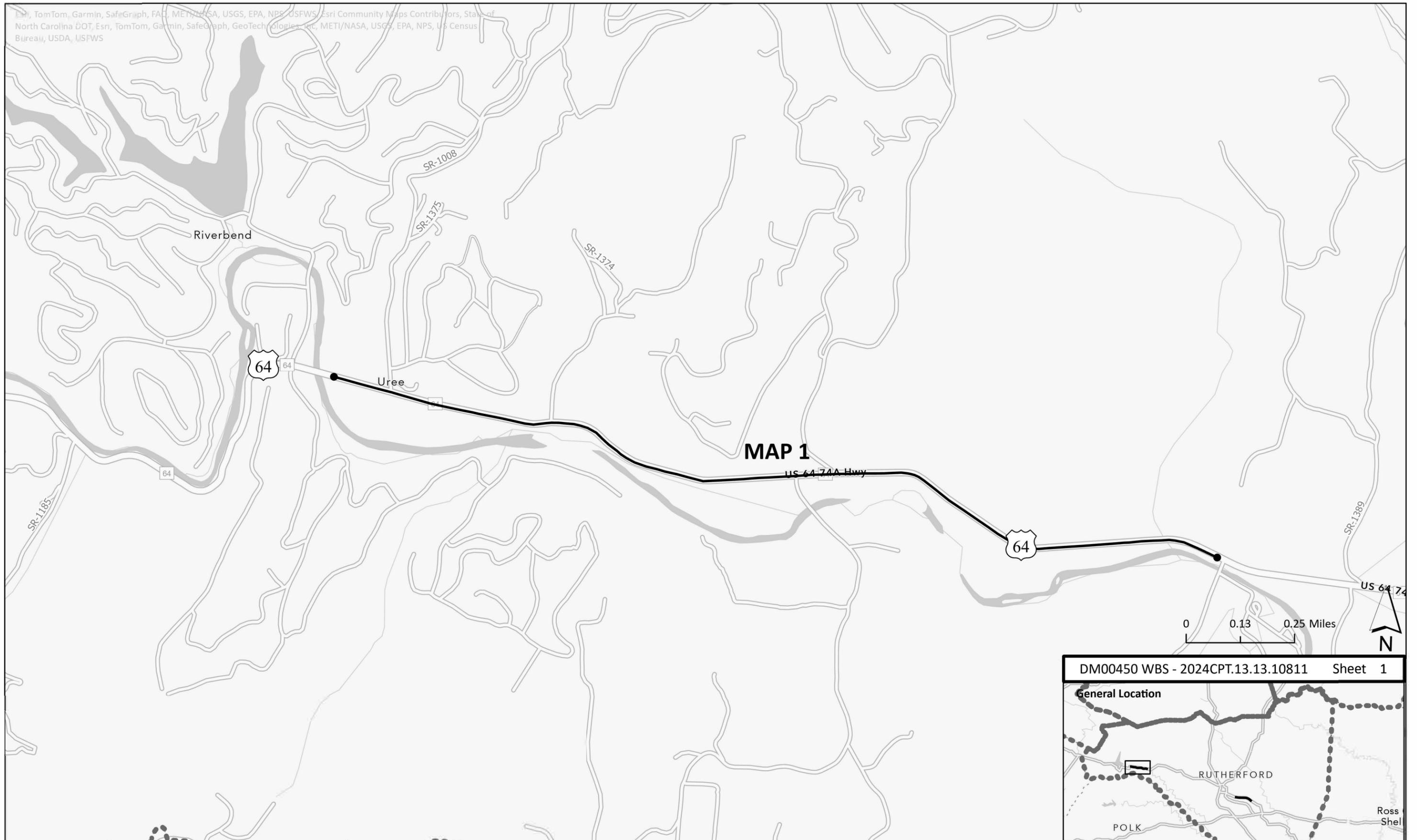


TomTom, Garmin, SafeGraph, FAD, METI/NASA, USGS, EPA, NPS, USFWS, Esri Community Maps Contributors, State of North Carolina DOT, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



