

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 6

PLANS
Letting Date: March 7, 2018

CONTRACT ID: DF00202

TIP NO.: -----

FEDERAL AID NO.: STATE FUNDED

WBS ELEMENT NO.: 2019CPT.06.03.20091.1 & 2019CPT.06.03.20241.1

ROUTE NO.: VARIOUS SR

LOCATION: VARIOUS

COUNTY: BLADEN & COLUMBUS

LENGTH OF PROJECT: 30.07 MILES

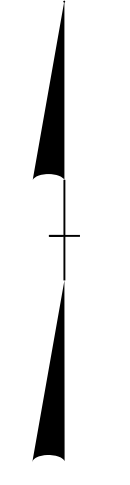
TYPE OF WORK: RESURFACING, WIDENING & PVT. MKGS.

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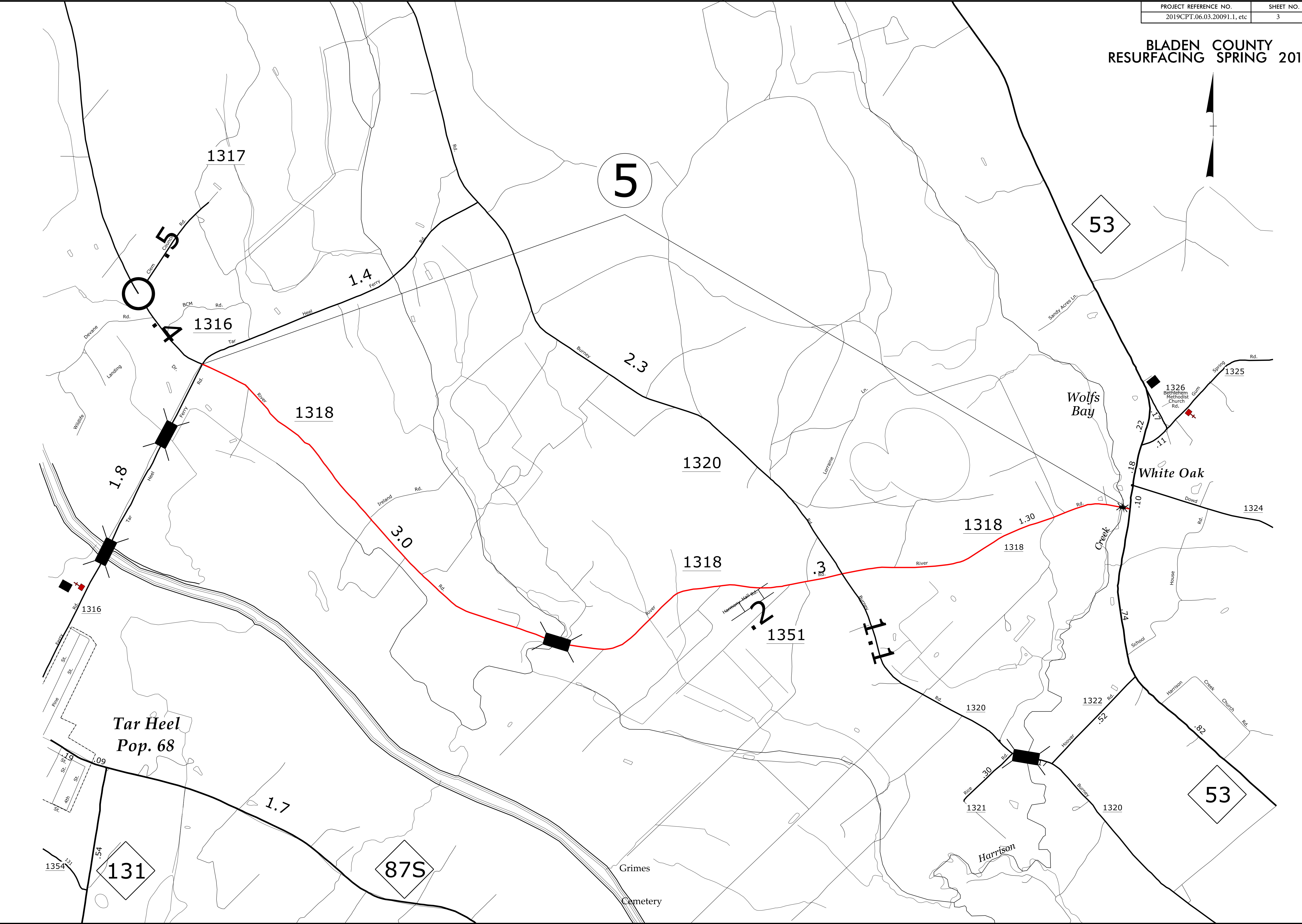
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BLADEN COUNTY
RESURFACING SPRING 2018

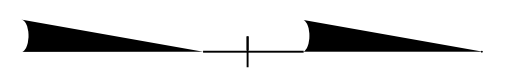


REVISIONS

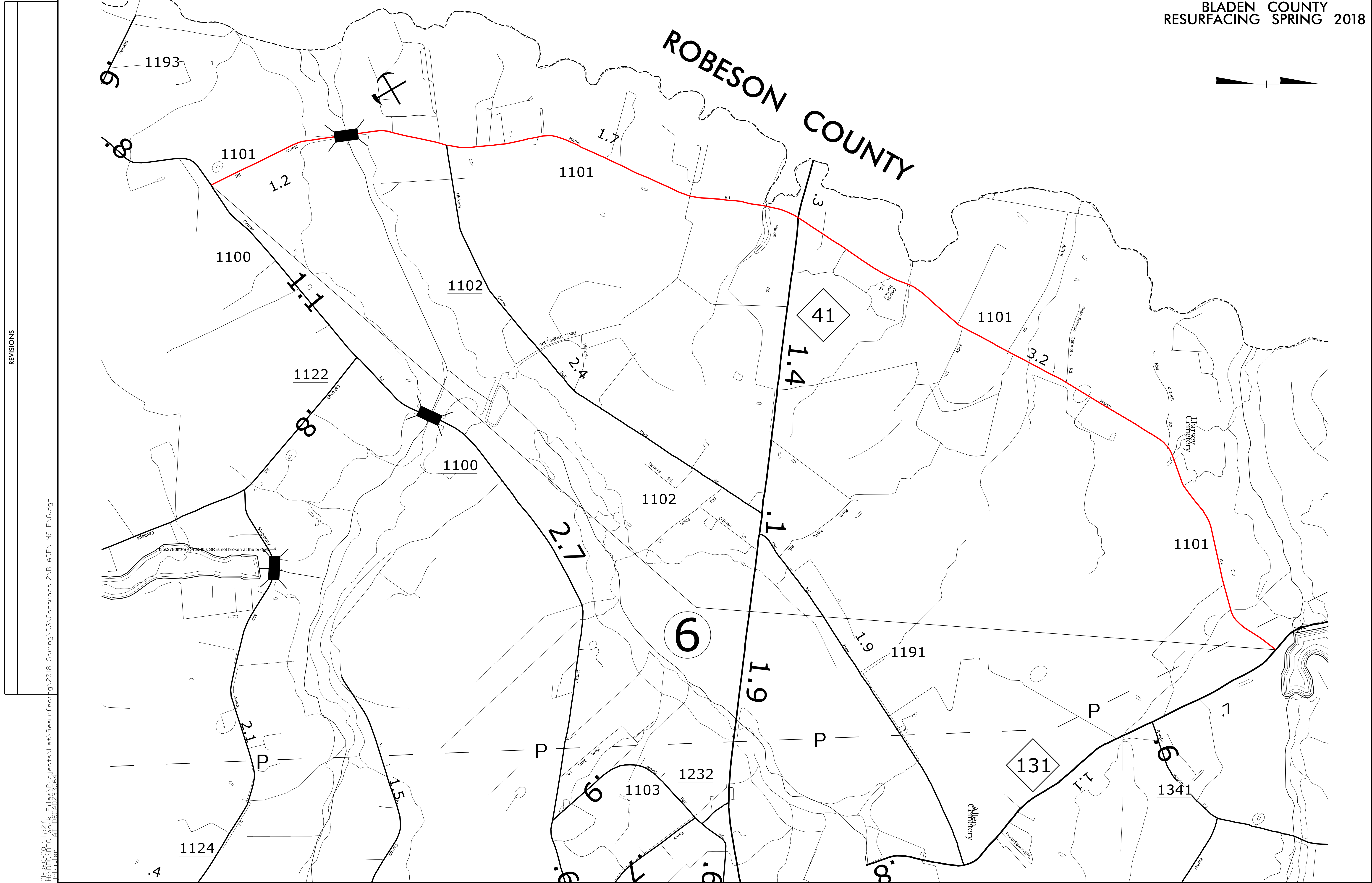
21-056-2018-1124
8/17/19
Bladen County
8/17/19
F:\Projects\2018 Spring\Projects\Let\Resurfacing\2018 Spring\Bladen MS.ENG.dgn



