

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 6

PLANS

Letting Date: June 6, 2018

Rev. – 5-21-18

CONTRACT ID: DF00219

TIP NO.: -----

FEDERAL AID NO.: STATE FUNDED

WBS ELEMENT NO.: 2020CPT.06.03.10241.1 & 2020CPT.06.03.20241.1

ROUTE NO.: NC 130 & SR 1740

LOCATION: VARIOUS

COUNTY: COLUMBUS

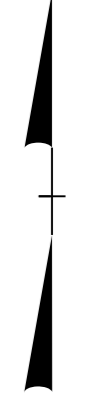
LENGTH OF PROJECT: 28.16 MILES

TYPE OF WORK: RESURFACING, MILLING, MAT COAT, WIDENING & PVT. MKGS.

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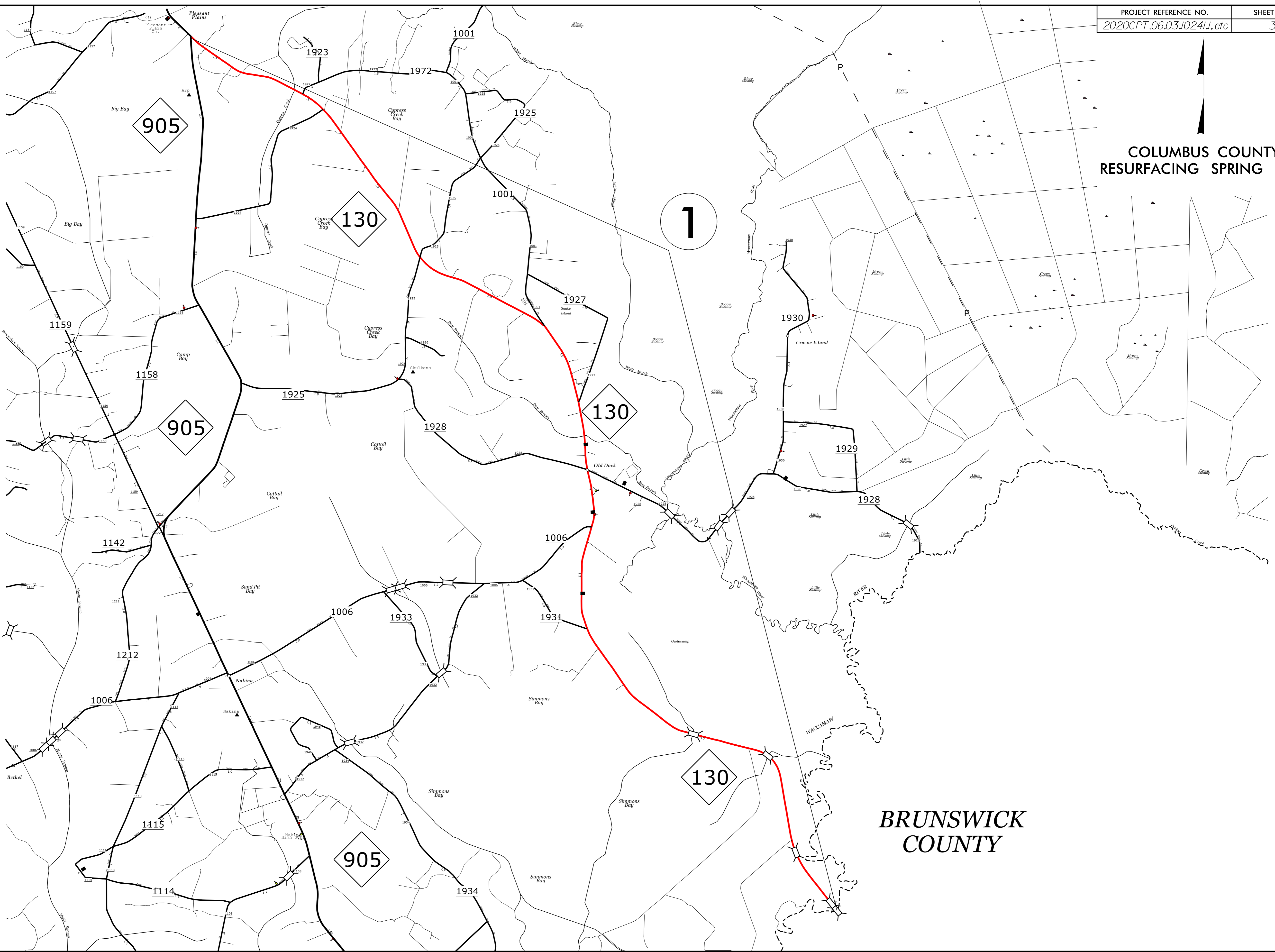
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**COLUMBUS COUNTY
RESURFACING SPRING 2018**

