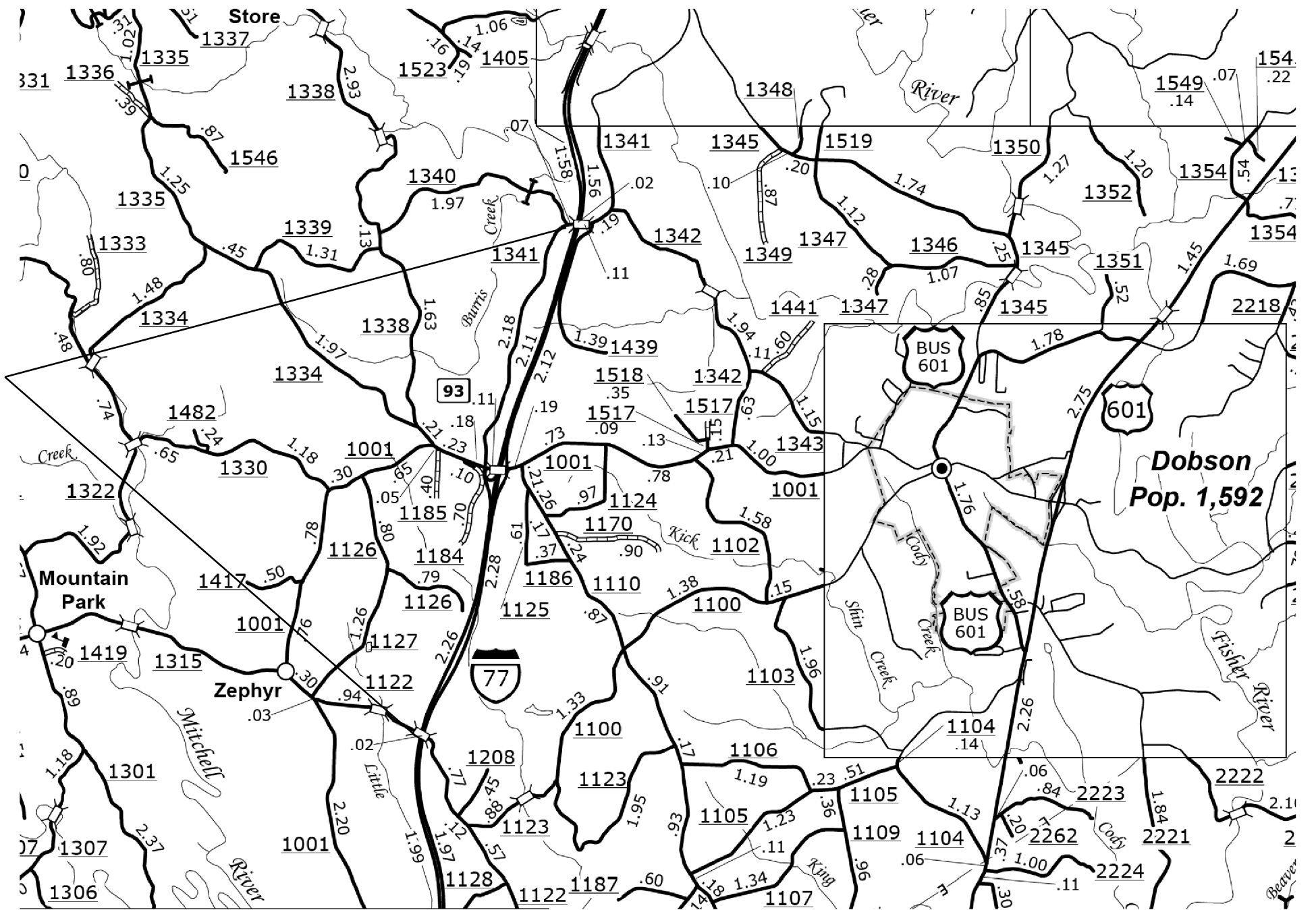


8/17/99

I-77 NBL /SBL MM 91 TO MM 95



I-5829  
I-77 FROM MM 91 TO MM 95  
NORTH AND SOUTH BOUND LANES  
IN SURRY COUNTY

DIVISION II

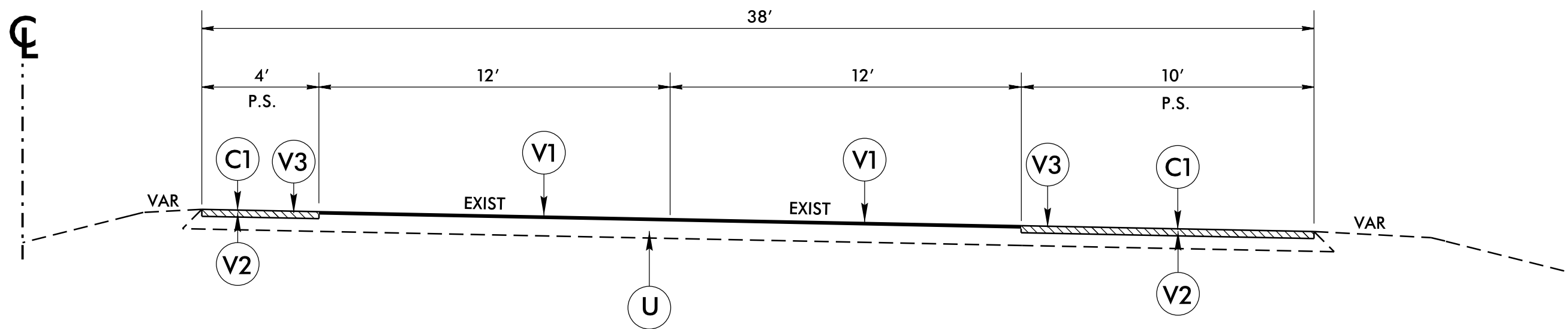
REVISIONS	INIT.	DATE

N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION ELEVEN

SCALE: N/A DATE: 06/2017

PREPARED BY: R.A. SHAW  
REVIEWED BY: J.L. LAWS  
REVIEWED BY:

8/17/99



## TYPICAL SECTION NO. 1

I-77 NBL /SBL FROM MM 91 TO MM 95

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. (MILL AND FILL)
U	EXISTING PAVEMENT
V1	DIAMOND GRINDING PCC PAVEMENT
V2	MILLING OF EXISTING ASPHALT PAVEMENT AT DEPTH OF 1 1/2"
V3	MILLED RUMBLE STRIPS

I-5829  
I-77 FROM MM 91 TO MM 95  
NORTH AND SOUTH BOUND LANES  
IN SURRY COUNTY

DIVISION II

REVISIONS	INIT.	DATE

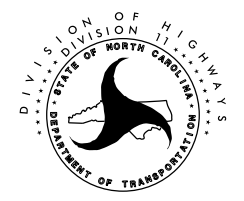
N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION ELEVEN

SCALE: N/A    DATE: 06/2017

PREPARED BY: R.A. SHAW

REVIEWED BY: J.L. LAWS

REVIEWED BY:



### DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER

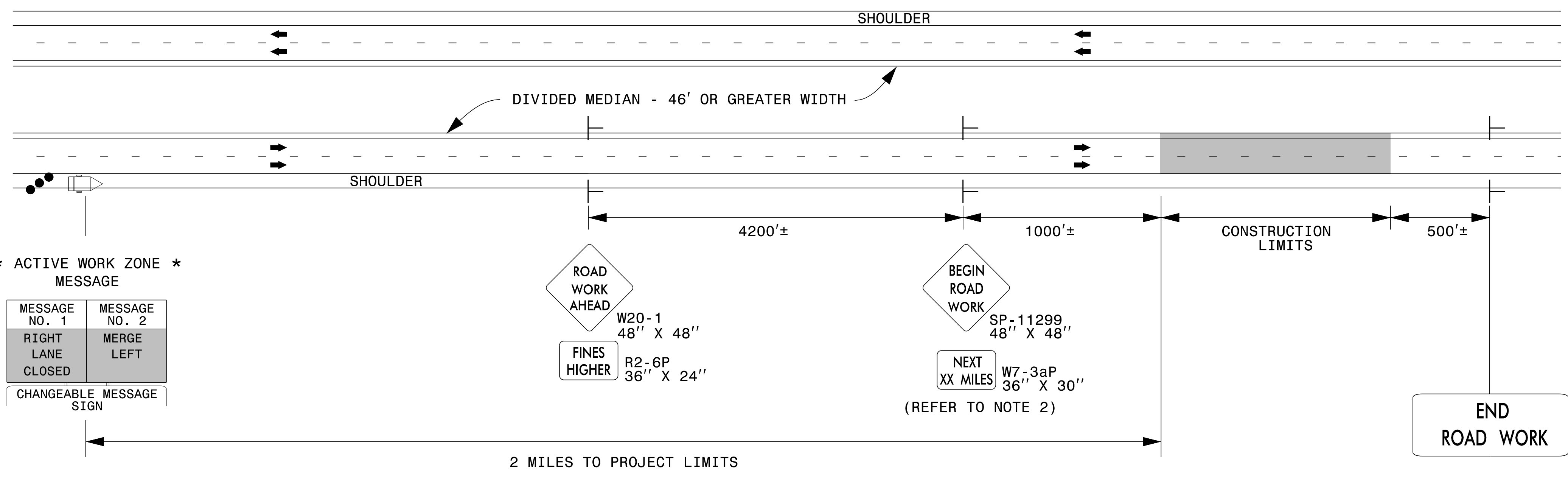
\* NOTE: ADVANCE THIS CMS CONTINUOUSLY AS WORK OPERATIONS PROGRESS.

