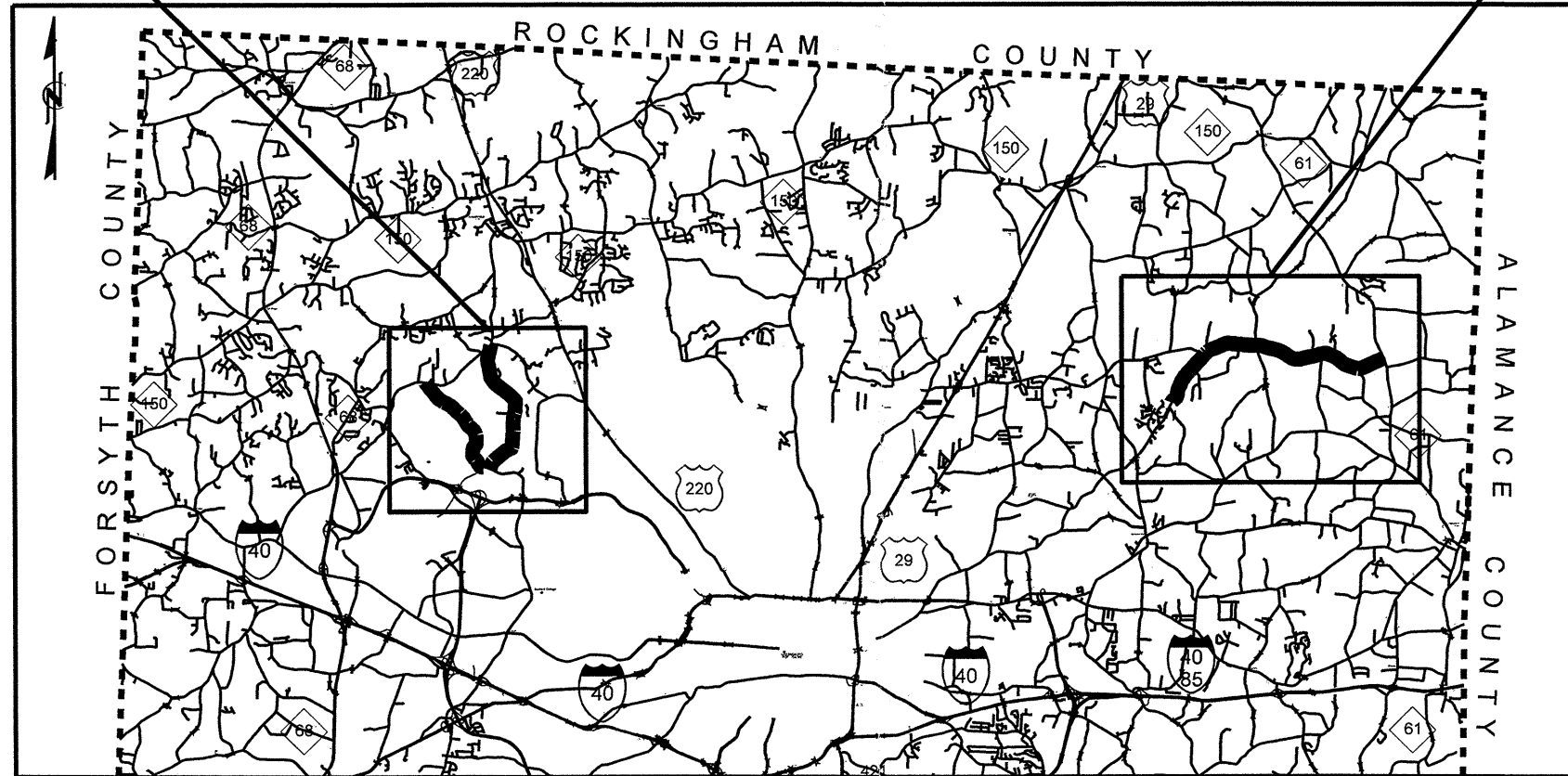
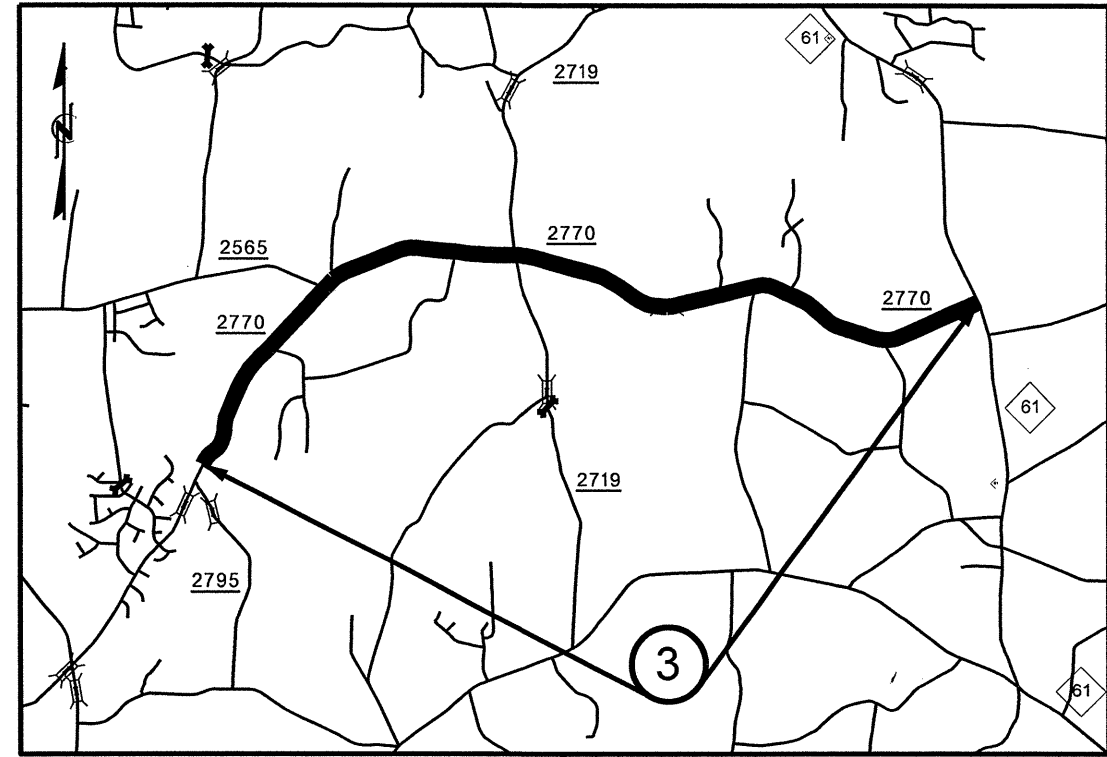
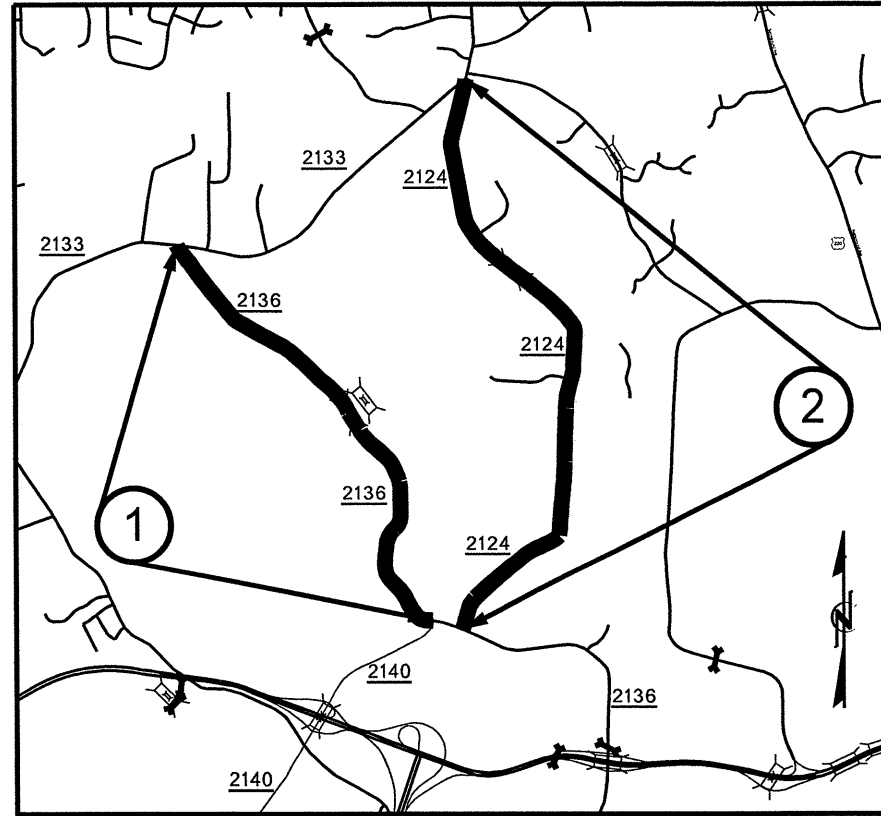


