

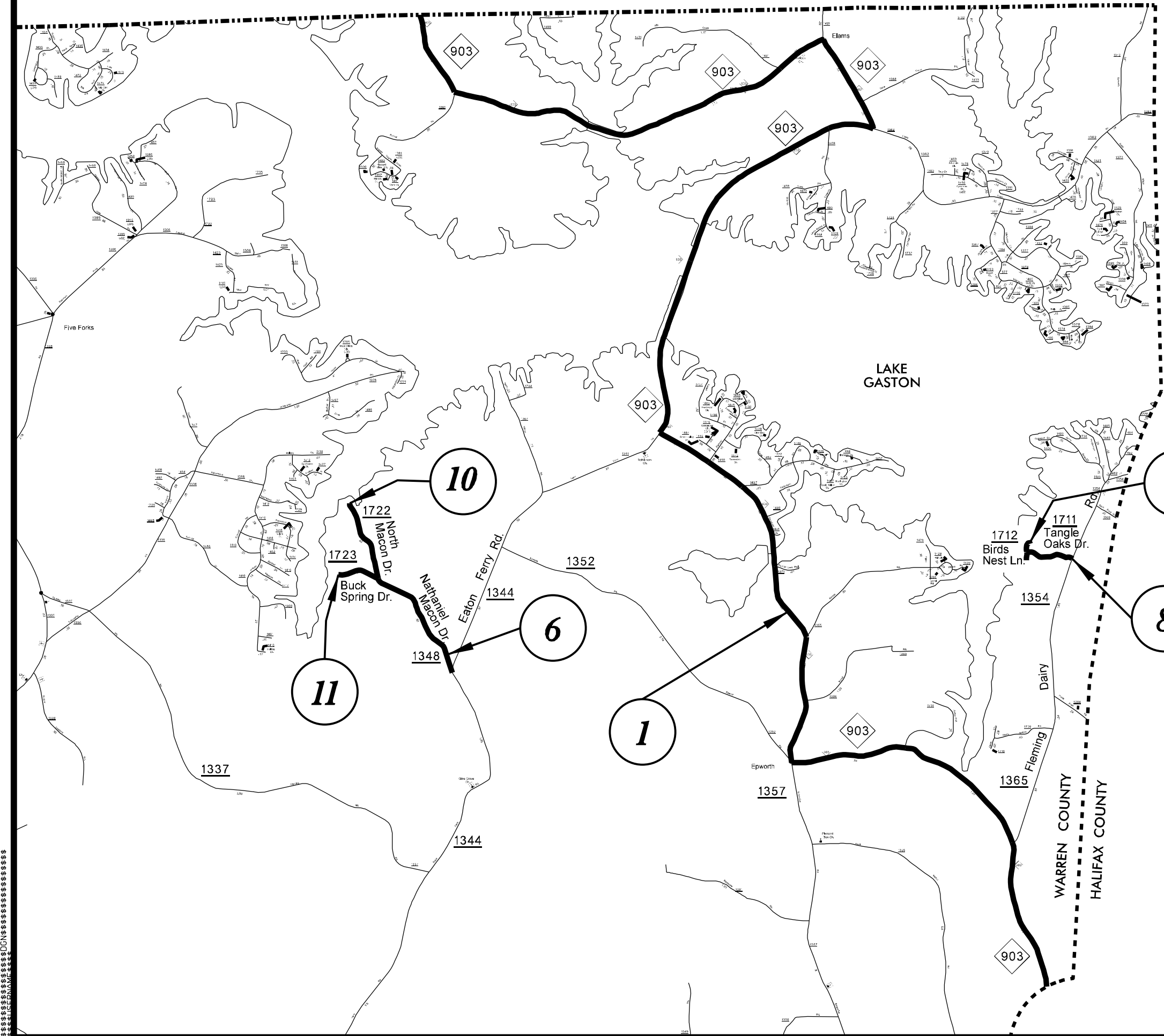
**2024 WARREN  
COUNTY RESURFACING**

5/14/23  
 C:\ACTIVE\DRAWINGS\2023\WARREN\2024 WARREN COUNTY RESURFACING.DWG  
 \$\$\$\$\$\$

VIRGINIA



5/14/23



**2024 WARREN  
COUNTY RESURFACING**



158

158

158

1510

1510

1510

1512

1513

7

43

**Bridge #89**

**Bridge #124**

LOCATION OF RADIUS WIDENING

**2024 WARREN COUNTY RESURFACING**

WARREN COUNTY  
HALIFAX COUNTY

Vaughan

Embro

Marmaduke

Reedy Creek

Grove Hill

Odel

Grove Hill Rd.

Cemetery Rd.

Hardy Rd.

Rd.

Matt

Nelson

Vaughan

5714799  
SECTION 15  
TOWNSHIP 15  
COUNTY 15  
STATE 15





Map 7 - Widen the radius at the northeast corner of the intersection of SR 1510 – Hardy Cemetery Rd and SR 1512 – Reedy Creek Rd. with 5.5" of B25.0C and 1.5 " of S9.5B.



