

DM00436  
 Buncombe  
 County Contract Resurfacing  
 2024CPT.13.06.20111  
 Sheet 1

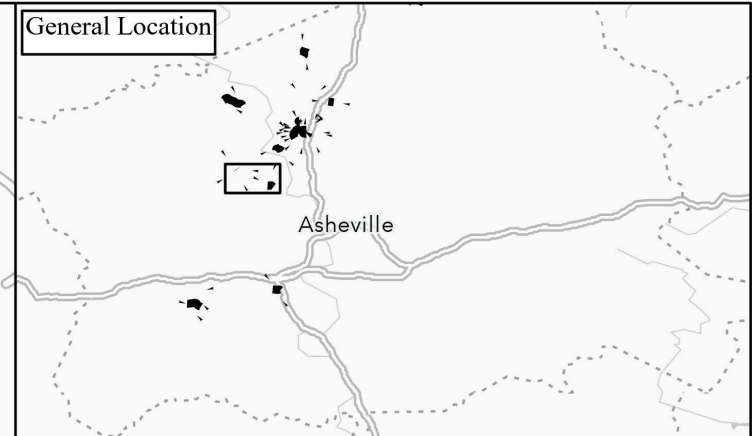


Map #	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
1	SR 1153 (OLD PISGAH HIGHWAY)	US 19	DEAD END	0.2
21	SR 3426 (MCINTOSH ROAD)	SR 3431 (POND ROAD)	SR 1224 (WEST OAKVIEW ROAD)	0.66
22	SR 3447 (QUEEN ROAD)	SR 3446 (ENKA LAKE ROAD)	NC 151	1.02

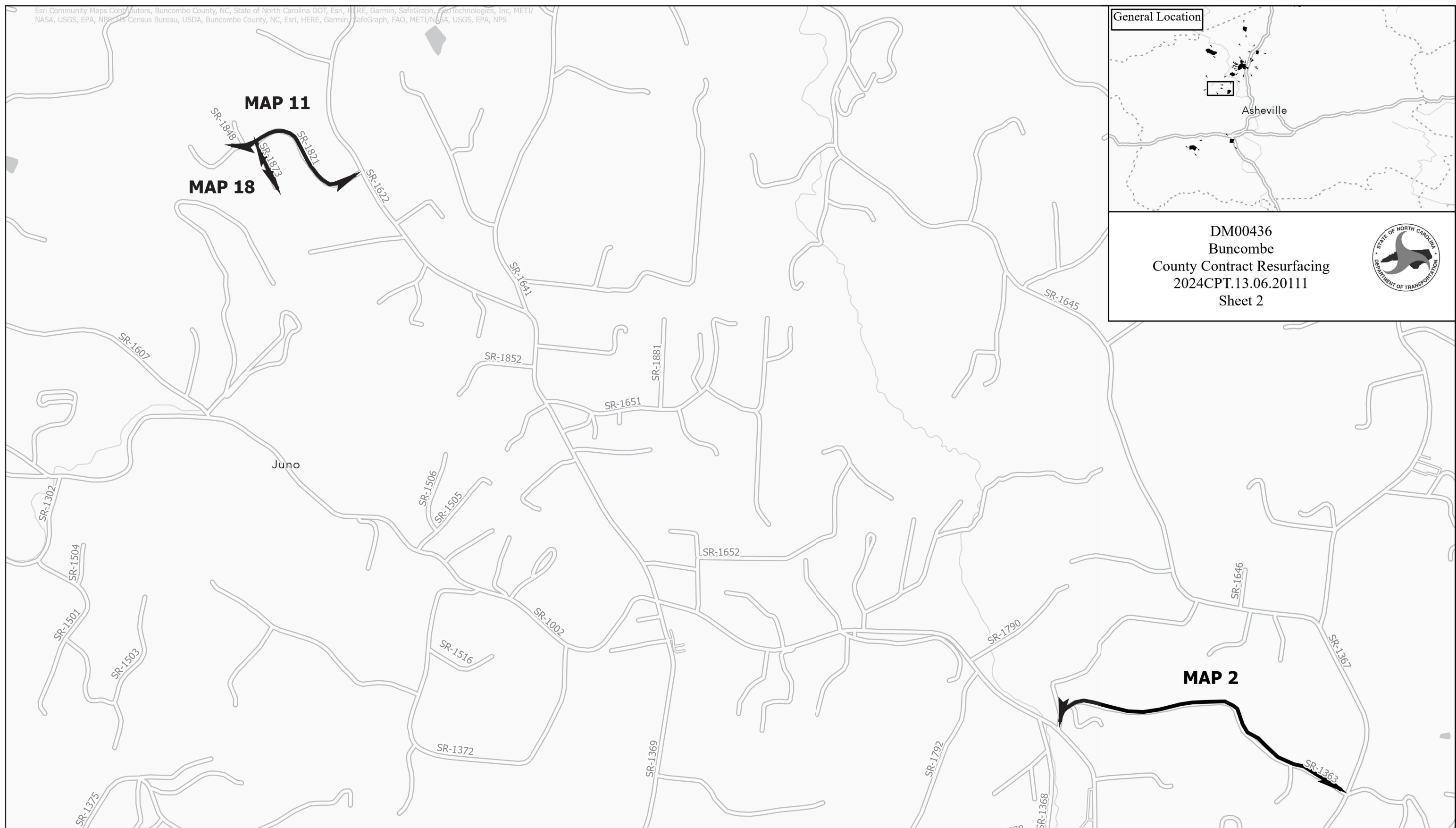
0 0.13 0.25 Miles





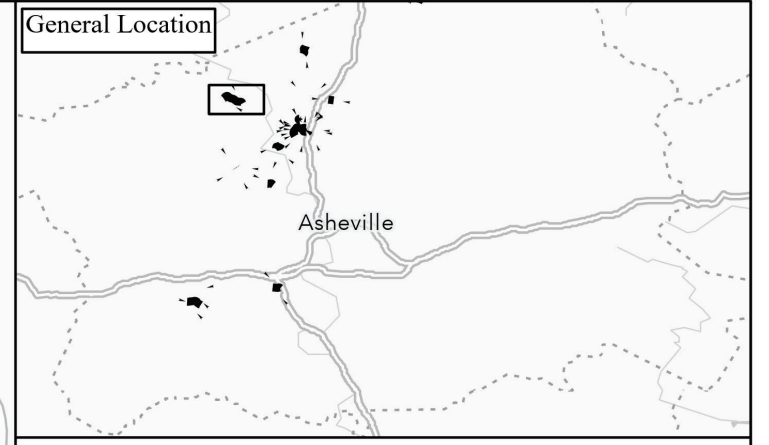
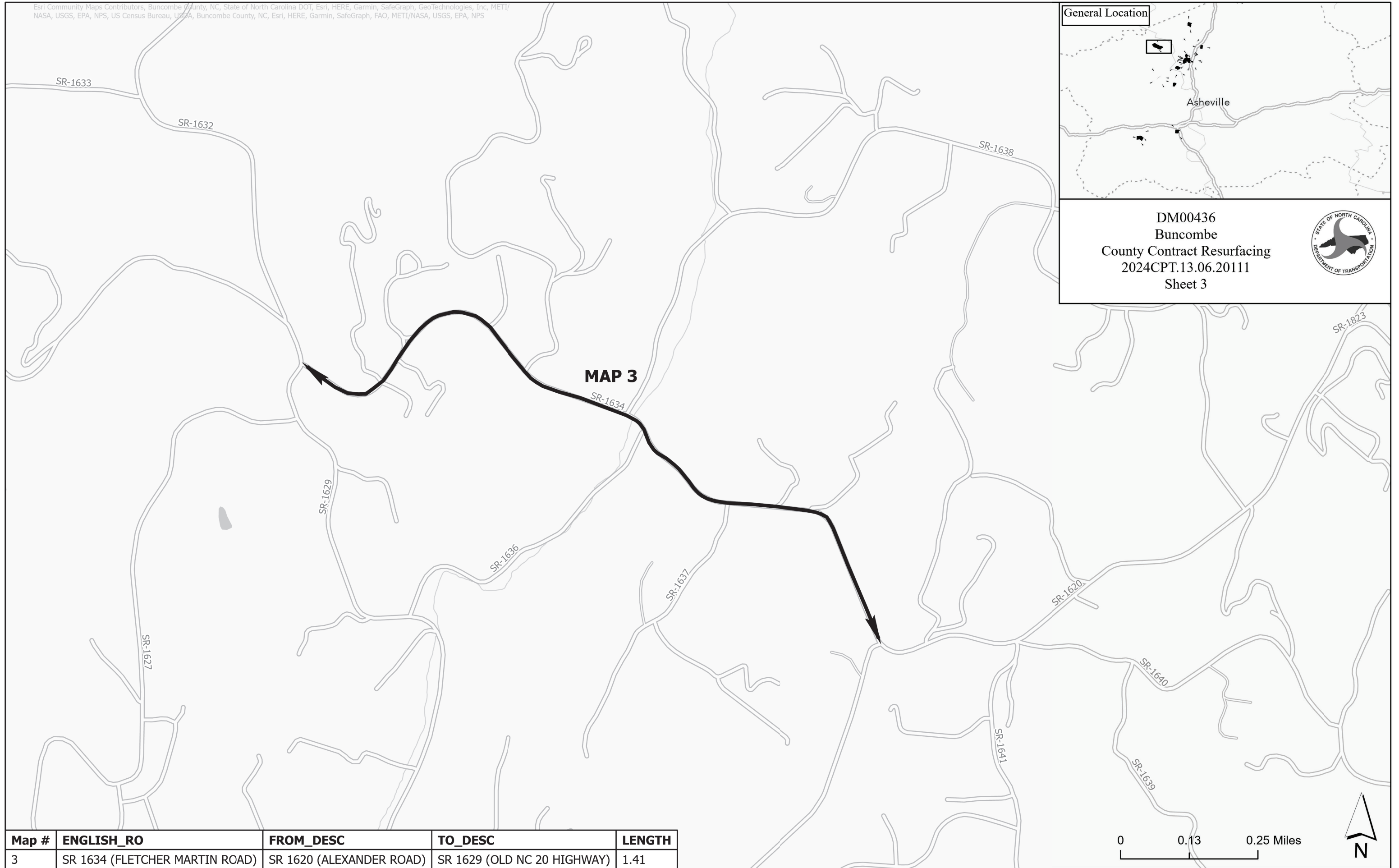


**DM00436**  
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**2024CPT.13.06.20111**  
**Sheet 2**




Map #	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
2	SR 1363 (OLD LEICESTER ROAD)	SR 1002 (OLD LEICESTER HIGHWAY)	SR 1367 (OLIVETTE ROAD)	0.58
11	SR 1821 (SUN VALLEY DRIVE)	SR 1622 (OLD NC 20)	SR 1848 (DIX CREEK LANE)	0.28
18	SR 1873 (SUN VALLEY COURT)	SR 1821 (SUN VALLEY DRIVE)	DEAD END	0.09



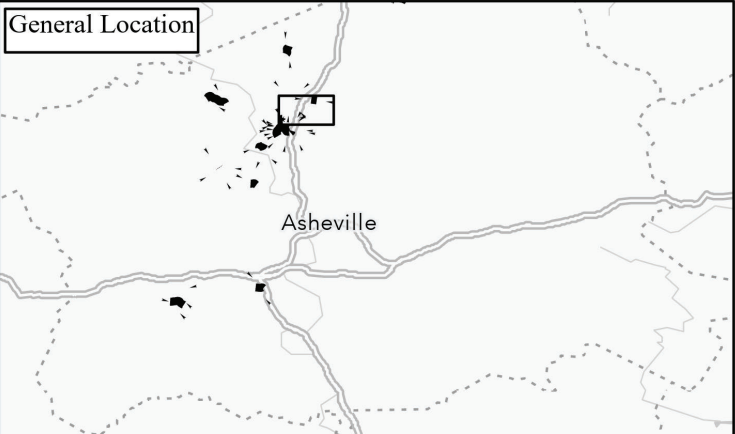
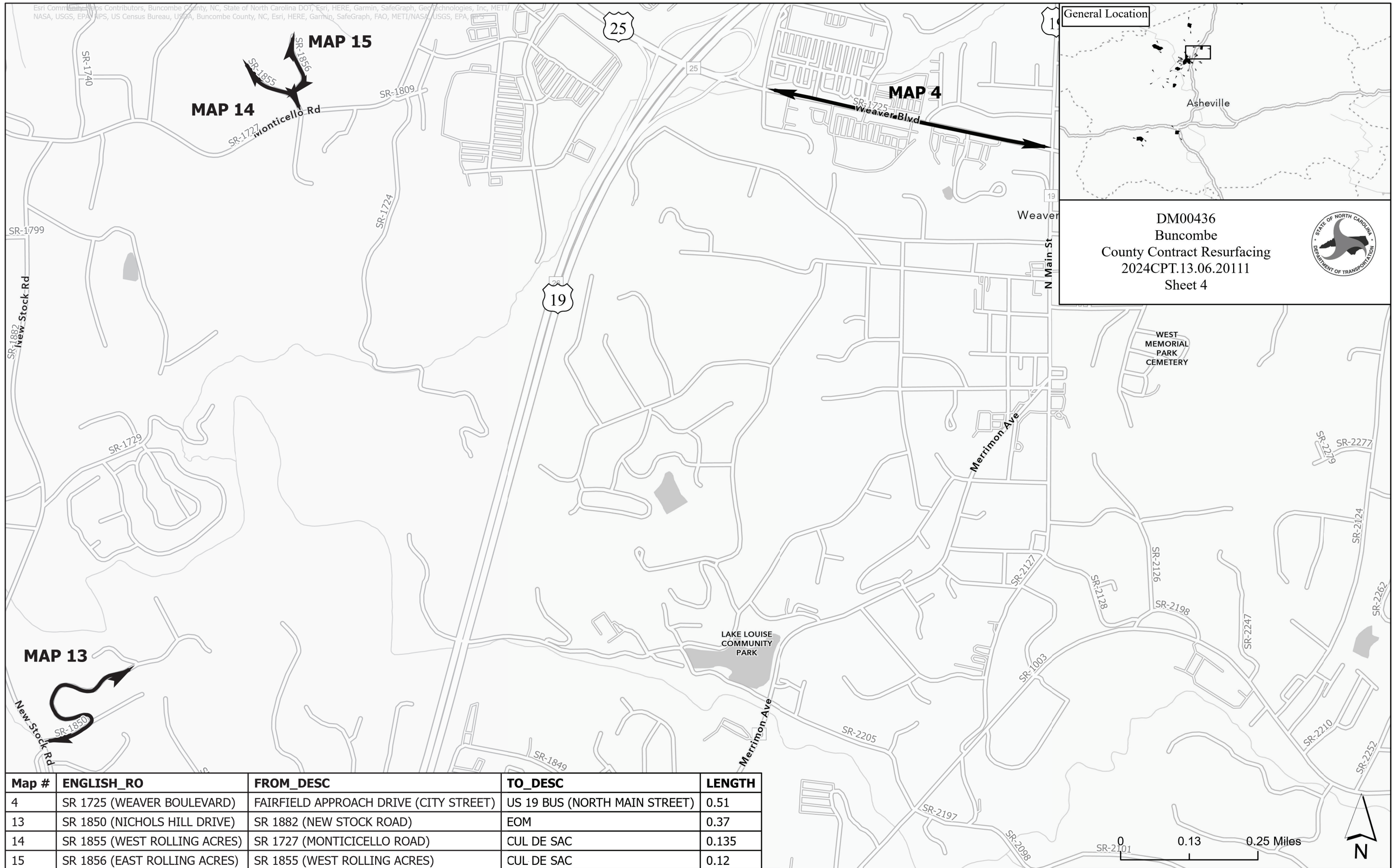


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 Sheet 3




Map #	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
3	SR 1634 (FLETCHER MARTIN ROAD)	SR 1620 (ALEXANDER ROAD)	SR 1629 (OLD NC 20 HIGHWAY)	1.41

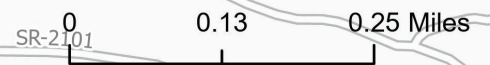




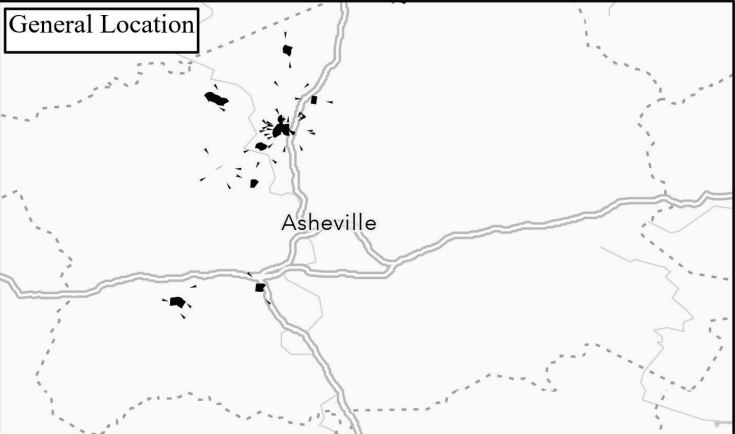
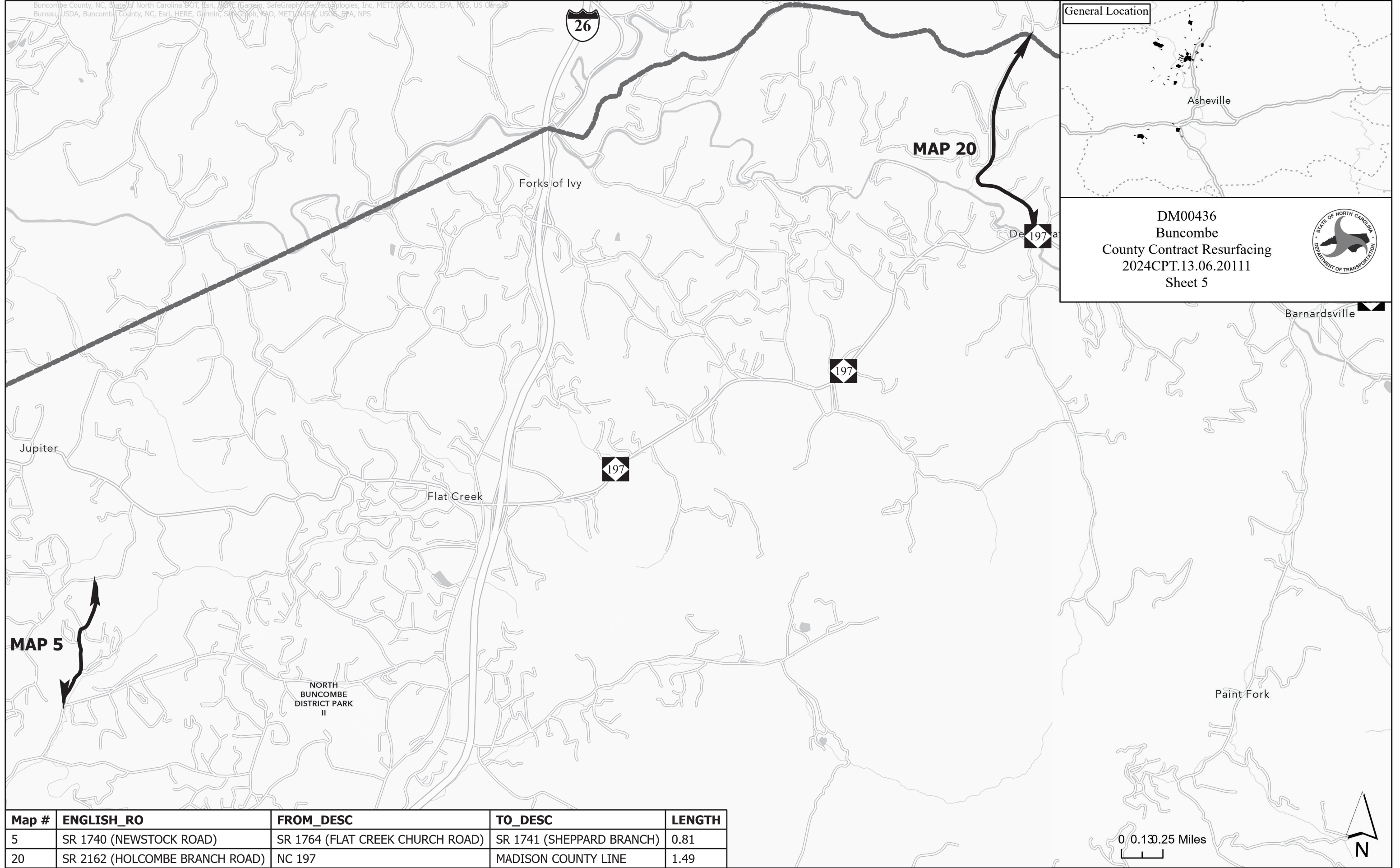
DM00436  
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 Sheet 4