1

**BRUNSWICK
COUNTY**



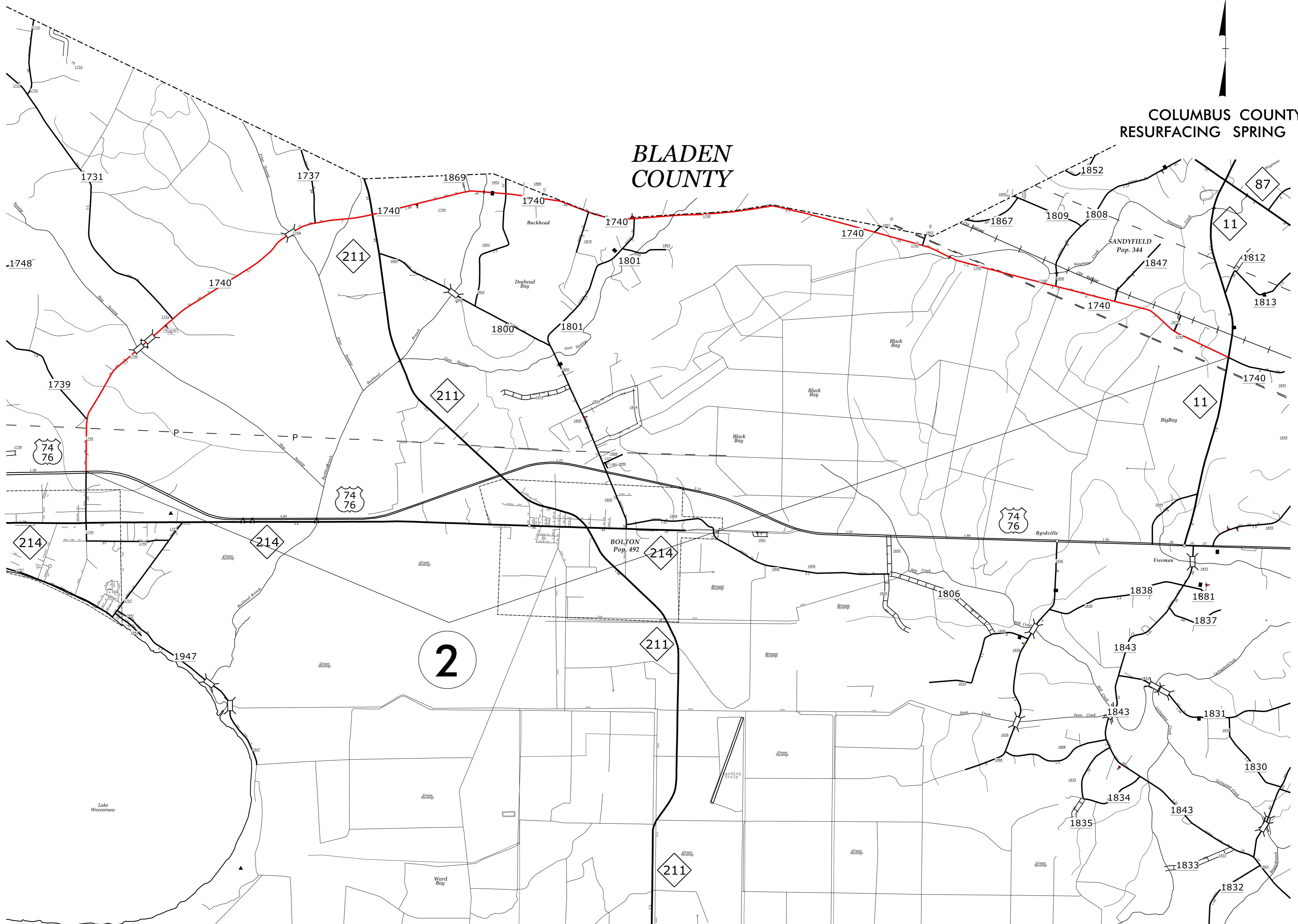
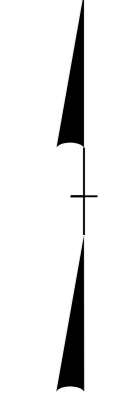
REVISIONS

