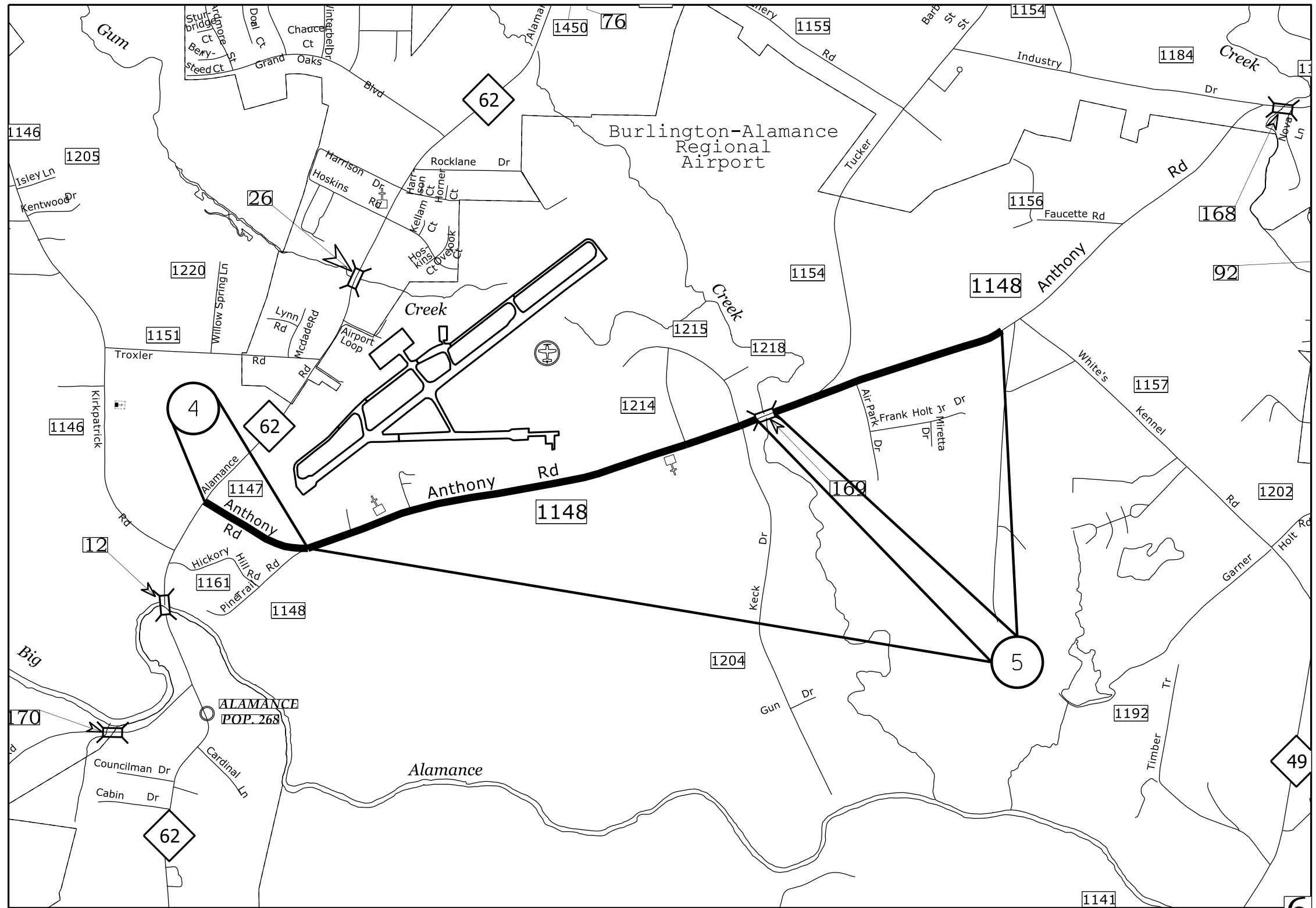
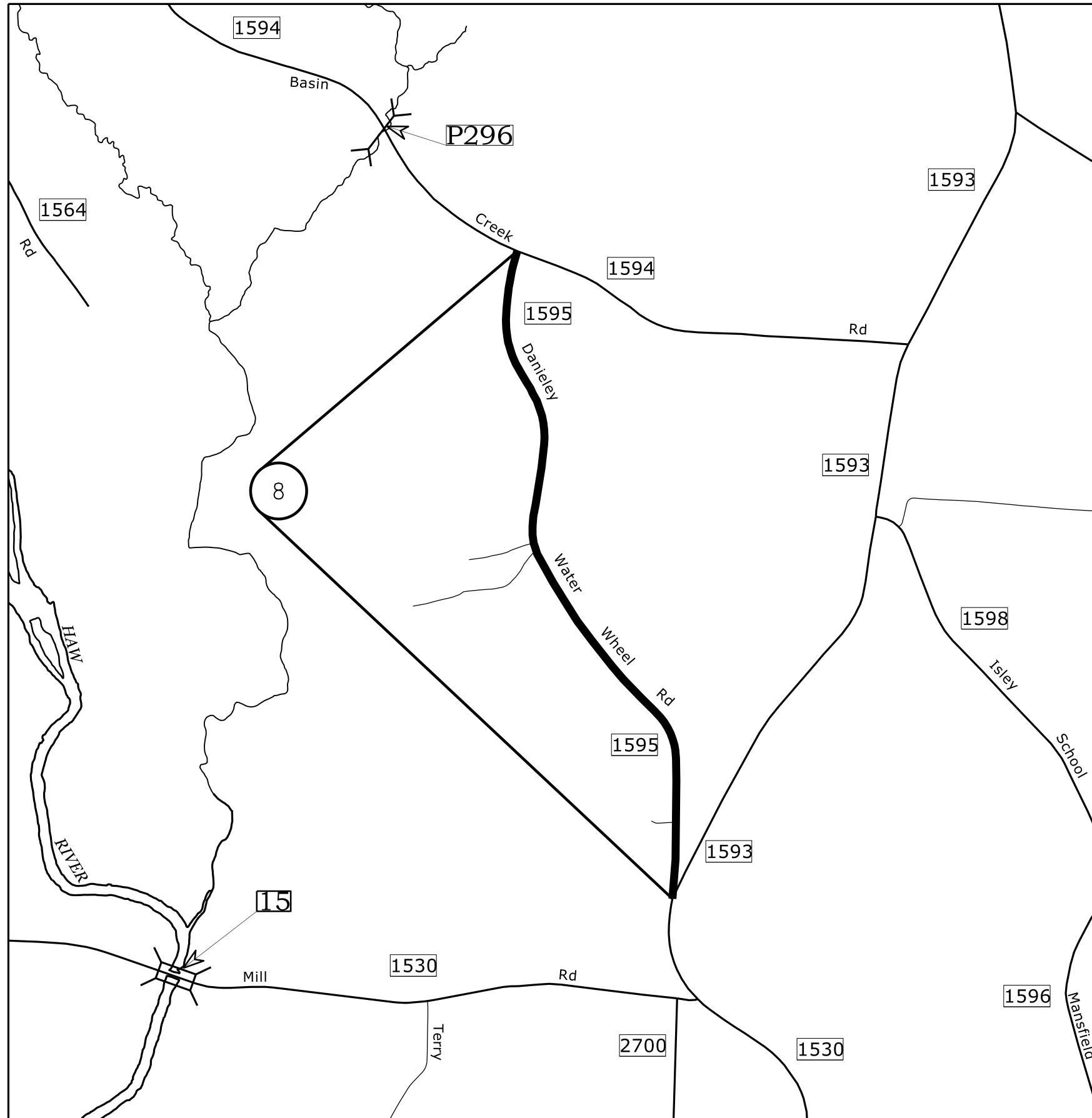


Map 3 SR 1105 Timber Ridge Lake Rd.
Map 23 SR 3350 Richland Church Rd.
(Guilford Co.)

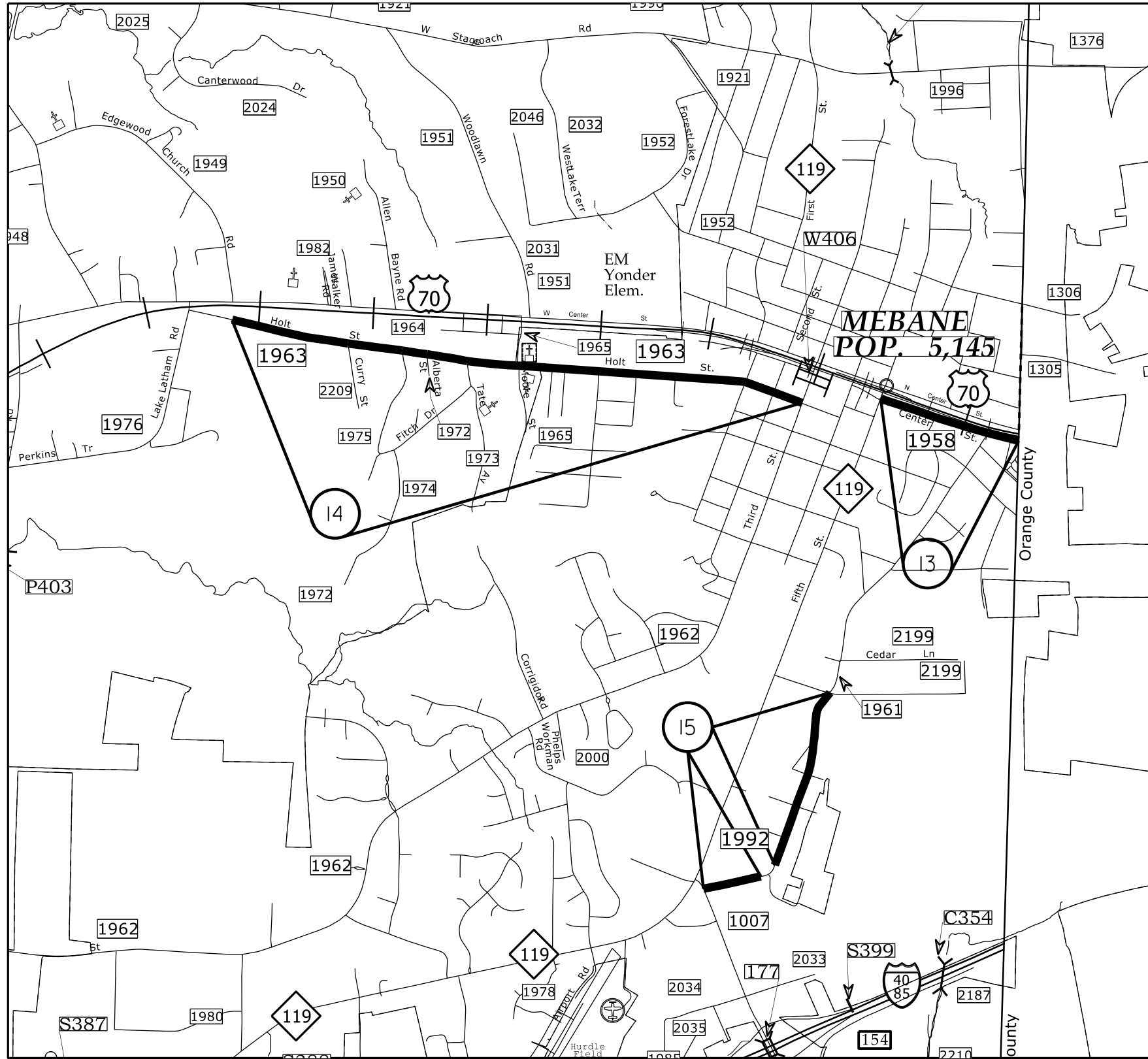


Map 4 SR 1147 Anthony Rd.

Map 5 SR 1148 Anthony Rd.
Bridge # 169 Tie resurfacing to each end of concrete deck.
DO NOT Pave.