# PAVEMENT SCHEDULE

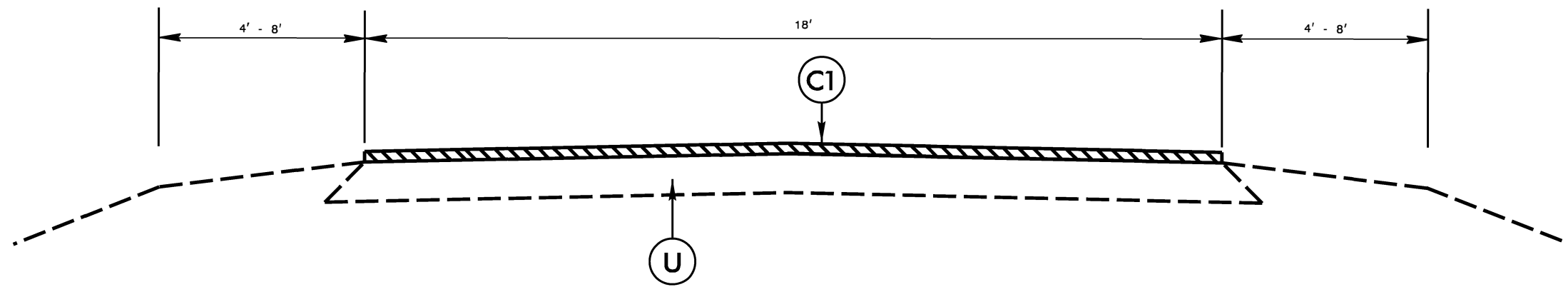
PROJECT REFERENCE NO.

SHEET NO.

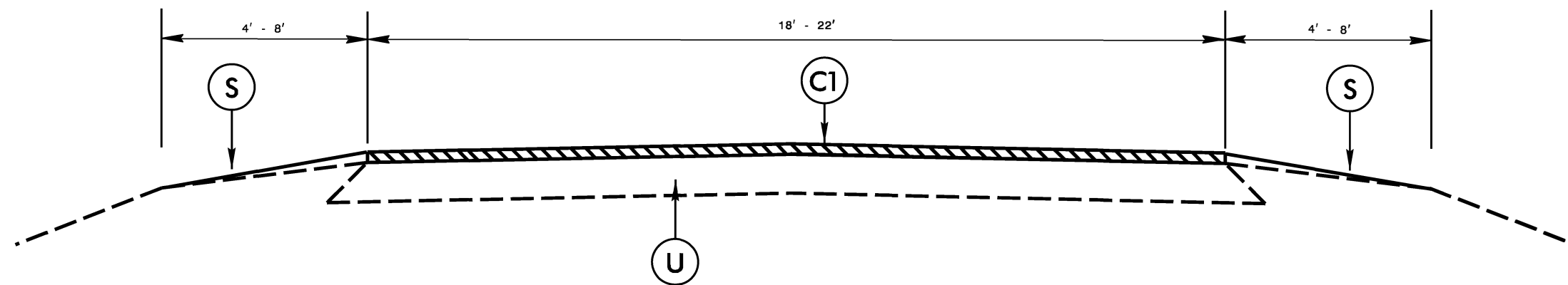
2023CPT.05.07.10931.1, etc.

5

C1	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
S	SHOULDER GRADING, ASB REQUIRED
U	EXISTING PAVEMENT
V	MILL ASPHALT PAVEMENT, 1 1/4" DEPTH



TYPICAL 1



TYPICAL 2

# PAVEMENT SCHEDULE

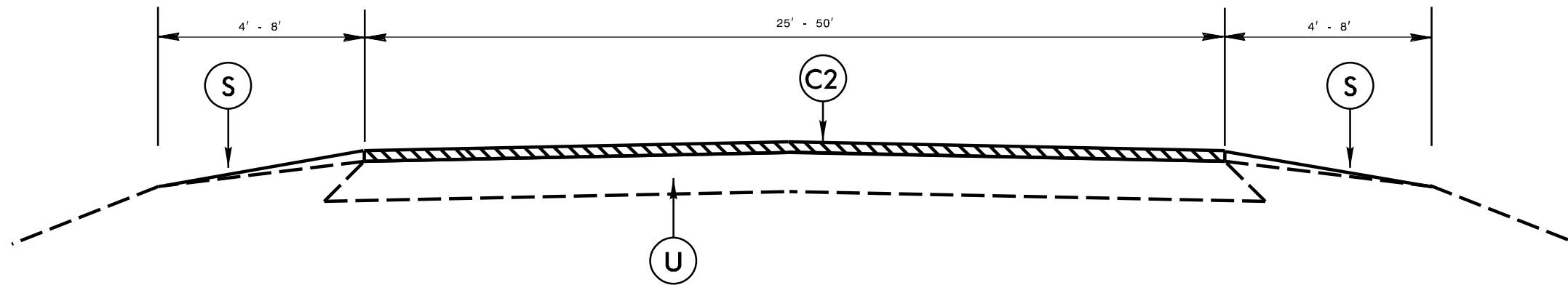
PROJECT REFERENCE NO.

SHEET NO.

2023CPT.05.07.10931.1, etc.

5

C1	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
S	SHOULDER GRADING, ASB REQUIRED
U	EXISTING PAVEMENT
V	MILL ASPHALT PAVEMENT, 1 1/4" DEPTH

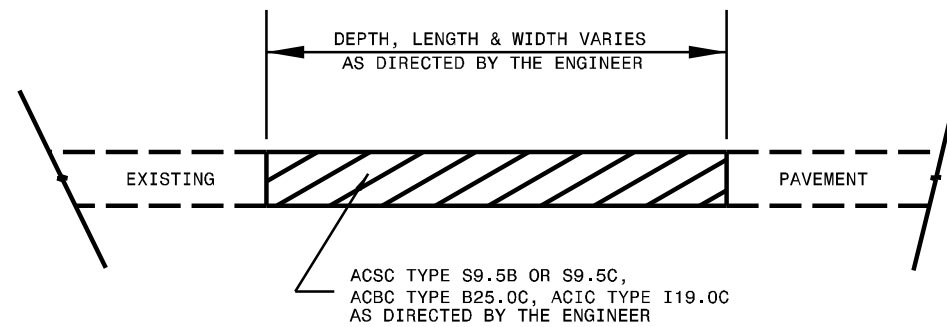


\* MILL 1.5" +/- ON MAP 7 BRIDGE #'S 89 AND 124 AS DIRECTED BY THE ENGINEER TO RESURFACE AND NOT ADD ANY ADDITIONAL WEIGHT ON THE BRIDGE

