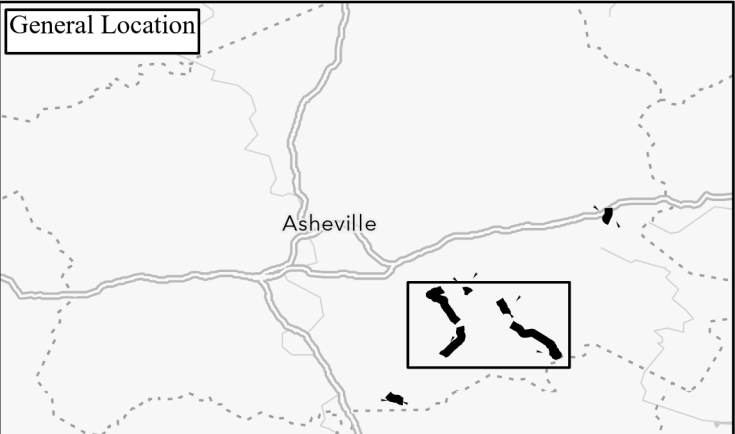
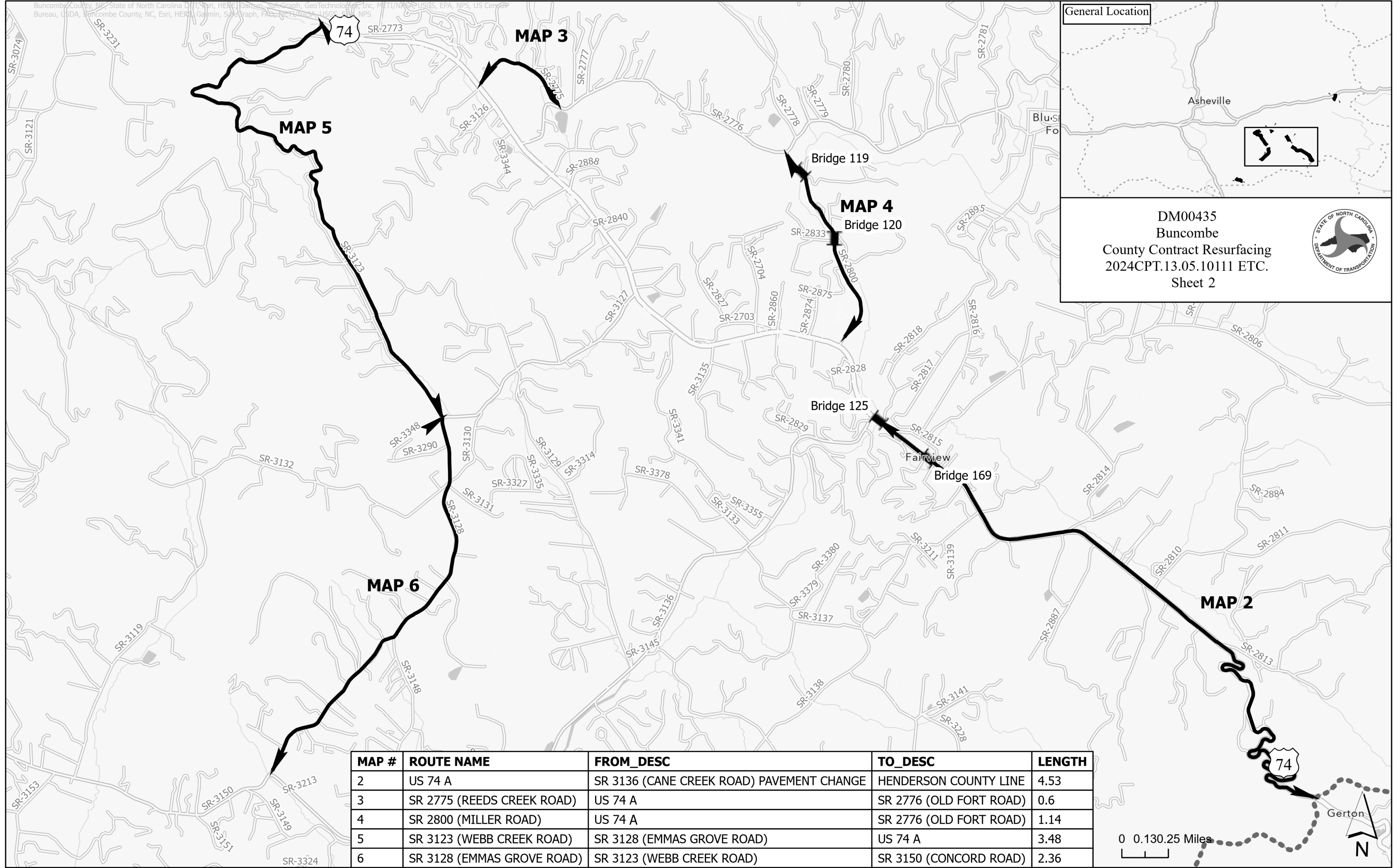


DM00435  
 Buncombe  
 County Contract Resurfacing  
 2024CPT.13.05.10111 ETC.  
 Sheet 1



MAP #	ROUTE NAME	FROM_DESC	TO_DESC	LENGTH
1	NC 9	LAKEY GAP ROAD (TOWN STREET) +.14 MILE	RAILROAD TRACKS	1.17



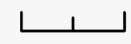


DM00435  
 Buncombe  
 County Contract Resurfacing  
 2024CPT.13.05.10111 ETC.  
 Sheet 2

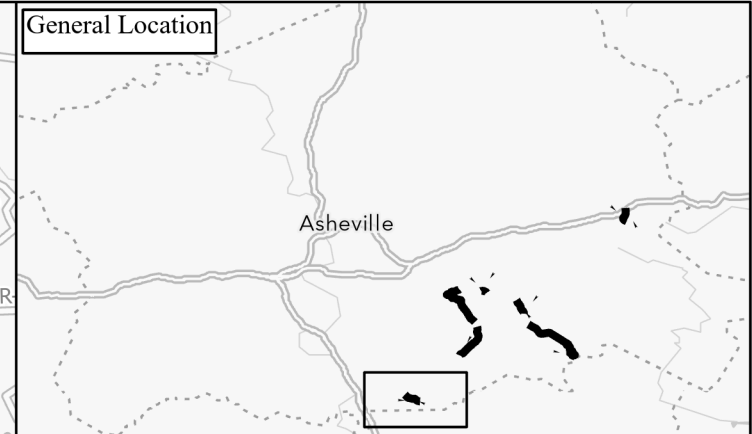
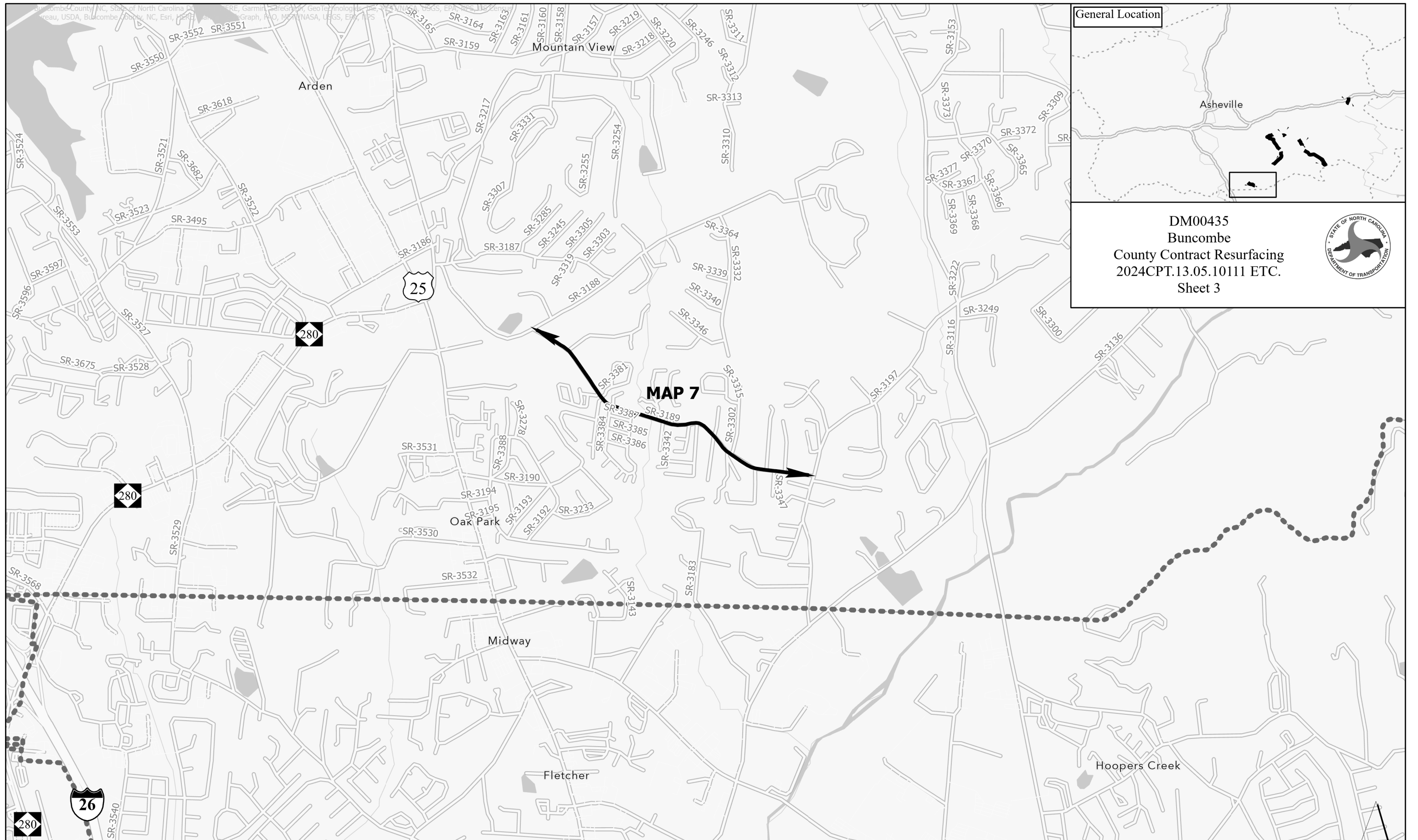


MAP #	ROUTE NAME	FROM_DESC	TO_DESC	LENGTH
2	US 74 A	SR 3136 (CANE CREEK ROAD) PAVEMENT CHANGE	HENDERSON COUNTY LINE	4.53
3	SR 2775 (REEDS CREEK ROAD)	US 74 A	SR 2776 (OLD FORT ROAD)	0.6
4	SR 2800 (MILLER ROAD)	US 74 A	SR 2776 (OLD FORT ROAD)	1.14
5	SR 3123 (WEBB CREEK ROAD)	SR 3128 (EMMAS GROVE ROAD)	US 74 A	3.48
6	SR 3128 (EMMAS GROVE ROAD)	SR 3123 (WEBB CREEK ROAD)	SR 3150 (CONCORD ROAD)	2.36

0 0.130.25 Miles



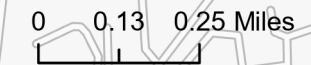
Gerton

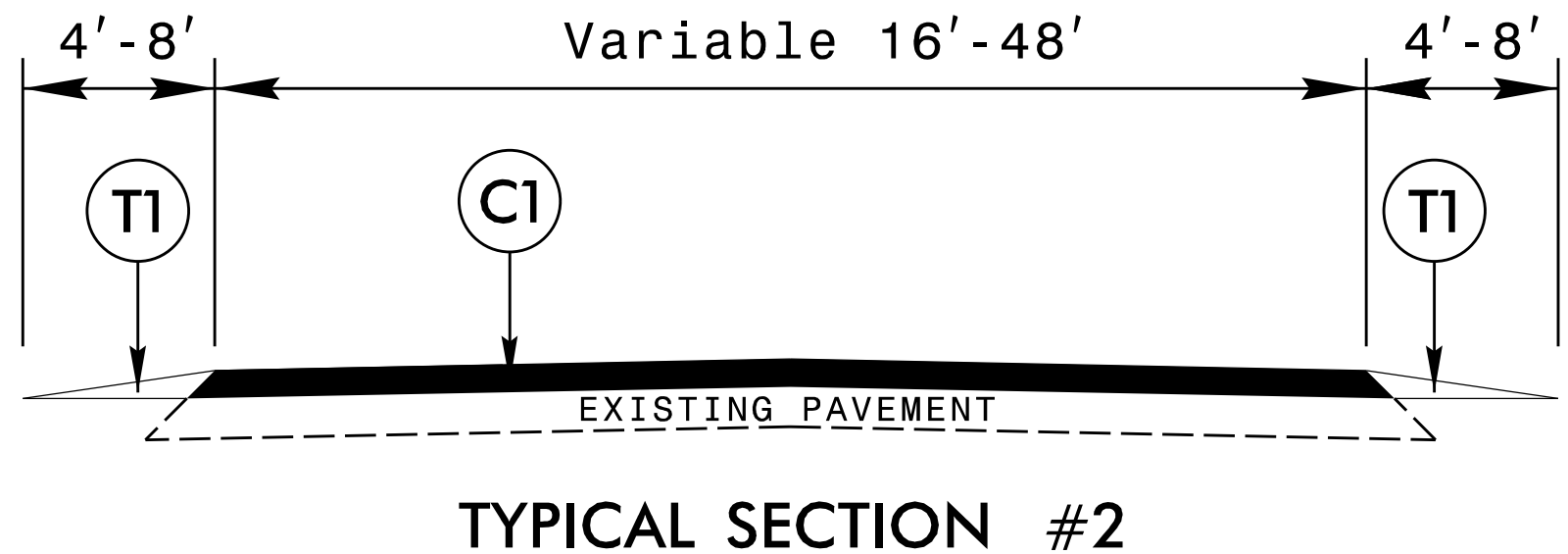
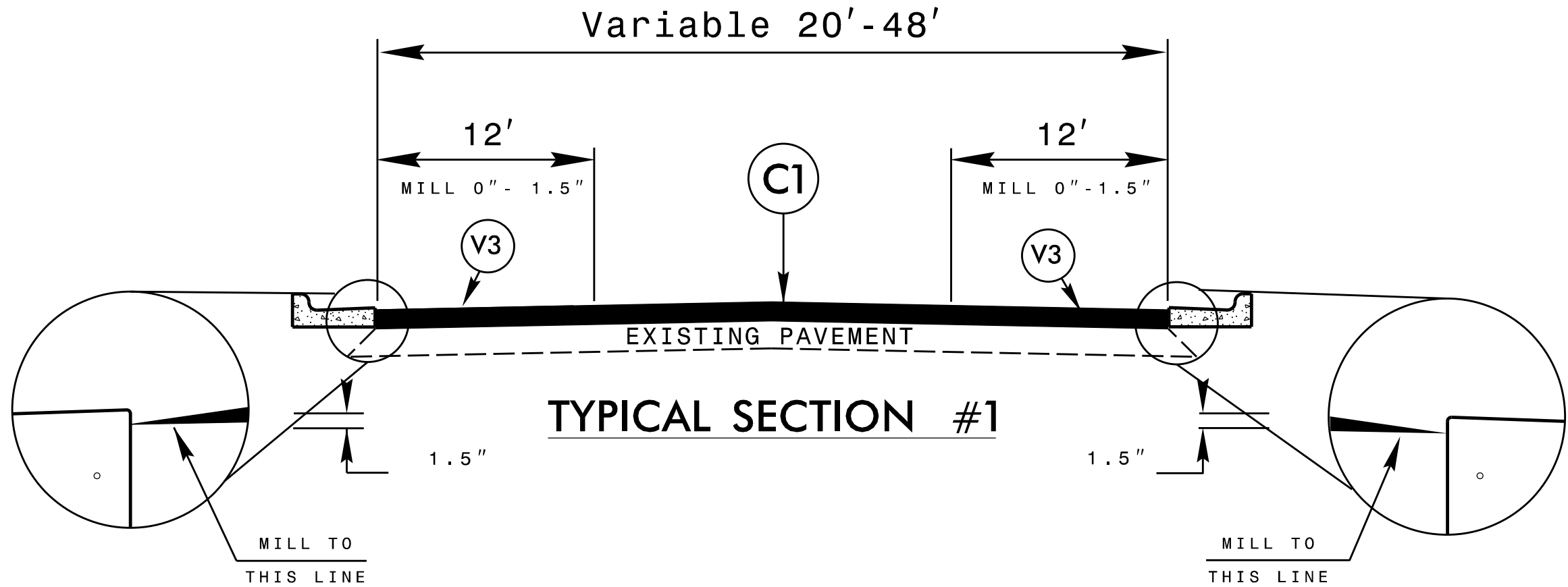