**BLADEN COUNTY
RESURFACING SPRING 2018**



ROBESON COUNTY

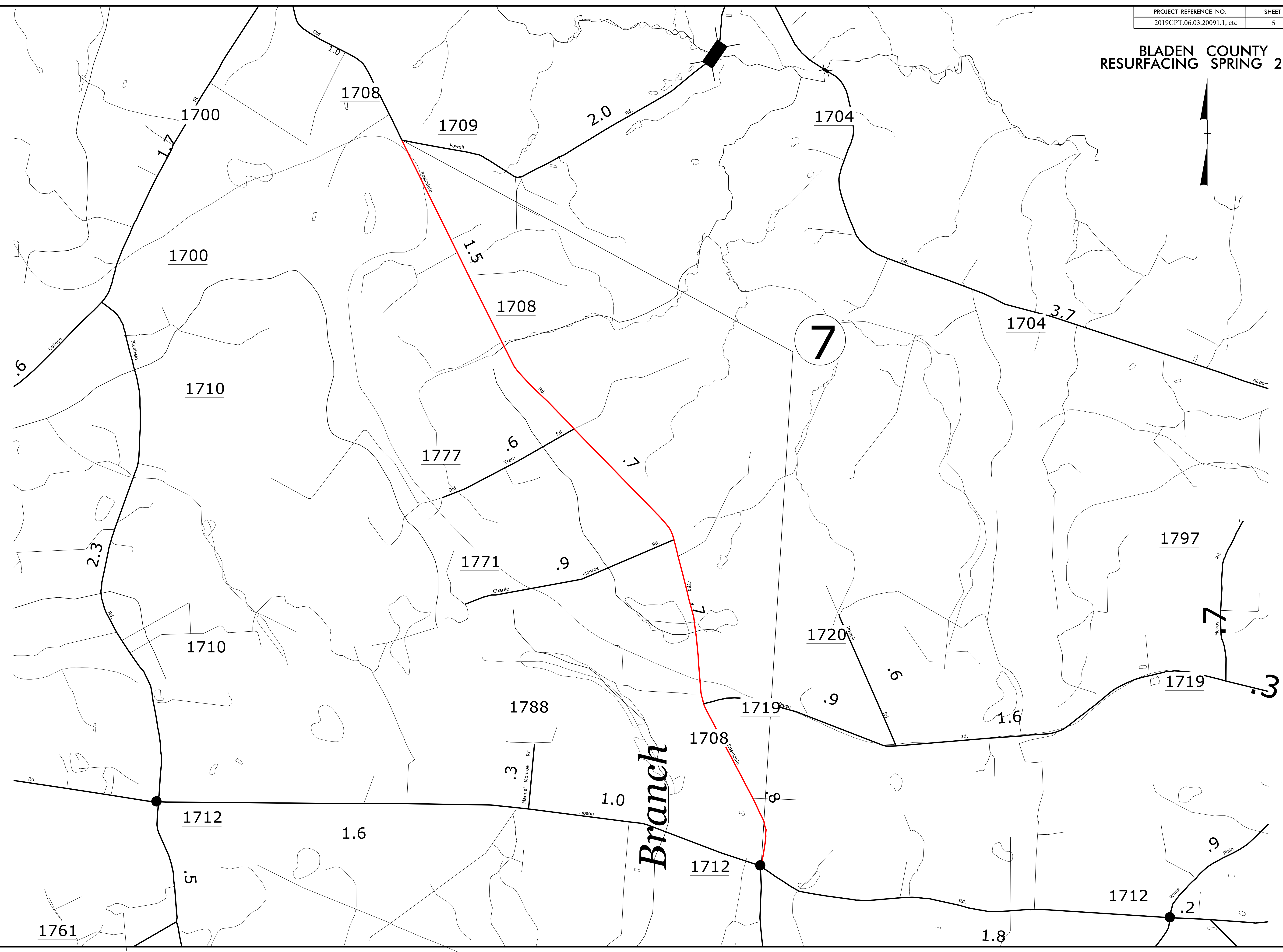
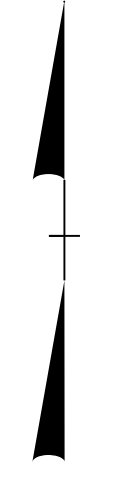


REVISIONS

8/17/99

21-056-2018-1127
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Date: 8/17/99

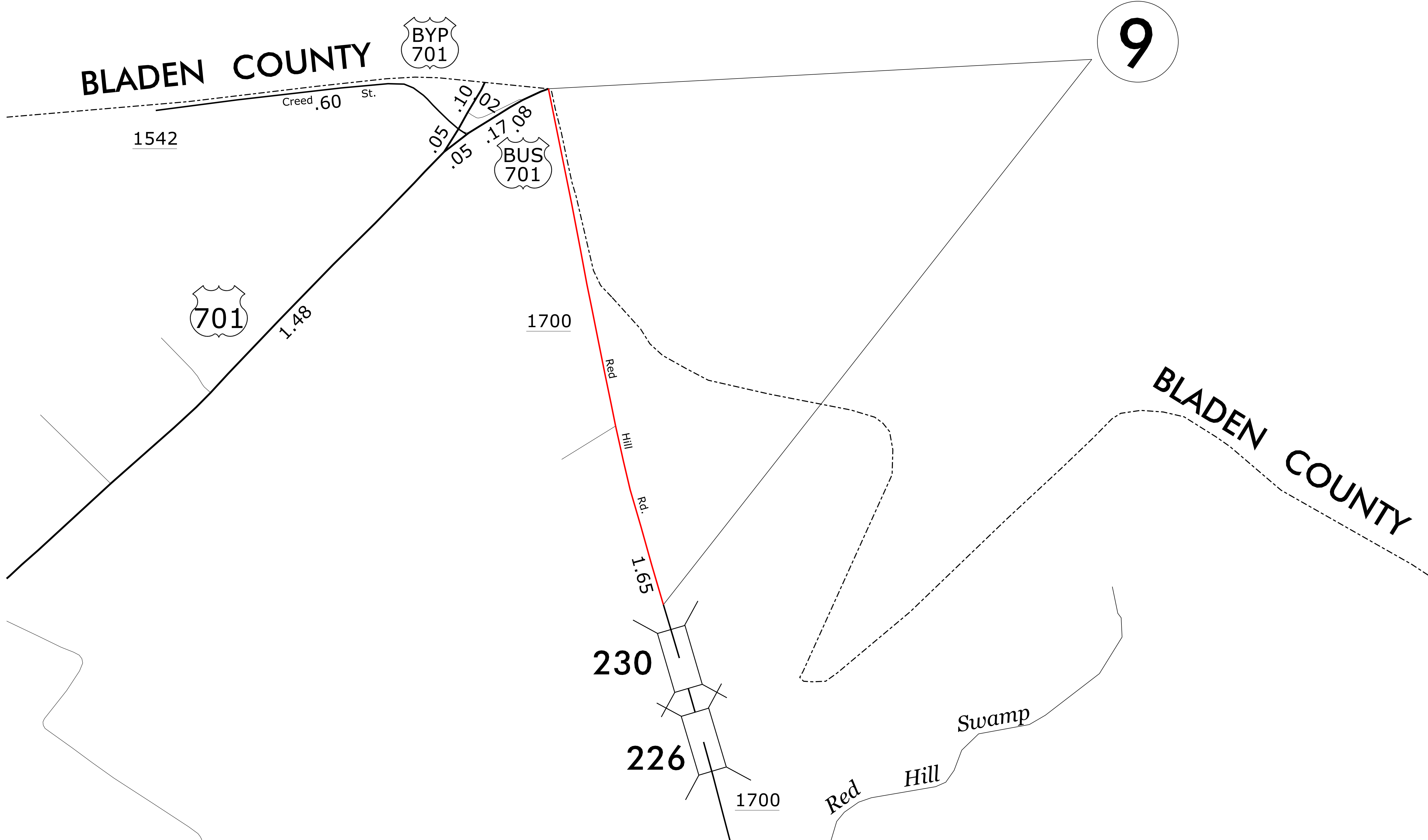
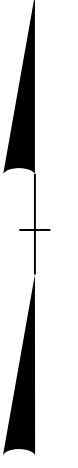
**BLADEN COUNTY
RESURFACING SPRING 2018**



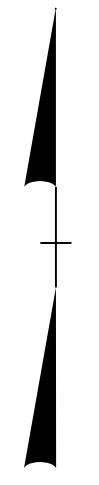
REVISIONS

8/17/99
21-056-2007-1733
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COLUMBUS COUNTY
RESURFACING SPRING 2018

