

**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

**This file or an individual page  
shall not be considered a certified document.**

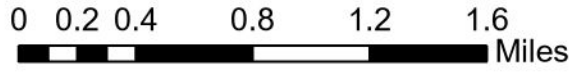


Person County Resurfacing

Person	
PROJECT REFERENCE NO.	SHEET NO.
2026CPT.05.09.20731.1	<b>1</b>

Map 1 SR 1715 (Bethany Church Road)  
 From SR 1721 (Mount Harmony Church Road) to Granville County  
 Typical No. 2

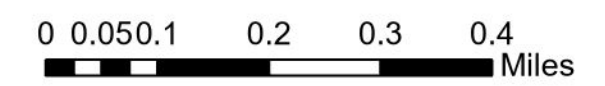
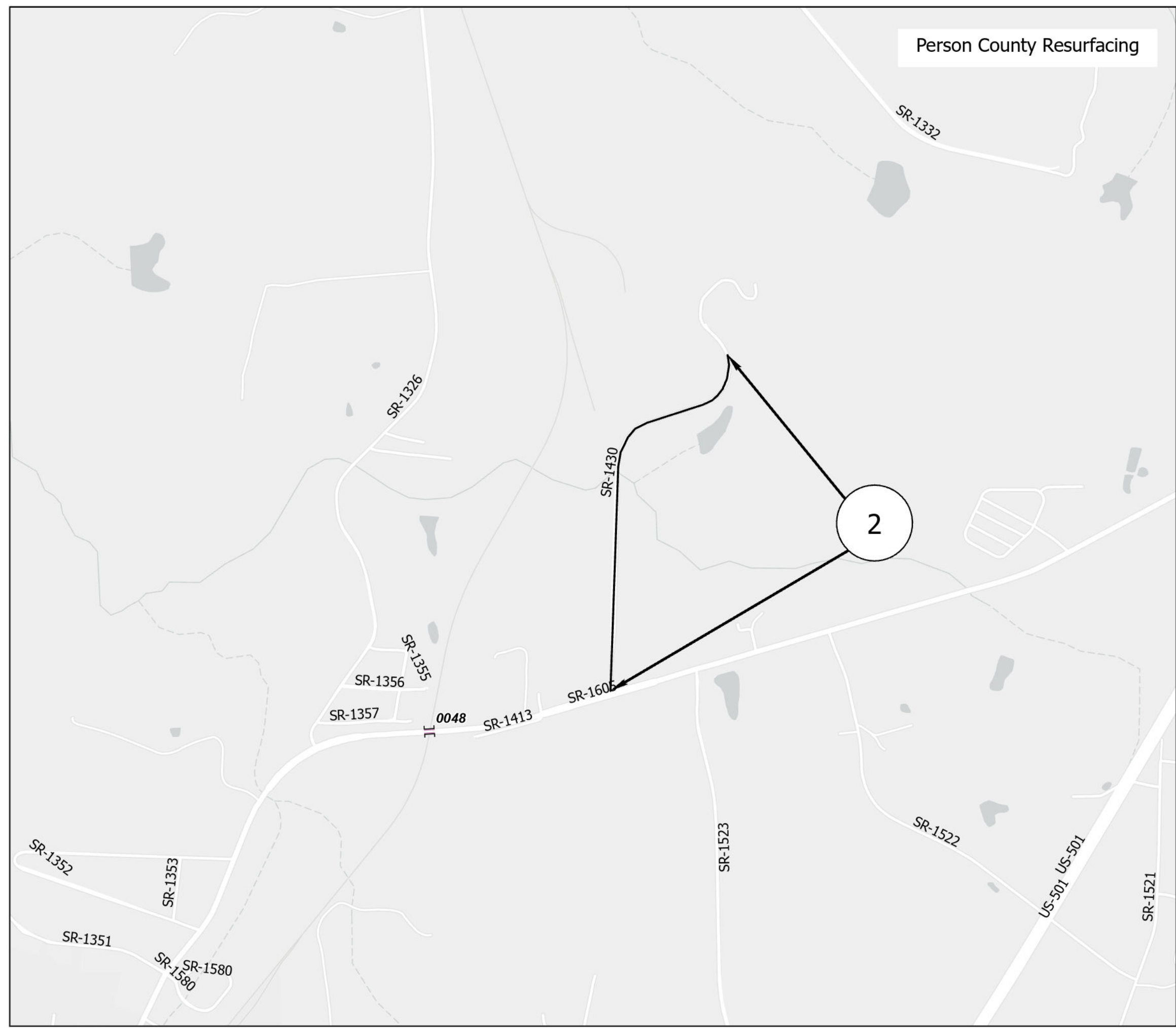
Map 3 SR 1717 (Surl-Mount Tirzah Road)  
 From SR 1715 ( Helena Moriah Road) to US 158  
 Typical No. 3



Person County Resurfacing

Person	
PROJECT REFERENCE NO.	SHEET NO.
2026CPT.05.09.20731.1	2

Map 2 SR 1430 (North Park Drive)  
From SR 1605 (Boston Road) to Dead End  
Typical No. 2





# PAVEMENT SCHEDULE

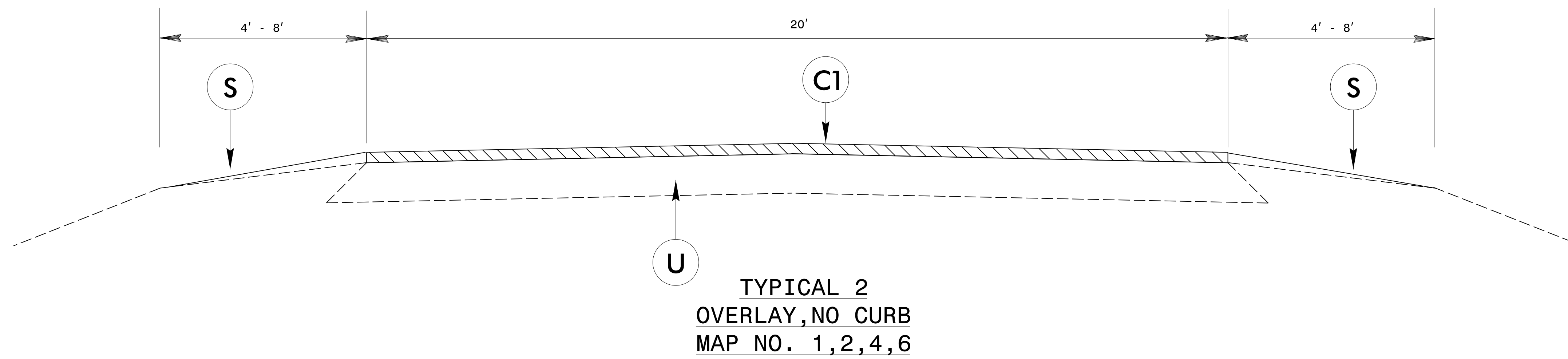
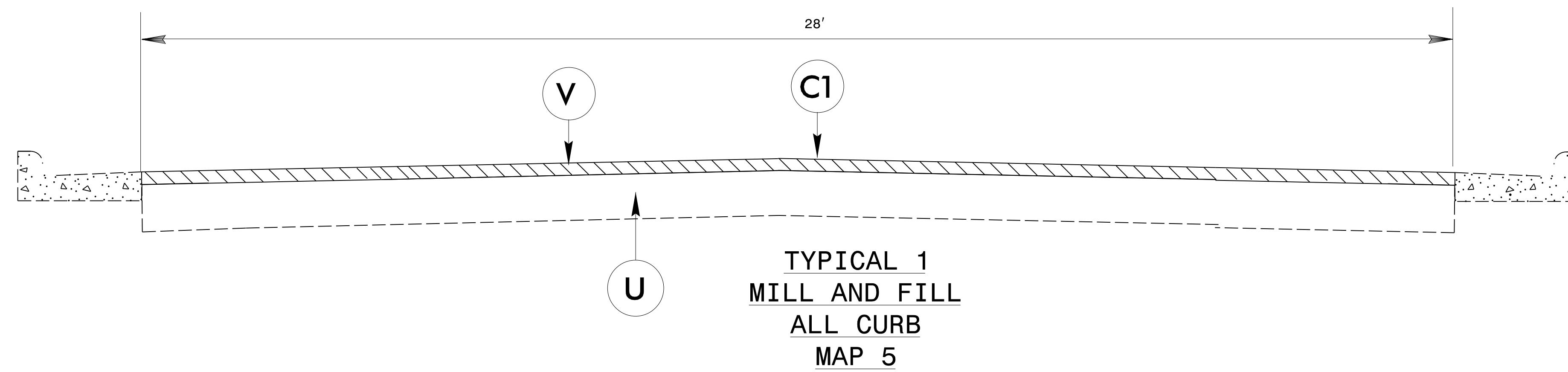
PROJECT REFERENCE NO.