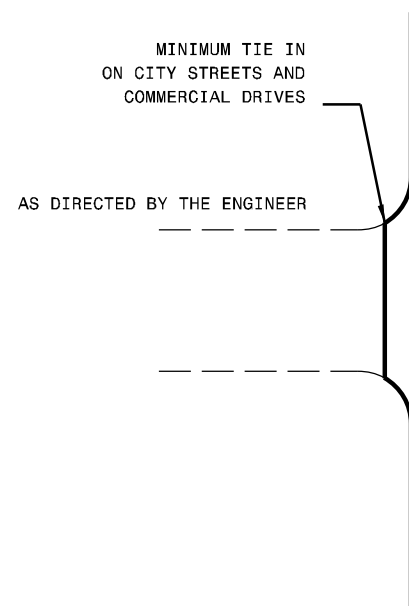
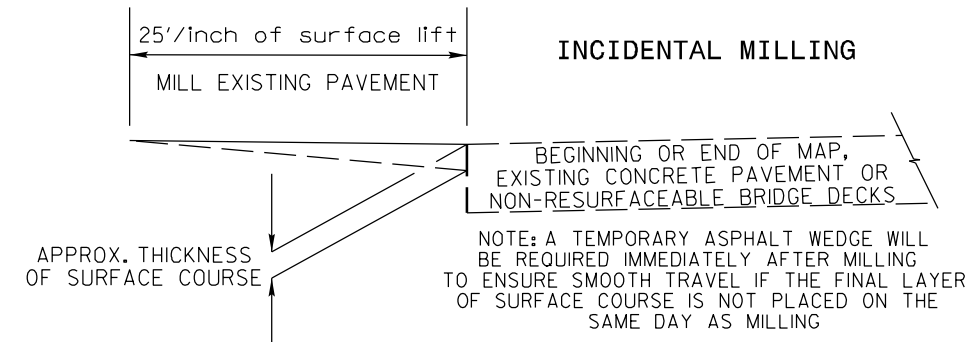
TYPICAL 3

NOTES

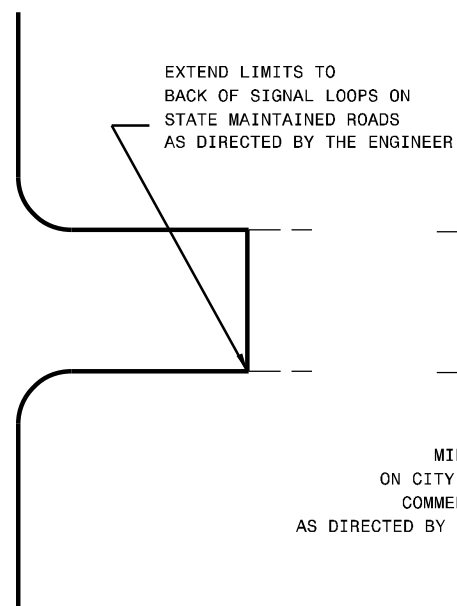
ALL UNPAVED S.R. ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT  
ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.  
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.  
BRIDGES TO BE RESURFACED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