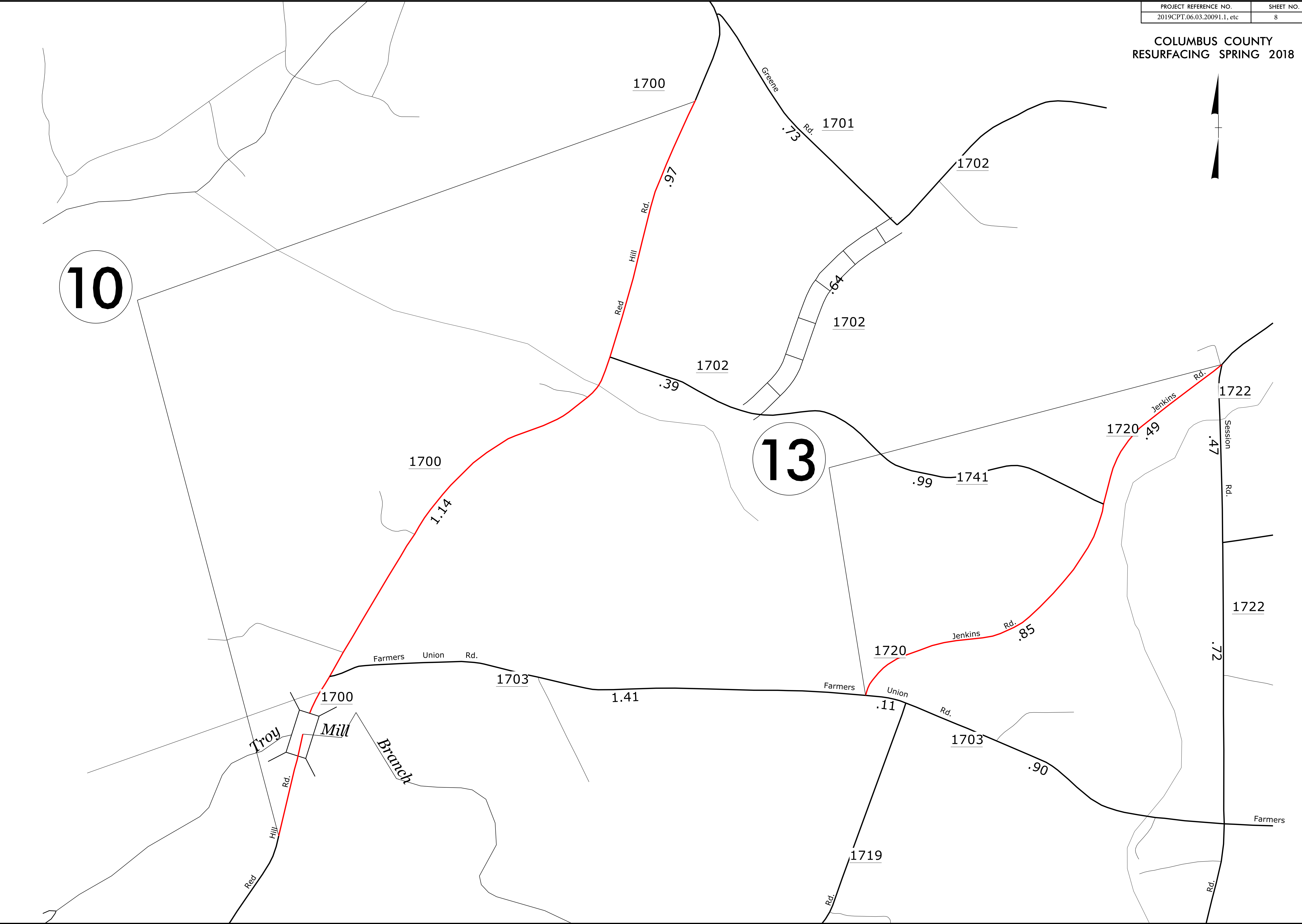


COLUMBUS COUNTY
RESURFACING SPRING 2018

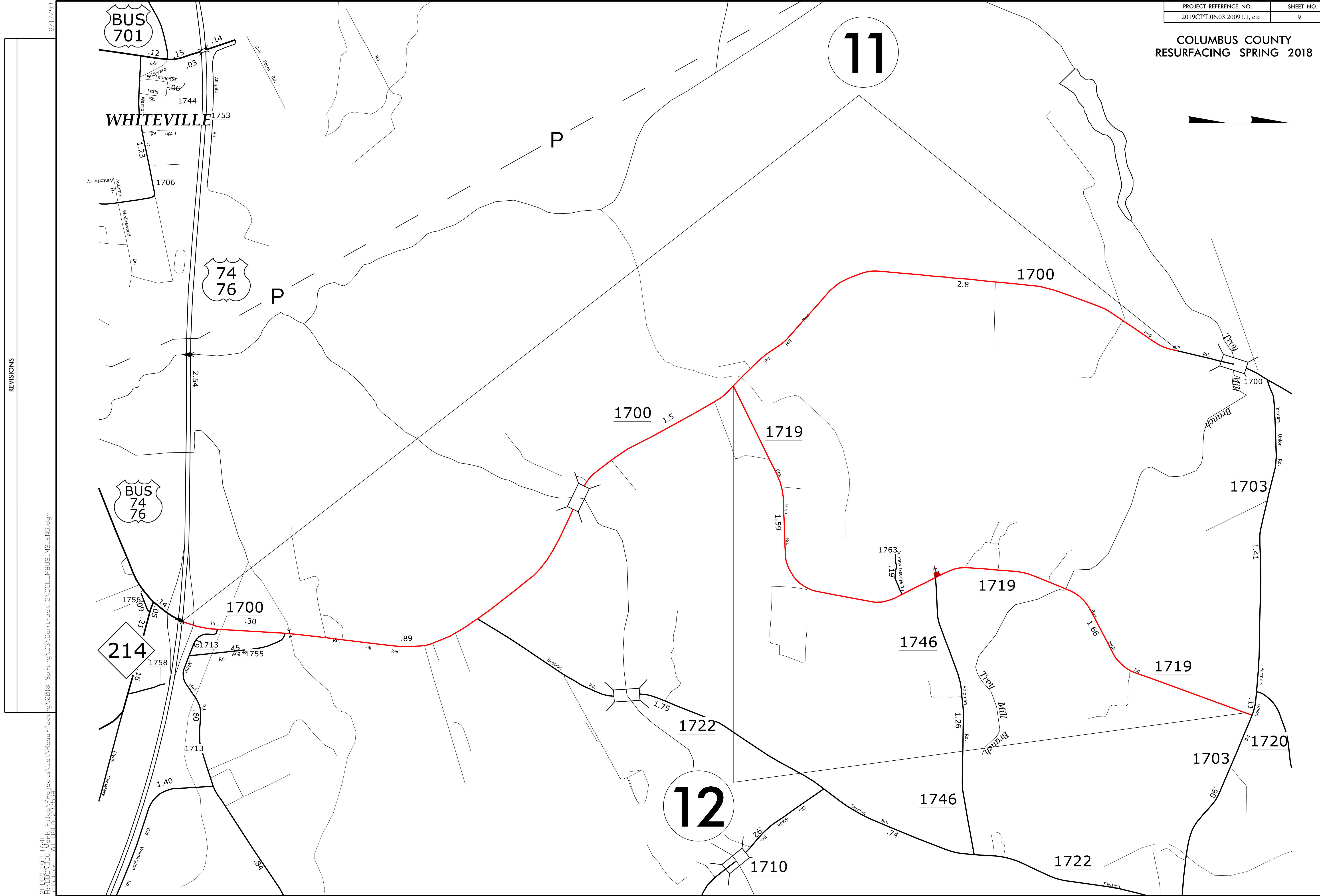
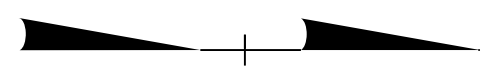


REVISIONS

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 8/17/99
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 2018 Spring\nD3\Contract 2\COLUMBUS_MS_ENG.dgn
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 3/15/2018



COLUMBUS COUNTY
RESURFACING SPRING 2018



11

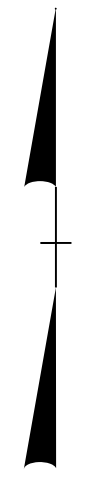
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REVISIONS

8/17/99

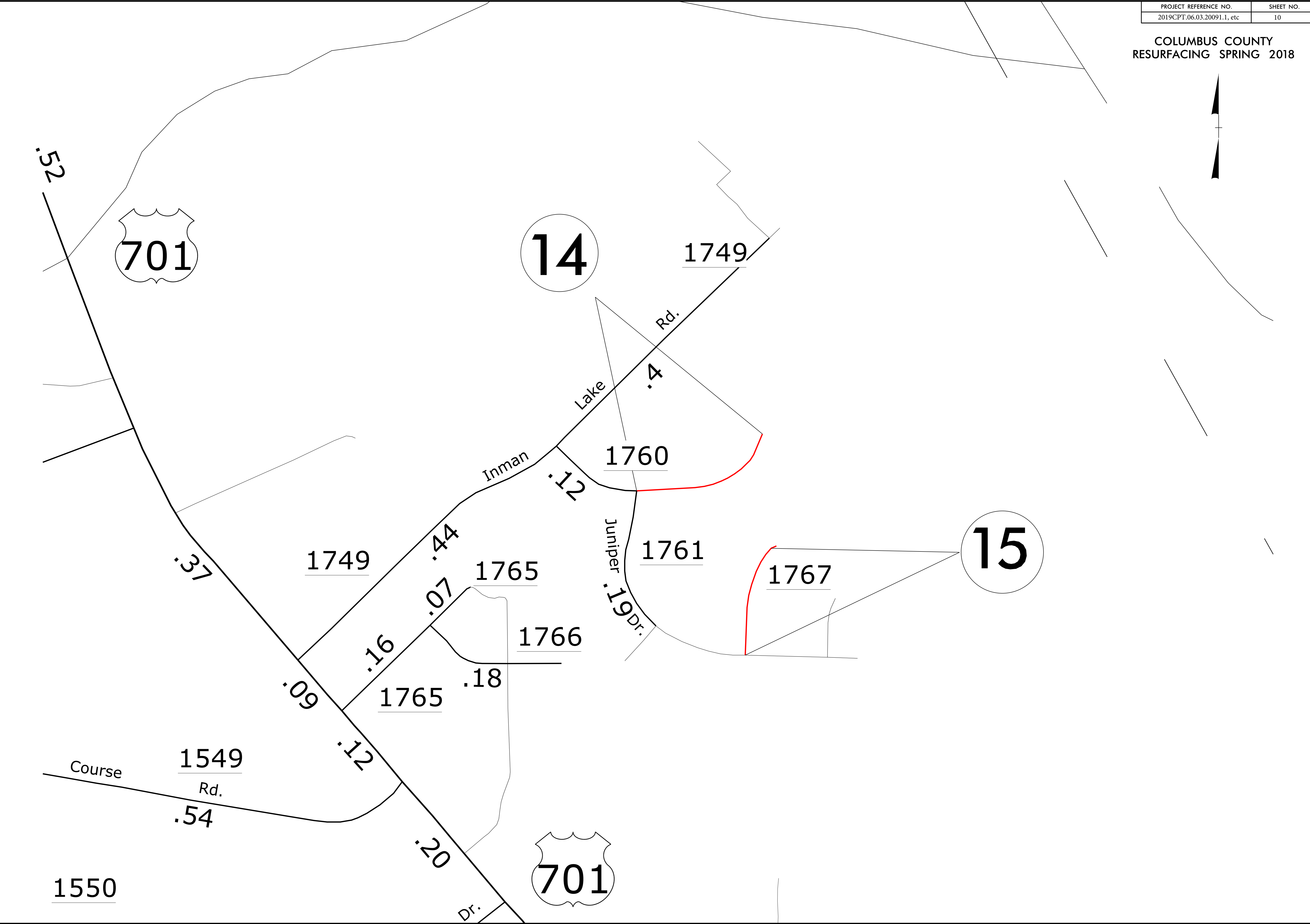
21-056-2007-1741
 2019CPT.06.03.20091.1, etc
 Project: Resurfacing
 2018
 Spring

