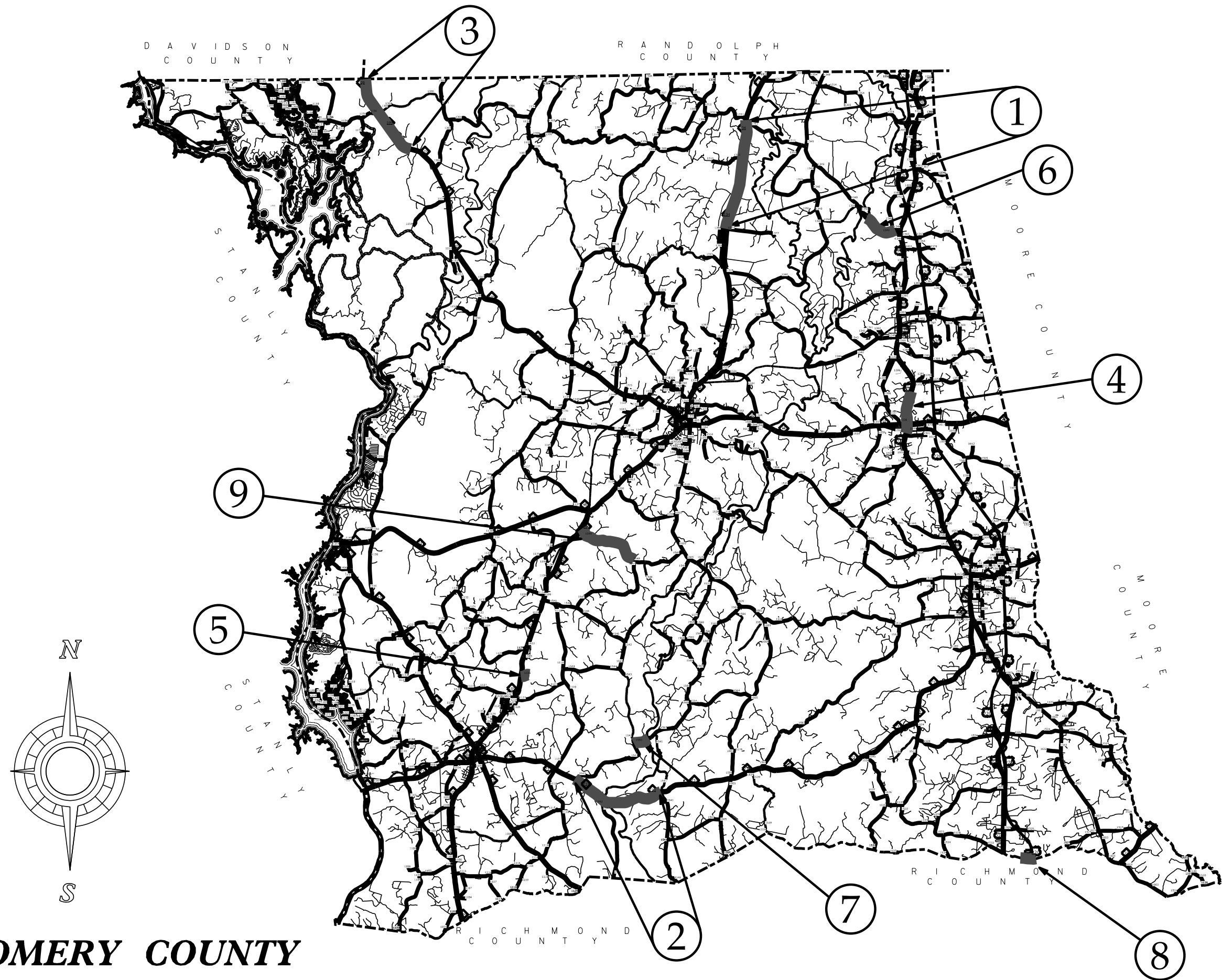
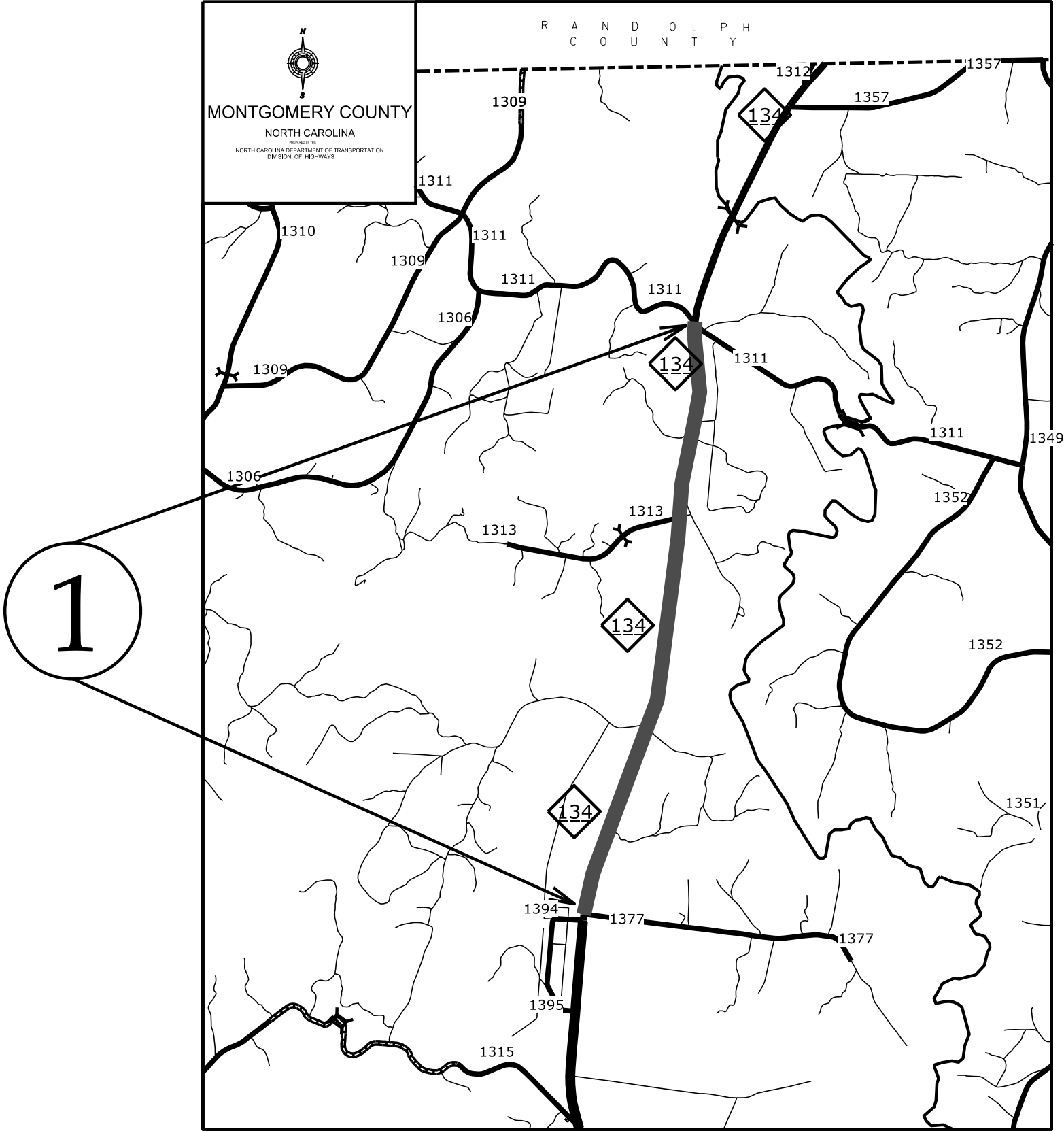