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

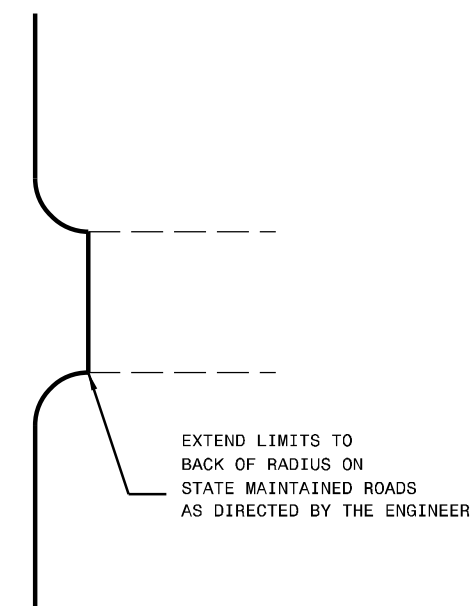


**DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES**



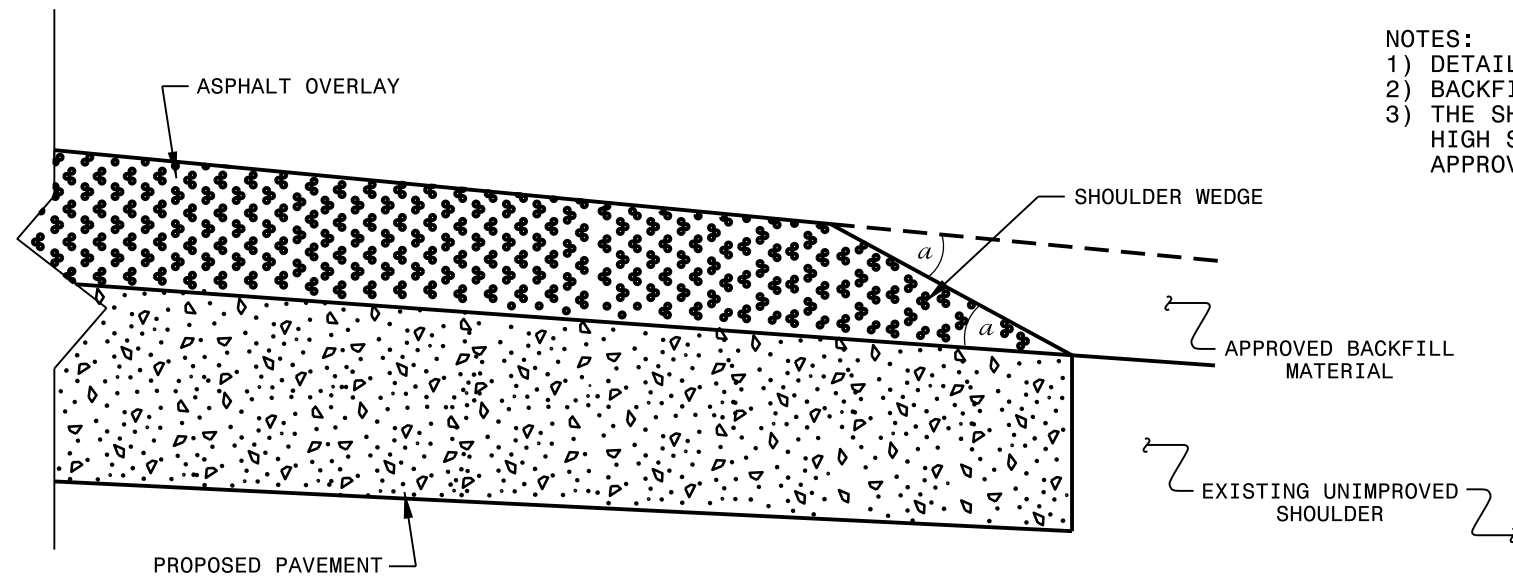
MINIMUM TIE IN ON CITY STREETS AND COMMERCIAL DRIVES AS DIRECTED BY THE ENGINEER

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



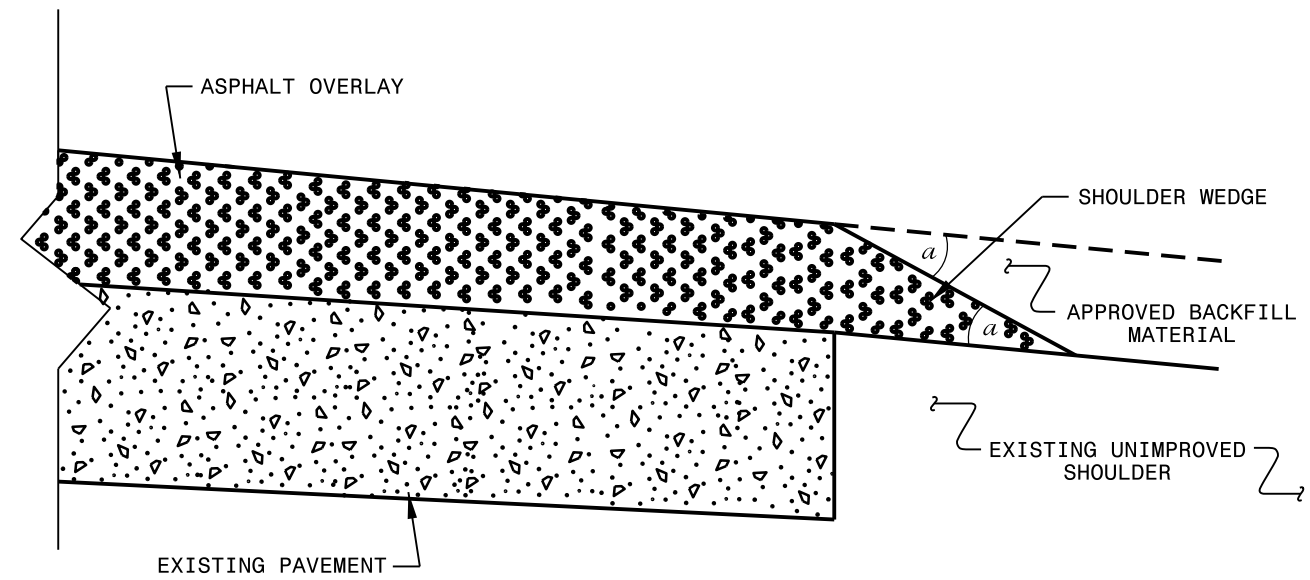
**NOTES:**

- 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.



