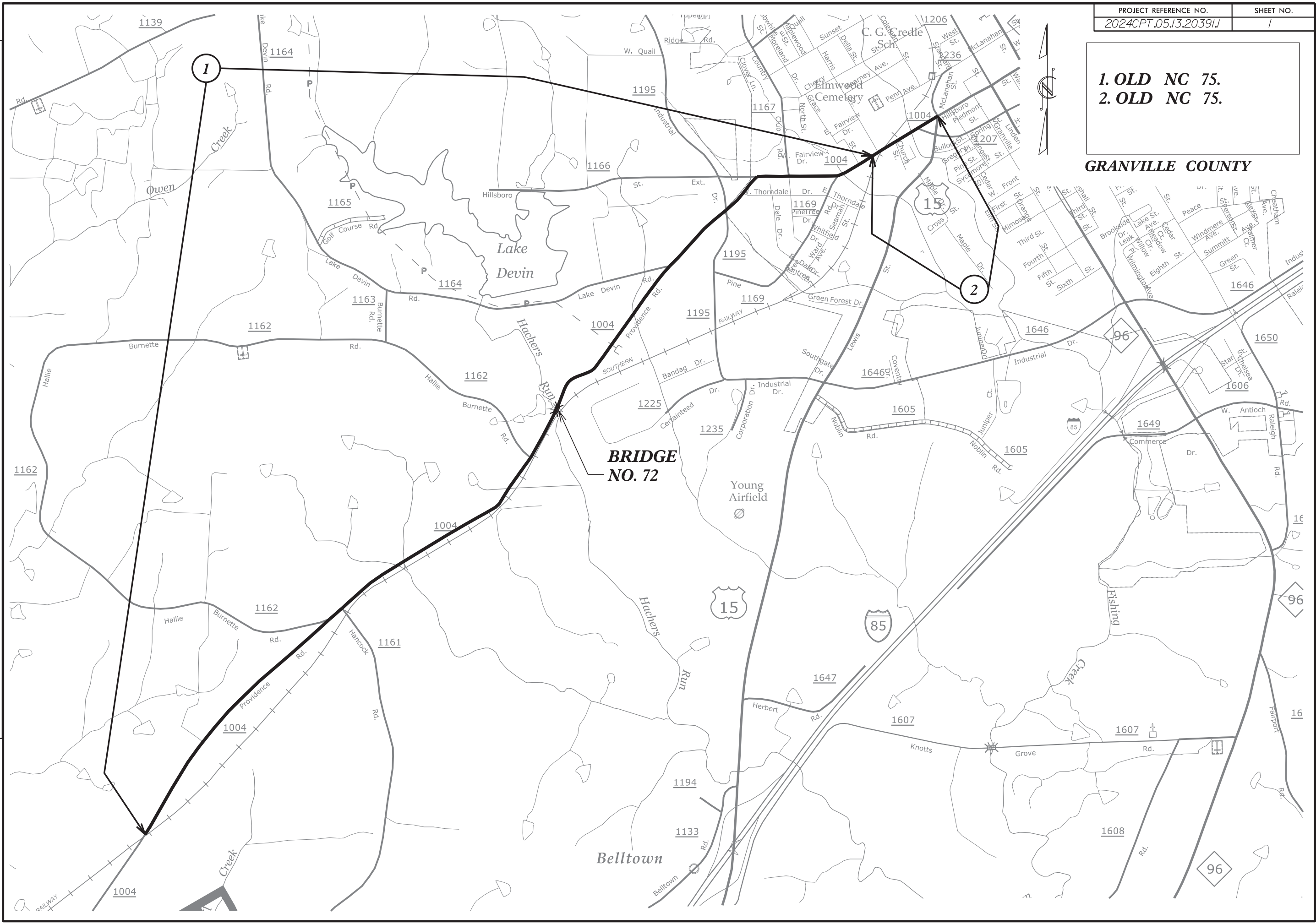


**1. OLD NC 75.  
2. OLD NC 75.**

**GRANVILLE COUNTY**



**BRIDGE NO. 72**

**Belltown**

**96**

**15**

**85**

1139

**1**

1164

1165

1164

1162

1163

1162

1162

1162

1161

1004

1004

1195

1166

1195

1169

1195

1225

1235

1194

1133