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8/17/09

**COLUMBUS COUNTY
RESURFACING SPRING 2018**

BLADEN COUNTY



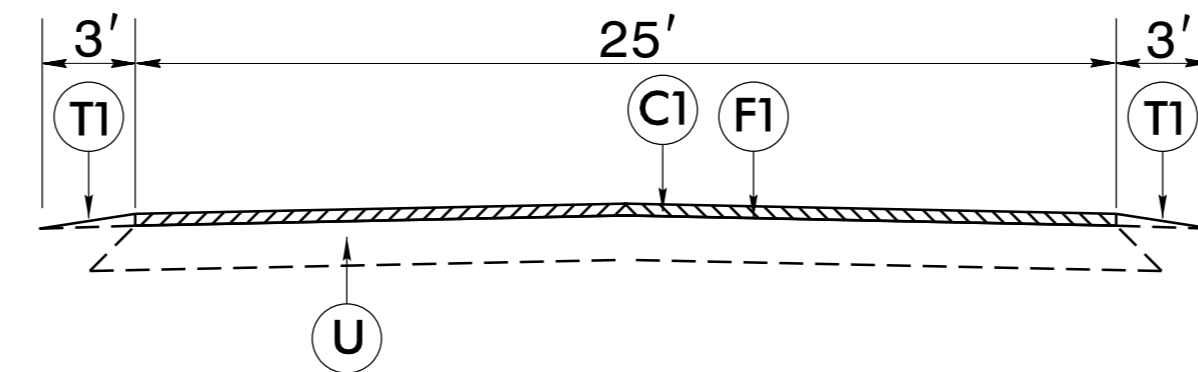
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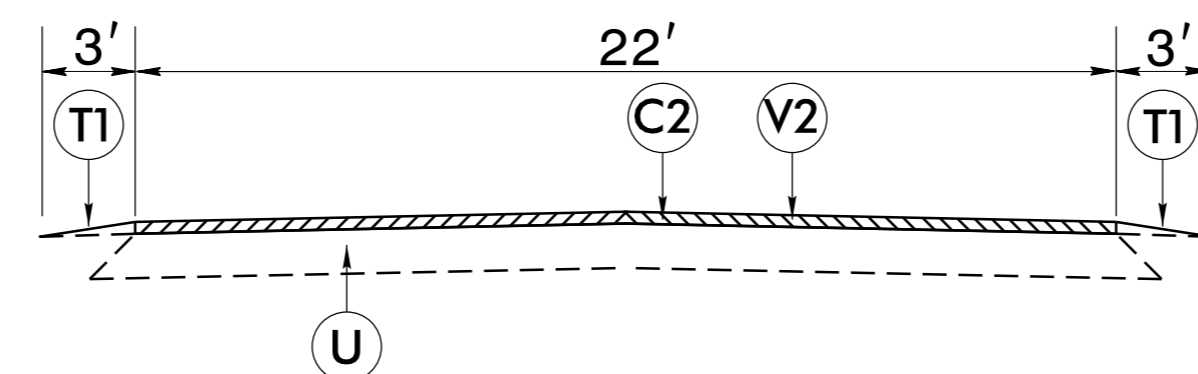
PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E1	5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
F1	MAT COAT #67 STONE
T1	SHOULDER RECONSTRUCTION WITH AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT
V1	0" - 1½" MILLING
V2	¾" MILLING
V3	1½" MILLING