SHEET NO.

2026CPT.05.09.20731.1

4

C1	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
S	SHOULDER RECONSTRUCTION, ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
U	EXISTING PAVEMENT
V	MILL ASPHALT PAVEMENT, 1 1/2" DEPTH



PAVEMENT SCHEDULE

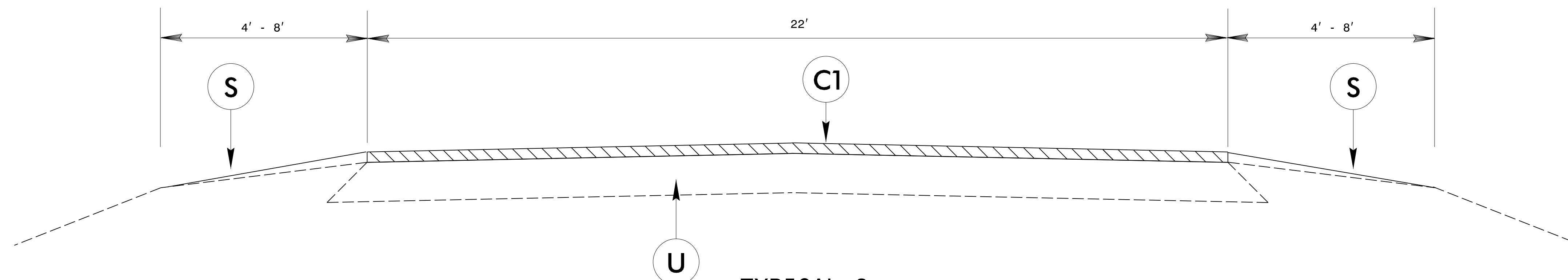
PROJECT REFERENCE NO.

SHEET NO.

2026CPT.05.09.20731.1

5

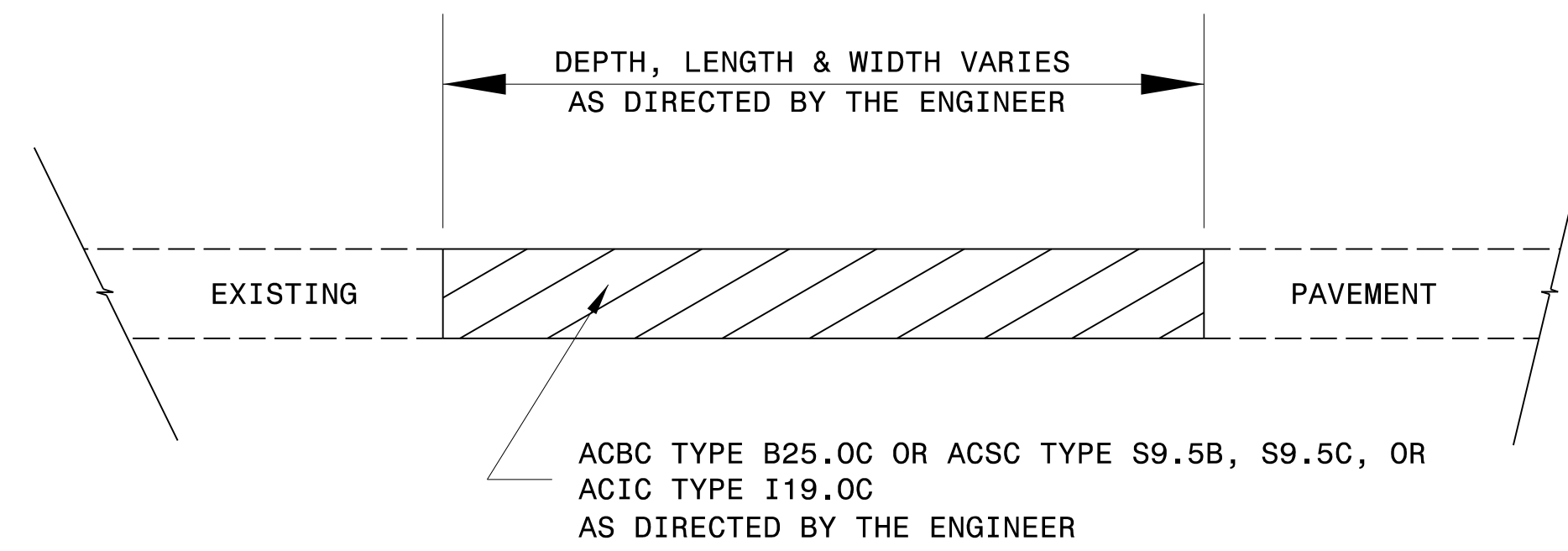
C1	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
S	SHOULDER RECONSTRUCTION, ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
U	EXISTING PAVEMENT



