

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION 6

# PLANS

**Letting Date: September 15, 2021**

**CONTRACT ID: DF00288**

**TIP NO.: -----**

**FEDERAL AID NO.: STATE FUNDED**

**WBS ELEMENT NO.: 2022CPT.06.02.10091.1, 2022CPT.06.02.20091.1**

**ROUTE NO.: NC 242 & SR 1100**

**LOCATION: VARIOUS**

**COUNTY: BLADEN**

**LENGTH OF PROJECT: 24.38 MILES**

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

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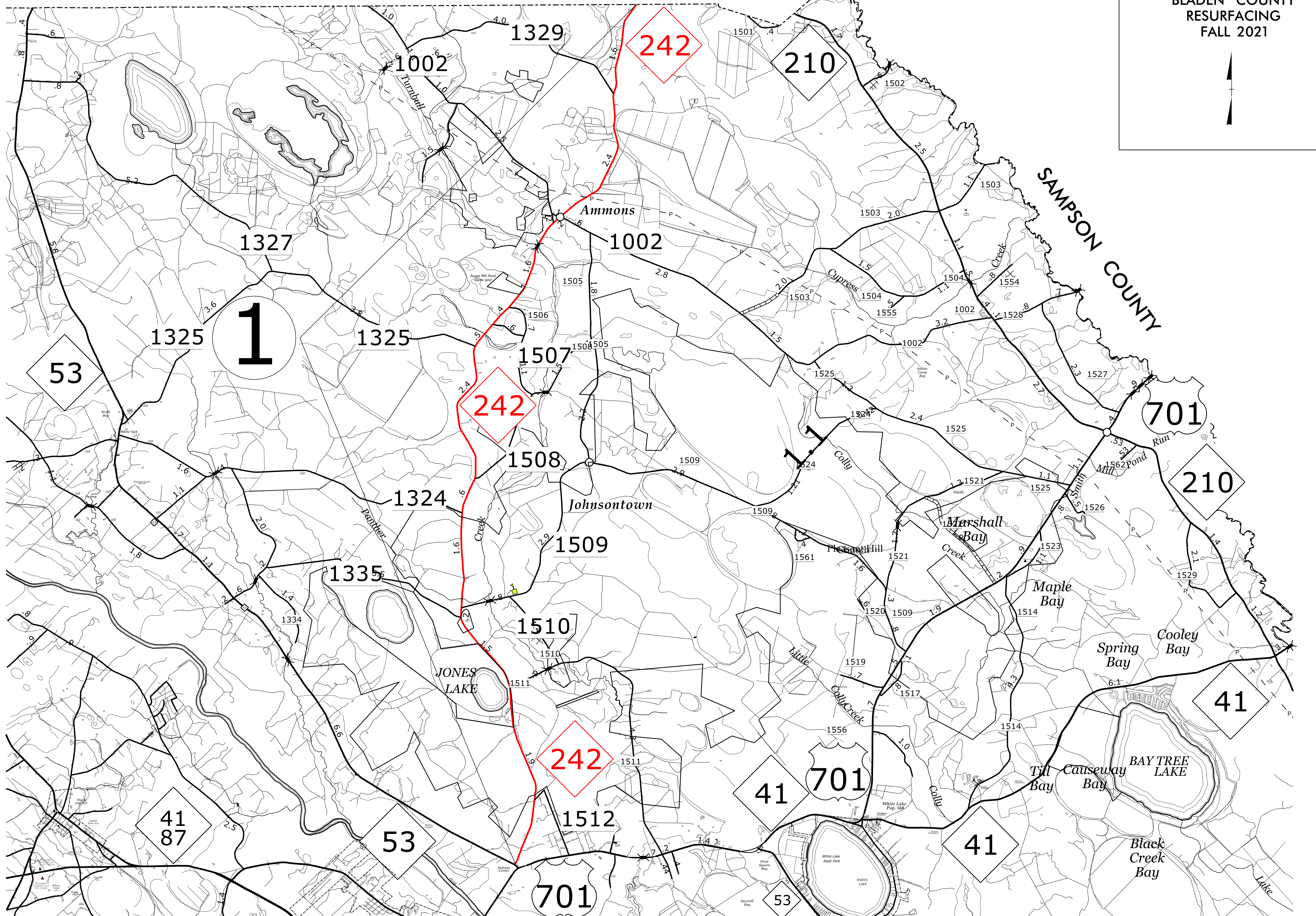
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# CUMBERLAND COUNTY

## BLADEN COUNTY RESURFACING FALL 2021



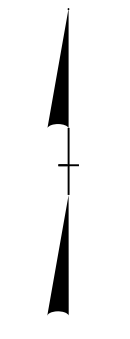
REVISIONS

8/17/99

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Scale: 1"=100'