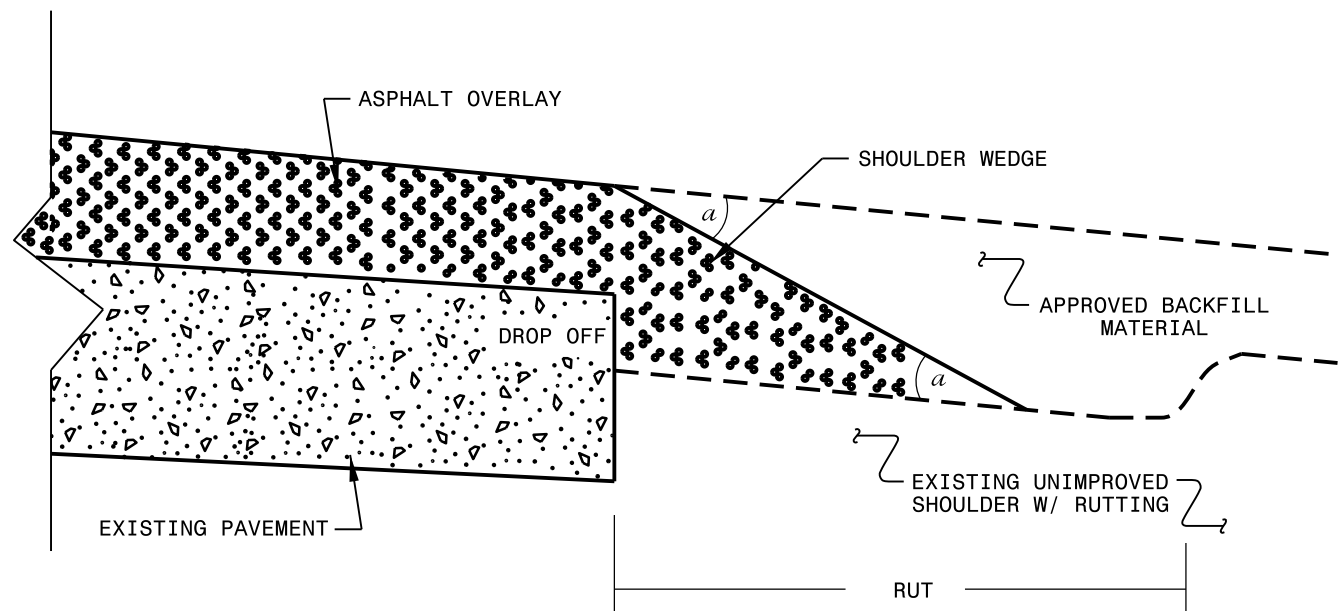
**SHOULDER WEDGE DETAIL**

(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		



PROJECT NO.	SHEET NO.	TOTAL NO.
2023CPT.05.07.10931.1, etc.	9	

**SUMMARY OF QUANTITIES**


PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	0264000000-E	1220000000-E	1260000000-E	1297000000-E	1308000000-E	1330000000-E	1491000000-E	1519000000-E	1575000000-E	1704000000-E	2738000000-E
											SHOULDER GRADING	INCIDENTAL STONE BASE	AGGREGATE SHOULDER BORROW	1½" MILLING	0" TO 1.5" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0C	SURFACE COURSE, S9.5B	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	GENERIC PAVING ITEM REMOVE 5" MONOLITHIC CONCRETE ISLAND
											MI	FT	SMI	TONS	TON	SY	SY	SY	TONS	TONS	TON
2023CPT.05.07.10931.1	Warren	1	NC 903	HALIFAX COUNTY TO VIRGINIA	3	2	NO	NO	13.218	22-50	26.44	661	2,443		82	1,730		15,571	1,044	10	
<b>TOTAL FOR PROJ NO. 2023CPT.05.07.10931.1</b>									<b>13.218</b>		<b>26.44</b>	<b>661</b>	<b>2,443</b>		<b>82</b>	<b>1,730</b>		<b>15,571</b>	<b>1,044</b>	<b>10</b>	
2023CPT.05.07.20931.1	Warren	2	SR 1109 - READ RD	BUS 158 TO SR 1107 - RIDGEWAY WARRENTON RD	2	2	NO	NO	0.988	20	1.98	49	183		450			864	79	448	
2023CPT.05.07.20931.1	Warren	3	SR 1309 - FRAZIER RD/OAKVILLE RD	SR 1306 - WISE FIVE FORKS RD TO US 158 BUS	2	2	NO	NO	5.343	22	10.69	267	987		653			5,117	343	10	
2023CPT.05.07.20931.1	Warren	4	SR 1326 - WARREN ST	SR 1332 - RED HILL LOOP RD TO SR 1305 - N MAIN ST	2	2	NO	NO	0.74	18	1.48	37	137		63			582	44	100	
2023CPT.05.07.20931.1	Warren	5	SR 1327 - BUTE ST	N HALL ST TO SR 1326 - WARREN ST	1	2	NO	NO	0.26	18		13			144			204	15	38	
2023CPT.05.07.20931.1	Warren	6	SR 1348 - NATHANIEL MACON DR	SR 1344 - EATON FERRY RD TO SR 1722 - NORTH MACON DR	2	2	NO	NO	0.881	20	1.76	44	163		70			750	57	135	
2023CPT.05.07.20931.1	Warren	7	SR 1510 - MAT NELSON RD/HARDY CEMETARY RD/GROVE HILL RD	US 158 TO SR 1513 - GROVE HILL RD	3	2	NO	NO	6.43	20	12.86	322	1,189	795		640	15	6,630	490	938	50
2023CPT.05.07.20931.1	Warren	8	SR 1711 - TANGLE OAKS DR	SR 1354 - FLEMING DAIRY RD TO SR 1712 - BIRDS NEST LN	2	2	NO	NO	0.351	20	0.70	18	65		129			328	22	10	
2023CPT.05.07.20931.1	Warren	9	SR 1712 - BIRD NEST LN	CUL-DE-SAC TO CUL-DE-SAC	2	2	NO	NO	0.152	18	0.30	8	28					157	11	10	
2023CPT.05.07.20931.1	Warren	10	SR 1722 - NORTH MACON DR	SR 1348 - NATHANIEL MACON DR TO CUL-DE-SAC	2	2	NO	NO	0.595	20	1.19	30	110		23			526	41	115	
2023CPT.05.07.20931.1	Warren	11	SR 1723 - BUCK SPRINGS RD	SR 1348 - NATHANIEL MACON DR TO END MAINTENANCE	2	2	NO	NO	0.306	20	0.61	15	57		100			268	19	30	
<b>TOTAL FOR PROJ NO. 2023CPT.05.07.20931.1</b>									<b>16.046</b>		<b>31.58</b>	<b>803</b>	<b>2,919</b>	<b>795</b>		<b>2,272</b>	<b>15</b>	<b>15,426</b>	<b>1,121</b>	<b>1,834</b>	<b>50</b>
<b>GRAND TOTAL</b>									<b>29.264</b>		<b>58.02</b>	<b>1,464</b>	<b>5,362</b>	<b>795</b>	<b>82</b>	<b>4,002</b>	<b>15</b>	<b>30,997</b>	<b>2,165</b>	<b>1,844</b>	<b>50</b>

