

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 6

PLANS

Letting Date: September 3, 2025

CONTRACT ID: DF00526

TIP NO.: HS-2406HB

FEDERAL AID NO.: HSIP-5097820

WBS ELEMENT NO.: 50978.3.20 & 2026CPT.06.01.10091.1

ROUTE NO.: NC 87

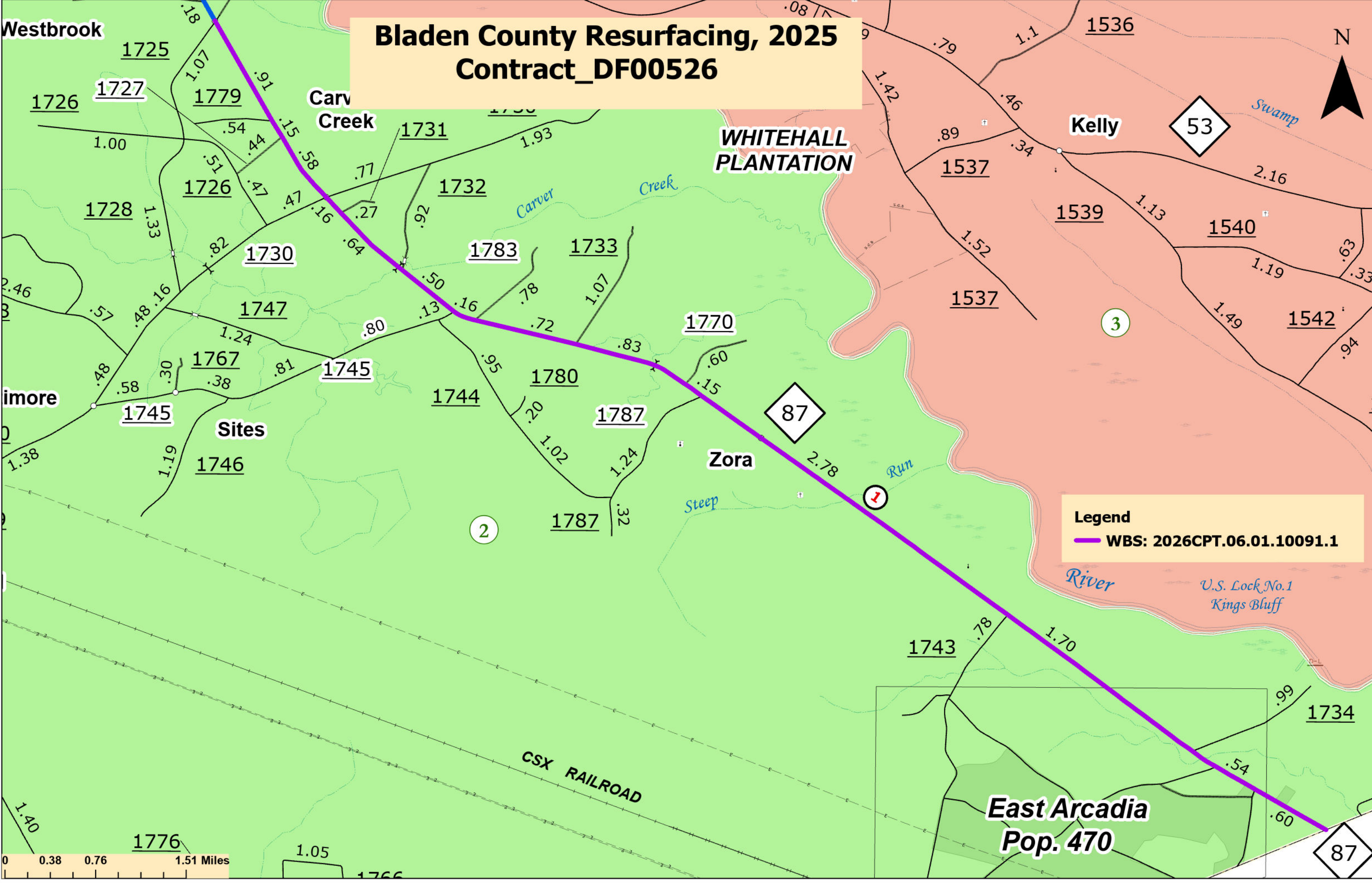
LOCATION: FROM COLUMBUS COUNTY TO SR 1725

