN THE HOURS 6:00 A.M. THE WEDNESDAY BEFORE THE FIRST TRACK EVENT AND 8:00 P.M. THE MONDAY AFTER THE LAST TRACK EVENT.
- 11. FOR THE McADENVILLE CHRISTMAS TOWN USA SEASON BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 1st, 2017 AND 8:00 P.M. DECEMBER 27th, 2017.

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.
- 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 ONE LANE CLOSURE IN ANY ONE DIRECTION ON .

PAVEMENT EDGE DROP OFF REQUIREMENTS

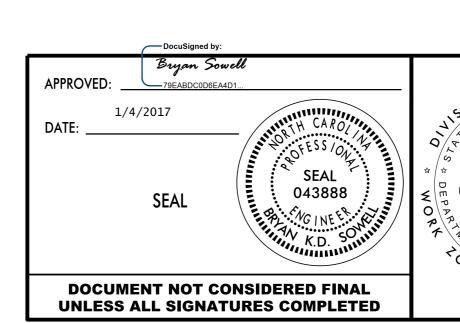
I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

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.

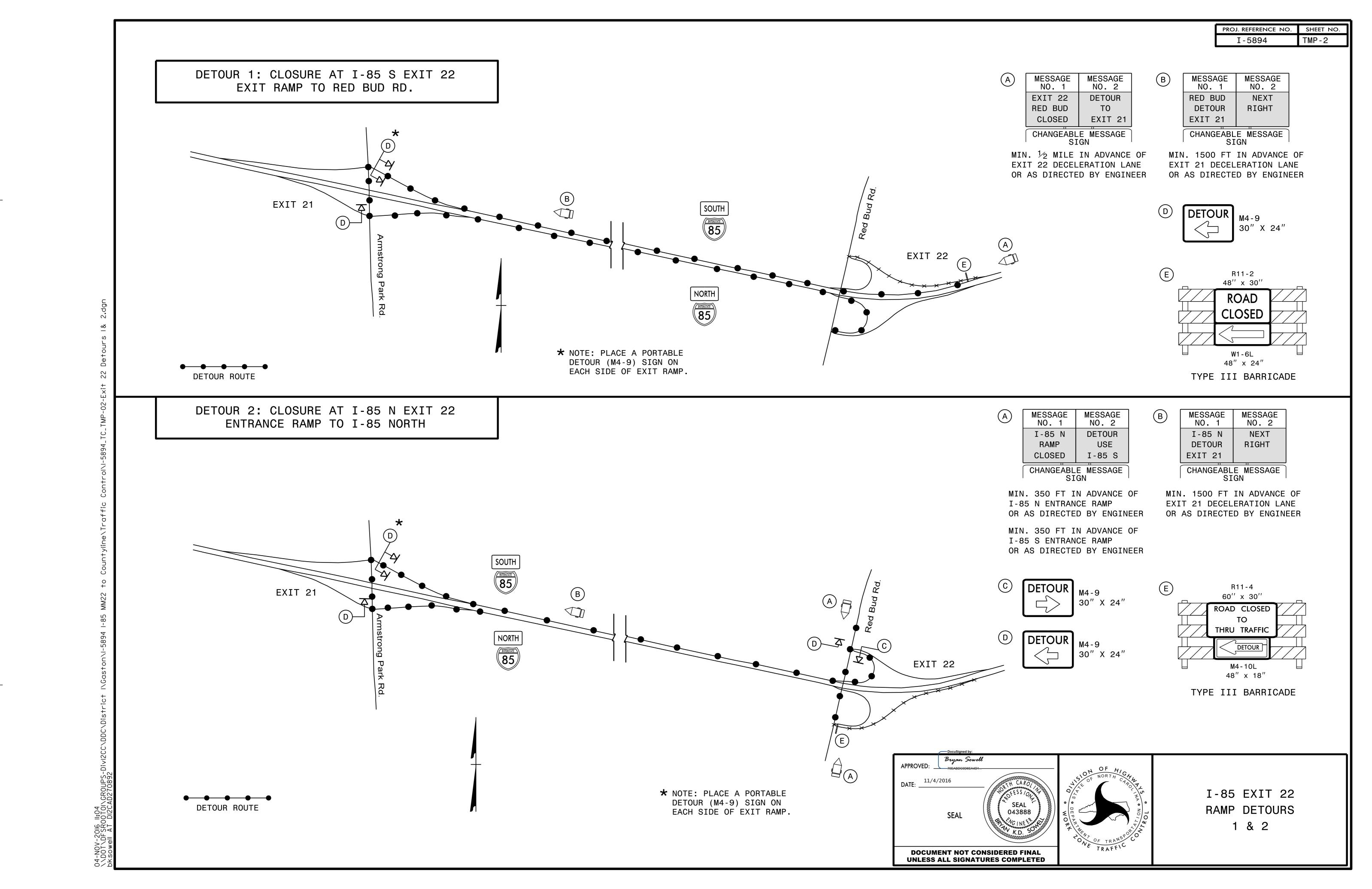
BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

- J) 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.
- K) 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