DM00435  
 Buncombe  
 County Contract Resurfacing  
 2024CPT.13.05.10111 ETC.  
 Sheet 3

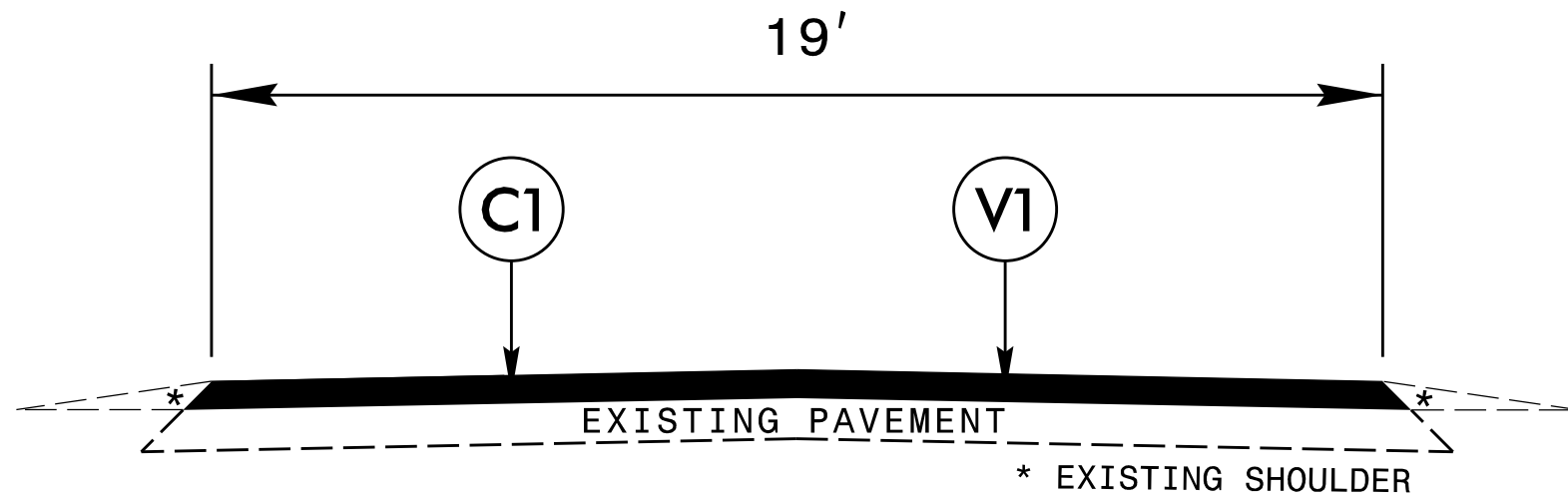


MAP #	ROUTE NAME	FROM_DESC	TO_DESC	LENGTH
7	SR 3189 (BALDWIN ROAD)	SR 3188 (CHRIST SCHOOL ROAD)	SR 3197 (LOWER CHRIST SCHOOL ROAD) INTERSECTION PAVEMENT CHANGE	1.13

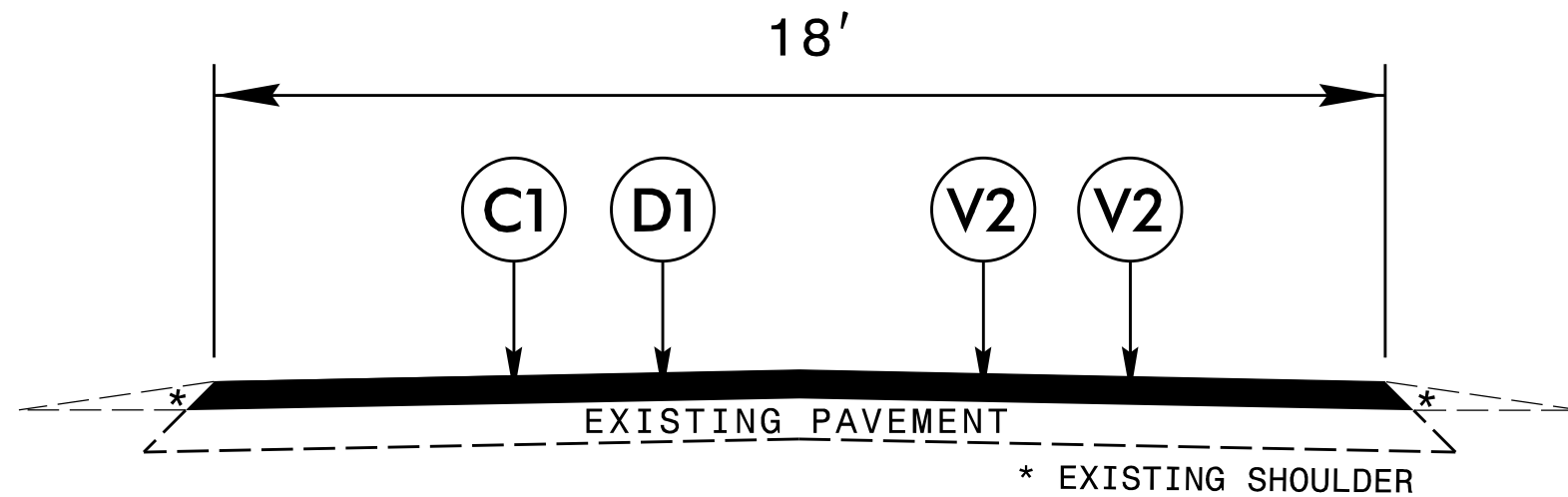




PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
D1	PROP. APPROX. 2-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT 2" DEPTH
V3	MILLING ASPHALT PAVEMENT, 0 TO 1-1/2" DEPTH
V4	INCIDENTAL MILLING



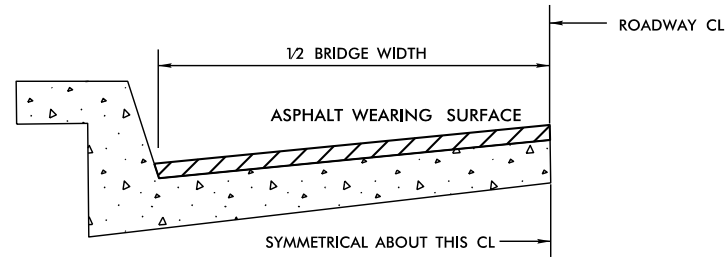
**TYPICAL SECTION #3**



**TYPICAL SECTION #4**

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD
D1	PROP. APPROX. 2-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
T1	SHOULDER RECONSTRUCTION
V1	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH
V2	MILLING ASPHALT PAVEMENT 2" DEPTH
V3	MILLING ASPHALT PAVEMENT, 0 TO 1-1/2" DEPTH
V4	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".

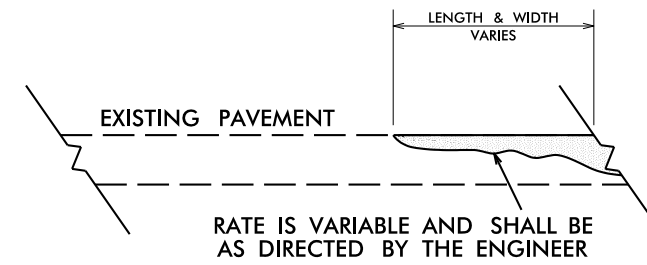
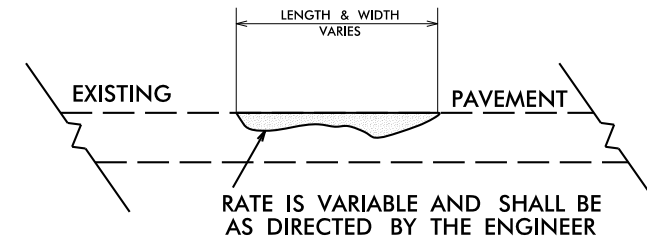
**NOTES**

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.

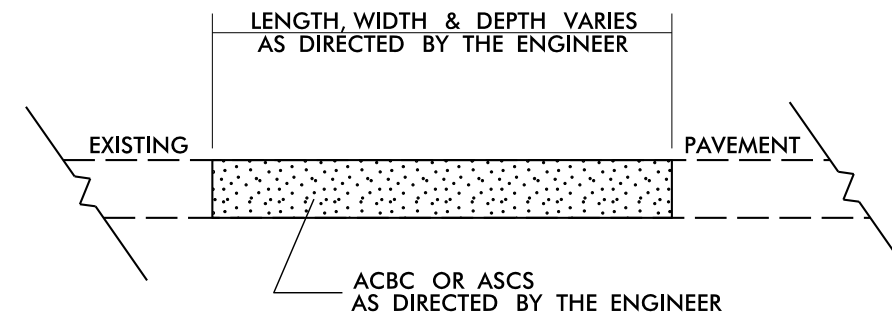
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.

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.