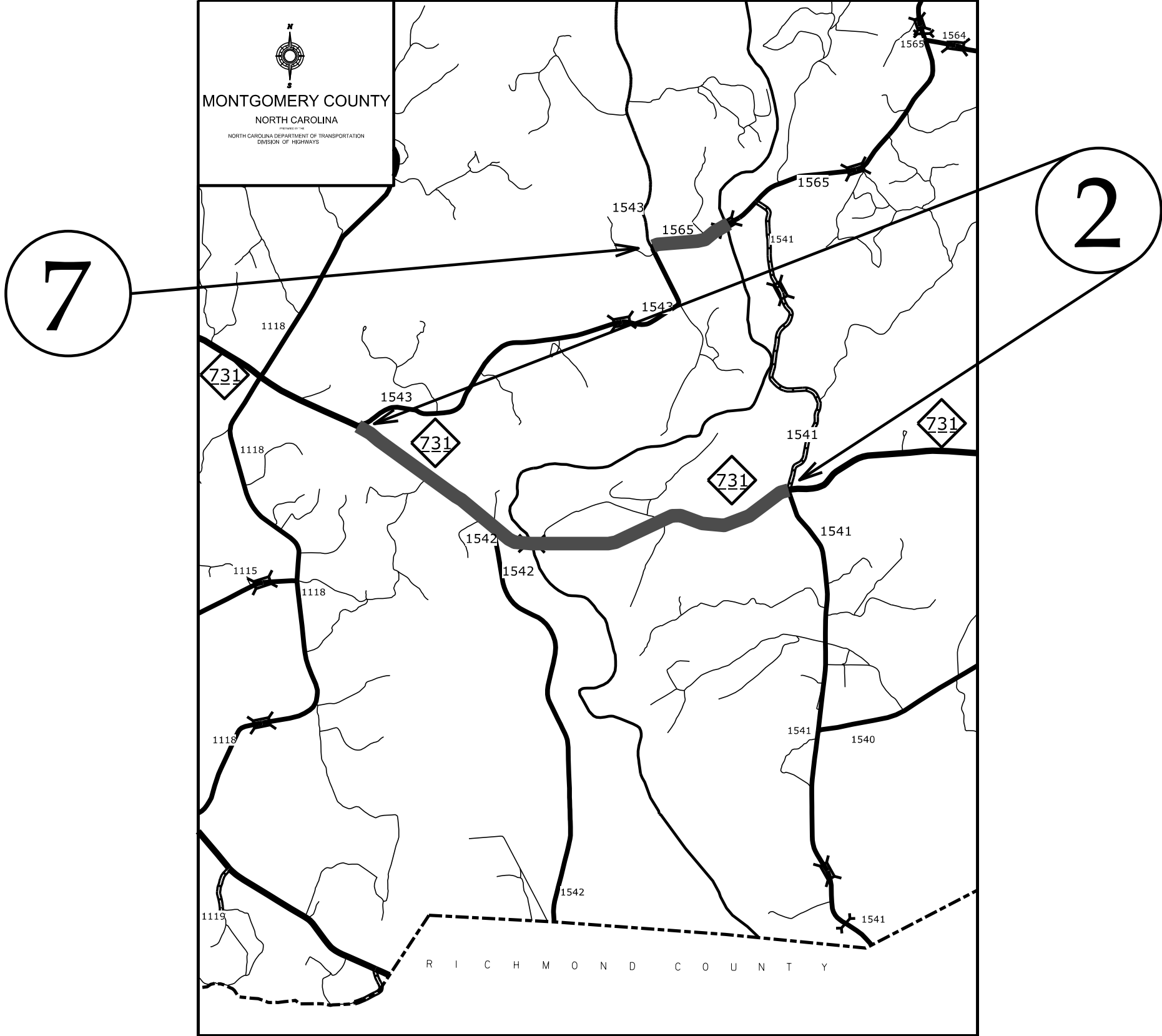


MONTGOMERY COUNTY
RESURFACING

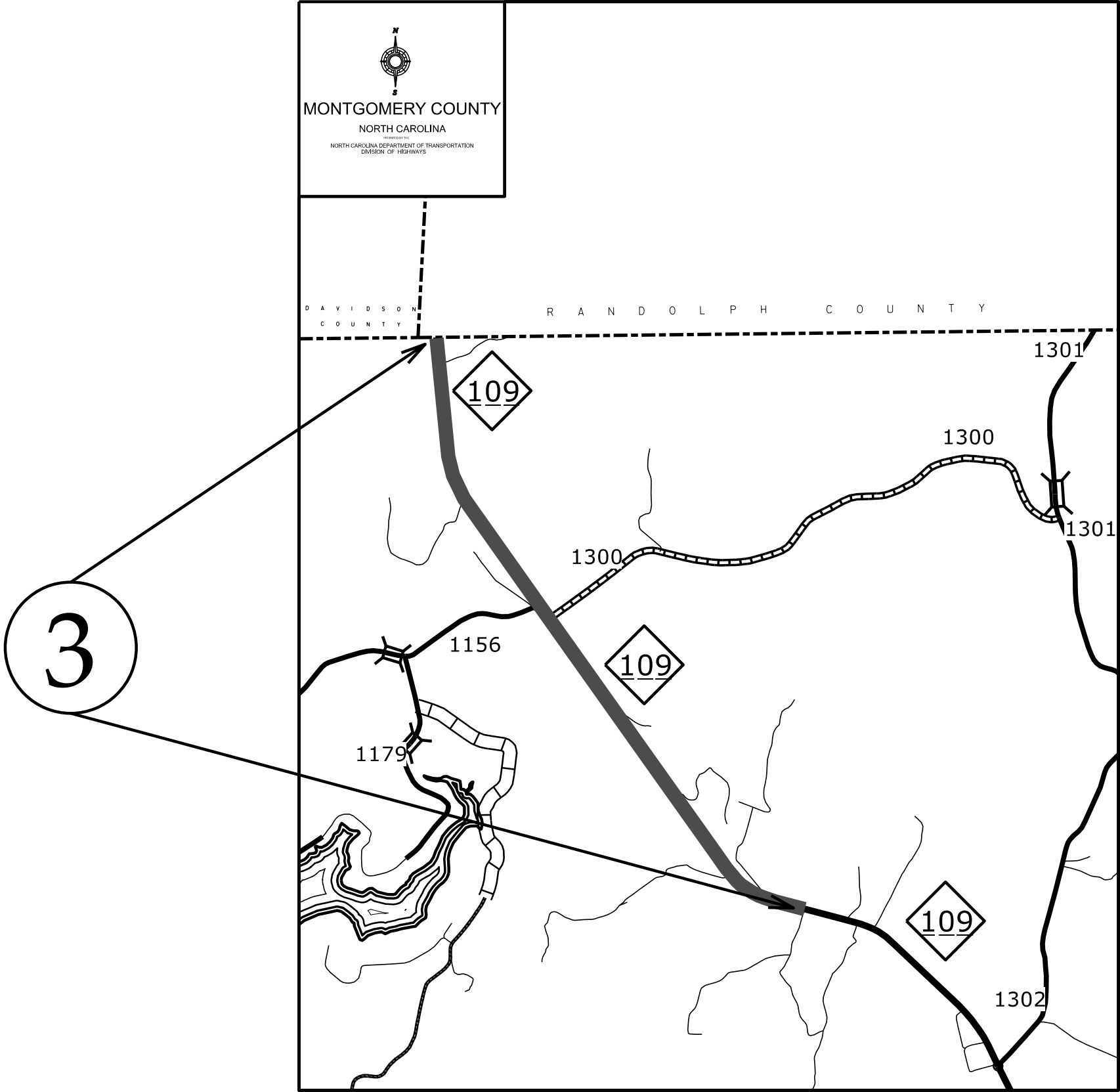
Map 1



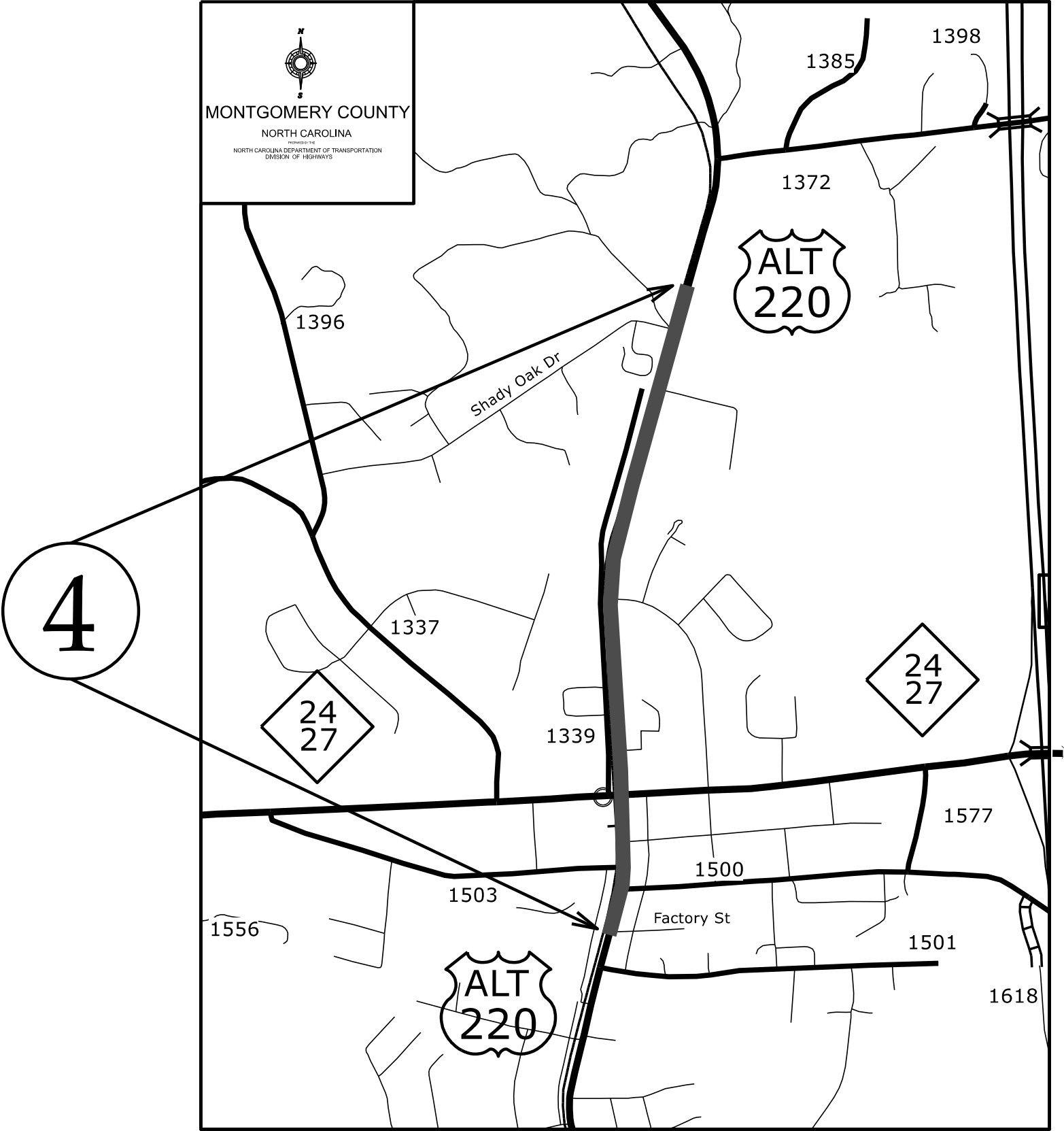
Maps 2 and 7



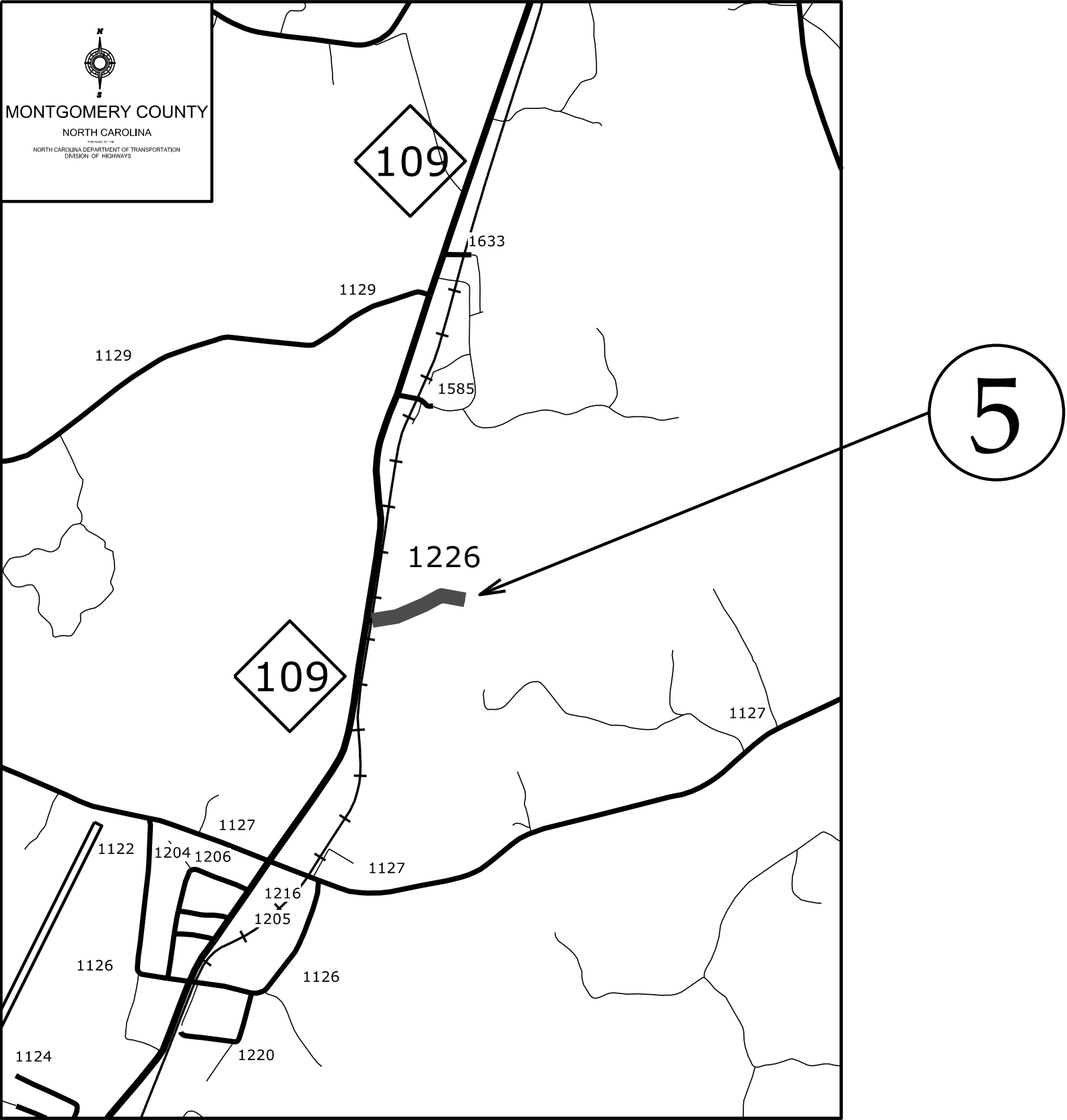
Map 3



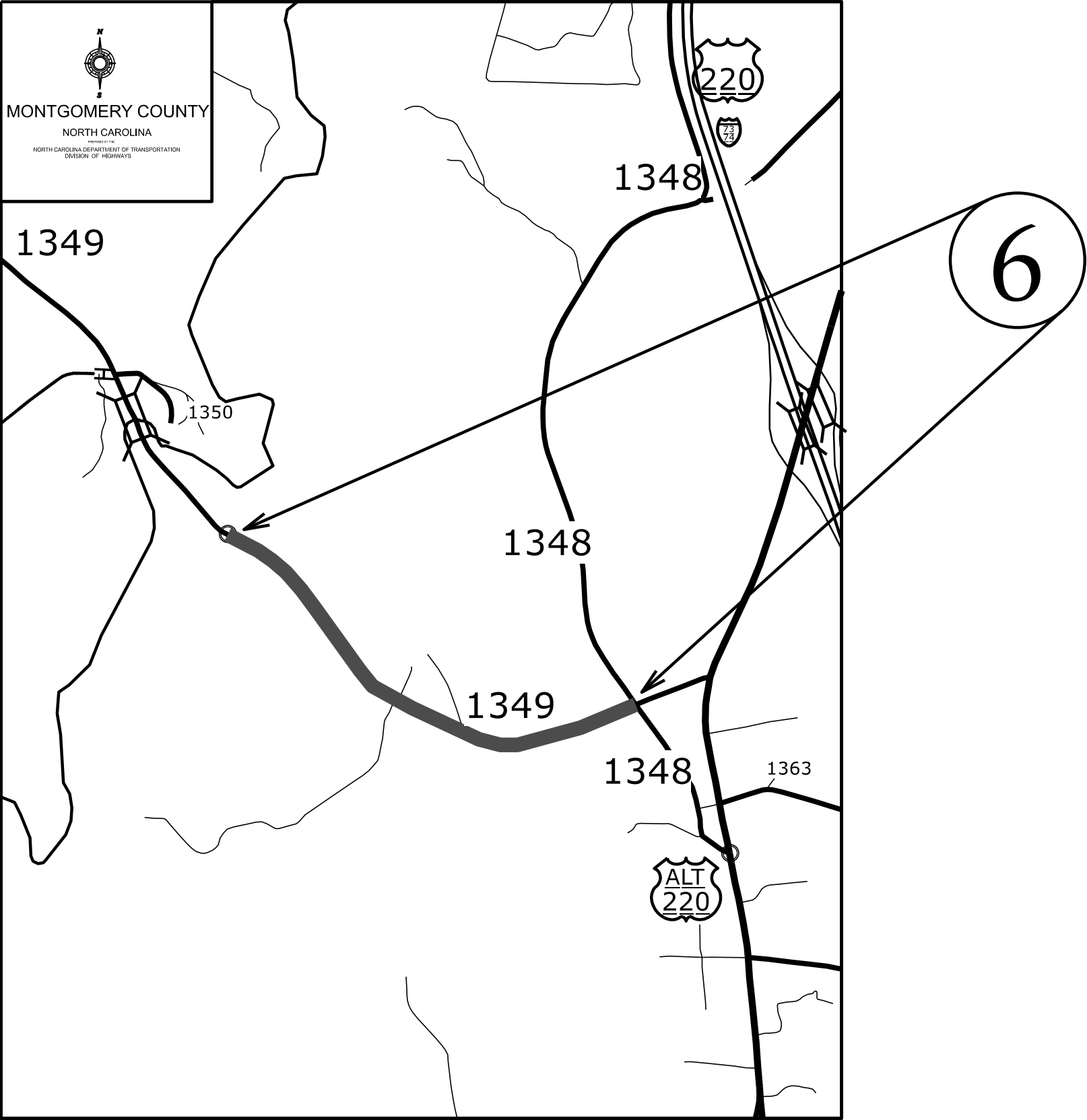
Map 4