COLUMBUS COUNTY
RESURFACING SPRING 2018



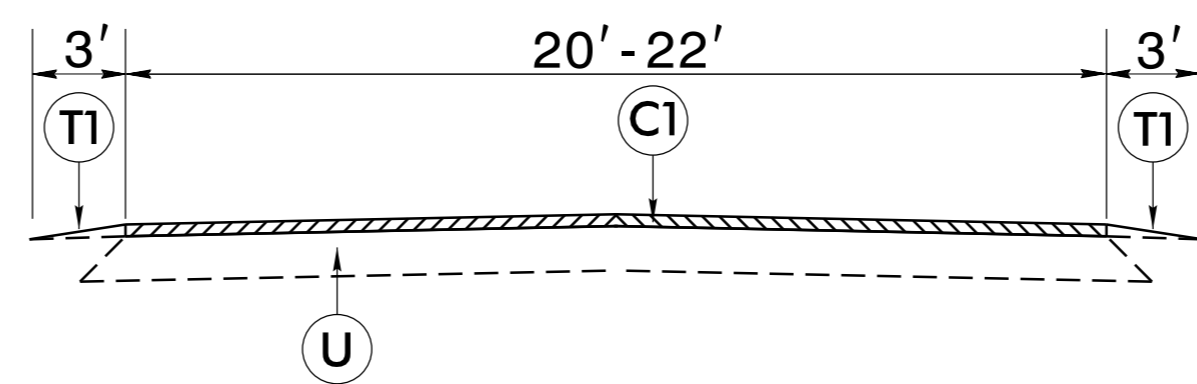
REVISIONS

8/17/99
21-056-2007-1625
Project: All Facilities
File Path: Projects\Let\Resurfacing\2018_Spring\03\Contract_2\COLUMBUS_MS_ENG.dgn



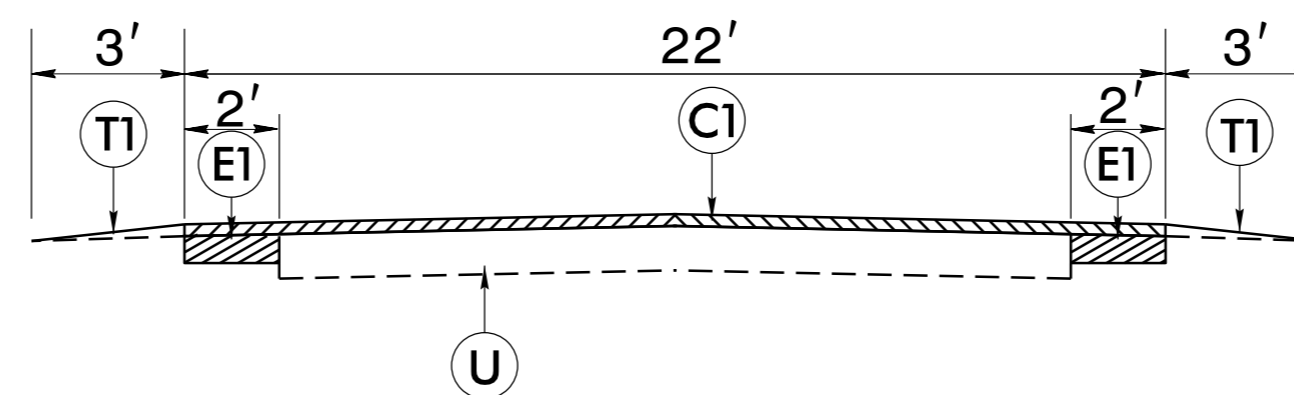
PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
T1	SHOULDER RECONSTRUCTION WITH AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT
V1	0" - 1½" MILLING
V2	¾" MILLING (PROFILE MILLING)
V3	1½" MILLING



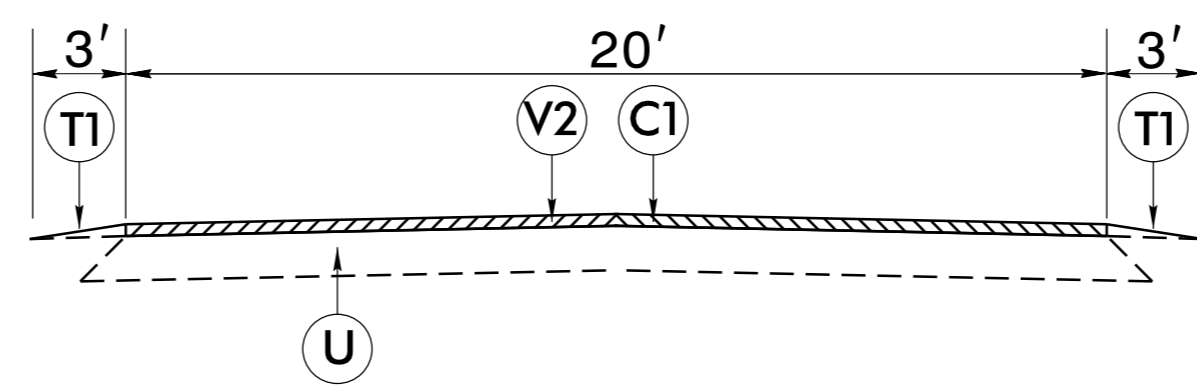
TYPICAL SECTION NO. 1

*PLUS ADDITIONAL 2'
INSIDE CURVE WIDENING
(SEE DETAIL)



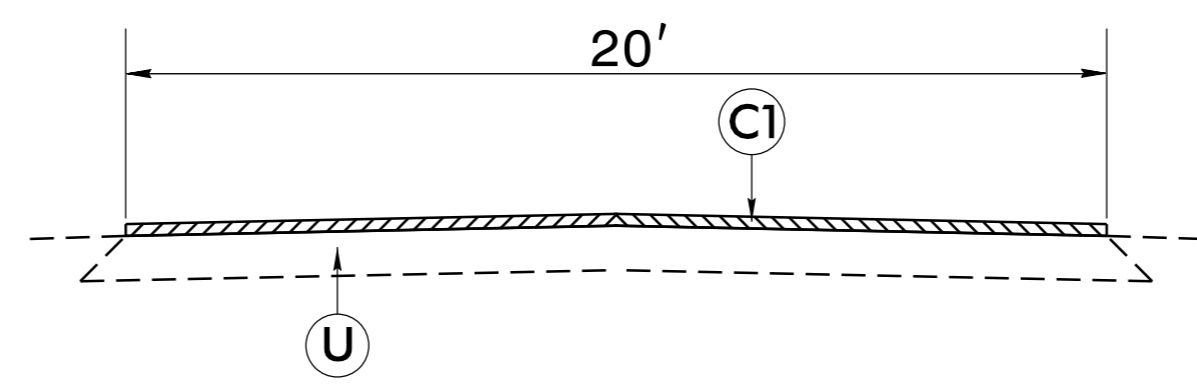
TYPICAL SECTION NO. 2

*PLUS ADDITIONAL 2'
INSIDE CURVE WIDENING
(SEE DETAIL)

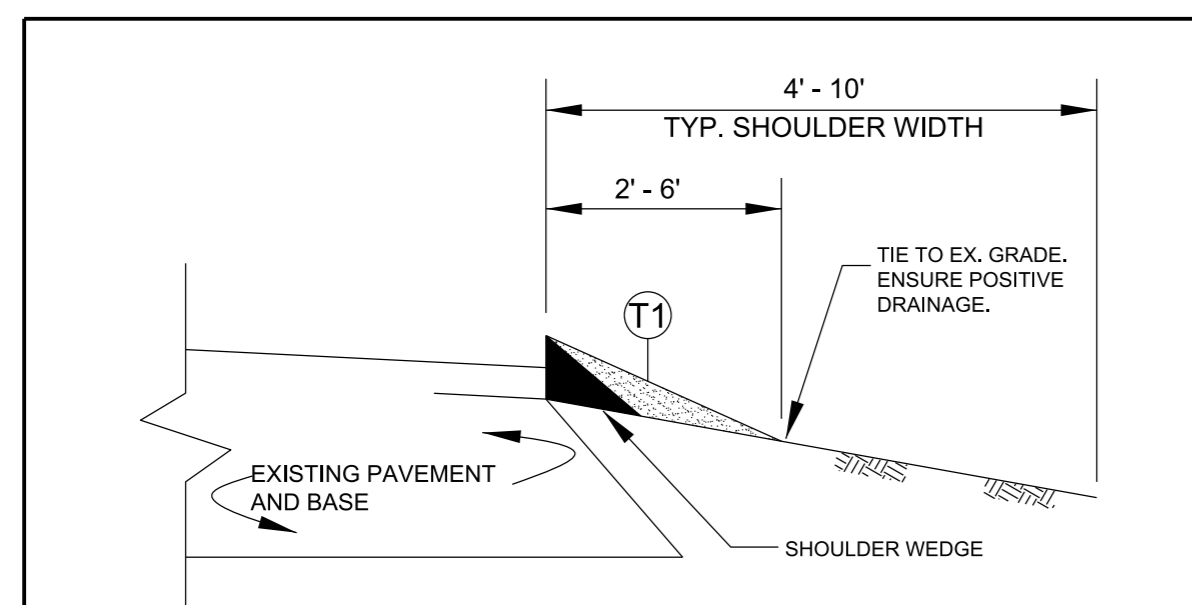


TYPICAL SECTION NO. 3

*PLUS ADDITIONAL 2'
INSIDE CURVE WIDENING
(SEE DETAIL)



