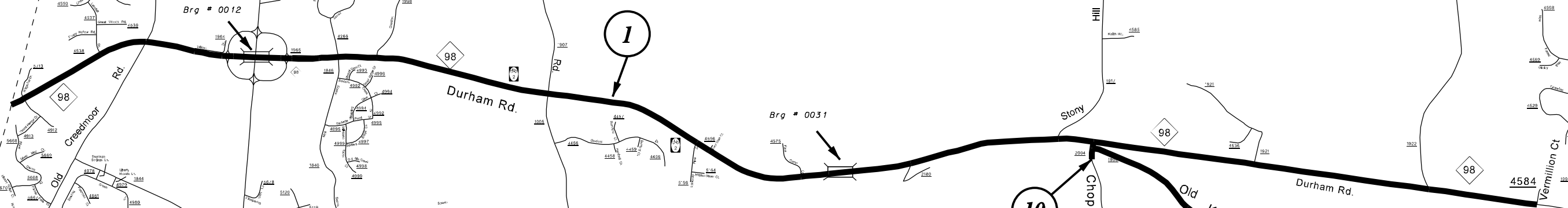


# 2023 North Wake County Resurfacing



DURHAM COUNTY  
WAKE COUNTY



10

8

2004

1966

5/14/99  
C:\PROJECTS\2022CPT\DRAWING\2022CPT.DWG

5/14/23



DURHAM COUNTY  
WAKE COUNTY

1901

1903

Cheek Rd.

Olive Grove Church Rd.

1902

6

1975

Old Weaver Trl.

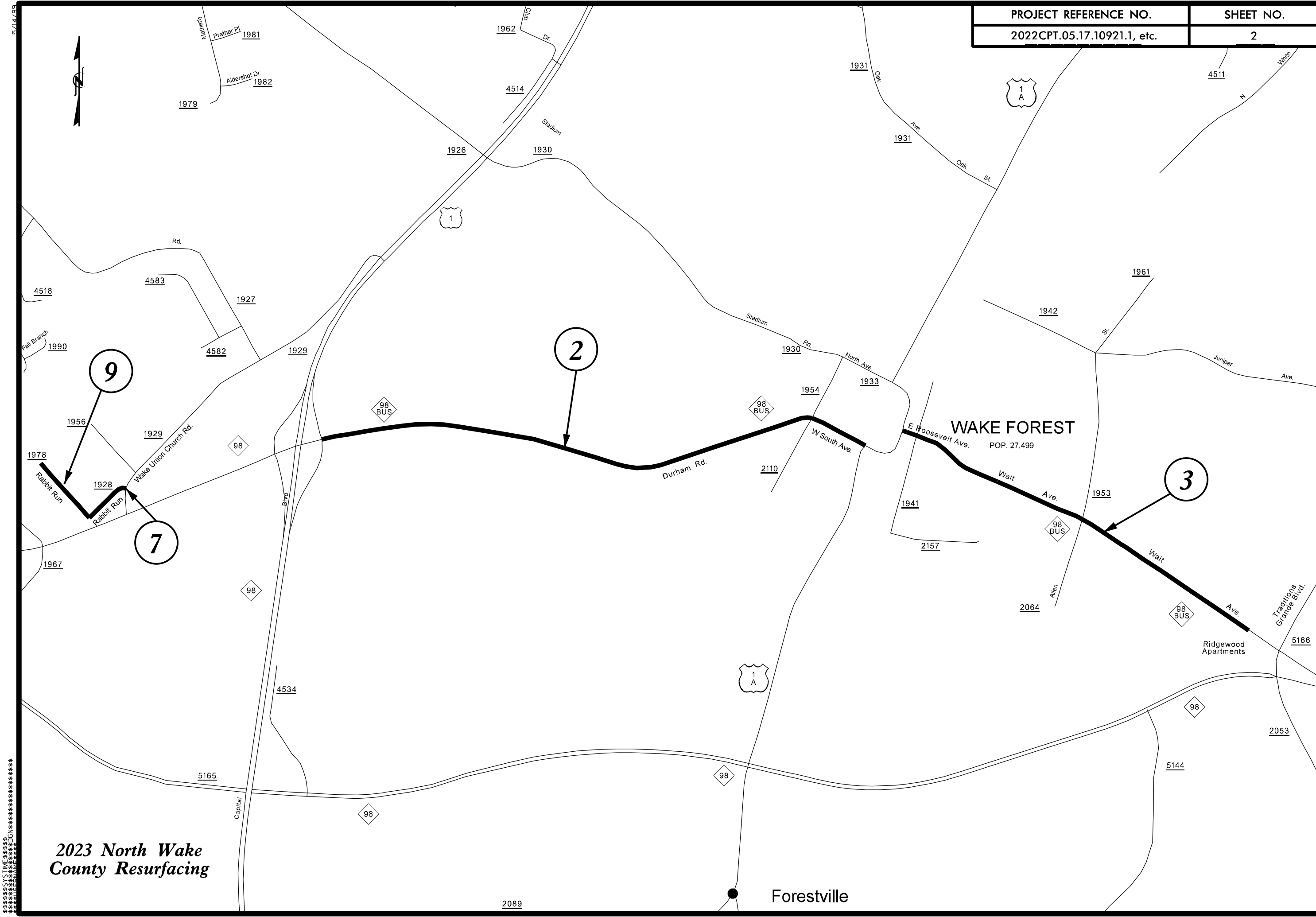
1901

Olive Grove Church Rd.

1903

**2023 North Wake  
County Resurfacing**

SECTION 1  
SECTION 2  
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SECTION 4  
SECTION 5  
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SECTION 100



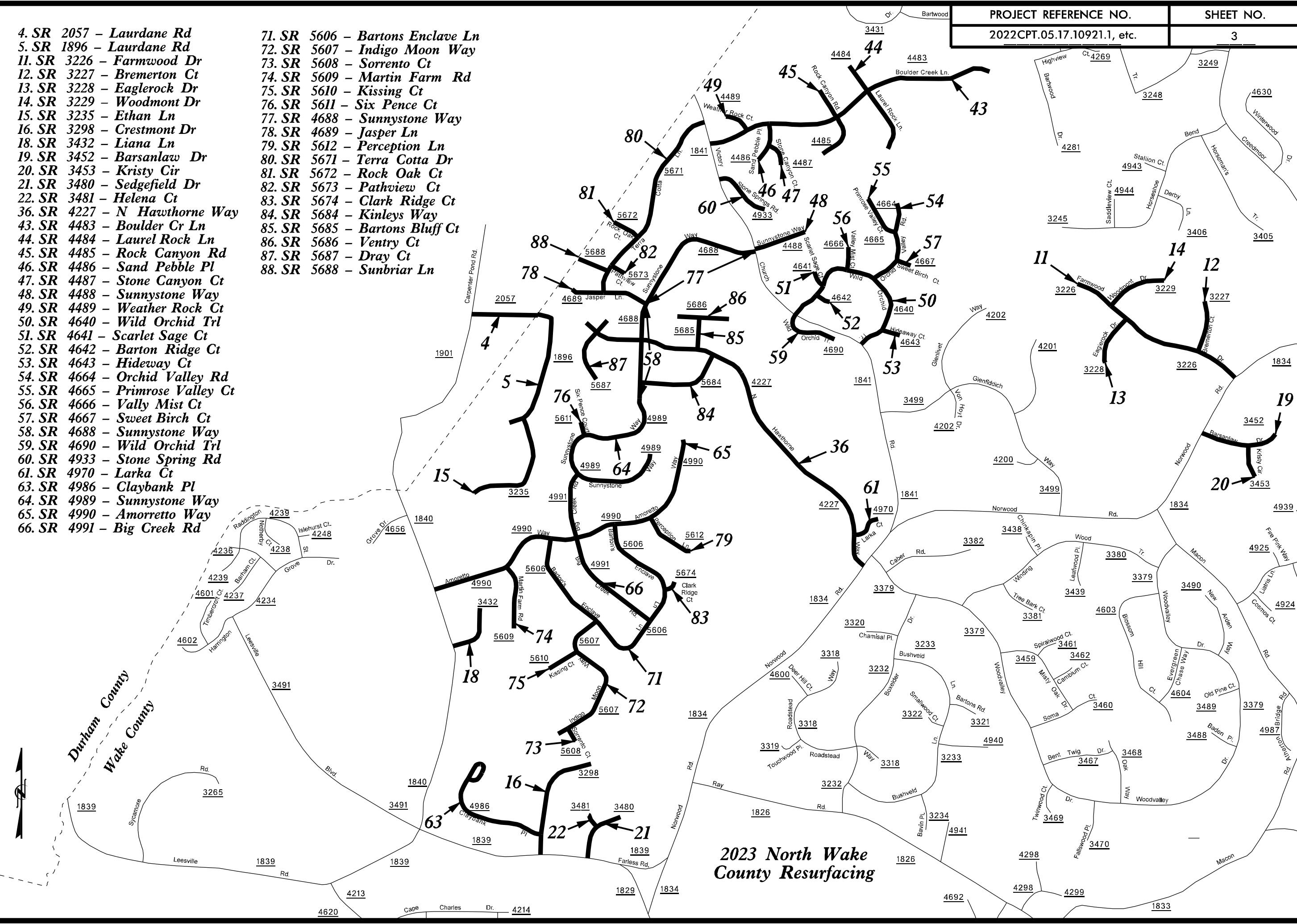
**2023 North Wake  
County Resurfacing**

C:\PROJECTS\2023\2023\_NORTH\_WAKE\_COUNTY\_RESURFACING\DRAWINGS\2023\_NORTH\_WAKE\_COUNTY\_RESURFACING\_SHEET\_2.dwg

5/14/23

- 4. SR 2057 - Laurdane Rd
- 5. SR 1896 - Laurdane Rd
- 11. SR 3226 - Farmwood Dr
- 12. SR 3227 - Bremerton Ct
- 13. SR 3228 - Eaglerock Dr
- 14. SR 3229 - Woodmont Dr
- 15. SR 3235 - Ethan Ln
- 16. SR 3298 - Crestmont Dr
- 18. SR 3432 - Liana Ln
- 19. SR 3452 - Barsanlaw Dr
- 20. SR 3453 - Kristy Cir
- 21. SR 3480 - Sedgfield Dr
- 22. SR 3481 - Helena Ct
- 36. SR 4227 - N Hawthorne Way
- 43. SR 4483 - Boulder Cr Ln
- 44. SR 4484 - Laurel Rock Ln
- 45. SR 4485 - Rock Canyon Rd
- 46. SR 4486 - Sand Pebble Pl
- 47. SR 4487 - Stone Canyon Ct
- 48. SR 4488 - Sunnystone Way
- 49. SR 4489 - Weather Rock Ct
- 50. SR 4640 - Wild Orchid Trl
- 51. SR 4641 - Scarlet Sage Ct
- 52. SR 4642 - Barton Ridge Ct
- 53. SR 4643 - Hideway Ct
- 54. SR 4664 - Orchid Valley Rd
- 55. SR 4665 - Primrose Valley Ct
- 56. SR 4666 - Vally Mist Ct
- 57. SR 4667 - Sweet Birch Ct
- 58. SR 4688 - Sunnystone Way
- 59. SR 4690 - Wild Orchid Trl
- 60. SR 4933 - Stone Spring Rd
- 61. SR 4970 - Larka Ct
- 63. SR 4986 - Claybank Pl
- 64. SR 4989 - Sunnystone Way
- 65. SR 4990 - Amoretto Way
- 66. SR 4991 - Big Creek Rd
- 71. SR 5606 - Bartons Enclave Ln
- 72. SR 5607 - Indigo Moon Way
- 73. SR 5608 - Sorrento Ct
- 74. SR 5609 - Martin Farm Rd
- 75. SR 5610 - Kissing Ct
- 76. SR 5611 - Six Pence Ct
- 77. SR 4688 - Sunnystone Way
- 78. SR 4689 - Jasper Ln
- 79. SR 5612 - Perception Ln
- 80. SR 5671 - Terra Cotta Dr
- 81. SR 5672 - Rock Oak Ct
- 82. SR 5673 - Pathview Ct
- 83. SR 5674 - Clark Ridge Ct
- 84. SR 5684 - Kinleys Way
- 85. SR 5685 - Bartons Bluff Ct
- 86. SR 5686 - Ventry Ct
- 87. SR 5687 - Dray Ct
- 88. SR 5688 - Sunbriar Ln

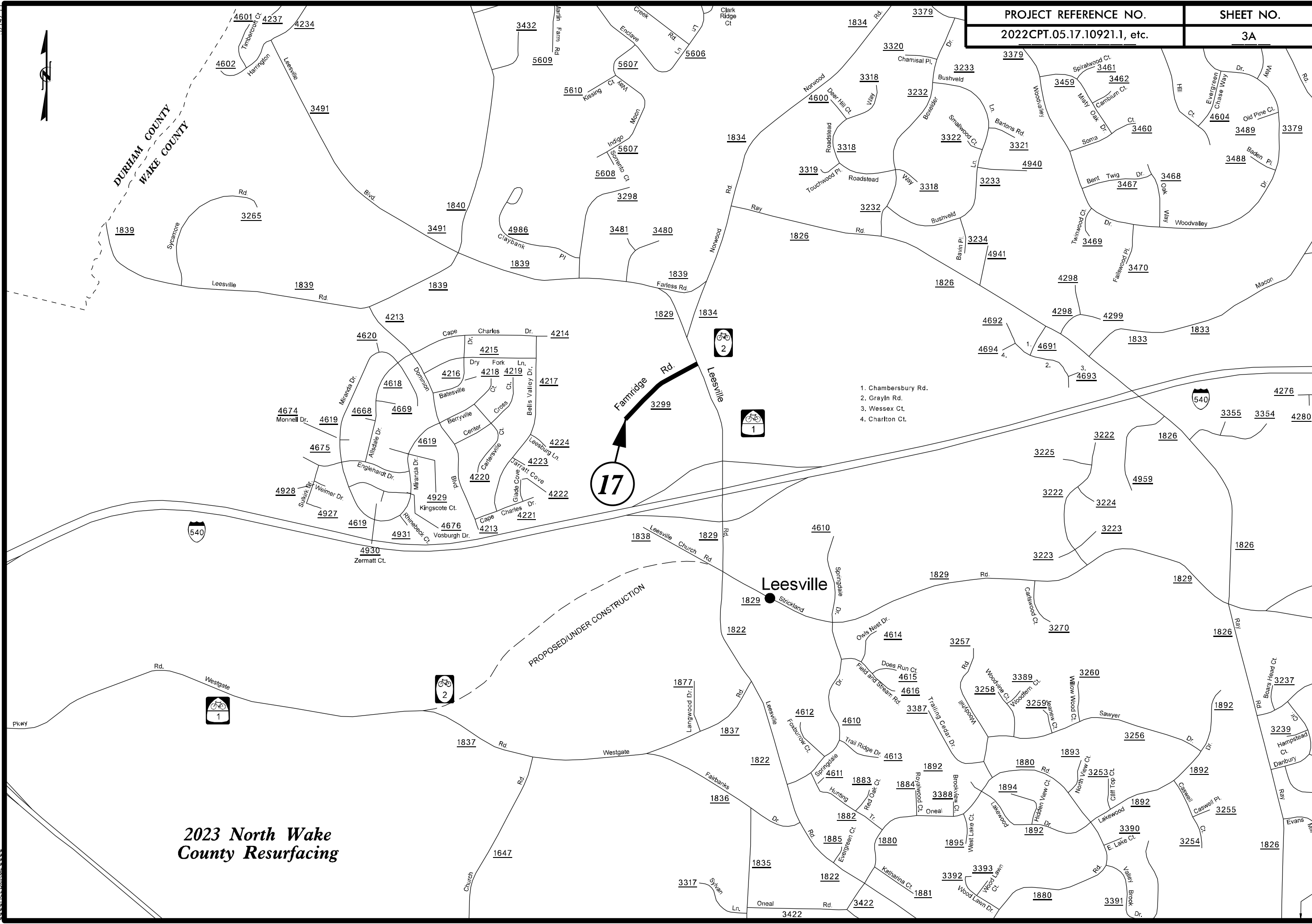
- 71. SR 5606 - Bartons Enclave Ln
- 72. SR 5607 - Indigo Moon Way
- 73. SR 5608 - Sorrento Ct
- 74. SR 5609 - Martin Farm Rd
- 75. SR 5610 - Kissing Ct
- 76. SR 5611 - Six Pence Ct
- 77. SR 4688 - Sunnystone Way
- 78. SR 4689 - Jasper Ln
- 79. SR 5612 - Perception Ln
- 80. SR 5671 - Terra Cotta Dr
- 81. SR 5672 - Rock Oak Ct
- 82. SR 5673 - Pathview Ct
- 83. SR 5674 - Clark Ridge Ct
- 84. SR 5684 - Kinleys Way
- 85. SR 5685 - Bartons Bluff Ct
- 86. SR 5686 - Ventry Ct
- 87. SR 5687 - Dray Ct
- 88. SR 5688 - Sunbriar Ln



**2023 North Wake  
County Resurfacing**

5/14/23  
 PROJECT NO. 2022CPT.05.17.10921.1  
 SHEET NO. 3  
 DATE: 5/14/23  
 DRAWN BY: [unreadable]  
 CHECKED BY: [unreadable]  
 APPROVED BY: [unreadable]