\* INACTIVE WORK ZONE MESSAGE

MESSAGE NO. 1	MESSAGE NO. 2
ROAD WORK	2 MILES AHEAD
CHANGEABLE MESSAGE SIGN	

\* ACTIVE WORK ZONE MESSAGE

MESSAGE NO. 1	MESSAGE NO. 2
RIGHT LANE CLOSED	MERGE LEFT
CHANGEABLE MESSAGE SIGN	



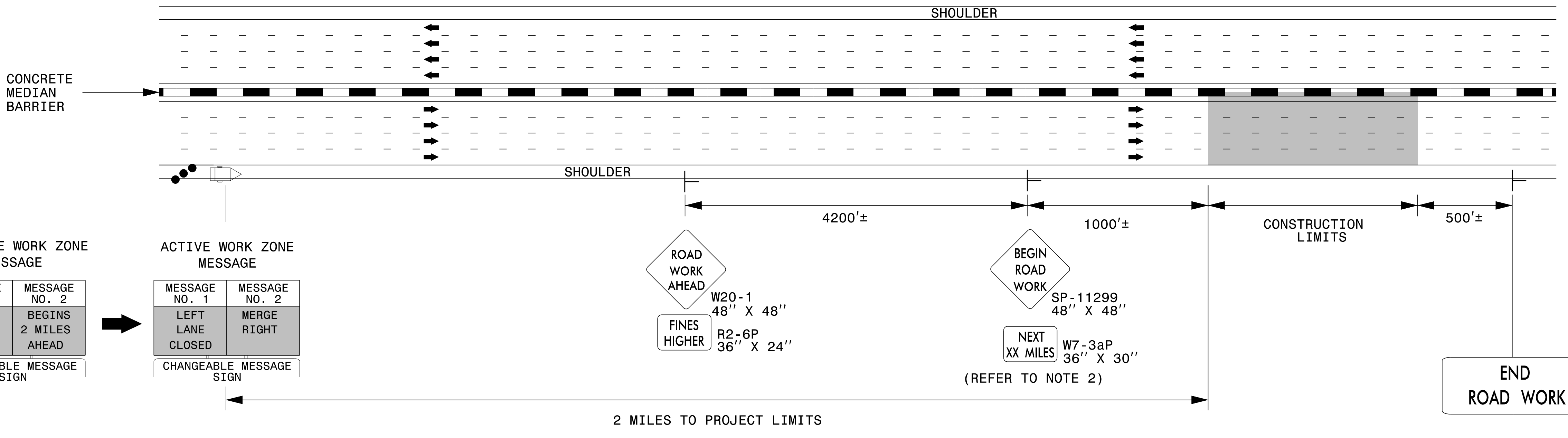
### DIVIDED MEDIANS WITH WIDTHS LESS THAN 46' OR WITH PERMANENT MEDIAN BARRIER

INACTIVE WORK ZONE MESSAGE

MESSAGE NO. 1	MESSAGE NO. 2
ROAD WORK	BEGINS 2 MILES AHEAD
CHANGEABLE MESSAGE SIGN	

ACTIVE WORK ZONE MESSAGE

MESSAGE NO. 1	MESSAGE NO. 2
LEFT LANE CLOSED	MERGE RIGHT