Map #	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
4	SR 1725 (WEAVER BOULEVARD)	FAIRFIELD APPROACH DRIVE (CITY STREET)	US 19 BUS (NORTH MAIN STREET)	0.51
13	SR 1850 (NICHOLS HILL DRIVE)	SR 1882 (NEW STOCK ROAD)	EOM	0.37
14	SR 1855 (WEST ROLLING ACRES)	SR 1727 (MONTICICELLO ROAD)	CUL DE SAC	0.135
15	SR 1856 (EAST ROLLING ACRES)	SR 1855 (WEST ROLLING ACRES)	CUL DE SAC	0.12







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 Sheet 5

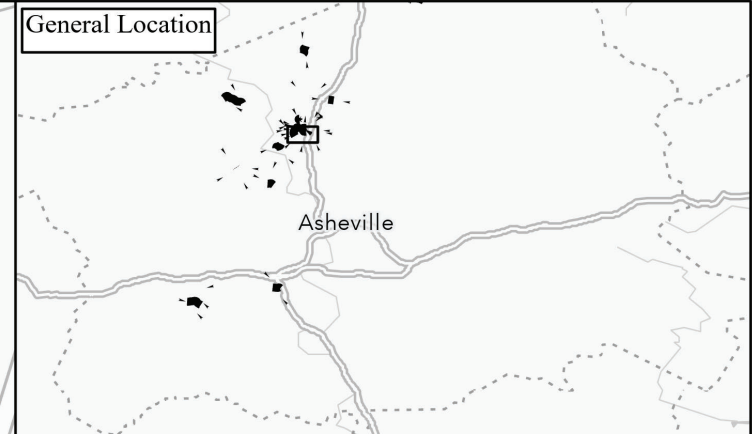
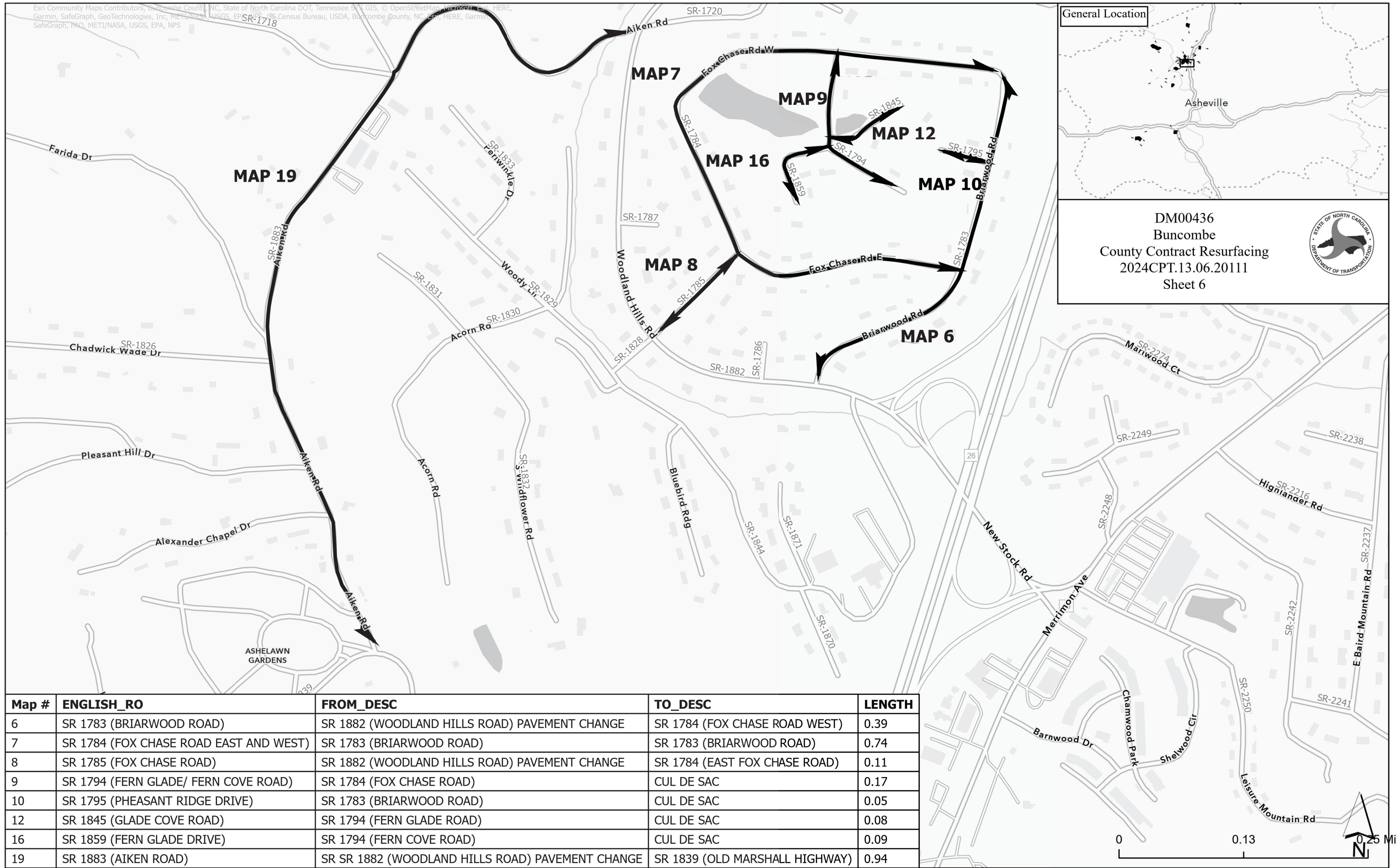


Map #	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
5	SR 1740 (NEWSTOCK ROAD)	SR 1764 (FLAT CREEK CHURCH ROAD)	SR 1741 (SHEPPARD BRANCH)	0.81
20	SR 2162 (HOLCOMBE BRANCH ROAD)	NC 197	MADISON COUNTY LINE	1.49


0 0.130.25 Miles



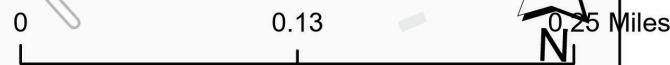
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 County Contract Resurfacing  
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 Sheet 6

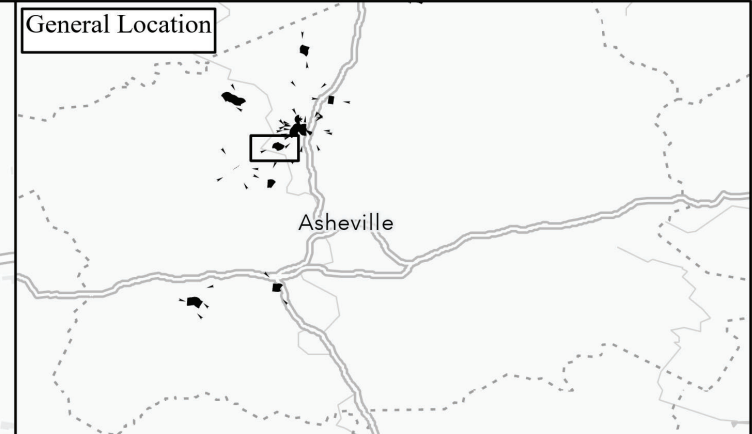


Map #	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
6	SR 1783 (BRIARWOOD ROAD)	SR 1882 (WOODLAND HILLS ROAD) PAVEMENT CHANGE	SR 1784 (FOX CHASE ROAD WEST)	0.39
7	SR 1784 (FOX CHASE ROAD EAST AND WEST)	SR 1783 (BRIARWOOD ROAD)	SR 1783 (BRIARWOOD ROAD)	0.74
8	SR 1785 (FOX CHASE ROAD)	SR 1882 (WOODLAND HILLS ROAD) PAVEMENT CHANGE	SR 1784 (EAST FOX CHASE ROAD)	0.11
9	SR 1794 (FERN GLADE/ FERN COVE ROAD)	SR 1784 (FOX CHASE ROAD)	CUL DE SAC	0.17
10	SR 1795 (PHEASANT RIDGE DRIVE)	SR 1783 (BRIARWOOD ROAD)	CUL DE SAC	0.05
12	SR 1845 (GLADE COVE ROAD)	SR 1794 (FERN GLADE ROAD)	CUL DE SAC	0.08
16	SR 1859 (FERN GLADE DRIVE)	SR 1794 (FERN COVE ROAD)	CUL DE SAC	0.09
19	SR 1883 (AIKEN ROAD)	SR SR 1882 (WOODLAND HILLS ROAD) PAVEMENT CHANGE	SR 1839 (OLD MARSHALL HIGHWAY)	0.94

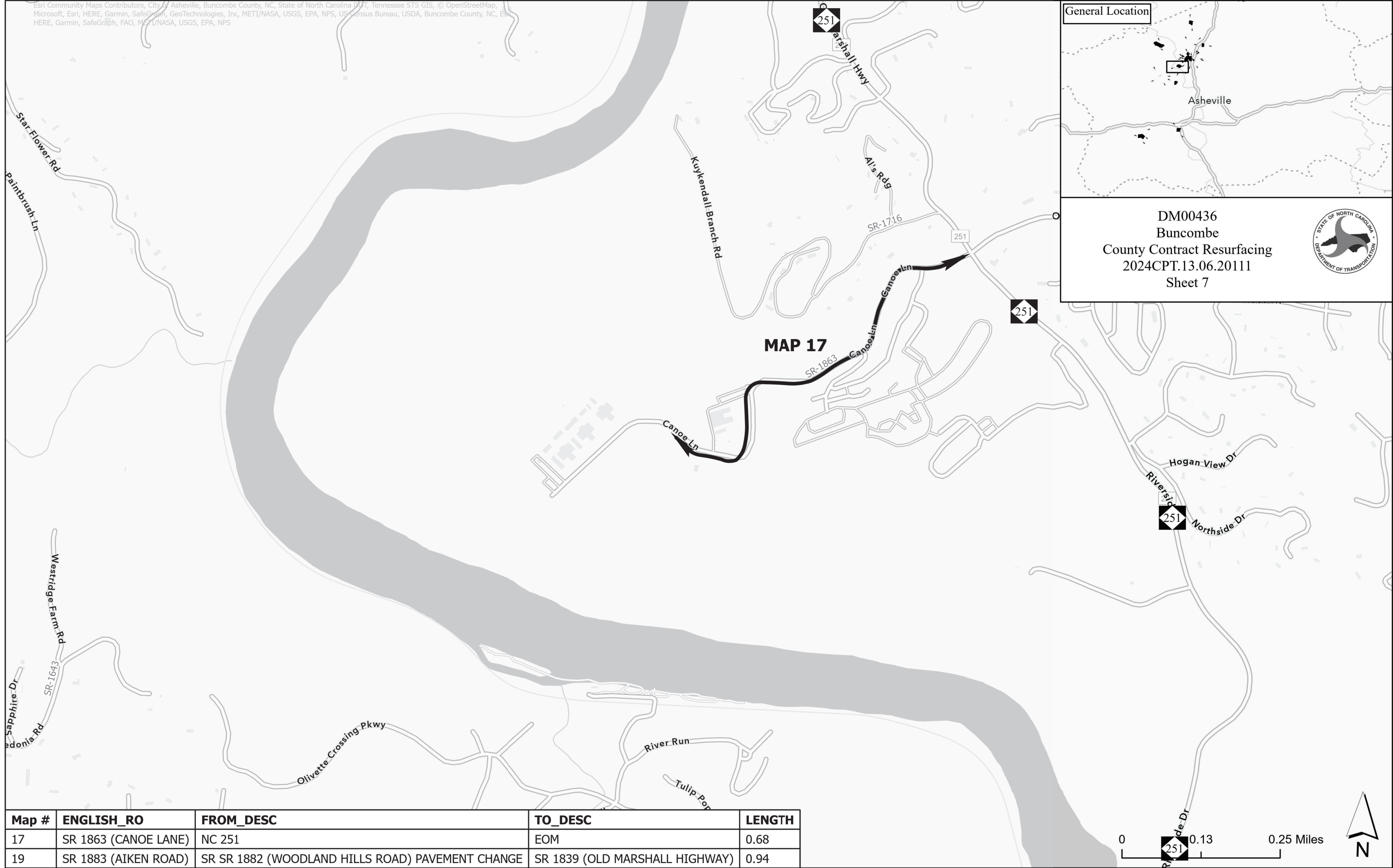




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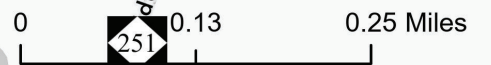


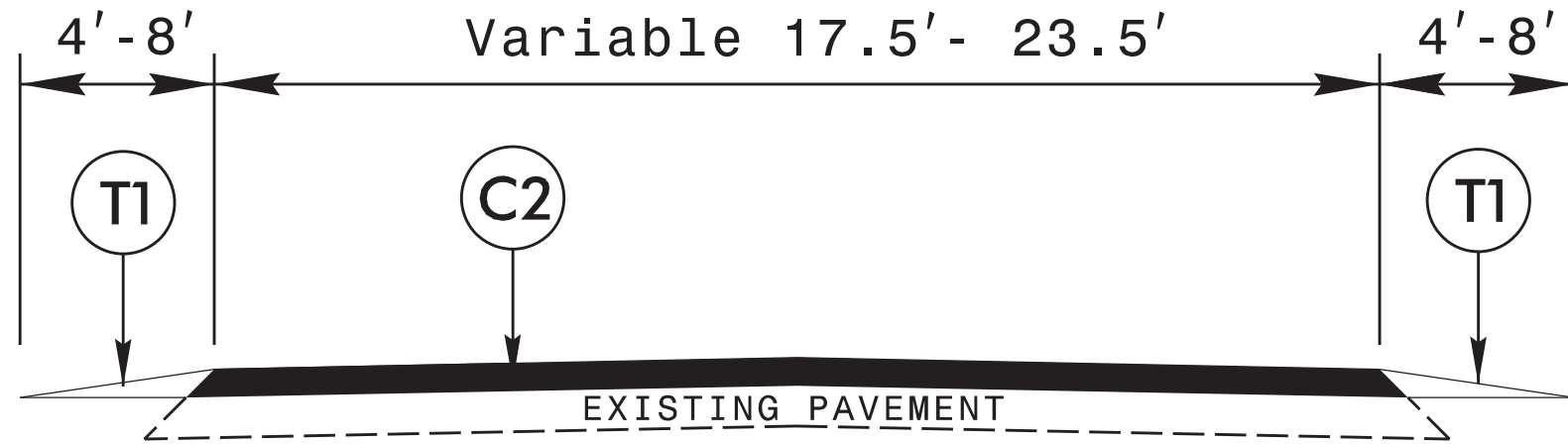
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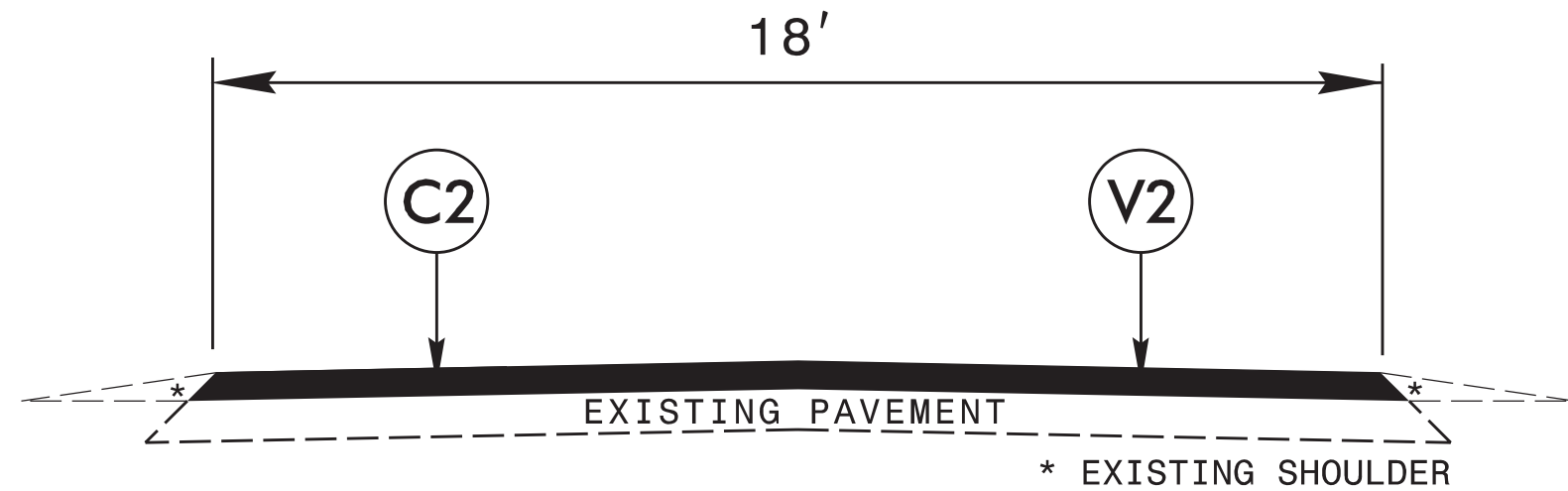
MAP 17