2013 GUILFORD COUNTY

7C.041246
7C.041247
7C.041248

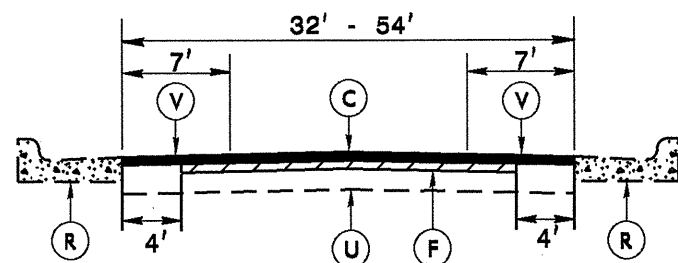
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7C.041246, ETC	1	
F.A. PROJ. NO.			



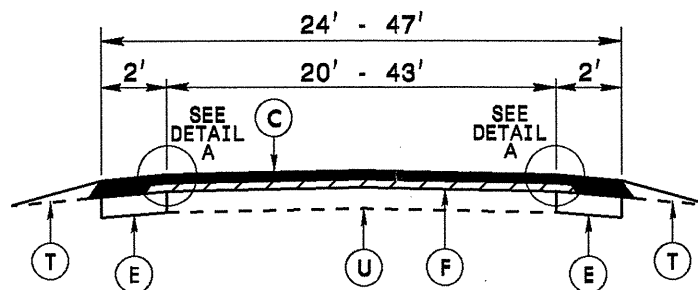
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\$\$\$\$\$DDN\$\$\$\$\$
\$\$\$\$\$USRNAME\$\$\$\$\$
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STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7C.041246, ETC	2	

7C.041246
7C.041247
7C.041248

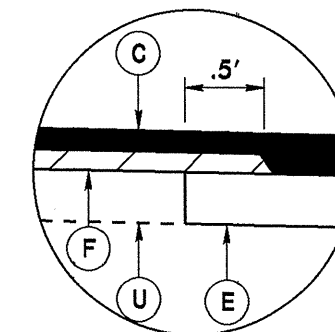


TYPICAL SECTION NO. 1
TO BE USED ON MAPS 1 AND 2
MAP 1: STA. 0+00 TO STA. 1+80
MAP 2: STA. 61+30 TO STA. 65+85
STA. 107+70 TO STA. 109+25