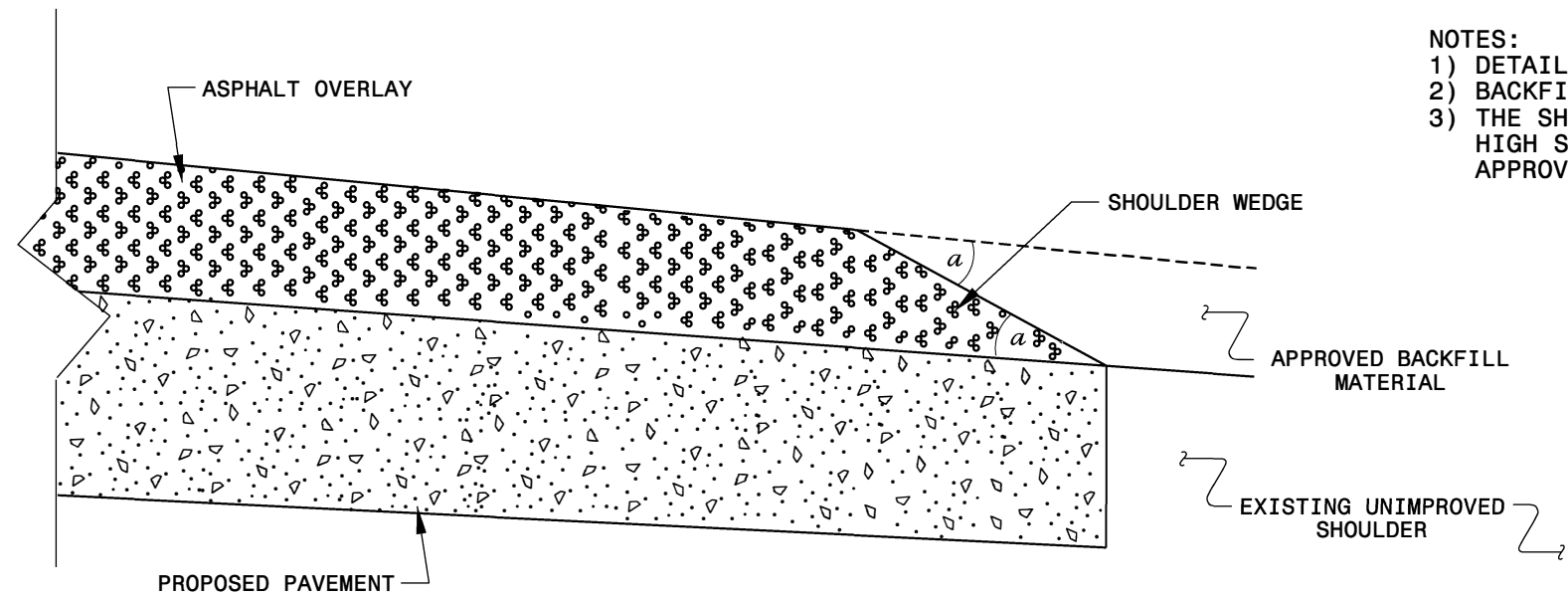


**DETAIL SHOWING METHOD OF WEDGING**

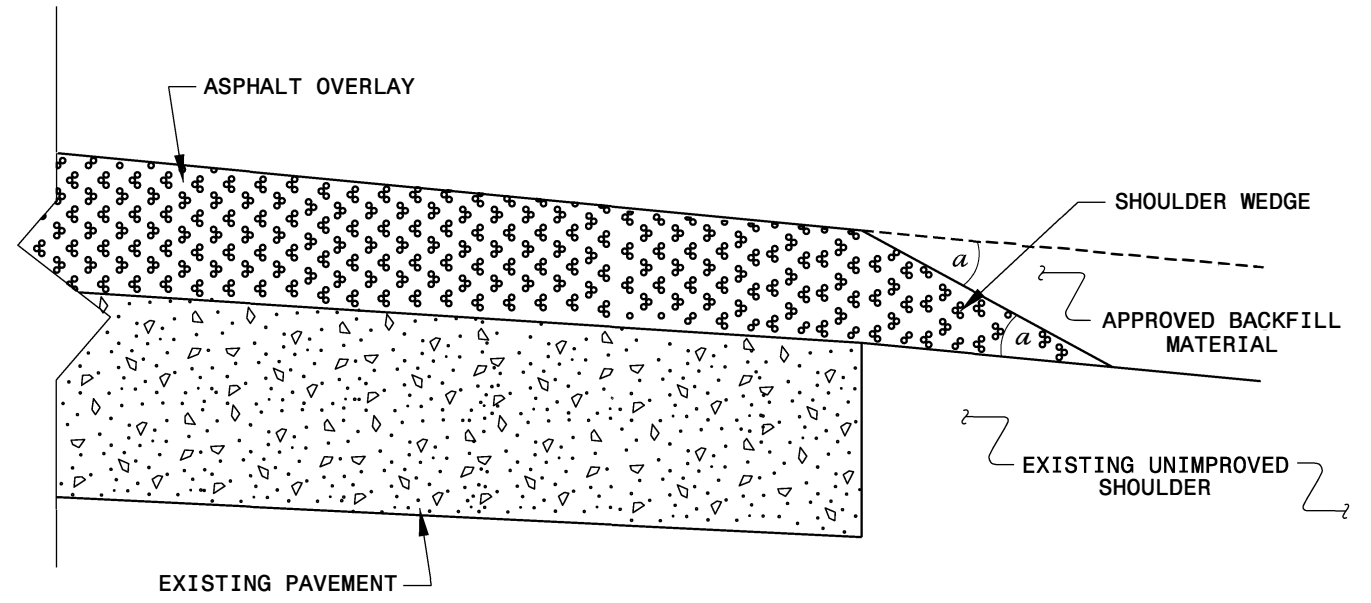


**PATCHING EXISTING PAVEMENT**

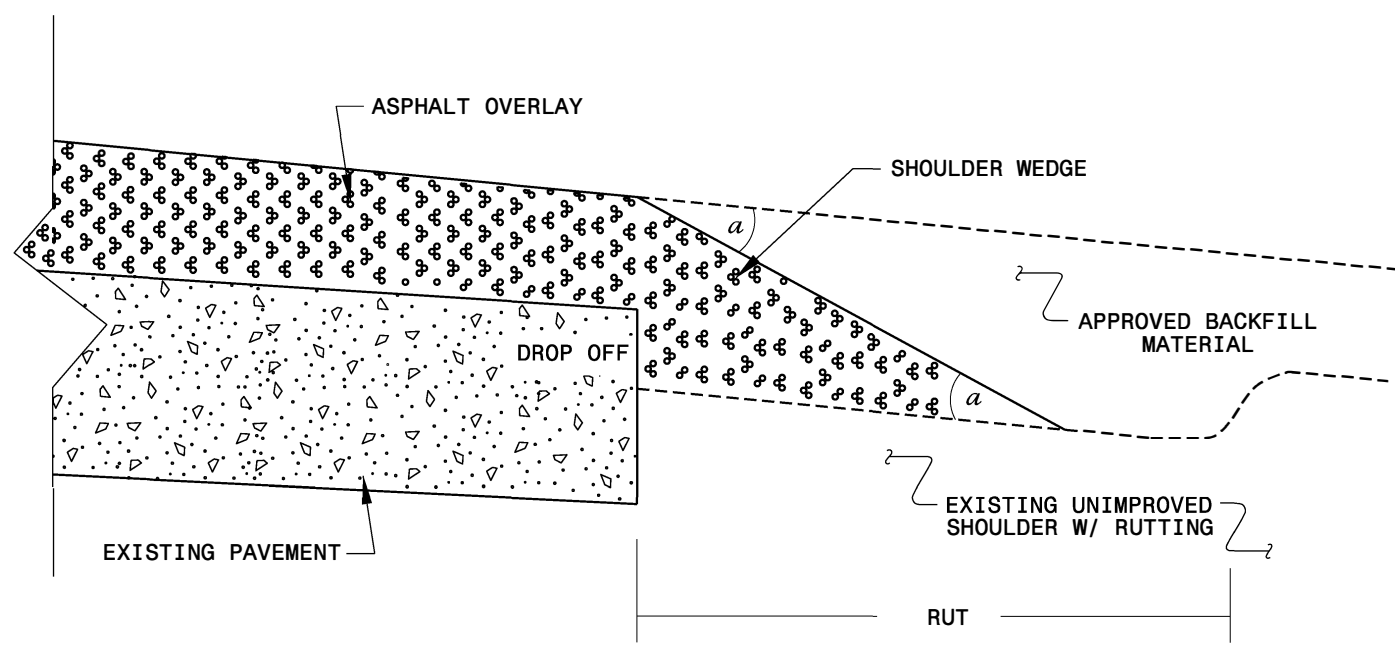
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



**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°

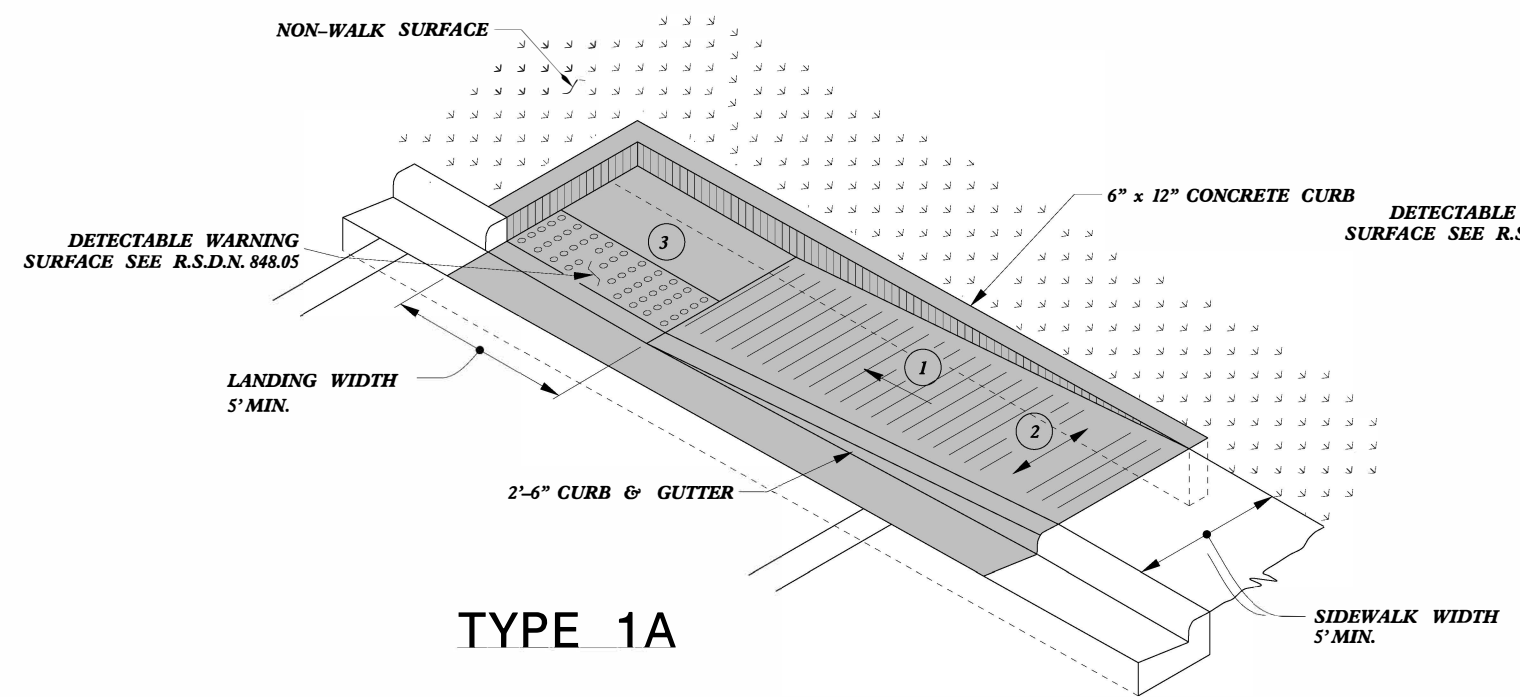


<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>SHOULDER WEDGE DETAILS</b>	
ORIGINAL BY: T. SPELL	DATE: 7-19-11
MODIFIED BY:	DATE: 2/2/16
CHECKED BY:	DATE:
FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn	

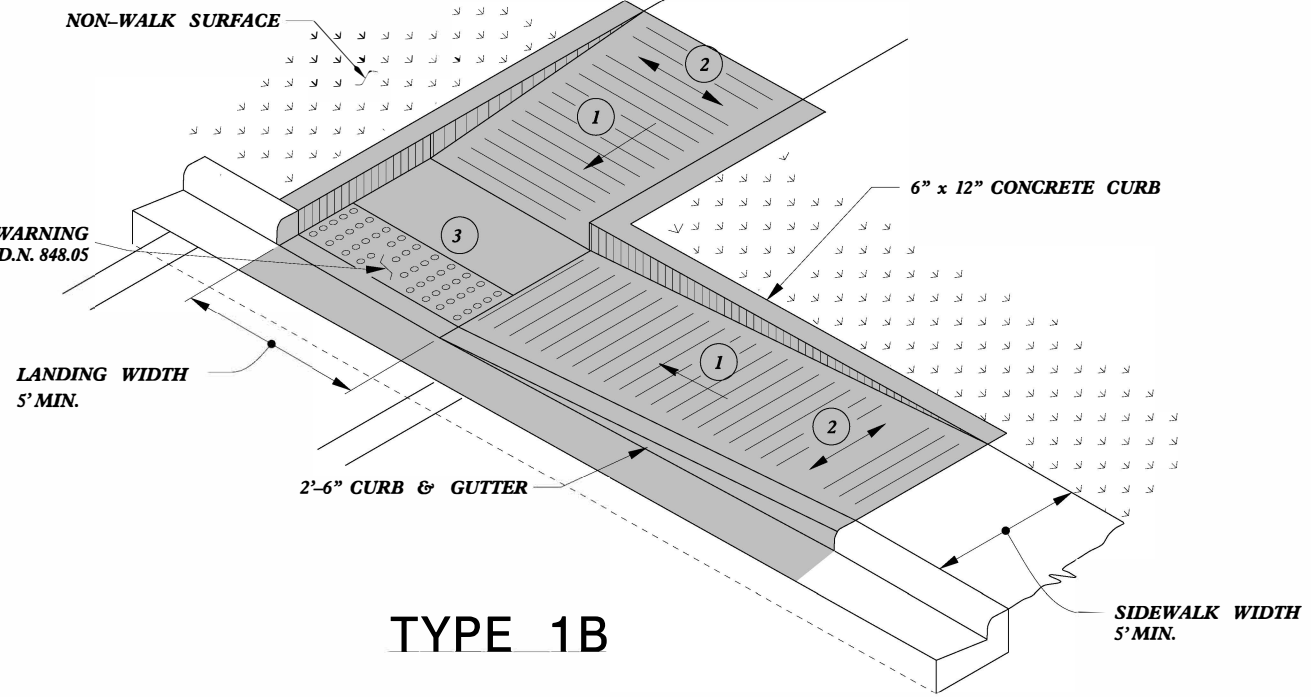
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

12-SEP-2018 10:10 S:\Contracts\Projects\Resurfacing Projects\Shoulder Wedge Details\Revised Shoulder Wedge Detail.dgn J:\overton AI\_CSD-212555

