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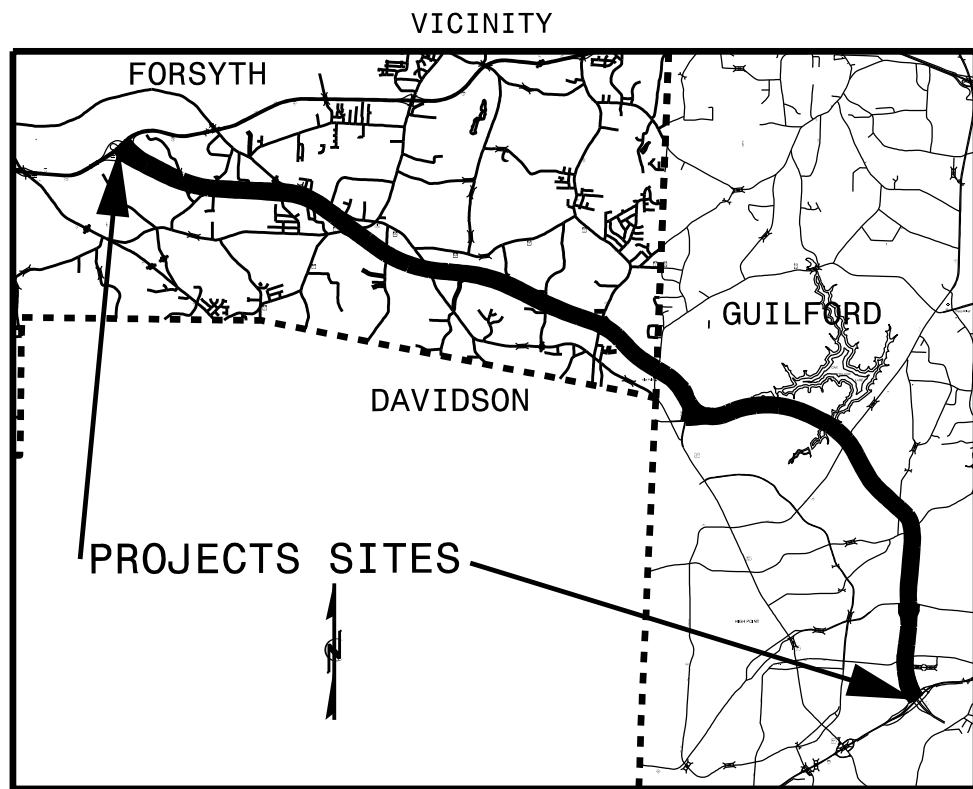
**This file or an individual page  
shall not be considered a certified document.**

09/08/15

TIP PROJECT: I-5736 & I-5767

CONTRACT: C203779

\$\$\$\$\$SYTIME\$\$\$\$\$  
\$\$\$\$\$DGN\$\$\$\$\$  
\$\$\$\$\$USERNAME\$\$\$\$\$



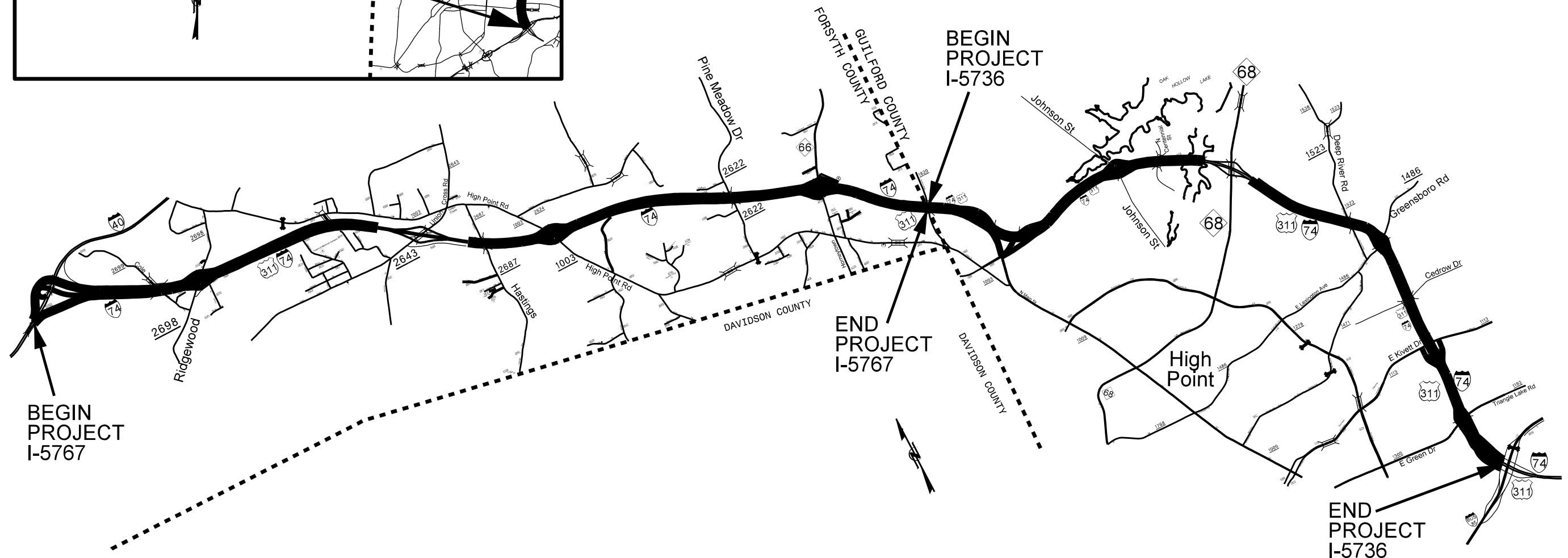
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# GUILFORD AND FORSYTH COUNTY

LOCATION: I-74/US 311 FROM I-40 IN FORSYTH COUNTY TO BUSINESS I-85 IN HIGH-POINT

TYPE OF WORK: PAVEMENT AND BRIDGE REHABILITATION

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5736 & I-5767	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
52018.1.1	NHPP-0074(174)	PE (I-5736)	
52018.3.1	NHPP-0074(174)	CONST (I-5736)	
53010.1.1	NHPP-0074(177)	PE (I-5767)	
53010.3.1	NHPP-0074(177)	CONST (I-5767)	



GRAPHIC SCALES  
NOT TO SCALE

DESIGN DATA

PROJECT LENGTH

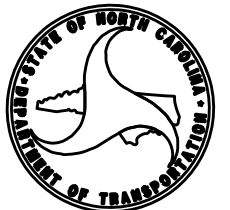
I-5736 = 7.579 miles  
I-5767 = 9.834 miles  
Total Project Length = 17.413

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**

1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

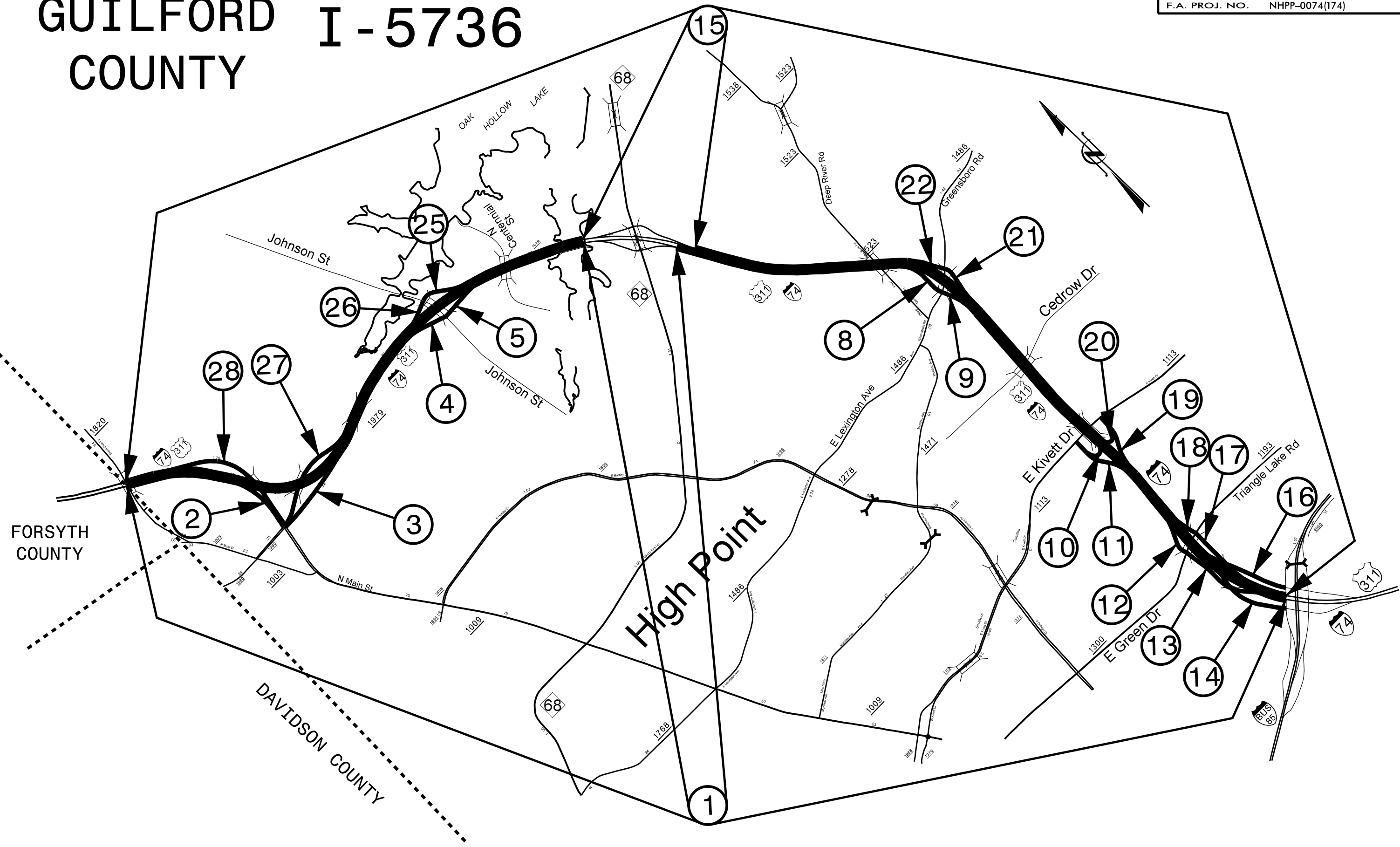
LETTING DATE:  
February 16, 2016



# GUILFORD COUNTY I-5736

## COUNTY

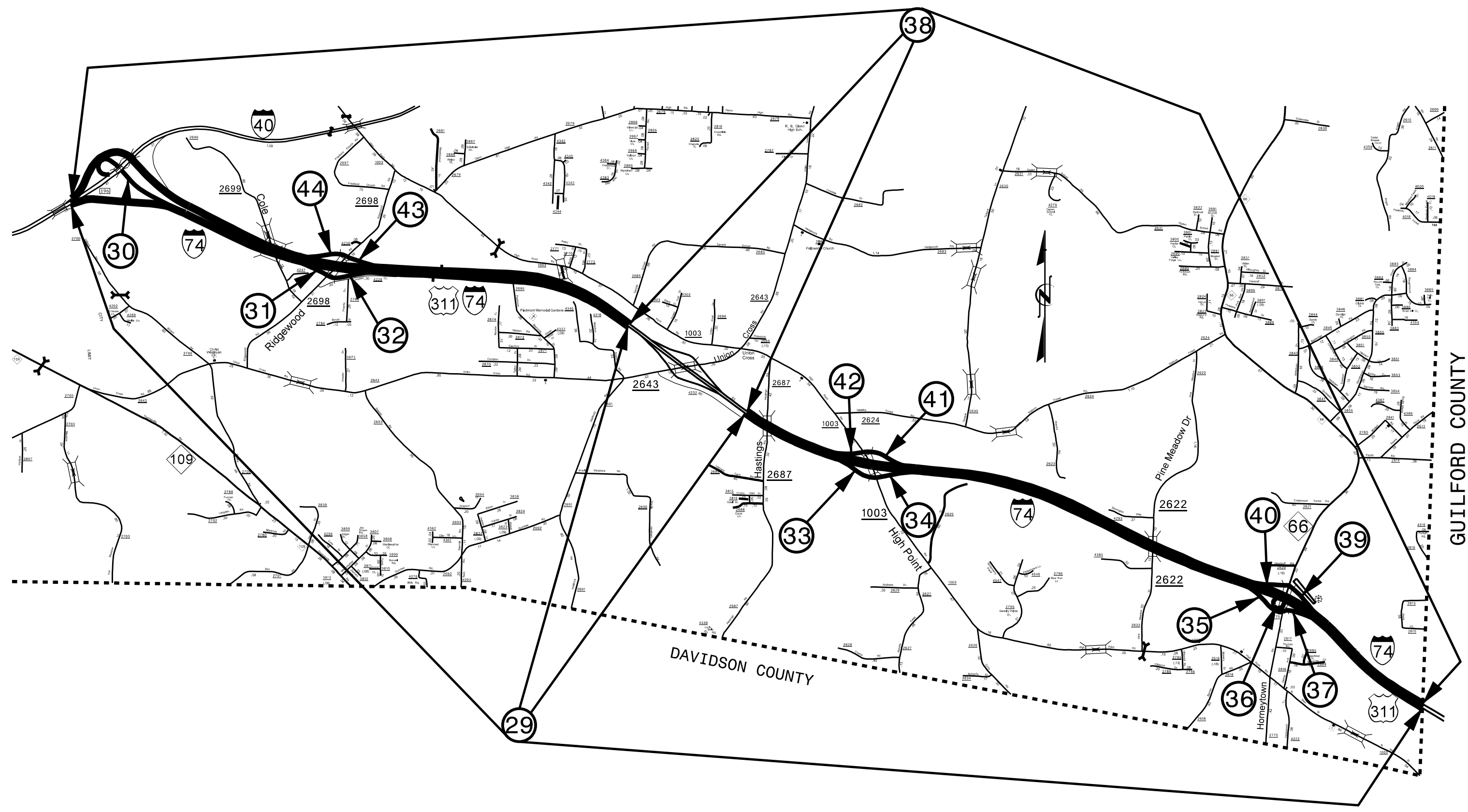
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5736	2	
F.A. PROJ. NO. NHPP-0074(174)			



\$\$\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$DDN\$\$\$\$\$  
 \$\$\$LIC\$\$\$\$\$  
 \$\$\$NAME\$\$\$\$\$  
 \$\$\$\$\$\$\$\$

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5767	3	
F.A. PROJ. NO.		NHPP-0074(177)	

# FORSYTH COUNTY      I - 5767

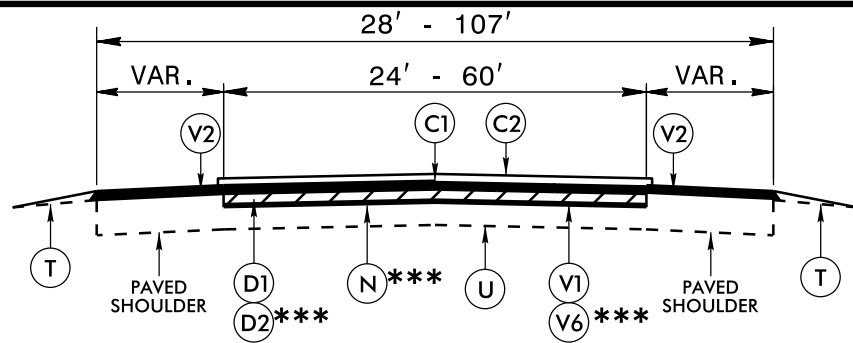


\$\$\$\$SYTIME\$\$\$\$  
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 \$\$\$CON\$\$\$\$  
 \$\$\$WATER\$\$\$\$  
 \$\$\$ELECTRICAL\$\$\$\$  
 \$\$\$TELEPHONE\$\$\$\$  
 \$\$\$GAS\$\$\$\$  
 \$\$\$SEWER\$\$\$\$  
 \$\$\$OTHER\$\$\$\$

GUILFORD COUNTY

DAVIDSON COUNTY

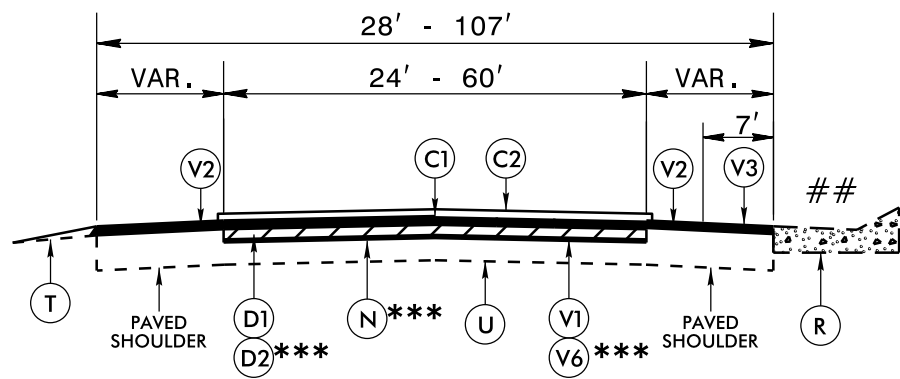
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5736 & I-5767	4	
F.A. PROJ. NO. I-5736 NHPP-0074(174), I-5767 NHPP-0074(177)			



\*NOTE: NO PAVEMENT ON BRIDGES  
 \*\*NOTE: MILLING & FILLING TRAVEL LANES ONLY.  
 NO MILLING & FILLING GORES

### TYPICAL SECTION NO. 1

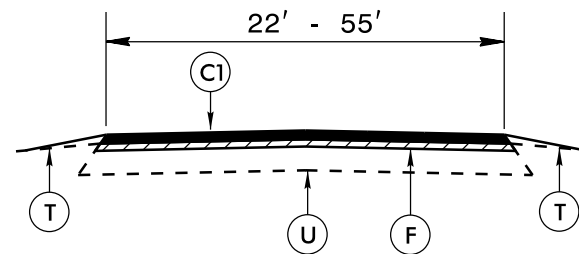
- TO BE USED ON MAPS 1, 15, 29, 38
- MAP 1: STA. 0+00 TO STA. 93+85  
 STA. 102+75 TO STA. 189+20  
 STA. 198+75 TO STA. 250+95 \*\*\*  
 STA. 253+20 TO STA. 277+05 \*\*\*  
 STA. 282+70 TO STA. 397+50 \*\*\*
- MAP 15: STA. 0+00 TO STA. 59+80 \*\*\*  
 STA. 60+25 TO STA. 67+95 \*\*\*  
 STA. 72+80 TO STA. 76+15 \*\*\*  
 STA. 82+55 TO STA. 106+25 \*\*\*  
 STA. 123+45 TO STA. 171+10 \*\*\*  
 STA. 176+70 TO STA. 199+55 \*\*\*  
 STA. 204+55 TO STA. 327+05  
 STA. 332+00 TO STA. 400+15
- MAP 29: STA. 0+00 TO STA. 422+00  
 STA. 424+80 TO STA. 480+75



\*NOTE: NO PAVEMENT ON BRIDGES  
 \*\*NOTE: MILLING & FILLING TRAVEL LANES ONLY.  
 NO MILLING & FILLING GORES

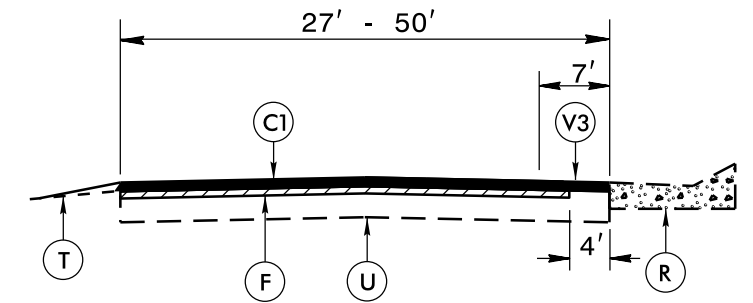
### TYPICAL SECTION NO. 2

- TO BE USED ON MAPS 1, 15, 29
- MAP 1: STA. 93+85 TO STA. 102+75 (RETAINING WALL)  
 STA. 189+20 TO STA. 198+75 \*\*\*  
 STA. 250+95 TO STA. 253+20 \*\*\*  
 STA. 277+05 TO STA. 282+70 \*\*\*
- MAP 15: STA. 59+80 TO STA. 60+25 \*\*\*  
 STA. 67+95 TO STA. 72+80 \*\*\*  
 STA. 76+15 TO STA. 82+55 \*\*\*  
 STA. 106+25 TO STA. 123+45 \*\*\*  
 STA. 171+10 TO STA. 176+70 \*\*\*  
 STA. 199+55 TO STA. 204+55 \*\*\*  
 STA. 327+05 TO STA. 332+00
- ## MAP 29: STA. 422+00 TO STA. 424+80  
 SEE INCIDENTAL MILLING DETAIL NO. 2



### TYPICAL SECTION NO. 3

- TO BE USED ON MAPS 2 thru 5, 8, 9, 11 THRU 19,  
 21, 22, 25 THRU 28, 30 THRU 35, 37, 39 THRU 44
- MAP 3: STA. 0+75 TO STA. 1+45  
 STA. 9+00 TO STA. 23+50
- MAP 4: STA. 0+00 TO STA. 10+45
- MAP 8: STA. 6+10 TO STA. 11+05
- MAP 11: STA. 4+45 TO STA. 14+75
- MAP 13: STA. 0+00 TO STA. 10+00  
 STA. 14+55 TO STA. 23+15
- MAP 17: STA. 0+00 TO STA. 1+75  
 STA. 4+95 TO STA. 17+85
- MAP 19: STA. 5+30 TO STA. 8+65
- MAP 27: STA. 0+50 TO STA. 3+00  
 STA. 6+05 TO STA. 11+40  
 STA. 22+00 TO STA. 29+95
- MAP 30: STA. 18+10 TO STA. 35+25
- MAP 33: STA. 0+00 TO STA. 12+45
- MAP 35: STA. 0+00 TO STA. 13+50

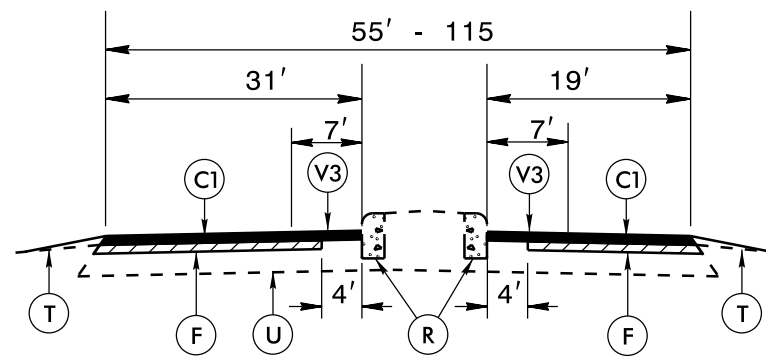


### TYPICAL SECTION NO. 5

- TO BE USED ON MAPS 3, 8, 10, 17, 19, 20, 27, 30
- MAP 3: STA. 1+45 TO STA. 9+00
- MAP 8: STA. 0+00 TO STA. 6+10
- MAP 10: STA. 0+00 TO STA. 6+25
- MAP 17: STA. 1+75 TO STA. 4+95
- MAP 19: STA. 0+00 TO STA. 5+30
- MAP 20: STA. 4+70 TO STA. 9+25
- MAP 27: STA. 0+00 TO STA. 00+50  
 STA. 3+00 TO STA. 6+05
- MAP 30: STA. 10+95 TO STA. 18+10

## PAVEMENT SCHEDULE

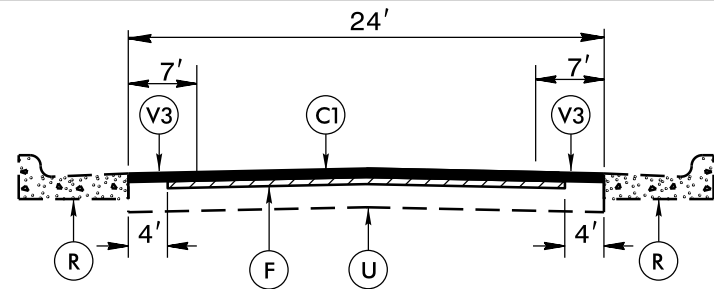
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 3/4" OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-2 MODIFIED, AT AN AVERAGE RATE OF 90 LBS. PER SQ. YD.		
D1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.		
D2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.		
D3	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVG RATE OF 456 LBS. PER SQ. YD. IN ONE LIFT		
F	AST MAT COAT, #67 STONE		
N	NON-WOVEN GEOTEXTILE PAVEMENT INTERLAYER		
R	EXISTING CONCRETE STRUCTURE		
T	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER.		
U	EXISTING PAVEMENT.		
V1	2 1/2" MILLING	V2	RUMBLE STRIPS Std. 665.01
V3	0 - 1 1/2" MILLING	V4	1 1/2" MILLING
V5	4" MILLING	V6	3" MILLING



- TO BE USED ON MAPS 3, 33, 35
- MAP 3: STA. 0+00 TO STA. 0+75
- MAP 33: STA. 12+45 TO STA. 13+05
- MAP 35: STA. 13+50 TO STA. 13+75

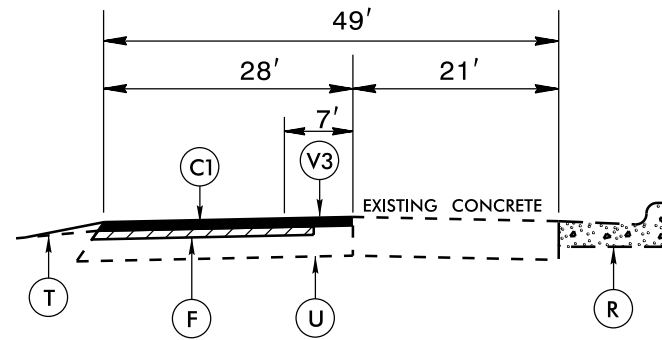
### TYPICAL SECTION NO. 4

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5736 & I-5767	5	
F.A. PROJ. NO. I-5736 NHPP-0074(174), I-5767 NHPP-0074(177)			



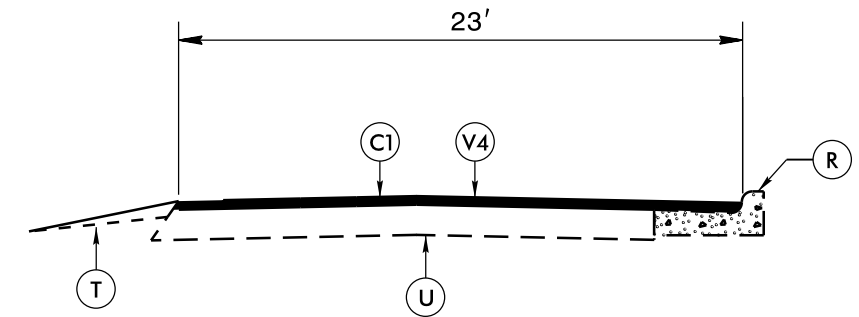
**TYPICAL SECTION NO. 6**

TO BE USED ON MAPS 4  
MAP4: STA. 10+45 TO STA. 10+80



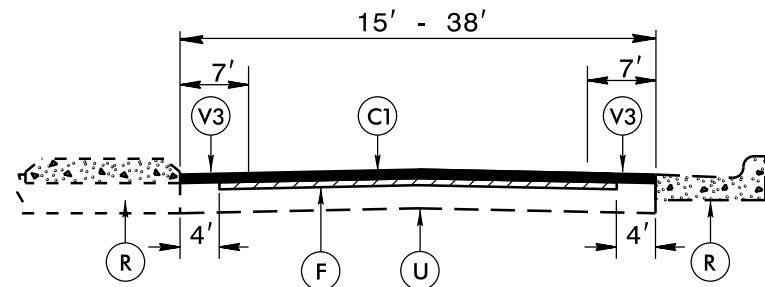
**TYPICAL SECTION NO. 10**

TO BE USED ON MAP 30  
STA. 10+55 TO STA. 10+95



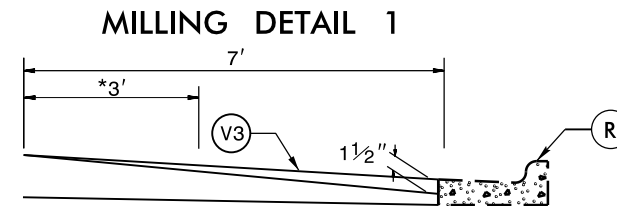
**TYPICAL SECTION NO. 11**

TO BE USED ON MAP 36



**TYPICAL SECTION NO. 7**

TO BE USED ON MAP 10, 20  
MAP 10: STA. 6+25 TO STA. 10+60  
MAP 20: STA. 0+00 TO STA. 4+70

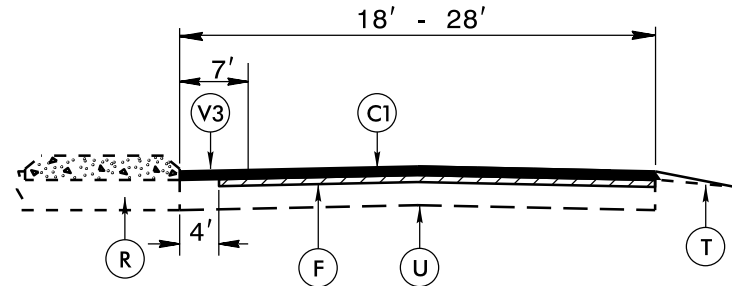


\*IF #67 STONE SEAL IS INVOLVED OVERLAP 3'.

PROFILE MILL EXISTING ASPHALT PAVEMENT 0 - 1 1/2" AT LOCATIONS AS DIRECTED BY THE ENGINEER.

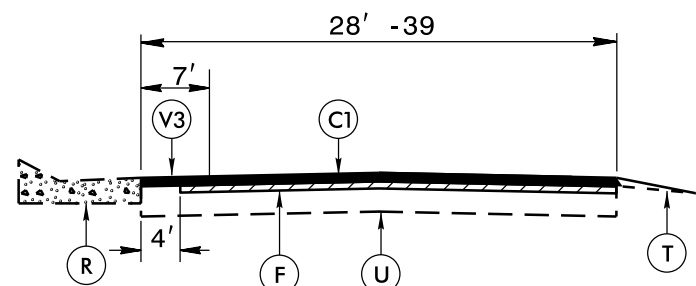
NOTE: TO BE USED IN CONJUNCTION WITH:

- TS. NO. 2 ON MAP 1: STA. 93+85 TO STA. 102+75 (RETAINING WALL)
- STA. 189+20 TO STA. 198+75
- STA. 250+95 TO STA. 253+20
- STA. 277+05 TO STA. 282+70
- STA. 160+90 TO STA. 163+15
- MAP 15: STA. 59+80 TO STA. 60+25
- STA. 67+95 TO STA. 72+80
- STA. 76+15 TO STA. 82+55
- STA. 106+25 TO STA. 123+45
- STA. 171+10 TO STA. 176+70
- STA. 199+55 TO STA. 203+30
- STA. 231+85 TO STA. 238+05
- STA. 327+05 TO STA. 332+00
- TS. NO. 4 ON MAP 3: STA. 0+00 TO STA. 0+75
- TS. NO. 5 ON MAP 3: STA. 1+45 TO STA. 9+00
- MAP 8: STA. 0+00 TO STA. 6+10
- MAP 10: STA. 0+00 TO STA. 6+25
- MAP 17: STA. 1+75 TO STA. 4+95
- MAP 19: STA. 0+00 TO STA. 5+30
- MAP 20: STA. 4+70 TO STA. 9+25
- MAP 27: STA. 0+00 TO STA. 00+50
- STA. 3+00 TO STA. 6+05
- TS. NO. 6 ON MAP 4: STA. 10+45 TO STA. 10+80
- TS. NO. 7 ON MAP 10: STA. 6+25 TO STA. 10+60
- MAP 20: STA. 0+00 TO STA. 4+70
- TS. NO. 8 ON MAP 11: STA. 0+00 TO STA. 4+45
- MAP 19: STA. 8+65 TO STA. 13+45
- TS. NO. 9 ON MAP 13: STA. 10+00 TO STA. 14+55
- MAP 27: STA. 11+40 TO STA. 22+00



**TYPICAL SECTION NO. 8**

TO BE USED ON MAP 11, 19  
MAP 11: STA. 0+00 TO STA. 4+45  
MAP 19: STA. 8+65 TO STA. 13+45



**TYPICAL SECTION NO. 9**

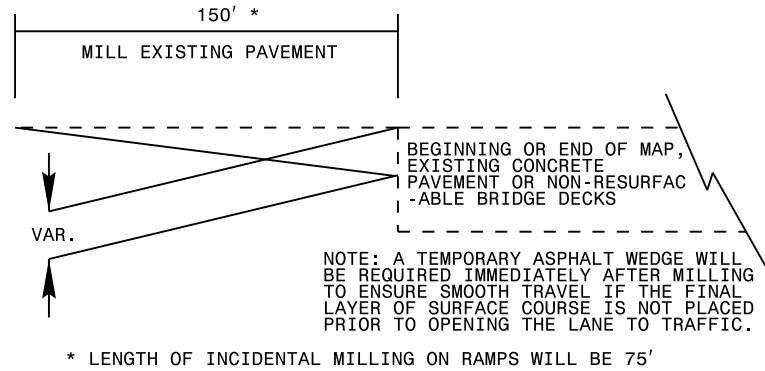
TO BE USED ON MAPS 13, 27  
MAP 13: STA. 10+00 TO STA. 14+55  
MAP 27: STA. 11+40 TO STA. 22+00

**PAVEMENT SCHEDULE**

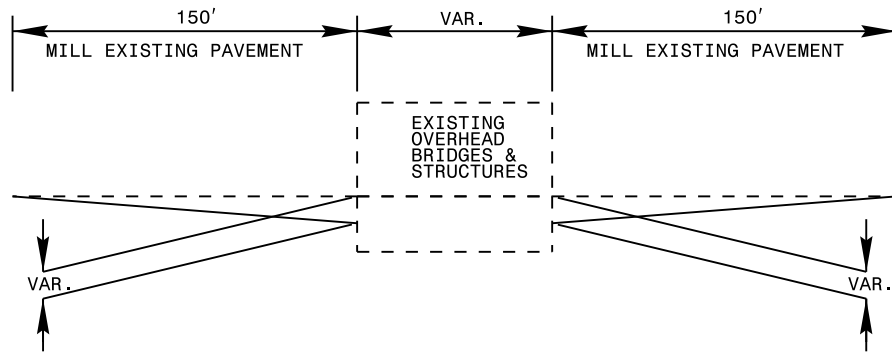
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C2	PROP. APPROX. 3/4" OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-2 MODIFIED, AT AN AVERAGE RATE OF 90 LBS. PER SQ. YD.		
D1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.		
D2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.		
D3	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVG RATE OF 456 LBS. PER SQ. YD. IN ONE LIFT		
F	AST MAT COAT, #67 STONE		
N	NON-WOVEN GEOTEXTILE PAVEMENT INTERLAYER		
R	EXISTING CONCRETE STRUCTURE		
T	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER.		
U	EXISTING PAVEMENT.		
V1	2 1/2" MILLING	V2	RUMBLE STRIPS Std. 665.01
V3	0 - 1 1/2" MILLING	V4	1 1/2" MILLING
V5	4" MILLING	V6	3" MILLING

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5736 & I-5767	6	
F.A. PROJ. NO. I-5736 NHPP-0074(174), I-5767 NHPP-0074(177)			

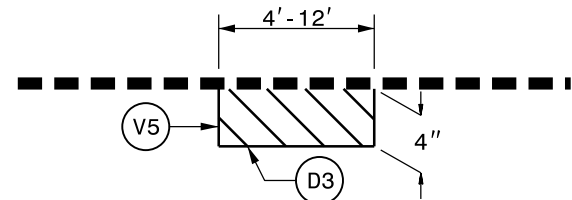
### INCIDENTAL MILLING DETAIL 1



### INCIDENTAL MILLING DETAIL 2



### PATCHING EXISTING PAVEMENT DETAIL 1



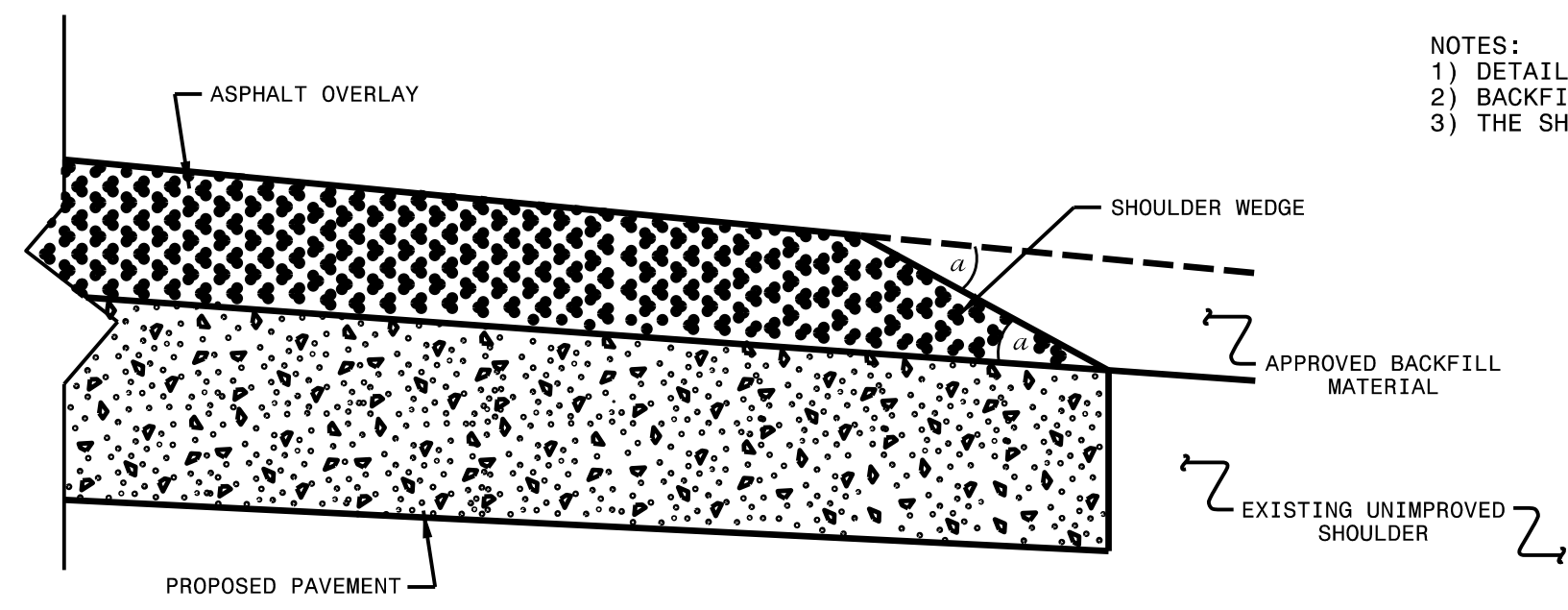
MILL EXISTING ASPHALT PAVEMENT 4" IN DEPTH AND FILL WITH INTERMEDIATE COURSE, TYPE I19.0D AT LOCATIONS AS DIRECTED BY THE ENGINEER.