DURHAM COUNTY  
WAKE COUNTY



1. Chambersbury Rd.
2. Gray Ln Rd.
3. Wessex Ct.
4. Charlton Ct.

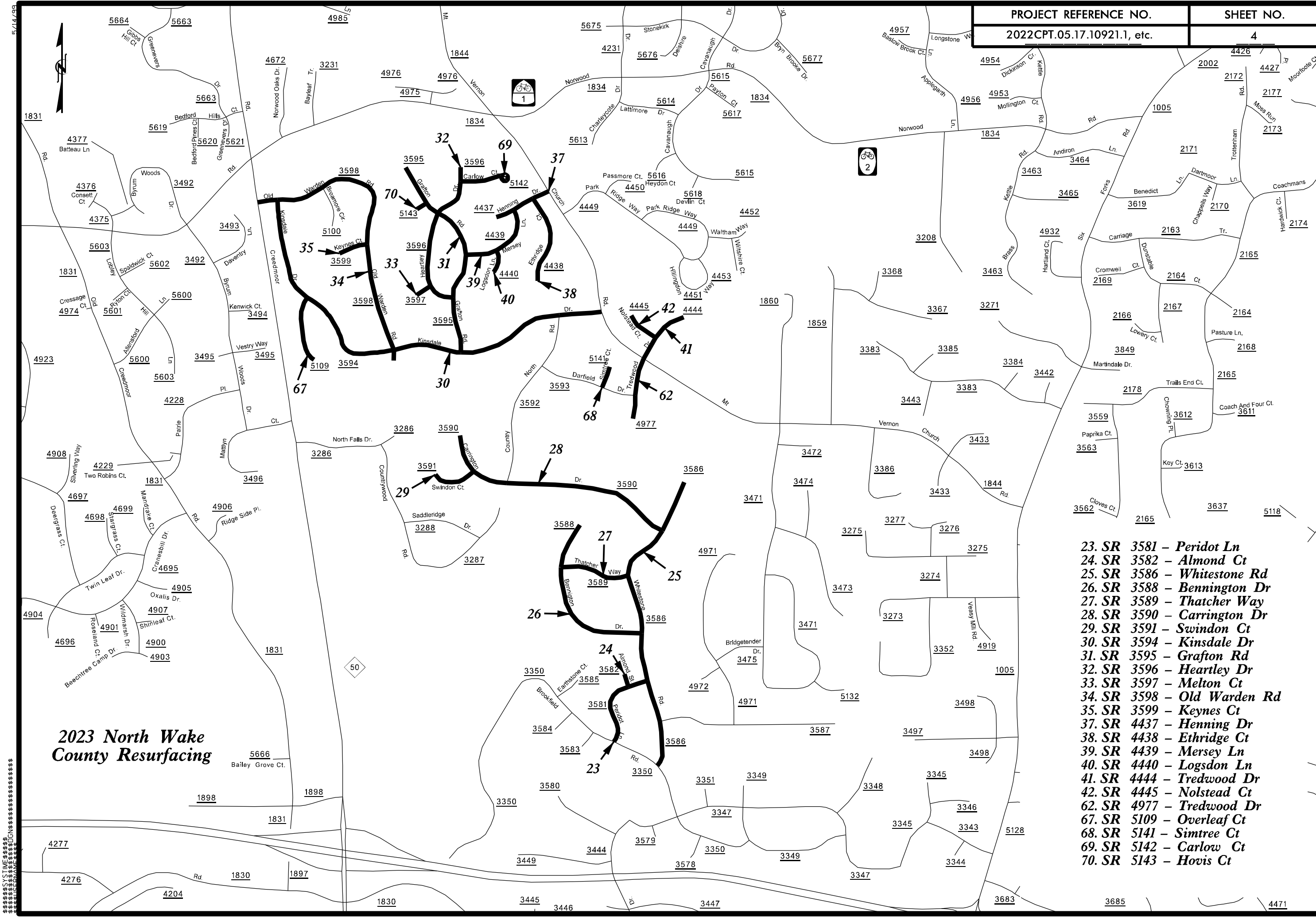
PROPOSED UNDER CONSTRUCTION

**2023 North Wake  
County Resurfacing**

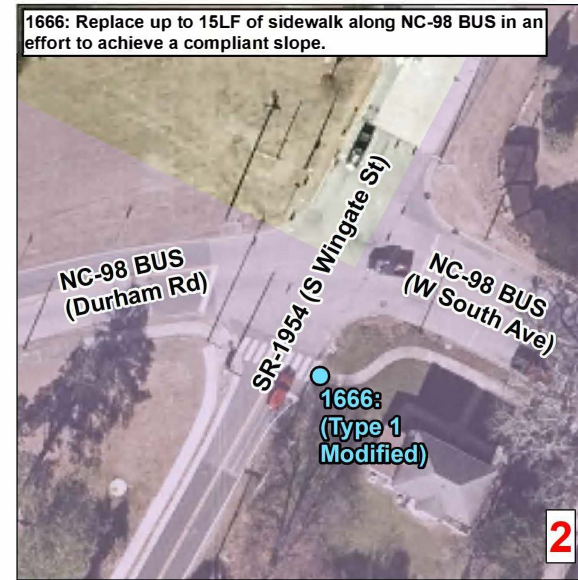
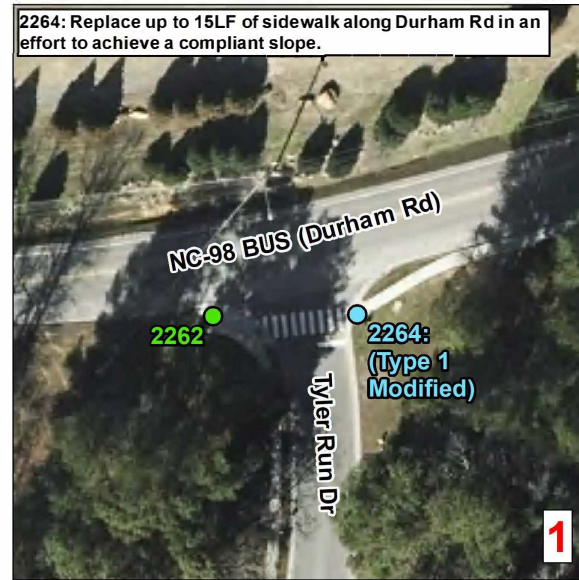
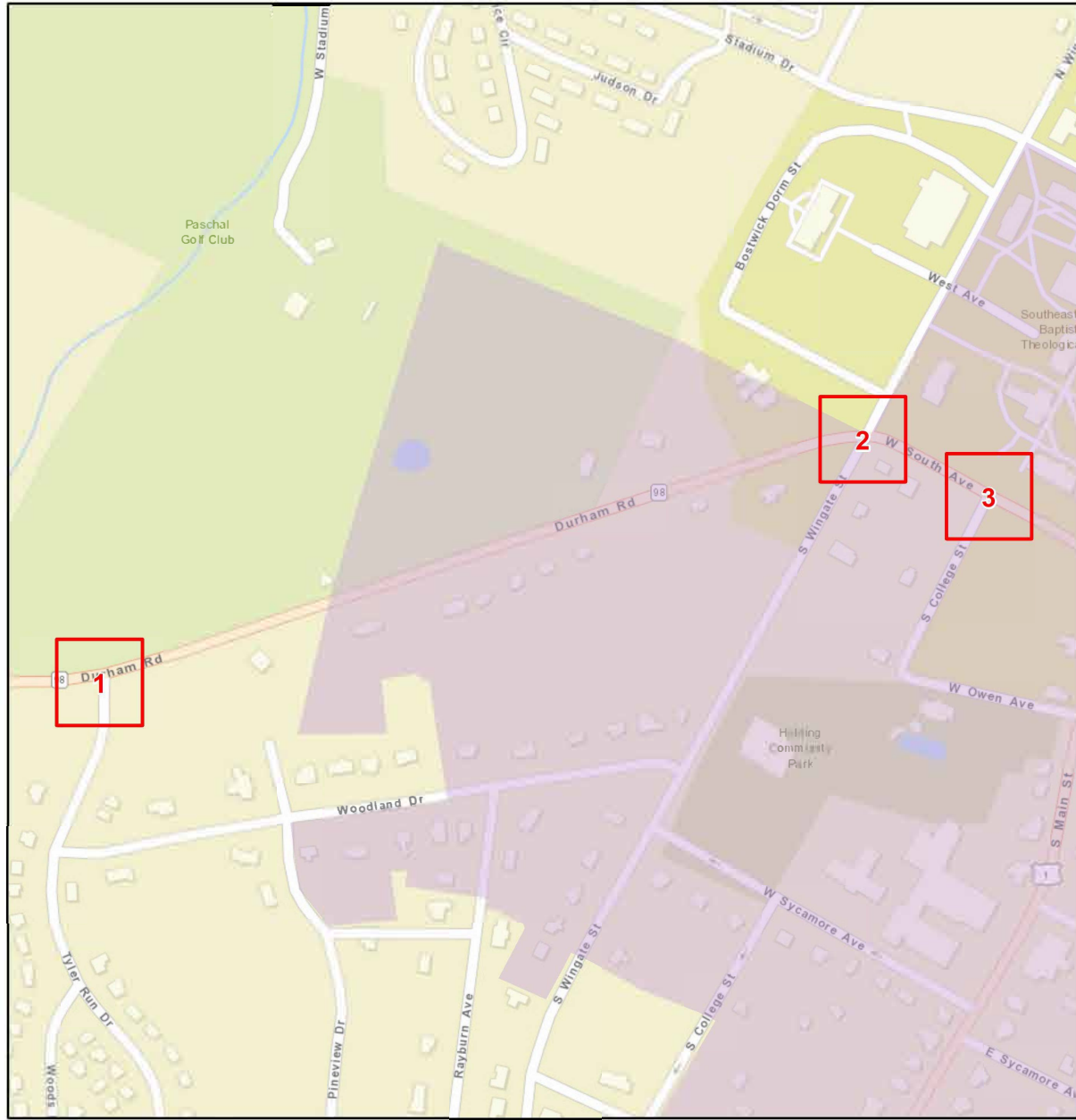
CONTRACT NO. 2022-05-17-10921.1  
 DATE: 05/17/2022  
 SHEET NO. 3A  
 PROJECT: 2023 NORTH WAKE COUNTY RESURFACING

**2023 North Wake County Resurfacing**

- 23. SR 3581 - Peridot Ln
- 24. SR 3582 - Almond Ct
- 25. SR 3586 - Whitestone Rd
- 26. SR 3588 - Bennington Dr
- 27. SR 3589 - Thatcher Way
- 28. SR 3590 - Carrington Dr
- 29. SR 3591 - Swindon Ct
- 30. SR 3594 - Kinsdale Dr
- 31. SR 3595 - Grafton Rd
- 32. SR 3596 - Heartley Dr
- 33. SR 3597 - Melton Ct
- 34. SR 3598 - Old Warden Rd
- 35. SR 3599 - Keynes Ct
- 37. SR 4437 - Henning Dr
- 38. SR 4438 - Ethridge Ct
- 39. SR 4439 - Mersey Ln
- 40. SR 4440 - Logsdon Ln
- 41. SR 4444 - Tredwood Dr
- 42. SR 4445 - Nolstead Ct
- 62. SR 4977 - Tredwood Dr
- 67. SR 5109 - Overleaf Ct
- 68. SR 5141 - Simtree Ct
- 69. SR 5142 - Carlow Ct
- 70. SR 5143 - Hovis Ct






COUNTY OF WAKE  
 PLANNING DEPARTMENT  
 1000 W. GARRISON DR., SUITE 100  
 RALEIGH, NC 27601  
 TEL: 919.857.3300  
 FAX: 919.857.3301  
 WWW.WAKECOUNTY.GOV



**Curb Ramps To Be Repaired**


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

 Municipal Boundary  
 NCHPO Historic Boundary (NR and LHD)

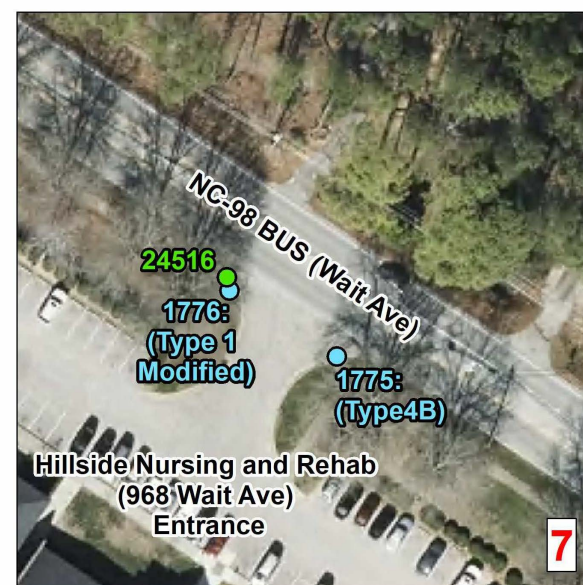
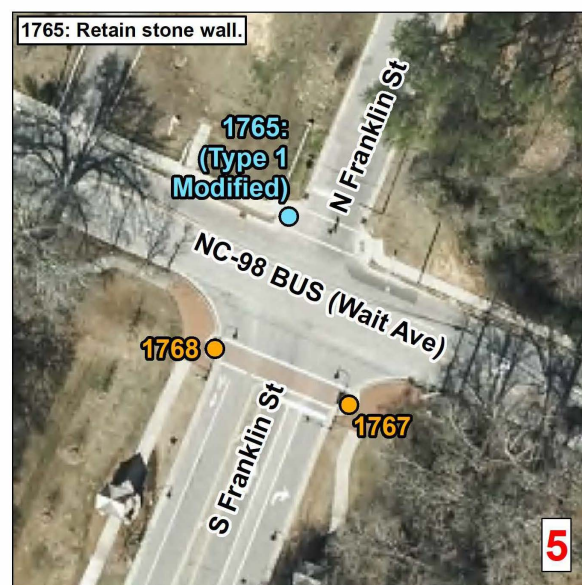
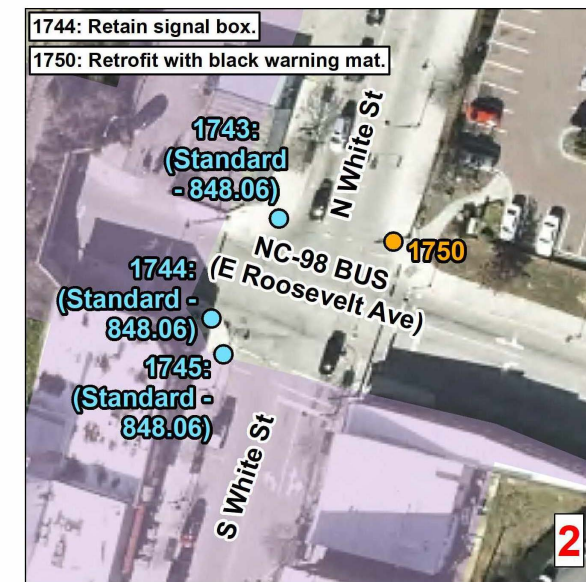
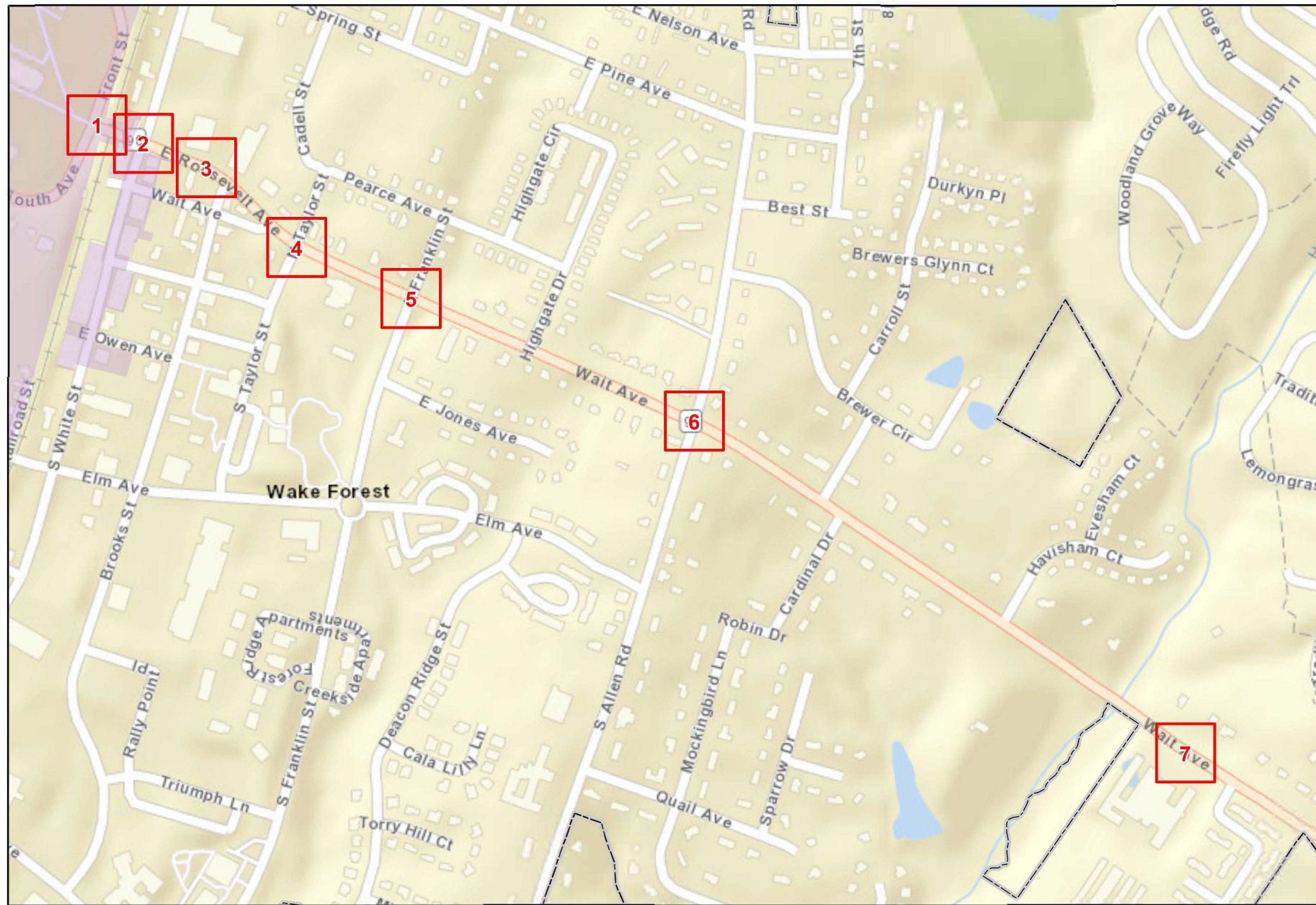


**2023 North  
WBS: 2022CPT.05.17.10921.1**

**Durham Rd  
from Begin Curb to US 1 ALT**


 NORTH CAROLINA DEPARTMENT  
 OF TRANSPORTATION  
 DIVISION 5

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



**Curb Ramps To Be Repaired**

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

Municipal Boundary

NCHPO Historic Boundary (NR and LHD)

**2023 North**  
**WBS: 2022CPT.05.17.10921.1**

**NC 98 Bus**  
**from US 1 ALT to Pvmt Joint**

NORTH CAROLINA DEPARTMENT  
OF TRANSPORTATION  
DIVISION 5

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



**PAVEMENT SCHEDULE**

S SHOULDER GRADING  
ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)

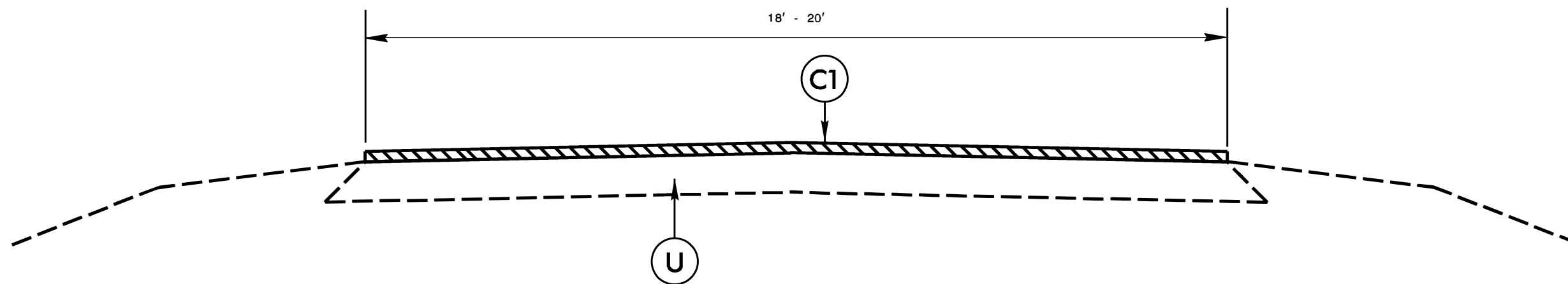
PROJECT REFERENCE NO.

SHEET NO.

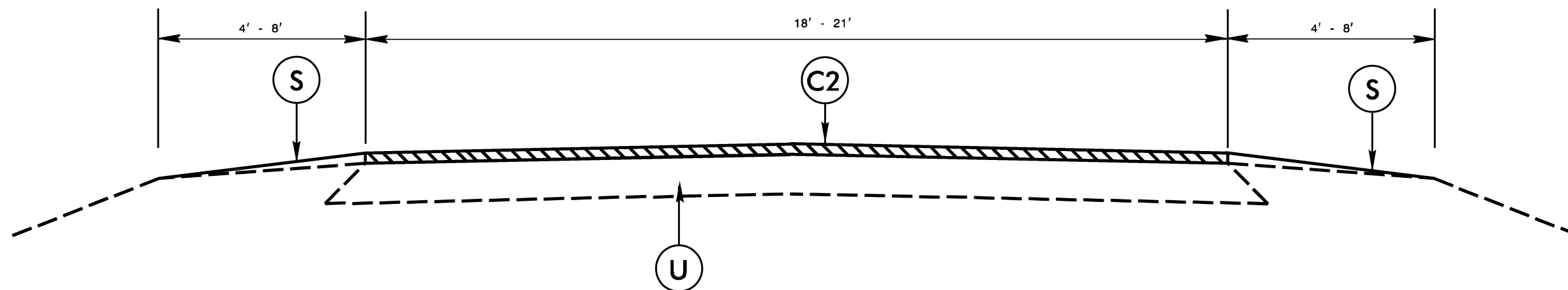
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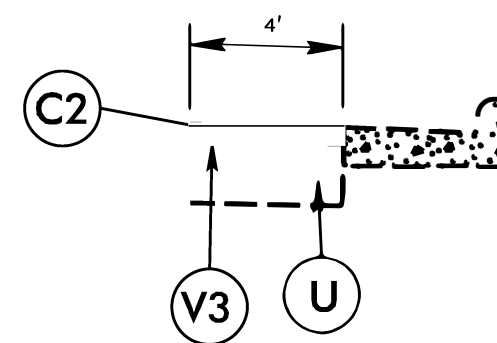
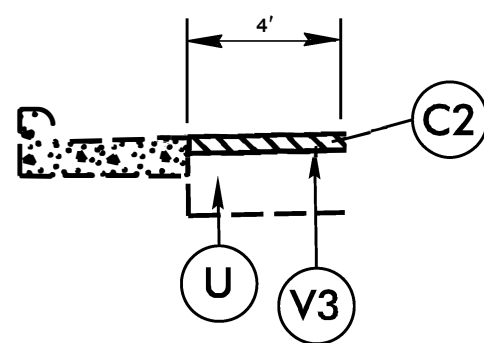
C1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
C2	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	V1	1 1/2" MILLING
C3	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	V2	0" - 1 1/2" MILLING
C4	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	V3	0" - 1 1/4" MILLING



TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2



**PAVEMENT SCHEDULE**

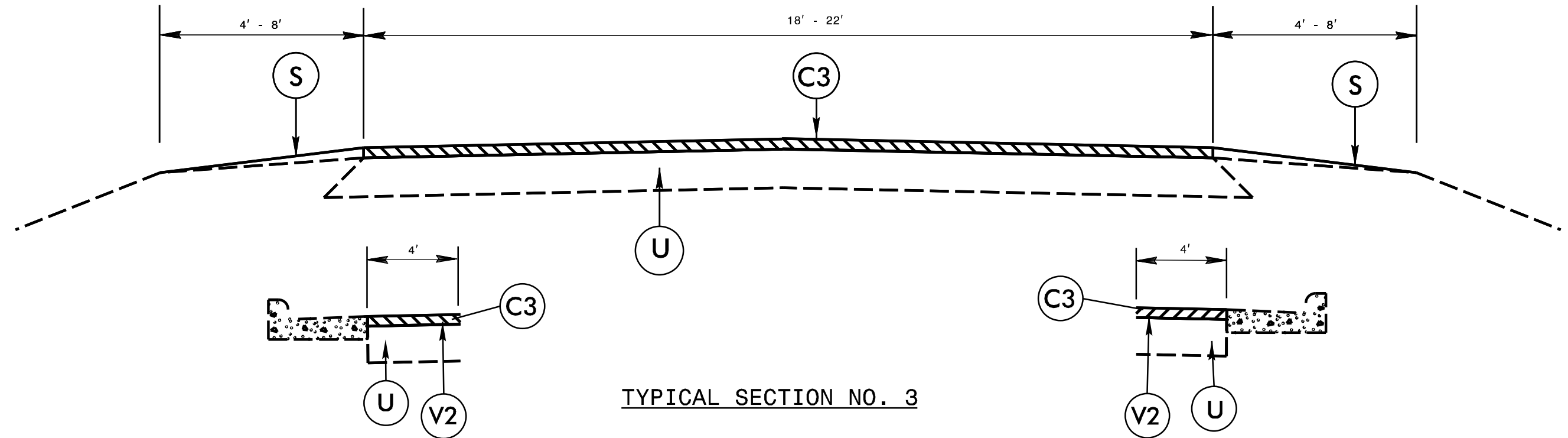
PROJECT REFERENCE NO.

SHEET NO.

2022CPT.05.17.10921.1, ETC.