Map #	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
17	SR 1863 (CANOE LANE)	NC 251	EOM	0.68
19	SR 1883 (AIKEN ROAD)	SR SR 1882 (WOODLAND HILLS ROAD) PAVEMENT CHANGE	SR 1839 (OLD MARSHALL HIGHWAY)	0.94





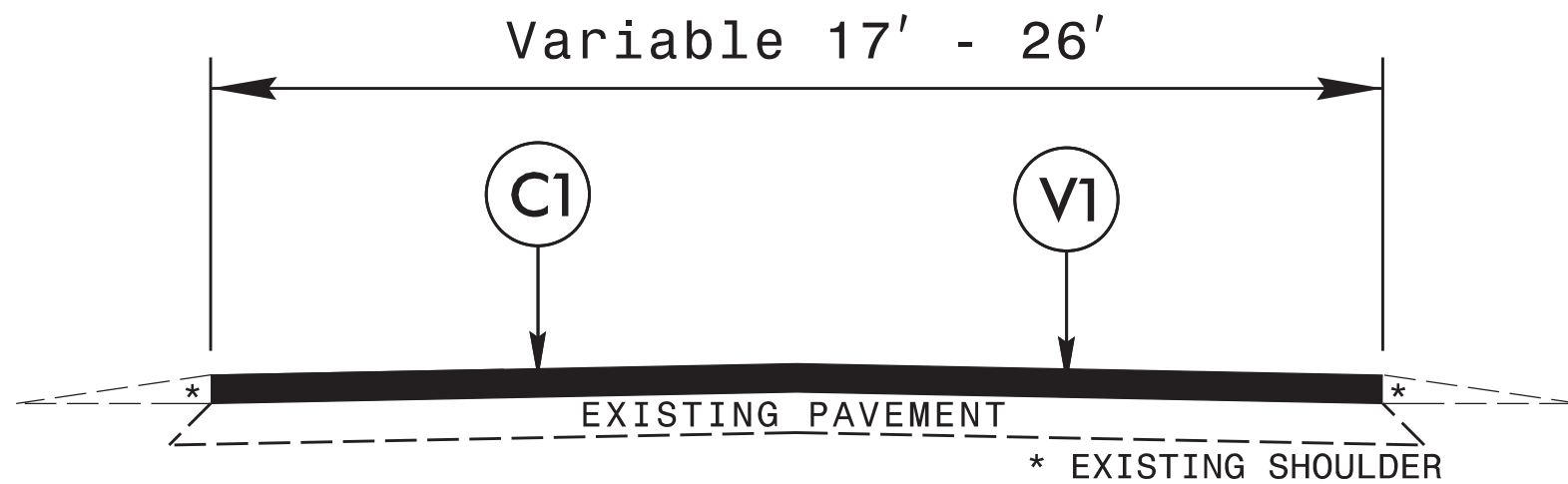
**TYPICAL SECTION #1**



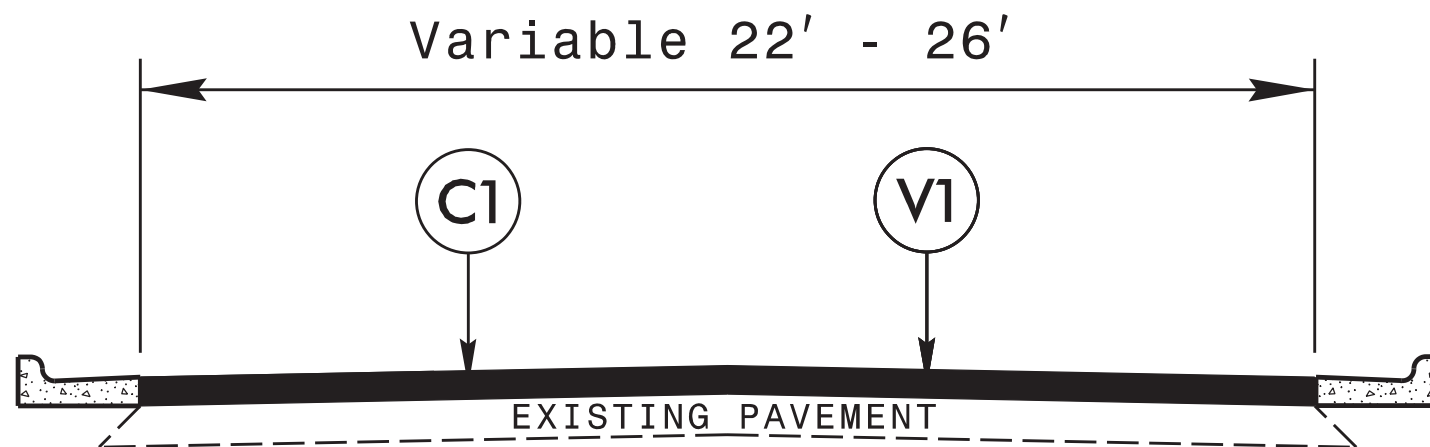
**TYPICAL SECTION #2**

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
E1	PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V3	INCIDENTAL MILLING





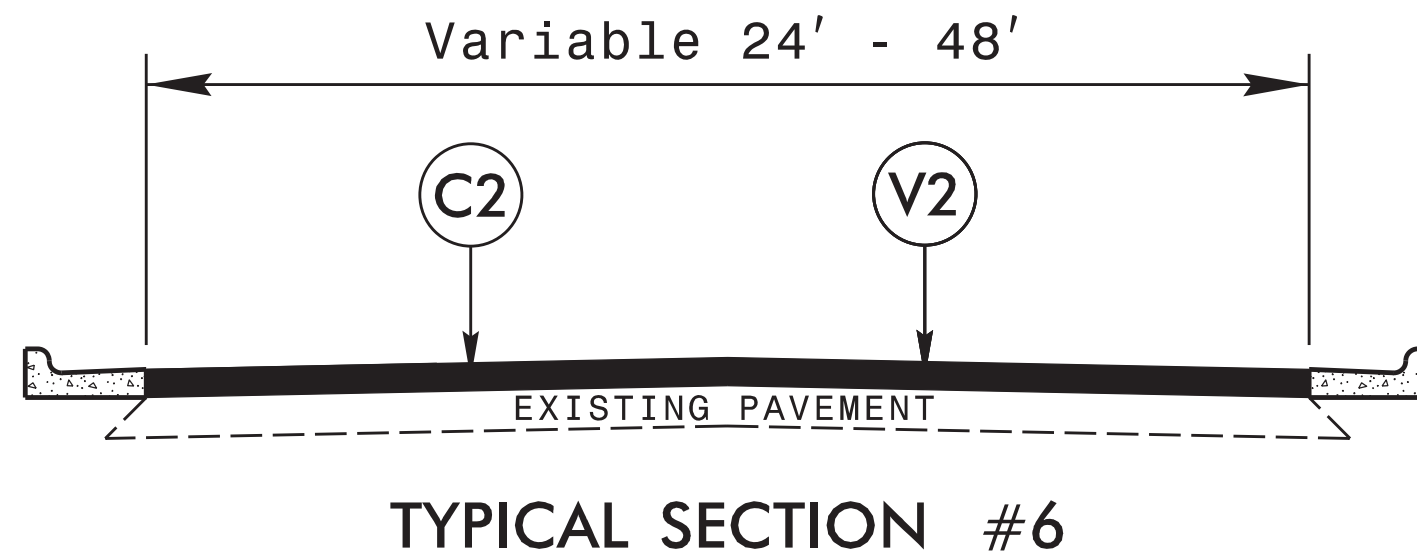
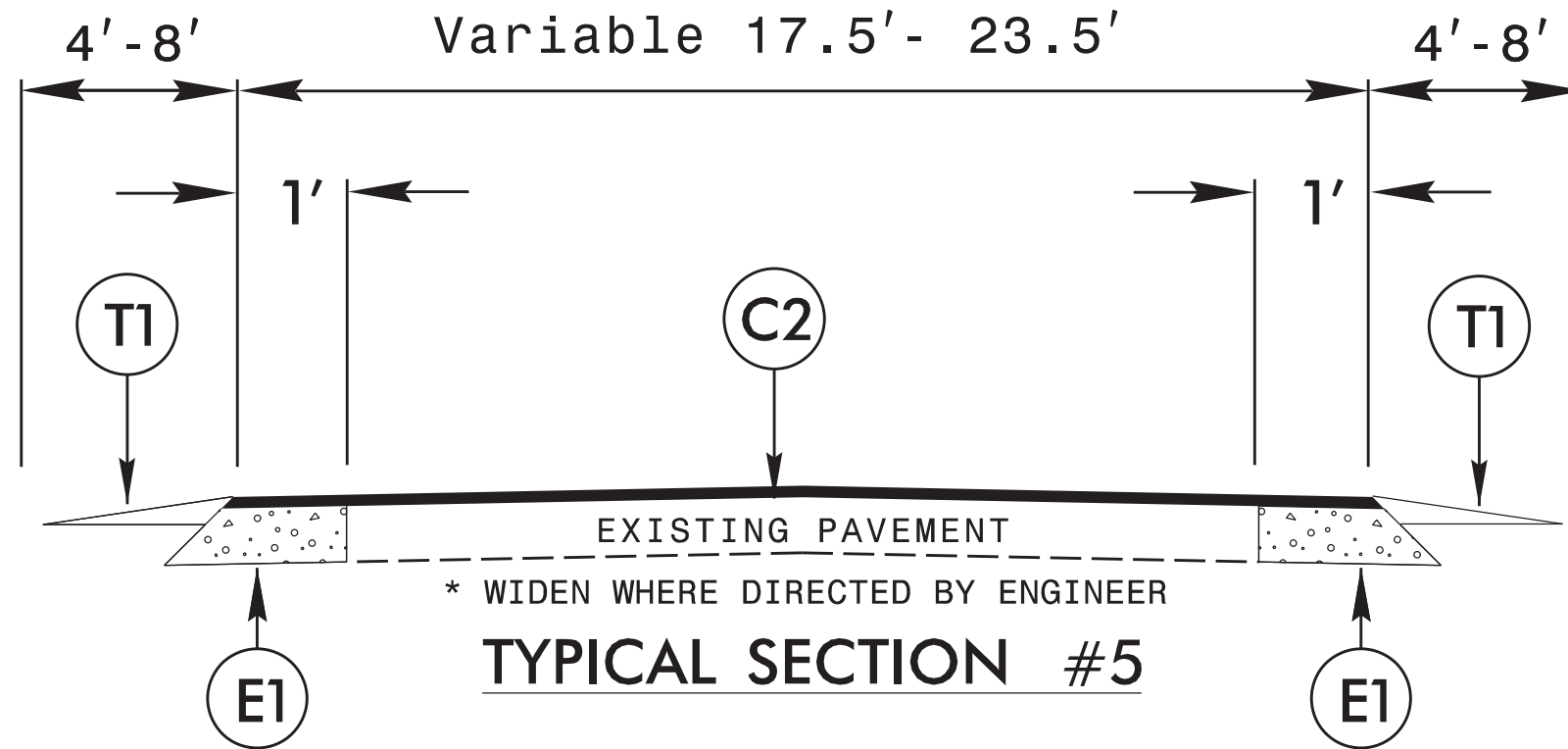
**TYPICAL SECTION #3**



**TYPICAL SECTION #4**

**PAVEMENT SCHEDULE**

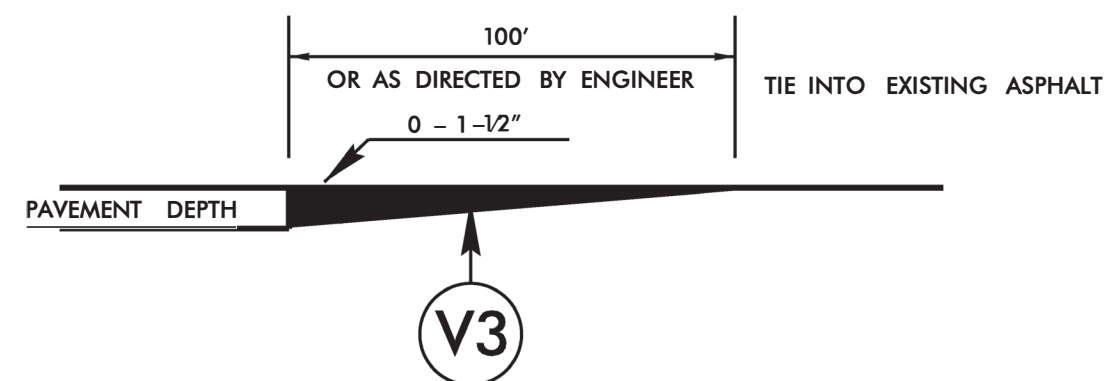
C1	PROP. APPROX. 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
E1	PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V3	INCIDENTAL MILLING



**PAVEMENT SCHEDULE**

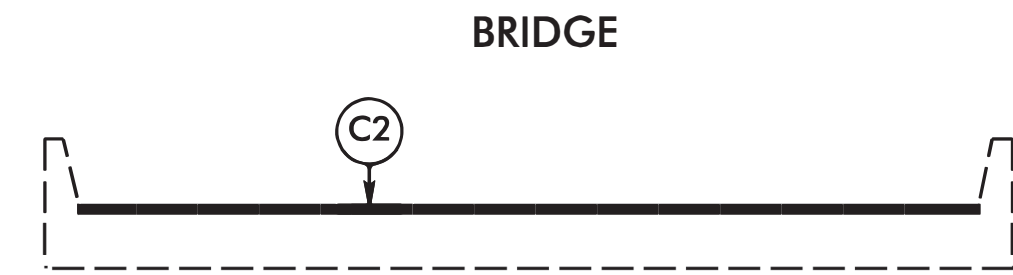
C1	PROP. APPROX. 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
E1	PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/4" DEPTH
V2	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V3	INCIDENTAL MILLING





**DETAIL TO TIE INTO EXISTING PAVEMENT**

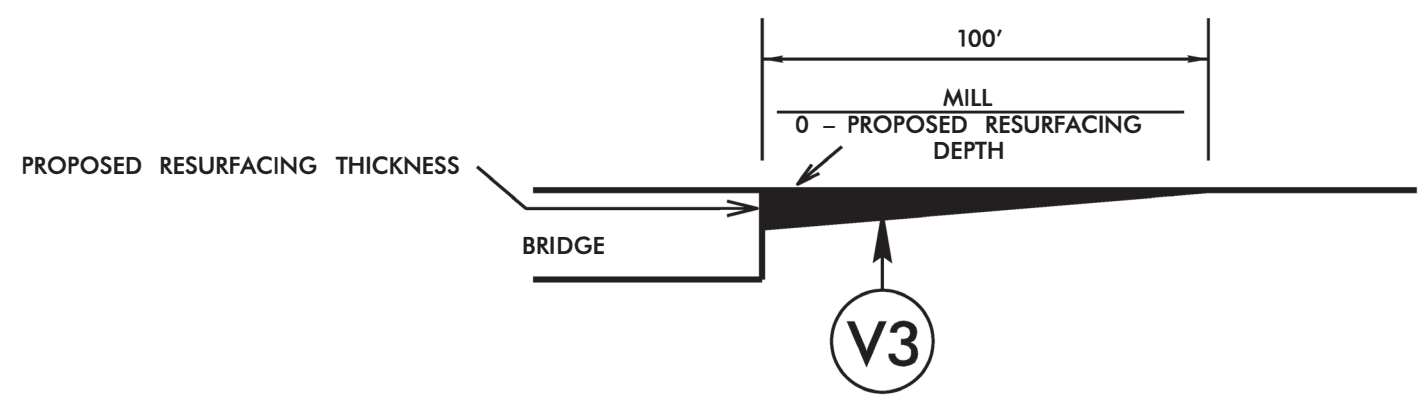
THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT HE WILL BE REQUIRED TO MILL THE EXISTING ASPHALT PAVEMENT TO ENSURE A PROPER TIE-IN WITH THE EXISTING SURFACE AT THE BEGINNING, END AND Y LINES OF EACH MAP TO BE RESURFACED WITH ASPHALT CONC SURFACE COURSE, TYPE S9.5C. THIS WILL BE PAID FOR AS INCIDENTAL MILLING.



\* COORDINATE WITH BRIDGE MAINTENANCE TO REMOVE EXISTING ASPHALT 15 DAYE BEFORE RESURFACING BEGINS.

**BRIDGE DETAIL**

WHERE BRIDGES WILL BE RESURFACED. SEE MAP FOR BRIDGE LOCATION. USE AT BRIDGE NUMBER: 309 MAP 1.

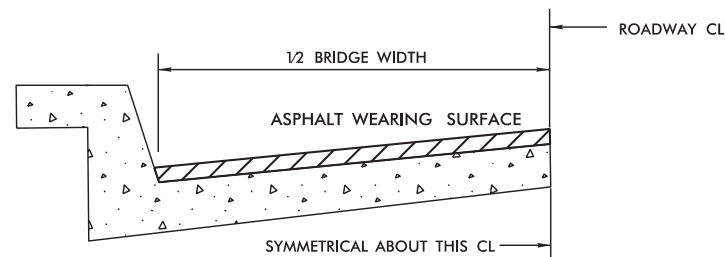


**MILLING DETAIL AT BRIDGE APPROACHES**

WHERE BRIDGES WILL BE RESURFACED. THIS WILL BE PAID FOR AS INCIDENTAL MILLING. USE AT BRIDGE NUMBER: 309 MAP 1.

**PAVEMENT SCHEDULE**

C1	PROP. APPROX. 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
E1	PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-3/4" DEPTH
V2	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V3	INCIDENTAL MILLING



**BRIDGE HALF TYPICAL SECTION**

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1/2", S9.5B 1", S9.5C,D 1.5" - 2". ULTRA-THIN HOT MIX ASPHALT - TYPE A 3/4". ULTRA-THIN HOT MIX ASPHALT - TYPE B 5/8". ULTRA-THIN HOT MIX ASPHALT - TYPE C 1/2". THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1", S9.5B 1.5", S9.5C,D 2". ULTRA-THIN HOT MIX ASPHALT - TYPE A 3/4", ULTRA-THIN HOT MIX ASPHALT - TYPE B 5/8", ULTRA-THIN HOT MIX ASPHALT - TYPE C 1/2".

