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Wake County

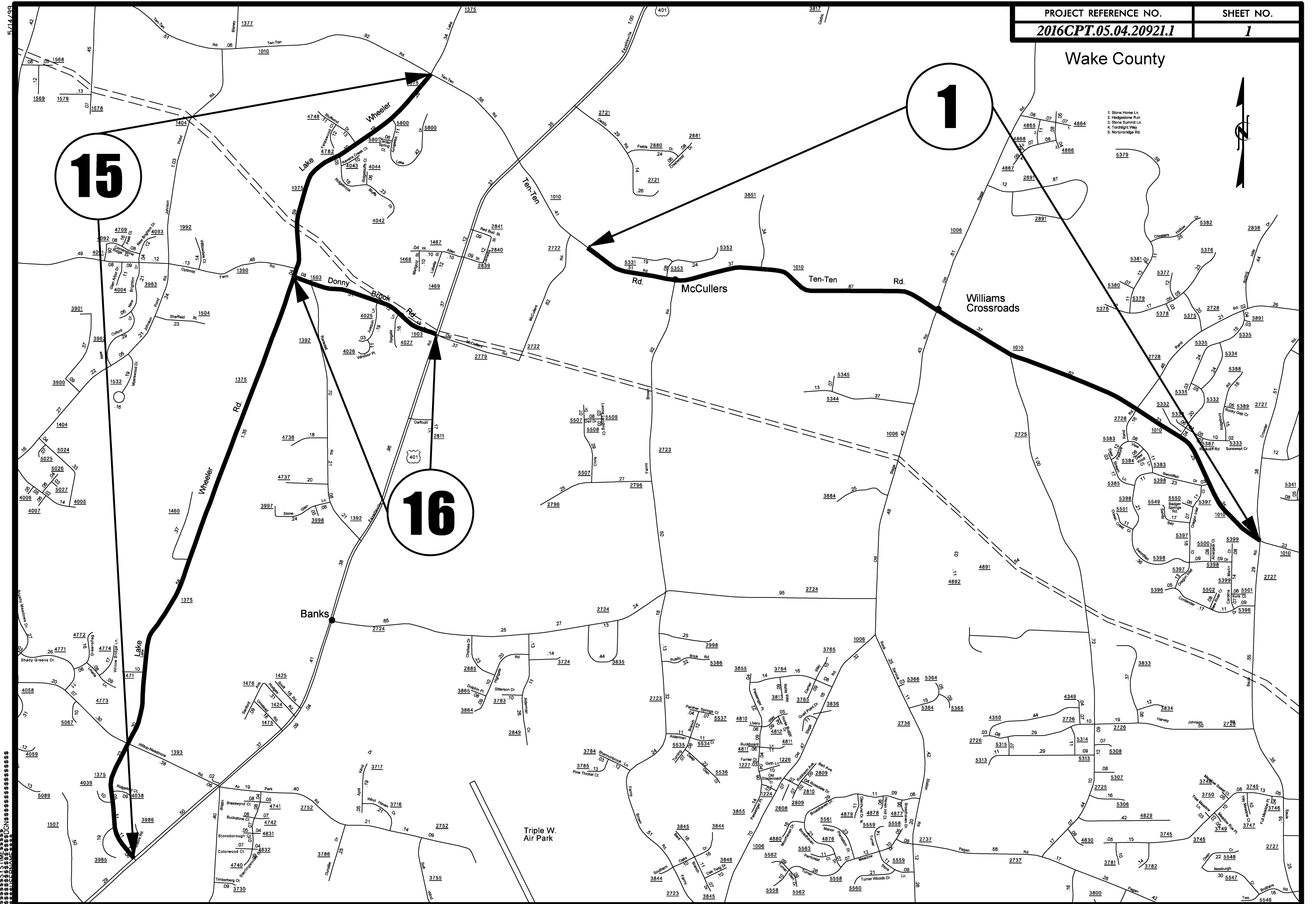
- 1. Stone Home Ln.
- 2. Hedgestone Run
- 3. Stone Summit Ln.
- 4. Torlight Way
- 5. Nortonridge Rd.



15

1

16



SYTIME
CADD

6

4

3

2

Honeycutt Rd.

Wade Nash Rd.

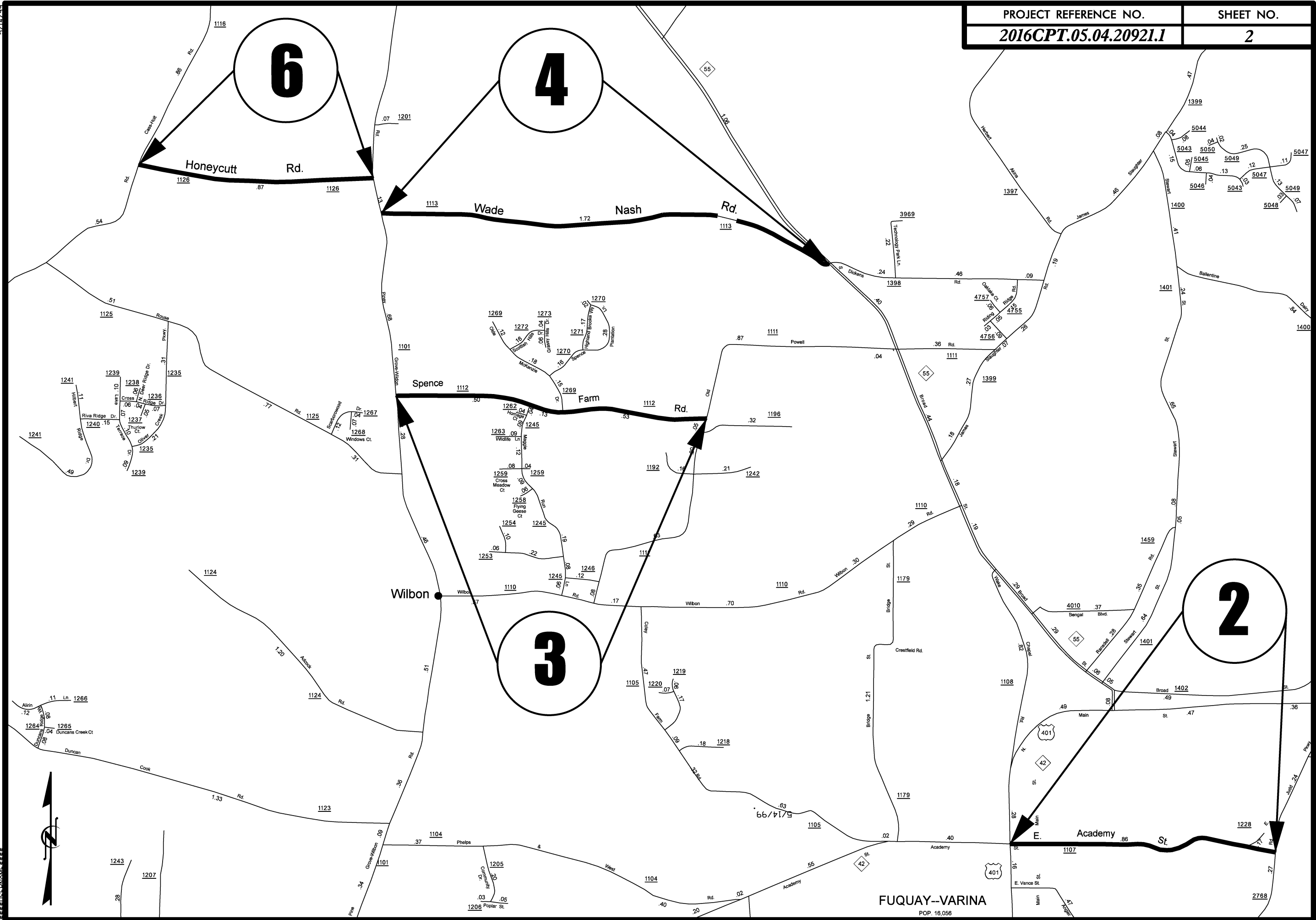
Spence Farm Rd.

E. Academy St.

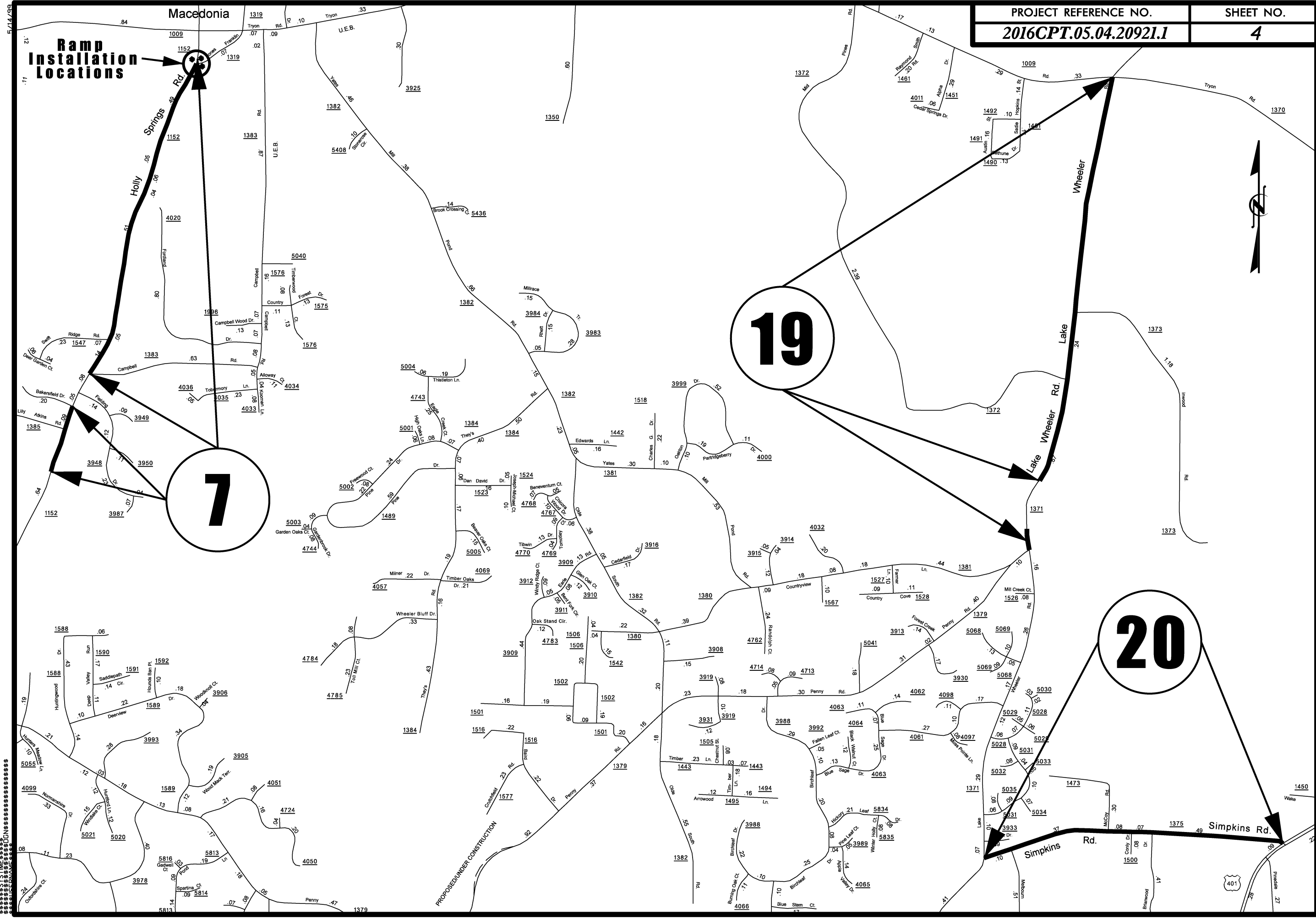


5/14/99

SYSTEMS
CONSULTANTS
INC.