8

		S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
C2	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	V1	1 1/2" MILLING
C3	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	V2	0" - 1 1/2" MILLING
C4	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	V3	0" - 1 1/4" MILLING



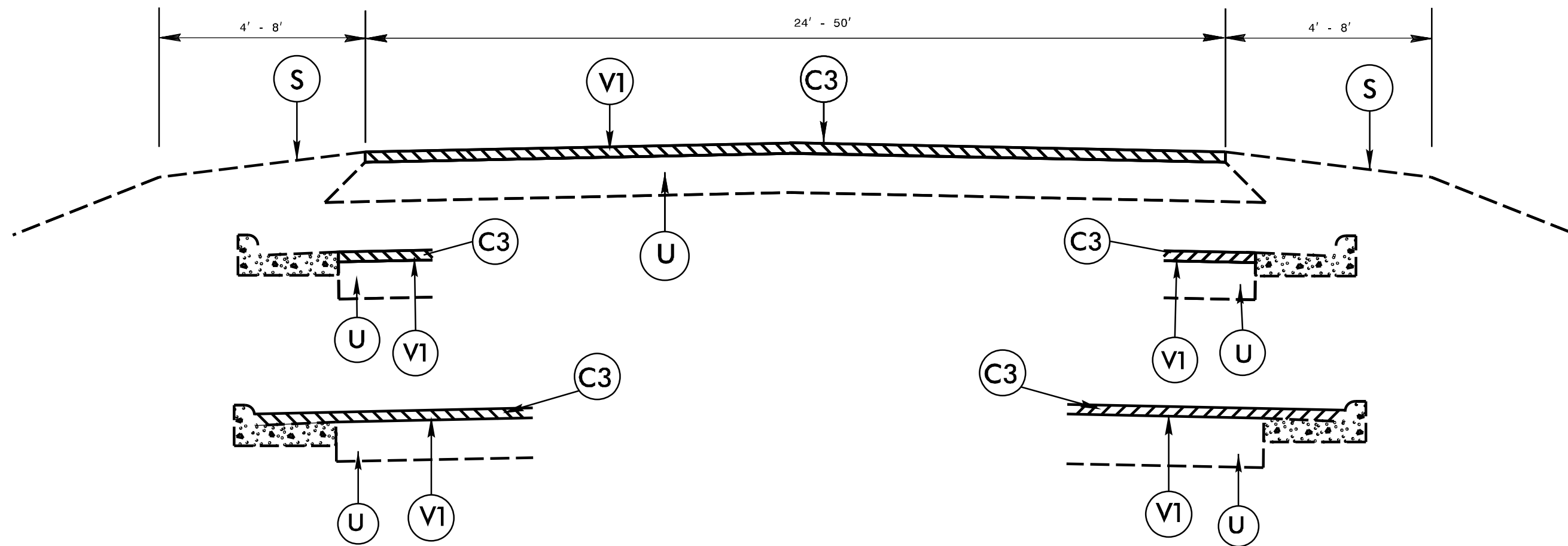
TYPICAL SECTION NO. 3

PAVEMENT SCHEDULE

PROJECT REFERENCE NO.  
2022CPT.05.17.10921.1, ETC.

SHEET NO.  
9

	S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C1	U	EXISTING PAVEMENT
C2	V1	1½" MILLING
C3	V2	0" - 1 ½" MILLING
C4	V3	0" - 1 ¼" MILLING



TYPICAL SECTION NO. 4

PAVEMENT SCHEDULE

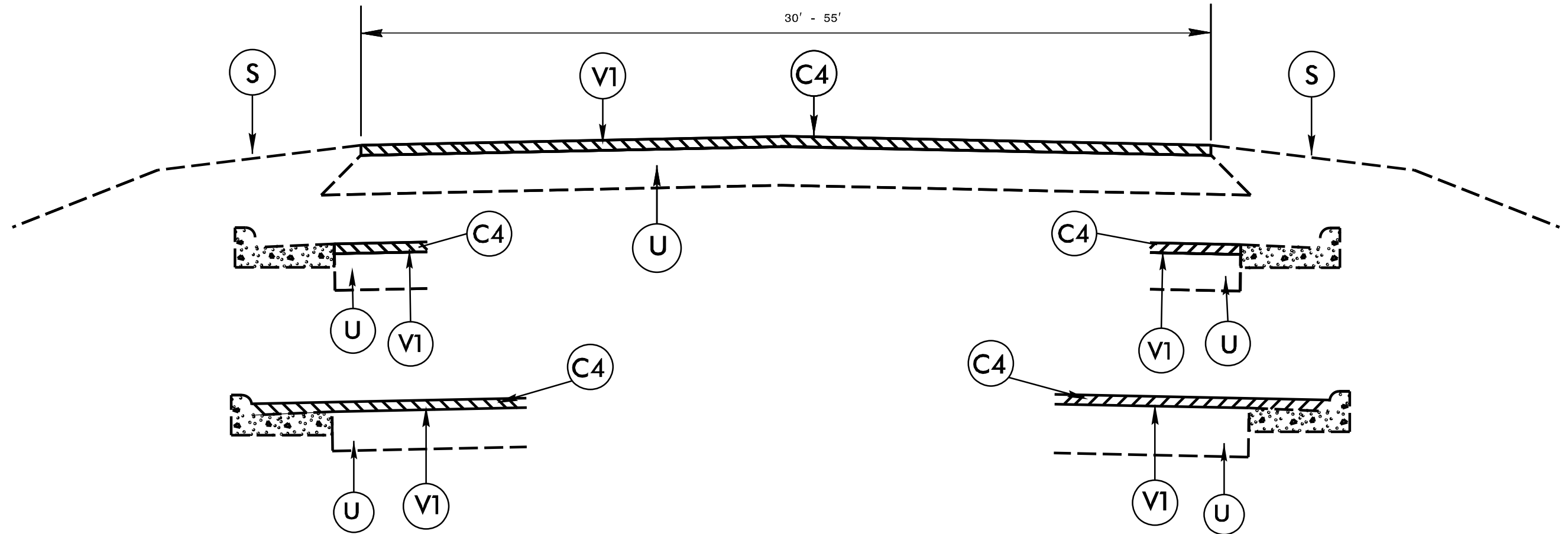
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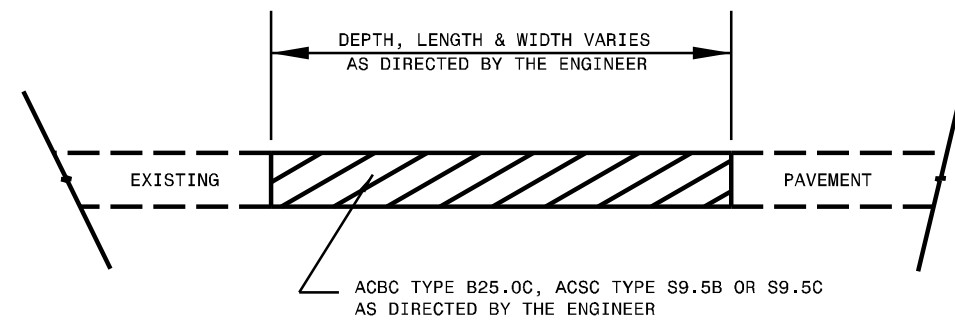
	S	SHOULDER GRADING ASB REQUIRED (EXCEPT AT RESIDENTIAL AREAS)
C1	U	EXISTING PAVEMENT
C2	V1	1½" MILLING
C3	V2	0" - 1 ½" MILLING
C4	V3	0" - 1 ¼" MILLING



TYPICAL SECTION NO. 5

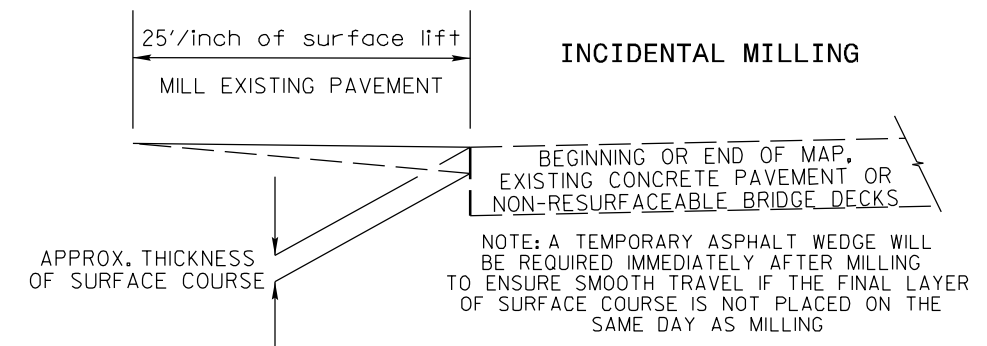
NOTES

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.

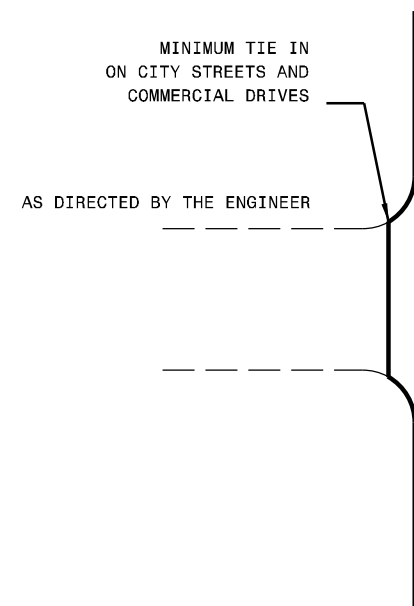


PATCHING EXISTING PAVEMENT

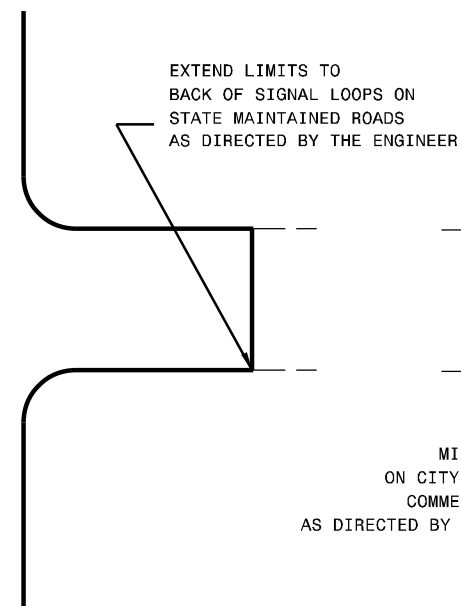
MILLING TO BE PERFORMED PRIOR TO PATCHING



INCIDENTAL MILLING

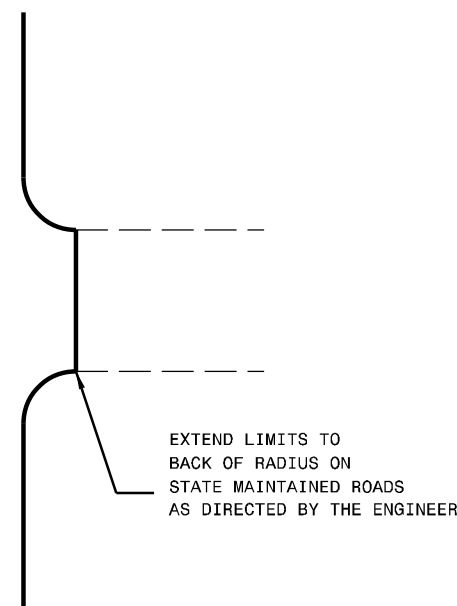


DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES



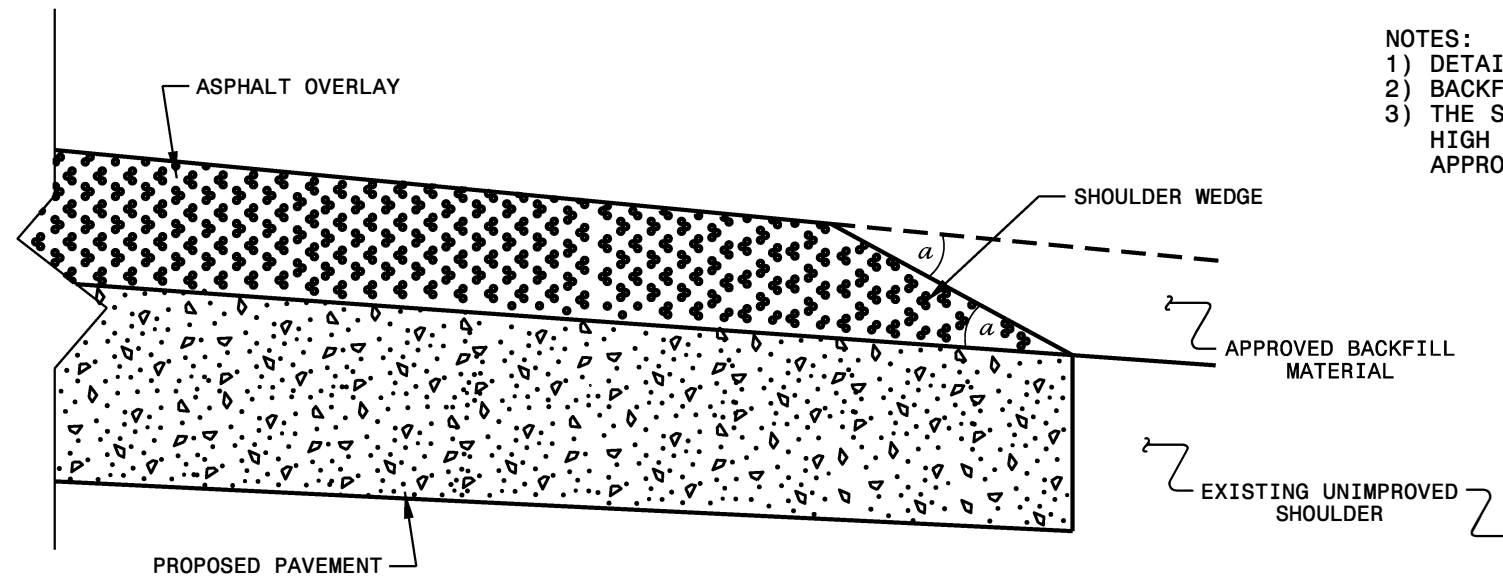
MINIMUM TIE IN ON CITY STREETS AND COMMERCIAL DRIVES AS DIRECTED BY THE ENGINEER

DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES



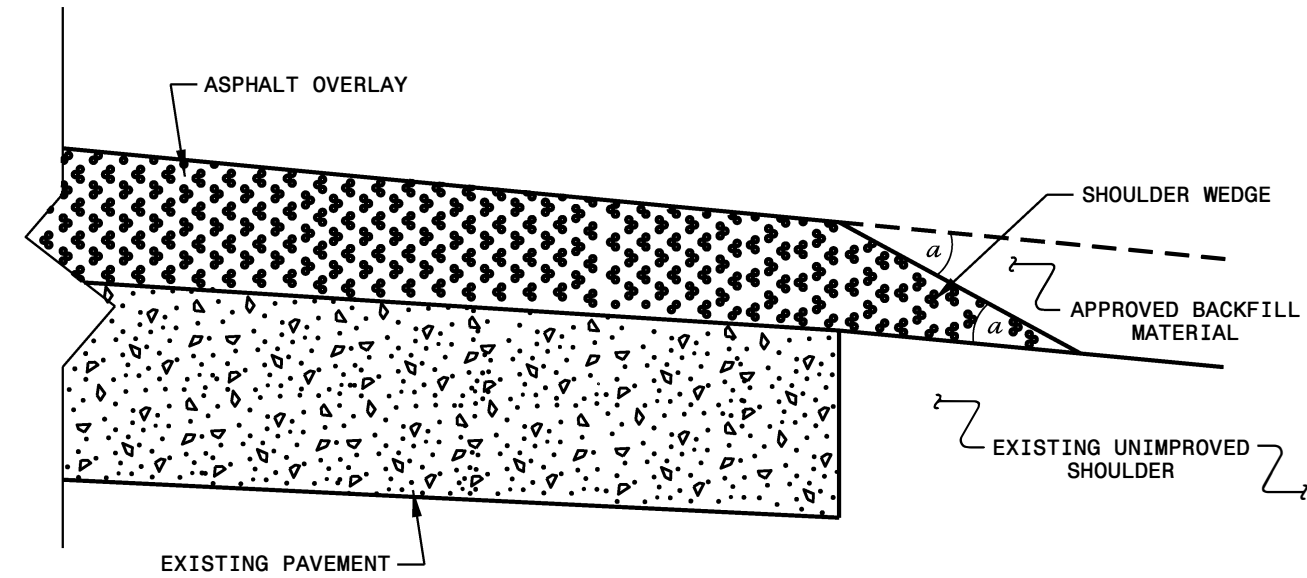
**NOTES:**

- 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.



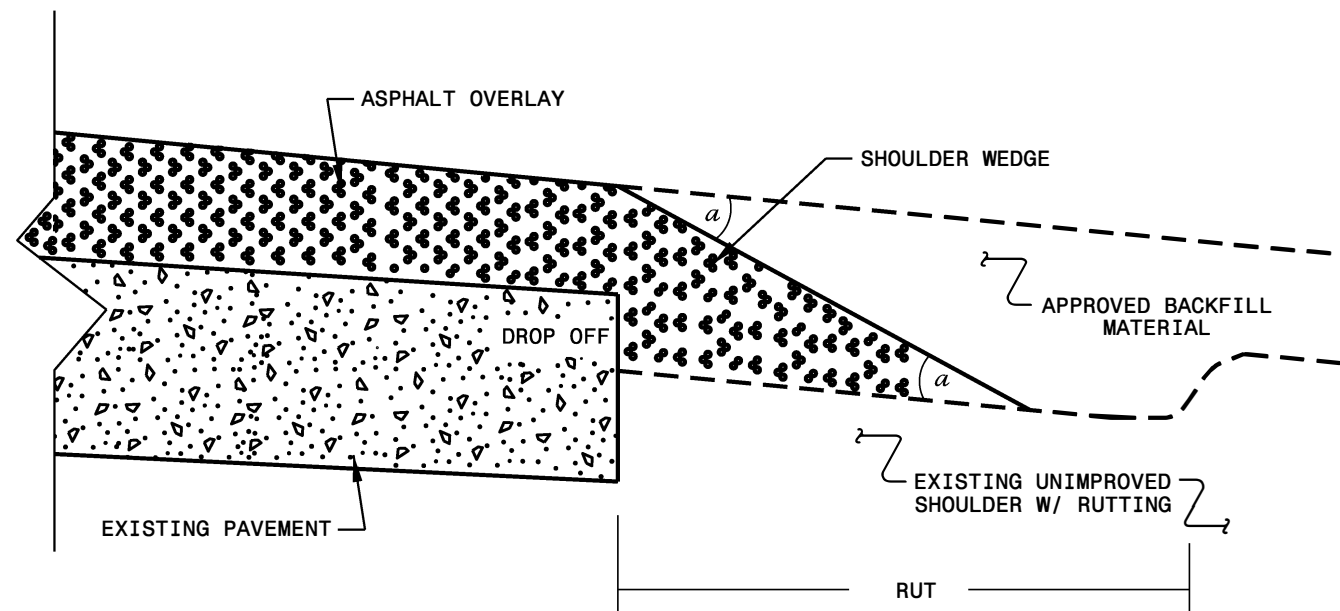
**SHOULDER WEDGE DETAIL**

(Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)



**SHOULDER WEDGE DETAIL**

(Resurfacing Projects w/ NO Widening)