BLADEN COUNTY  
RESURFACING  
FALL 2021

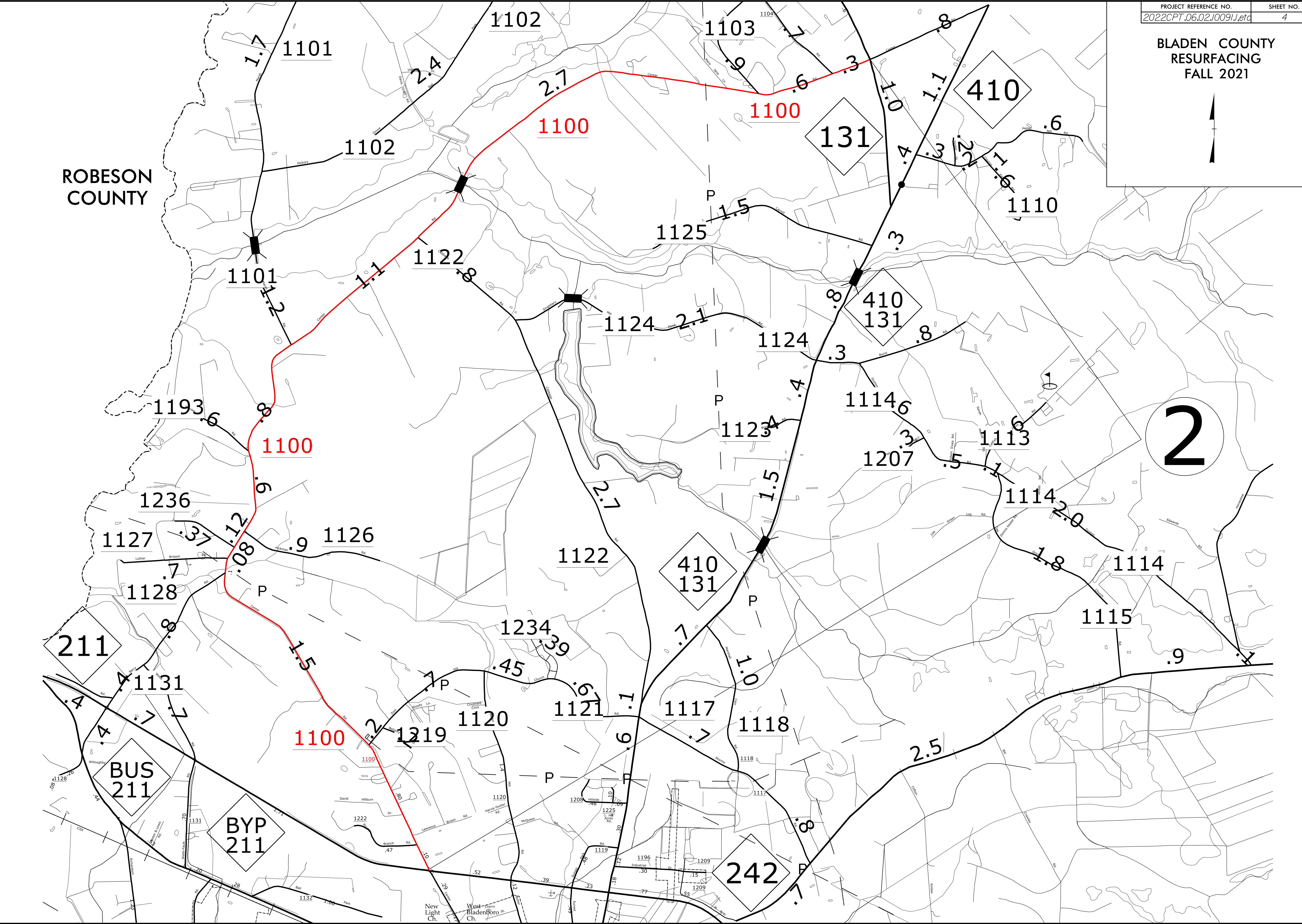


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ROBESON COUNTY

REVISIONS

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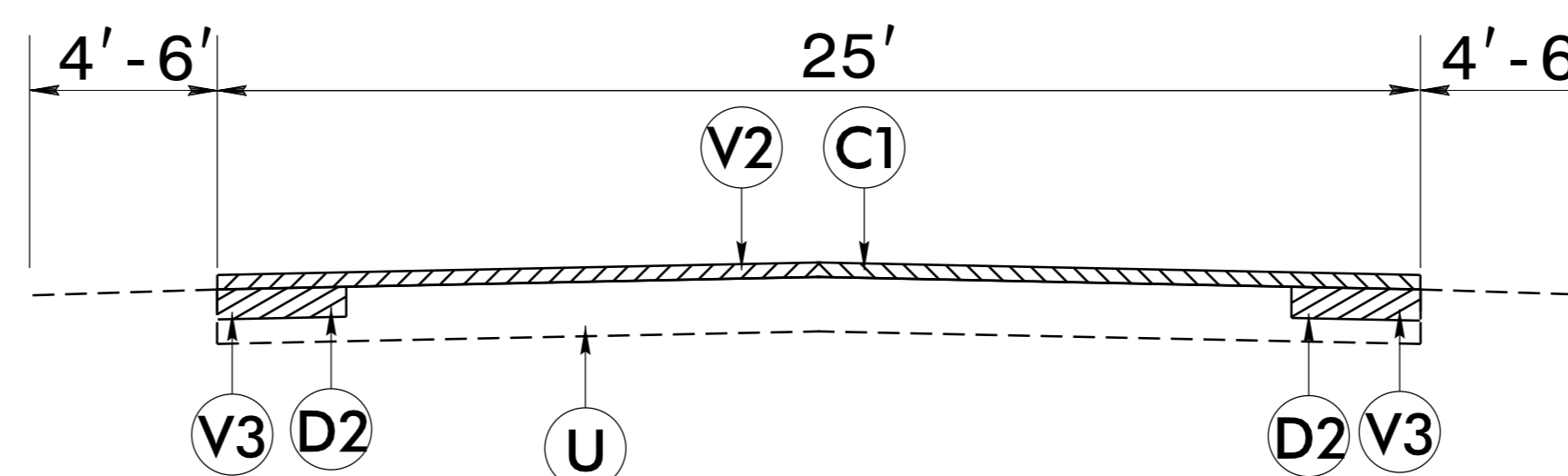


# PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	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 ASPHALT PAVEMENT
V1	0" - 1½" MILLING
V2	1½" MILLING