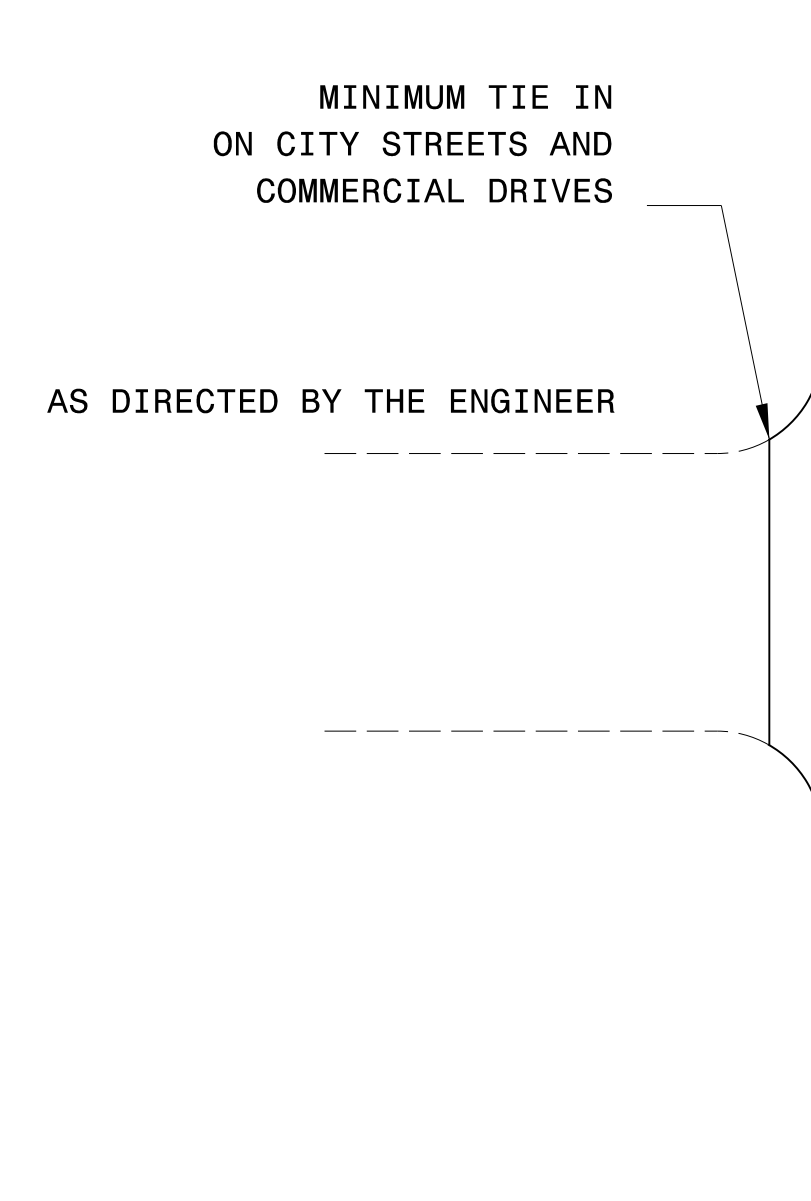
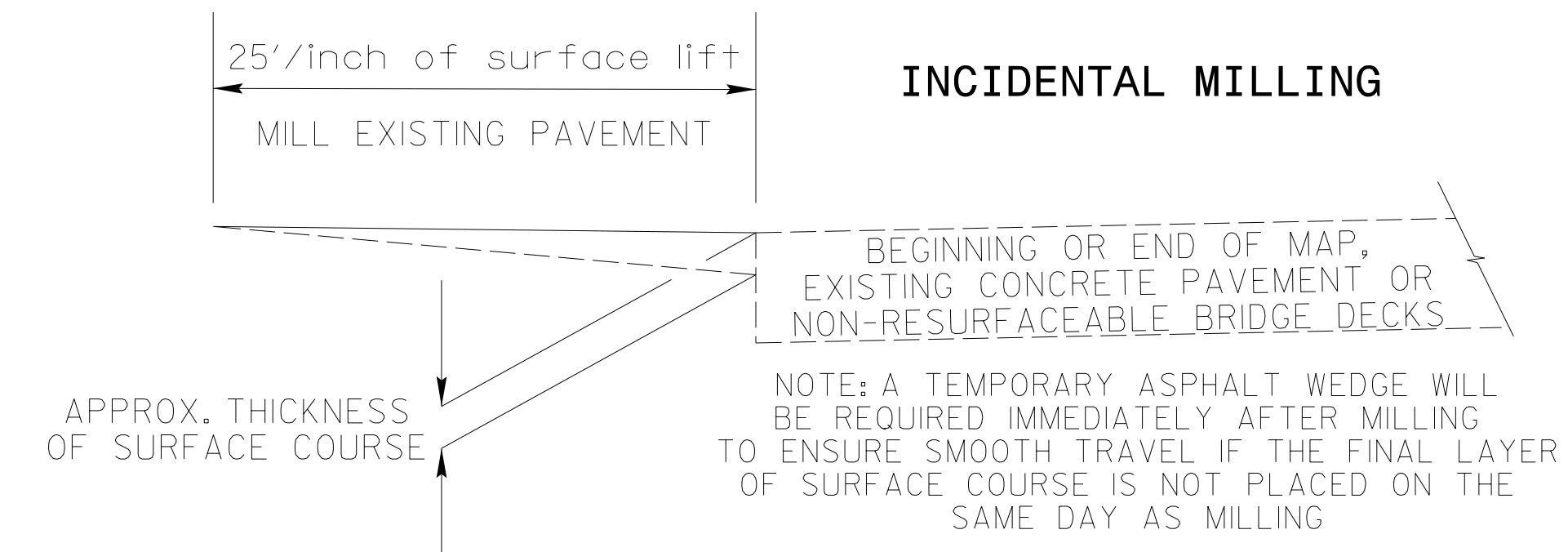
TYPICAL 3  
OVERLAY, NO CURB  
MAP NO. 3

NOTES

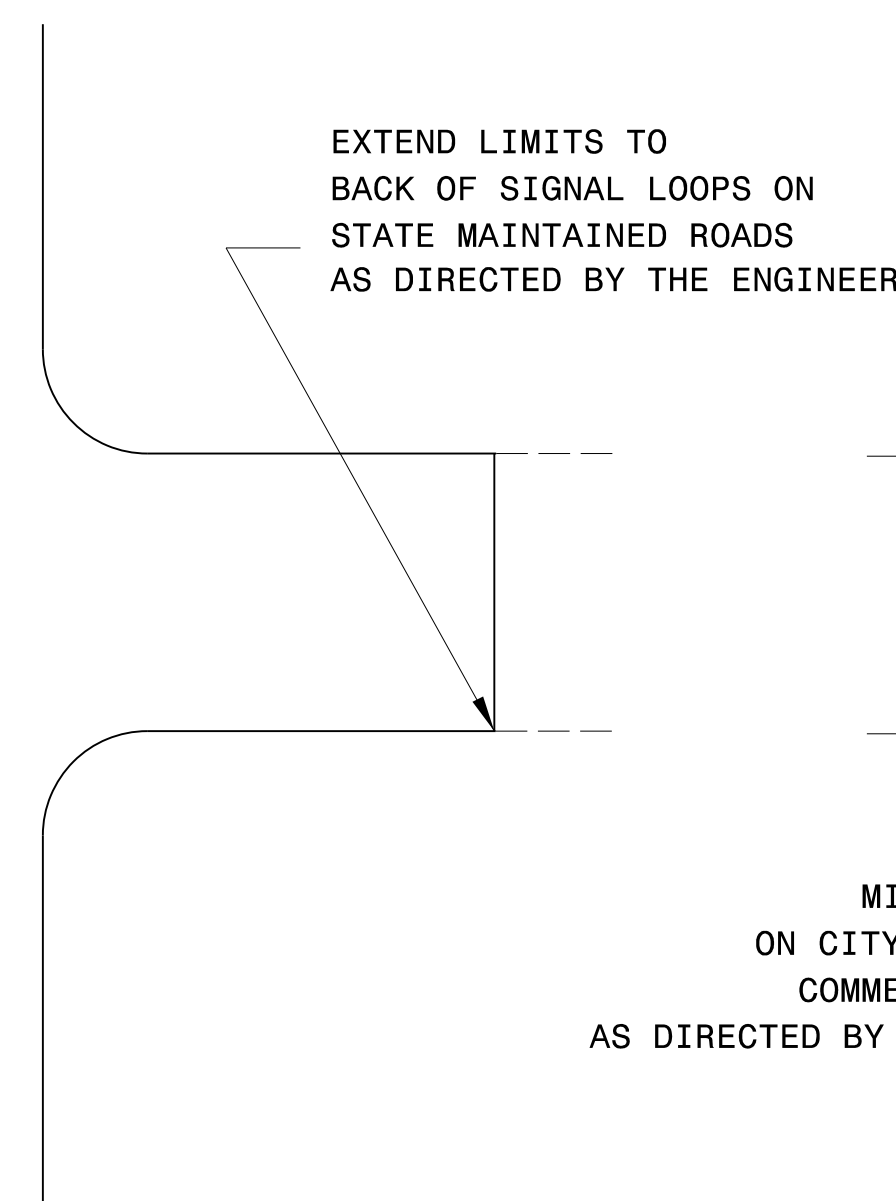
ALL UNPAVED S.R. ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT  
ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.  
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.  
BRIDGES TO BE RESURFACED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