1206

1236

1167

1004

15

**2**

1646

1646

96

1650

1606

1605

1605

1649

16

96

1647

1607

1607

16

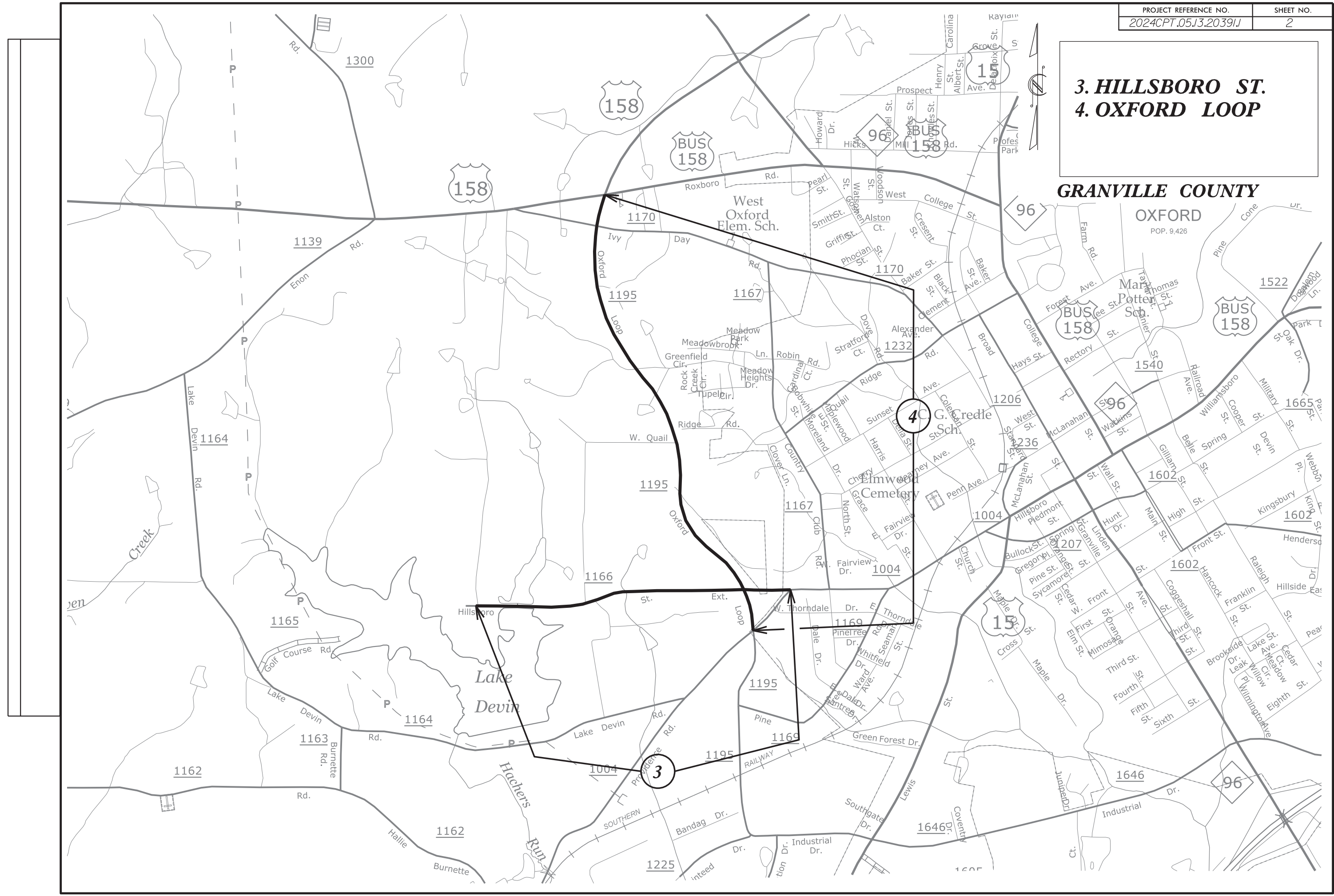
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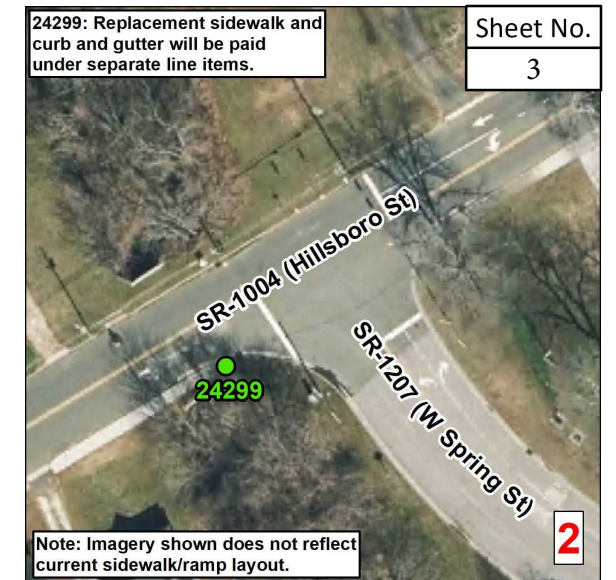
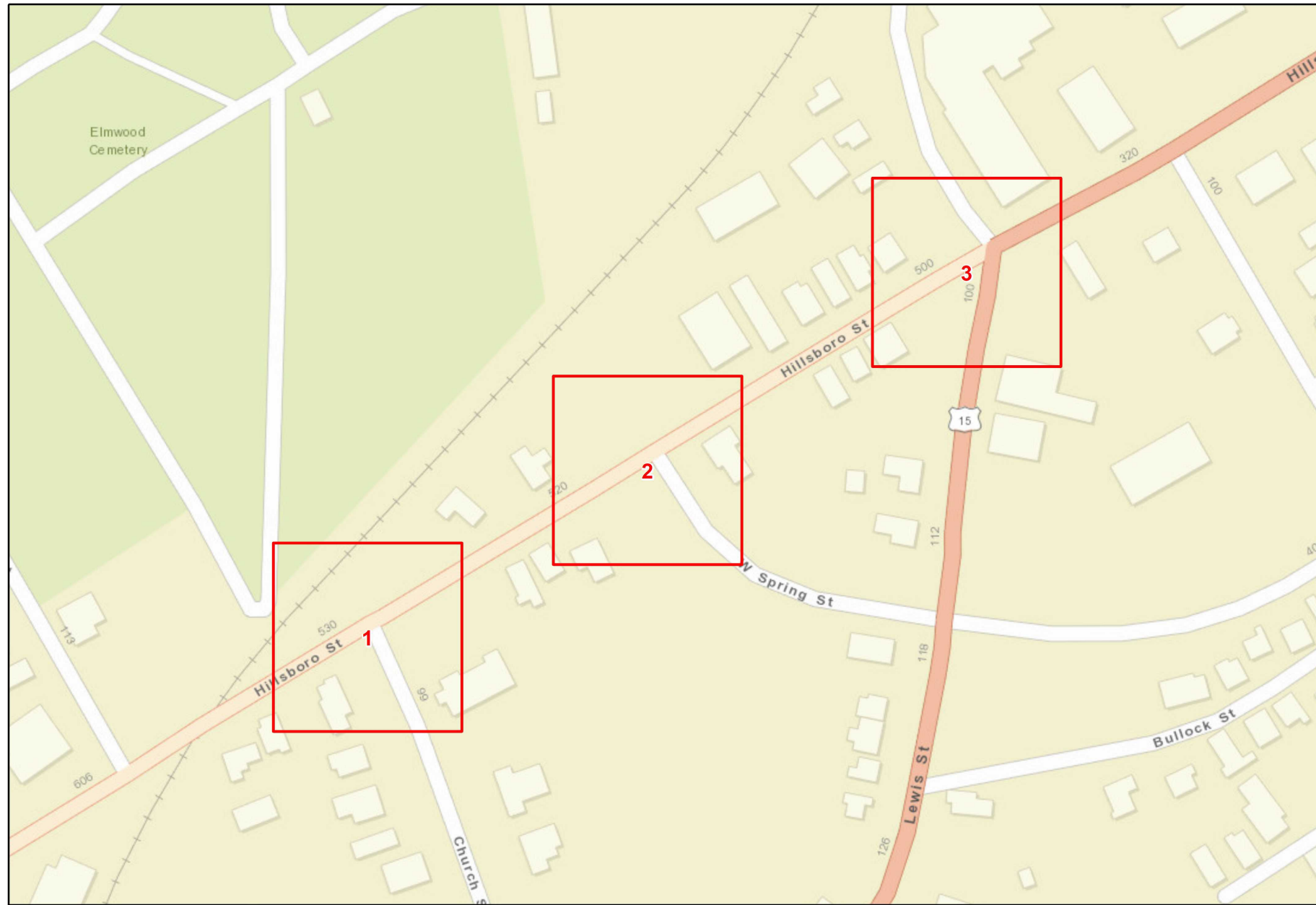
96

