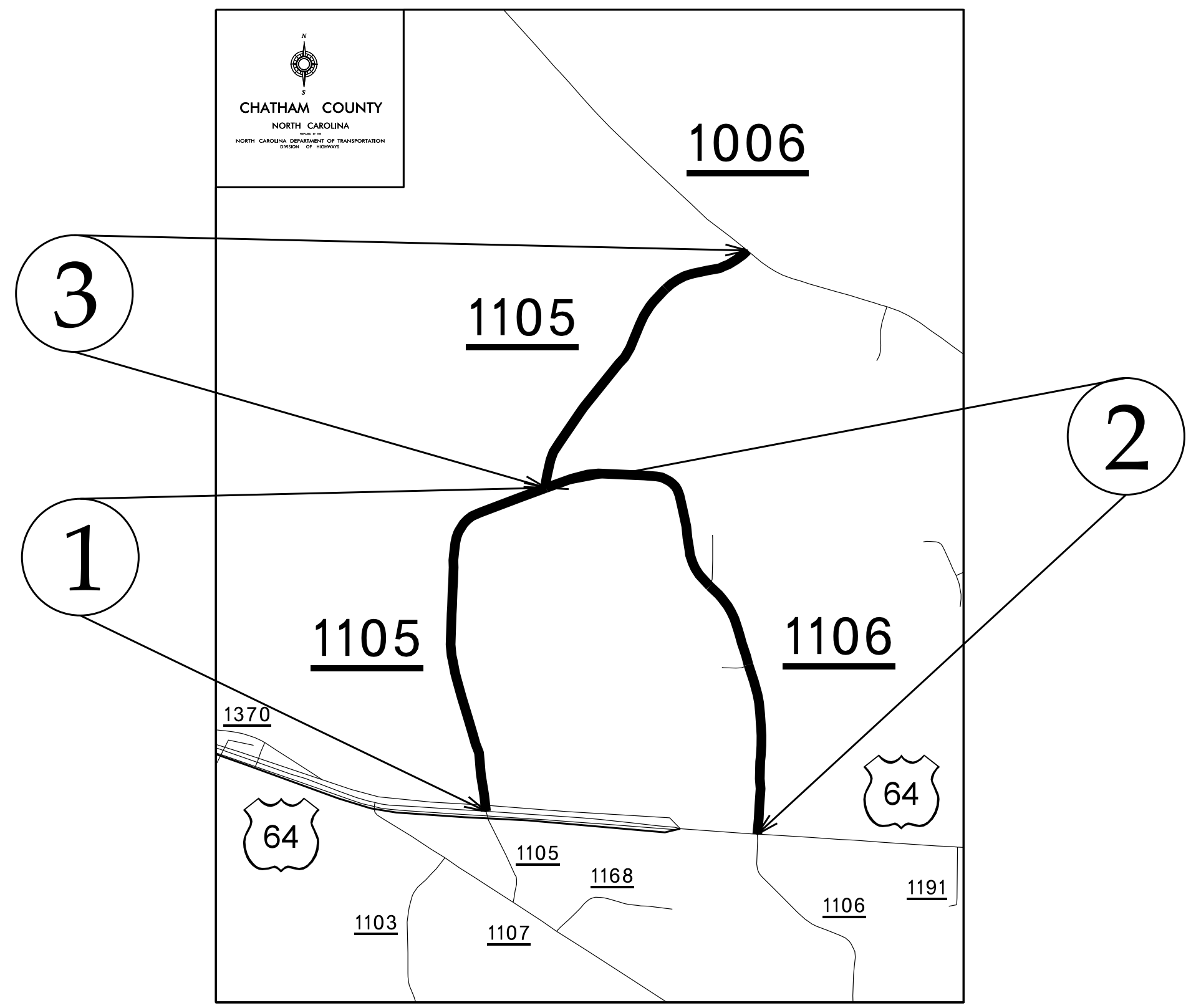


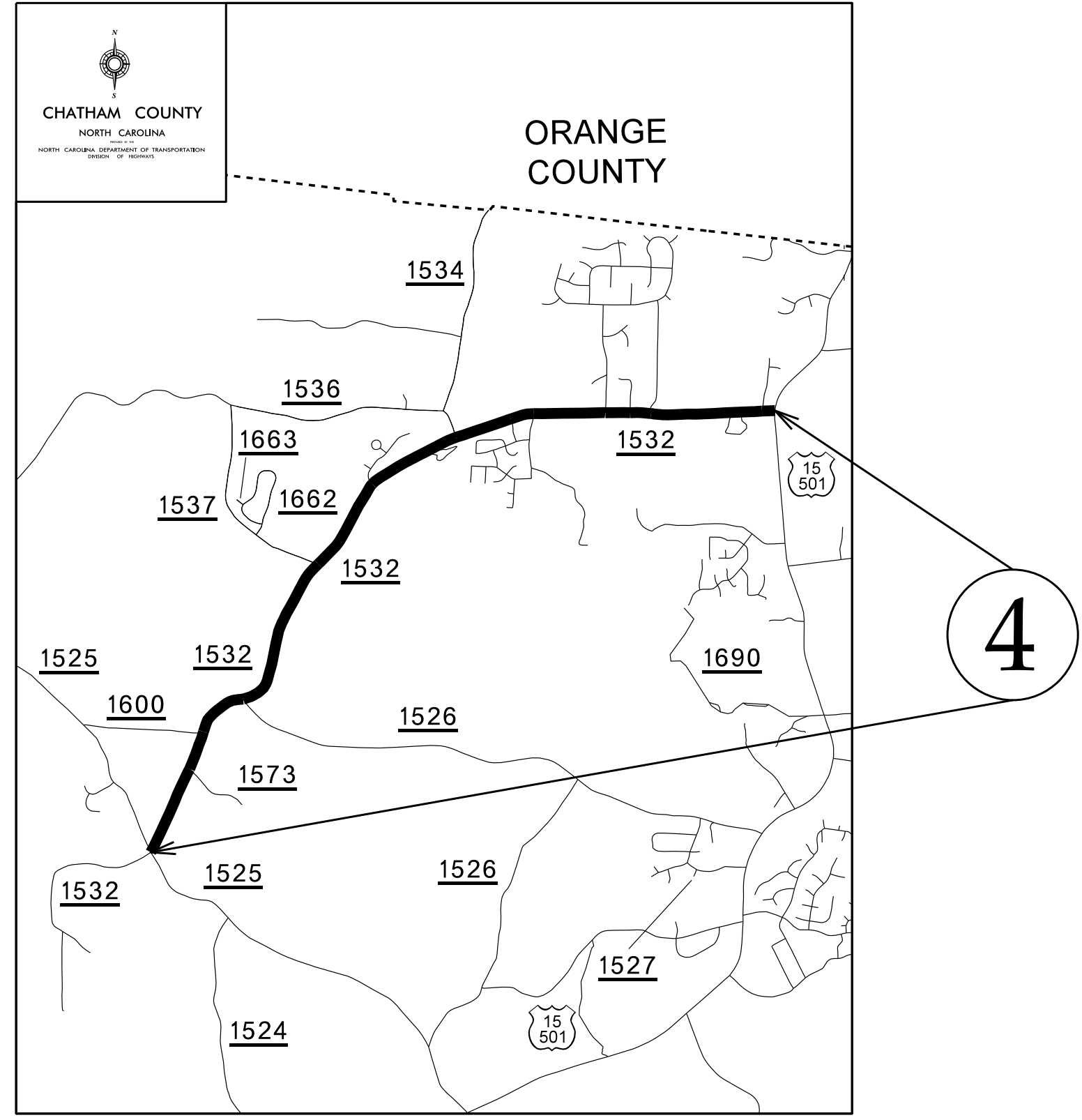
# CHATHAM COUNTY SECONDARY RESURFACING

14-OCT-2024 14:29  
 \\Chatham\GIS\Projects\2024\Secondary-December-2024\_Maps\_Typ.dgn  
 User: g...