V3	2½" MILLING
V4	4" MILLING

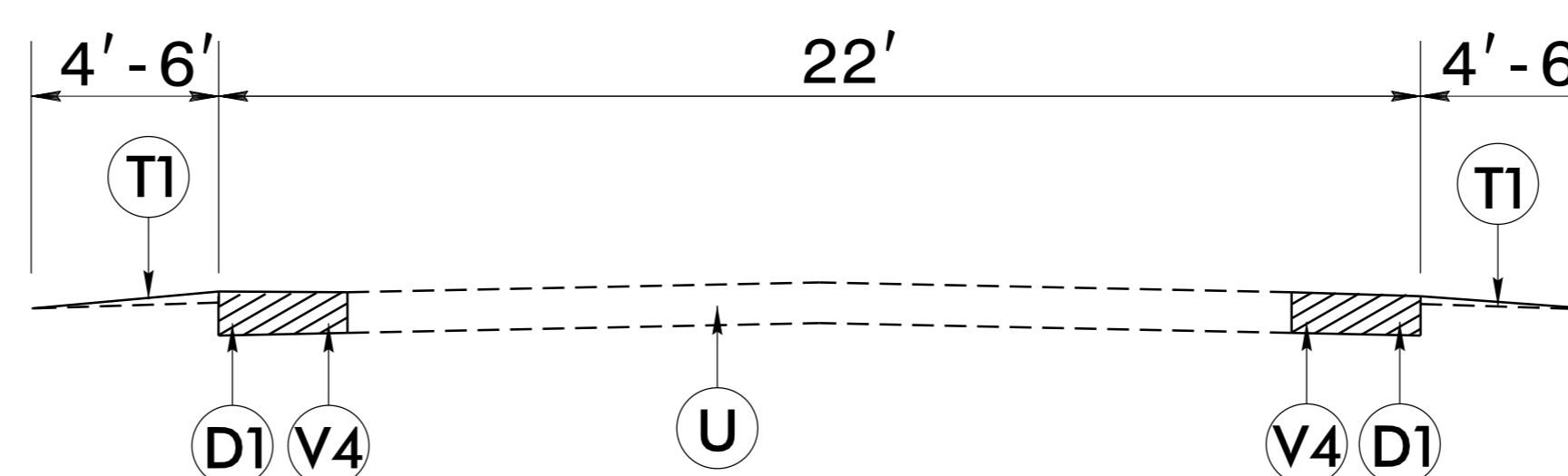
**NOTES:**

- UPON COMPLETION OF SURFACE MILLING, TEMPORARY PAINT MARKINGS SHALL BE INSTALLED WITHIN TIME FRAME ESTABLISHED IN STD. SPECS.
- CONTRACTOR SHALL BEGIN WIDENING AND/OR MILL & FILL OPERATION WITHIN 3 DAYS OF COMPLETING SURFACE MILLING.
- CONTRACTOR SHALL BEGIN PLACEMENT OF FINAL SURFACE WITHIN 3 DAYS OF COMPLETING WIDENING AND/OR MILL & FILL OPERATION.