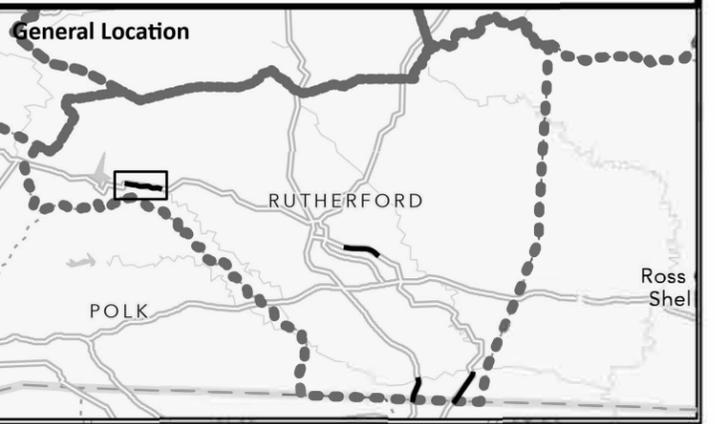
MAP 1

US 64/74A Hwy

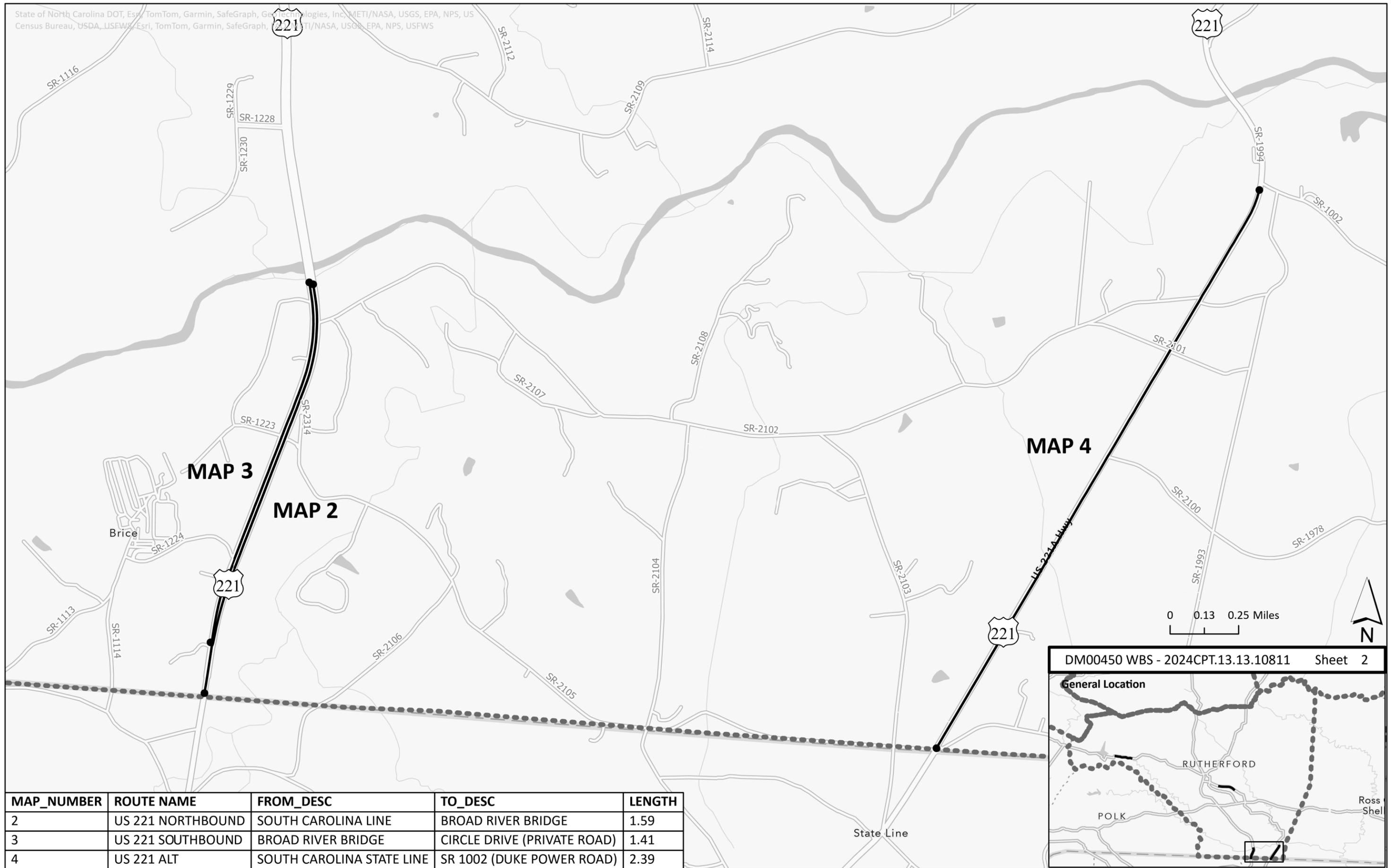
0 0.13 0.25 Miles



DM00450 WBS - 2024CPT.13.13.10811 Sheet 1



MAP_NUMBER	ROUTE_NAME	FROM_DESC	TO_DESC	LENGTH
1	US 64/ 74 A	BROAD RIVER BRIDGE	SR 1184 (ROCK SPRINGS CHURCH ROAD) PAVEMENT CHANGE	2.19



MAP_NUMBER	ROUTE NAME	FROM_DESC	TO_DESC	LENGTH
2	US 221 NORTHBOUND	SOUTH CAROLINA LINE	BROAD RIVER BRIDGE	1.59
3	US 221 SOUTHBOUND	BROAD RIVER BRIDGE	CIRCLE DRIVE (PRIVATE ROAD)	1.41
4	US 221 ALT	SOUTH CAROLINA STATE LINE	SR 1002 (DUKE POWER ROAD)	2.39

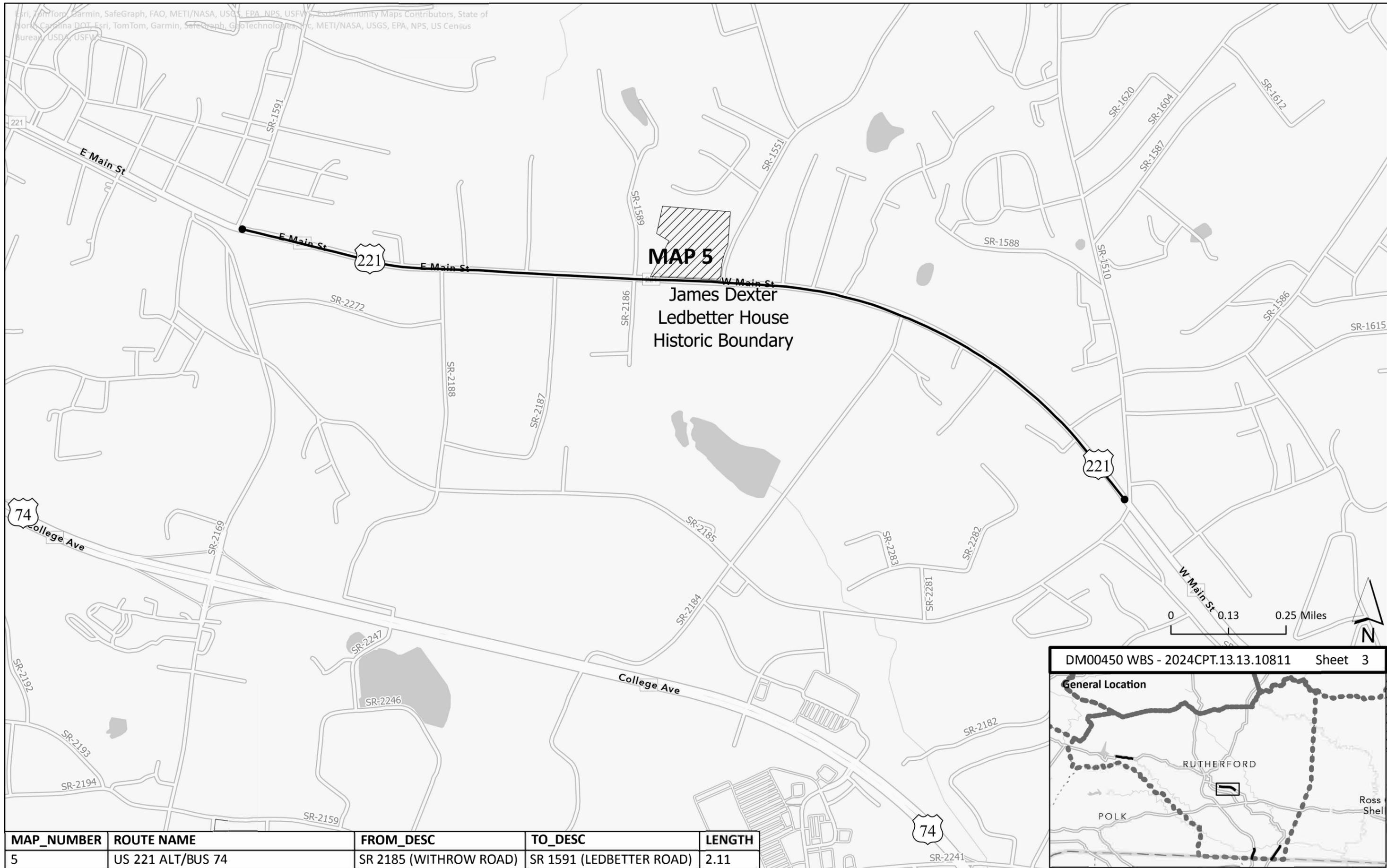
DM00450 WBS - 2024CPT.13.13.10811 Sheet 2

General Location

RUTHERFORD

POLK

Ross Shel



MAP_NUMBER	ROUTE_NAME	FROM_DESC	TO_DESC	LENGTH
5	US 221 ALT/BUS 74	SR 2185 (WITHROW ROAD)	SR 1591 (LEDBETTER ROAD)	2.11

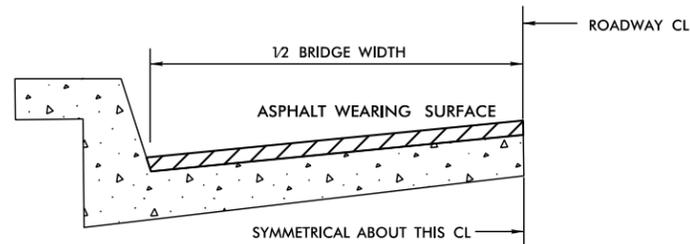
DM00450 WBS - 2024CPT.13.13.10811 Sheet 3

General Location

RUTHERFORD

POLK

Ross Shel



BRIDGE HALF TYPICAL SECTION

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1/2", S9.5B 1", S9.5C,D 1.5" - 2". ULTRA-THIN HOT MIX ASPHALT - TYPE A 3/4". ULTRA-THIN HOT MIX ASPHALT - TYPE B 5/8". ULTRA-THIN HOT MIX ASPHALT - TYPE C 1/2". THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1", S9.5B 1.5", S9.5C,D 2". ULTRA-THIN HOT MIX ASPHALT - TYPE A 3/4", ULTRA-THIN HOT MIX ASPHALT - TYPE B 5/8", ULTRA-THIN HOT MIX ASPHALT - TYPE C 1/2".