COUNTY: BLADEN

LENGTH OF PROJECT: 10.43 MILES

TYPE OF WORK: RESURFACING, MILLING, SINUSOIDAL MILLED RUMBLE STRIPES & PAVEMENT MARKINGS

Bladen County Resurfacing, 2025 Contract_DF00526



Westbrook

Carver
Creek

WHITEHALL
PLANTATION

Kelly

53

N

imore

Sites

Zora

87

3

Legend

WBS: 2026CPT.06.01.10091.1

U.S. Lock No.1
Kings Bluff

CSX RAILROAD

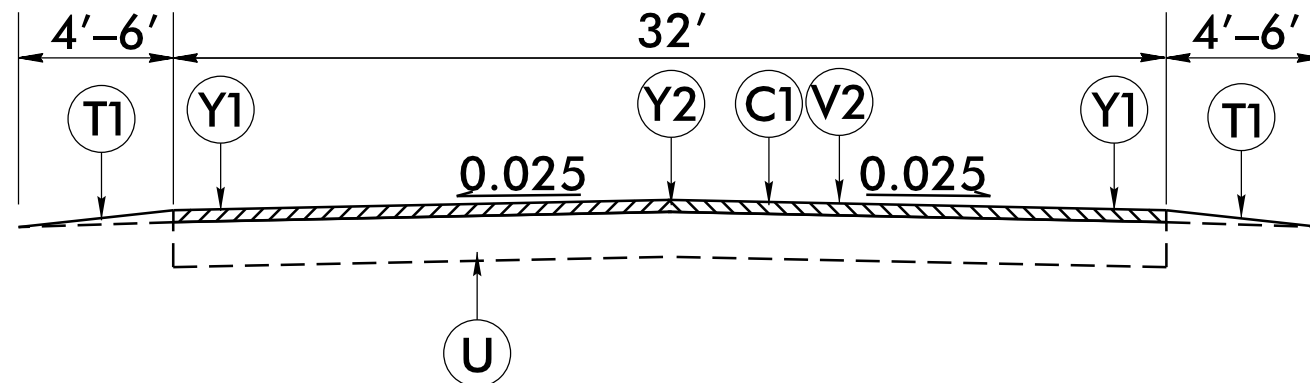
East Arcadia
Pop. 470

0 0.38 0.76 1.51 Miles

87

PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T1	SHOULDER RECONSTRUCTION WITH AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT
V1	0" - 1½" MILLING
V2	0" - 3½" MILLING
V3	1½" MILLING
Y1	SINUSOIDAL MILLED RUMBLE STRIPS
Y2	SINUSOIDAL MILLED RUMBLE STRIPES



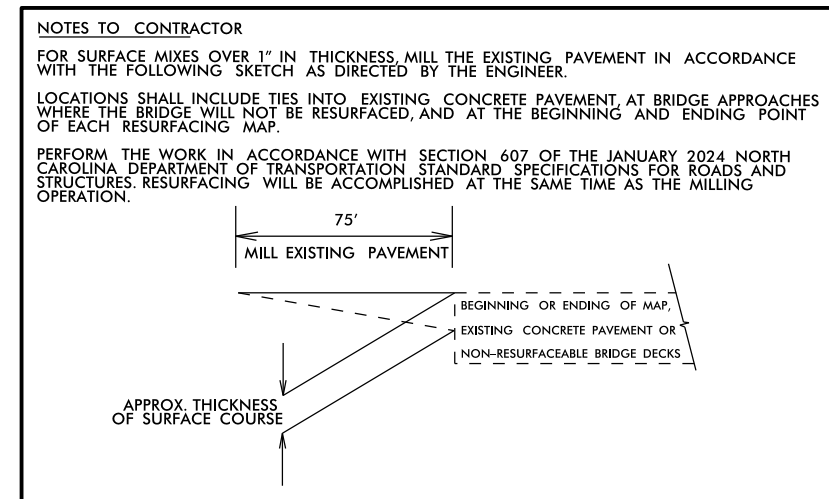
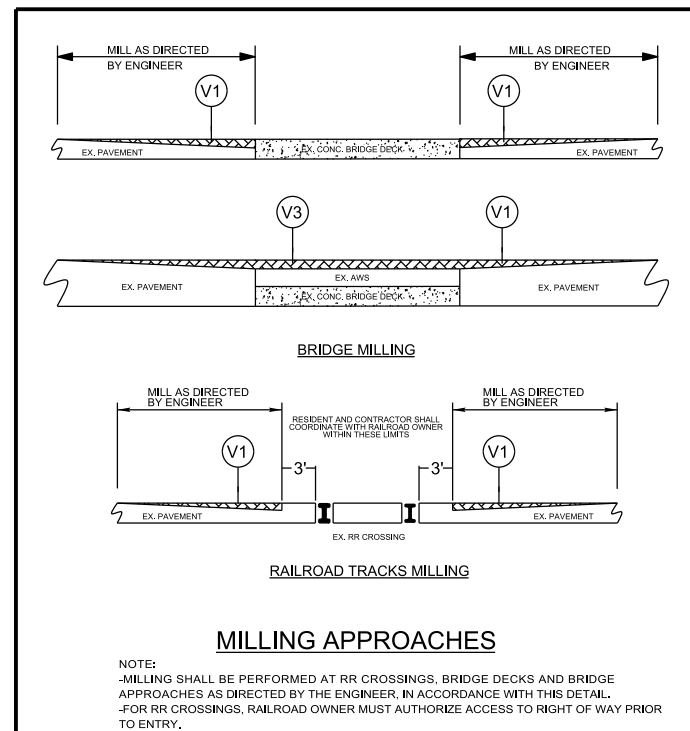
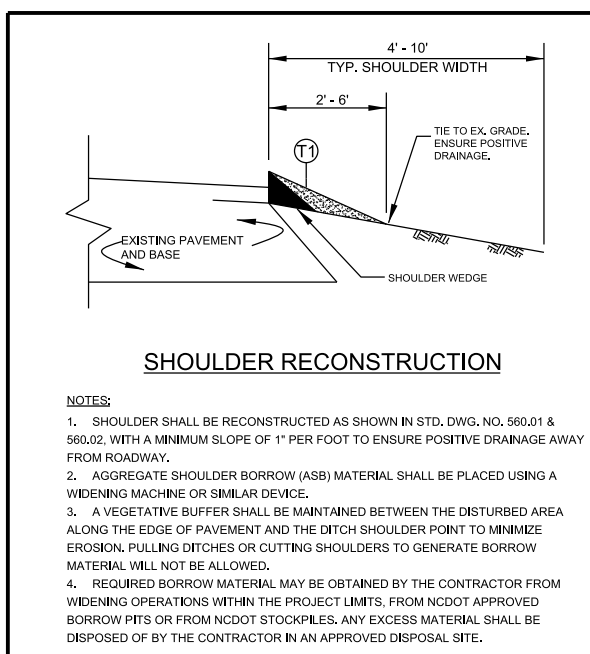
TYPICAL SECTION NO. 1