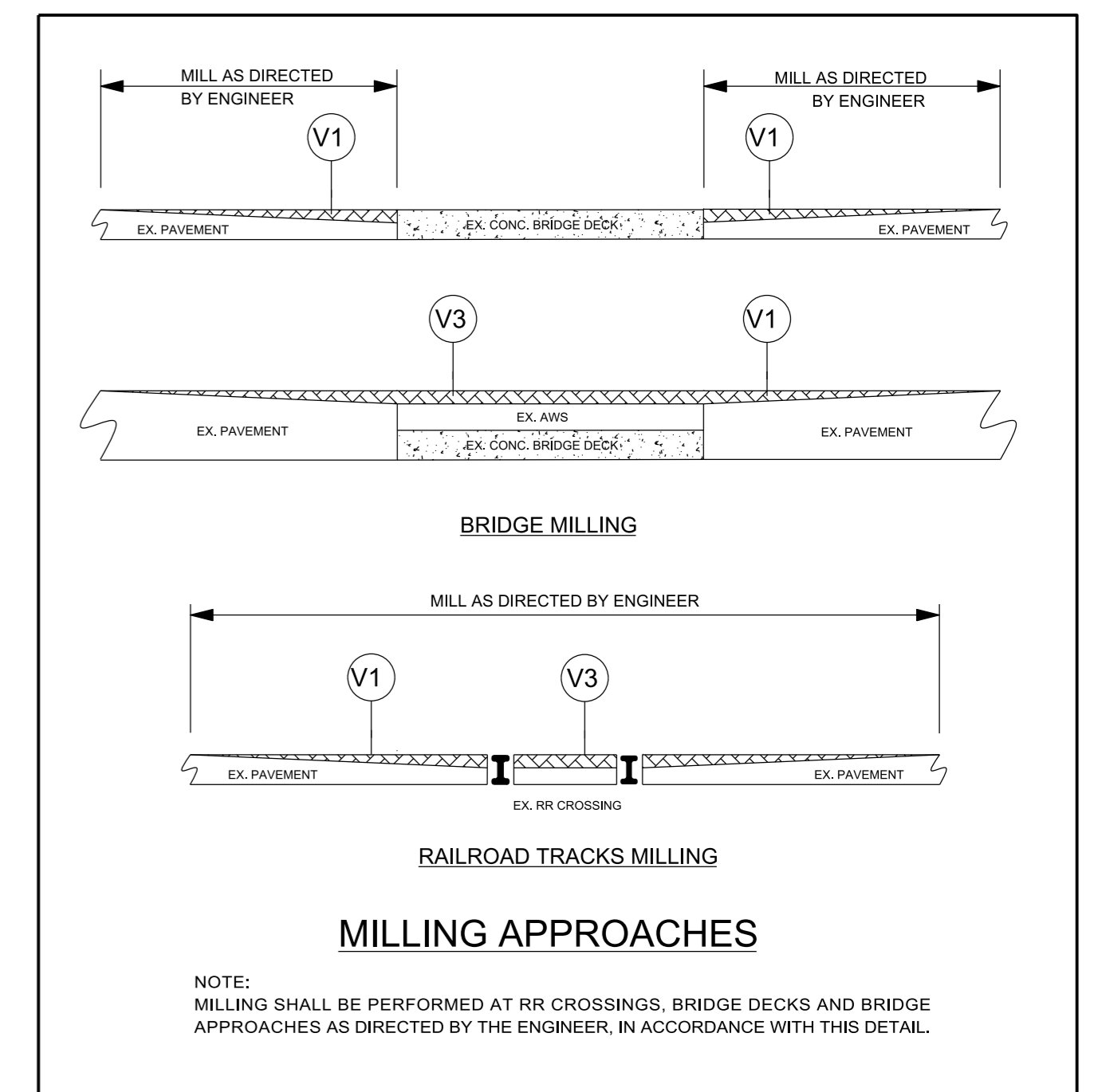
TYPICAL SECTION NO. 4



SHOULDER RECONSTRUCTION

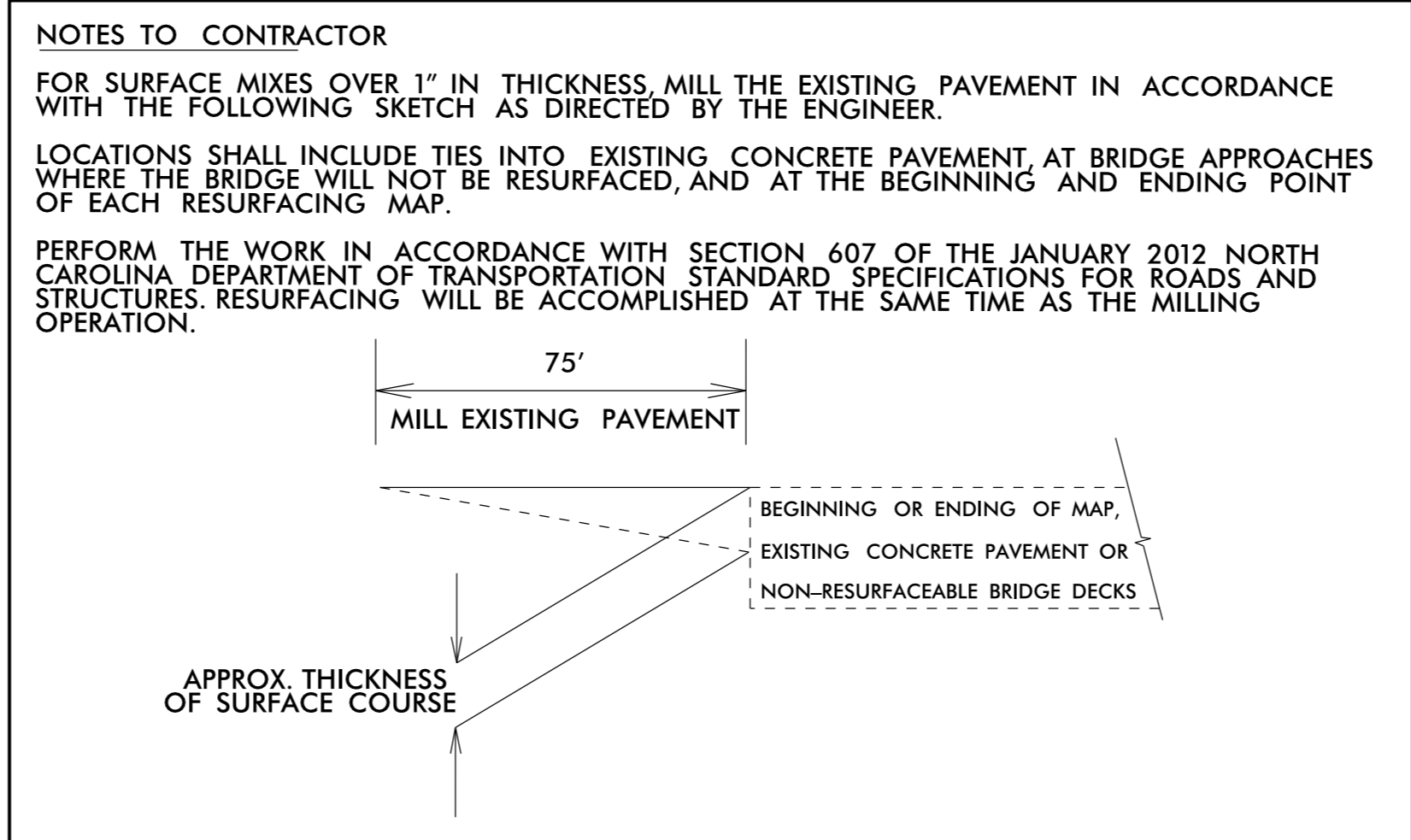
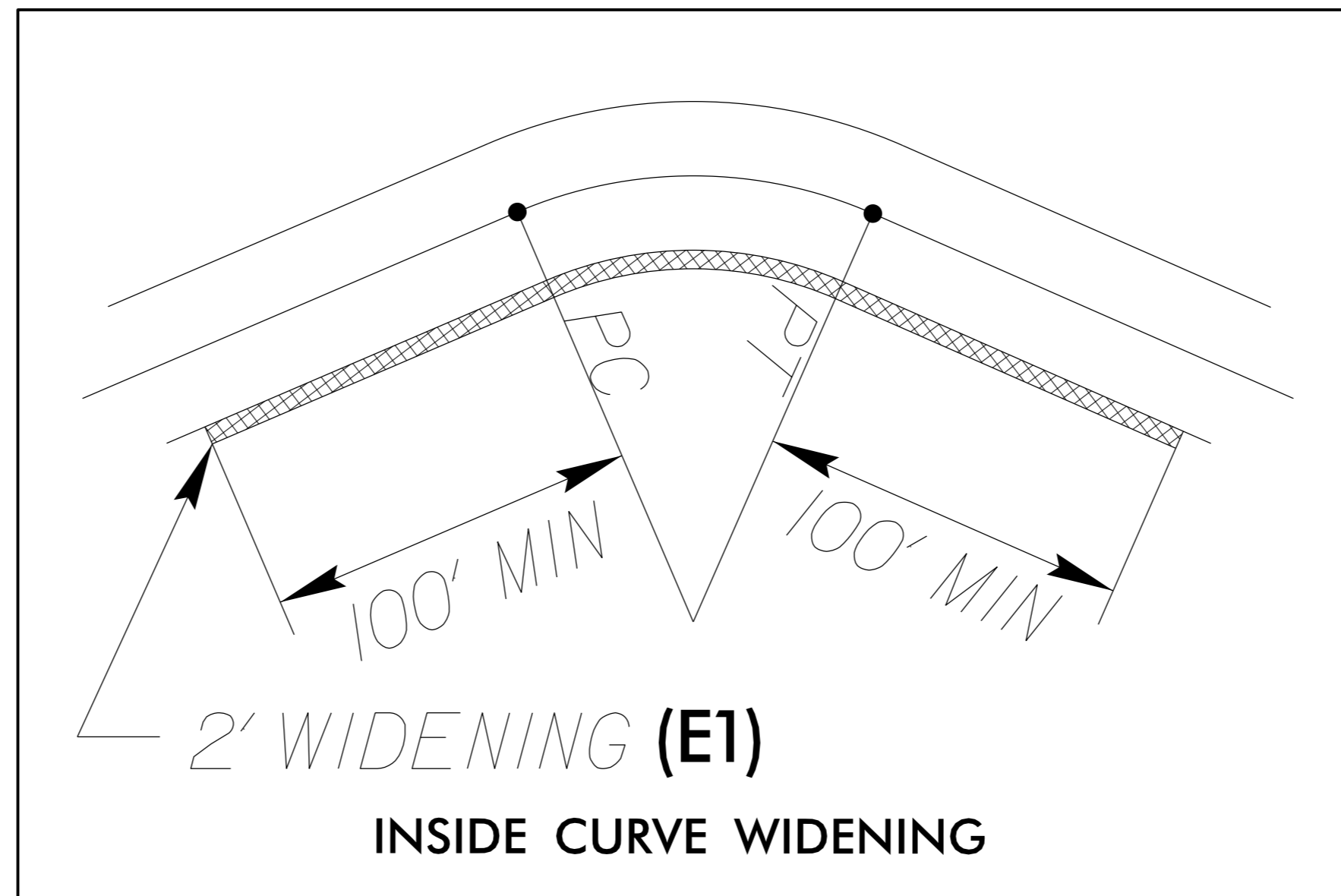
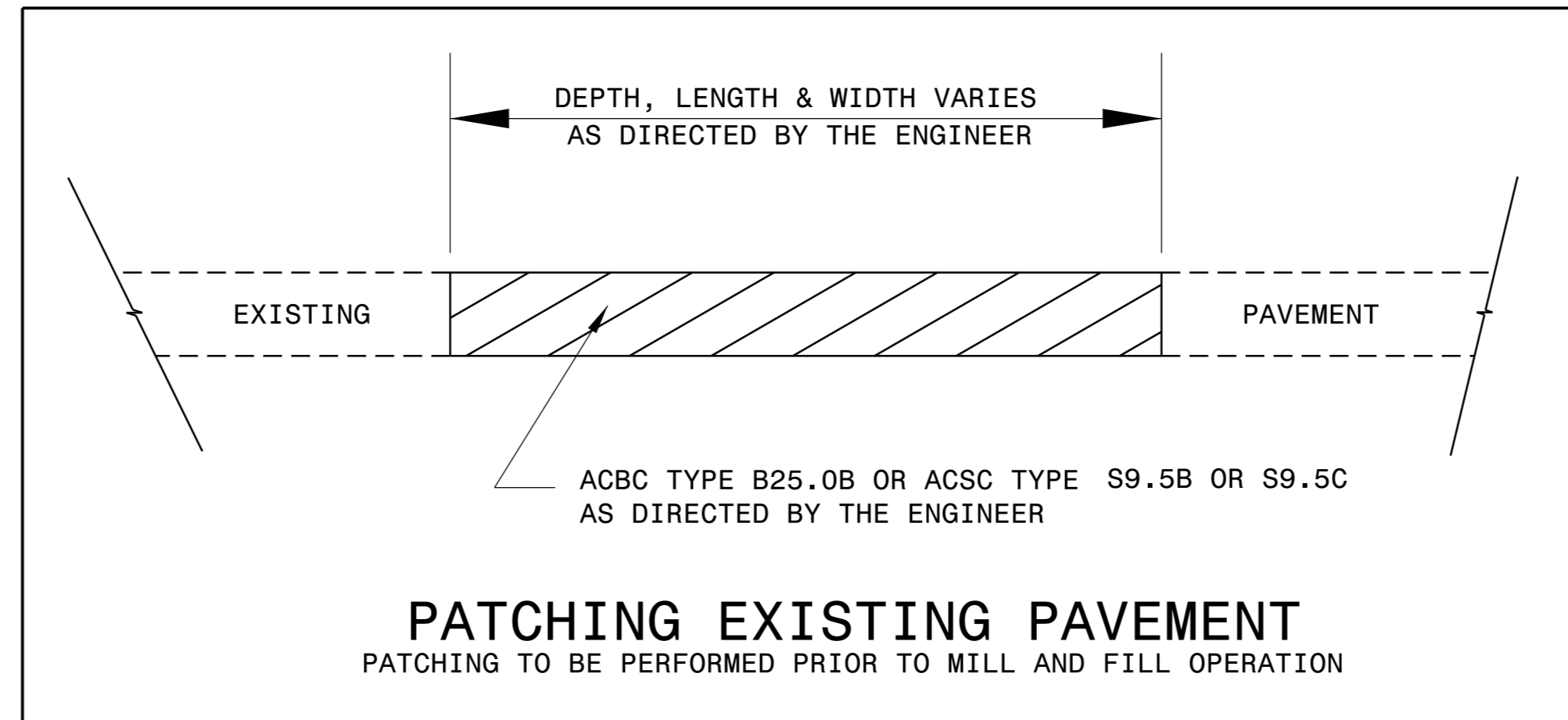
NOTES:

- SHOULDER SHALL BE RECONSTRUCTED AS SHOWN IN STD. DWG. NO. 560.01 & 560.02, WITH A MINIMUM SLOPE OF 1" PER FOOT TO ENSURE POSITIVE DRAINAGE AWAY FROM ROADWAY.
- AGGREGATE SHOULDER BORROW (ASB) MATERIAL SHALL BE PLACED USING A WIDENING MACHINE OR SIMILAR DEVICE. (WHERE APPLICABLE)
- A VEGETATIVE BUFFER SHALL BE MAINTAINED BETWEEN THE DISTURBED AREA ALONG THE EDGE OF PAVEMENT AND THE