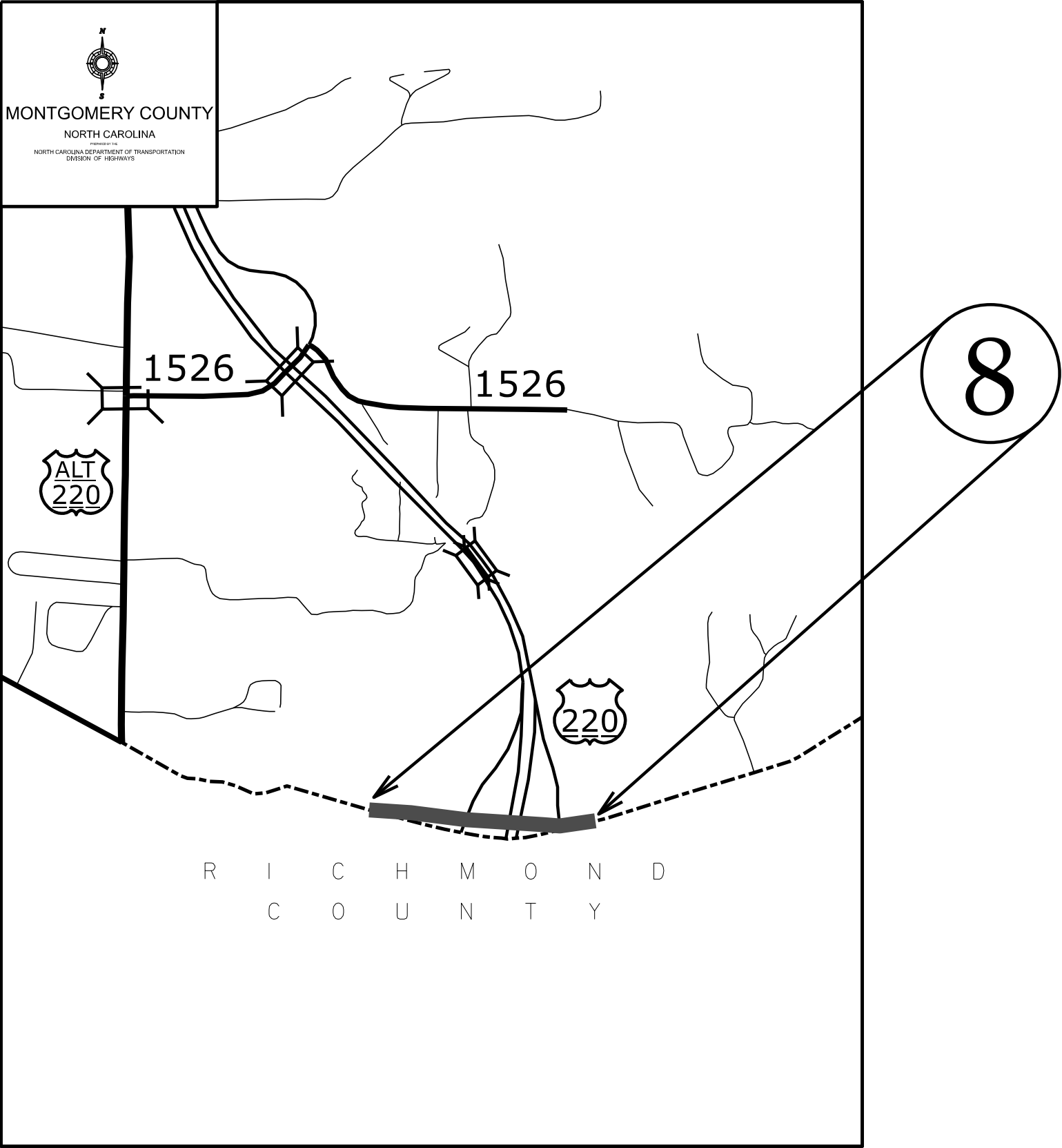
Map 5



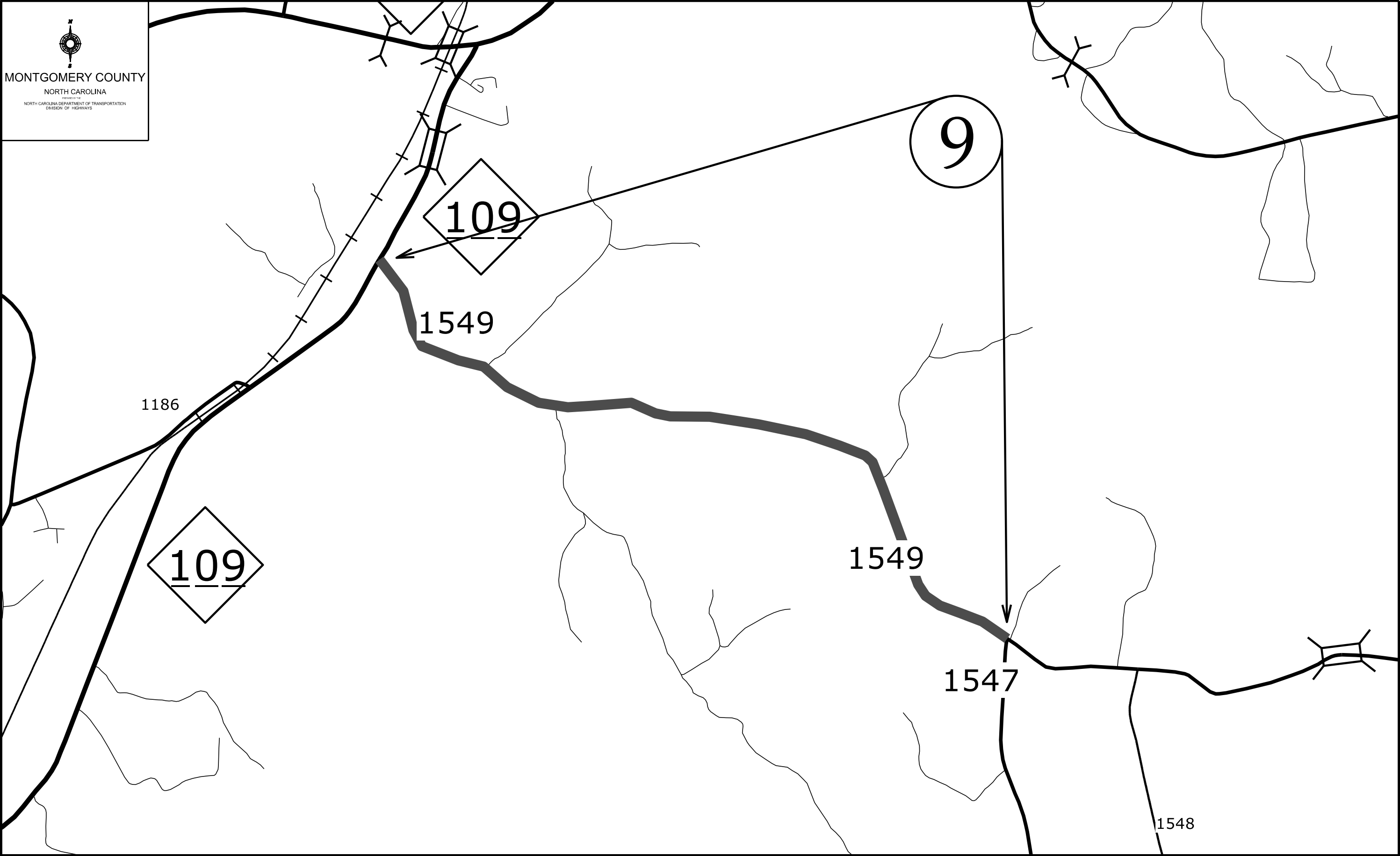
Map 6



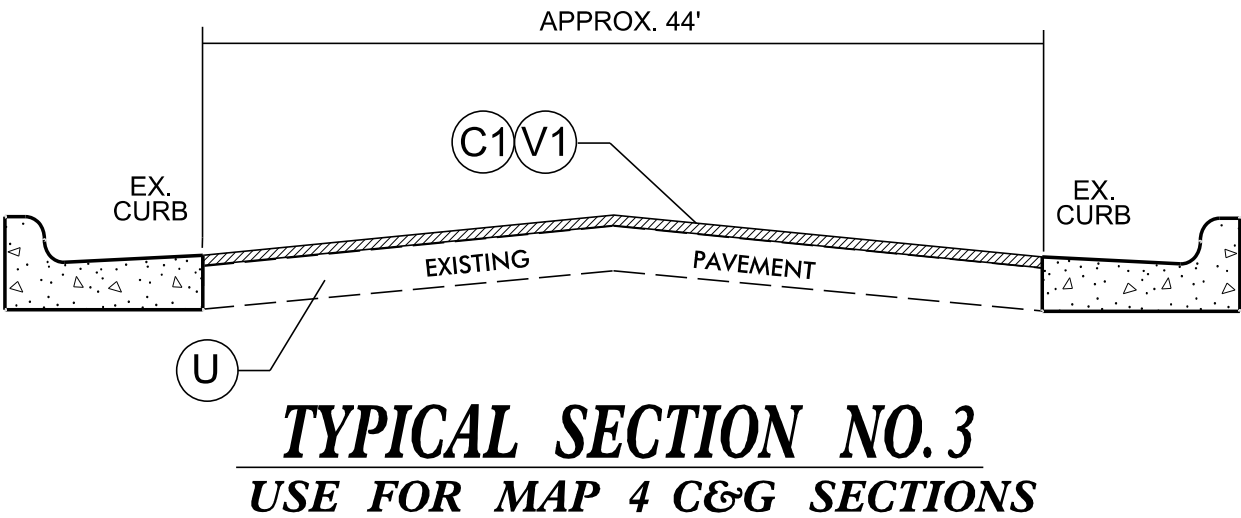
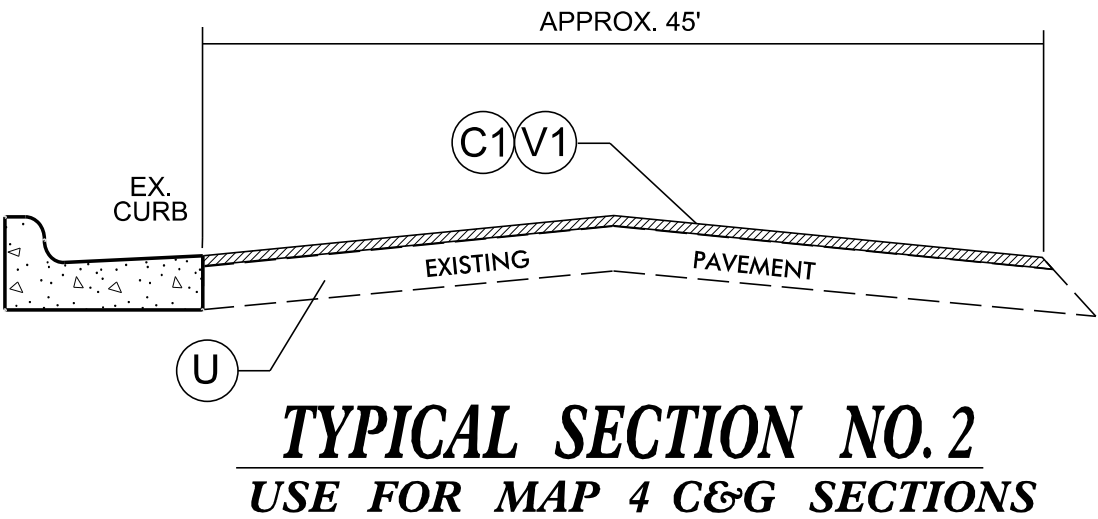
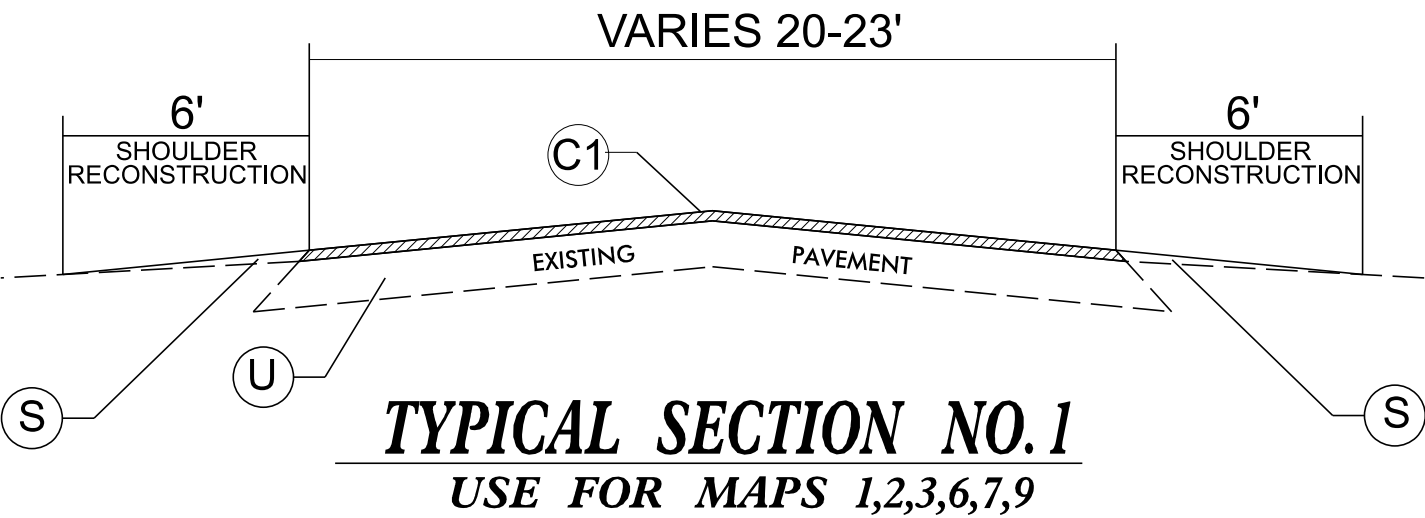
Map 8



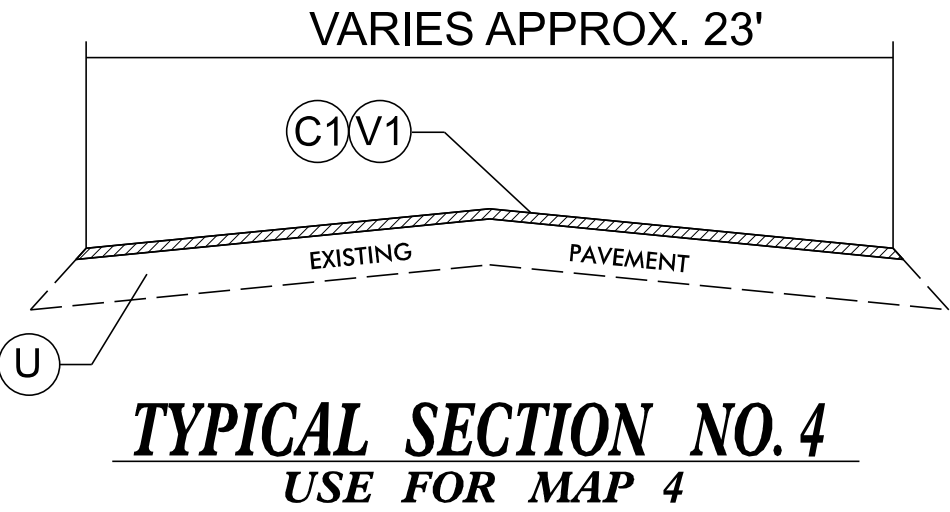
Map 9

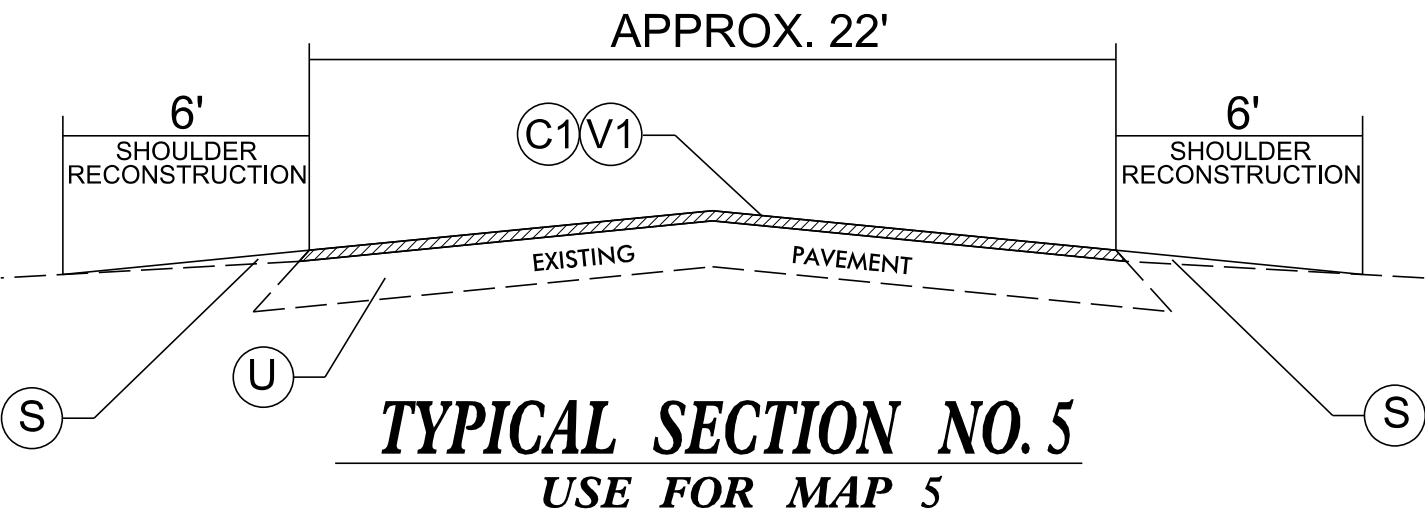