**3. HILLSBORO ST.**  
**4. OXFORD LOOP**

**GRANVILLE COUNTY**

**OXFORD**  
POP. 9,426





**Curb Ramps To Be Repaired**

- Retrofit
- Remove and Replace
- New Curb Ramp
- Remove Ramp

Municipal Boundary  
 NCHPO Historic Boundary (NR and LHD)

**Granville**  
**Project Number: 2024CPT.05.13.20391.1**

**Old NC 75**  
**From RR Tracks To US 15**

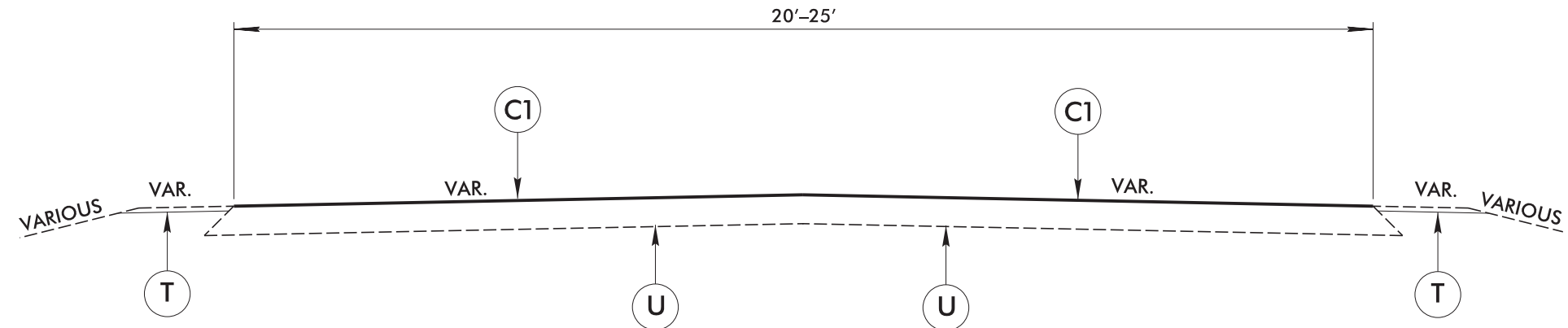
NORTH CAROLINA DEPARTMENT  
 OF TRANSPORTATION  
 DIVISION 5

Source: NV5 Engineers and Consultants Inc., ESRI, NC OneMap, NCDOT, NCHPO

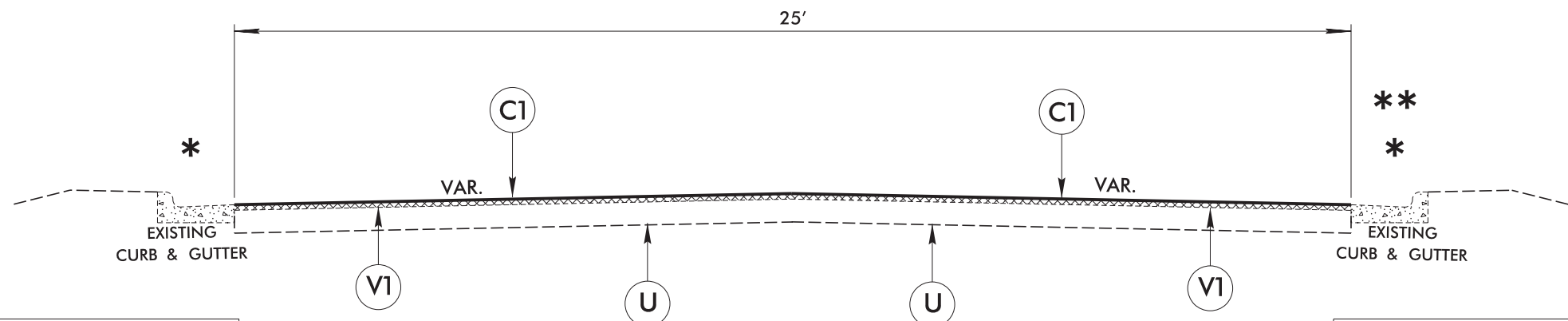
8/17/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
V1	MILLING OF EXISTING ASPHALT PAVEMENT AT DEPTH OF 1½"
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT