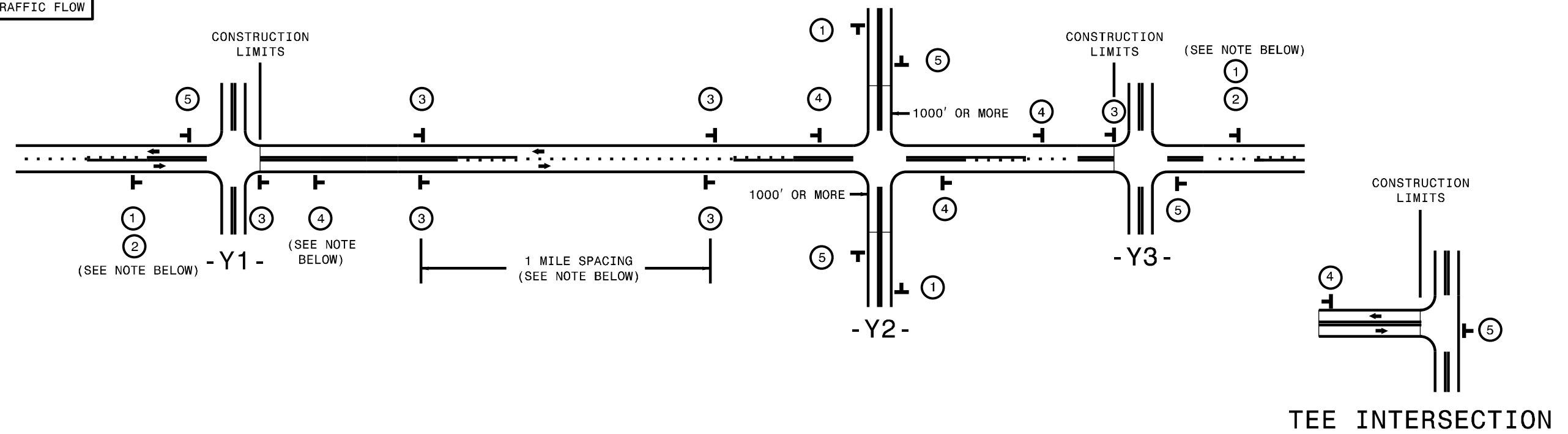
PROJECT NO.	SHEET NO.	TOTAL NO.
2023CPT.05.07.10931.1, etc.	10	

### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LENGTH	WIDTH	4413000000-E	4457000000-N	4685000000-E		4700000000-E	4709000000-E	4720000000-E			4725000000-E			4850000000-E	4890000000-E	4905100000-N
									WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	12" X 90 M YELLOW THERMO	24" X 90 M WHITE THERMO	THERMO MSG AHEAD 90 M	THERMO MSG STOP 90 M	THERMO MSG SCHOOL 90 M	THERMO STR ARROW 90 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	4" LINE REMOVAL	GENERIC MARKING ITEM HOT SPRAY THERMOPLASTIC PAVEMENT MARKING LINES, 4", 50 MIL	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS
							MI	FT	SF	LS	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA
2023CPT.05.07.10931.1	Warren	1	NC 903	HALIFAX COUNTY TO VIRGINIA	3	2	13.218	22-50	1,480	*	142,226	124,085	132	25				5	3	1	2,712	2,712	925
<b>TOTAL FOR PROJ NO. 2023CPT.05.07.10931.1</b>									1,480	1.00	142,226	124,085	132	25				5	3	1	2,712	2,712	925
											266,311							9					
2023CPT.05.07.20931.1	Warren	2	SR 1109 - READ RD	BUS 158 TO SR 1107 - RIDGEWAY WARRENTON RD	2	2	0.988	20	126		10,631	10,434											
2023CPT.05.07.20931.1	Warren	3	SR 1309 - FRAZIER RD/OAKVILLE RD	SR 1306 - WISE FIVE FORKS RD TO US 158 BUS	2	2	5.343	22	598		57,491	49,397			10	8							
2023CPT.05.07.20931.1	Warren	4	SR 1326 - WARREN ST	SR 1332 - RED HILL LOOP RD TO SR 1305 - N MAIN ST	2	2	0.74	18	83		7,814	7,814											
2023CPT.05.07.20931.1	Warren	5	SR 1327 - BUTE ST	N HALL ST TO SR 1326 - WARREN ST	1	2	0.26	18	29														
2023CPT.05.07.20931.1	Warren	6	SR 1348 - NATHANIEL MACON DR	SR 1344 - EATON FERRY RD TO SR 1722 - NORTH MACON DR	2	2	0.881	20	99	*													
2023CPT.05.07.20931.1	Warren	7	SR 1510 - MAT NELSON RD/HARDY CEMETARY RD/GROVE HILL RD	US 158 TO SR 1513 - GROVE HILL RD	3	2	6.43	20	721		69,187	67,900					6						
2023CPT.05.07.20931.1	Warren	8	SR 1711 - TANGLE OAKS DR	SR 1354 - FLEMING DAIRY RD TO SR 1712 - BIRDS NEST LN	2	2	0.351	20	39														
2023CPT.05.07.20931.1	Warren	9	SR 1712 - BIRD NEST LN	CUL-DE-SAC TO CUL-DE-SAC	2	2	0.152	18	17														
2023CPT.05.07.20931.1	Warren	10	SR 1722 - NORTH MACON DR	SR 1348 - NATHANIEL MACON DR TO CUL-DE-SAC	2	2	0.595	20	67														
2023CPT.05.07.20931.1	Warren	11	SR 1723 - BUCK SPRINGS RD	SR 1348 - NATHANIEL MACON DR TO END MAINTENANCE	2	2	0.306	20	34														
<b>TOTAL FOR PROJ NO. 2023CPT.05.07.20931.1</b>									1,813	1.00	145,123	135,545		90	10	8	6						
											280,668				24								