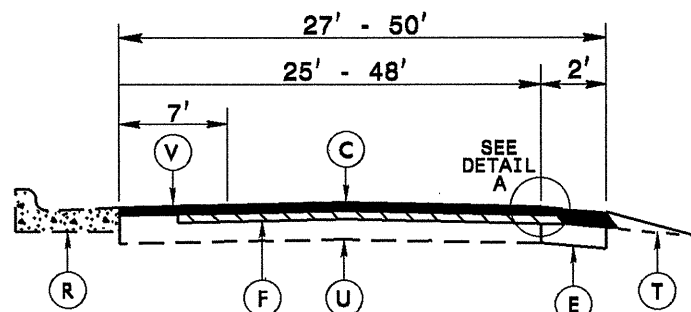


*NOTE: NO PAVEMENT ON BRIDGE OF MAP 1:
BRIDGE #456: STA. 61+85 TO STA. 62+60
NO PAVEMENT ON BRIDGE OF MAP 2:
BRIDGE #102: STA. 106+50 TO STA. 107+70
NO PAVEMENT ON BRIDGE OF MAP 3:
BRIDGE #194: STA. 176+90 TO STA. 179+50

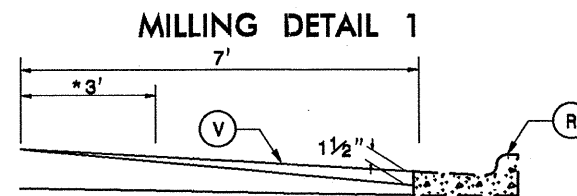
TYPICAL SECTION NO. 3
TO BE USED ON MAPS 1, 2, AND 3
MAP 1: STA. 7+30 TO STA. 96+10
STA. 108+95 TO STA. 112+10
STA. 115+20 TO STA. 119+95
MAP 2: STA. 0+00 TO STA. 1+50
STA. 4+90 TO STA. 48+75
STA. 65+85 TO STA. 107+70
STA. 109+25 TO STA. 152+70



DETAIL A



TYPICAL SECTION NO. 2
TO BE USED ON MAPS 1 AND 2
MAP 1: STA. 1+80 TO STA. 7+30
STA. 96+10 TO STA. 108+95
STA. 112+10 TO STA. 115+20
STA. 119+95 TO STA. 121+50
MAP 2: STA. 1+50 TO STA. 4+90
STA. 48+75 TO STA. 61+30



PROFILE MILLING 0 - 1 1/2"
*IF 78M OR #67 SEAL IS INVOLVED, OVERLAP 3'.
PROFILE MILL EXISTING ASPHALT PAVEMENT
0 TO 1 1/2" AT LOCATIONS AS DIRECTED BY THE
ENGINEER.

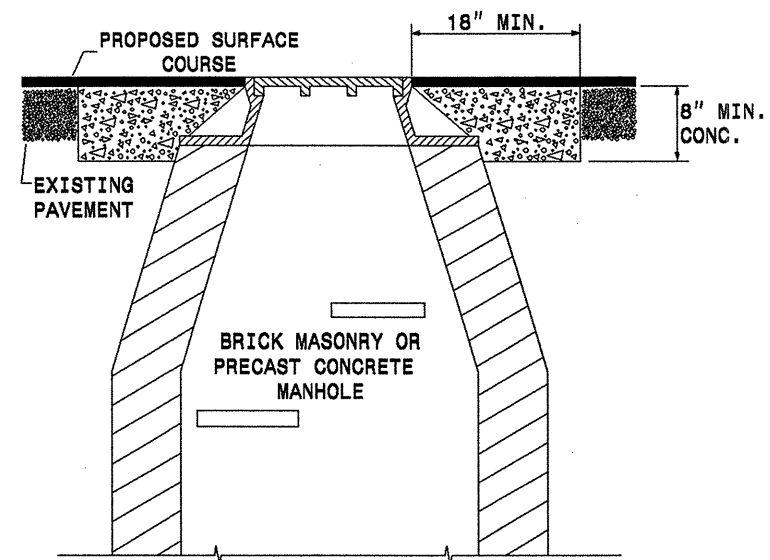
NOTE: TO BE USED IN CONJUNCTION WITH:
TS. NO. 1 ON MAP 1 STA. 0+00 TO STA. 1+80 LT & RT
TS. NO. 1 ON MAP 2 STA. 61+30 TO STA. 65+85 LT & RT
TS. NO. 1 ON MAP 2 STA. 107+70 TO STA. 109+25 LT & RT
TS. NO. 2 ON MAP 1 STA. 1+80 TO STA. 7+30 LT
TS. NO. 2 ON MAP 1 STA. 96+10 TO STA. 108+95 LT
TS. NO. 2 ON MAP 1 STA. 112+10 TO STA. 115+20 LT
TS. NO. 2 ON MAP 1 STA. 119+95 TO STA. 121+50 LT
TS. NO. 2 ON MAP 2 STA. 1+50 TO STA. 4+90 LT
TS. NO. 2 ON MAP 2 STA. 48+75 TO STA. 61+30 LT

PAVEMENT SCHEDULE

C	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
F	AST MAT COAT, #67 STONE
R	EXISTING CURB
T	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.
U	EXISTING PAVEMENT.
V	0 TO 1 1/2" MILLING

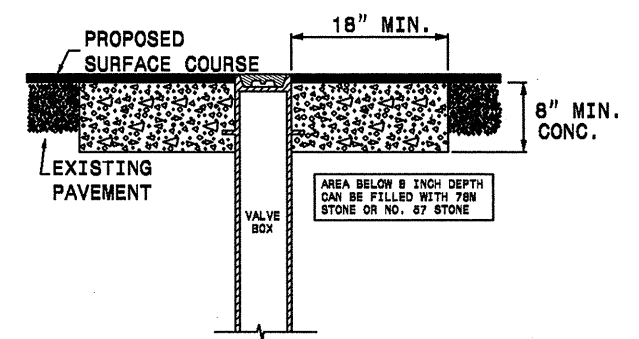
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7C.041246, ETC	3	