2026CPT.08.09.10621
2026CPT.08.09.20621

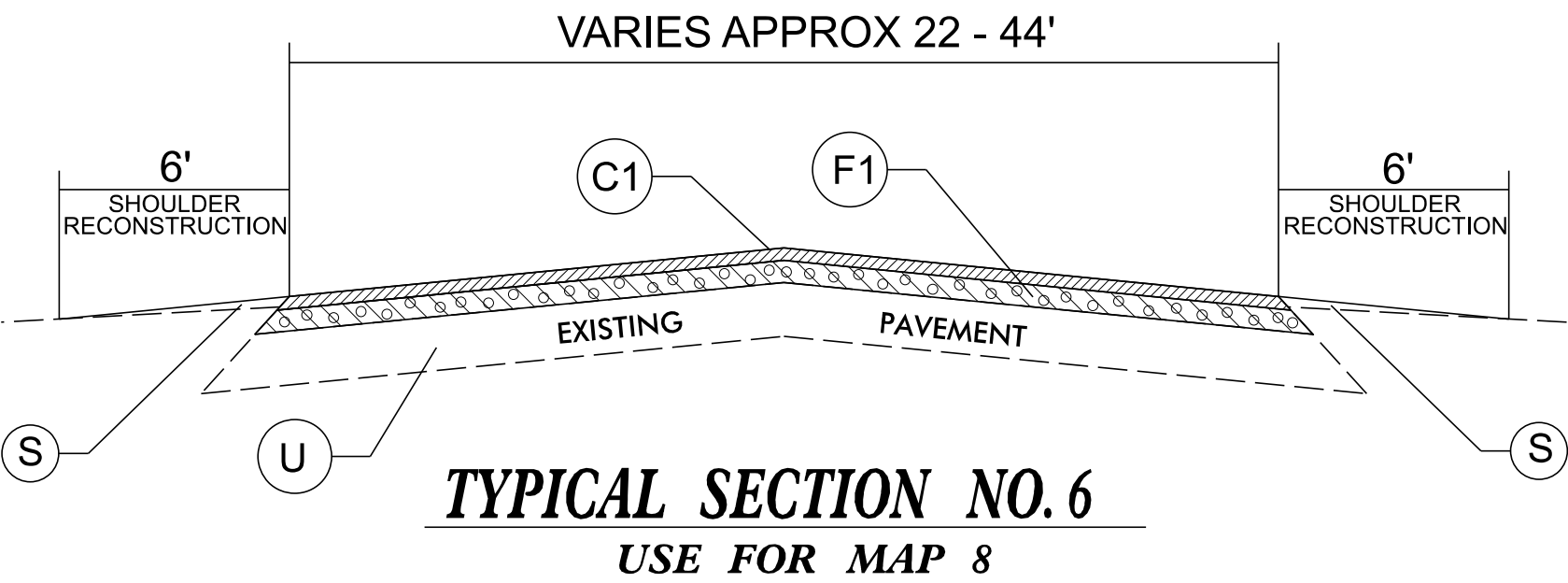


PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
F1	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #67 STONE
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT
V1	MILLING 1.5" IN DEPTH