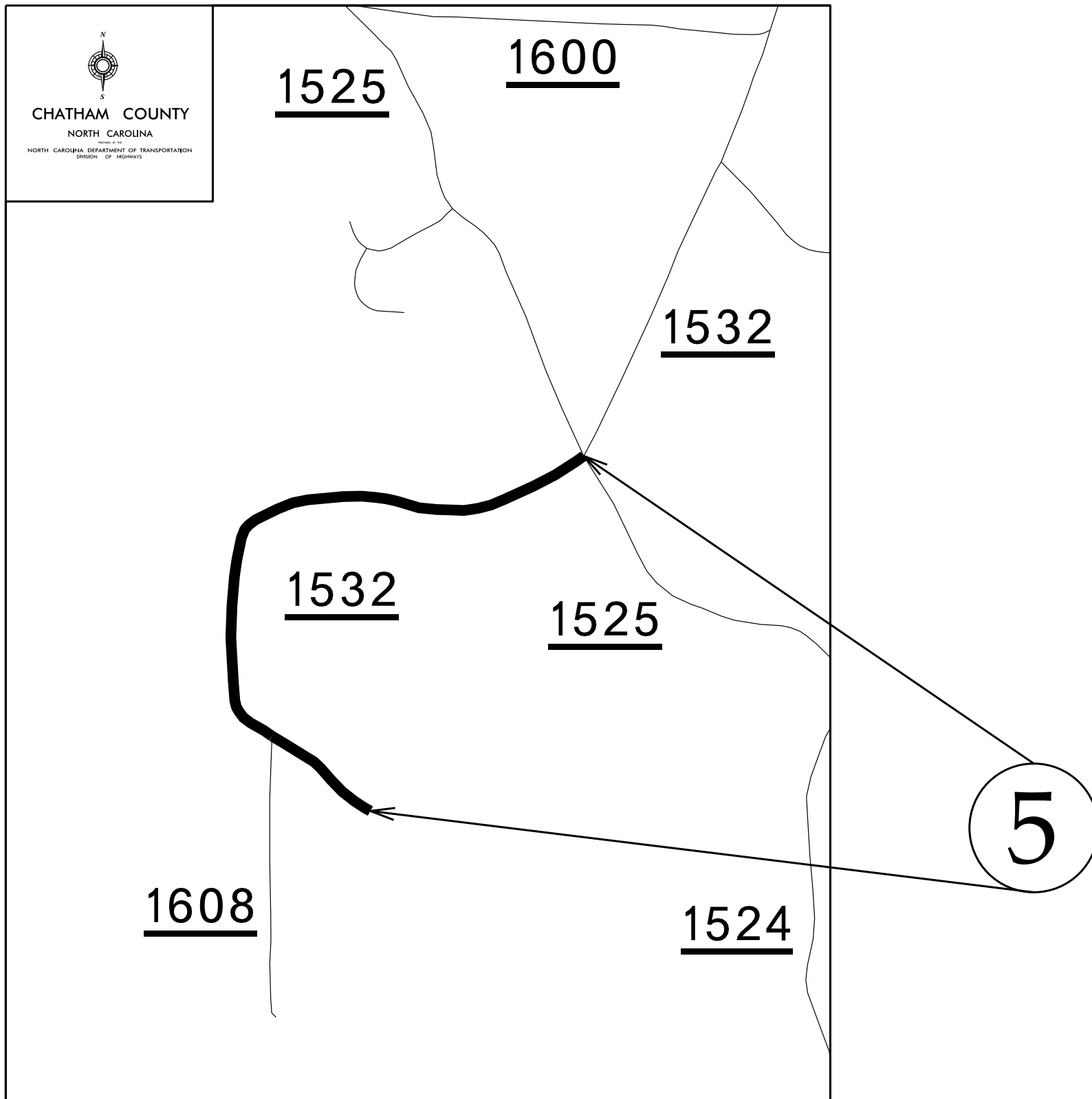
# Maps 1,2,3



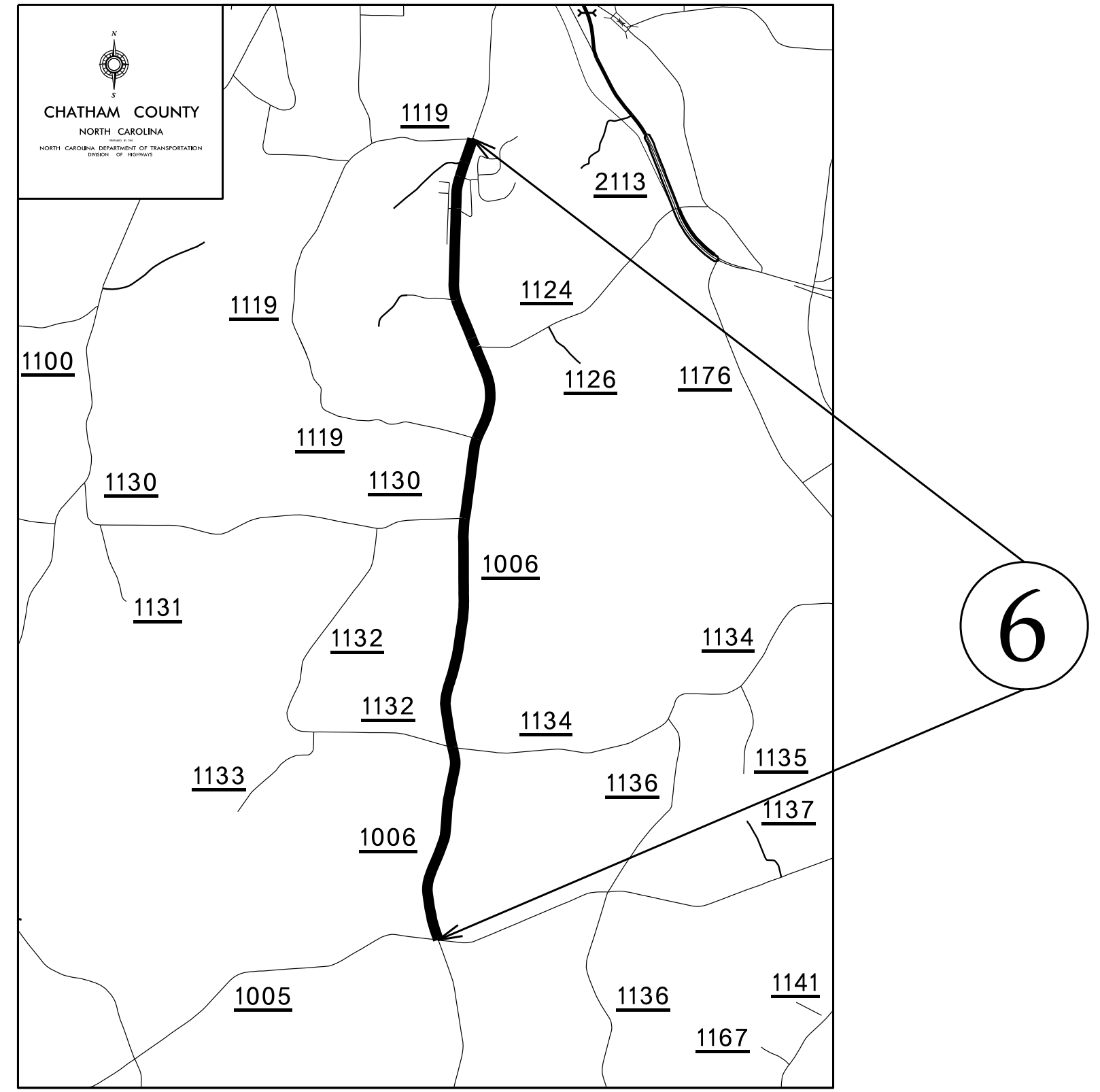
# Map 4



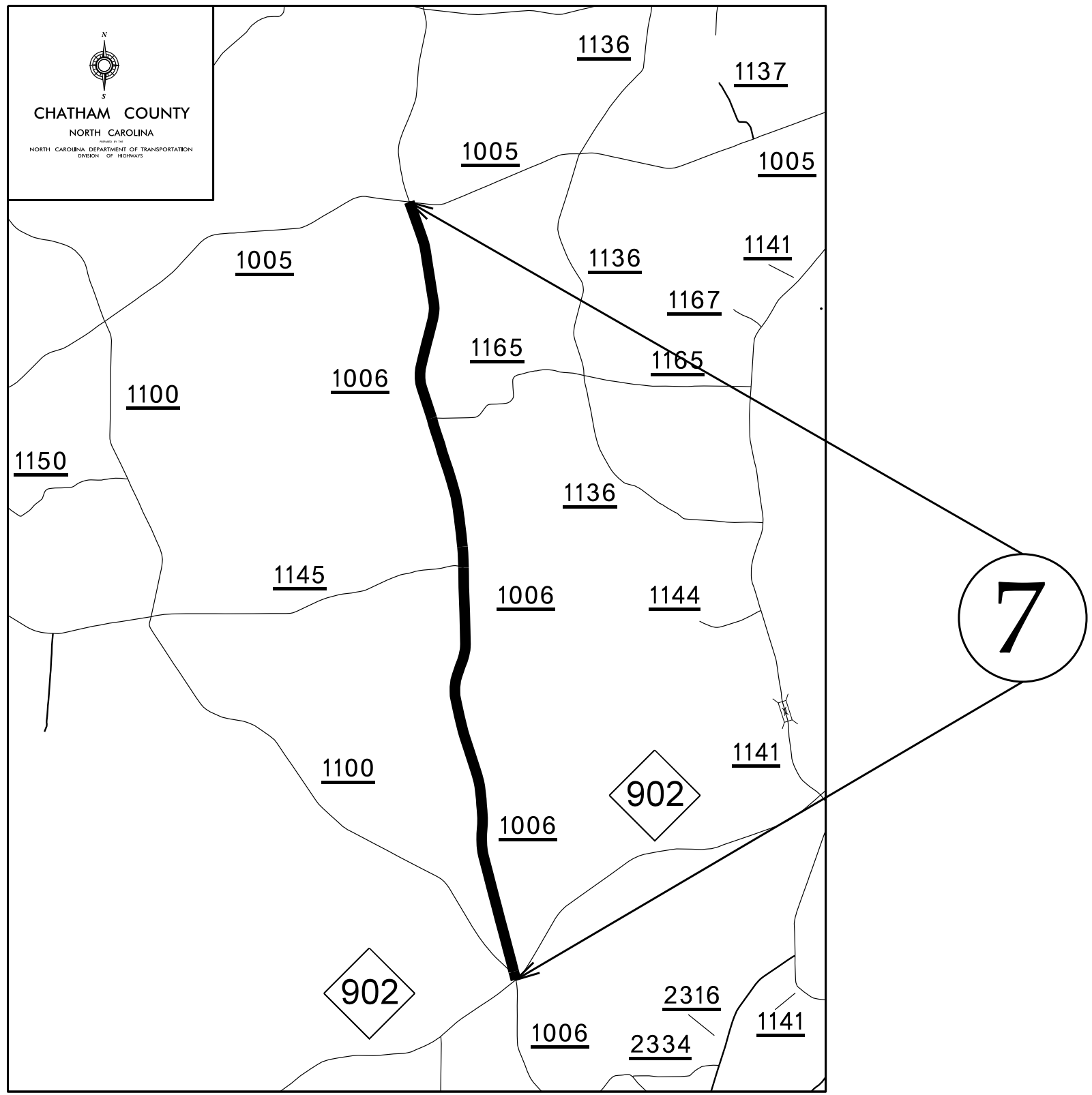
# Map 5



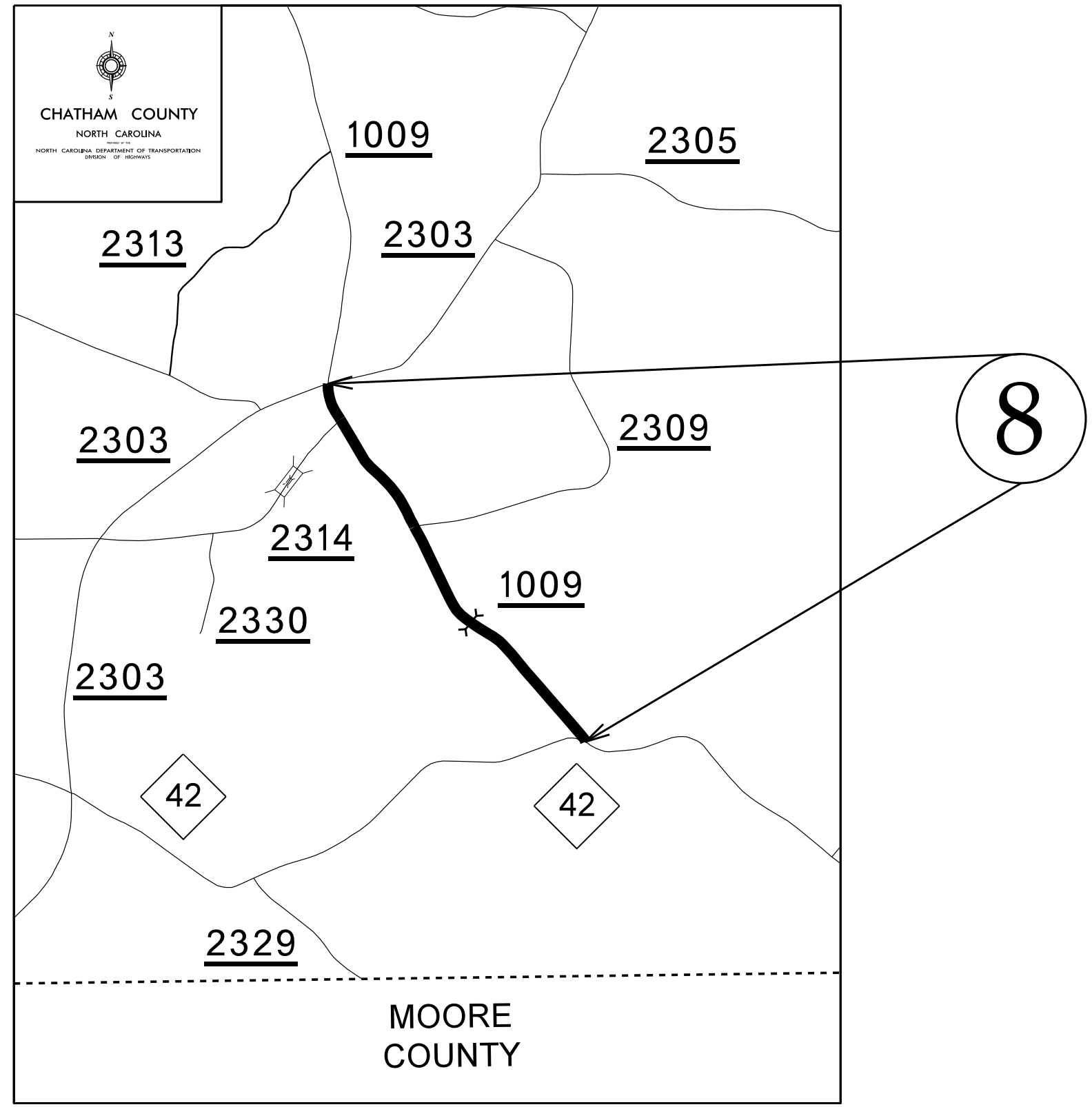
# Map 6



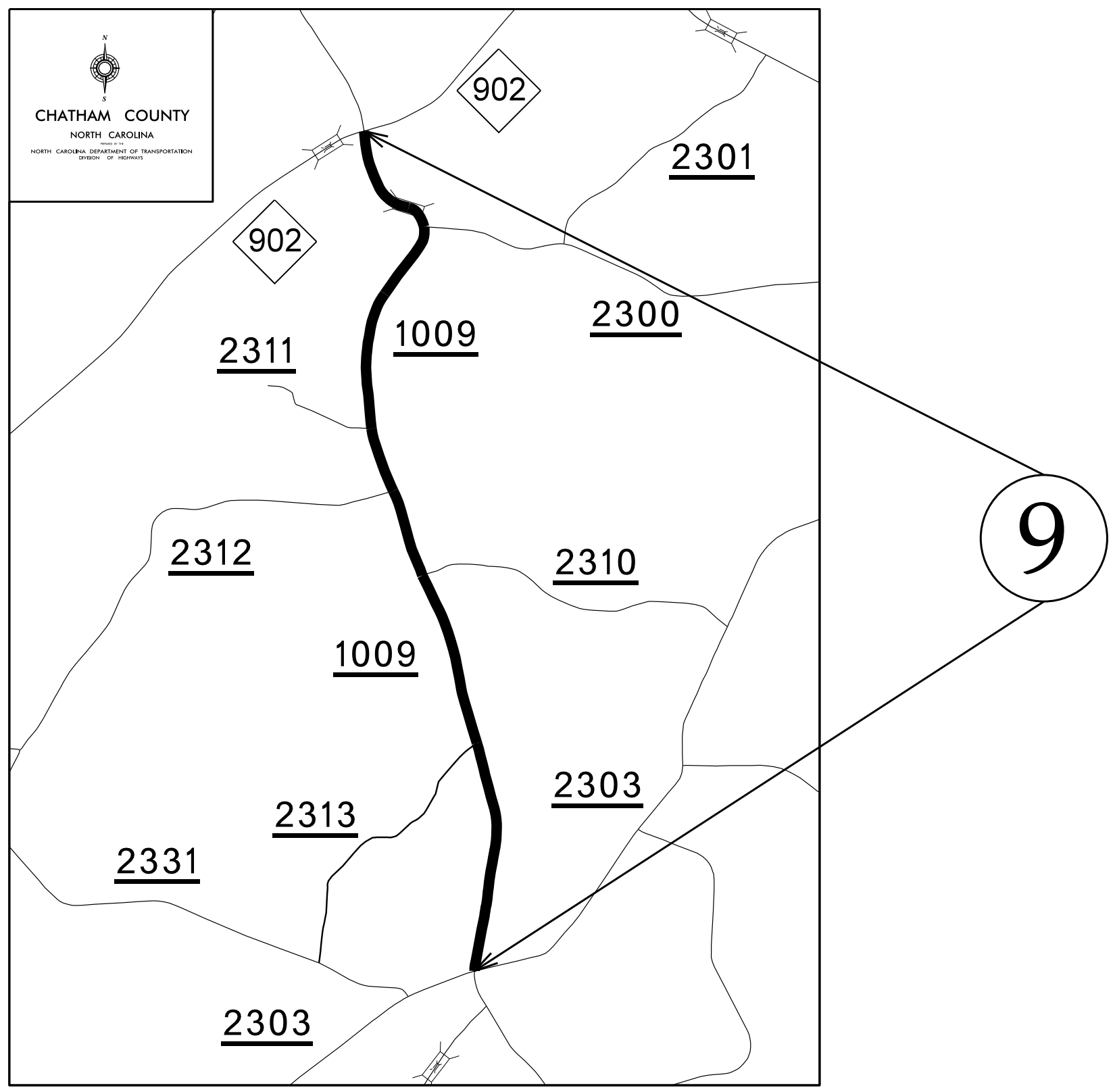
# Map 7



# Map 8

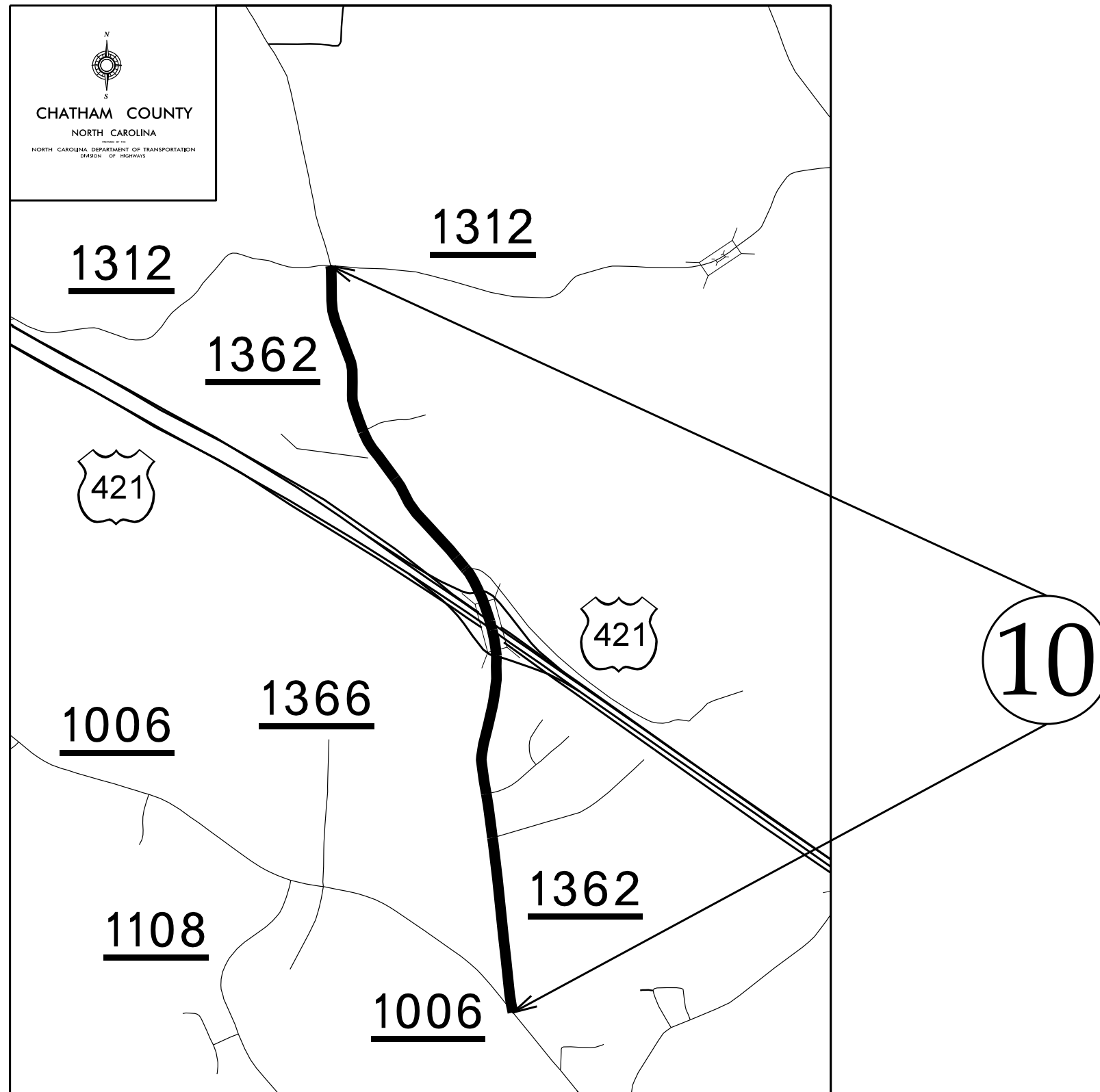