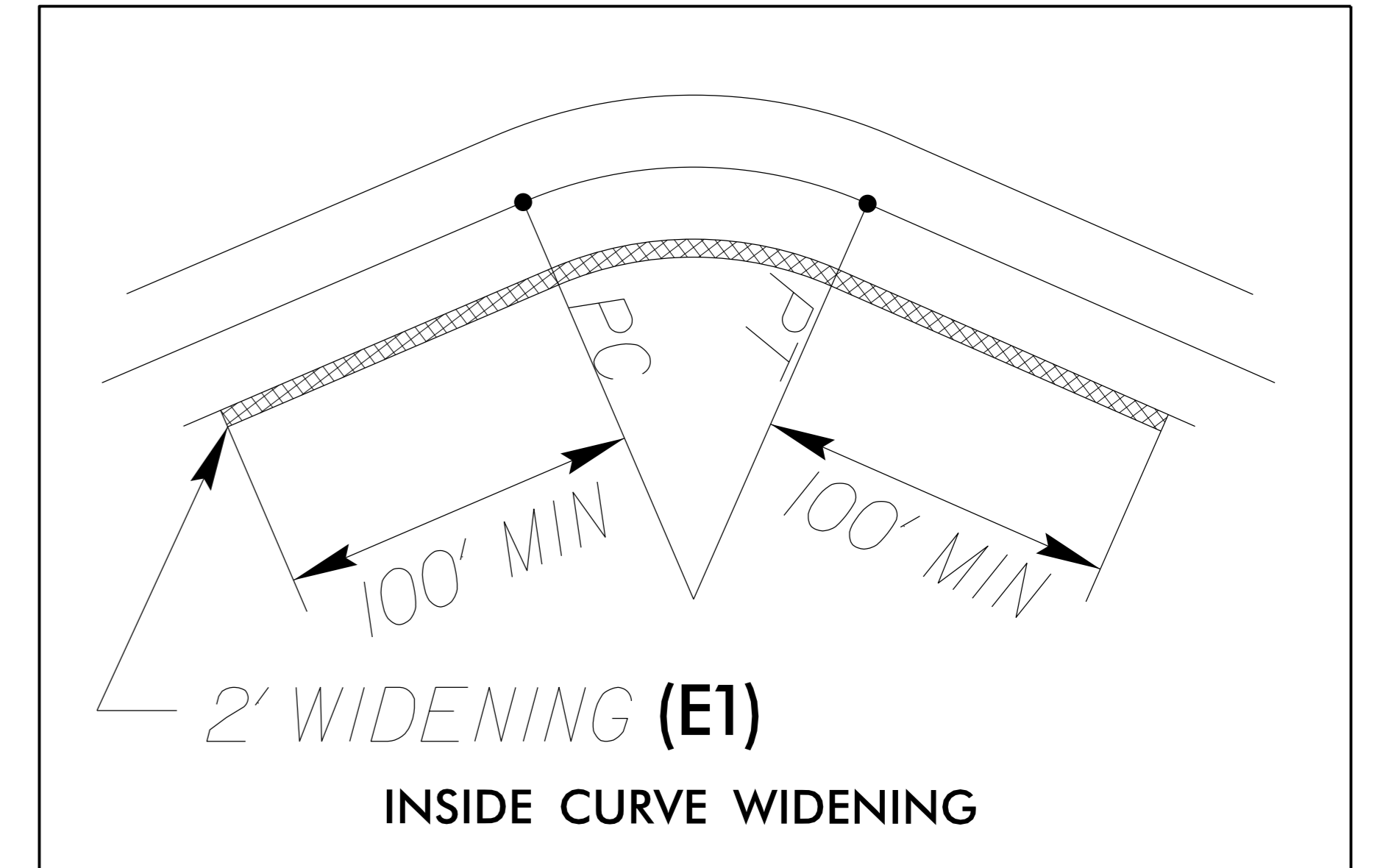


TYPICAL SECTION NO. 1
*PLUS ADDITIONAL 2' INSIDE CURVE WIDENING (SEE DETAIL)

NOTE:
MAT COAT SHALL BE APPLIED OUT TO 1' INSIDE OF EDGE OF EXISTING PAVEMENT, ON BOTH SIDES, FOR A TOTAL WIDTH OF 23'.



TYPICAL SECTION NO. 3
*PLUS ADDITIONAL 2' INSIDE CURVE WIDENING (SEE DETAIL)



NOTES TO CONTRACTOR

FOR SURFACE MIXES OVER 1" IN THICKNESS, MILL THE EXISTING PAVEMENT IN ACCORDANCE WITH THE FOLLOWING SKETCH AS DIRECTED BY THE ENGINEER.

LOCATIONS SHALL INCLUDE TIES INTO EXISTING CONCRETE PAVEMENT, AT BRIDGE APPROACHES WHERE THE BRIDGE WILL NOT BE RESURFACED, AND AT THE BEGINNING AND ENDING POINT OF EACH RESURFACING MAP.

PERFORM THE WORK IN ACCORDANCE WITH SECTION 607 OF THE JANUARY 2012 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. RESURFACING WILL BE ACCOMPLISHED AT THE SAME TIME AS THE MILLING OPERATION.

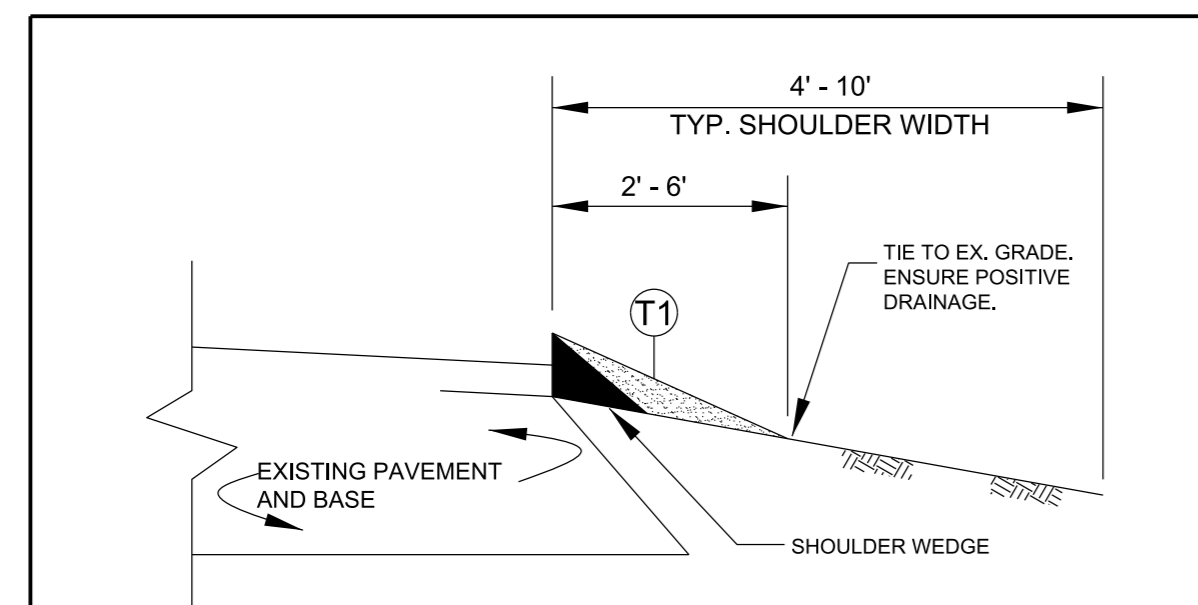
MILLING AT PAVEMENT TIE-INS DETAIL

BRIDGE MILLING

RAILROAD TRACKS MILLING

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.