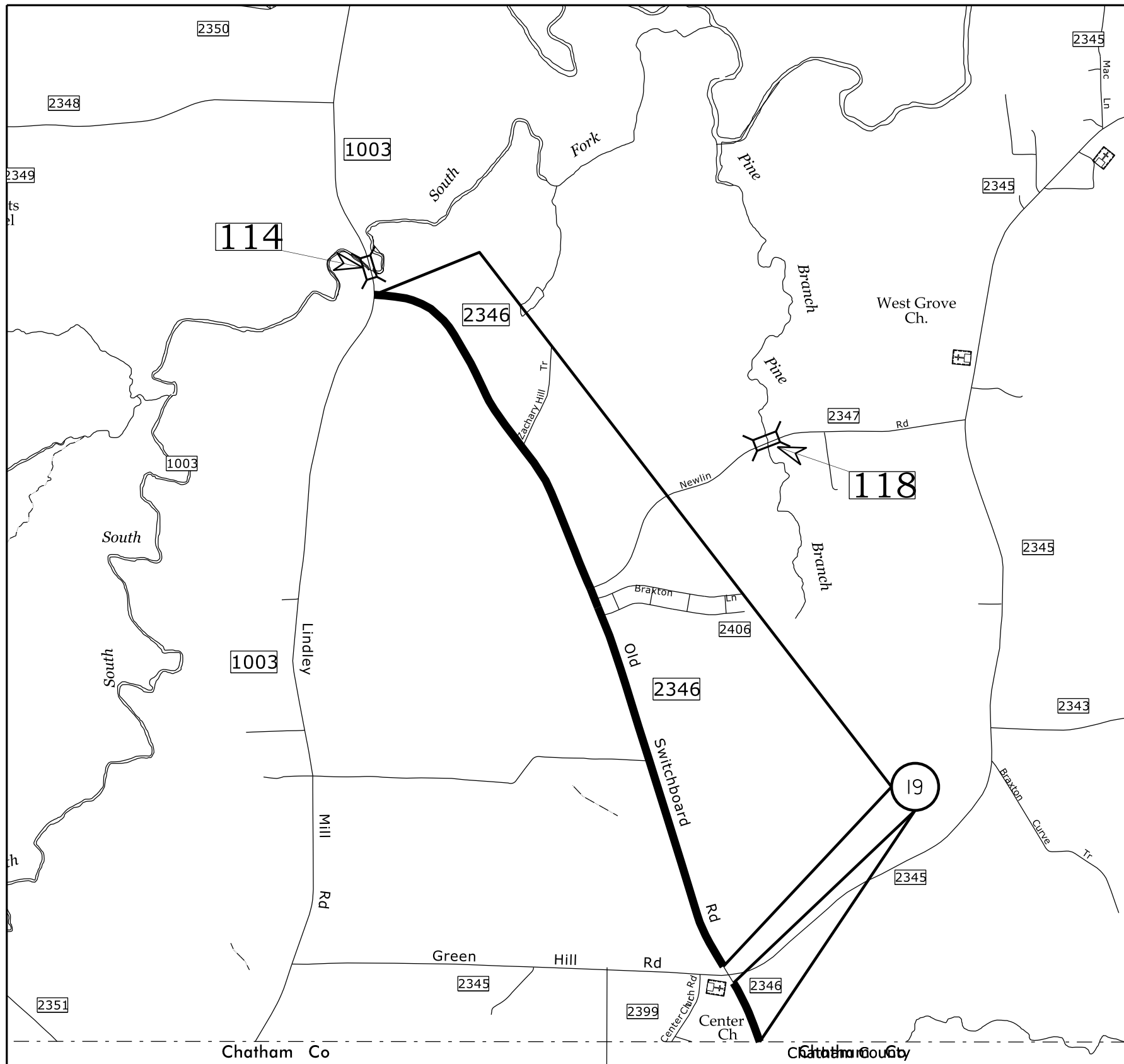
Map 8 SR 1595 Danieley Water Wheel Rd.



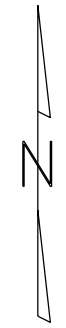
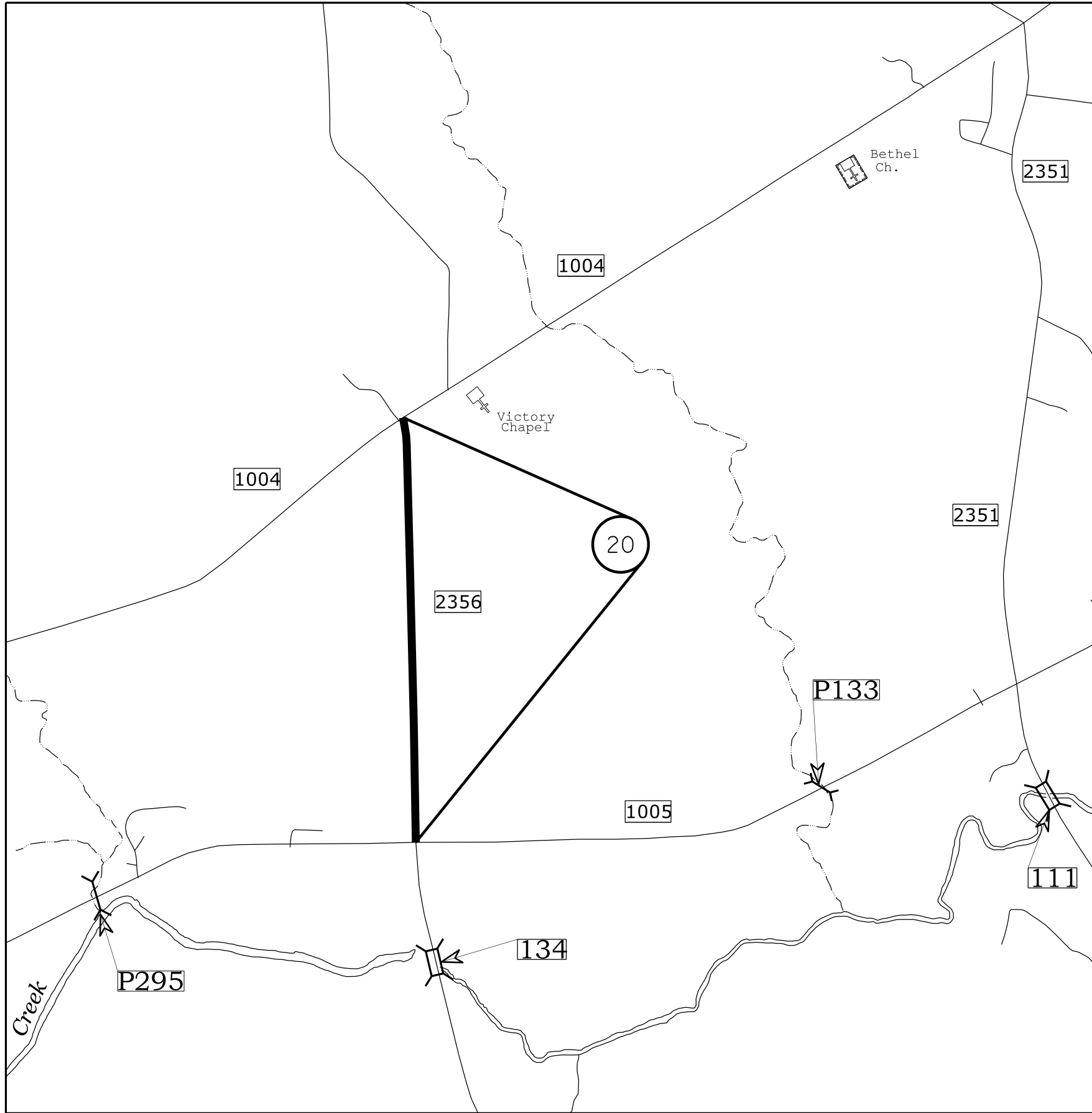
Map 13 SR 1958 E Washington Street
 At NC 119, Mill Tie in full width to tie to joint
 And flush with concrete curb and gutter.

Map 14 SR 1963 Holt St.
 In curb section, Mill and Fill 1 1/4" S9.5B.
 In 2'-6" curb and gutter section Mill and Fill 1 1/4" S9.5B.
 In shoulder section, #78 Mat seal and 1 1/4" S9.5B.