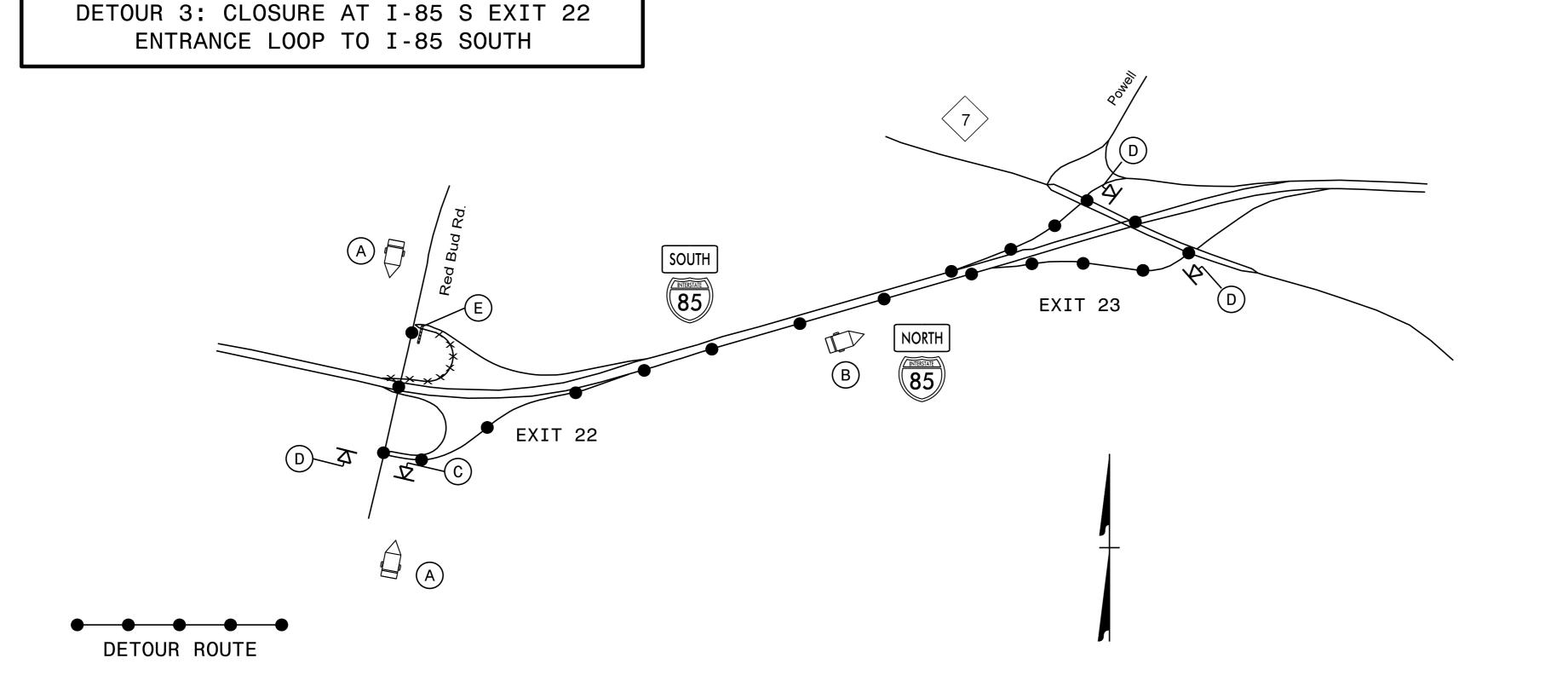


NORTH

TRANSPORTATION
OPERATIONS
PLAN







MESSAGE NO. 2 MESSAGE NO. 1 I-85 S DETOUR L00P CLOSED I-85 N

CHANGEABLE MESSAGE SIGN

MIN. 350 FT IN ADVANCE OF I-85 N ENTRANCE RAMP OR AS DIRECTED BY ENGINEER

MIN. 350 FT IN ADVANCE OF I-85 S ENTRANCE RAMP OR AS DIRECTED BY ENGINEER

R11-3

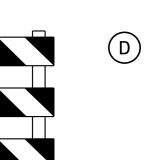
ROAD CLOSEI

MESSAGE MESSAGE NO. 1 NO. 2 I-85 SB DETOUR NEXT EXIT 23 RIGHT CHANGEABLE MESSAGE SIGN

> MIN. 1500 FT IN ADVANCE OF EXIT 23 DECELERATION LANE OR AS DIRECTED BY ENGINEER



30" X 24"

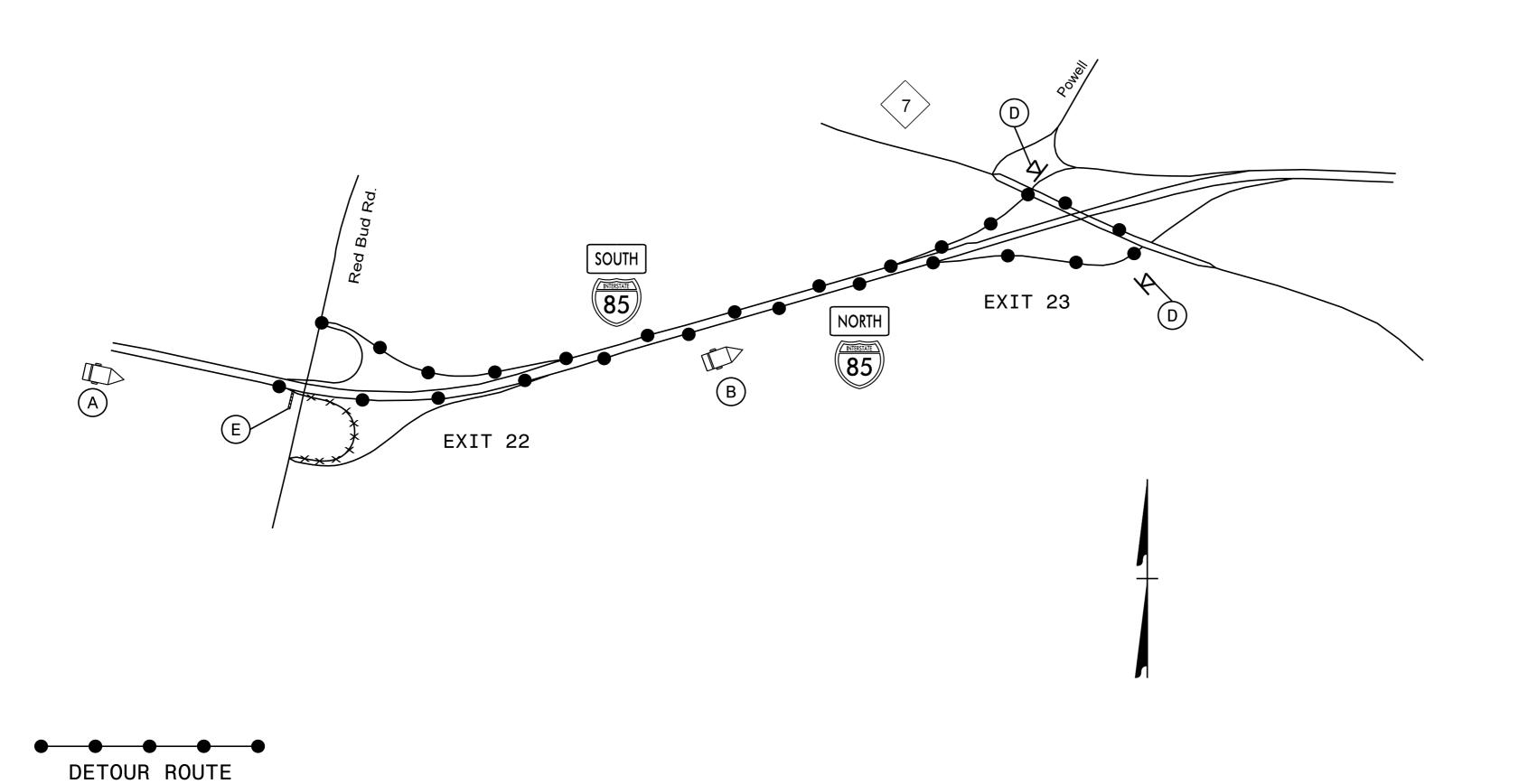


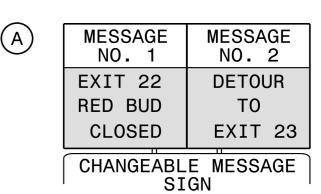
DETOUR | M4-9

TYPE III BARRICADE

48" x 18"

DETOUR 4: CLOSURE AT I-85 N EXIT 22 EXIT LOOP TO RED BUD RD.

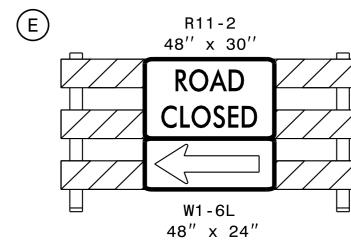


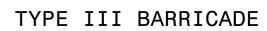


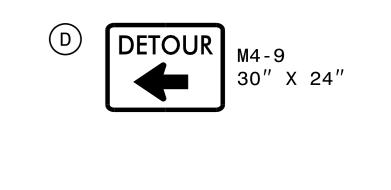
MIN. ½ MILE IN ADVANCE OF EXIT 22 DECELERATION LANE OR AS DIRECTED BY ENGINEER

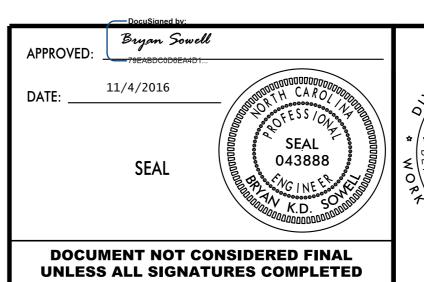
_		
B	MESSAGE NO. 1	MESSAGE NO. 2
	REDBUD RD	NEXT
	DETOUR	RIGHT
	EXIT 23	
	CHANGEABL SI	E MESSAGE GN