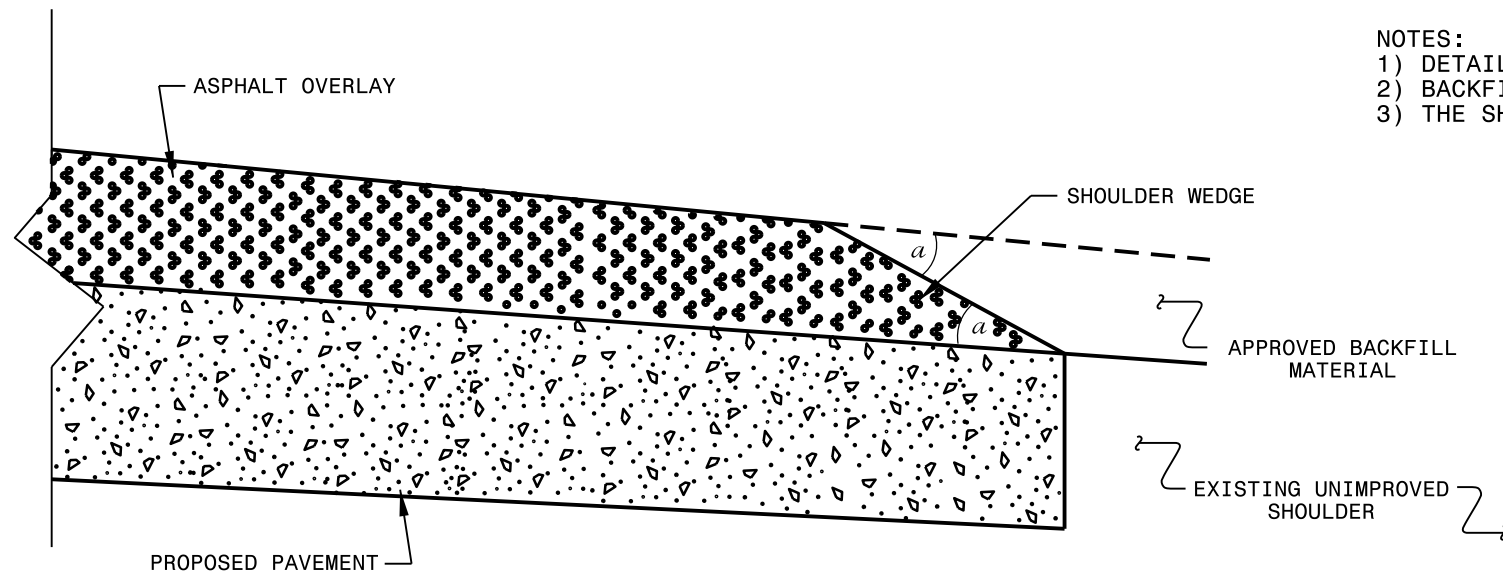


SHOULDER RECONSTRUCTION

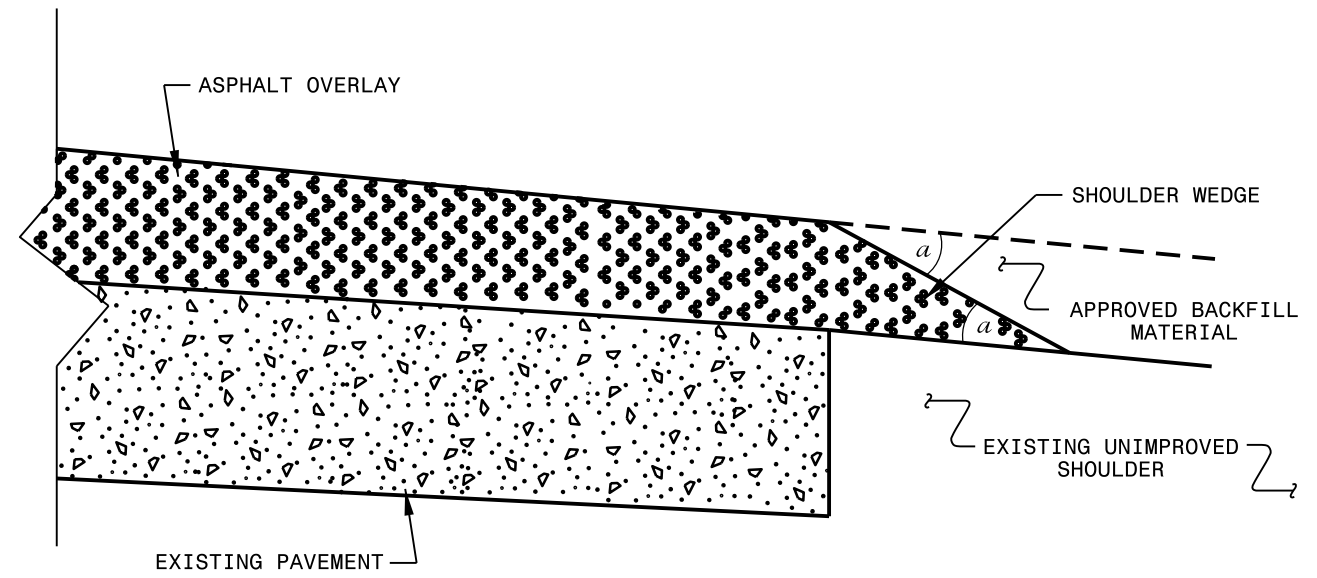
- NOTES:**
- SHOULDER SHALL BE RECONSTRUCTED AS SHOWN IN STD. DWG. NO. 560.01 & 560.02, WITH A MINIMUM SLOPE OF 1" PER FOOT TO ENSURE POSITIVE DRAINAGE AWAY FROM ROADWAY.
 - AGGREGATE SHOULDER BORROW (ASB) MATERIAL SHALL BE PLACED USING A WIDENING MACHINE OR SIMILAR DEVICE. (WHERE APPLICABLE)
 - A VEGETATIVE BUFFER SHALL BE MAINTAINED BETWEEN THE DISTURBED AREA ALONG THE EDGE OF PAVEMENT AND THE DITCH SHOULDER 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.