### PAVEMENT SCHEDULE

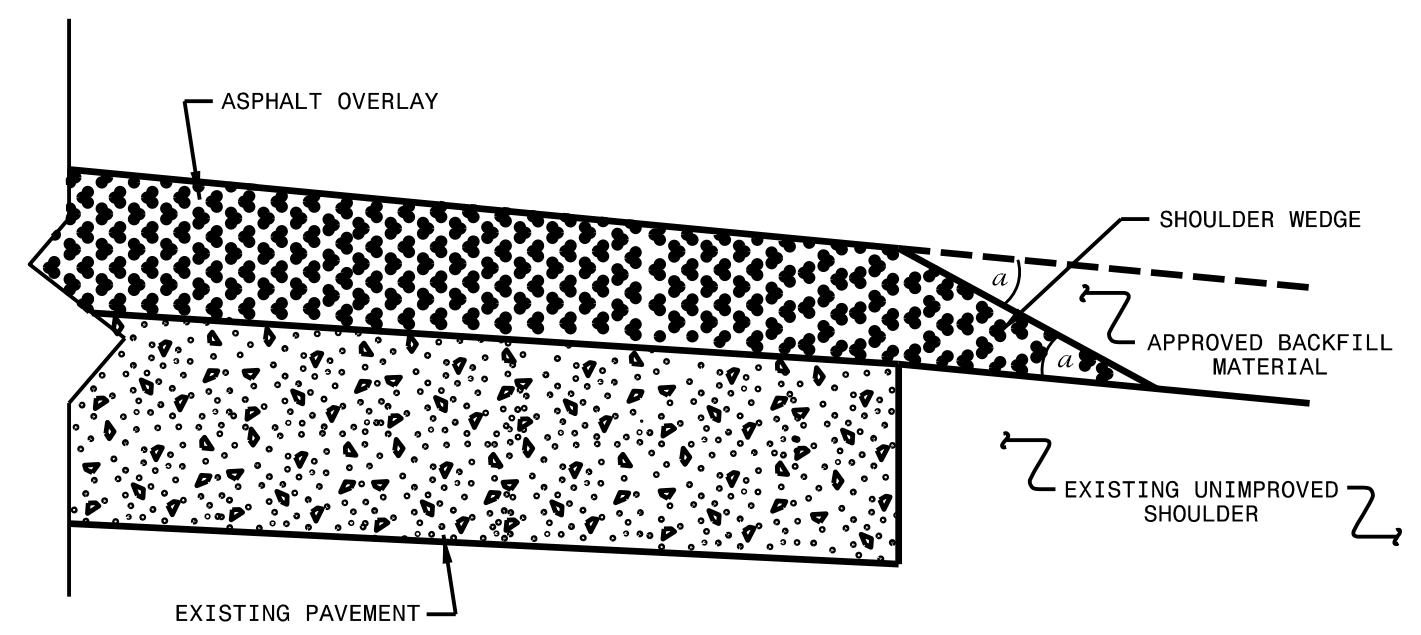
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	
C2	PROP. APPROX. ¾" OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-2 MODIFIED, AT AN AVERAGE RATE OF 90 LBS. PER SQ. YD.	
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	
D2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	
D3	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVG RATE OF 456 LBS. PER SQ. YD. IN ONE LIFT	
F	AST MAT COAT, #67 STONE	
N	NON-WOVEN GEOTEXTILE PAVEMENT INTERLAYER	
R	EXISTING CONCRETE STRUCTURE	
T	INCIDENTAL STONE BASE IN LOW SHOULDER AREAS, AS DIRECTED BY THE ENGINEER.	
U	EXISTING PAVEMENT.	
V1	2½" MILLING	V2 RUMBLE STRIPS Std. 665.01
V3	0 - 1½" MILLING	V4 1½" MILLING
V5	4" MILLING	V6 3" MILLING

19-JAN-2016 12:21 S:\3-Guilford\01-5736 & I-5767 Rehab\Raleigh\CADD\I-5736 typical1.dgn

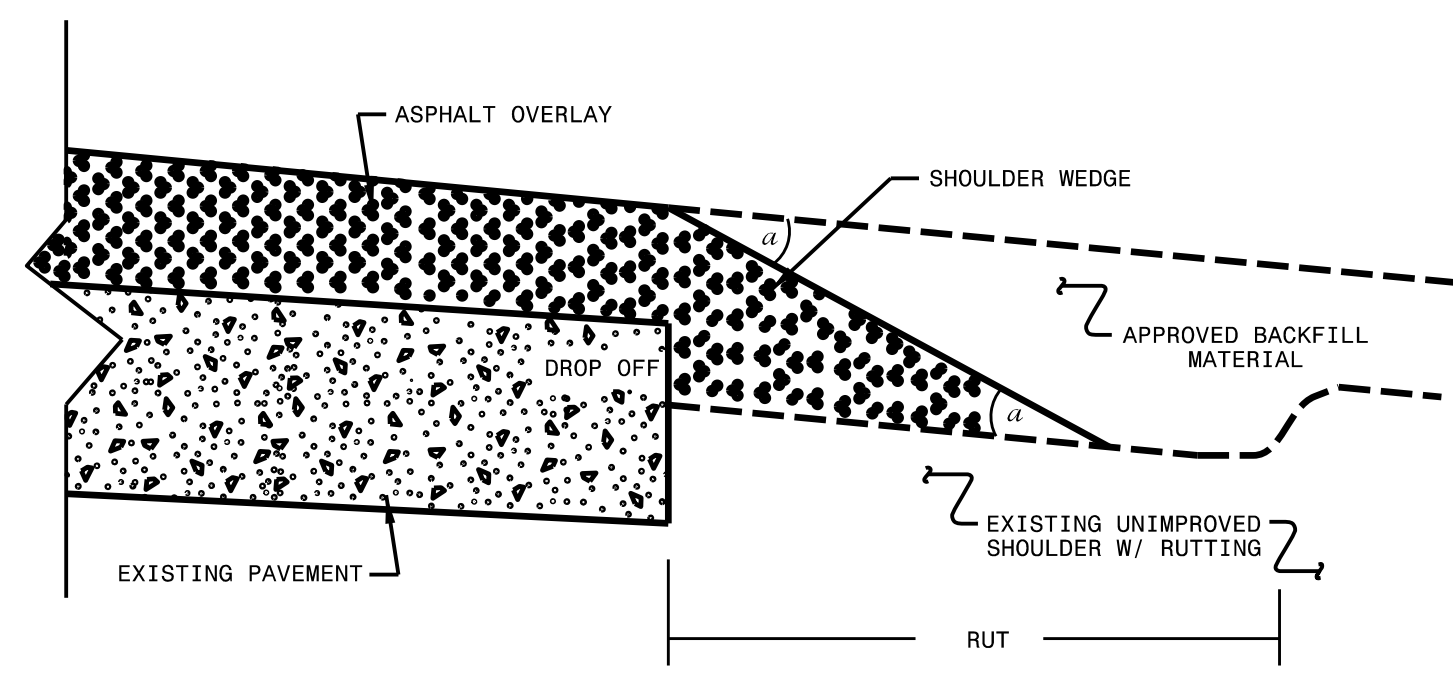
- NOTES:  
 1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.  
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.  
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ Widening or  
 with Existing Paved Shoulder having no dropoffs)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ NO Widening)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Adjacent to  
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>SHOULDER WEDGE DETAILS</b>	
ORIGINAL BY: T.SPELL	DATE: 7-19-11
MODIFIED BY:	DATE: 10/16/12
CHECKED BY:	DATE:
FILE SPEC: s:\usr\details\stand\shoulderwedgedetail.dgn	

\$\$\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$DONOR\$\$\$\$\$  
 \$\$\$USERNAME\$\$\$\$\$









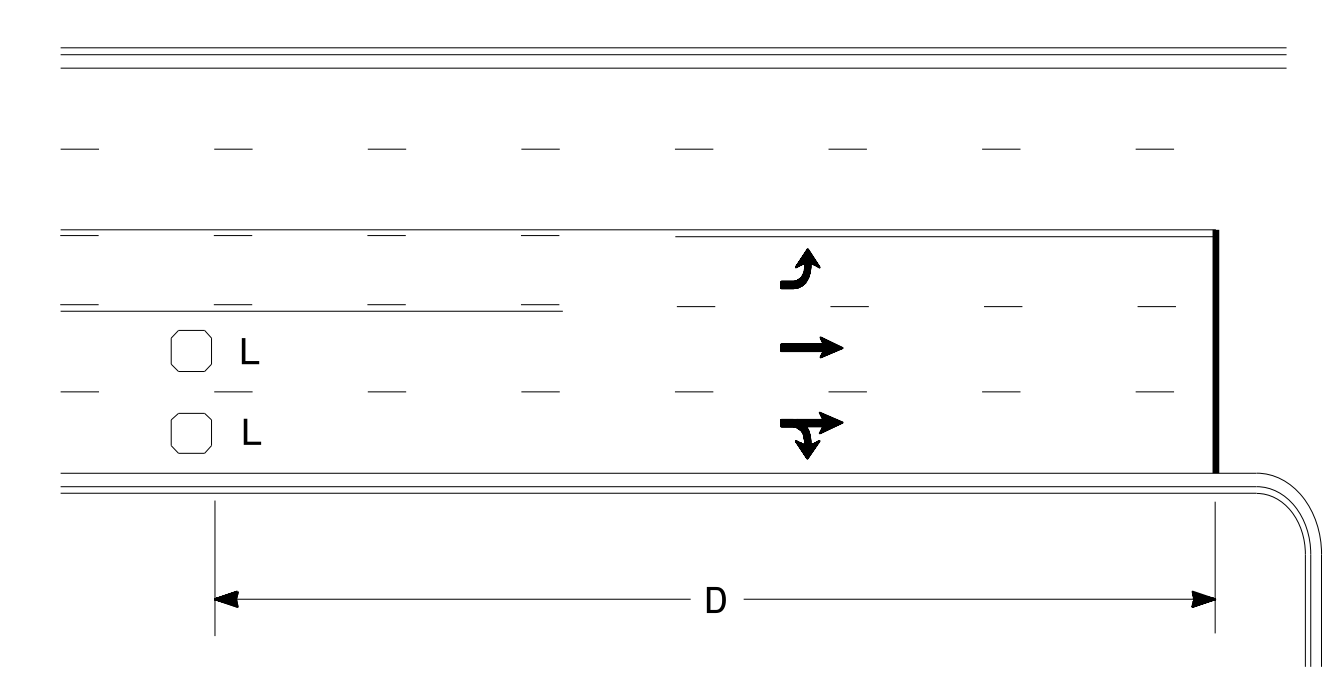








### High Speed Detection (≥40 mph)

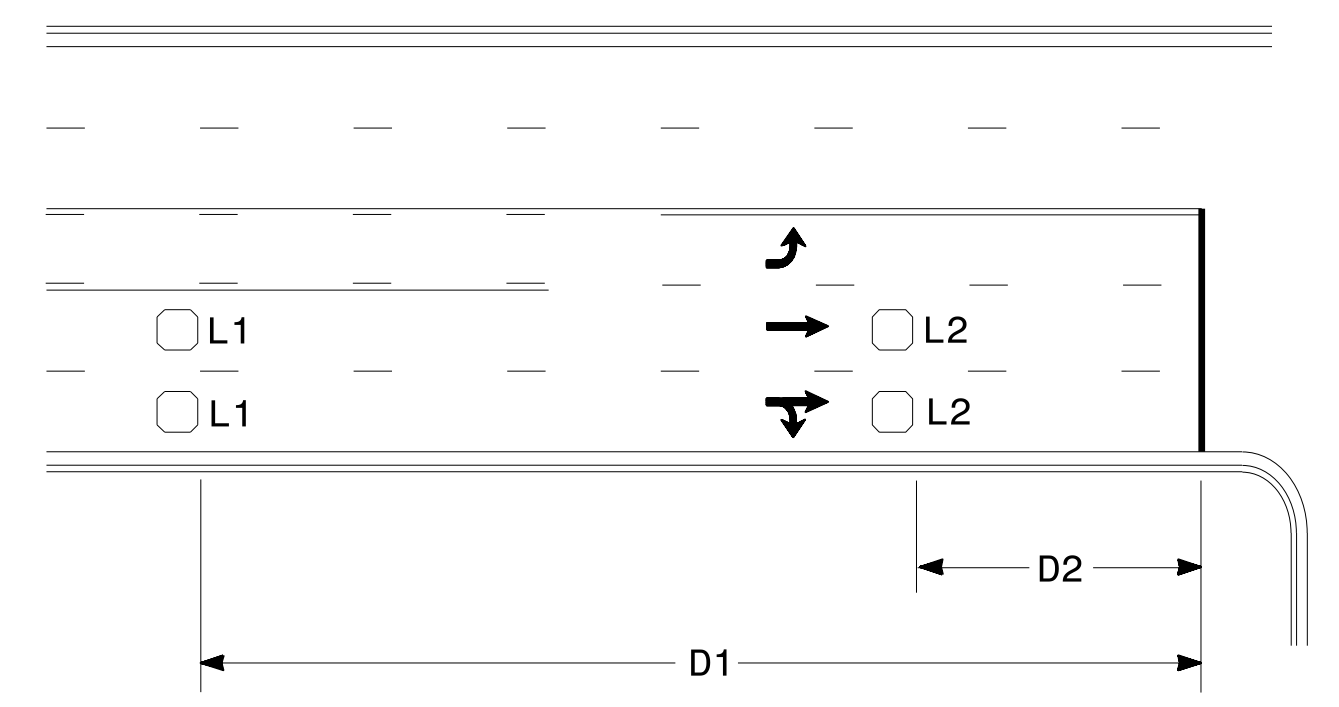


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft  
Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers

Volume Density Operation

OR

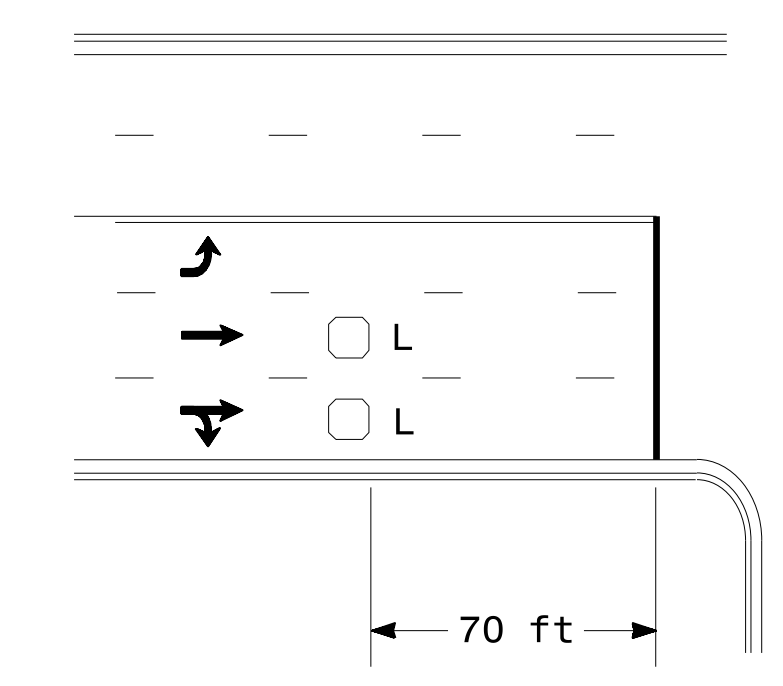


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft  
Wired in series  
L2 = 6ft X 6ft  
Wired in series

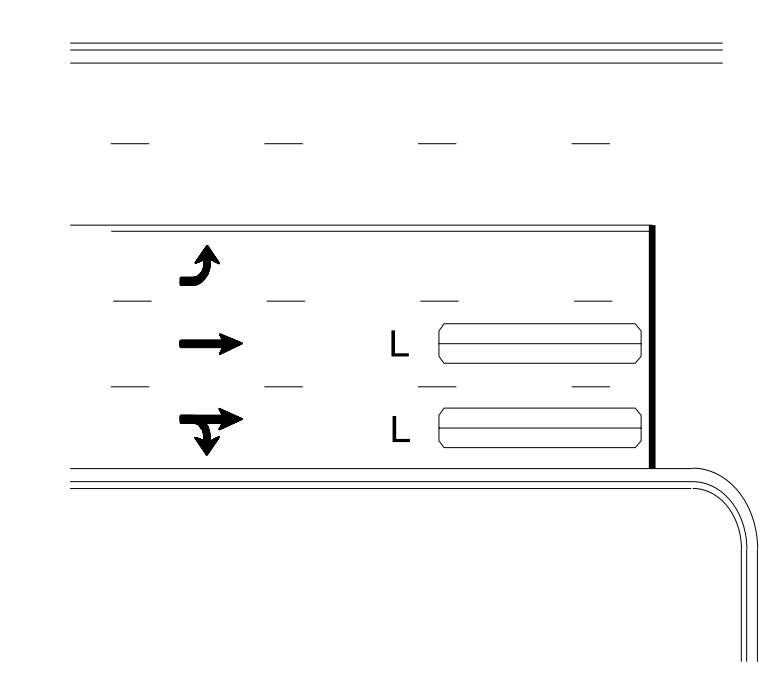
"Stretch" Operation

### Low Speed Detection (≤35 mph)



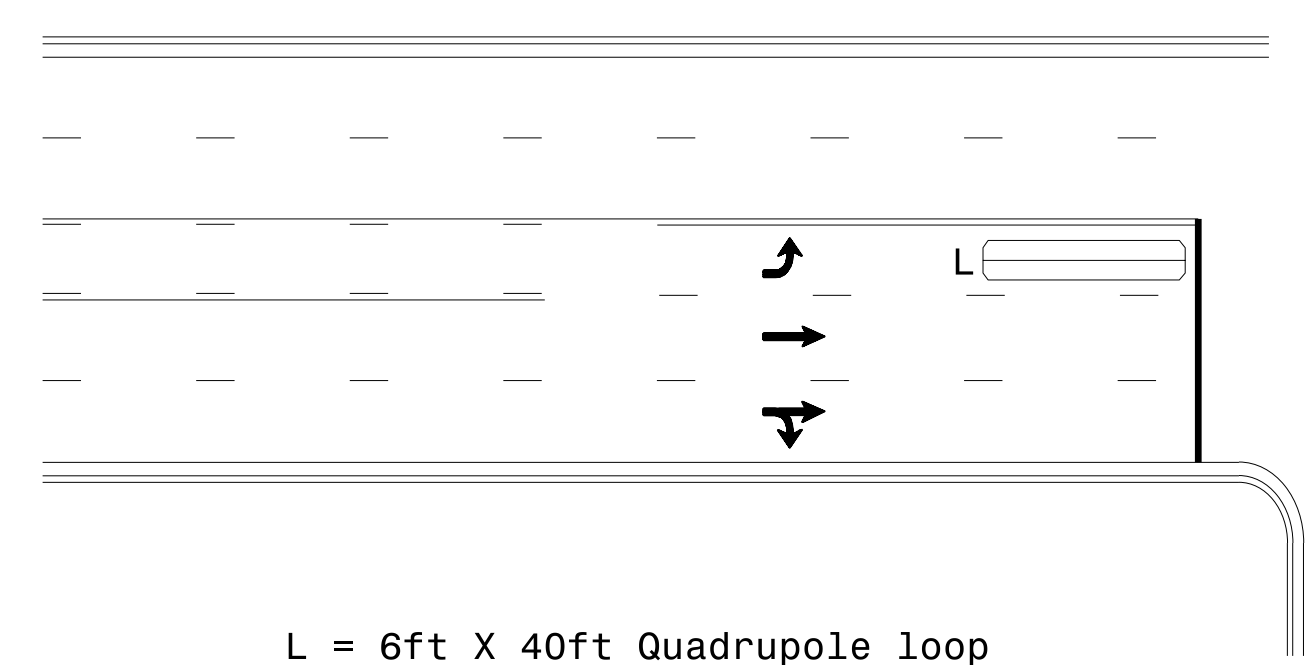
L = 6ft X 6ft  
Wired in series

OR



L = 6ft X 40ft  
Quadrupole loop, wired separately

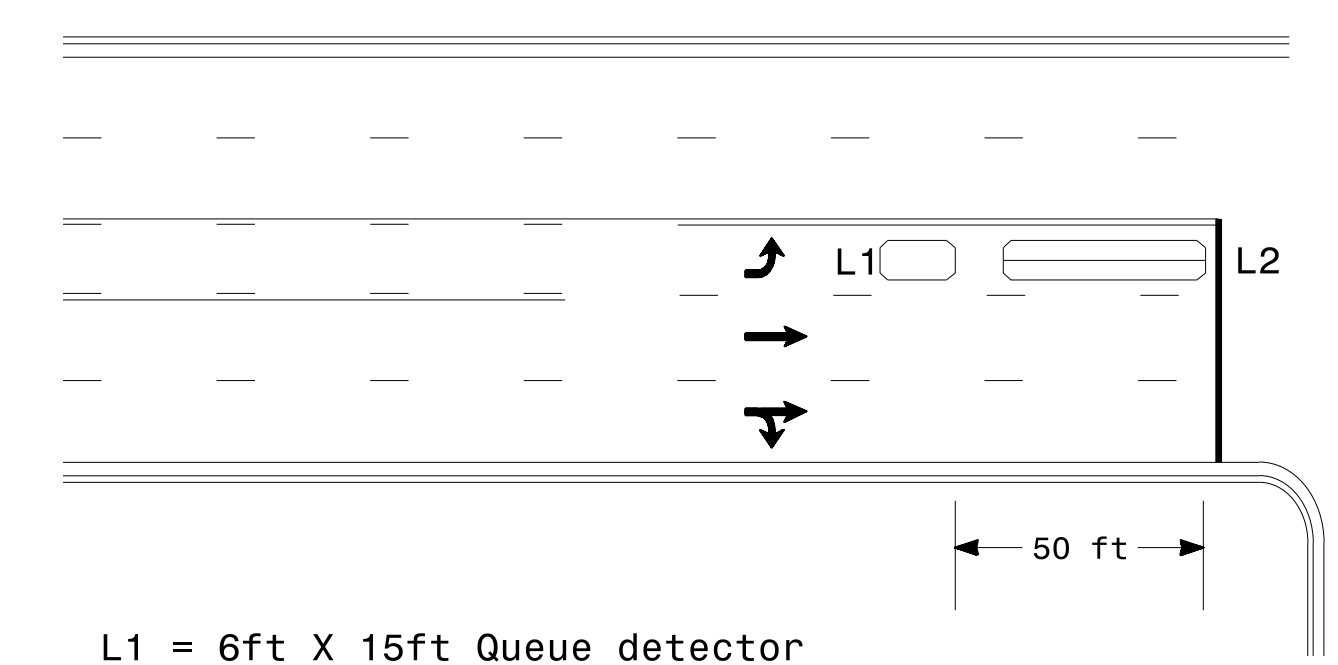
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

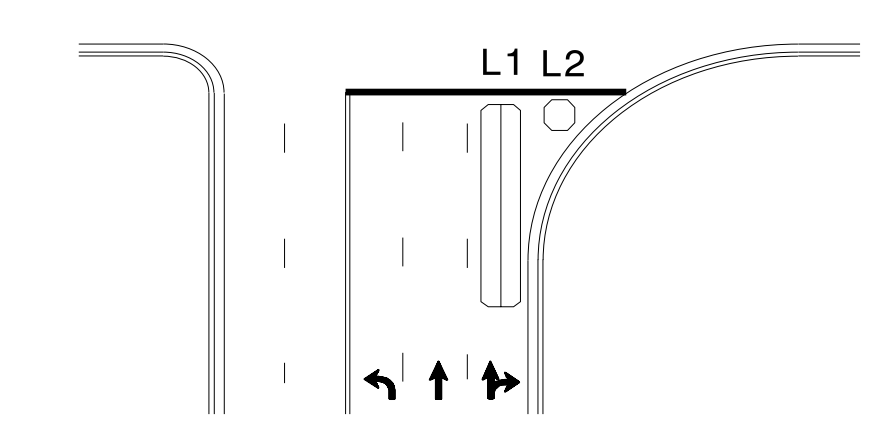
OR



L1 = 6ft X 15ft Queue detector  
L2 = 6ft X 40ft Quadrupole loop

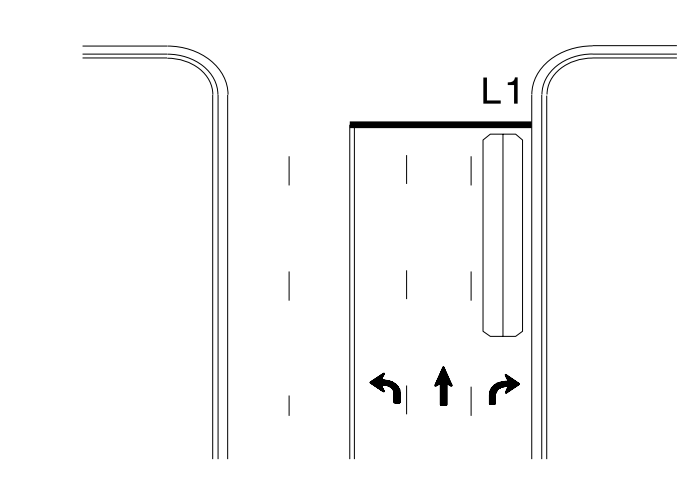
Queue Loop Detection

### Right Turn Lane Detection

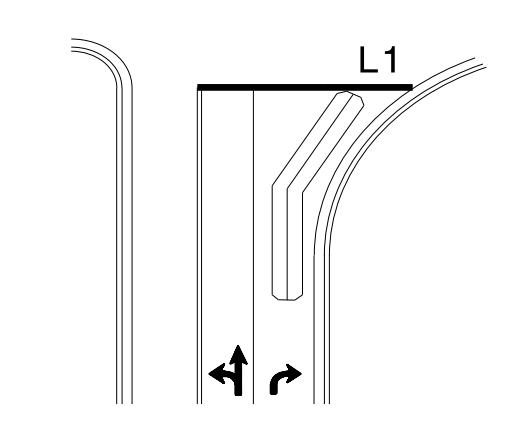


Shared Lane/  
Wide Radius Turn

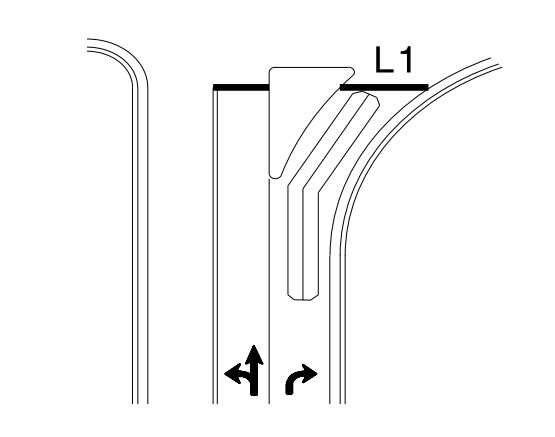
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

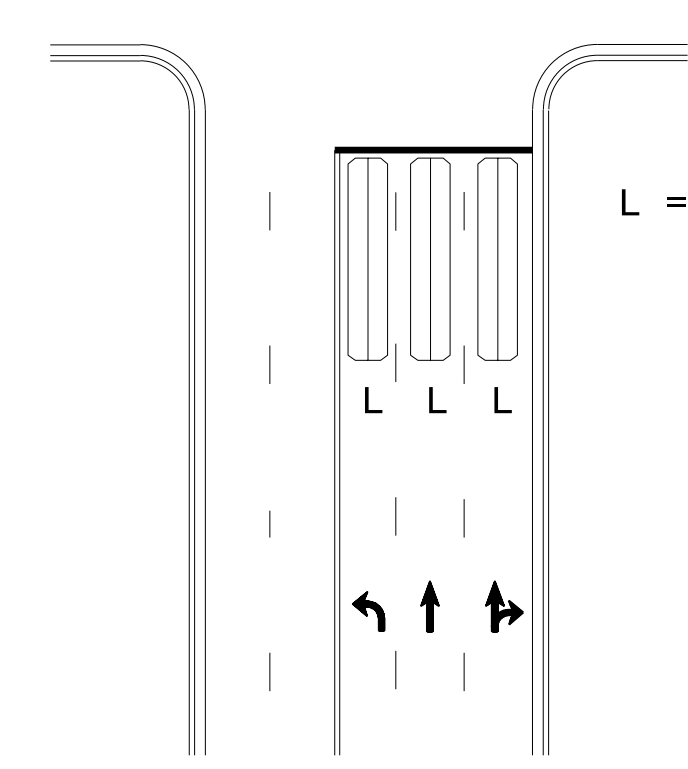


Wide Radius Turn



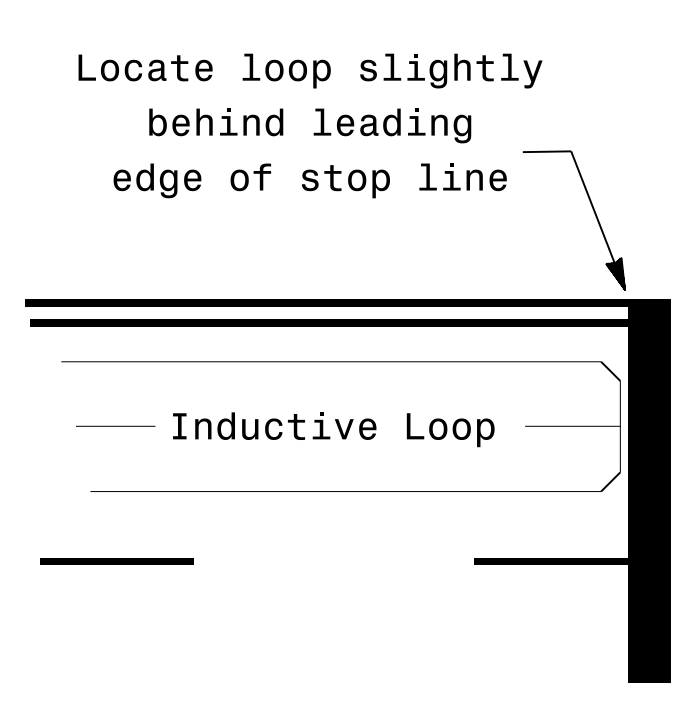
Channelized Turn

### Side Street Detection



L = 6ft X 40ft  
Quadrupole loop  
Wired to separate  
detectors/channels

### Presence Loop Placement at Stop Lines



Locate loop slightly  
behind leading  
edge of stop line

Note:  
Loop may be located in advance  
of stop line under any of the  
following conditions:  
1) stop line is greater than 15'  
from edge of intersecting  
roadway  
2) loop detects a permissive or  
protected/permissive left turn  
3) for an exclusive right turn  
lane

### Recommended Number of Turns

Single 6' X 6' loop  
(when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375-525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns  
6' X 15' Loops:  
Lead-in < 150', use 2 turns  
Lead-in > 150', use 3 turns

750 N. Greenfield Pkwy, Garner, NC 27529

#### Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

SCALE: N/A

SEAL

1/30/2015

3D:\4146-2015-12-29  
 S:\ITS\531\15-Signal\Loop\Signal Design\Section\Eastern\Region\loop\ypj\ca\2015.dgn  
 paalexander



STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR  
**DEEP-CUT INDUCTIVE DETECTION LOOPS**  
 (FOR INSTALLATION PRIOR TO MILLING)

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR  
**DEEP-CUT INDUCTIVE DETECTION LOOPS**  
 (FOR INSTALLATION PRIOR TO MILLING)

**NOTES**

- OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
- MAINTAIN 12" SPACING BETWEEN LOOP WIRE TAIL SECTIONS.
- WIRE LOOPS CONNECTED TO THE SAME DETECTOR IN SERIES.
- LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS.
- USE A SERIES OF ONE INCH PIECES OF BACKER ROD SPACED ONE FOOT APART ALONG THE ENTIRE LENGTH OF THE FEEDER SLOT AND LOOP SAW SLOT.
- CONSULT LOOP SEALANT MANUFACTURER TO DETERMINE CURING TIME REQUIRED PRIOR TO MILLING.