7C.041246
7C.041247
7C.041248



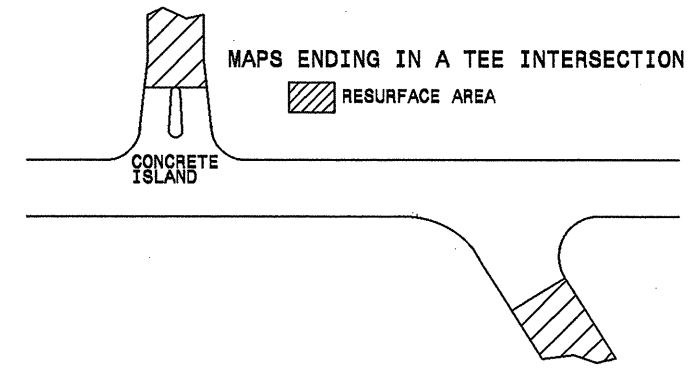
- NOTES:
- MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
 - ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
 - EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
 - USE RAPID SET GROUT, MORTAR OR CONCRETE AS NOTED IN PROJECT SPECIAL PROVISIONS. CLASS B CONCRETE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

STANDARD CONCRETE ENCASEMENT FOR VALVE CASTINGS IN PAVEMENT

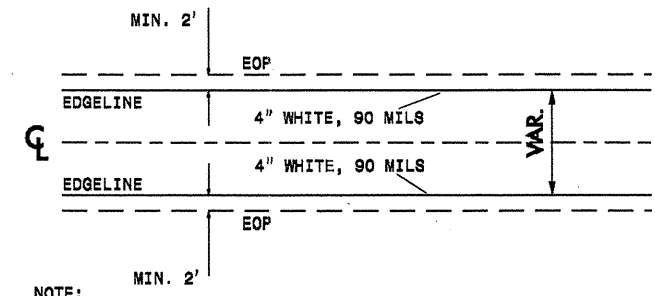


USE RAPID SET GROUT, MORTAR, OR CONCRETE CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

PAVING DETAIL 1 MAIN LINE IS NOT BEING RESURFACED



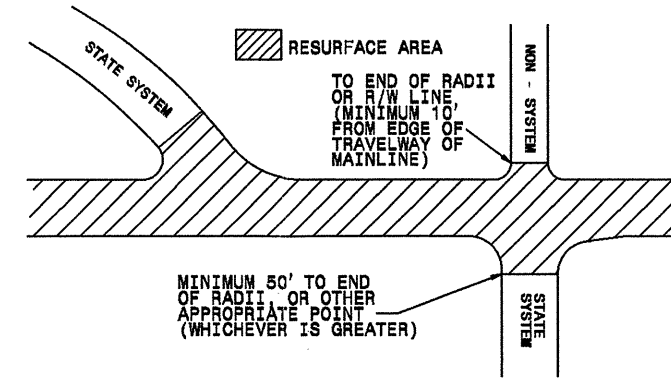
STRIPING DETAIL 1 GENERAL STRIPING DETAIL FOR 2' PAVED SHOULDERS



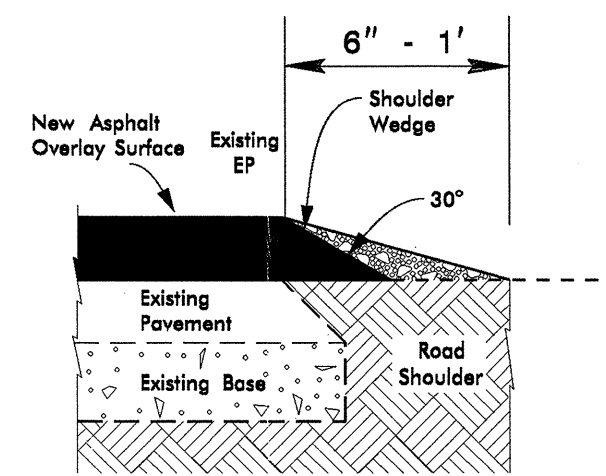
- NOTE:
- TO BE USED IN CONJUNCTION WITH MAPS 1, 2, AND 3
 - USE IN CONJUNCTION WITH THE EXISTING PAVEMENT MARKINGS TO ESTABLISH THE STRIPING.
 - USE IN CONJUNCTION WITH THE NCDOT STANDARD DRAWINGS.

PAVING DETAIL 2 MAIN LINE IS BEING RESURFACED

NOTE: NON-SYSTEM (CITY STREET, PRIVATE DRIVE, SCHOOL BUS DRIVE)

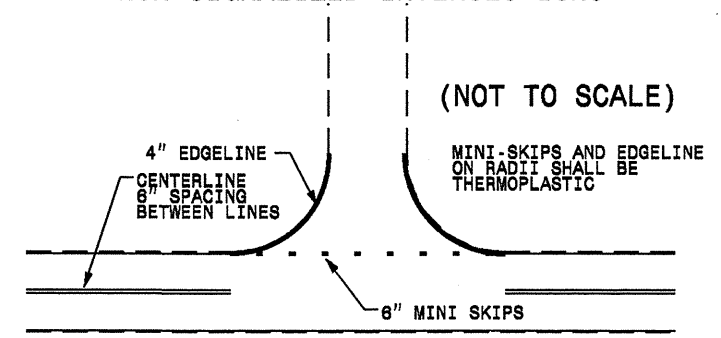


INCIDENTAL STONE SHOULDER DETAIL WITH SHOULDER WEDGE



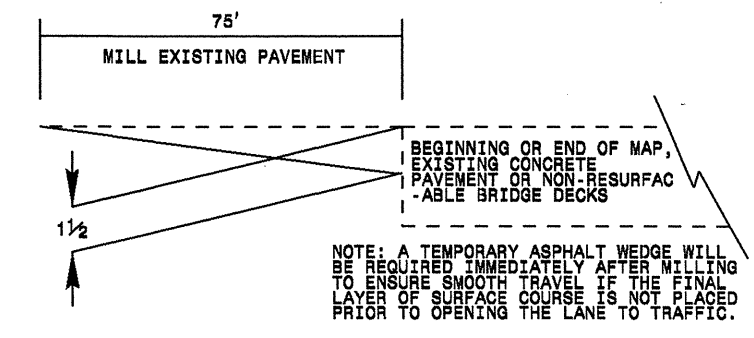
NOTE: ASB SHOULD BE PLACED AT THE DISCRETION OF THE ENGINEER

TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS



NOTE: MINI SKIPS SHALL BE PLACED ON A 6' CYCLE, CONTAINING AN 6" AND 2" SKIP, THE WIDTH OF THE SKIP SHALL BE 6".