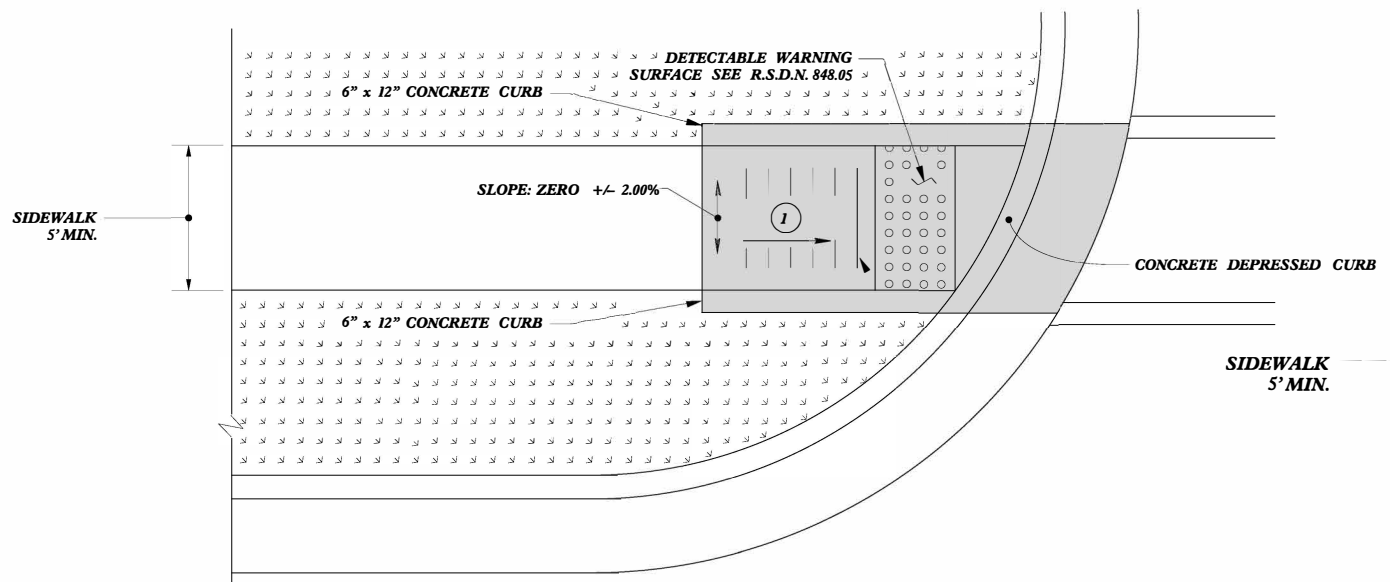




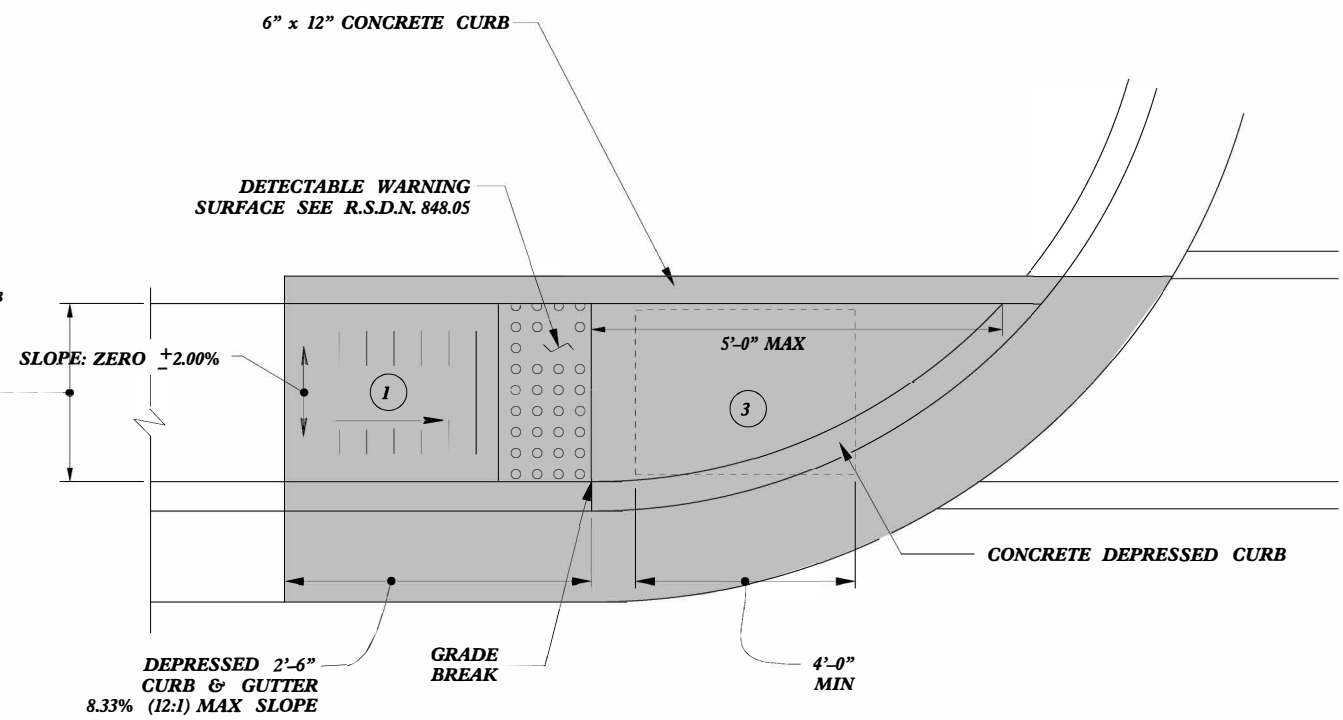
**TYPE 1A**



**TYPE 1B**



**TYPE 1 Modified**



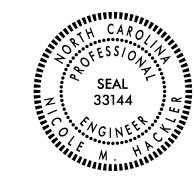
**TYPE 1**

- 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

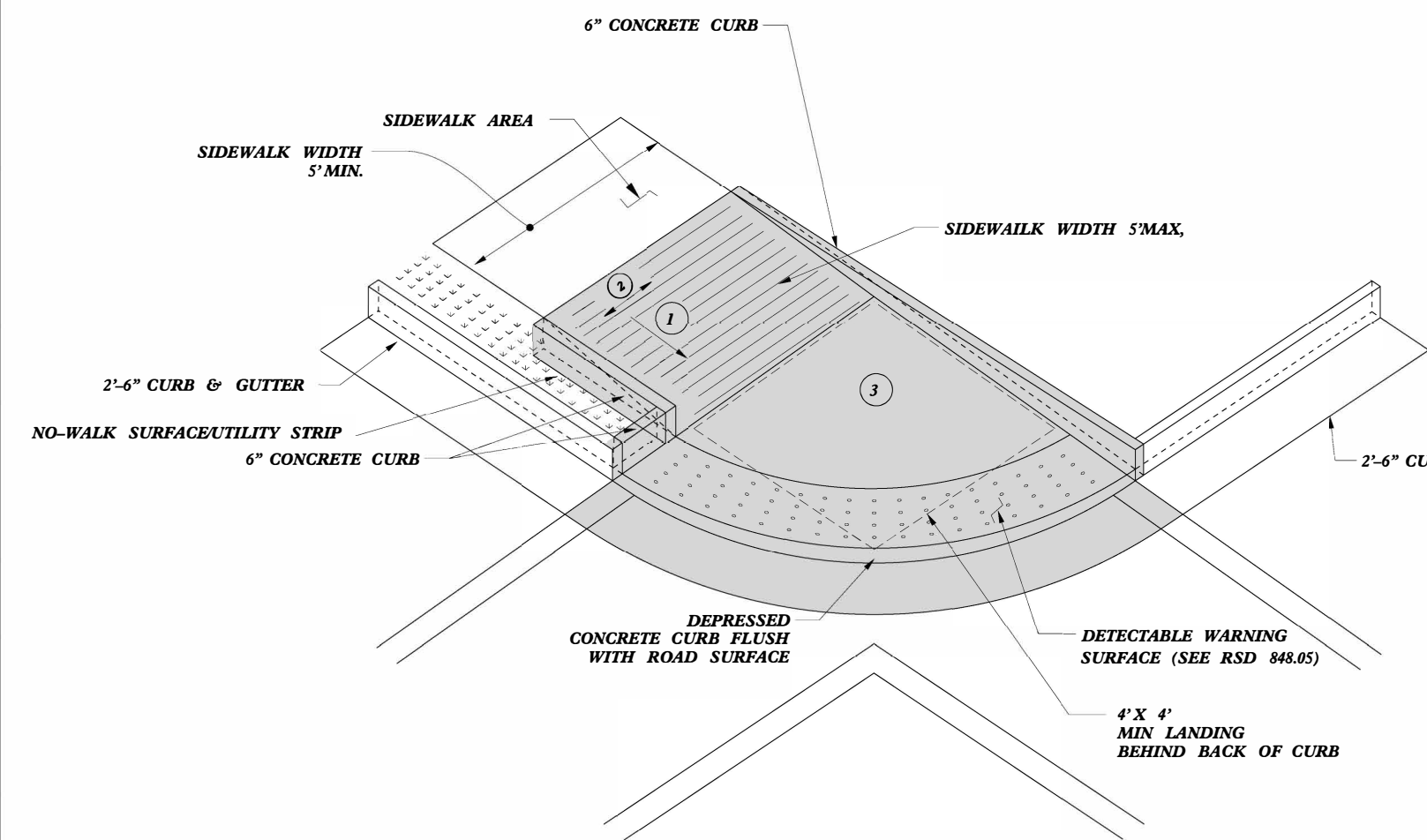


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

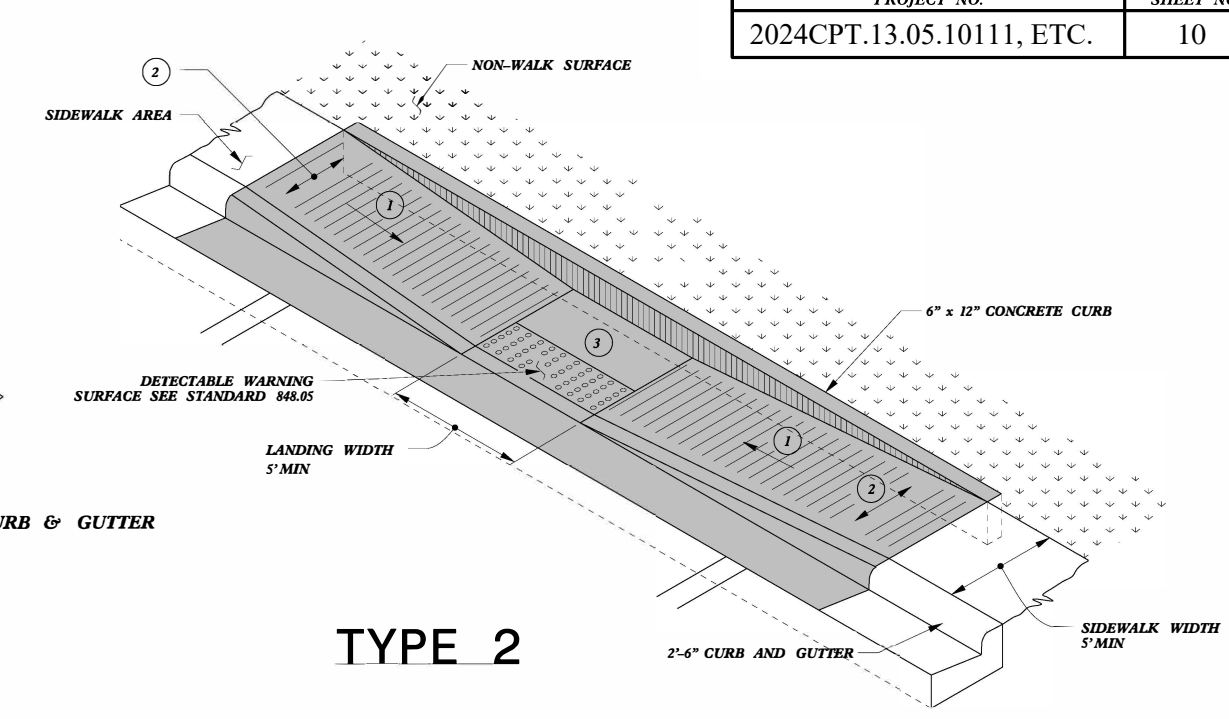
<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC. :stds/2012CurbRamp/CurbRampDetails.dgn	

5/14/99  
C:\P\2012\2012CurbRamp\CurbRampDetails.dgn  
USER: J.S. HOWERTON  
DATE: 7/7/11  
TIME: 10:00 AM