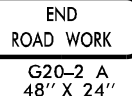
# SIGNING FOR RESURFACING PROJECTS

**LEGEND**  
 STATIONARY SIGN  
 DIRECTION OF TRAFFIC FLOW



## MAINLINE (-L-) SIGNING

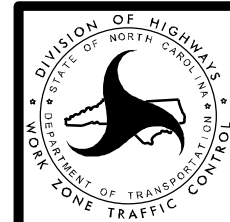
## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	 ①  ②	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. #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)	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.  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">                       W20-1 48" X 48"                      PLACED 500' IN ADVANCE OF FLAGGER.                 </div> <div style="text-align: center;">                       W20-7 A 48" X 48"                      PLACED 250' IN ADVANCE OF FLAGGER.                 </div> </div>
	 ③	- 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	- 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	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**

\$\$\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$DCN\$\$\$\$\$  
 \$\$\$USERNAME\$\$\$\$\$





MAP 7 - SR 1510 - MAT NELSON RD.

Layers

Google

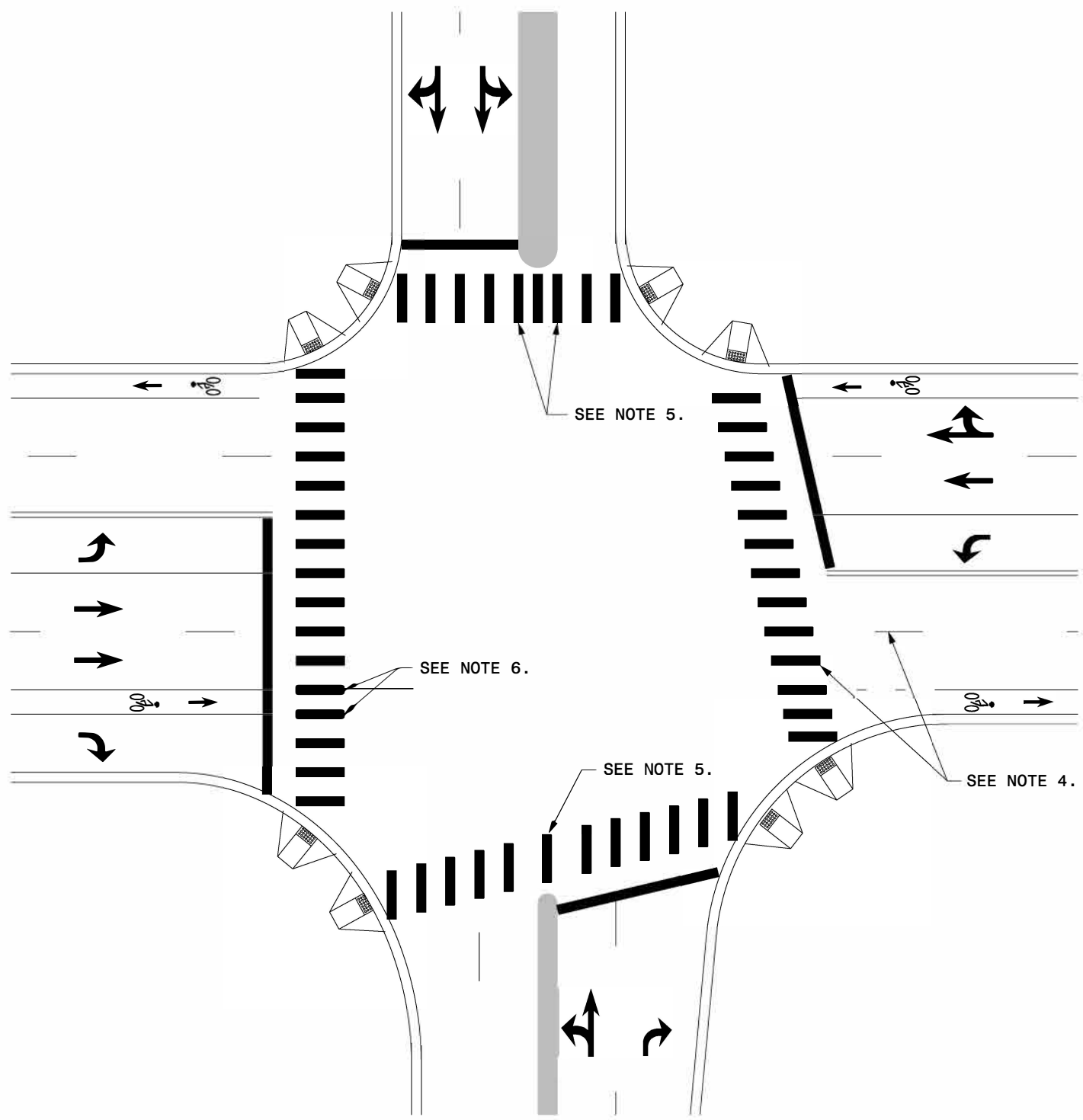
Map data ©2022, Map data ©2022, United States, Terms, Privacy, Send feedback, 20 ft