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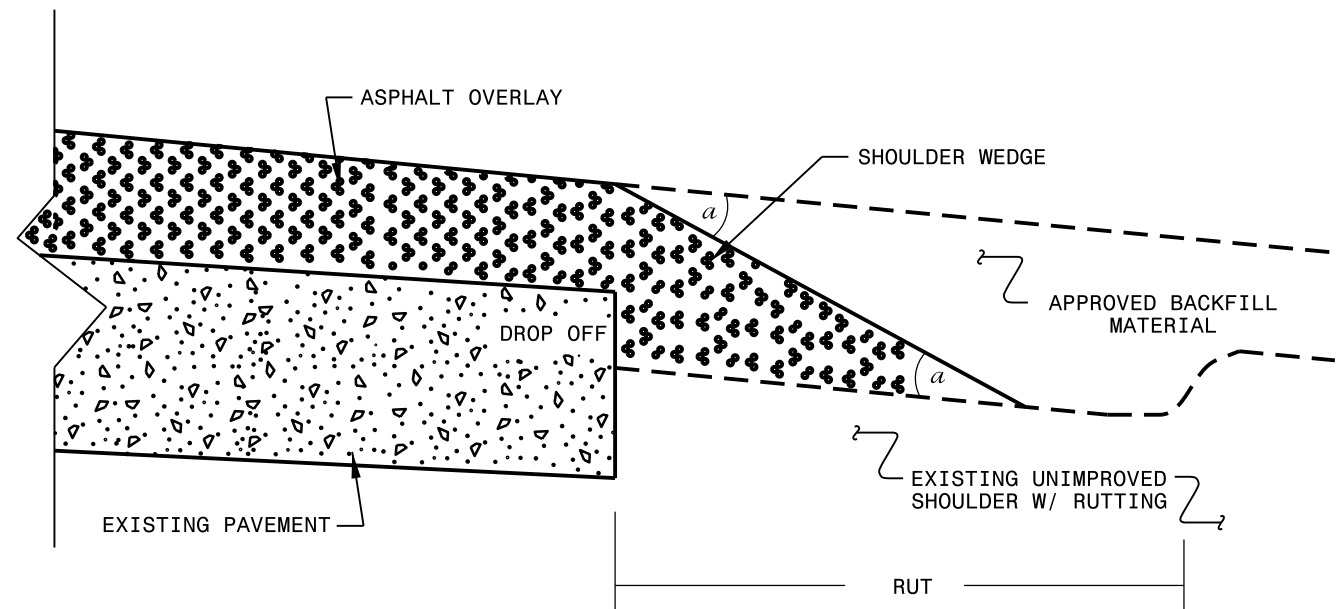
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



SHOULDER WEDGE DETAIL
(Resurfacing Projects w/ NO Widening)



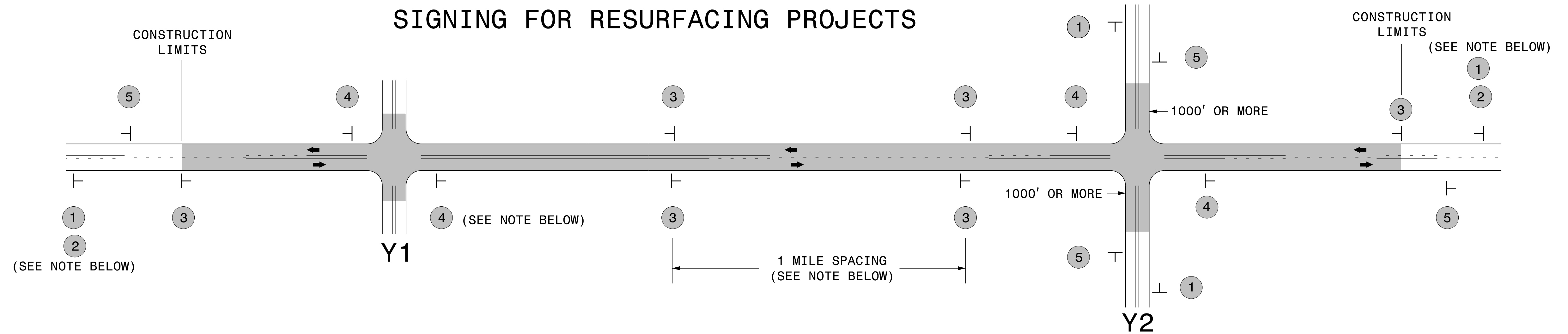
SHOULDER WEDGE DETAIL
(Resurfacing Adjacent to
Rutted Shoulder)