INCIDENTAL MILLING DETAIL



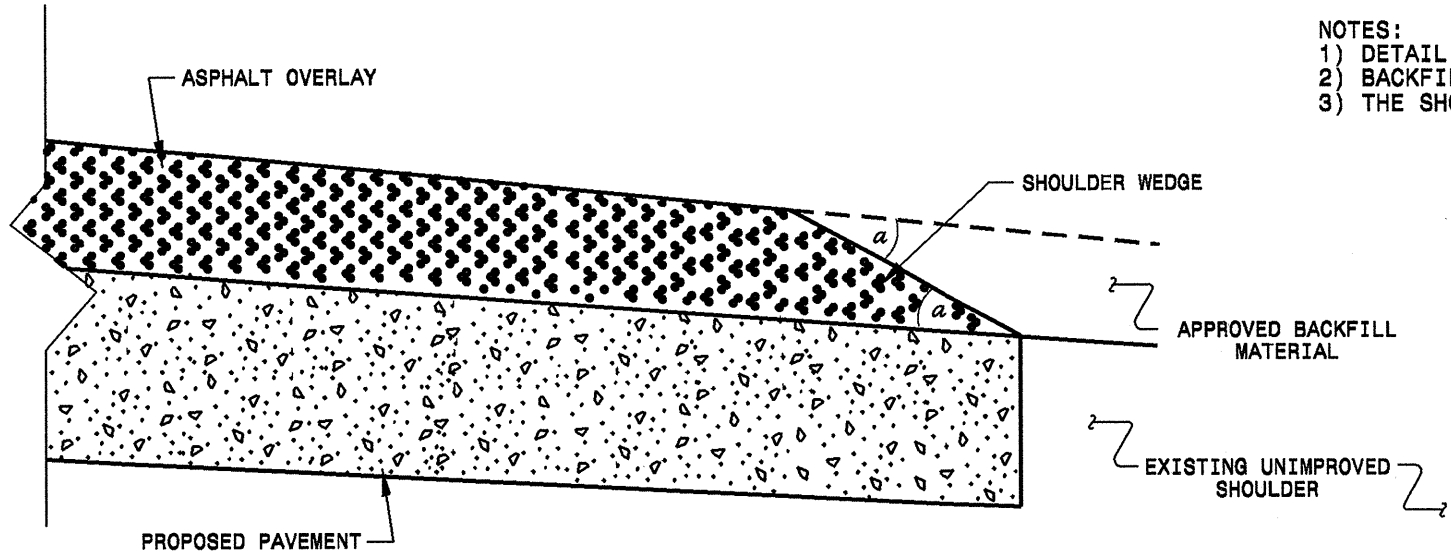
PAVEMENT SCHEDULE

C	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
F	AST MAT COAT, #67 STONE
R	EXISTING CURB
T	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.
U	EXISTING PAVEMENT.
V	0 TO 1 1/2" MILLING

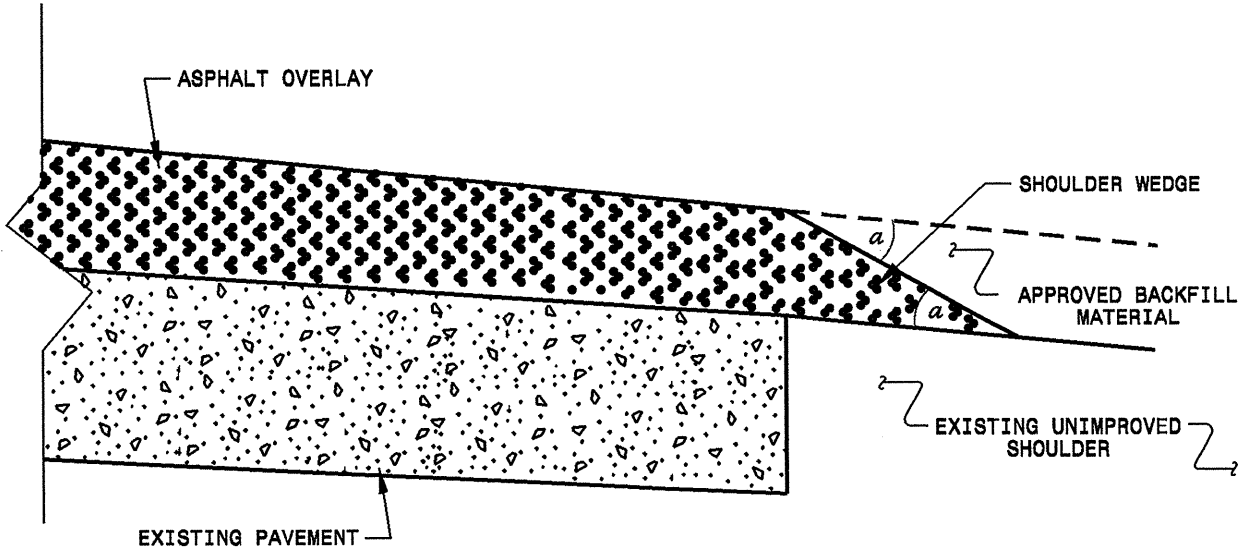
22-FEB-2013 12:21 \\Resurfacing Projects\Division 7\gulford\raleigh\CADD\REVISED typical.1.dgn