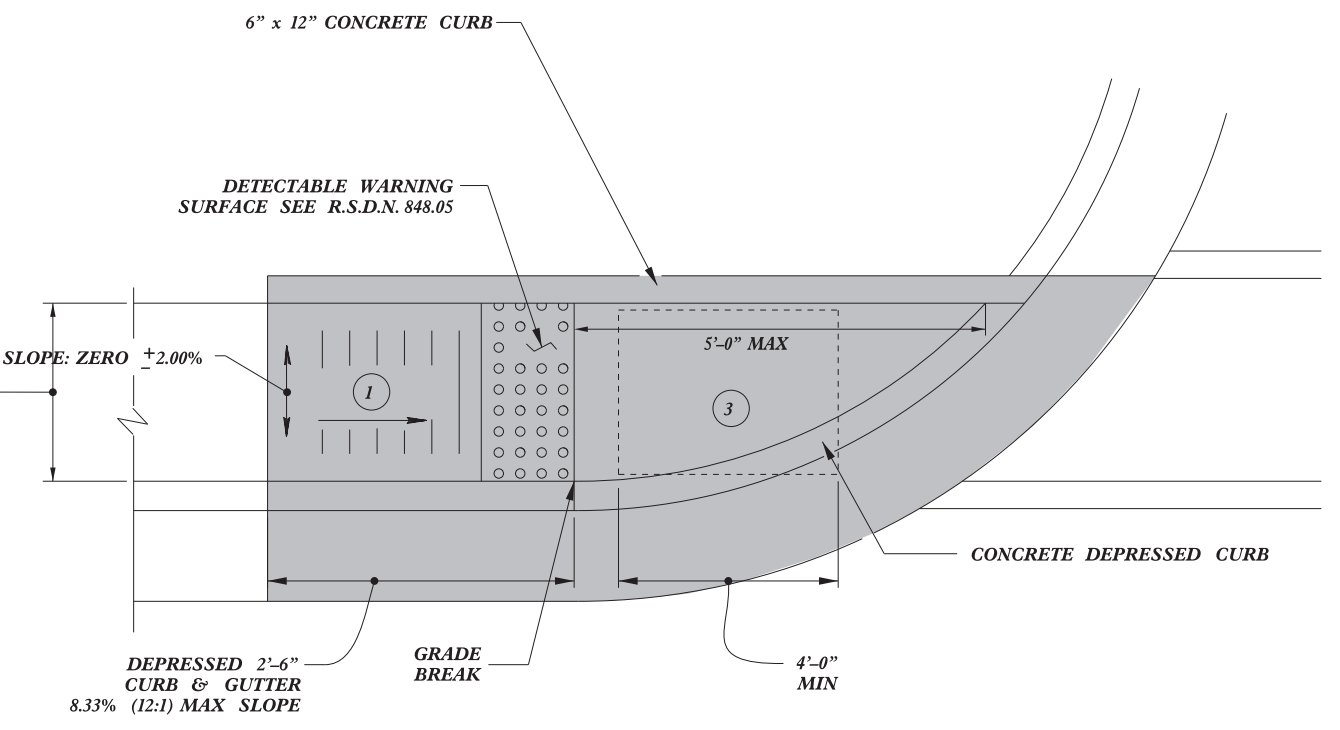
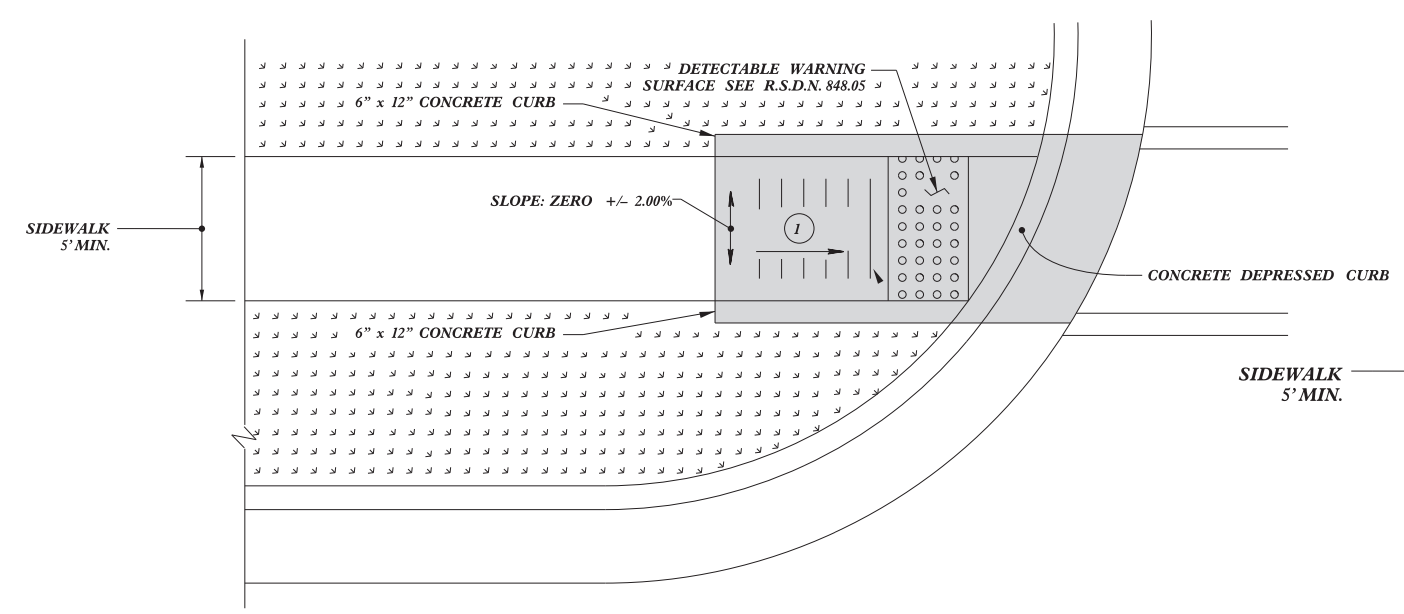
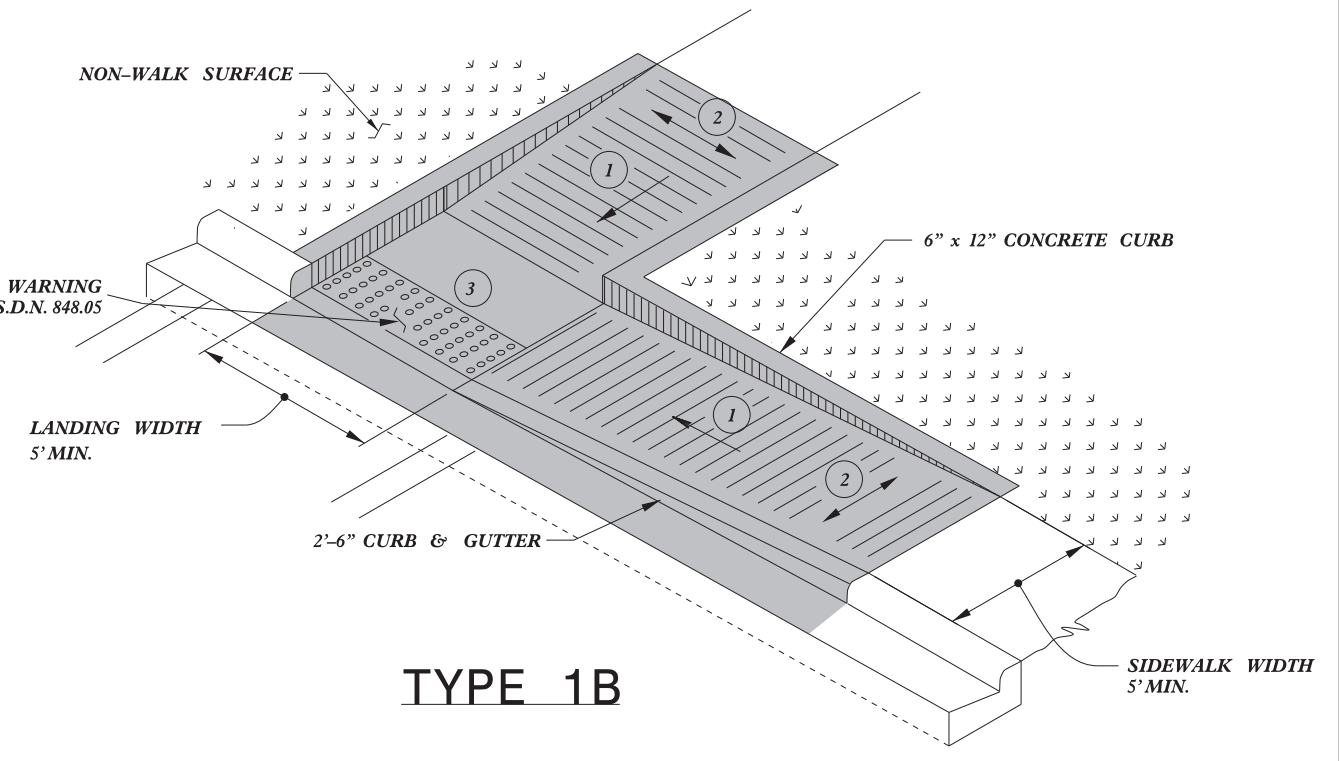
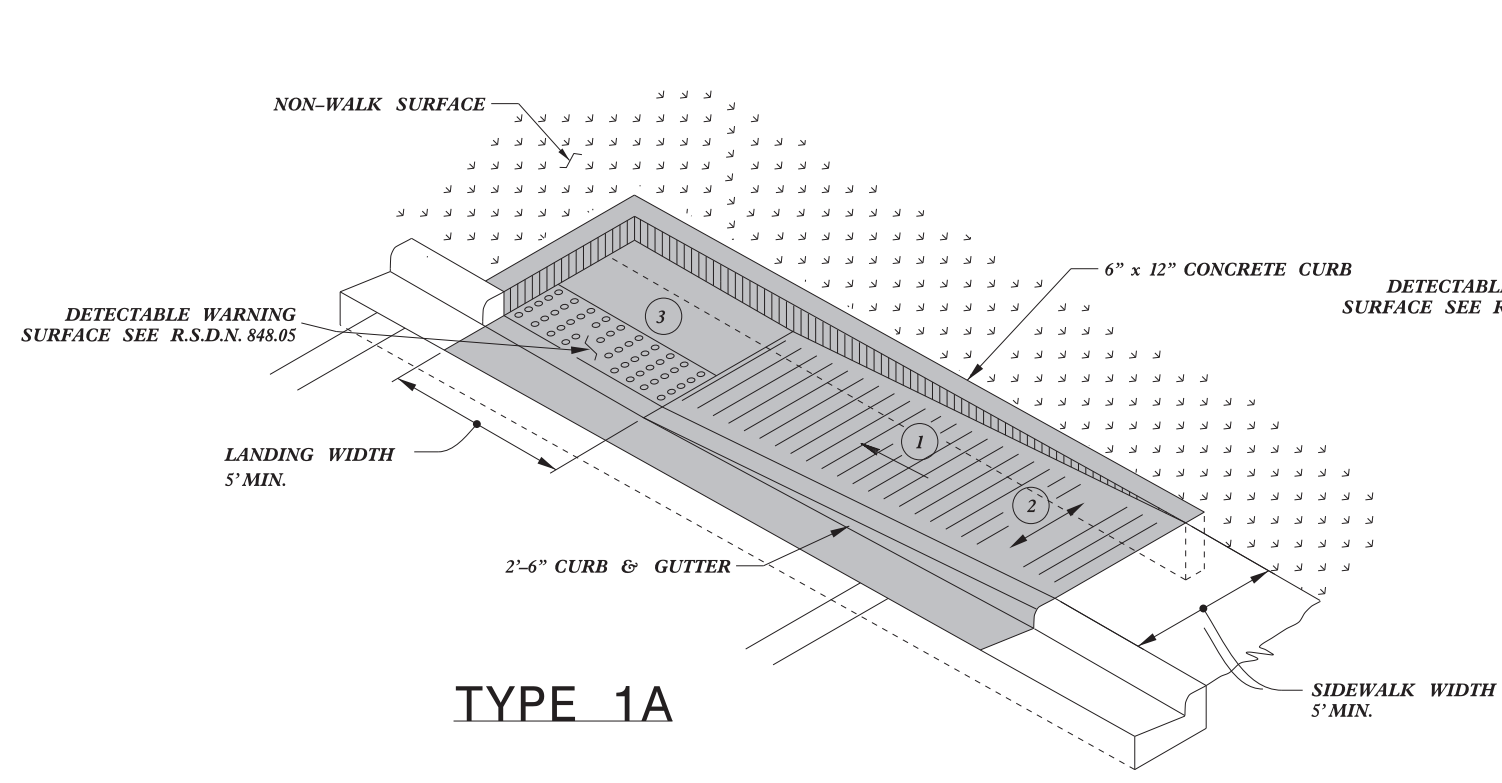
**SHOULDER WEDGE DETAIL**

(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.: s:usr/details/stand/shoulderwedgedetail.dgn	

5/14/99



- 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

**TYPE 1** 1/8/2020



Designed by:  
*J.S. Howerton*

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

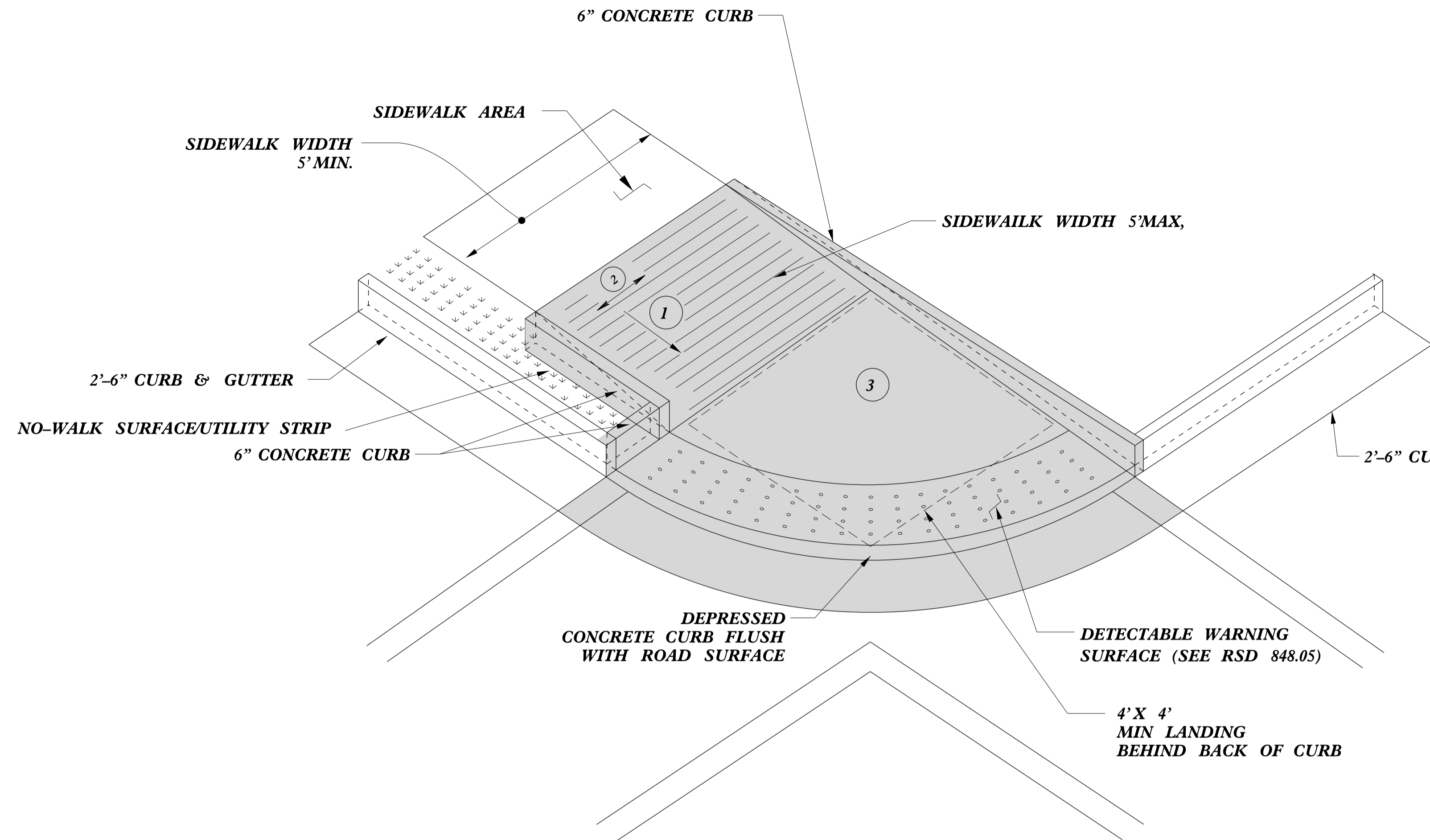
**CONTRACT STANDARDS AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**CURB RAMPS**  
Directional Ramps

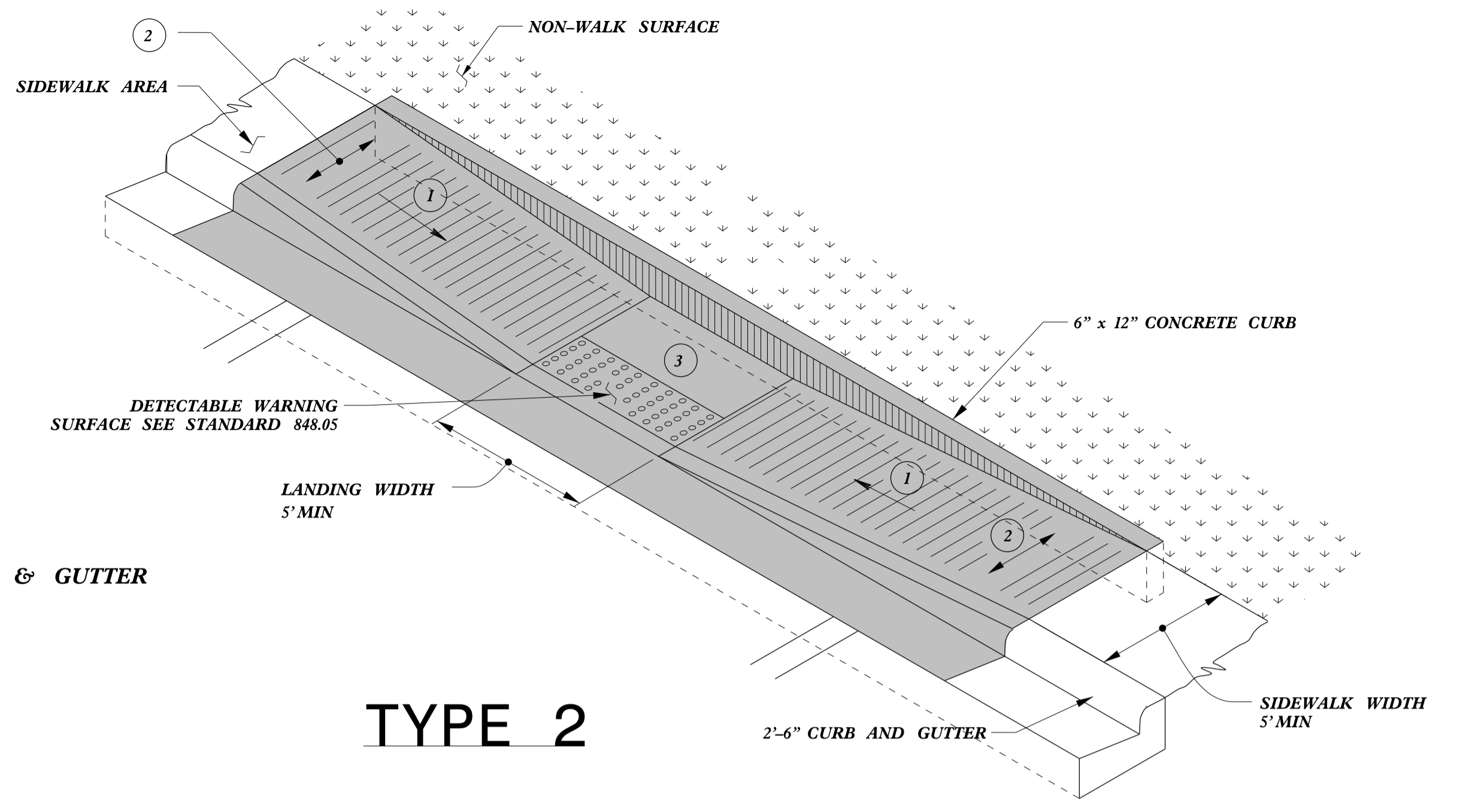
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11  
 MODIFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 FILE SPEC: sids/2012CurbRamp/CurbRampDetails.dgn