-MATERIAL TRANSFER VEHICLE SHALL BE USED

-USE LEVELING COURSE (S9.5C) IN PAVED SHOULDER AS DIRECTED BY ENGINEER

-MILL DEPTH AT CENTER LINE 3", MILL ROADWAY AT A -0.025 SLOPE

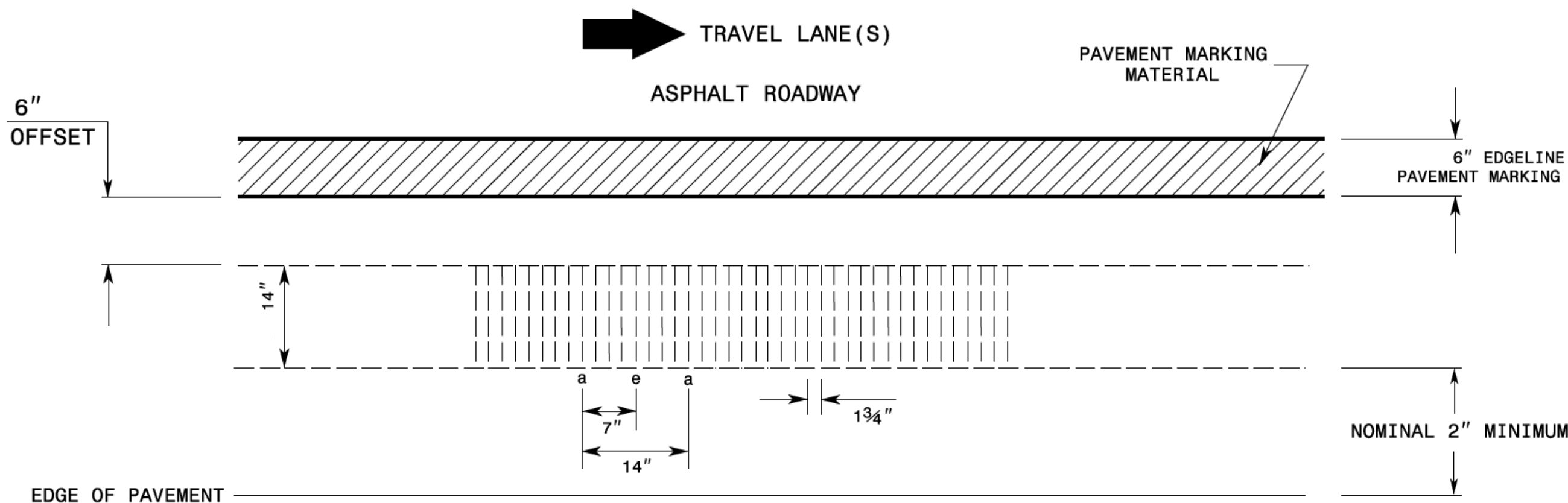
-IN SUPER ELEVATED CURVES, 100' PRIOR TO PC AND ENDING 100' BEYOND PT, TO BE FIELD DETERMINED, MILL 3" AT CENTER LINE AND MAINTAIN EXISTING CROSS SLOPE