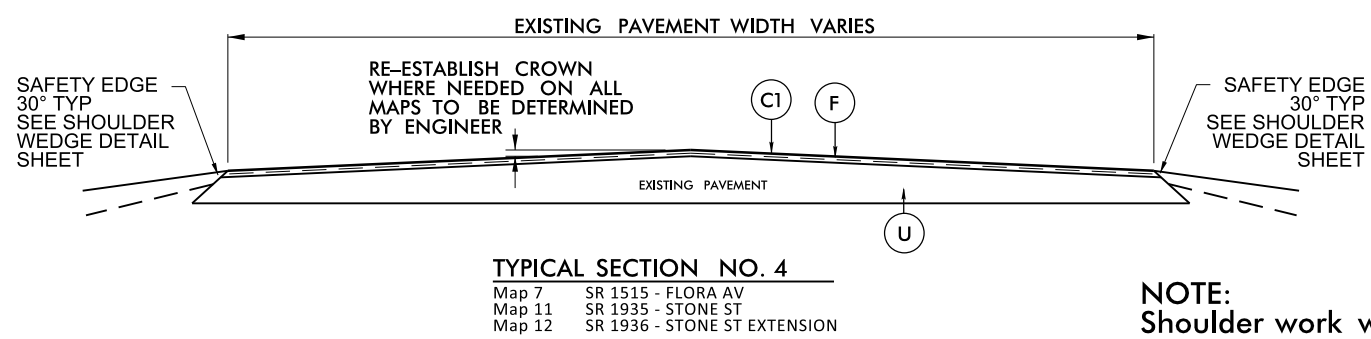
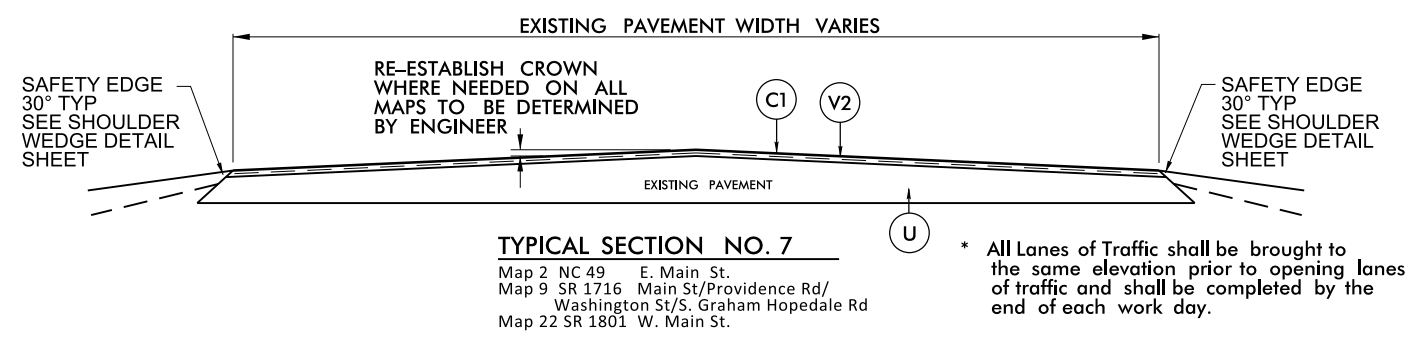
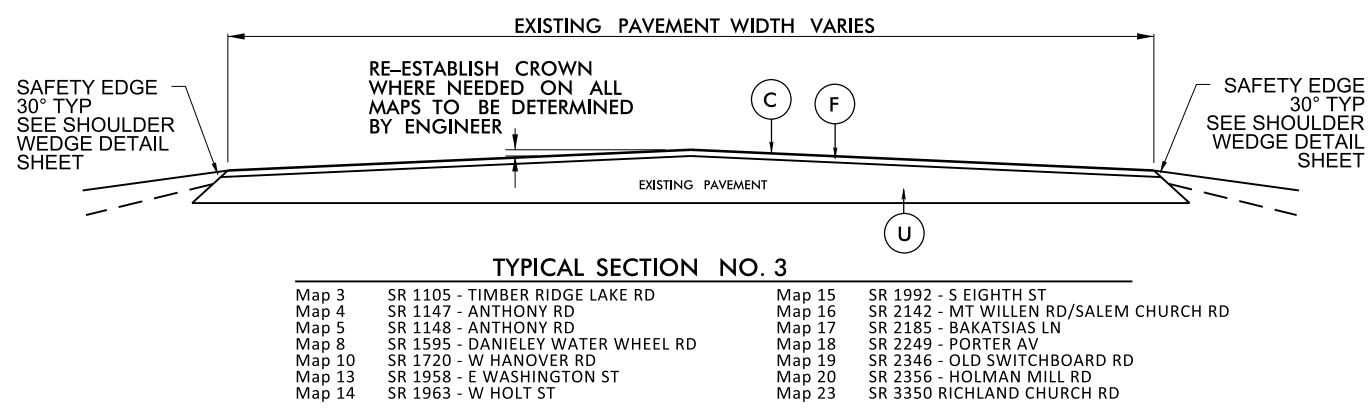
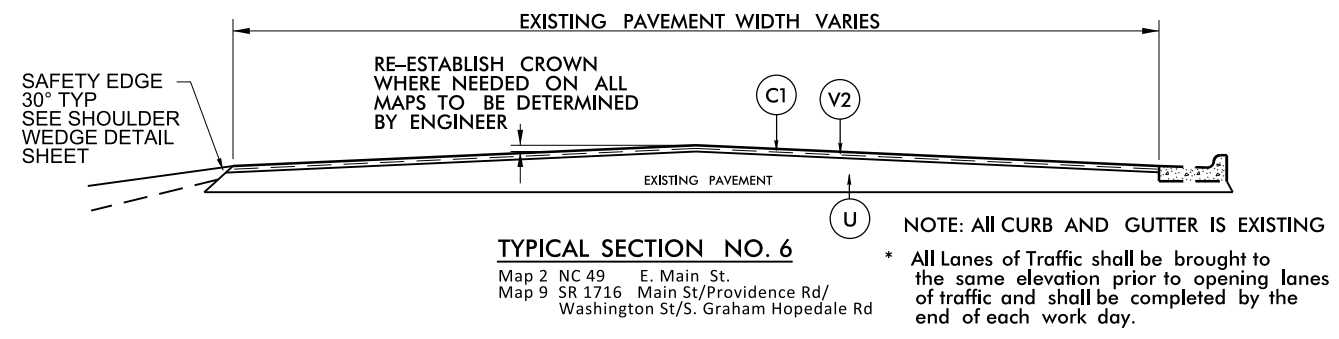
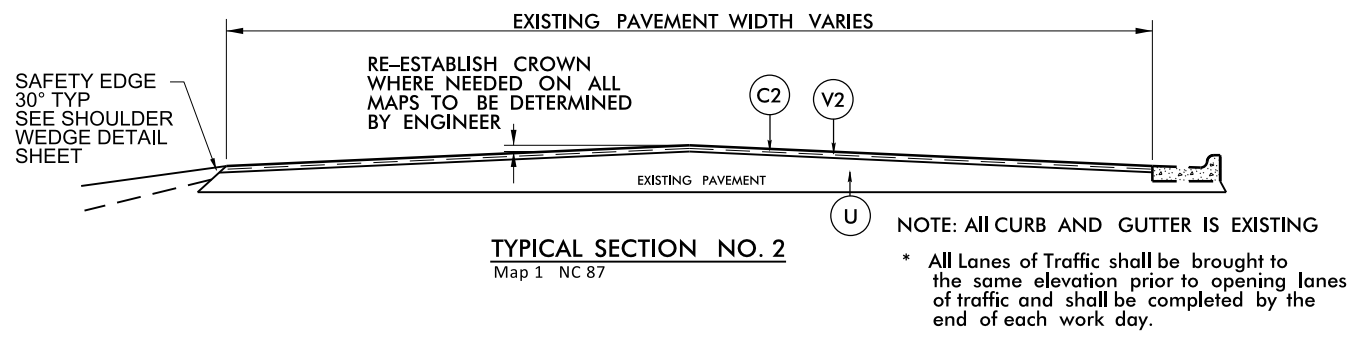
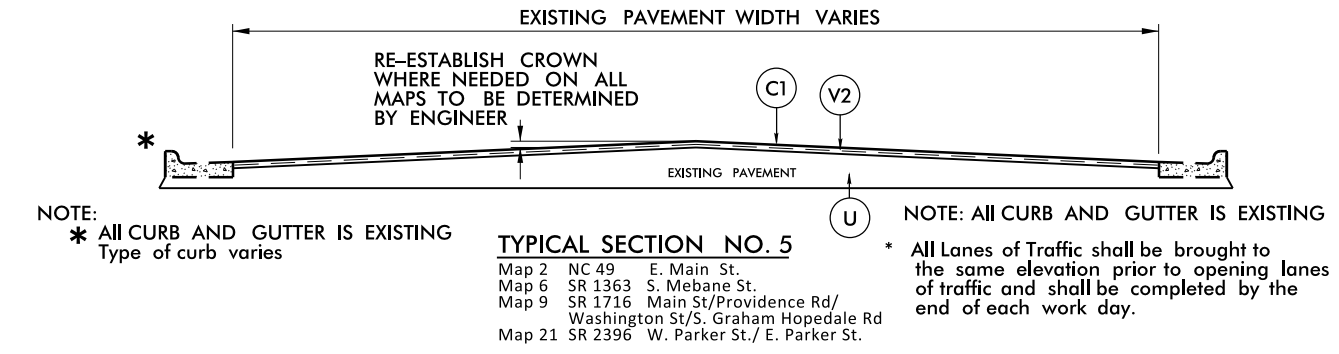
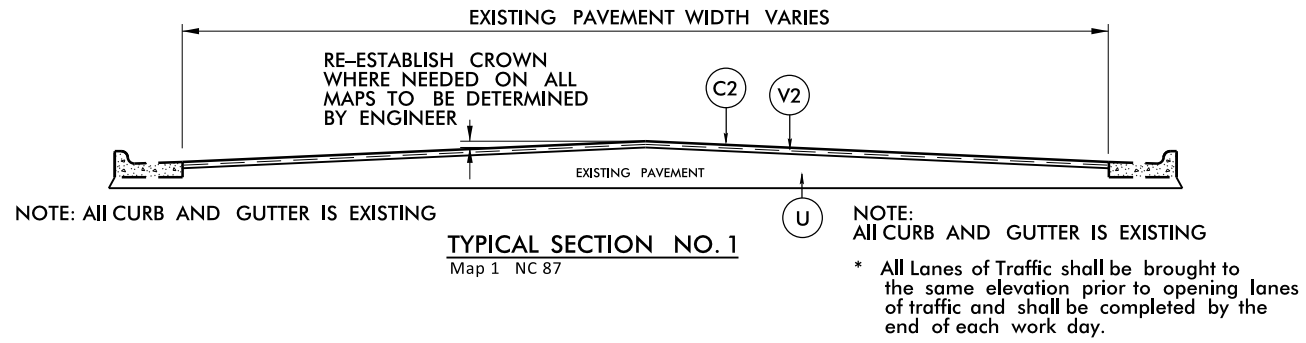
Map 15 SR 1992 Eighth St.
 Near SR 1007 Mebane Oaks Rd.,
 Mill and Fill curb and gutter section 1 1/4" depth.
 Skip intersection with non-system Pear Tree Rd.



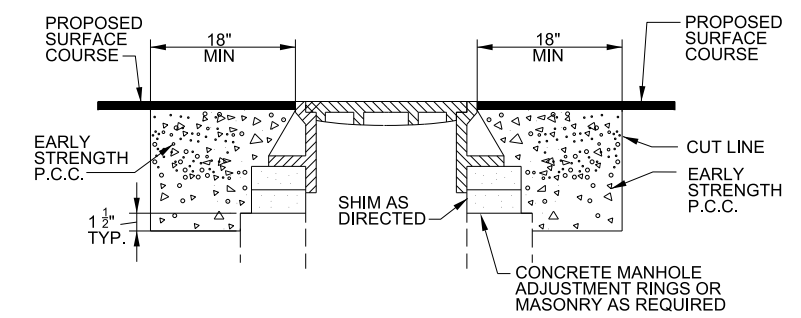
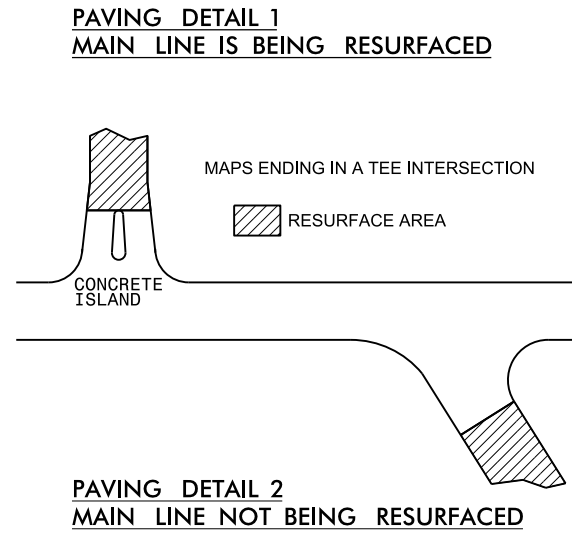
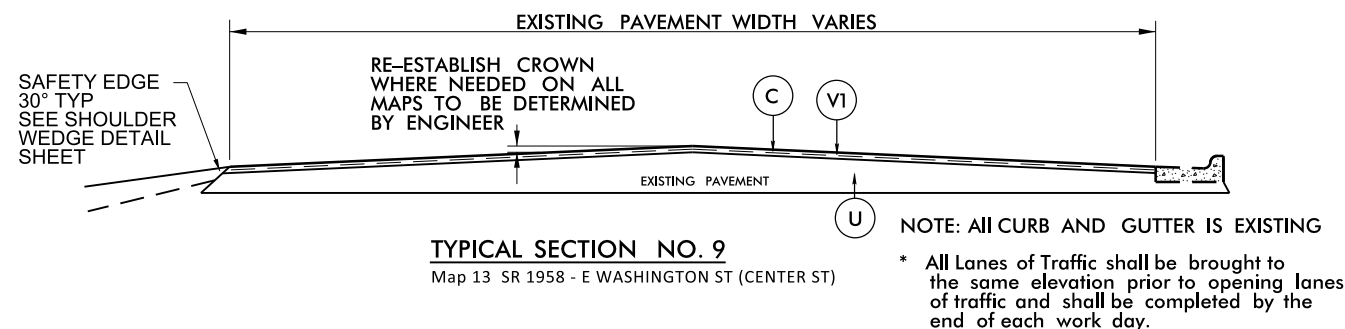
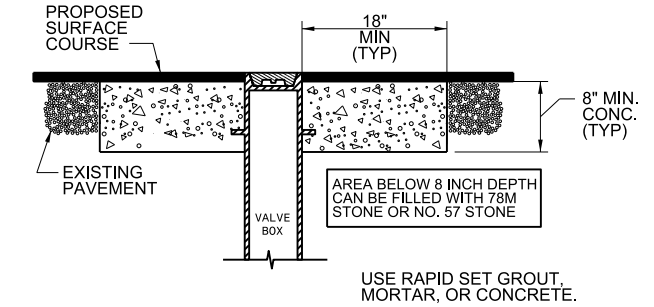
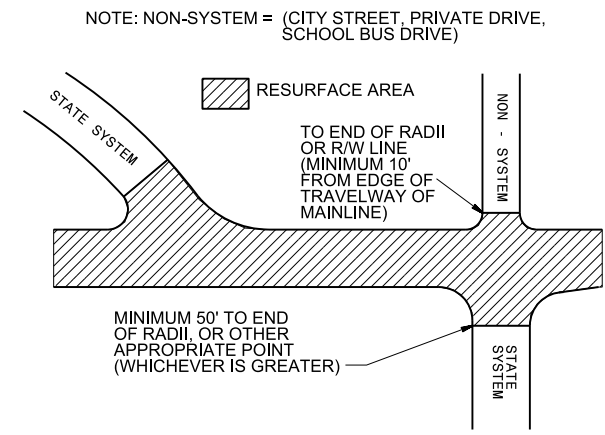
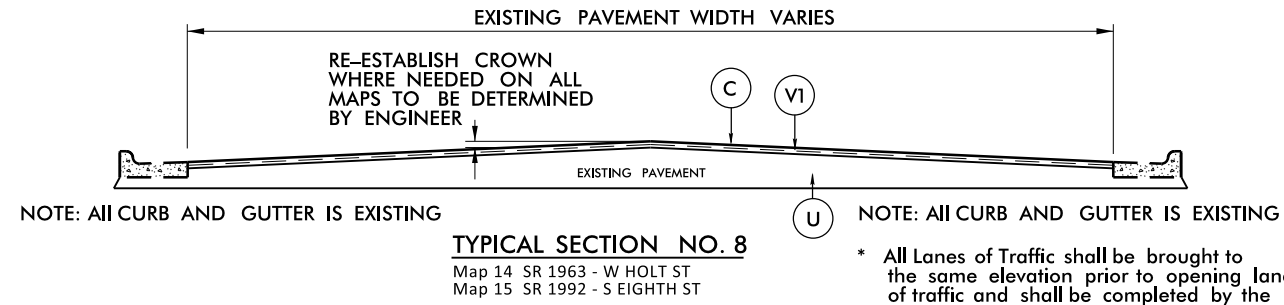
Map 19 SR 2346 Old Switchboard Rd.
Skip intersection at SR 2345 Greenhill Rd.