MIN. 1500 FT IN ADVANCE OF EXIT 23 DECELERATION LANE OR AS DIRECTED BY ENGINEER



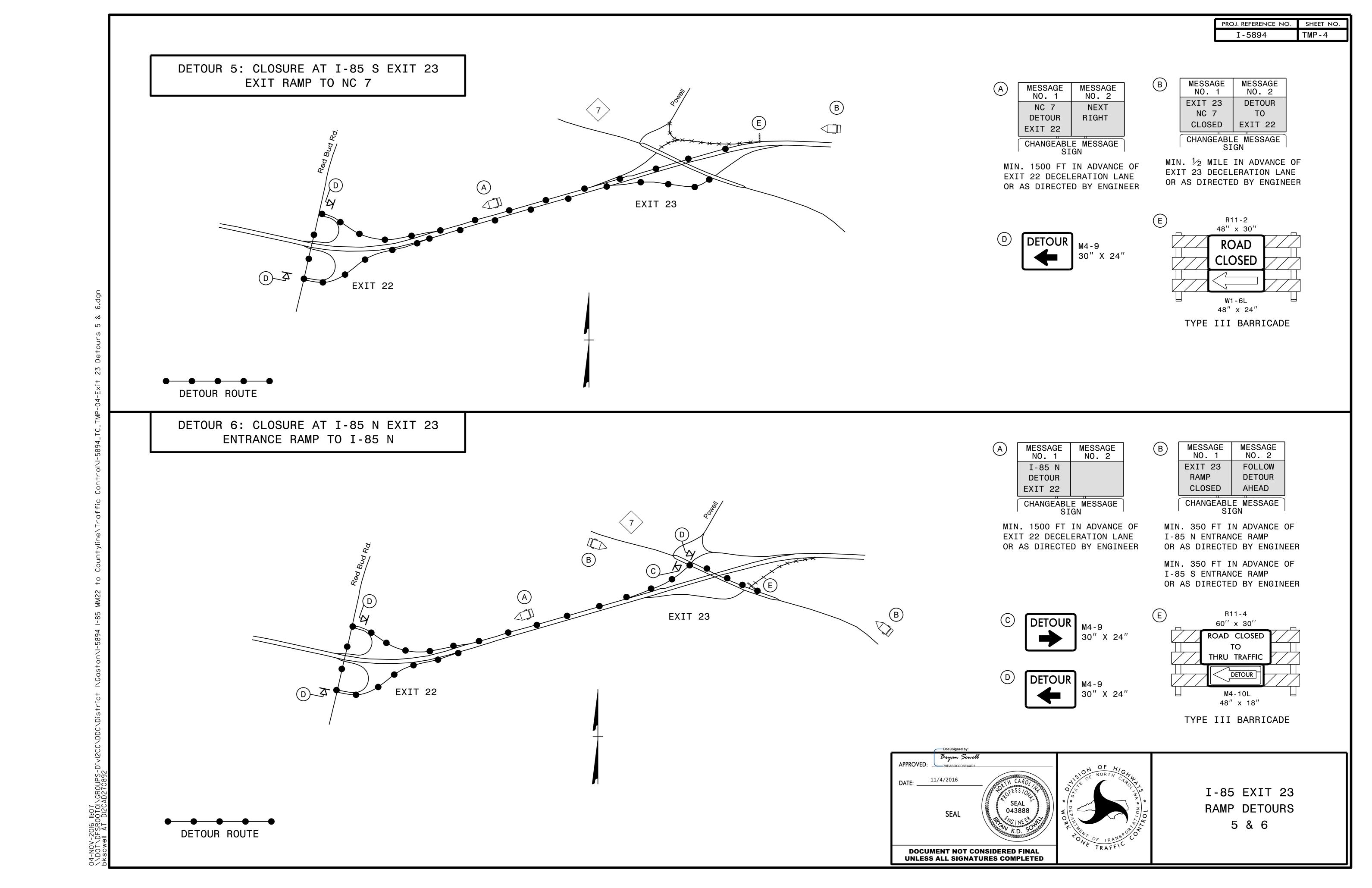


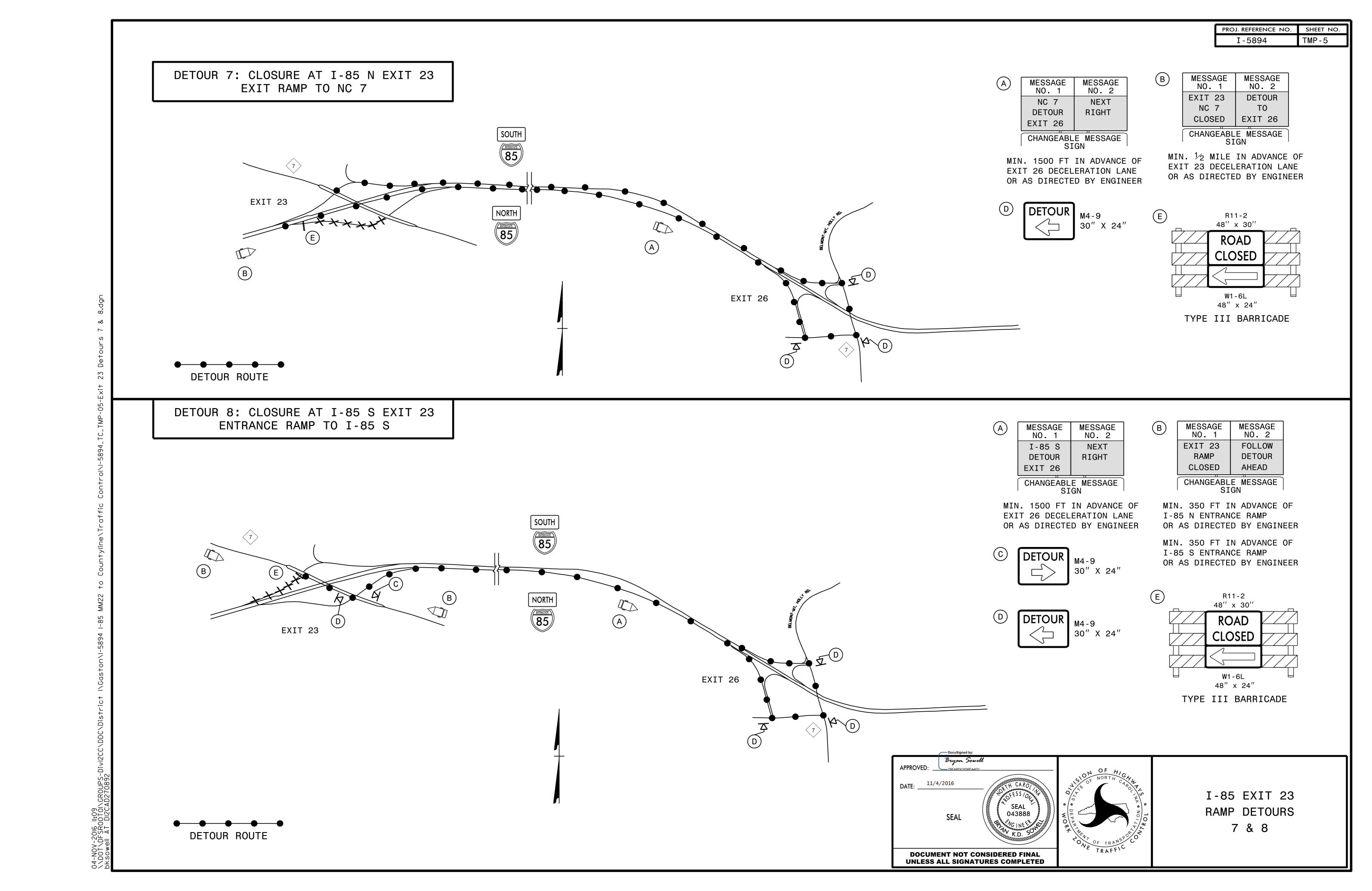


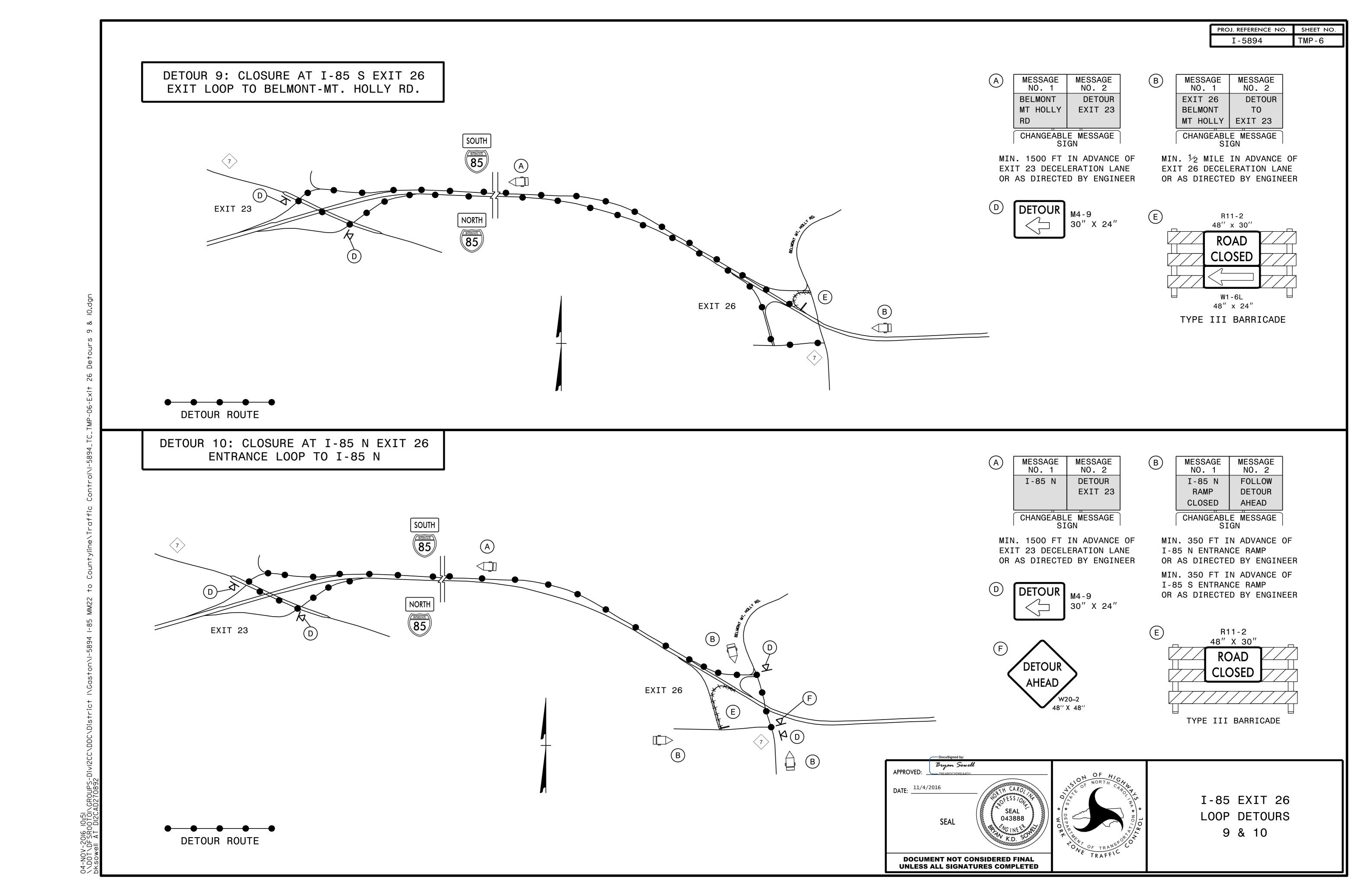


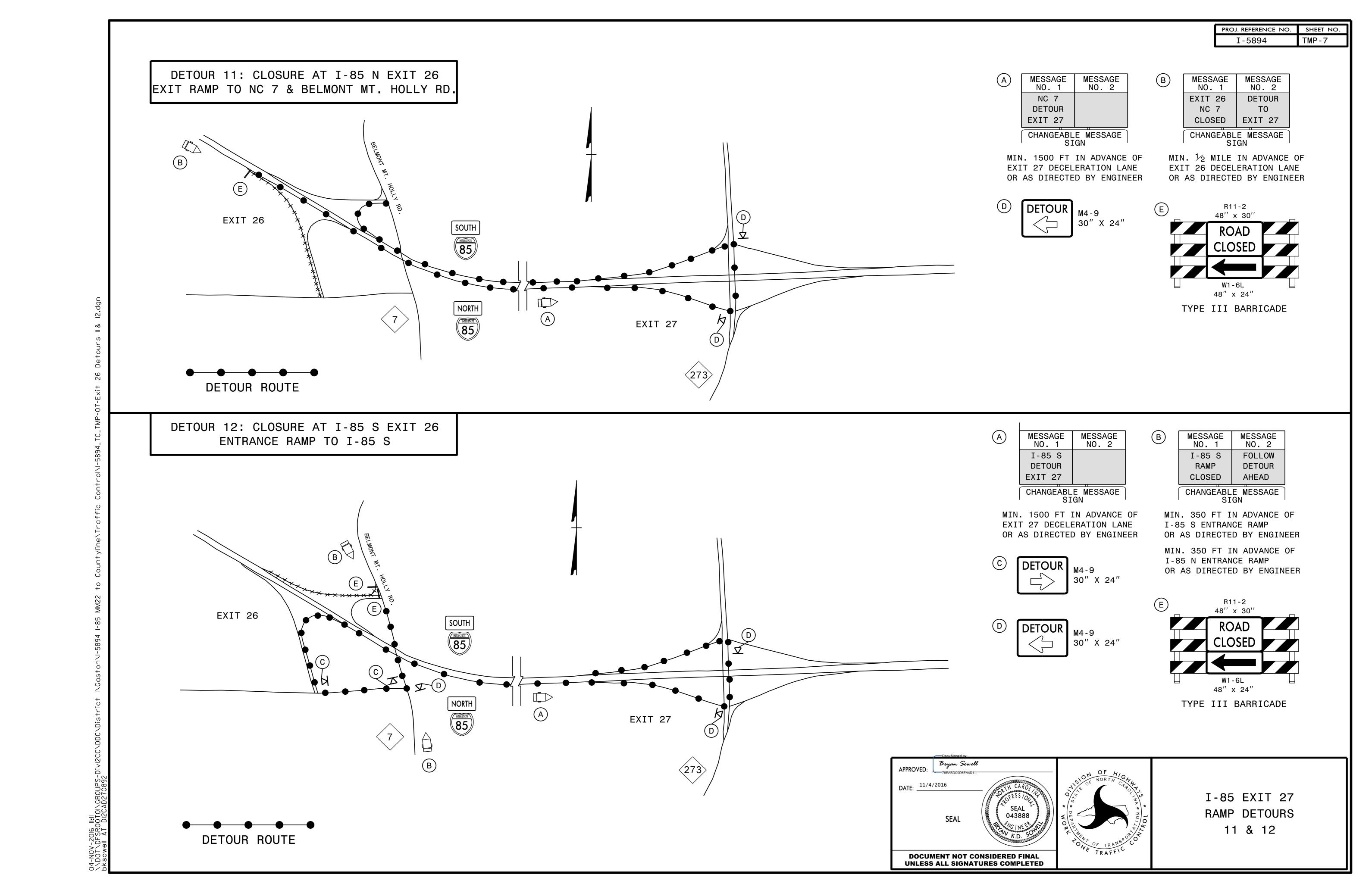
I-85 EXIT 22 LOOP DETOURS 3 & 4

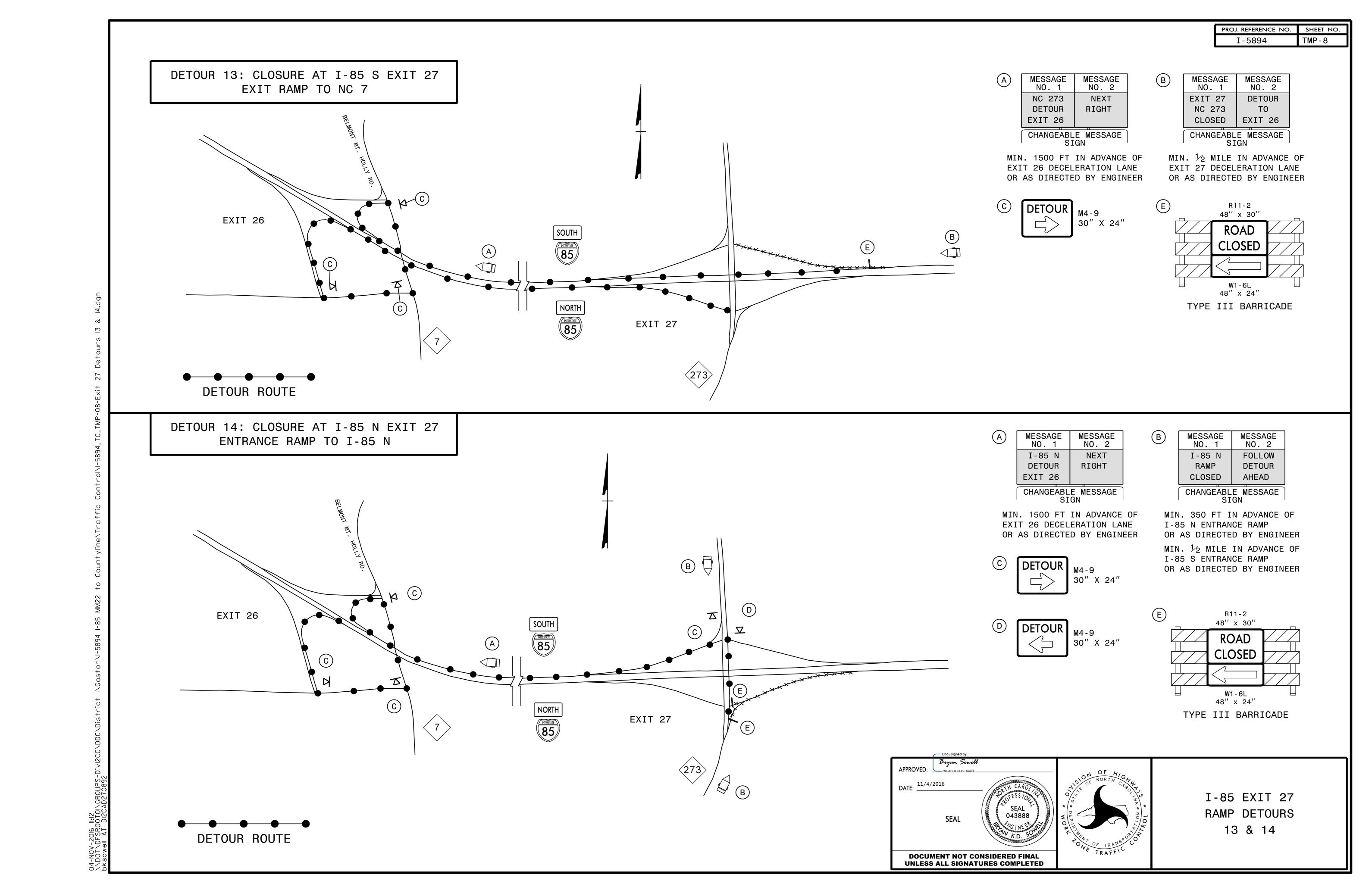
04-NOV-2016 11:06 \\DOT\DFSROOTOI\GROI bksowell at Di2CaD270