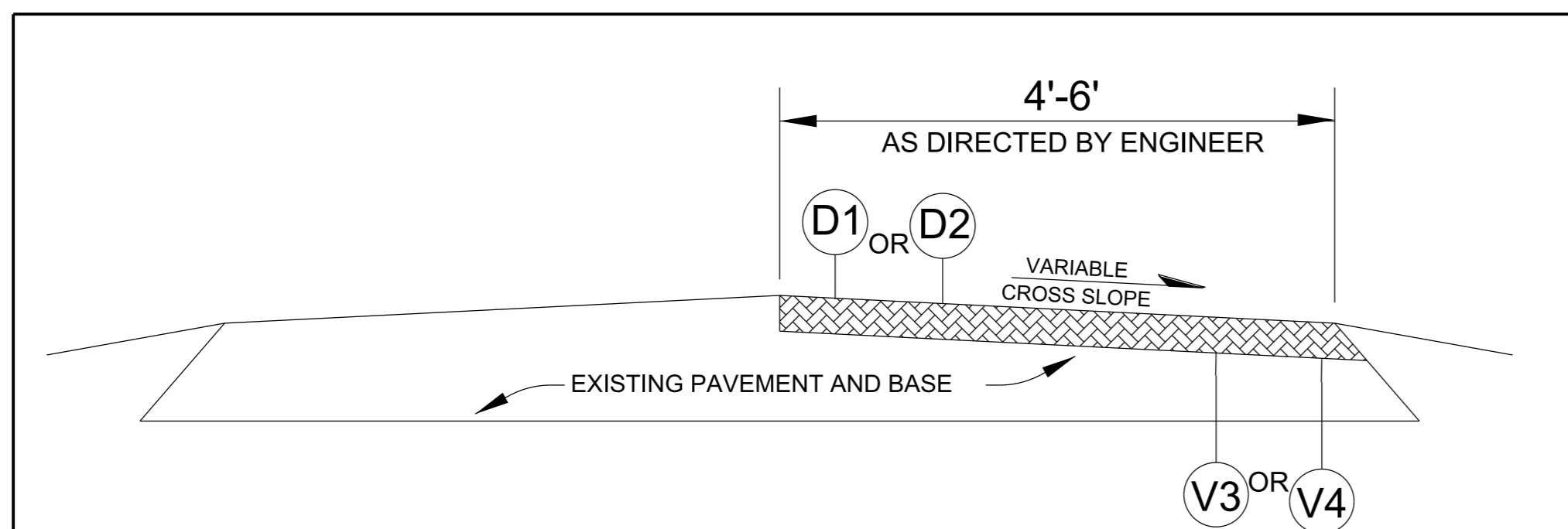


**TYPICAL SECTION NO. 1**

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

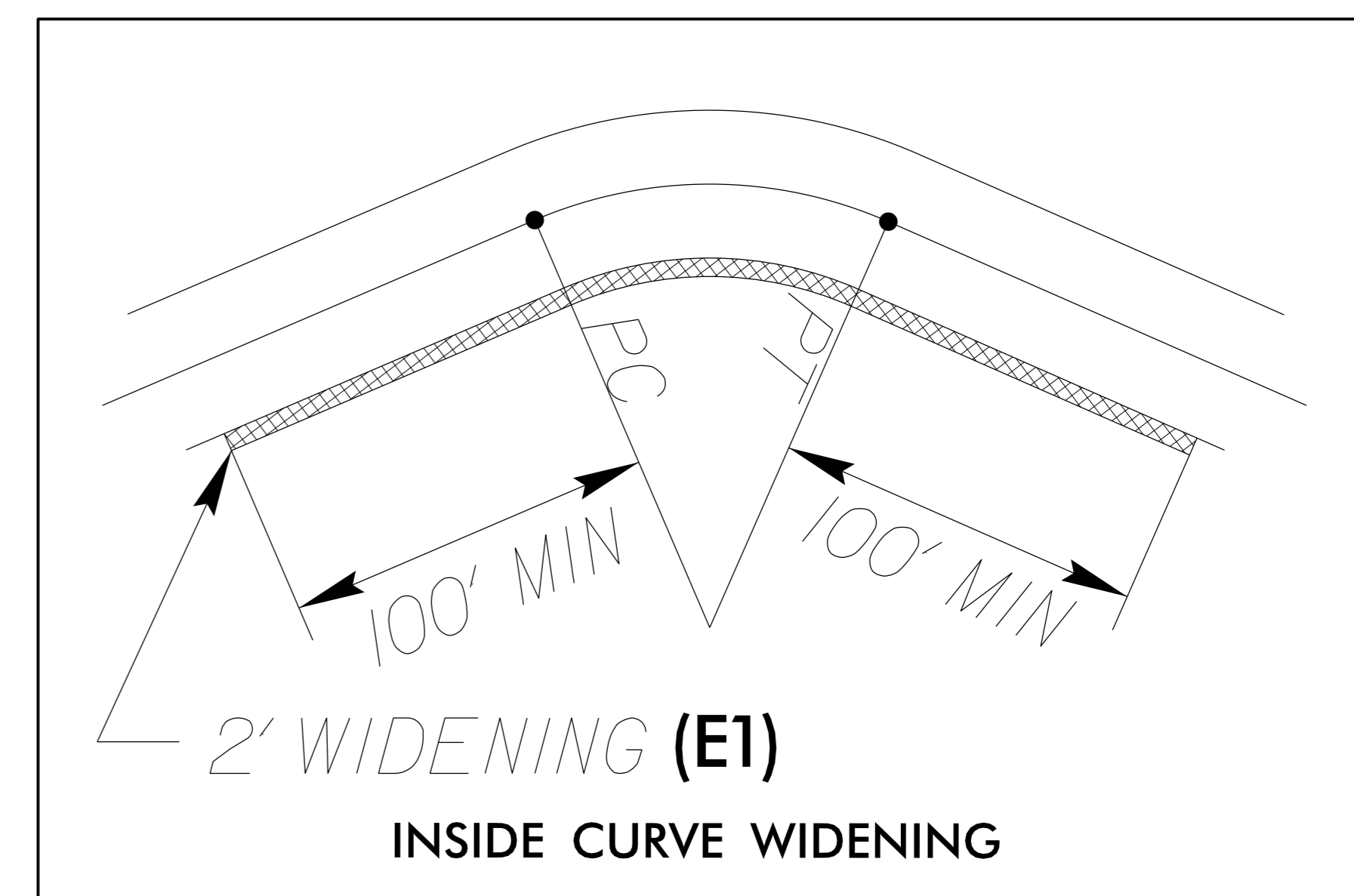


**TYPICAL SECTION NO. 2**



**MILL & FILL PAVEMENT REPAIR**

- NOTES:**
- DISTRESSED AREAS TO BE REPAIRED BY MILL & FILL SHALL BE DESIGNATED BY THE ENGINEER AFTER COMPLETION OF SURFACE MILLING.
  - FILL MILLED AREAS WITH ASPHALT INTERMEDIATE COURSE BACK FLUSH