Map 20 SR 2356 Holman Mill Rd.

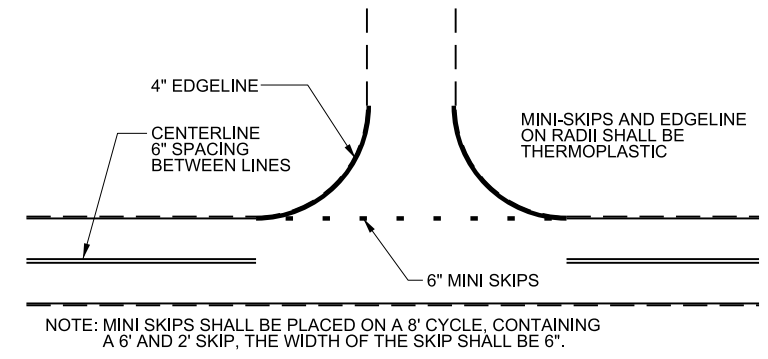


PAVEMENT SCHEDULE	
C	PROP. APPROX. 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 137.5 LBS PER SQ YD
C1	PROP. APPROX. 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 165 LBS PER SQ YD
C2	PROP. APPROX. 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD
F	AST MAT COAT, #78 STONE
V	INCIDENTAL MILLING
V1	MILL ASPHALT PAVEMENT, 1 1/4" DEPTH
V2	MILL ASPHALT PAVEMENT, 1 1/2" DEPTH
U	EXISTING PAVEMENT

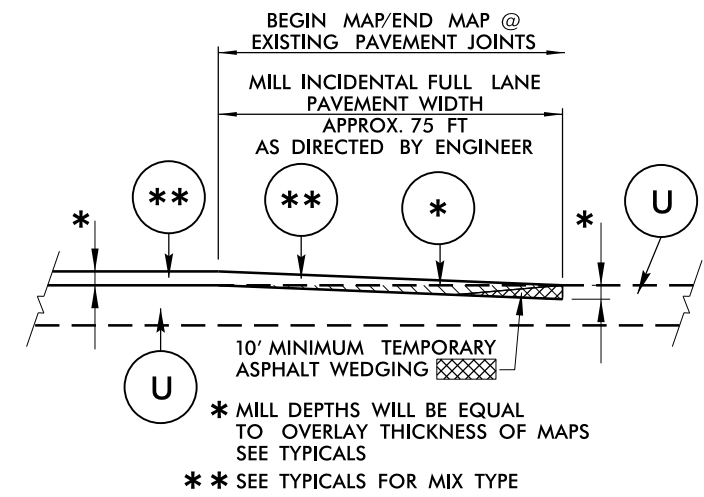


NOTE:
Shoulder work will be handled/performed by state forces

- NOTES:**
- MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
 - ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
 - EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
 - RAPID SET GROUT, MORTAR, OR CONCRETE SHALL BE USED CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

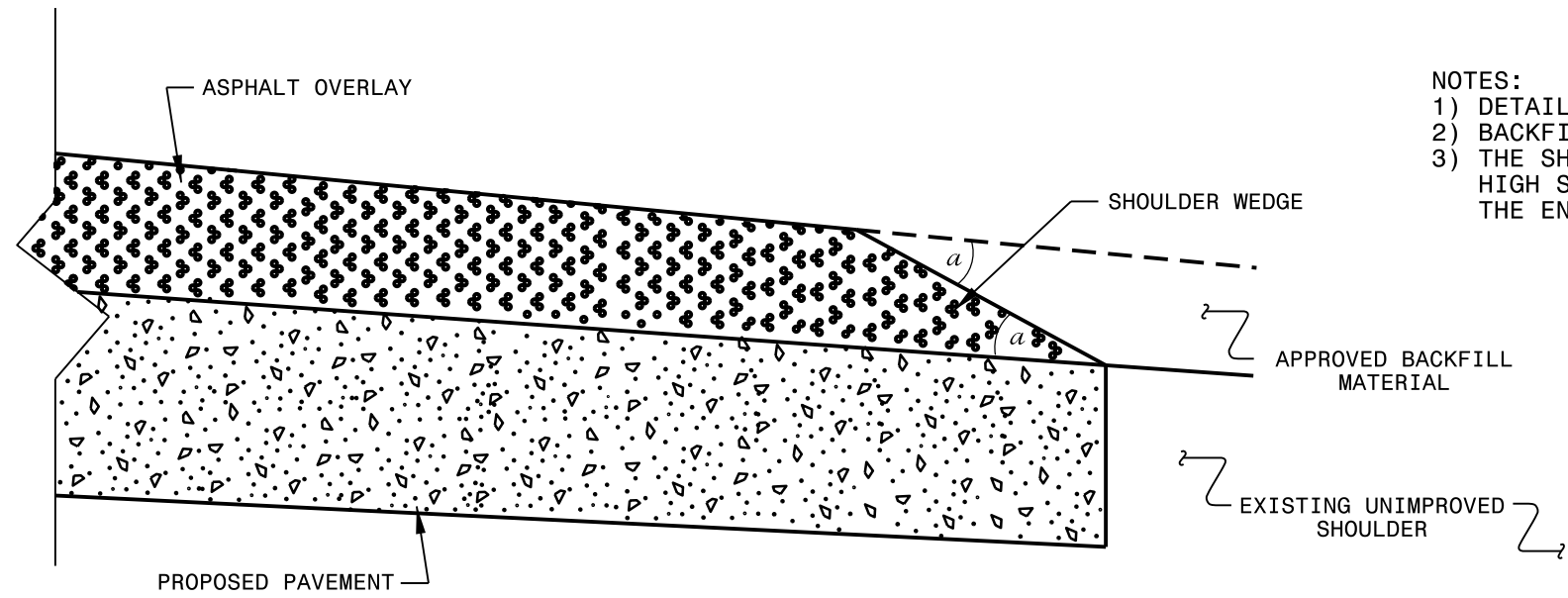


TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS
(NOT TO SCALE)



INCIDENTAL MILLING AT TIE-IN DETAIL

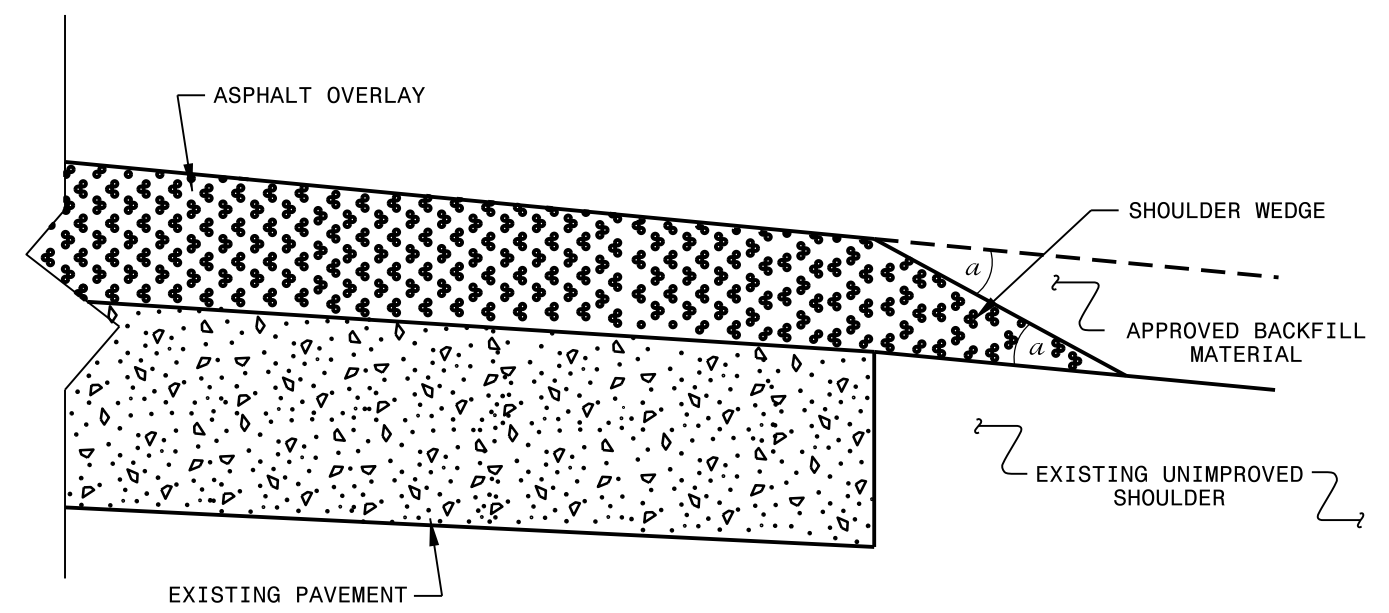
PAVEMENT SCHEDULE	
C	PROP. APPROX. 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 137.5 LBS PER SQ YD
C1	PROP. APPROX. 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 165 LBS PER SQ YD
C2	PROP. APPROX. 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD
F	AST MAT COAT, #78 STONE
V	INCIDENTAL MILLING
V1	MILL ASPHALT PAVEMENT, 1 1/4" DEPTH
V2	MILL ASPHALT PAVEMENT, 1 1/2" DEPTH
U	EXISTING PAVEMENT



- 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, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS DIRECTED BY THE ENGINEER.