**SAW SLOT DEPTH CHART**

ASSUMING 2" MILLING DEPTH

DEPTH (IN)	NO. OF WIRE LAYERS				
	2	3	4	5	6
SAW SLOT DEPTH	4.0	4.5	5.0	5.0	5.0
MINIMUM TOTAL ASPHALT DEPTH REQUIRED	5.0	5.5	6.0	6.0	6.0

**LOOP WIRE TWISTING METHOD**

INCORRECT WAY TO TWIST WIRE

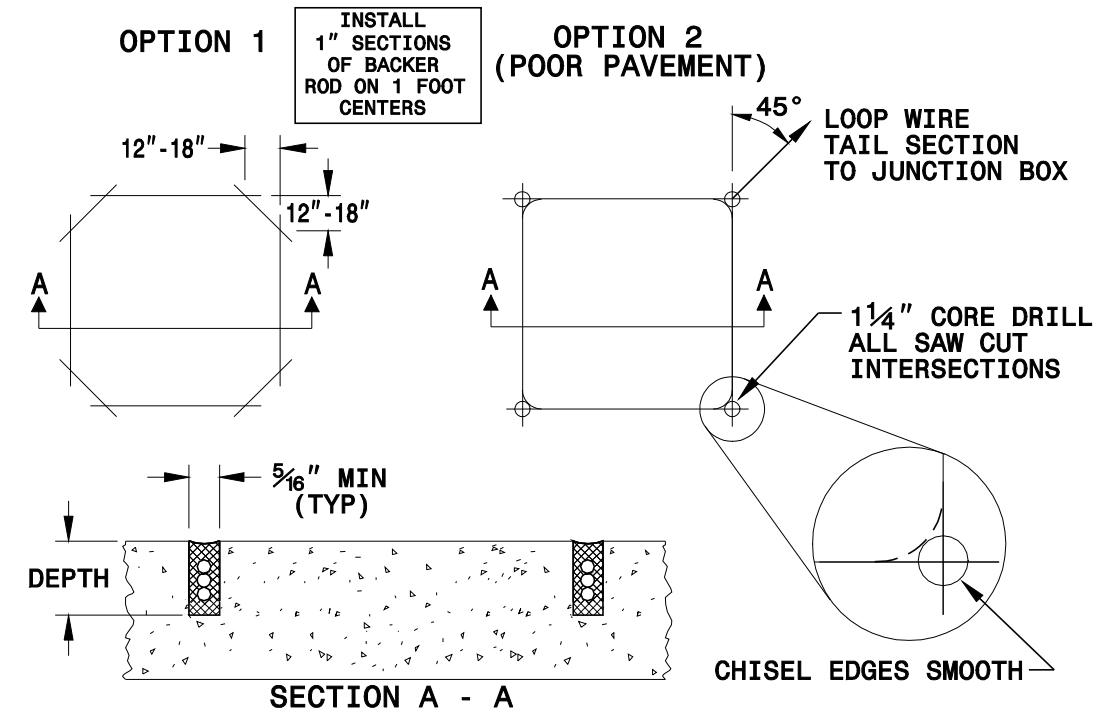


CORRECT WAY TO TWIST WIRE

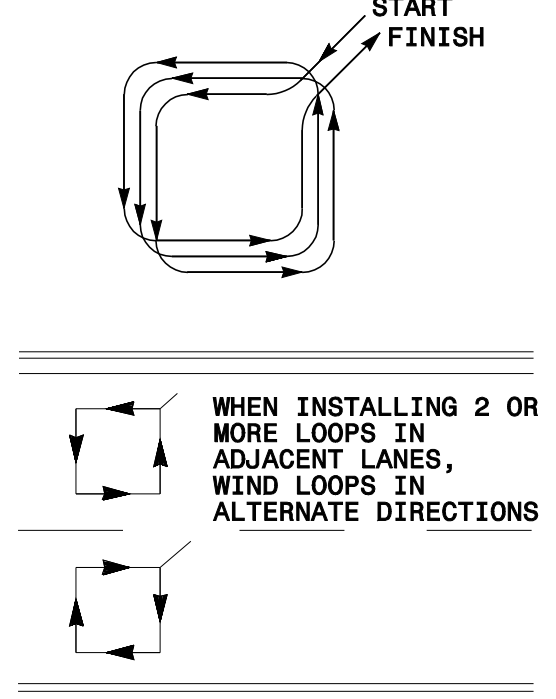


**CONVENTIONAL 4-SIDED LOOP**

**SAW CUT OPTIONS**

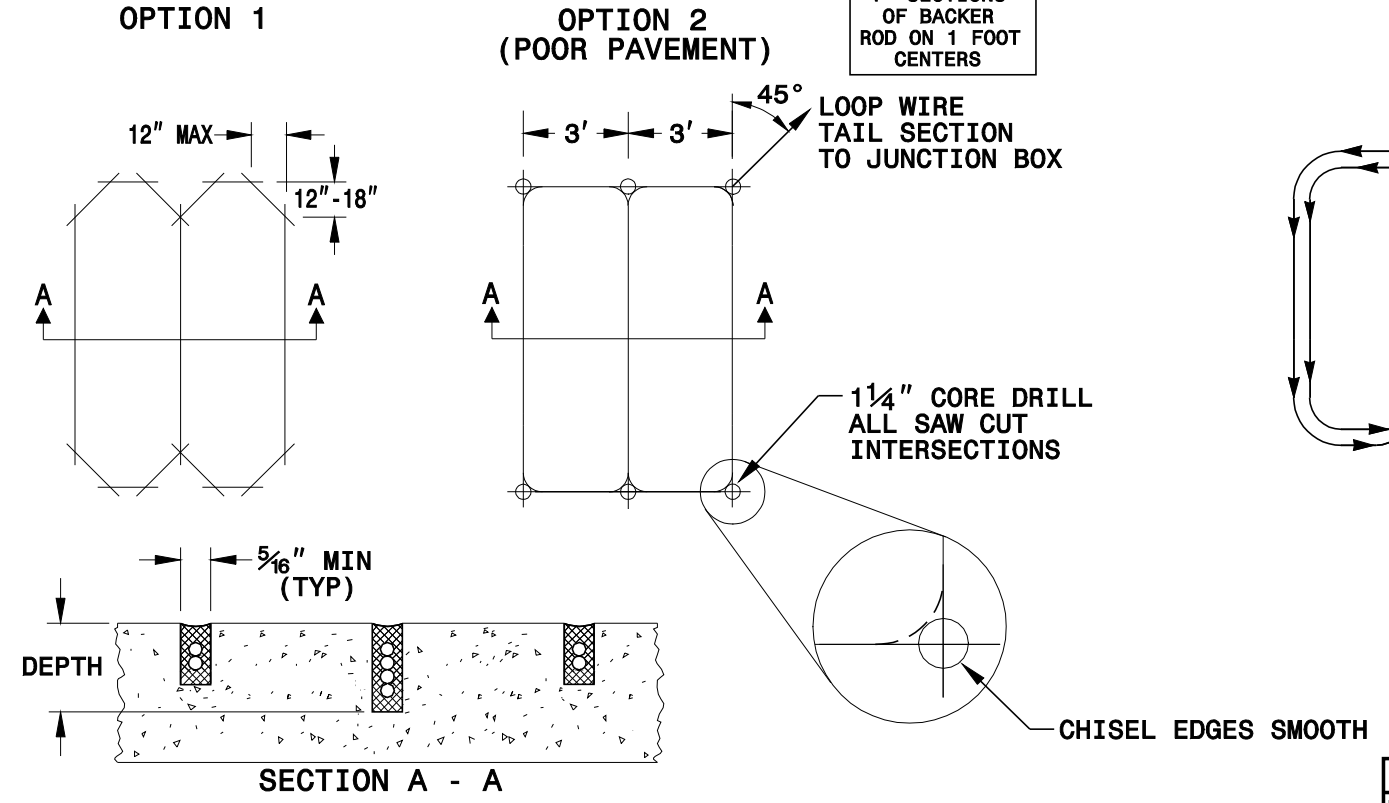


**LOOP WINDING METHOD**

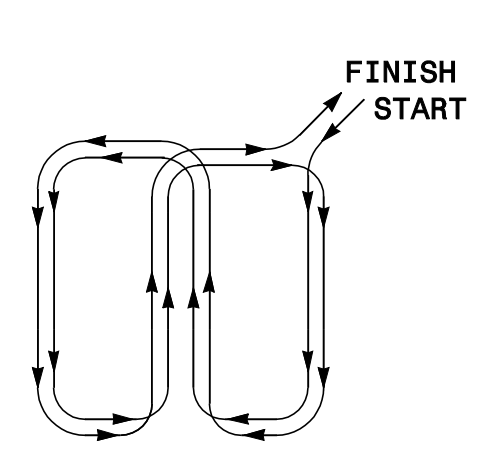


**QUADRUPOLE LOOP**

**SAW CUT OPTIONS**



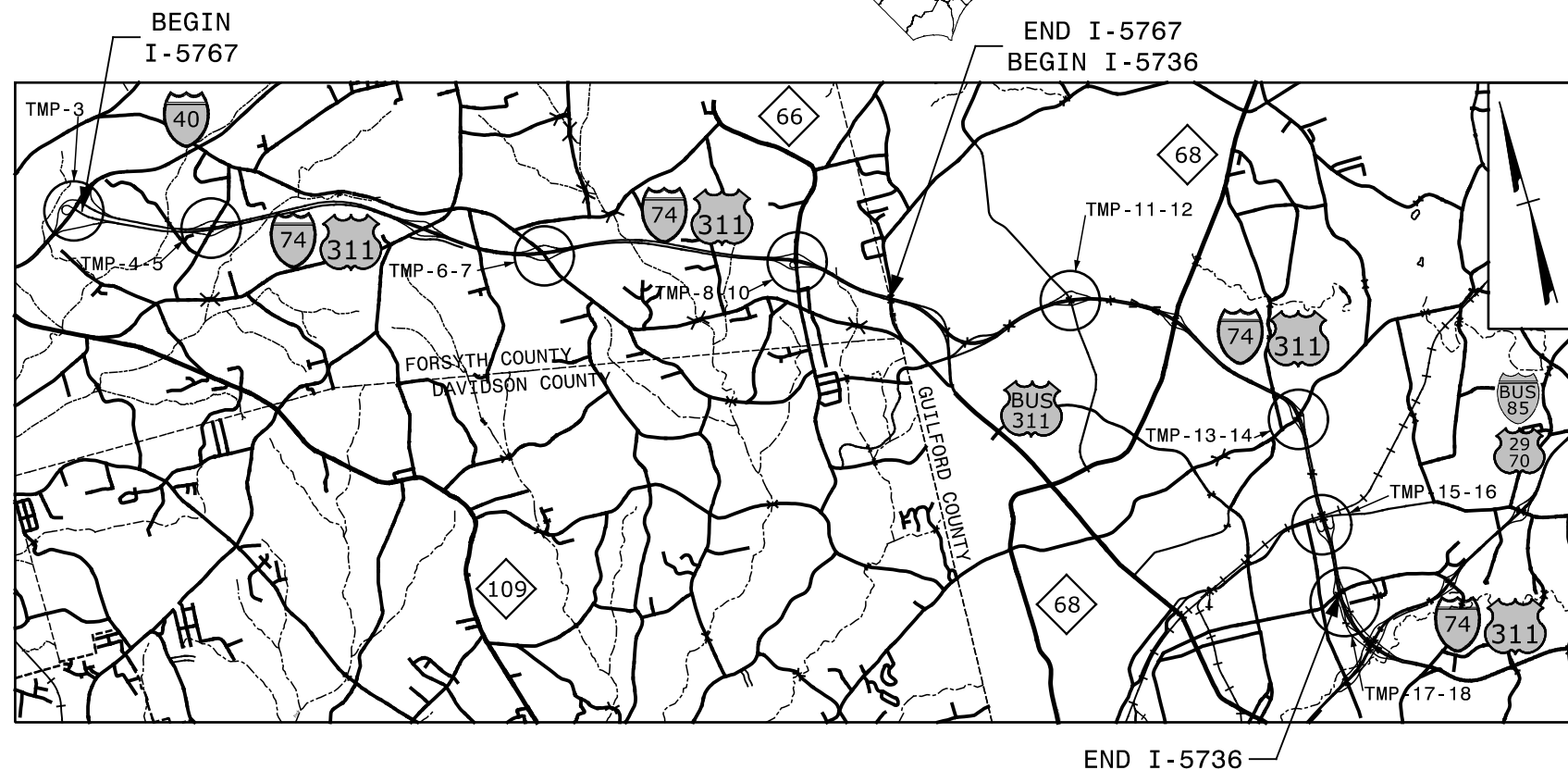
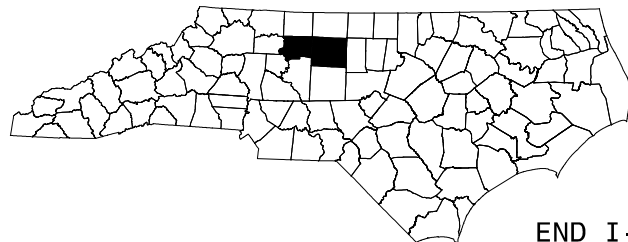
**LOOP WINDING METHOD**



REVISIONS
REMOVED TWISTING NOTES FROM TAIL SECT. TO JUNCTION BOX. 2/26/08 MWH

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**  
**FORSYTH AND GUILFORD COUNTIES**



**LOCATION: I-74/US-311 FROM 0.7 MILES EAST OF I-40 IN FORSYTH COUNTY TO SR 1300 (GREEN DRIVE) IN HIGH POINT**

**TYPE OF WORK: PAVEMENT REHABILITATION**

**INDEX OF SHEETS**

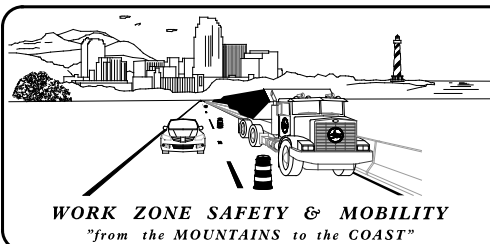
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)
TMP-1C	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND PHASING)
TMP-2	SIGN LEGEND
TMP-3	EXIT 196 I-74/US 311 DETOUR
TMP-4-5	EXIT 56 RIDGEWOOD ROAD DETOUR
TMP-6-7	EXIT 60 HIGH POINT ROAD DETOUR
TMP-8-10	EXIT 63 NC 66 DETOUR
TMP-11-12	EXIT 66 JOHNSON STREET DETOUR
TMP-13-14	EXIT 69 GREENSBORO ROAD DETOUR
TMP-15-16	EXIT 70 E KIVETT DRIVE DETOUR
TMP-17-18	EXIT 71A E GREEN DRIVE DETOUR
TMP-19	LANE CLOSURE TYPICAL
TMP-20	RAMP CLOSURE TYPICAL

SHEET NO.  
TMP-1

**I-5736/I-5767**

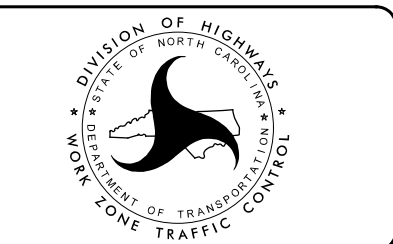
**TIP PROJECT:**

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**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  
D. W. BISSETTE, P.E. TRAFFIC CONTROL PROJECT ENGINEER  
H. SHYU TRAFFIC CONTROL PROJECT DESIGN ENGINEER  
D. RICHARDSON TRAFFIC CONTROL DESIGN ENGINEER



DocuSigned by:  
**Steve Miller**  
APPROVED  
DATE: 11/9/2015 11:59:00 AM  
SEAL  
STEVEN D. MILLER  
ENGINEER  
037026  
NORTH CAROLINA PROFESSIONAL SEAL

# 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:

<u>STD. NO.</u>	<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
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 MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMP
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS

# 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

- EXISTING
- PROPOSED
- TEMPORARY

## PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

## TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM 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

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**SEPI**  
ENGINEERING & CONSTRUCTION

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Fax: 919-789-9591  
License: C-2197

APPROVED: *Steve Miller*

DATE: 11/18/2015

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

PROFESSIONAL SEAL  
STEVEN D. MILLER  
ENGINEER

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

## ROADWAY STANDARD DRAWINGS & LEGEND

## 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 A TRAVEL LANE IN A SINGLE DIRECTION AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I 74/US 311 AND MULTI-LANE RAMPS AND LOOPS	MONDAY TO SUNDAY 6:00 AM TO 8:00 PM
BRIDGE WORK	10:00 AM SUNDAY TO 8:00 PM FRIDAY 10:00 AM SATURDAY TO 8:00 PM SATURDAY

B) DO NOT CLOSE OR NARROW TWO TRAVEL LANES IN A SINGLE DIRECTION AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I 74/US 311	MONDAY TO SUNDAY 6:00 AM TO 10:00 PM
BRIDGE WORK	10:00 AM SUNDAY TO 10:00 PM FRIDAY 10:00 AM SATURDAY TO 10:00 PM SATURDAY

C) DO NOT CLOSE OR NARROW THREE TRAVEL LANES IN A SINGLE DIRECTION AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I 74/US 311	MONDAY TO SUNDAY 6:00 AM TO 12:00 AM (MIDNIGHT)
BRIDGE WORK	10:00 AM SUNDAY TO 12:00 AM (MIDNIGHT) FRIDAY 10:00 AM SATURDAY TO 12:00 AM (MIDNIGHT) SATURDAY

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

ROAD NAME	HOLIDAY
I 74/US 311	

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31ST TO 8:00 P.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.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 8:00 P.M. TUESDAY.
- 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.

- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 8:00 P.M. TUESDAY.
- 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 THE CITY OF HIGH POINT FURNITURE MARKET, BETWEEN THE HOURS OF 6:00 A.M. THE MONDAY THAT THE MARKET BEGINS AND 8:00 P.M. THE FRIDAY THAT THE MARKET ENDS.

E) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I 74/US 311 SINGLE LANE RAMPS AND LOOPS	MONDAY TO SUNDAY 6:00 AM TO 12:00 A.M. (MIDNIGHT)

### LANE AND SHOULDER CLOSURE REQUIREMENTS

F) 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.

G) 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.

H) 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.

I) 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.

J) 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

K) 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.

L) 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) 1000 FEET IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

M) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

### SIGNING

N) INSTALL ADVANCE WORK ZONE WARNING SIGNS NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

O) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

P) 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.

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

### TRAFFIC CONTROL DEVICES

R) 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 RADIUS, 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.

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

T) 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

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	NONE

V) 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.

W) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

X) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

### MISCELLANEOUS

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

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**SEPI**  
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*Steve Miller*

APPROVED  
DATE: 11/9/2015 11:59:20 AM

SEAL

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

## TRANSPORTATION OPERATIONS PLAN


### **MANAGEMENT STRATEGIES**

- MAINTAIN I-74/US-311 TRAFFIC THROUGH LANE CLOSURES
- RAMPS AND LOOPS MAY BE CLOSED AND TRAFFIC DETOURED OFF SITE
- PROVIDE THIRTY (30) CALENDAR DAYS NOTICE TO THE ENGINEER, FORSYTH AND GUILFORD COUNTY EMERGENCY SERVICES, AND FORSYTH AND GUILFORD COUNTY SCHOOL OFFICIALS PRIOR TO ROAD CLOSURE

### **PHASING**

- STEP 1: USING RSD 1101.01 SHEET 1 OF 3, PLACE ADVANCE WARNING SIGNS ALONG I-74/US 311 AND RAMPS WHERE NECESSARY.
- STEP 2: USING RSD 1101.02 SHEETS 4, 8, 9, AND 10 OF 15, COMPLETE PAVEMENT REHABILITATION OPERATIONS FOR THE ESTABLISHED WORK AREA, PLACING TEMPORARY PAVEMENT MARKINGS ON INTERIM LAYERS OF PAVEMENT AS NECESSARY. INTERCHANGE RAMPS AND LOOPS MAY BE CLOSED USING RSD 1101.03 SHEETS 1 AND 2 OF 9. SEE TMP-2 THROUGH TMP-20 FOR ADDITIONAL CLOSURE SIGNS AND THE OFF SITE DETOUR FOR EACH RAMP. RETURN TRAFFIC TO THE EXISTING PATTERN AT THE END OF EACH WORK DAY. THE CONTRACTOR SHALL NOT CLOSE ANY RAMP OR LANE OF A RAMP THAT IS INCLUDED AS PART OF AN ACTIVE DETOUR.
- STEP 3: REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES.

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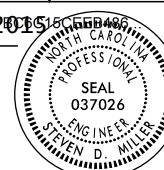
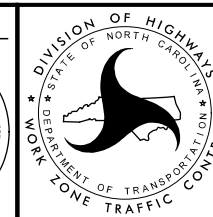


1025 Wade Avenue  
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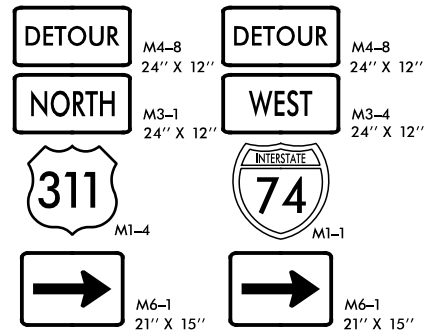
DocuSigned by:  
*Steve Miller*

APPROVED: *Steve Miller*  
DATE: 11/9/2015 10:56:46 AM

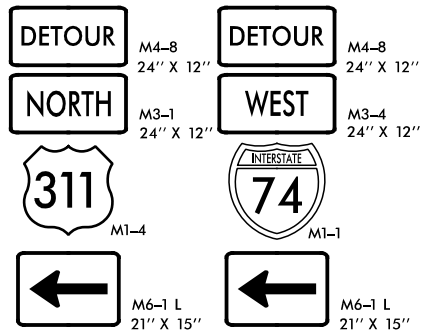
SEAL

**TRANSPORTATION OPERATIONS PLAN**



A



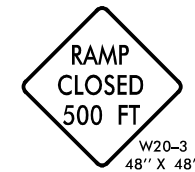
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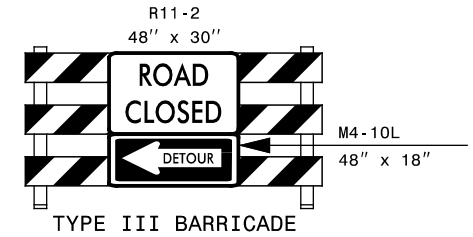
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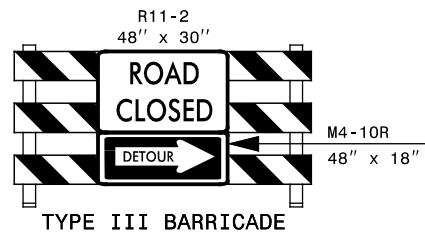
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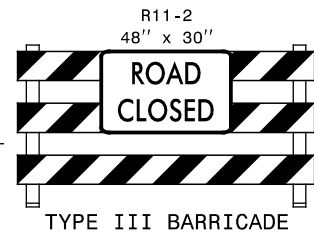
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F



G



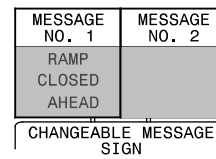
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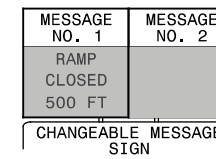
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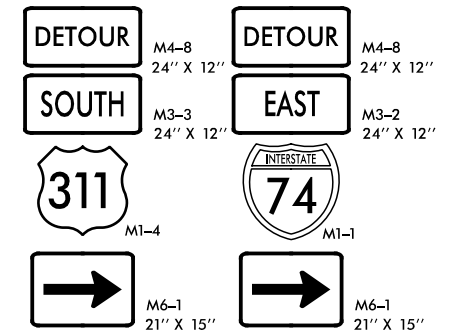
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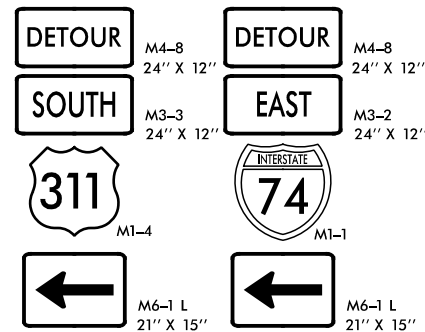
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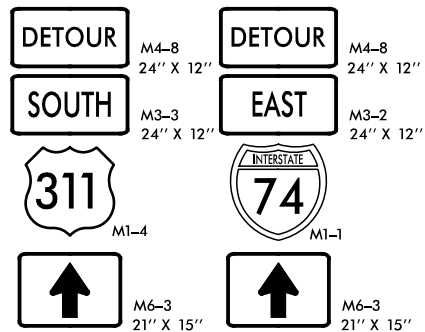
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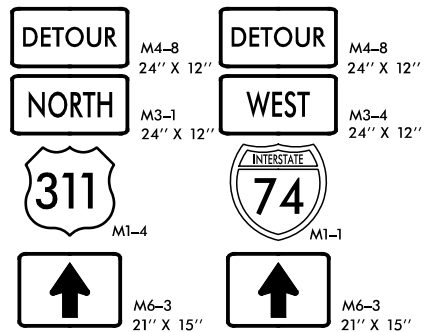
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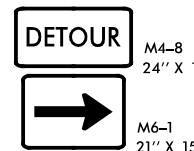
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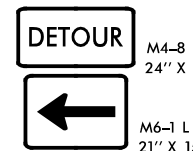
O



P



Q

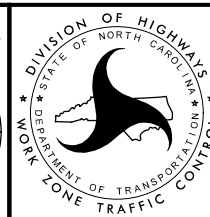
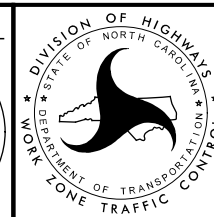


R

11/9/2015 G:\T\aff\I-5736 TMP\I-5767 & I-5736 TMP\I-5767\_5736 TMP-2.dgn

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

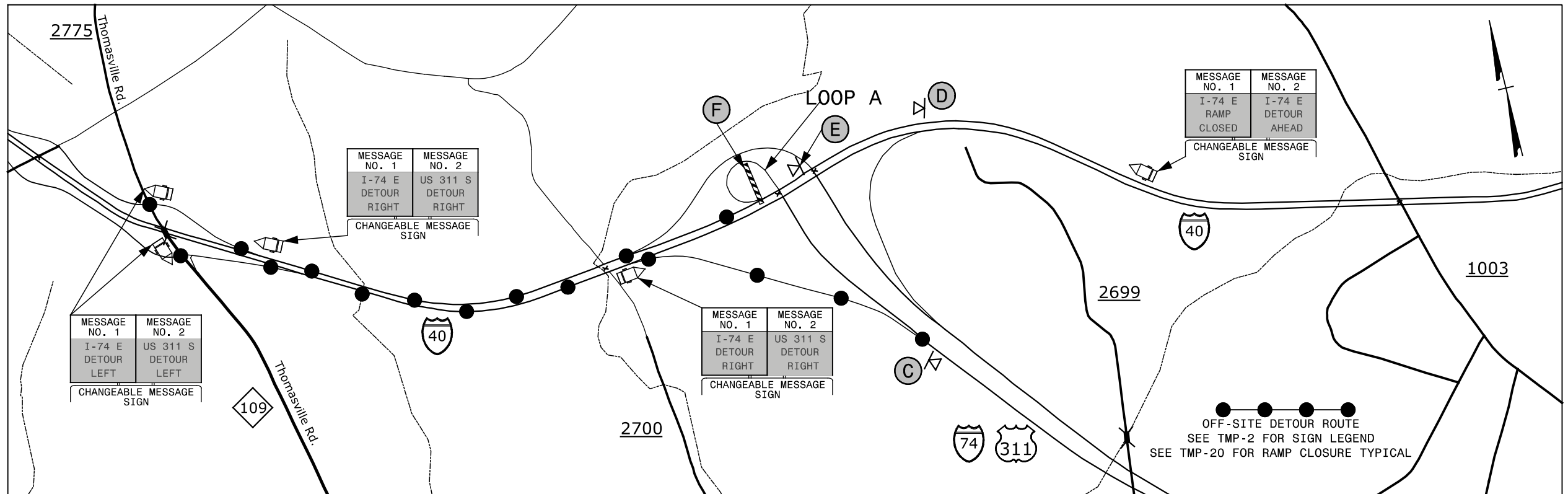
APPROVED Steve Miller DATE: 11/9/2015 SEAL



SIGN LEGEND

# EXIT 196 LOOP A - I-40

PROJ. REFERENCE NO.	SHEET NO.
I-5736/I-5767	TMP-3



11/9/2015 G:\TF\aff\tr\5.020.00 I-5767 & I-5736 TMP\TMP\I-5767\_5736 TMP-3.dgn

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ENGINEERING & CONSTRUCTION

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

DocuSigned by:  
*Steve Miller*

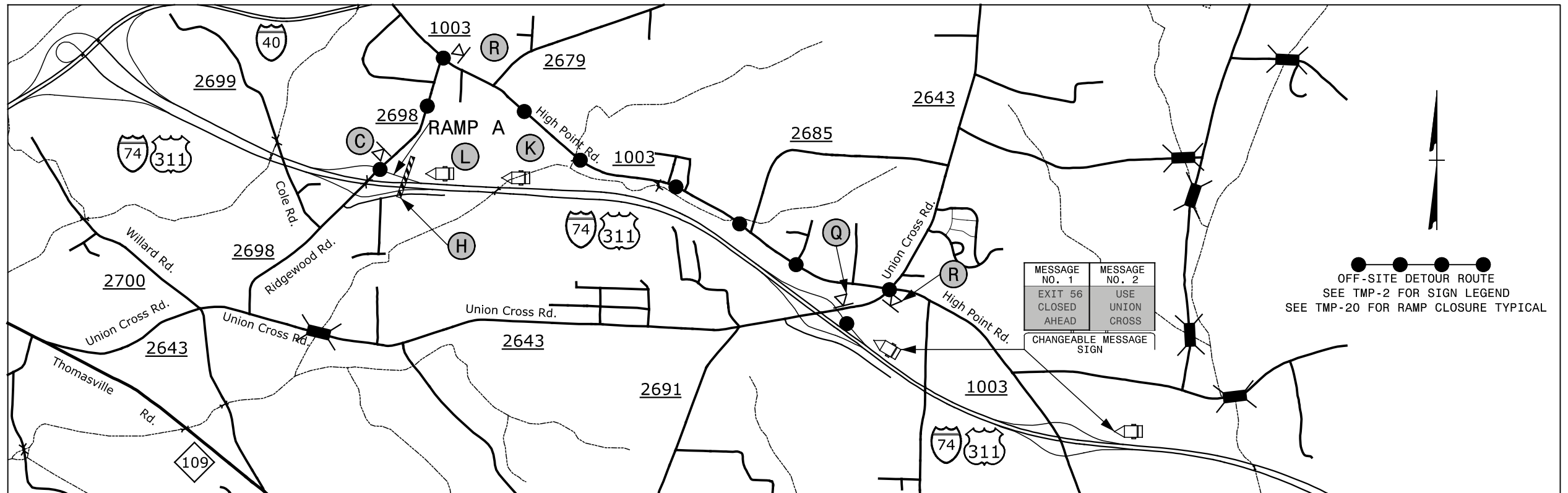
APPROVED: *Steve Miller*  
DATE: 11/9/2015 10:56:46 AM

SEAL

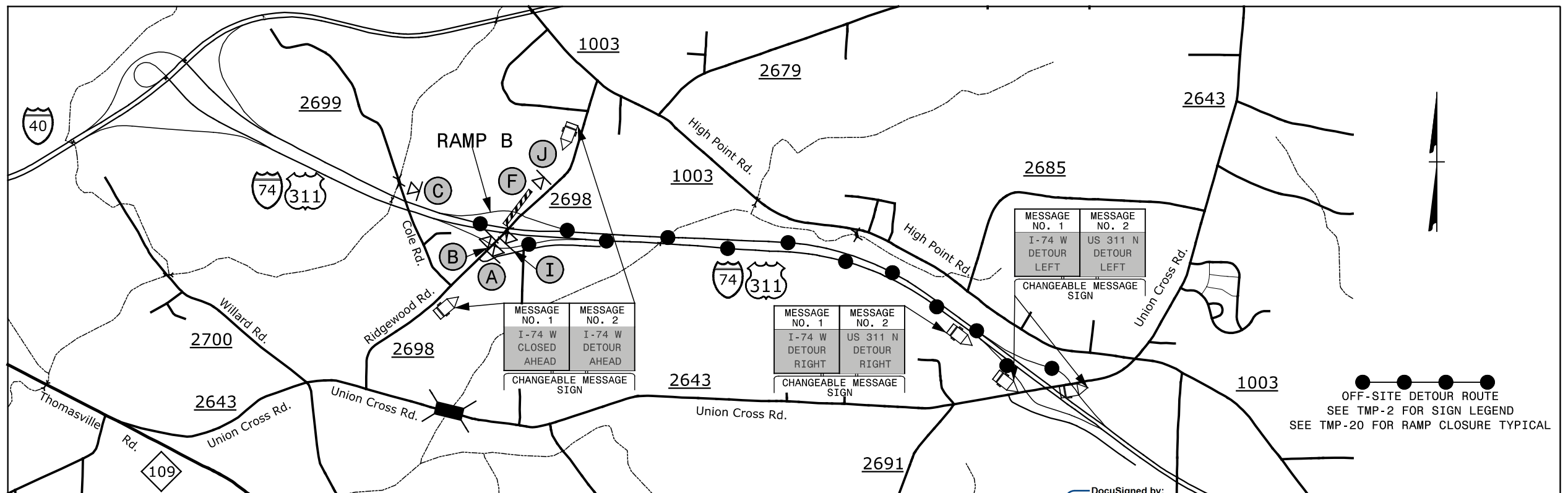


**EXIT 196**  
**I-74/US 311**  
**DETOUR**

### EXIT 56 RAMP A - I-74/US 311



### EXIT 56 RAMP B - I-74/US 311



11/9/2015 11:59:20 AM G:\Traf\I-5736 TMP\I-5767 & I-5736 TMP\I-5767\_5736 TMP-4.dgn

APPROVED: *Steve Miller*  
DATE: 11/9/2015  
SEAL

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

SEAL  
STEVEN D. MILLER  
PROFESSIONAL ENGINEER  
NORTH CAROLINA  
037026

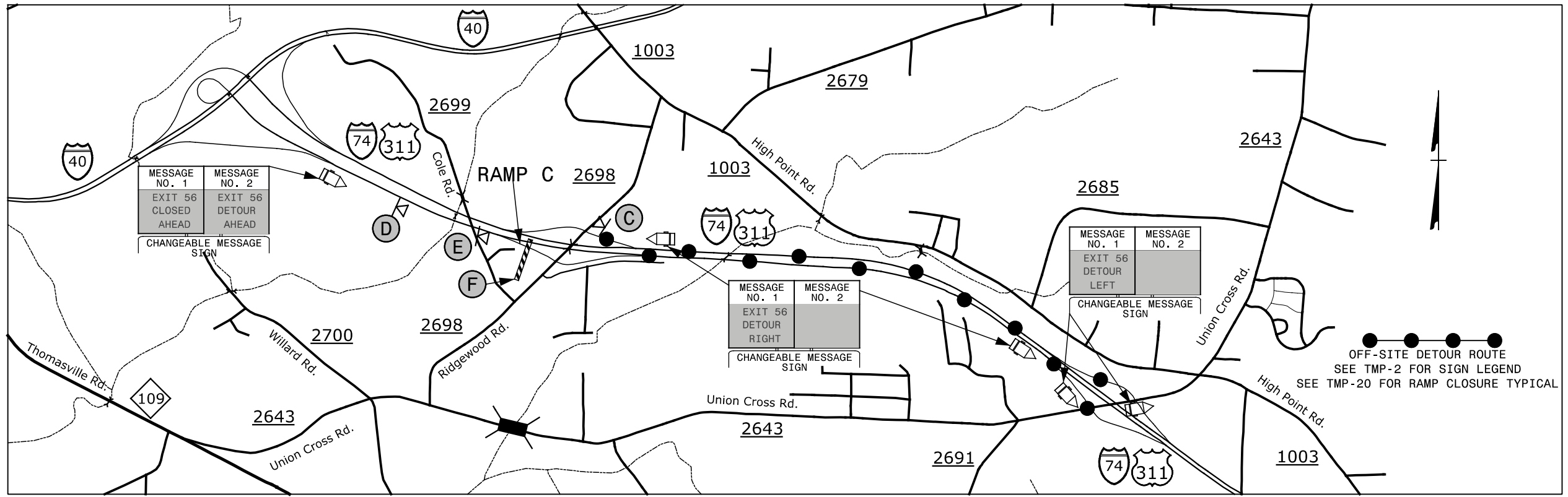
APPROVED: *Steve Miller*  
DATE: 11/9/2015  
SEAL