CHANGEABLE MESSAGE SIGN	



#### 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 RAMP, REFER TO RSD 1101.01, SHEET 1, DETAIL B & C.
4. FOR ADDITIONAL NOTES, REFER TO RSD 1101.01, SHEET 1.

#### LEGEND

- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM

APPROVED: *Steve Kite*  
DATE: 2/23/2017

DocuSigned by:  
E27CE30E10FC442...

SEAL  
022104  
JOHN S. KITE, II  
ENGINEER

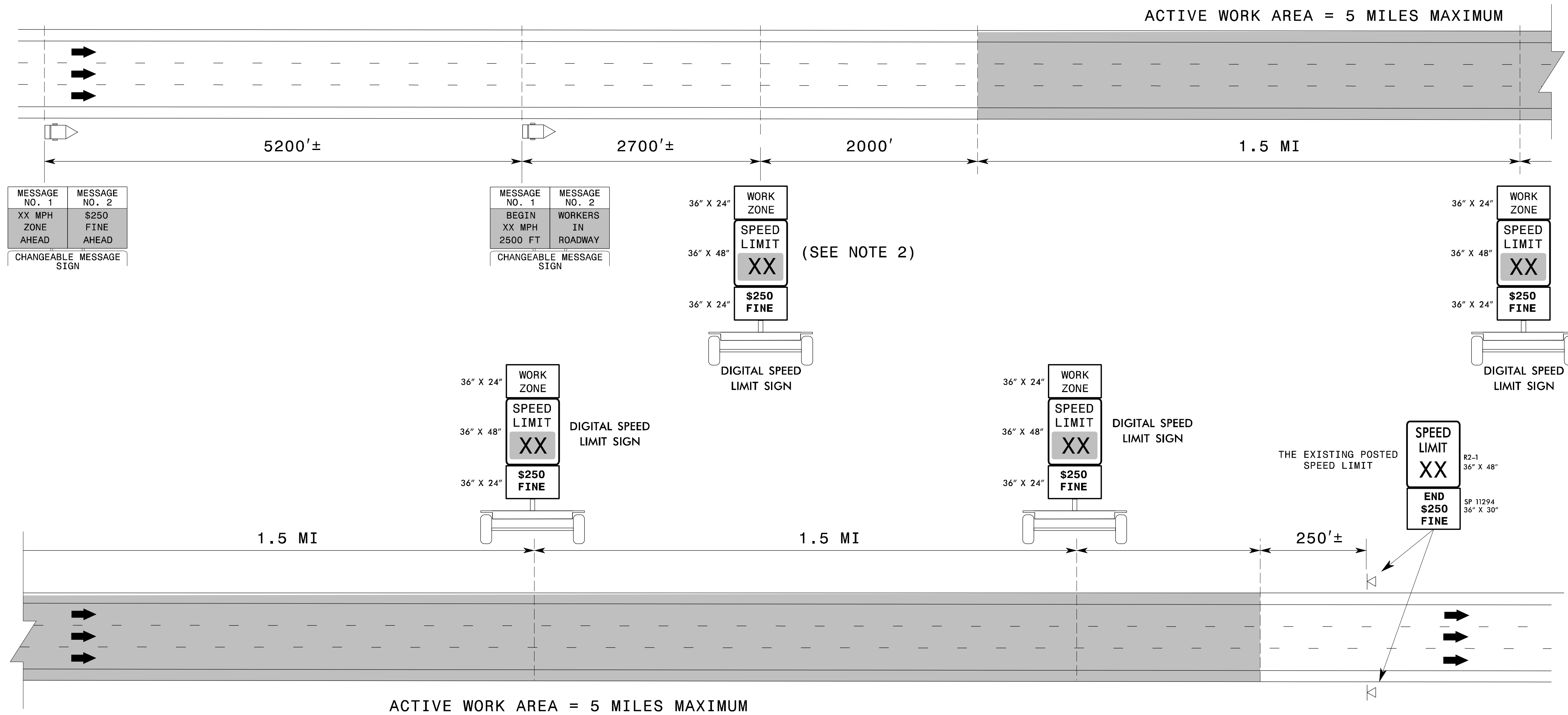
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UNLESS ALL SIGNATURES COMPLETED**