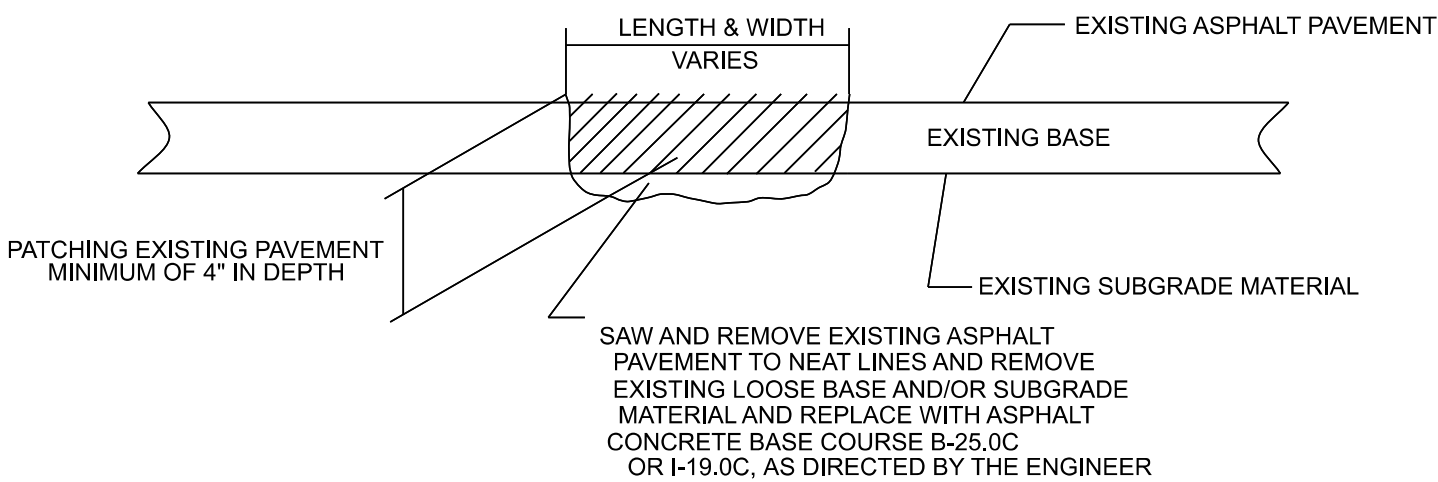


PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
F1	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #67 STONE
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT
V1	MILLING 1.5" IN DEPTH

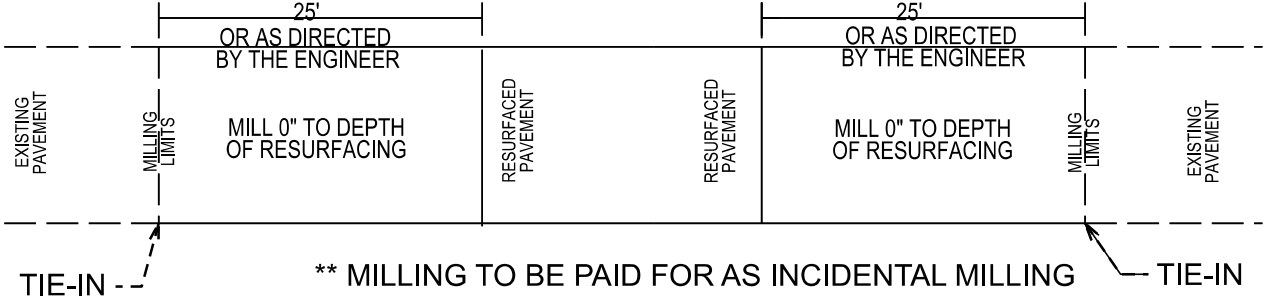


DETAILS

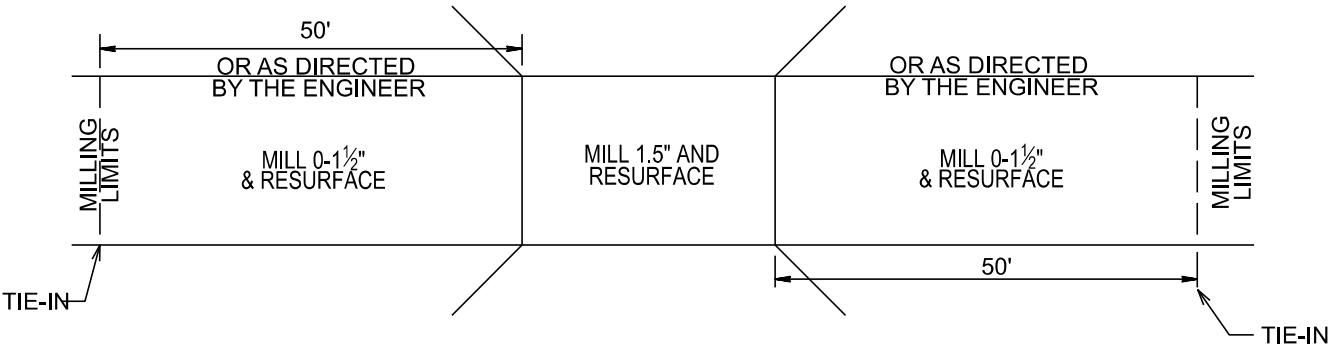
DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING



PAVEMENT TIE-IN DETAIL

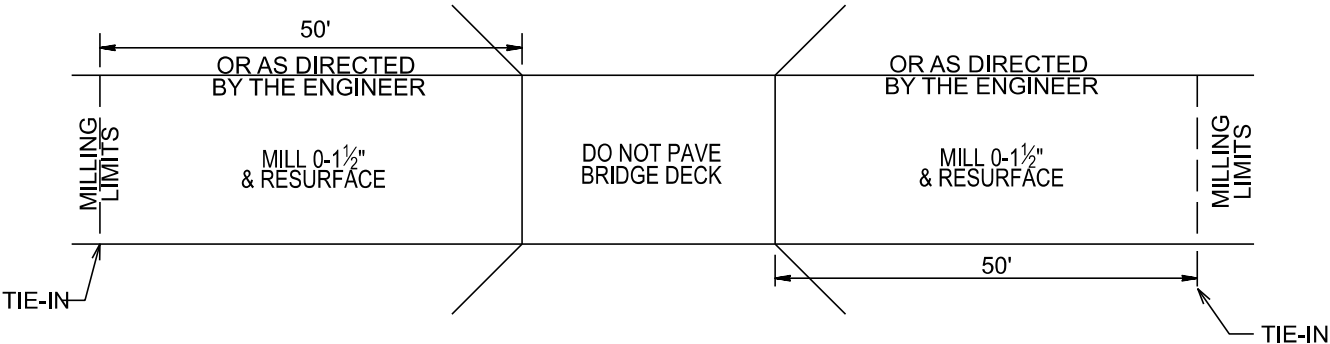


BRIDGE DETAILS



* MILLING SHALL BE PAID FOR UNDER INCIDENTAL MILLING

BRIDGE DRAWING FOR MAP #2 NC 731 BRIDGE #47

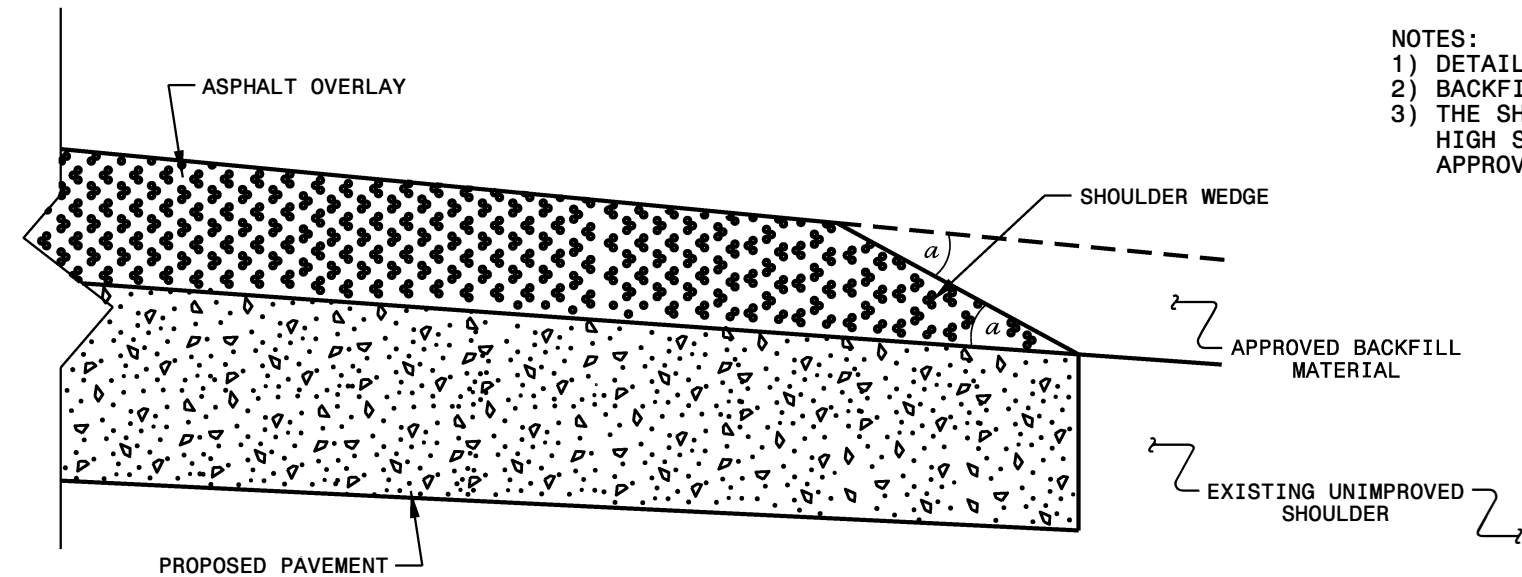


* MILLING SHALL BE PAID FOR UNDER INCIDENTAL MILLING

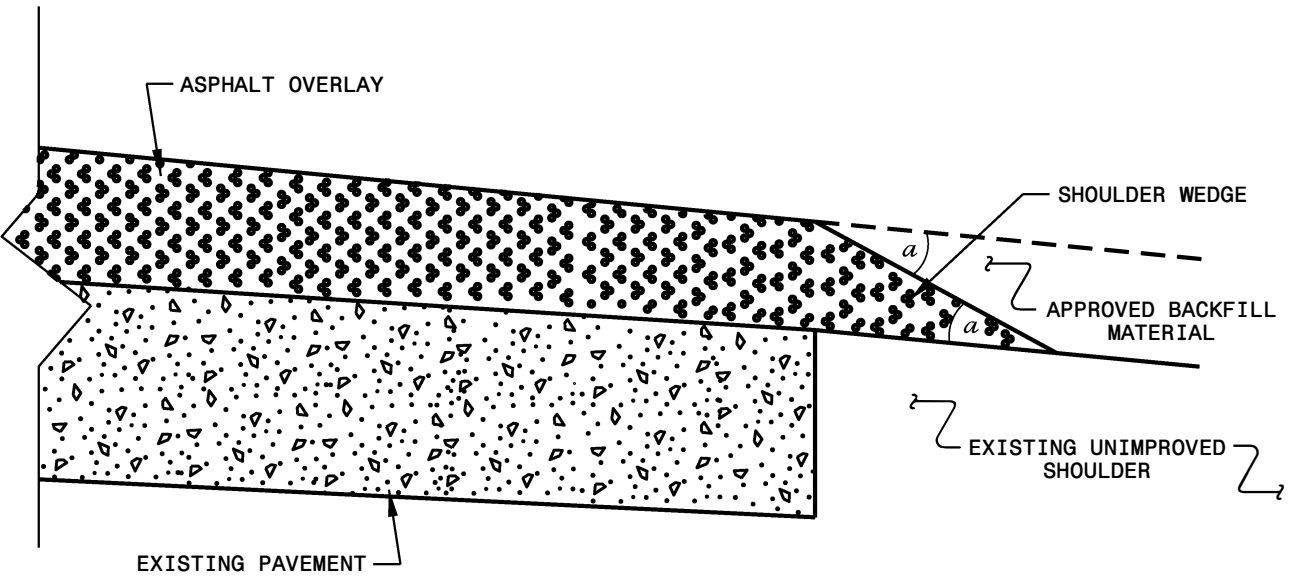
BRIDGE DRAWING FOR MAP #7 SR 1565 THICKETY CREEK RD BRIDGE #261

