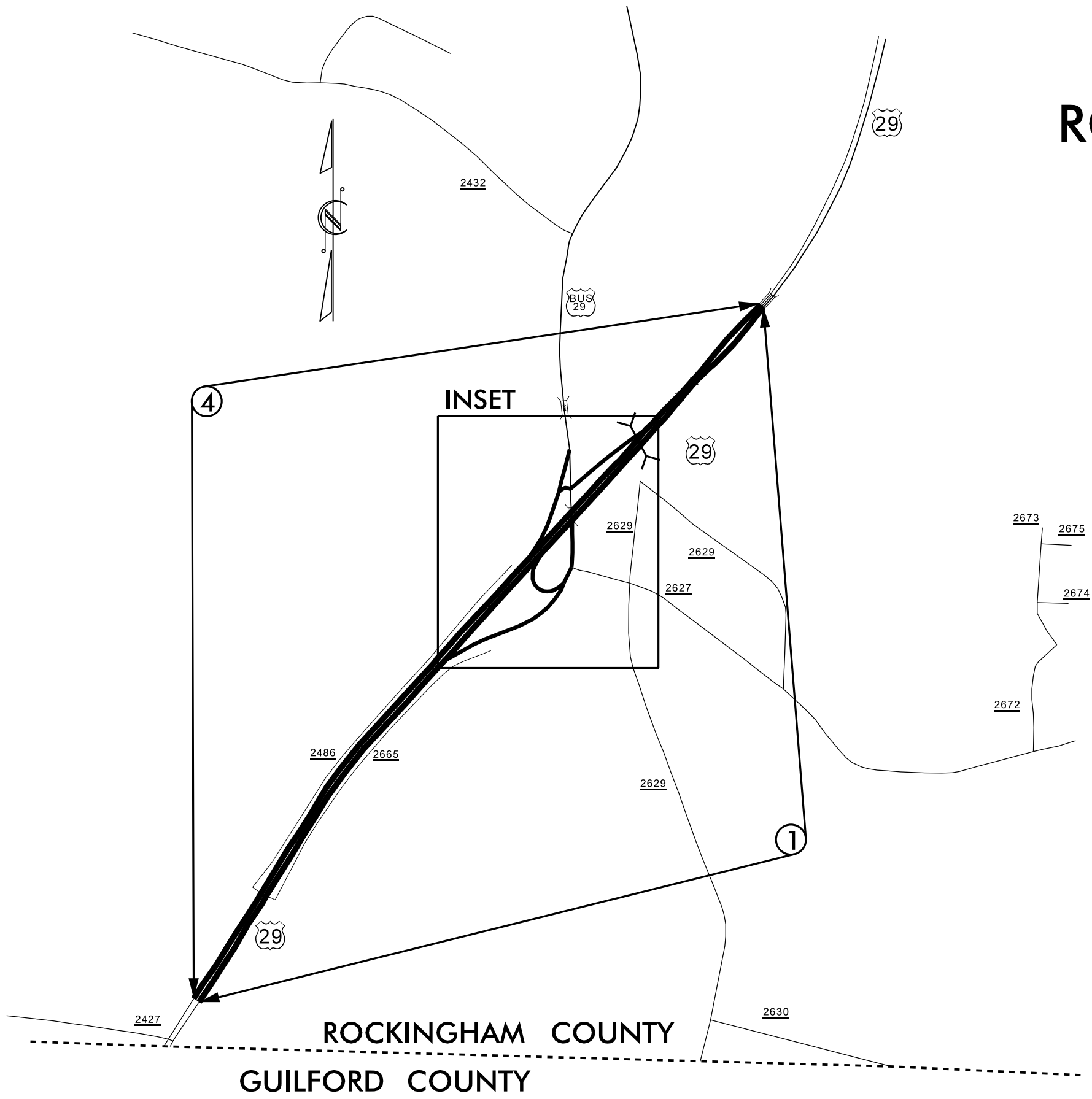
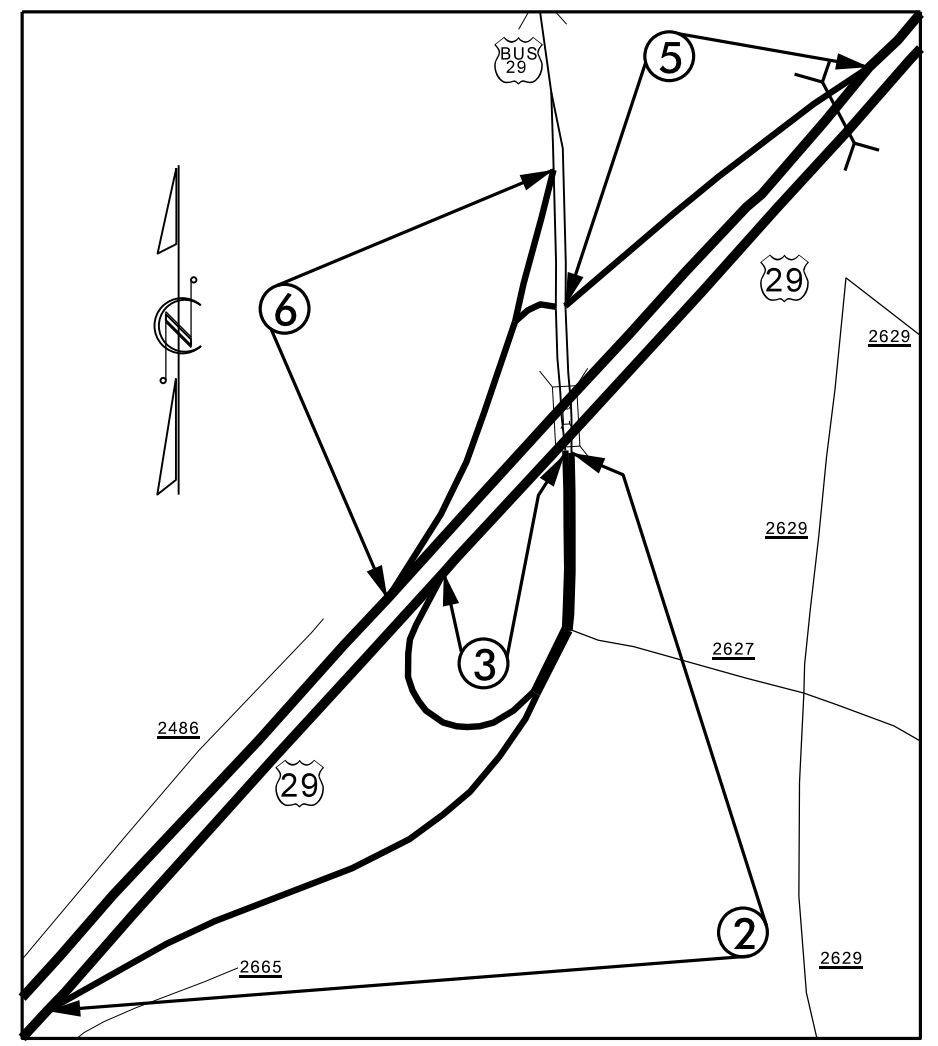