STATIONARY ADVANCE  
WARNING SIGNS FOR  
INTERSTATE/FREEWAY  
RESURFACING PROJECTS

2/23/2017 S:\TMD\WZTC\DesignGroup3\Squad3B\0ats\Interstate Resurfacing Provisions and Details\Kpg\Resurfacing\_AdvWarn\_HSpd.dgn User:kedais

# INTERSTATE RESURFACING OPERATIONS WITH DIGITAL SPEED LIMIT SIGNS



## 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"	≤ 3.0"
REDUCE SPEED LIMIT 5 MPH	1.0" - 2.0"	> 3.0"

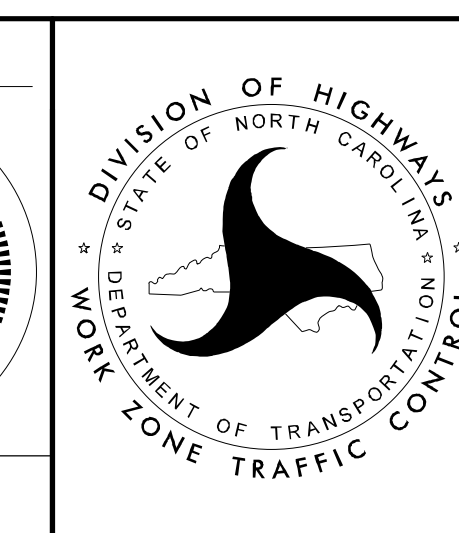
DROP-OFFS BETWEEN OPEN TRAVEL LANES SHOULD NOT EXCEED 2.0"

- ### 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. AT THE FIRST DIGITAL SPEED LIMIT LOCATION, PLACE A DIGITAL SPEED LIMIT SIGN ON BOTH THE INSIDE AND OUTSIDE SHOULDERS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER WHEN THERE IS NOT ENOUGH ROOM ON THE INSIDE SHOULDER DUE TO NARROW MEDIAN AND PERMANENT MEDIAN BARRIER. AT SUBSEQUENT LOCATIONS DOWNSTREAM, PLACE A SINGLE DIGITAL SPEED LIMIT SIGN ON THE OUTSIDE SHOULDER.
  3. 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.
  4. THIS APPLICATION IS FOR SHORT-TERM ACTIVITIES. THE MAXIMUM ACTIVE WORK AREA IS 5 MILES.
  5. THE DIGITAL SPEED LIMIT SIGNS TAKE PRECEDENCE OVER EXISTING SPEED LIMIT SIGNS. ALL EXISTING SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED.
  6. THE DIGITAL SPEED LIMITS SIGNS WILL BE INSTALLED (TRAILER MOUNTED OR STATIONARY MOUNTED) IN ADVANCE AND SPACED APPROXIMATELY 1.5 MILES THROUGHOUT THE ACTIVE WORK AREA, UNLESS DIRECTED OTHERWISE.
  7. NCDOT HAS SOLE AUTHORITY OF THE SPEED LIMITS DISPLAYED ON THE DIGITAL SPEED LIMIT SIGNS.
  8. 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.