DETOUR 15: CLOSURE AT I-85 S EXIT 27 ENTRANCE RAMP TO I-85 S

MESSAGE NO. 2

I-85 S NEXT
DETOUR RIGHT
EXIT 26

CHANGEABLE MESSAGE SIGN

MIN. 1500 FT IN ADVANCE OF EXIT 29 DECELERATION LANE OR AS DIRECTED BY ENGINEER

© DETOUR M4-9 30" X 24"

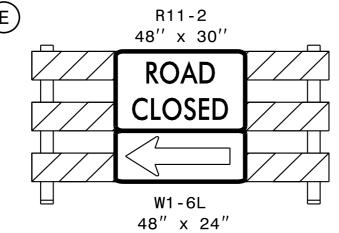
DETOUR M4-9 30" X 24"

B MESSAGE NO. 2

I-85 N FOLLOW
RAMP DETOUR
CLOSED AHEAD

CHANGEABLE MESSAGE
SIGN

MIN. 350 FT IN ADVANCE OF I-85 N ENTRANCE RAMP OR AS DIRECTED BY ENGINEER MIN. 350 FT IN ADVANCE OF I-85 S ENTRANCE RAMP OR AS DIRECTED BY ENGINEER

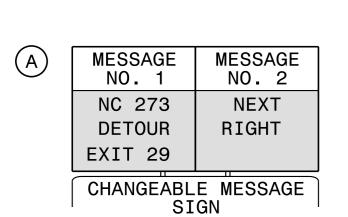


TYPE III BARRICADE

SOUTH SOUTH A BEXIT 29

DETOUR ROUTE

DETOUR 16: CLOSURE AT I-85 N EXIT 27 EXIT RAMP TO NC 273

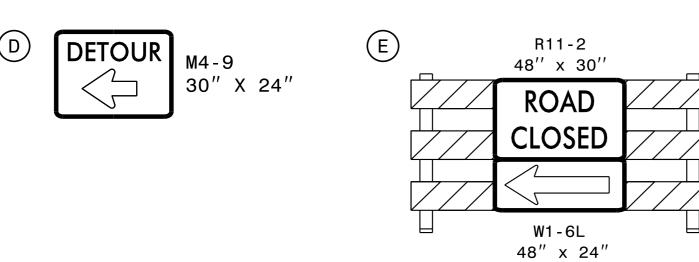


MIN. 1500 FT IN ADVANCE OF EXIT 29 DECELERATION LANE OR AS DIRECTED BY ENGINEER B MESSAGE MESSAGE
NO. 1 NO. 2
EXIT 27 DETOUR
NC 273 TO
CLOSED EXIT 29