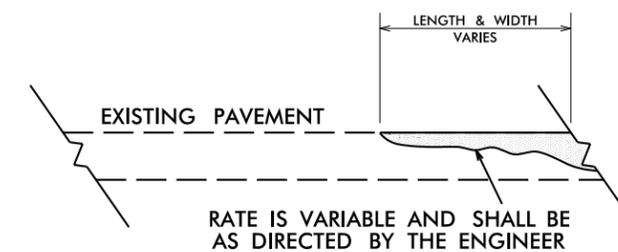
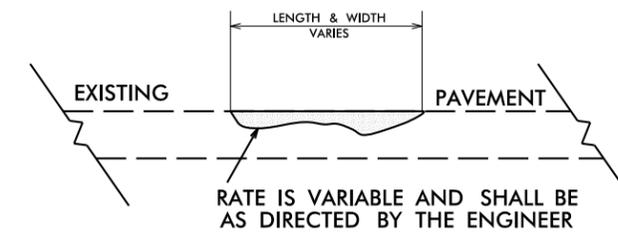
NOTES

ALL UNPAVED ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT. ALL PAVED S. R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.

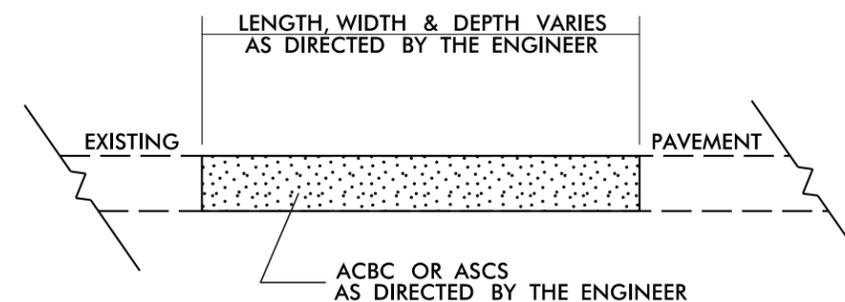
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.

SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED.

BRIDGES ARE TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.



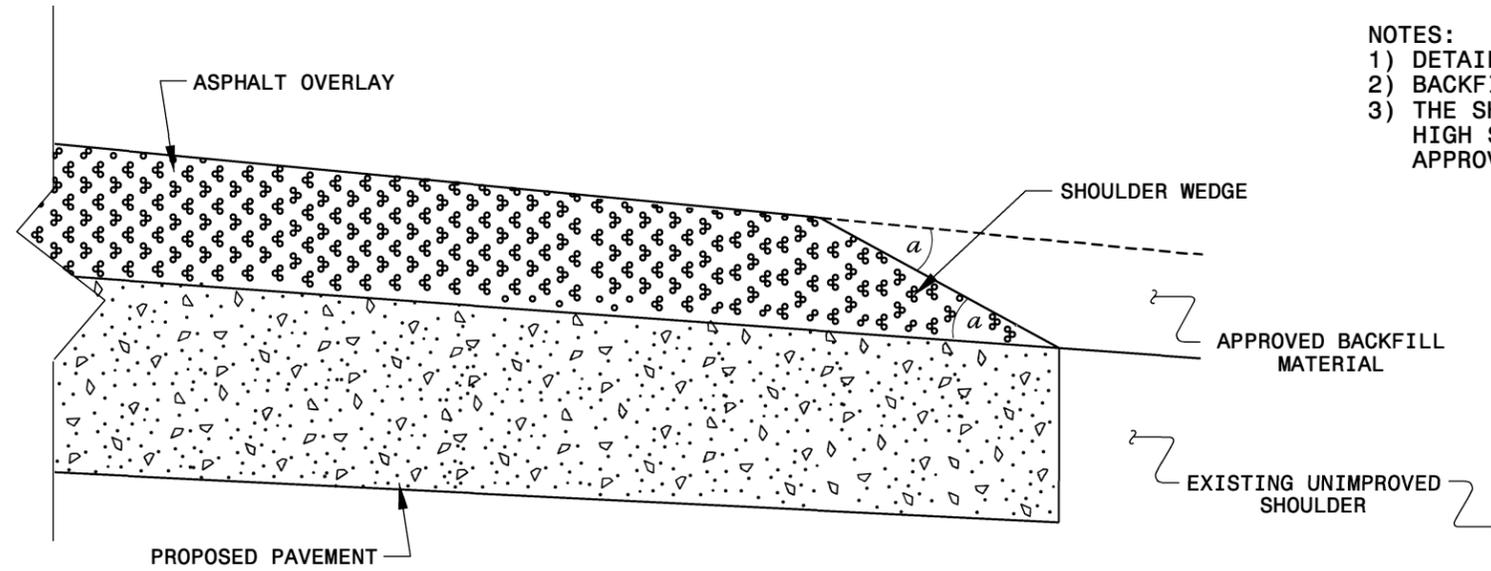
DETAIL SHOWING METHOD OF WEDGING



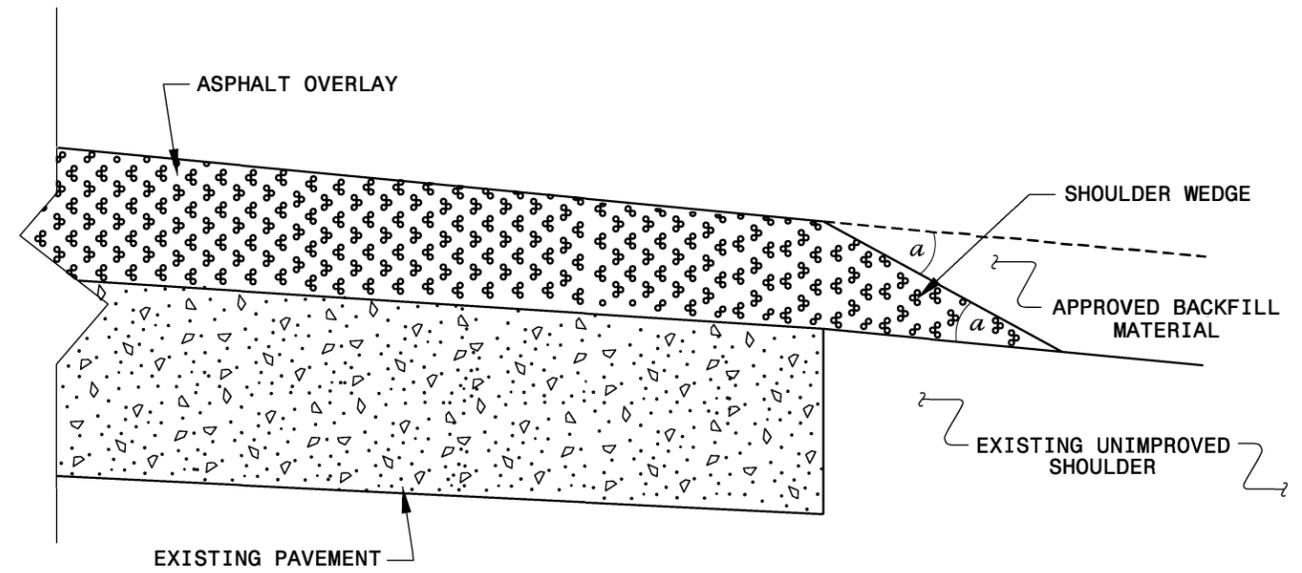
PATCHING EXISTING PAVEMENT

02-FEB-2023 11:00
 C:\Users\Nextal\OneDrive\State of North Carolina\NCDOT - Division 13 - Resurfacing\2023 - Burke\03 - Let Preparation-CR\2023 Burke CR - DDC.pml.dgn
 6/2/99

