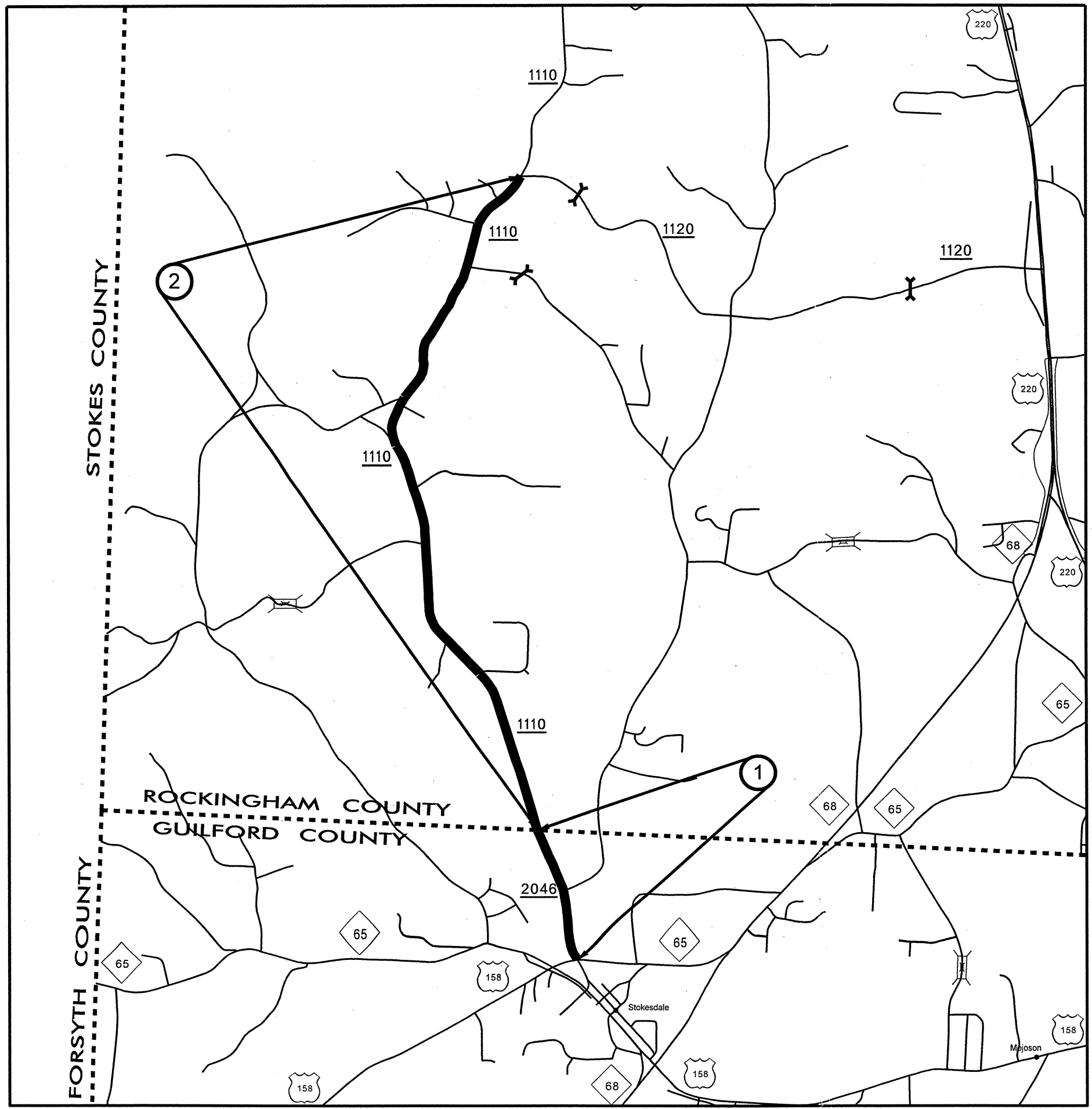


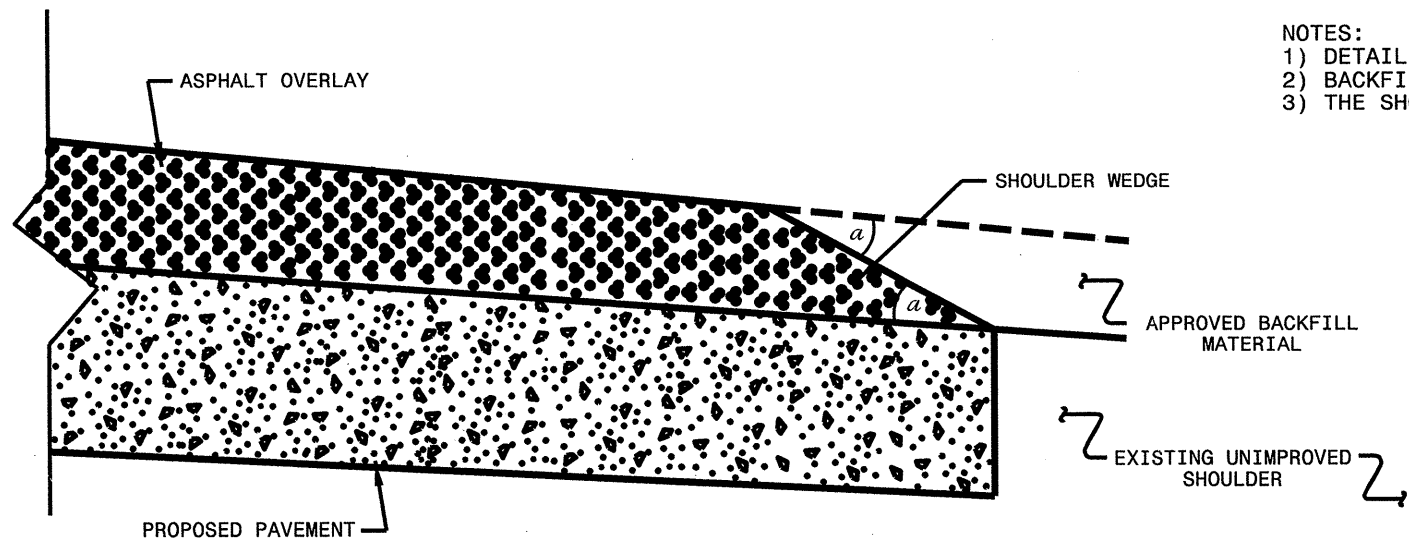
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7C.079234, 7C.041249	1	4
F.A. PROJ. NO.			