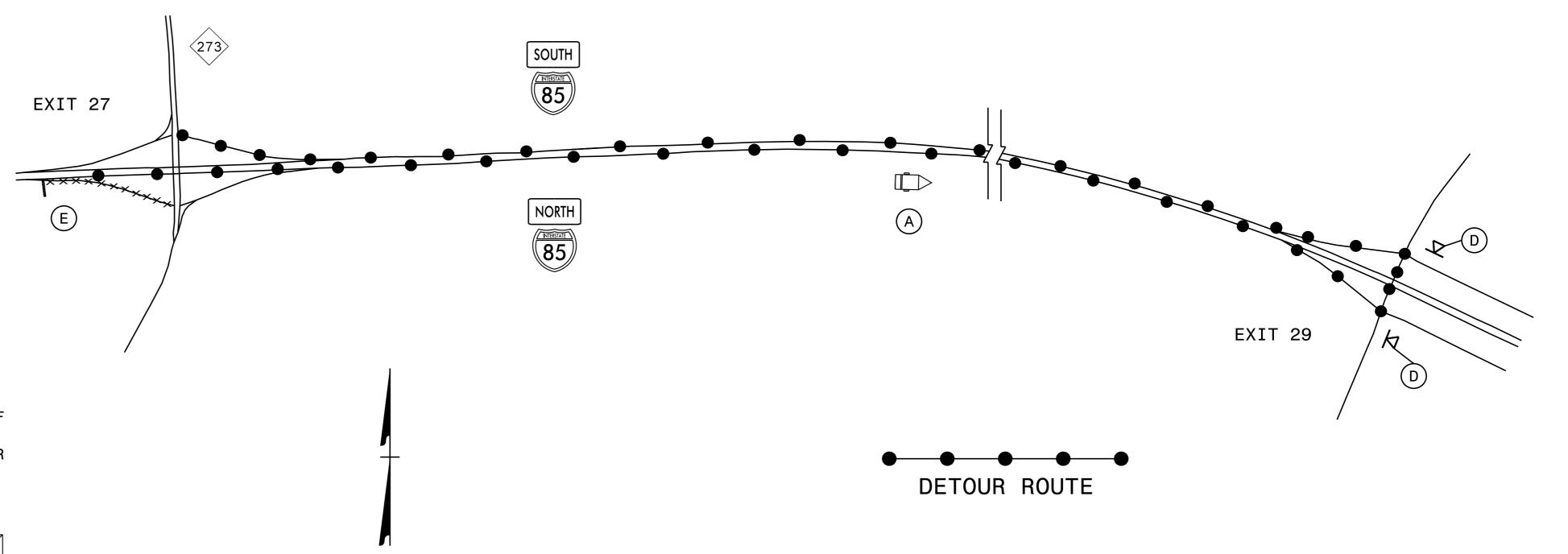
CHANGEABLE MESSAGE
SIGN

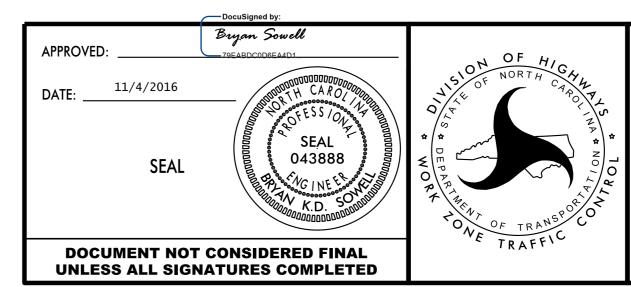
 \bigcirc B

MIN. ½ MILE IN ADVANCE OF EXIT 27 DECELERATION LANE OR AS DIRECTED BY ENGINEER



TYPE III BARRICADE

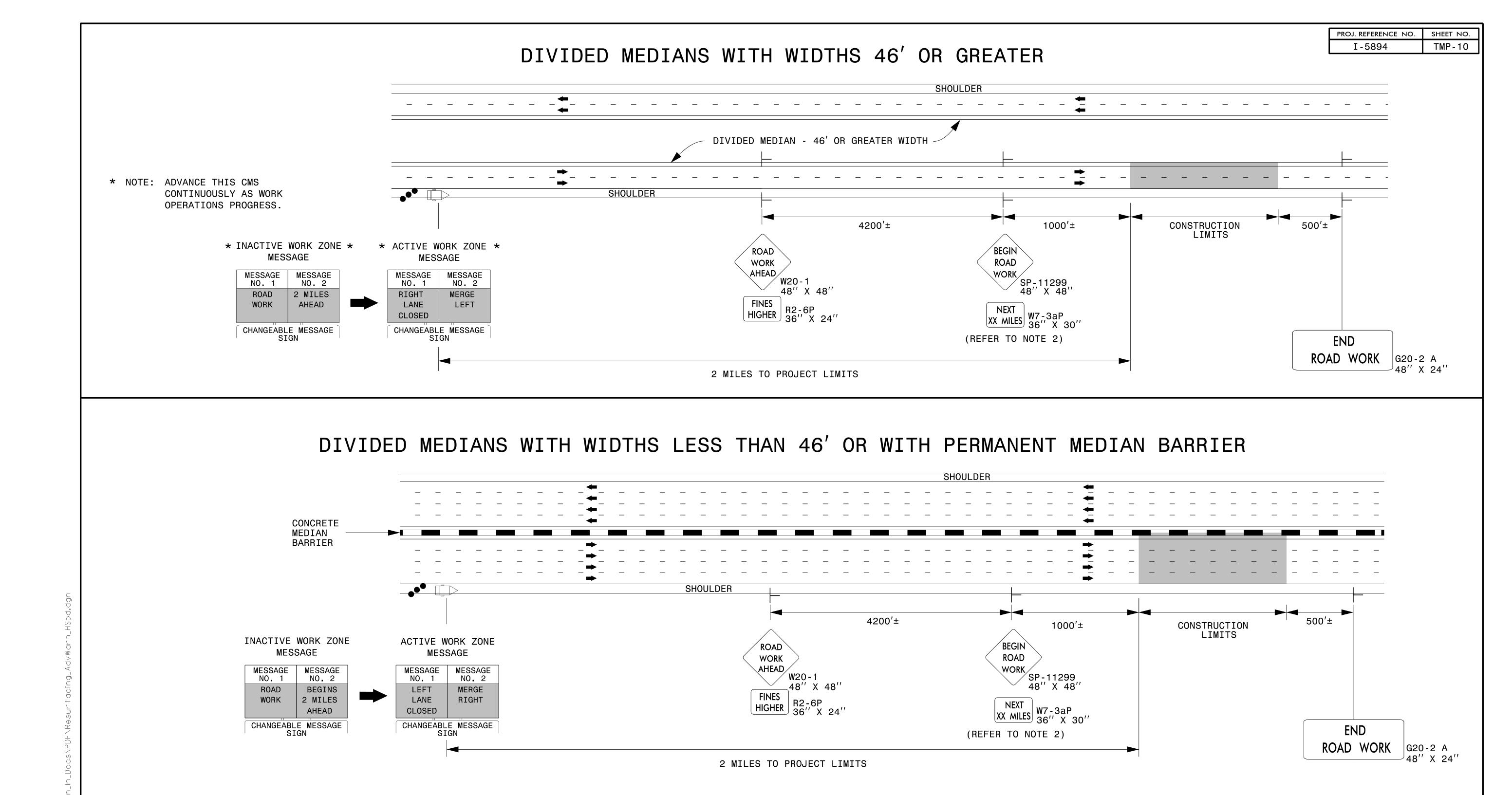




I-85 EXIT 27
RAMP DETOURS
15 & 16

VATION - 2018 II:II VNDOTNDFSROOTOINGROUPS-DivI2CCNDDCNDIStrict INGastonNI-5894 I-85 MM22 to CountylineNTraffic ControlNI-5894 Brsowell AT DI2CAD270892