BRIDGE DRAWING FOR MAP #8 SR 1638 RESEARCH FARM RD BRIDGE #250

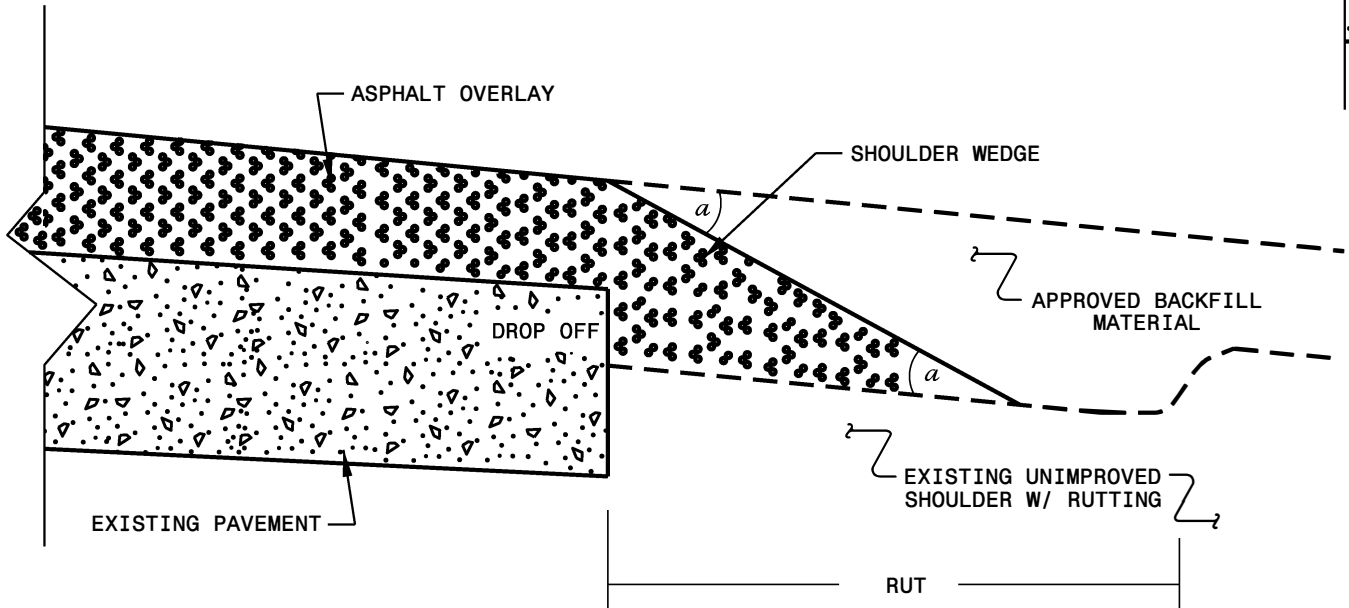
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFS AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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		

22-Jan-2018 09:41
S:\Contracts\2018\Resurfacing Projects\Division 4\I-5937 Wilson March 2018\Revised Shoulder Wedge Detail.dgn
P:\usr\919-707-6950\T.SPELL

PROJECT NO.	SHEET NO.	TOTAL NO.
2026CPT.08.09.10621, 2026CPT.08.09.20621	16	

SUMMARY OF QUANTITIES

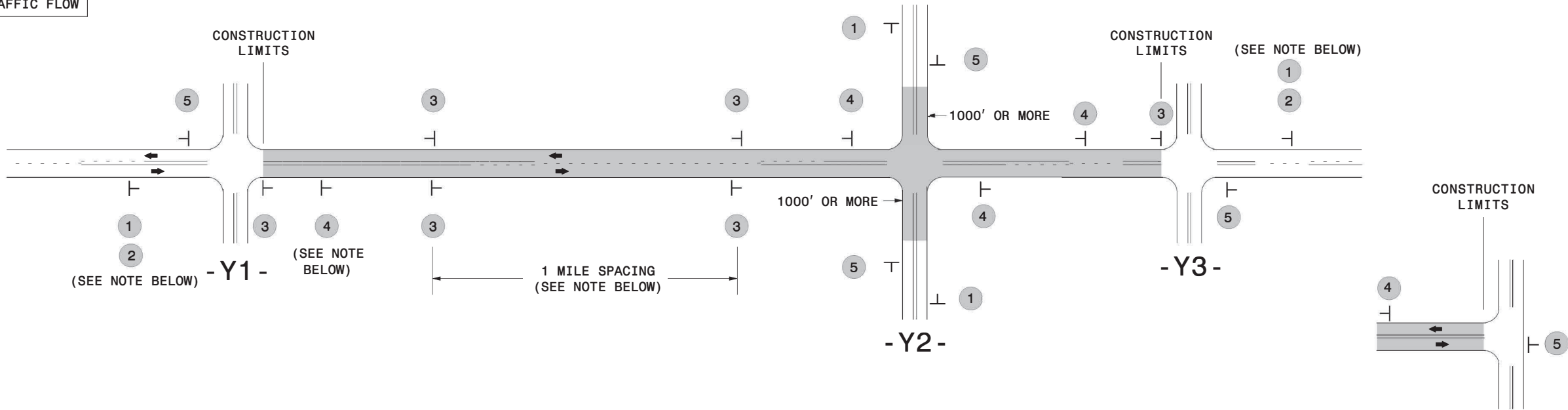
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PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	1.5" MILLING	INCIDENTAL MILLING	SURFACE COURSE, \$9.58	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ASPHALT SURFACE TREATMENT, MATCOAT, #67 STONE	EMULSION FOR ASPHALT SURFACE TREATMENT	VACUUM TRUCK	ADJUST DROP INLET	ADJUST MANHOLES	ADJUST METER OR VALVE BOX	PORTABLE LIGHTING	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2)
								MI	FT			SMI	TON	SY	SY	TONS	TONS	TONS	SY	GAL	WK	EA	EA	EA	LS	LF	LF
2026CPT.08.09.10621	Montgomery	1	NC-134	FROM SR 1377 (ATKINS DAIRY ROAD) TO SR 1311 (BANDY ROAD)	1	2	2WU	3.340	23	6.230	9.570	6.68	935.20		2,850	4,112	272	100									
TOTAL FOR MAP NO. 1								3.340				6.68	935.20		2,850	4,112	272	100									
2026CPT.08.09.10621	Montgomery	2	NC-731	FROM SR 1543 (THICKETY CREEK ROAD) TO SR 1541 (BOWLES ROAD)	1	2	2WU	2.920	22	6.540	9.460	5.84	817.60		1,850	3,440	227	75									
TOTAL FOR MAP NO. 2								2.920				5.84	817.60		1,850	3,440	227	75									
2026CPT.08.09.10621	Montgomery	3	NC-109	FROM DARK SPRINGS MOUNTAIN TRAIL TO RANDOLPH COUNTY	1	2	2WU	2.600	21	29.600	32.200	5.20	728.00		800	2,924	195	100									
TOTAL FOR MAP NO. 3								2.600				5.20	728.00		800	2,924	195	100									
2026CPT.08.09.10621	Montgomery	4	US-220 ALT	FROM FACTORY STREET TO END OF C&G SECTION NORTH OF SHADY OAK DRIVE	2,3,4	2	MU	1.280	45	7.960	9.240			33,800	1,500	2,881	188	25				5	6	5	*	1,200	100
TOTAL FOR MAP NO. 4								1.280						33,800	1,500	2,881	188	25				5	6	5		1,200	100
TOTAL FOR PROJ NO. 2026CPT.08.09.10621								10.140				17.72	2,480.80	33,800	7,000	13,357	882	300				5	6	5	1	1,200	100
2026CPT.08.09.20621	Montgomery	5	SR-1226 / HOMANIT USA RD	FROM EAST SIDE OF RR TRACKS TO DEAD END	5	2	2WU	0.245	22	0.015	0.260	0.49	49.00	3,350	550	289	21	50									
TOTAL FOR MAP NO. 5								0.245				0.49	49.00	3,350	550	289	21	50									
2026CPT.08.09.20621	Montgomery	6	SR-1349 / ETHER RD	FROM 0.46 MILES SOUTH OF SR 1350 (DAN ROAD) TO SR 1348 (CAGLE ROAD)	1	2	2WU	1.010	20	5.240	6.250	2.02	280.00		480	1,082	72	30									
TOTAL FOR MAP NO. 6								1.010				2.02	280.00		480	1,082	72	30									
2026CPT.08.09.20621	Montgomery	7	SR-1565 / THICKETY CREEK RD	FROM SR 1543 (THICKETY CREEK ROAD) TO BRIDGE #261 OVER LITTLE RIVER	1	2	2WU	0.520	21	0.000	0.520	1.04	145.60		350	558	39	50									
TOTAL FOR MAP NO. 7								0.520				1.04	145.60		350	558	39	50									
2026CPT.08.09.20621	Montgomery	8	SR-1638 / RESEARCH FARM RD	FROM RICHMOND COUNTY TO RICHMOND COUNTY	6	2	2WU	0.481	44	0.000	0.481	0.96	134.68		1,200	1,140	76	30	12,420.00	4,968.00	1.00						
TOTAL FOR MAP NO. 8								0.481				0.96	134.68		1,200	1,140	76	30	12,420.00	4,968.00	1.00						
2026CPT.08.09.20621	Montgomery	9	SR-1549 / ROBEDO RD	FROM NC 109 TO SR 1547 (HALLYBURTON ROAD)	1	2	2WU	2.020	21	0.000	2.020	4.04	565.60		400	2,170	144	60									
TOTAL FOR MAP NO. 9								2.020				4.04	565.60		400	2,170	144	60									
TOTAL FOR PROJ NO. 2026CPT.08.09.20621								4.276				8.55	1,174.88	3,350	2,980	5,239	352	220	12,420.00	4,968.00	1.00						
GRAND TOTAL								14.416				26.27	3,655.68	37,150	9,980	18,596	1,234	520	12,420.00	4,968.00	1.00	5	6	5	1	1,200	100