# Map 9

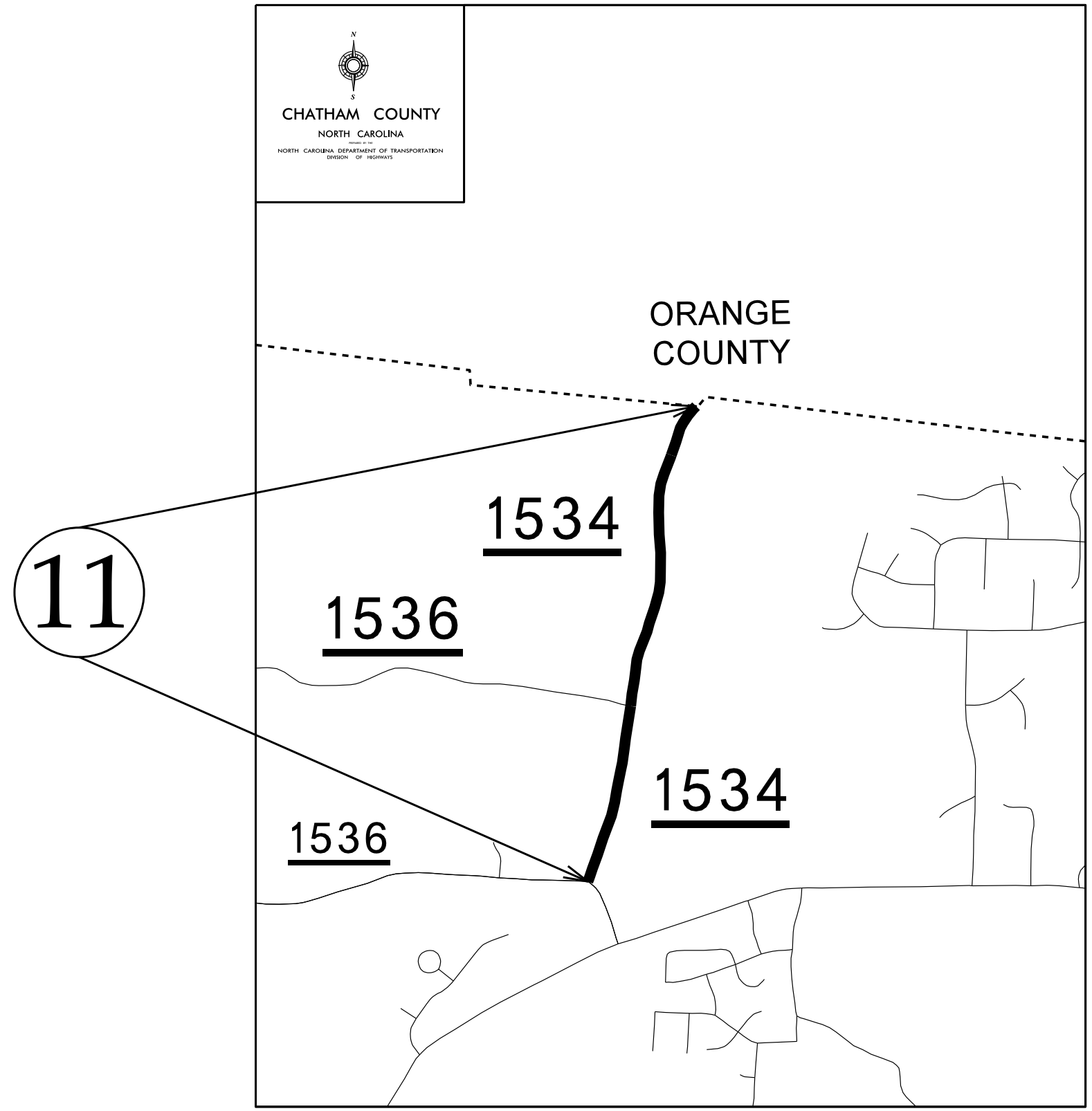


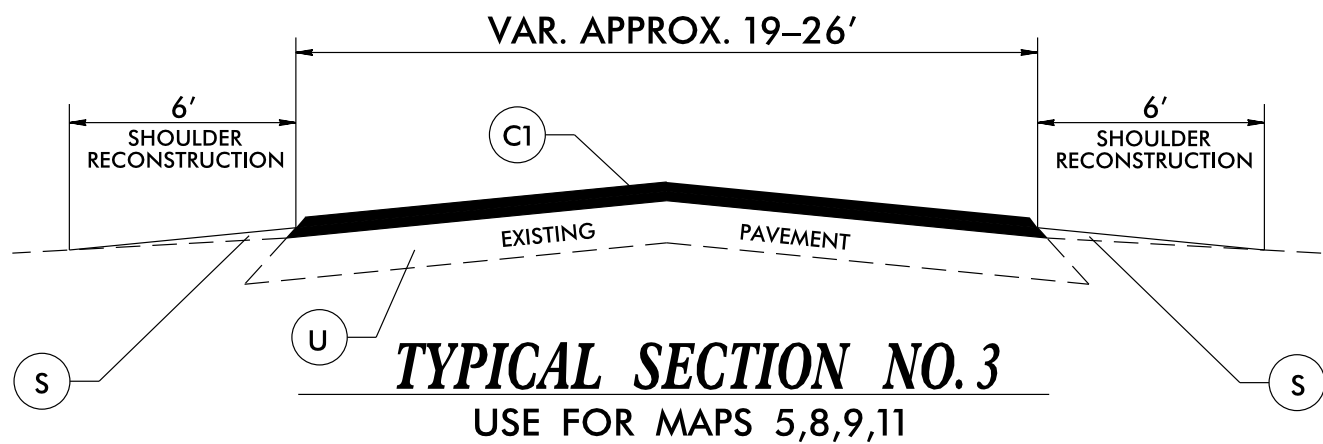
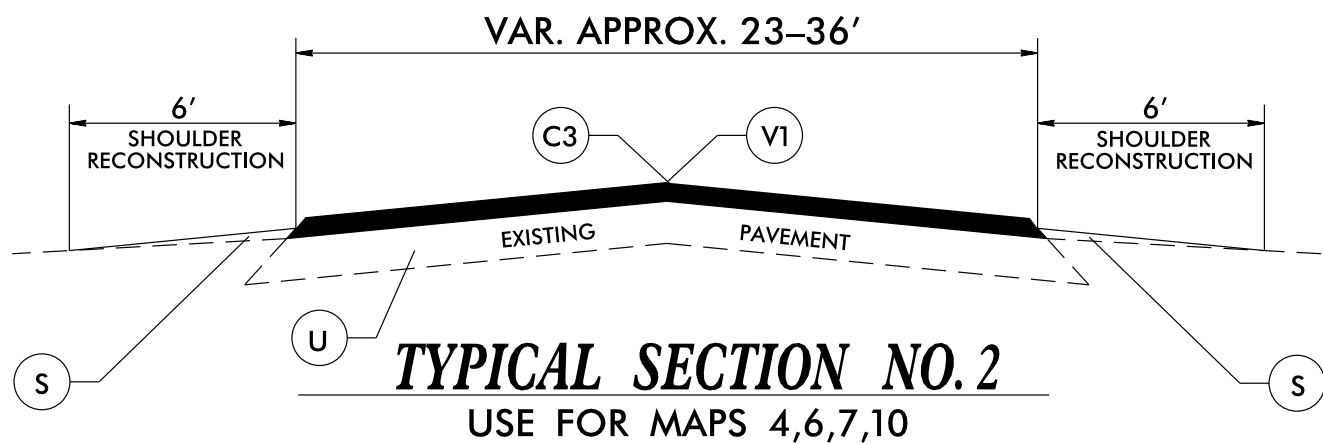
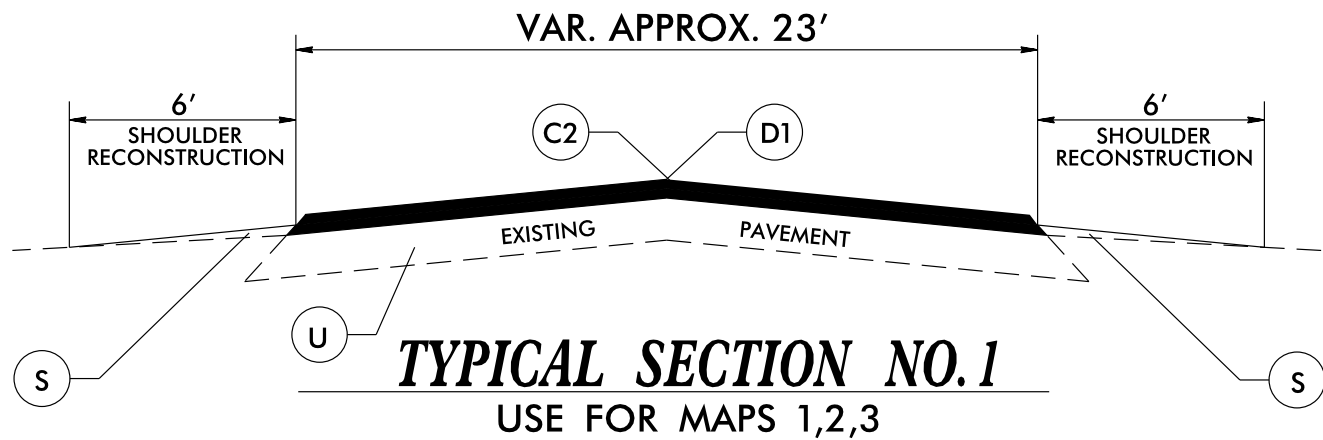


# Map 10

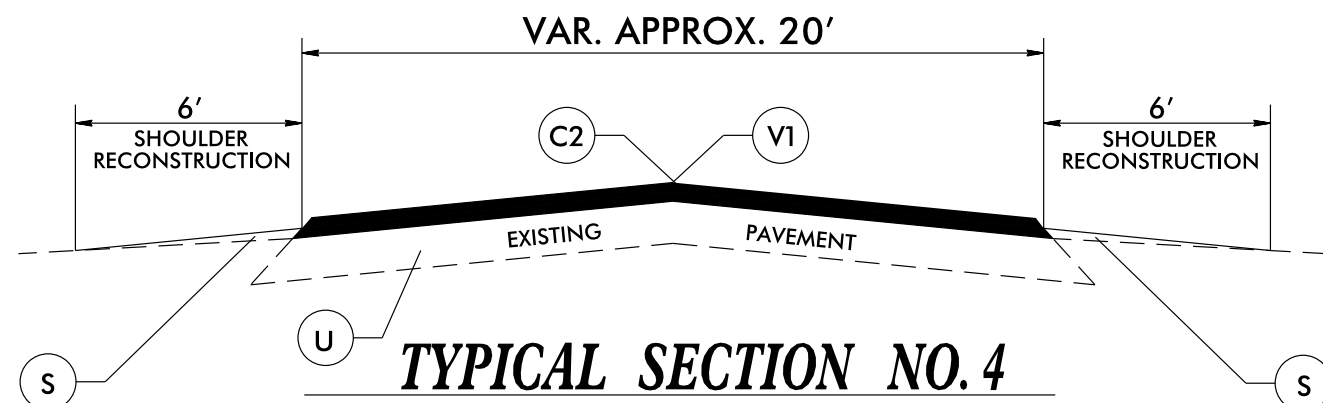


# Map 11





PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 220 LBS. PER SQ. YD.