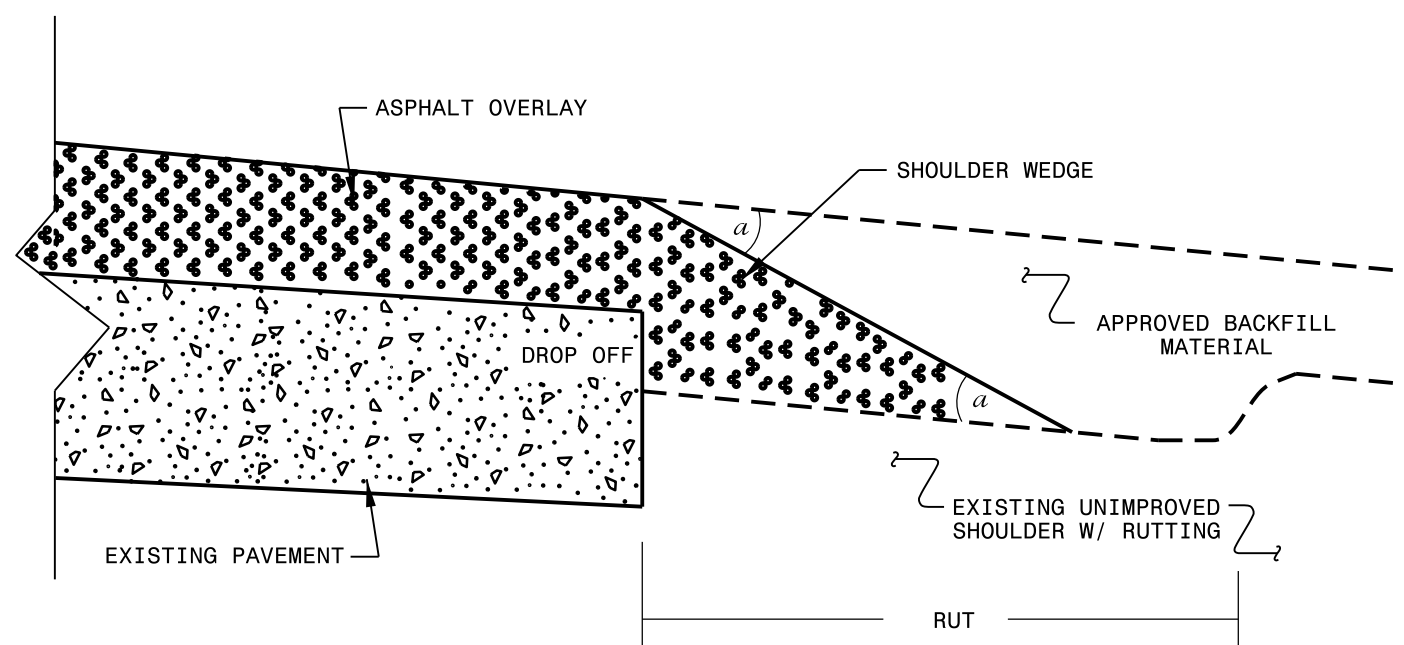
SHOULDER WEDGE DETAIL

(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)

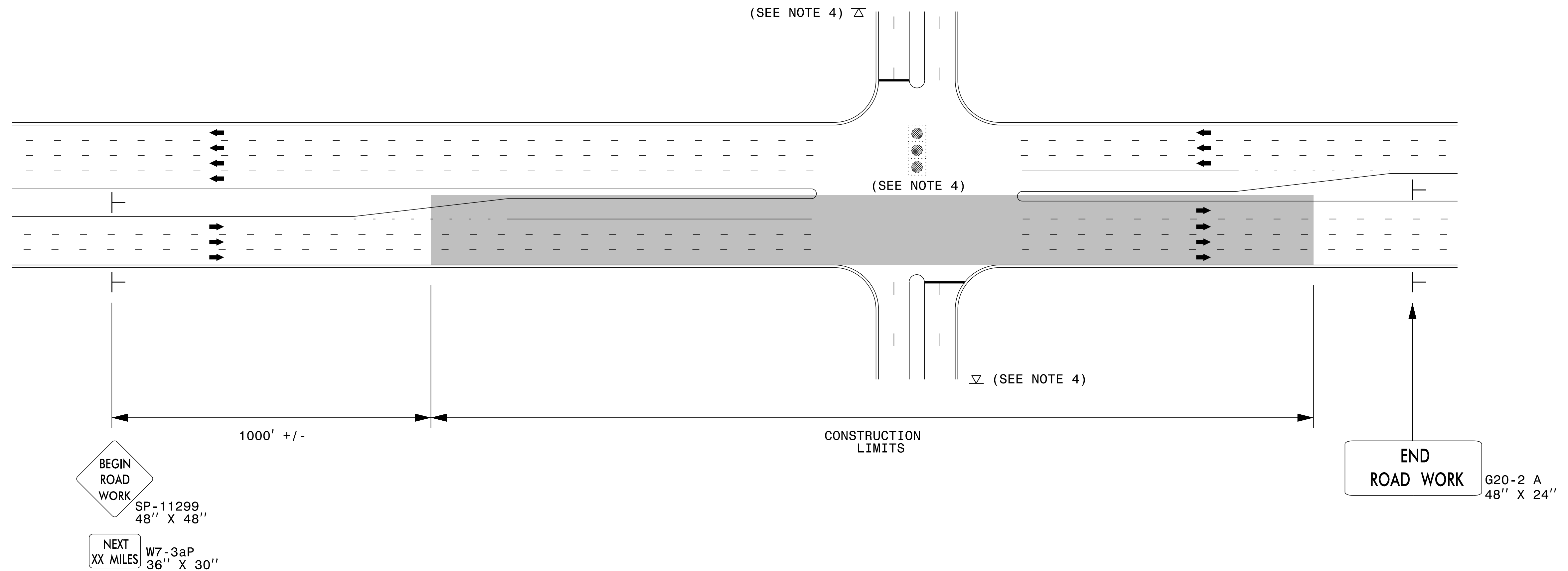
- SHOULDER WEDGE ANGLE = 30°

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: 10/16/12
CHECKED BY:	DATE:
FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANE S	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH		INC. STONE	1-1/2" MILLING	1-1/4" MILLING	INC. MILLING	S9.5B	S9.5C	ASPH. BINDER FOR PLANT MIX	AST, MAT COAT, #78M STONE	EMULSION FOR AST	VACUUM TRUCK	ADJ. OF MANHOLES	ADJ. OF METER BOXES OR VALVE BOXES	SIGN. RELOC. TYP"E"(GRND MNTD)	PORTABLE LIGHTING	INDUCTIVE LOOP SAW CUT		
										MI	FT																TONS	SY
2021CPT.07.06.10011	Alamance	1	NC 87	FROM 460' SOUTH OF SR 2116 (SWEPSONVILLE RD., 15.96) TO NC 54, 18.29	1,2	2	2WU	NO	NO	0.085	35	8	1,745				147	9								8,500		
		"	"	"	1,2	3	MU	NO	NO	0.012	43		1,203					101	6									
		"	"	"	1,2	4	MU	NO	NO	0.019	44			491					41	2						1		
		"	"	"	1,2	5	MU	NO	NO	0.012	59			415						35	2							
		"	"	"	1,2	5	MU	NO	NO	0.027	54			855						72	4							
		"	"	"	1,2	5	MU	NO	NO	0.006	56			197						17	1							
		"	"	"	1,2	5	MU	NO	NO	0.776	57			28,006						2,359	142				24	19		
		"	"	"	1,2	5	MU	NO	NO	0.053	56			1,741						147	9							
		"	"	"	1,2	5	MU	NO	NO	0.436	55			14,978						1,261	76				14	9		
		"	"	"	1,2	6	MU	NO	NO	0.018	74			1,057						91	5				1			
		"	"	"	1,2	6	MD	NO	NO	0.031	93			1,715						142	9							
		"	"	"	1,2	6	MD	NO	NO	0.021	94			1,158						97	6						2	
		"	"	"	1,2	6	MD	NO	NO	0.017	97			992						81	5						1	
		"	"	"	1,2	6	MD	NO	NO	0.06	96			3,379						284	17							
		"	"	"	1,2	6	MD	NO	NO	0.041	84			2,021						170	10							
		"	"	"	1,2	5	MD	NO	NO	0.013	89			679						57	3							
		"	"	"	1,2	6	MD	NO	NO	0.034	78			1,556						131	8							
		"	"	"	1,2	6	MU	NO	NO	0.065	75			2,961						251	15				3	2		
		"	"	"	1,2	5	MU	NO	NO	0.061	62			2,337						197	12				3	2		
		"	"	"	1,2	5	MU	NO	NO	0.015	67			590						50	3							
		"	"	"	1,2	5	MU	NO	NO	0.013	68			1,477						124	7				3	5		
"	"	"	1,2	5	MU	NO	NO	0.279	63			10,542						888	53				12	10				
"	"	"	1,2	5	MU	NO	NO	0.024	65			1,758						187	11				3	4				
"	"	"	1,2	2	MU	NO	NO	0.058	67			2,280						192	12				1	1				
"	"	"	1,2	2	MU	NO	NO	0.077	129			5,827						490	29				1	4	8			
"	"	"	1,2	2	MU	NO	NO	0.07	67			3,484						292	17				1	3				
"	"	"	1,2	2	MU	NO	NO	0.052	66			2,013						169	10									
TOTAL FOR MAP NO. 1										2.375		8	95,457				8,073	483				66	63	8		8,500		
20	Al	2	NC 49 E MAIN ST	FROM US 70 TO SR 1801 W.MAIN ST	5,6,7	2	MU	NO	NO	0.834	22	10	15,079			1,249		84				3	9			867		
TOTAL FOR PROJ NO. 2021CPT.07.06.10011										3.209		18	110,536			1,249	8,073	567				69	72	8		9,367		
2021CPT.07.03.20011	Alamance	3	SR 1105 - TIMBER RIDGE LAKE RD	FROM NC 49 TO GUILFORD CO	3	2	2WU	NO	NO	2.625	20	148			333	2,442		164	32,131	10,603								
		4	SR 1147 - ANTHONY RD	FROM NC 62 TO SR 1148 - ANTHONY RD	3	2	2WU	NO	NO	0.257	22	18			183	252			17	3,317	1,093							
		5	SR 1148 - ANTHONY RD	FROM SR 1147 - ANTHONY RD TO PAVEMENT JOINT 400+/- SOUTH OF SR 1157 WHITES KENNEL RD	3	2	2WU	NO	NO	1.773	22	48			550	1,964			132	25,869	8,537				3			
		6	SR 1363 - S MEBANE ST	FROM JOINT 1,100+/- NE OF NC 54 TO NC 87 - WEBB AVE	5	5	MU	NO	NO	1.177	48		33,669		2,655	3,004			201				49	31			4,475	
		7	SR 1515 - FLORA AV	FROM NC 87 - WEBB AVE TO SR 1530 - BURCH BRIDGE RD	4	2	2WU	NO	NO	0.985	22	133			733	1,194			80	13,081	4,316						600	
		8	SR 1595 - DANIELEY WATER WHEEL RD	FROM SR 1594 - BASIN CREEK RD TO SR 1593 - BURCH BRIDGE RD	3	2	2WU	NO	NO	1.225	21	83			350	1,147			77	15,092	4,982							
		9	SR 1716 - MAIN/PROVIDENCE/ WASHINGTON/ GRAHAM-HOPEDALE RD	FROM 275' N OF NC49/54/87 - HARDEN ST TO 100' N OF SR 1720 - HANOVER RD	5,6,7	2	2WU	NO	NO	1.165	24	93	23,433		2,018	2,108			141				23	20			1,100	
		10	SR 1720 - W HANOVER RD	FROM SR 1801 - W MAIN ST TO SR 1716 - GRAHAM-HOPEDALE RD	3	2	2WU	NO	NO	1.746	22	155			183	1,956			131	25,755	8,490							
		11	SR 1935 - STONE ST	FROM NC 49 - MAIN ST TO SR 1936 - STONE ST EXT	4	2	2WU	NO	NO	0.475	21	25			788	552			37	6,043	1,994							
		12	SR 1936 - STONE ST EXTENSION	FROM SR 1935 - STONE ST TO SR 1940 - GIBSON RD	4	2	2WU	NO	NO	2.872	20	263			833	3,218			216	35,244	11,628	13		1				
		13	SR 1958 - E WASHINGTON ST	FROM NC 119 TO ORANGE CO	3,9	2	2WU	NO	NO	0.358	21	13			525	356			24	4,682	1,543			5	1			
		14	SR 1963 - W HOLT ST	FROM RR SPUR LINE CROSSING TO SR 1962 - S THIRD ST EXT	3,8	2	2WU	NO	NO	1.522	23	125		4,287	461	1,716			115	18,038	5,953			20	13			
		15	SR 1992 - S EIGHTH ST	FROM SR 1961 - S EIGHTH ST TO SR 1007 - MEBANE OAKS RD	3,8	2	2WU	NO	NO	0.643	21	25		1,568	525	731			49	7,387	2,438			5	7			
		16	SR 2142 - MT WILLEN RD/SALEM CHURCH RD	FROM SR 2135 - S JIM MINOR RD TO SR 2150 - PAYNE RD	3	2	2WU	NO	NO	3.536	21	275			700	3,387			227	44,575	14,710							
		17	SR 2185 - BAKATSIAS LN	FROM SR 1928 - JIMMIE KERR RD TO END MAINT	3	2	2WU	NO	NO	0.496	24	8			300	577			39	7,600	2,509							
		18	SR 2249 - PORTER AV	FROM SR 2185 - BAKATSIAS LN TO END MAINT	3	2	2WU	NO	NO	0.074	22					73			5	955	315							
		19	SR 2346 - OLD SWITCHBOARD RD	FROM SR 1003 - LINDLEY MILL RD TO CHATHAM CO	3	2	2WU	NO	NO	2.269	19	88			633	2,141			143	28,173	9,297							
		20	SR 2356 - HOLMAN MILL RD	FROM SR 1004 - SNOW CAMP RD TO SR 1005 - W GREENSBORO CHAPEL HILL RD	3	2	2WU	NO	NO	0.75	20	40			333	669			45	8,800	2,904							
		21	SR 2396 - W PARKER ST/ E PARKER ST	FROM NC 49 TO SR 1716 - PROVIDENCE RD	5	2	2WU	NO	NO	1.068	30			24,442	1,634	2,157			145					22	30			
		22	SR 1801 W. MAIN ST.	FROM US 70 TO NC 49 E. MAIN ST.	7	2	2WU	NO	NO	0.552	23	36	9,509					867		58								
		TOTAL FOR PROJ NO. 2021CPT.07.03.20011										25.568		1,576	91,053	5,855	13,737	30,511		2,046	276,742	91,312	13	138	117			6,175
		20	G	23	SR 3350 RICHLAND CHURCH RD (GUILFORD COUNTY)	FROM ALAMANCE CO. LINE TO RANDOLPH CO. LINE	3	2	2WU	NO	NO	0.23	20	3			167	235		16	3,099	1,022	1					
TOTAL FOR PROJ NO. 2021CPT.07.03.20411										0.23		3			167	235		16	3,099	1,022	1							
GRAND TOTAL										29.007		1,597	201,589	5,855	13,904	31,995	8,073	2,629	279,841	92,334	14	207	189	8	1	15,542		