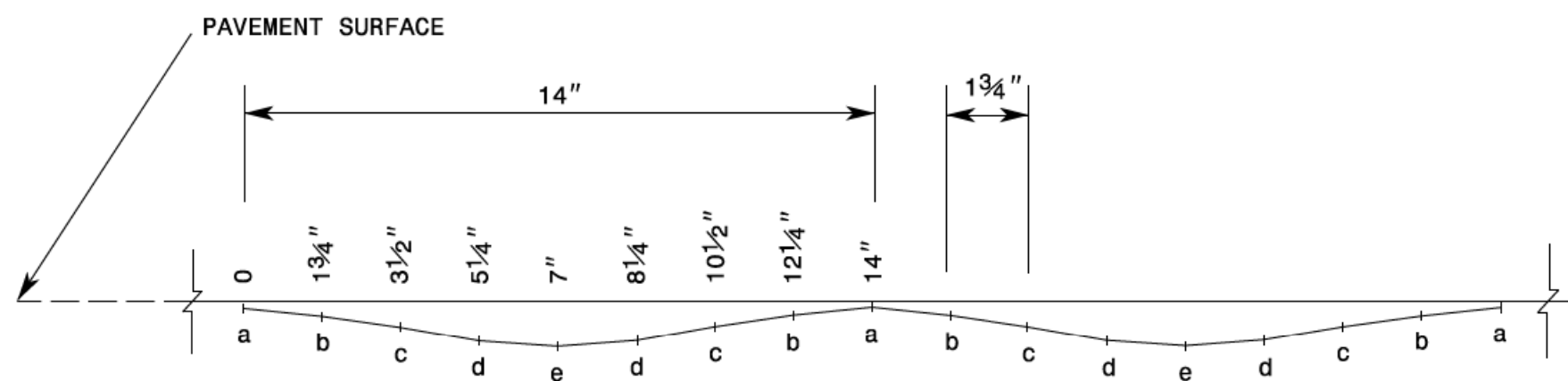
6/2/2025 15:10 05_AUG-2025 15:10 3:2025\Resurfacing\DF00526_HS-2406HB-2025CPT_06.01.100911.ctb NC 87.Fall 2025.Bladen\Plans\typ2.dgn
 3:2025\Resurfacing\DF00526_HS-2406HB-2025CPT_06.01.100911.ctb NC 87.Fall 2025.Bladen\Plans\typ2.dgn

See Table 1 within Rumble Strip Policy for Design Guidance

PLAN VIEW



PROFILE VIEW



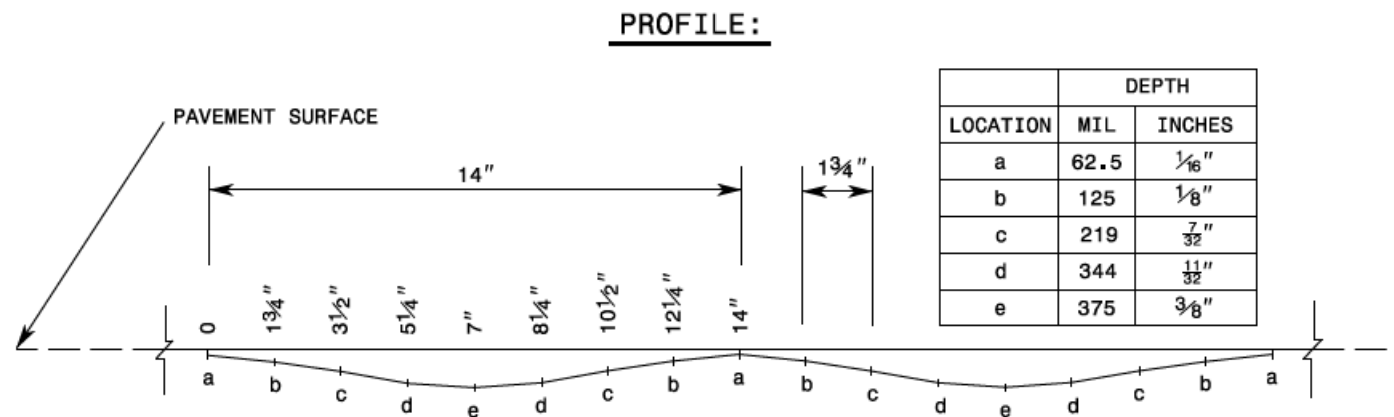
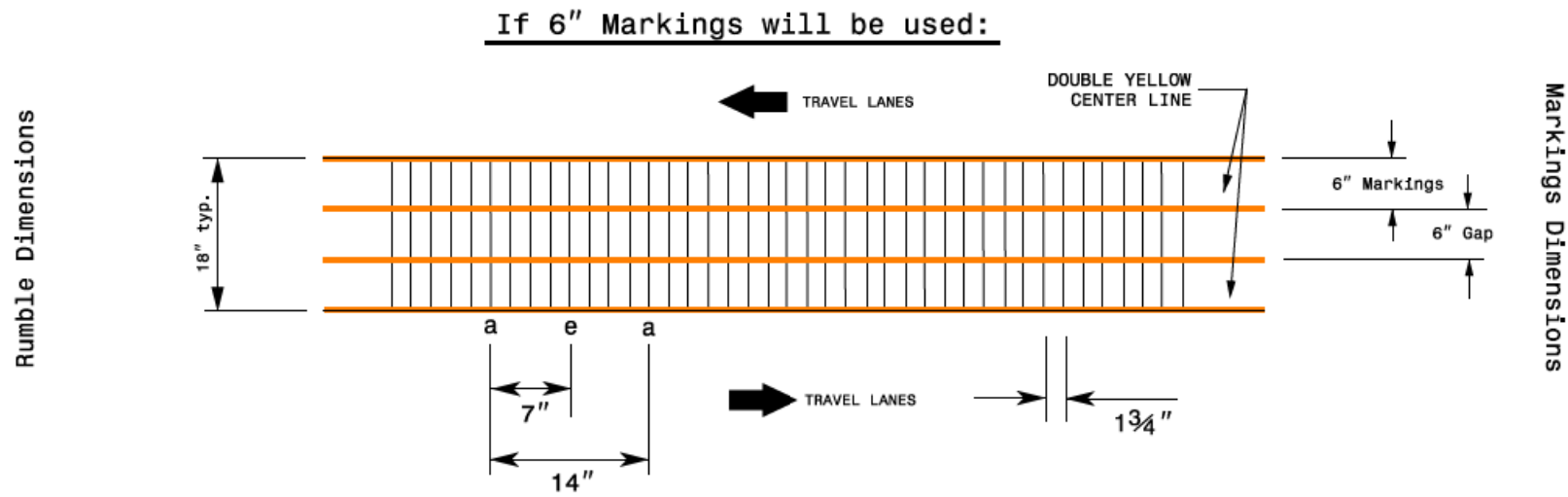
LOCATION	DEPTH	
	MIL	INCHES
a	62.5	1/16"
b	125	1/8"
c	219	7/32"
d	344	11/32"
e	375	3/8"