- 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
 11/16/12

SIGNING FOR RESURFACING PROJECTS

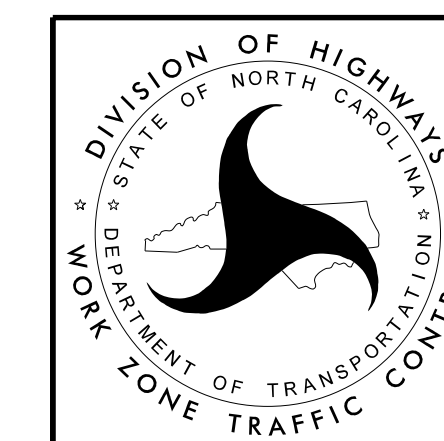


LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

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;"> W20-1 48" X 48" </div> <div style="text-align: center;"> W20-7 A 48" X 48" </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.			



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'

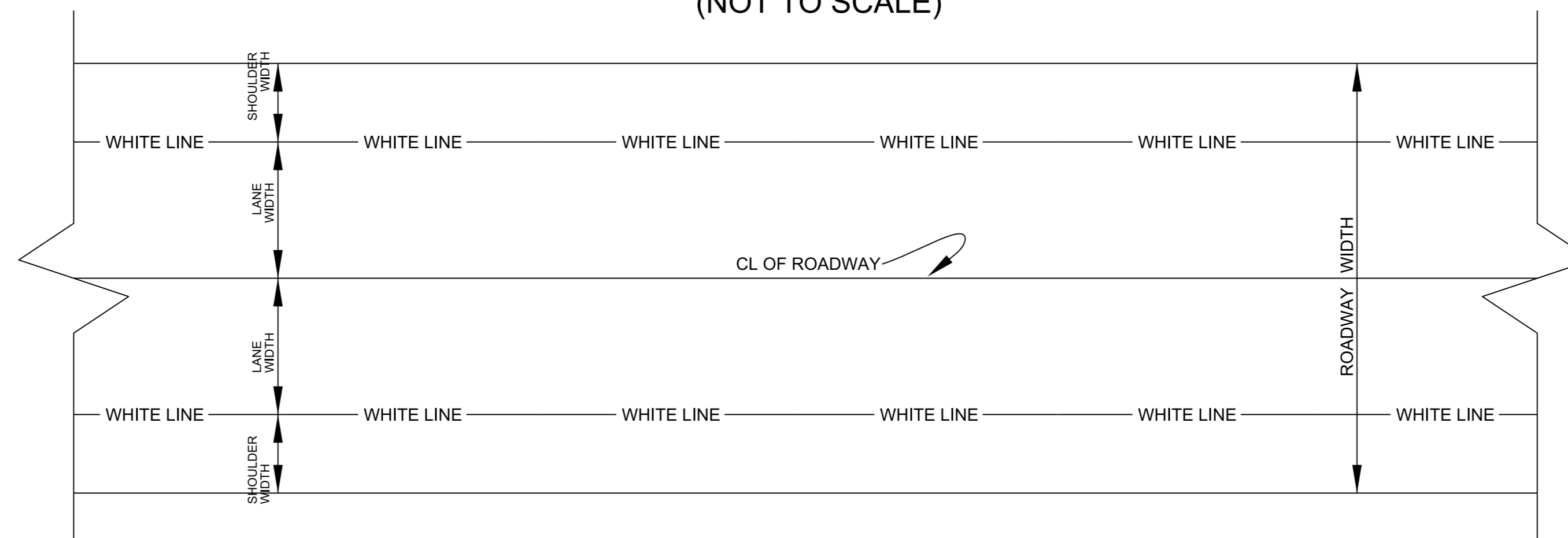
* May vary due to pavement width

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)



SUMMARY OF QUANTITIES

												PROJECT NO.			SHEET NO.	TOTAL NO.		
												2019CPT.06.03.10241.1, 2019CPT.06.03.20241.1						
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	1245000000-E	1260000000-E	1297000000-E	1330000000-E	1491000000-E	1519000000-E	1520000000-E
												SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	0.75" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0C	SURFACE COURSE, S9.5B	LEVELING COURSE, S9.5B
												MI	FT	SMI	TON	SY	SY	TONS
2019CPT.06.03.10241.1	Columbus	1	NC 130	FROM BRUNSWICK CL TO NC 905	1	2	2WU	NO	NO	13.57	25	27.10	4,389		4,245	998		
TOTAL FOR MAP NO. 1										13.57		27.10	4,389		4,245	998		
TOTAL FOR PROJ NO. 2019CPT.06.03.10241.1										13.57		27.10	4,389		4,245	998		
2019CPT.06.03.20241.1	Columbus	2	SR 1740	FROM NC 11 TO US 74	2	2	2WU	NO	NO	14.59	22	29.20	4,718	188,308	2,647	1,073	16,016	233
TOTAL FOR MAP NO. 2										14.59		29.20	4,718	188,308	2,647	1,073	16,016	233
TOTAL FOR PROJ NO. 2019CPT.06.03.20241.1										14.59		29.20	4,718	188,308	2,647	1,073	16,016	233
GRAND TOTAL										28.16		56.30	9,107	188,308	6,892	2,071	16,016	233