WITH THE MILLED ASPHALT SURFACE LEFT IN PLACE, PRIOR TO PLACEMENT OF PROPOSED ASPHALT SURFACE COURSE.



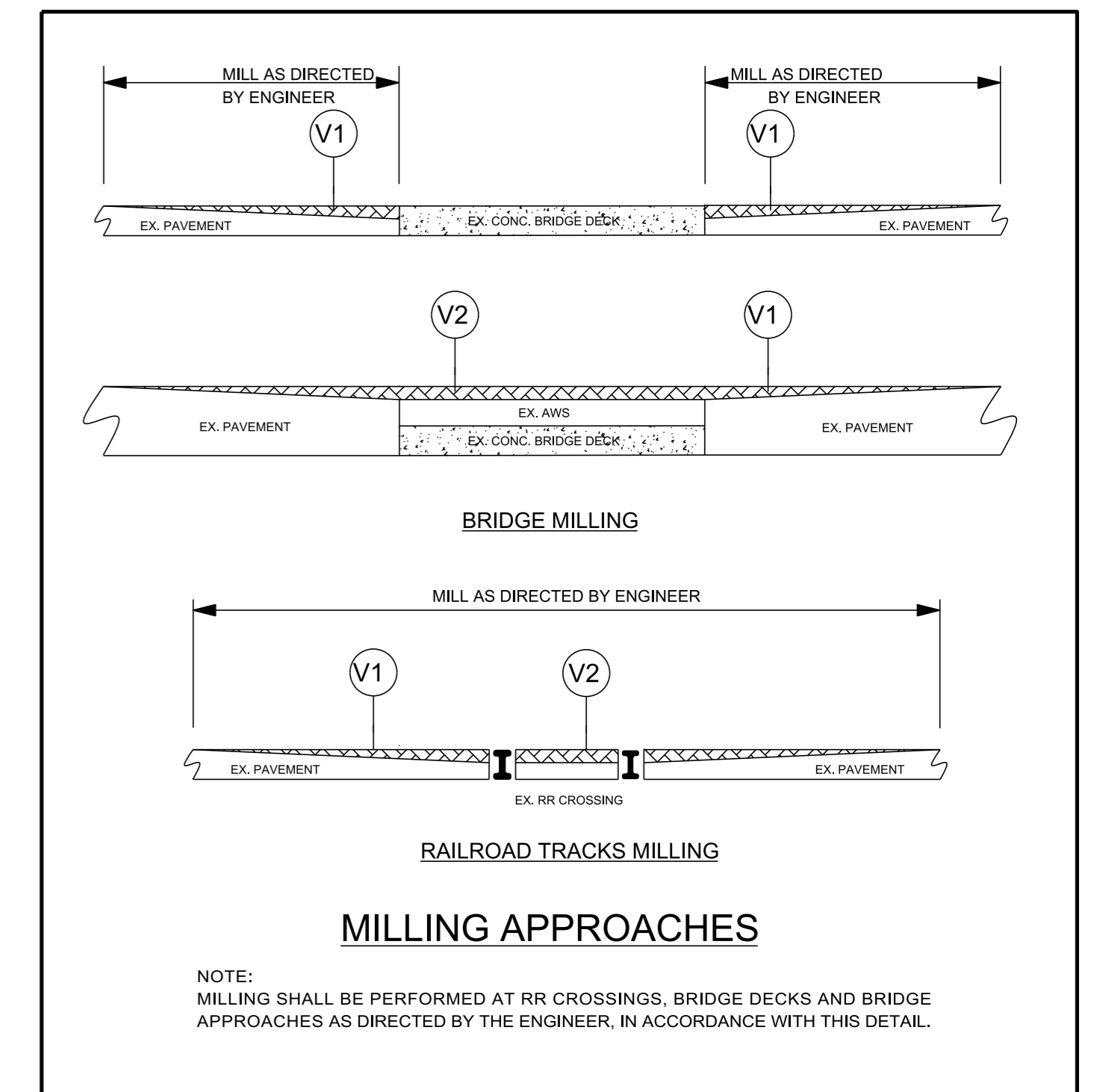
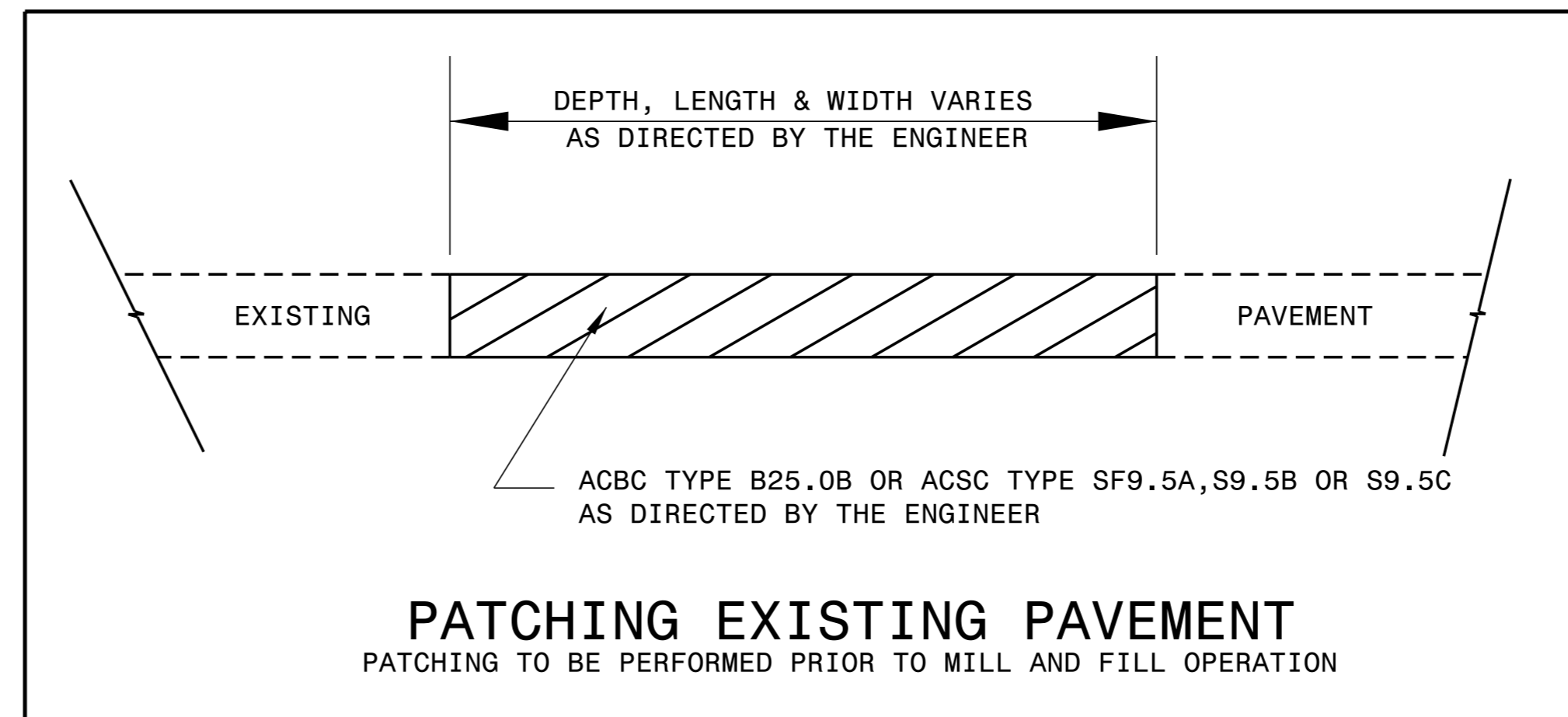
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# PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	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 ASPHALT PAVEMENT
V1	0"-1½" MILLING
V2	1½" MILLING
V3	2½" MILLING
V4	4" MILLING