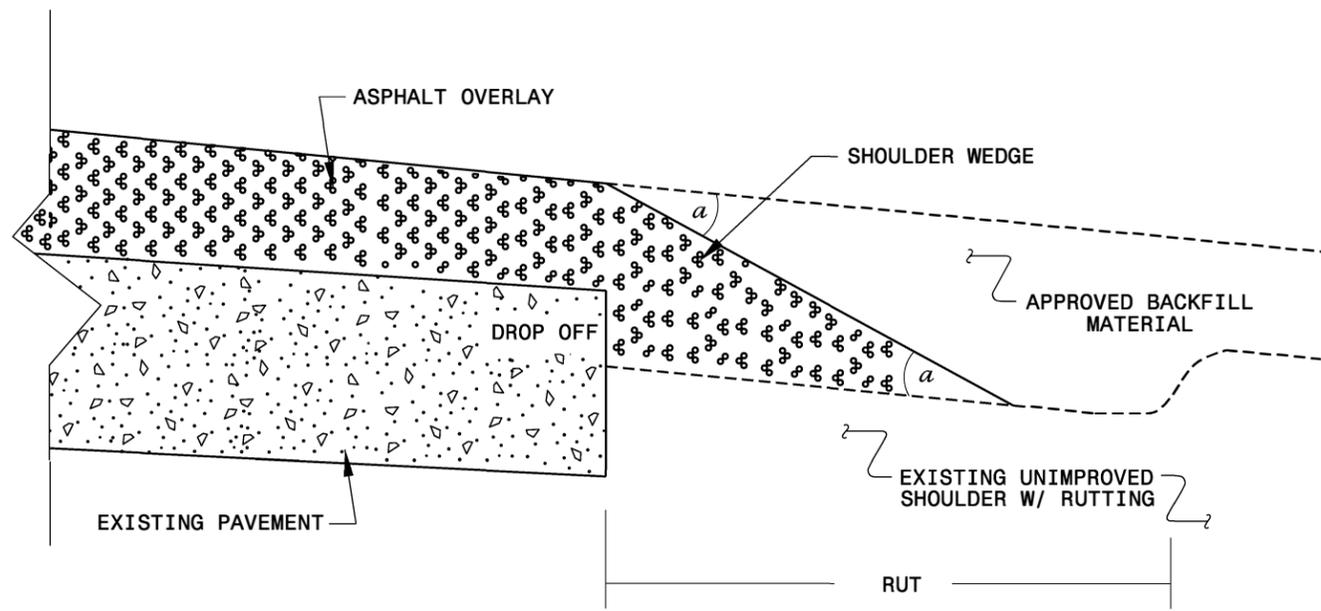
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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°



CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
SHOULDER WEDGE DETAILS	
ORIGINAL BY: T. SPELL	DATE: 7-19-11
MODIFIED BY:	DATE: 2/2/16
CHECKED BY:	DATE:
FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn	