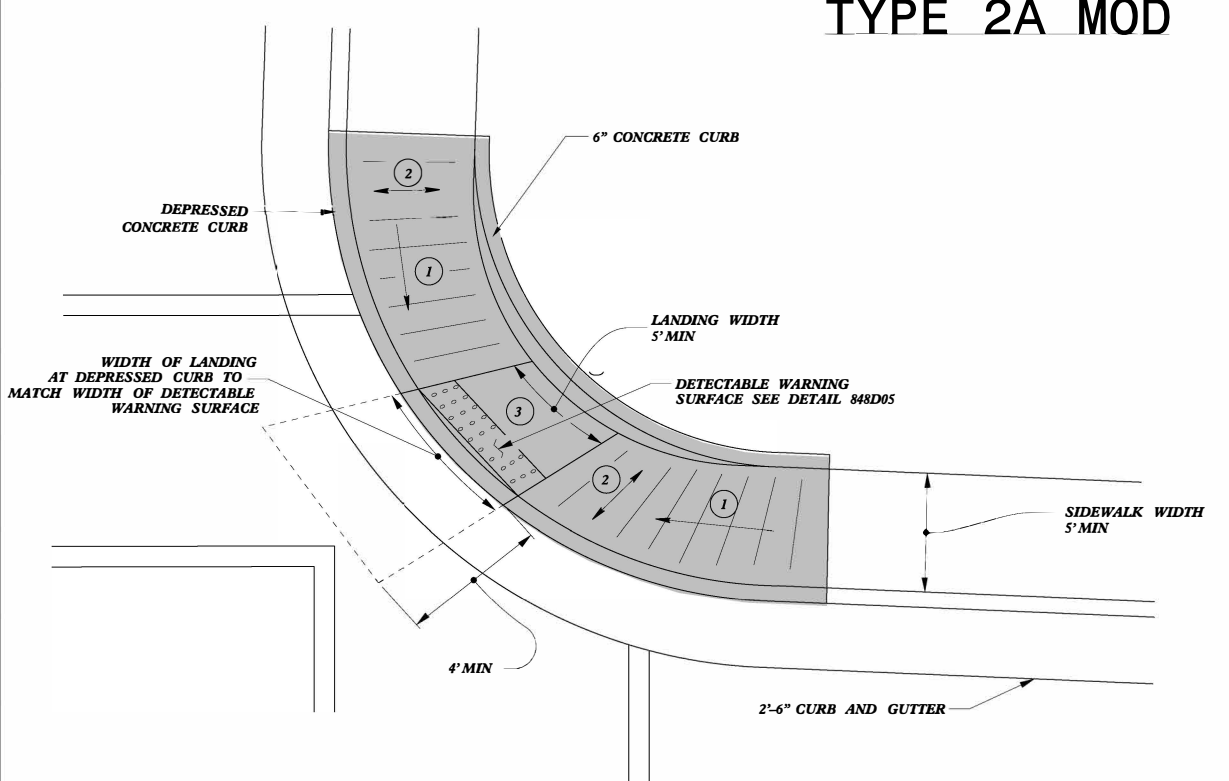
5/14/99



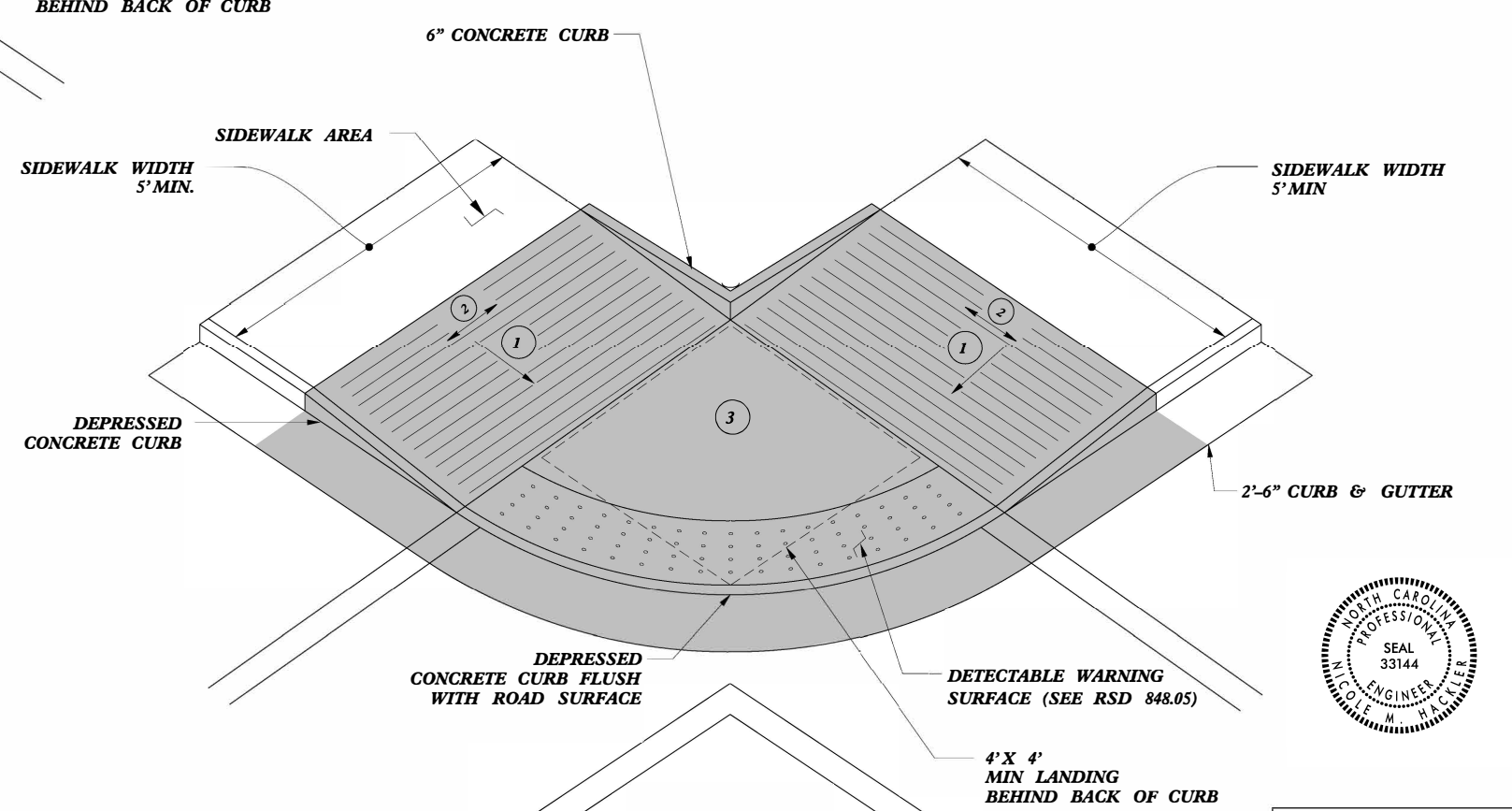
**TYPE 2A MOD**



**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

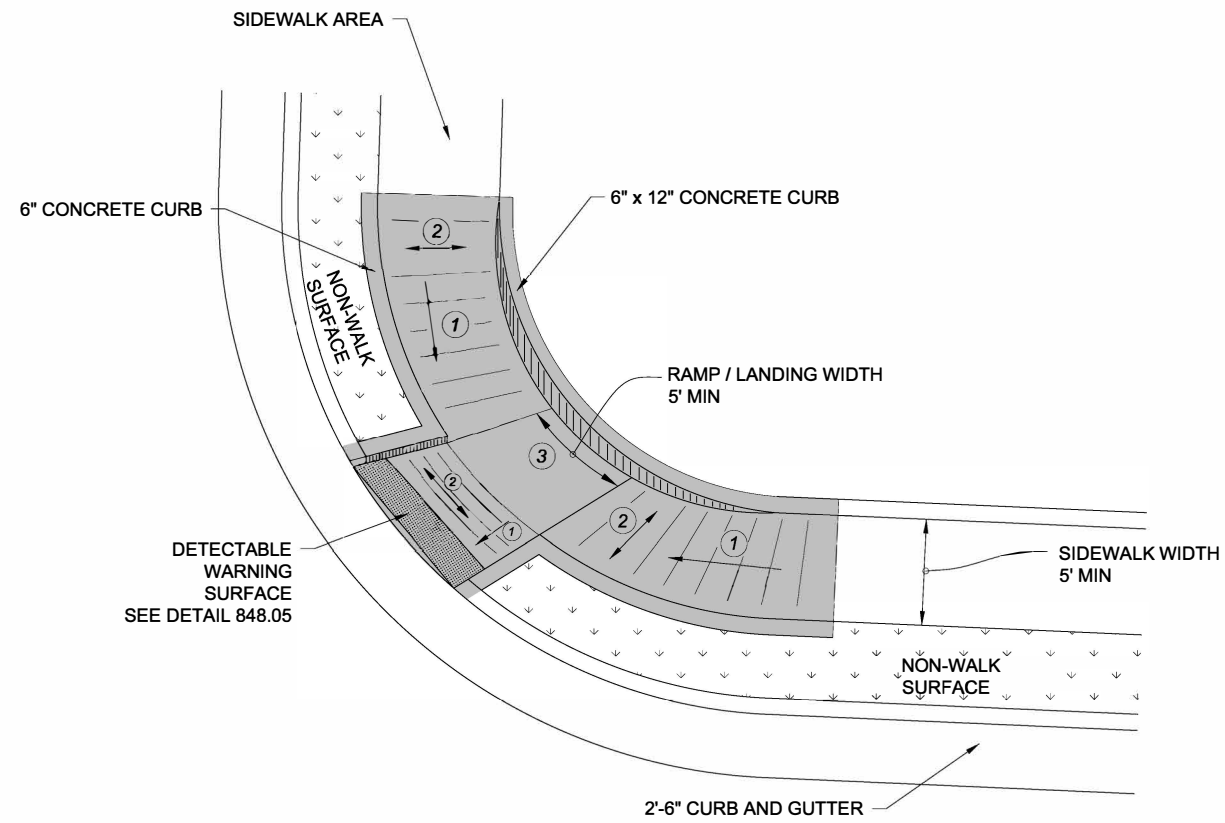


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

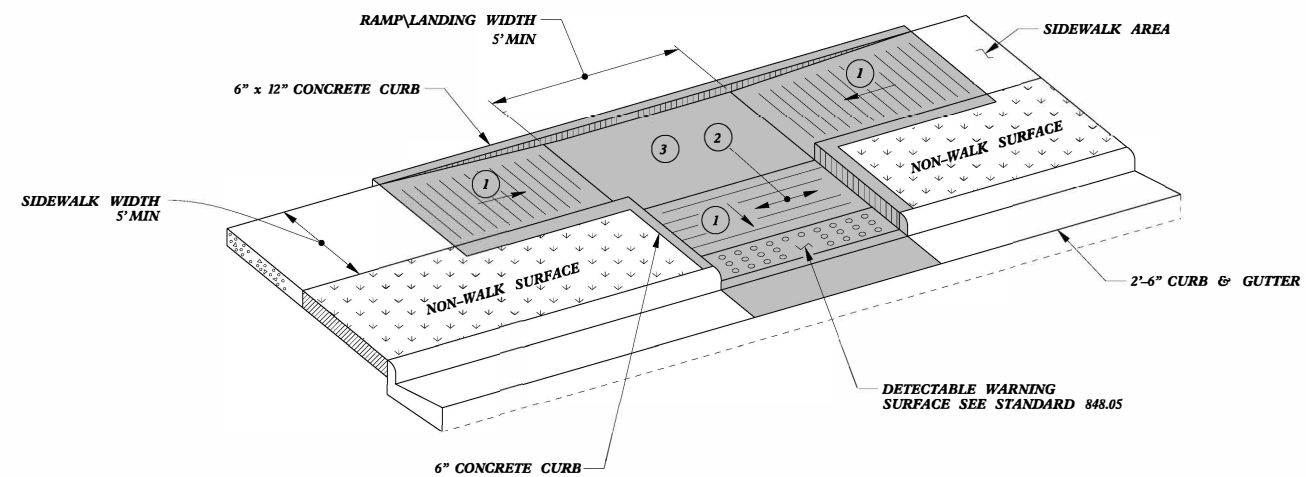
<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC. :stds/2012CurbRamp/CurbRampDetails.dgn	

CUSTOMER: 2024CPT.13.05.10111  
 USER: J.S.H.  
 DATE: 7/7/11

PAY LIMITS FOR 1 CURB RAMP



**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.



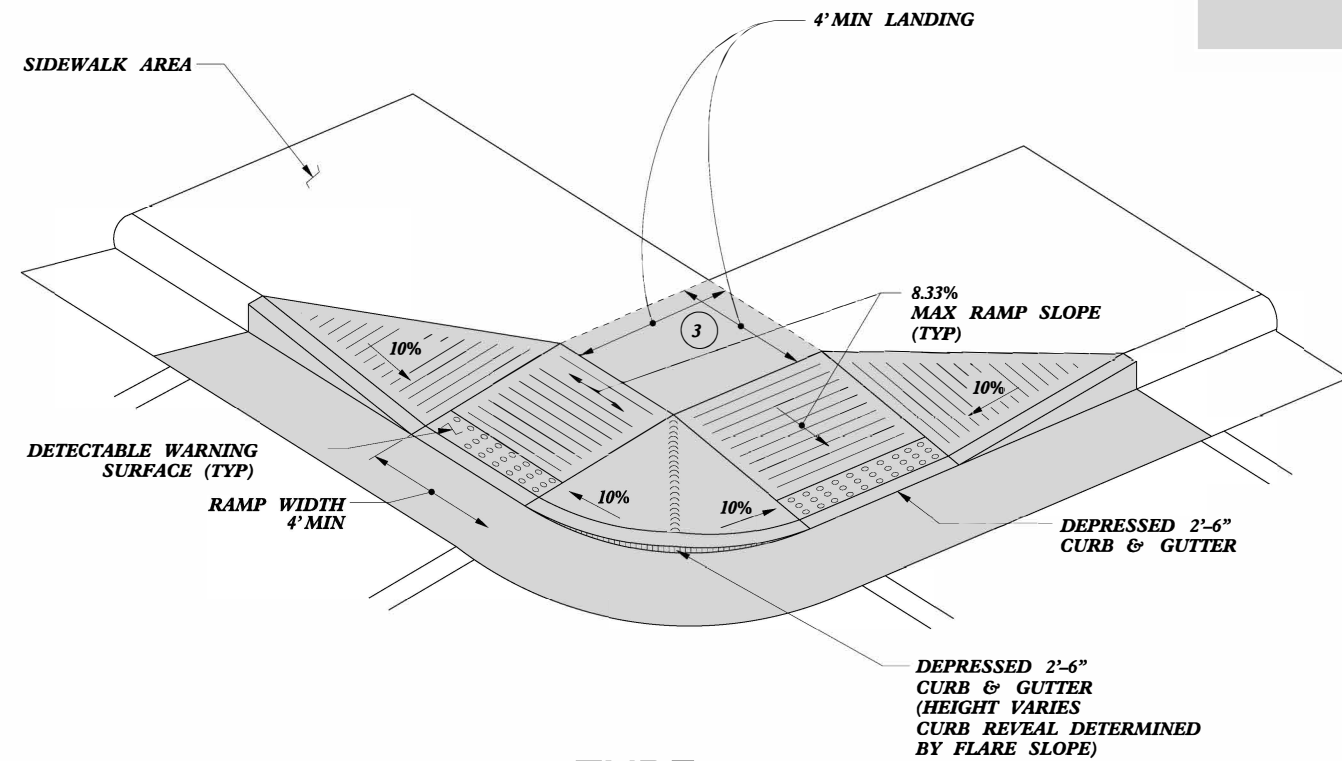
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UNLESS ALL SIGNATURES COMPLETED

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

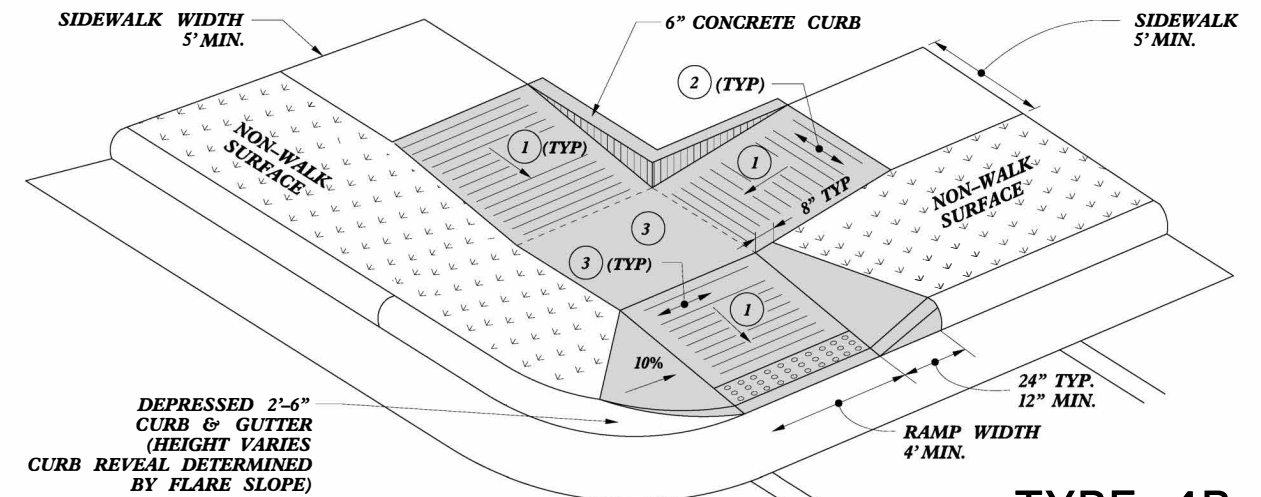
**CURB RAMPS**

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11  
 MODIFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
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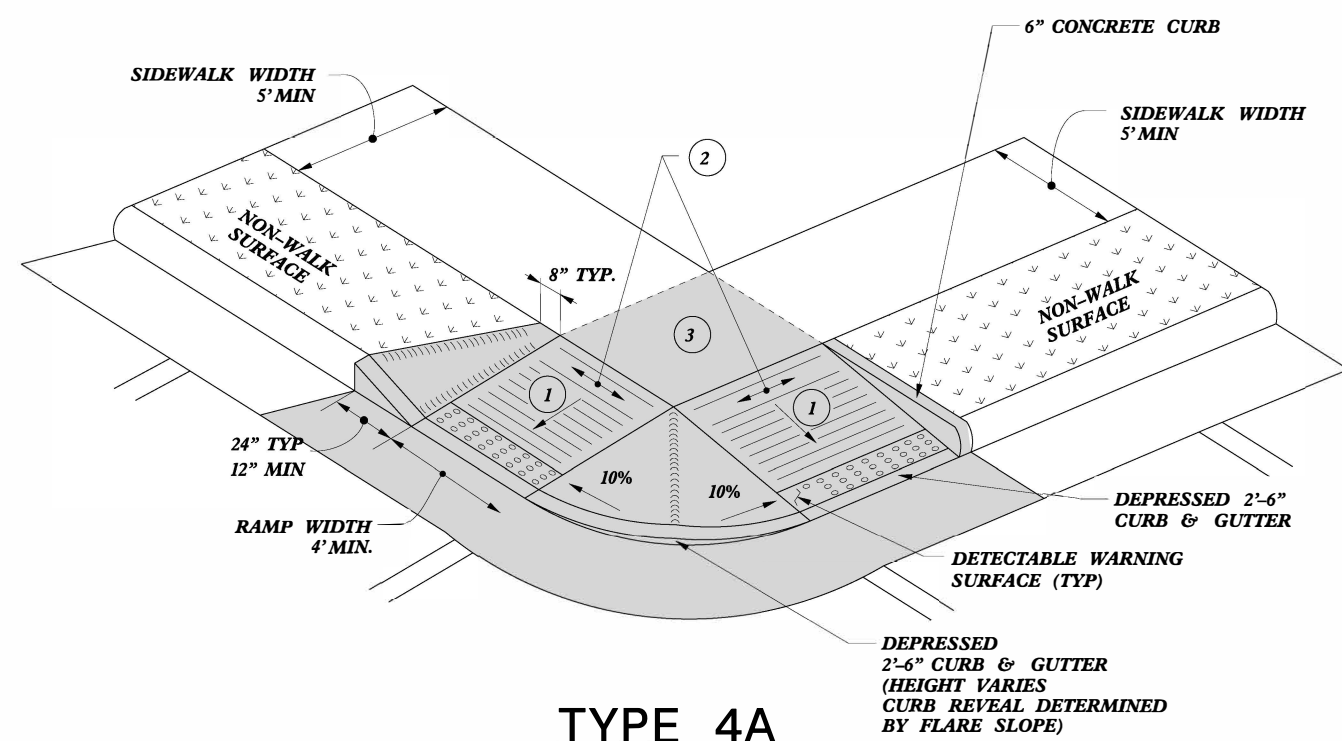
5/14/99  
 CUSTOMER: 2024CPT.13.05.10111  
 USER: J.S. HOWERTON  
 DATE: 7/7/11  
 FILE: stds/2012CurbRamp/CurbRampDetails.dgn