STATE	PROJECT NO.	SHEET NO.
N.C.	2020CPT.07.03.10791	1

ROCKINGHAM COUNTY

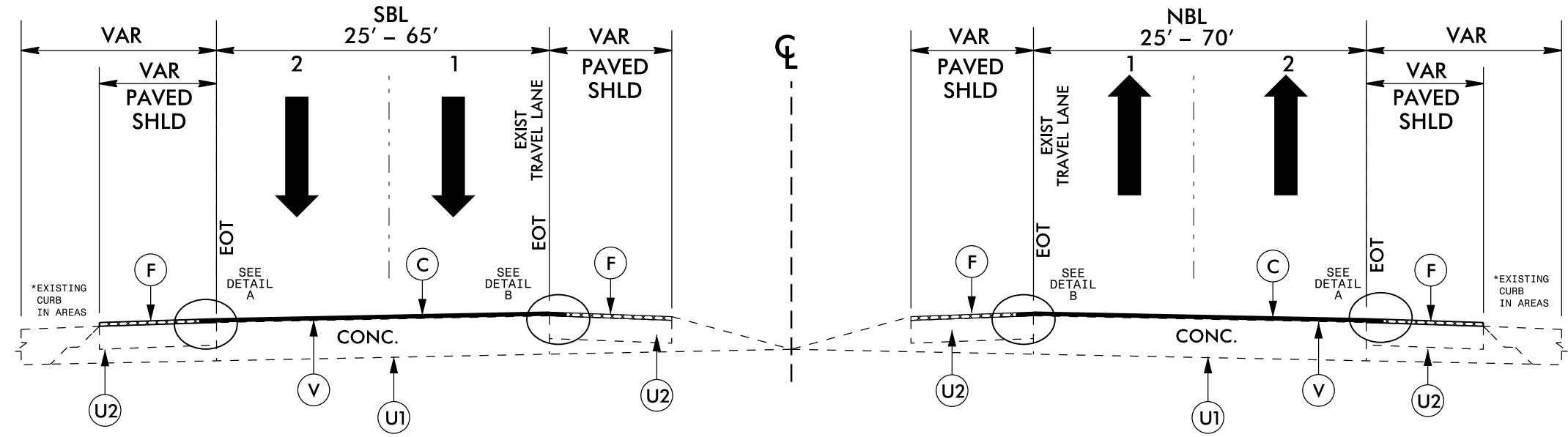


INSET



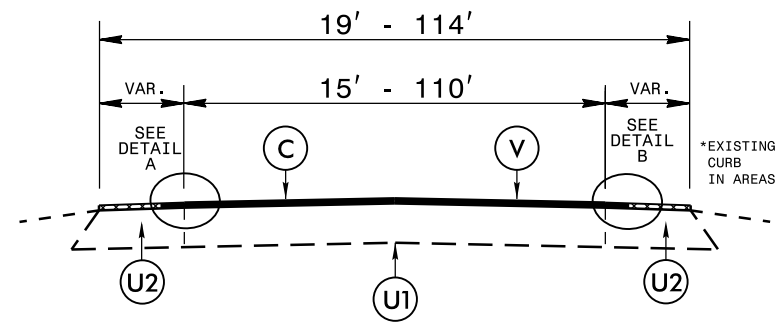
ROCKINGHAM COUNTY
 GUILFORD COUNTY

I:\AUG-2018 11:04
 S:\0100\Resur_A\1107-300050
 C:\Users\j...
 17 AUG 2018 11:04
 S:\0100\Resur_A\1107-300050
 C:\Users\j...

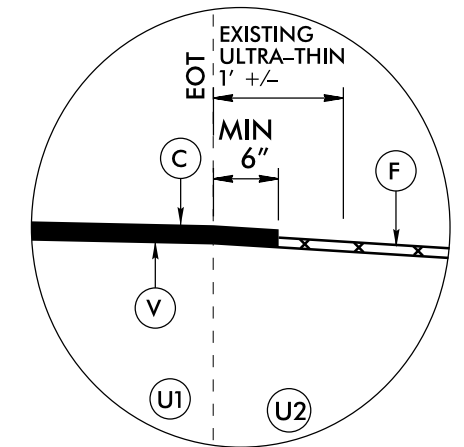


*NOTE: TYPICAL SECTION CONSTRUCTION SEQUENCE:
 1. MILL TRAVEL LANES 5/8" TO EDGE OF ULTRA-THIN
 2. OVERLAY TRAVEL LANES PLUS 6" WITH 5/8" ULTRA-THIN COURSE.
 3. OVERLAY SHOULDERS WITH FOG SEAL

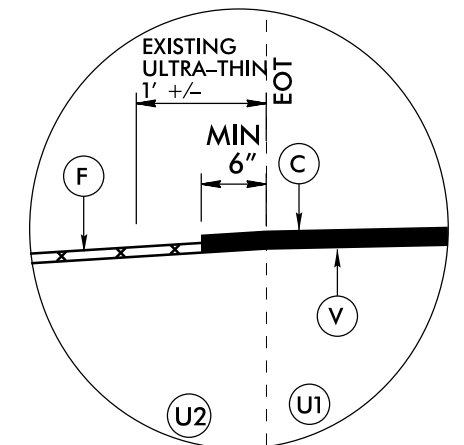
TYPICAL SECTION NO. 1
 TO BE USED ON MAPS 1, 4