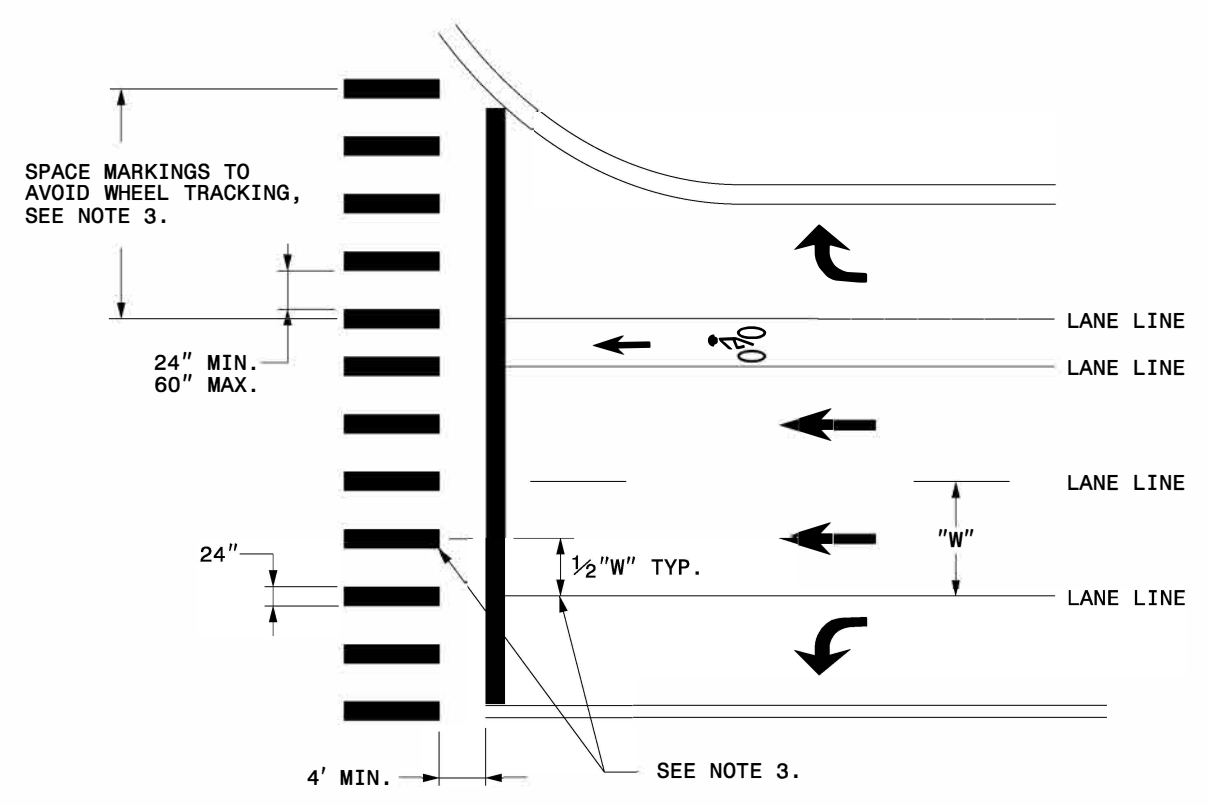
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

5-18

ENGLISH DETAIL DRAWING FOR  
**PAVEMENT MARKINGS**  
HI-VISIBILITY CROSSWALKS  
NO-TRACK MARKING GUIDANCE



CROSSWALK INTERSECTION DETAIL



CROSSWALK MARKING DETAIL

GENERAL NOTES:

- 1- THE GUIDANCE IN THIS DETAIL IS TO BE USED WHEN NO-TRACK SPACING OF HI-VISIBILITY MARKINGS IS REQUESTED.
- 2- USE THE GUIDANCE SHOWN ON THE ABOVE DETAILS IN CONJUNCTION WITH PAVEMENT MARKING GUIDANCE SHOWN ON ROADWAY STANDARD DRAWINGS 1205.01 AND 1205.07.
- 3- PLACE MARKINGS TO AVOID WHEELPATH OF VEHICLES. MARKINGS TYPICALLY WILL BE LOCATED CENTERED AT THE LANE LINES AND EDGE LINES WITH ONE ADDITIONAL MARKING CENTERED IN THE MIDDLE OF THE LANE. AT WIDE LANE WIDTHS DUE TO TAPERS AND LARGE RADII, LOCATE MARKINGS AT BEST SPACING TO AVOID WHEEL TRACKING. THE SPACE BETWEEN MARKINGS SHALL NOT BE LESS THAN 24 INCHES OR GREATER THAN 60 INCHES.
- 4- WHERE THE CROSSWALK IS SKEWED TO THE LANE LINES, THE MARKINGS SHOULD BE PARALLEL TO THE LANE LINES.
- 5- PLACE MARKINGS ON BOTH EDGES OF THE NOSE OF A MEDIAN. FOR NARROW MEDIANS LESS THAN 4 FEET, A SINGLE MARKING MAY BE USED. FOR WIDE MEDIANS, INSTALL ADDITIONAL MARKINGS IN THE MEDIAN AREA. THE SPACE BETWEEN THE MARKINGS SHALL NOT TO BE LESS THAN 24 INCHES OR GREATER THAN 60 INCHES.
- 6- LOCATE MARKINGS CENTERED ON BICYCLE LANE LINES. MARKINGS SHALL NOT BE LOCATED IN THE CENTER OF THE BICYCLE PATH.

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

5-18

ENGLISH DETAIL DRAWING FOR  
**PAVEMENT MARKINGS**  
HI-VISIBILITY CROSSWALKS  
NO-TRACK MARKING GUIDANCE