Ramp Installation Locations



7

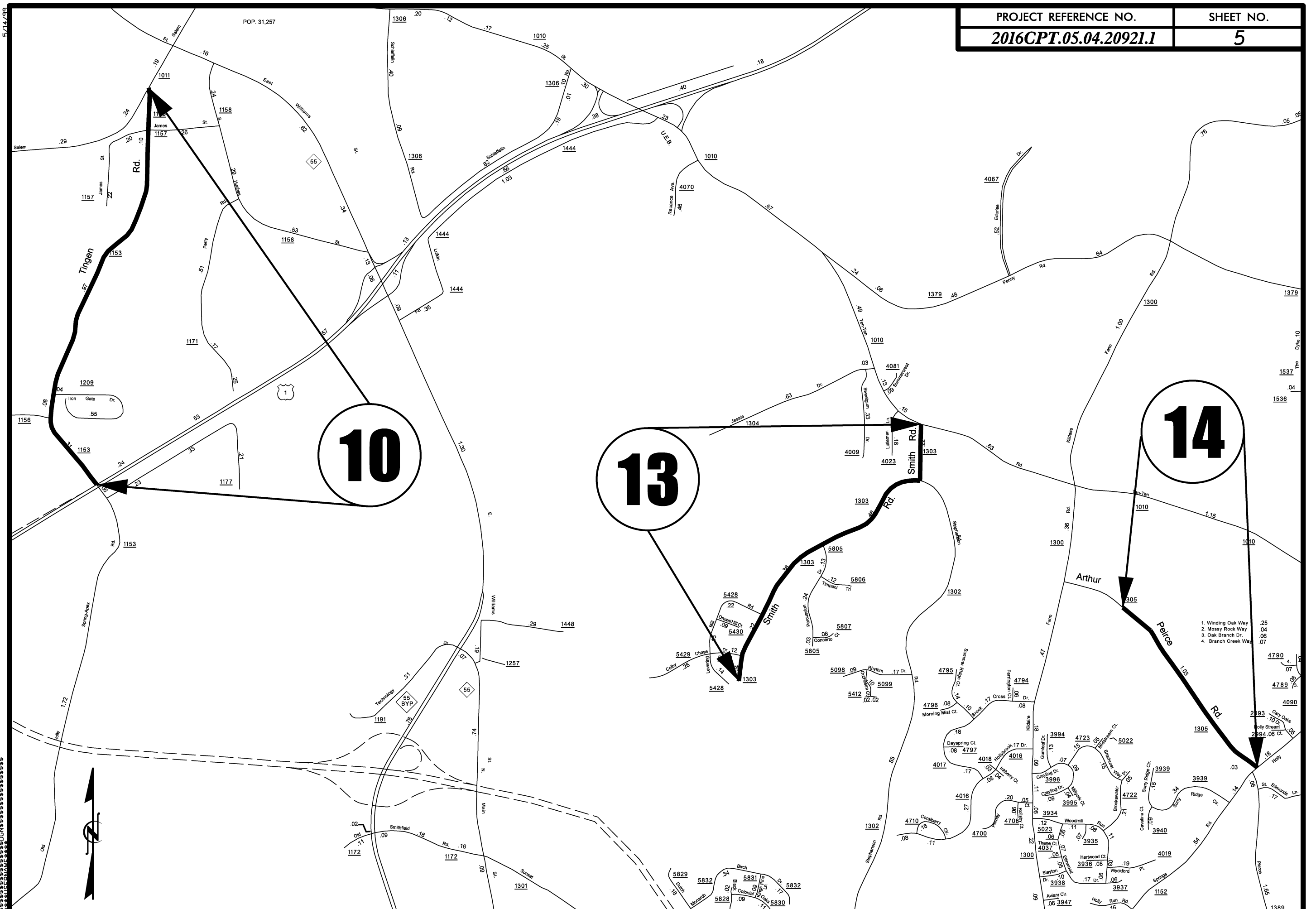
19

20

PROPOSED UNDER CONSTRUCTION

*****SYTIME*****

401



10

13

14

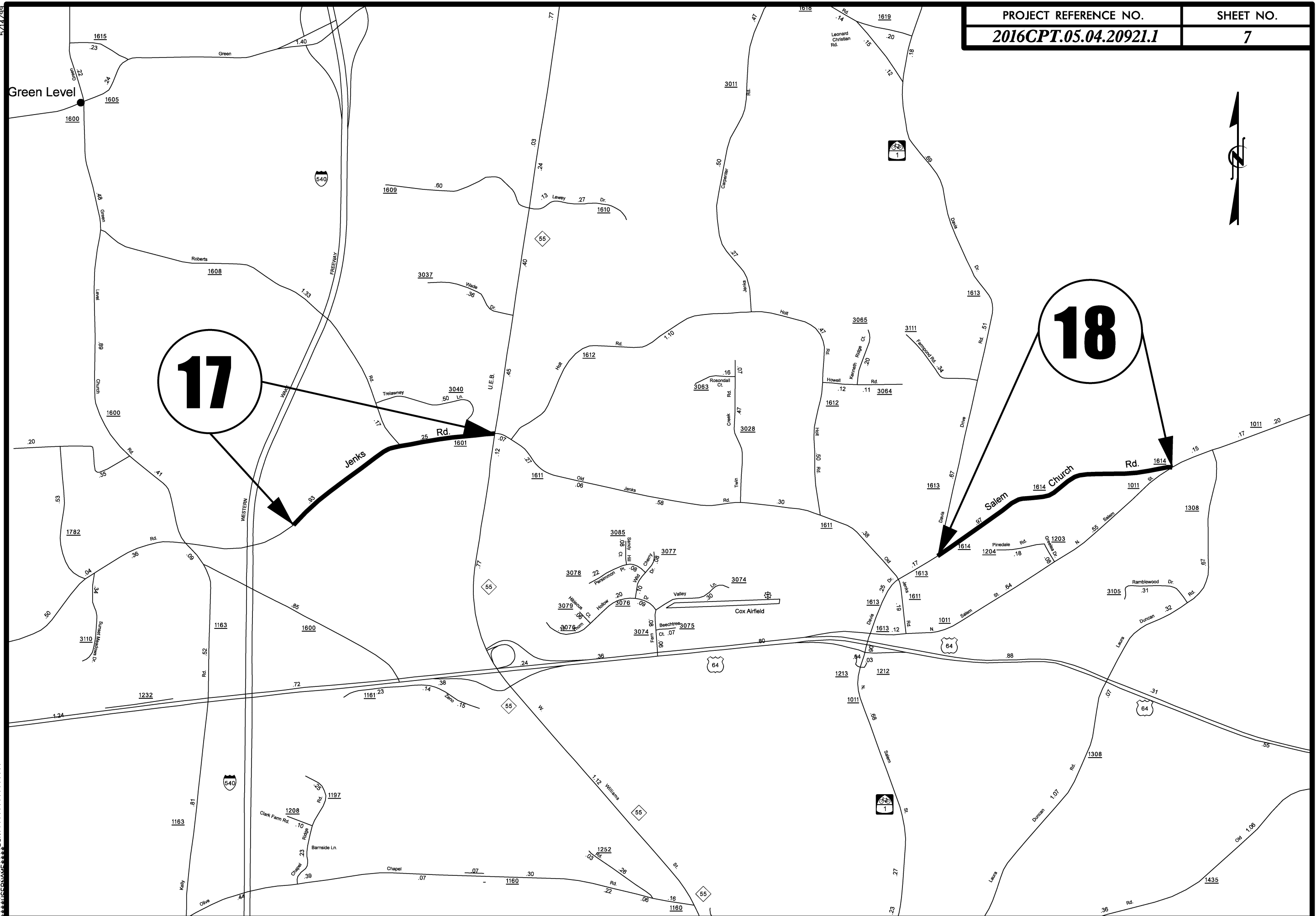
- 1 Winding Oak Way .25
- 2 Mosby Rock Way .04
- 3 Oak Branch Dr. .06
- 4 Branch Creek Way .07

*****SYSTEMS*****
*****DCN*****
*****NAME*****



17

18



5.714/59

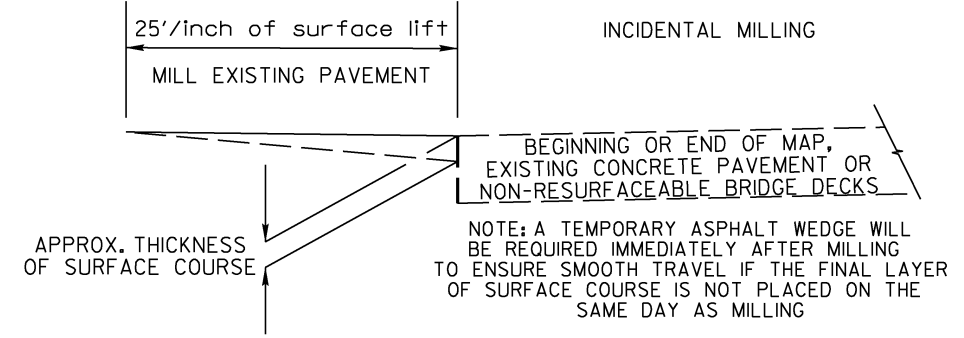
SYSTEMS

PAVEMENT SCHEDULE

C	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
S	PROP. SHOULDER GRADING, AS DIRECTED BY THE ENGINEER
U	EXISTING PAVEMENT
V1	1½" MILLING
V2	0" - 1½" MILLING NEW ASPHALT TO BE PAVED BACK FLUSH

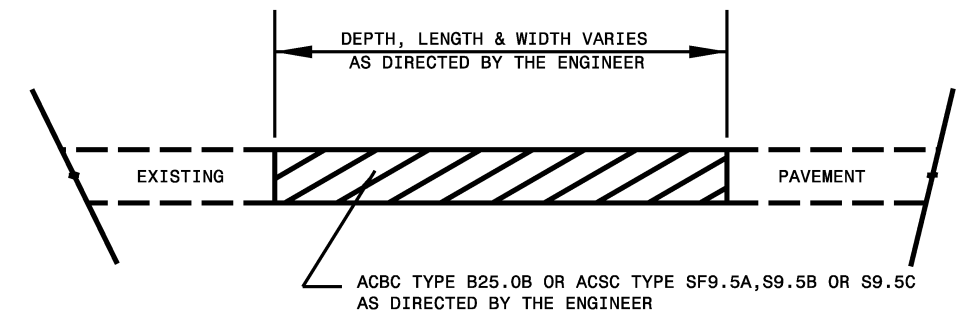
PROJECT REFERENCE NO.
2016CPT.05.04.20921J