DITCH SHOULDERS POINT TO MINIMIZE EROSION. PULLING DITCHES OR CUTTING SHOULDERS TO GENERATE BORROW MATERIAL WILL NOT BE ALLOWED.
- REQUIRED BORROW MATERIAL MAY BE OBTAINED BY THE CONTRACTOR FROM WIDENING OPERATIONS WITHIN THE PROJECT LIMITS, FROM NCDOT APPROVED BORROW PITS OR FROM NCDOT STOCKPILES. ANY EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR IN AN APPROVED DISPOSAL SITE.



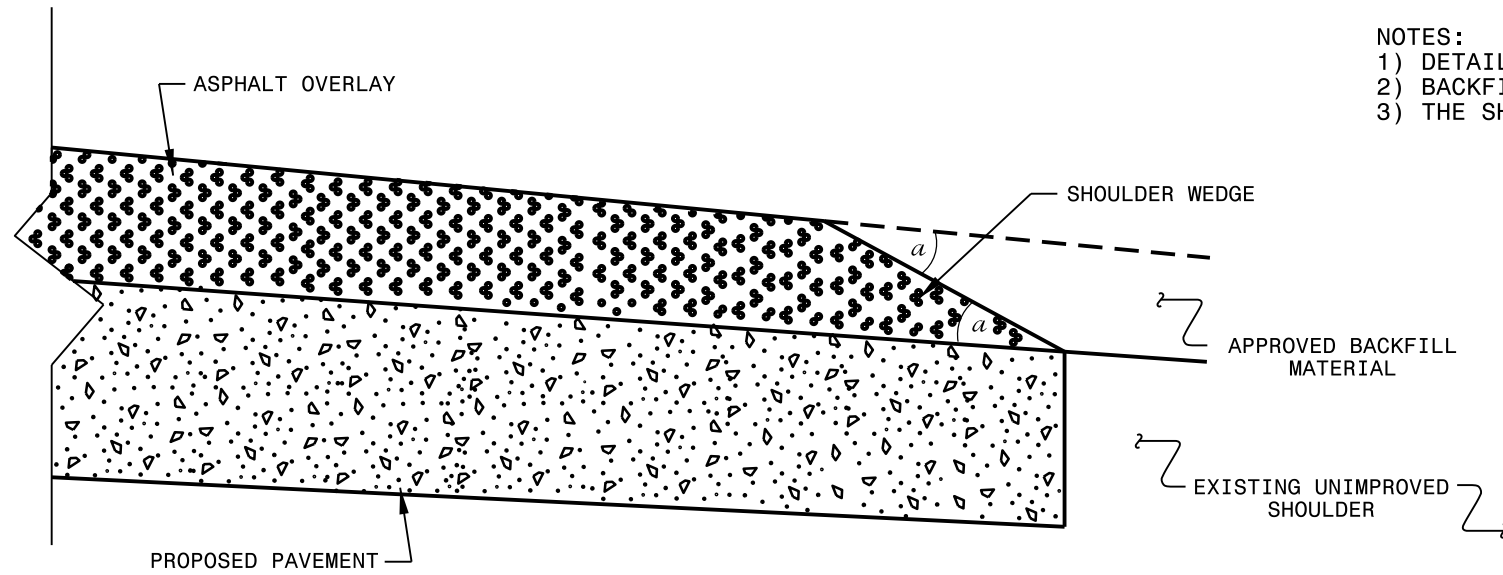
MILLING APPROACHES

NOTE:
MILLING SHALL BE PERFORMED AT RR CROSSINGS, BRIDGE DECKS AND BRIDGE APPROACHES AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH THIS DETAIL.