\$\$\$\$SYTIME\$\$\$\$  
 \$\$\$\$CON\$\$\$\$  
 \$\$\$\$DU\$\$\$\$  
 \$\$\$\$SERNAME\$\$\$\$

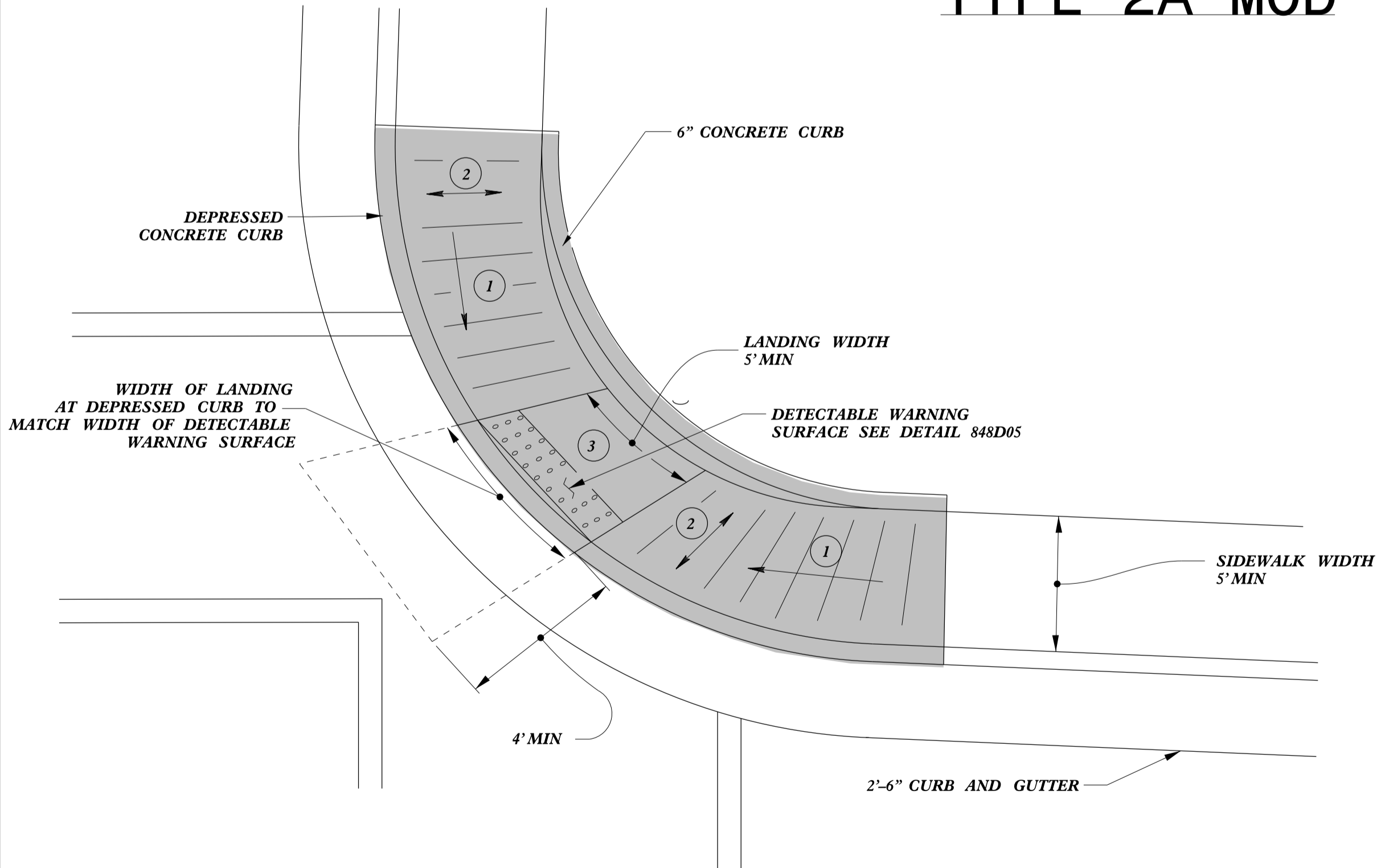
5/14/99



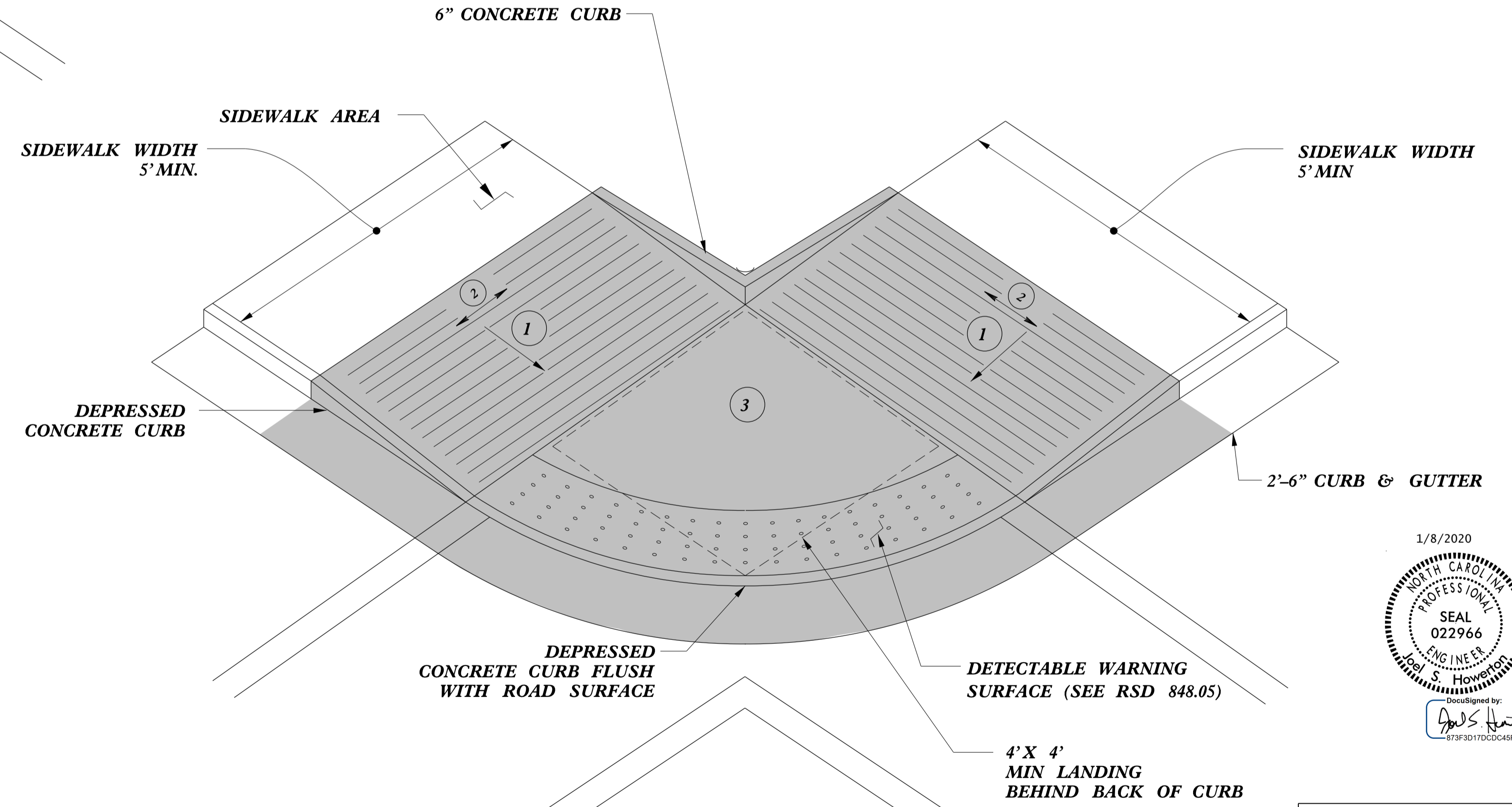
**TYPE 2A MOD**



**TYPE 2**



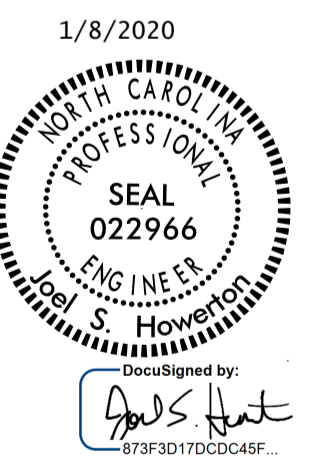
**TYPE 2B**



**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

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

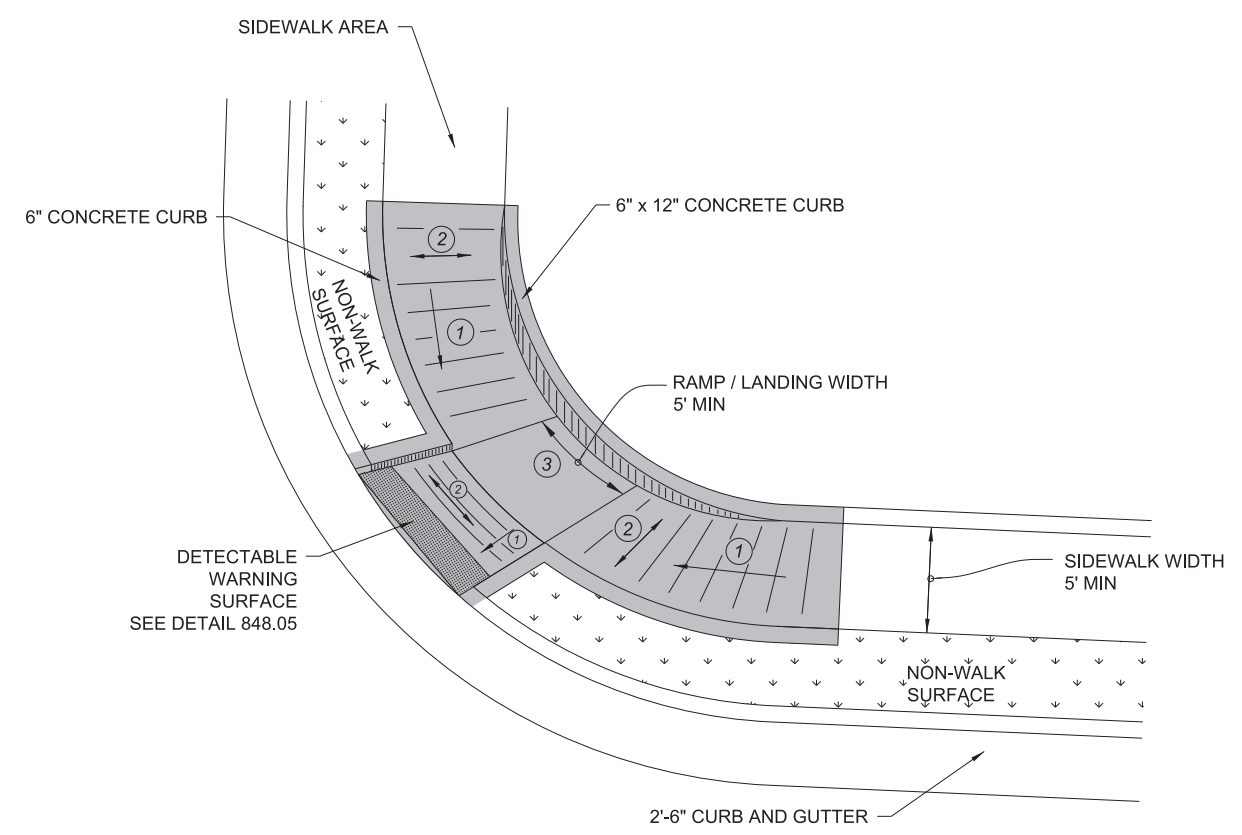
**CURB RAMPS**

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

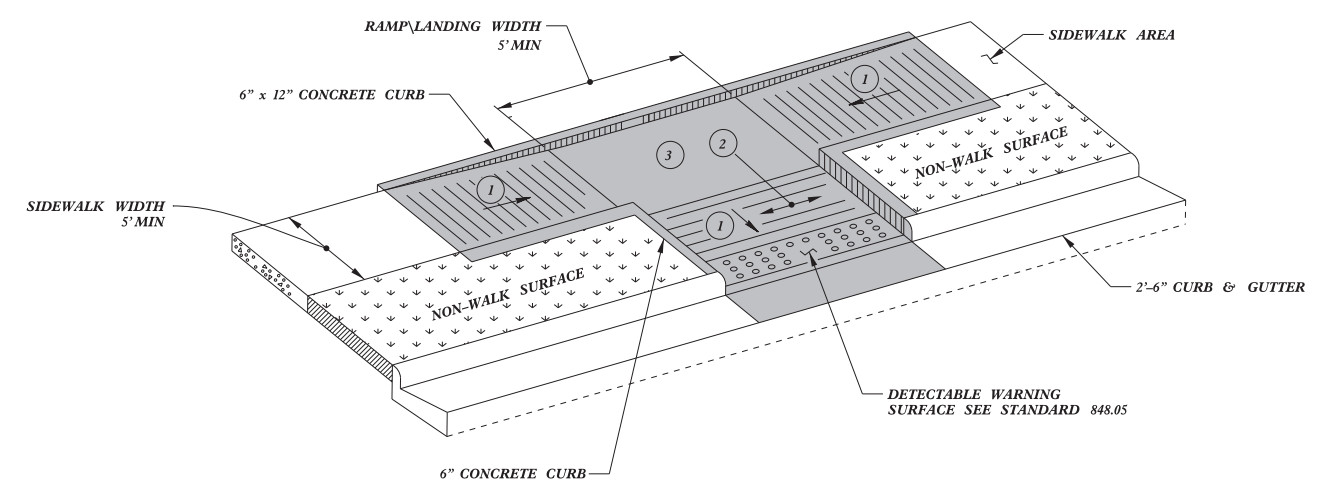
TIME: 11:00 AM 11/14/2019  
 CURB RAMPS (C:\PROJECTS\2019\20190814\20190814.dwg)  
 USER: JSH  
 PLOT: 11/14/2019 11:00 AM  
 PLOTTER: HP DesignJet T1100



PAY LIMITS FOR 1 CURB RAMP



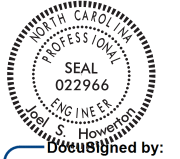
TYPE 3 MODIFIED INSTALLATION IN A RADIUS



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.

1/8/2020



Designed by:  
  
 873F3D17DCDC45F..

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

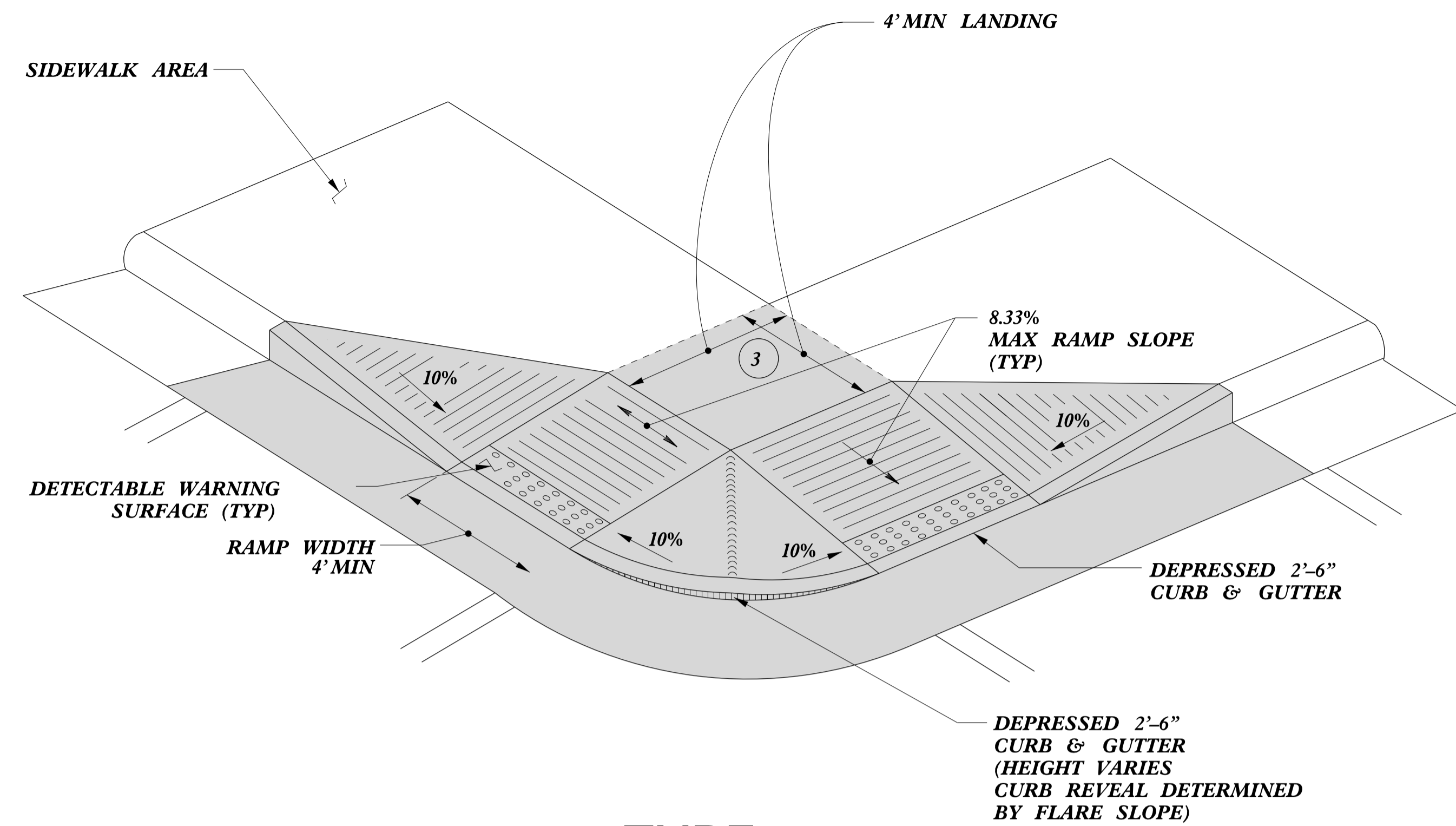
CONTRACT STANDARDS AND DEVELOPMENT UNIT  
 Office 919-707-6950 FAX 919-250-4119

**CURB RAMPS**

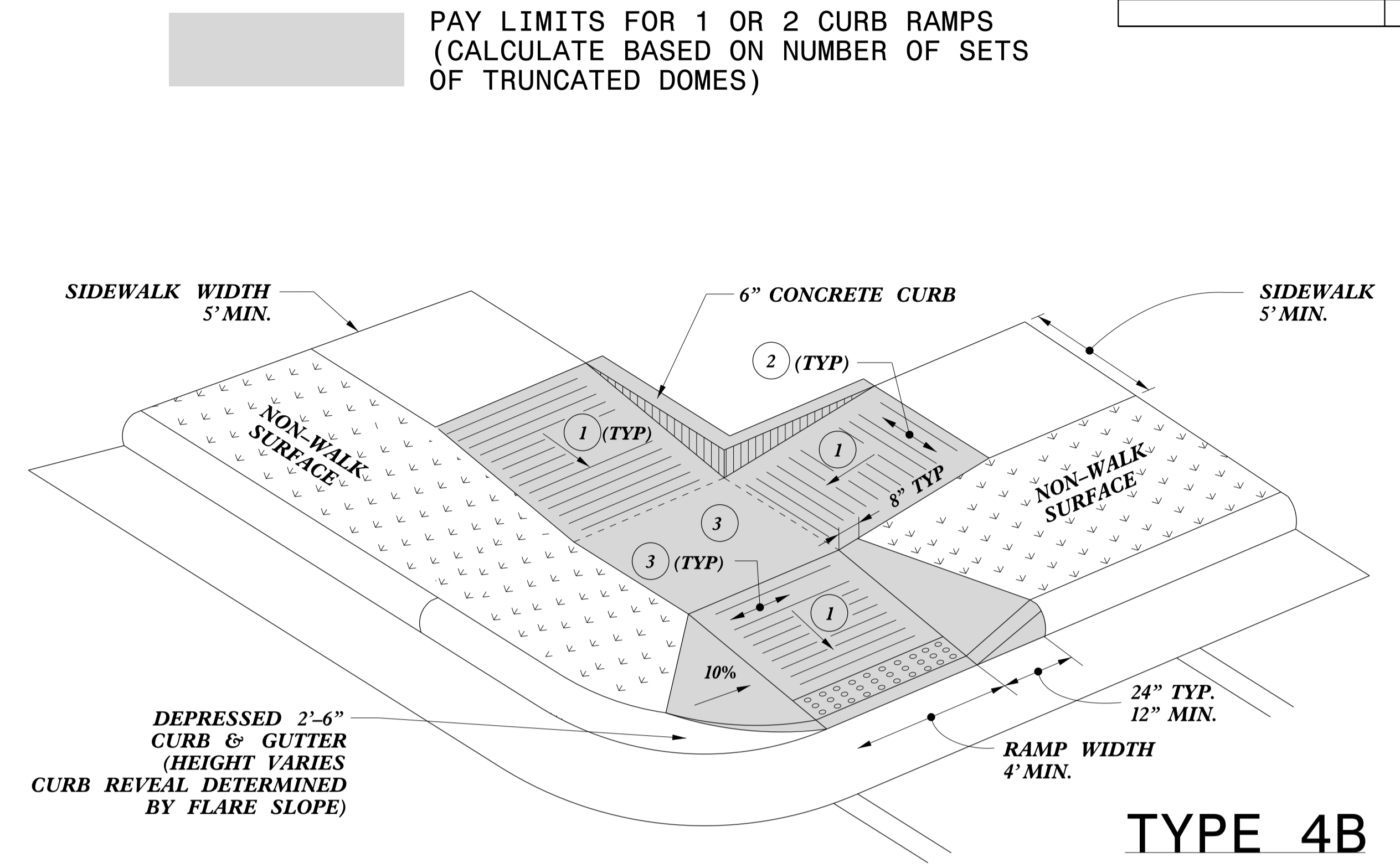
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11  
 MODIFIED BY: DATE:  
 CHECKED BY: DATE:  
 FILE SPEC: sids/2012CurbRamp/CurbRampDetails.dgn