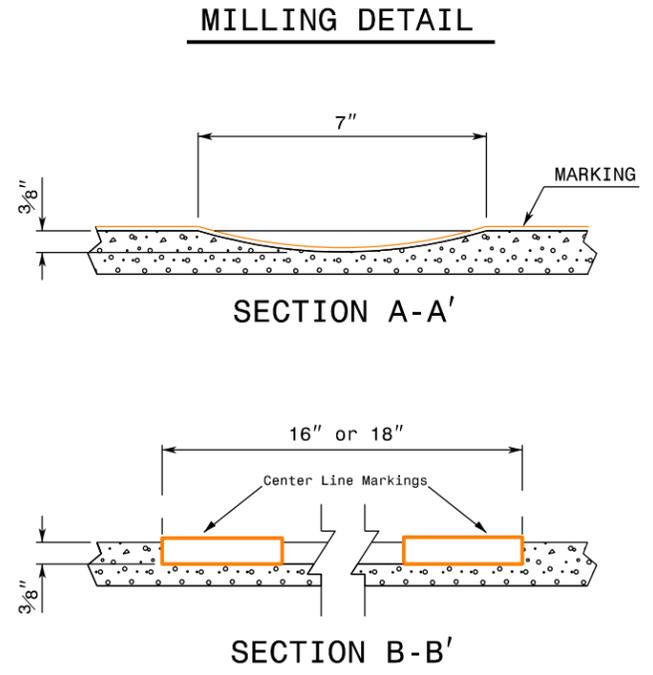
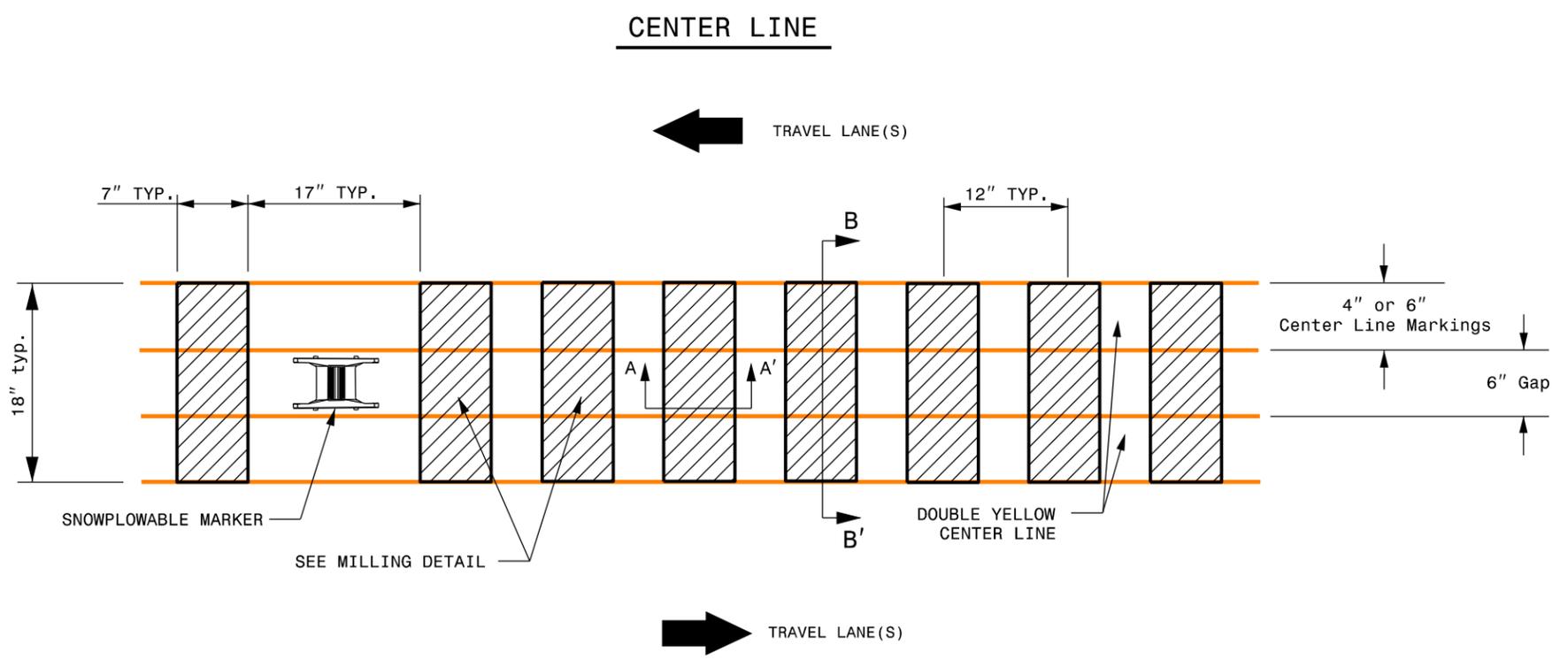
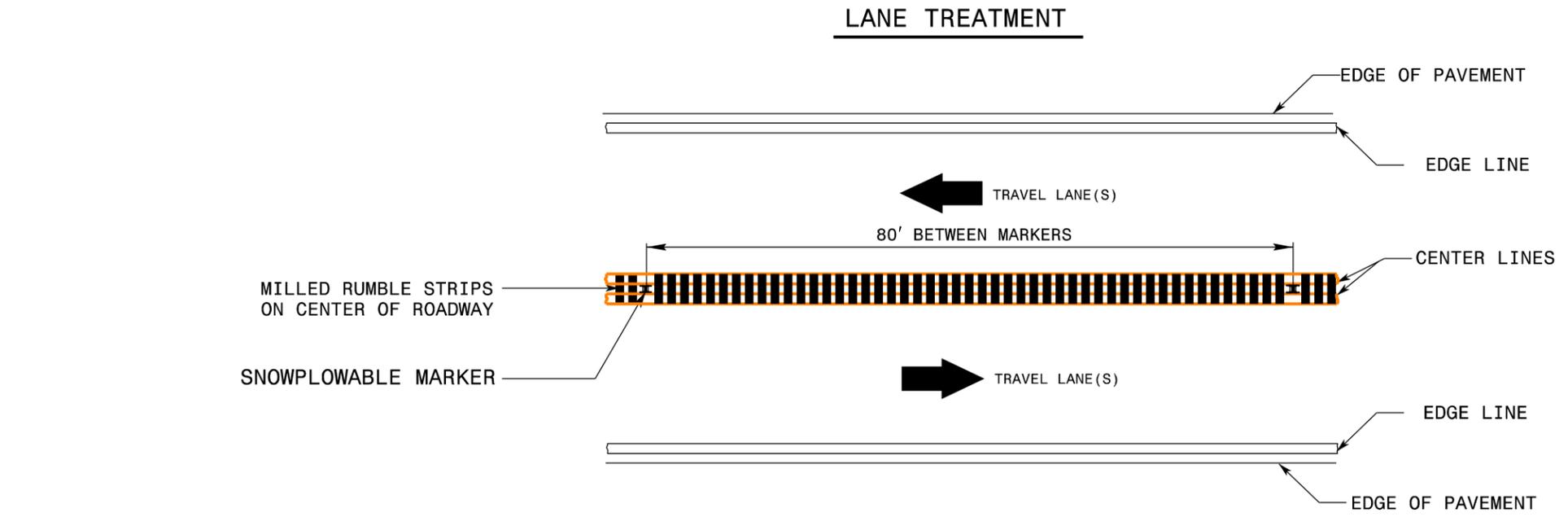
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

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

ENGLISH DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
 TRADITIONAL CENTERLINE RUMBLE STRIP WITH SNOWPLOWABLE MARKERS

ENGLISH DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
 TRADITIONAL CENTERLINE RUMBLE STRIP WITH SNOWPLOWABLE MARKERS



NOTES:

- 1) REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 2) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.
- 3) INSTALL SNOWPLOWABLE MARKERS AT APPROXIMATELY 80' INCREMENTS. DO NOT MILL RUMBLE STRIPS IN SECTION WHERE SNOWPLOWABLE MARKERS ARE INSTALLED.

PROJECT NO.	SHEET NO.
2024CPT.13.13.10811	10

SUMMARY OF QUANTITIES

MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	1220000000-E	1245000000-E	1260000000-E	1308000000-E	1330000000-E	1523000000-E	1524000000-E	1575000000-E	1704000000-E	1840000000-E	2830000000-N	2845000000-N	7444000000-E	7456100000-E
										INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	MILLING ASPHALT PAVEMENT, 0" TO 1-1/2"	INCIDENTAL MILLING	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	ASPHALT CONC SURFACE COURSE, TYPE S9.5C (LEVELING COURSE)	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)	ADJUSTMENT OF MANHOLES	ADJUSTMENT OF METER BOXES OR VALVE BOXES	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2)
						MI	FT			TON	SMI	TON	SY	SY	TON	TONS	TON	TON	LF	EA	EA	LF	LF
1	US 64/74A	FROM BROAD RIVER BRIDGE TO SR-1184 (ROCK SPRINGS CHURCH ROAD) PAVEMENT CHANGE	1	2	2WU	2.19	22.50	9.20	11.39	44	4.38	569		1,302	2,690		161	40					
2	US-221 (NORTH BOUND)	FROM SOUTH CAROLINA LINE TO BROAD RIVER BRIDGE	1,2,3	2	MD	1.59	33.00	0.00	1.59	10	2.43	316	4,326	1,159	3,456		207	74	10,749				
3	US-221 (SOUTH BOUND)	FROM BROAD RIVER BRIDGE TO CIRCLE DRIVE (PRIVATE ROAD)	1,2,3	2	MD	1.41	33.00	25.62	27.03	10	2.24	292	3,715	1,963	3,045		183	65	9,946				
4	US-221 ALT	FROM SOUTH CAROLINA STATE LINE TO SR 1002 (DUKE POWER ROAD)	1	2	2WU	2.39	23.00	0.00	2.39	52	4.78	621		4,098	3,156		193	145	272				
5	US-221 ALT/BUS 74	FROM SR 2185 (WITHROW ROAD) TO SR 1591 (LEDBETTER ROAD)	1	3	M2	2.11	39.00	16.43	18.54	5	2.80	365		1,960	4,325	50	264	131		6	22	552	60
TOTAL FOR PROJ NO. 2024CPT.13.13.10811						9.69				121	16.63	2,163	8,041	10,482	16,672	50	1,008	455	20,967	6	22	552	60
GRAND TOTAL						9.69				121	16.63	2,163	8,041	10,482	16,672	50	1,008	455	20,967	6	22	552	60

*NOTE-ALL MAPS, PROJECT NUMBER = 2024CPT.13.13.10811, COUNTY = RUTHERFORD, FINAL SURFACE TESTING REQUIRED = NO, WARM MIX ASPHALT REQUIRED = NO.