D1	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I-19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH

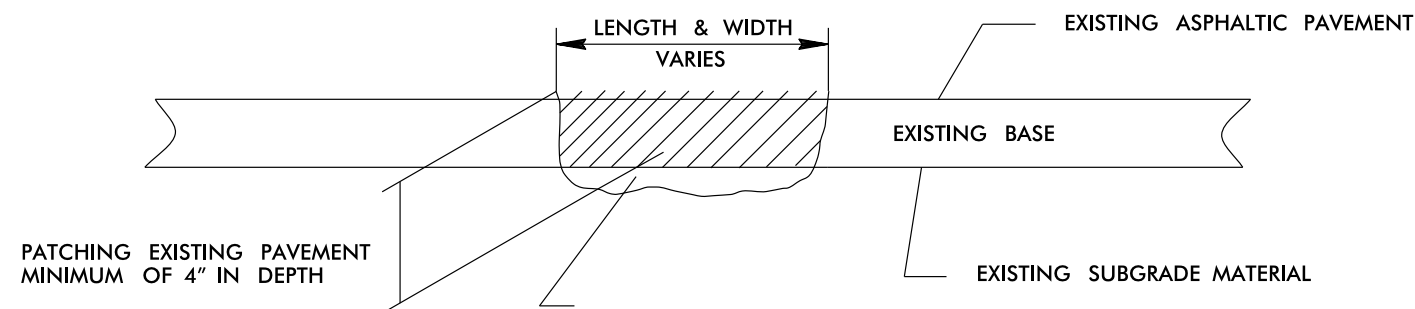


**TYPICAL SECTION NO. 4**  
 USE FOR MAP 10  
 ON APPROACHES TO BRIDGE OVER US 421  
 MP 1.08 TO MP 1.37  
 (END OF ISLAND 465 FT SOUTH OF BRIDGE  
 TO END OF ISLAND 570 FT NORTH OF BRIDGE)