TYPICAL SECTION NO. 2
 TO BE USED ON MAPS: 2-3, 5-6



DETAIL A
 OVER LAP SHOULDERS



DETAIL B
 OVER LAP SHOULDERS

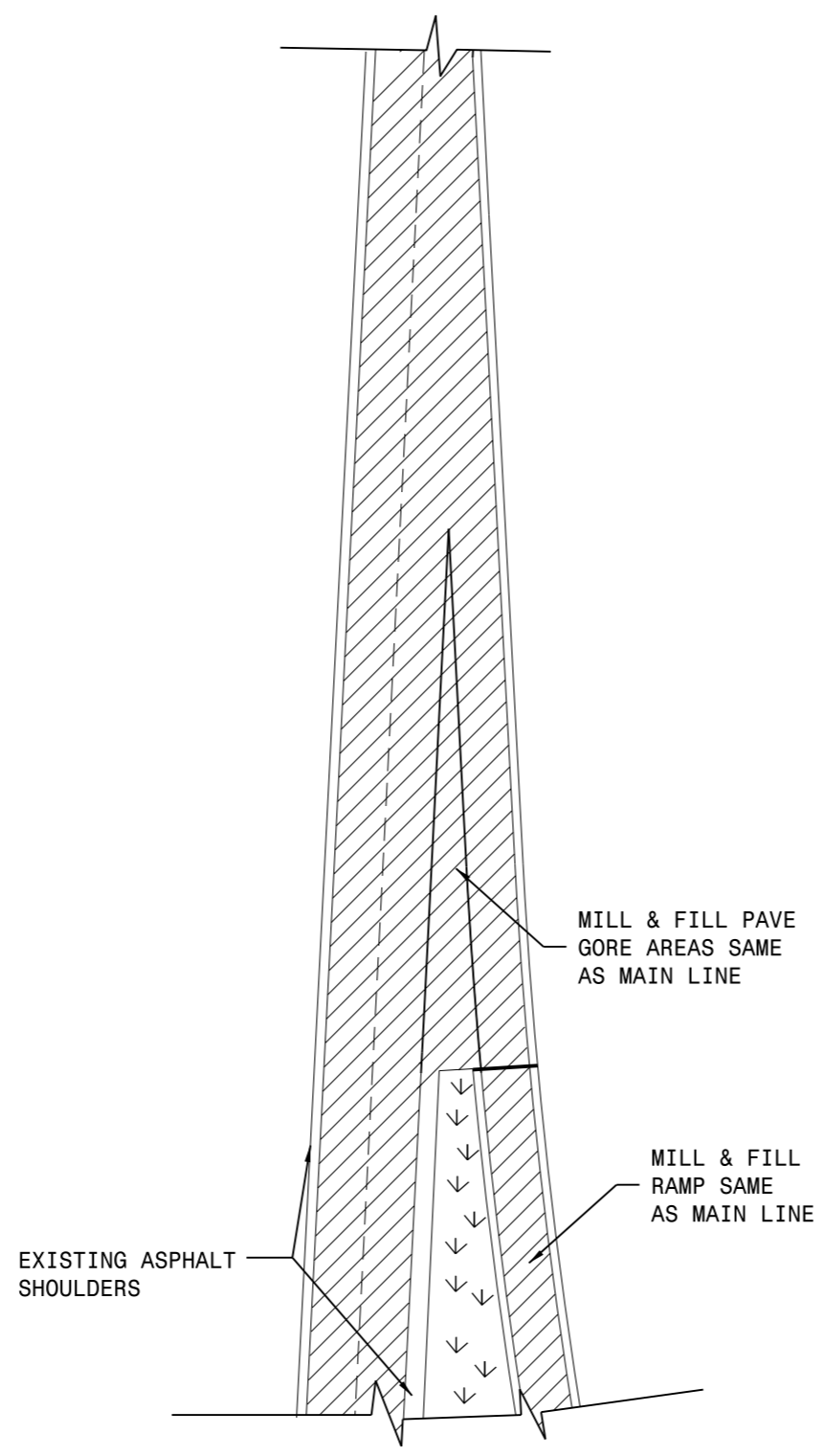
PAVEMENT SCHEDULE			
C	PROP. APPROX. 5/8" ULTRA-THIN BONDED WEARING COURSE, AT AN AVERAGE RATE OF 70 LBS PER SQ. YD.		
F	PROPOSED FOG SEAL TO BE APPLIED TO THE EXISTING PAVED SHOULDER		
U1	EXISTING TRAVELWAY. (CONC. OVERLAYED WITH ULTRA-THIN)		
U2	EXISTING PAVED SHOULDER.	V	FINE MILLING ASPHALT PAVEMENT 5/8" DEPTH

5/14/99

I7-AUG-2018 11:04
 Projects\Rock\10791\2020CPT.07.03.10171\10171.dgn
 17-AUG-2018 11:04
 US29\CADD\2020CPT.07.03.10171\typical1.dgn

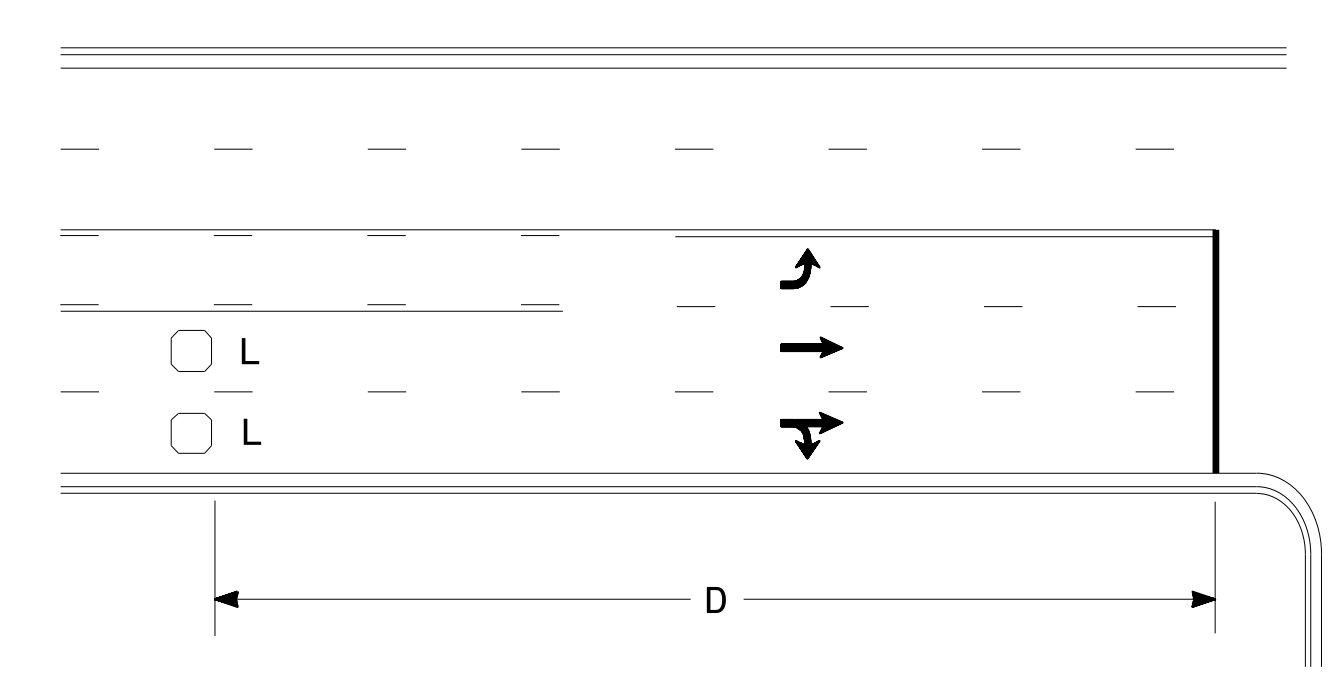
STATE	PROJECT NO.	SHEET NO.
N.C.	2020CPT.07.03.10791	3