URBAN / SUBURBAN WORKZONES

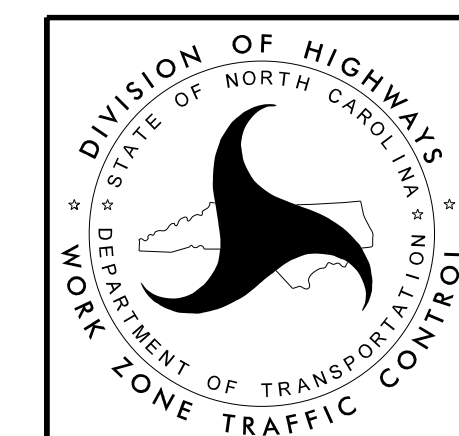


NOTES:

- 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

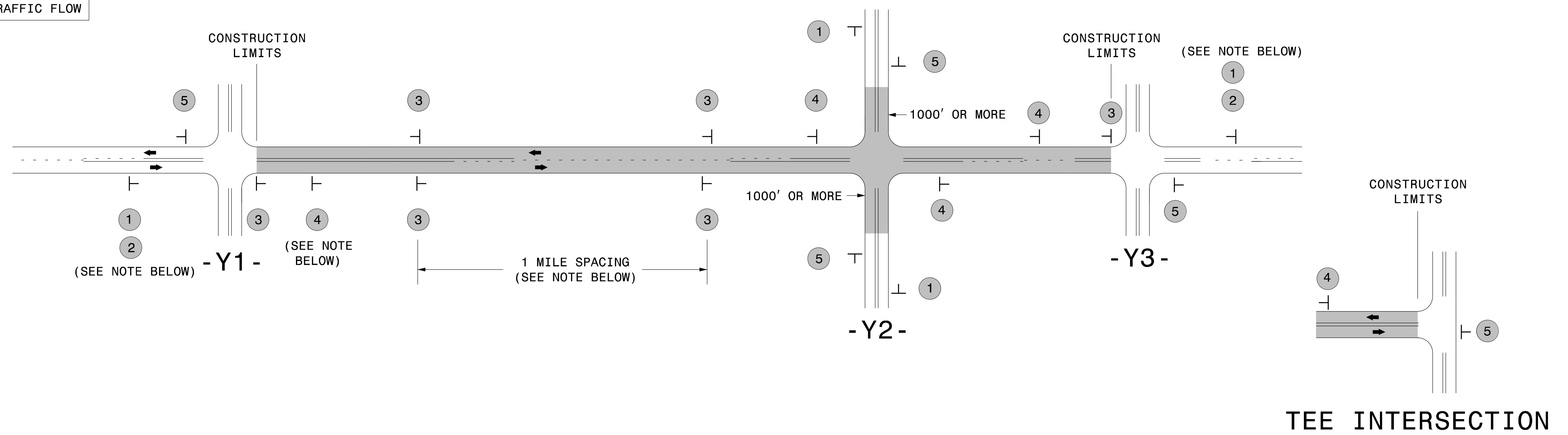
- ┆ STATIONARY SIGN
- ➔ DIRECTION OF TRAFFIC FLOW



**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

SIGNING FOR RESURFACING PROJECTS

LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

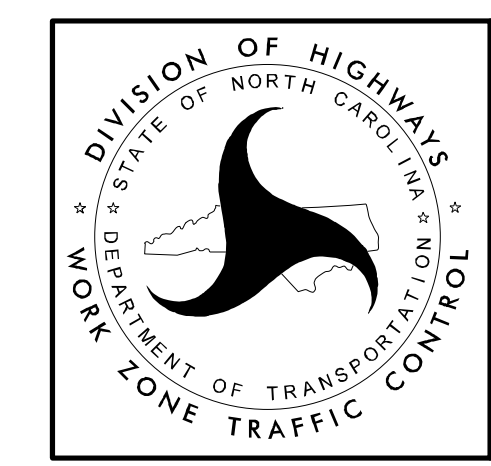
-Y- LINE SIGNING

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"> 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, 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;"> W20-1 48" X 48" PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> W20-7 A 48" X 48" 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.



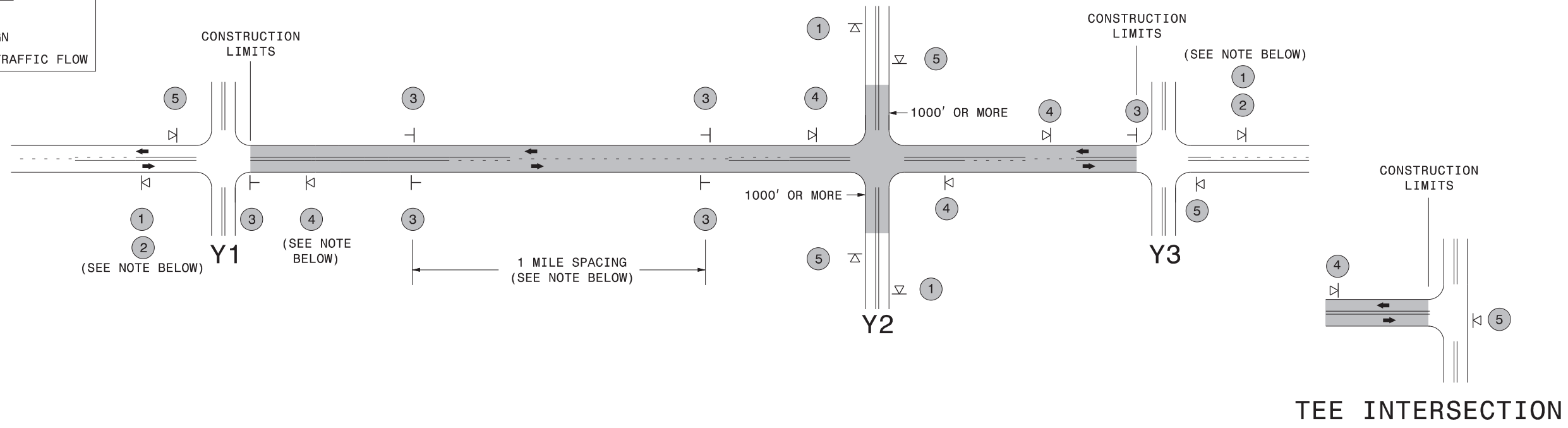
ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

5/15/2017 S:\TMU\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing_AdvWarn_2Ln.dgn User:kadai

SIGNING FOR ASPHALT SURFACE TREATMENT

LEGEND

- ▷ PORTABLE SIGN
- └ STATIONARY SIGN
- ← DIRECTION OF TRAFFIC FLOW



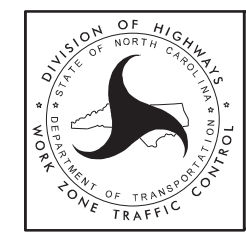
MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION		<ul style="list-style-type: none"> - PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. - SIGN #2 ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO THE NEAREST WHOLE NUMBER. DO NOT USE FRACTIONAL OR DECIMAL NUMBERS. 	<p>STATIONARY SIGNING NOT REQUIRED 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, 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;"> <p>PLACED 500' IN ADVANCE OF FLAGGER.</p> </div> <div style="text-align: center;"> <p>PLACED 250' IN ADVANCE OF FLAGGER.</p> </div> </div>
		<ul style="list-style-type: none"> - ALTERNATE THE FOLLOWING TWO SIGNS: - STARTING WITH "LOOSE GRAVEL" (W8-7) FOLLOWED BY "UNMARKED PAVEMENT". - PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 0.5 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. 	
		<ul style="list-style-type: none"> - PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION. 	
	<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