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

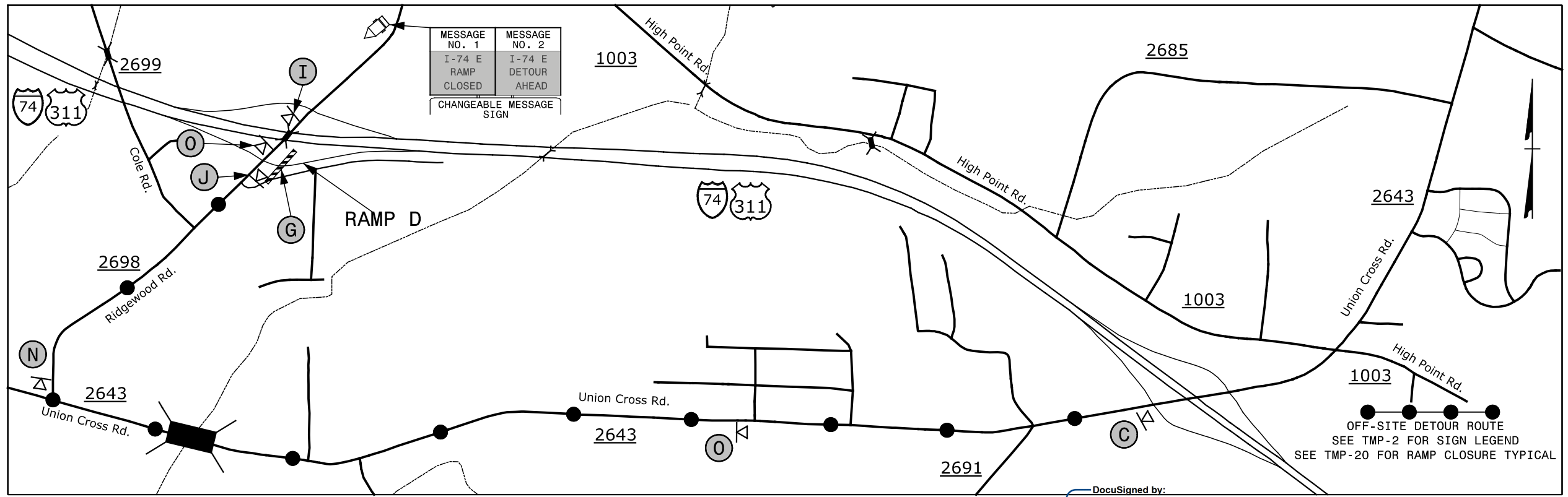
**EXIT 56  
RIDGEWOOD RD  
DETOUR**



### EXIT 56 RAMP C - I-74/US 311



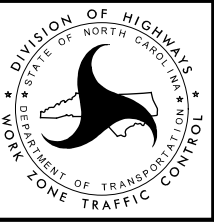
### EXIT 56 RAMP D - I-74/US 311



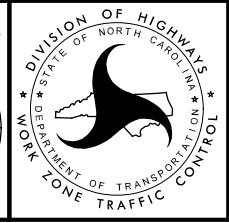
11/9/2015 11:59:20 AM G:\Traf\I-5736 TMP\I-5767 & I-5736 TMP\I-5767\_5736 TMP-5.dgn

DocuSigned by:  
**Steve Miller**  
 APPROVED: 11/9/2015  
 DATE: 11/9/2015  
 SEAL

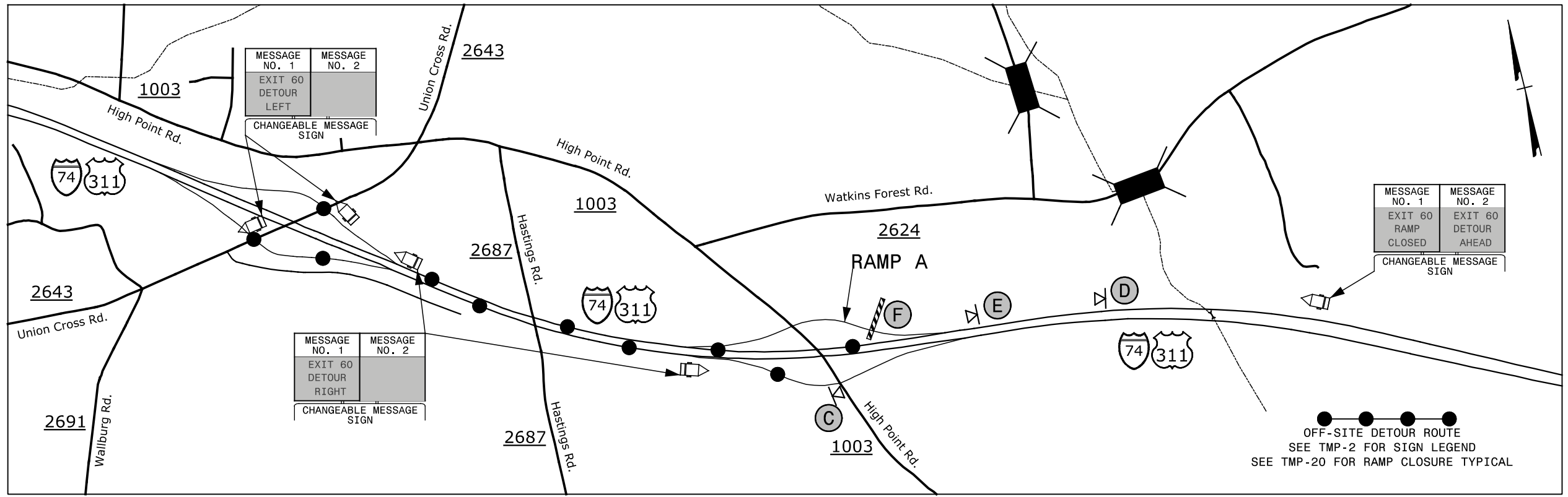
**SEPI**  
 ENGINEERING & CONSTRUCTION  
 1025 Wade Avenue  
 Raleigh, NC 27605  
 Tel: 919-789-9977  
 Fax: 919-789-9591  
 License: C-2197



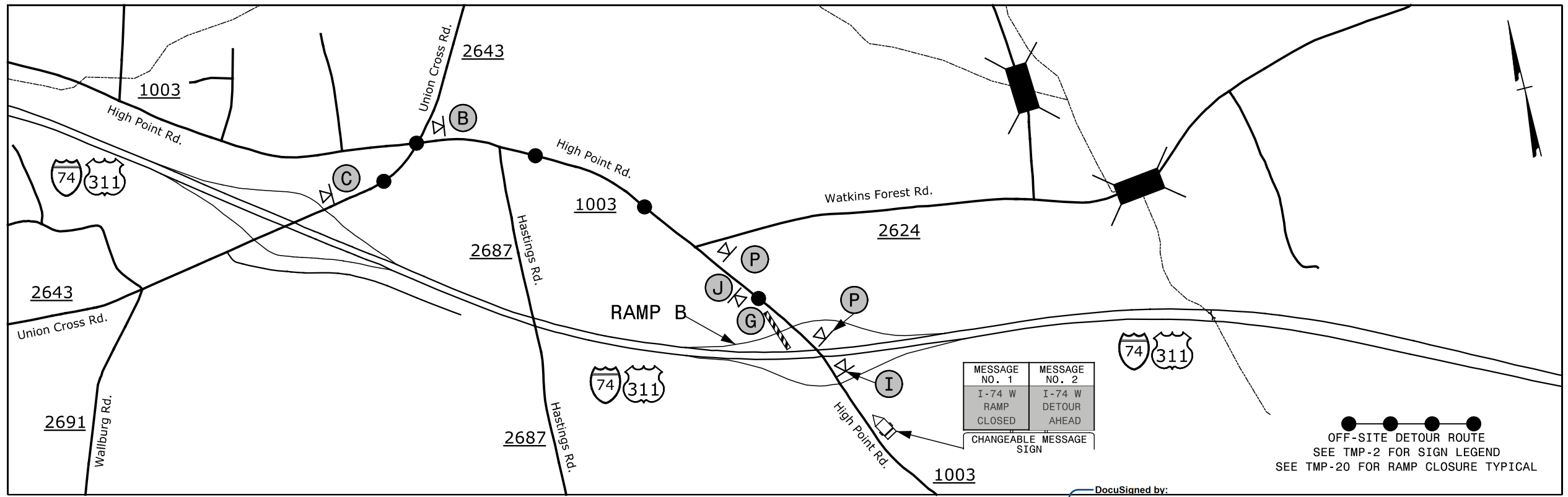
**EXIT 56  
 RIDGEWOOD RD  
 DETOUR**



### EXIT 60 RAMP A - I-74/US 311



### EXIT 60 RAMP B - I-74/US 311



11/9/2015 11:59:00 AM I:\Projects\I-5736 TMP\I-5767\_5736 TMP-6.dgn

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

APPROVED: *Steve Miller*  
DATE: 11/9/2015  
SEAL

PROFESSIONAL ENGINEER  
STEVEN D. MILLER  
SEAL 037026

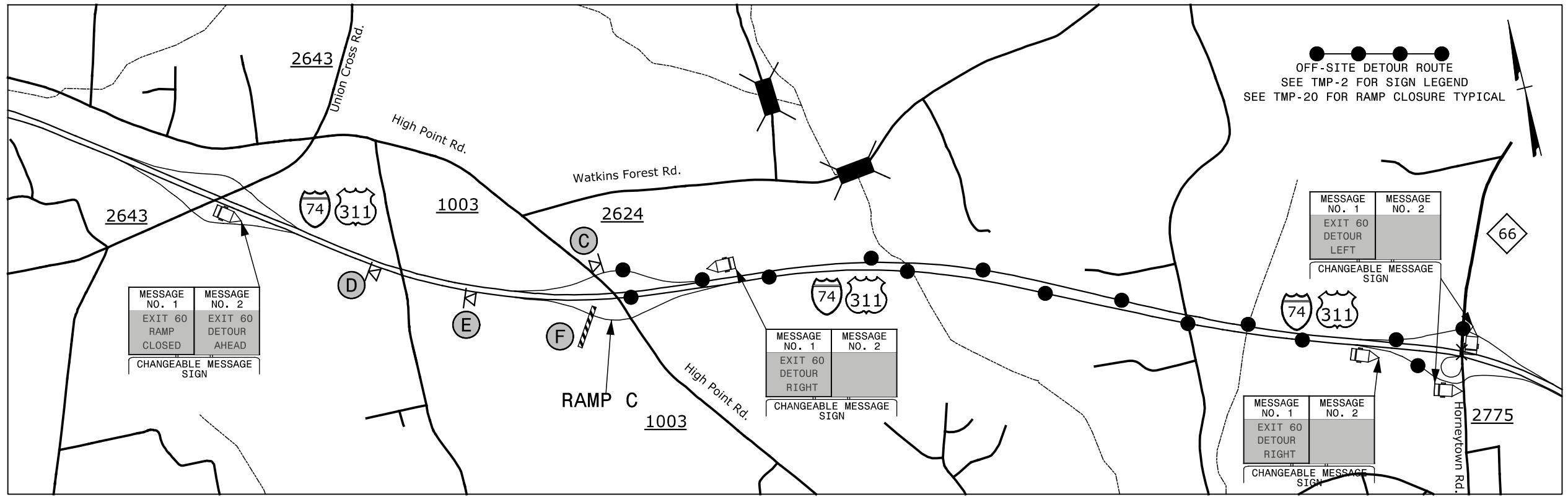
APPROVED: *Steve Miller*  
DATE: 11/9/2015  
SEAL

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

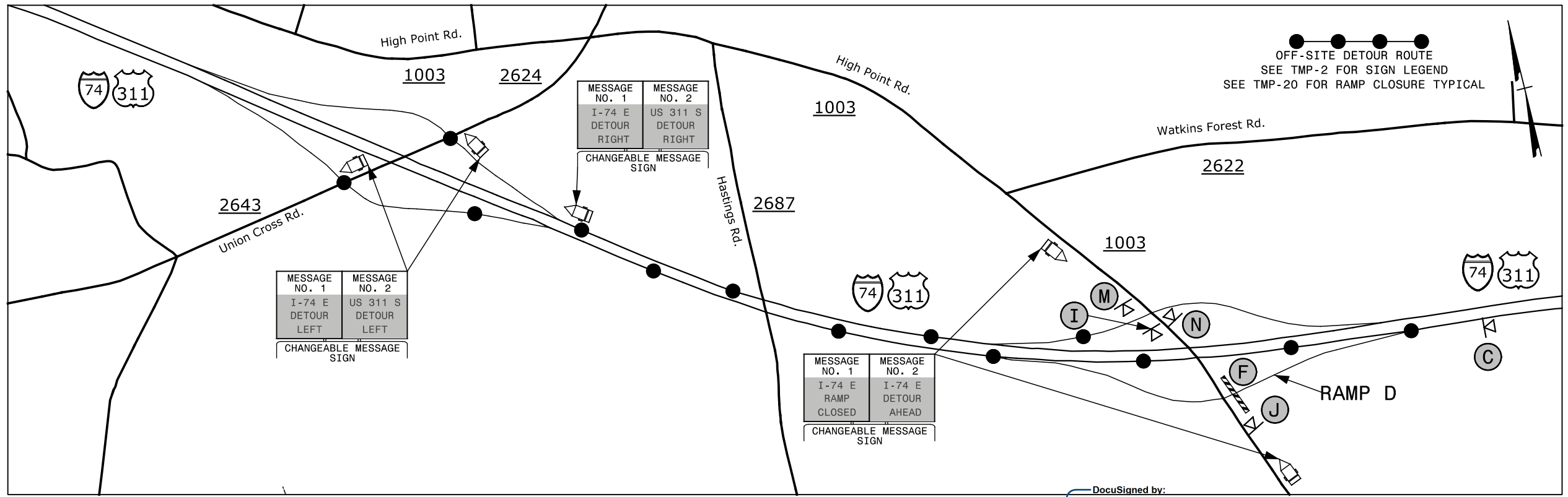
**EXIT 60  
HIGH POINT RD  
DETOUR**

### EXIT 60 RAMP C - I-74/US 311

PROJ. REFERENCE NO.	SHEET NO.
I-5736/I-5767	TMP-7



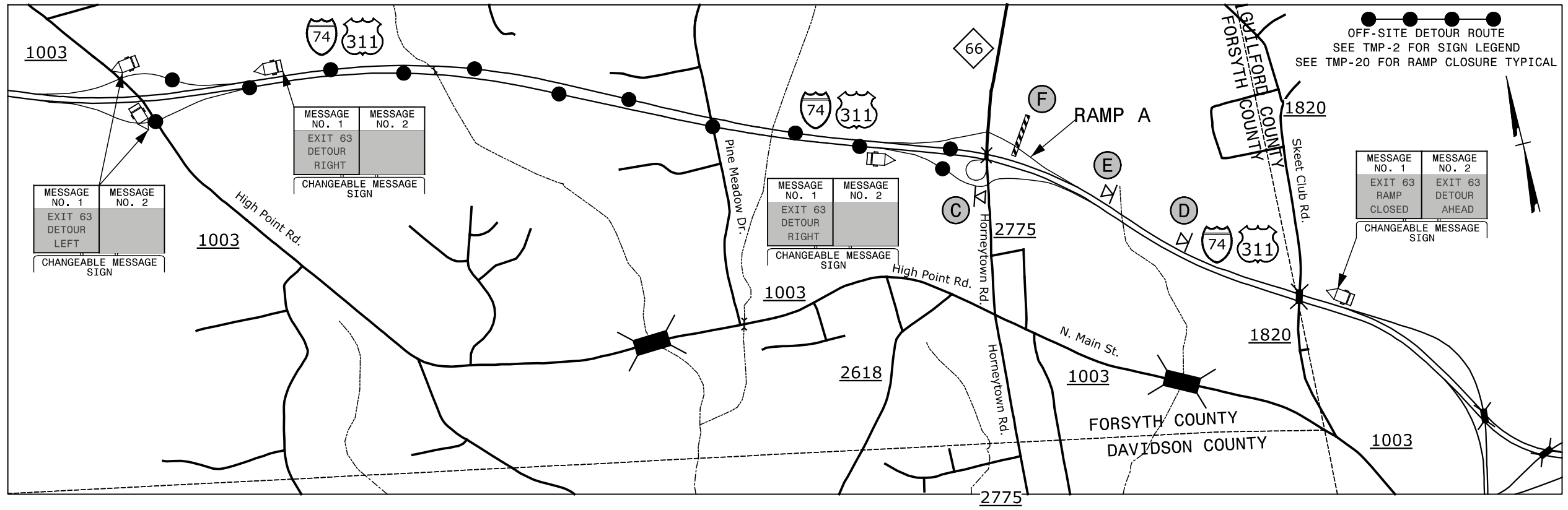
### EXIT 60 RAMP D - I-74/US 311



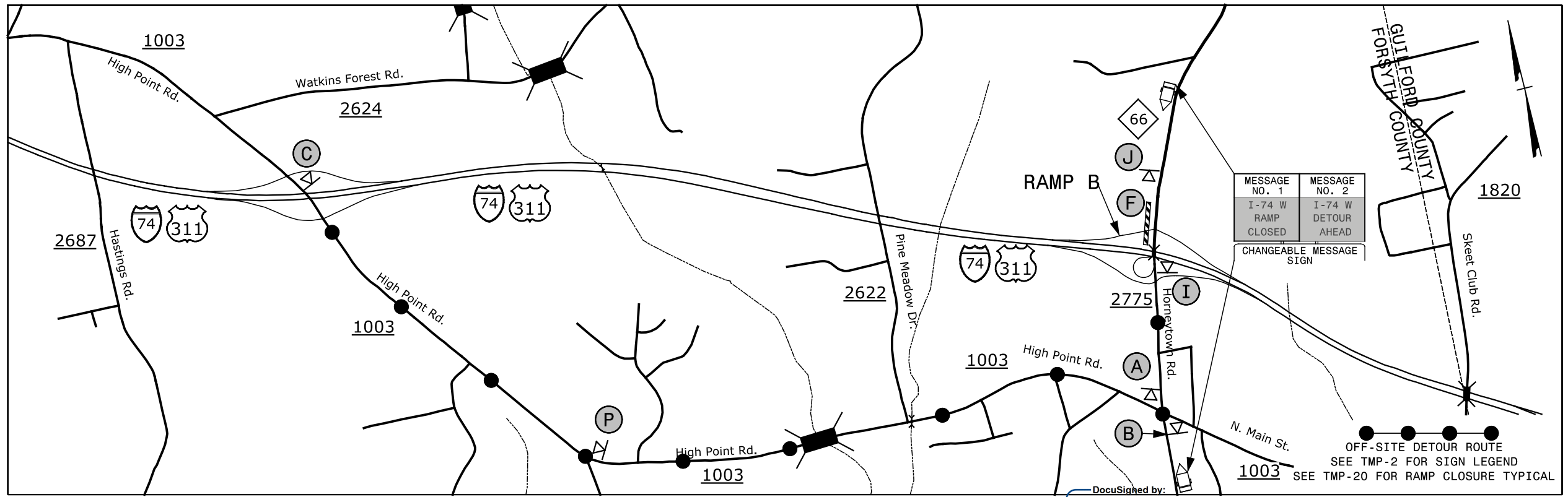
11/9/2015 G:\Traf\I-5736 TMP\I-5767 & I-5736 TMP\I-5767\_5736 TMP-7.dgn

<p><b>SEPI</b> ENGINEERING &amp; CONSTRUCTION</p> <p>1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-9977 Fax: 919-789-9591 License: C-2197</p>	<p>APPROVED: <i>Steve Miller</i></p> <p>DATE: 11/9/2015</p> <p>SEAL</p>			<p><b>EXIT 60 HIGH POINT RD DETOUR</b></p>
	<p>DocuSigned by:</p>			

### EXIT 63 RAMP A - I-74/US 311



### EXIT 63 RAMP B - I-74/US 311

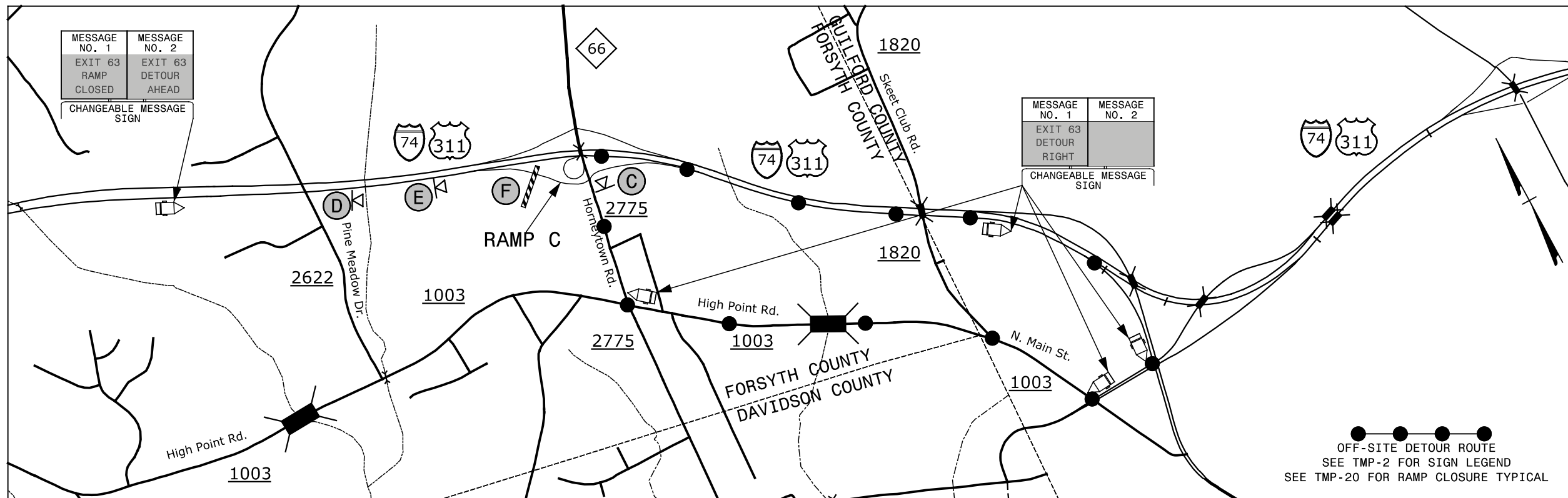


11/9/2015 G:\Traf\I-5736 TMP\I-5767 & I-5736 TMP\I-5767\_5736 TMP-8.dgn

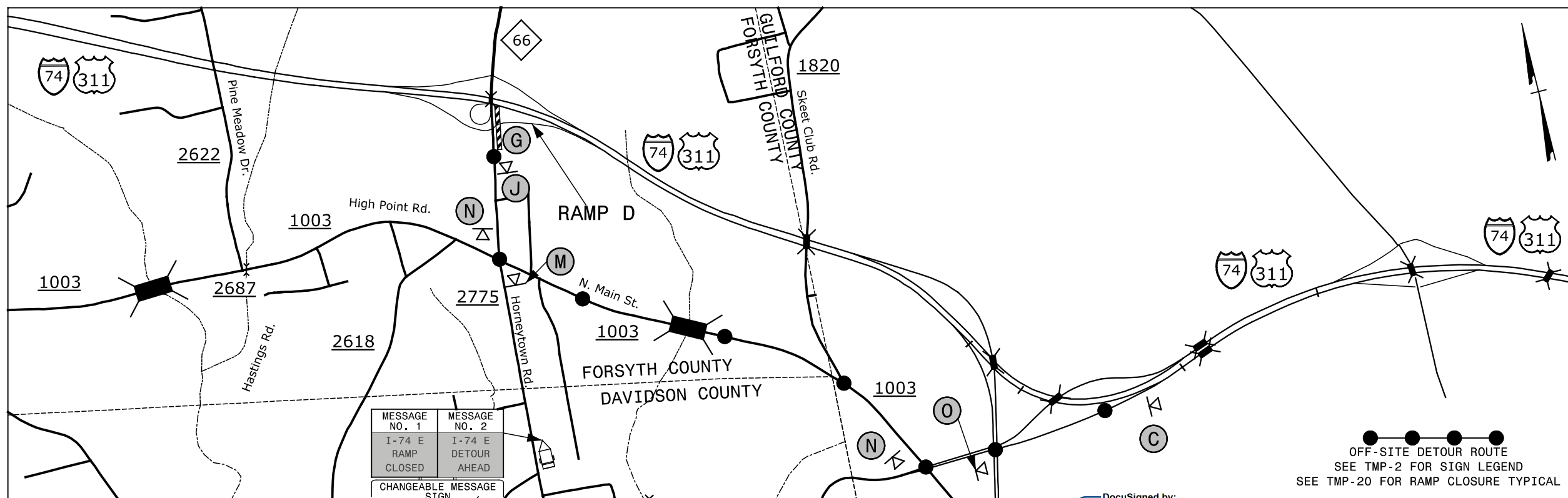
<p><b>SEPI</b> ENGINEERING &amp; CONSTRUCTION</p> <p>1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-9977 Fax: 919-789-9591 License: C-2197</p>	<p>APPROVED: <i>Steve Miller</i></p> <p>DATE: 11/9/2015</p> <p>SEAL</p>			<p><b>EXIT 63 NC 66 DETOUR</b></p>
	<p>DocuSigned by: [Signature]</p>			

### EXIT 63 RAMP C - I-74/US 311

PROJ. REFERENCE NO.	SHEET NO.
I-5736/I-5767	TMP-9



### EXIT 63 RAMP D - I-74/US 311

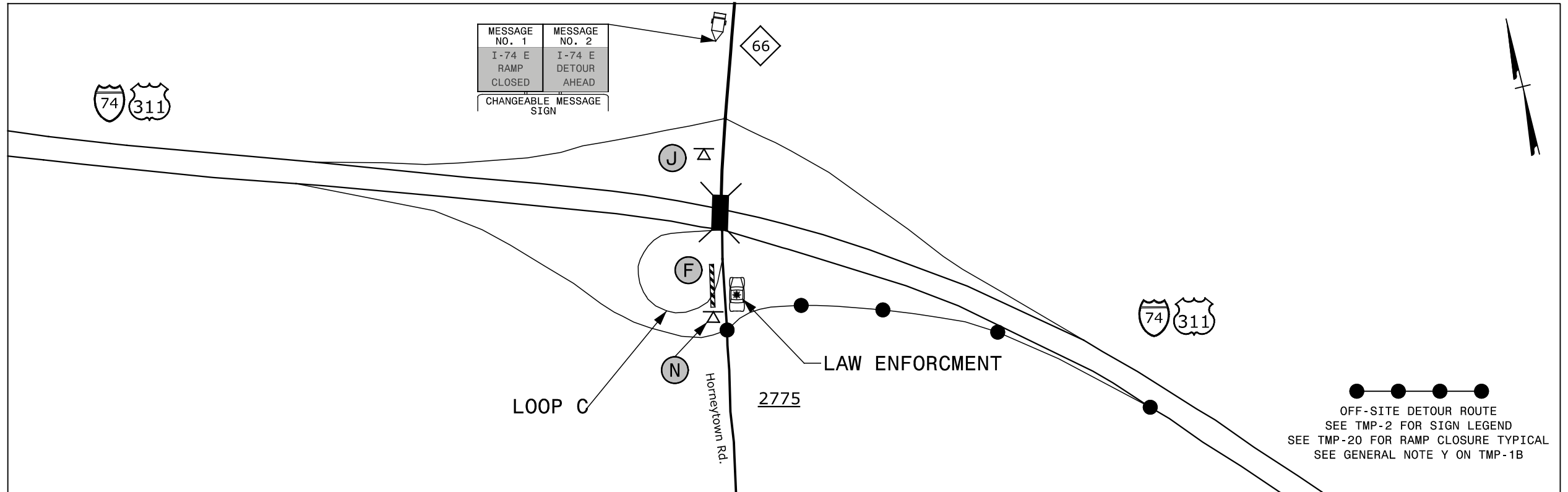


11/9/2015 11:59:20 AM G:\Traf\I-5736 TMP\I-5767 & I-5736 TMP\I-5767\_5736 TMP-9.dgn

<p><b>SEPI</b> ENGINEERING &amp; CONSTRUCTION</p> <p>1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-9977 Fax: 919-789-9591 License: C-2197</p>	<p>APPROVED: <i>Steve Miller</i></p> <p>DATE: 11/9/2015</p> <p>SEAL</p>			<p><b>EXIT 63 NC 66 DETOUR</b></p>
	<p>DocuSigned by:</p>			

# EXIT 63 LOOP C - I-74/US 311

PROJ. REFERENCE NO.	SHEET NO.
I-5736/I-5767	TMP-10



11/9/2015  
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w/iles

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ENGINEERING & CONSTRUCTION

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

DocuSigned by:  
*Steve Miller*

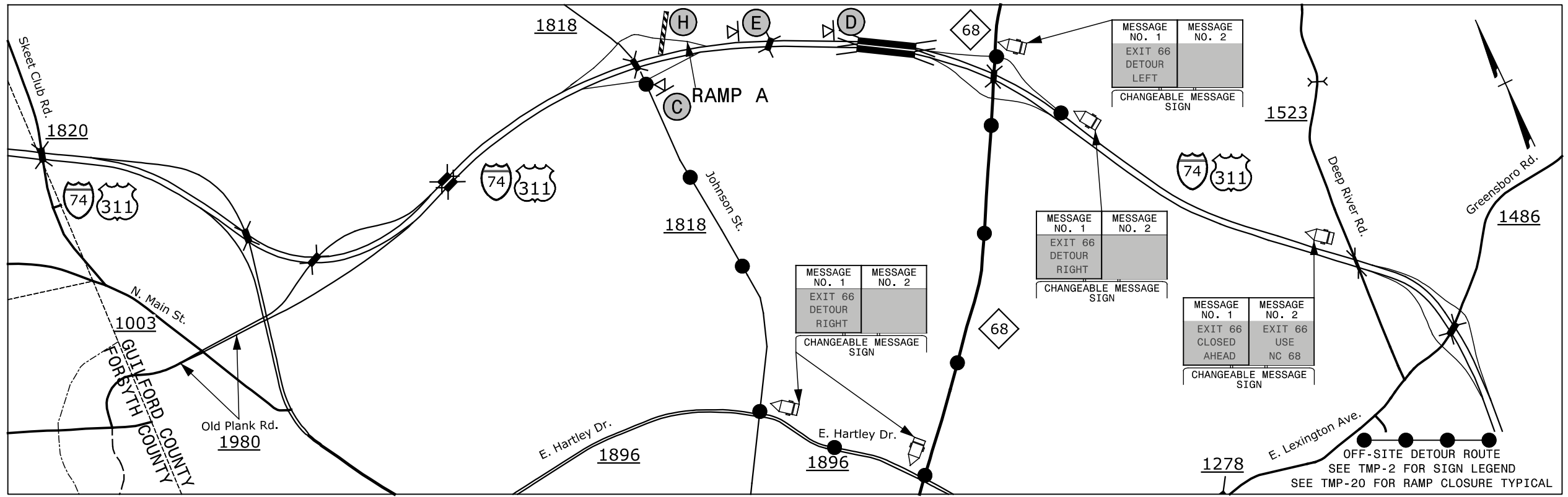
APPROVED: *Steve Miller*  
DATE: 11/9/2015

SEAL

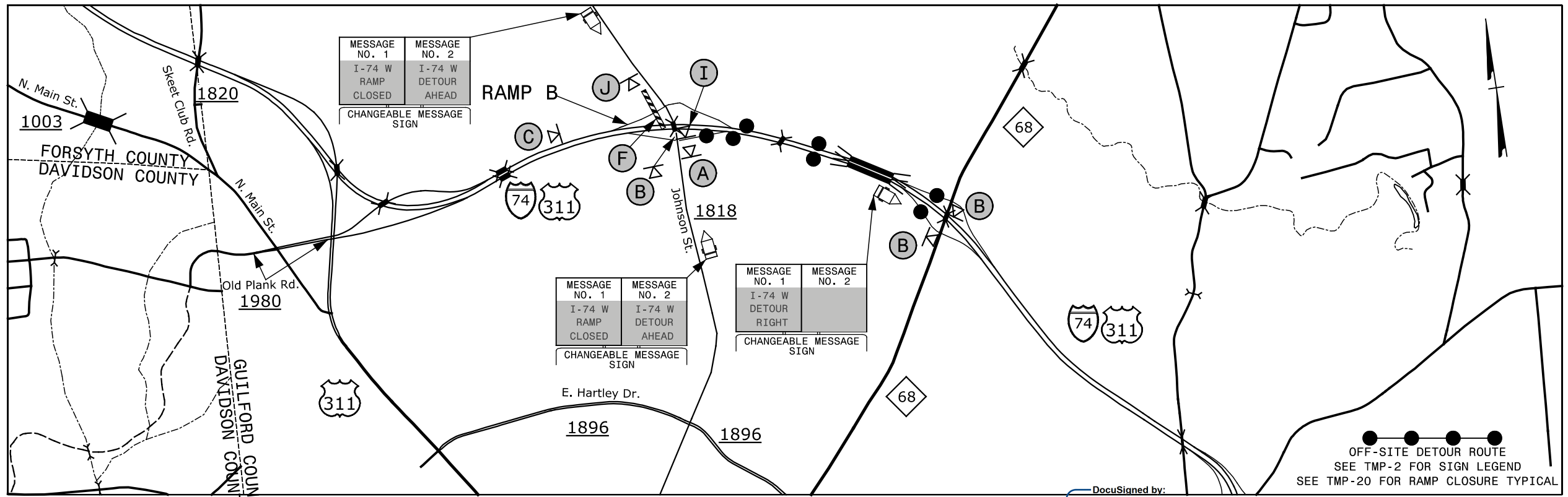


**EXIT 63  
NC 66  
DETOUR**

### EXIT 66 RAMP A - I-74/US 311



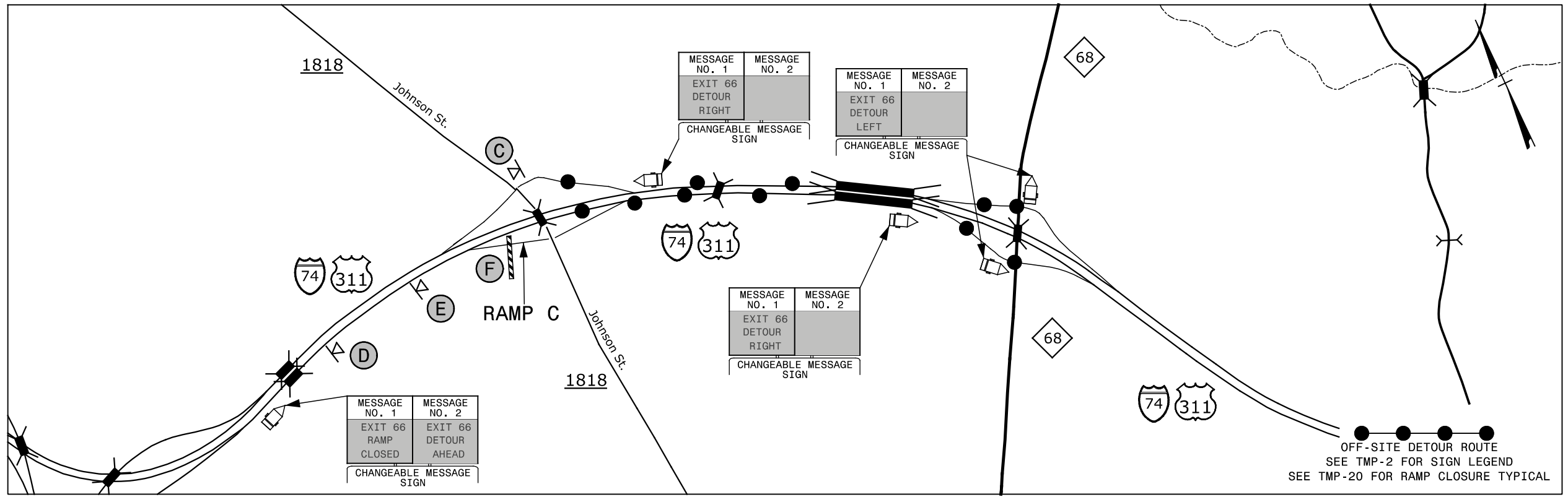
### EXIT 66 RAMP B - I-74/US 311



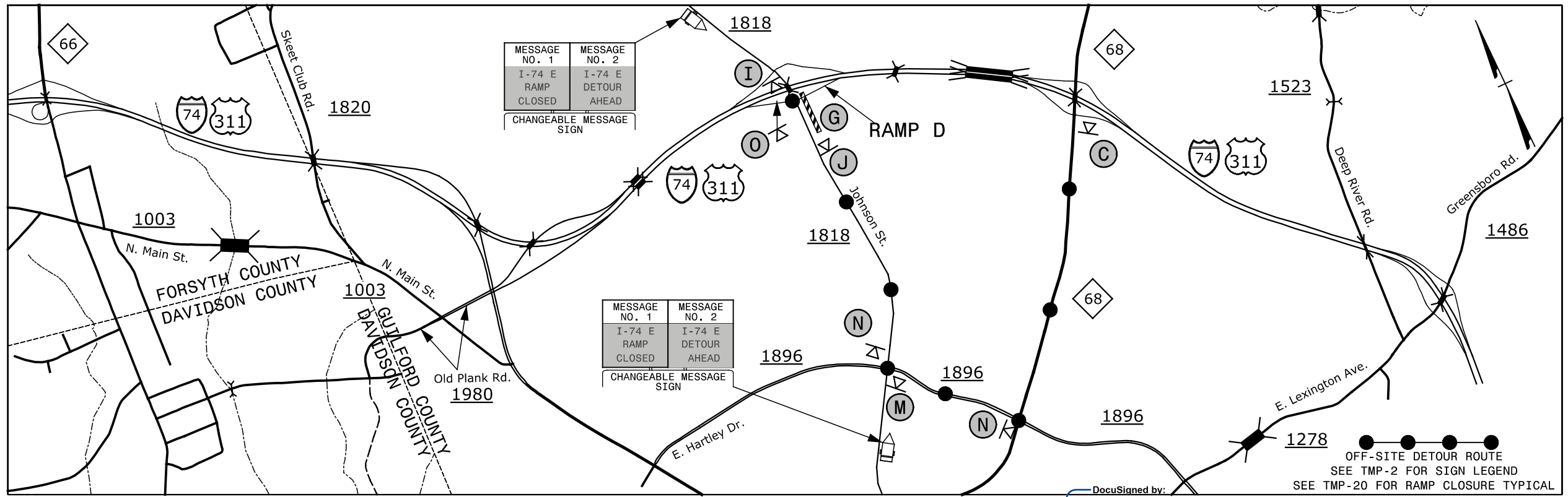
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<p>1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-9977 Fax: 919-789-9591 License: C-2197</p>	<p>APPROVED: <i>Steve Miller</i></p> <p>DATE: 11/9/2015</p>			<p><b>EXIT 66 JOHNSON ST DETOUR</b></p>
	<p>SEAL</p>			