REFERENCE DRAWING ID: Sin.Strip

NOTES:

1) Specification in table taken from MNDOT Research Project Final Report 2016-23: *Sinusoidal Rumble Strip Design Optimization Study By Terhaar et. al, June 2016*

See Table 2 within Rumble Strip Policy for Design Guidance

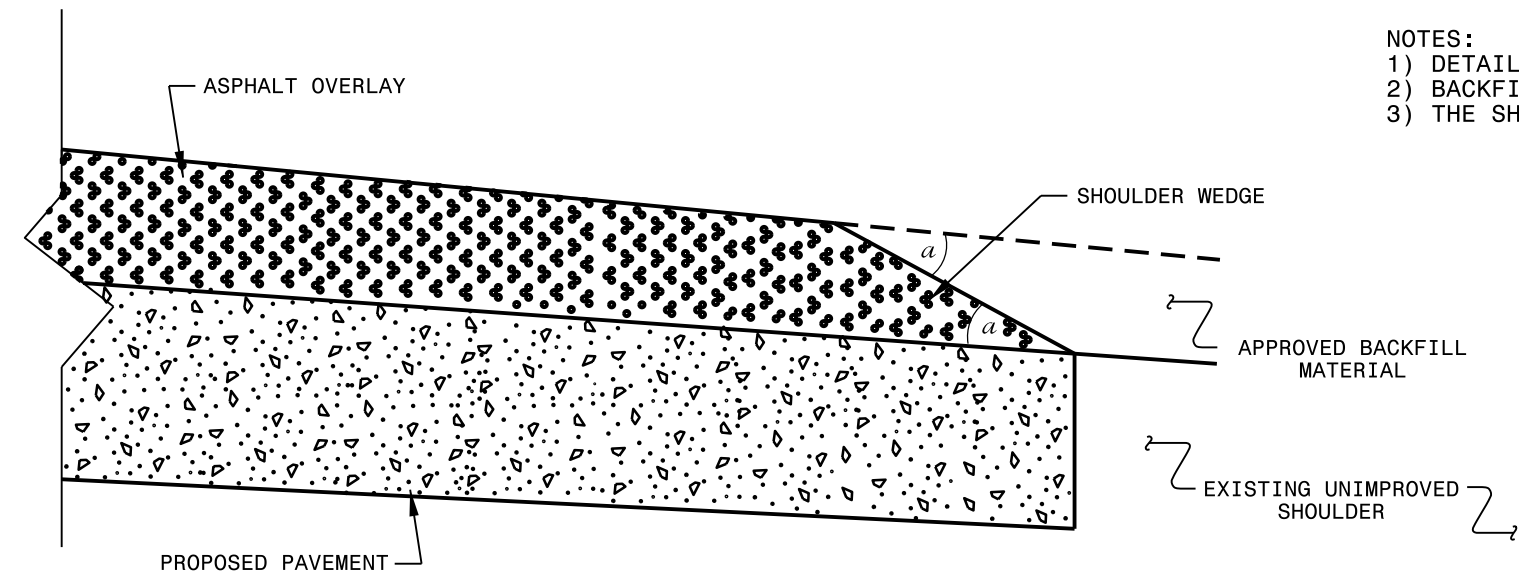


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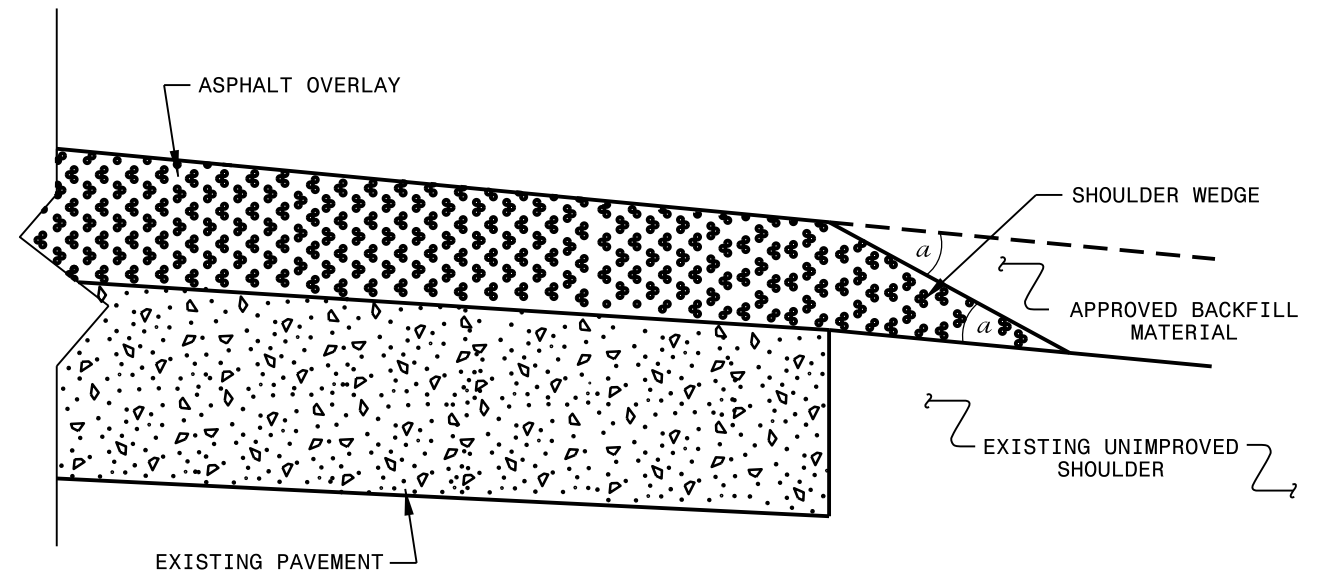
NOTES:

- 1) Specification in table taken from MNDOT Research Project Final Report 2016-23: *Sinusoidal Rumble Strip Design Optimization Study By Terhaar et. al. June 2016*
- 2) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 3) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.

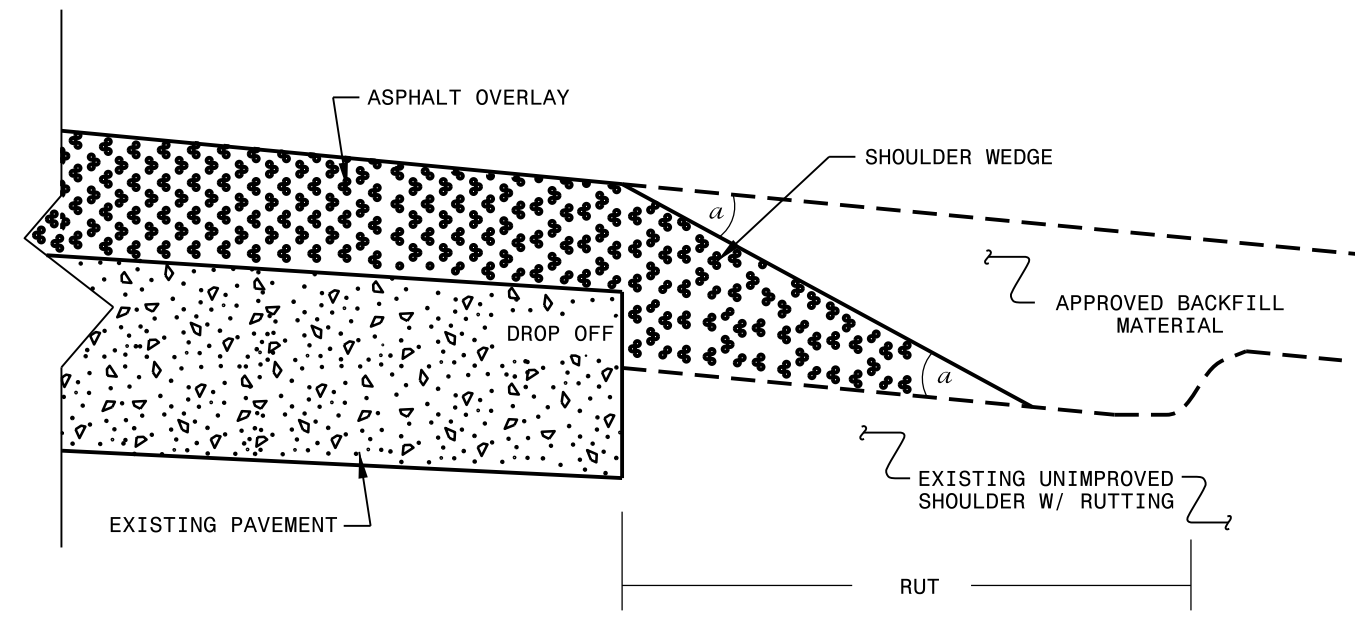
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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