I7-AUG-2018 11:04
 S:\DDC\Resurfacing Projects\2020 P0 Contracts\Rockingham\2020CPT.07.03.10791 US29\CADD\2020CPT.07.03.10791 typical2.dgn
 cthuskun AT DIV07-300050



DETAIL - GORE AREAS

High Speed Detection (≥40 mph)

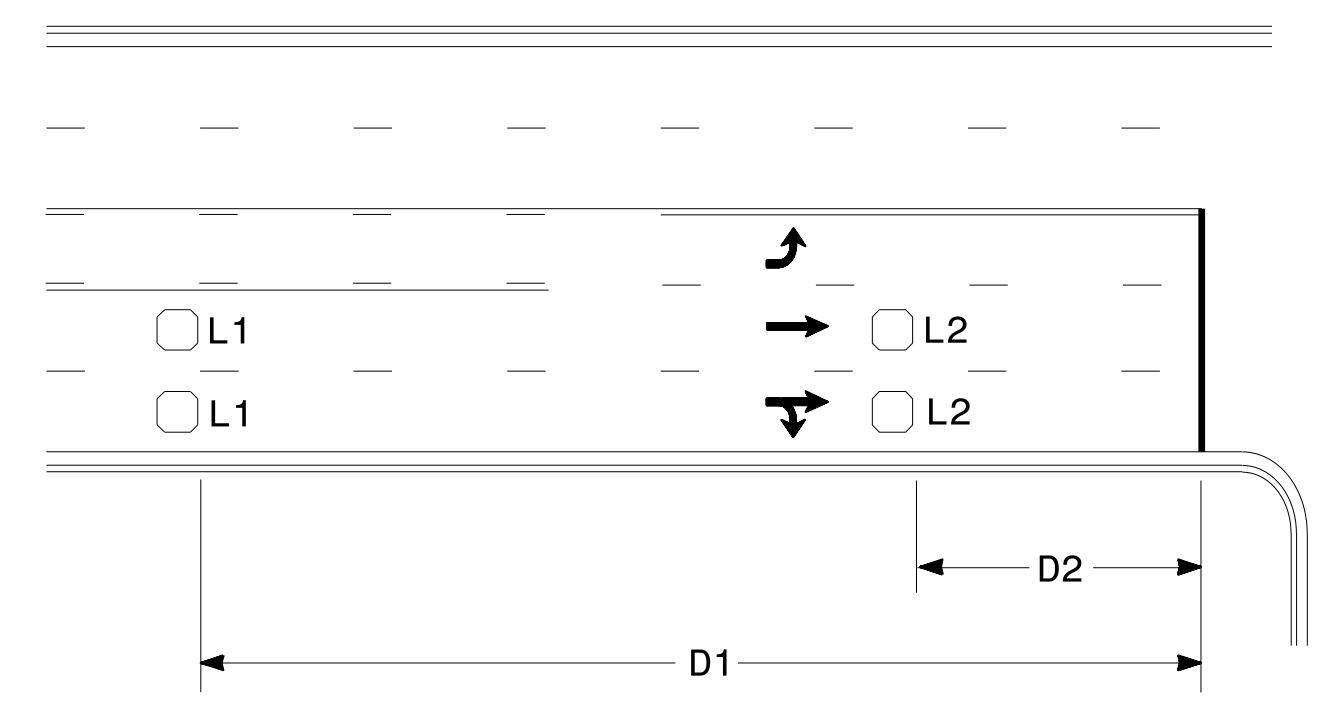


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

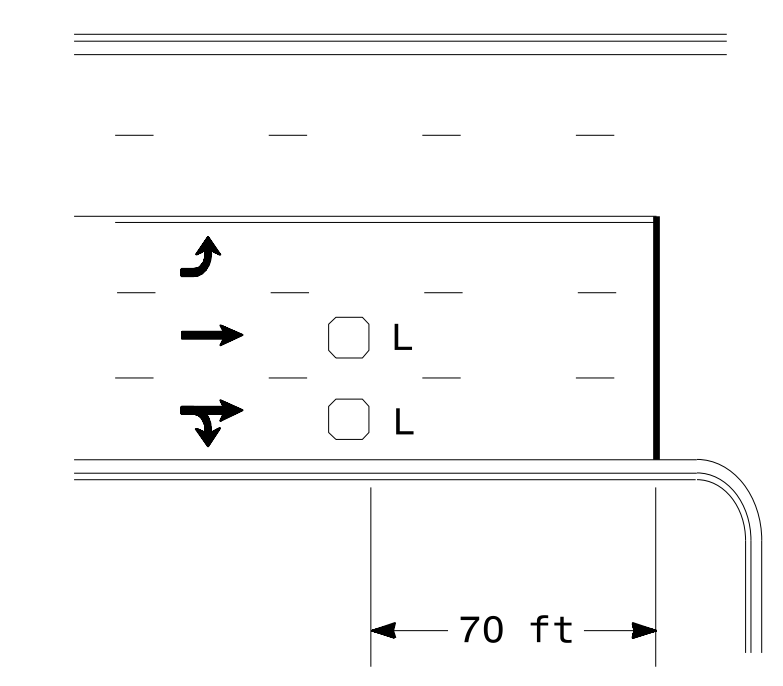


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

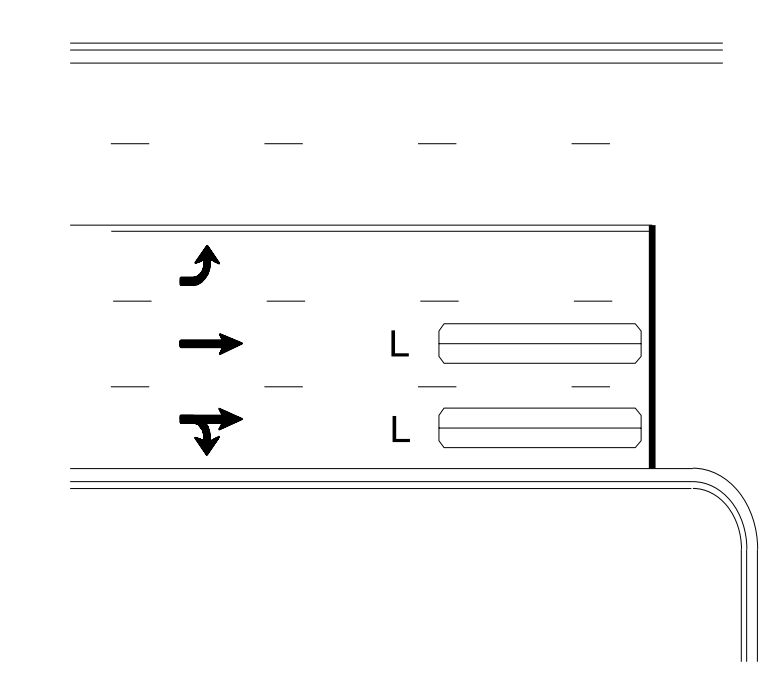
"Stretch" Operation

Low Speed Detection (≤35 mph)