PROJECT REFERENCE NO.	SHEET NO.
7C.041246, ETC	4

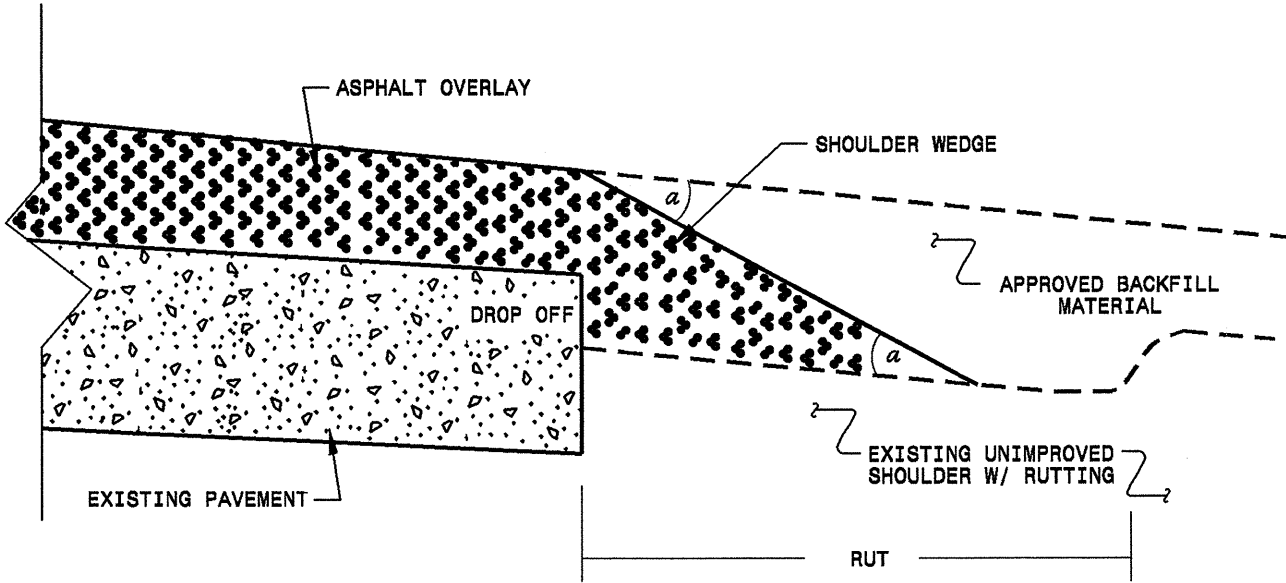
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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: 10/18/12
CHECKED BY:	DATE:
FILE SPEC.: s:\usr\details\stand\shouderwedgedetail.dgn	

18-FEB-2013 14:24
 C:\Users\pporter\Documents\misc\REVISED Shoulder Wedge Detail.dgn
 pporter
 150261658