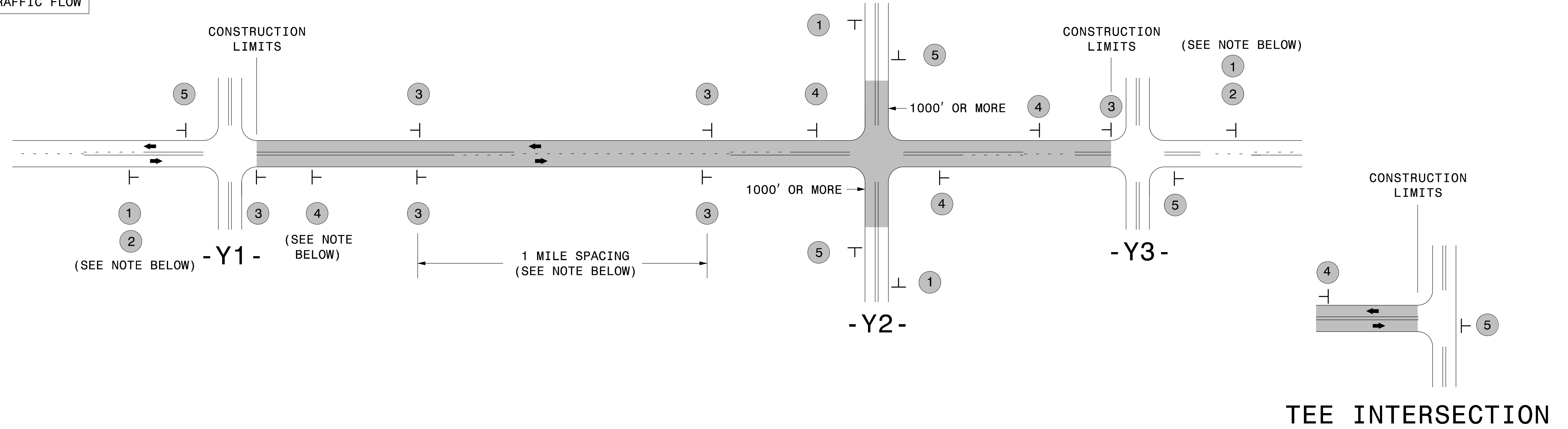
SYSTEMS DESIGN
 USER NAME

SIGNING FOR RESURFACING PROJECTS

LEGEND

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

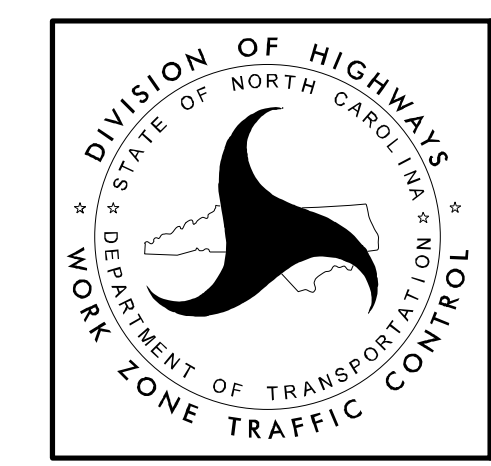
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	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.	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>
	2	 W7-3aP 24" X 18"	#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3	 SP 13107 48" X 48"	- 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	 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. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.	
	5	 G20-2 A 48" X 24"	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

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'