**PATCHING EXISTING PAVEMENT**  
MILLING TO BE PERFORMED PRIOR TO PATCHING



**DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES**



MINIMUM TIE IN ON CITY STREETS AND COMMERCIAL DRIVES AS DIRECTED BY THE ENGINEER

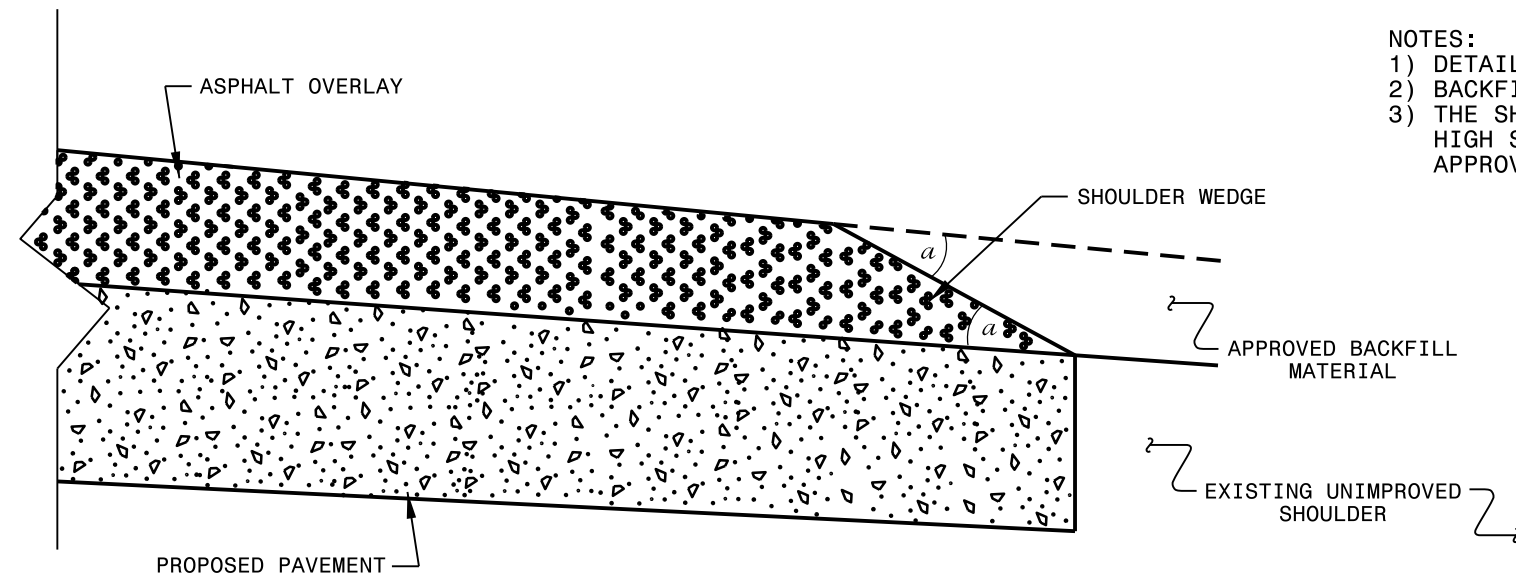
**DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES**

EXTEND LIMITS TO BACK OF RADIUS ON STATE MAINTAINED ROADS AS DIRECTED BY THE ENGINEER



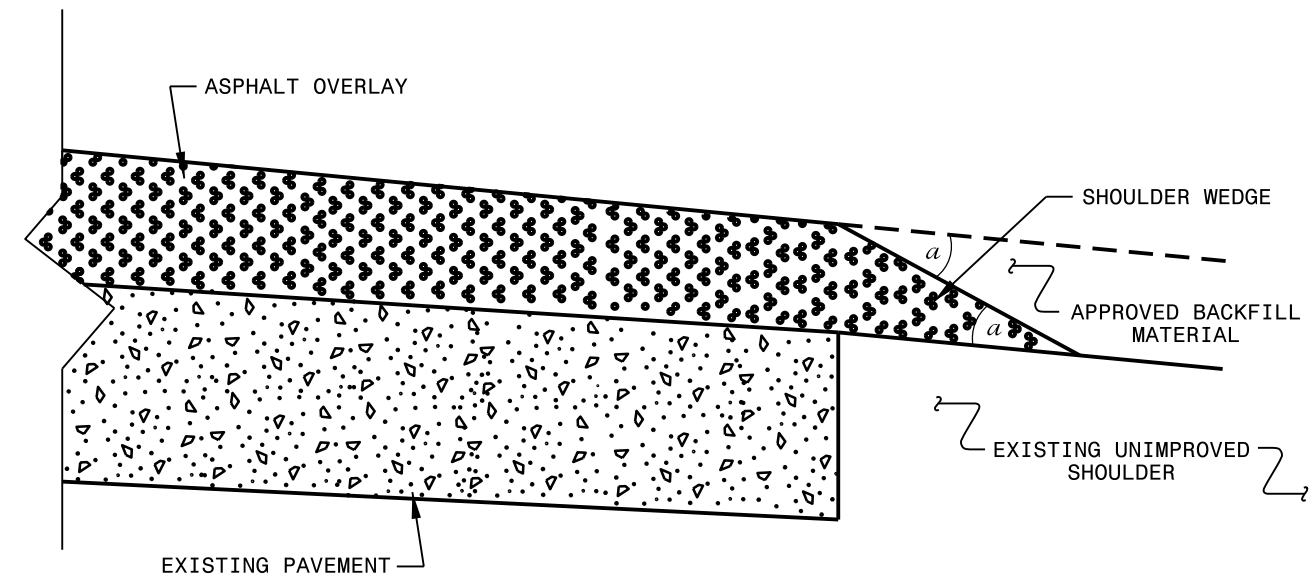
**NOTES:**

- 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.



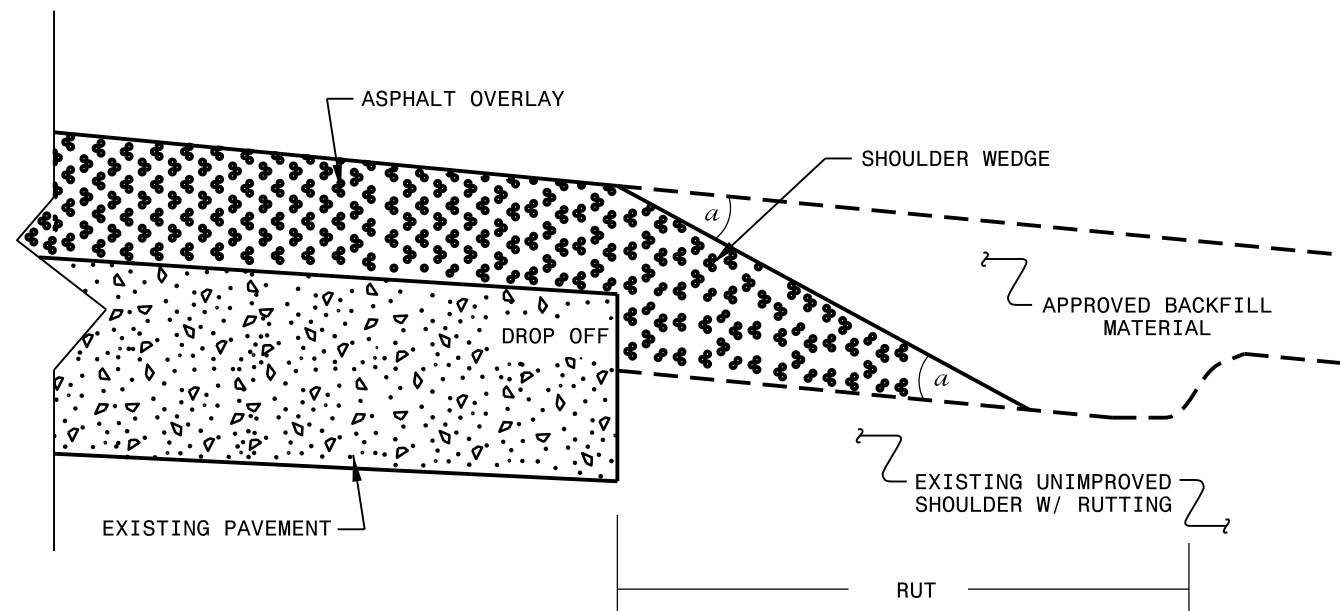
**SHOULDER WEDGE DETAIL**

(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.: szusr/details/stand/shoulderwedgedetail.dgn		

### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGI N MP	END MP	1220000000-E		1245000000-E		1260000000-E		1297000000-E		1330000000-E		1519000000-E		1575000000-E		1704000000-E		2330000000-N		2345000000-N		7444000000-E																
												INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTI ON	TON	SY	INCIDENTAL MILLING	SY	TONS	SURFACE COURSE 59.58	TON	ASPHALT BINDER FOR PLANT MIX	TON	PATCHING EXISTING PAVEMENT	TONS	ADJUST MANHOLES	EA	ADJUST METER OR VALVE BOX	EA	INDUCTIVE LOOP SAWCUT	LF																		
2026CPT 05.09.20731.1	Person	1	SR-1715 / BETHANY CHURCH RD		2	2	2WD	1.720	20	7.940	8.660	86	3.43	317		23	1.986	141		268																												
TOTAL FOR MAP NO. 1												86	3.43	317		23	1.986	141		268																												
2026CPT 05.09.20731.1	Person	2	SR-1480 / NORTH PARK DR		2	2	2WD	0.780	20	0.000	0.780	39	1.95	144		23	623	59		26																												
TOTAL FOR MAP NO. 2												39	1.95	144		23	623	59		26																												
2026CPT 05.09.20731.1	Person	3	SR-1717 / SOUTH IRLAND RD		3	2	2WD	4.710	22	0.000	4.710	236	9.42	870		32	5,737	379		126																												
TOTAL FOR MAP NO. 3												236	9.42	870		32	5,737	379		126																												
2026CPT 05.09.20731.1	Person	4	SR-1393 / WESTOVER DR		2	2	2WD	0.040	20	0.000	0.040	2	0.07	7		31	104	9		39																												
TOTAL FOR MAP NO. 4												2	0.07	7		31	104	9		39																												
2026CPT 05.09.20731.1	Person	5	SR-1363 / BEAKS AVE		3	2	2WD	0.460	28	1.660	2.120	22	1.24	113		386	715	53		139																												
TOTAL FOR MAP NO. 5												22	1.24	113		386	715	53		139																												
2026CPT 05.09.20731.1	Person	6	SR-1365 / WESTOVER DR		2	2	MU	0.620	20	0.000	0.620	31	1.24	115		14	670	45		26																												
TOTAL FOR MAP NO. 6												31	1.24	115		14	670	45		26																												
TOTAL FOR PROJ NO. 2026CPT 05.09.20731.1												416	15.72	1,453		509	10,015	682		624																												
GRAND TOTAL												416	15.72	1,453		509	10,015	682		624																												

PROJECT NO	2026CPT 05.09.20731.1	SHEET NO.	Z7	TOTAL NO.	12
------------	-----------------------	-----------	----	-----------	----

PROJECT NO.	SHEET NO.	TOTAL NO.
2026CPT.05.09.20731.1	30	12

### THERMOPLASTIC AND PAINT QUANTITIES

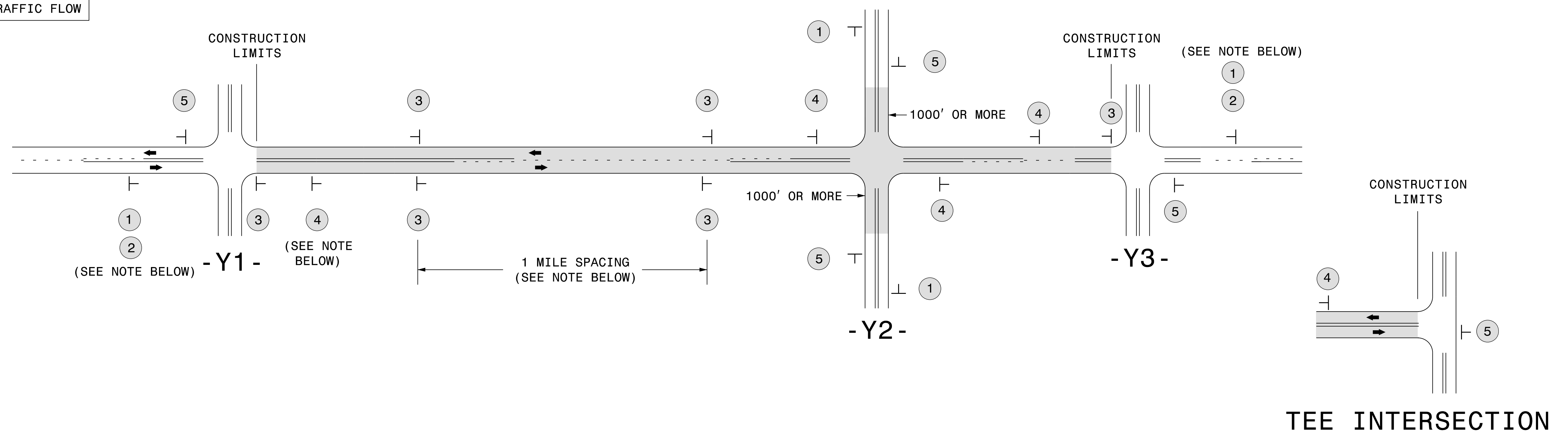
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4413000000-E	4457000000-N	4510000000-N	4685000000-E		4695000000-E	4709000000-E	4725000000-E		
												WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	LAW ENFORCEMENT	4" X 90 M YELLOW THERMO	4" X 90 M WHITE THERMO	8" X 90 M WHITE THERMO	24" X 90 M WHITE THERMO	THERMO STR & RT ARROW 90 M	THERMO LT ARROW 90 M	
								MI	FT			SF	LS	HR	LF	LF	LF	LF	EA	EA	
2026CPT.05.09.20731.1	Person	1	SR-1715 / BETHANY CHURCH RD		2	2	2WD	1.72	20	7.94	9.66	192	0.21		30,767	30,767					
<b>TOTAL FOR MAP NO. 1</b>								<b>1.72</b>				<b>192</b>	<b>0.21</b>		<b>30,767</b>	<b>30,767</b>					
2026CPT.05.09.20731.1	Person	2	SR-1430 / NORTH PARK DR		2	2	2WD	0.78	20	0	0.78	126	0.09		5,343	5,343					
<b>TOTAL FOR MAP NO. 2</b>								<b>0.78</b>				<b>126</b>	<b>0.09</b>		<b>5,343</b>	<b>5,343</b>					
2026CPT.05.09.20731.1	Person	3	SR-1717 / SURL-MT TIRZAH RD		3	2	2WD	4.71	22	0	4.71	528	0.57		49,326	49,613					
<b>TOTAL FOR MAP NO. 3</b>								<b>4.71</b>				<b>528</b>	<b>0.57</b>		<b>49,326</b>	<b>49,613</b>					
2026CPT.05.09.20731.1	Person	4	SR-1393 / WESTOVER DR		2	2	2WU	0.04	20	0	0.04	4	0.00								
<b>TOTAL FOR MAP NO. 4</b>								<b>0.04</b>				<b>4</b>	<b>0.00</b>								
2026CPT.05.09.20731.1	Person	5	SR-1363 / REAMS AVE		3	2	2WD	0.46	28	1.66	2.12	52	0.06	80	4,184	86	2	4	2	2	
<b>TOTAL FOR MAP NO. 5</b>								<b>0.46</b>				<b>52</b>	<b>0.06</b>	<b>80</b>	<b>4,184</b>	<b>86</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>2</b>	
2026CPT.05.09.20731.1	Person	6	SR-1365 / WESTOVER DR		2	2	MU	0.62	20	0	0.62	70	0.08								
<b>TOTAL FOR MAP NO. 6</b>								<b>0.62</b>				<b>70</b>	<b>0.08</b>								
<b>TOTAL FOR PROJ NO. 2026CPT.05.09.20731.1</b>								<b>8.33</b>				<b>972</b>	<b>1.000</b>	<b>80</b>		<b>89,620</b>	<b>85,809</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>2</b>
															175,429				4		