PROJECT REFERENCE NO.	SHEET NO.
2024CPT.05.13.20391J	4



**TYPICAL SECTION NO. 1**



**TYPICAL SECTION NO. 2**

\* 1293' OVER PAVE IN CURB & GUTTER REMOVE AND REPLACE

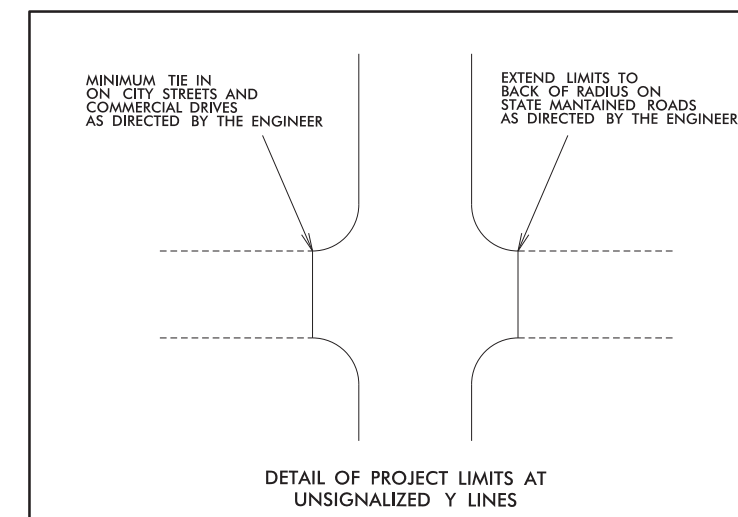
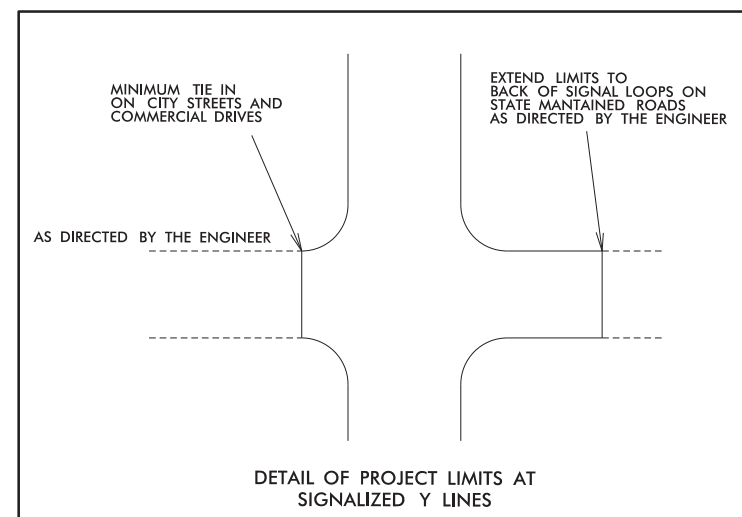
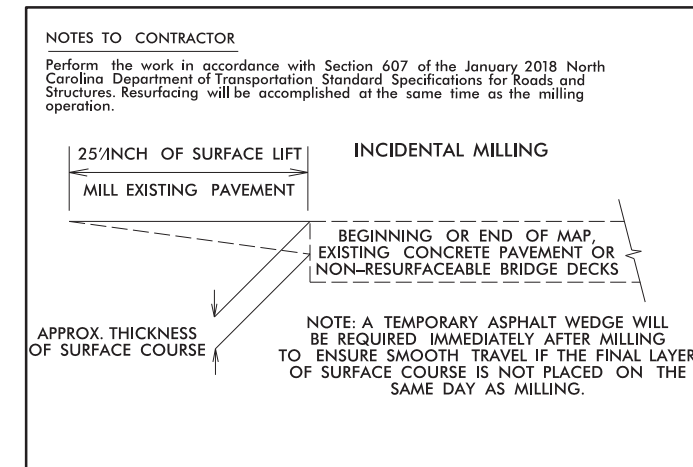
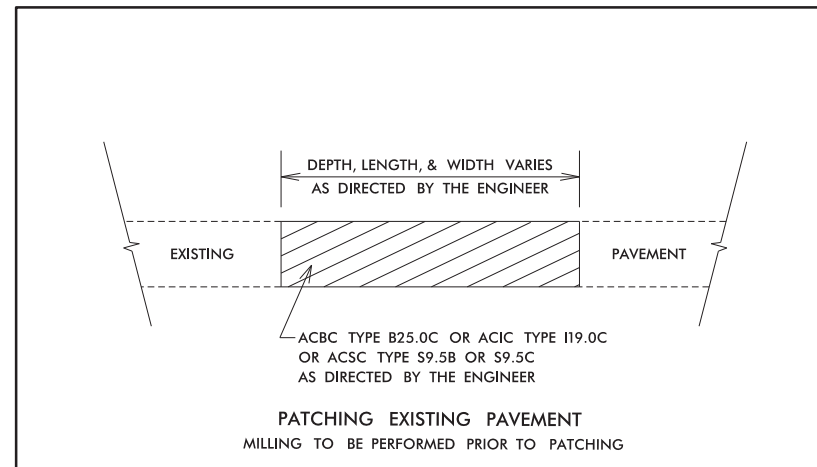
\* 1061' OVER PAVE IN CURB & GUTTER REMOVE AND REPLACE

**NOTE:**  
 AGGREGATE SHOULDER BORROW IS TO BE CONSIDERED A CONTINGENCY ITEM.  
 EXACT QUANTITIES ARE NOT DETERMINED.  
 USE AS NEEDED FOR SHOULDER TREATMENT.