SIGNING FOR RESURFACING PROJECTS

LEGEND

STATIONARY SIGN

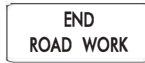
DIRECTION OF TRAFFIC FLOW



TEE INTERSECTION

MAINLINE (-L-) SIGNING

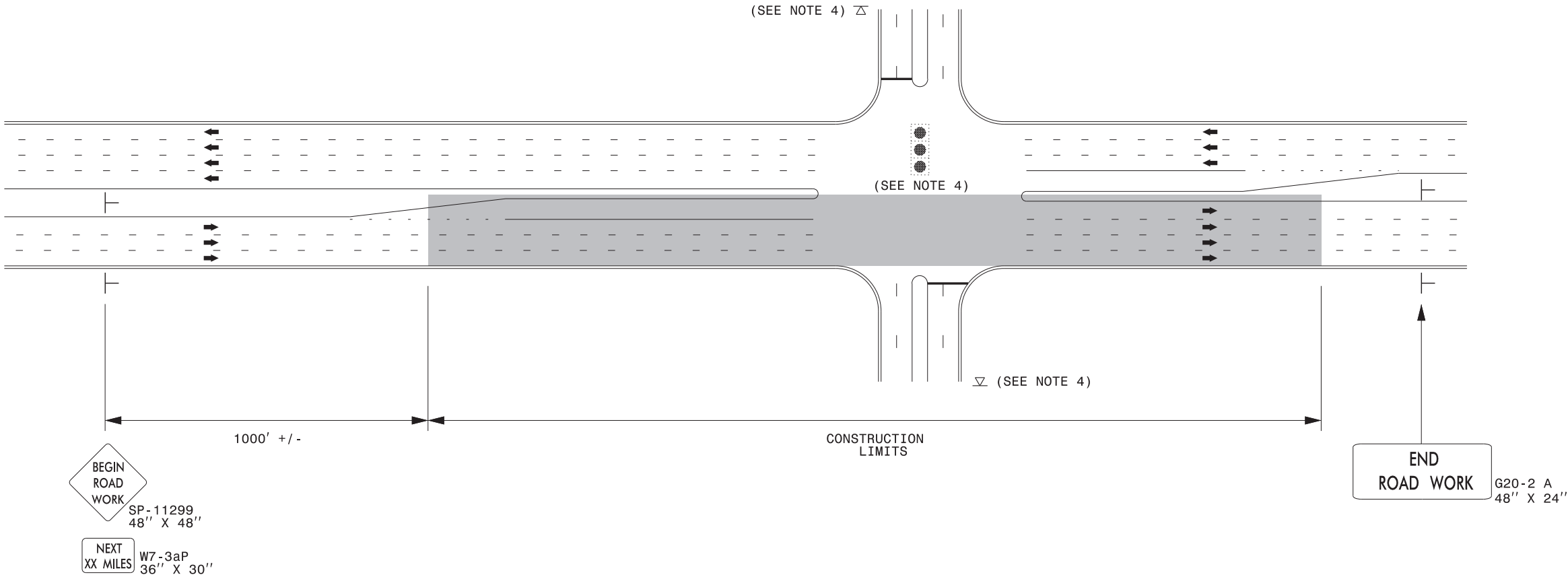
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1  W20-1 48" X 48" 2  W7-3aP 24" X 18"	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. #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)	NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS: 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS 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.  W20-1 48" X 48" PLACED 500' IN ADVANCE OF FLAGGER.  W20-7 A 48" X 48" PLACED 250' IN ADVANCE OF FLAGGER.
	3  SP 13107 48" X 48"	- 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.	
	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. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.	
	5  G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	
	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.		
LESS 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.		 AD



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

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

DIVISION OF HIGHWAYS

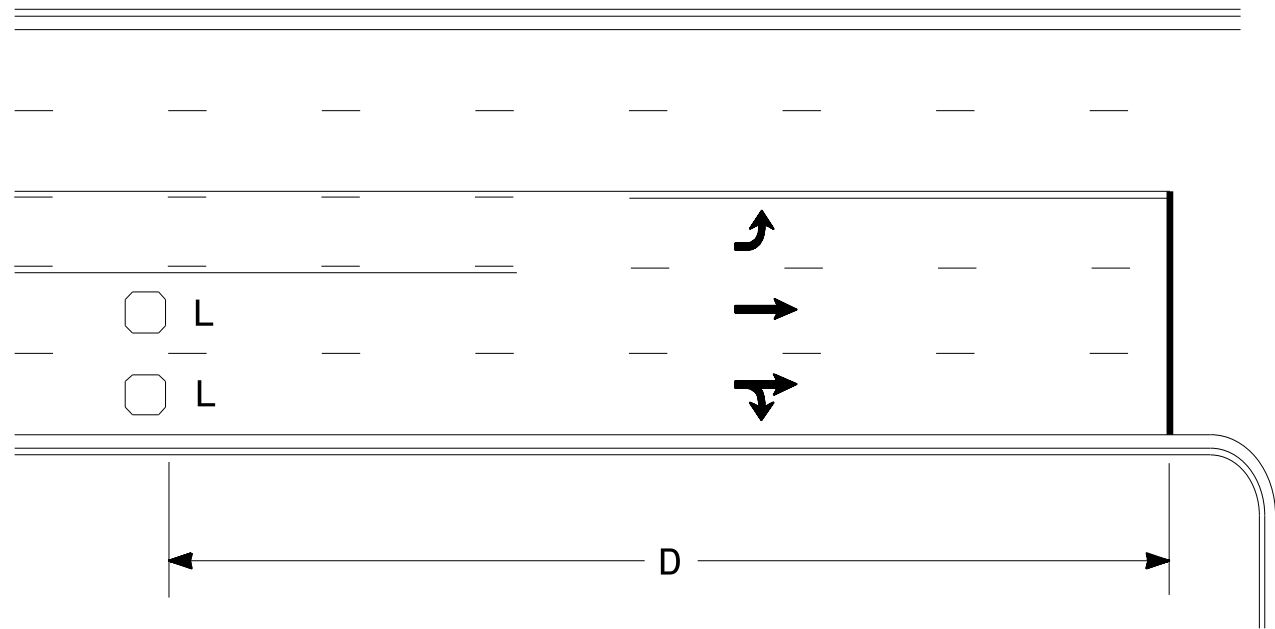
STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

High Speed Detection
(≥35 mph)

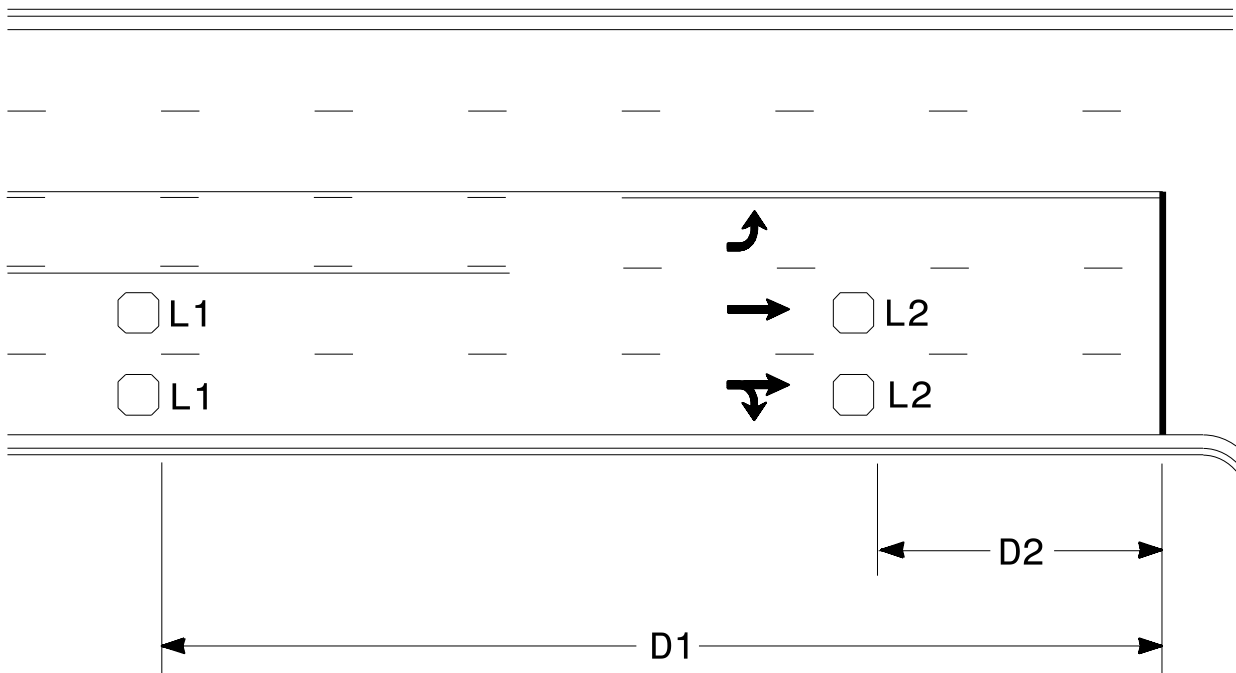


Speed Limit mph	D ft
35	200
40	250
45	300
50	355
55	420
60	475
65	550

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



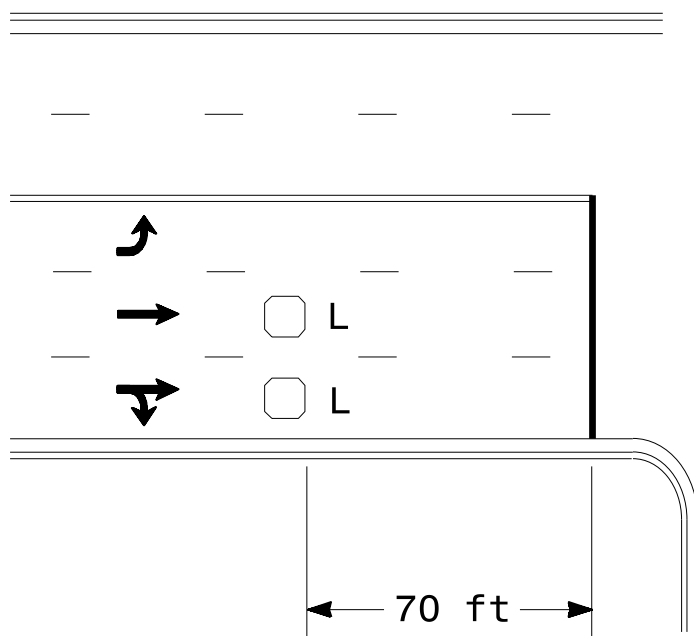
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110
60	475	120
65	550	130

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

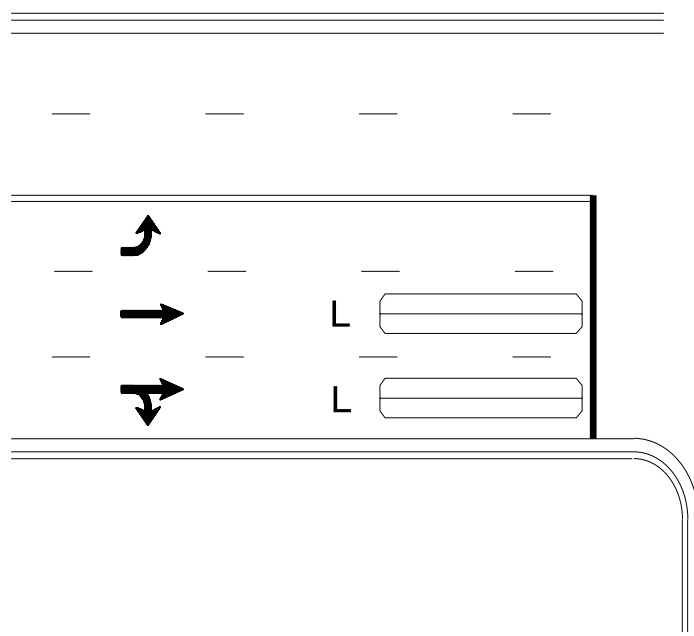
"Stretch" Operation

Low Speed Detection
(≤35 mph)