# SIGNING FOR RESURFACING PROJECTS

**LEGEND**

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



<b>SIGNING NOTES AND PLACEMENT PER DIRECTION</b>	1	 <small>W20-1 48" X 48"</small>	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.		
	2	 <small>W7-3aP 24" X 18"</small>	#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	 <small>SP 13107 48" X 48"</small>	- 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	 <small>SP 13106 48" X 48"</small>	- 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	 <small>G20-2 A 48" X 24"</small>	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.		

**NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:**

- 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
- 2) SUBDIVISION ROADS
- 3) DEAD END ROADS

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.

W20-1  
48" X 48"  
 PLACED 500' IN ADVANCE OF FLAGGER.

W20-7 A  
48" X 48"  
 PLACED 250' IN ADVANCE OF FLAGGER.

**MAPS LESS THAN 2 MILES**

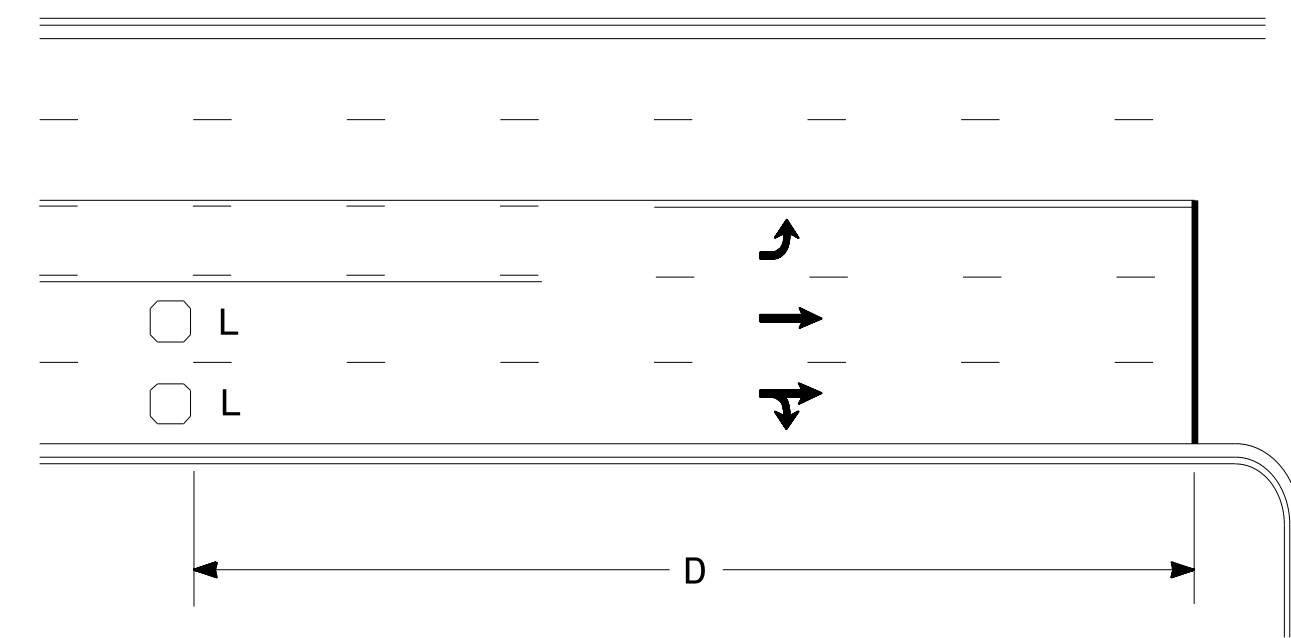
THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

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**

I6-DEC-2025, 22:48  
 \\dewberry-dewberry-root\local\offices\raleigh\Projects\5016574\NDB\_Assignments\2027\Person\_Dewberry\_V2027\_Person\_Submittal\Work\_Files\Resurfacing\_AdvWarn\_2Ln.dgn  
 ecar.gor AT PF4C66LV