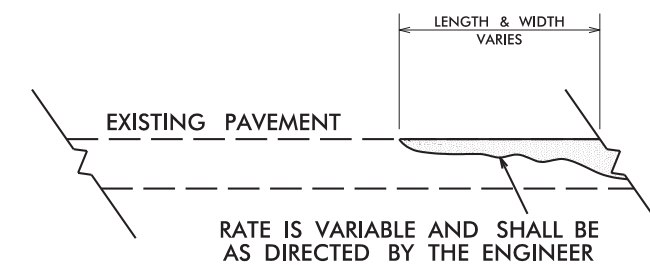
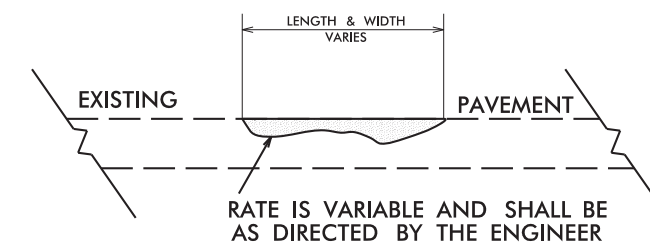
**NOTES**

ALL UNPAVED 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.

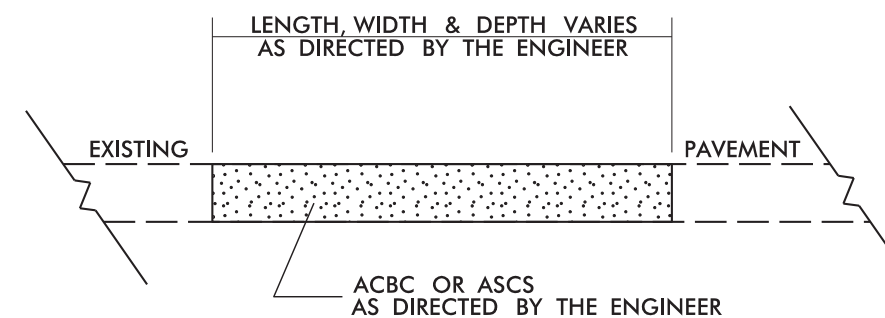
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.

SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED.

BRIDGES ARE TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.



**DETAIL SHOWING METHOD OF WEDGING**

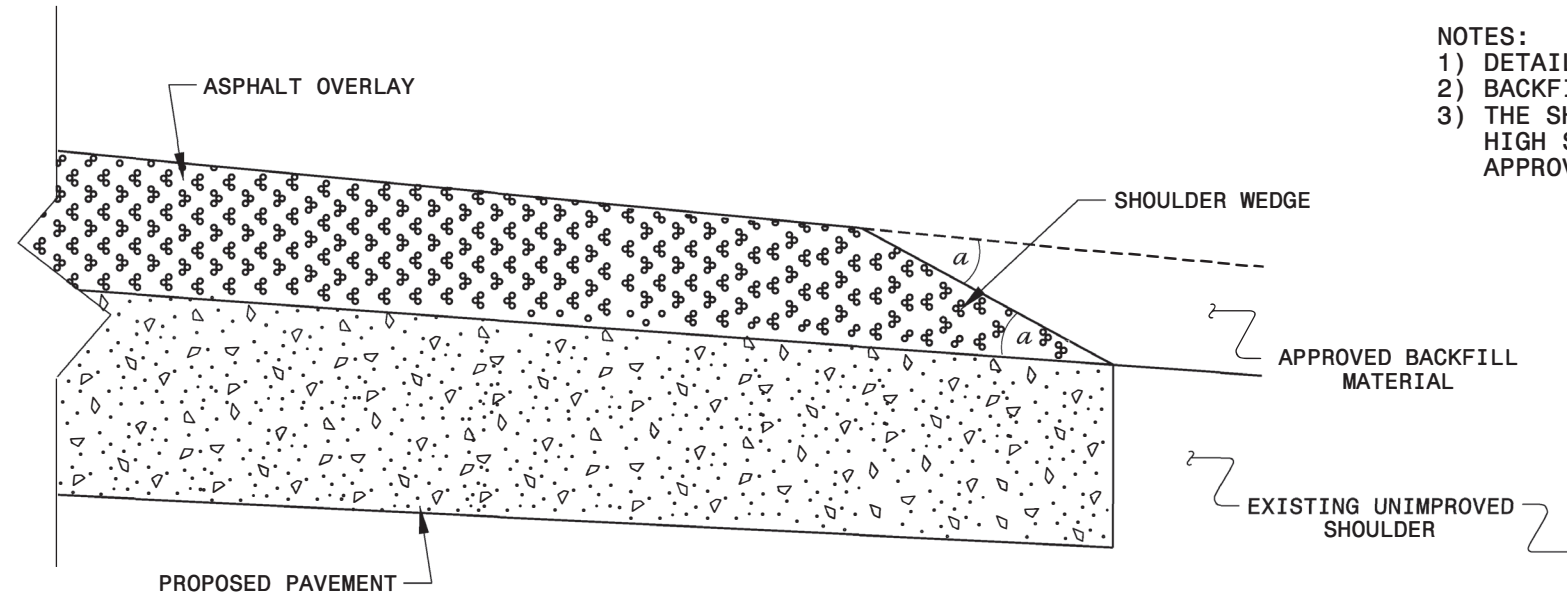


**PATCHING EXISTING PAVEMENT**

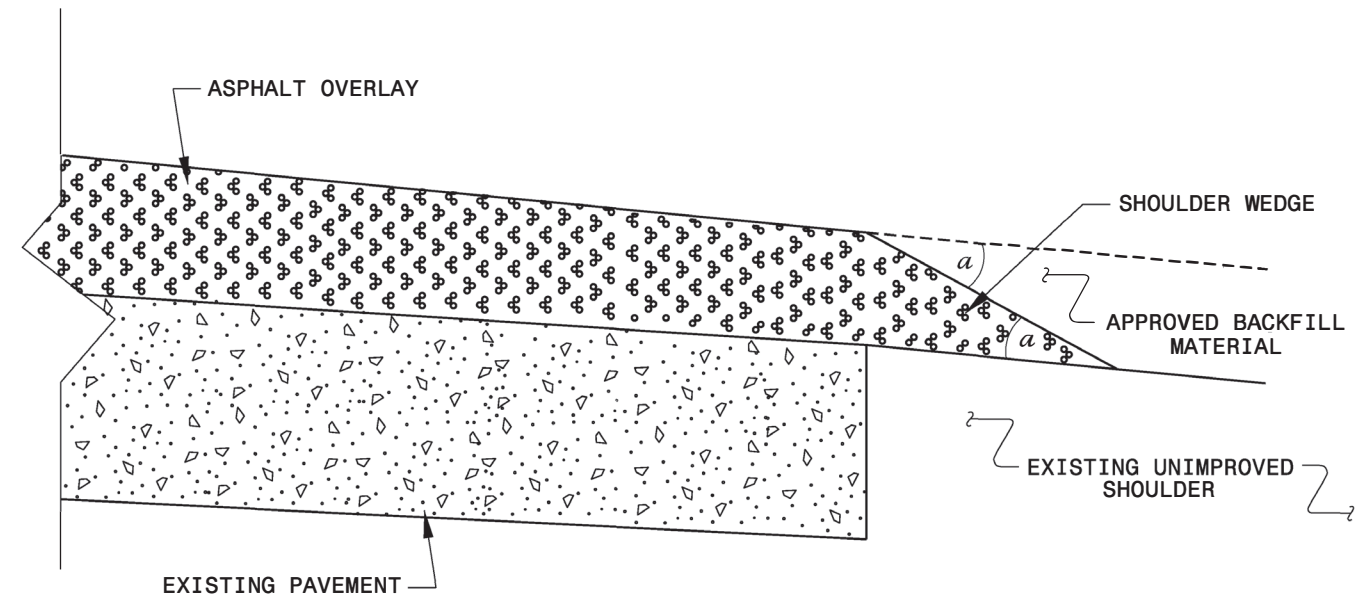
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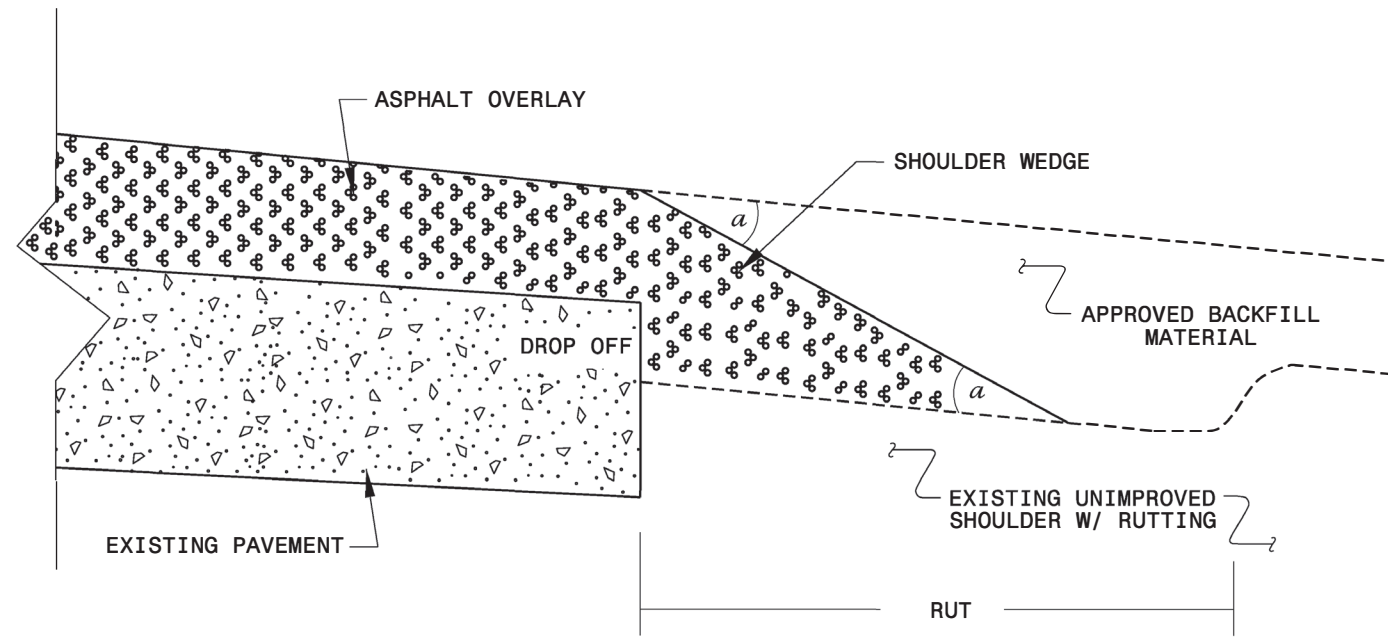
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



**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°

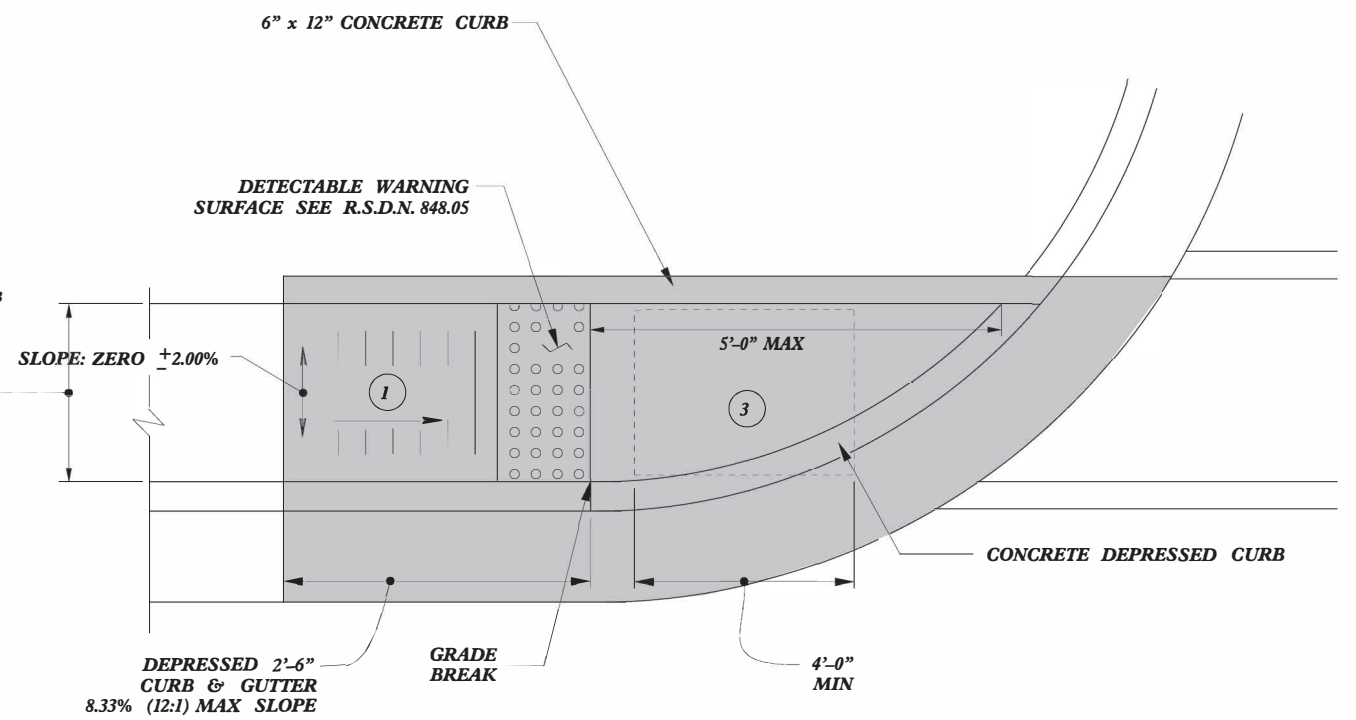
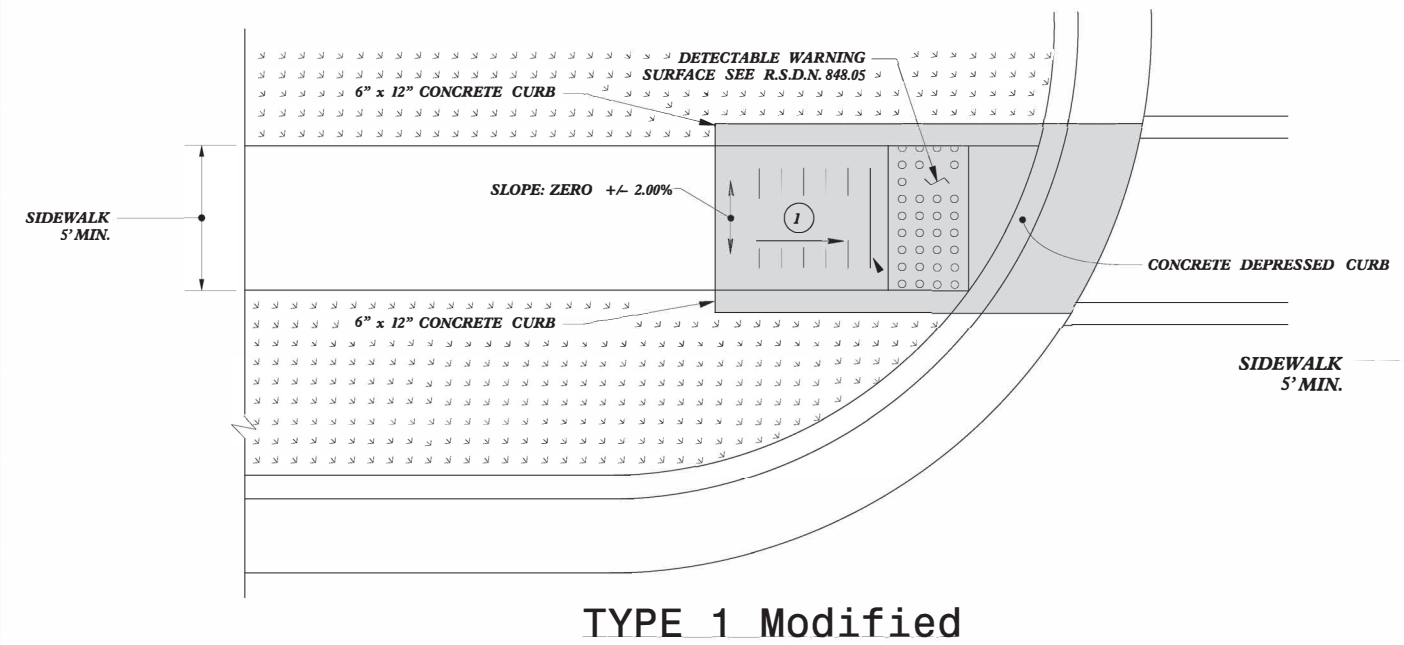
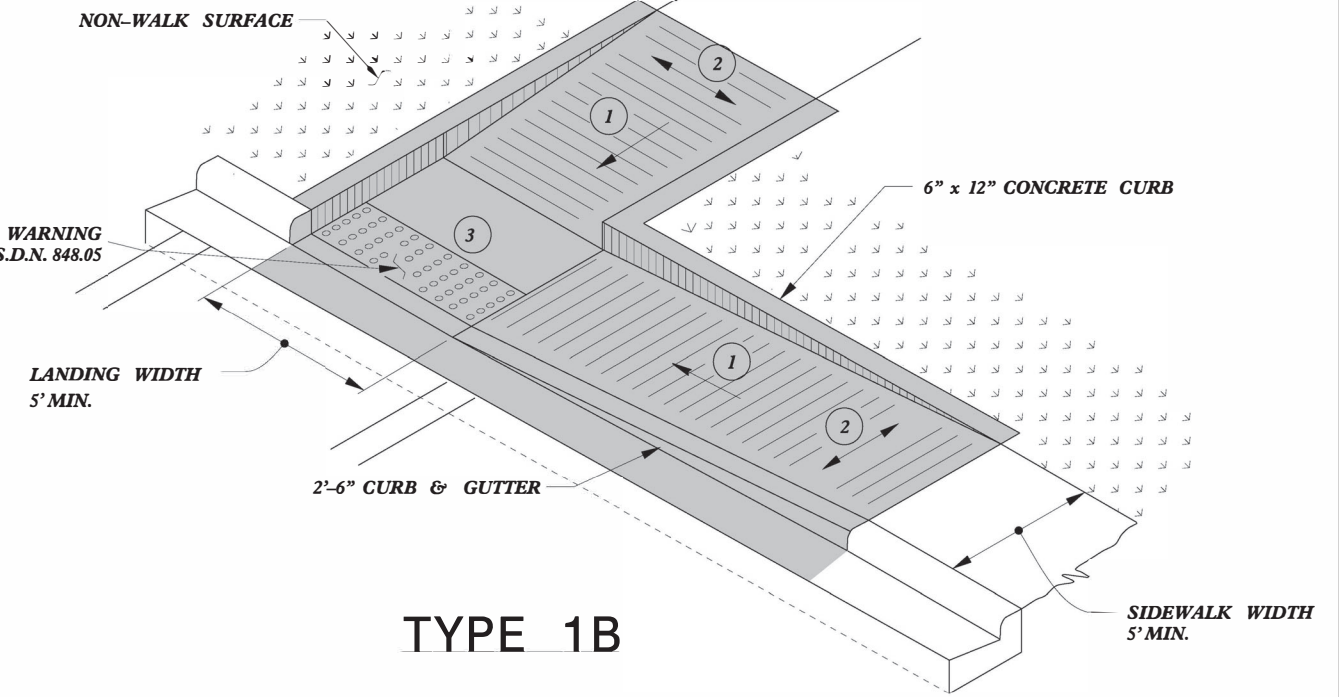
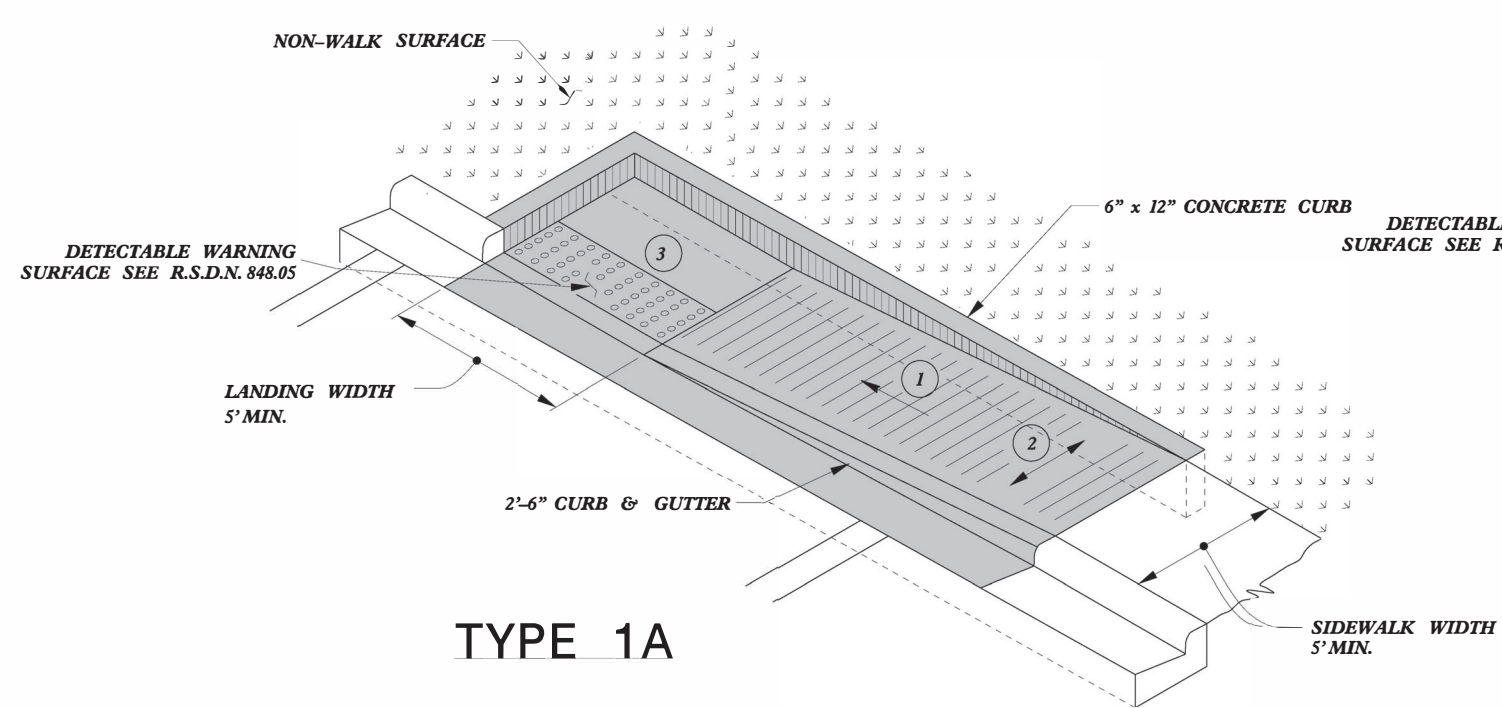