SYTIME\$CON\$C\$S\$R\$NAME\$

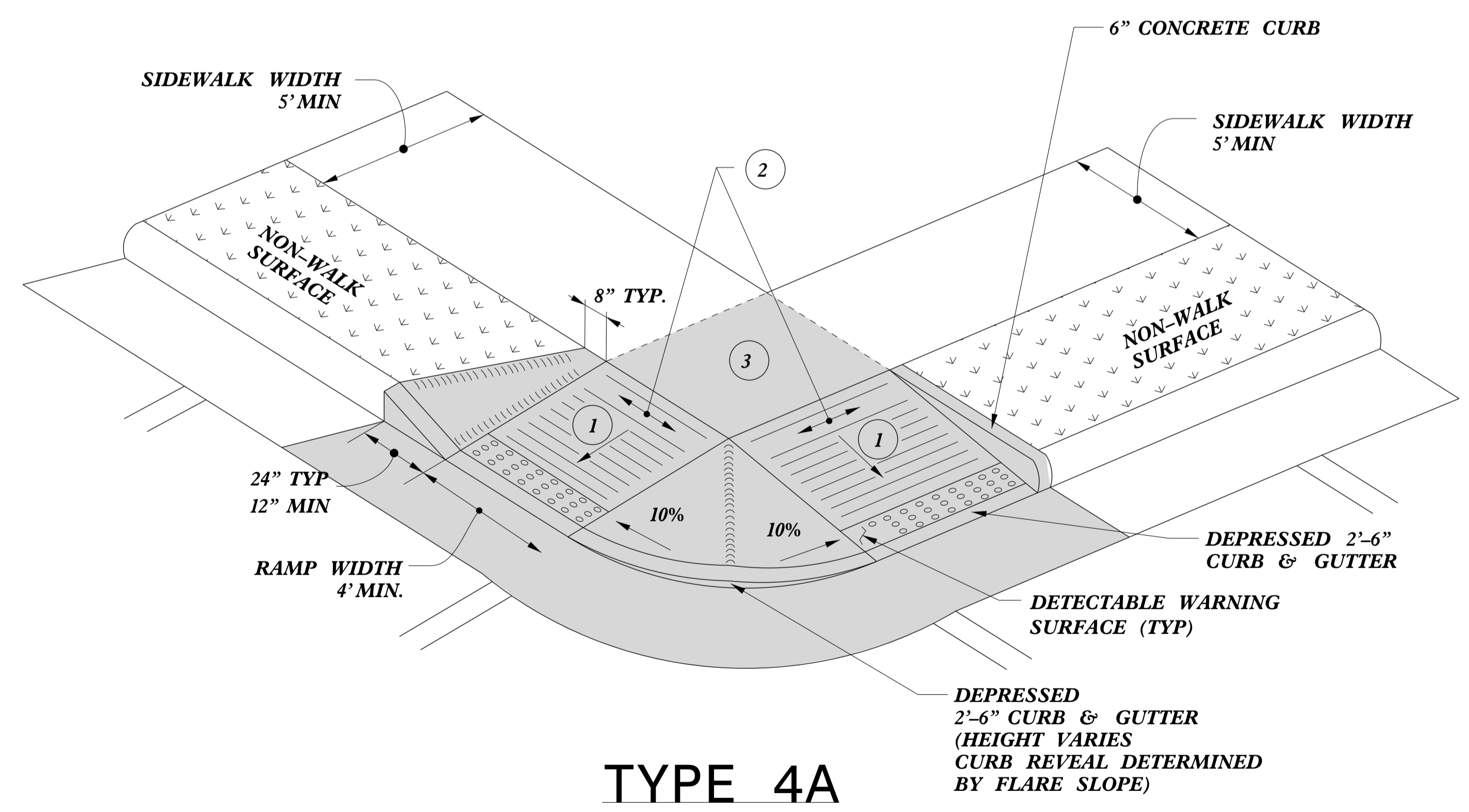
5/14/99



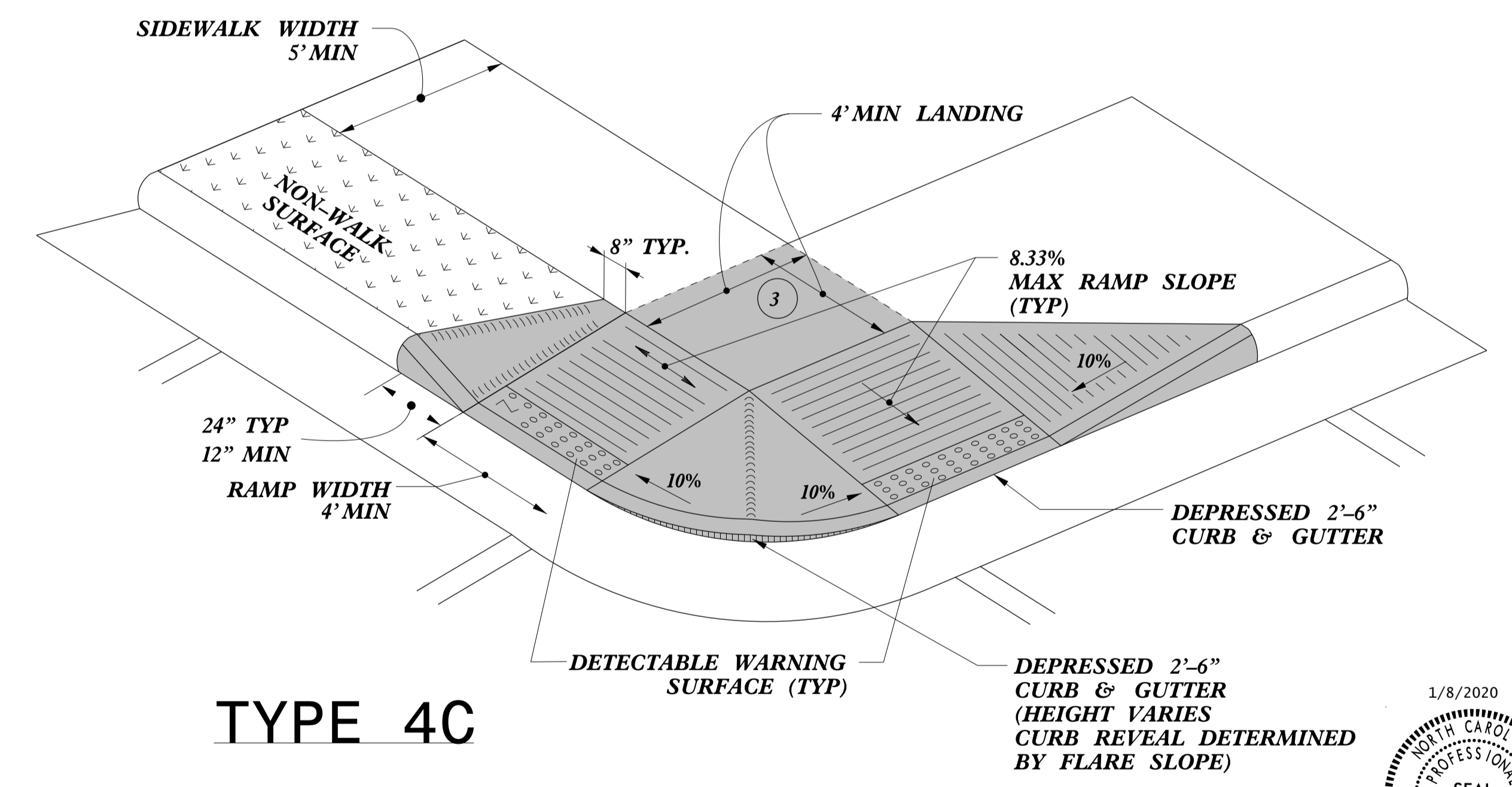
TYPE 4



TYPE 4B

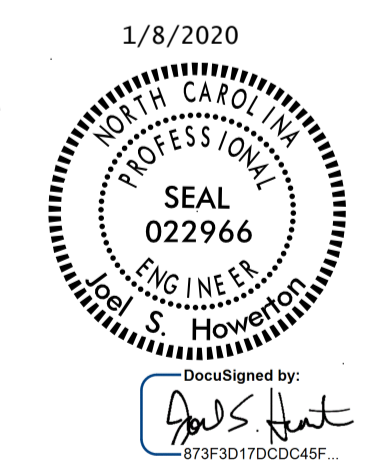


TYPE 4A



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.



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

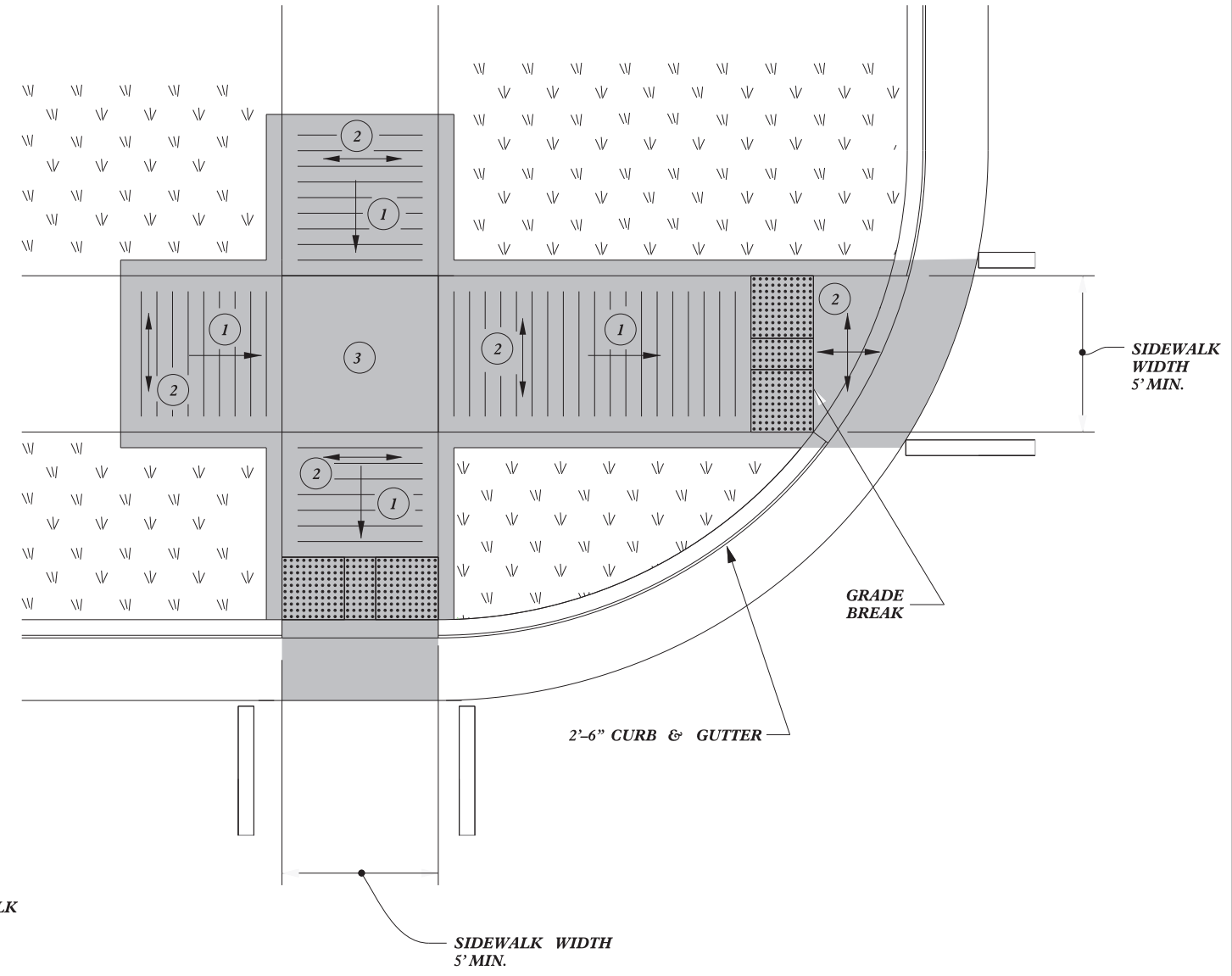
**CURB RAMPS**

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

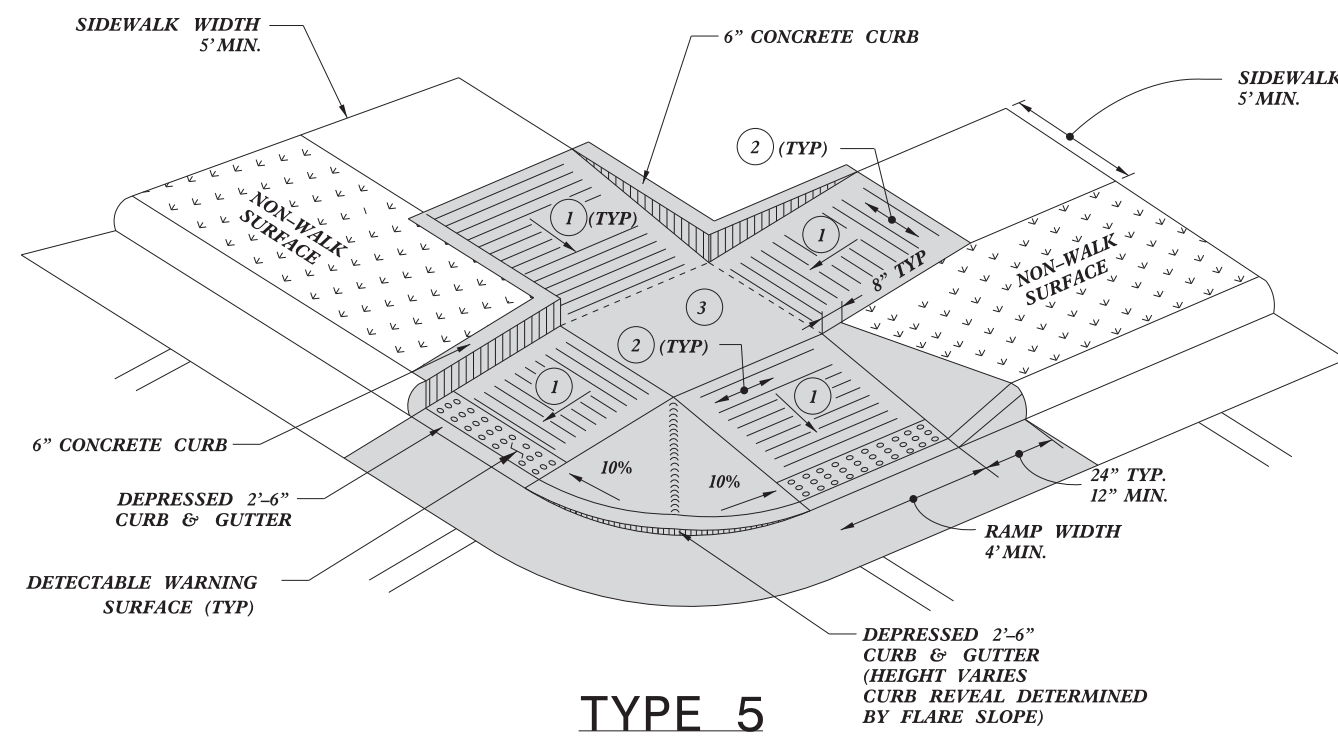
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

\$\$\$\$\$ TIME\$\$\$\$\$ USER\$\$\$\$\$

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.

1/8/2020



Signed by:  
*[Signature]*

**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: sids/2012CurbRamp/CurbRampDetails.dgn

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

5/14/99  
SYTIME  
CONUS  
SERNAME



SUMMARY OF QUANTITIES - DURHAM RD FROM BEGIN CURB TO US 1 ALT

Municipality:	Wake Forest
Project Number:	2023 North
WBS Number:	2022CPT.05.17.10921.1
County:	Wake

Ramp ID	Inset Map Number	Route 1	Route 2	2549000000-E	2591000000-E	2739000000-E	2830000000-N	2600000000-N	2613000000-N	2759000000-N	Improvement Type
				2'-6" Concrete Curb & Gutter LF	4" Concrete Sidewalk SY	Remove Sidewalk SY	Adjustment of Manholes EA	Retrofit Existing Curb Ramps EA	Remove and Replace Curb Ramps EA	Remove Curb Ramps EA	
2262	1	NC-98 BUS (Durham Rd)	Tyler Run Dr	18						1	Remove Ramp
2264	1	NC-98 BUS (Durham Rd)	Tyler Run Dr		13	13			1		Type1Modified
1666	2	NC-98-BUS (Durham Rd)	SR-1954 (S Wingate St)		13	13			1		Type1Modified
1668	3	NC-98-BUS (W South Ave)	S College St					1			RetrofitWarnings
<b>Sub-Total for Durham Rd From Begin Curb To US 1 ALT</b>				<b>18</b>	<b>26</b>	<b>26</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	

SUMMARY OF QUANTITIES - NC 98 BUS FROM US 1 ALT TO PVMT JOINT

Municipality:	Wake Forest
Project Number:	2023 North
WBS Number:	2022CPT.05.17.10921.1
County:	Wake

Ramp ID	Inset Map Number	Route 1	Route 2	2549000000-E	2591000000-E	2739000000-E	2830000000-N	2600000000-N	2613000000-N	2759000000-N	Improvement Type
				2'-6" Concrete Curb & Gutter LF	4" Concrete Sidewalk SY	Remove Sidewalk SY	Adjustment of Manholes EA	Retrofit Existing Curb Ramps EA	Remove and Replace Curb Ramps EA	Remove Curb Ramps EA	
1737	1	NC-98 BUS (E Roosevelt Ave)	US-1 ALT (Front St)						1		Type2B
1743	2	NC-98 BUS (E Roosevelt Ave)	White St						1		Standard - 848.06
1744	2	NC-98 BUS (E Roosevelt Ave)	White St						1		Standard - 848.06
1745	2	NC-98 BUS (E Roosevelt Ave)	White St				1		1		Standard - 848.06
1750	2	NC-98 BUS (E Roosevelt Ave)	White St					1			RetrofitWarnings
1752	3	NC-98-BUS (E Roosevelt Ave)	CVS (245 E Roosevelt Ave) Entrance						1		Type1
1762	4	NC-98 BUS (Wait Ave)	Taylor St		3	3			1		Type1Modified
1767	5	NC-98 BUS (Wait Ave)	Franklin St					1			RetrofitWarnings
1768	5	NC-98 BUS (Wait Ave)	Franklin St					1			RetrofitWarnings
1765	5	NC-98 BUS (Wait Ave)	Franklin St						1		Type1Modified
1771	6	NC-98 BUS (Wait Ave)	Allen Rd	17	9					1	Remove Ramp
1772	6	NC-98 BUS (Wait Ave)	Allen Rd					1			RetrofitWarnings
1776	7	NC-98-BUS (Wait Ave)	Hillside Nursing and Rehab (968 Wait Ave) Entrance						1		Type1Modified
24516	7	NC-98 (Wait Ave)	Hillside Nursing and Rehab (968 Wait Ave) Entrance							1	Remove Ramp
1775	7	NC-98-BUS (Wait Ave)	Hillside Nursing and Rehab (968 Wait Ave) Entrance						1		Type4B
<b>Sub-Total for NC 98 Bus From US 1 ALT To Pvmt Joint</b>				<b>17</b>	<b>12</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>9</b>	<b>2</b>	

## SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	106000000	1264000000	2220000000	1260000000	1297000000	1308000000	1330000000	1519000000	230000000	575000000	704000000	490000000	591000000	500000000	130000000	738000000	590000000	830000000	845000000	4600000000	000000000	071010000	6084000000	1170000000	4440000000			
											BORROW	SHOULDER GRADING	INCIDENTAL STONE BASE	AGGREGATE SHOULDER BORROW	1 1/2" MILLING	0" TO 1.5" MILLING	0" TO 1.25" MILLING	INCIDENTAL MILLING	SURFACE COURSE, 59.5B	SURFACE COURSE, 59.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	2'-6" CURB & GUTTER	4" CONCRETE SIDEWALK	RETROFIT EXISTING CURB RAMP	REMOVE AND REPLACE CURB RAMPS	GENERIC PAVING ITEM REMOVE SIDEWALK	GENERIC PAVING ITEM, REMOVE CURB RAMPS	ADJUST MANHOLES	ADJUST METER OR VALVE BOX	GENERIC TRAFFIC CONTROL ITEM PEDESTRIAN TRANSPORT SERVICE	GENERIC TRAFFIC CONTROL ITEM AUDIBLE WARNING DEVICES	TEMPORARY SILT FENCE	WATTLE	SEED & MULCHING	RESPONSE FOR EROSION CONTROL	INDUCTIVE LOOP SAWCUT	
MI	FT	CY	SMI	TONS	TON	SY	SY	SY	SY	TONS	TONS	TON	TONS	TONS	LF	SY	EA	EA	SY	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA			
2022CPT.05.17.10921.1	Wake	1	NC 98 - DURHAM RD	DURHAM CO TO SR 4584 - VERMILION CT	5	2	NO	NO	8.17	30-55	327	16.34	409	906	169,730			11,471		16,035	962	2,140									475	1,190	4.75	1	2,682			
		2	NC 98 BUS - DURHAM RD/W SOUTH AVE	US 1 RAMPS TO US 1 ALT	4	2	NO	NO	1.54	26-50	86	1.73	43			27,363			1,098	2,475		166		18	26	1	2	26	1	5	16	5	1	126	320	1.26	1	1,026
		3	NC 98 BUS - E ROOSEVELT AVE/WAIT AVE	US 1 ALT TO PVMT JT AT RIDGEWOOD APTS.	4	2	NO	NO	1.083	24-36	27	0.54	26			19,978			1,444	1,866		125	720	17	12	4	9	3	2	16	14	5	1	39	100	0.39		2,244
		<b>TOTAL FOR PROJ NO. 2022CPT.05.17.10921.1</b>						<b>10.793</b>		<b>440</b>	<b>18.61</b>	<b>478</b>	<b>906</b>	<b>217,071</b>			<b>14,013</b>	<b>4,341</b>	<b>16,035</b>	<b>1,253</b>	<b>2,860</b>	<b>35</b>	<b>38</b>	<b>5</b>	<b>11</b>	<b>29</b>	<b>3</b>	<b>21</b>	<b>30</b>	<b>10</b>	<b>2</b>	<b>640</b>	<b>1,610</b>	<b>6.40</b>	<b>2</b>	<b>5,952</b>		
2022CPT.05.17.20321.1	Durham	4	SR 2057 - LAURDANE RD	SR 1901 CARPENTER POND RD TO SR 1896 - LAURDANE RD	2	2	NO	NO	0.17	20	17	0.34	9				84	145		10											25	70	0.25					
		<b>TOTAL FOR PROJ NO. 2022CPT.05.17.20321.1</b>						<b>0.17</b>		<b>17</b>	<b>0.34</b>	<b>9</b>					<b>84</b>	<b>145</b>		<b>10</b>											<b>25</b>	<b>70</b>	<b>0.25</b>					
2022CPT.05.17.20921.1	Wake	5	SR 1896 - LAURDANE RD	DURHAM CO TO CDS	3	2	NO	NO	0.52	20	52	1.04	26				468		31	600											76	190	0.76	1				
		6	SR 1901 - OLD WEAVER TRL	SR 1902 - CHEEK RD TO SR 1903 - OLIVE GROVE CHURCH RD	3	2	NO	NO	0.781	20	78	1.56	39					167	799		54	1,105										114	290	1.14	1			
		7	SR 1928 - RABBIT RUN	SR 1929 - WAKE UNION CHURCH RD TO SR 1978 - ROBBIT RUN	3	2	NO	NO	0.132	20	13	0.26	7					125	143		10	65										19	50	0.19				
		8	SR 1966 - OLD KEITH RD	SR 2004 - CHOPLIN RD TO DEAD END	3	2	NO	NO	1.09	20	77	2.18	55	61				265	1,138		76	25										111	280	1.11	1			
		9	SR 1978 - RABBIT RUN	SR 1928 - OLD WEAVER TRL TO CUL-DE-SAC	3	2	NO	NO	0.201	18	20	0.40	10						208		14	240										29	80	0.29				
		10	SR 2004 - CHOPLIN RD	NC 98 - DURHAM RD TO END PVMT	2	2	NO	NO	0.095	20	5	0.19	5	9				166	131		9	165							1			7	20	0.07				
		11	SR 3226 - FARMWOOD DR	SR 1834 - NORWOOD RD TO CUL-DE-SAC	2	2	NO	NO	0.522	20	52	1.04	26					84	466		31	360										76	190	0.76	1			
		12	SR 3227 - BREMERTON CT	SR 3226 - FARMWOOD DR TO CUL-DE-SAC	2	2	NO	NO	0.143	20	14	0.29	7						152		10	1,590										21	60	0.21				
		13	SR 3228 - EAGLE ROCK DR	SR 3226 - FARMWOOD DR TO CUL-DE-SAC	2	2	NO	NO	0.144	20	14	0.29	7						149		10	55										21	60	0.21				
		14	SR 3229 - WOODMONT DR	SR 3226 - FARMWOOD DR TO CUL-DE-SAC	2	2	NO	NO	0.169	20	17	0.34	8						179		12	390										25	70	0.25				
		15	SR 3235 - ETHAN LN	SR 1896 - LAURADANE RD TO CUL-DE-SAC	2	2	NO	NO	0.334	19	33	0.67	17						293		20	475										49	130	0.49				
		16	SR 3298 - CRESTMONT DR	SR 1839 - LEESVILLE RD TO CUL-DE-SAC	2	2	NO	NO	0.307	20	30	0.61	15						150	284		19	570									45	120	0.45				
		17	SR 3299 - FARMRIDGE RD	SR 1829 - STRICKLAND RD TO CUL-DE-SAC	2	2	NO	NO	0.263	20	26	0.53	13						93	239		16	130									38	100	0.38				
		18	SR 3432 - LIANA LN	SR 1840 - HICKORY GROVE TO CUL-DE-SAC	2	2	NO	NO	0.15	20	15	0.30	8						63	161		11	180									22	60	0.22				
		19	SR 3452 - BARSANLAW DR	SR 1834 - NORWOOD RD TO CUL-DE-SAC	2	2	NO	NO	0.215	18	21	0.43	11						95	185		12	405									31	80	0.31				
		20	SR 3453 - KRISTY CIR	SR 3452 - BARSANLAW DR TO CUL-DE-SAC	2	2	NO	NO	0.096	18	9	0.19	5							94		6	195									14	40	0.14				
		21	SR 3480 - SEDGEFIELD DR	SR 1839 - LEESVILLE RD TO CUL-DE-SAC	2	2	NO	NO	0.175	20	17	0.35	9						70	170		11	270									25	70	0.25				
		22	SR 3481 - HELENA CT	SR 3480 - SEDGEFIELD DR TO CUL-DE-SAC	2	2	NO	NO	0.041	20	4	0.08	2							53		4	115									6	20	0.06				
		23	SR 3581 - PERIDOT LN	SR 3350 - BROOKFIELD RD TO SR 3586 - WHITESTONE RD	2	2	NO	NO	0.23	19	23	0.46	12						70	186		12	470									33	90	0.33				
		24	SR 3582 - ALMOND CT	SR 3581 - PERIDOT LN TO CUL-DE-SAC	2	2	NO	NO	0.04	20	4	0.08	2							55		4	70									6	20	0.06				
		25	SR 3586 - WHITESTONE RD	SR 3350 - BROOKFIELD RD TO DEAD END	3	2	NO	NO	0.84	20	84	1.68	42						557	899		60	575									122	310	1.22	1			
		26	SR 3588 - BENNINGTON DR	SR 3586 - WHITESTONE RD TO SR 3588 - BENNINGTON DR	2	2	NO	NO	0.47	20	47	0.94	24							419		28	490									68	180	0.68				
		27	SR 3589 - THATCHER WAY	SR 3586 - WHITESTONE RD TO CUL-DE-SAC	2	2	NO	NO	0.19	20	19	0.38	10							162		11	201									28	70	0.28				
		28	SR 3590 - CARRINGTON DR	SR 3590 - CARRINGTON DR TO DEAD END	3	2	NO	NO	0.68	22	68	1.36	34						210	811		54	520									98	250	0.99	1			
		29	SR 3591 - SWINDON CT	SR 3590 - CARRINGTON DR TO DEAD END	3	2	NO	NO	0.12	20	12	0.24	6							121		8	115									17	50	0.17				
		30	SR 3594 - KINSDALE DR	SR 1844 - MT VERNON CH RD TO SR 3598 - OLD WARDEN RD	2	2	NO	NO	1.22	21	122	2.44	61						150	1,315		88	570									177	450	1.77	1			
		31	SR 3595 - GRAFTON RD	SR 3594 - KINGSDALE DR TO END MAINT.	2	2	NO	NO	0.57	20	57	1.14	29						70	485		33	830									83	210	0.83	1			
		32	SR 3596 - HEARTLEY DR	SR 3595 - GRAFTON RD TO END MAINT.	2	2	NO	NO	0.42	18	42	0.84	21						63	358		24	534									61	160	0.61				
		33	SR 3597 - MELTON CT	SR 3596 - HEARTLEY DR TO CUL-DE-SAC	2	2	NO	NO	0.05	20	5	0.10	3							65		4	35									7	20	0.07				
		34	SR 3598 - OLD WARDEN RD	CUL-DE-SAC TO NC 50	2	2	NO	NO	0.815	20	82	1.63	41						197	717		48	650									119	300	1.19	1			





### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	106000000	264000000	222000000	126000000	1297000000	1308000000	1330000000	519000000	230000000	575000000	704000000	490000000	591000000	500000000	130000000	738000000	590000000	830000000	845000000	460000000	000000000	071010000	6084000000	117000000	444000000				
											BORROW	SHOULDER GRADING	INCIDENTAL STONE BASE	AGGREGATE SHOULDER BORROW	1 1/2" MILLING	0" TO 1.5" MILLING	0" TO 1.25" MILLING	INCIDENTAL MILLING	SURFACE COURSE, S9.5B	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	2'-6" CURB & GUTTER	4" CONCRETE SIDEWALK	RETROFIT EXISTING CURB RAMP	REMOVE AND REPLACE CURB RAMPS	GENERIC PAVING ITEM REMOVE SIDEWALK	GENERIC PAVING ITEM, REMOVE CURB RAMPS	ADJUST MANHOLES	ADJUST METER OR VALVE BOX	GENERIC TRAFFIC CONTROL ITEM PEDESTRIAN TRANSPORT SERVICE	GENERIC TRAFFIC CONTROL ITEM AUDIBLE WARNING DEVICES	TEMPORARY SILT FENCE	WATTLE	SEED & MULCHING	RESPONSE FOR EROSION CONTROL	INDUCTIVE LOOP SAWCUT		
MI	FT	CY	SMI	TONS	TON	SY	SY	SY	SY	TONS	TONS	TON	TONS	TONS	TON	TONS	TONS	LF	SY	EA	EA	SY	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA			
2022CPT.05.17.20922.1	Wake	77	SR 4688 - SUNNYSTONE WAY	SR 1841 - VICTORY CH RD TO SR 4689 - JASPER LN	1	2	NO	NO	0.4	20			20				112	272		18	90							1	1										
		78	SR 4689 - JASPER LN	SR 4688 - SUNNYSTONE WAY TO CUL-DE-SAC	1	2	NO	NO	0.21	20			11						160		11	120						3	4										
		79	SR 5612 - PERCEPTION LN	SR 4990 - AMORETTO WAY TO CUL-DE-SAC	1	2	NO	NO	0.15	20			7						121		8	20																	
		80	SR 5671 - TERRA COTTA DR	SR 1831 - VICTORY CH RD TO SR 4689 - JASPER LN	1	2	NO	NO	0.58	20			29						395		26	245							1										
		81	SR 5672 - ROCK OAK CT	SR 5671 - TERRA COTTA DR TO CUL-DE-SAC	1	2	NO	NO	0.06	20			3						58		4								1										
		82	SR 5673 - PATHVIEW CT	SR 5671 - TERRA COTTA DR TO CUL-DE-SAC	1	2	NO	NO	0.04	20			2						47		3	10							1										
		83	SR 5674 - CLARK RIDGE CT	SR 5606 - BARTONS ENCLAVE LN TO CUL-DE-SAC	1	2	NO	NO	0.04	20			2						46		3	50								2									
		84	SR 5684 - KINLEYS WAY	SR 4227 - N HAWTHORNE WAY TO SR 4688 - SUNNYSTONE WAY	1	2	NO	NO	0.24	20			12						163		11	170							1										
		85	SR 5685 - BARTONS BLUFF CT	SR 4227 - N HAWTHORNE WAY TO SR 5686 - VENTRY CT	1	2	NO	NO	0.09	20			4						61		4																		
		86	SR 5686 - VENTRY CT	CUL-DE-SAC TO CUL-DE-SAC	1	2	NO	NO	0.14	20			7						132		9	130							2										
87	SR 5687 - DRAY CT	CUL-DE-SAC TO CUL-DE-SAC	1	2	NO	NO	0.19	18			10						149		10	40							2	5											
88	SR 5688 - SUNBRIAR LN	SR 5671 - TERRA COTTA DR TO DURHAM CO	1	2	NO	NO	0.08	20			4						54		4																				
		<b>TOTAL FOR PROJ NO. 2022CPT.05.17.20922.1</b>						<b>2.22</b>				<b>111</b>				<b>112</b>	<b>1,658</b>		<b>111</b>	<b>875</b>							<b>11</b>	<b>13</b>											
		<b>GRAND TOTAL</b>						<b>34.4</b>			<b>2,477</b>	<b>61.29</b>	<b>1,651</b>	<b>976</b>	<b>217,071</b>	<b>120</b>	<b>115</b>	<b>18,297</b>	<b>26,813</b>	<b>16,035</b>	<b>2,757</b>	<b>28,405</b>	<b>35</b>	<b>38</b>	<b>5</b>	<b>11</b>	<b>29</b>	<b>3</b>	<b>60</b>	<b>54</b>	<b>10</b>	<b>2</b>	<b>3,647</b>	<b>9,500</b>	<b>36.48</b>	<b>16</b>	<b>5,952</b>		

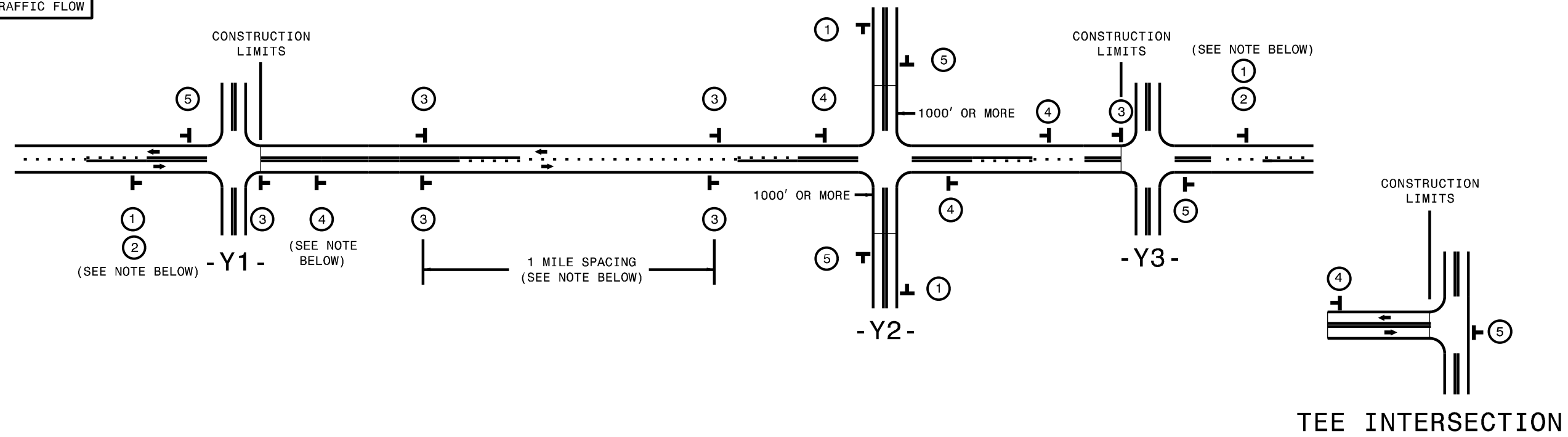
### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LENGTH	WIDTH	4413000000-E		4447000000-E		4457000000-N		510000000-E		4685000000-E		4695000000-E		700000000-E		200000000-E		4725000000-E		4810000000-E		4820000000-E		250000000-E		350000000-E		400000000-E		4845000000-N		4890000000-E		4895000000-N					
									WORK ZONE ADVANCE/GENERAL WARNING SIGNING	PEDESTRIAN CHANNELIZING DEVICES	TEMPORARY TRAFFIC CONTROL	LAW ENFORCEMENT	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	8" X 90 M WHITE THERMO	8" X 90 M YELLOW THERMO	12" X 90 M YELLOW THERMO	THERMO MSG ONLY 90 M	THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & RT ARROW 90 M	4" WHITE PAINT	4" YELLOW PAINT	8" WHITE PAINT	8" YELLOW PAINT	12" YELLOW PAINT	24" WHITE PAINT	PAINT MSG ONLY	PAINT LT ARROW	PAINT STR ARROW	PAINT RT ARROW	PAINT STR & RT ARROW	GENERIC MARKING ITEM 24" X 90 M WHITE THERMO	GENERIC PAVEMENT MARKING ITEM NON-CAST IRON SNOW PLOWABLE MARKER											
2022CPT.05.17.10921.1	Wake	1	NC 98 - DURHAM RD	DURHAM CO TO SR 4584 - VERMILION CT	5	2	8.17	30-55	915						120	91,495	107,000	1,500			1,840			46	11	16	13	91,495	107,000	1,500		1,840	370		46	11	16	13	370	1,155						
		2	NC 98 BUS - DURHAM RD/W SOUTH AVE	US 1 RAMPS TO US 1 ALT	4	2	1.54	26-50	172		30						10,699	16,758	90	88			4	2	1	3	1	10,699	16,758	90	88		235	4	2	1	3	1	235	134						
		3	NC 98 BUS - E ROOSEVELT AVE/WAIT AVE	US 1 ALT TO PVMT JT AT RIDGWOOD APTS.	4	2	1.083	24-36	141		30					80	3,320	12,482	605	144					15				3,320	12,482	605	144		166		15			4	166						
<b>TOTAL FOR PROJ NO. 2022CPT.05.17.10921.1</b>																																														
2022CPT.05.17.20321.1	Durham	4	SR 2057 - LAURDANE RD	SR 1901 CARPENTER POND RD TO SR 1896 - LAURDANE RD	2	2	0.17	20	19																																					
		<b>TOTAL FOR PROJ NO. 2022CPT.05.17.20321.1</b>																																												
2022CPT.05.17.20921.1	Wake	5	SR 1896 - LAURDANE RD	DURHAM CO. TO CDS	3	2	0.52	20	43																																					
		6	SR 1901 - OLD WEAVER TRL	SR 1902 - CHEEK RD TO SR 1903 - OLIVE GROVE CHURCH RD	3	2	0.781	20	88																																					
		7	SR 1928 - RABBIT RUN	SR 1929 - WAKE UNION CHURCH RD TO SR 1978 - ROBBIT RUN	3	2	0.132	20	15																																					
		8	SR 1966 - OLD KEITH RD	SR 2004 - CHOPLIN RD TO DEAD END	3	2	1.09	20	122																																					
		9	SR 1978 - RABBIT RUN	SR 1928 - OLD WEAVER TRL TO CUL-DE-SAC	3	2	0.201	18	23																																					
		10	SR 2004 - CHOPLIN RD	NC 98 - DURHAM RD TO END PVMT	2	2	0.095	20	11																																					
		11	SR 3226 - FARMWOOD DR	SR 1834 - NORWOOD RD TO CUL-DE-SAC	2	2	0.522	20	59																																					
		12	SR 3227 - BREMERTON CT	SR 3226 - FARMWOOD DR TO CUL-DE-SAC	2	2	0.143	20	16																																					
		13	SR 3228 - EAGLE ROCK DR	SR 3226 - FARMWOOD DR TO CUL-DE-SAC	2	2	0.144	20	16																																					
		14	SR 3229 - WOODMONT DR	SR 3226 - FARMWOOD DR TO CUL-DE-SAC	2	2	0.169	20	19																																					
		15	SR 3235 - ETHAN LN	SR 1896 - LAURADANE RD TO CUL-DE-SAC	2	2	0.334	19	38																																					
		16	SR 3298 - CRESTMONT DR	SR 1839 - LEESVILLE RD TO CUL-DE-SAC	2	2	0.307	20	35																																					
		17	SR 3299 - FARMRIDGE RD	SR 1829 - STRICKLAND RD TO CUL-DE-SAC	2	2	0.263	20	30																																					
		18	SR 3432 - LIANA LN	SR 1840 - HICKORY GROVE TO CUL-DE-SAC	2	2	0.15	20	17																																					
		19	SR 3452 - BARSANLAW DR	SR 1834 - NORWOOD RD TO CUL-DE-SAC	2	2	0.215	18	24																																					
		20	SR 3453 - KRISTY CIR	SR 3452 - BARSANLAW DR TO CUL-DE-SAC	2	2	0.096	18	11																																					
		21	SR 3480 - SEDGEFIELD DR	SR 1839 - LEESVILLE RD TO CUL-DE-SAC	2	2	0.175	20	20																																					
		22	SR 3481 - HELENA CT	SR 3480 - SEDGEFIELD DR TO CUL-DE-SAC	2	2	0.041	20	5																																					
		23	SR 3581 - PERIDOT LN	SR 3350 - BROOKFIELD RD TO SR 3586 - WHITESTONE RD	2	2	0.23	19	26																																					
		24	SR 3582 - ALMOND CT	SR 3581 - PERIDOT LN TO CUL-DE-SAC	2	2	0.04	20	5																																					
		25	SR 3586 - WHITESTONE RD	SR 3350 - BROOKFIELD RD TO DEAD END	3	2	0.84	20	95																																					
		26	SR 3588 - BENNINGTON DR	SR 3586 - WHITESTONE RD TO CUL-DE-SAC	2	2	0.47	20	53																																					
		27	SR 3589 - THATCHER WAY	SR 3586 - WHITESTONE RD TO SR 3588 - BENNINGTON DR	2	2	0.19	20	22																																					
		28	SR 3590 - CARRINGTON DR	SR 3586 - WHITESTONE RD TO CUL-DE-SAC	3	2	0.68	22	77																																					
		29	SR 3591 - SWINDON CT	SR 3590 - CARRINGTON DR TO DEAD END	3	2	0.12	20	14																																					
		30	SR 3594 - KINSDALE DR	SR 1844 - MT.VERNON CHURCH RD TO SR 3598 - OLD WARDEN RD	2	2	1.22	21	137																																					
		31	SR 3595 - GRAFTON RD	SR 3594 - KINSDALE DR TO END MAINT.	2	2	0.57	20	64																																					
		32	SR 3596 - HEARTLEY DR	SR 3595 - GRAFTON RD TO END MAINT.	2	2	0.42	18	47																																					
		33	SR 3597 - MELTON CT	SR 3596 - HEARTLEY DR TO CUL-DE-SAC	2	2	0.05	20	6																																					
		34	SR 3598 - OLD WARDEN RD	CUL-DE-SAC TO NC 50	2	2	0.815	20	92																																					
		35	SR 3599 - KEYNES CT	SR 3598 - OLD WARDEN RD TO CUL-DE-SAC	2	2	0.08	20	9																																					
		36	SR 4227 - N HAWTHORNE WAY	SR 1834 - NORWOOD RD TO CUL-DE-SAC	3	2	1.116	20	124																																					
		37	SR 4437 - HENNING DR	SR 1844 - MT.VERNON CHURCH RD TO CUL-DE-SAC	2	2	0.165	20	19																																					
		38	SR 4438 - ETHRIDGE CT	SR 4437 - HENNING ST TO CUL-DE-SAC	2	2	0.248	20	28																																					
		39	SR 4439 - MERSEY LN	SR 4437 - HENNING ST TO SR 3595 - GRAFTON RD	2	2	0.23	20																																						









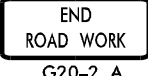
# SIGNING FOR RESURFACING PROJECTS

**LEGEND**  
 STATIONARY SIGN  
 DIRECTION OF TRAFFIC FLOW



## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

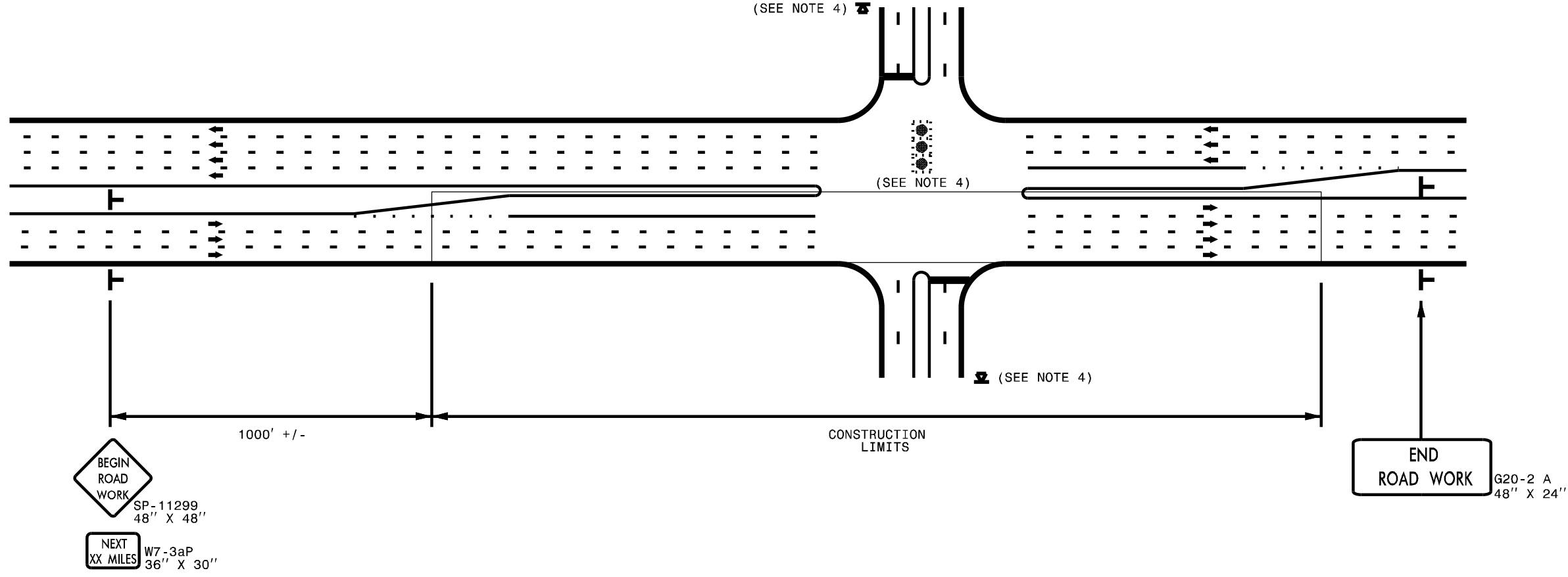
SIGNING NOTES AND PLACEMENT PER DIRECTION	 1  2	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. #2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL 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\$\$\$\$\$  
 \$\$\$DCON\$\$\$\$\$  
 \$\$\$USERNAME\$\$\$\$\$