APPROVED: *Steve Kite*  
DATE: 5/23/2017

SEAL

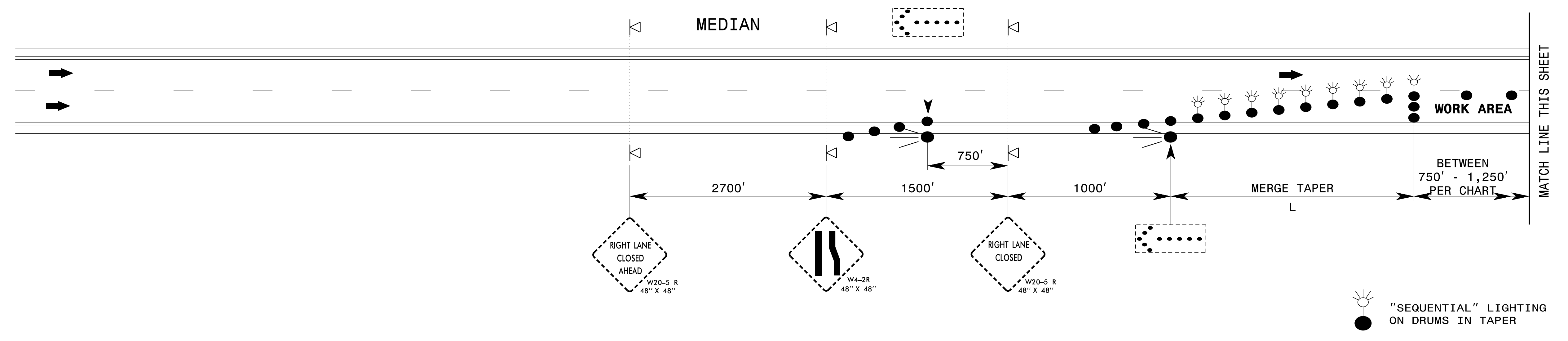
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



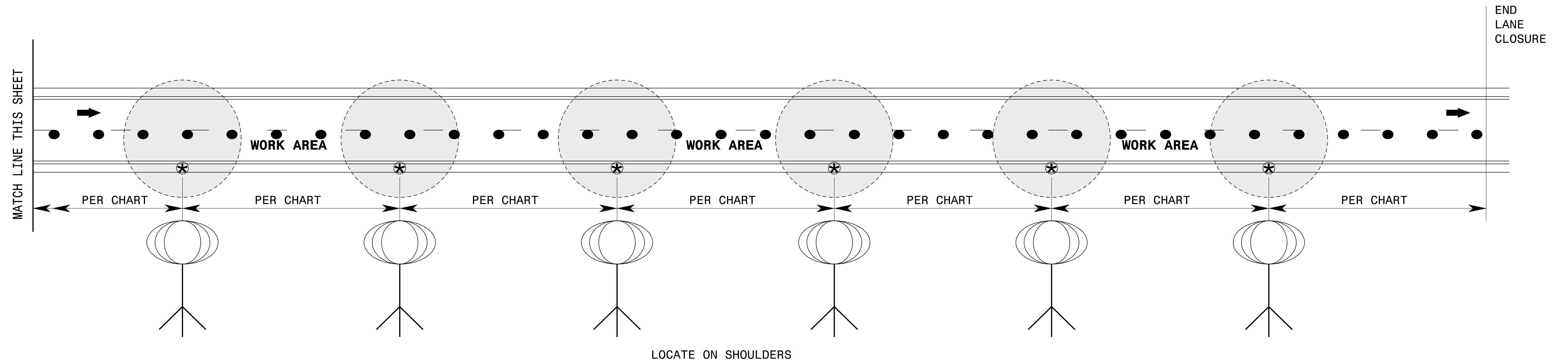
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
WORK ZONE TRAFFIC CONTROL