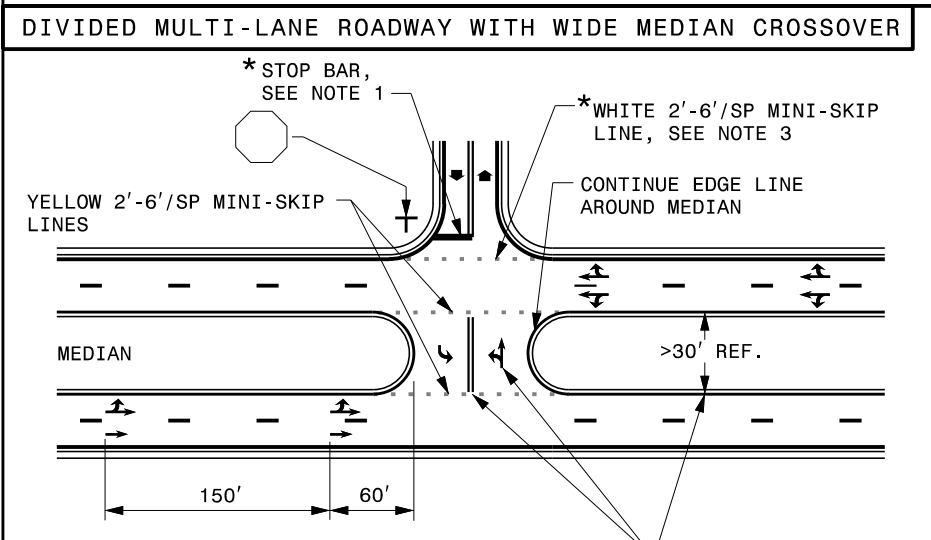
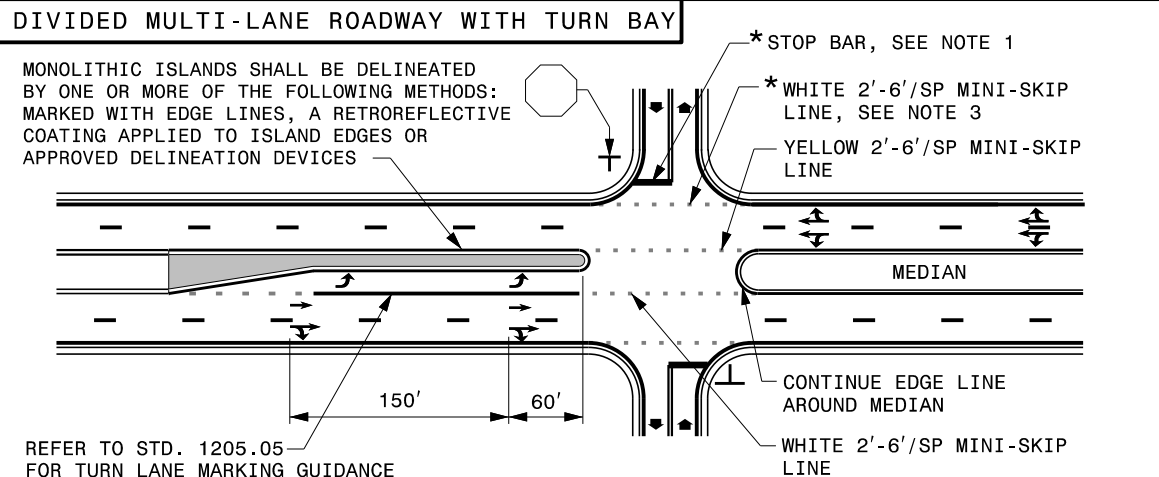
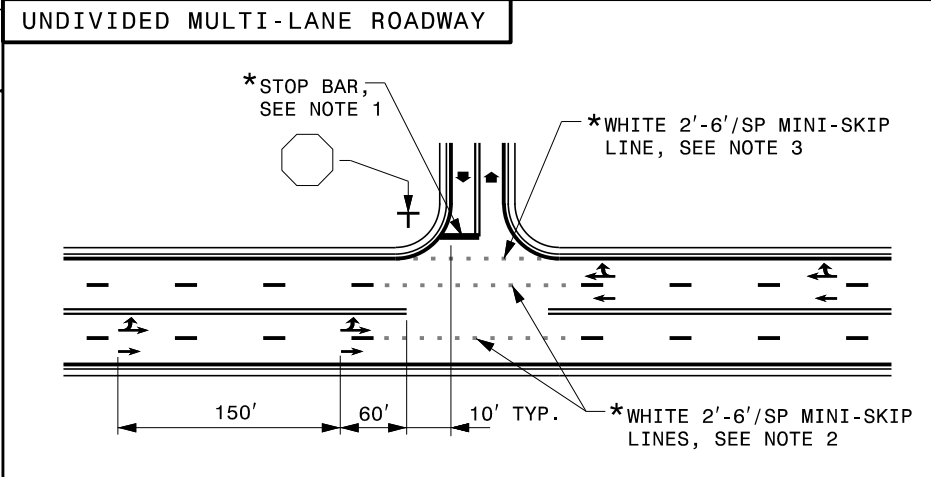
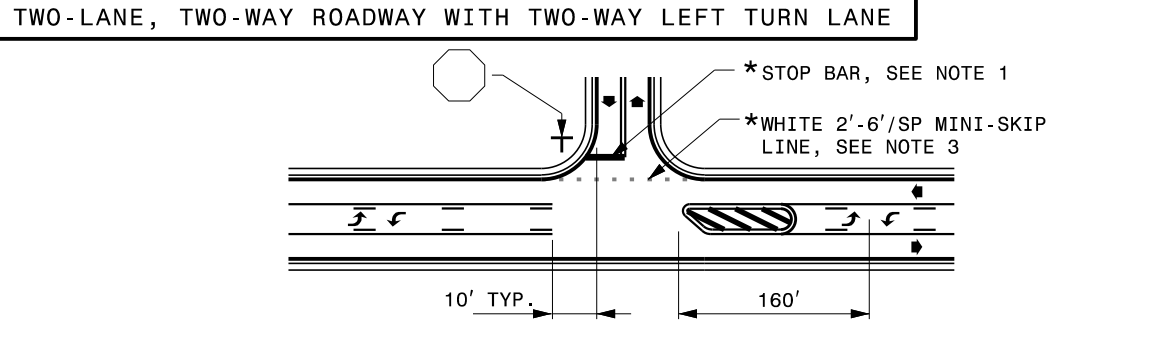
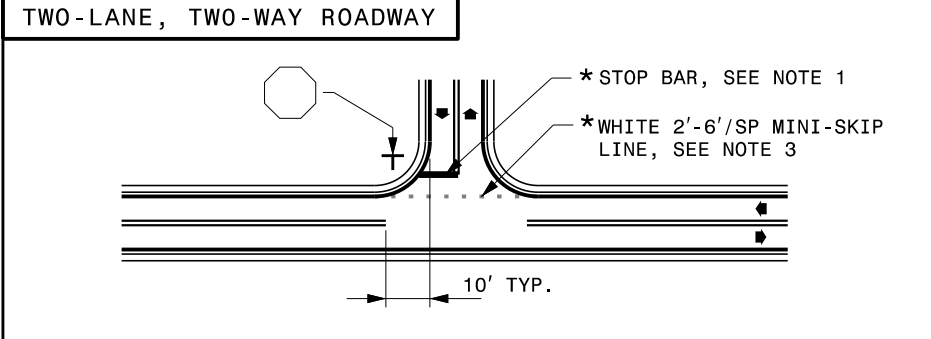
FOR AST RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, USE A STATIONARY "LOOSE GRAVEL" SIGN AT THE BEGINNING CONSTRUCTION LIMIT FOLLOWED BY AN "UNMARKED PAVEMENT" SIGN MIDWAY THROUGH AND AN "END ROAD WORK" SIGN AT THE END CONSTRUCTION LIMIT.



ADVANCE WARNING SIGNS FOR 2-LANE ROADWAY ASPHALT SURFACE TREATMENT



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



GENERAL NOTES:

- 1- PLACEMENT OF STOP BARS AT NON-SIGNALIZED INTERSECTIONS IS OPTIONAL AND USED WHERE IT IS IMPORTANT TO INDICATE THE POINT WHICH VEHICLES ARE REQUIRED TO STOP. PLACE STOP BARS NO LESS THAN 4 FEET AND NO MORE THAN 30 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY. USE 10 FEET AS THE TYPICAL SETBACK DISTANCE OR AS DIRECTED BY THE ENGINEER.
- 2- MINI-SKIP LANE LINE EXTENSIONS SHOULD BE USED AT INTERSECTIONS THAT HAVE REDUCED VISIBILITY CONDITIONS SUCH AS OFFSET, SKEWED, OR CURVED ROADWAYS.
- 3- MINI-SKIP EDGE LINE EXTENSIONS MAY BE PLACED THROUGH INTERSECTIONS AND MAJOR DRIVEWAYS.
- 4- REFER TO ROADWAY STANDARD DRAWINGS 1205.01, 1205.02, 1205.05, 1205.08 AND 1205.09 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

LEGEND

	STOP SIGN		STATIONARY SIGN
	DIRECTION OF TRAFFIC FLOW		PAVEMENT MARKING SYMBOLS
*	OPTIONAL		

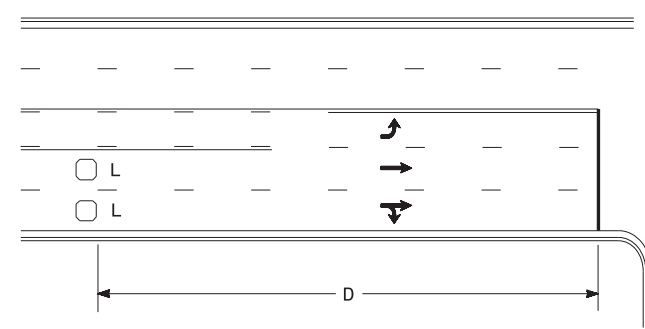
ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
INTERSECTIONS

ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
INTERSECTIONS

**REVISED PAVEMENT MARKING
ROADWAY STANDARD DRAWING**

U:\13171\Standards Group\Standards and Drawings\Drawings\2018 Standard Dwg\Division 12 Final\2050402_08-13-19.dgn
User:dstokes

High Speed Detection (≥40 mph)

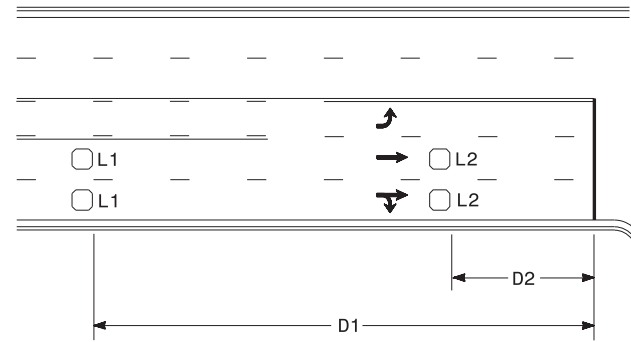


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



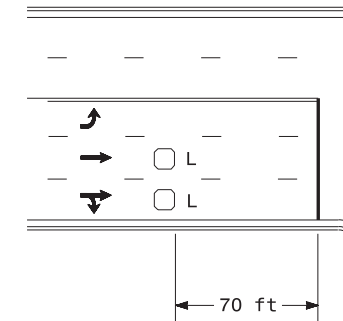
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

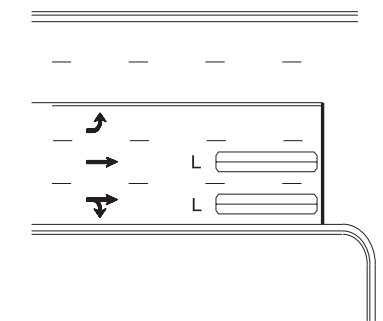
"Stretch" Operation

Low Speed Detection (≤35 mph)



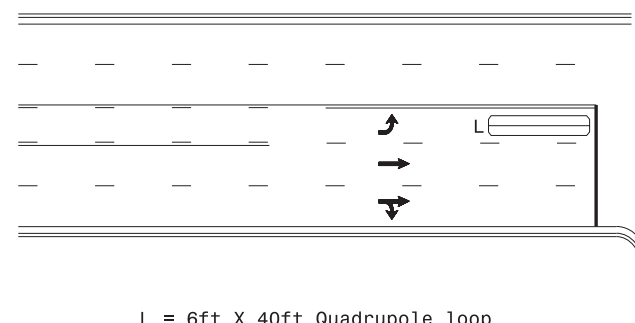
L = 6ft X 6ft
Wired in series

OR



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

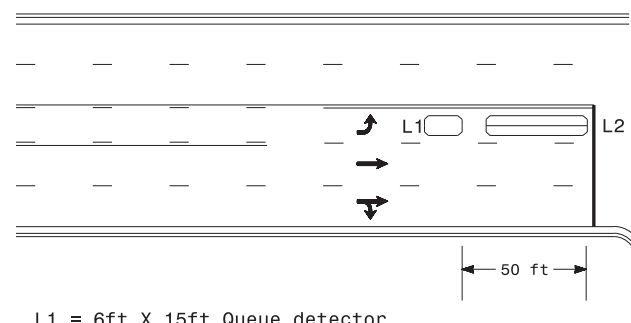
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