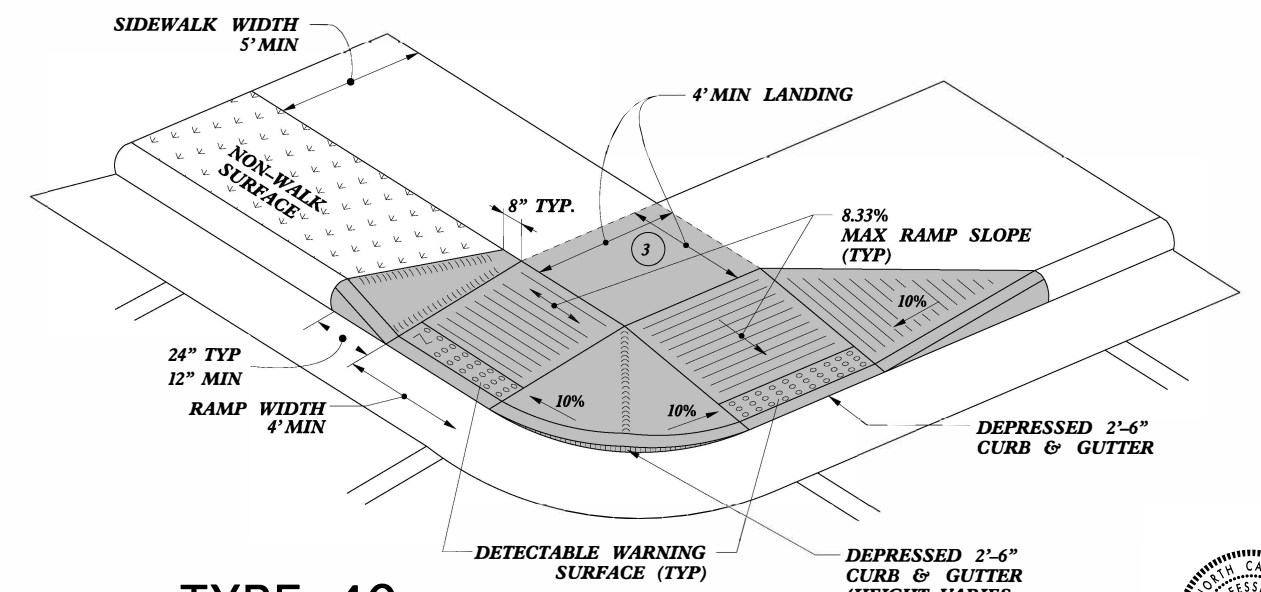
**TYPE 4**



**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

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

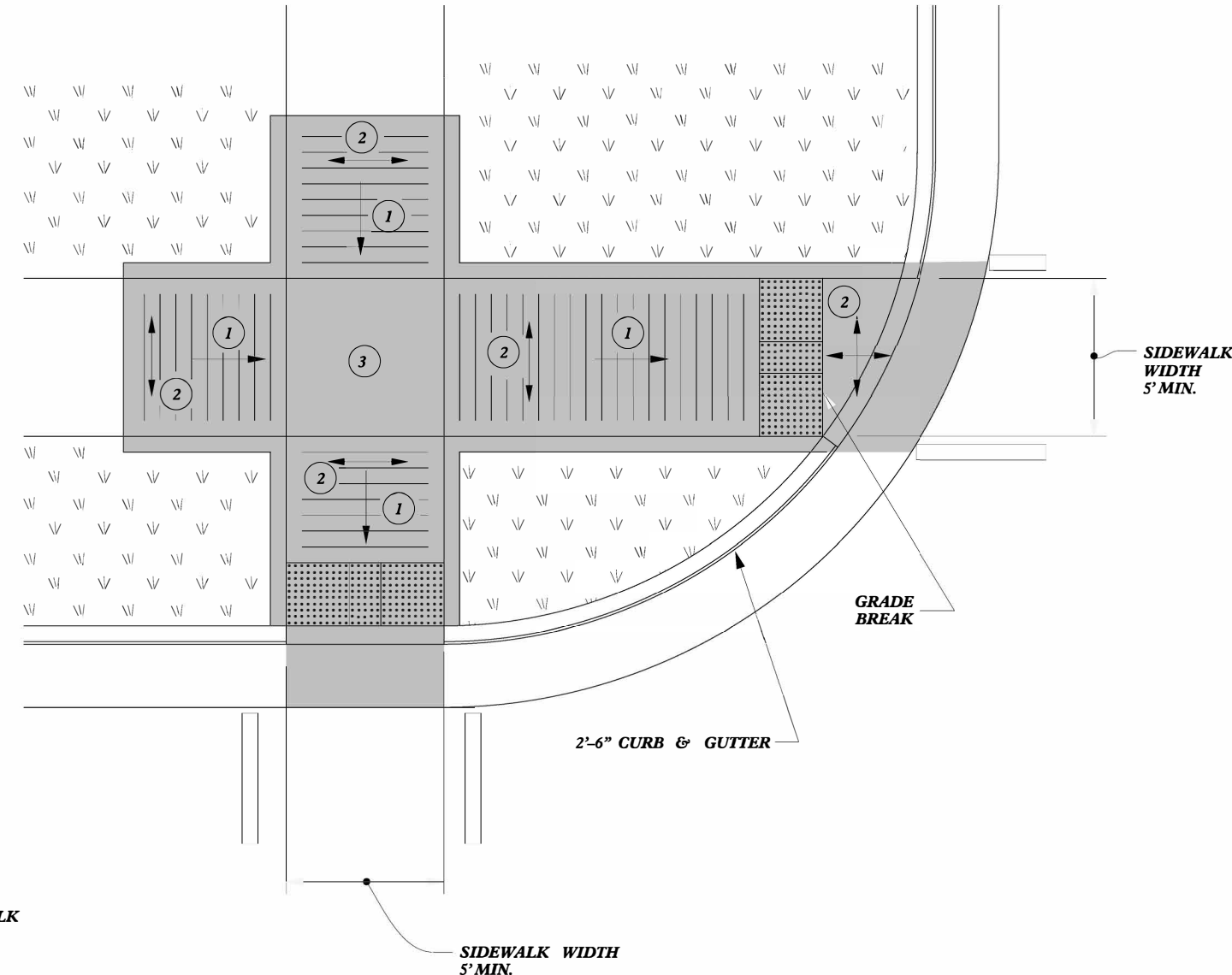
**CURB RAMPS**

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

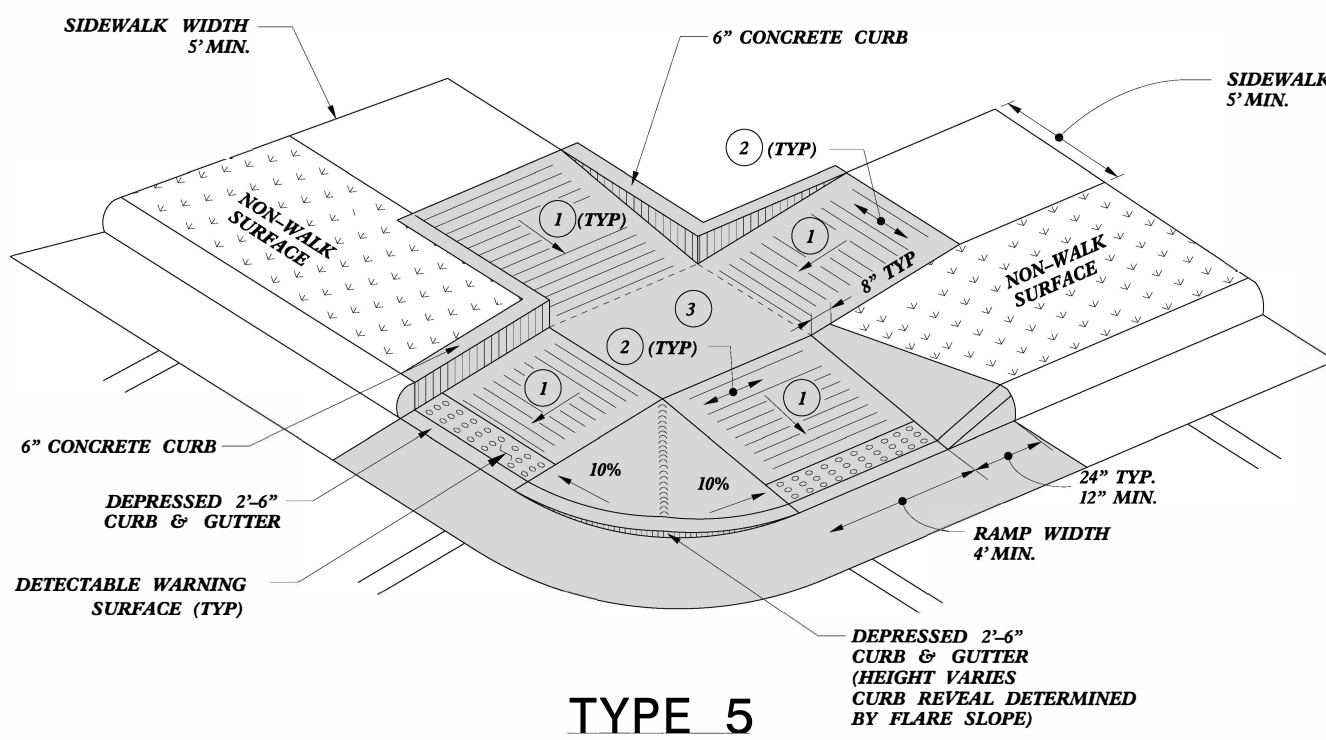
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99  
\$\$\$\$\$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.