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 220 LBS. PER SQ. YD.
D1	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I-19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT.
V1	MILLING 1.5" IN DEPTH

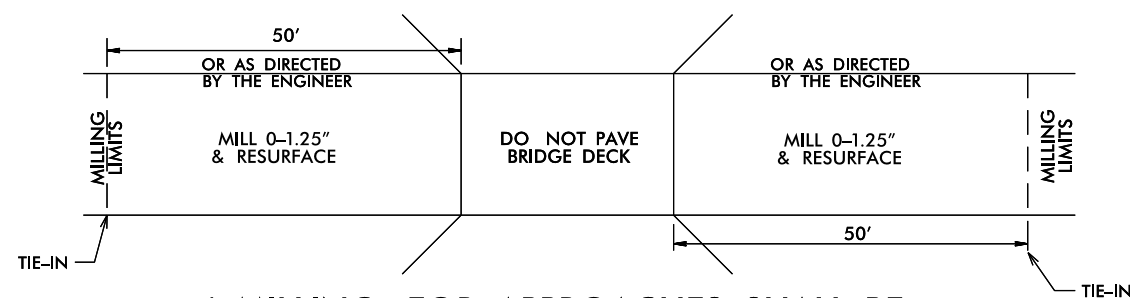
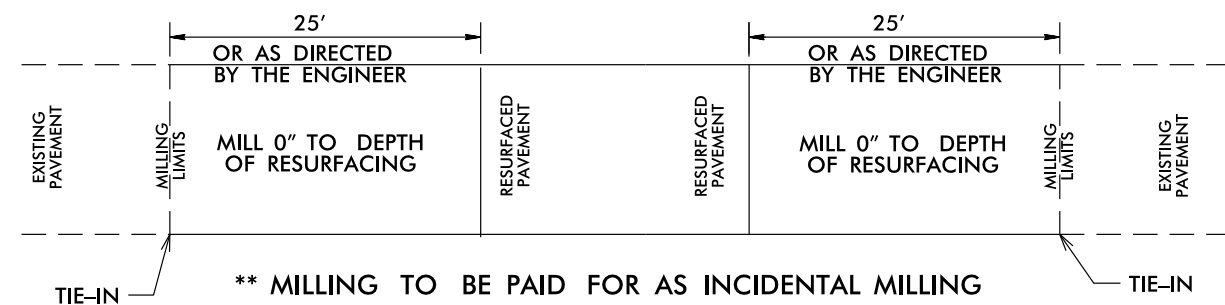
# DETAILS

## DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING



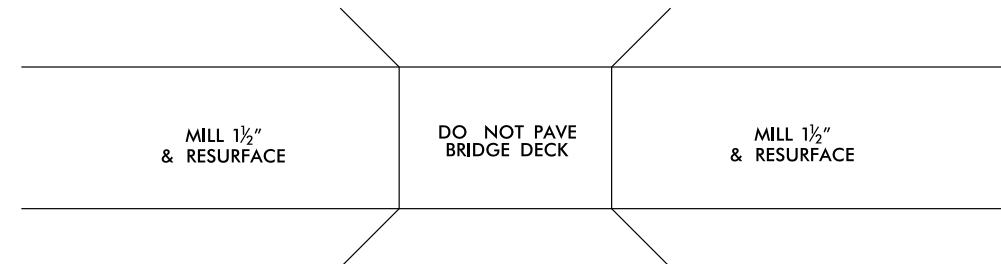
SAW AND REMOVE EXISTING ASPHALT PAVEMENT TO NEAT LINES AND REMOVE EXISTING LOOSE BASE AND/OR SUBGRADE MATERIAL AND REPLACE WITH ASPHALT CONCRETE BASE COURSE B-25.0C OR I-19.0C, AS DIRECTED BY THE ENGINEER

## PAVEMENT TIE-IN DETAIL



\* MILLING FOR APPROACHES SHALL BE PAID FOR UNDER INCIDENTAL MILLING

**BRIDGE DRAWING FOR  
MAP #9 BONLEE CARBONTON RD BRIDGE #200**

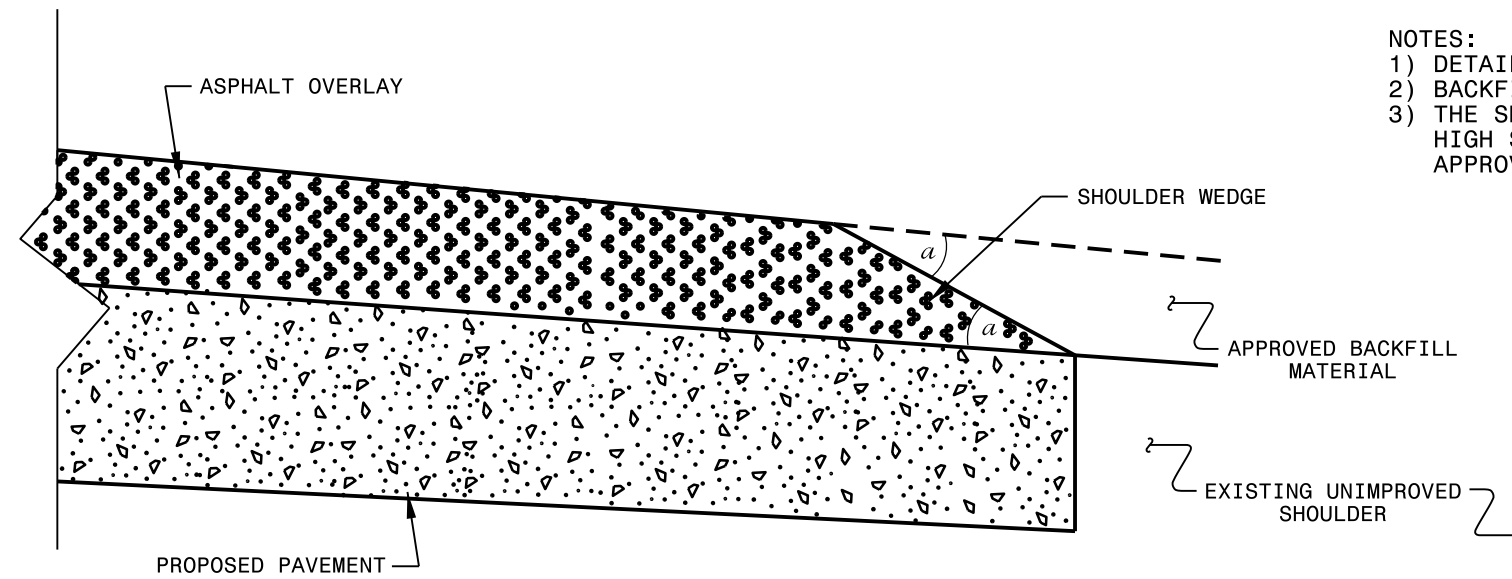


**BRIDGE DRAWING FOR  
MAP #10 PINEY GROVE CHURCH RD BRIDGE #449**



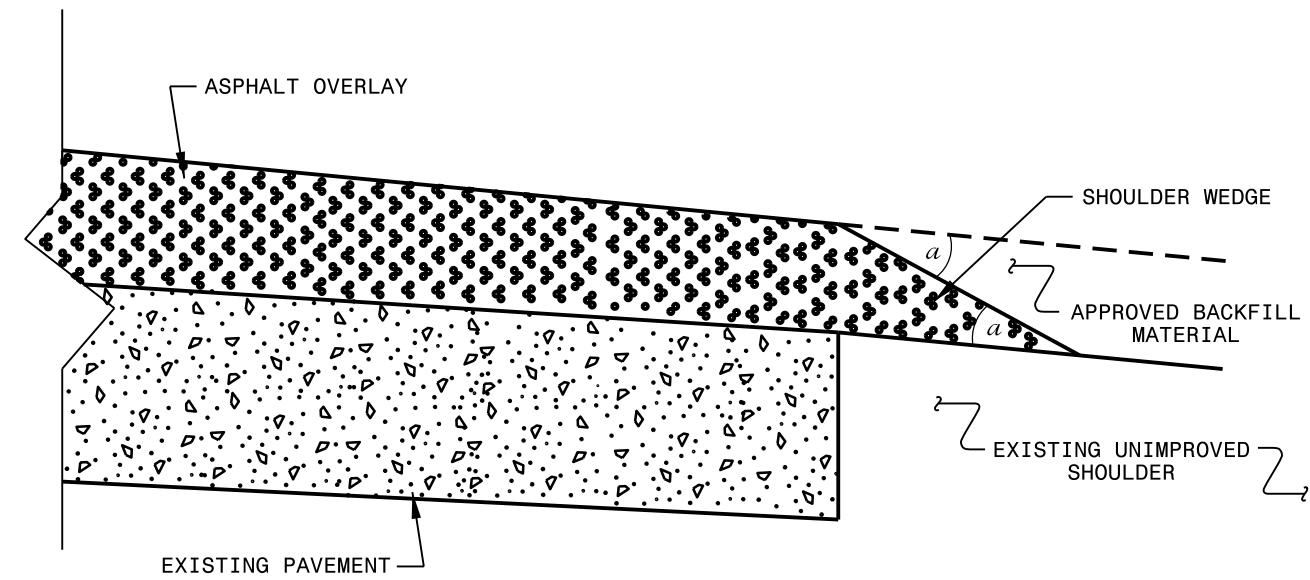
**NOTES:**

- 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.