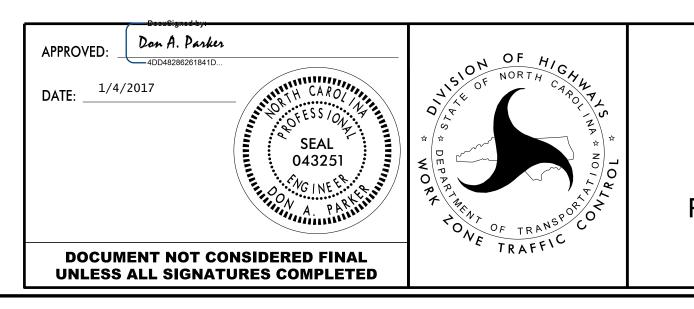
04-NOV-2016 11:17



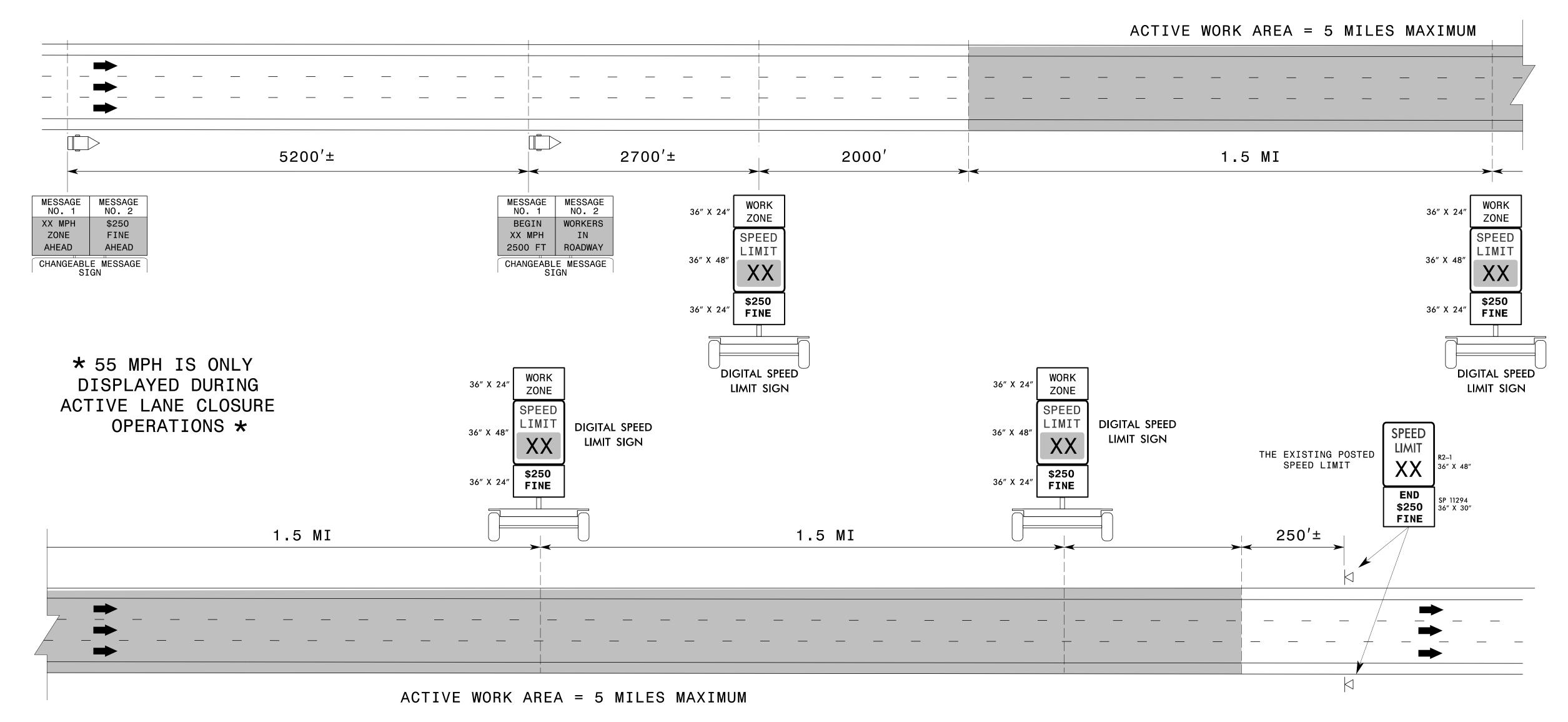
NOTES



- 1. THIS DRAWING IS TO BE USED IN CONJUNCTION WITH THE WORK ZONE VARIABLE SPEED LIMIT USING DIGITAL SPEED LIMIT SIGNS FOR INTERSTATE/FREEWAY RESURFACING PROJECTS DETAIL.
- 2. FOR SIGN W7-3aP, ROUND TO THE NEAREST MILE.
- 3. FOR ENTRANCE AND EXIT RAMPS, REFER TO RSD 1101.01, SHEET 1, DETAIL B & C.
- 4. FOR ADDITIONAL NOTES, REFER TO RSD 1101.01, SHEET 1.



STATIONARY ADVANCE
WARNING SIGNS FOR
INTERSTATE/FREEWAY
RESURFACING PROJECTS



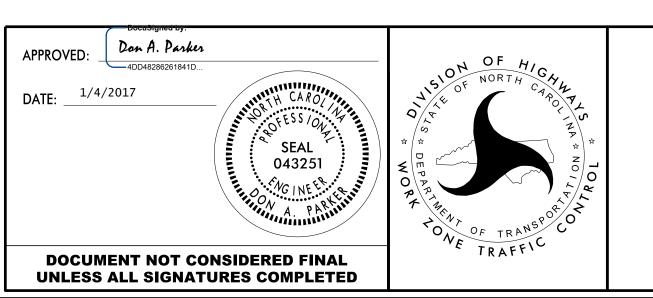
NOTES

- 1. THE SPEED LIMITS DISPLAYED WITHIN THE ACTIVE WORK AREA MAY VARY BETWEEN 55 MPH AND 70 MPH, DEPENDENT UPON ROAD WORK CONDITIONS AND THE EXISTING SPEED LIMIT. 55 MPH IS ONLY DISPLAYED DURING ACTIVE LANE CLOSURE OPERATIONS.
- 2. THE ENGINEER MAY DETERMINE TO INSTALL THE DIGITAL SPEED LIMIT SIGNS ON THE OUTSIDE SHOULDER OR ON THE MEDIAN SIDE IF THE SIGNS ARE NOT HIGHLY VISIBLE TO ALL MOTORISTS.
- 3. THIS APPLICATION IS FOR SHORT-TERM ACTIVITIES. THE MAXIUMUM ACTIVE WORK AREA IS 5 MILES.
- 4. THE DIGITAL SPEED LIMIT SIGNS TAKE PRECEDENCE OVER EXISTING SPEED LIMIT SIGNS. ALL EXISTING SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED.
- 5. THE DIGITAL SPEED LIMITS SIGNS WILL BE INSTALLED (TRAILOR MOUNTED OR STATIONARY MOUNTED) IN ADVANCE AND SPACED APPROXIMATELY 1.5 MILES THROUGHOUT THE ACTIVE WORK AREA, UNLESS DIRECTED OTHERWISE.
- 6. NCDOT HAS SOLE AUTHORITY OF THE SPEED LIMITS DISPLAYED ON THE DIGITAL SPEED LIMIT SIGNS.
- 7. THE WORK ZONE VARIABLE SPEED LIMIT AND THE \$250 SPEEDING PENALTY ARE SEPARATE ORDINANCES THAT MUST BE SIGNED BY THE STATE TRAFFIC ENGINEER TO BE VALID AND ENFORCEABLE. WITHOUT A SIGNED ORDINANCE, THE SPEED LIMIT ON A FACILITY SHALL REMAIN UNCHANGED.