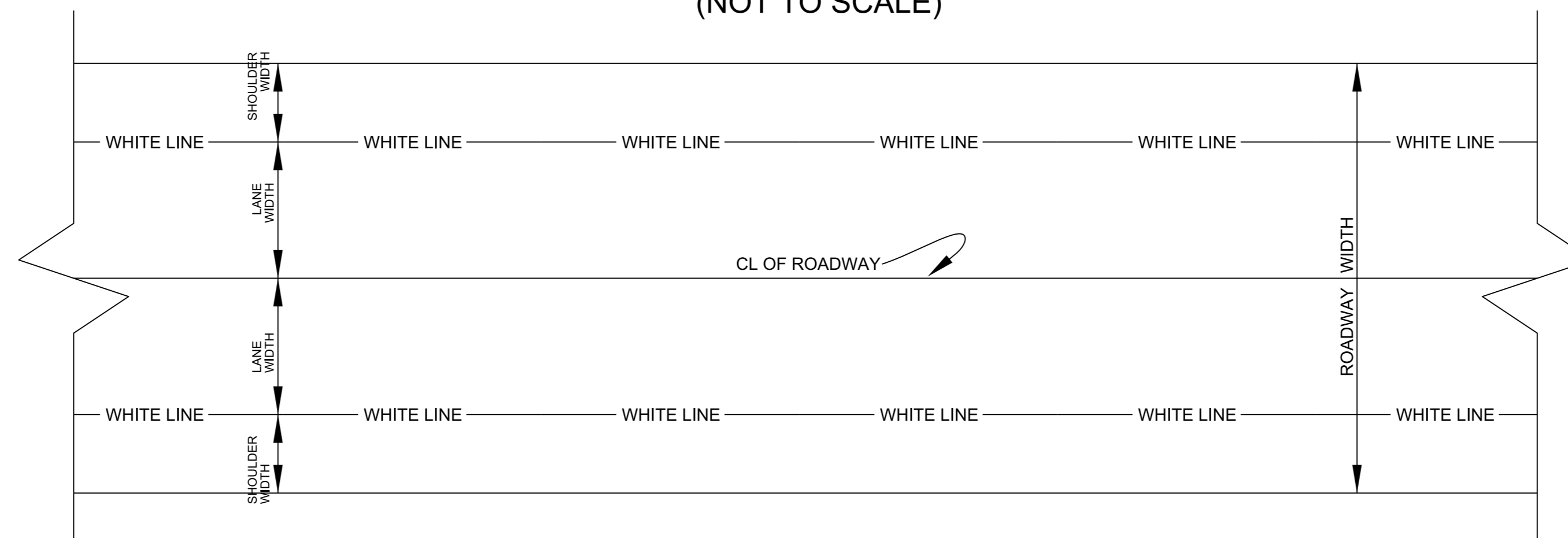
* May vary due to pavement width

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.
026CPT.06.01.10091.1, 50978.3.2		

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	1231000000-E	1220000000-E	1245000000-E	1260000000-E	1308000000-E	1330000000-E	1523000000-E	1524000000-E	1575000000-E	1880000000-E	1881000000-E		2738000000-E	6084000000-E		
												SHOULDER BORROW	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	0" TO 3.5" MILLING	INCIDENTAL MILLING	SURFACE COURSE, S9.5C	LEVELING COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PAVING EXISTING ASPHALT DRIVEWAYS	SINUSOIDAL RUMBLE STRIPES	SINUSOIDAL RUMBLE STRIPS	6" CONCRETE DRIVEWAYS	SEED & MULCHING		
								MI	FT			CY	TONS	SMI	TON	SY	SY	TONS	TONS	TONS	TON	LF	LF	SY	AC		
2026CPT.06.01.10091.1	Bladen	1	NC-87	NC87 FROM COLUMBUS COUNTY LINE TO SR 1725	1	2	2WU	10.43	32	0	10.43	48	50	20.86	5,215	195,806	6,500	17,062	731	1,050	40			325	0.20		
TOTAL FOR MAP NO. 1								10.43				48	50	20.86	5,215	195,806	6,500	17,062	731	1,050	40			325	0.20		
TOTAL FOR PROJ NO. 2026CPT.06.01.10091.1								10.43				48	50	20.86	5,215	195,806	6,500	17,062	731	1,050	40			325	0.20		
50978.3.20	Bladen	2	NC-87	FROM COLUMBUS COUNTY LINE TO SR 1725	1	2	2WU	10.43	32	0	10.43												55,075.00	110,145.00			
TOTAL FOR MAP NO. 2								10.43																55,075.00	110,145.00		
TOTAL FOR PROJ NO. 50978.3.20								10.43																55,075.00	110,145.00		
GRAND TOTAL								20.86				48	50	20.86	5,215	195,806	6,500	17,062	731	1,050	40	55,075.00	110,145.00	325	0.20		

PROJECT NO.	SHEET NO.	TOTAL NO.
26CPT.06.01.10091.1, 50978.3		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4413000000-E	4457000000-N	4685000000-E		4688000000-E		4709000000-E	4720000000-E	4810000000-E		4835000000-E	4840000000-N	4900000000-N	
												WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	4" X 90 M YELLOW THERMO	4" X 90 M WHITE THERMO	6" X 90 M YELLOW THERMO	6" X 90 M WHITE THERMO	24" X 90 M WHITE THERMO	THERMO MSG SCHOOL 90 M	4" WHITE PAINT	4" YELLOW PAINT	24" WHITE PAINT	PAINT MSG SCHOOL	YELLOW & YELLOW MARKERS	
												SF	LS	LF	LF	LF	LF	LF	EA	LF	LF	LF	EA	EA	
2026CPT.06.01.10091.1	Bladen	1	NC-87	NC87 FROM COLUMBUS COUNTY LINE TO SR 1725	1	2	2WU	10.43	32	0	10.43	700	0.90												
TOTAL FOR MAP NO. 1								10.43				700	0.90												
TOTAL FOR PROJ NO. 2026CPT.06.01.10091.1								10.43				700	0.90												
50978.3.20	Bladen	2	NC-87	FROM COLUMBUS COUNTY LINE TO SR 1725	1	2	2WU	10.43	32	0	10.43		0.10	530	1,740	54,080	110,145	96	12	110,141	53,548	96	12	704	
TOTAL FOR MAP NO. 2								10.43				0.100	530	1,740	54,080	110,145	96	12	110,141	53,548	96	12	704		
TOTAL FOR PROJ NO. 50978.3.20								10.43				0.100	530	1,740	54,080	110,145	96	12	110,141	53,548	96	12	704		
														2,270	164,225			163,689							
GRAND TOTAL								20.86				700	1.000	530	1,740	54,080	110,145	96	12	110,141	53,548	96	12	704	
														2,270	164,225			163,689							