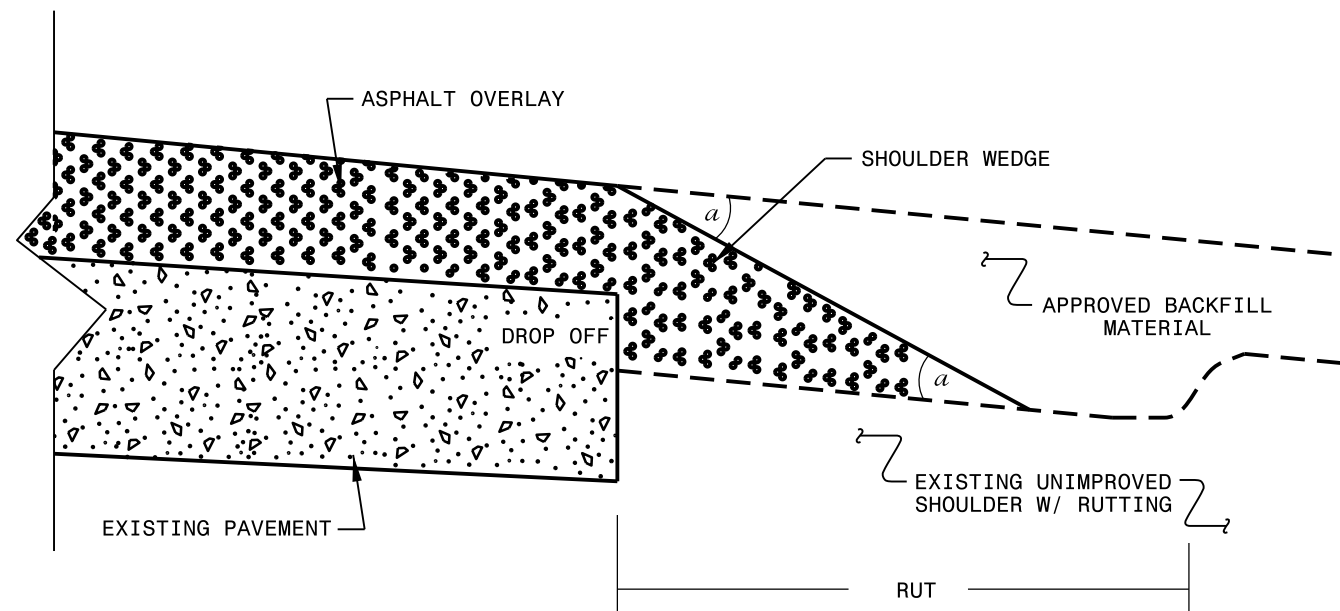
**SHOULDER WEDGE DETAIL**

(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°

<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: 2/2/16	
CHECKED BY:	DATE:	
FILE SPEC.: szusr/details/stand/shoulderwedgedetail.dgn		

PROJECT NO.	SHEET NO.	TOTAL NO.
2025CPT.08.07.20191	<b>16</b>	

## SUMMARY OF QUANTITIES

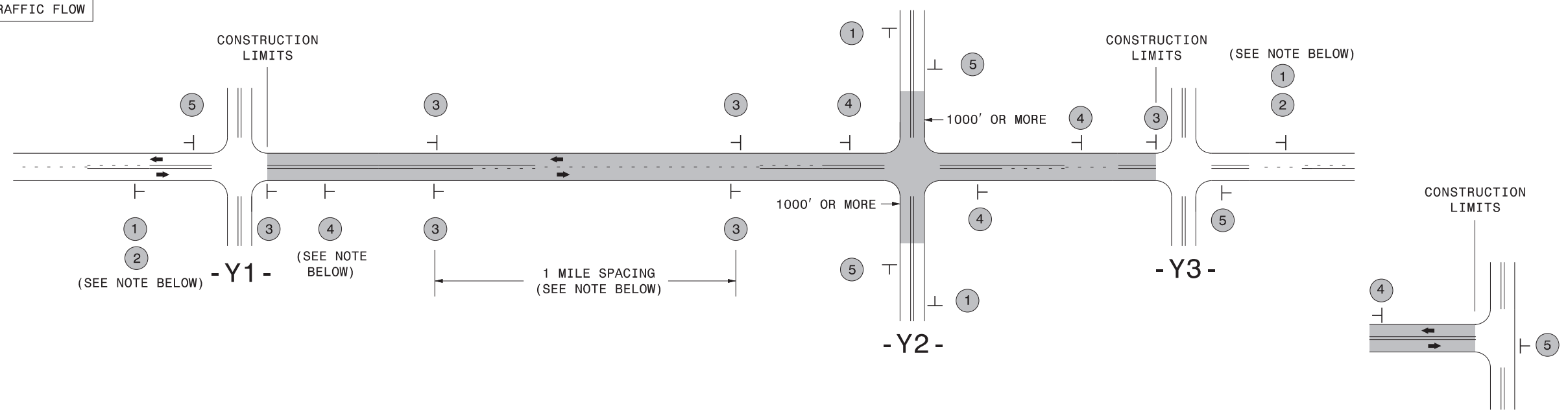
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	1220000000-E	1245000000-E	1260000000-E	1297000000-E	1330000000-E	1503000000-E	1519000000-E	1575000000-E	1704000000-E	2612000000-E	2845000000-N	7444000000-E			
												INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	1.5" MILLING	INCIDENTAL MILLING	INTERMEDIATE COURSE, I19.0C	SURFACE COURSE, S9.5B	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	6" CONCRETE DRIVEWAYS	ADJUST METER OR VALVE BOX	INDUCTIVE LOOP SAWCUT			
												TONS	SMI	TON	SY	SY	TONS	TONS	TONS	TONS	SY	EA	LF			
2025CPT.08.07.20191	Chatham	1	SR-1105 / STOCKYARD RD W	FROM SR 1105 (BISH ROAD) TO US HWY 64 (WESTERN CONNECTION)	1	2	2WU	1.07	23	0.95	2.02	125	2.14	798.00		130	2,057	1,602	205	50	95					
<b>TOTAL FOR MAP NO. 1</b>								<b>1.07</b>				<b>125</b>	<b>2.14</b>	<b>798.00</b>		<b>130</b>	<b>2,057</b>	<b>1,602</b>	<b>205</b>	<b>50</b>	<b>95</b>					
2025CPT.08.07.20191	Chatham	2	SR-1106 / STOCKYARD RD E	FROM US HWY 64 (EASTERN CONNECTION) TO SR 1105 (BISH ROAD)	1	2	2WU	1.405	23	0.935	2.34	145	2.81	1,048.00		130	2,702	2,100	271	100	105					
<b>TOTAL FOR MAP NO. 2</b>								<b>1.405</b>				<b>145</b>	<b>2.81</b>	<b>1,048.00</b>		<b>130</b>	<b>2,702</b>	<b>2,100</b>	<b>271</b>	<b>100</b>	<b>105</b>					
2025CPT.08.07.20191	Chatham	3	SR-1105 / BISH RD	FROM 1006 (OLD US HWY 421) TO SR 1106 (STOCKYARD ROAD)	1	2	2WU	0.94	23	0.01	0.95	95	1.88	701.00		815	1,807	1,485	186	50						
<b>TOTAL FOR MAP NO. 3</b>								<b>0.94</b>				<b>95</b>	<b>1.88</b>	<b>701.00</b>		<b>815</b>	<b>1,807</b>	<b>1,485</b>	<b>186</b>	<b>50</b>						
2025CPT.08.07.20191	Chatham	4	SR-1532 / MANNS CHAPEL RD	FROM PVT JT 0.02 MI W OF US 15-501 TO SR 1525 (HAMLETS CHAPEL ROAD)	2	2	2WU	4.975	36	0.22	5.195		9.95	1,393.00	82,252	6,010		9,708	631			1	444			
<b>TOTAL FOR MAP NO. 4</b>								<b>4.975</b>					<b>9.95</b>	<b>1,393.00</b>	<b>82,252</b>	<b>6,010</b>		<b>9,708</b>	<b>631</b>			<b>1</b>	<b>444</b>			
2025CPT.08.07.20191	Chatham	5	SR-1532 / RIVER FOREST RD	FROM SR 1525 (HAMLETS CHAPEL RD) TO END OF MAINTENANCE	3	2	2WU	1.275	21	5.245	6.52		2.55	357.00		435		1,110	77	100						
<b>TOTAL FOR MAP NO. 5</b>								<b>1.275</b>					<b>2.55</b>	<b>357.00</b>		<b>435</b>		<b>1,110</b>	<b>77</b>	<b>100</b>						
2025CPT.08.07.20191	Chatham	6	SR-1006 / SILER CITY GLENDON RD	FROM SR 1119 (WADE PASCHAL RD) TO SR 1005 (BONLEE BENNETT RD)	2	2	2WU	5.06	23	8.19	13.25		10.12	1,417.00	69,200	3,530		7,899	513							
<b>TOTAL FOR MAP NO. 6</b>								<b>5.06</b>					<b>10.12</b>	<b>1,417.00</b>	<b>69,200</b>	<b>3,530</b>		<b>7,899</b>	<b>513</b>							
2025CPT.08.07.20191	Chatham	7	SR-1006 / SILER CITY GLENDON RD	FROM 1005 (BONLEE BENNETT RD) TO NC 902	2	2	2WU	4.82	23	13.25	18.07		9.64	1,350.00	65,330	1,125		7,278	473							
<b>TOTAL FOR MAP NO. 7</b>								<b>4.82</b>					<b>9.64</b>	<b>1,350.00</b>	<b>65,330</b>	<b>1,125</b>		<b>7,278</b>	<b>473</b>							
2025CPT.08.07.20191	Chatham	8	SR-1009 / BONLEE CARBONTON RD	FROM NC 42 TO SR 2303 (GOLDSTON GLENDON RD)	3	2	2WU	1.815	19	0.02	1.835		3.63	508.00		780		1,445	95	25						
<b>TOTAL FOR MAP NO. 8</b>								<b>1.815</b>					<b>3.63</b>	<b>508.00</b>		<b>780</b>		<b>1,445</b>	<b>95</b>	<b>25</b>						
2025CPT.08.07.20191	Chatham	9	SR-1009 / BONLEE CARBONTON RD	FROM SR (2303 GOLDSTON GLENDON RD) TO NC 902	3	2	2WU	3.77	21	1.87	5.64		7.54	1,056.00		1,200		3,276	214	20						
<b>TOTAL FOR MAP NO. 9</b>								<b>3.77</b>					<b>7.54</b>	<b>1,056.00</b>		<b>1,200</b>		<b>3,276</b>	<b>214</b>	<b>20</b>						
2025CPT.08.07.20191	Chatham	10	SR-1362 / PINEY GROVE CHURCH RD	FROM SR 1006 OLD US 421 TO SR 1312 ED CLAPP RD	2,4	2	2WU	2.43	20	0.05	2.48		4.40	616.00	25,815	3,690		3,633	236							
<b>TOTAL FOR MAP NO. 10</b>								<b>2.43</b>					<b>4.40</b>	<b>616.00</b>	<b>25,815</b>	<b>3,690</b>		<b>3,633</b>	<b>236</b>							
2025CPT.08.07.20191	Chatham	11	SR-1534 / POYTHRESS RD	FROM ORANGE COUNTY TO SR 1536 LAMONT NORWOOD RD	3	2	2WU	1.215	26	0.03	1.245		2.43	340.00		450		1,305	92	150						
<b>TOTAL FOR MAP NO. 11</b>								<b>1.215</b>					<b>2.43</b>	<b>340.00</b>		<b>450</b>		<b>1,305</b>	<b>92</b>	<b>150</b>						
<b>TOTAL FOR PROJ NO. 2025CPT.08.07.20191</b>								<b>28.775</b>					<b>365</b>	<b>57.09</b>	<b>9,584.00</b>	<b>242,597</b>	<b>18,295</b>	<b>6,566</b>	<b>40,841</b>	<b>2,993</b>	<b>495</b>	<b>200</b>	<b>1</b>	<b>444</b>		
<b>GRAND TOTAL</b>								<b>28.775</b>					<b>365</b>	<b>57.09</b>	<b>9,584.00</b>	<b>242,597</b>	<b>18,295</b>	<b>6,566</b>	<b>40,841</b>	<b>2,993</b>	<b>495</b>	<b>200</b>	<b>1</b>	<b>444</b>		