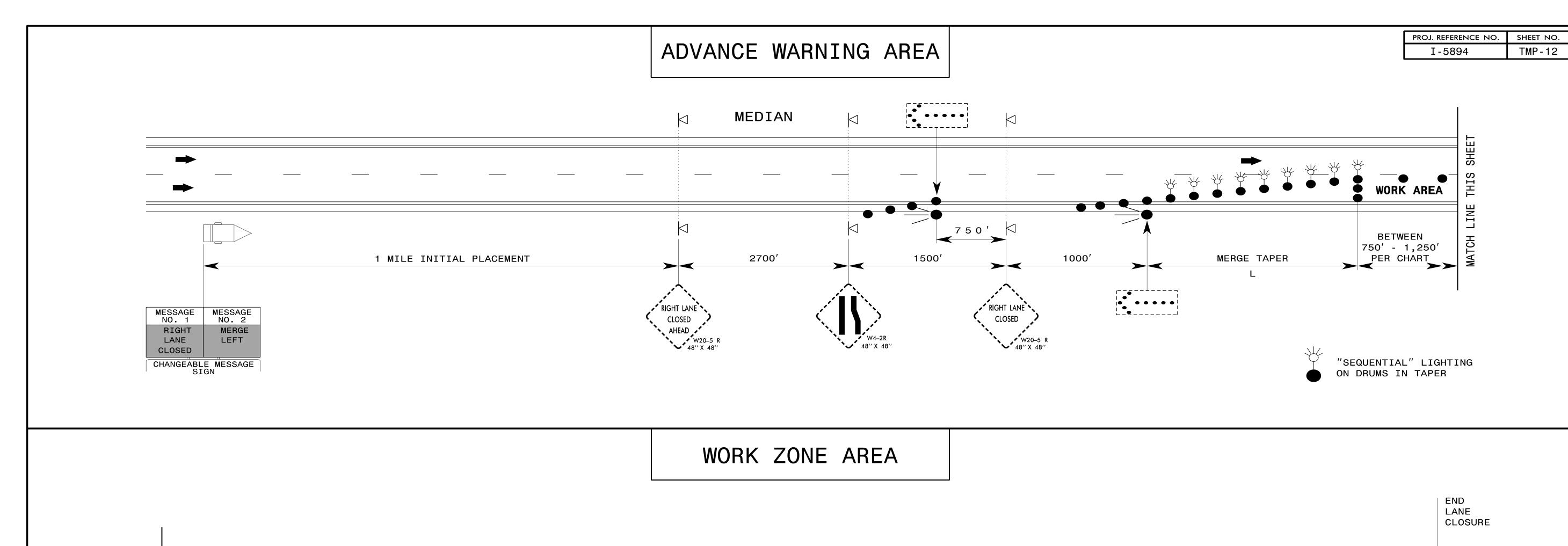
WHEN THERE IS NOT ACTIVE WORK IN THE TRAVEL LANE

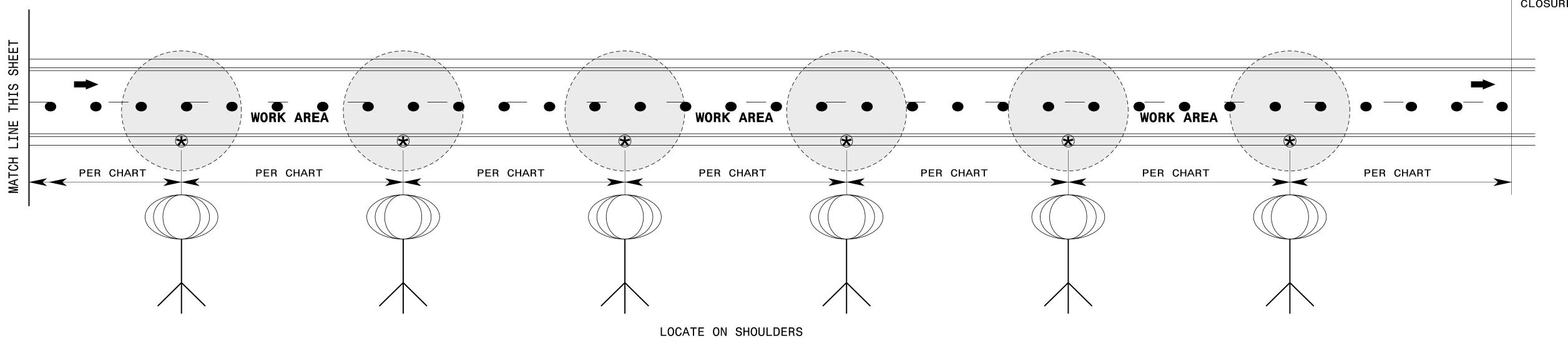
SPEED LIMIT DISPLAY	CONDITIONS		
	DROP-OFFS BETWEEN OPEN TRAVEL LANES	PAVED SHOULDER DROP-OFFS	
USE EXISTING SPEED LIMIT	< 1.0"	<pre>≤ 3.0"</pre>	
REDUCE SPEED LIMIT 5 MPH	1.0" - 2.0"	> 3.0"	

DROP-OFFS BETWEEN OPEN TRAVEL LANES SHOULD NOT EXCEED 2.0"



WORK ZONE "VARIABLE"
SPEED LIMIT USING
DIGITAL SPEED LIMIT
SIGNS FOR INTERSTATE/
FREEWAY RESURFACING
PROJECTS



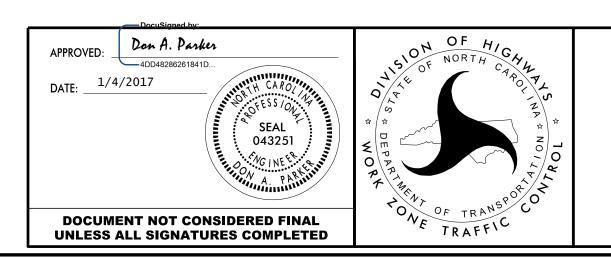


SPACING CHART

LIGHT OUTPUT (LUMENS)	MINIMUM LIGHTED FIXTURE AREA (SQUARE FEET)	MAXIMUM SPACING (FEET)	LIGHT UNITS (PER MILE)
50,000 TO 65,000	5.5	750′	6
66,000 TO 80,000	5.5	1,000′	5
81,000 TO 100,000	36	1,250′	4

NOTES

- 1) SPACE LIGHT UNITS ACCORDING TO THE CHART.
- 2) EACH LIGHT UNIT SHALL BE CAPABLE OF ELEVATING TO A MINIMUM HEIGHT OF 14' ABOVE THE PAVEMENT.
- 3) PLACE ON PAVED SHOULDER IF POSSIBLE.



WORK ZONE PRESENCE LIGHTING