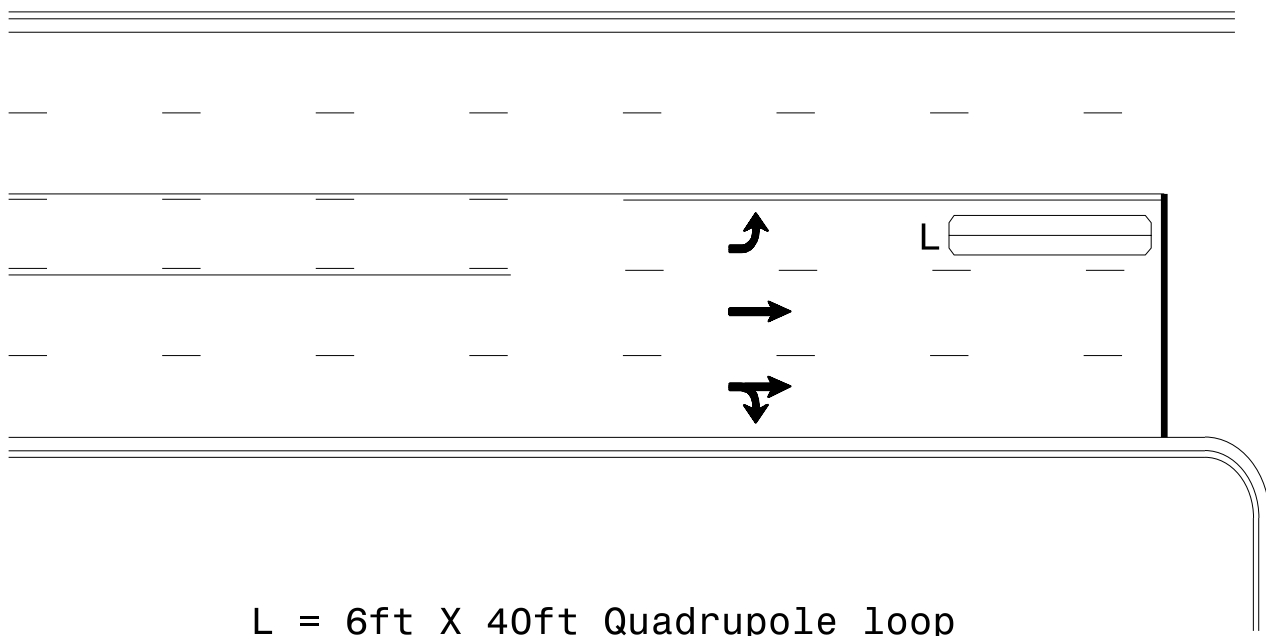
L = 6ft X 6ft
Wired in series

OR



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

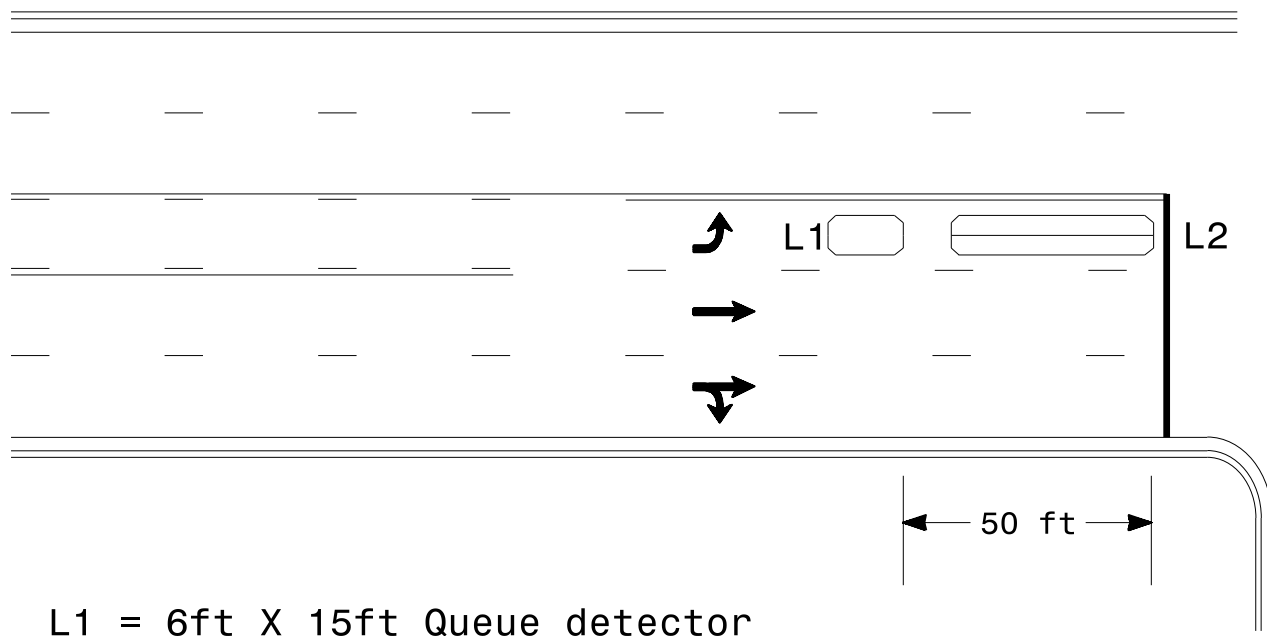
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

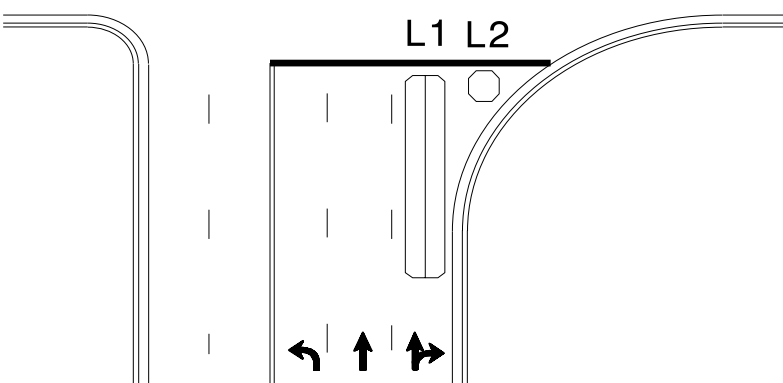
OR



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

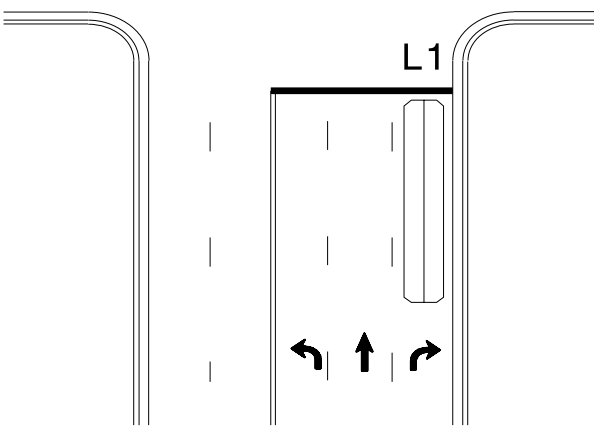
Queue Loop Detection

Right Turn Lane Detection

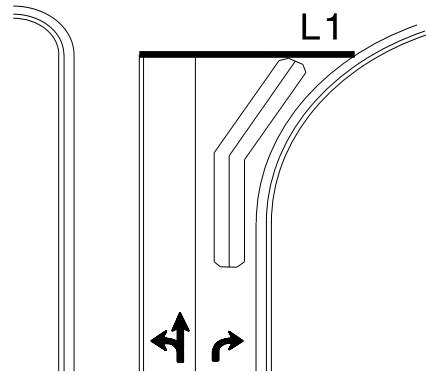


Shared Lane/
Wide Radius Turn

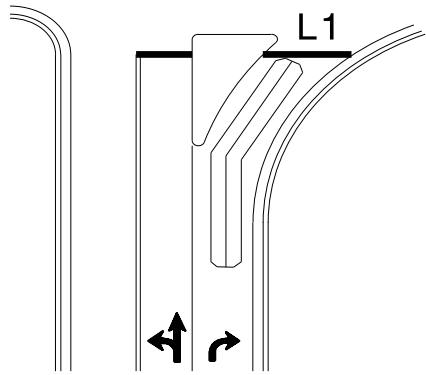
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

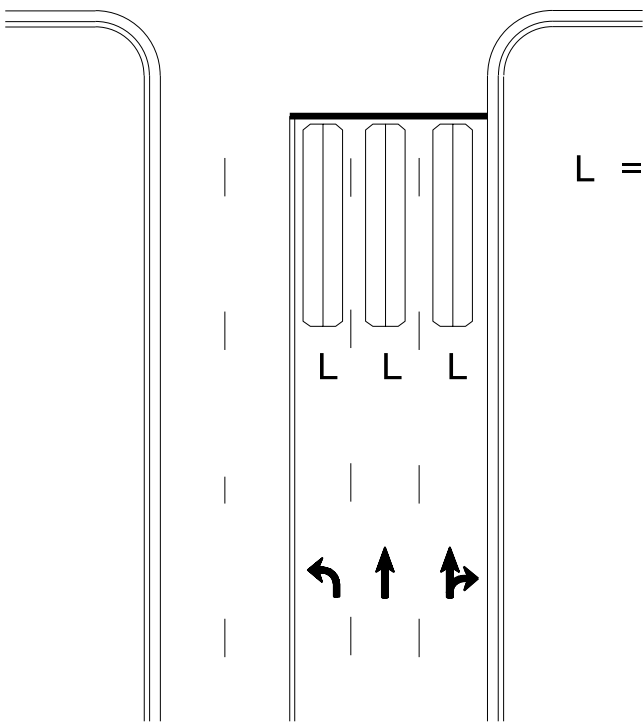


Wide Radius Turn



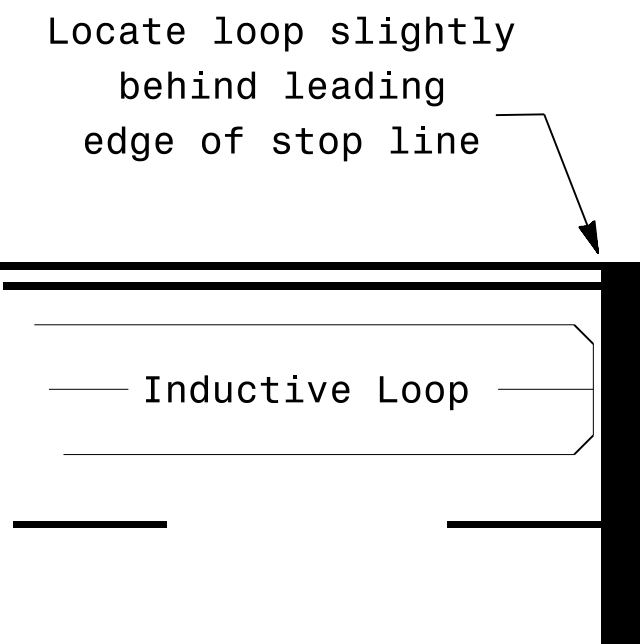
Channelized Turn

Side Street Detection



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

Presence Loop Placement at Stop Lines



- 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

Prepared In the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE
N/A

Typical Signal Loop Locations

PLAN DATE: September 2025

REVIEWED BY:

PREPARED BY: J.A. Lohr

REVIEWED BY:

REVISIONS

INIT.

DATE

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
ROBERT J. ZIEMBA
026486

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