**CONTRACT STANDARDS  
 AND DEVELOPMENT UNIT**  
 Office 919-707-6950 FAX 919-250-4119

**SHOULDER WEDGE  
 DETAILS**

ORIGINAL BY: T. SPELL DATE: 7-19-11  
 MODIFIED BY: DATE: 2/2/16  
 CHECKED BY: DATE:  
 FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn

DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED



- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

PAY LIMITS FOR 1 CURB RAMP

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES



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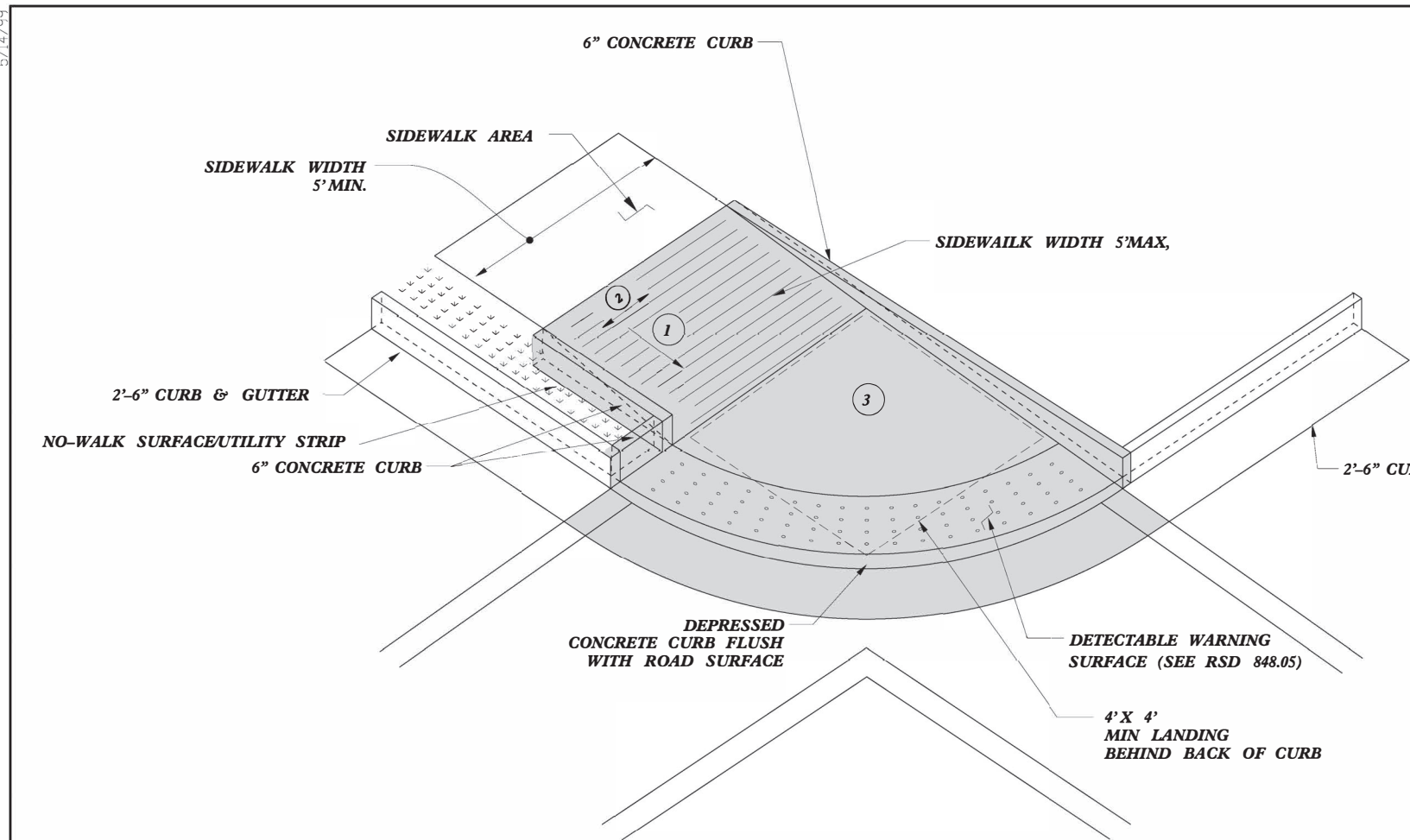
**CONTRACT STANDARDS AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**CURB RAMPS**  
Directional Ramps

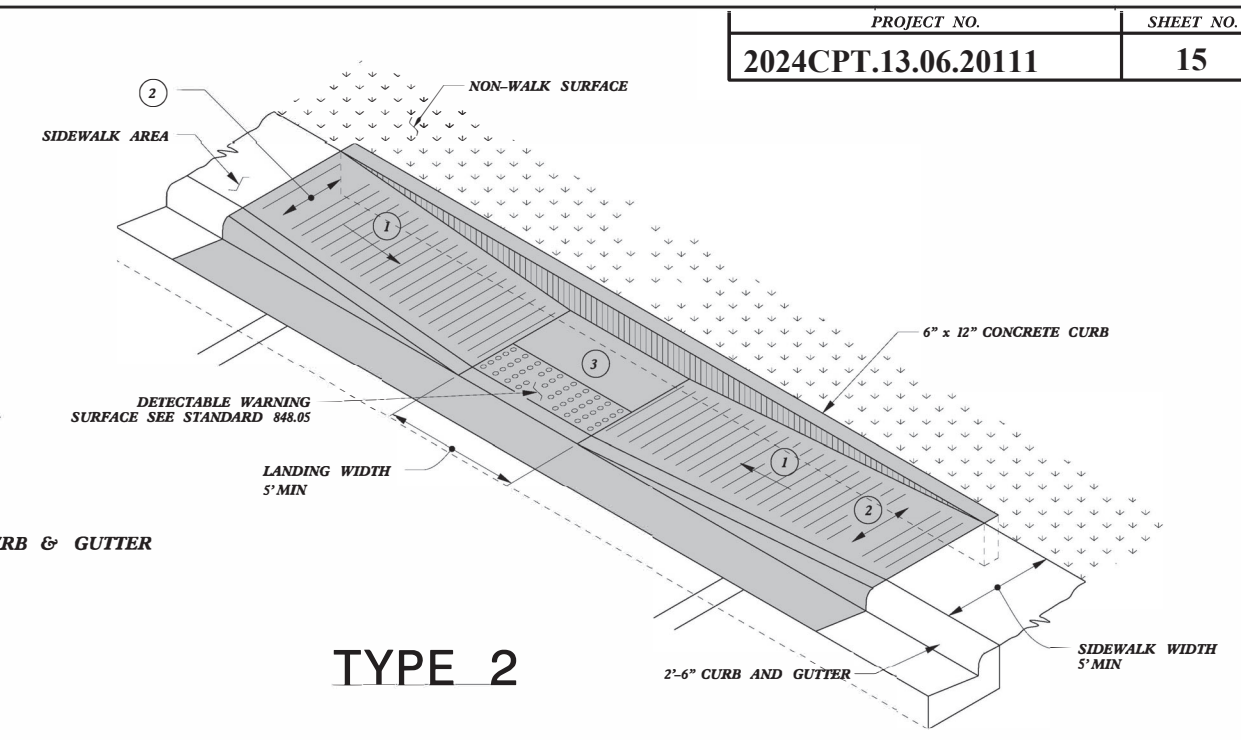
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5/14/99  
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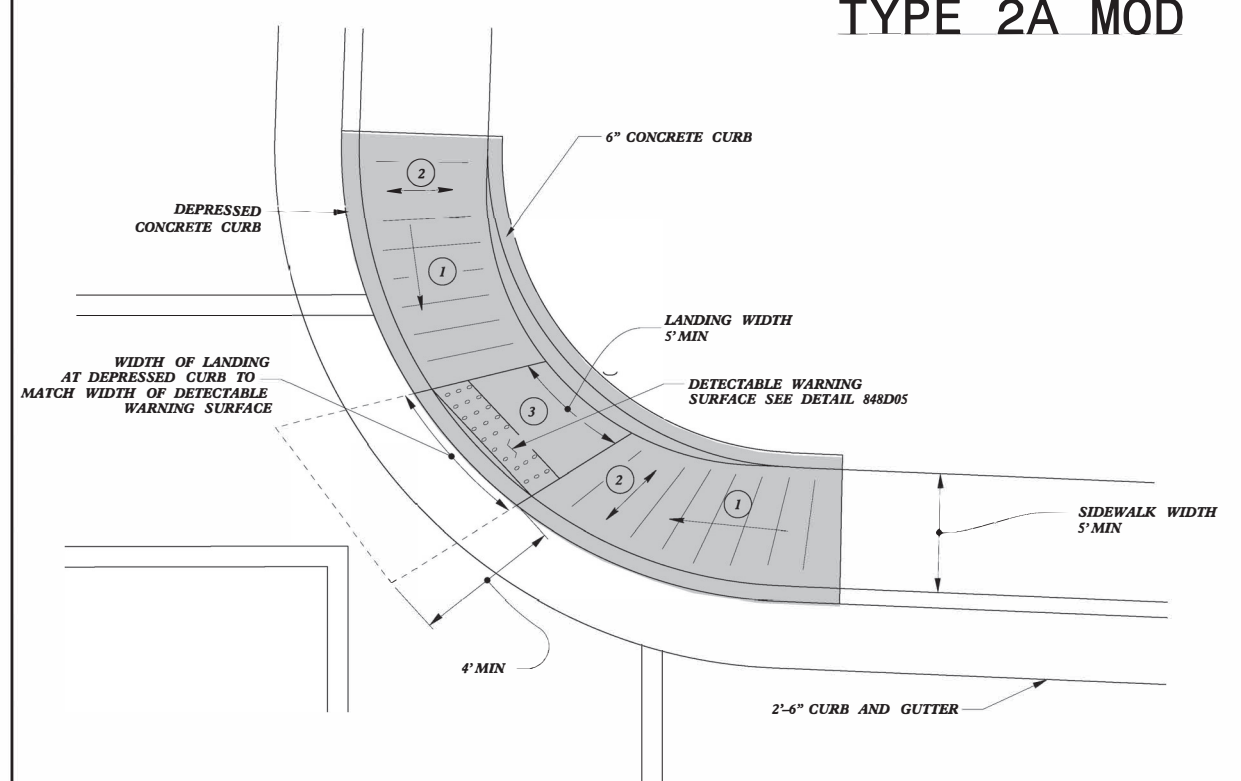