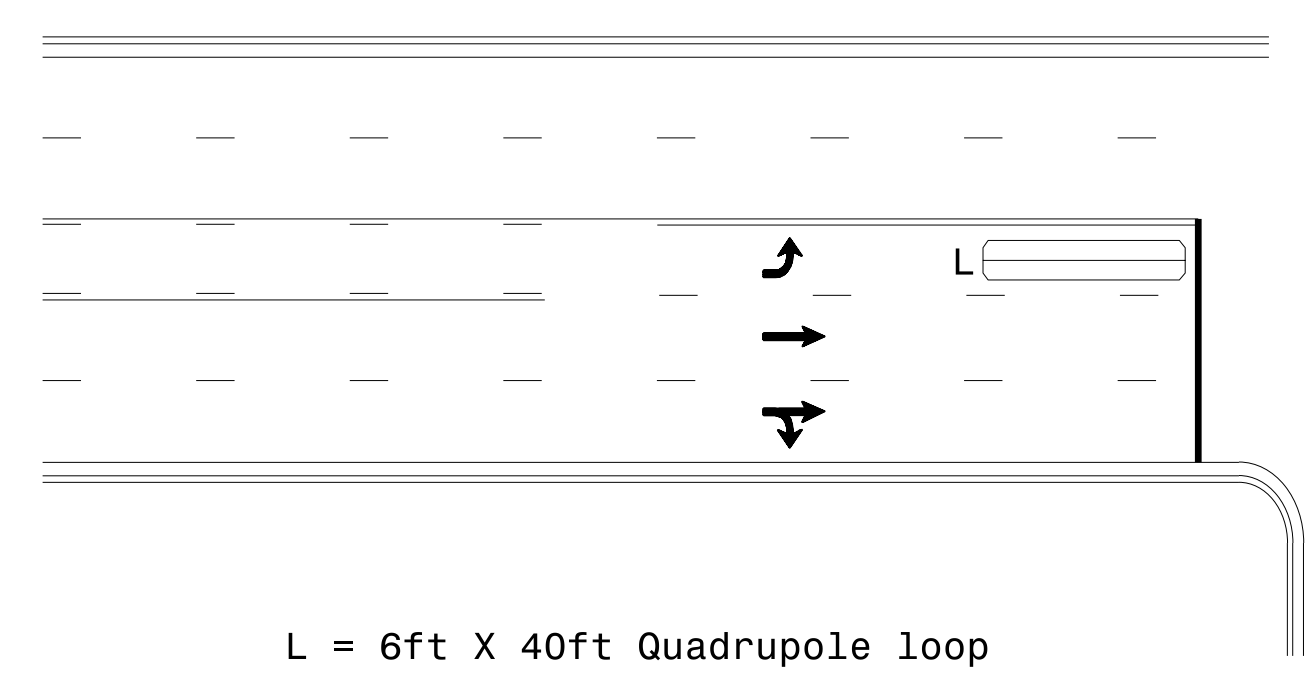
L = 6ft X 6ft
Wired in series

OR



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

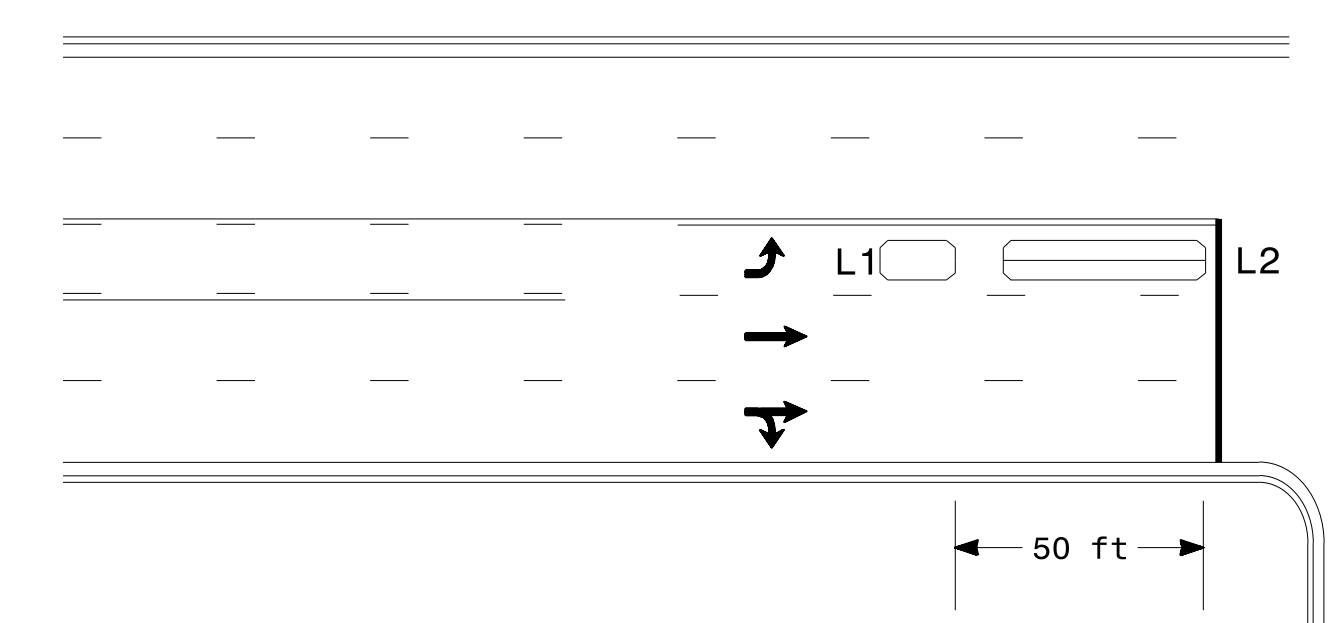
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

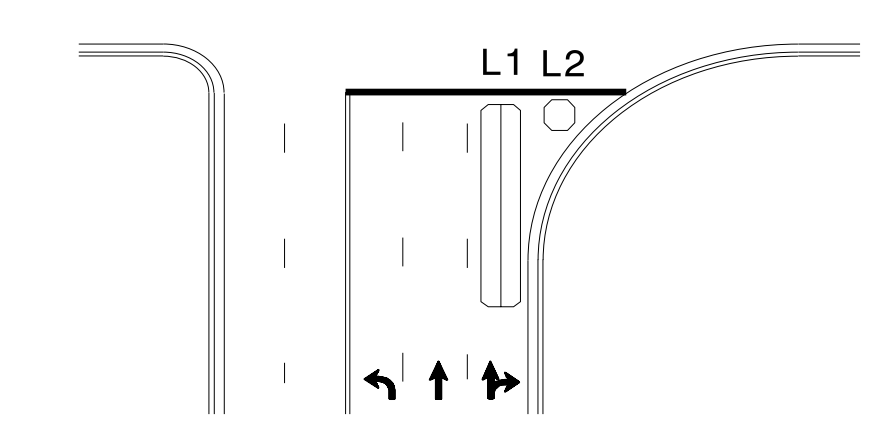
OR