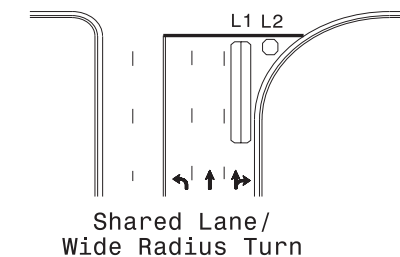
OR



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

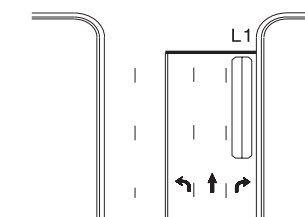
Queue Loop Detection

Right Turn Lane Detection

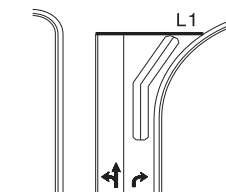


Shared Lane/
Wide Radius Turn

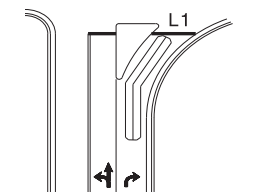
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

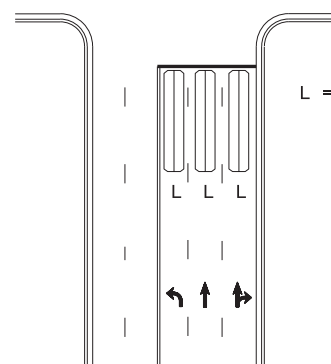


Wide Radius Turn



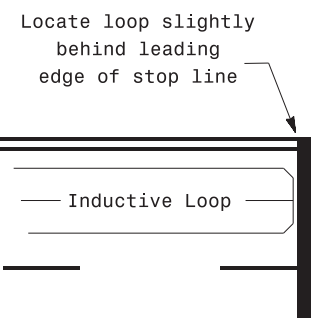
Channelized Turn

Side Street Detection



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

Presence Loop Placement at Stop Lines



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

	<p>Prepared In the Offices of:</p> <p>PLANNING, MOBILITY AND SAFETY DIVISION STATE OF NORTH CAROLINA SIGNAL DESIGN SECTION</p> <p>750 N. Greenfield Pkwy, Garner, NC 27529</p>		<p>SEAL NORTH CAROLINA PROFESSIONAL ENGINEER 029904 JASON P. GALLOWAY</p>								
	<p>PLAN DATE: September 2020</p> <p>REVIEWED BY: JPG</p>		<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	INIT.	DATE			
NO.	DATE	INIT.	DATE								
<p>SCALE N/A</p>		<p>TYPICAL SIGNAL LOOP LOCATIONS</p>		<p>9/8/2020</p>							

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

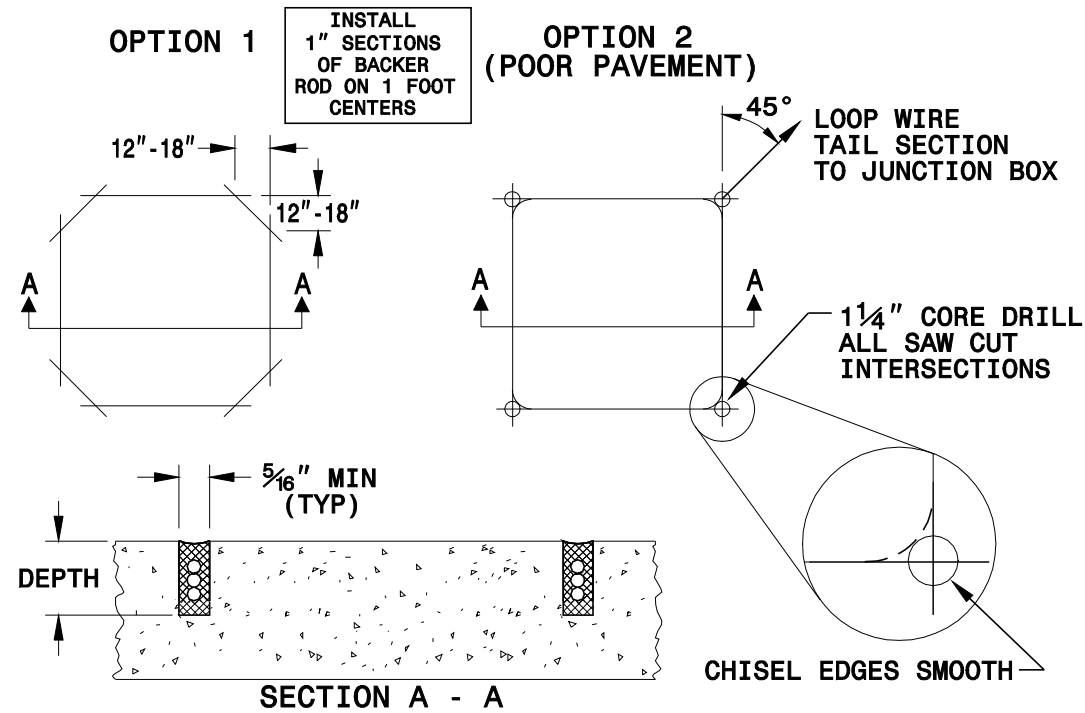


CORRECT WAY TO TWIST WIRE

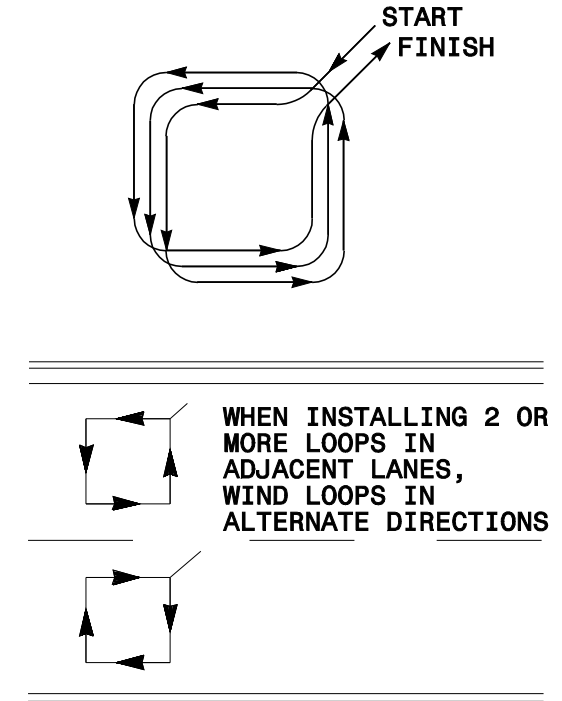


CONVENTIONAL 4-SIDED LOOP

SAW CUT OPTIONS

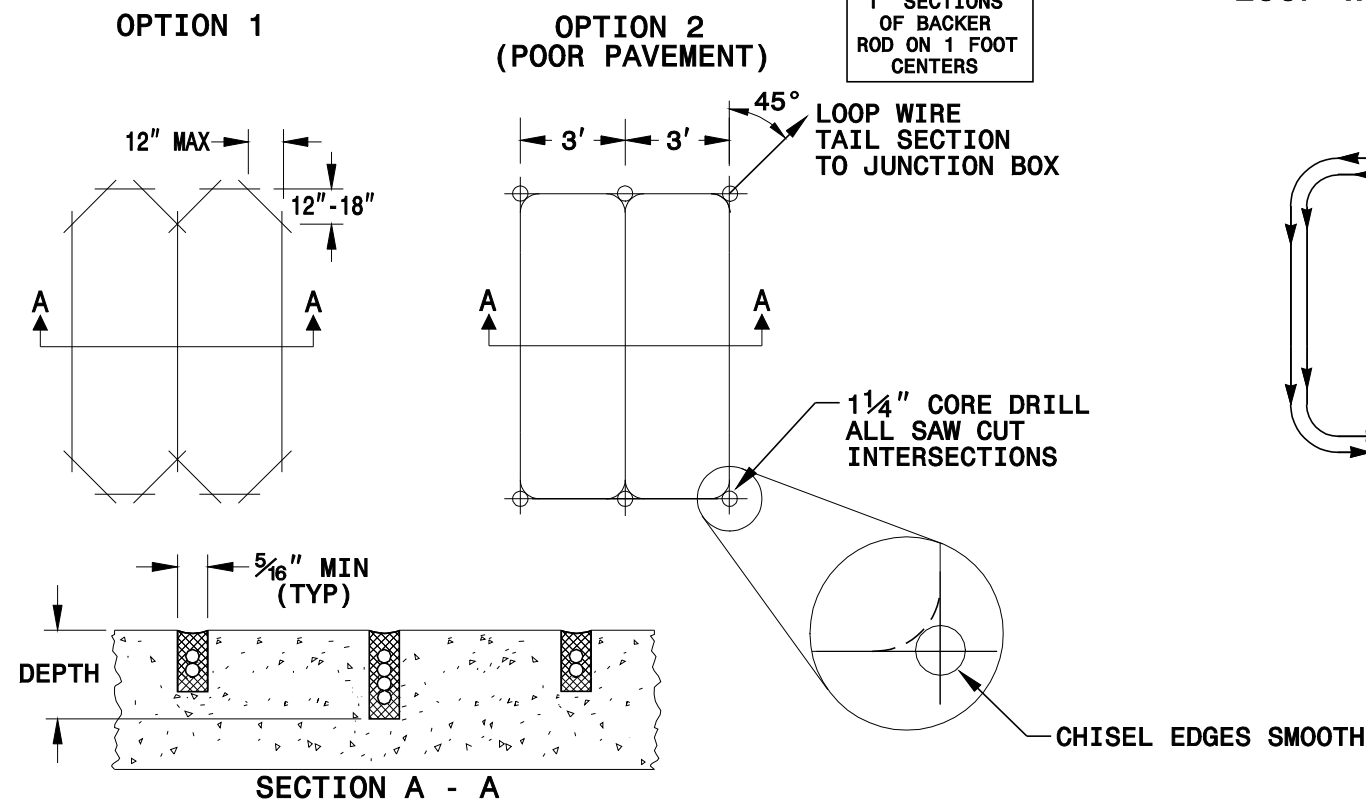


LOOP WINDING METHOD

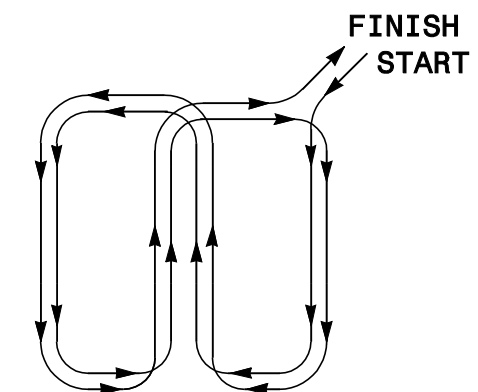


QUADRUPOLE LOOP

SAW CUT OPTIONS



LOOP WINDING METHOD



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

DEEP-CUT INDUCTIVE DETECTION LOOPS
 (FOR INSTALLATION PRIOR TO MILLING)

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

DEEP-CUT INDUCTIVE DETECTION LOOPS
 (FOR INSTALLATION PRIOR TO MILLING)

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