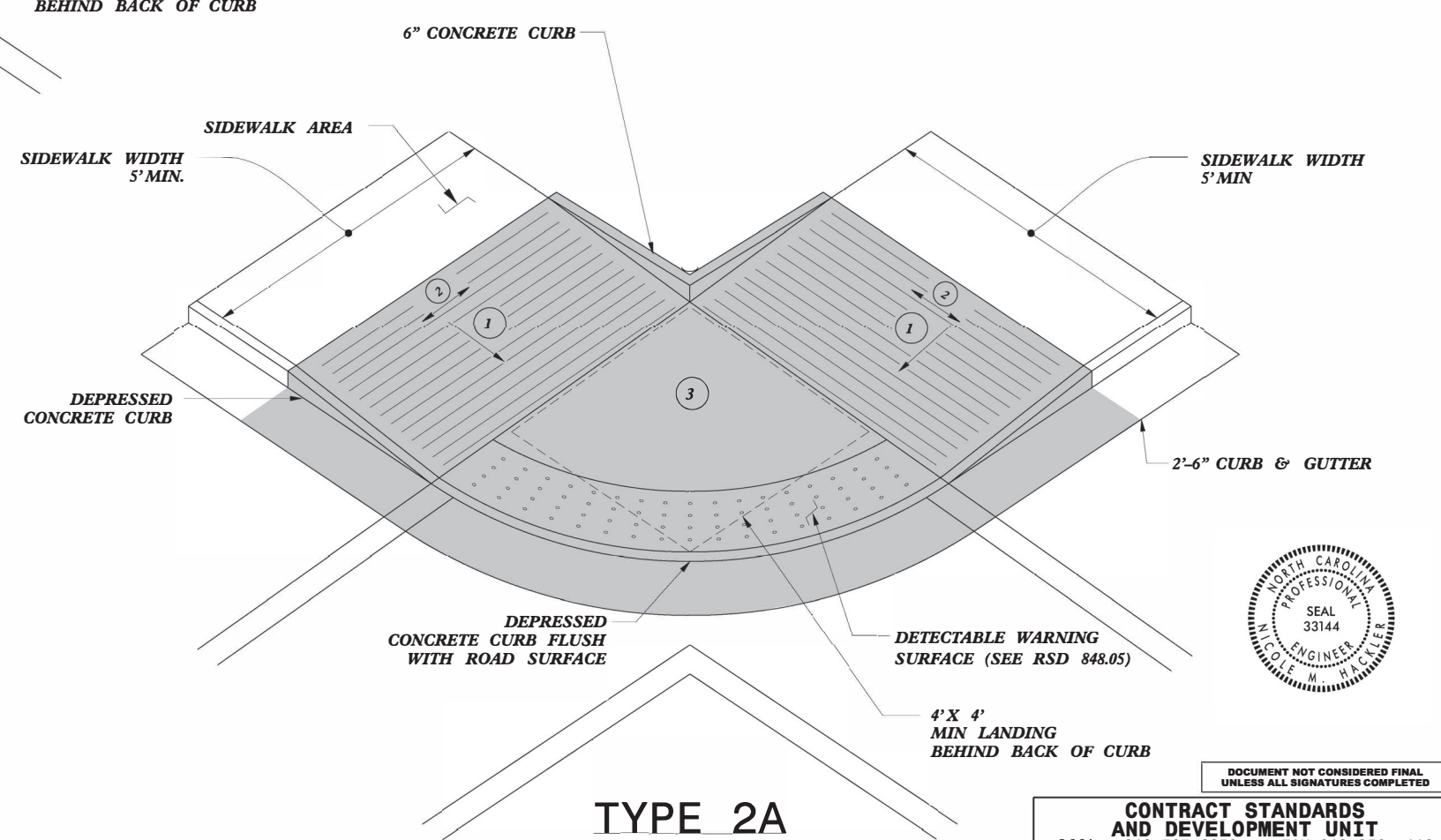
**TYPE 2A MOD**



**TYPE 2**



**TYPE 2B**



**TYPE 2A**

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

PAY LIMITS FOR 1 CURB RAMP



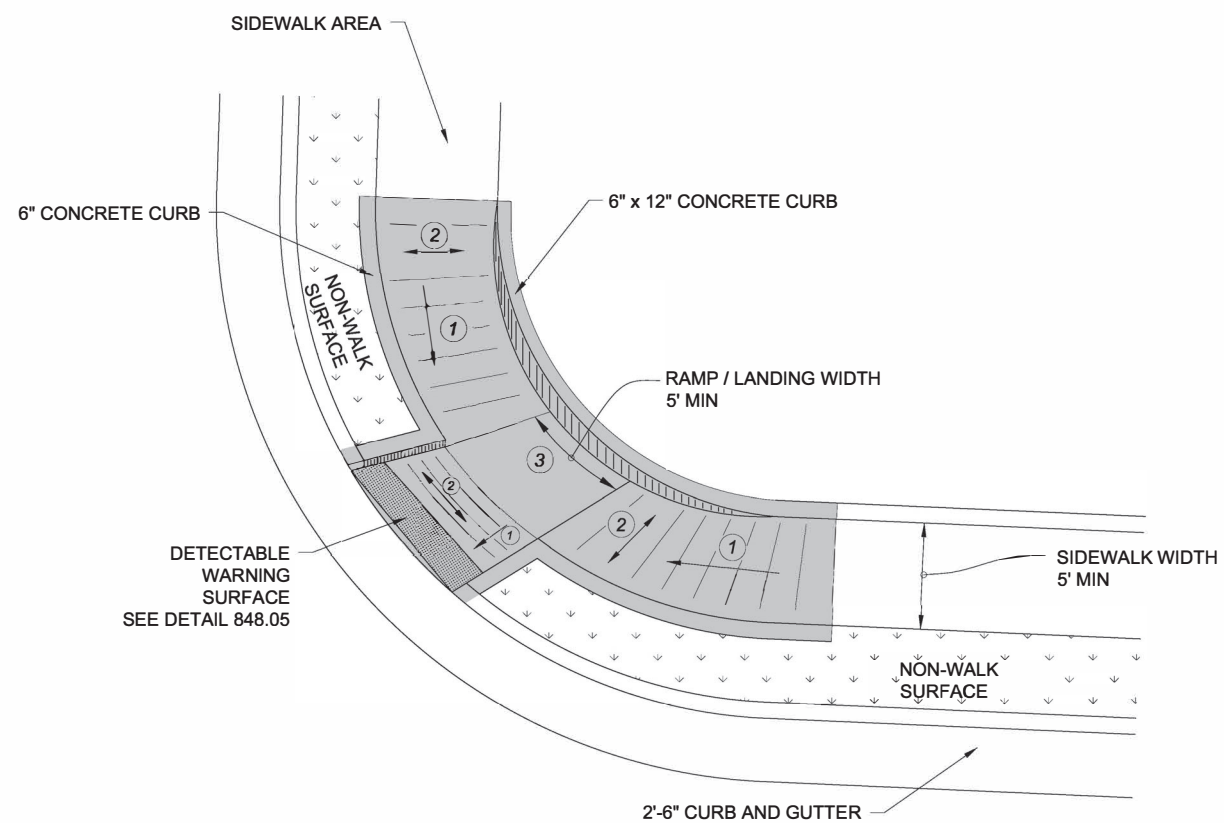
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<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC. sids/2012CurbRamp/CurbRampDetails.dgn	

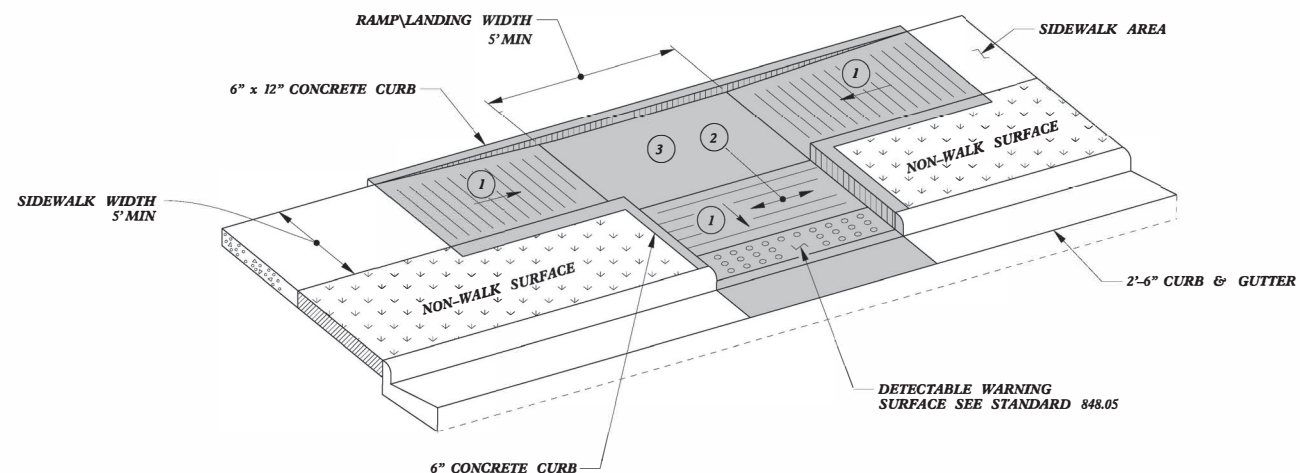
5/14/99

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\$\$\$\$USER\$\$\$\$





TYPE 3 MODIFIED  
INSTALLATION IN A RADIUS



TYPE 3

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



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UNLESS ALL SIGNATURES COMPLETED

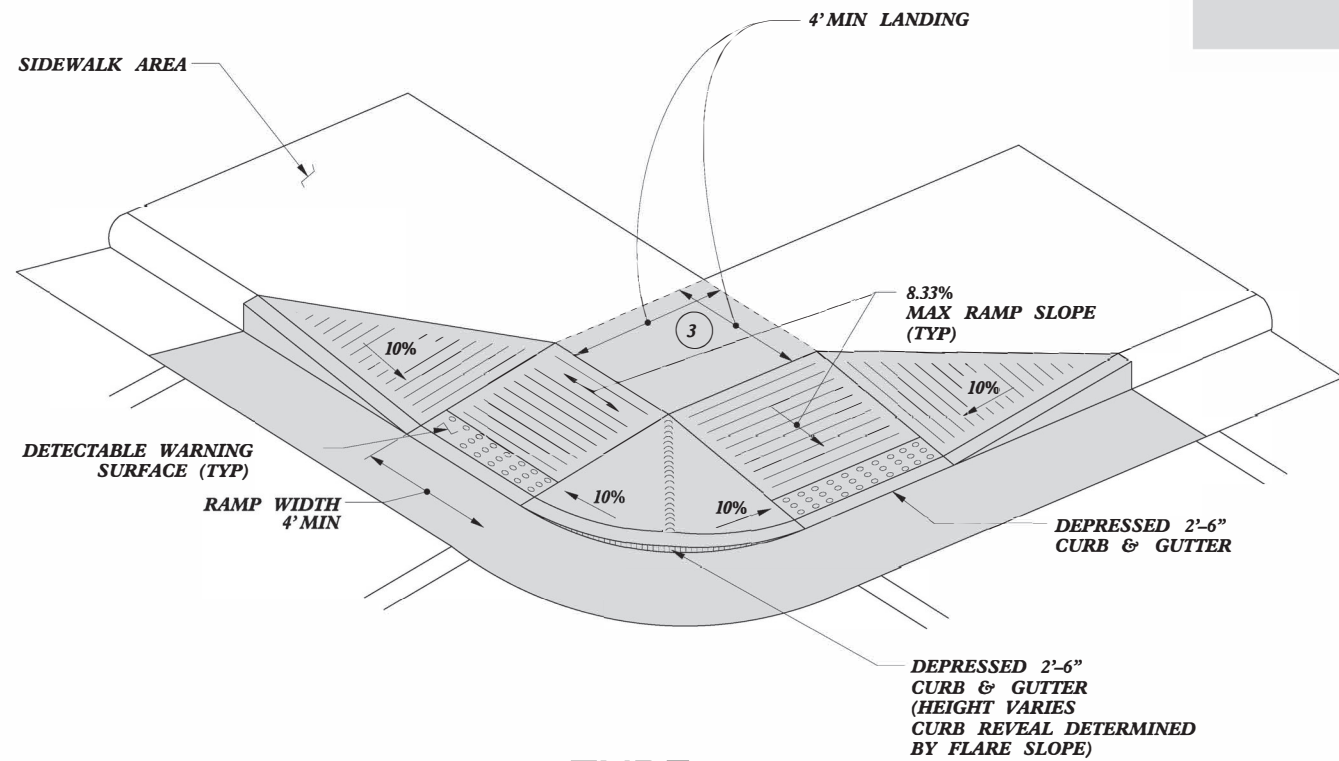
CONTRACT STANDARDS  
AND DEVELOPMENT UNIT  
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

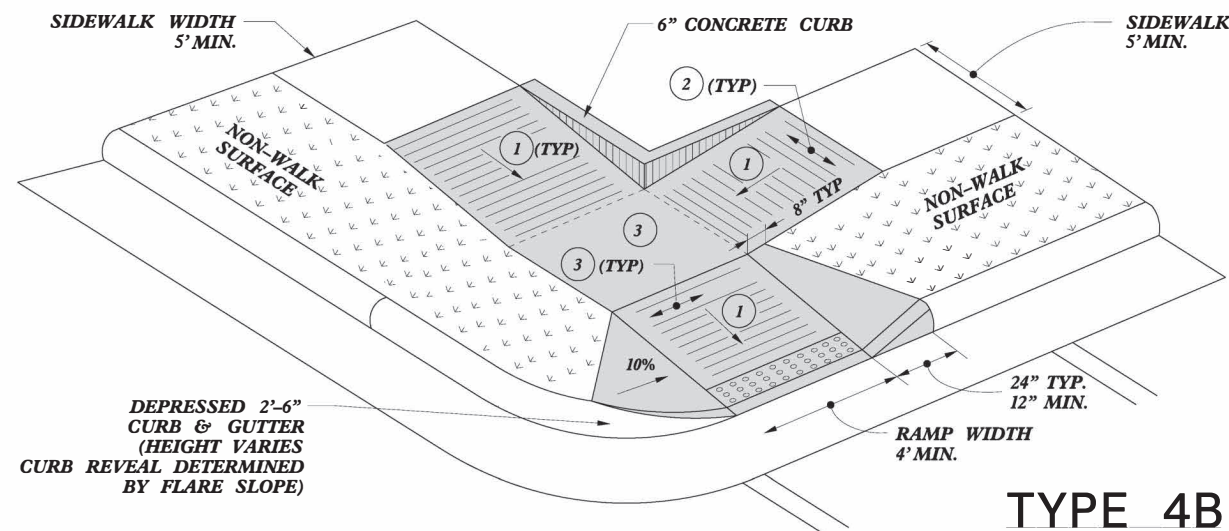
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11  
 MODIFIED BY: DATE:  
 CHECKED BY: DATE:  
 FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

5/14/99  
\$\$\$\$SYTIME\$\$\$\$  
\$\$\$\$PUSRNAME\$\$\$\$

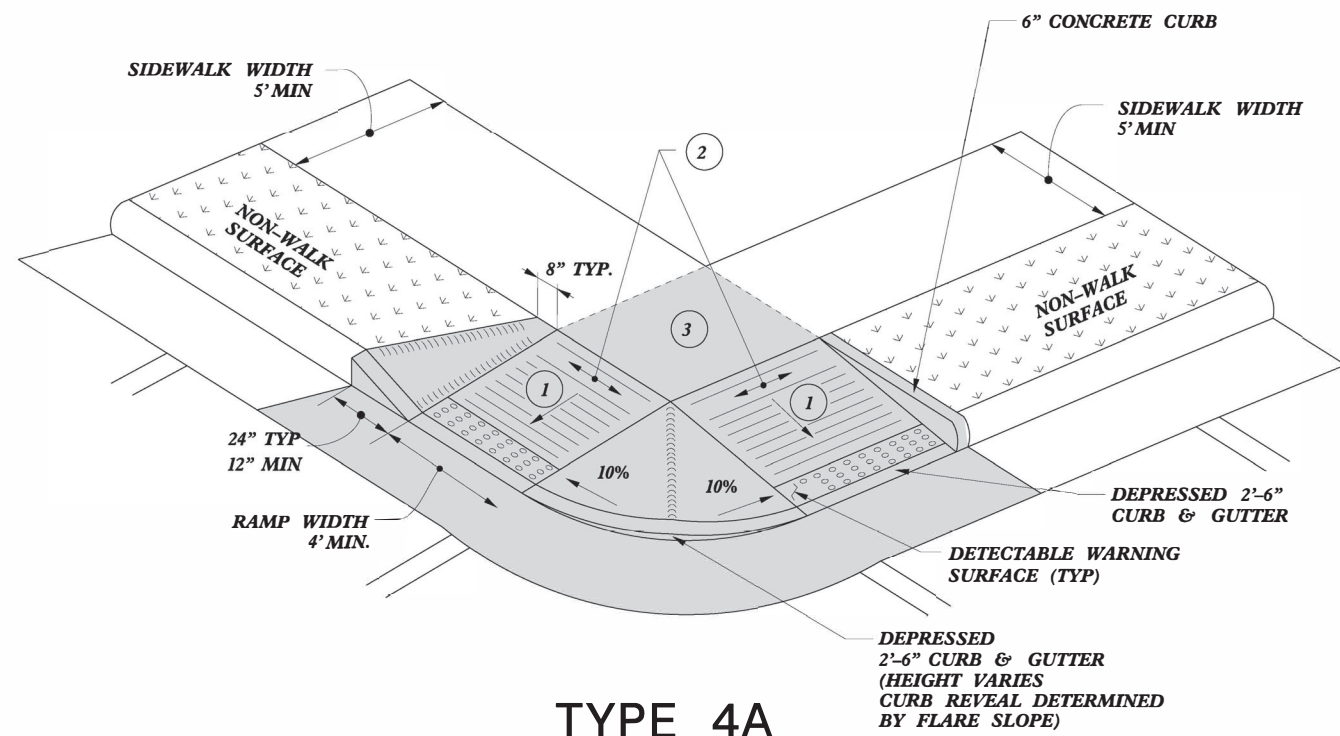
PAY LIMITS FOR 1 OR 2 CURB RAMPS  
(CALCULATE BASED ON NUMBER OF SETS  
OF TRUNCATED DOMES)



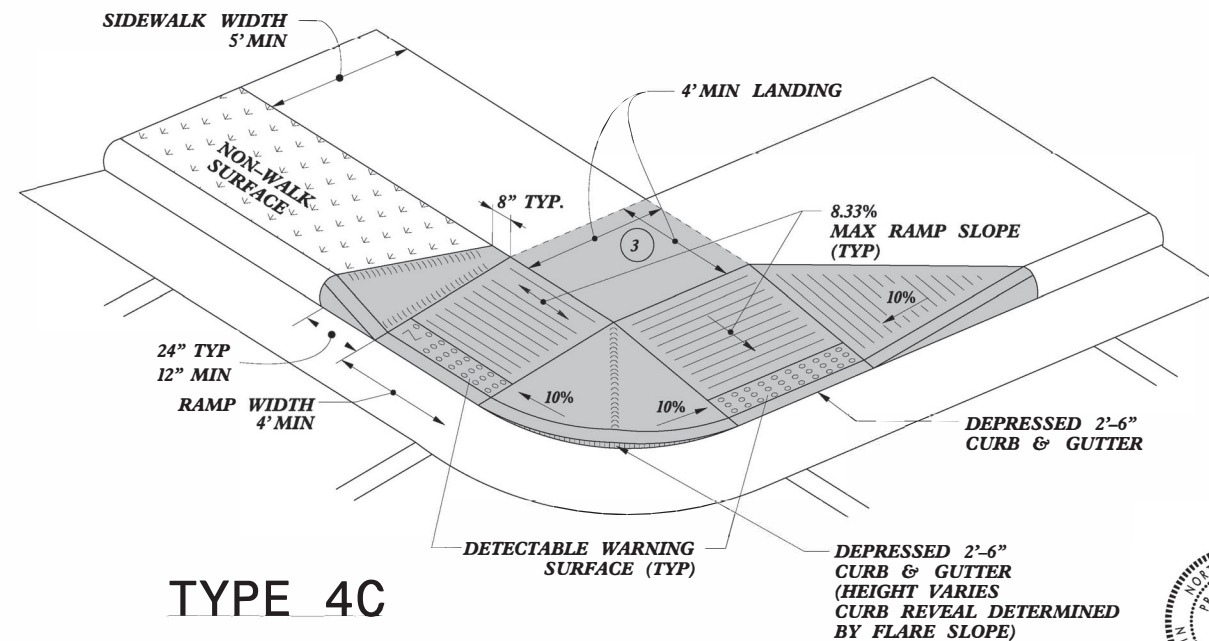
TYPE 4



TYPE 4B



TYPE 4A



TYPE 4C

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



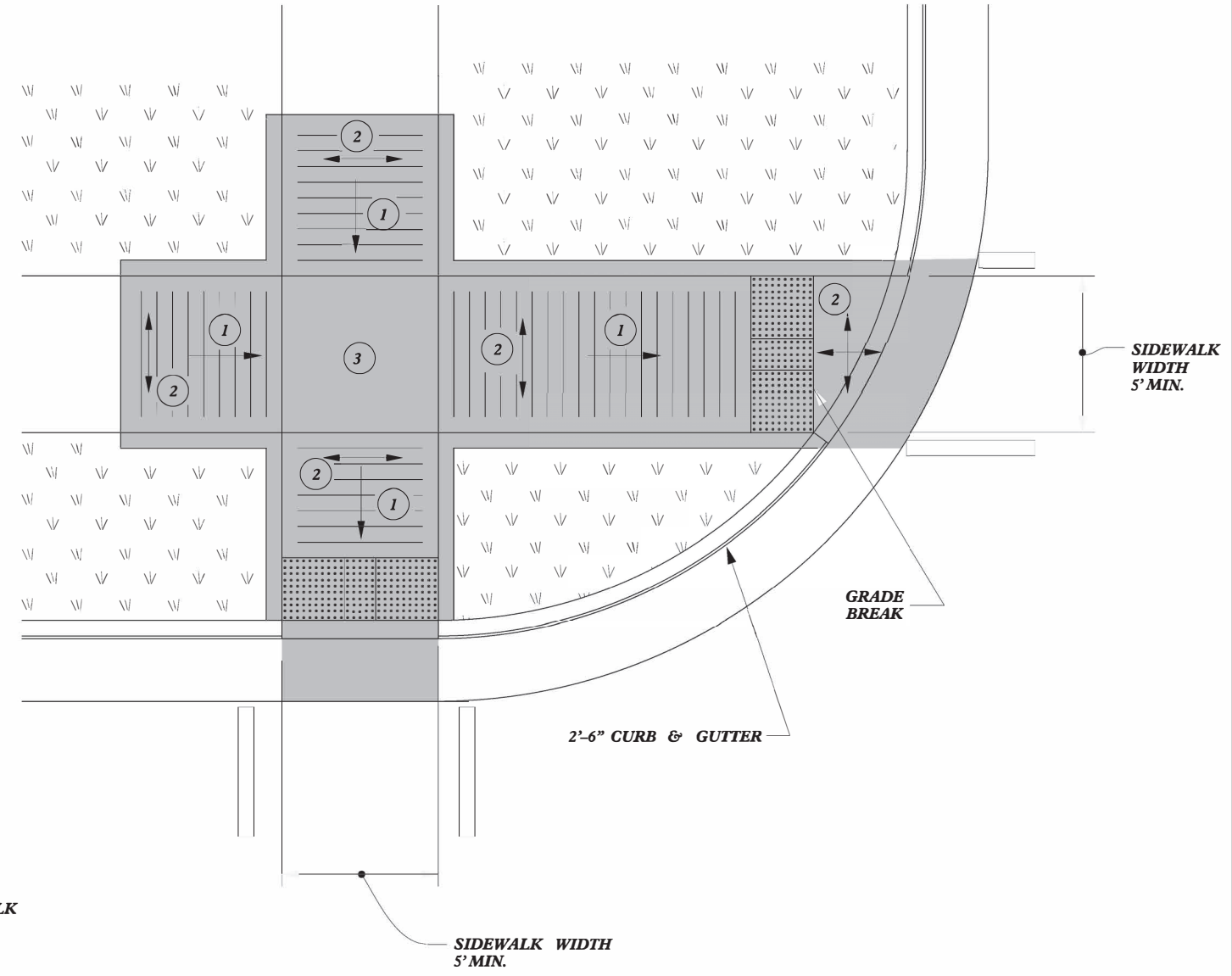
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC. sids/2012CurbRamp/CurbRampDetails.dgn	