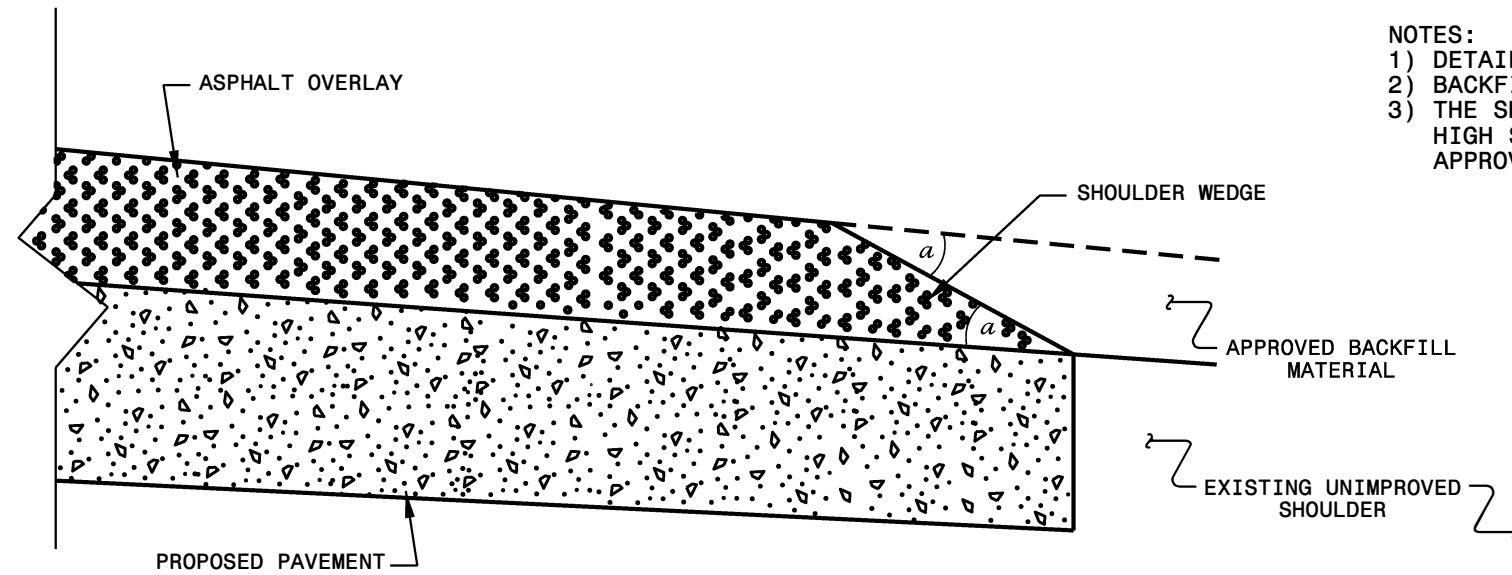
\*\* 30' REMOVE AND REPLACE CURB & GUTTER AT US 15 RT.

### NOTES

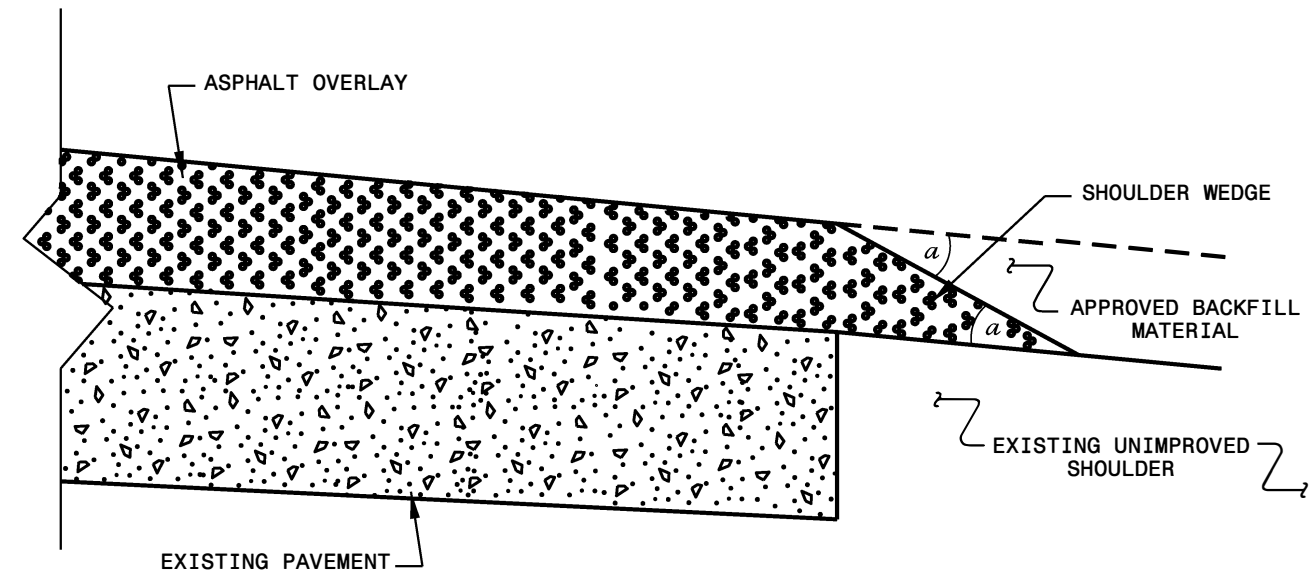
ALL UNPAVED S.R. ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT.  
 ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.  
 EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.  
 BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.