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

### ADVANCE WARNING AREA



### WORK ZONE AREA



### 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.

APPROVED: *Steve Kite*  
DATE: 3/17/2017

DocuSigned by:  
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SEAL  
022104  
ENGINEER  
JOHN S. KITE, II

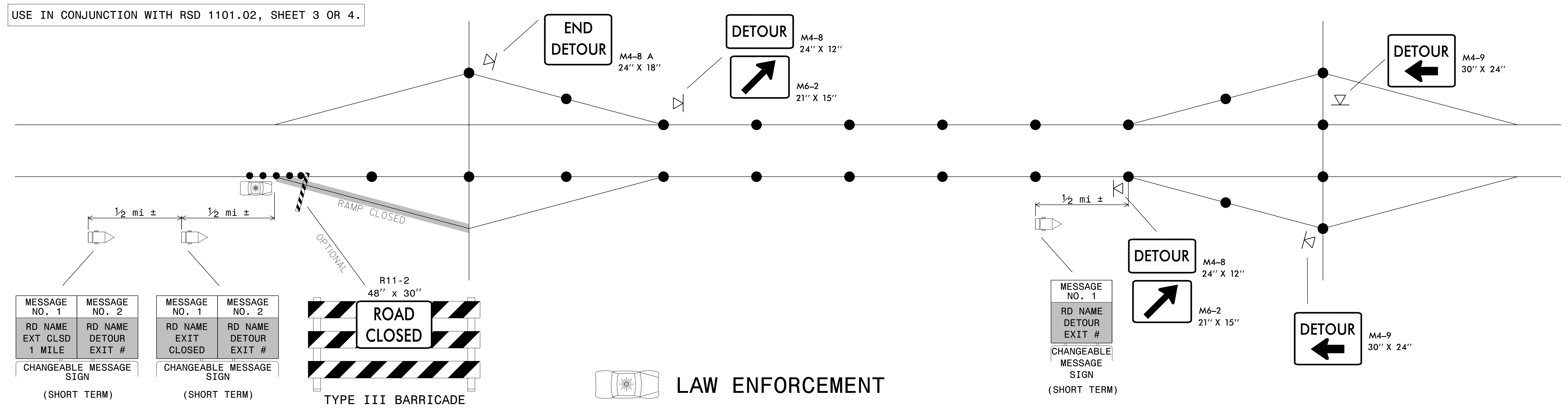
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UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
WORK ZONE TRAFFIC CONTROL