2013 ROCKINGHAM COUNTY AND GUILFORD COUNTY

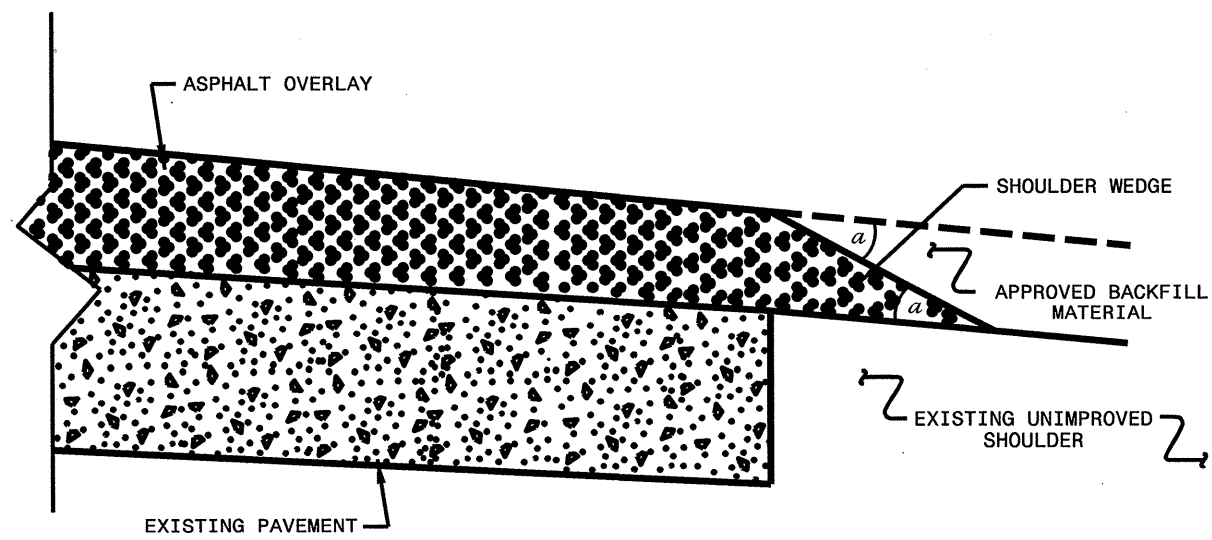


\$\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DDN\$\$\$\$\$
 \$\$\$USERNAME\$\$\$\$\$

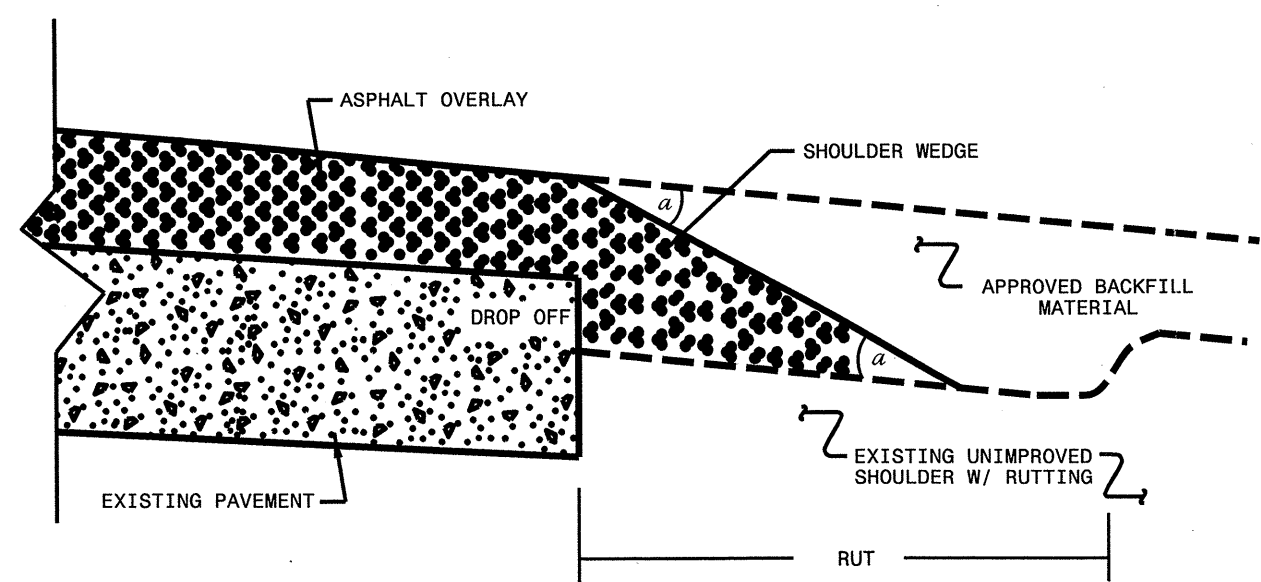
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ NO Widening)