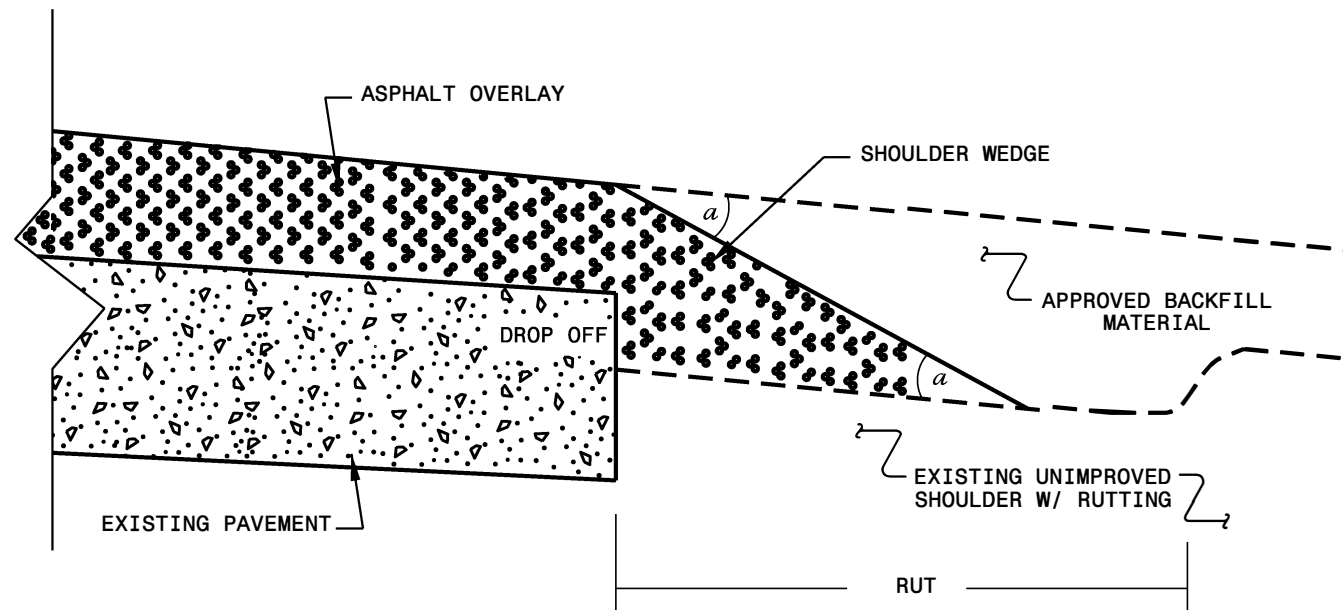
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



**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.: s:\usr\details\stand\shoulderwedgedetail.dgn	

22 JAN 2016 09:41  
 S:\projects\Resurfacing Projects\Division 4\1-5937 Wilson March 2016\Revised Shoulder Wedge Detail.dgn  
 P:\porter\al\CD\2016\

ADA SUMMARY OF QUANTITIES - TOTALS

Project Number:	2024CPT.05.13.20391.1
County:	Granville

Sheet No.	6
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Project Number	County	Municipality	Resurfacing Route	4447000000-E (LF) Pedestrian Channelizing Devices	4600000000-N (EA) Generic Traffic Control Item - Pedestrian Transport Service (Per Trip)	4600000000-N (EA) Generic Traffic Control Item - Audible Warning Devices	7444000000-E (LF) Inductive Loop Sawcut	7456100000-E (LF) Lead-In Cable (14-2)	7324000000-N (EA) Junction Box (Standard Size)	2549000000-E (LF) 2'-6" Concrete Curb & Gutter	2591000000-E (SY) 4" Concrete Sidewalk	2845000000-N (EA) Adjustment of Meter Boxes or Valve Boxes	2612500000-N (EA) Remove and Replace Concrete Curb Ramps	2759000000-N (EA) Remove Curb Ramps
Granville	Granville	Oxford	Old NC 75 From RR Tracks To US 15	60	10	2	150	300	1	20	12	1	3	1
<b>GRAND TOTAL</b>				<b>60</b>	<b>10</b>	<b>2</b>	<b>150</b>	<b>300</b>	<b>1</b>	<b>20</b>	<b>12</b>	<b>1</b>	<b>3</b>	<b>1</b>

ADA SUMMARY OF QUANTITIES - OLD NC 75 FROM RR TRACKS TO US 15

Municipality:	Oxford
Project Number:	2024CPT.05.13.20391.1
County:	Granville

Sheet No.
7

Ramp ID	Inset Map Number	Route 1	Route 2	744400000-E (LF) Inductive Loop Sawcut	745610000-E (LF) Lead-In Cable (14-2)	732400000-N (EA) Junction Box (Standard Size)	254900000-E (LF) 2'-6" Concrete Curb & Gutter	259100000-E (SY) 4" Concrete Sidewalk	284500000-N (EA) Adjustment of Meter Boxes or Valve Boxes	261250000-N (EA) Remove and Replace Concrete Curb Ramps	275900000-N (EA) Remove Curb Ramps	Improvement Type
25277	1	SR-1004 (Hillsboro St)	Church St						1	1		Type 1C - 848.06
25278	1	SR-1004 (Hillsboro St)	Church St							1		Type 1C - 848.06
24299	2	SR-1004 (Hillsboro St)	SR-1207 (W Spring St)				20	12			1	Remove Ramp
983	3	SR-1004 (Hillsboro St)	US-15 (Lewis St)	150	300	1				1		Type 2B - 848.06
<b>Sub-Total for NC 50 From/To US 70 To/From SR 1898</b>				<b>150</b>	<b>300</b>	<b>1</b>	<b>20</b>	<b>12</b>	<b>1</b>	<b>3</b>	<b>1</b>	

Note: ADA quantity totals are provided on the project 'ADA SUMMARY OF QUANTITIES - TOTALS' page.