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

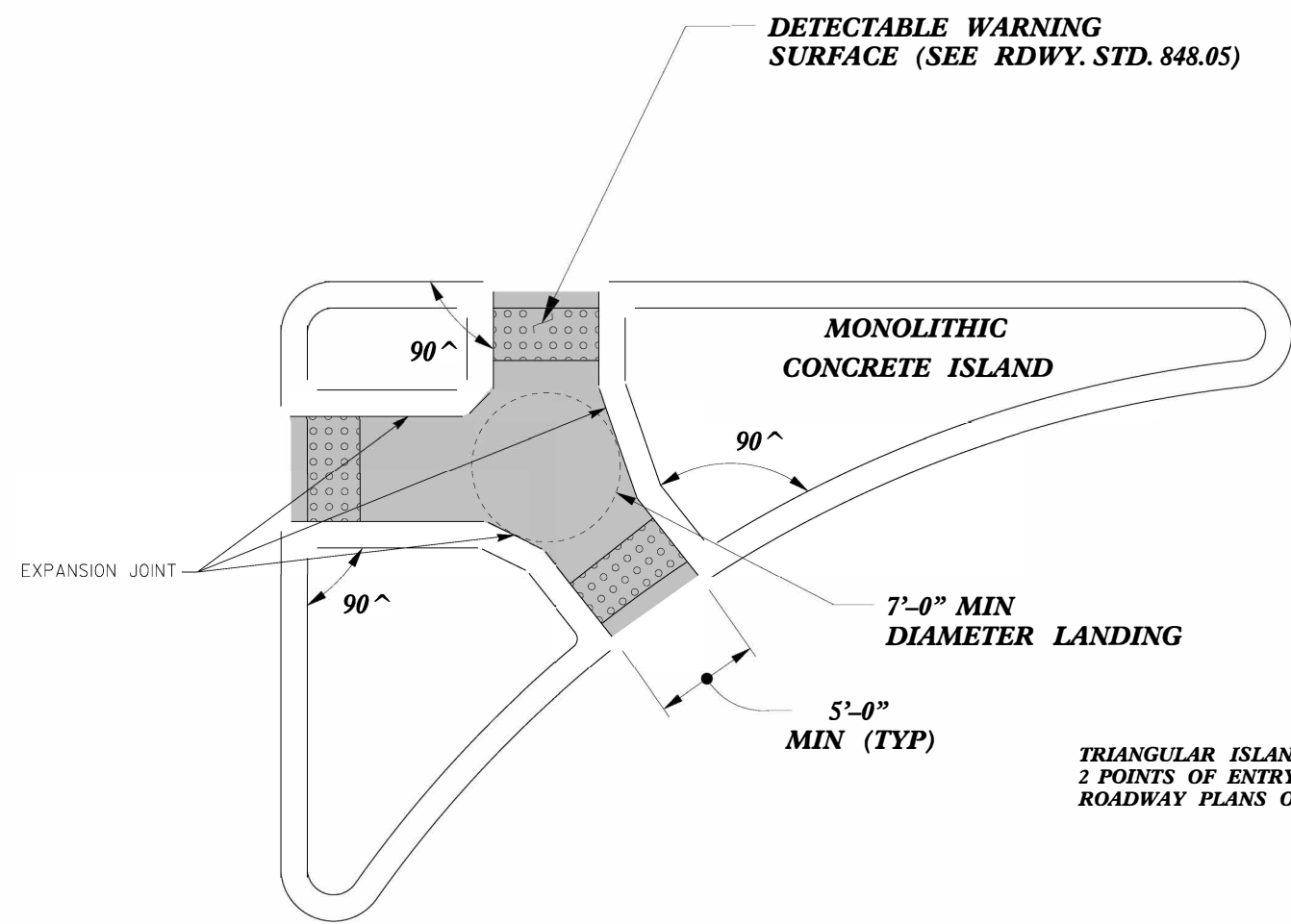
CURB RAMPS

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

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

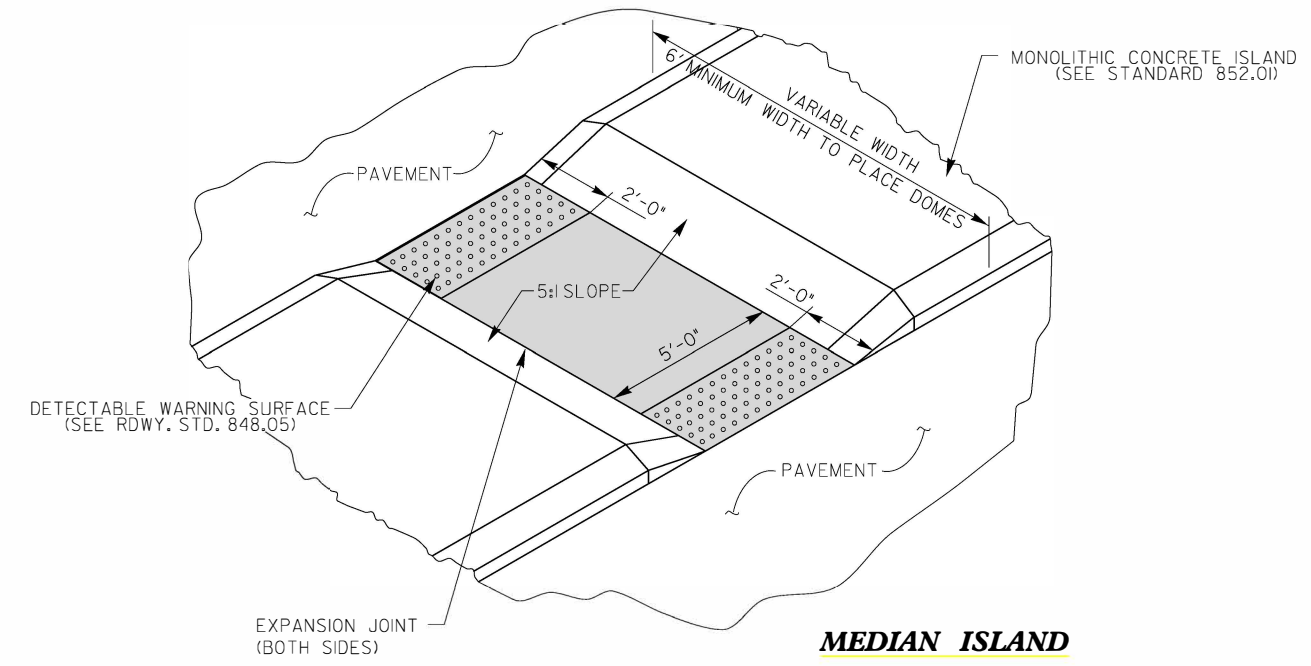
5/14/99  
 SYSTEMS  
 CONSULTING  
 SERVICES

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

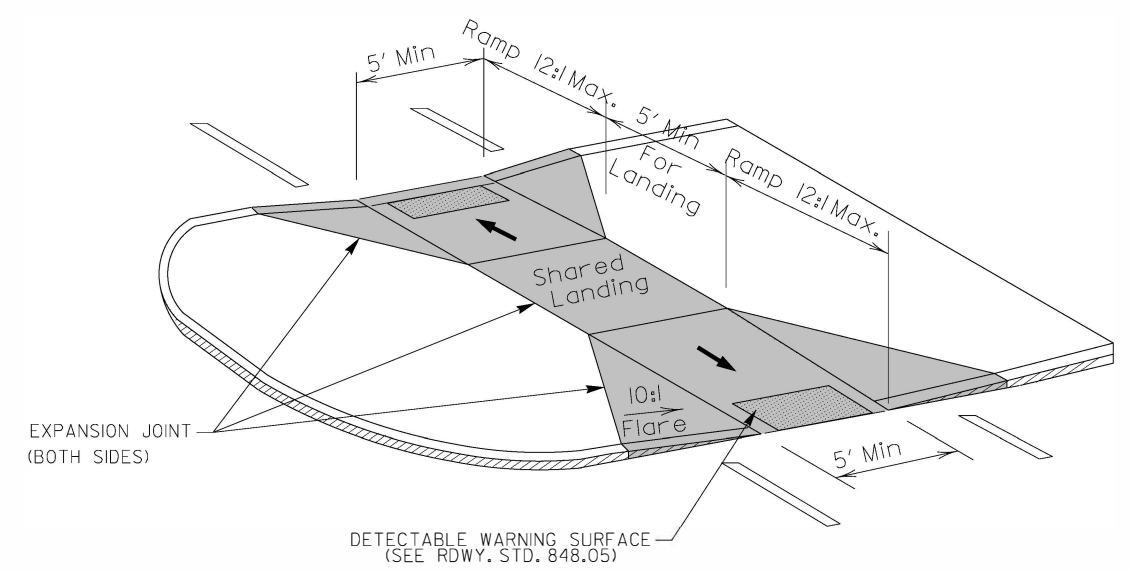


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY  
2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE  
ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

**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  
CONSULTING  
SERVICES

### SUMMARY OF QUANTITIES

PROJECT NO	MAP NO	ROUTE	DESCRIPTION	FROM MP	TO MP	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	0262000000-N	1220000000-E	1245000000-E	1260000000-E	1297000000-E		1308000000-E	1330000000-E	1503000000-E	1523000000-E	1524000000-E	1575000000-E	1704000000-E							
											REMOVE CURB RAMP	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH	MILLING ASPHALT PAVEMENT, 2" DEPTH	MILLING ASPHALT PAVEMENT, 0" TO 1-1/2" DEPTH	INCIDENTAL MILLING	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	LEVELING COURSE, TYPE S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT							
												EA	TON	SMI	TON	SY	SY	SY	SY	TON	TON	TONS	TON	TON						
2024CPT.13.05.10111	1	NC 9	FROM LAKEY GAP ROAD (TOWN STREET) +.14 MILE TO RAILROAD TRACKS	13.80	14.97	1, 2	4	M2	1.17	20 - 48								11,716	3,485		2,424	40	157	235						
2024CPT.13.05.10111	2	US 74 A	FROM SR 3136 (CANE CREEK ROAD) PAVEMENT CHANGE TO HENDERSON COUNTY LINE	17.83	22.38	3	2	2WU	4.54	19											4,465		263							
<b>TOTAL FOR PROJ NO. 2024CPT.13.05.10111</b>												<b>3</b>		<b>0.20</b>	<b>26</b>	<b>53,800</b>			<b>11,716</b>	<b>3,485</b>			<b>6,889</b>	<b>40</b>	<b>420</b>	<b>235</b>				
												<b>53,800</b>																		
2024CPT.13.05.20111	3	SR 2775 (REEDS CREEK ROAD)	FROM US 74 A TO SR 2776 (OLD FORT ROAD)	0.01	0.61	2	2	2WU	0.6	19											562	45	48	260						
2024CPT.13.05.20111	4	SR 2800 (MILLER RD)	FROM US 74 A TO SR 2776 (OLD FORT ROAD)	0.05	1.19	4	2	2WU	1.16	18		143								1,766	1,036		146							
2024CPT.13.05.20111	5	SR 3123 (WEBB CREEK ROAD)	FROM SR 3128 (EMMAS GROVE ROAD) TO US 74 A	0.00	3.47	2	2	2WU	3.48	20											3,105	100	225	738						
2024CPT.13.05.20111	6	SR 3128 (EMMAS GROVE ROAD)	FROM SR 3123 (WEBB CREEK ROAD) TO SR 3150 (CONCORD ROAD)	1.49	3.85	2	2	2WU	2.36	16											2,100	100	169	820						
2024CPT.13.05.20111	7	SR 3189 (BALDWIN ROAD)	FROM SR 3188 (CHRIST SCHOOL ROAD) TO SR 3197 (LOWER CHRIST SCHOOL ROAD) INTERSECTION PAVEMENT CHANGE	0.01	1.14	2	2	2WU	1.13	19											1,138	50	94	498						
<b>TOTAL FOR PROJ NO. 2024CPT.13.05.20111</b>														<b>143</b>	<b>15.02</b>	<b>1,954</b>	<b>375</b>	<b>24,499</b>			<b>2,860</b>	<b>1,766</b>	<b>7,941</b>	<b>295</b>	<b>682</b>	<b>2,316</b>				
												<b>24,874</b>																		
<b>GRAND TOTAL</b>																<b>14.44</b>		<b>3</b>	<b>143</b>	<b>15.22</b>	<b>1,980</b>	<b>54,175</b>	<b>24,499</b>	<b>11,716</b>	<b>6,345</b>	<b>1,766</b>	<b>14,830</b>	<b>335</b>	<b>1,102</b>	<b>2,551</b>
												<b>78,674</b>																		

\* NOTE - ALL MAPS, COUNTY = BUMCOMBE, FINAL SURFACE TESTING REQUIRED = NO, WARM MIX ASPHALT REQUIRED = NO

PROJECT NO	MAP NO	ROUTE	DESCRIPTION	FROM MP	TO MP	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	2613000000-N	2800000000-N	2830000000-N	2845000000-N	7444000000-E	
											REMOVE AND REPLACE CURB RAMPS	ADJUSTMENT OF CATCH BASINS	ADJUSTMENT OF MANHOLES	ADJUSTMENT OF METER BOXES OR VALVE BOXES	INDUCTIVE LOOP SAWCUT	
												EA	EA	EA	EA	LF
2024CPT.13.05.10111	1	NC 9	FROM LAKEY GAP ROAD (TOWN STREET) +.14 MILE TO RAILROAD TRACKS	13.80	14.97	1, 2	4	M2	1.17	20 - 48					1,200	
2024CPT.13.05.10111	2	US 74 A	FROM SR 3136 (CANE CREEK ROAD) PAVEMENT CHANGE TO HENDERSON COUNTY LINE	17.83	22.38	3	2	2WU	4.54	19					123	
<b>TOTAL FOR PROJ NO. 2024CPT.13.05.10111</b>												<b>20</b>	<b>1</b>	<b>10</b>	<b>15</b>	<b>1,323</b>
2024CPT.13.05.20111	3	SR 2775 (REEDS CREEK ROAD)	FROM US 74 A TO SR 2776 (OLD FORT ROAD)	0.01	0.61	2	2	2WU	0.6	19						
2024CPT.13.05.20111	4	SR 2800 (MILLER RD)	FROM US 74 A TO SR 2776 (OLD FORT ROAD)	0.05	1.19	4	2	2WU	1.16	18					4	
2024CPT.13.05.20111	5	SR 3123 (WEBB CREEK ROAD)	FROM SR 3128 (EMMAS GROVE ROAD) TO US 74 A	0.00	3.47	2	2	2WU	3.48	20						
2024CPT.13.05.20111	6	SR 3128 (EMMAS GROVE ROAD)	FROM SR 3123 (WEBB CREEK ROAD) TO SR 3150 (CONCORD ROAD)	1.49	3.85	2	2	2WU	2.36	16					1	
2024CPT.13.05.20111	7	SR 3189 (BALDWIN ROAD)	FROM SR 3188 (CHRIST SCHOOL ROAD) TO SR 3197 (LOWER CHRIST SCHOOL ROAD) INTERSECTION PAVEMENT CHANGE	0.01	1.14	2	2	2WU	1.13	19					2	
<b>TOTAL FOR PROJ NO. 2024CPT.13.05.20111</b>															<b>7</b>	
<b>GRAND TOTAL</b>												<b>20</b>	<b>1</b>	<b>10</b>	<b>22</b>	<b>1,323</b>

\* NOTE - ALL MAPS, COUNTY = BUMCOMBE, FINAL SURFACE TESTING REQUIRED = NO, WARM MIX ASPHALT REQUIRED = NO

## THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	MAP NO	ROUTE	DESCRIPTION	FROM MP	TO MP	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	441300000-E	444700000-E	445700000-N	468500000-E		469500000-E		470900000-E	472000000-E		
											WORK ZONE ADVANCE/ GENERAL WARNING SIGNING	PEDESTRIAN CHANNELIZING DEVICES	TEMPORARY TRAFFIC CONTROL	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS) YELLOW	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) YELLOW	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) RXR	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) ONLY	
											SF	LF	LS	LF	LF	LF	LF	LF	EA	EA	
2024CPT.13.05.10111	1	NC 9	FROM LAKEY GAP ROAD (TOWN STREET) +.14 MILE TO RAILROAD TRACKS	13.80	14.97	1, 2	4	M2	1.17	20 - 48	126	120		8,341	13,358	151	365	515	2	2	
2024CPT.13.05.10111	2	US 74 A	FROM SR 3136 (CANE CREEK ROAD) PAVEMENT CHANGE TO HENDERSON COUNTY LINE	17.83	22.38	3	2	2WU	4.54	19	509			41,228	41,228						
<b>TOTAL FOR PROJ NO. 2024CPT.13.05.10111</b>											<b>635</b>	<b>120</b>		<b>49,569</b>	<b>54,586</b>	<b>151</b>	<b>365</b>	<b>515</b>	<b>2</b>	<b>2</b>	
											<b>104,155</b>		<b>516</b>		<b>4</b>						
2024CPT.13.05.20111	3	SR 2775 (REEDS CREEK ROAD)	FROM US 74 A TO SR 2776 (OLD FORT ROAD)	0.01	0.61	2	2	2WU	0.6	19	70										
2024CPT.13.05.20111	4	SR 2800 (MILLER RD)	FROM US 74 A TO SR 2776 (OLD FORT ROAD)	0.05	1.19	4	2	2WU	1.16	18	139										
2024CPT.13.05.20111	5	SR 3123 (WEBB CREEK ROAD)	FROM SR 3128 (EMMAS GROVE ROAD) TO US 74 A	0.00	3.47	2	2	2WU	3.48	20	390										
2024CPT.13.05.20111	6	SR 3128 (EMMAS GROVE ROAD)	FROM SR 3123 (WEBB CREEK ROAD) TO SR 3150 (CONCORD ROAD)	1.49	3.85	2	2	2WU	2.36	16	264										
2024CPT.13.05.20111	7	SR 3189 (BALDWIN ROAD)	FROM SR 3188 (CHRIST SCHOOL ROAD) TO SR 3197 (LOWER CHRIST SCHOOL ROAD) INTERSECTION PAVEMENT CHANGE	0.01	1.14	2	2	2WU	1.13	19	126										
<b>TOTAL FOR PROJ NO. 2024CPT.13.05.20111</b>											<b>989</b>										
<b>GRAND TOTAL</b>											<b>14.44</b>	<b>1,624</b>	<b>120</b>	<b>1</b>	<b>49,569</b>	<b>54,586</b>	<b>151</b>	<b>365</b>	<b>515</b>	<b>2</b>	<b>2</b>
											<b>104,155</b>		<b>516</b>		<b>4</b>						