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	1523000000-E	1524000000-E	1575000000-E	1704000000-E	1775000000-E	1838000000-E
												SURFACE COURSE, S9.5C	LEVELING COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ASPHALT SURFACE TREATMENT, MATCOAT, #67 STONE	EMULSION FOR ASPHALT SURFACE TREATMENT
												MI	FT	TONS	TONS	TONS	TONS
2019CPT.06.03.10241.1	Columbus	1	NC 130	FROM BRUNSWICK CL TO NC 905	1	2	2WU	NO	NO	13.57	25	17,150	251	1,089	407	183,105	73,242
TOTAL FOR MAP NO. 1										13.57		17,150	251	1,089	407	183,105	73,242
TOTAL FOR PROJ NO. 2019CPT.06.03.10241.1										13.57		17,150	251	1,089	407	183,105	73,242
2019CPT.06.03.20241.1	Columbus	2	SR 1740	FROM NC 11 TO US 74	2	2	2WU	NO	NO	14.59	22			1,137	438		
TOTAL FOR MAP NO. 2										14.59				1,137	438		
TOTAL FOR PROJ NO. 2019CPT.06.03.20241.1										14.59				1,137	438		
GRAND TOTAL										28.16		17,150	251	2,226	845	183,105	73,242

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.06.03.10241.1, 2019CPT.06.03.20241.1		

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	4413000000-E		4457000000-N	4685000000-E	4686000000-E			4700000000-E	4710000000-E	4721000000-E	4725000000-E	
								WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	4" X 90 M WHITE THERMO	4" X 120 M WHITE THERMO	4" X 120 M YELLOW THERMO	12" X 90 M YELLOW THERMO	24" X 120 M WHITE THERMO	THERMO MSG SCHOOL 120 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M		
								MI	FT	SF	LS	LF	LF	LF	LF	LF	EA	EA	EA
2019CPT.06.03.10241.1	Columbus	1	NC 130	FROM BRUNSWICK CL TO NC 905	1	2	2WU	13.57	25	1,520	1	143,300	930	120,220	1,030	200	12	19	
TOTAL FOR MAP NO. 1								13.57		1,520	1	143,300	930	120,220	1,030	200	12	19	
TOTAL FOR PROJ NO. 2019CPT.06.03.10241.1								13.57		1,520	1	143,300	930	120,220	1,030	200	12	19	
												121,150						19	
2019CPT.06.03.20241.1	Columbus	2	SR 1740	FROM NC 11 TO US 74	2	2	2WU	14.59	22			154,068	560	120,210	630	220	12	6	4
TOTAL FOR MAP NO. 2								14.59				154,068	560	120,210	630	220	12	6	4
TOTAL FOR PROJ NO. 2019CPT.06.03.20241.1								14.59				154,068	560	120,210	630	220	12	6	4
												120,770						10	
GRAND TOTAL								28.16		1,520	1	297,368	1,490	240,430	1,660	420	24	25	4
												241,920						29	

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	4810000000-E		4825000000-E	4835000000-E	4840000000-N	4845000000-N		4900000000-N				
								4" WHITE PAINT	4" YELLOW PAINT	12" YELLOW PAINT	24" WHITE PAINT	PAINT MSG SCHOOL	PAINT LT ARROW	PAINT RT ARROW	CRYSTAL & RED MARKERS	YELLOW & YELLOW MARKERS			
								MI	FT	LF	LF	LF	LF	EA	EA	EA	EA	EA	
2019CPT.06.03.10241.1	Columbus	1	NC 130	FROM BRUNSWICK CL TO NC 905	1	2	2WU	13.57	25							51	961		
TOTAL FOR MAP NO. 1								13.57								51	961		
TOTAL FOR PROJ NO. 2019CPT.06.03.10241.1								13.57								51	961		
																1,012			
2019CPT.06.03.20241.1	Columbus	2	SR 1740	FROM NC 11 TO US 74	2	2	2WU	14.59	22	154,068	120,210	630	220	12	6	4	41	983	
TOTAL FOR MAP NO. 2								14.59		154,068	120,210	630	220	12	6	4	41	983	
TOTAL FOR PROJ NO. 2019CPT.06.03.20241.1								14.59		154,068	120,210	630	220	12	6	4	41	983	
										274,278						10		1,024	
GRAND TOTAL								28.16		154,068	120,210	630	220	12	6	4	92	1,944	
										274,278					10		2,036		