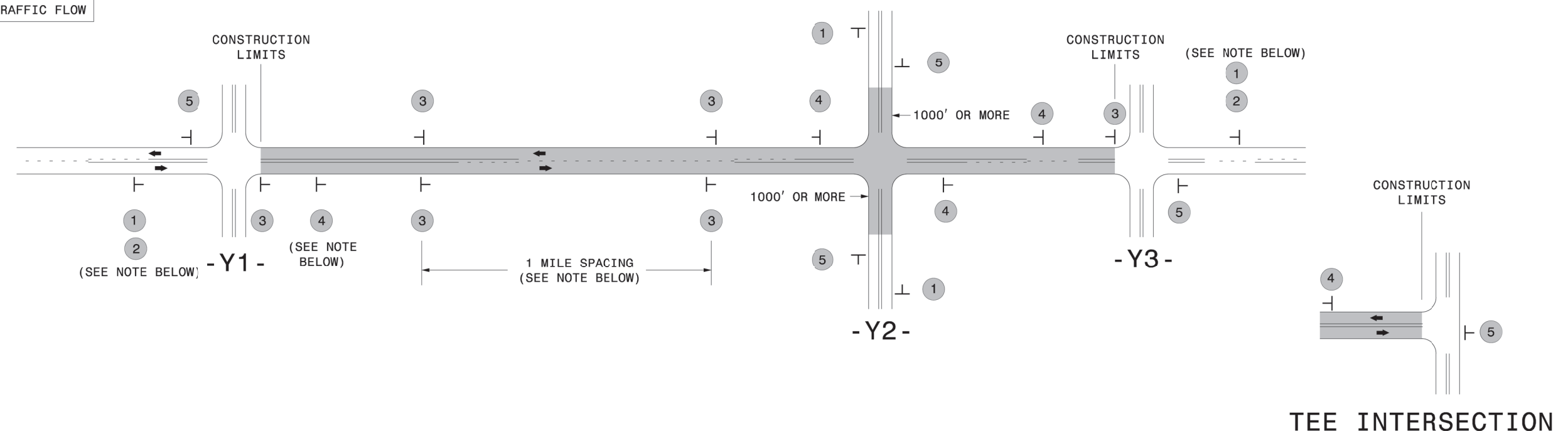
PROJECT NO.	SHEET NO.
2024CPT.05.13.20391.1	9

**THERMOPLASTIC AND PAINT QUANTITIES**

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E	4447000000-E	4457000000-N	4510000000-N	4600000000-E	4600000000-E	4685000000-E	4695000000-E	4700000000-E	4704000000-E	4709000000-E	4720000000-E	4725000000-E			4905100000-N		
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING	PEDESTRIAN CHANNELIZING DEVICES	TEMPORARY TRAFFIC CONTROL	LAW ENFORCEMENT	GENERIC TRAFFIC CONTROL ITEM PEDESTRIAN TRANSPORT SERVICE (PER TRIP)	GENERIC TRAFFIC CONTROL ITEM AUDIBLE WARNING DEVICES	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	8" X 90 M YELLOW THERMO	12" X 90 M YELLOW THERMO	THERMO PAVEMENT MARKING LINES (16", 90 M) WHITE	THERMO PAVEMENT MARKING LINES (24", 90 M) WHITE	THERMO MSG RXR 90 M	THERMO LT ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO STR ARROW 90 M	NON-CAST IRON SNOW-PLOWABLE PAVEMENT MARKER	
									MI	FT	SF	LF	LS	HR	EA	EA	LF	LF	LF	LF	EA	EA	EA	EA	EA		
2024CPT.05.13.20391.1	Granville	1	SR-1004 / OLD NC 75/PROVIDENCE RD/HILLSBORO ST	FROM RR TRACKS TO BEGIN CURB & GUTTER	1	2	2WU	3.75	25	420				120			44,140	44,170	30	110	100	230	4	6	4		330
2024CPT.05.13.20391.1	Granville	2	SR-1004 / OLD NC 75	FROM BEGIN CURB & GUTTER TO US 15	2	2	2WU	0.26	25	29	60			10	2	980	2,760			50	180	2	1		1	40	
2024CPT.05.13.20391.1	Granville	3	SR-1166 / HILLSBORO ST	FROM SR 1004 TO END PAVEMENT	1	2	2WU	0.936	20	105		*				10,180	10,470	10					2	2	2		
2024CPT.05.13.20391.1	Granville	4	SR-1195 / OXFORD LOOP SW/OXFORD LOOP NW	FROM US 158 TO SR 1004	1	2	2WU	1.434	24	161						17,130	17,500		90		130		17	11			
<b>TOTAL FOR PROJ NO. 2024CPT.05.13.20391.1</b>																	<b>147,330</b>	<b>74,900</b>	<b>40</b>	<b>200</b>	<b>150</b>	<b>540</b>	<b>6</b>	<b>26</b>	<b>17</b>	<b>1</b>	<b>370</b>
<b>GRAND TOTAL</b>																	<b>147,330</b>	<b>74,900</b>	<b>40</b>	<b>200</b>	<b>150</b>	<b>540</b>	<b>6</b>	<b>26</b>	<b>17</b>	<b>1</b>	<b>370</b>







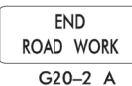
# SIGNING FOR RESURFACING PROJECTS

**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>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) 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;">   <small>W20-1 48" X 48"</small>              PLACED 500' IN ADVANCE OF FLAGGER.         </div> <div style="text-align: center;">   <small>W20-7 A 48" X 48"</small>              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		<ul style="list-style-type: none"> <li>- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER.</li> <li>- AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.</li> </ul>	
	4		<ul style="list-style-type: none"> <li>- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS.</li> <li>- DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS.</li> <li>- INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE.</li> <li>- 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.</li> <li>- A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.</li> <li>- FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.</li> </ul>	
	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**

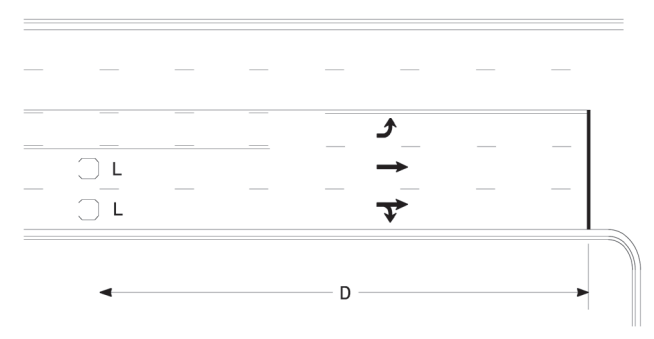
FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.