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

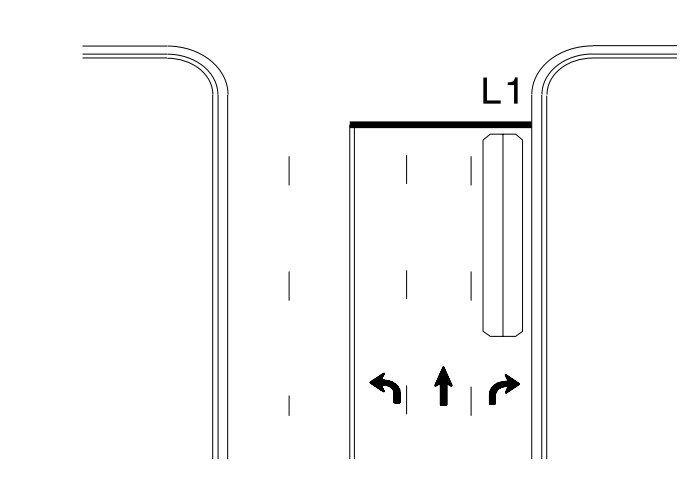
Queue Loop Detection

Right Turn Lane Detection

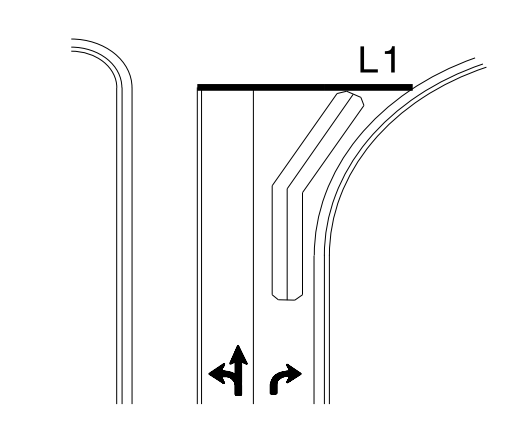


Shared Lane/
Wide Radius Turn

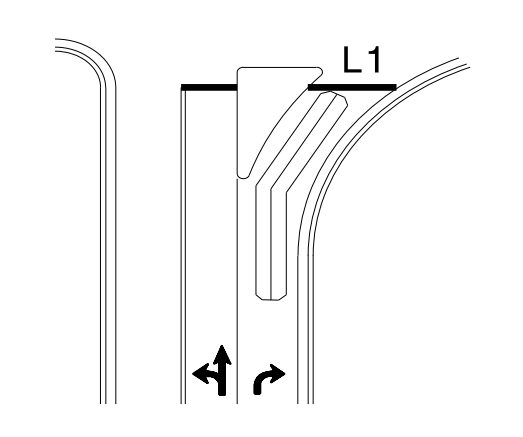
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