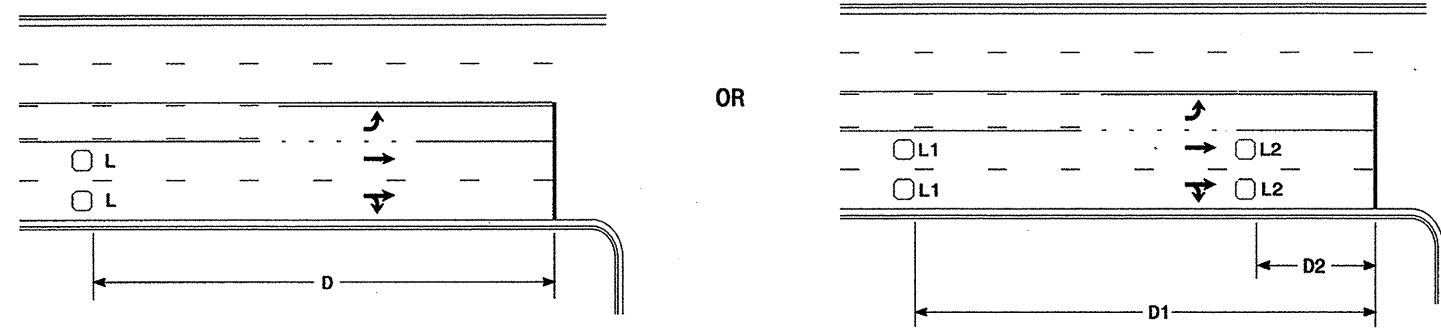
SHOULDER WEDGE DETAIL
 (Resurfacing Adjacent to
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

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:	c:\usr\details\stand\shoulder\shoulderdetail.dwg		

CONTRACT STANDARDS AND DEVELOPMENT UNIT
 919-707-6950
 919-250-4119
 www.ncdot.com

High Speed Detection [≥40 mph (64 km/hr)]



Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)
Wired in series for TS1
Controllers
Wired separately for TS2,
170, and 2070L Controllers

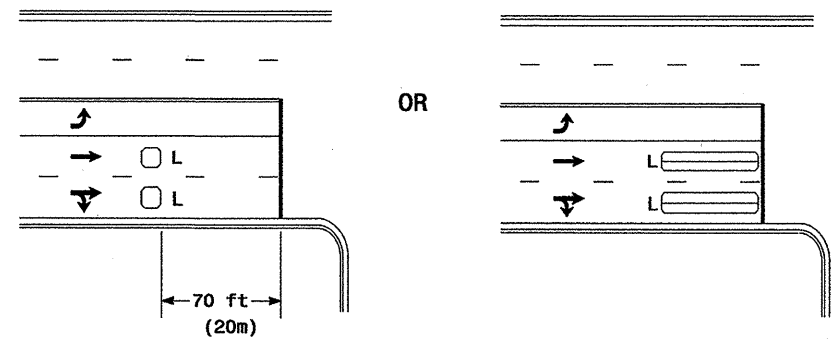
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series
L2 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series

Volume Density Operation

"Stretch" Operation

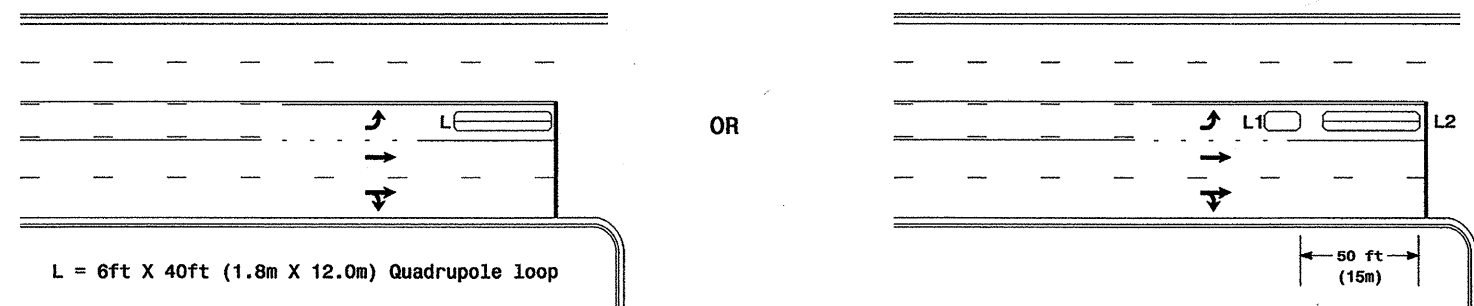
Low Speed Detection [≤35 mph (56 km/hr)]