# SIGNING FOR RESURFACING PROJECTS

**LEGEND**  
 ┆ STATIONARY SIGN  
 ← DIRECTION OF TRAFFIC FLOW



## MAINLINE (-L-) SIGNING

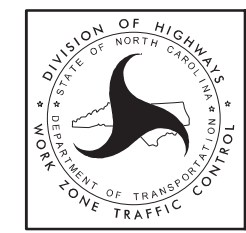
## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		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"> <li>LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>SUBDIVISION ROADS</li> <li>DEAD END ROADS</li> </ol> <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 style="text-align: center;">             PLACED 500' IN ADVANCE OF FLAGGER.         </div> <div style="text-align: center;">             PLACED 250' IN ADVANCE OF FLAGGER.         </div> </div>
	2		#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)	
	3		- 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		- 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		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.

**MAPS LESS THAN 2 MILES**

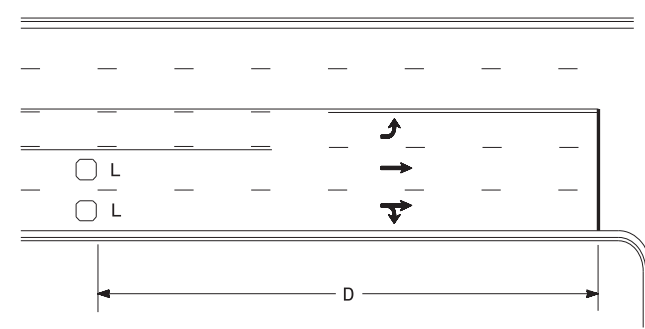
FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.



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

5/15/2017 S:\TUXWZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing\_AdvWarn\_2Ln.dgn User:kdais

### High Speed Detection (≥40 mph)

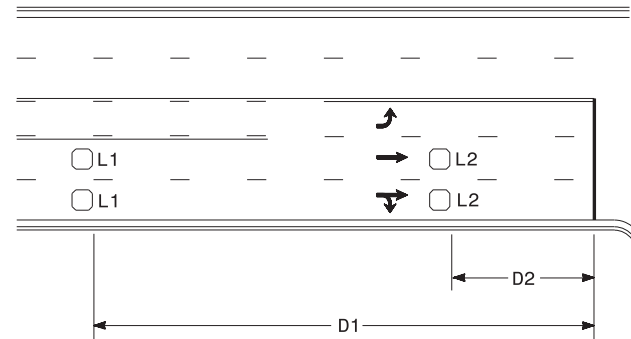


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft  
Wired separately

Volume Density Operation

OR

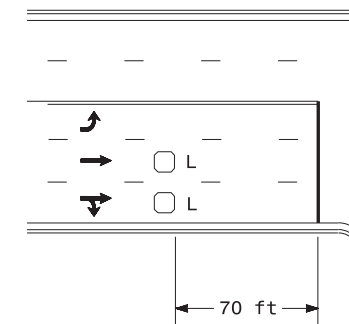


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

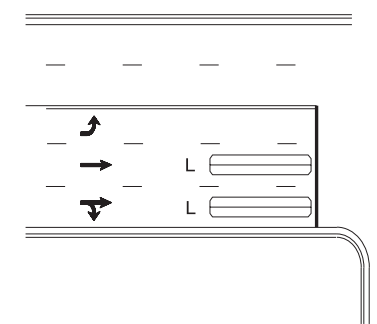
"Stretch" Operation

### Low Speed Detection (≤35 mph)



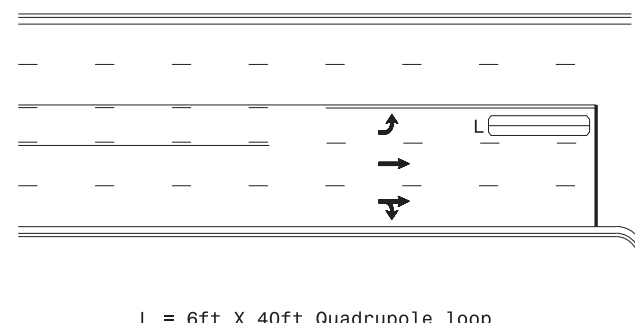
L = 6ft X 6ft  
Wired in series

OR



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

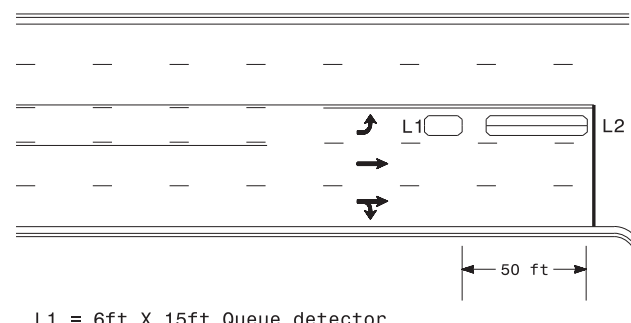
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

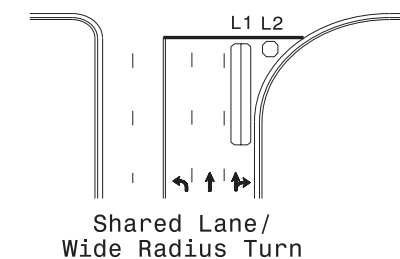
OR



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

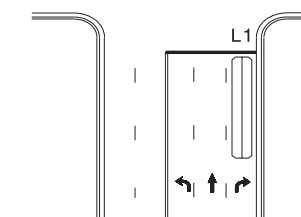
Queue Loop Detection

### Right Turn Lane Detection

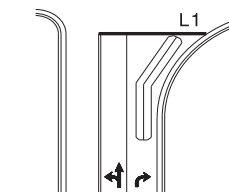


Shared Lane/  
Wide Radius Turn

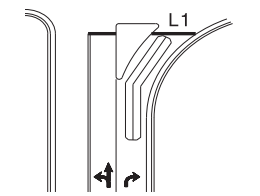
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

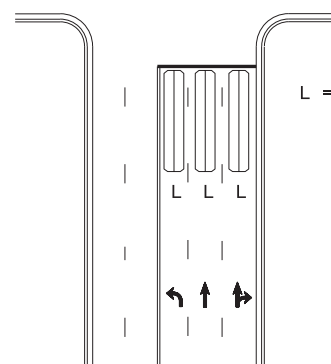


Wide Radius Turn



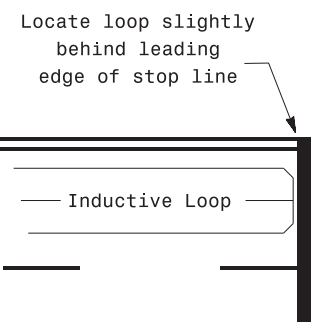
Channelized Turn

### 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

750 N. Greenfield Pkwy, Garner, NC 27529

Prepared in the Offices of:

Typical Signal Loop Locations	
PLAN DATE: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
SCALE: N/A	INIT. DATE
REVISIONS	DATE

9/8/2020  
DATE

SIG. INVENTORY NO.