SHEET NO.
8

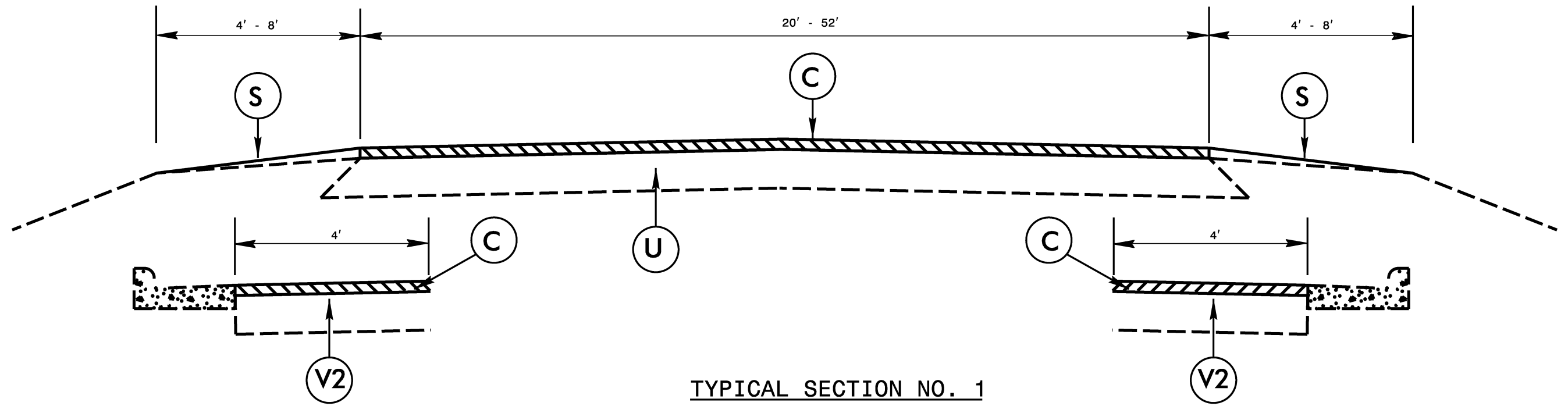


NOTES

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
 PATCHING TO BE PERFORMED PRIOR TO MILL AND FILL OPERATION



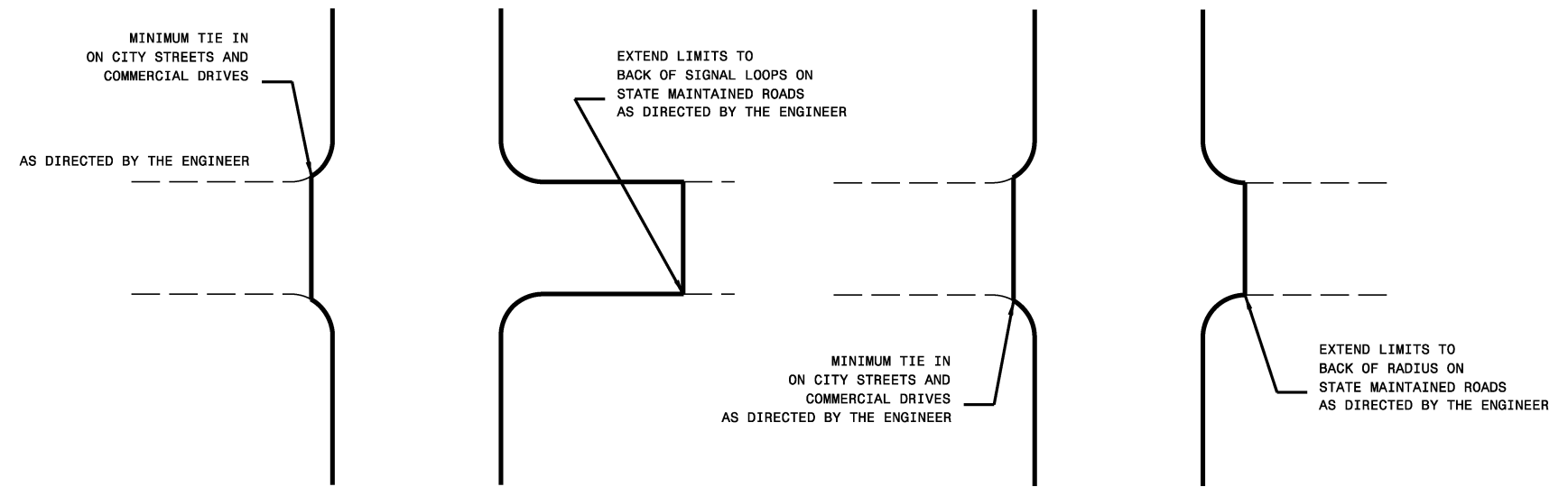
TYPICAL SECTION NO. 1

PAVEMENT SCHEDULE

C	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
S	PROP. SHOULDER GRADING, AS DIRECTED BY THE ENGINEER
U	EXISTING PAVEMENT
V1	1½" MILLING
V2	0" - 1½" MILLING NEW ASPHALT TO BE PAVED BACK FLUSH

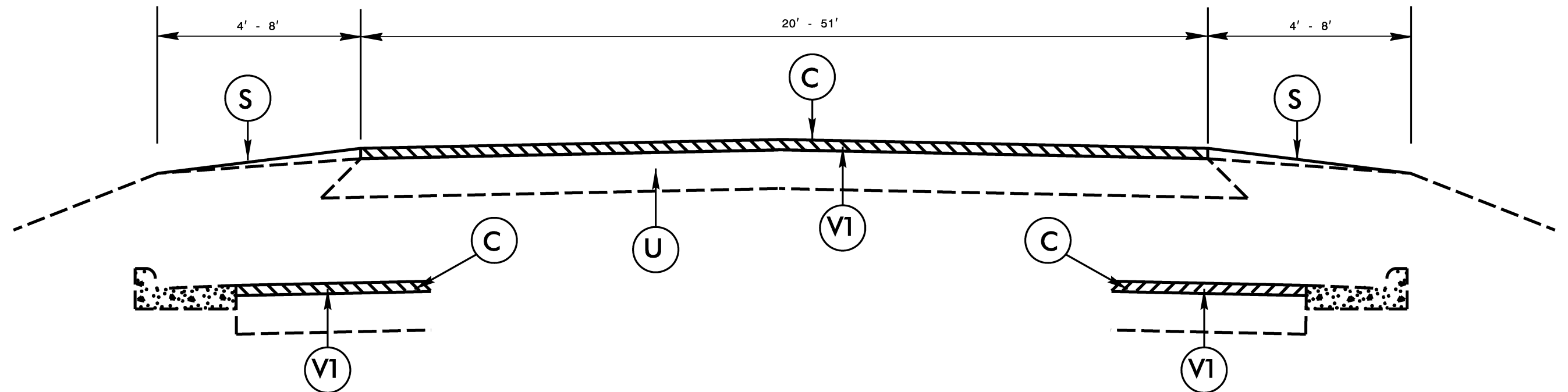
PROJECT REFERENCE NO.
2016CPT.05.04.20921J

SHEET NO.
9



DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES

DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

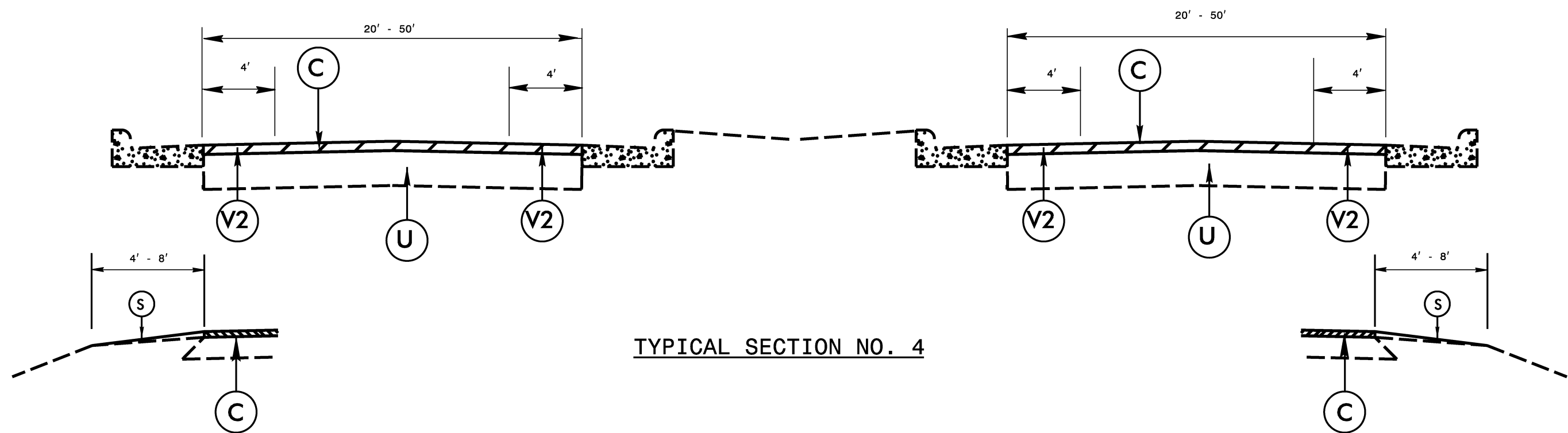
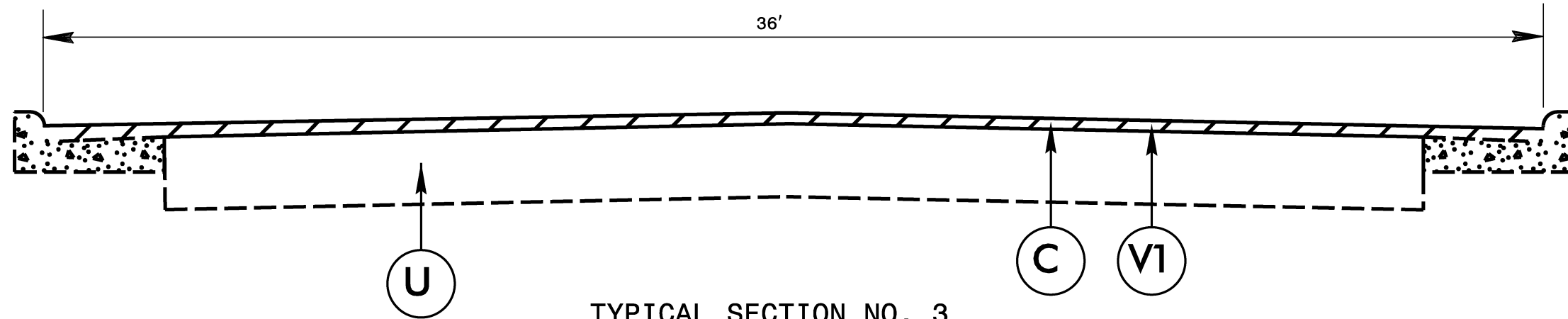


TYPICAL SECTION NO. 2

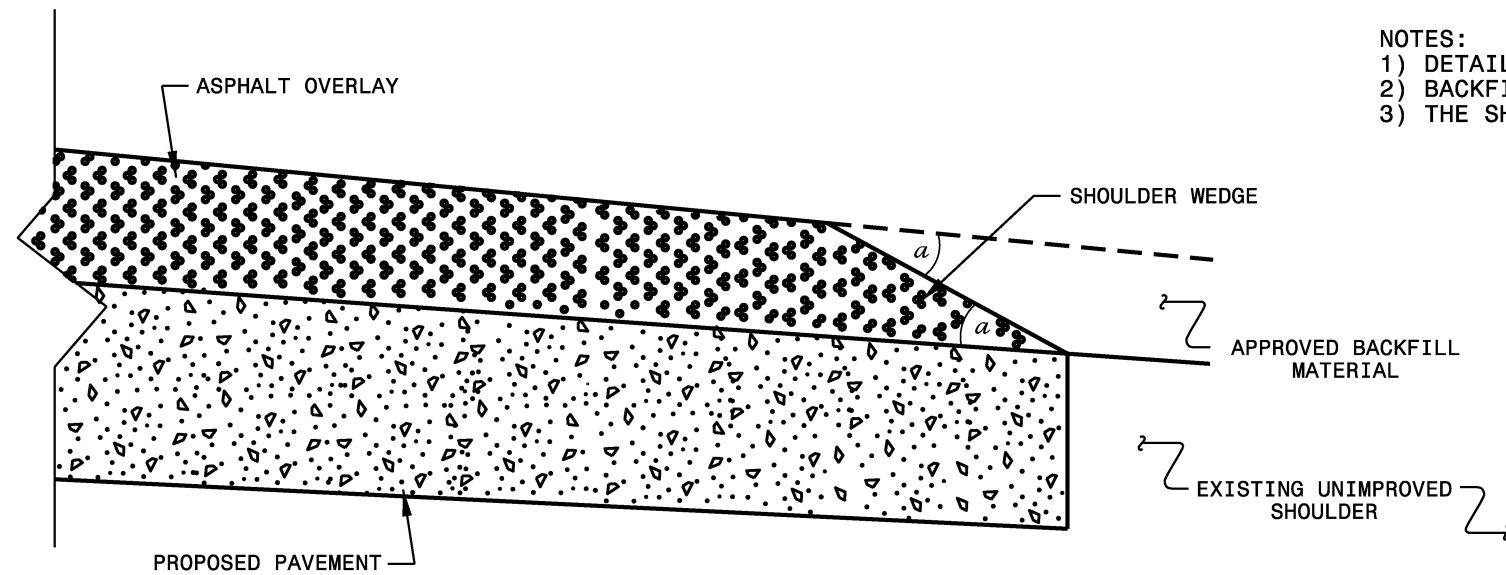
PAVEMENT SCHEDULE

C	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
S	PROP. SHOULDER GRADING, AS DIRECTED BY THE ENGINEER
U	EXISTING PAVEMENT
V1	1½" MILLING
V2	0" - 1½" MILLING NEW ASPHALT TO BE PAVED BACK FLUSH