L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop, wired separately

Left Turn Lane Detection



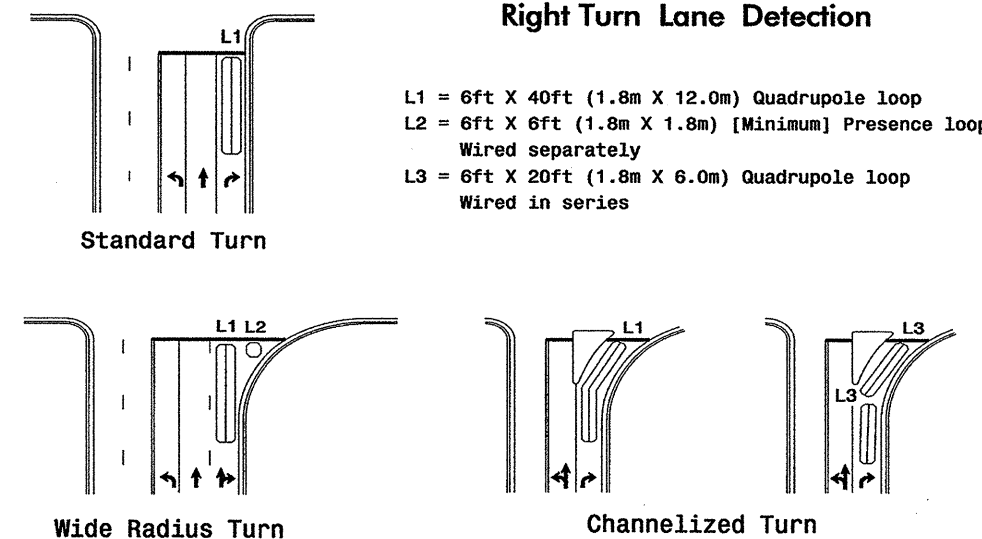
L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

Queue Loop Detection

Right Turn Lane Detection



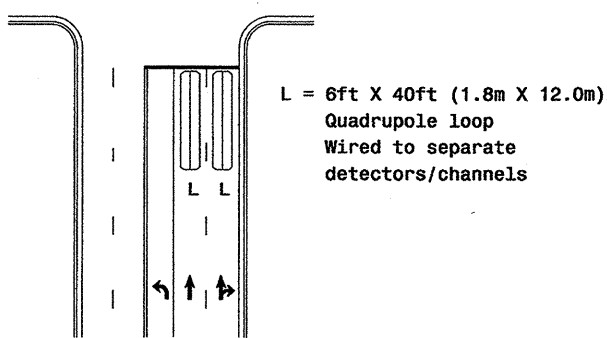
L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

Standard Turn

Wide Radius Turn

Channelized Turn

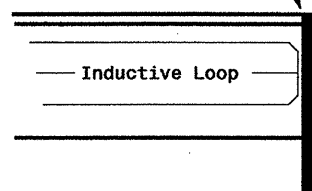
Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)
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 when stop line is
greater than 15' (4.5m) from edge
of intersecting roadway; or, when
loop detects a permissive or
protected/permissive left turn.

Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns
6' X 15' (1.8m X 4.6m) Loops:
Lead-in < 150' (45 m), use 2 turns
Lead-in > 150' (45 m), use 3 turns

	Typical Loop Locations		
	PLAN DATE: June 2006 PREPARED BY: P. L. Alexander SCALE: N/A	REVIEWED BY: REVISIONS: INT. DATE: 12/1/06	