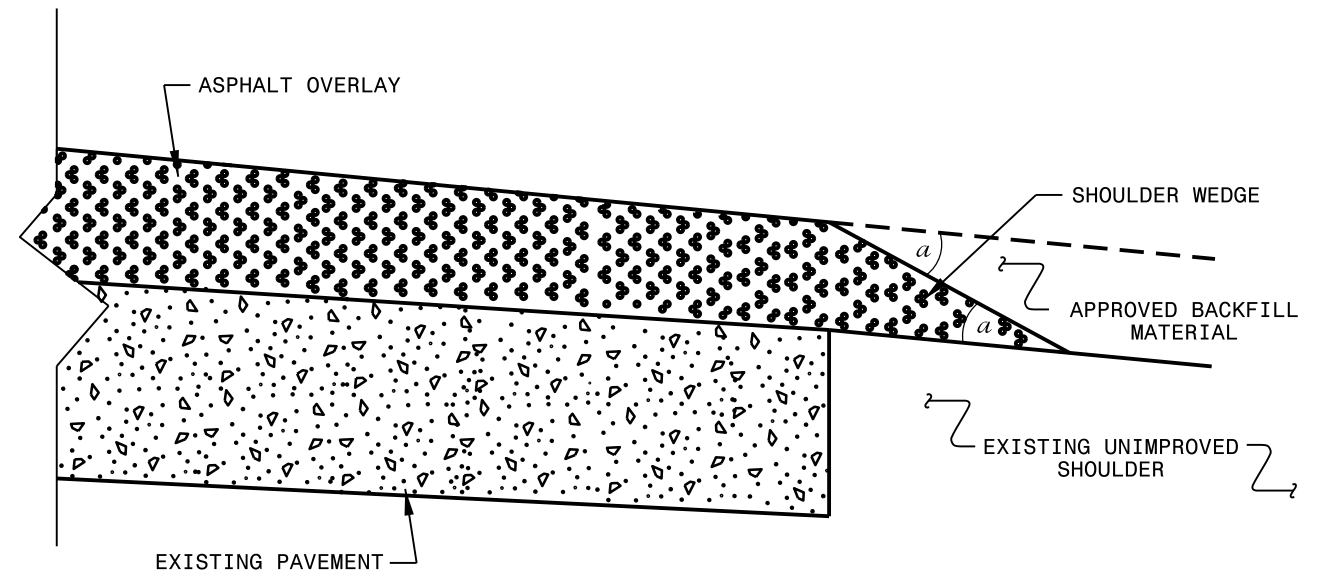


MILLING AT PAVEMENT TIE-INS DETAIL

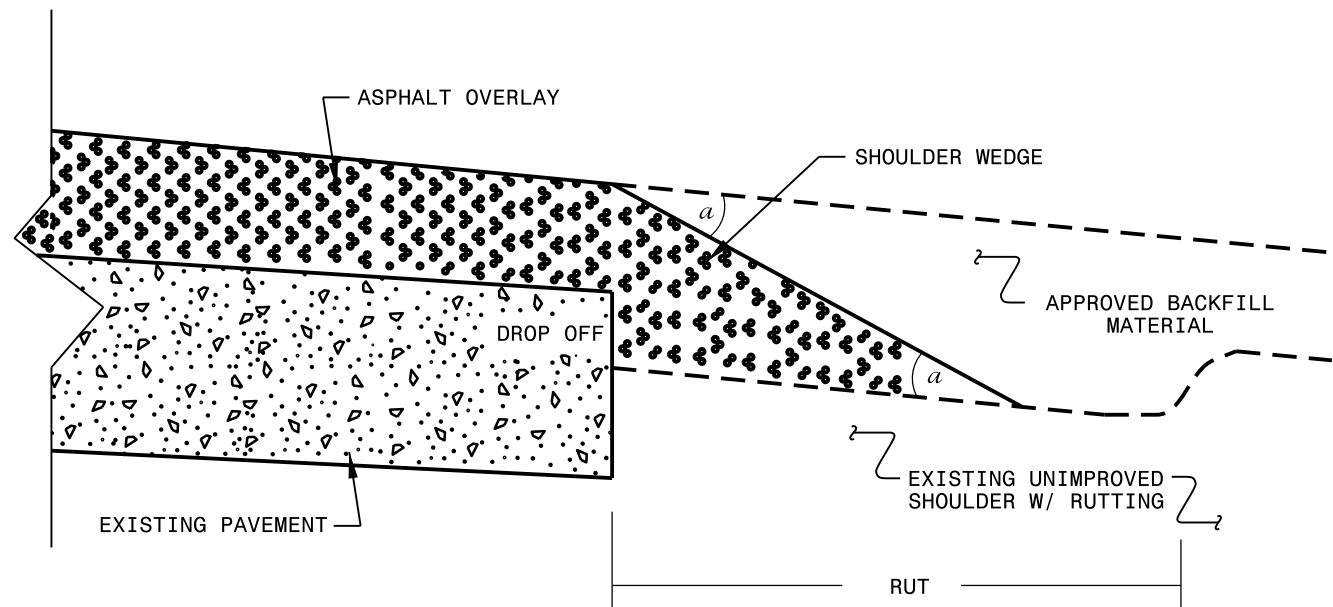
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ NO Widening)



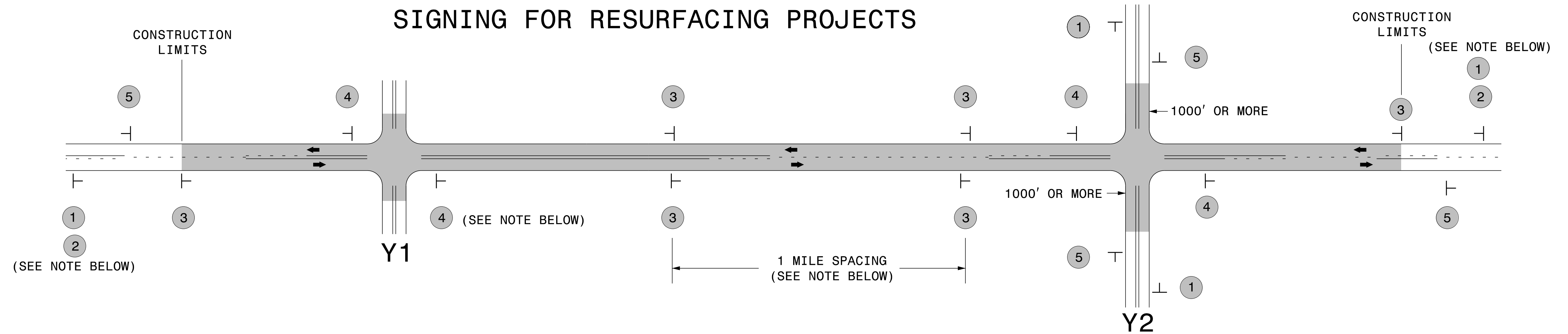
SHOULDER WEDGE DETAIL
 (Resurfacing Adjacent to
 Rutted Shoulder)

- 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: 10/16/12		
CHECKED BY:	DATE:		
FILE SPEC.: susr/details/stand/shoulderwedgedetail.dgn			

SYSTEMS DESIGN
 USER NAME

SIGNING FOR RESURFACING PROJECTS



LEGEND	
T	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING	
	1	 W20-1 48" X 48"	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;"> <div style="text-align: center;"> <p>W20-1 48" X 48"</p> </div> <div style="text-align: center;"> <p>W20-7 A 48" X 48"</p> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	2	 W7-3aP 24" X 18"	#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	 SP 13107 48" X 48"	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	 SP 13106 48" X 48"	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	 G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.		

3/19/2015 C:\Users\rmgarrrett\Downloads\Resurfacing_AdvWarn.2Ln (2).dgn User:rmgarrrett

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

GUIDELINES FOR LANE WIDTHS ON RESURFACING PROJECTS

Contractor shall place the new pavement markings in accordance with this table and detail unless otherwise directed by the Engineer.