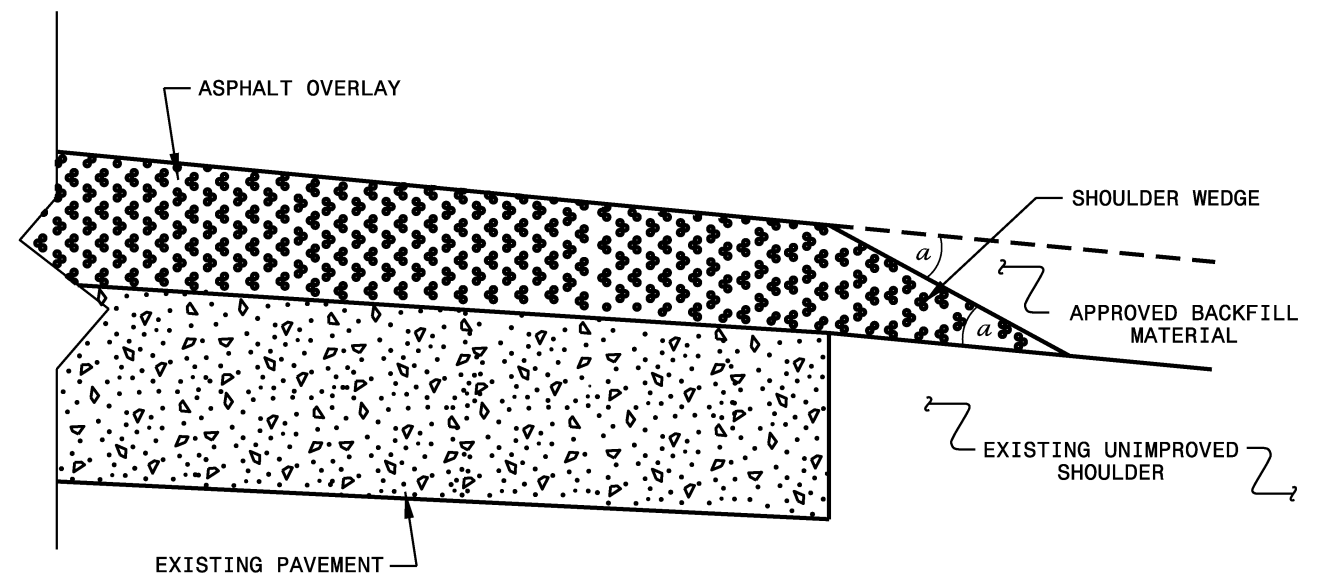
PROJECT REFERENCE NO. 2016CPT.05.04.20921J	SHEET NO. 10
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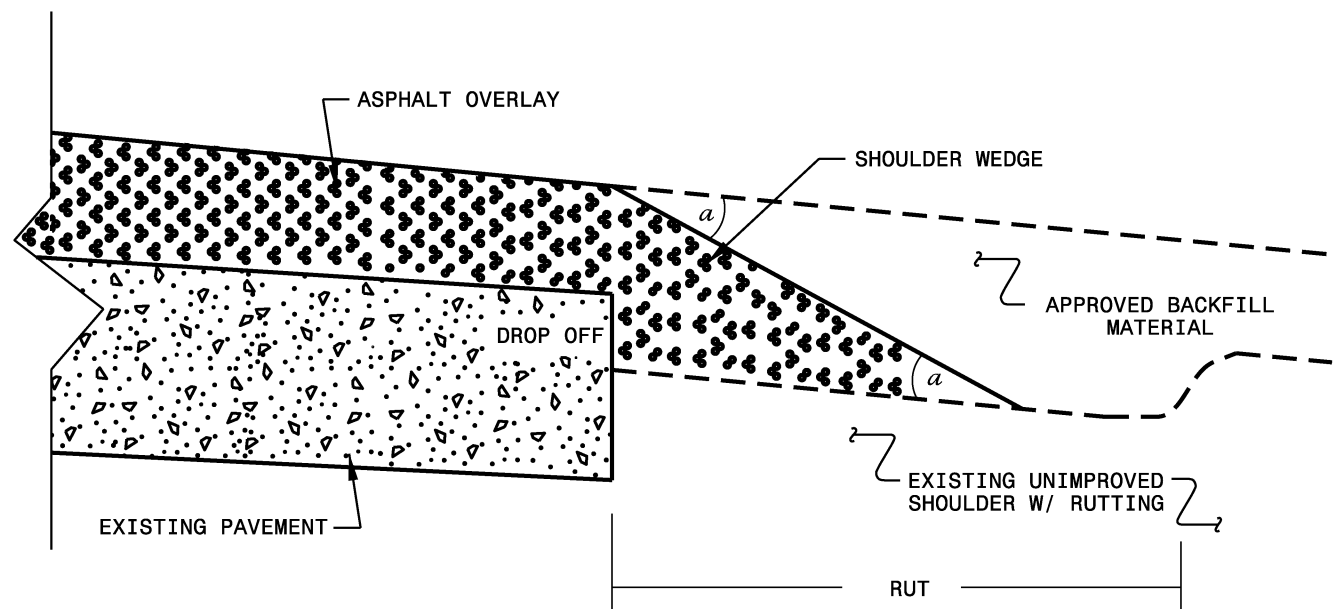
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ NO Widening)

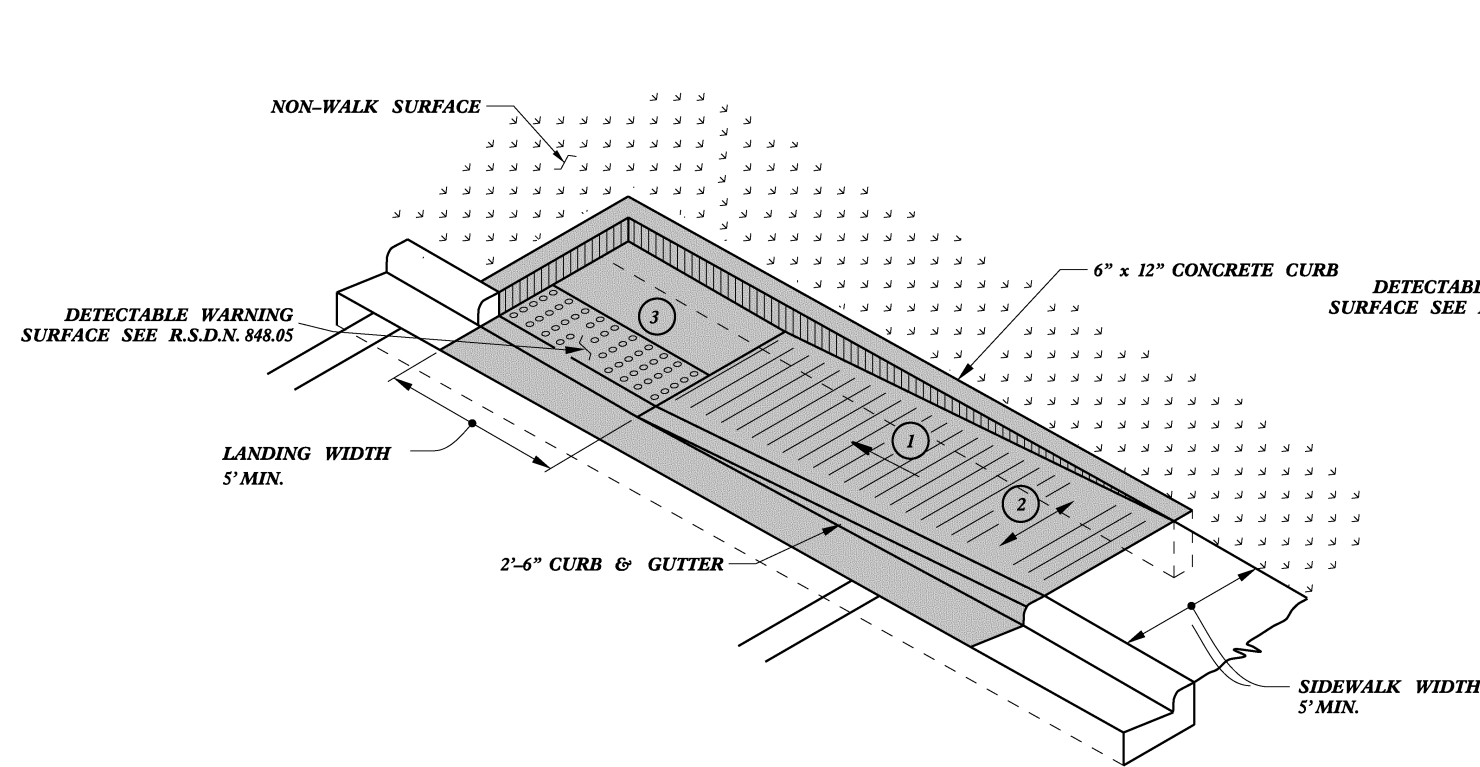


SHOULDER WEDGE DETAIL
 (Resurfacing Adjacent to
 Rutted Shoulder)

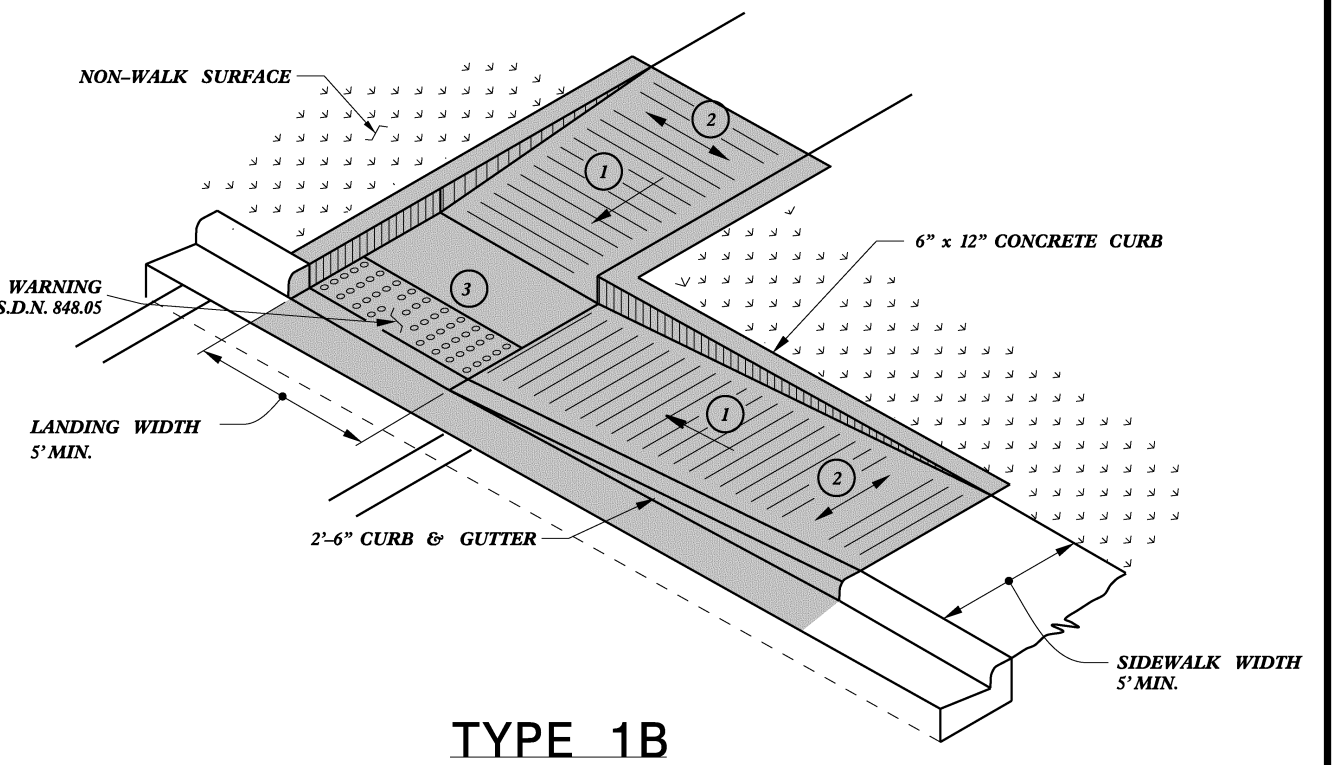
- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT			
Office 919-707-6950		FAX 919-250-4119	
SHOULDER WEDGE DETAILS			
ORIGINAL BY: T.SPELL	DATE: 7-19-11		
MODIFIED BY:	DATE: 10/18/12		
CHECKED BY:	DATE:		
FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn			