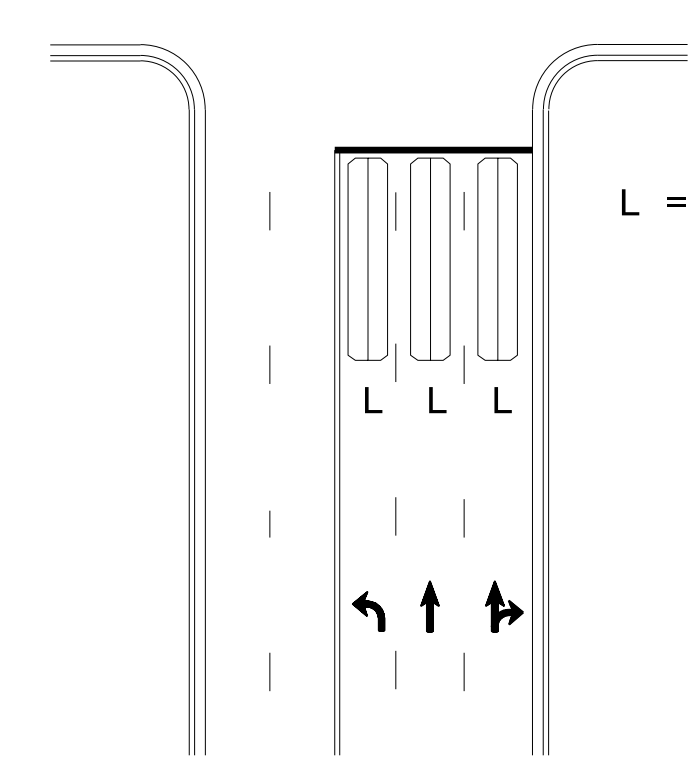


Wide Radius Turn



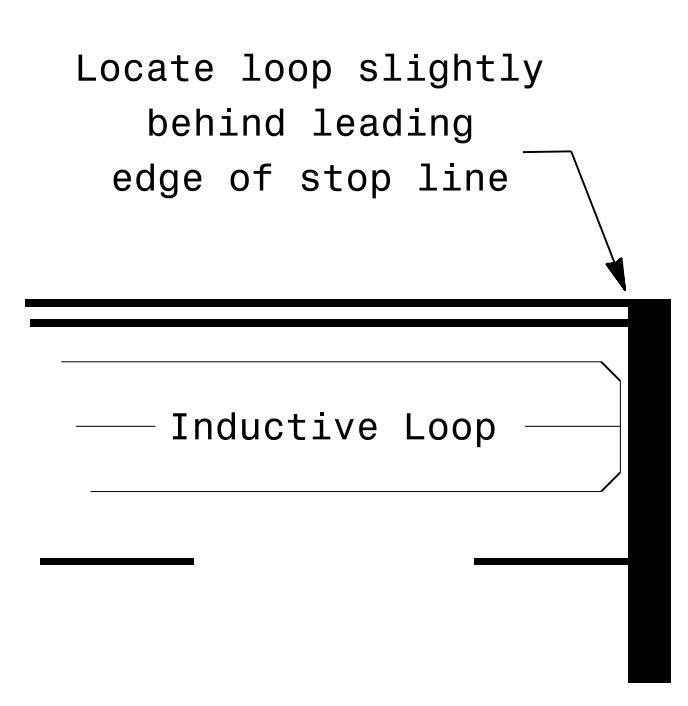
Channelized Turn

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

750 N. Greenfield Pkwy, Garner, NC 27529

Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

SCALE: N/A

SEAL

1/30/2015

3D:\146-2015-12-29
 S:\146\146-2015-12-29\Signal Design Section\Eastern Region\loop\loop\ypl\ca\2015.dgn
 paalexander

PROJECT NO.	TOTAL NO.
2020CPT.07.03.10791	5

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH		INCIDENTAL STONE BASE	POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX	ASPHALT SURFACE TREATMENT, FOG SEAL	ULTRA-THIN BONDED WEARING COURSE	FINE MILLING (5/8")		1 LANE CLOSURE	RAMP/LOOP TRAFFIC CONTROL	SEQUENTIAL FLASHING WARNING LIGHTS	DIGITAL SPEED LIMIT SIGNS	WORK ZONE PRESENCE LIGHTING	RAMP/LOOP CLOSURE	PORTABLE LIGHTING			
										MI	FT					EA	EA										
										EA	EA					EA	EA										
2020CPT.07.03.10791	Rockingham	1	US 29 NB	FROM N OF SR 2427 (BENAJA ROAD) TO BRIDGE #59(MM0.072-1.995)	1	2	MD	NO	NO	0.2	25		5	1,643	103	2,933	4	4	12	3	6		1				
					1	2	MD	NO	NO	0.061	30		2	501	38	1,074											
					1	2	MD	NO	NO	0.032	41		1	263	27	770											
					1	2	MD	NO	NO	0.019	47		2	156	30	668											
					1	2	MD	NO	NO	0.508	25		14	4,172	261	7,451											
					1	2	MD	NO	NO	0.066	31		2	542	42	1,200											
					1	2	MD	NO	NO	0.062	54		4	509	69	1,964											
					1	2	MD	NO	NO	0.244	25		7	2,004	125	3,579											
					1	2	MD	NO	NO	0.034	49		2	279	34	977											
					1	2	MD	NO	NO	0.155	37		6	364	118	3,365											
					1	2	MD	NO	NO	0.056	31		2	460	36	1,019											
					1	2	MD	NO	NO	0.237	25		6	1,112	122	3,476											
					SKIP - BRIDGE # 11					1	2	MD	NO	NO	0.034	28											
TOTAL FOR MAP NO. 1										1.919		59	12,995	1,113	31,571	4	4	12	3	6		1					
2020CPT.07.03.10791	Rockingham	2	OFF RAMP	FROM US 29 NB TO BUS 29 NB(MM0.034-0.419)	2	1		NO	NO	0.294	17		5	3,450	103	2,932							2				
					2	1		NO	NO	0.055	15		1	17	484												
					2	1		NO	NO	0.037	17		1	87	13	369											
TOTAL FOR MAP NO. 2										0.386		7	3,537	133	3,785								2				
2020CPT.07.03.10791	Rockingham	3	ON RAMP	FROM BUS 29 SB TO US 29 NB (MM 0.032-0.247)	2	2		NO	NO	0.057	24		1		28	803							2				
					2	1		NO	NO	0.064	15		1	20	563												
					2	1		NO	NO	0.092	15		1	216	28	810											
TOTAL FOR MAP NO. 3										0.213		3	216	76	2,176								2				
2020CPT.07.03.10791	Rockingham	4	US 29 SB	FROM BRIDGE #61 OVER TROUBLESOME CREEK TO N OR SR 2427 (BENAJA ROAD) (MM17.064-18.995)	1	2	MD	NO	NO	0.219	25		6	1,799	112	3,212	4	4									
					SKIP - BRIDGE # 15					1	2	MD	NO	NO	0.044	28											
					1	2	MD	NO	NO	0.044	31		1	207	28	800											
					1	2	MD	NO	NO	0.075	51		4	352	79	2,244											
					1	2	MD	NO	NO	0.309	25		8	2,538	159	4,532											
					1	2	MD	NO	NO	0.03	46		1	141	28	810											
					1	2	MD	NO	NO	0.071	37		3	333	54	1,541											
					1	2	MD	NO	NO	0.046	31		2	378	29	837											
					1	2	MD	NO	NO	0.69	25		18	5,667	354	10,120											
					1	2	MD	NO	NO	0.045	31		1	370	29	818											
					1	2	MD	NO	NO	0.035	42		2	287	30	862											
					1	2	MD	NO	NO	0.022	46		2	181	33	728											
					1	2	MD	NO	NO	0.292	25		8	2,398	150	4,283											
TOTAL FOR MAP NO. 4										1.922		56	14,651	1,085	30,787	4	4										
2020CPT.07.03.10791	Rockingham	5	OFF RAMP	FROM US 29 SB TO BUS 29	2	2		NO	NO	0.147	18	8	3	690	54	1,552							2				
					2	2		NO	NO	0.021	64		1	99	28	789											
TOTAL FOR MAP NO. 5										0.168		8	4	789	82	2,341							2				
2020CPT.07.03.10791	Rockingham	6	ON RAMP	FROM BUS 29 SB TO US 29 SB	2	2		NO	NO	0.175	18	9	4	821	77	1,989							2				
TOTAL FOR MAP NO. 6										0.175		9	4	821	77	1,989							2				
TOTAL FOR PROJ NO. 2020CPT.07.03.10791										4.783		17	133	33,009	2,566	72,649	8	8	12	3	6	8	1				
GRAND TOTAL										4.783		17	133	33,009	2,566	72,649	8	8	12	3	6	8	1				