TWO LANE - TWO WAY ROADWAY - 55 MPH		
ROADWAY WIDTH	LANE WIDTH	SHOULDER WIDTH
18'	9' *	0'
20'	10' *	0'
22'	10'	1'
24'	10'	2'
26'	11'	2'
28'	12'	2'
32'	12'	4'

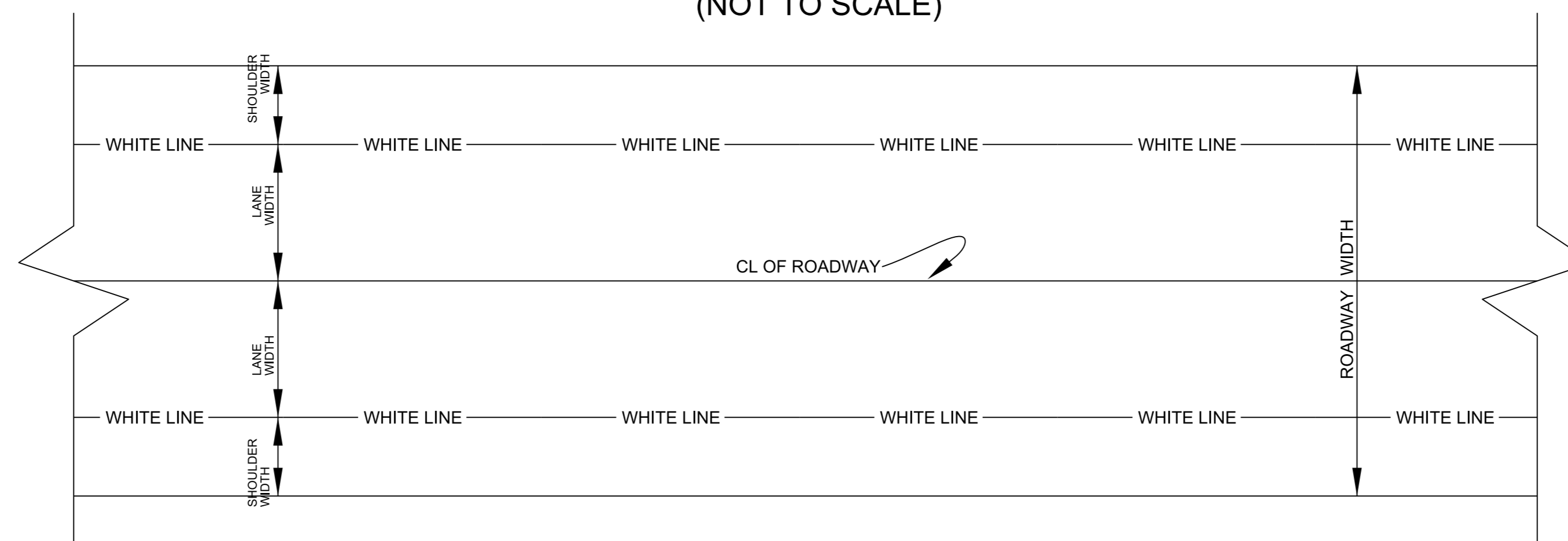
* May vary due to pavement width

TWO LANE - TWO WAY ROADWAY		50
MPH OR LESS		
ROADWAY WIDTH	LANE WIDTH	SHOULDER WIDTH
18'	9' *	0'
20'	10' *	0'
22'	10'	1'
24'	10'	2'
26'	11'	2'
28'	11'	3'
32'	11'	5'

* May vary due to pavement width

SCHEMATIC OF ROADWAY

(NOT TO SCALE)



PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.06.03.20091.1, 2019CPT.06.03.20241.1		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH		WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	4685000000-E		4686000000-E		4695000000-E		4710000000-E	
								MI	FT			4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	4" X 120 M YELLOW THERMO	4" X 120 M WHITE THERMO	8" X 90 M WHITE THERMO	8" X 90 M YELLOW THERMO	24" X 120 M WHITE THERMO	
2019CPT.06.03.20091.1	Bladen	5	SR 1318	FROM NC 53 TO SR 1316	1	2	2WU	4.62	22	517	1	48,782	LF	41,468					
TOTAL FOR MAP NO. 5								4.62		517	1	48,782		41,468					
2019CPT.06.03.20091.1	Bladen	6	SR 1101	FROM NC 131 TO SR 1100	2	2	2WU	6.14	18	688									
TOTAL FOR MAP NO. 6								6.14		688									
2019CPT.06.03.20091.1	Bladen	7	SR 1708	FROM SR 1709 TO SR 1712	2	2	2WU	3.52	18	394									
TOTAL FOR MAP NO. 7								3.52		394									
2019CPT.06.03.20091.1	Bladen	8	SR 1001	FROM COLUMBUS CL TO NC 211	3	2	2WU	1.86	20	208		19,642		16,694					
TOTAL FOR MAP NO. 8								1.86		208		19,642		16,694					
TOTAL FOR PROJ NO. 2019CPT.06.03.20091.1								16.14		1,807	1	68,424		58,162					
												68,424	58,162						
2019CPT.06.03.20241.1	Columbus	9	SR 1700 - A	FROM BLADEN CL TO 150' N. OF BR. 230	2	2	2WU	1.25	18	140		13,200		11,220					
TOTAL FOR MAP NO. 9								1.25		140		13,200		11,220					
2019CPT.06.03.20241.1	Columbus	10	SR 1700 - B	FROM 550' S. OF SR 1701 TO PVT. CHANGE	2	2	2WU	2.97	18	333		31,362		26,668					
TOTAL FOR MAP NO. 10								2.97		333		31,362		26,668					
2019CPT.06.03.20241.1	Columbus	11	SR 1700 - C	FROM PVT. CHANGE TO US 74	1	2	2WU	4.6	22	542		48,576	1,450	41,289	700	30	350	15	
TOTAL FOR MAP NO. 11								4.6		542		48,576	1,450	41,289	700	30	350	15	
2019CPT.06.03.20241.1	Columbus	12	SR 1719	FROM SR 1700 TO SR 1703	1	2	2WU	3.24	20	363									
TOTAL FOR MAP NO. 12								3.24		363									
2019CPT.06.03.20241.1	Columbus	13	SR 1720	FROM SR 1722 TO SR 1703	1	2	2WU	1.34	20	245									
TOTAL FOR MAP NO. 13								1.34		245									
2019CPT.06.03.20241.1	Columbus	14	SR 1760	FROM SR 1761 TO END MAINT.	4	2	2WU	0.36	20	40									
TOTAL FOR MAP NO. 14								0.36		40									
2019CPT.06.03.20241.1	Columbus	15	SR 1767	FROM SR 1761 TO END MAINT.	4	2	2WU	0.17	20	19									
TOTAL FOR MAP NO. 15								0.17		19									
TOTAL FOR PROJ NO. 2019CPT.06.03.20241.1								13.93		1,682		93,138	1,450	79,177	700	30	350	15	
												94,588	79,877	380					
GRAND TOTAL								30.07		3,489	1	161,562	1,450	137,339	700	30	350	15	
												163,012	138,039	380					

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH		4725000000-E				4810000000-E		4900000000-N	
								MI	FT	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR ARROW 90 M	THERMO MERGE ARROW 90 M	4" WHITE PAINT	4" YELLOW PAINT	YELLOW & YELLOW MARKERS	CRYSTAL & RED MARKERS
2019CPT.06.03.20091.1	Bladen	5	SR 1318	FROM NC 53 TO SR 1316	1	2	2WU	4.62	22							304	
TOTAL FOR MAP NO. 5								4.62								304	
2019CPT.06.03.20091.1	Bladen	6	SR 1101	FROM NC 131 TO SR 1100	2	2	2WU	6.14	18					110,228	129,680		
TOTAL FOR MAP NO. 6								6.14						110,228	129,680		
2019CPT.06.03.20091.1	Bladen	7	SR 1708	FROM SR 1709 TO SR 1712	2	2	2WU	3.52	18					74,340	63,189		
TOTAL FOR MAP NO. 7								3.52						74,340	63,189		
2019CPT.06.03.20091.1	Bladen	8	SR 1001	FROM COLUMBUS CL TO NC 211	3	2	2WU	1.86	20							122	
TOTAL FOR MAP NO. 8								1.86								122	
TOTAL FOR PROJ NO. 2019CPT.06.03.20091.1								16.14						184,568	192,869	426	
												377,437		426			
2019CPT.06.03.20241.1	Columbus	9	SR 1700 - A	FROM BLADEN CL TO 150' N. OF BR. 230	2	2	2WU	1.25	18							83	
TOTAL FOR MAP NO. 9								1.25								83	
2019CPT.06.03.20241.1	Columbus	10	SR 1700 - B	FROM 550' S. OF SR 1701 TO PVT. CHANGE	2	2	2WU	2.97	18							200	
TOTAL FOR MAP NO. 10								2.97								200	
2019CPT.06.03.20241.1	Columbus	11	SR 1700 - C	FROM PVT. CHANGE TO US 74	1	2	2WU	4.6	22	2	2	1	5			320	35
TOTAL FOR MAP NO. 11								4.6		2	2	1	5			320	35
2019CPT.06.03.20241.1	Columbus	12	SR 1719	FROM SR 1700 TO SR 1703	1	2	2WU	3.24	20					68,428	58,163		
TOTAL FOR MAP NO. 12								3.24						68,428	58,163		
2019CPT.06.03.20241.1	Columbus	13	SR 1720	FROM SR 1722 TO SR 1703	1	2	2WU	1.34	20					14,150	12,027		
TOTAL FOR MAP NO. 13								1.34						14,150	12,027		
2019CPT.06.03.20241.1	Columbus	14	SR 1760	FROM SR 1761 TO END MAINT.	4	2	2WU	0.36	20								
TOTAL FOR MAP NO. 14								0.36									
2019CPT.06.03.20241.1	Columbus	15	SR 1767	FROM SR 1761 TO END MAINT.	4	2	2WU	0.17	20								
TOTAL FOR MAP NO. 15								0.17									
TOTAL FOR PROJ NO. 2019CPT.06.03.20241.1								13.93		2	2	1	5	82,578	70,190	603	35
												10	152,768	638			
GRAND TOTAL								30.07		2	2	1	5	267,146	263,059	1,029	35
												10	530,205	1,064			