\* NOTE - ALL MAPS, COUNTY = BUNCOMBE, FINAL SURFACE TESTING REQUIRED = NO, WARM MIX ASPHALT REQUIRED = NO

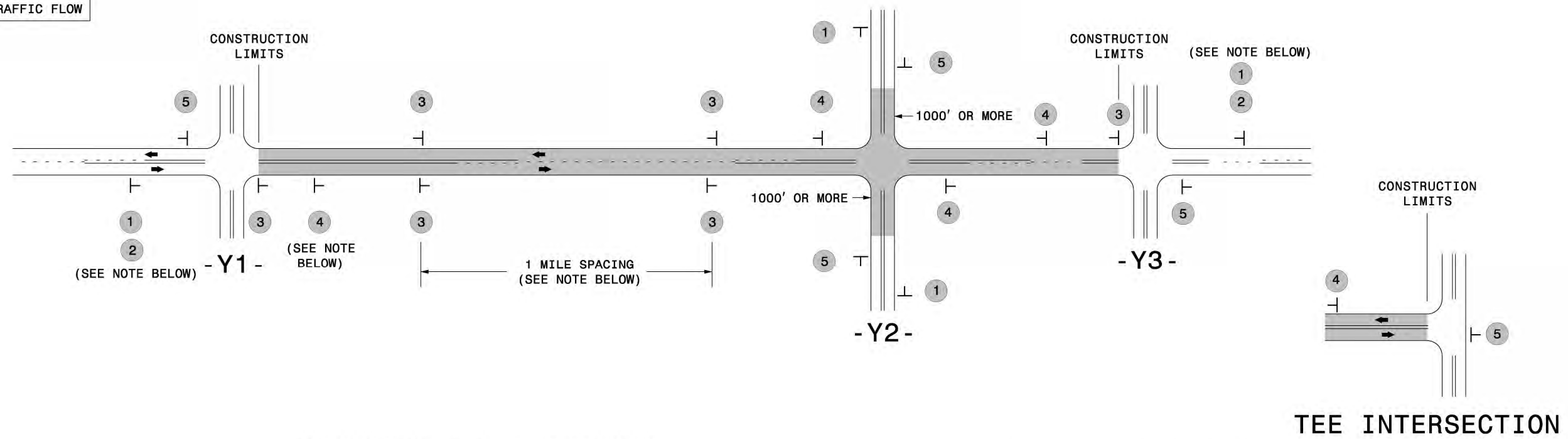
PROJECT NO	MAP NO	ROUTE	DESCRIPTION	FROM MP	TO MP	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	472500000-E		472500000-E	481000000-E		489000000-E		490510000-N		
											THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) RT ARROW	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) LT ARROW	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) 24" YIELD LINE	PAINT PAVEMENT MARKING LINES (4") WHITE	PAINT PAVEMENT MARKING LINES (4") YELLOW	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/ WHITE	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKERS DOUBLE YELLOW	
											EA	EA	EA	LF	LF	LF	LF	EA	EA	
2024CPT.13.05.10111	1	NC 9	FROM LAKEY GAP ROAD (TOWN STREET) +.14 MILE TO RAILROAD TRACKS	13.80	14.97	1, 2	4	M2	1.17	20 - 48	10	10	5					136	180	
2024CPT.13.05.10111	2	US 74 A	FROM SR 3136 (CANE CREEK ROAD) PAVEMENT CHANGE TO HENDERSON COUNTY LINE	17.83	22.38	3	2	2WU	4.54	19			41,228	41,228					602	
<b>TOTAL FOR PROJ NO. 2024CPT.13.05.10111</b>											<b>10</b>	<b>10</b>	<b>5</b>	<b>41,228</b>	<b>41,228</b>			<b>136</b>	<b>782</b>	
											<b>25</b>		<b>82,456</b>		<b>918</b>					
2024CPT.13.05.20111	3	SR 2775 (REEDS CREEK ROAD)	FROM US 74 A TO SR 2776 (OLD FORT ROAD)	0.01	0.61	2	2	2WU	0.6	19						6,442	6,442			
2024CPT.13.05.20111	4	SR 2800 (MILLER RD)	FROM US 74 A TO SR 2776 (OLD FORT ROAD)	0.05	1.19	4	2	2WU	1.16	18			24,499	24,499	11,600	11,600				
2024CPT.13.05.20111	5	SR 3123 (WEBB CREEK ROAD)	FROM SR 3128 (EMMAS GROVE ROAD) TO US 74 A	0.00	3.47	2	2	2WU	3.48	20					36,750	36,750				
2024CPT.13.05.20111	6	SR 3128 (EMMAS GROVE ROAD)	FROM SR 3123 (WEBB CREEK ROAD) TO SR 3150 (CONCORD ROAD)	1.49	3.85	2	2	2WU	2.36	16					24,922	24,922				
2024CPT.13.05.20111	7	SR 3189 (BALDWIN ROAD)	FROM SR 3188 (CHRIST SCHOOL ROAD) TO SR 3197 (LOWER CHRIST SCHOOL ROAD) INTERSECTION PAVEMENT CHANGE	0.01	1.14	2	2	2WU	1.13	19					11,933	11,933				
<b>TOTAL FOR PROJ NO. 2024CPT.13.05.20111</b>											<b>8.73</b>			<b>24,499</b>	<b>24,499</b>	<b>91,647</b>	<b>91,647</b>			
<b>GRAND TOTAL</b>											<b>14.44</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>65,727</b>	<b>65,727</b>	<b>91,647</b>	<b>91,647</b>	<b>136</b>	<b>782</b>
											<b>25</b>		<b>131,454</b>		<b>183,294</b>		<b>918</b>			

\* NOTE - ALL MAPS, COUNTY = BUNCOMBE, FINAL SURFACE TESTING REQUIRED = NO, WARM MIX ASPHALT REQUIRED = NO



# SIGNING FOR RESURFACING PROJECTS

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



## MAINLINE (-L-) SIGNING

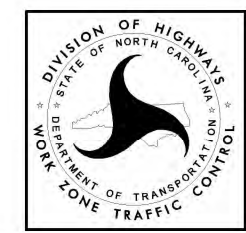
## -Y- LINE SIGNING

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>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 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>
	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. 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.

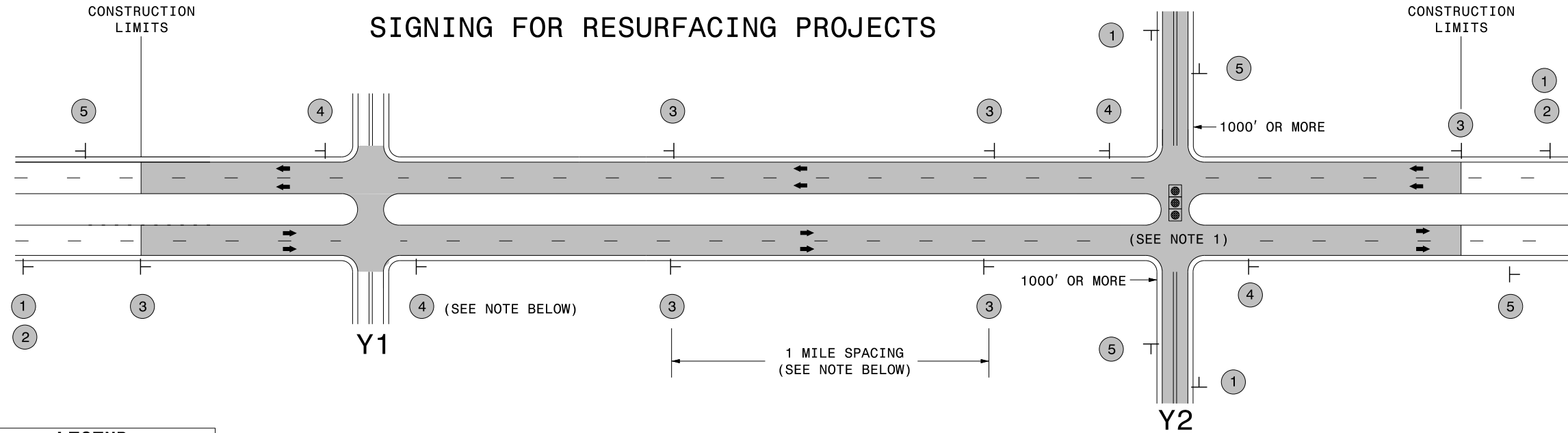
### MAPS LESS THAN 2 MILES

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:\T\13\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing\_AdvWarn\_2Ln.dgn User:keads



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

**MAINLINE (-L-) SIGNING**

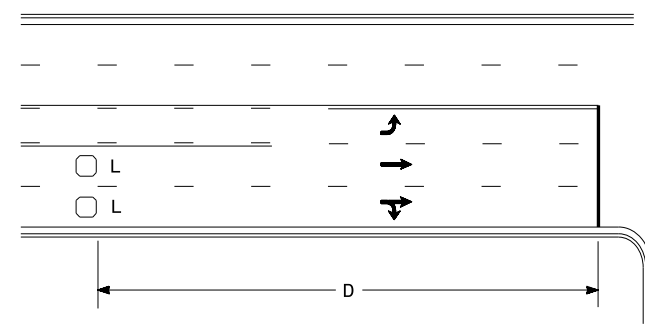
**-Y- LINE SIGNING**

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>
	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.	<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>	

**RESURFACING  
 ADVANCE WARNING SIGNS  
 FOR RURAL AND SUBURBAN  
 MULTI-LANE ROADWAYS  
 W/ SHOULDER SECTIONS**

3/23/2015 C:\Users\rmgarrrett\Downloads\Resurfacing\_AdvWarn\_LrSu\_Shldr.dgn User:rmgarrrett

### High Speed Detection (≥40 mph)

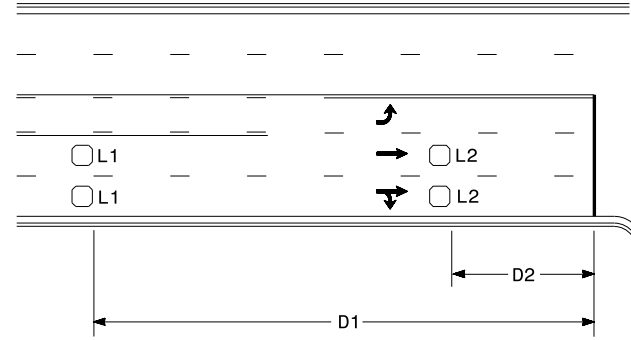


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

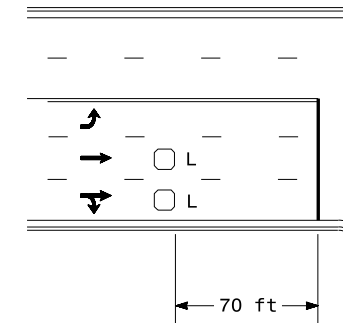


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

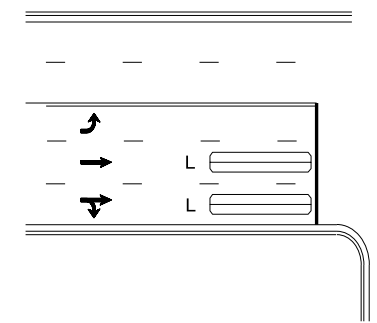
"Stretch" Operation

### Low Speed Detection (≤35 mph)



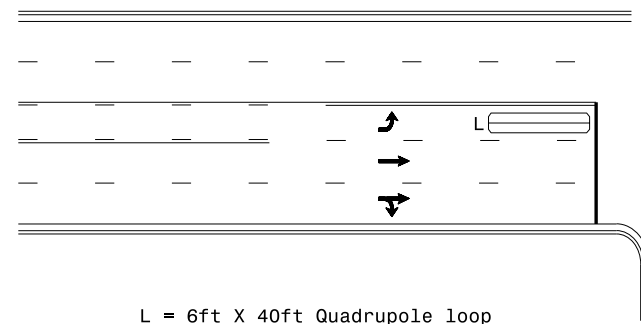
L = 6ft X 6ft  
Wired in series

OR



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

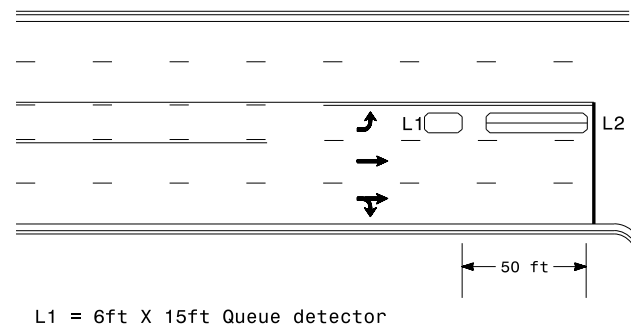
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

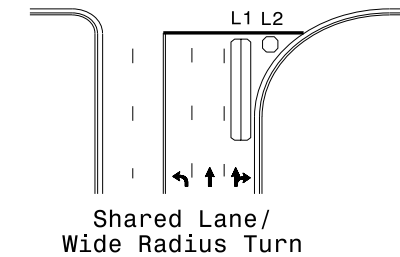
OR



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

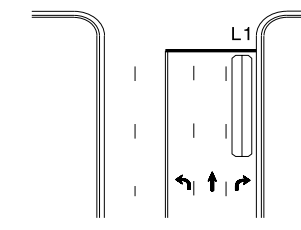
Queue Loop Detection

### Right Turn Lane Detection

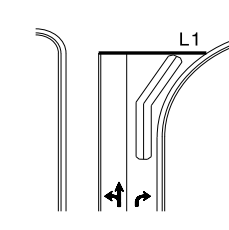


Shared Lane/  
Wide Radius Turn

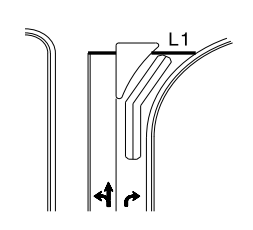
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

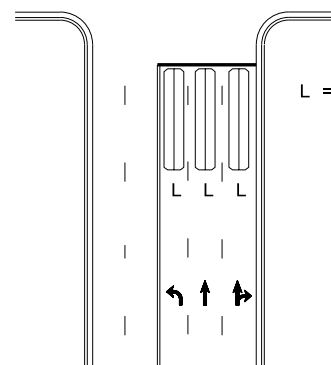


Wide Radius Turn



Channelized Turn

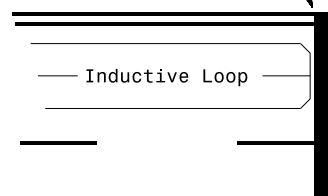
### Side Street Detection



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

### Presence Loop Placement at Stop Lines

Locate loop slightly  
behind leading  
edge of stop line



- Note:  
Loop may be located in advance  
of stop line under any of the  
following conditions:
- 1) stop line is greater than 15' from edge of intersecting roadway
  - 2) loop detects a permissive or protected/permissive left turn
  - 3) for an exclusive right turn lane

### Recommended Number of Turns

Single 6' X 6' loop  
(when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375-525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns

6' X 15' Loops:  
Lead-in < 150', use 2 turns  
Lead-in > 150', use 3 turns

750 N. Greenfield Pkwy, Garner, NC 27529

#### Typical Signal Loop Locations

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

SCALE  
N/A

1/30/2015