PROJECT NO.	TOTAL NO.
2020CPT.07.03.10791	6

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	WORK ZONE SIGNS (STATIONARY)	6" X 90 M WHITE THERMO	6" X 90 M YELLOW THERMO	6" X 120 M WHITE THERMO	12" X 90 M WHITE THERMO	THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO MERGE LEFT ARROW 90 M	THERMO RAMP ARROW	THERMO 24" YIELD LINE (90 MILS)	6" WHITE PAINT	6" YELLOW PAINT	12" WHITE PAINT	PAINT LT ARROW	PAINT STR ARROW	PAINT MERGE LEFT ARROW	SNOWPLOWABLE PAVEMENT MARKERS CRYSTAL/RED	SNOWPLOWABLE PAVEMENT MARKERS YELLOW/YELLOW							
								MI	FT	SF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
2020CPT.07.03.10791	Rockingham	1	US 29 NB	FROM N OF SR 2427 (BENAJA ROAD) TO BRIDGE # 59(MM0.072-1.995)	1	2	MD	0.2	25	107	10,135	10,135	3,290	947	2	4	3				13,425	10,135	947	2	4	3	283							
					1	2	MD	0.061	30																									
					1	2	MD	0.032	41																									
					1	2	MD	0.019	47																									
					1	2	MD	0.508	25																									
					1	2	MD	0.066	31																									
					1	2	MD	0.062	54																									
					1	2	MD	0.244	25																									
					1	2	MD	0.034	49																									
					1	2	MD	0.155	37																									
					1	2	MD	0.056	31																									
				SKIP - BRIDGE # 11	1	2	MD	0.034	28																									
					1	2	MD	0.211	25																									
TOTAL FOR MAP NO. 1								1.919		107	10,135	10,135	3,290	947	2	4	3		13,425	10,135	947	2	4	3	283									
2020CPT.07.03.10791	Rockingham	2	OFF RAMP	FROM US 29 NB TO BUS 29 NB(MM0.034-0.419)	2	1		0.294	17	16	2,035	2,035	98				1			2,133	2,035					14	16							
					2	1		0.055	15																									
					2	1		0.037	17																									
TOTAL FOR MAP NO. 2								0.386		16	2,035	2,035	98			1		2,133	2,035				14	16										
2020CPT.07.03.10791	Rockingham	3	ON RAMP	FROM BUS 29 SB TO US 29 NB (MM 0.032-0.247)	2	2		0.057	24	32	1,125	1,075	174		2					1,299	1,075		2			8	17							
					2	1		0.064	15																									
					2	1		0.092	15																									
TOTAL FOR MAP NO. 3								0.213		32	1,125	1,075	174		2			1,299	1,075		2		8	17										
2020CPT.07.03.10791	Rockingham	4	US 29 SB	FROM BRIDGE #61 OVER TROUBLESOME CREEK TO N OR SR 2427 (BENAJA ROAD) (MM17.064-18.995)	1	2	MD	0.219	25	107	10,135	10,135	3,118	1,071	2	4	3				13,253	10,135	1,071	2	4	3	258							
						2	MD	0.044	28																									
					1	2	MD	0.044	31																									
					1	2	MD	0.075	51																									
					1	2	MD	0.309	25																									
					1	2	MD	0.03	46																									
					1	2	MD	0.071	37																									
					1	2	MD	0.046	31																									
					1	2	MD	0.69	25																									
					1	2	MD	0.045	31																									
					1	2	MD	0.035	42																									
1	2	MD	0.022	46																														
1	2	MD	0.292	25																														
TOTAL FOR MAP NO. 4								1.922		107	10,135	10,135	3,118	1,071	2	4	3		13,253	10,135	1,071	2	4	3	258									
2020CPT.07.03.10791	Rockingham	5	OFF RAMP	FROM US 29 SB TO BUS 29	2	2		0.147	18	8	946	835	24				1	9	970	835						14								
					2	2		0.021	64																									
TOTAL FOR MAP NO. 5								0.168		8	946	835	24			1	9	970	835					14										
2020CPT.07.03.10791	Rockingham	6	ON RAMP	FROM BUS 29 SB TO US 29 SB	2	2		0.175	18	32	922	964	33	92					9	955	964	92												
TOTAL FOR MAP NO. 6								0.175		32	922	964	33	92				9	955	964	92													
TOTAL FOR PROJ NO. 2020CPT.07.03.10791								4.783		302	25,298	25,179	6,737	2,110	6	8	6	2	18		32,035	25,179	2,110	6	8	6	577	33						
											50,477						40		57,214			20		610										
GRAND TOTAL								4.783		302	25,298	25,179	6,737	2,110	6	8	6	2	18		32,035	25,179	2,110	6	8	6	577	33						
											50,477						40		57,214			20		610										