### High Speed Detection (≥35 mph)

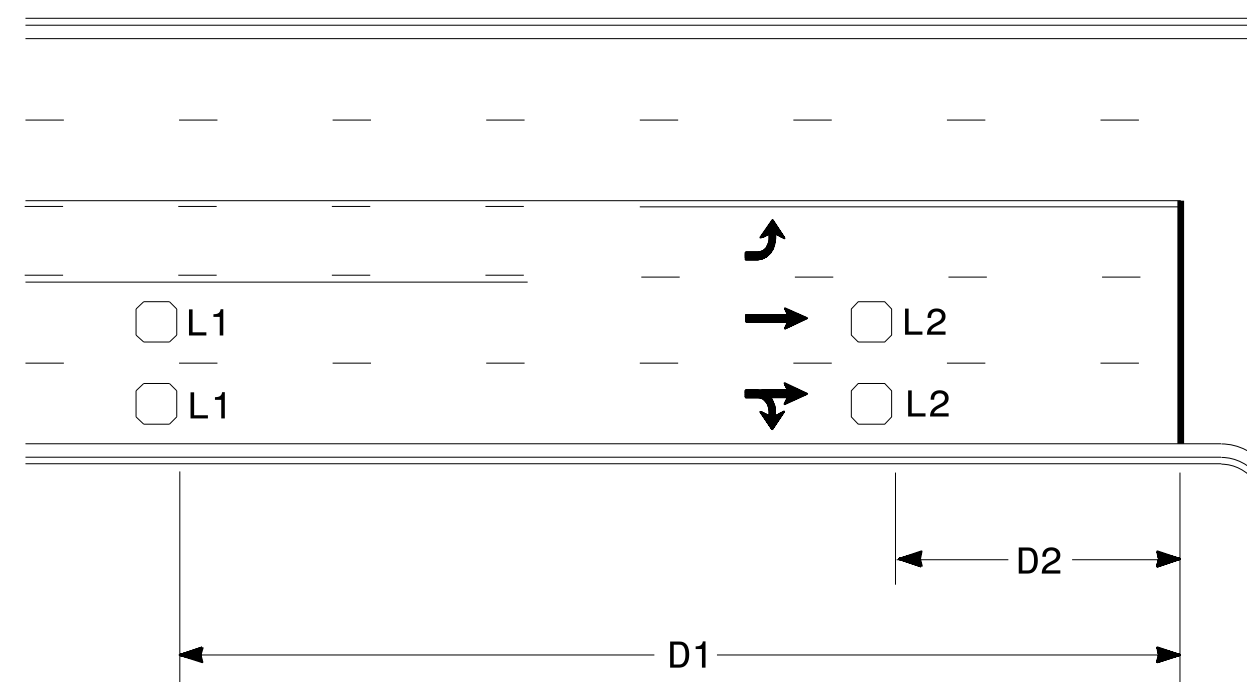


Speed Limit mph	D ft
35	200
40	250
45	300
50	355
55	420
60	475
65	550

L = 6ft X 6ft  
Wired separately

Volume Density Operation

OR



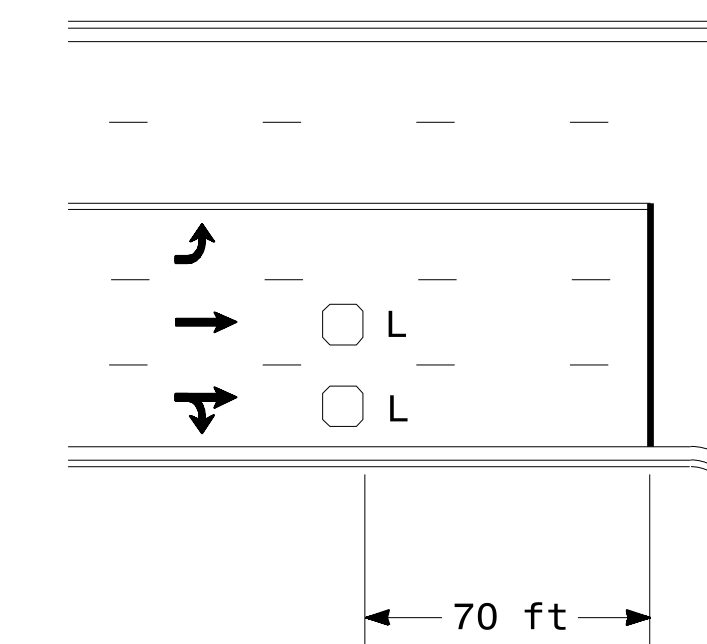
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110
60	475	120
65	550	130