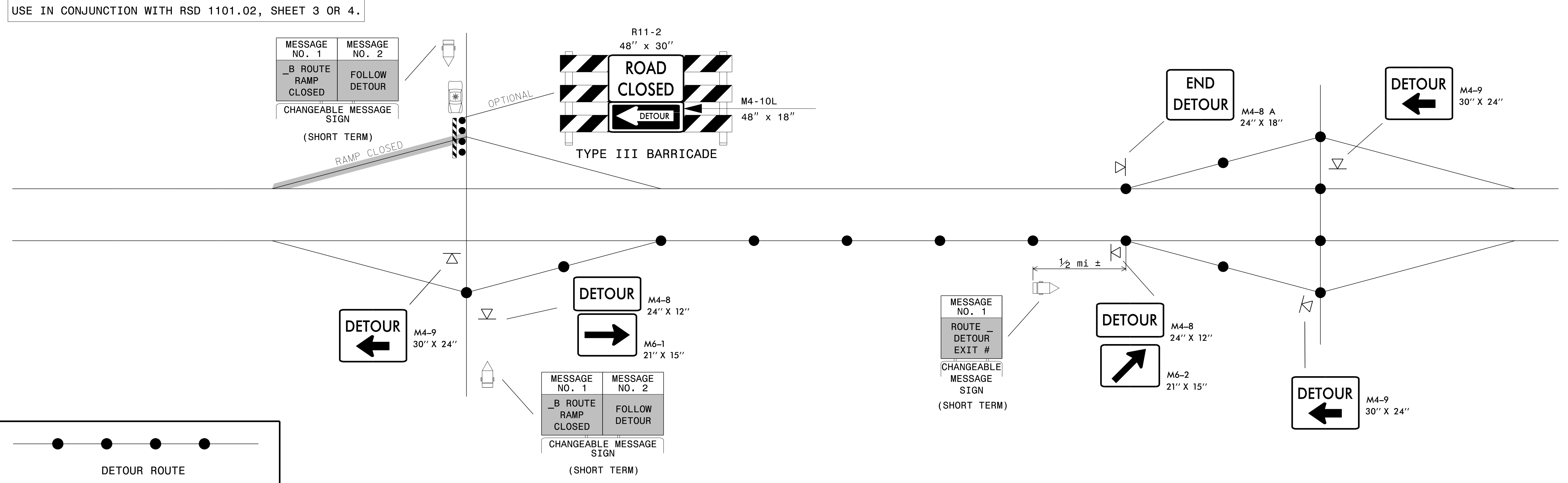
SEQUENTIAL FLASHING  
WARNING LIGHTS  
AND  
WORK ZONE  
PRESENCE LIGHTING

3/17/2017 S:\TMD\WZTC\DesignGroup3\Squad3B\Drawings\Sequential\and\_Presence\_Lighting\_20170227.dgn User:kedais

### SHORT TERM CLOSURE AND DETOUR OF OFF-RAMP TO ADJACENT INTERCHANGE



### SHORT TERM CLOSURE AND DETOUR OF ON-RAMP TO ADJACENT INTERCHANGE



**GENERAL NOTES:**

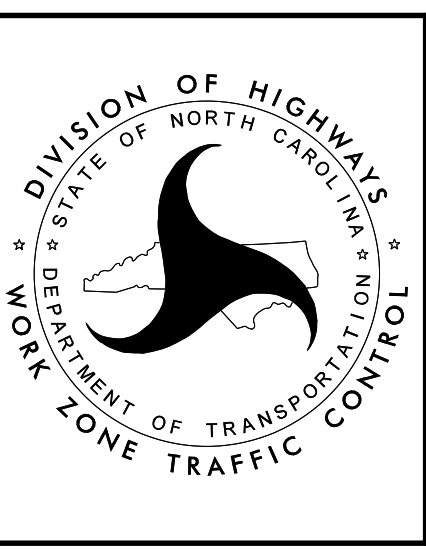
1. THIS DRAWING IS INTENDED FOR USE DURING SHORT TERM CLOSURES OF INTERSTATE AND FREEWAY RAMPS.
2. RAMP CLOSURES SHALL BE APPROVED BY THE ENGINEER.
3. IF RAMP CLOSURE RESTRICTIONS APPLY, SEE SPECIAL PROVISION, "INTERMEDIATE CONTRACT TIMES AND LIQUIDATED DAMAGES".
4. ADDITIONAL CHANGEABLE MESSAGE SIGNS AND POSSIBLE DETOUR SIGNS MAY BE NECESSARY FOR MORE COMPLEX CLOSURES/DETOURS. COMPENSATION FOR ADDITIONAL DEVICES SHALL BE MADE BASED ON THE UNIT BID PRICE FOR THE RESPECTIVE DEVICE.

APPROVED: *Steve Kite*  
DATE: 2/23/2017

DocuSigned by:  
Steve Kite  
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022104  
JOHN S. KITE, II  
ENGINEER

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**SHORT TERM CLOSURE  
AND DETOUR OF  
INTERSTATE/FREEWAY  
RAMPS**

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