### EXIT 66 RAMP C - I-74/US 311



### EXIT 66 RAMP D - I-74/US 311

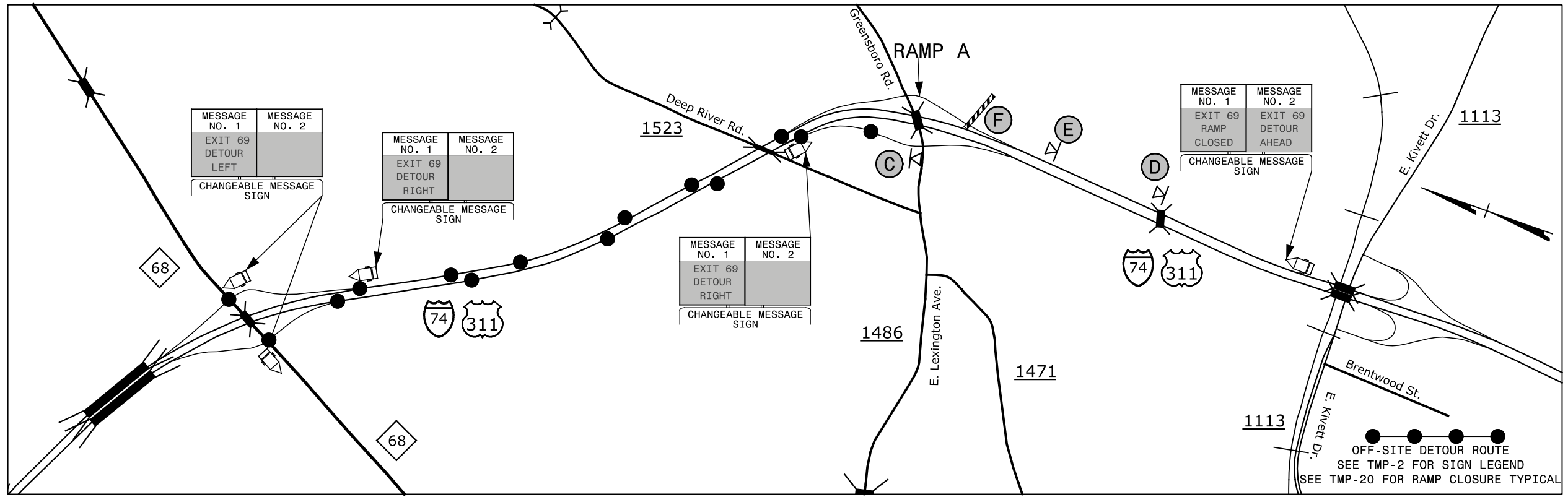


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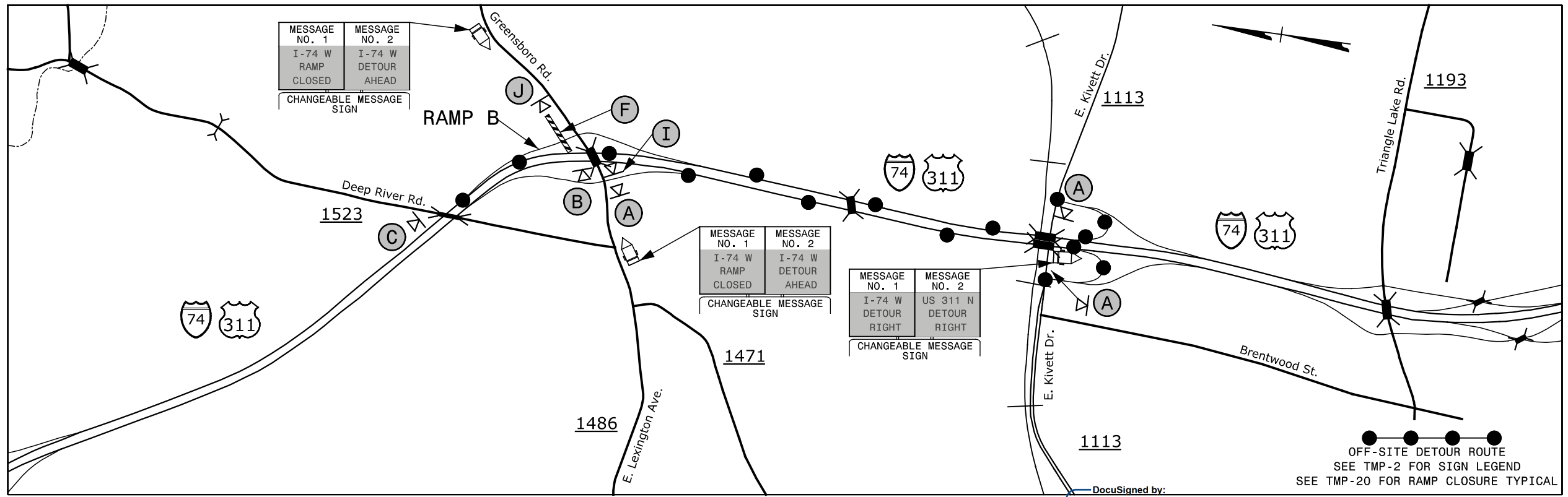
<p><b>SEPI</b> ENGINEERING &amp; CONSTRUCTION</p> <p>1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-9977 Fax: 919-789-9591 License: C-2197</p>	<p>APPROVED: <i>Steve Miller</i></p> <p>DATE: 11/9/2015</p> <p>SEAL</p>			<p><b>EXIT 66 JOHNSON ST DETOUR</b></p>
	<p>DocuSigned by: [Signature]</p>			



### EXIT 69 RAMP A - I-74/US 311



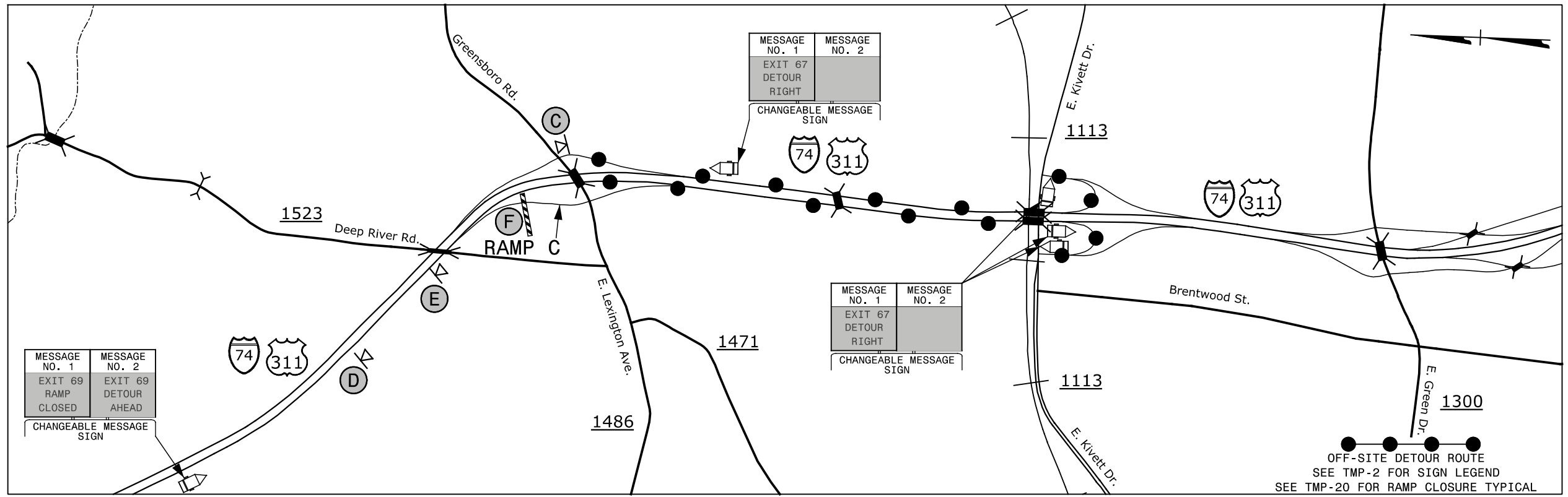
### EXIT 69 RAMP B - I-74/US 311



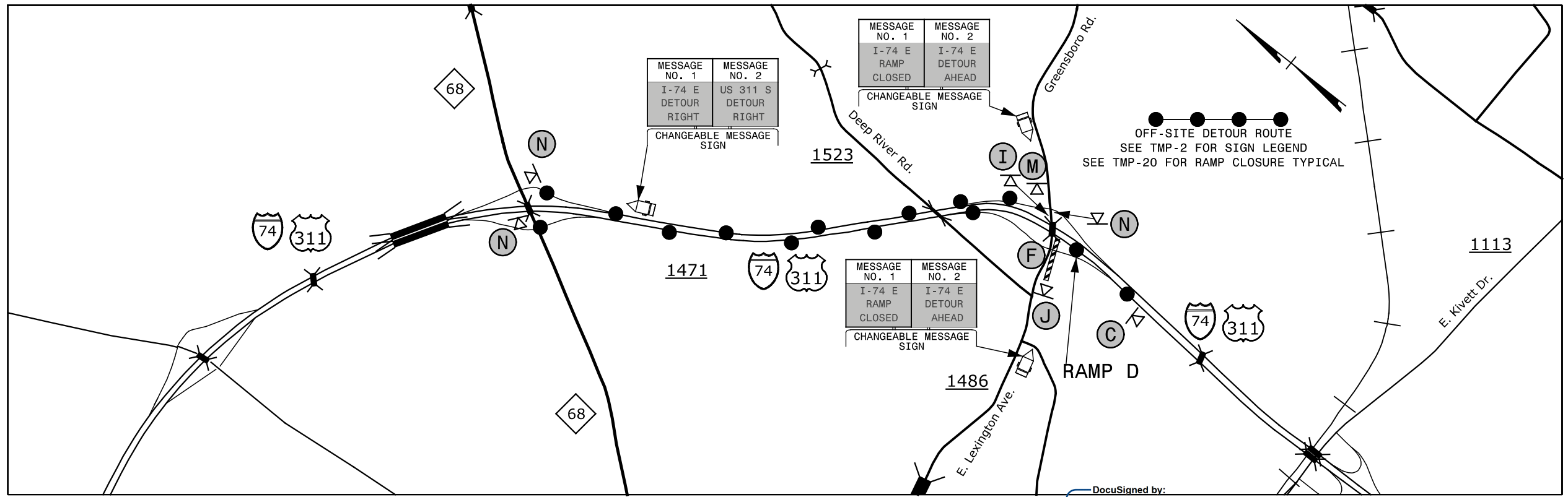
11/9/2015 11:59:00 AM G:\Traf\I-5736-TMP-13.dgn

<p><b>SEPI</b> ENGINEERING &amp; CONSTRUCTION</p> <p>1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-9977 Fax: 919-789-9591 License: C-2197</p>	<p>APPROVED: <i>Steve Miller</i></p> <p>DATE: 11/9/2015</p> <p>SEAL</p>			<p><b>EXIT 69 GREENSBORO RD. DETOUR</b></p>
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### EXIT 69 RAMP C - I-74/US 311



### EXIT 69 RAMP D - I-74/US 311

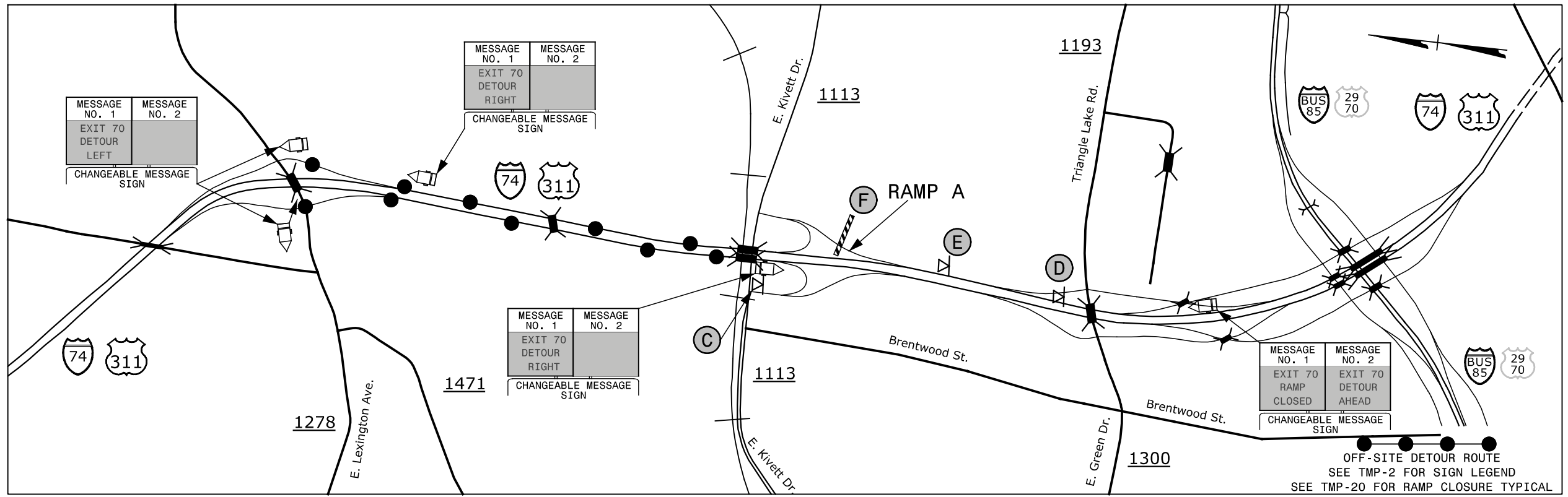


11/9/2015 G:\Traf\I-5736 TMP-14.dgn

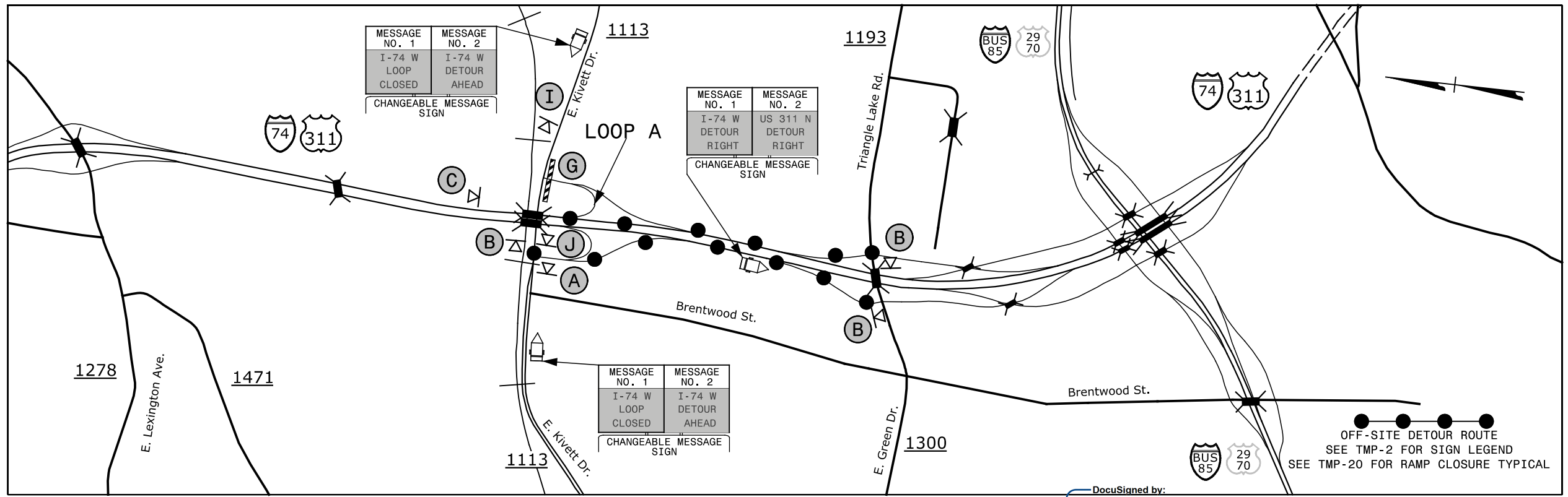
<p>SEPI ENGINEERING &amp; CONSTRUCTION</p> <p>1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-9977 Fax: 919-789-9591 License: C-2197</p>	<p>APPROVED: <i>Steve Miller</i></p> <p>DATE: 11/9/2015</p> <p>SEAL</p>			<p><b>EXIT 69 GREENSBORO RD DETOUR</b></p>
	<p>DocuSigned by:</p>			

### EXIT 70 RAMP A - I-74/US 311

PROJ. REFERENCE NO.	SHEET NO.
I-5736/I-5767	TMP-15



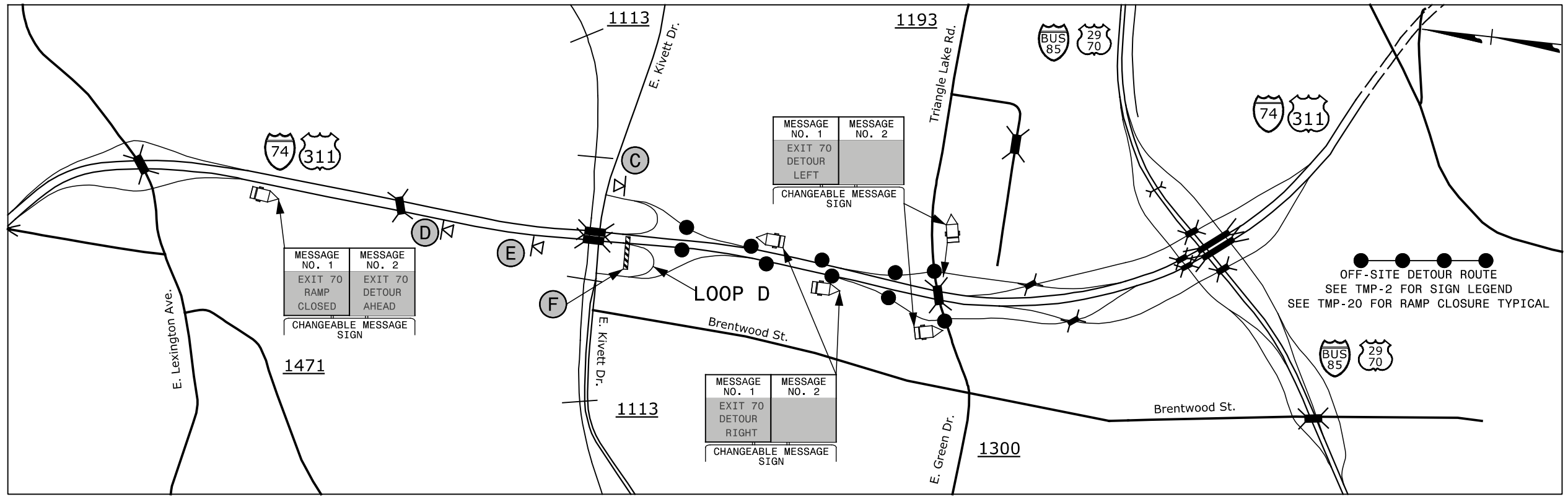
### EXIT 70 LOOP A - I-74/US 311



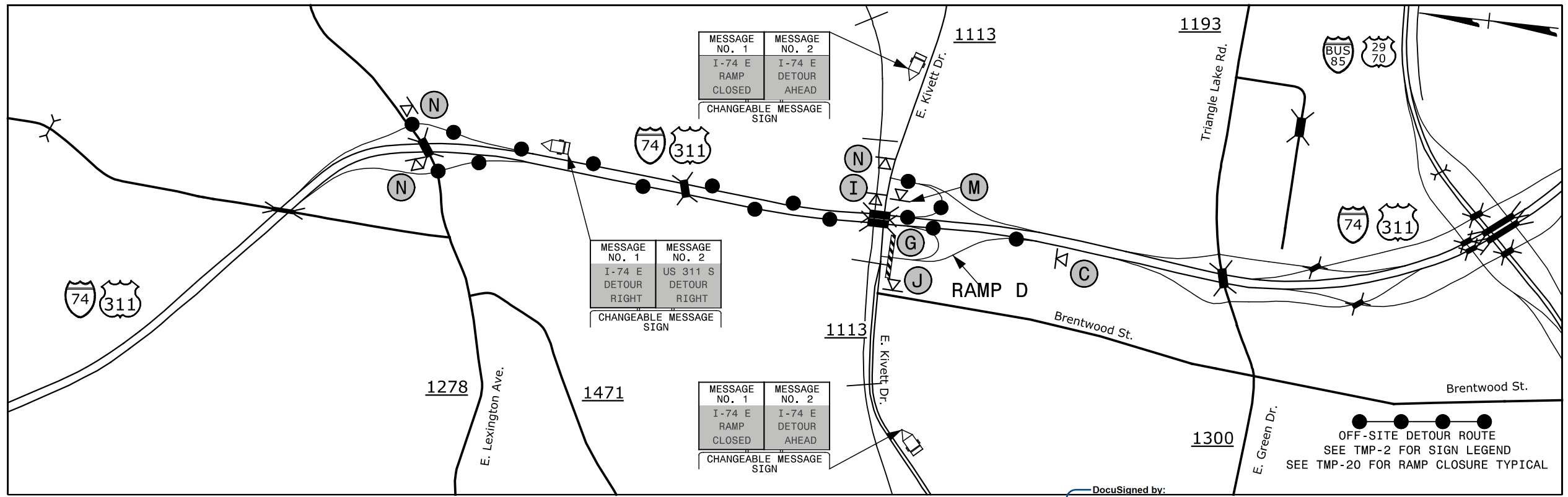
11/9/2015 11:59:20 AM G:\Traf\I-5736-TMP-15.dgn

<p>1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-9977 Fax: 919-789-9591 License: C-2197</p>	<p>APPROVED: <i>Steve Miller</i></p> <p>DATE: 11/9/2015</p>			<p><b>EXIT 70 E KIVETT DR DETOUR</b></p>
	<p>DocuSigned by:</p>			

### EXIT 70 LOOP D - I-74/US 311



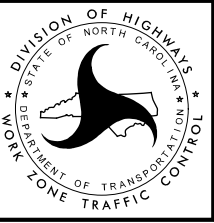
### EXIT 70 RAMP D - I-74/US 311



11/9/2015 11:59:21 AM G:\Traf\I-5736-TMP\I-5767-I-5736-TMP-16.dgn

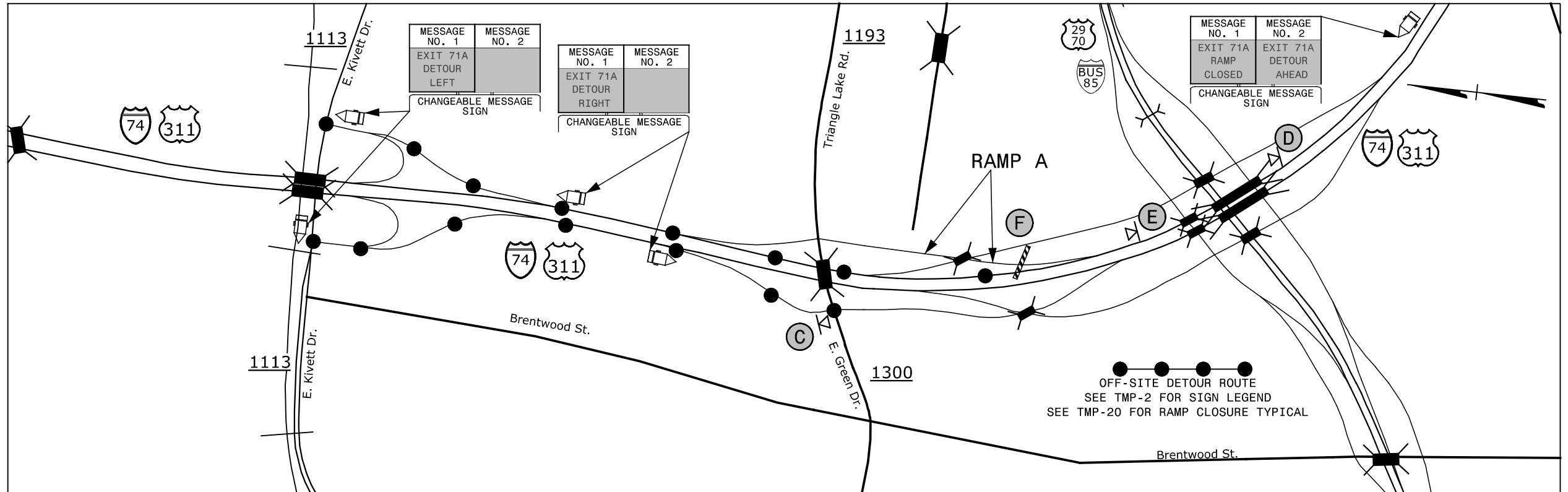
**SEPI** ENGINEERING & CONSTRUCTION  
 1025 Wade Avenue  
 Raleigh, NC 27605  
 Tel: 919-789-9977  
 Fax: 919-789-9591  
 License: C-2197

APPROVED: *Steve Miller*  
 DATE: 11/9/2015  
 SEAL: [Professional Engineer Seal for Steven D. Miller, License No. 037026]

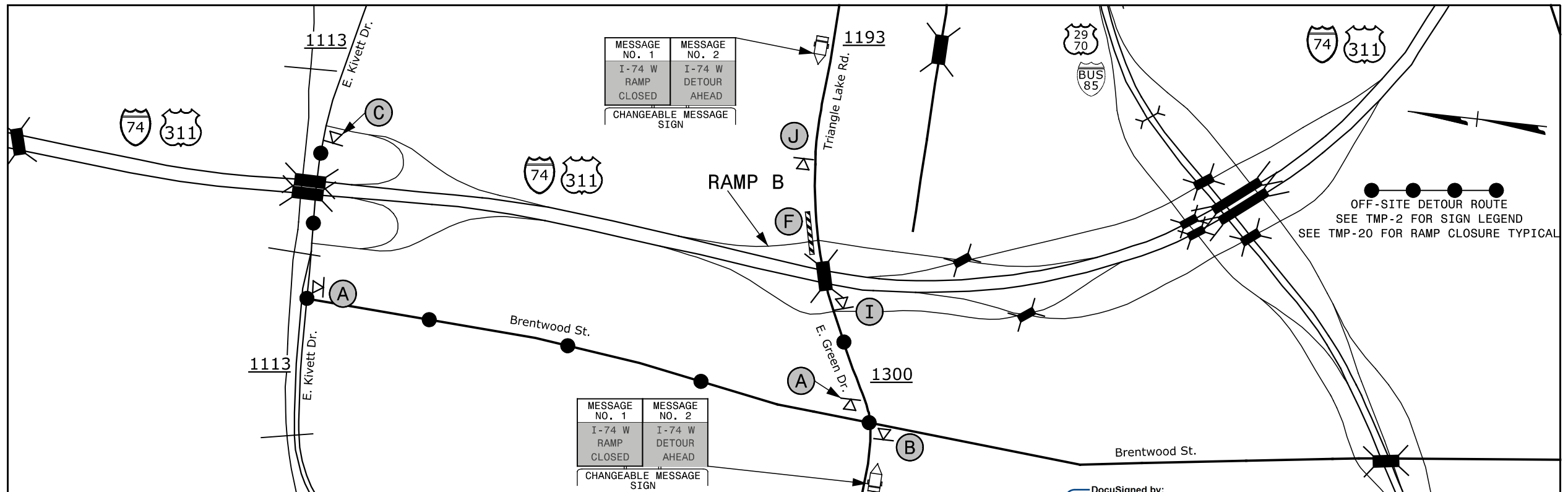


**EXIT 70  
 E KIVETT DR  
 DETOUR**

### EXIT 71A RAMP A - I-74/US 311



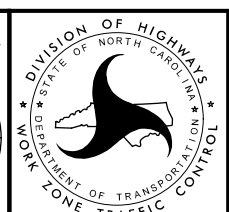
### EXIT 71A RAMP B - I-74/US 311



11/9/2015 G:\Traf\I-5736 TMP\I-5767 & I-5736 TMP\I-5767\_5736 TMP-17.dgn

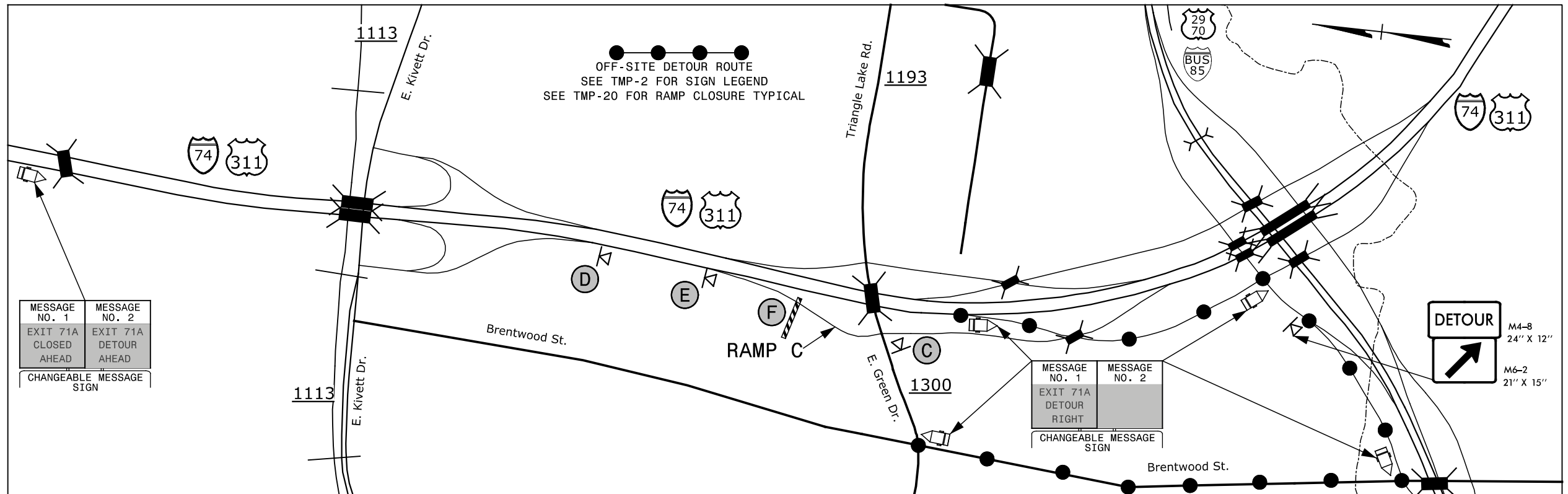
**SEPI** ENGINEERING & CONSTRUCTION  
 1025 Wade Avenue  
 Raleigh, NC 27605  
 Tel: 919-789-9977  
 Fax: 919-789-9591  
 License: C-2197