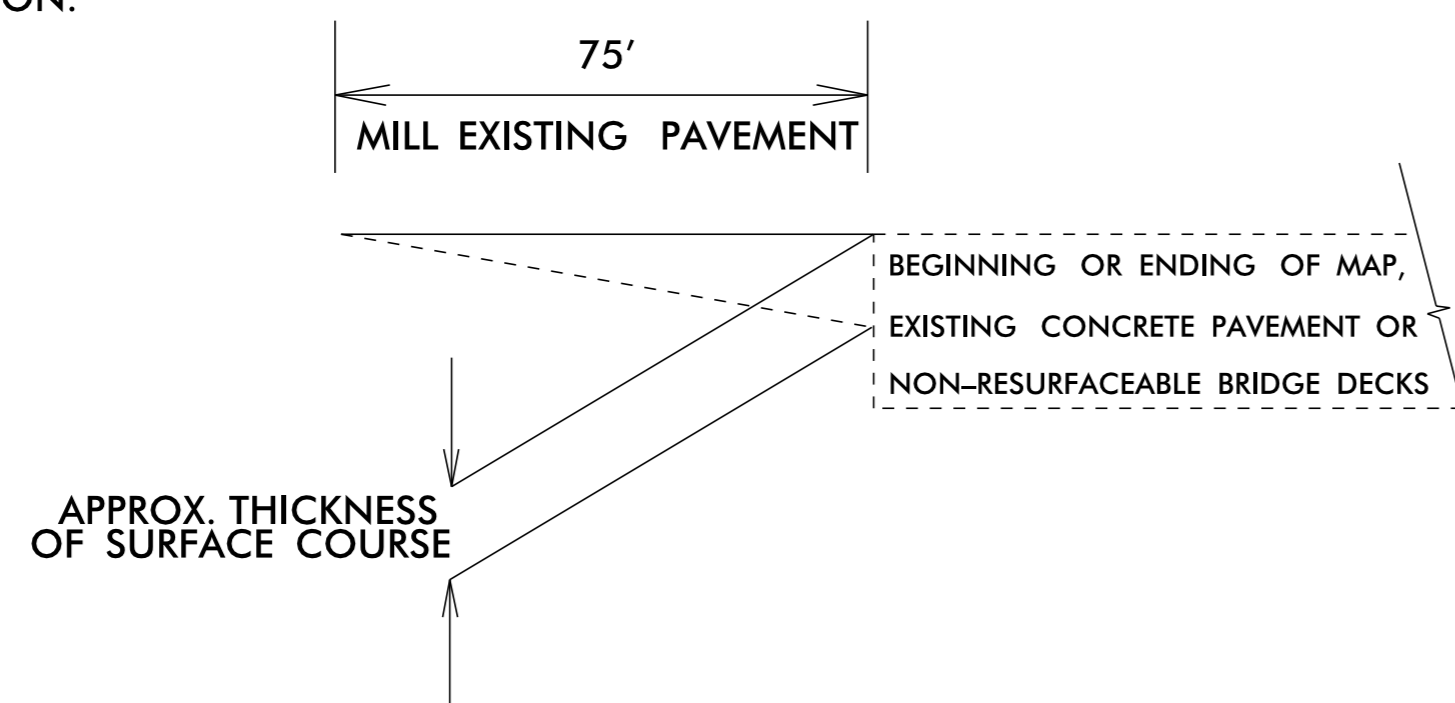


## NOTES TO CONTRACTOR

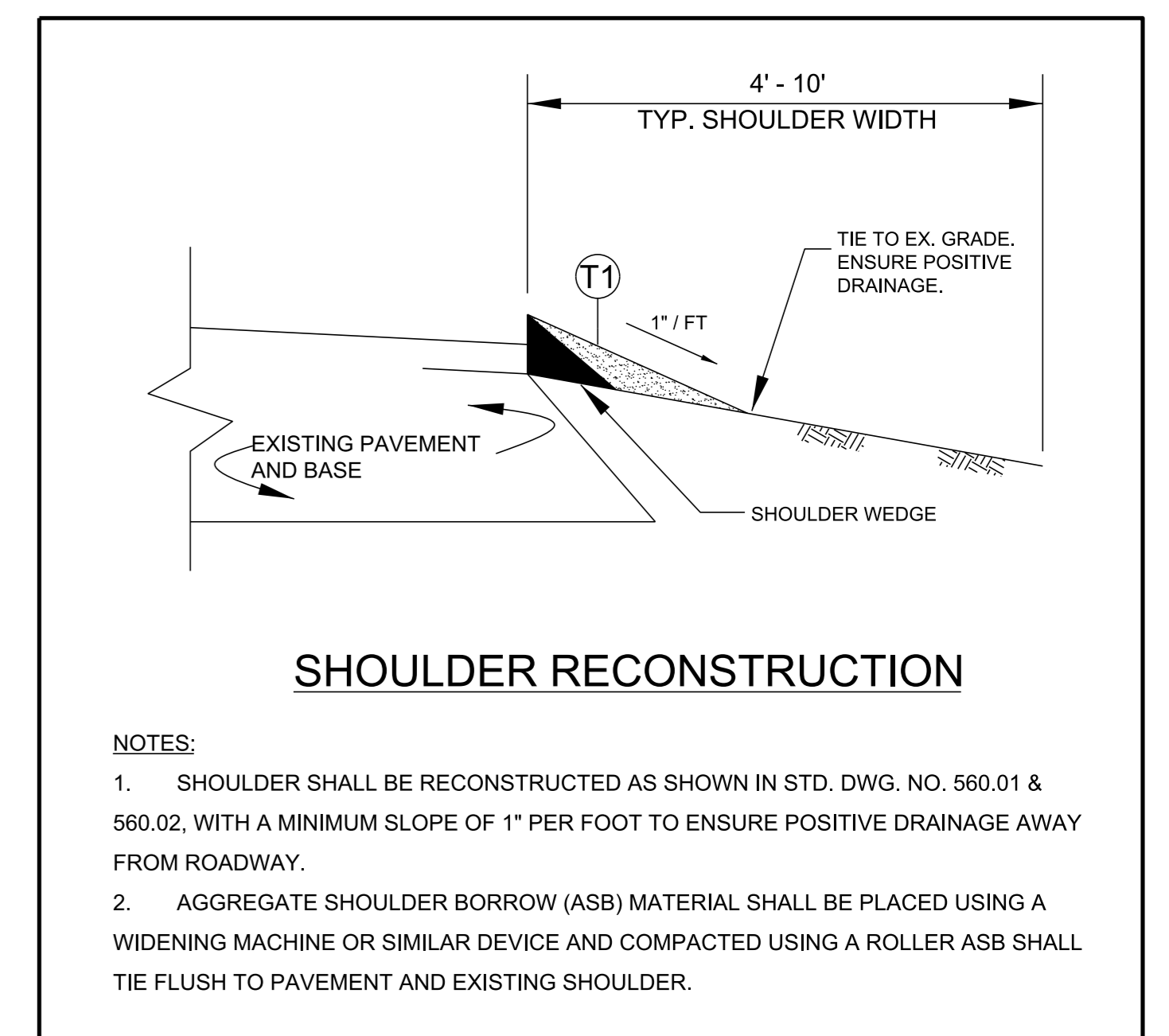
FOR SURFACE MIXES OVER 1" IN THICKNESS, MILL THE EXISTING PAVEMENT IN ACCORDANCE WITH THE FOLLOWING SKETCH AS DIRECTED BY THE ENGINEER.

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.