PROJECT NO.	SHEET NO.	TOTAL NO.
7C.041247, 7C.041248 7C.041246	5	

SUMMARY OF QUANTITIES

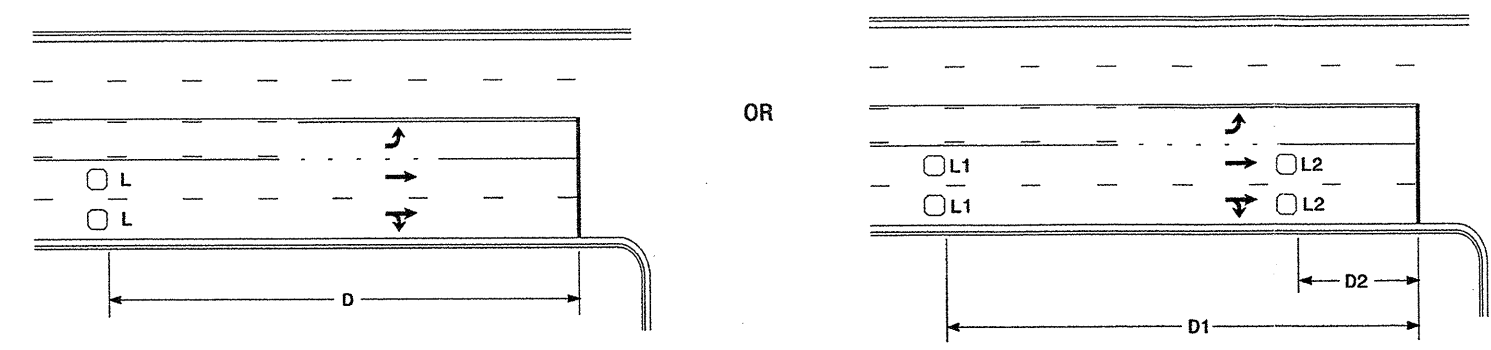
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	AGGREGATE SHOULDER BORROW ALLOWED	BORROW EXCAVATION CY	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	MILLING ASPHALT PAVEMENT, 0" TO 1 1/2" DEPTH SY	INCIDENTAL MILLING SY	ASPHALT CONC BASE COURSE, TYPE B25.0B TONS	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A TONS	ASPHALT BINDER FOR PLANT MIX TONS	ASPHALT SURFACE TREATMENT, MAT COAT, #67 STONE SY	ADJ. OF MANHOLES EA	ADJ. OF METER BOXES OR VALVE BOXES EA	SEEDING & MULCHING AC	RESIDENTIAL SEEDING ACR	TRENCHING (UNPAVED) (1) (2") LF	JUNCTION BOX (STANDARD SIZE) EA	2" RISER W/ WEATHER-HEAD EA	INDUCTIVE LOOP SAW CUT LF	LEAD-IN CABLE (14-2) LF						
7C.041247	Guilford	1	SR 2136 (FLEMING ROAD)	FROM SR 2140 (INMAN ROAD) - 2.30 TO SR 2133 (PLEASANT RIDGE ROAD) - 0.00	1	NO	NO	0.034	54	YES	20	50	4.10	279	450		89	6	940			0.75	1	300	3	1	220	500						
					2	NO	NO	0.064	41								263		39	134	11	1,436	1	1										
					2	NO	NO	0.027	41-48								111		16	62	5	646		1										
					2	NO	NO	0.013	35-41								53		8	25	2	272	1											
					3	NO	NO	0.045	24-37										48	77	7	840												
					3	NO	NO	0.365	24										392	639	60	5,347	1	1										
					3	NO	NO	0.585	22										628	783	80	7,897	1											
					3	NO	NO	0.038	20-22										183	41	49	5	511											
					BRIDGE #456					3	NO	NO	0.014	22																				
										3	NO	NO	0.619	20					167	664	837	85	7,630		1									
										3	NO	NO	0.015	20-27						16	21	2	218											
										2	NO	NO	0.079	25-31				324		48	116	10	1,153											
										2	NO	NO	0.078	31				320		47	146	12	1,276											
										2	NO	NO	0.087	33				357		53	158	13	1,533											
										3	NO	NO	0.036	24-33						39	58	6	623											
										3	NO	NO	0.024	24-29						26	37	4	382											
										2	NO	NO	0.059	27				242		36	88	8	827											
										3	NO	NO	0.02	23-29						21	29	3	315											
					3	NO	NO	0.026	23						28	34	4	360																
					3	NO	NO	0.045	23-29						48	66	7	705																
					2	NO	NO	0.029	27				119	225	18	41	4	413						50	1	1	200	100						
TOTAL FOR PROJ NO. 7C.041247 MAP NO. 1								2.302			20	50	4.10	2,068	1,025	2,216	3,489	334	33,324	4	4	0.75	1	350	4	2	420	600						
7C.041248	Guilford	2	SR 2124 (LEWISTON ROAD)	FROM SR 2136 (FLEMING ROAD) - 0.00 TO SR 2133 (PLEASANT RIDGE ROAD) - 2.89	3	NO	NO	0.016	22-29	YES	20	153	5.25		217	17	23	2	250			0.96	1	100	2			240	200					
					3	NO	NO	0.012	22-36										13	19	2	217												
					2	NO	NO	0.064	34								263		39	123	10	1,171												
					3	NO	NO	0.017	26-40										18	30	3	340												
					3	NO	NO	0.045	26										48	86	8	720												
					3	NO	NO	0.746	22										800	978	101	10,069												
					3	NO	NO	0.022	22-30										24	32	3	345												
					2	NO	NO	0.22	28									903		133	362	30	3,222		3									
					2	NO	NO	0.018	28-41									74		11	33	3	333											
					1	NO	NO	0.086	39									706			203	14	1,618	1	2			600	6	3	700	500		
					3	NO	NO	0.717	22										769	921	96	9,673												
					3	NO	NO	0.053	22-37										250	57	88	8	949											
					BRIDGE #102					3	NO	NO	0.023	37																				
					1	NO	NO	0.029	32-36				238	283		48	3	465																
					3	NO	NO	0.038	22-41						41	67	6	722																
					3	NO	NO	0.785	22					183	842	1,018	105	10,593																
TOTAL FOR PROJ NO. 7C.041248 MAP NO. 2								2.891			20	153	5.25	2,184	933	2,812	4,031	394	40,687	1	5	0.96	1	700	8	3	940	700						
7C.041246	Guilford	3	SR 2770 (HUFFINE MILL ROAD)	FROM JOINT 300' NORTH OF SR 2795 (HUFFINE FARM ROAD) - 7.31 TO NC 61 - 12.60	3	NO	NO	3.341	21	YES	20	350	10.59		175	3,584	4,198	439	43,120			1.93	2											
					3	NO	NO	0.009	21-30								217	10	13	1	147													
					BRIDGE #194					3	NO	NO	0.049	30																				
										3	NO	NO	0.131	21-30				217	141	192	19	2,032												
										3	NO	NO	1.735	21					1,861	2,205	230	22,391												
										3	NO	NO	0.027	21-43				267	29	47	4	532												
TOTAL FOR PROJ NO. 7C.041246 MAP NO. 3								5.292			20	350	10.59	876	5,625	6,655	693	68,222			1.93	2												
GRAND TOTAL								10.485			60	553	19.94	4,252	2,834	10,653	14,175	1,421	142,233	5	9	3.64	4	1,050	12	5	1,360	1,300						

PROJECT NO.	SHEET NO.	TOTAL NO.
7C.041247, 7C.041248 7C.041246	6	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	4685000000-E	4686000000-E		4690000000-E	4695000000-E	4697000000-E	4710000000-E	4725000000-E					4810000000-E		4820000000-E		4900000000-N				
							4" X 90 M WHITE THERMO LF	4" X 120 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	6" X 120 M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	8" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO LT ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR & LT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	8" YELLOW PAINT LF	YELLOW & YELLOW MARKERS EA	CRYSTAL & CRYSTAL MARKERS EA				
7C.041247	Guilford	1	SR 2136 (FLEMING ROAD)	FROM SR 2140 (INMAN ROAD) - 2.30 TO SR 2133 (PLEASANT RIDGE ROAD) - 0.00	0.034	54	21,920	557	26,908	216	455	160		9	1	1										200	
								27,465						11							200						
7C.041248	Guilford	2	SR 2124 (LEWISTON ROAD)	FROM SR 2136 (FLEMING ROAD) - 0.00 TO SR 2133 (PLEASANT RIDGE ROAD) - 2.89	0.016	26	29,205	498	30,099	108	50		91	2		3	6	3							250		
								30,597						14							250						
7C.041246	Guilford	3	SR 2770 (HUFFINE MILL ROAD)	FROM JOINT 300' NORTH OF SR 2795 (HUFFINE FARM ROAD) - 7.31 TO NC 61 - 12.60	3.341	21	900			214											109,980	95,278	130	400			
																			205,258		400						
GRAND TOTAL					3.391		52025	1055	57007	538	505	160	91	11	1	4	6	3	109,980	95,278	130	850	0				
								58,062						25					205,258		850						