APPROVED: *Steve Miller*  
 DATE: 11/9/2015  
 SEAL

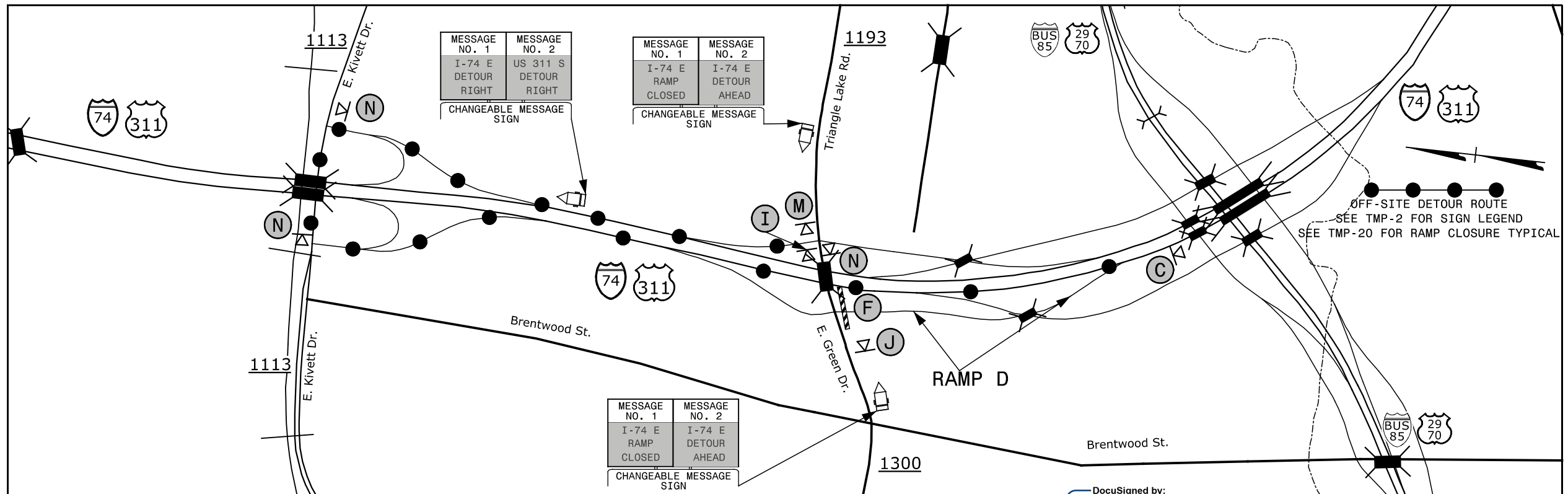


**EXIT 71A GREEN DR DETOUR**

### EXIT 71A RAMP C - I-74/US 311

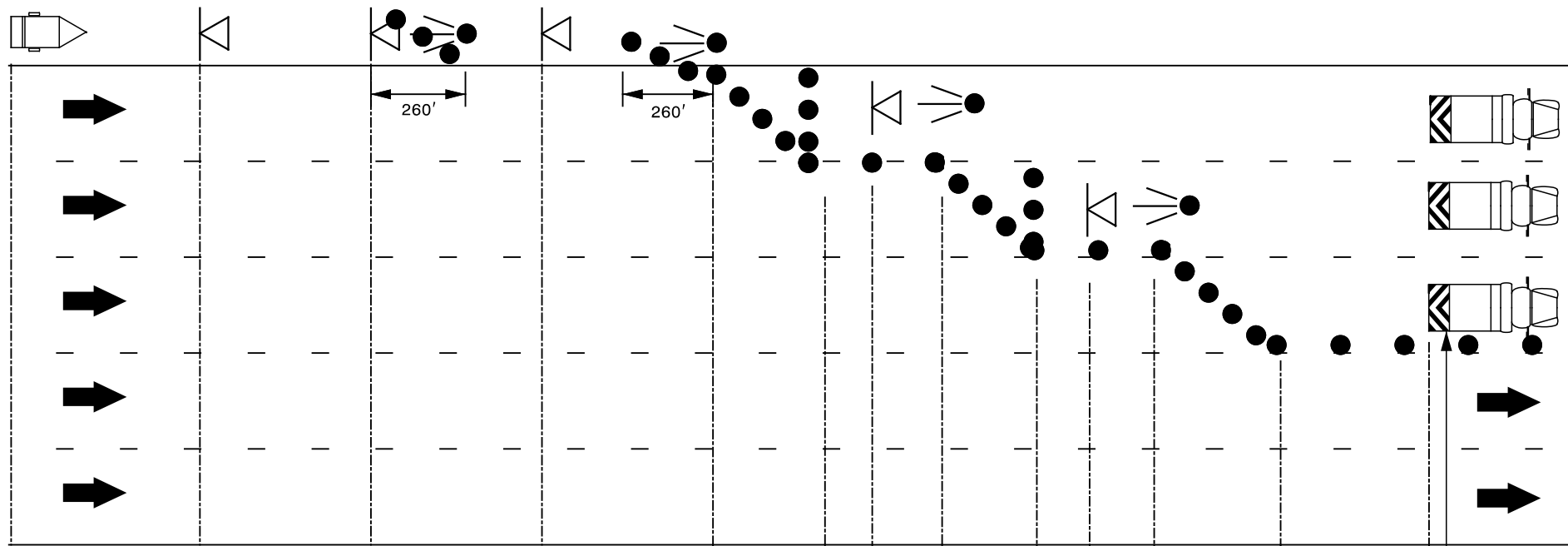


### EXIT 71A RAMP D - I-74/US 311

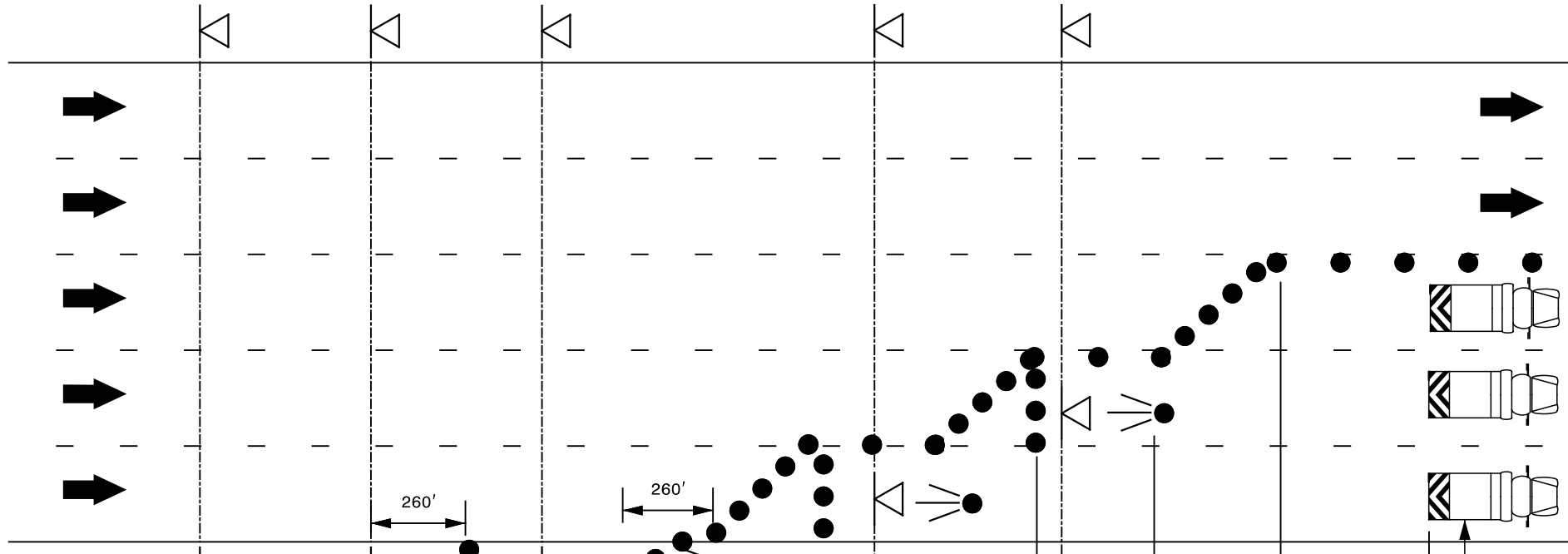
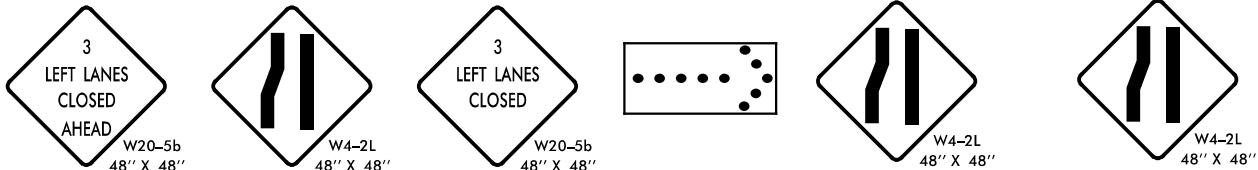


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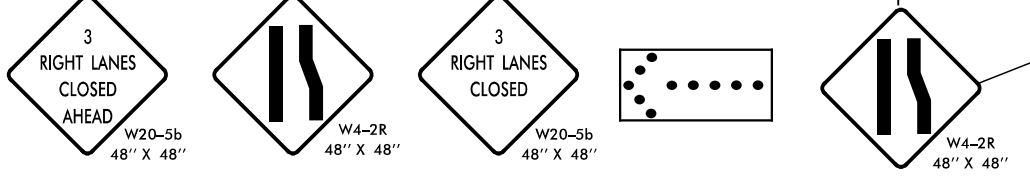
 <b>SEPI</b> ENGINEERING & CONSTRUCTION 1025 Wade Avenue Raleigh, NC 27605 Tel: 919-789-9977 Fax: 919-789-9591 License: C-2197	APPROVED: <i>Steve Miller</i> DATE: 11/9/2015	 SEAL STEVEN D. MILLER ENGINEER LICENSE 037026	 DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ZONE TRAFFIC CONTROL	<b>EXIT 71A GREEN DR DETOUR</b>
	DocuSigned by:			



MESSAGE NO. 1 LEFT THREE LANES	MESSAGE NO. 2 CLOSED NEXT XX MILES
CHANGEABLE MESSAGE SIGN	



MESSAGE NO. 1 RIGHT THREE LANES	MESSAGE NO. 2 CLOSED NEXT XX MILES
CHANGEABLE MESSAGE SIGN	



**SEPI**  
ENGINEERING & CONSTRUCTION

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

APPROVED: *Steve Miller*  
DATE: 11/9/2015

DocuSigned by:

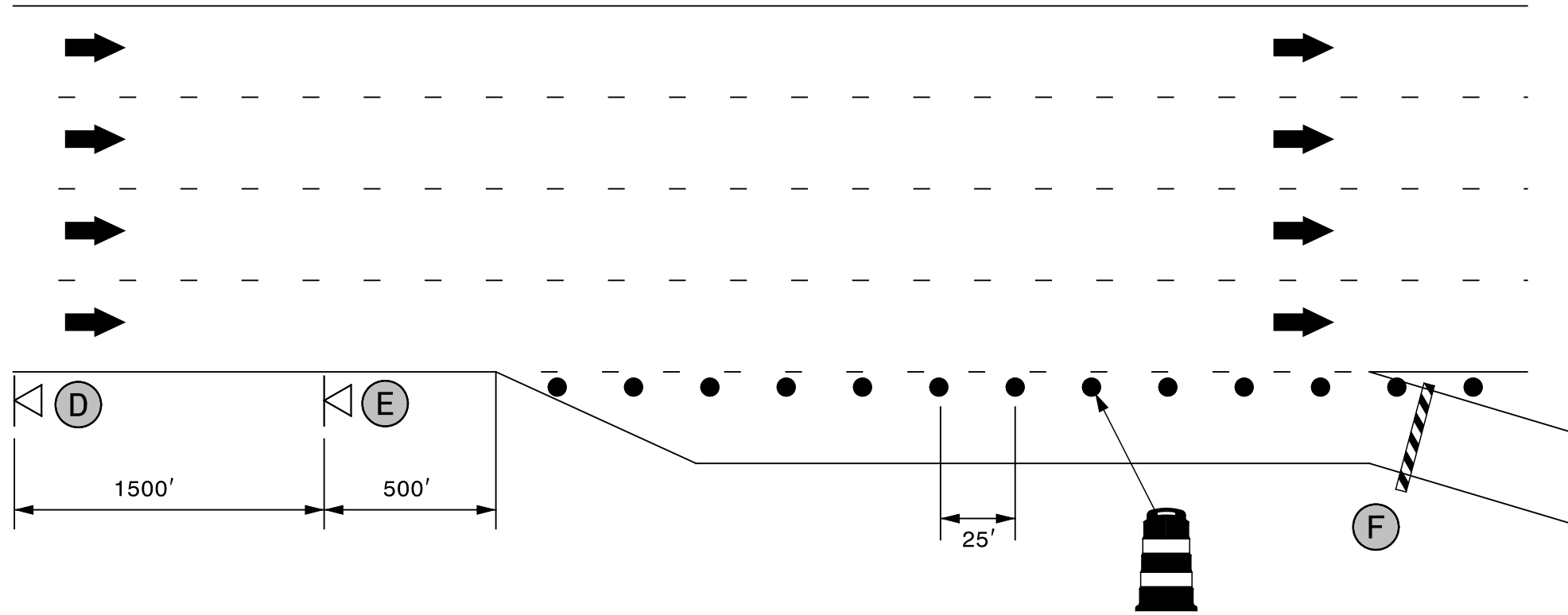
SEAL



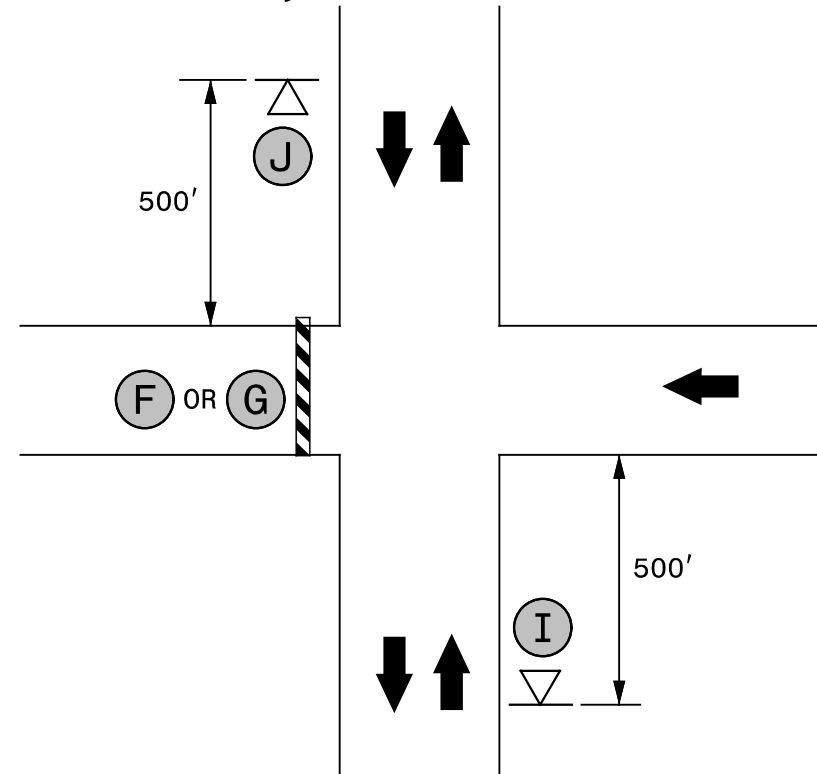
**LANE CLOSURE TYPICAL**

11/9/2015 11:59:00 AM G:\Tf\aff\tr\15.020.00 I-5736 TMP\I-5767-I-5736 TMP-19.dgn

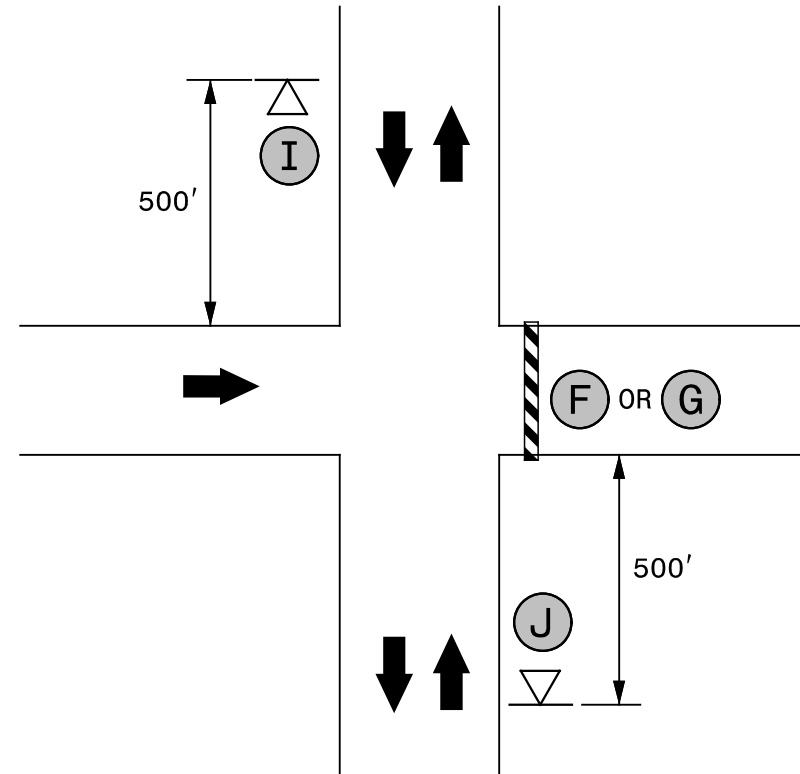
# RAMP A, RAMP C CLOSURE



# RAMP B, LOOP C CLOSURE



# RAMP D CLOSURE



NOTE: SEE TMP-2 FOR SIGN LEGEND

11/9/2015 11:51:00 AM G:\Traf\I-5736\I-5767\I-5736 TMP\I-5767\_5736 TMP-20.dgn

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

DocuSigned by:  
*Steve Miller*  
APPROVED  
DATE: 11/9/2015 11:51:00 AM  
SEAL

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

## RAMP CLOSURE TYPICAL

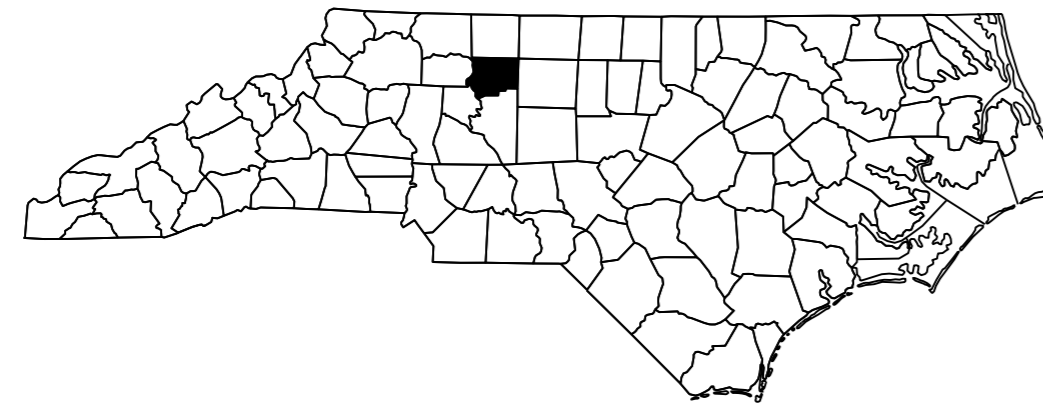


**PROJECT: I-5767**

**CONTRACT NO: C203779**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

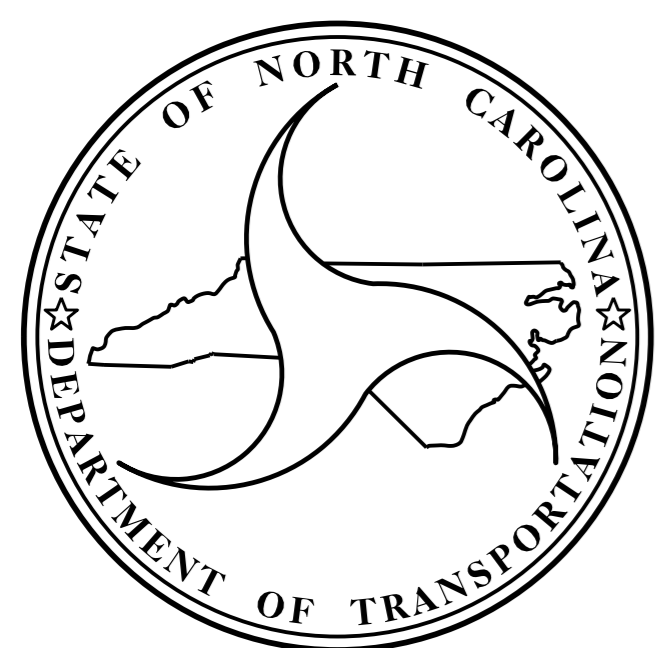
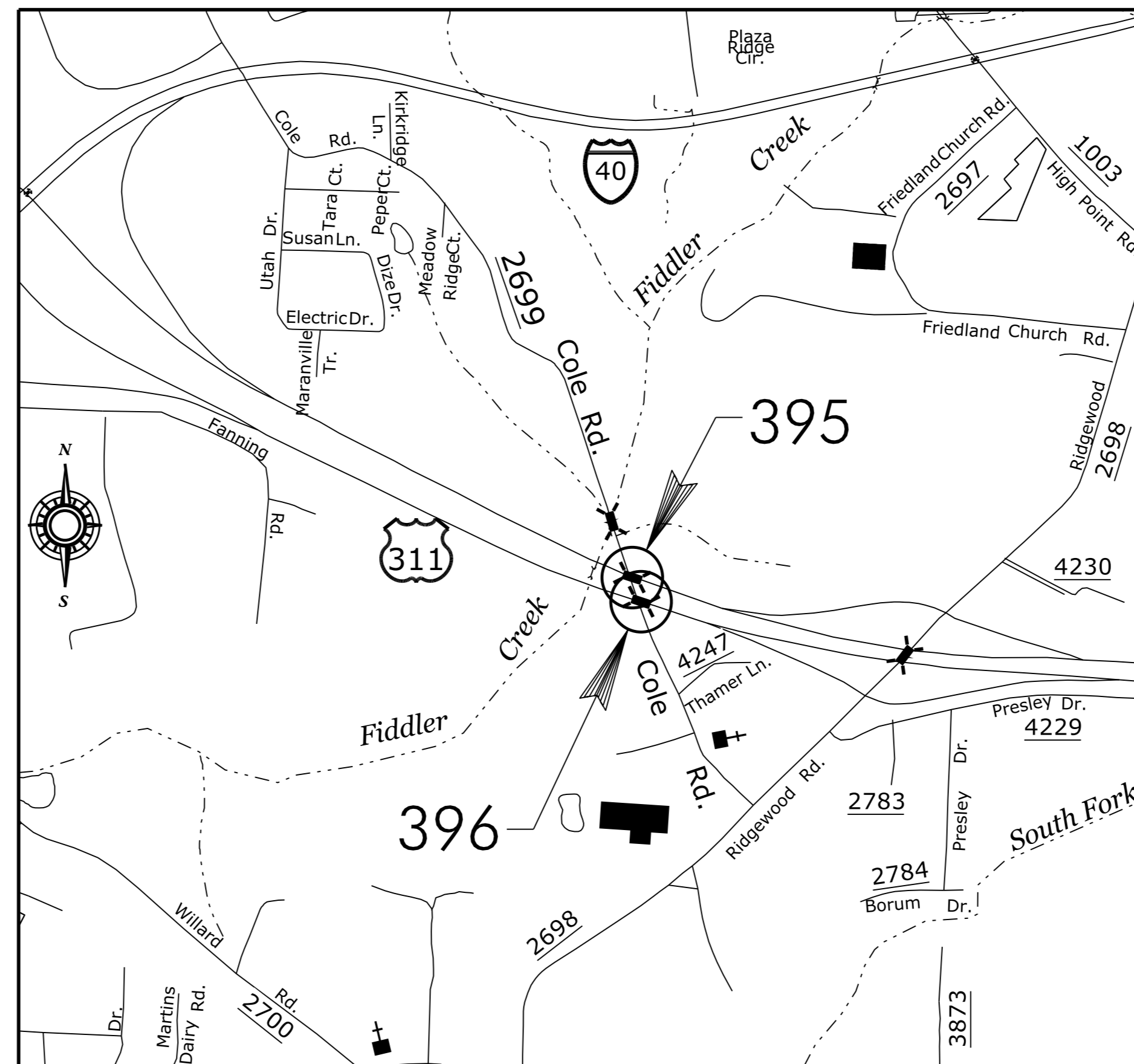
**FORSYTH COUNTY**



**LOCATION: BRIDGE #395 ON I-74, US-311 (WBL) OVER SR 2699 (COLE ROAD)  
BRIDGE #396 ON I-74, US-311 (EBL) OVER SR 2699 (COLE ROAD)**

**TYPE OF WORK: BRIDGE PRESERVATION - EPOXY OVERLAY, JOINT DEMOLITION  
& PAINT ENDS OF GIRDERS.**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5767	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
53010.1.1	NHPP-0074(174)	P.E.	
53010.3.1	NHPP-0074(174)	CONST.	



**DESIGN DATA**

BRIDGE #395 ADT 2011 = 12,500  
BRIDGE #396 ADT 2011 = 12,500

**PROJECT LENGTH**

BRIDGE #395 - 0.04 MILE  
BRIDGE #396 - 0.03 MILE

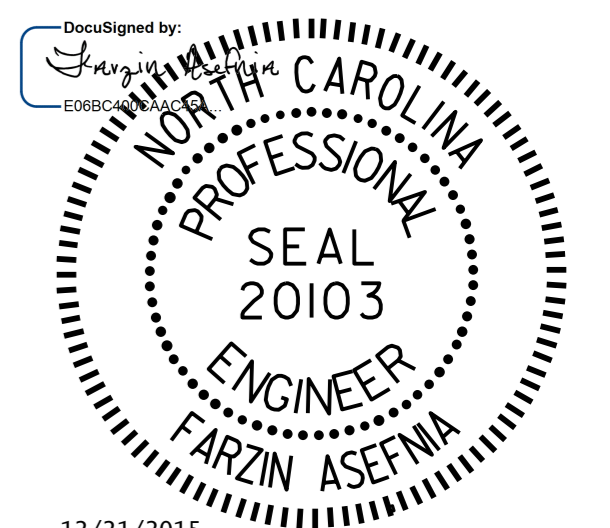
Prepared in the Office of:  
**DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

STRUCTURES MANAGEMENT UNIT  
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

**E. E. MURRAY, P. E.**  
PROJECT ENGINEER

2012 STANDARD SPECIFICATIONS

LETTING DATE:  
FEBRUARY 16, 2016

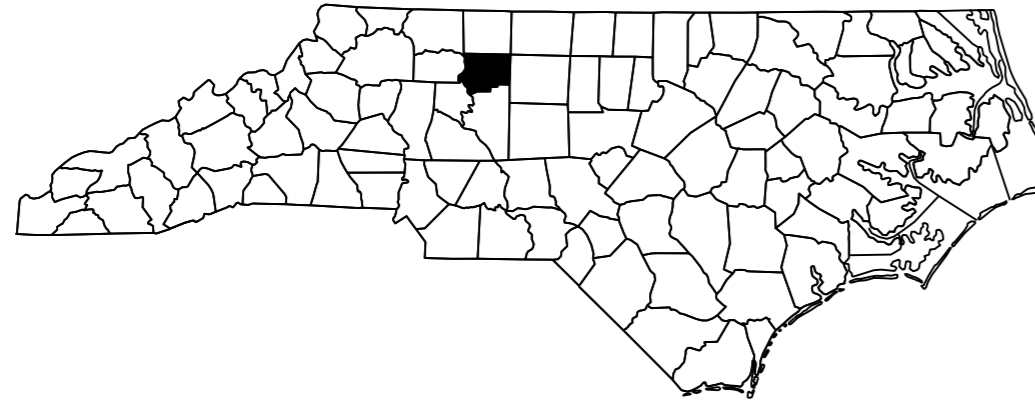


**FARZIN ASEFINA, P.E.**  
PROJECT DESIGN ENGINEER

**PROJECT: I-5767**

**CONTRACT: C203779**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS



**FORSYTH COUNTY**

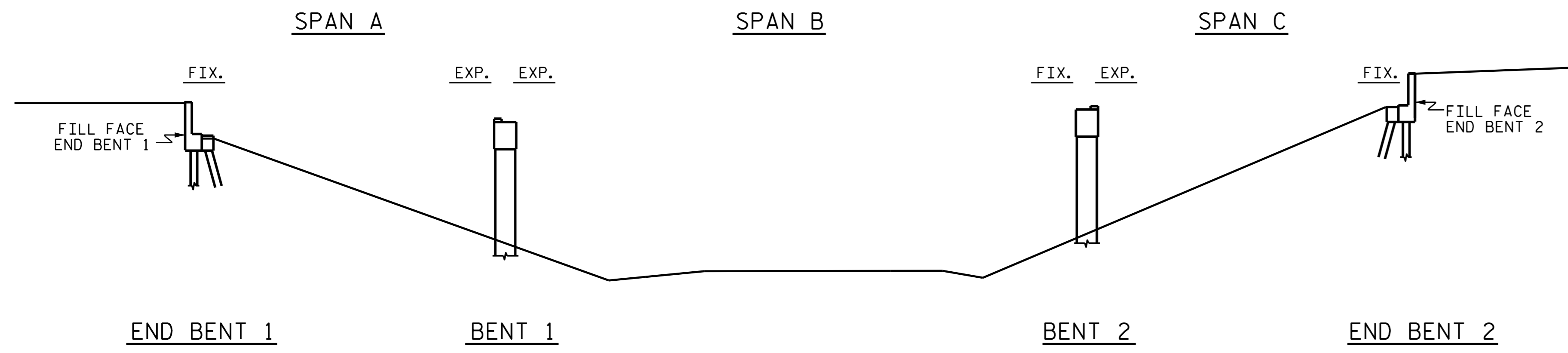
**LOCATION: BRIDGE #395 ON I-74, US-311 (WBL) OVER SR 2699 (COLE ROAD)  
BRIDGE #396 ON I-74, US-311 (EBL) OVER SR 2699 (COLE ROAD)**

**TYPE OF WORK: BRIDGE PRESERVATION - EPOXY OVERLAY, JOINT REPLACEMENT  
& PAINT ENDS OF GIRDERS.**

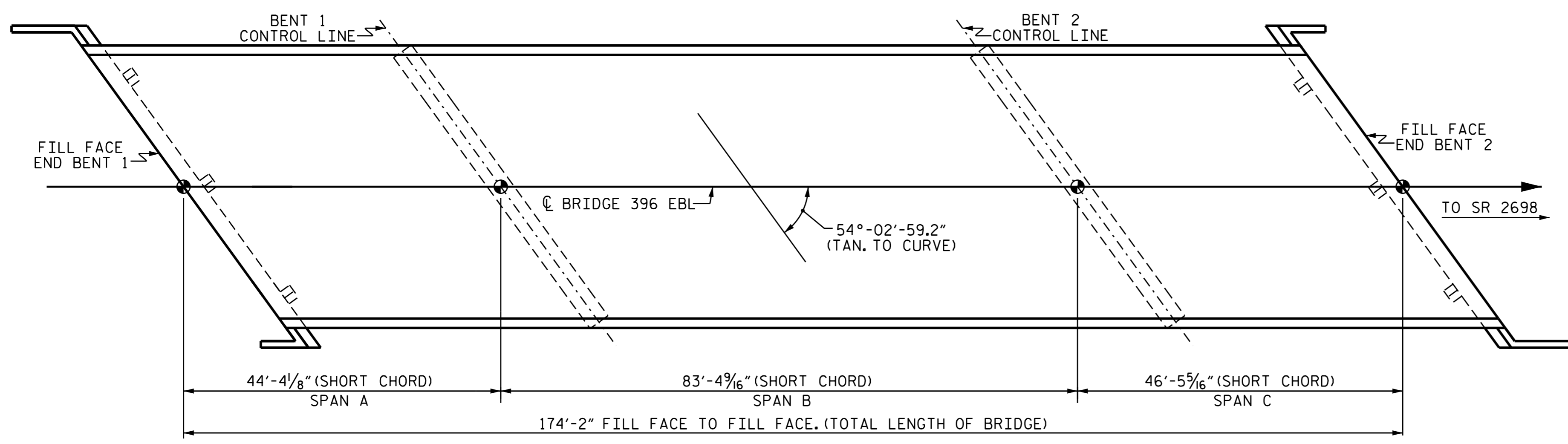
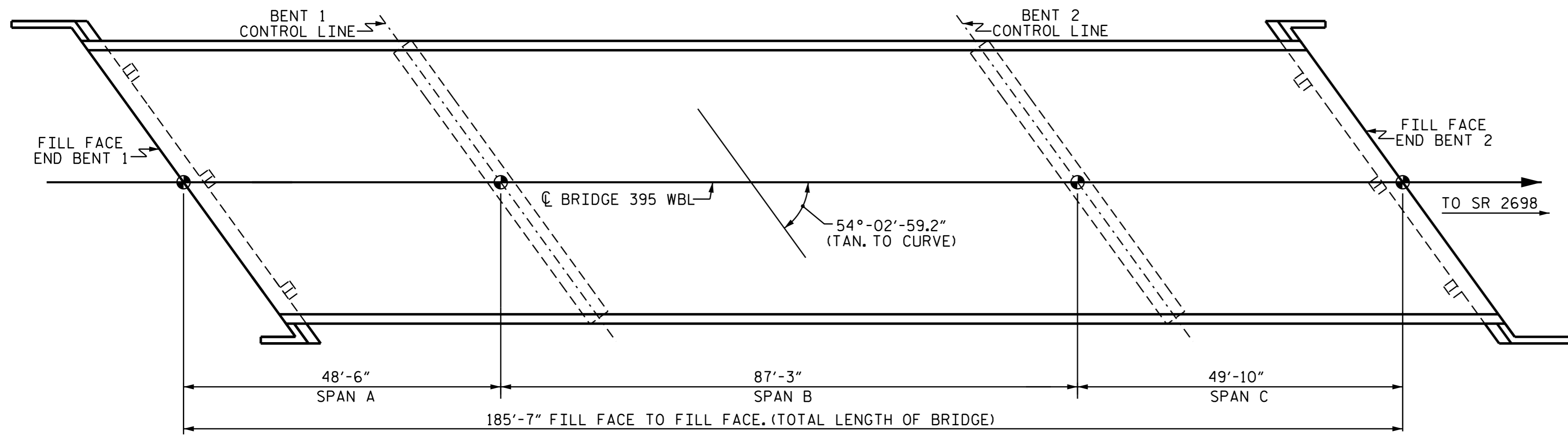
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5767	1A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
53010.1.1	NHPP-0074(174)	P.E.	
53010.3.1	NHPP-0074(174)	CONST.	

**INDEX OF SHEETS**

- 1* TITLE SHEET
- 1A* INDEX OF SHEETS
- S-1 THRU S-7* STRUCTURAL PLANS
- SN* STANDARD NOTES



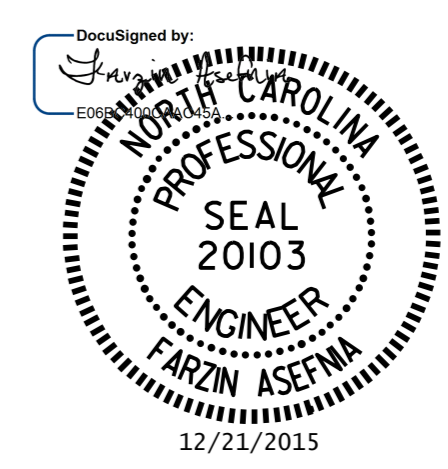
**SECTION ALONG ROADWAY**  
 (EXISTING GROUNDLINE IS FROM BRIDGE 395  
 ORIGINAL PLANS ALONG C SURVEY, MAY 1997)



**PLAN**

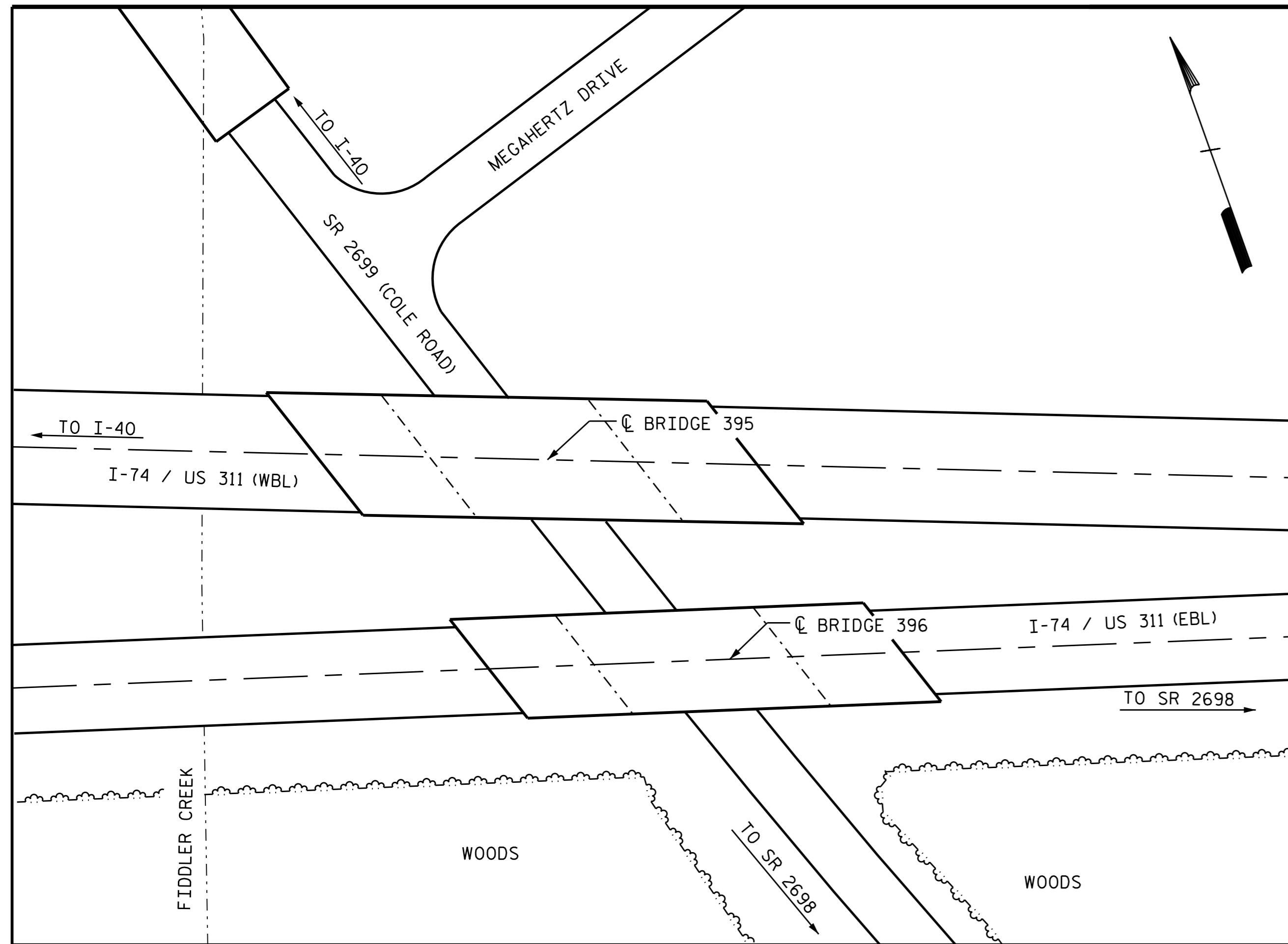
PROJECT NO. I-5767  
FORSYTH COUNTY  
 BRIDGE NO. 395 (WBL) &  
396 (EBL)  
 SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON I-74, US 311  
 OVER SR 2699



DRAWN BY : D.A. DAVENPORT DATE : 10/14/15  
 CHECKED BY : F. ASEFNIA DATE : 11/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			7



**LOCATION SKETCH**

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING THE BRIDGES, ROADWAYS, UTILITIES, SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

**NOTES**

- EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.
- EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECK.
- FOR CLEANING AND PAINTING OF BRIDGE AND POLLUTION CONTROL, SEE SPECIAL PROVISIONS.
- FOR CONCRETE DECK REPAIR FOR EPOXY OVERLAY SYSTEM, SEE SPECIAL PROVISIONS.
- FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
- FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
- FOR OVERLAY OF BRIDGE WITH EPOXY OVERLAY SYSTEM, SEE SPECIAL PROVISIONS.