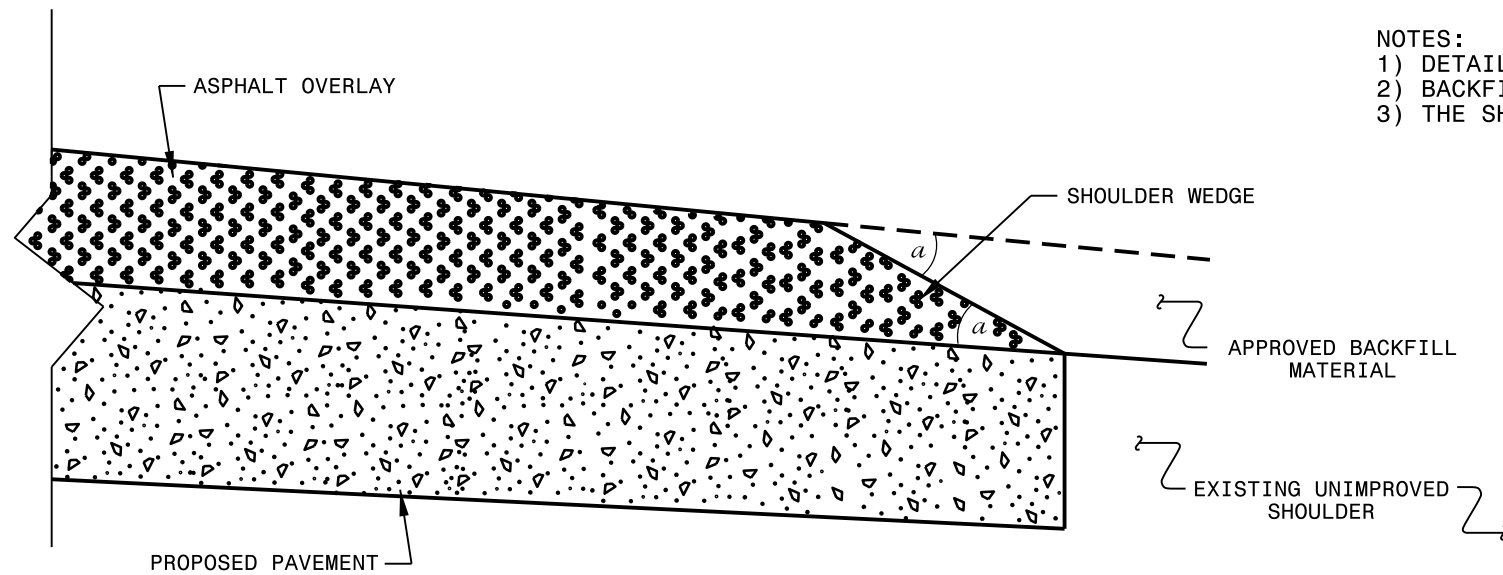
## MILLING AT PAVEMENT TIE-INS DETAIL



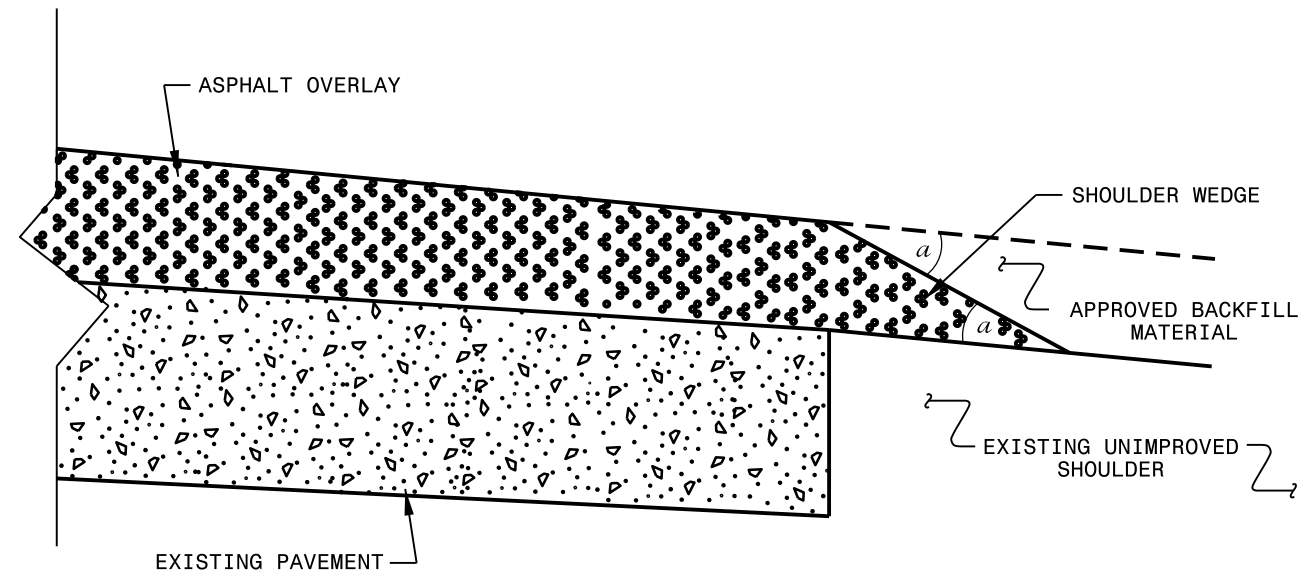
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 STATE OF NORTH CAROLINA

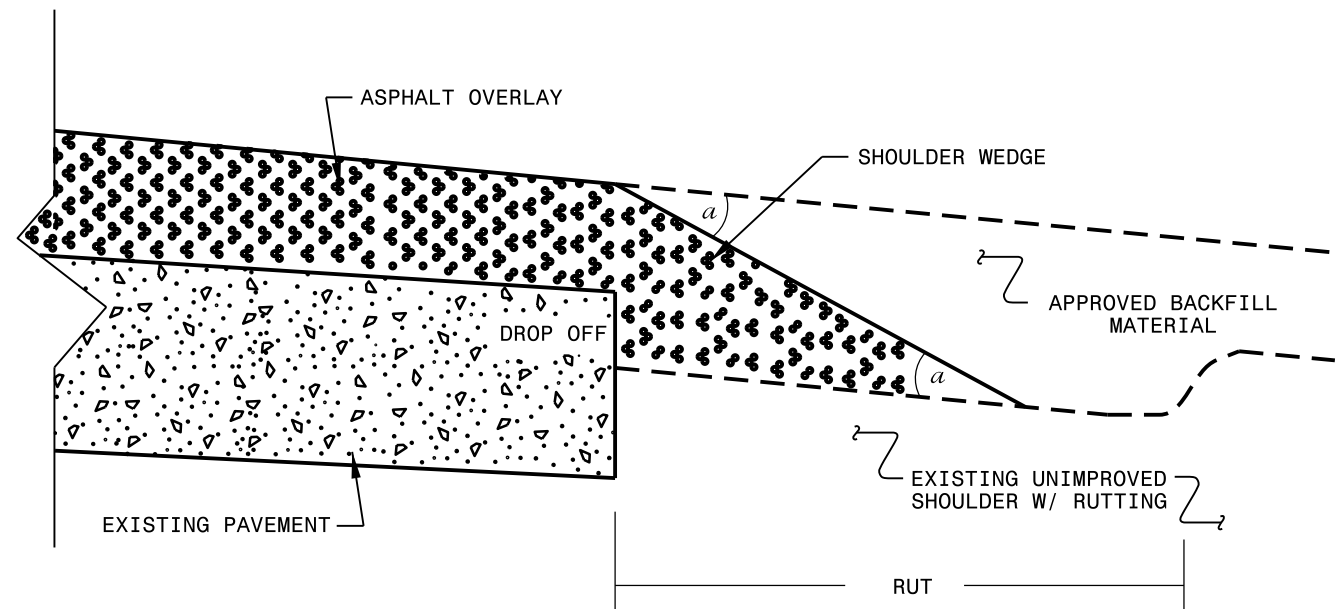
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