PROJECT NO.	SHEET NO.	TOTAL NO.
7C.041249, 7C.079234	4	4

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	BORROW EXCAVATION CY	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	INCIDENTAL MILLING SY	ASPHALT CONC BASE COURSE, TYPE B25.0B TONS	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A TONS	ASPHALT BINDER FOR PLANT MIX TONS	GENERIC PAVING ITEM - ASPHALT SURFACE TREATMENT, MAT COAT, #67 STONE SY	SEEDING & MULCHING AC	RESIDENTIAL SEEDING ACR	TRENCHING (UNPAVED) (1)(2") LF	JUNCTION BOX (STANDARD SIZE) EA	2" RISER W/ WEATHERHE AD EA	INDUCTIVE LOOP SAW CUT LF	LEAD-IN CABLE (14-2) LF			
7C.041249	Guilford	1	SR 2046 (ELLISBORO ROAD)	FROM NC 65 - 0.72 TO ROCKINGHAM COUNTY LINE - 1.47	1	NO	NO	0.025	22-62	19		1.50	350	27	56	5	621	0.27	0.27	70	1	1	200	70			
					1	NO	NO	0.725	22			778	941	97	9,788												
					TOTAL FOR MAP NO. 1							0.75		19		1.50	350	805	997	102	10,409	0.27	0.27	70	1	1	200
TOTAL FOR PROJ NO. 7C.041249							0.75		19		1.50	350	805	997	102	10,409	0.27	0.27	70	1	1	200	70				
7C.079234	Rockingham	2	SR 1110 (ELLISBORO ROAD)	FROM GUILFORD COUNTY LINE - 9.50 TO SR 1120 (SIMPSON ROAD) - 5.28	1	NO	NO	3.221	21	19	275	8.45		3,456	4,106	427	41,568	1.54	1.54								
					1	NO	NO	0.092	21-24			99	121	12	1,266												
					1	NO	NO	0.03	24-29			32	45	4	489												
					1	NO	NO	0.035	29-32			38	60	6	648												
					1	NO	NO	0.031	32-33			33	56	5	614												
					1	NO	NO	0.019	33-45			20	60	5	444												
					1	NO	NO	0.018	43-45			19	42	4	475												
					1	NO	NO	0.036	23-43			39	65	6	718												
					1	NO	NO	0.016	20-23			17	20	2	213												
					1	NO	NO	0.726	20			167	779	912	95	8,948											
TOTAL FOR MAP NO. 2							4.224		19	275	8.45	167	4,532	5,487	566	55,383	1.54	1.54									
TOTAL FOR PROJ NO. 7C.079234							4.224		19	275	8.45	167	4,532	5,487	566	55,383	1.54	1.54									
GRAND TOTAL								4.974		38	275	9.95	517	5,337	6,484	668	65,792	1.81	1.81	70	1	1	200	70			

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGT H	WIDTH	4685000000-E	4686000000-E	4690000000-E	4695000000-E	4710000000-E	4725000000-E	4900000000-N						
							4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	6" X 120 M WHITE THERMO LF	8" X 90 M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	24" X 120 M WHITE THERMO LF	THERMO LT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO RT ARROW 90 M EA	YELLOW & YELLOW MARKERS EA		
7C.041249	Guilford	1	SR 2046 (ELLISBORO ROAD)	FROM NC 65 - 0.72 TO ROCKINGHAM COUNTY LINE - 1.47	0.75	22-62	7,920	5,306	22	100	14		75						
					TOTAL FOR MAP NO. 1				0.75		7,920	5,306	22	100	14	75			
					TOTAL FOR PROJ NO. 7C.041249				0.75		7,920	5,306	22	100	14	75			
							5,306		100										
7C.079234	Rockingham	2	SR 1110 (ELLISBORO ROAD)	FROM GUILFORD COUNTY LINE - 9.50 TO SR 1120 (SIMPSON ROAD) - 5.28	4.974	20-45	44,610	37,105	272	202	75	2	2	1	350				
					TOTAL FOR PROJ NO. 7C.079234				4.974		44,610	37,105	272	202	75	2	2	1	350
												37,377		75		5			
GRAND TOTAL					5.724		52,530	42,411	272	224	100	75	14	2	2	1	425		
							42,683		175		5								