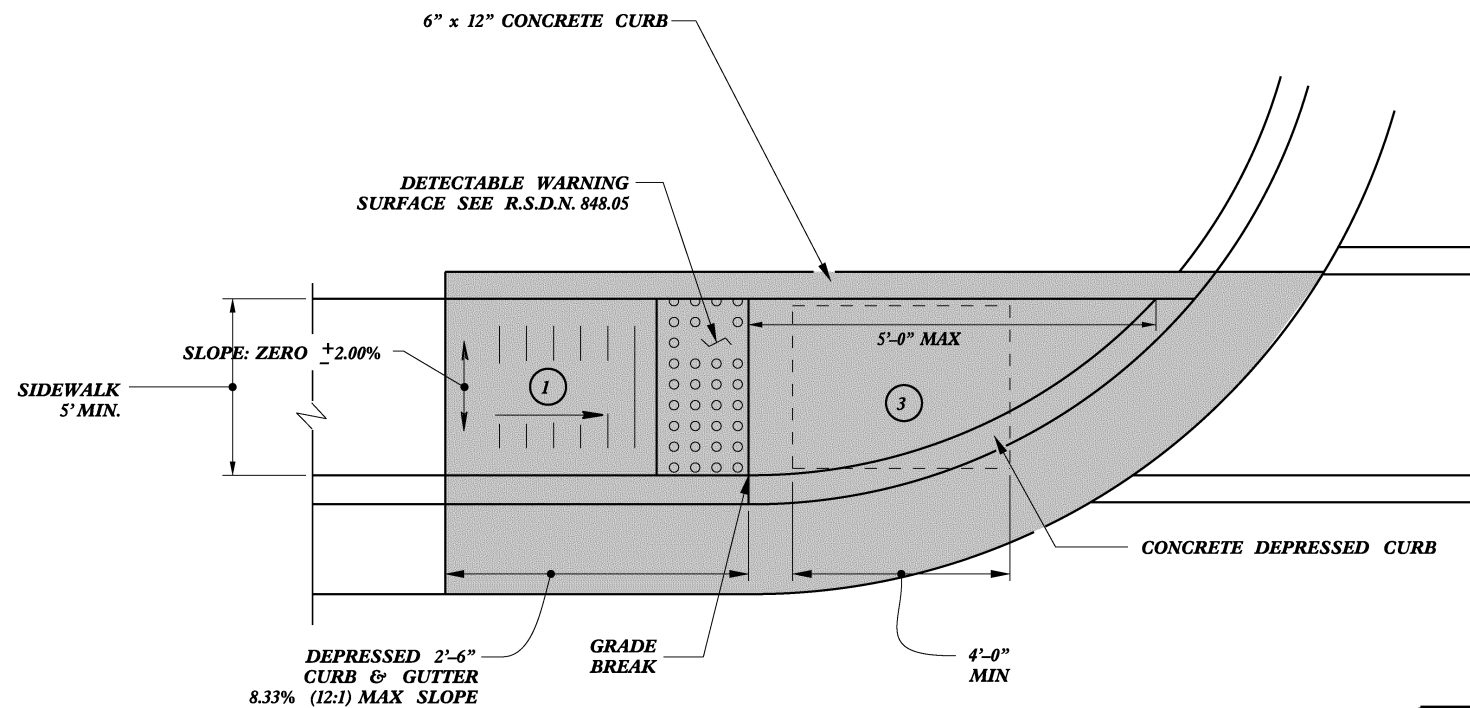
SYSTEMS DESIGN
 USER NAME



TYPE 1A



TYPE 1B



TYPE 1

 PAY LIMITS FOR 1 CURB RAMP

- 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.



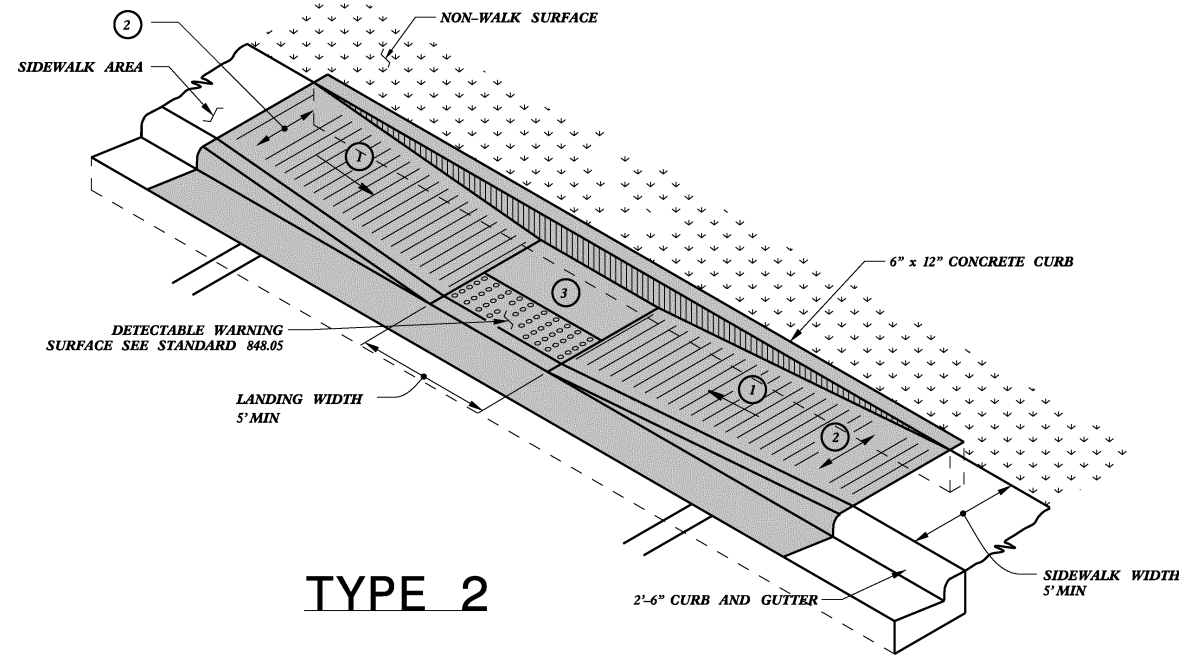
DocuSign
 Joel S. Howerton
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 11/18/2015

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: stds/2012CurbRamp/CurbRampDetails.dwg	

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

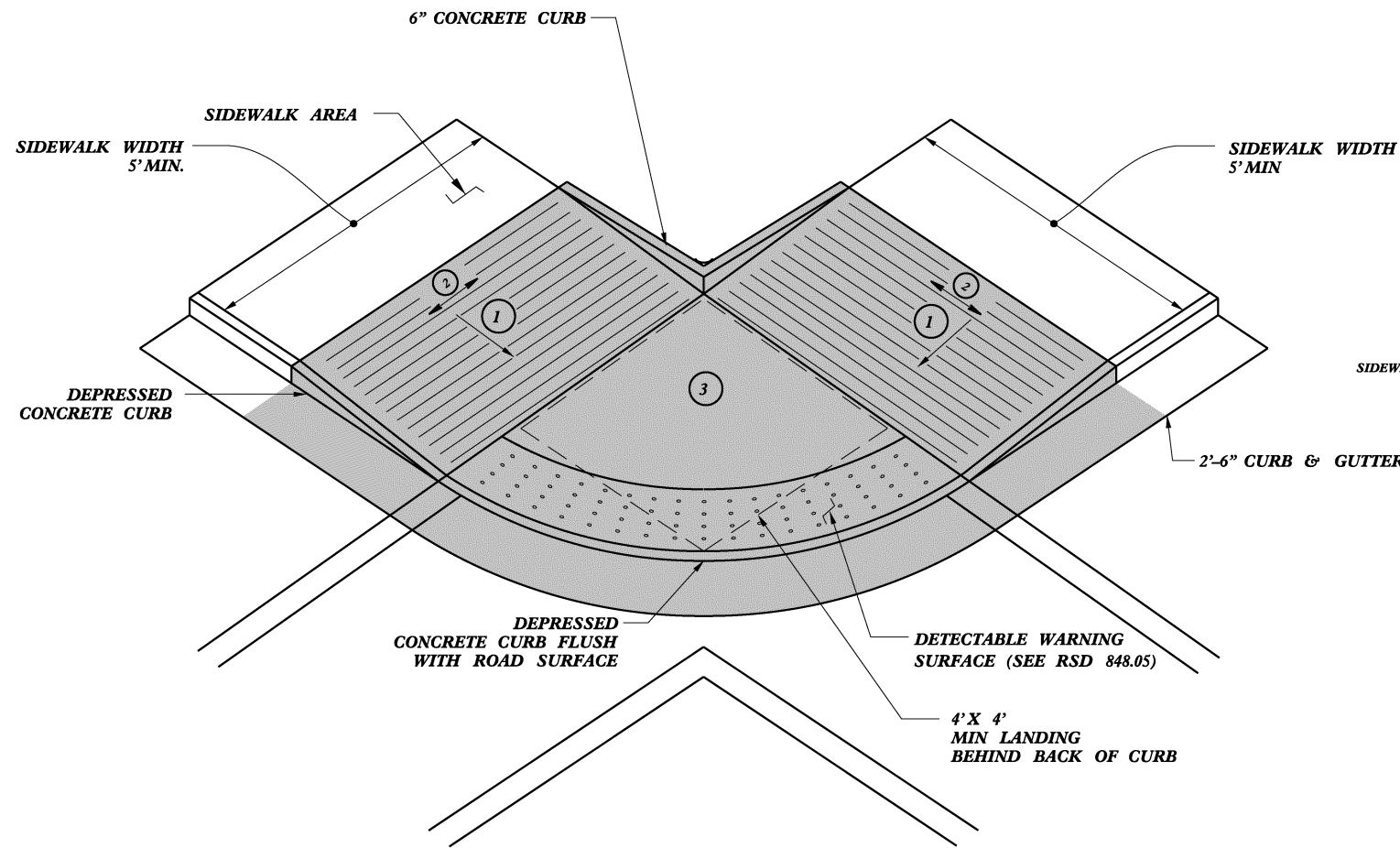
5/14/99



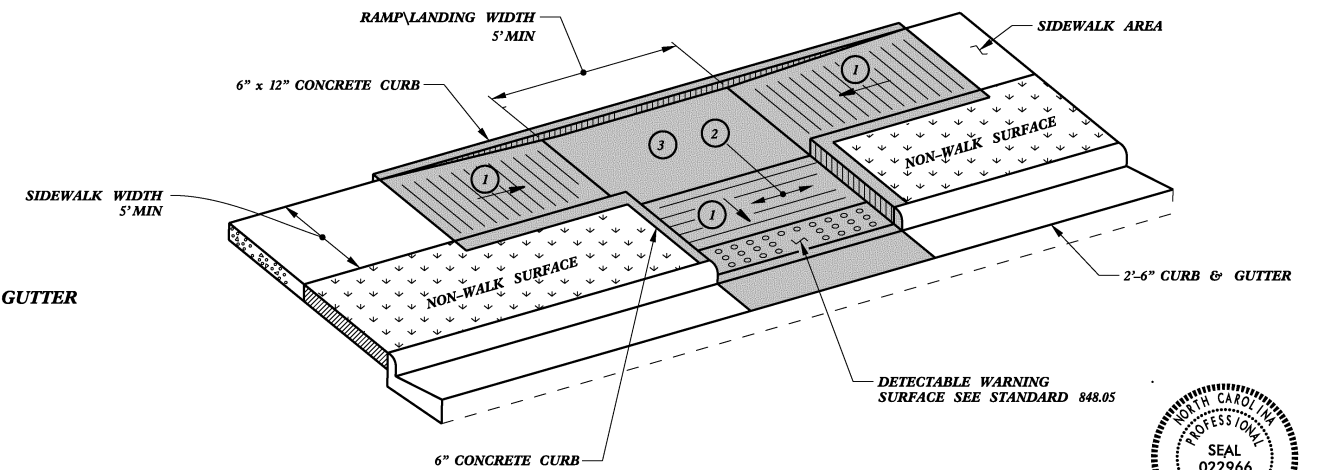
TYPE 2

PAY LIMITS FOR 1 CURB RAMP

- 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.



TYPE 2A



TYPE 3

11/18/2015



Joel S. Howerton

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UNLESS ALL SIGNATURES COMPLETED

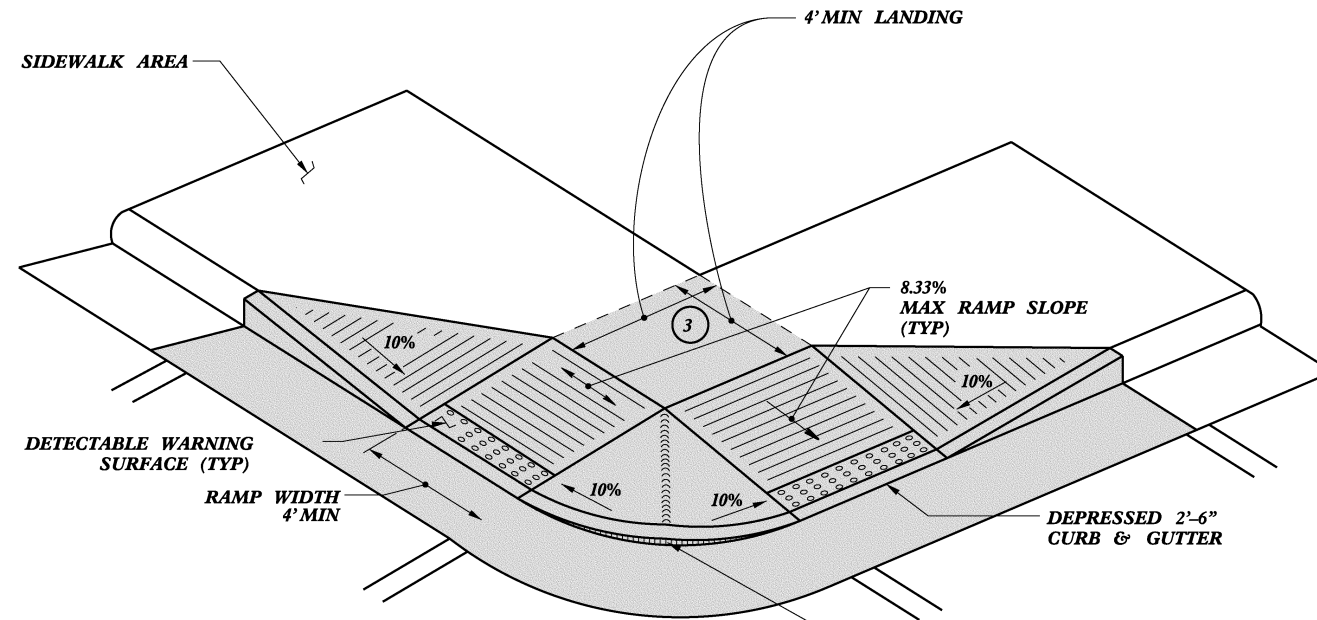
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS
Parallel Ramps