# 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	
T	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW



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

\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$DCON\$\$\$\$\$  
 \$\$\$USERNAME\$\$\$\$\$

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

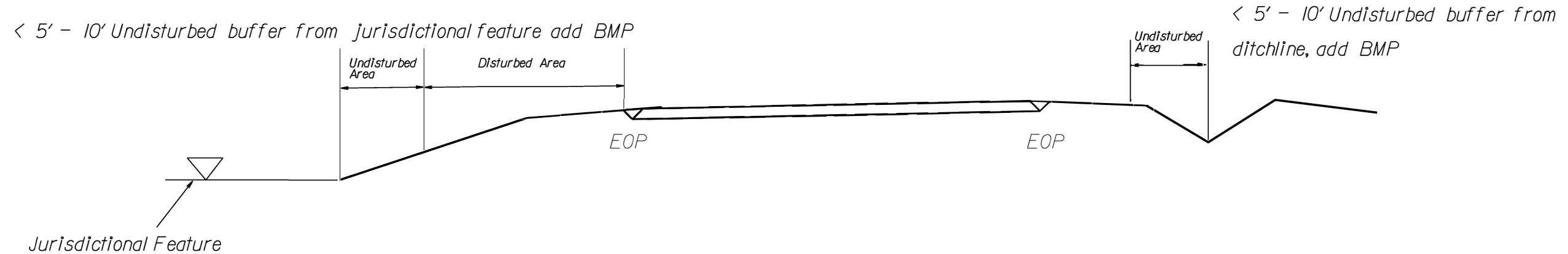
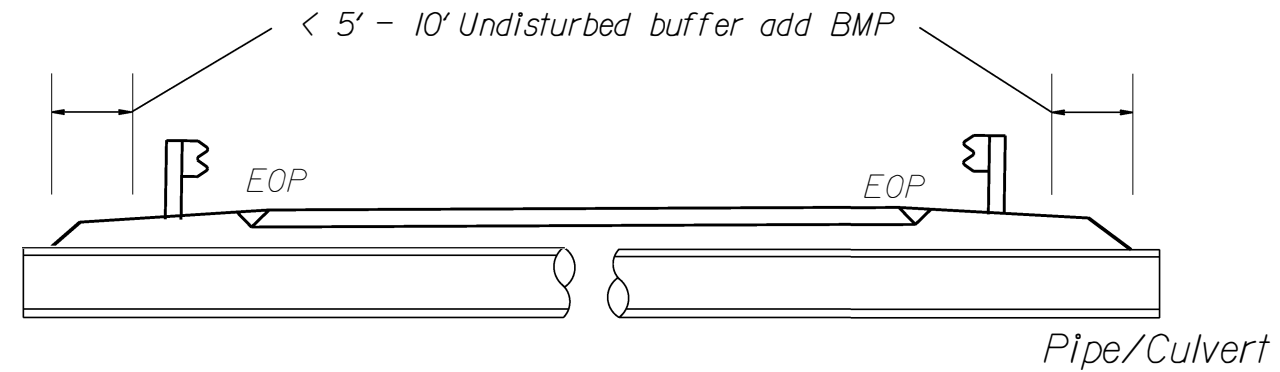
***SOIL STABILIZATION TIMEFRAMES***

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
<b>PERIMETER DIKES, SWALES, DITCHES AND SLOPES</b>	<b>7 DAYS</b>	<b>NONE</b>
<b>HIGH QUALITY WATER (HOW) ZONES</b>	<b>7 DAYS</b>	<b>NONE</b>
<b>SLOPES STEEPER THAN 3:1</b>	<b>7 DAYS</b>	<b>IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.</b>
<b>SLOPES 3:1 OR FLATTER</b>	<b>14 DAYS</b>	<b>7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.</b>
<b>ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1</b>	<b>14 DAYS</b>	<b>NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.</b>

NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle, Silt Fence or Hardened Aggregate.

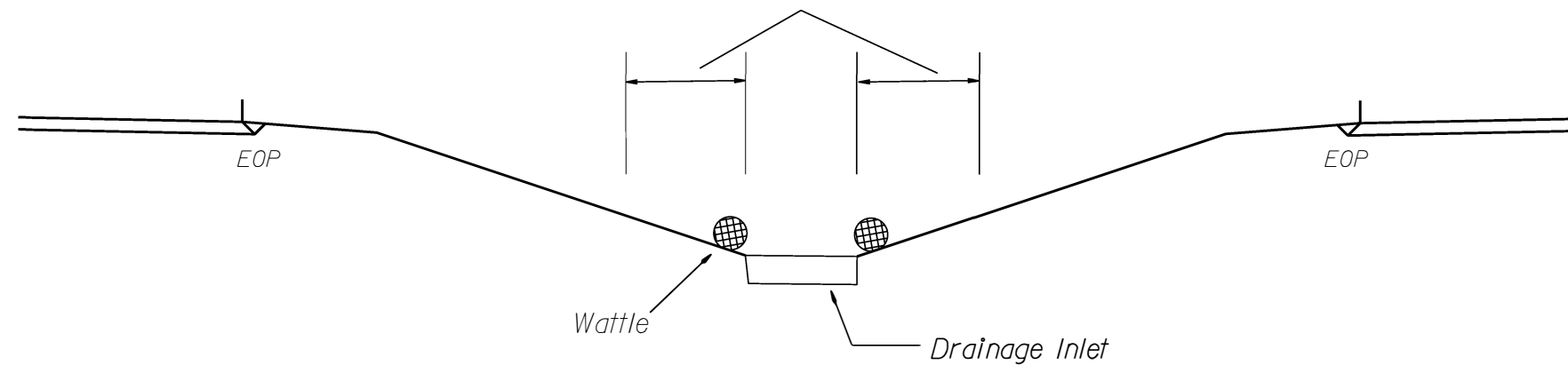
## EROSION CONTROL DETAIL



Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed

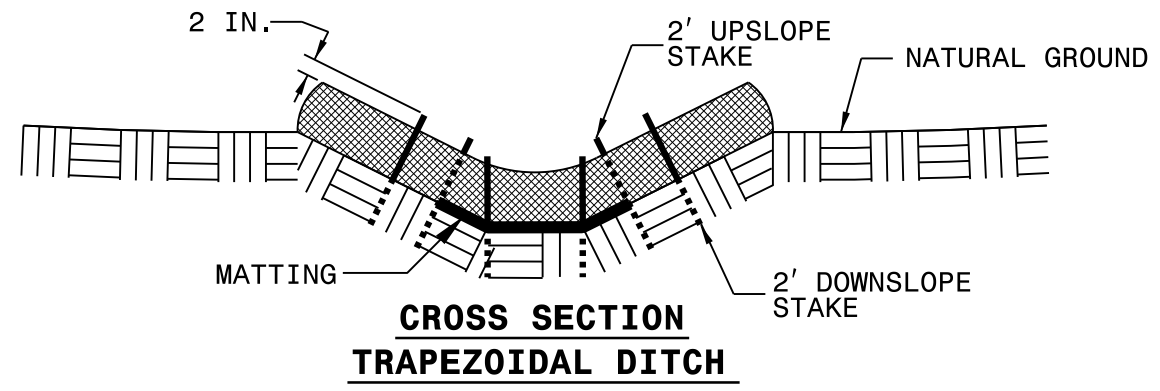
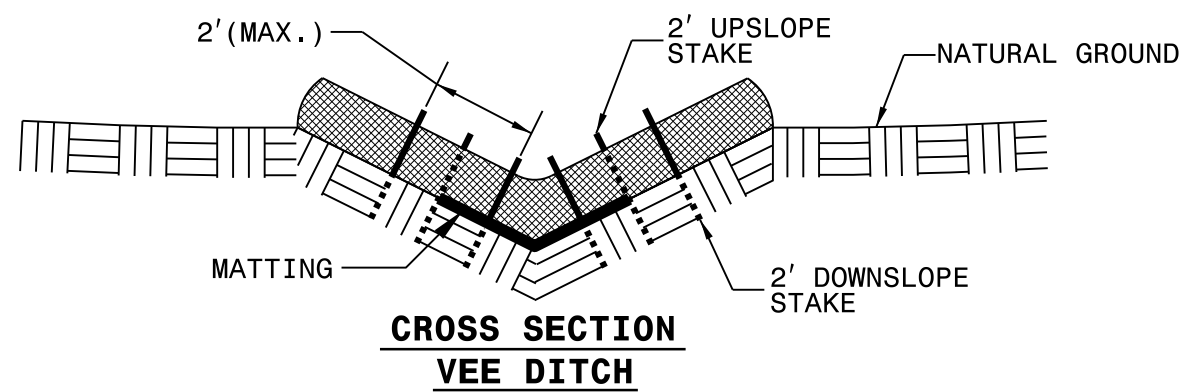
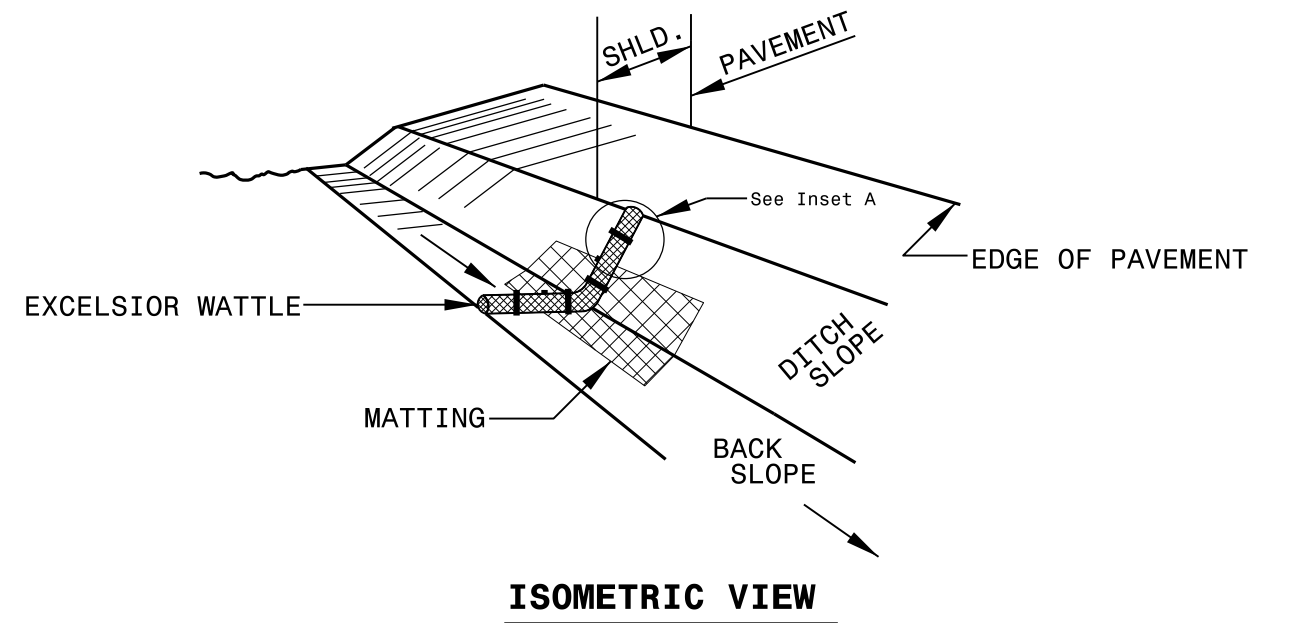


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

# WATTLE DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

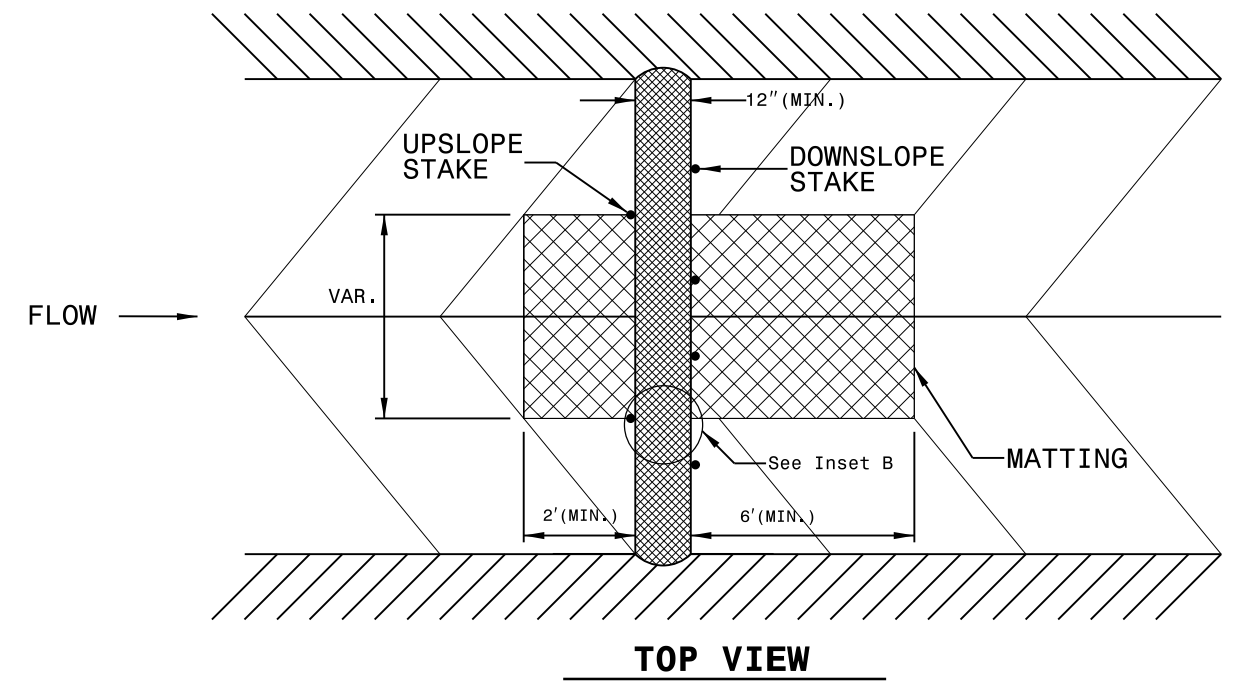
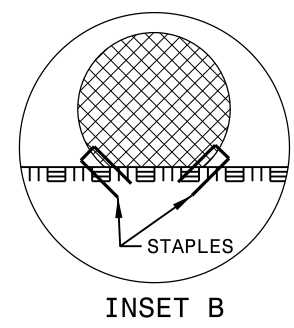
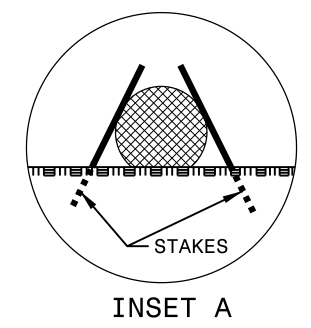
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

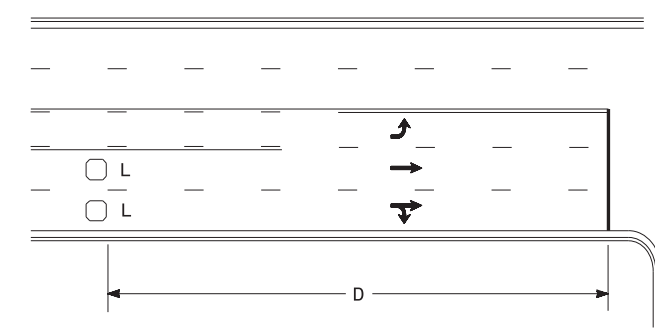
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.





### High Speed Detection (≥40 mph)

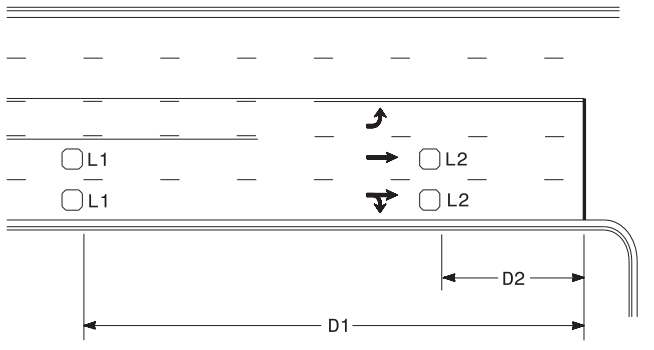


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft  
Wired separately

Volume Density Operation

OR



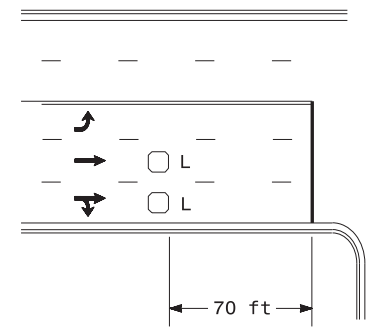
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft  
Wired in series

L2 = 6ft X 6ft  
Wired in series

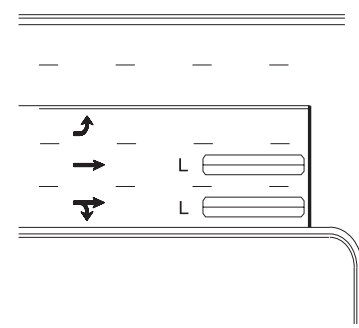
"Stretch" Operation

### Low Speed Detection (≤35 mph)



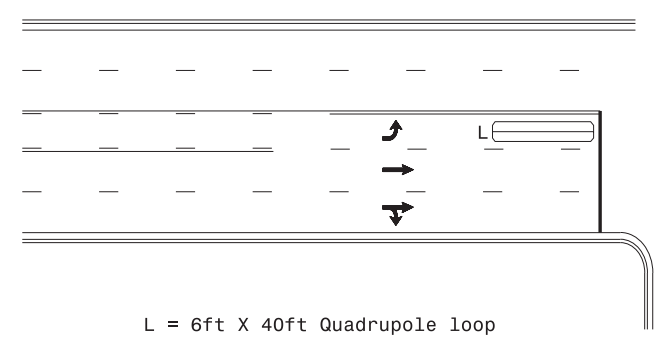
L = 6ft X 6ft  
Wired in series

OR



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

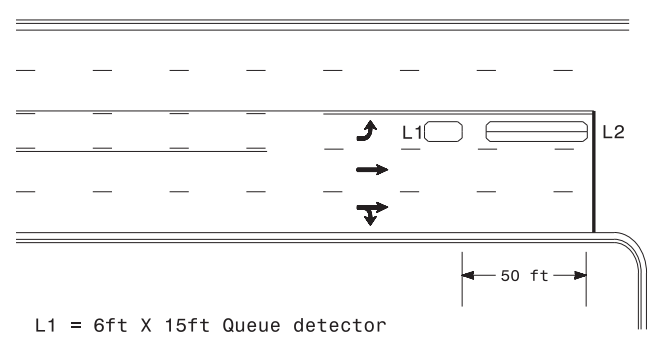
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

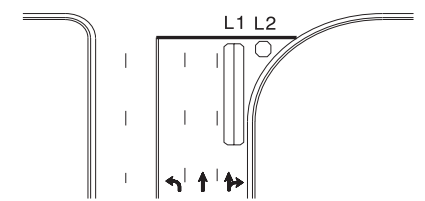
OR



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

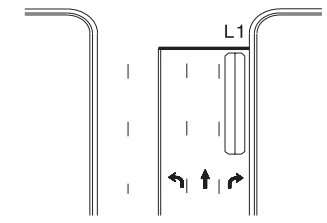
Queue Loop Detection

### Right Turn Lane Detection

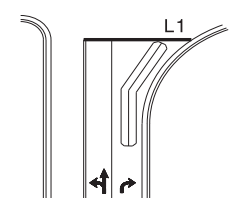


L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately

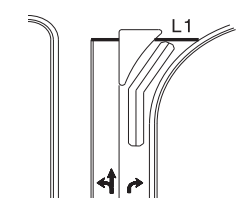
Shared Lane/  
Wide Radius Turn



Standard Turn

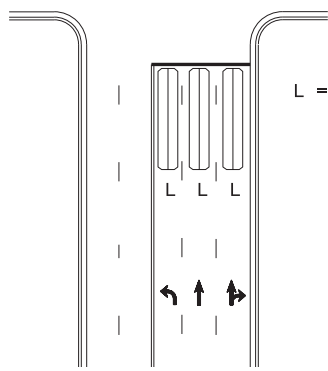


Wide Radius Turn



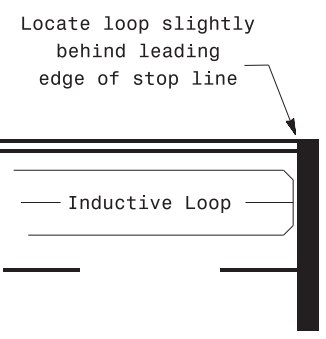
Channelized Turn

### 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

#### Typical Signal Loop Locations

PLAN DATE: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: N/A

9/8/2020