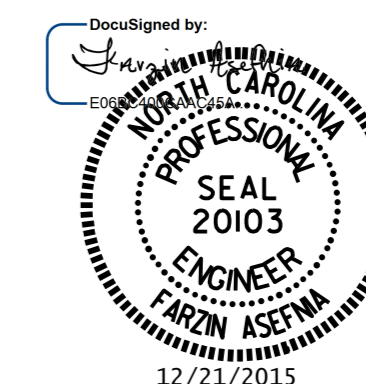
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.
- FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLAN SHEETS.
- LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

**TOTAL BILL OF MATERIAL**

BRIDGE NO.	POLLUTION CONTROL	FOAM JOINT SEALS	PAINTING EXIST. WEATHERING STEEL STRUCTURE FOR BRIDGE #	BRIDGE JOINT DEMOLITION	CONCRETE DECK REPAIR FOR EPOXY OVERLAY	EPOXY OVERLAY SYSTEM
	LUMP SUM	LUMP SUM	LUMP SUM	SQ. FT.	SQ. FT.	SQ. FT.
395	LUMP SUM	LUMP SUM	LUMP SUM	114	5	11,576
396	LUMP SUM	LUMP SUM	LUMP SUM	90	5	8,784
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	204	10	20,360

PROJECT NO. I-5767  
FORSYTH COUNTY  
 BRIDGE NO. 395 (WBL) & 396 (EBL)

SHEET 2 OF 2



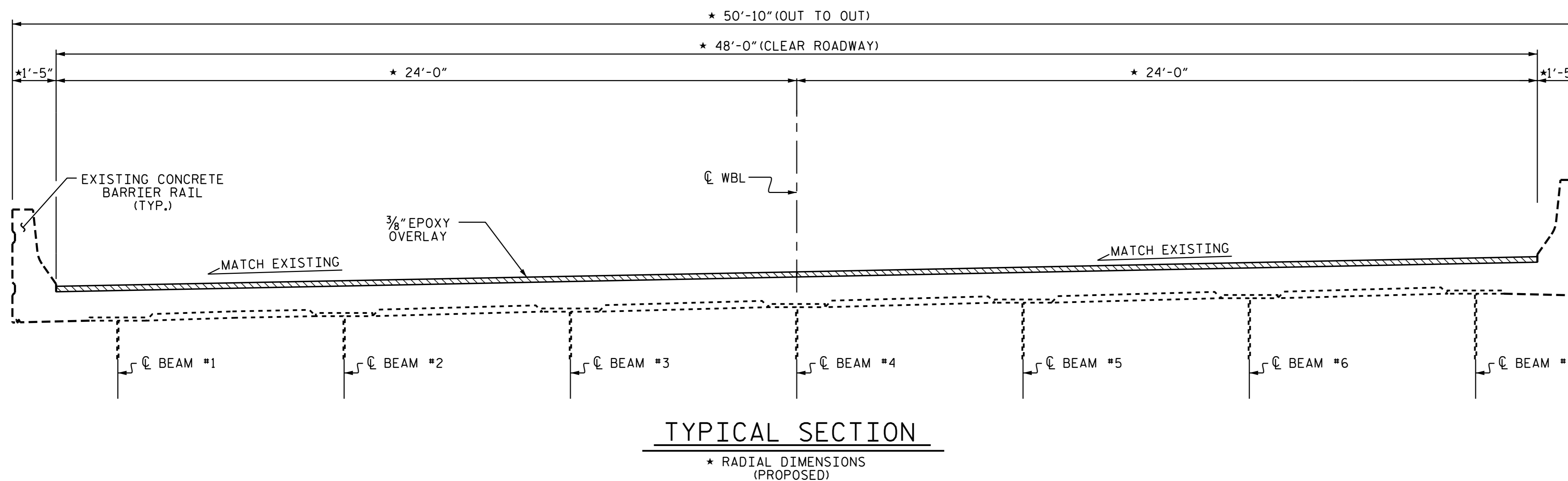
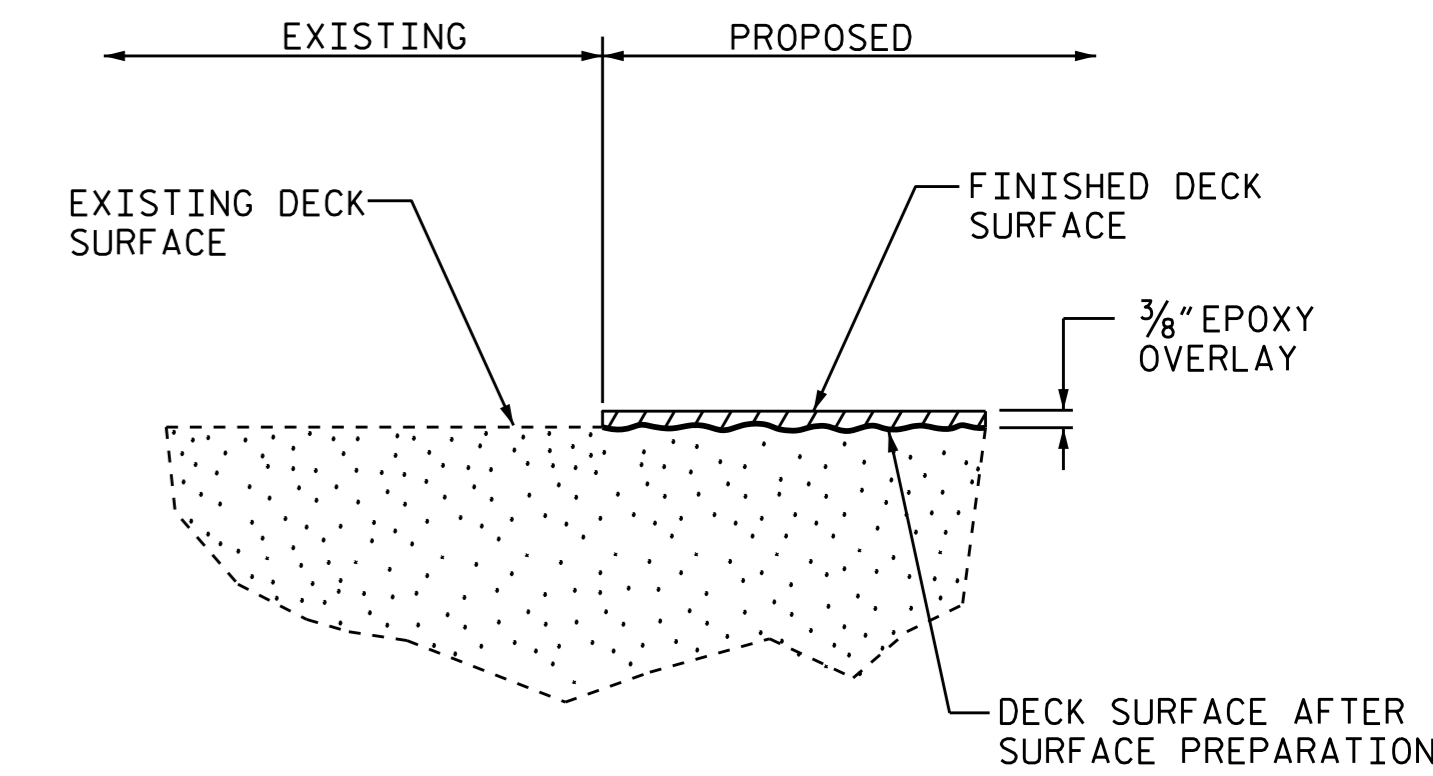
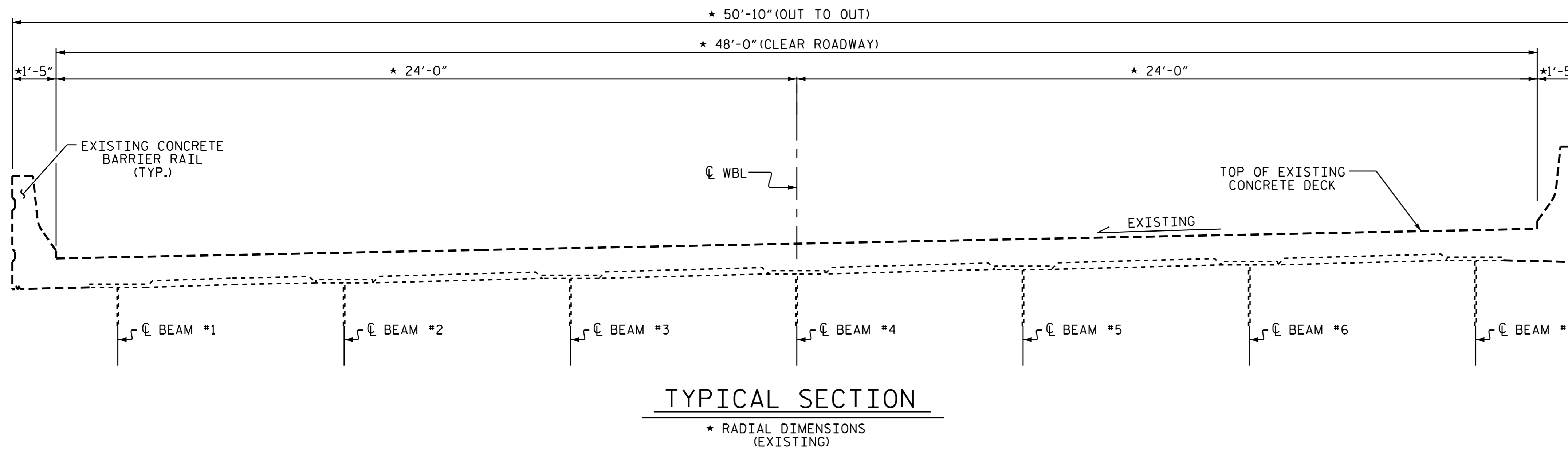
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE ON I-74, US 311  
 OVER SR 2699

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			7

DRAWN BY : D.A. DAVENPORT DATE : 10/14/15  
 CHECKED BY : F. ASEFNIA DATE : 11/15

**NOTES**

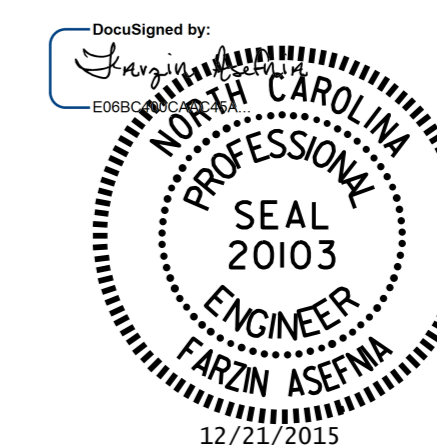
THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE OVERLAY WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT OVERLAY LANE WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE WORK IS BEING PERFORMED.



PROJECT NO. I-5767  
FORSYTH COUNTY  
 BRIDGE NO.: 395 (WBL)

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**TYPICAL SECTION &  
 EPOXY OVERLAY DETAIL**

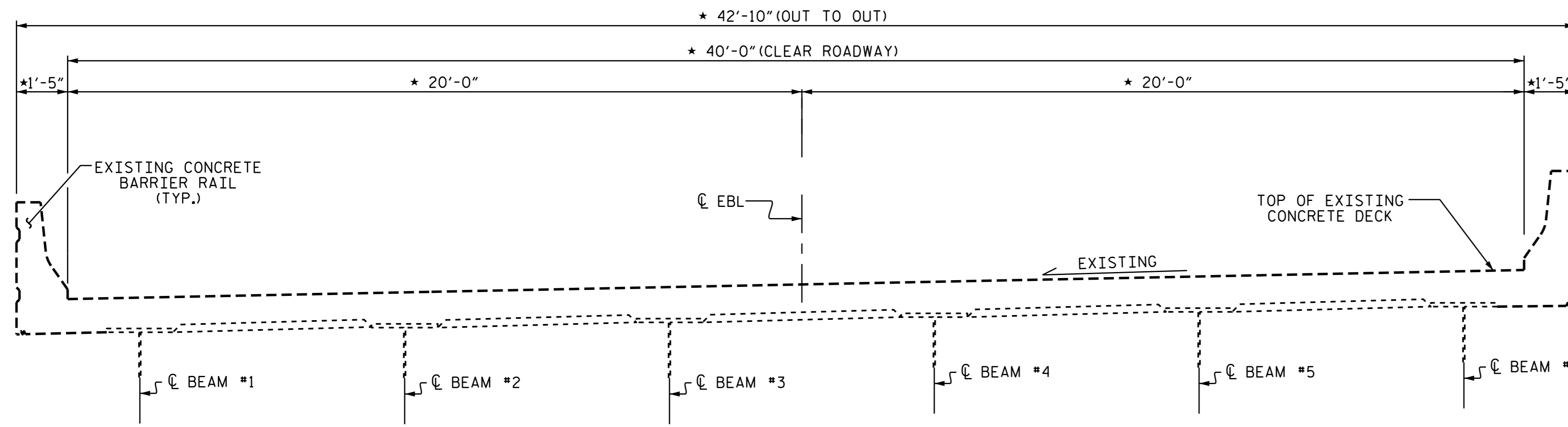


REVISIONS						SHEET NO. S-3
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 7
2			4			

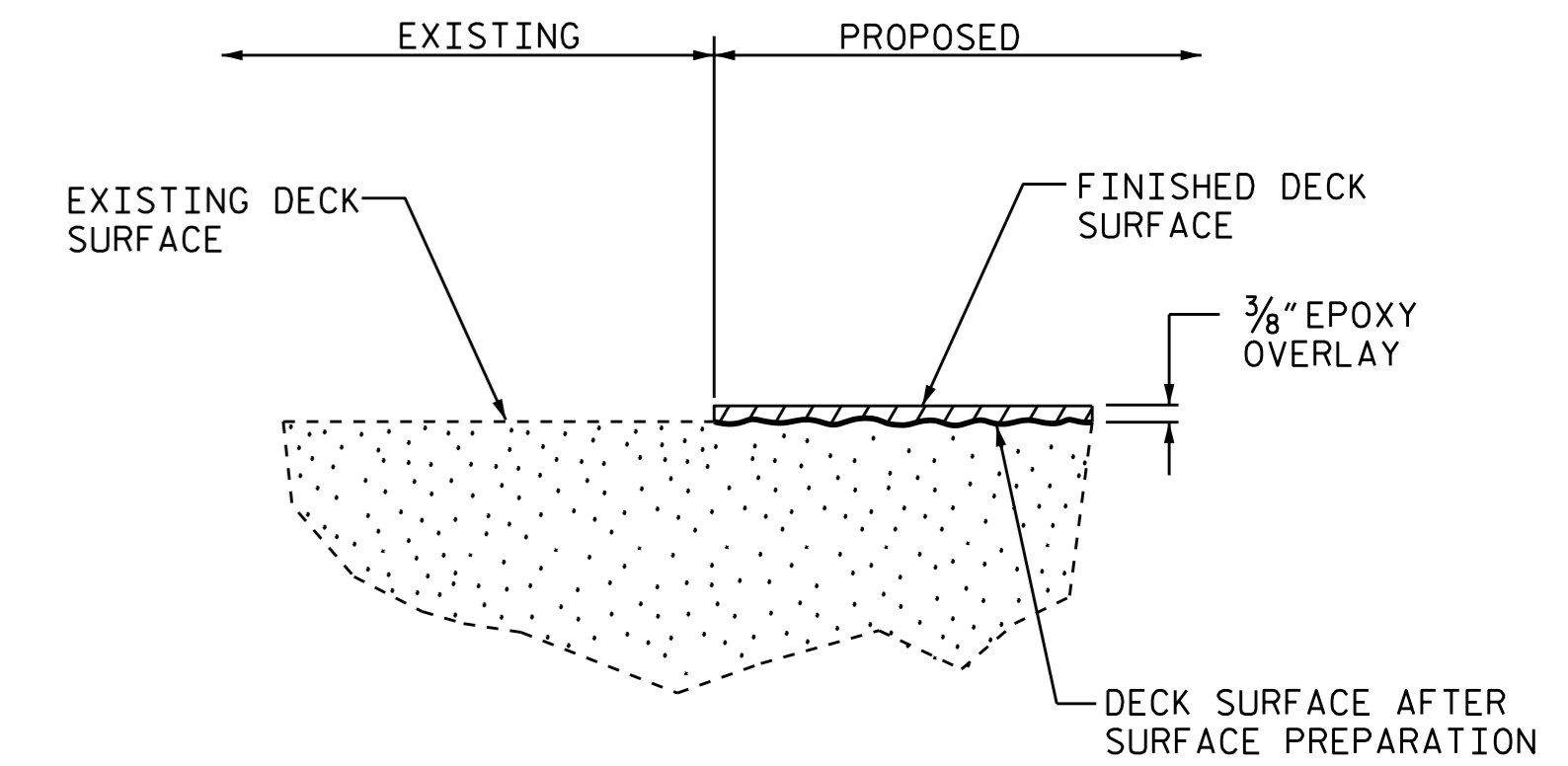
DRAWN BY : D.A. DAVENPORT DATE : 10-11-15  
 CHECKED BY : F. ASEFNIA DATE : 11/15

**NOTES**

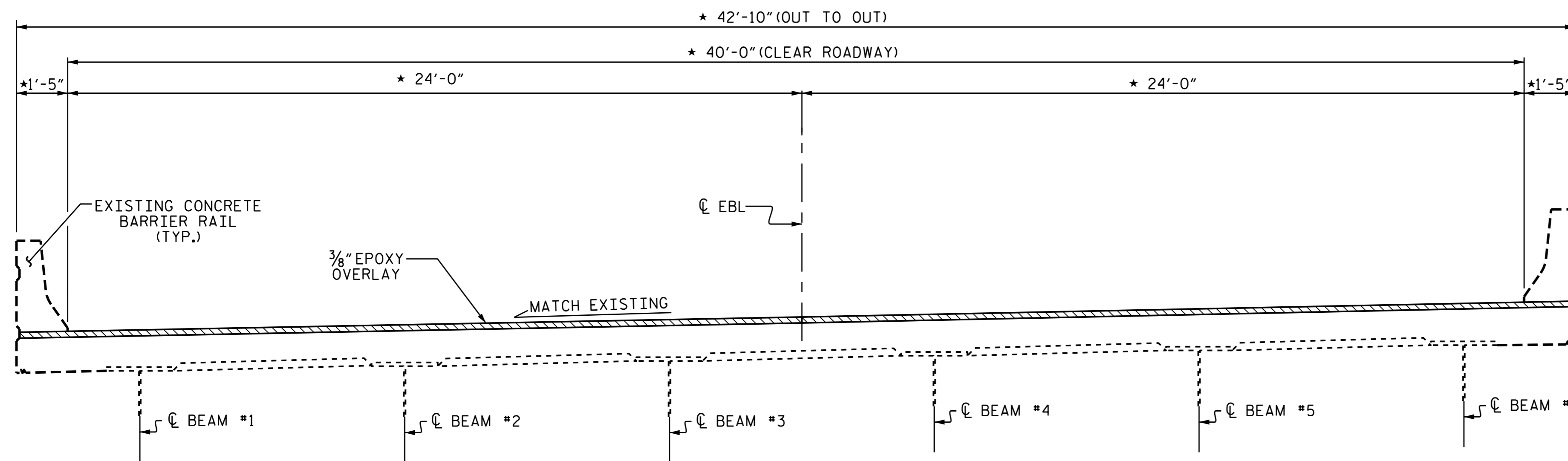
THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE OVERLAY WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT OVERLAY LANE WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE WORK IS BEING PERFORMED.



**TYPICAL SECTION**  
\* RADIAL DIMENSIONS (EXISTING)



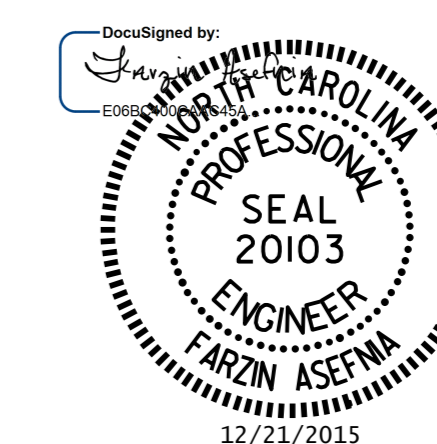
**DETAIL FOR EPOXY OVERLAY**



**TYPICAL SECTION**  
\* RADIAL DIMENSIONS (PROPOSED)

PROJECT NO. I-5767  
FORSYTH COUNTY  
BRIDGE NO.: 396 (EBL)

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**TYPICAL SECTION & EPOXY OVERLAY DETAIL**






REVISIONS						SHEET NO. S-4
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 7
2			4			

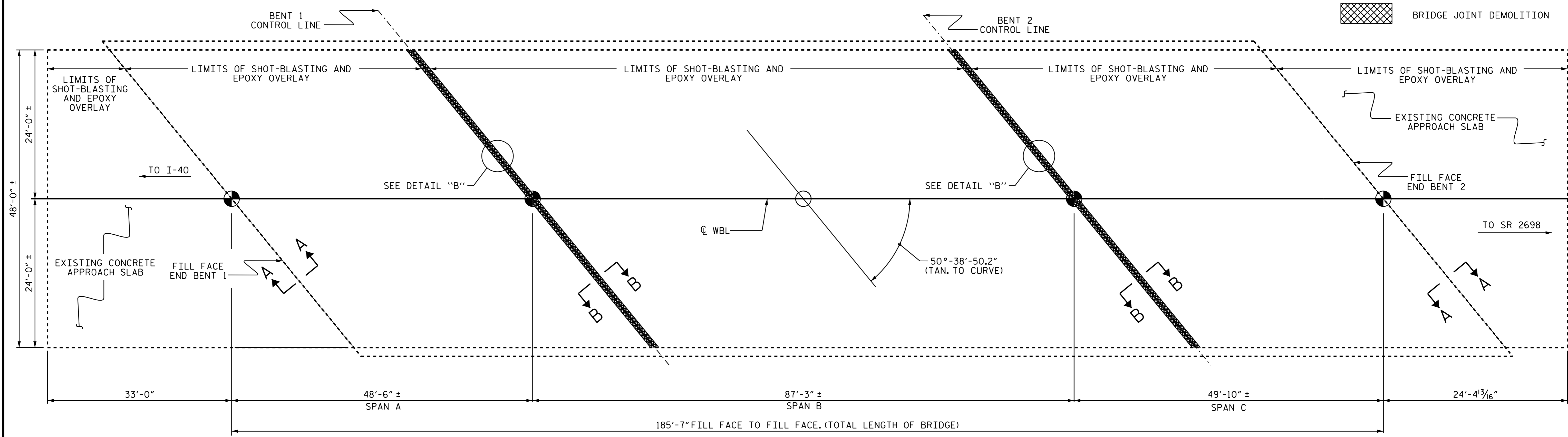
DRAWN BY : J.D. HAWK DATE : 10-14-15  
CHECKED BY : F. ASEFNIA DATE : 11/15

SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
CONCRETE DECK REPAIR FOR EPOXY OVERLAY	*5.0 SO. FT.	
BRIDGE JOINT DEMOLITION	114 SO. FT.	
EPOXY OVERLAY SYSTEM	11,576 SO. FT.	

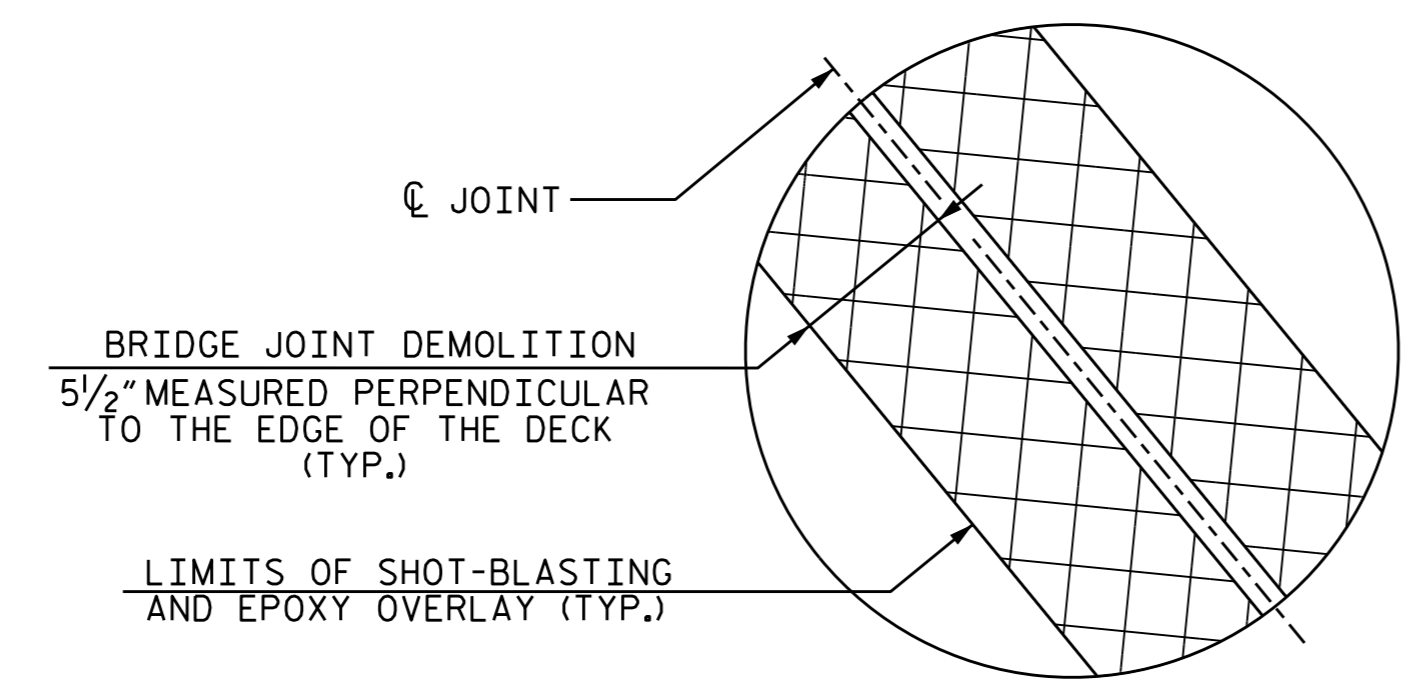
**NOTE:**  
 FOR BRIDGE JOINT DEMOLITION, SEE "JOINT DETAILS" SHEET.  
 FOR SECTIONS A-A AND B-B, SEE "JOINT DETAILS" SHEET.  
 \* CONCRETE DECK REPAIR FOR EPOXY OVERLAY IS NOT ANTICIPATED, TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREA ARE ENCOUNTERED.

-  CONCRETE DECK REPAIR FOR EPOXY OVERLAY
-  EPOXY OVERLAY
-  BRIDGE JOINT DEMOLITION

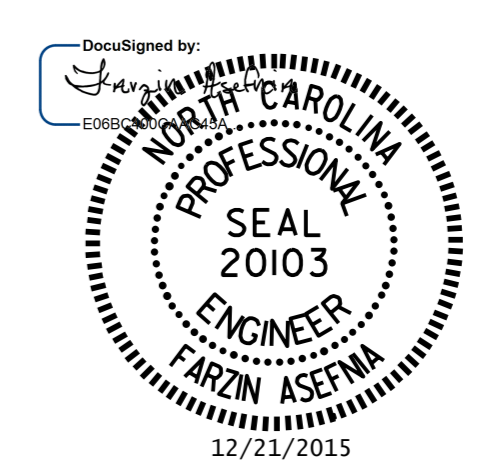


PLAN

PROJECT NO. I-5767  
 FORSYTH COUNTY  
 BRIDGE NO. 395 (WBL)



DETAIL "B"



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SURFACE PREPARATION  
 AND  
 EPOXY OVERLAY

DRAWN BY : D.A. DAVENPORT DATE : 10/14/15  
 CHECKED BY : F. ASEFNIA DATE : 11/15

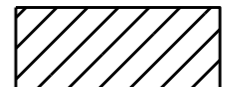
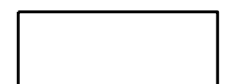

REVISIONS						SHEET NO. S-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 7
2			4			

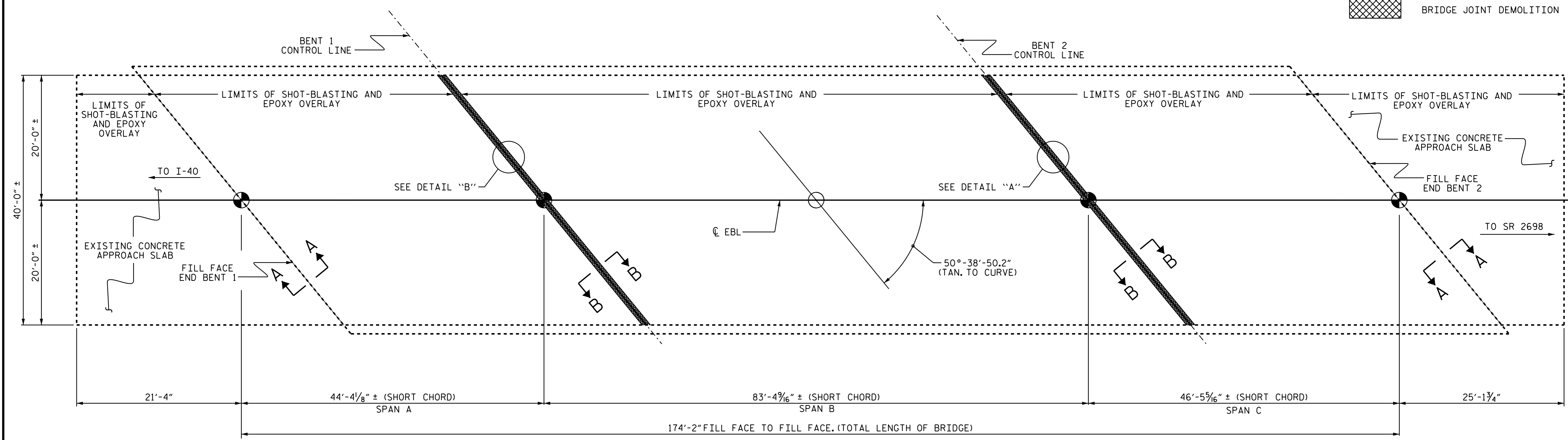
SUMMARY OF QUANTITIES

	ESTIMATE	ACTUAL
CONCRETE DECK REPAIR FOR EPOXY OVERLAY	*5.0 SO. FT.	
BRIDGE JOINT DEMOLITION	90 SO. FT.	
EPOXY OVERLAY SYSTEM	8784 SO. FT.	

NOTE:

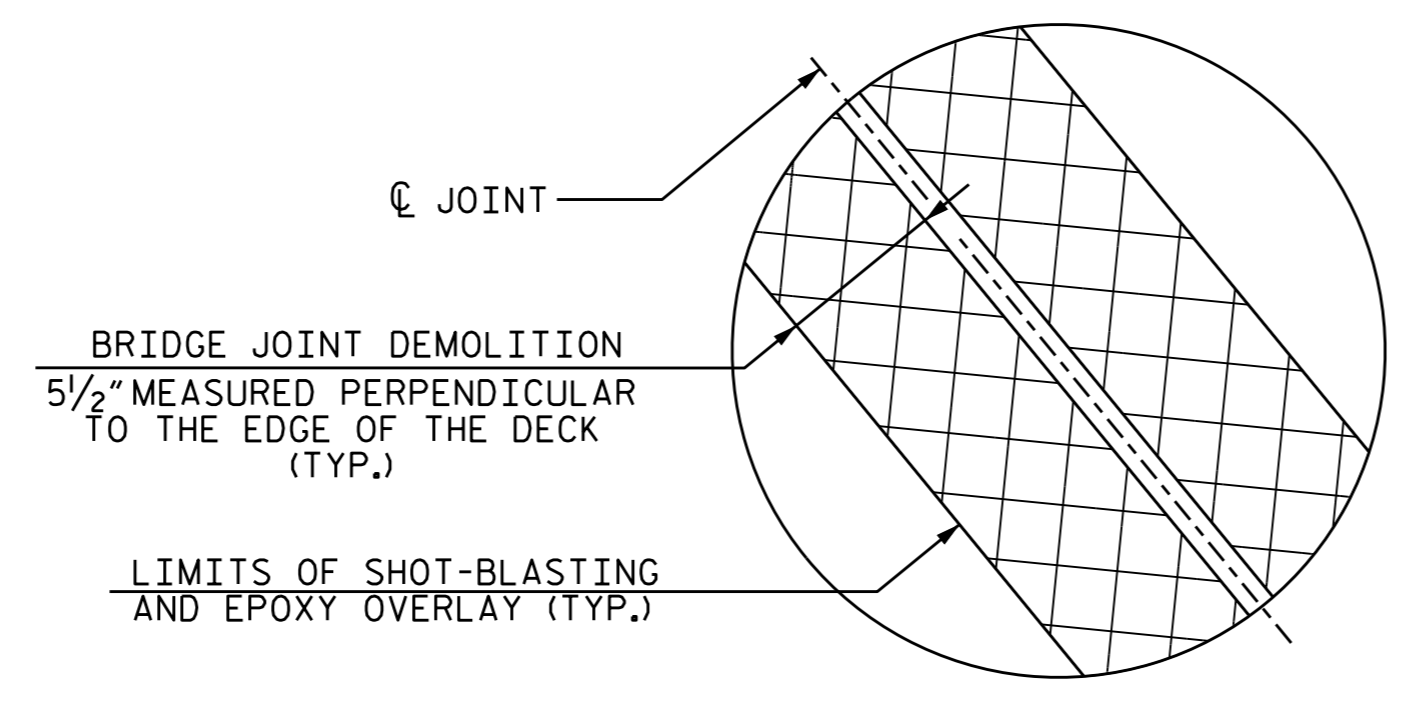
FOR BRIDGE JOINT DEMOLITION, SEE "JOINT DETAILS" SHEET.  
 FOR SECTIONS A-A AND B-B, SEE "JOINT DETAILS" SHEET.  
 \* CONCRETE DECK REPAIR FOR EPOXY OVERLAY IS NOT ANTICIPATED, TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREA ARE ENCOUNTERED.