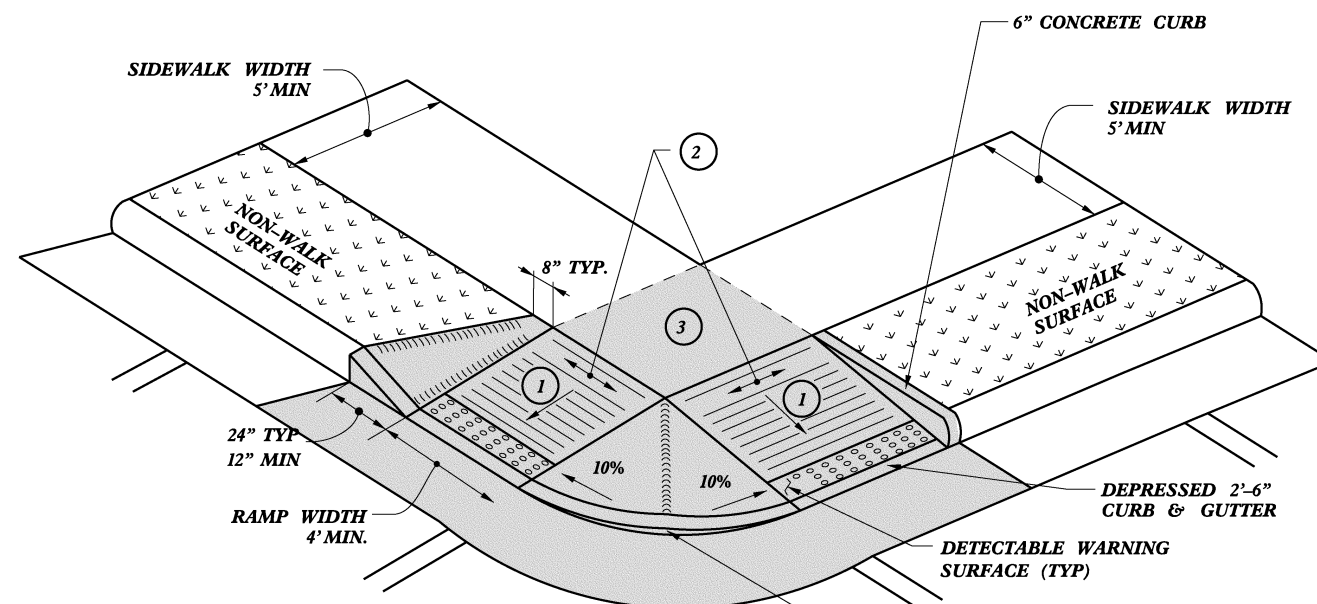
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
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REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

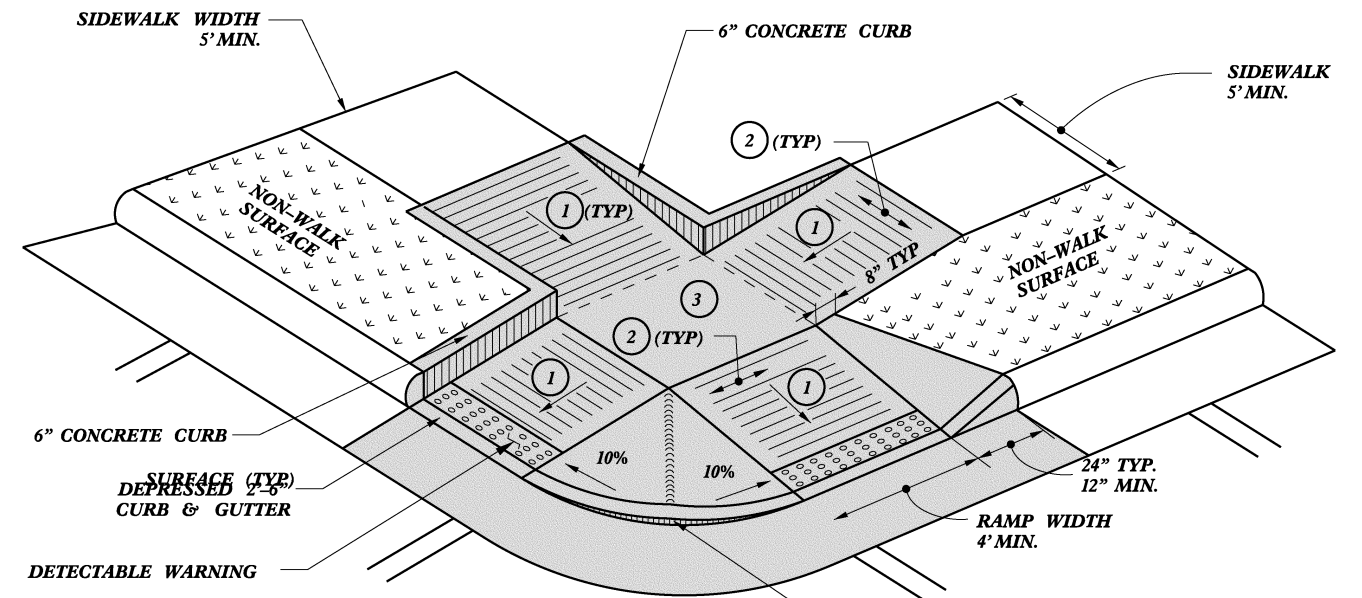
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TYPE 4



TYPE 4A



TYPE 5

PAY LIMITS FOR 2 CURB RAMPS

- 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.

DocuSigned by:
Joel S Howerton

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11/18/2015

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

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

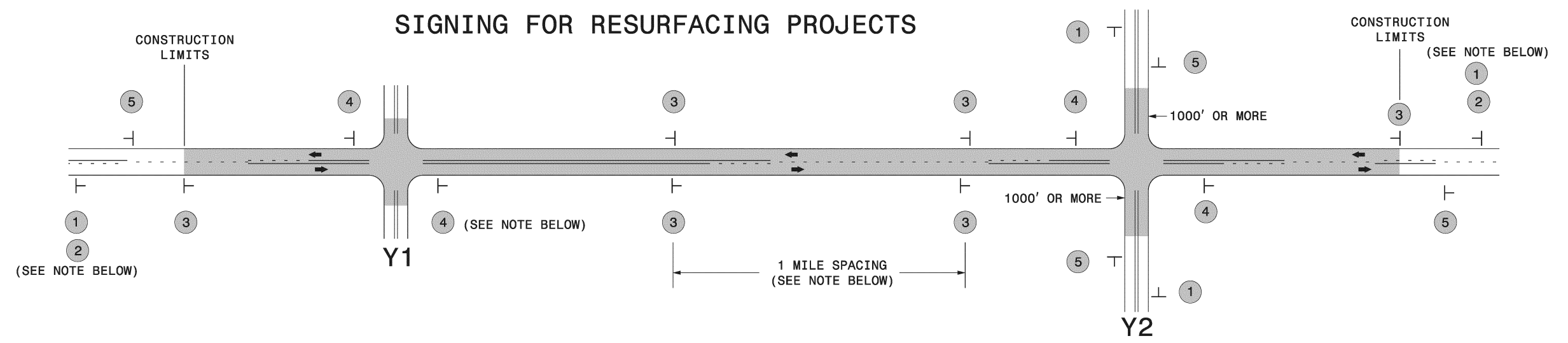
5/14/15

PROJECT NO.	SHEET NO.	TOTAL NO.
2016CPT.05.04.20921.1	16	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	BORROW CY	SHOULDER GRADING SMI	INCIDENTAL STONE BASE TONS	1½" MILLING SY	0" TO 1.5" MILLING SY	INCIDENTAL MILLING SY	SURFACE COURSE, S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TON	PATCHING EXISTING PAVEMENT TONS	CONCRETE CURB RAMP (STD. 848.06 and/or detail) EA	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA	TEMPORARY SILT FENCE LF	WATTLE LF	SEED & MULCHING AC	INDUCTIVE LOOP LF		
2016CPT.05.04.20921.1	Wake	1	SR 1010 - TEN TEN RD	SR 2727 - CROWDER RD TO 485' EAST OF SR 2722 - OLD MCCULLERS RD	2	2	NO	NO	3.462	26-40	688	6.88	179	60,207			5,333	320	347				500	1,250	5.00	1,632		
		2	SR 1107 - EAST ACADEMY ST	US 401 TO SR 2768 - JUDD PKWY	2,3	2	NO	NO	0.998	36					21,078			1,866	112	100							1,632	
		3	SR 1112 - SPENCE FARM RD	SR 1111 - OLD POWELL RD TO SR 1101 PINEY GROVE-WILBON RD	1	2	NO	NO	1.159	20-21	232		2.32	58			495	1,356	81	116				168	420	1.68		
		4	SR 1113 - WADE NASH RD	NC 55 TO SR 1101 - PINEY GROVE-WILBON RD SKIPPING NEW BRG PROJECT	1	2	NO	NO	1.636	20-28	334		3.05	84		189	450	1,903	114	164				243	610	2.43	408	
		5	SR 1115 - AVENT FERRY RD	JT. 2 MI NORTH OF 55 BYP TO END OF MAINT.	1	2	NO	NO	0.46	22-48	108		0.73	27		1,820	897	607	36	82				78	200	0.78	1,111	
		6	SR 1126 - HONEYCUTT RD	SR 1101 - PINEY GROVE-WILBON RD TO SR 1116 - CASS-HOLT RD	2	2	NO	NO	0.871	20	174		1.74	44		10,220		907	54	100				126	320	1.26		
		7	SR 1152 - HOLLY SPRINGS RD	850' S OF SR 1385 - LILLY ATKINS RD TO 75' N OF SR 1319 - JONES FRANKLIN RD SKIPPING FROM BAKERSFIELD TO CAMPBELL	1,4	2	NO	NO	1.524	24-52	241		2.41	61		1,463	605	3,113	187	152	3				176	440	1.76	1,752
		8	SR 1152 - W HOLLY SPRINGS RD	JT 500 FT EAST OF NC 55 TO NC 55 - MAIN ST	1	2	NO	NO	0.713	22-37	112		1.12	28		893	435	1,161	70	71				82	210	0.82		
		9	SR 1152 - HOLLY SPRINGS-NEW HILL RD	GREEN OAKS PKWY TO PVMT CHG	1	2	NO	NO	0.927	21-35	173		1.73	43		280	173	1,347	81	92			4	126	320	1.26		
		10	SR 1153 - TINGEN RD	SR 1011- SALEM ST TO US1	2	2	NO	NO	1.693	24-42	266		2.66	67		29,187		2,585	155	170				194	490	1.94		
		11	SR 1154 - WOODS CREEK RD	SR 1153 - OLD HOLLY SPRINGS-APEX RD TO SR 1149 - FRIENDSHIP RD	2	2	NO	NO	2.298	21	460		4.60	115		28,311		2,512	151	230				333	840	3.33		
		12	SR 1301 - SUNSET LAKE RD	.22 MI SOUTH OF SR 1152 - HOLLY SPRINGS RD TO US 401 - N MAIN ST	2	2	NO	NO	5.326	24-51	936		9.36	234		103,498		9,163	550	530				681	1,710	6.81	2,658	
		13	SR 1303 - SMITH RD	SR 1010 - TEN TEN RD TO DEAD END	1	2	NO	NO	1.289	21-33	258		2.58	65			430	1,594	96	130				187	470	1.87		
		14	SR 1305 - ARTHUR PIERCE RD	SR 1152 - HOLLY SPRINGS RD TO .24 MI E OF SR 1300 - KILDAIRE FARM RD	1	2	NO	NO	0.764	20	153		1.53	39			460	833	50	76				111	280	1.11		
		15	SR 1375 - LAKE WHEELER RD	SR 1010 - TEN TEN RD TO US 401	1	2	NO	NO	3.927	24-50	785		7.85	196			1,460	5,490	329	393				569	5,616	5.69	792	
		16	SR 1503 - DONNY BROOK RD	US 401 TO SR 1375 - LAKE WHEELER RD	2	2	NO	NO	0.7	20-21	140		1.40	35		9,922		880	53	70				101	260	1.01	408	
		17	SR 1601 - JENKS RD	NC 55 TO 540 PROJECT LIMIT	2	2	NO	NO	0.758	20-32	83		0.83	21		14,557		1,289	77	76				61	160	0.61	408	
		18	SR 1614 - SALEM CH RD	SR 1613 - DAVIS DR TO SR 1011- N SALEM ST	1	2	NO	NO	0.96	20-43	173		1.73	44		444	1,460	1,325	80	96		1		125	320	1.25		
		19	SR 1371 - LAKE WHEELER RD	SR 1370 - TRYON RD TO SR 1379 - PENNY RD SKIPPING NEW SECT. S OF MILL ENTRANCE	2	2	NO	NO	1.562	24-38	312		3.12	78		24,433		2,165	130	156				226	570	2.26	198	
		20	SR 1375 - SIMPKINS RD	SR 1371 - LAKE WHEELER RD TO US 401	1	2	NO	NO	1.079	24-34	216		2.16	54			318	1,515	91	108				156	390	1.56		
TOTAL FOR PROJ NO. 2016CPT.05.04.20921.1									32.106		5,844	57.80	1,472	301,413	5,089	7,183	46,944	2,817	3,259	3	1	4	4,243	14,876	42.43	10,999		
GRAND TOTAL									32.106		5,844	57.80	1,472	301,413	5,089	7,183	46,944	2,817	3,259	3	1	4	4,243	14,876	42.43	10,999		