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

5/15/2017 S:\TMD\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing-AdvWarn-2Ln.dgn User:rkcdavis

### High Speed Detection (≥40 mph)

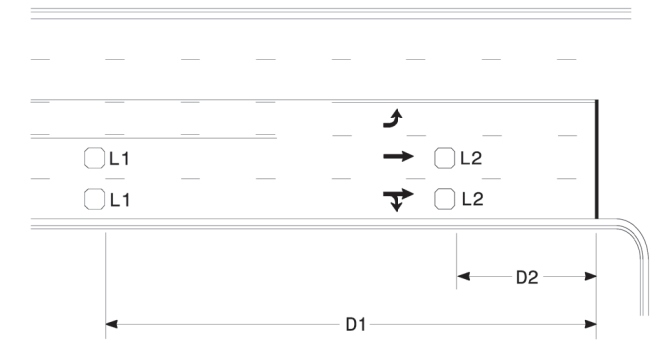


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

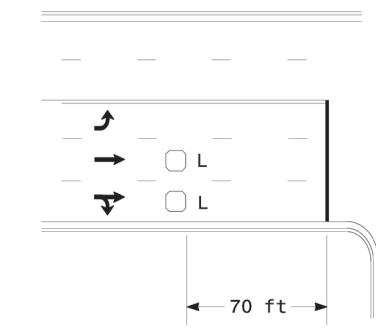


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

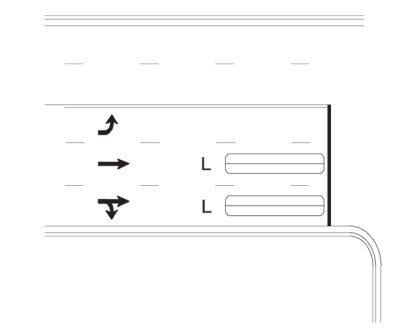
"Stretch" Operation

### Low Speed Detection (≤35 mph)



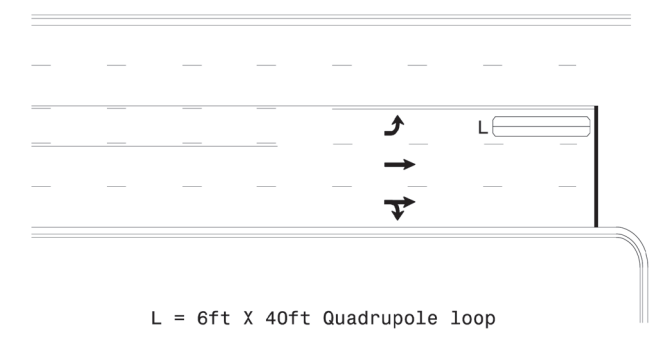
L = 6ft X 6ft  
Wired in series

OR



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

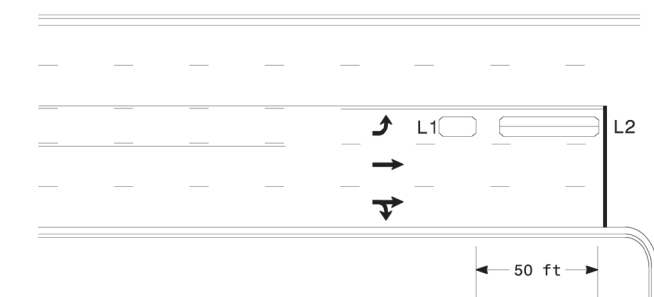
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

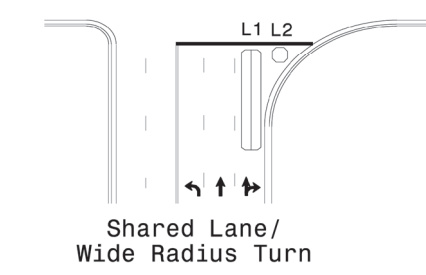
OR



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

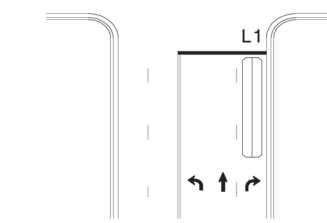
Queue Loop Detection

### Right Turn Lane Detection

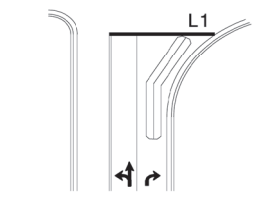


Shared Lane/  
Wide Radius Turn

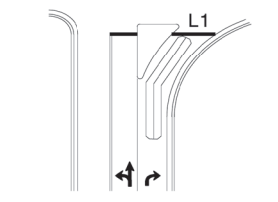
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

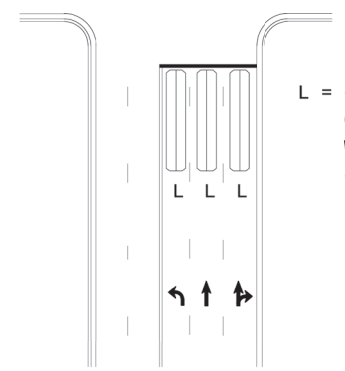


Wide Radius Turn



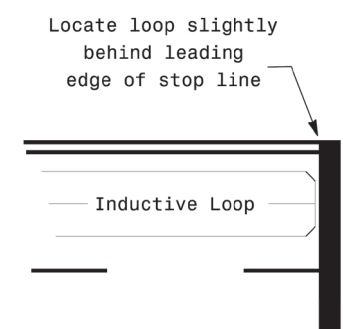
Channelized Turn

### 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

	<b>Typical Signal Loop Locations</b>	
	PLAN DATE: January 2015 PREPARED BY: PLA	REVIEWED BY: JPG REVIEWED BY:
SCALE N/A	REVISIONS	INIT. DATE
SIG. INVENTORY NO.		1/30/2015