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

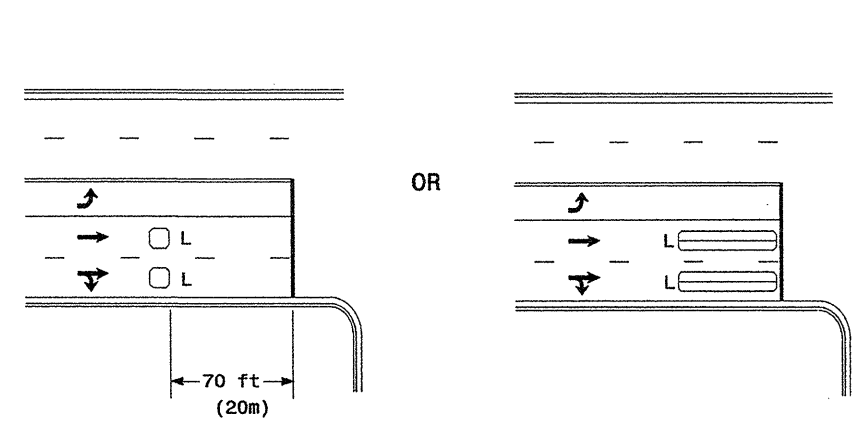
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

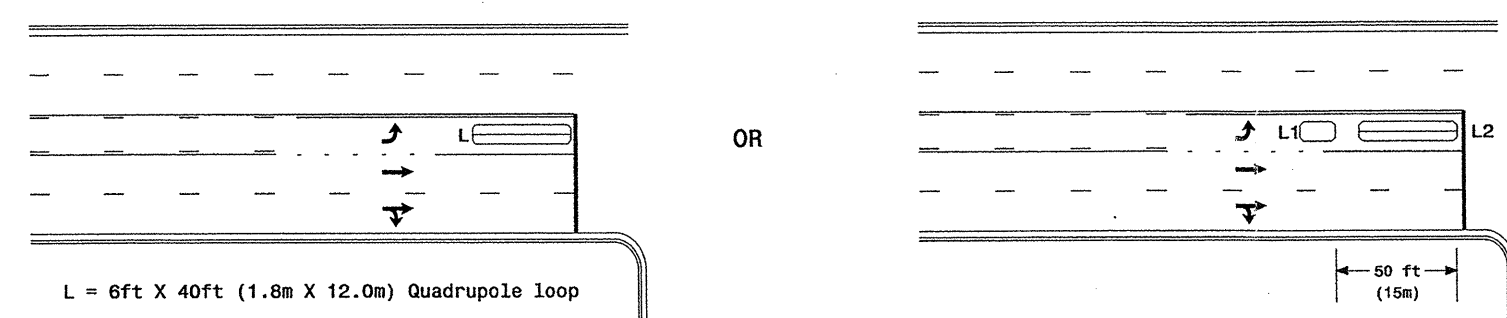
Low Speed Detection [≤35 mph (56 km/hr)]



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



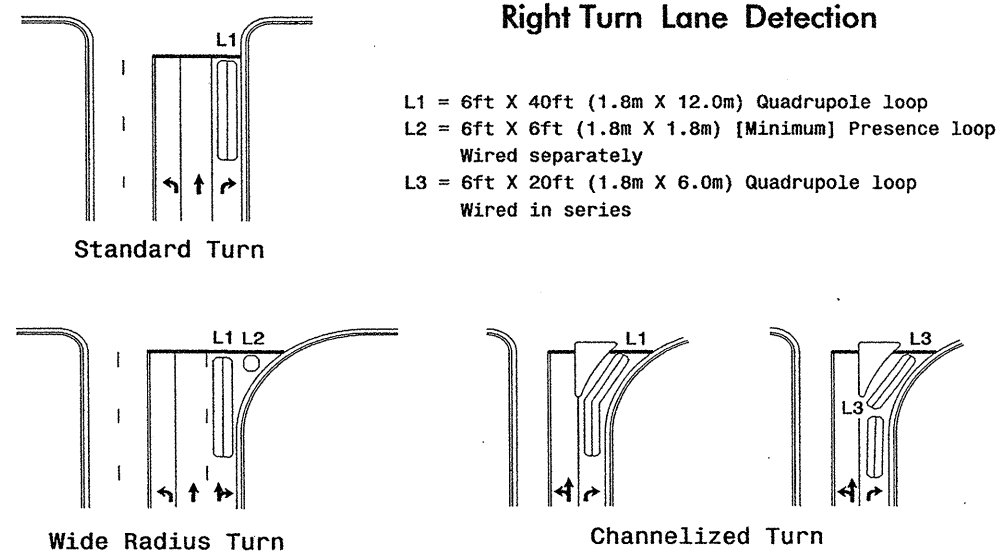
L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

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



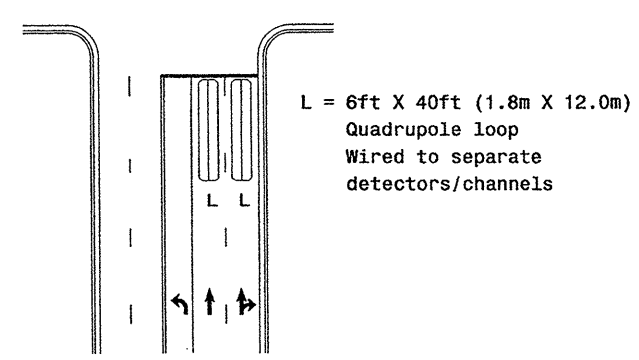
L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

Standard Turn

Wide Radius Turn

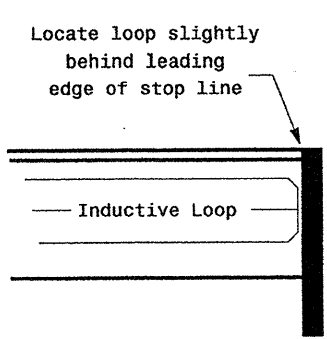
Channelized Turn

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 DATES: June 2006 REVISIONS: <i>Revise pavement markings</i>	PREPARED BY: P. L. Alexander REVIEWED BY:	

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