SIGNING FOR RESURFACING PROJECTS



LEGEND	
—	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

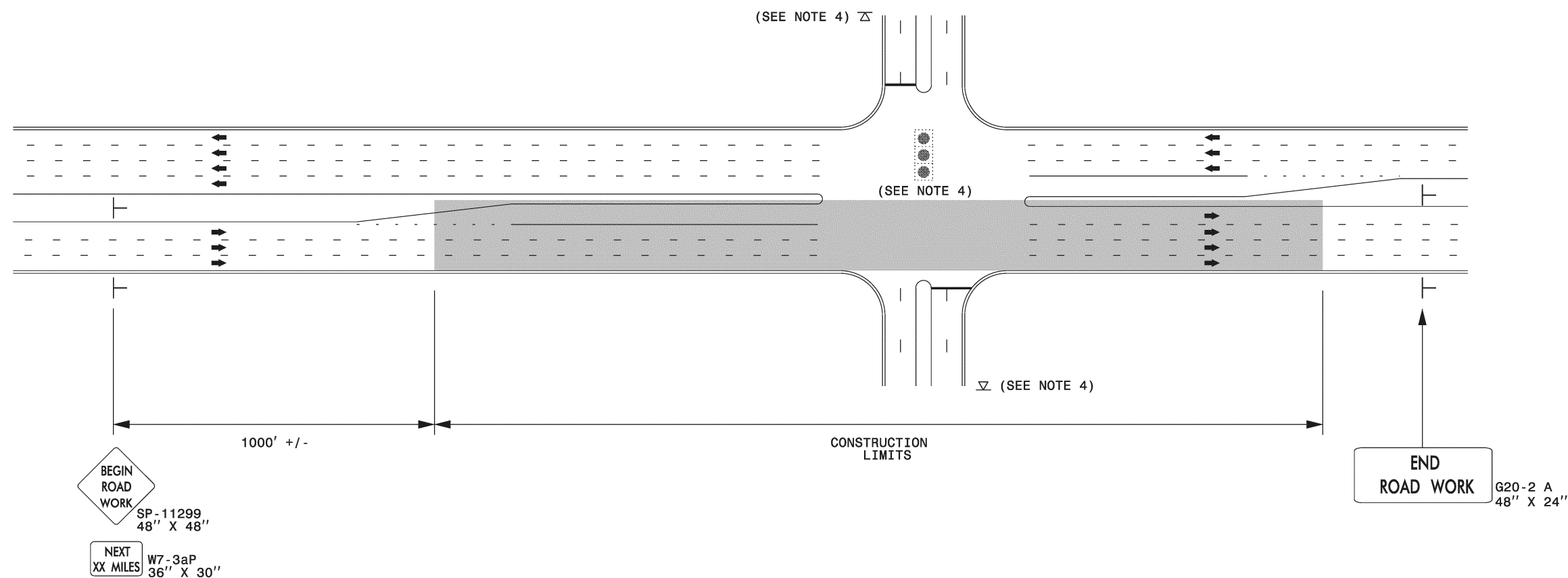
MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1	 <small>W20-1 48" X 48"</small>	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <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; align-items: center;"> <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	 <small>W7-3aP 24" X 18"</small>	#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	 <small>SP 13107 48" X 48"</small>	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	 <small>SP 13106 48" X 48"</small>	THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.	
	5	 <small>G20-2 A 48" X 24"</small>	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.	

**RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS**

URBAN / SUBURBAN WORKZONES

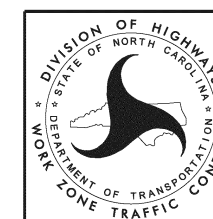


NOTES:

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

LEGEND

- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW

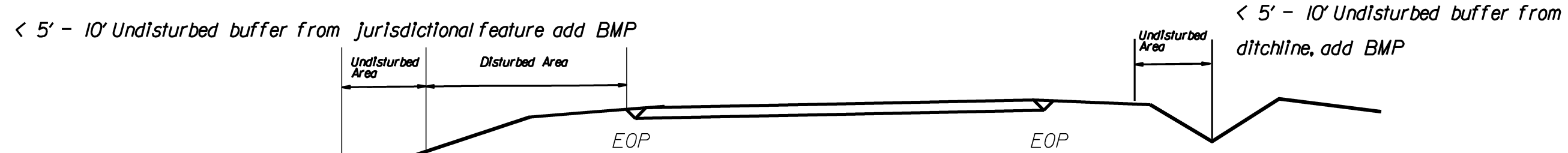
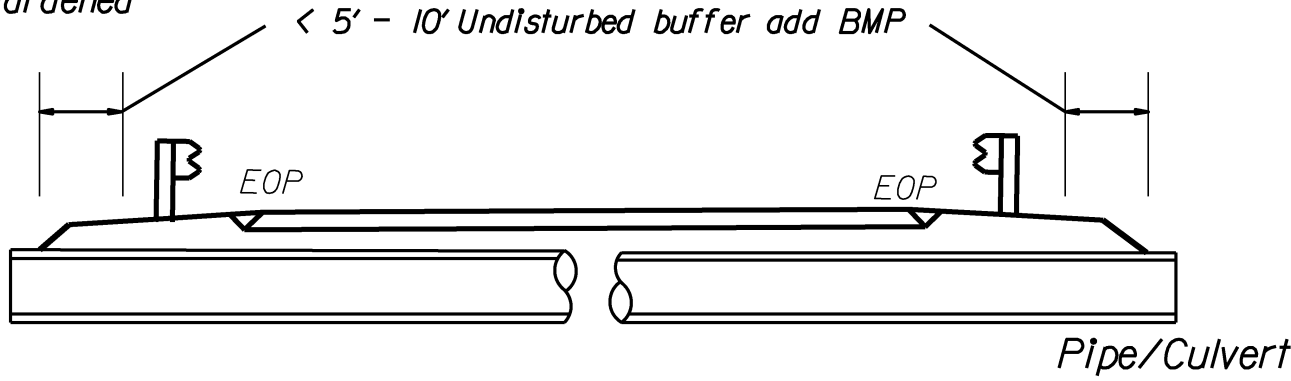


**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

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

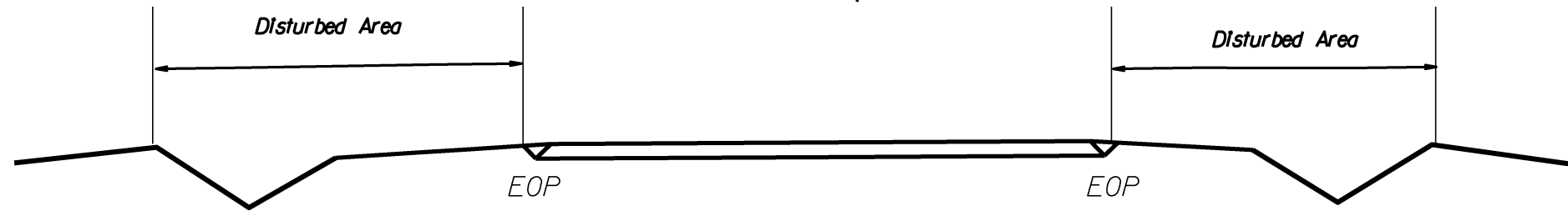
EROSION CONTROL DETAIL

BMP Options: Wattle, Silt Fence or Hardened Aggregate.