PROJECT NO.	SHEET NO.
2024CPT.13.13.10811	11

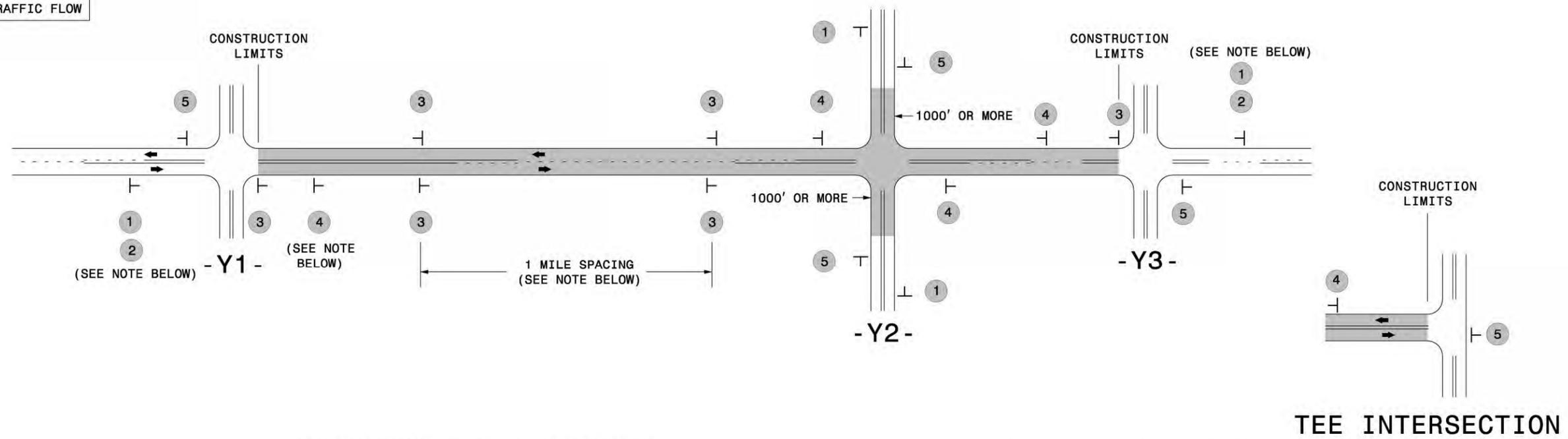
THERMOPLASTIC AND PAINT QUANTITIES

MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4413000000-E	4457000000-N	4685000000-E		4695000000-E		4704000000-E	4709000000-E	4720000000-E		4725000000-E		4905100000-N		
										WORK ZONE ADVANCE /GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS) YELLOW	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) YELLOW	THERMOPLASTIC PAVEMENT MARKING LINES (16", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE STOP BAR	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) ONLY	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MIL) RXR	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) LT ARROW	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) RT ARROW	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) U TURN	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS (DOUBLE YELLOW)	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS (RED/ CRYSTAL)
										SF	LS	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA
1	US 64/74A	FROM BROAD RIVER BRIDGE TO SR-1184 (ROCK SPRINGS CHURCH ROAD) PAVEMENT CHANGE	1	2	2WU	2.19	22.50	9.20	11.39	213		23,768	18,675										123	
2	US-221 (NORTH BOUND)	FROM SOUTH CAROLINA LINE TO BROAD RIVER BRIDGE	1,2,3	2	MD	1.59	33.00	0.00	1.59	126	*	10,221	9,003	2,767		29			6	4	3	24	226	
3	US-221 (SOUTH BOUND)	FROM BROAD RIVER BRIDGE TO CIRCLE DRIVE (PRIVATE ROAD)	1,2,3	2	MD	1.41	33.00	25.62	27.03	126		12,273	10,425	4,873	115	30	8		6		7	25	358	
4	US-221 ALT	FROM SOUTH CAROLINA STATE LINE TO SR 1002 (DUKE POWER ROAD)	1	2	2WU	2.39	23.00	0.00	2.39	268		24,978	11,459		68	48		4					166	
5	US-221 ALT/BUS 74	FROM SR 2185 (WITHROW ROAD) TO SR 1591 (LEDBETTER ROAD)	1	3	M2	2.11	39.00	16.43	18.54	126		22,176	22,862			100			75					
TOTAL FOR PROJ NO. 2024CPT.13.13.10811						9.69				859	1	93,416	72,424	7,640	115	68	207	8	4	87	4	10	338	584
												165,840		7,755				12		101		922		
GRAND TOTAL						9.69				859	1	93,416	72,424	7,640	115	68	207	8	4	87	4	10	338	584
												165,840		7,755				12		101		922		

*NOTE-ALL MAPS, PROJECT NUMBER = 2024CPT.13.13.10811, COUNTY = RUTHERFORD, FINAL SURFACE TESTING REQUIRED = NO, WARM MIX ASPHALT REQUIRED = NO.

SIGNING FOR RESURFACING PROJECTS

LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	 	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)</p>	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> LESS THAN 1000' OF RESURFACING ALONG -Y- LINE SUBDIVISION ROADS DEAD END ROADS <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div> PLACED 500' IN ADVANCE OF FLAGGER. </div> <div> PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
		<ul style="list-style-type: none"> PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER. 	
		<ul style="list-style-type: none"> THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE. 	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.</p>	
	<p>THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.</p>		

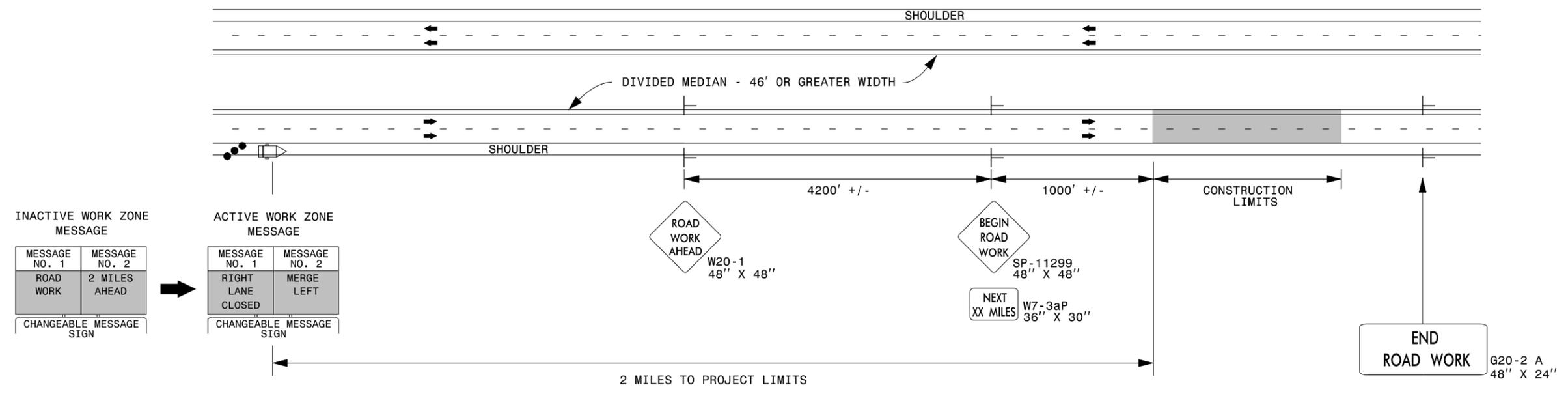
MAPS LESS THAN 2 MILES

FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.