-  CONCRETE DECK REPAIR FOR EPOXY OVERLAY
-  EPOXY OVERLAY
-  BRIDGE JOINT DEMOLITION



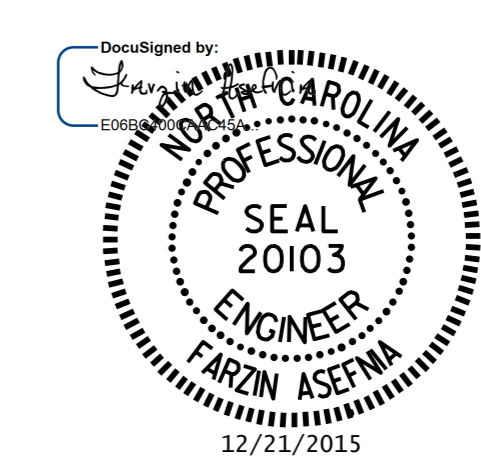
PLAN

PROJECT NO. I-5767  
 FORSYTH COUNTY  
 BRIDGE NO. 396 (EBL)



DETAIL "B"

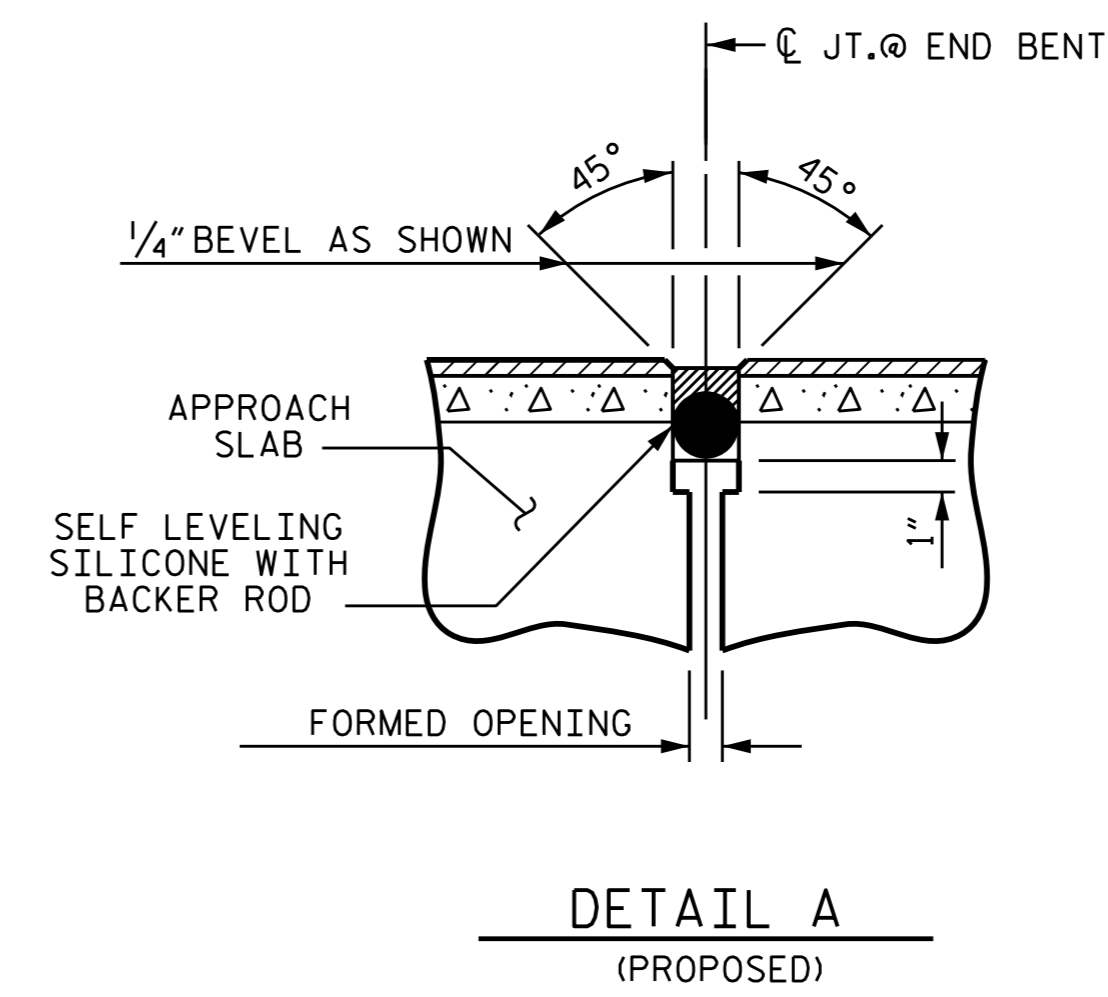
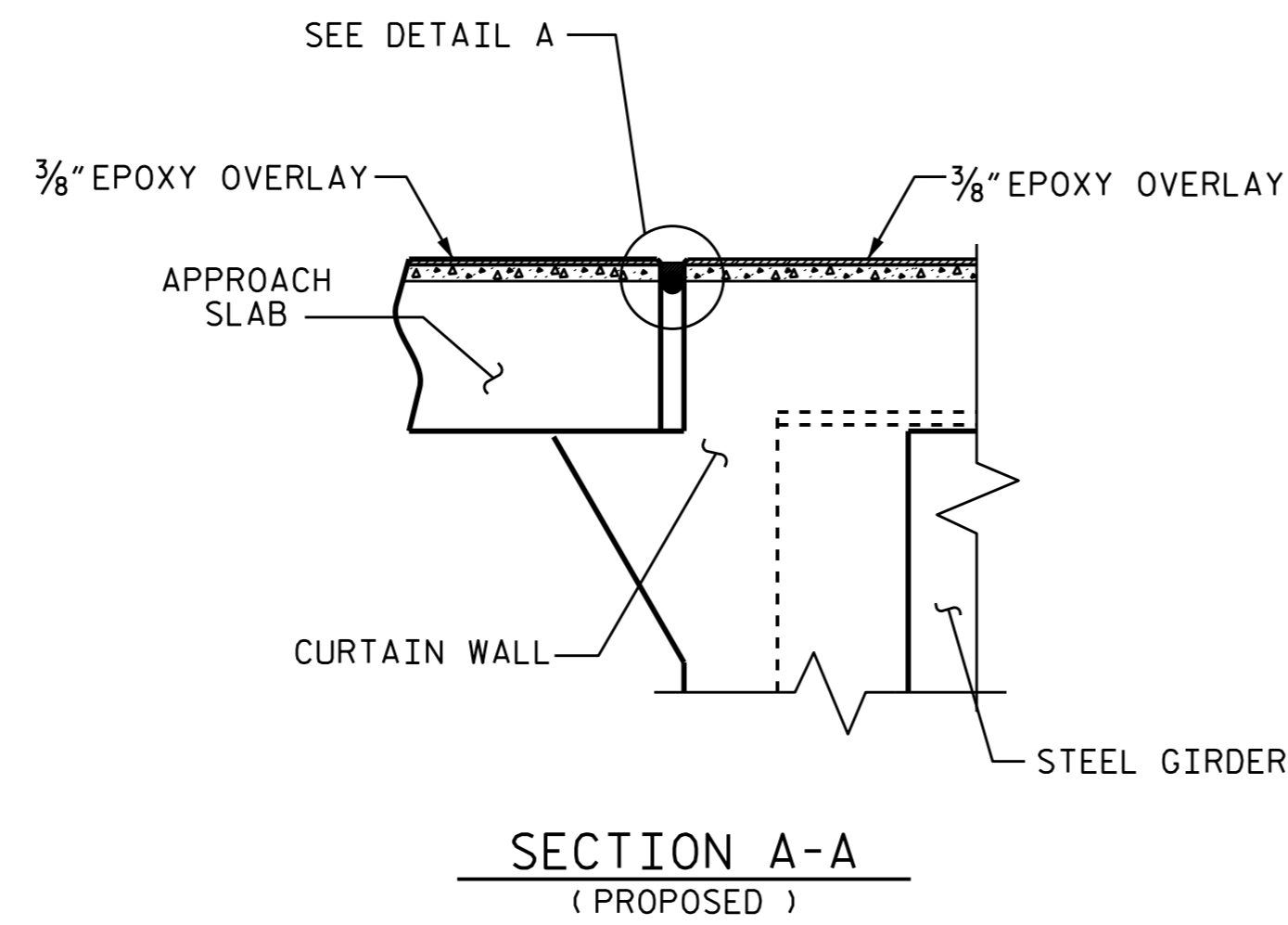
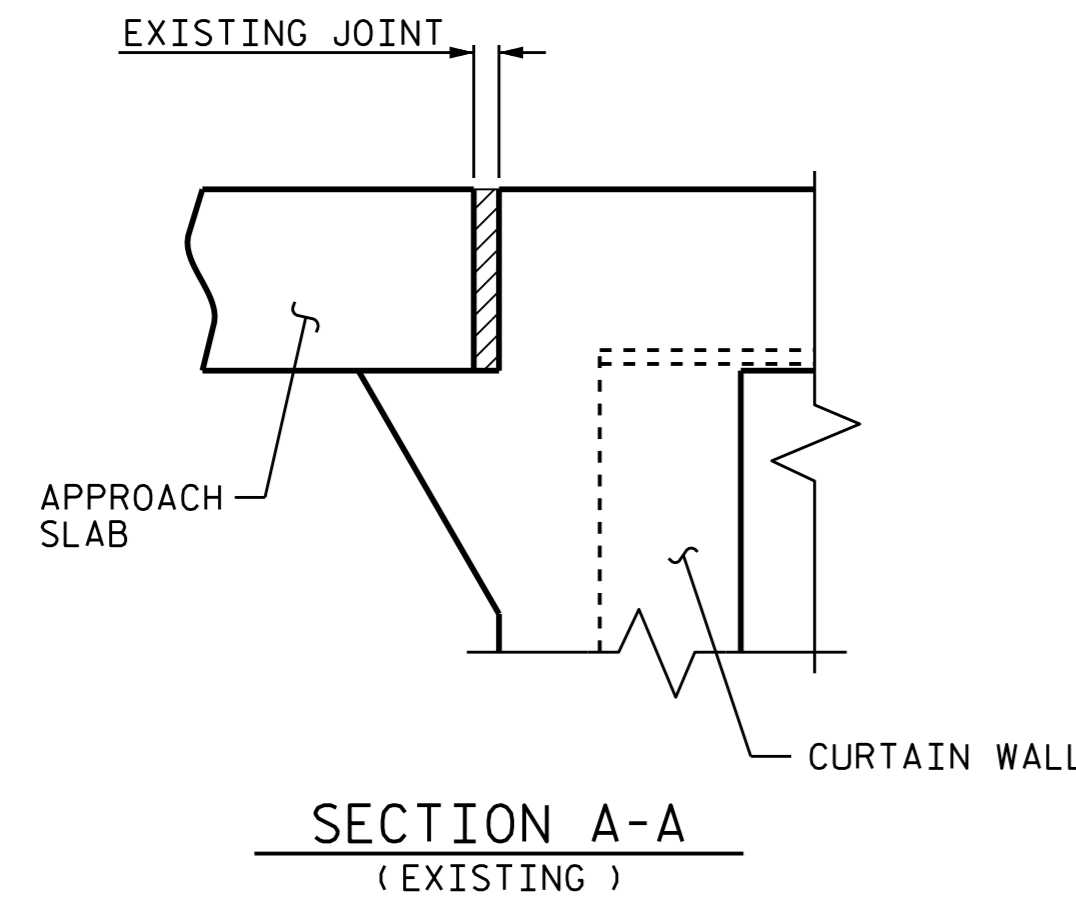
DRAWN BY : J.D. HAWK DATE : 10/15/15  
 CHECKED BY : F. ASEFNIA DATE : 11/15



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SURFACE PREPARATION  
 AND  
 EPOXY OVERLAY

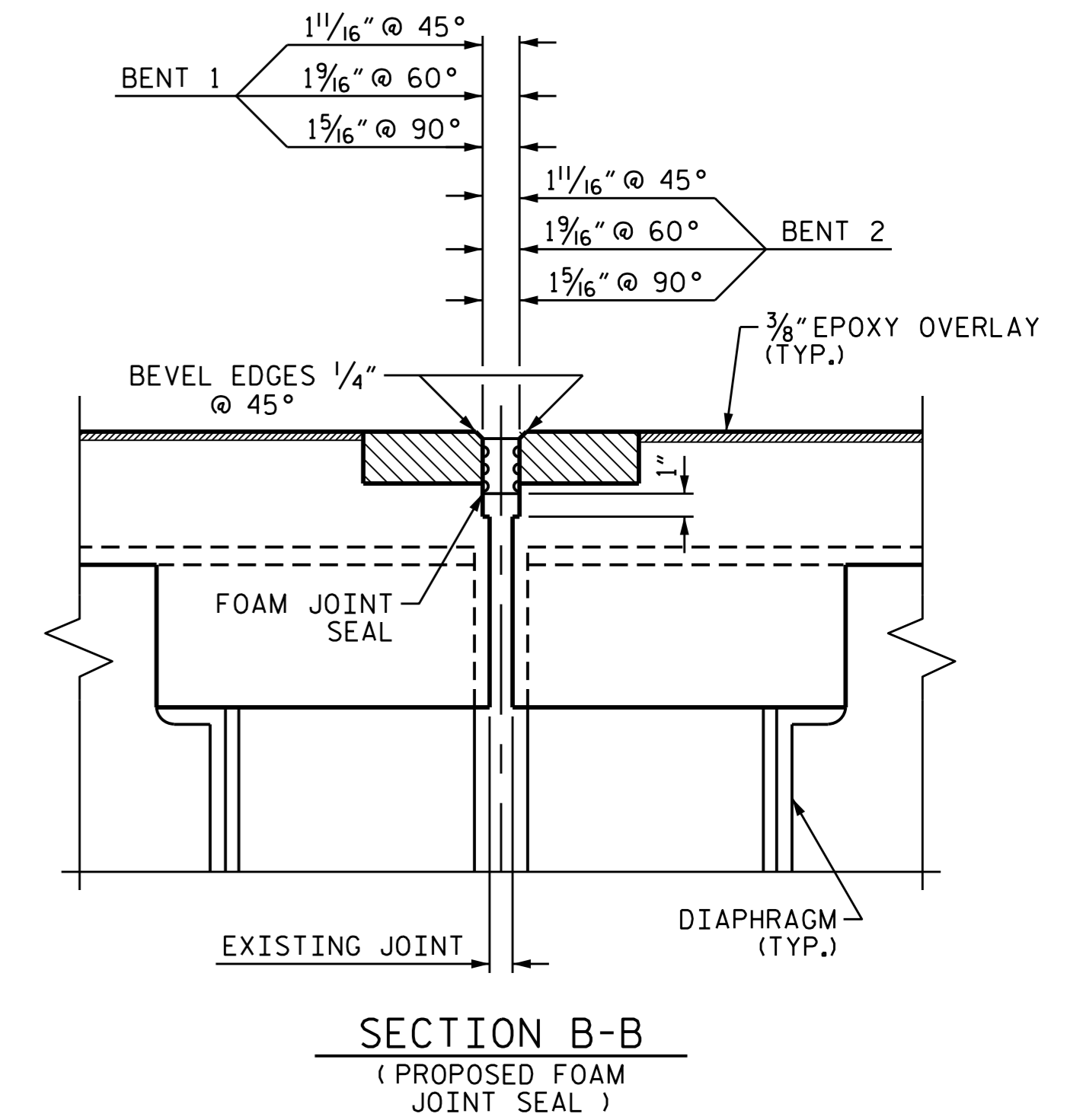
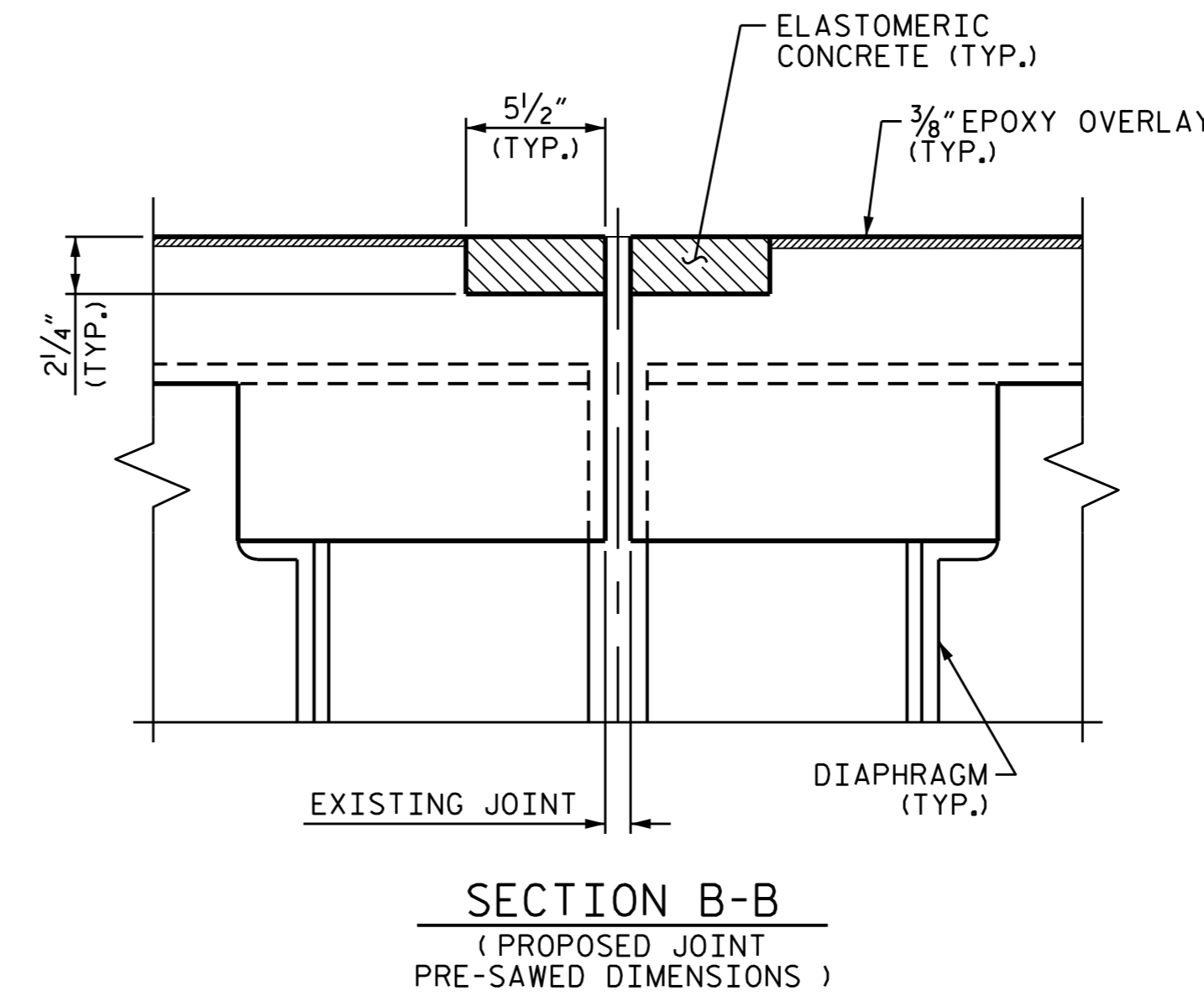
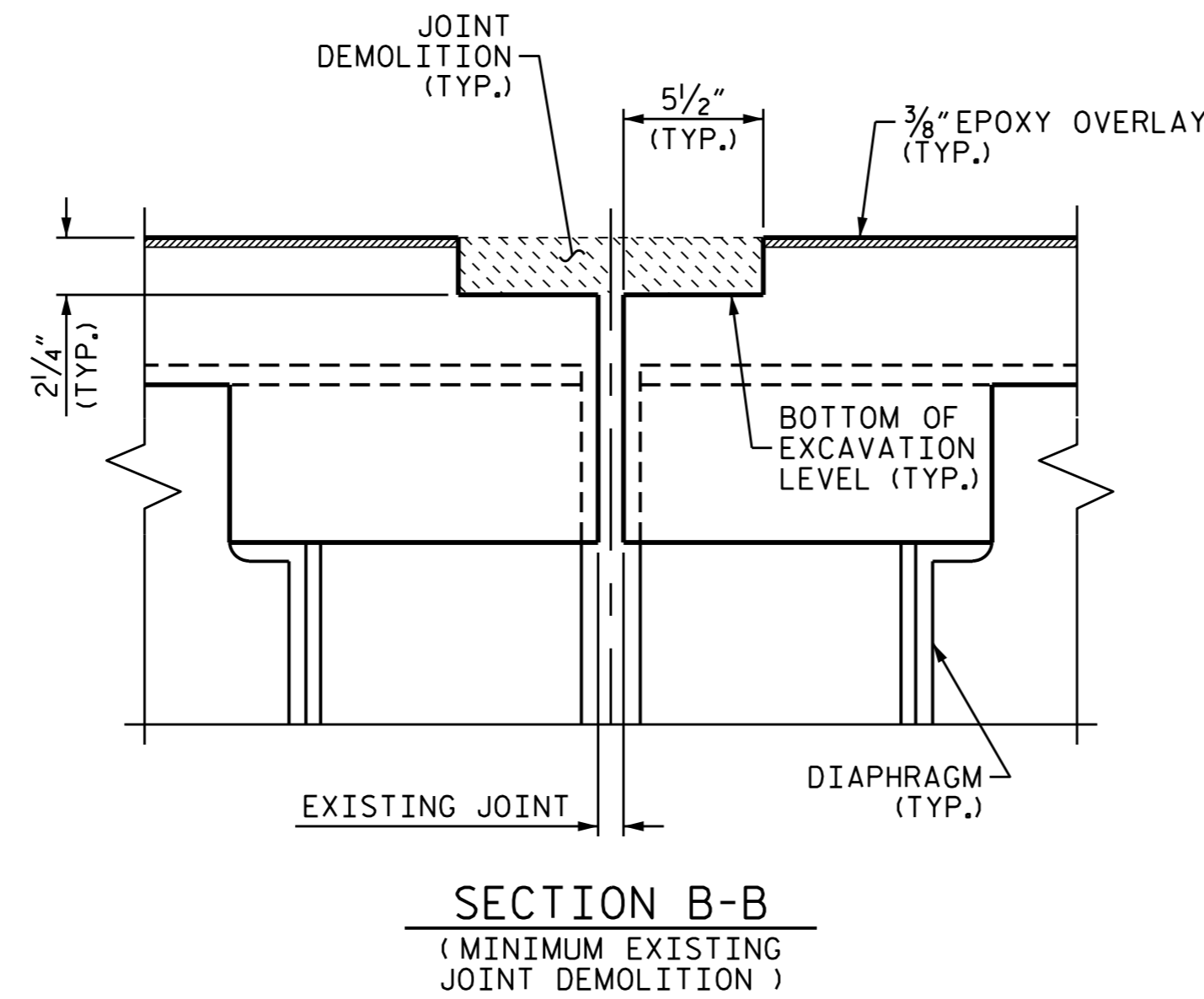
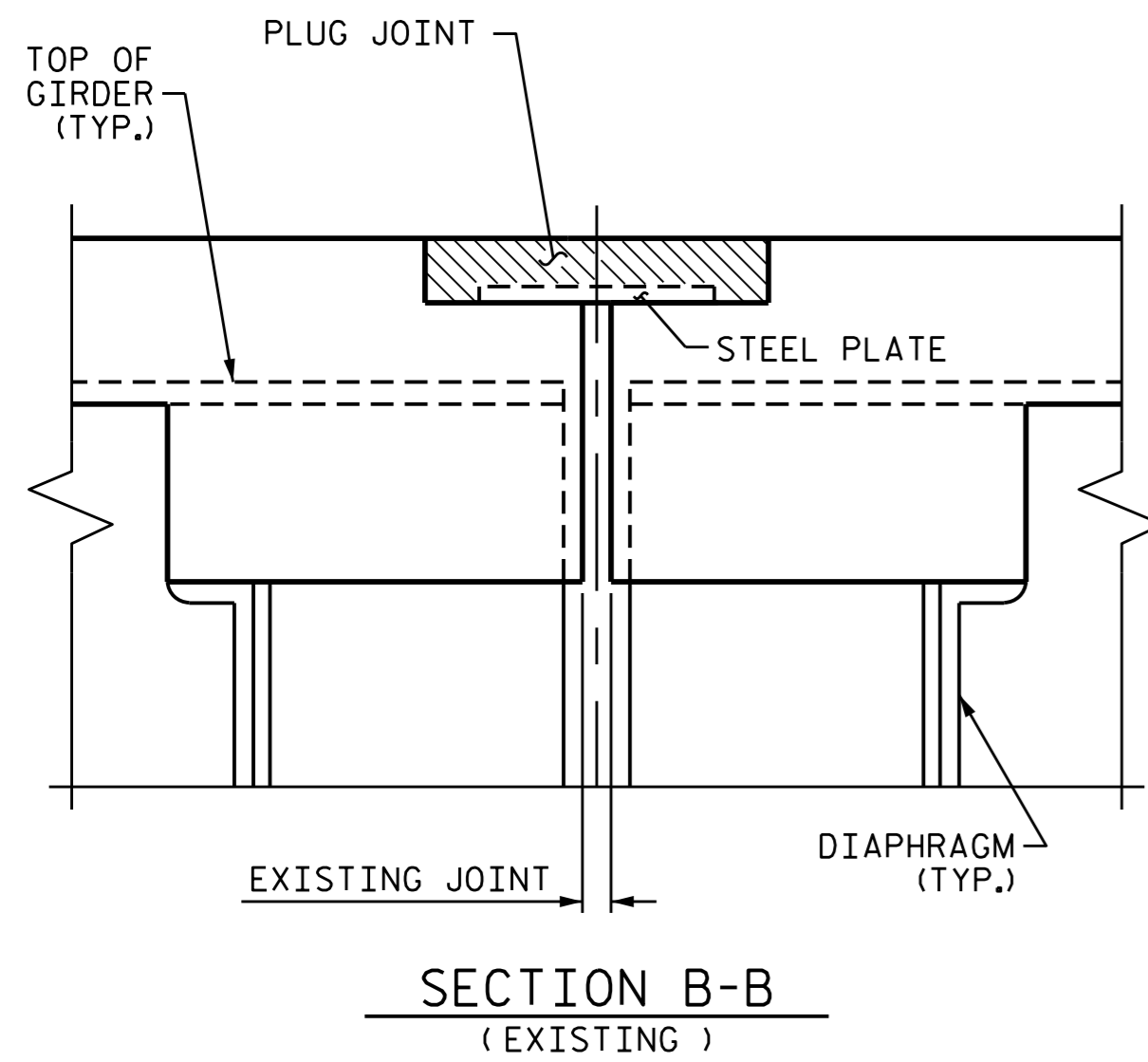
REVISIONS						SHEET NO. S-6
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 7
2			4			





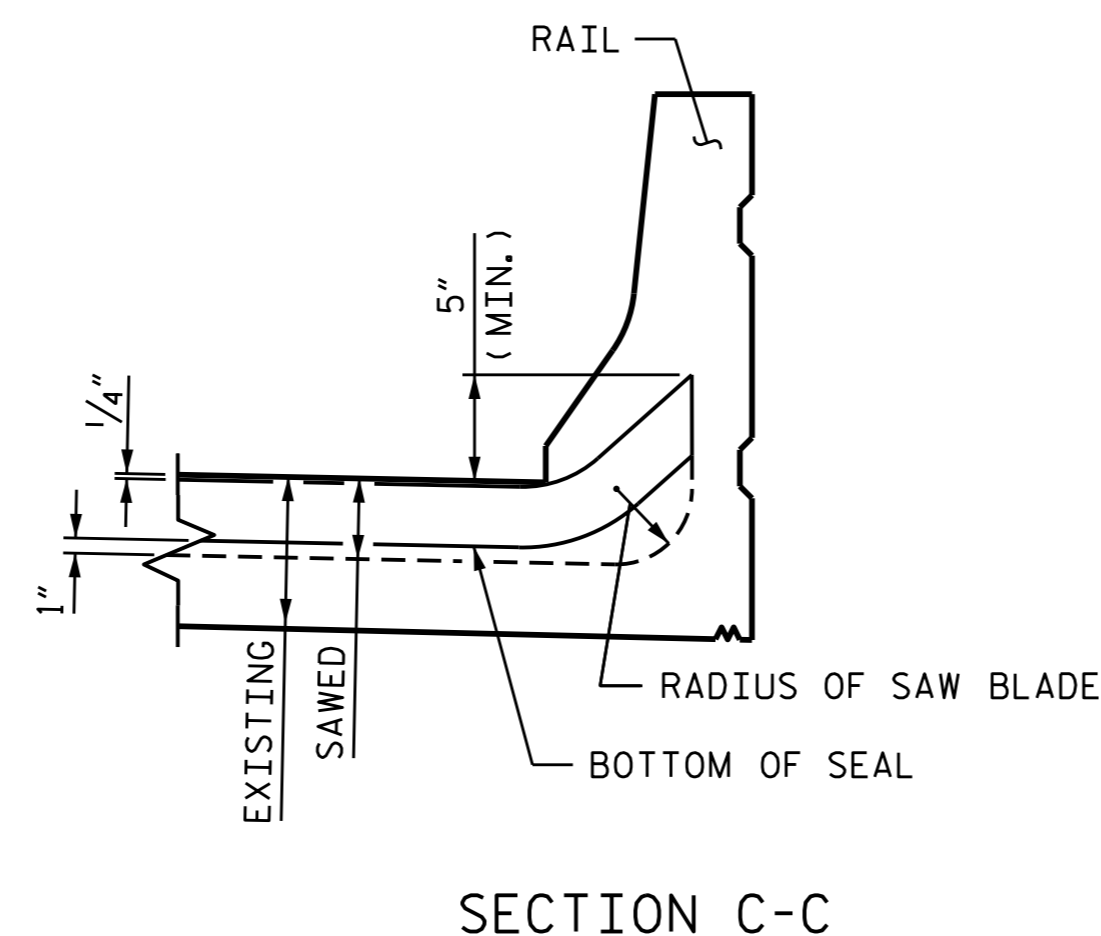
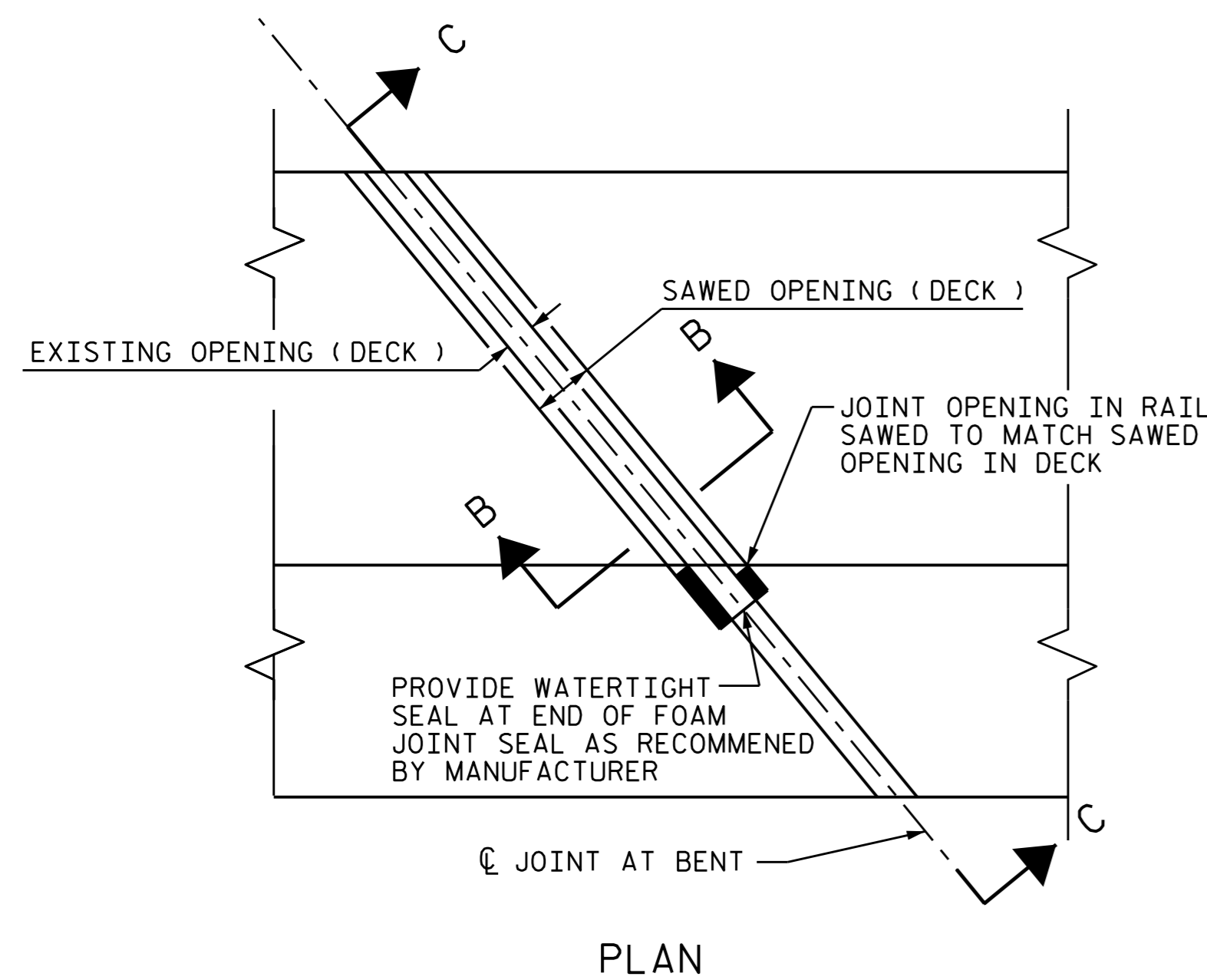
**NOTES:**  
CONTRACTOR SHALL FIELD VERIFY THE EXISTING FORMED OPENING PRIOR TO OBTAINING JOINT MATERIAL.  
HYDRO-DEMOLITION OR EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT AND LEVEL, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE.  
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.  
FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.  
RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.  
THE NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2".  
THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.

**JOINT INSTALLATION SEQUENCE AT END BENTS**



**JOINT INSTALLATION SEQUENCE AT BENTS**

DEMOLISH BRIDGE JOINT AREA TO THE NECESSARY DEPTH, SUCH THAT ELASTOMERIC CONCRETE SHALL BE FOUNDED ON SOUND CONCRETE.



ELASTOMERIC CONCRETE (CU. FT.)*	BR. #395	BR. #396
BENT 1	14.0	9.0
BENT 2	14.0	9.0
TOTAL	28.0	18.0

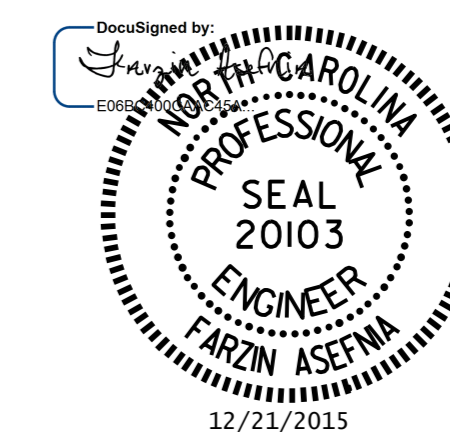
\* BASED ON THE MINIMUM BLOCKOUT SHOWN

PROJECT NO. I-5767  
FORSYTH COUNTY  
BRIDGE NO. 395 (WBL)  
396 (EBL)

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**JOINT DETAILS**

REVISIONS						SHEET NO. S-7
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 7
2			4			



DRAWN BY : D.A. DAVENPORT DATE : 10/14/15  
CHECKED BY : F. ASEFNIA DATE : 11/15

## STANDARD NOTES

### DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN		
OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT.
		(MINIMUM)

### MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

### CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

### CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

### DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

### ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE. ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

### REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

### STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

### HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

### SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

# ENGLISH

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