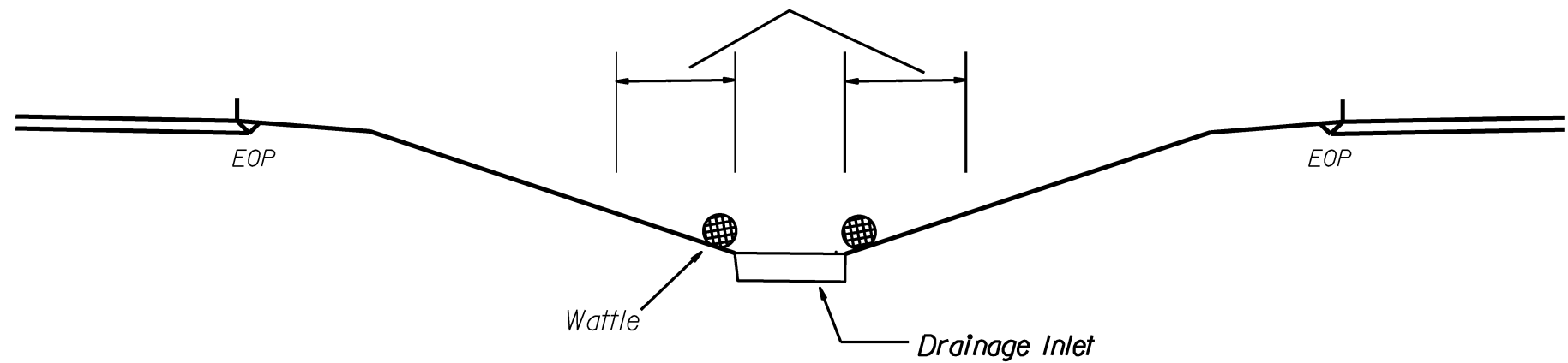


Jurisdictional Feature

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

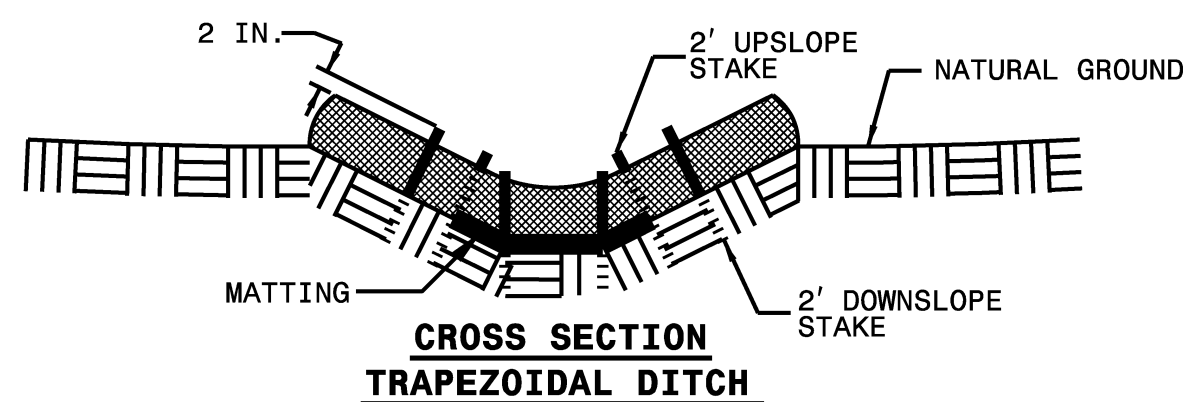
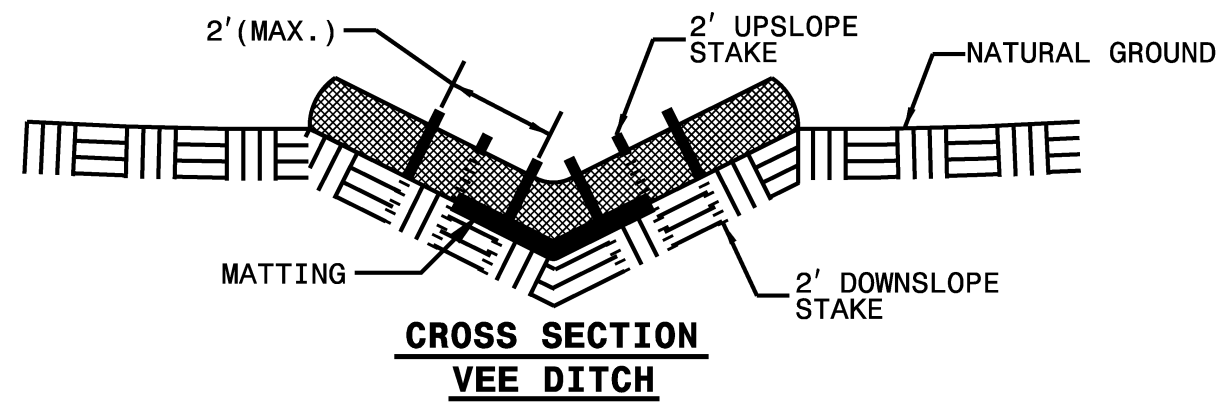
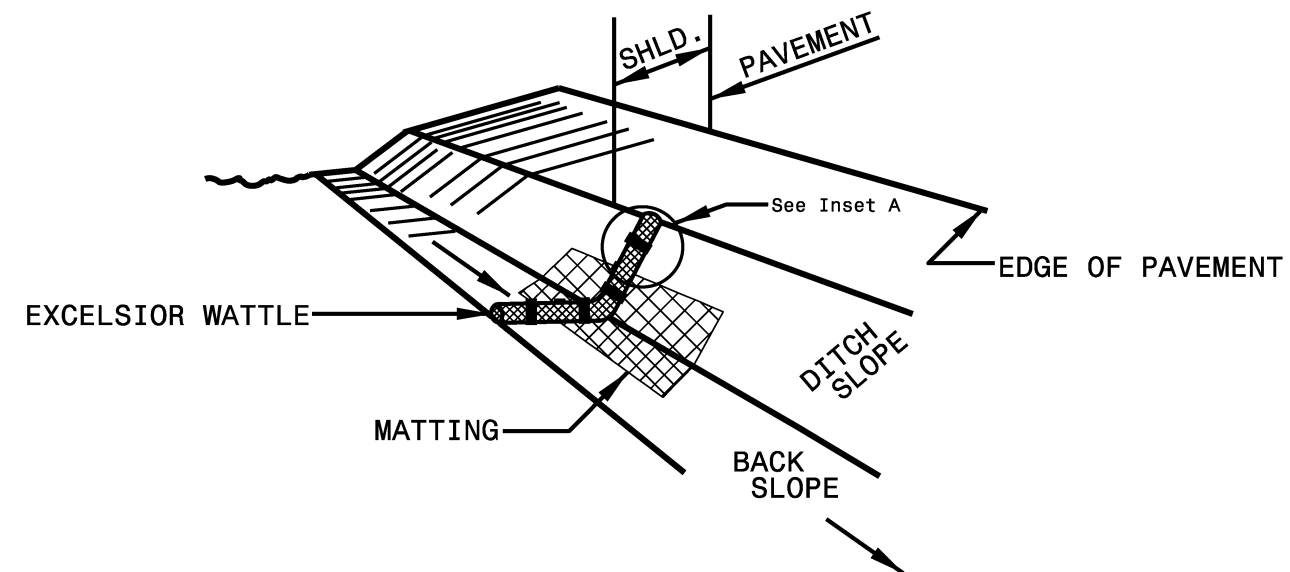


< 5' - 10' Undisturbed buffer from inlet, add wattle



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.

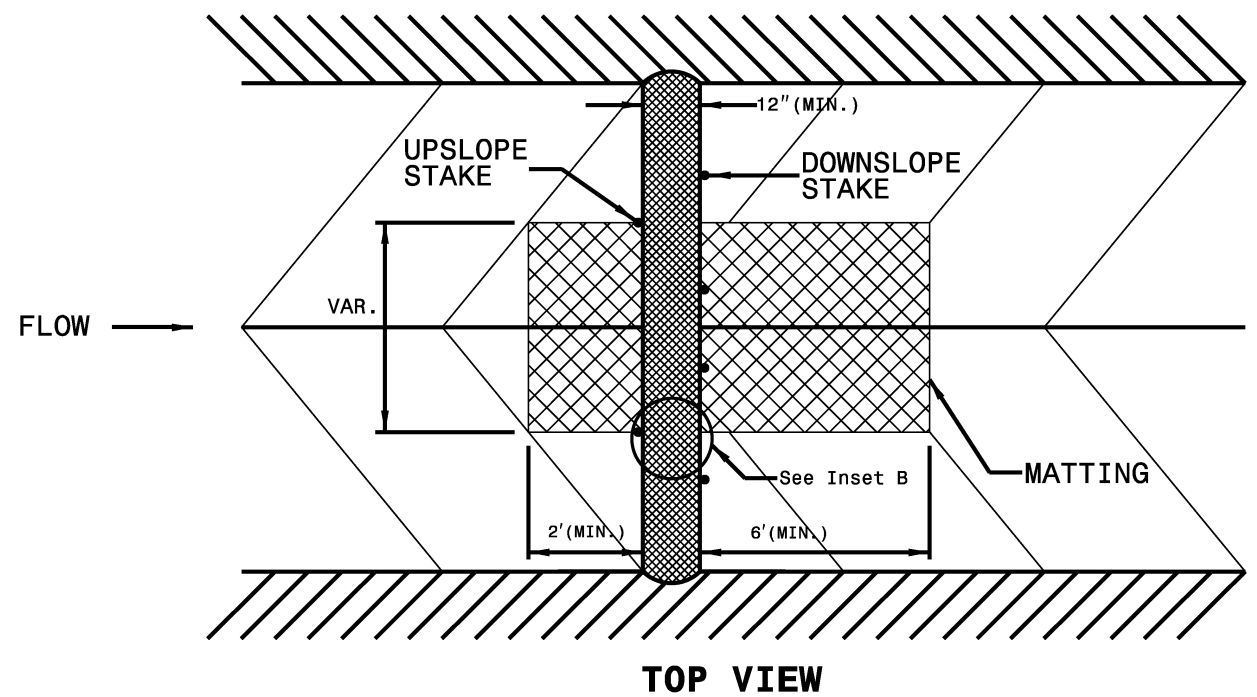
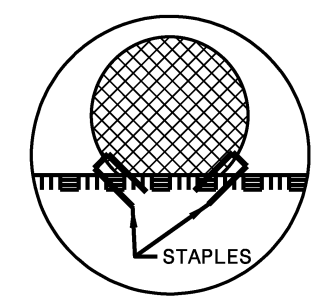
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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.

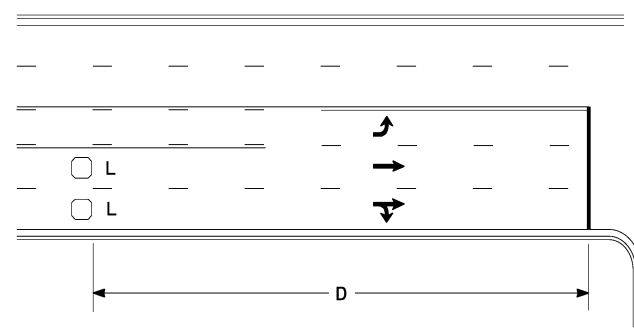


**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

SOIL STABILIZATION TIMEFRAMES

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

High Speed Detection (≥40 mph)

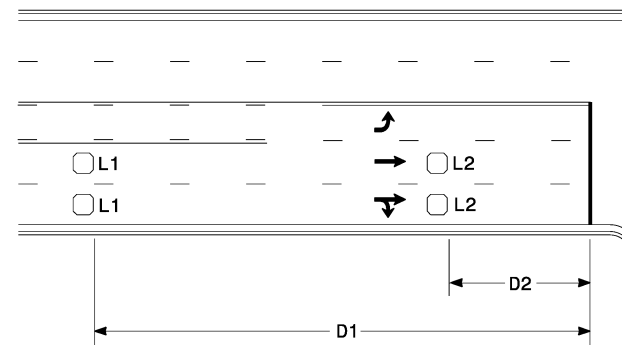


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

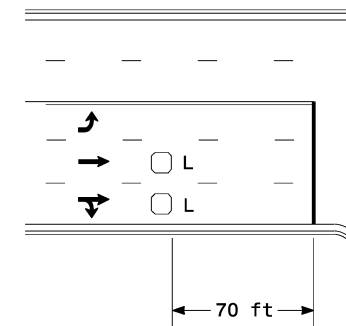


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

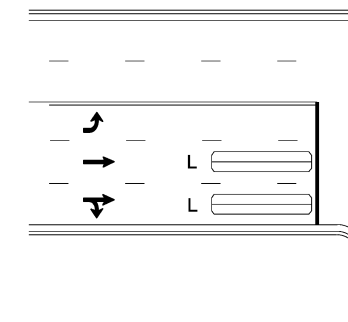
"Stretch" Operation

Low Speed Detection (≤35 mph)



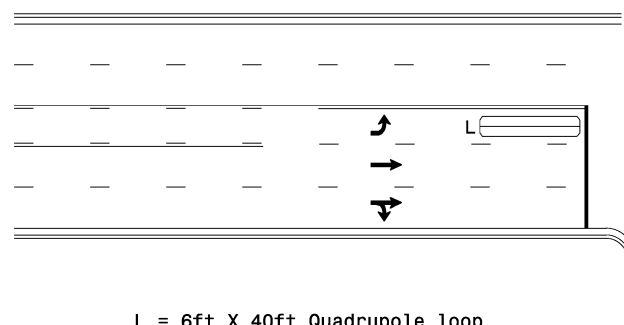
L = 6ft X 6ft
Wired in series

OR



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

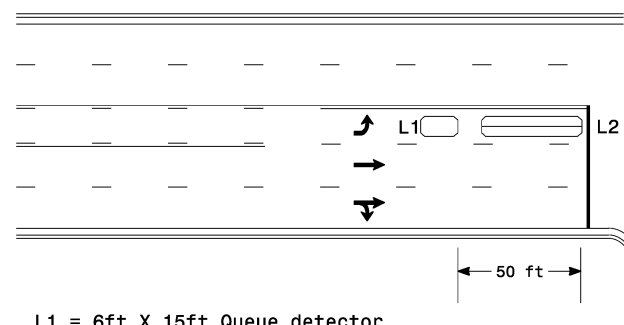
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

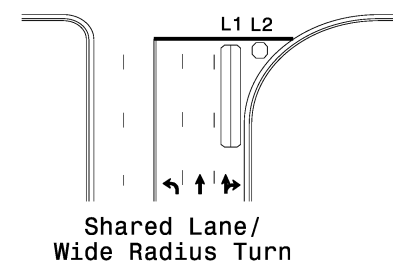
OR



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

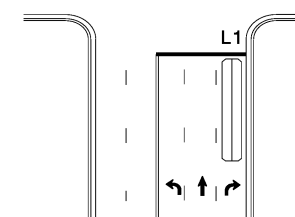
Queue Loop Detection

Right Turn Lane Detection

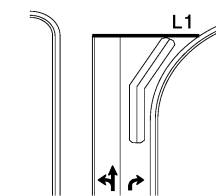


Shared Lane/
Wide Radius Turn

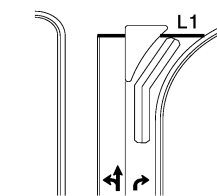
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

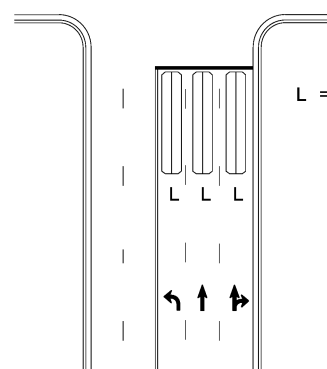


Wide Radius Turn



Channelized Turn

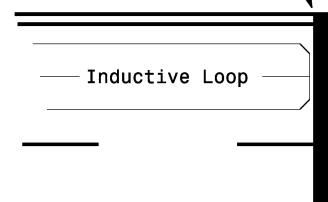
Side Street Detection



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

	Typical Signal Loop Locations		
	PLAN DATE: January 2015 PREPARED BY: PLA	REVIEWED BY: JPG REVIEWED BY:	
750 N. Greenfield Pkwy, Garner, NC 27529		INIT. DATE DATE	SEAL INVENTORY NO.