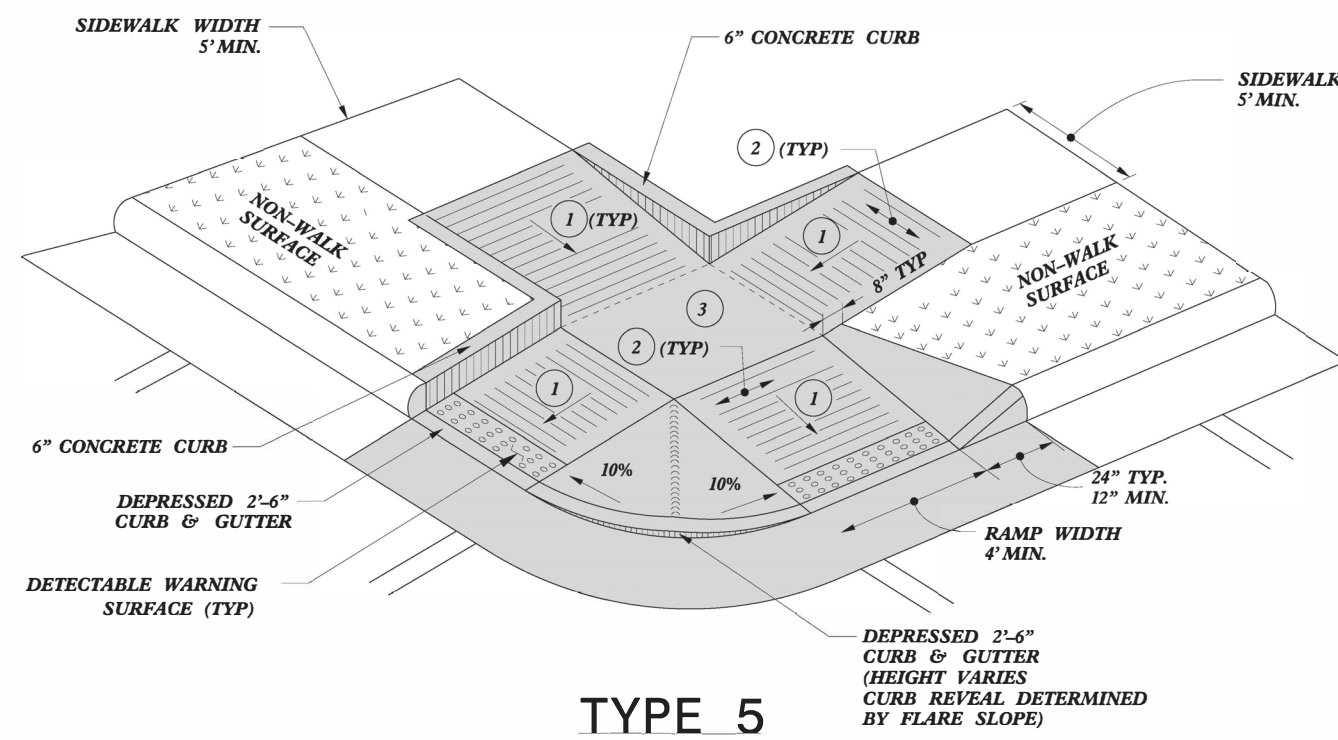
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/7/4/99  
\$\$\$\$SYTIME\$\$\$\$  
\$\$\$\$USERNAME\$\$\$\$

**PAY LIMITS FOR 1 OR 2 CURB RAMPS**  
(CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)



**TYPE 5A**



**TYPE 5**

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



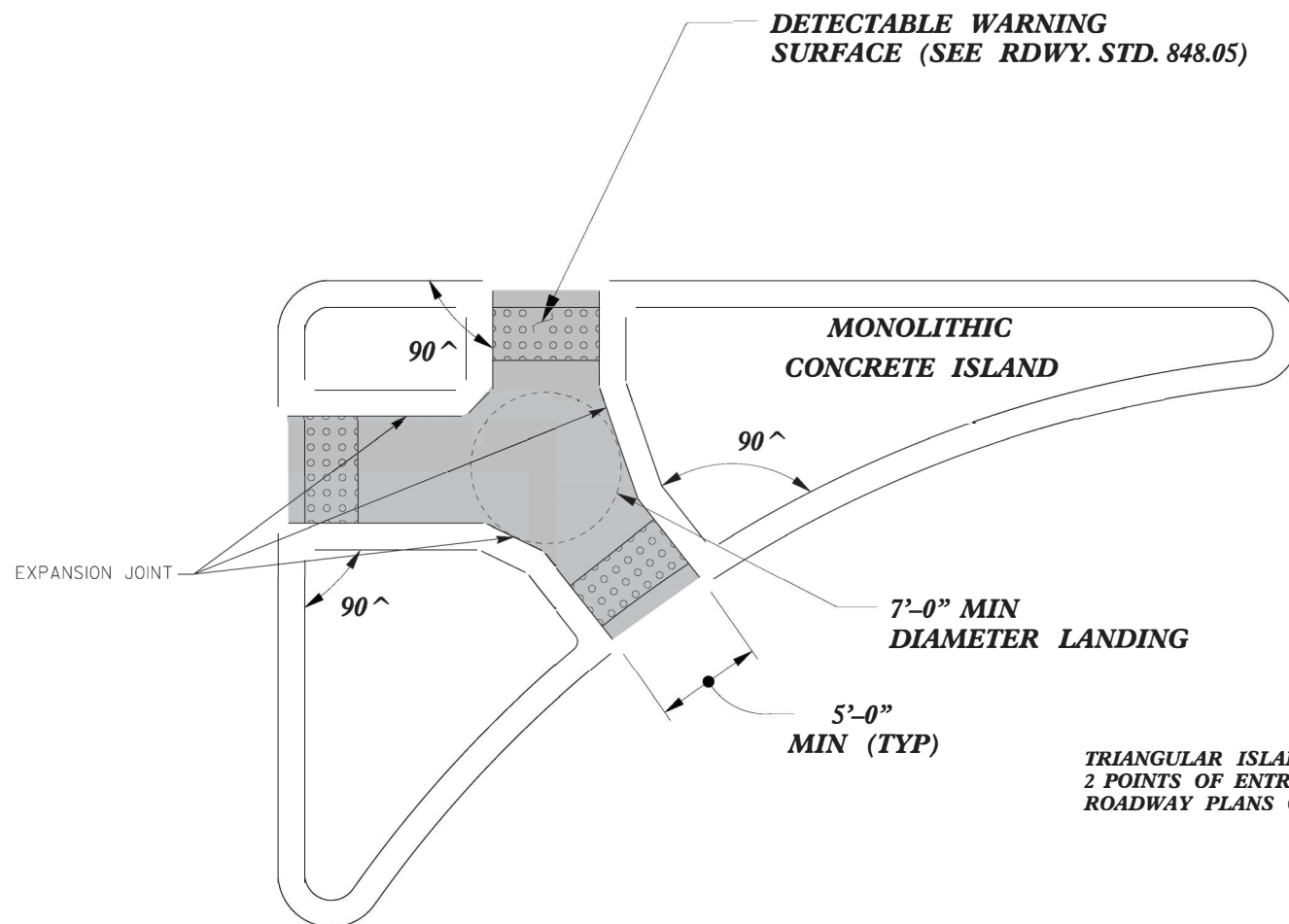
<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC. stds/2012CurbRamp/CurbRampDetails.dgn	

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99  
\$\$\$\$\$SYTIME\$\$\$\$\$  
\$\$\$\$\$SERIAL\$\$\$\$\$

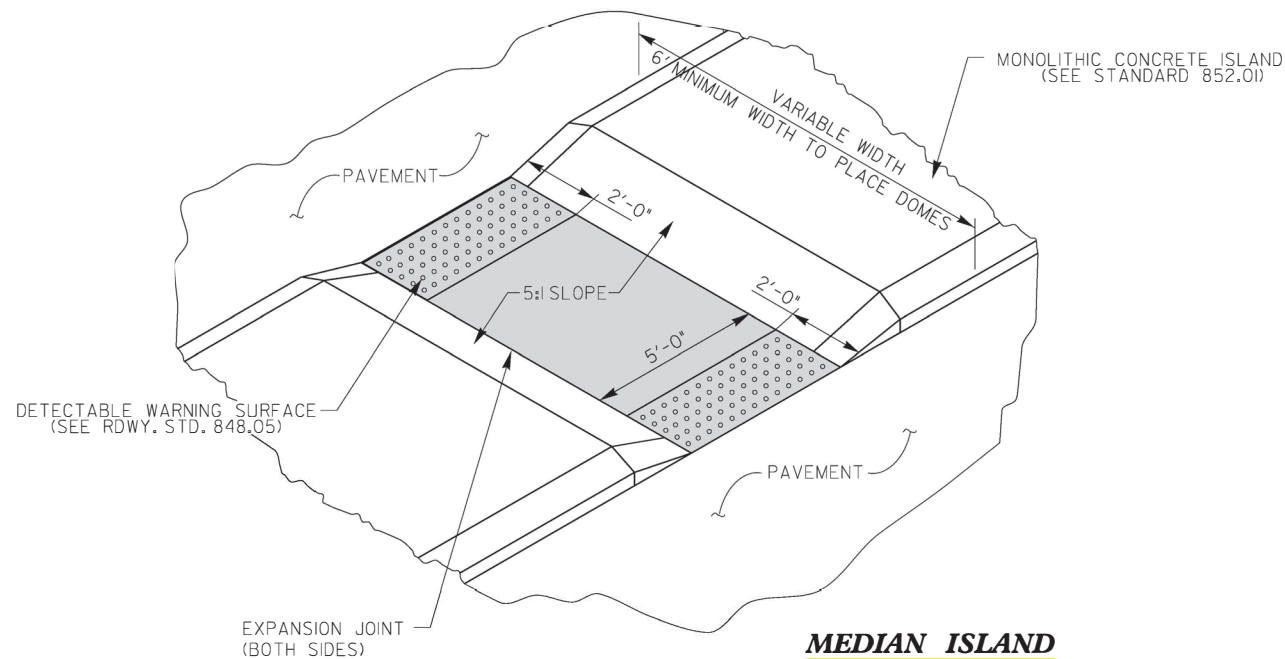


PAY LIMITS FOR 2 OR 3 CURB RAMPS  
(CALCULATE BASED ON NUMBER OF  
SETS OF TRUNCATED DOMES)

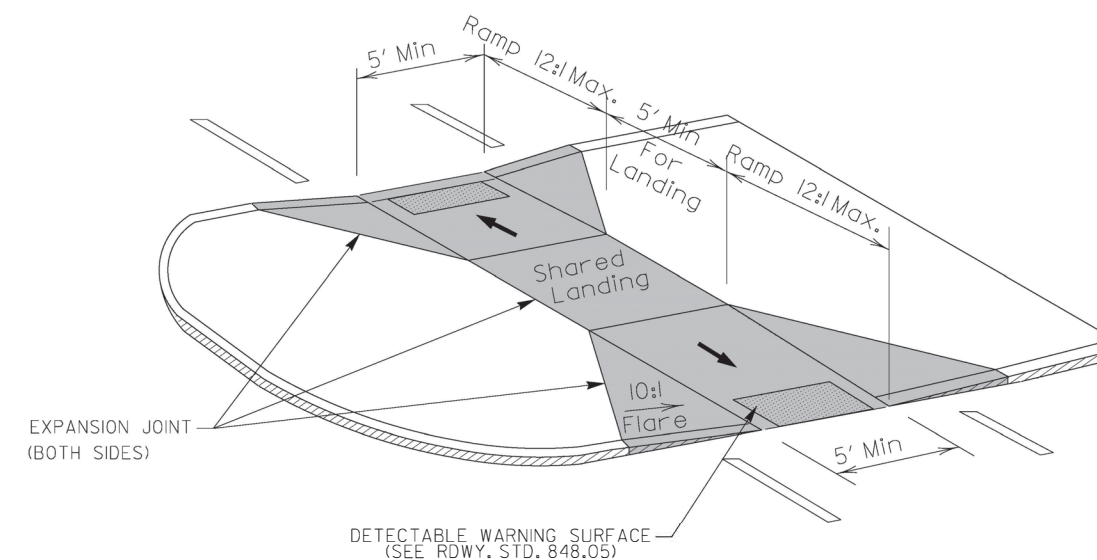


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY  
2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE  
ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

**TRIANGULAR ISLAND  
WITH CUT THROUGH  
TYPE 6**



**MEDIAN ISLAND  
WITH CUT THROUGH  
TYPE 7**



**MEDIAN ISLAND  
CURB RAMPS  
TYPE 8**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS  
AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**CURB RAMPS**  
Median or Turn Lane Islands

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11  
MODIFIED BY: DATE:  
CHECKED BY: DATE:  
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn



5/14/99

\*\*\*\*\*SYTIME\*\*\*\*\*  
\*\*\*\*\*SERIAL\*\*\*\*\*



PROJECT NO.	SHEET NO.
2024CPT.13.06.20111	21

**THERMOPLASTIC AND PAINT QUANTITIES**

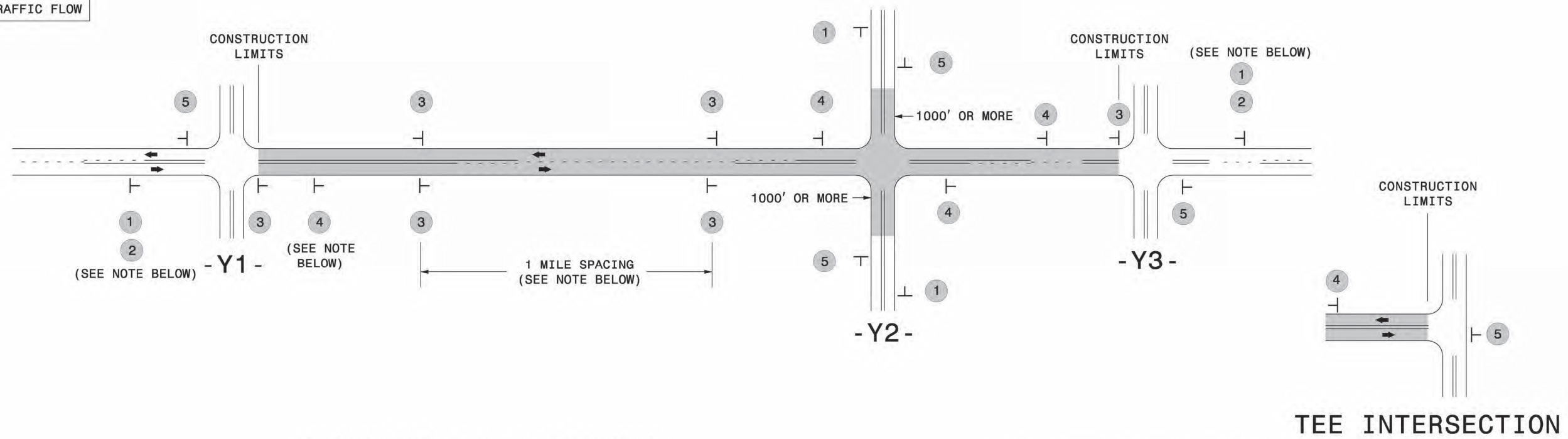
MAP NO	ROUTE	DESCRIPTION	TYP NO	FROM MP	TO MP	4413000000-E	4447000000-E	4457000000-N	4695000000-E	4704000000-E	4709000000-E			4720000000-E			4725000000-E	4890000000-E		4905100000-N			
						WORK ZONE ADVANCE/ GENERAL WARNING SIGNING	PEDESTRIAN CHANNELIZING DEVICES	TEMPORARY TRAFFIC CONTROL	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING LINES (16", 90 MILS)	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE STOP BAR	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE HI-VISIBILITY CROSSWALK	THERMOPLASTIC PAVEMENT MARKING (90 MILS) RXR	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) ONLY	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) SCHOOL	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) LT ARROW	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) RT ARROW	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) STR & RT ARROW	HOT SPRAY THERMOPLASTIC PAVEMENT MARKING LINES (4", 55 MILS) (WHITE)	HOT SPRAY THERMOPLASTIC PAVEMENT MARKING LINES (4", 55 MILS) (YELLOW)	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS (RED/ CRYSTAL)	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS (DOUBLE YELLOW)	
						SF	LF	LS	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA		
1	SR 1153 (OLD PISGAH HIGHWAY)	FROM US 19 TO DEAD END	1	0.02	0.22	25				80	88	100		4									
2	SR 1363 (OLD LEICESTER ROAD)	FROM SR 1002 (OLD LEICESTER HIGHWAY) TO SR 1367 (OLIVETTE ROAD)	1	0.01	0.59	65												6,176	6,176				
3	SR 1634 (FLETCHER MARTIN ROAD)	FROM SR 1620 (ALEXANDER ROAD) TO SR 1629 (OLD NC 20 HIGHWAY)	2	0.01	1.42	159												15,101	15,101				
4	SR 1725 (WEAVER BLVD)	FROM FAIRFIELD APPROACH DRIVE (CITY STREET) TO US 19 BUS (NORTH MAIN STREET)	6	0.16	0.67	126	120		142		85	180			12		22	8	2	2,612	6,156	36	58
5	SR 1740 (NEWSTOCK ROAD)	FROM SR 1764 (FLAT CREEK CHURCH ROAD) TO SR 1741 (SHEPPARD BRANCH)	1	3.20	4.01	91														8,554	8,554		
6	SR 1783 (BRIARWOOD ROAD)	FROM SR 1882 (WOODLAND HILLS ROAD) PAVEMENT CHANGE TO SR 1784 (FOX CHASE ROAD WEST)	4	0.01	0.40	45																	
7	SR 1784 (FOX CHASE ROAD EAST & WEST)	FROM SR 1783 (BRIARWOOD ROAD) TO SR 1783 (BRIARWOOD ROAD)	3,4	0.00	0.74	84																	
8	SR 1785 (FOX CHASE ROAD)	FROM SR 1882 (WOODLAND HILLS ROAD) PAVEMENT CHANGE TO SR 1784 (EAST FOX CHASE ROAD)	3,4	0.01	0.12	14																	
9	SR 1794 (FERN GLADE, FERN COVE ROAD)	FROM SR 1784 (FOX CHASE ROAD) TO CUL DE SAC	3,4	0.00	0.17	20																	
10	SR 1795 (PHEASANT RIDGE DRIVE)	FROM SR 1783 (BRIARWOOD ROAD) TO CUL DE SAC	3,4	0.00	0.05	6																	
11	SR 1821 (SUN VALLEY DRIVE)	FROM SR 1622 (OLD NC 20) TO SR 1848 (DIX CREEK LANE)	1	0.01	0.29	32																	
12	SR 1845 (GLADE COVE ROAD)	FROM SR 1794 (FERN GLADE ROAD) TO CUL DE SAC	3	0.00	0.08	10																	
13	SR 1850 (NICHOLS HILL DRIVE)	FROM SR 1882 (NEW STOCK ROAD) TO EOM	1	0.01	0.38	42																	
14	SR 1855 (WEST ROLLING ACRES)	FROM SR 1727 (MONTICICELLO ROAD) TO CUL DE SAC	1	0.01	0.15	16																	
15	SR 1856 (EAST ROLLING ACRES)	FROM SR 1855 (WEST ROLLING ACRES) TO CUL DE SAC	1	0.00	0.12	14																	
16	SR 1859 (FERN GLADE DRIVE)	FROM SR 1794 (FERN COVE ROAD) TO CUL DE SAC	3	0.00	0.09	11																	
17	SR 1863 (CANOE LANE)	FROM NC 251 TO EOM	1	0.01	0.69	76														7,202	7,202		
18	SR 1873 (SUN VALLEY COURT)	FROM SR 1821 (SUN VALLEY DRIVE) TO DEAD END	1	0.00	0.09	10																	
19	SR 1883 (AIKEN ROAD)	FROM SR SR 1882 (WOODLAND HILLS ROAD) PAVEMENT CHANGE TO SR 1839 (OLD MARSHALL HIGHWAY)	1	0.01	0.95	106														10,085	10,085		
20	SR 2162 (HOLCOMBE BRANCH ROAD)	FROM NC 197 TO MADISON COUNTY LINE	1	0.01	1.50	168														15,920	15,920		
21	SR 3426 (MCINTOSH ROAD)	FROM SR 3431 (POND ROAD) TO SR 1224 (WEST OAKVIEW ROAD)	5	0.01	0.67	74					60					12				6,980	6,980		
22	SR 3447 (QUEEN ROAD)	FROM SR 3446 (ENKA LAKE ROAD) TO NC 151	5	0.01	1.03	134														10,880	10,880		
<b>GRAND TOTAL FOR PROJ NO. 2024CPT.13.06.20111</b>						<b>1328</b>	<b>120</b>	<b>1</b>	<b>222</b>	<b>88</b>	<b>245</b>	<b>180</b>	<b>4</b>	<b>12</b>	<b>12</b>	<b>22</b>	<b>8</b>	<b>2</b>	<b>83,510</b>	<b>87,054</b>	<b>36</b>	<b>58</b>	
									425			28			32			170,564		94			

\* NOTE - ALL MAPS, COUNTY= BUNCOMBE, WBS = 2024CPT.13.06.20111, FINAL SURFACE TESTING REQUIRED = NO, WARM MIX ASPHALT REQUIRED = NO, NUMBER OF LANES = 2.



# SIGNING FOR RESURFACING PROJECTS

**LEGEND**  
 ┆ STATIONARY SIGN  
 ← DIRECTION OF TRAFFIC FLOW



## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	 	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#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)</p>	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> <li>LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>SUBDIVISION ROADS</li> <li>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>             PLACED 500' IN ADVANCE OF FLAGGER.         </div> <div>             PLACED 250' IN ADVANCE OF FLAGGER.         </div> </div>
		<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>	
		<ul style="list-style-type: none"> <li>THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. 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>	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.</p>	
	<p>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.</p>		

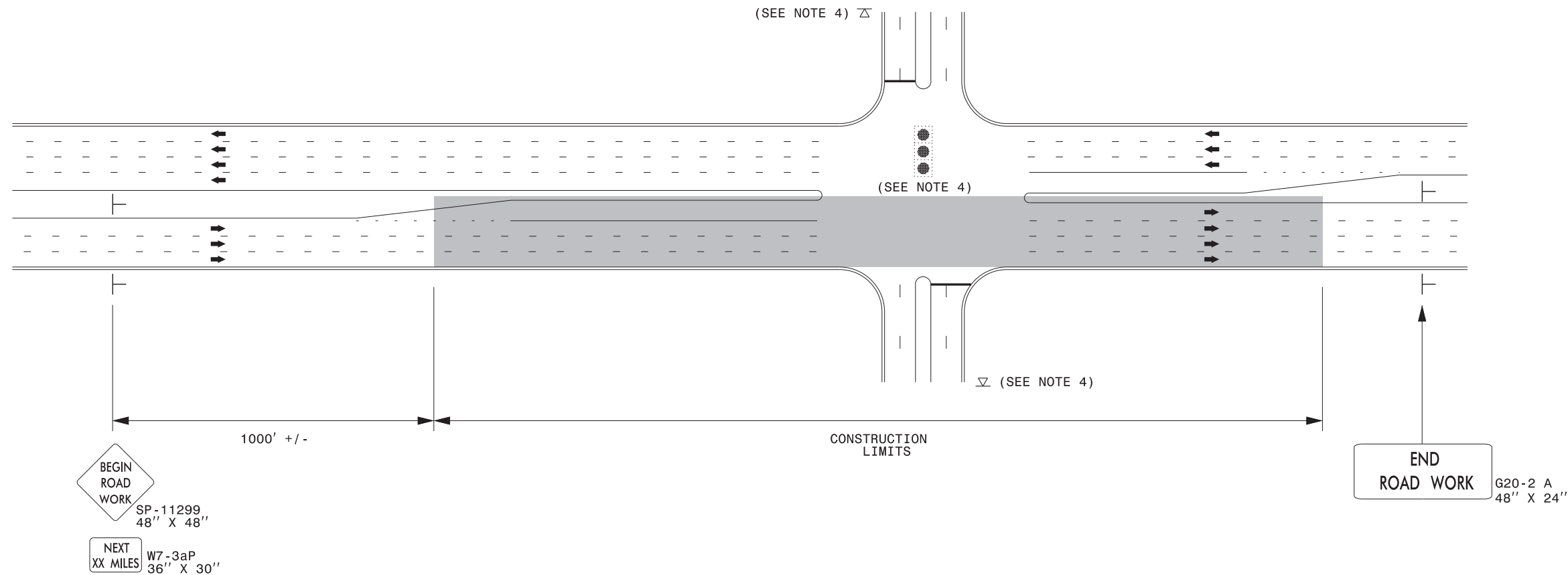
MAPS LESS THAN 2 MILES

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

## URBAN / SUBURBAN WORKZONES



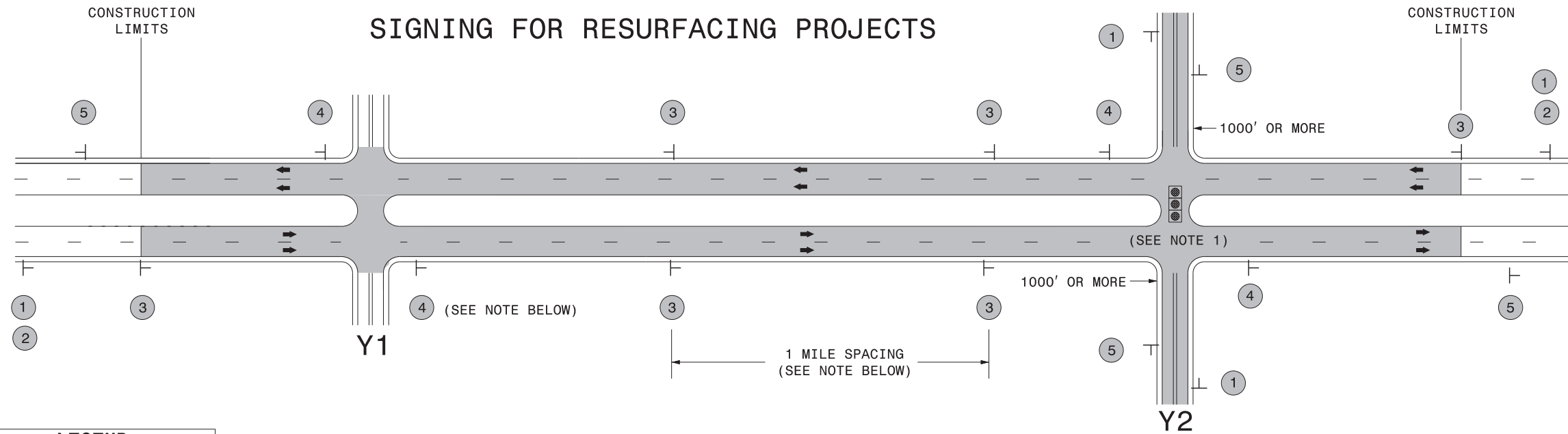
### NOTES:

- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND	
├	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW



**RESURFACING ADVANCE  
WARNING SIGNS FOR  
URBAN / SUBURBAN  
FACILITIES**

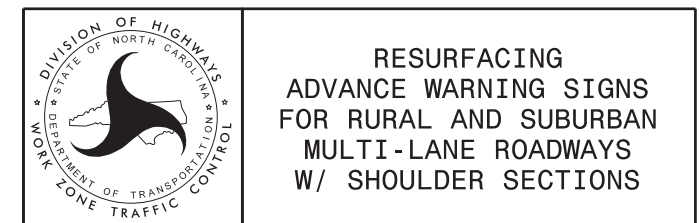


**LEGEND**  
 ┆ STATIONARY SIGN  
 ← DIRECTION OF TRAFFIC FLOW

**MAINLINE (-L-) SIGNING**

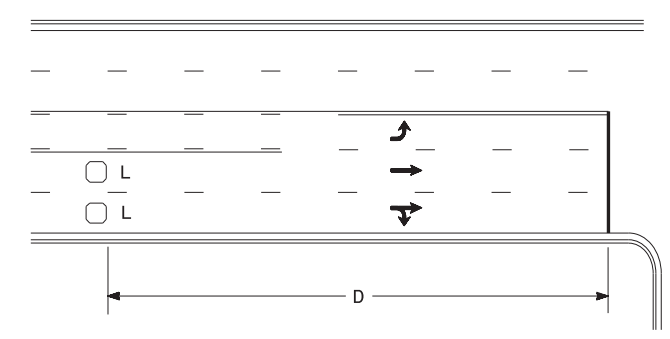
**-Y- LINE SIGNING**

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><b>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</b></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, ADVANCE WARNING PORTABLE 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> </div> <div style="text-align: center;">   <small>W20-7 A 48" X 48"</small> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.</li> </ol>
	2		#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3		PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE 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.	
5		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.		





### High Speed Detection (≥40 mph)

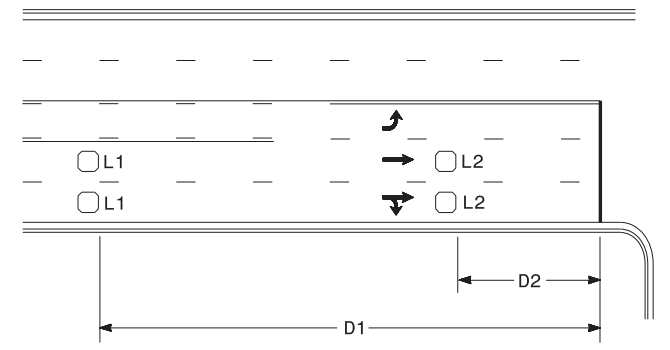


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

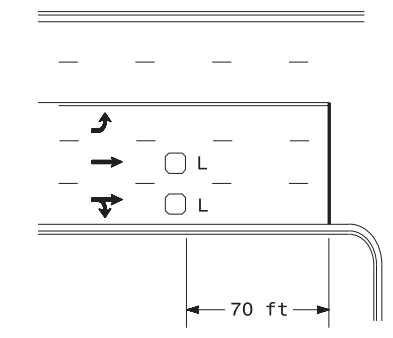


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

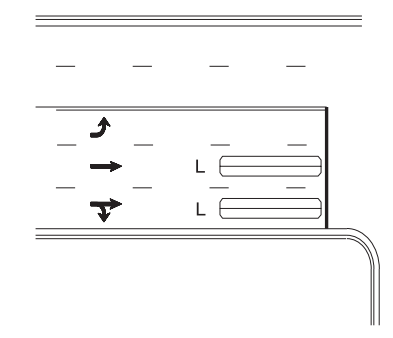
"Stretch" Operation

### Low Speed Detection (≤35 mph)



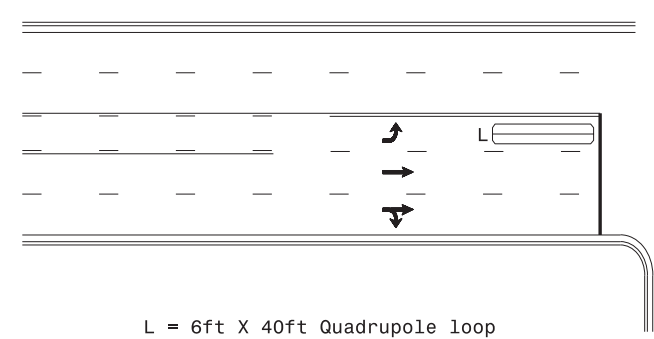
L = 6ft X 6ft  
Wired in series

OR



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

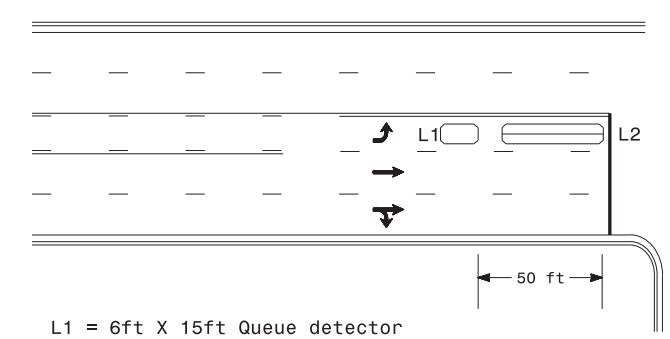
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

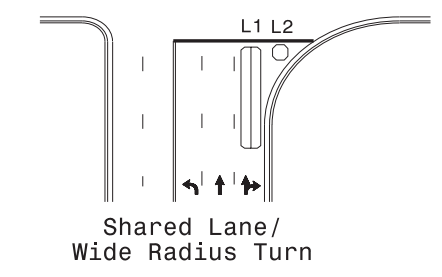
OR



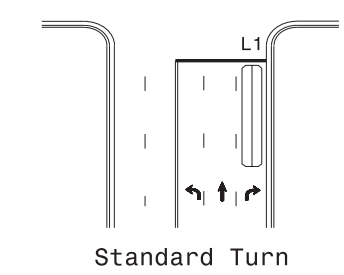
L1 = 6ft X 15ft Queue detector  
L2 = 6ft X 40ft Quadrupole loop

Queue Loop Detection

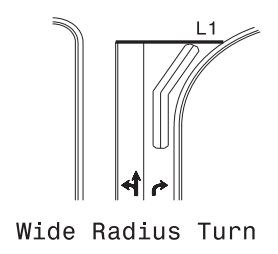
### Right Turn Lane Detection



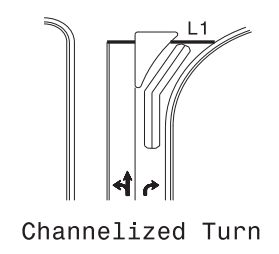
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

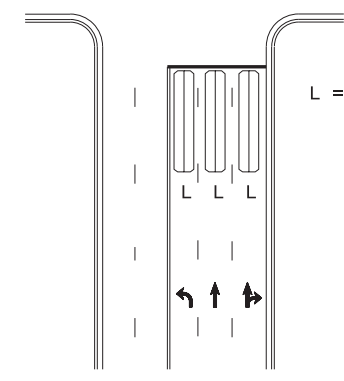


Wide Radius Turn



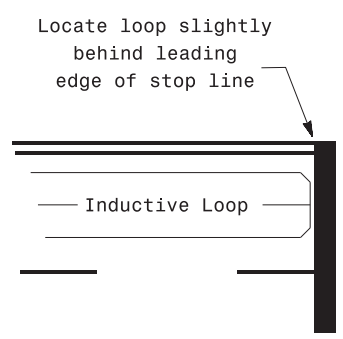
Channelized Turn

### Side Street Detection



L = 6ft X 40ft  
Quadrupole loop  
Wired to separate  
detectors/channels

### Presence Loop Placement at Stop Lines



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

Prepared in the Offices of:

Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:

SCALE: N/A

REVISIONS: \_\_\_\_\_ INIT. DATE

SIG. INVENTORY NO. \_\_\_\_\_ DATE

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