L1 = 6ft X 6ft  
Wired in series

L2 = 6ft X 6ft  
Wired in series

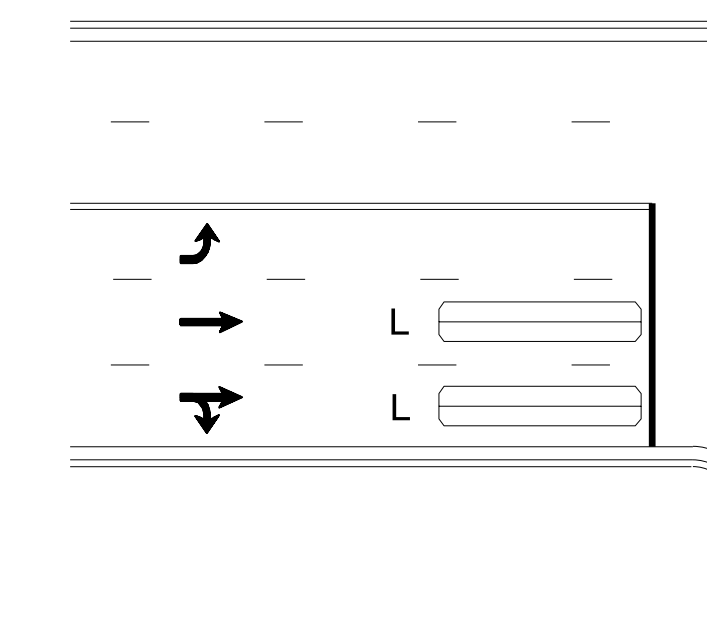
"Stretch" Operation

### Low Speed Detection (≤35 mph)



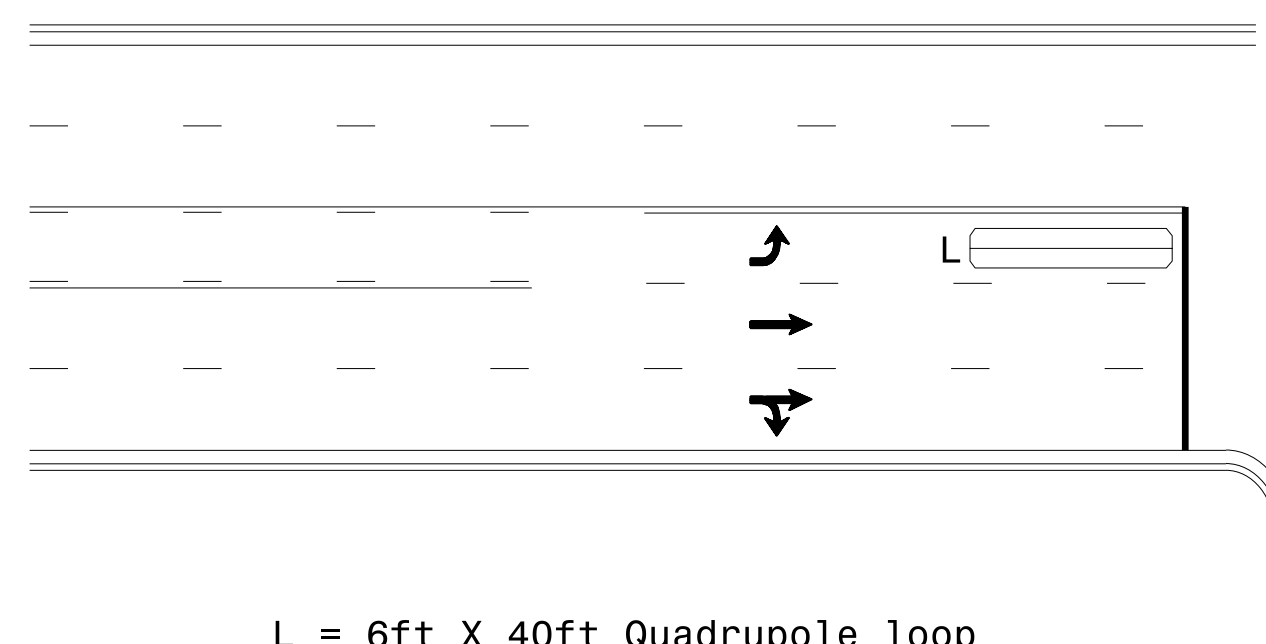
L = 6ft X 6ft  
Wired in series

OR



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

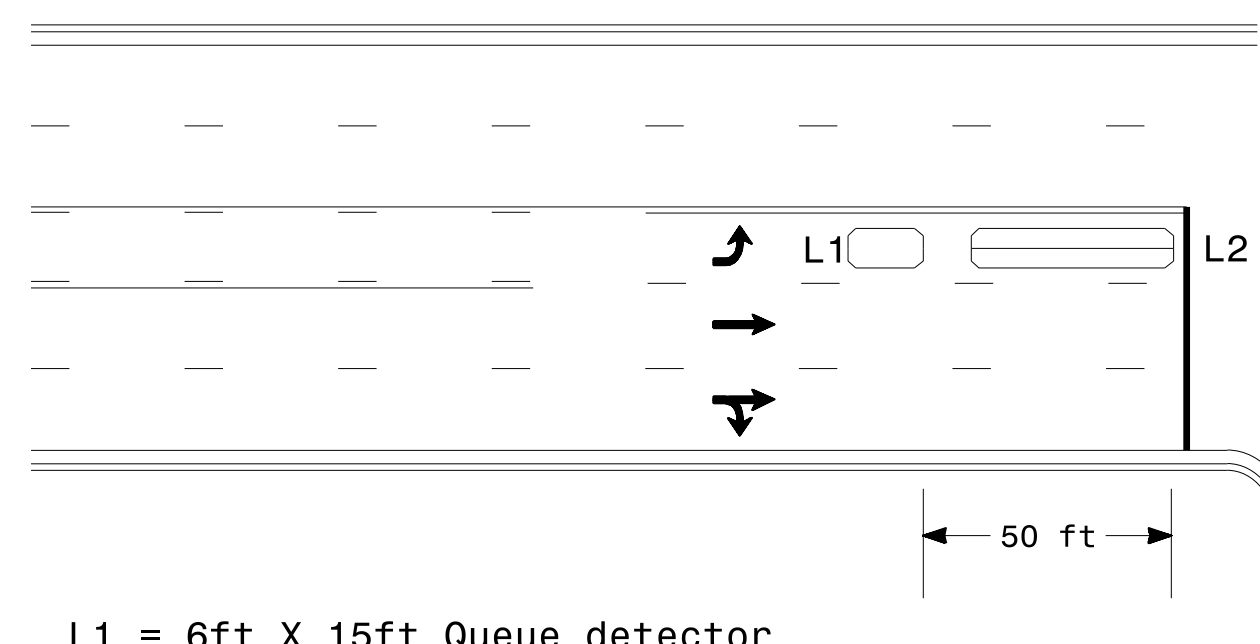
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

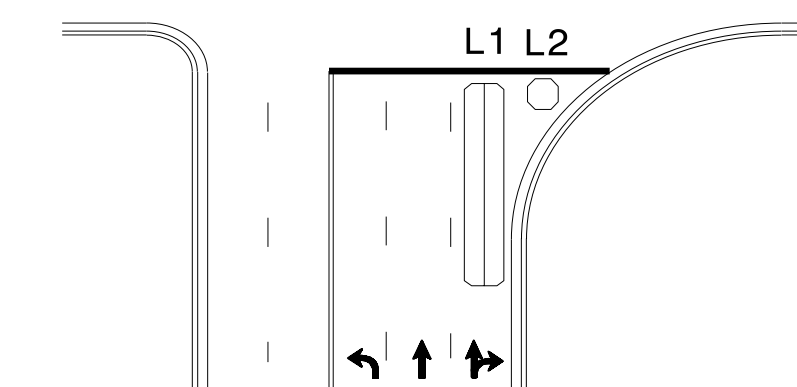
OR



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

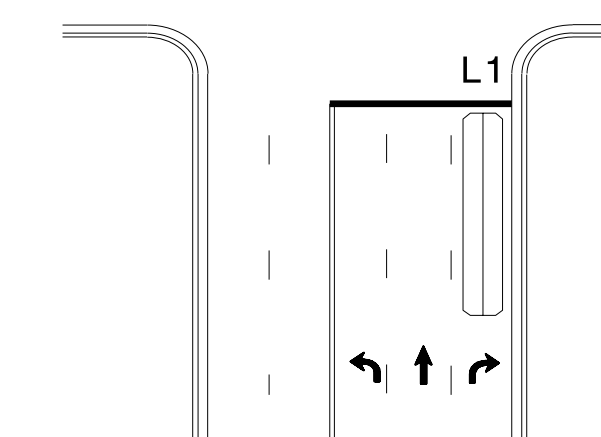
Queue Loop Detection

### Right Turn Lane Detection

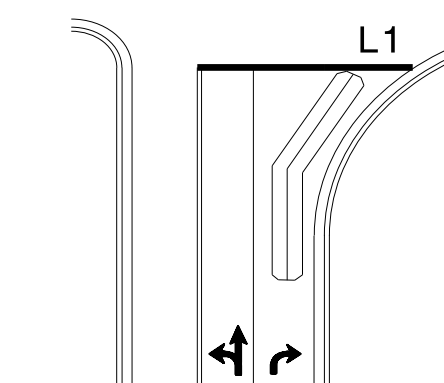


Shared Lane/  
Wide Radius Turn

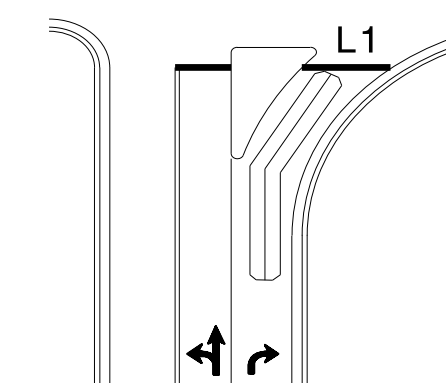
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

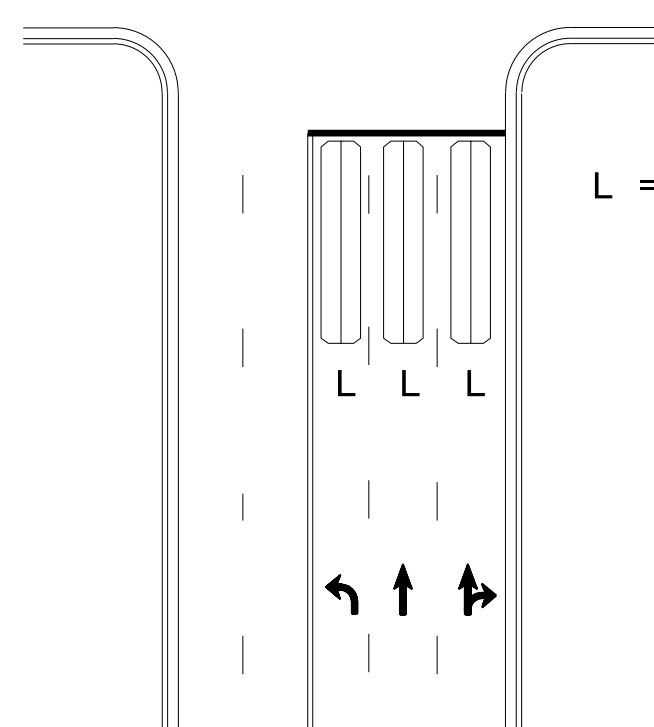


Wide Radius Turn



Channelized Turn

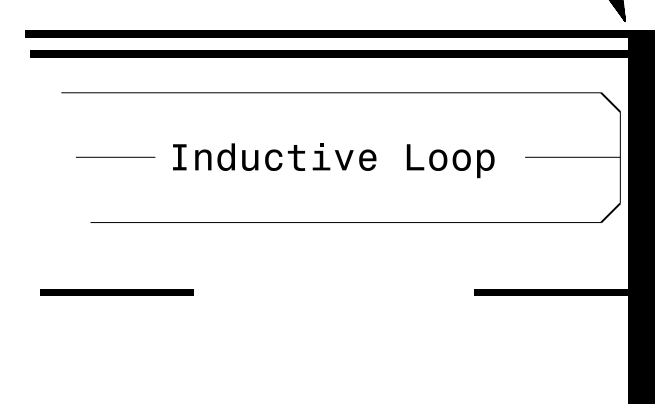
### Side Street Detection



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: TRANSPORTATION MOBILITY AND SAFETY SOLUTIONS, INC. SIGNAL DESIGN SECTION 750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>Typical Signal Loop Locations</p>		
	<p>SCALE N/A</p>	<p>PLAN DATE: September 2025 PREPARED BY: J.A. Lohr</p>	
<p>SIG. INVENTORY NO.</p>			<p>11/25/2025 DATE</p>