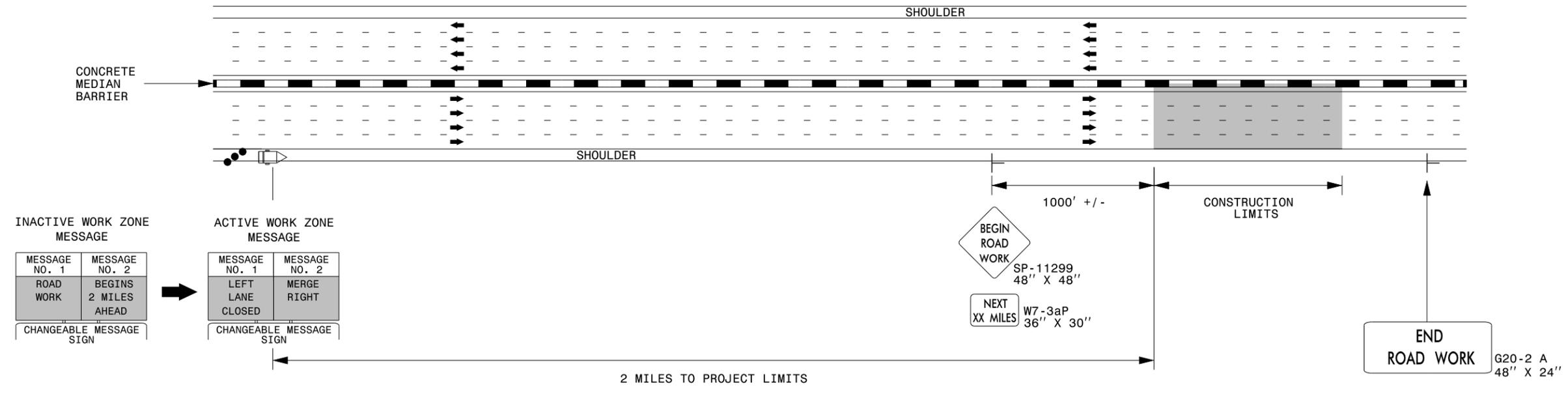


ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



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



NOTES:

- 1) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 6' AS MEASURED FROM THE EDGE OF PAVEMENT.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) FOR MEDIAN WIDTHS LESS THAN 46' (MEASURED EDGELINE TO EDGELINE) USE THE BOTTOM DRAWING.
- 4) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 5) INSTALL "ROAD WORK AHEAD" (W20-1) ALONG ENTRANCE RAMP 500' PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMP WITHIN THE WORK ZONE.
- 6) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER AND WITH DIVIDED MEDIANS OF 46' OR GREATER. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND

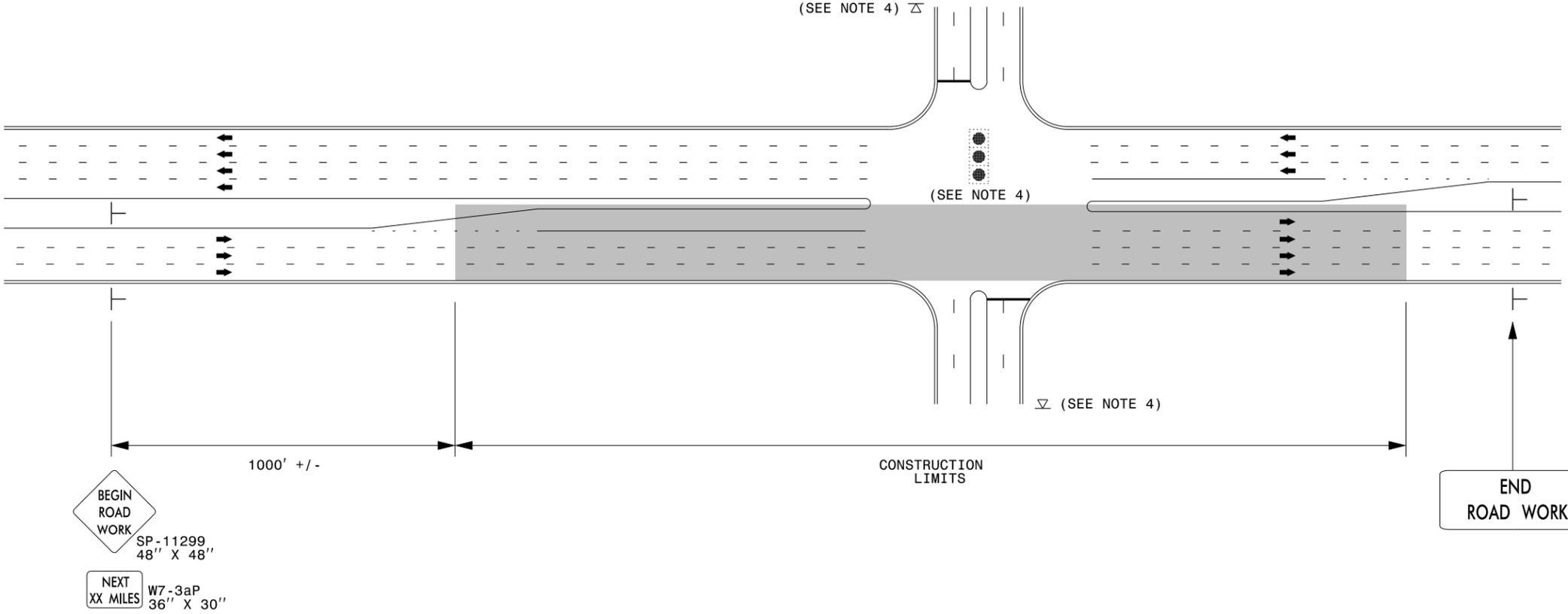
-  CHANGEABLE MESSAGE SIGN (CMS)
-  STATIONARY SIGN
-  DIRECTION OF TRAFFIC FLOW
-  TRAFFIC DRUM



RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH

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URBAN / SUBURBAN WORKZONES



NOTES:

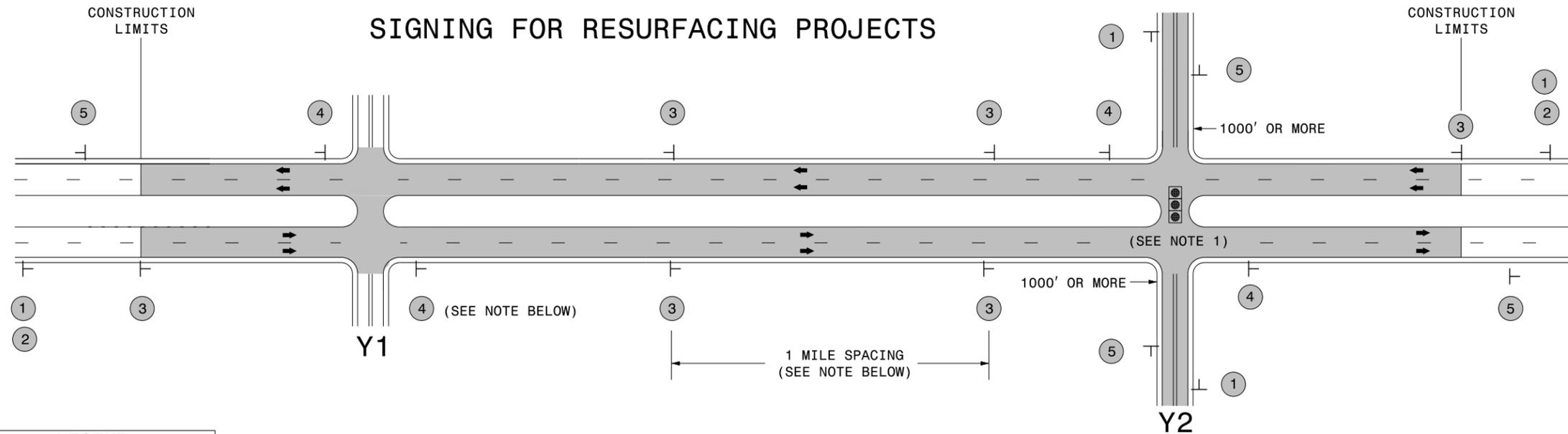
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND	
├	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW



RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

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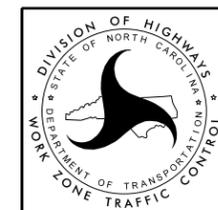


LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

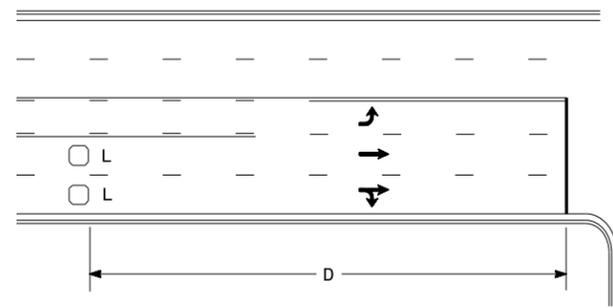
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING	
	1	 W20-1 48" X 48"	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> W20-1 48" X 48" </div> <div style="text-align: center;"> W20-7 A 48" X 48" </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	2	 W7-3aP 24" X 18"	#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3	 SP 13107 48" X 48"	PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.	
	4	 SP 13106 48" X 48"	THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.	
5	 G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.		
			<p>NOTES:</p> <ol style="list-style-type: none"> 1) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION. 	



RESURFACING
ADVANCE WARNING SIGNS
FOR RURAL AND SUBURBAN
MULTI-LANE ROADWAYS
W/ SHOULDER SECTIONS

High Speed Detection (≥40 mph)

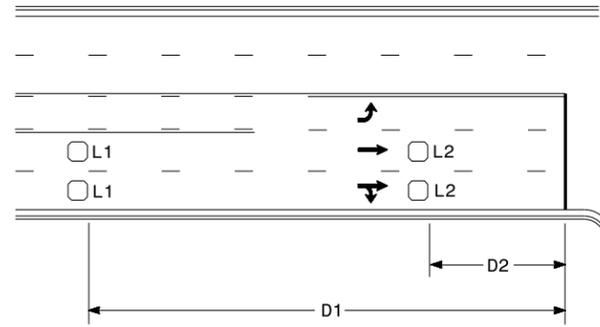


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR



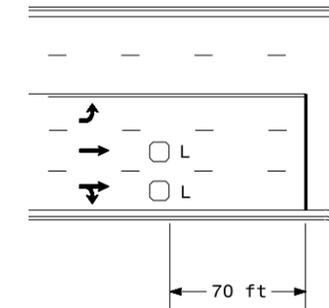
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

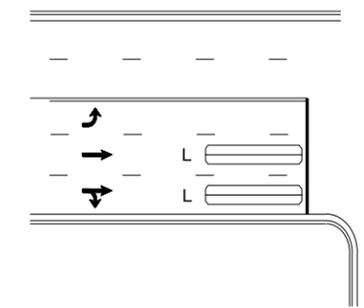
"Stretch" Operation

Low Speed Detection (≤35 mph)



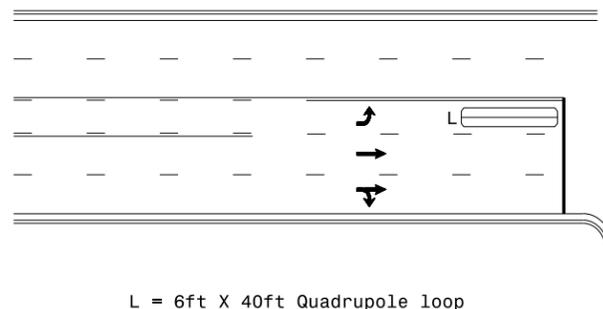
L = 6ft X 6ft
Wired in series

OR



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

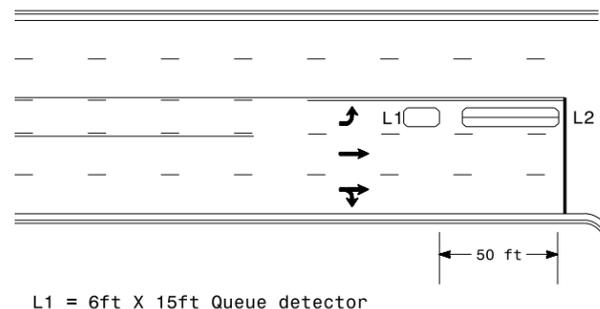
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

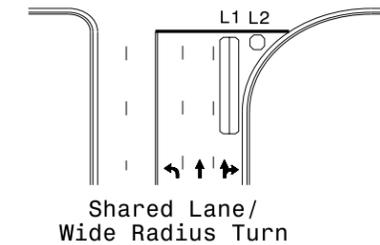
OR



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

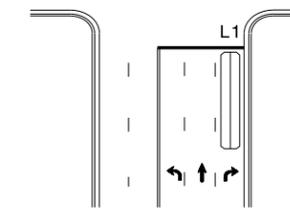
Queue Loop Detection

Right Turn Lane Detection

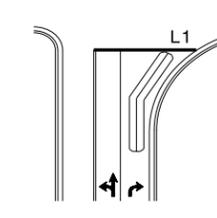


Shared Lane/
Wide Radius Turn

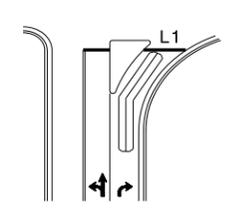
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

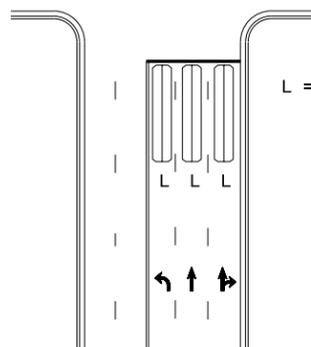


Wide Radius Turn



Channelized Turn

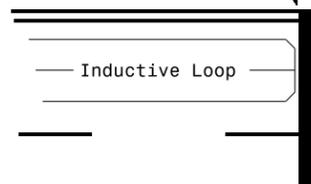
Side Street Detection



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

	Typical Signal Loop Locations		
	PLAN DATE: January 2015 PREPARED BY: PLA	REVIEWED BY: JPG REVIEWED BY:	
REVISIONS		INIT. DATE	DATE
750 N. Greenfield Pkwy, Garner, NC 27529		SIG. INVENTORY NO.	1/30/2015