**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°

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

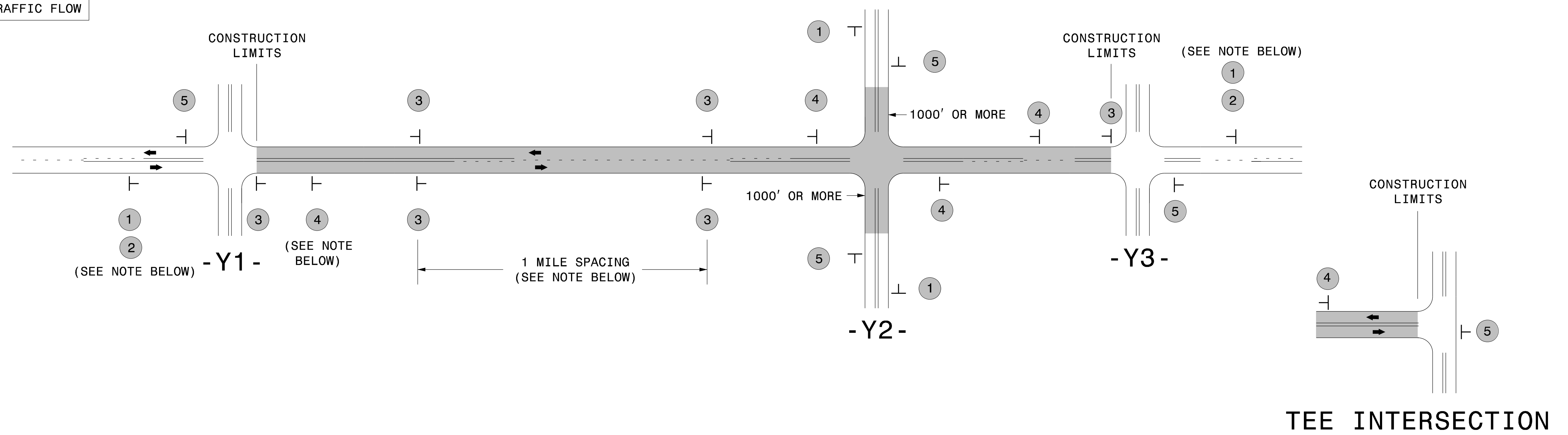
SYSTEMS DESIGN USER NAME

# SIGNING FOR RESURFACING PROJECTS

**LEGEND**

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



## MAINLINE (-L-) SIGNING

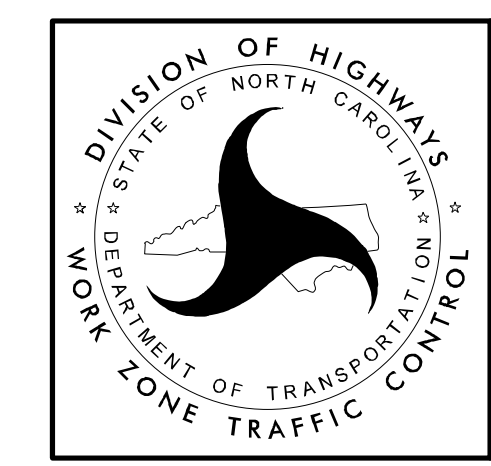
## -Y- LINE SIGNING

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.

<b>TWO LANE - TWO WAY ROADWAY - 55 MPH</b>		
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'

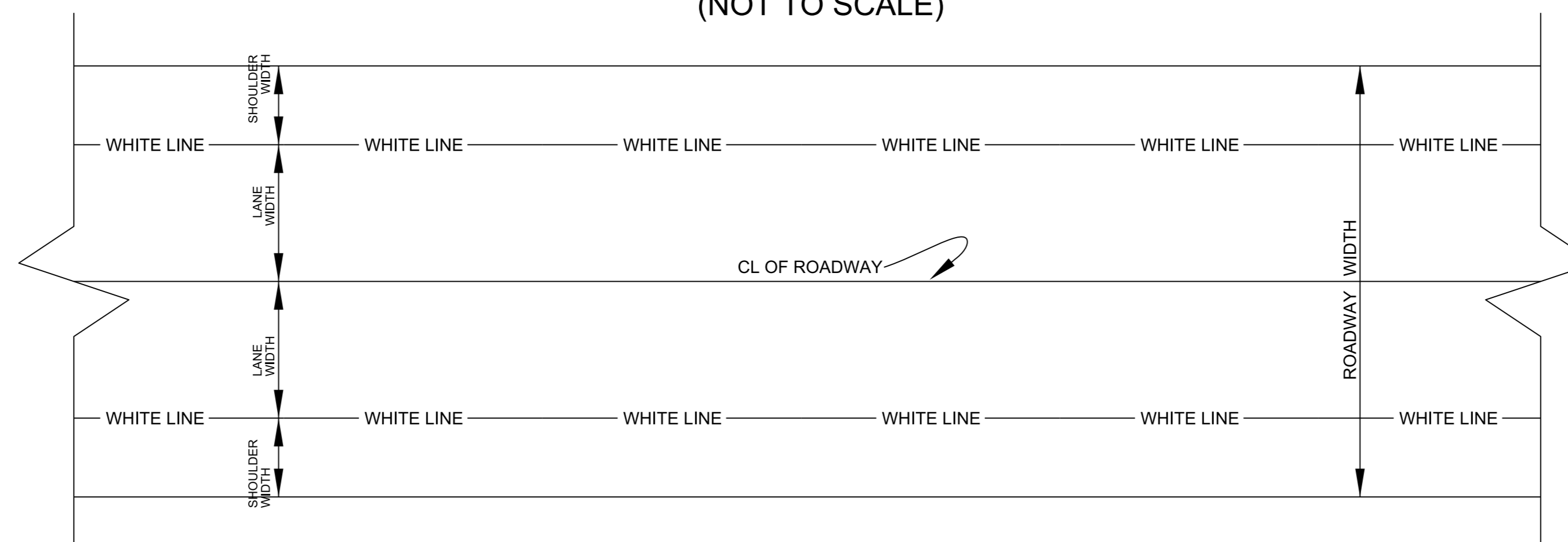
\* May vary due to pavement width

<b>TWO LANE - TWO WAY ROADWAY</b>		<b>50</b>
<b>MPH OR LESS</b>		
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.	
												2022CPT.06.02.10091.1, 2022CPT.06.02.20091.1				
												1220000000-E	1245000000-E	1260000000-E	1297000000-E	
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH		INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	1½" MILLING	2.5" MILLING
										MI	FT					
2022CPT.06.02.10091.1	Bladen	1	NC 242	FROM NC 53 TO CUMBERLAND CL	1	2	2WU	NO	NO	15.81	25	158			232,206	704
<b>TOTAL FOR MAP NO. 1</b>										<b>15.81</b>		<b>158</b>			<b>232,206</b>	<b>704</b>
<b>TOTAL FOR PROJ NO. 2022CPT.06.02.10091.1</b>										<b>15.81</b>		<b>158</b>			<b>232,206</b>	<b>704</b>
<b>232,910</b>																
2022CPT.06.02.20091.1	Bladen	2	SR 1100	FROM NC 131 TO NC 211 BYP.	2	2	2WU	NO	NO	8.57	22		17.14	2,858		
<b>TOTAL FOR MAP NO. 2</b>										<b>8.57</b>			<b>17.14</b>	<b>2,858</b>		
<b>TOTAL FOR PROJ NO. 2022CPT.06.02.20091.1</b>										<b>8.57</b>			<b>17.14</b>	<b>2,858</b>		
<b>GRAND TOTAL</b>										<b>24.38</b>		<b>158</b>	<b>17.14</b>	<b>2,858</b>	<b>232,206</b>	<b>704</b>
<b>232,910</b>																

												1330000000-E	1491000000-E	1503000000-E	1523000000-E	1575000000-E
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH		INCIDENTAL MILLING	BASE COURSE, B25.0C	INTERMEDIATE COURSE, I19.0C	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX
										MI	FT					
2022CPT.06.02.10091.1	Bladen	1	NC 242	FROM NC 53 TO CUMBERLAND CL	1	2	2WU	NO	NO	15.81	25	4,476	368	100	19,929	1,217
<b>TOTAL FOR MAP NO. 1</b>										<b>15.81</b>		<b>4,476</b>	<b>368</b>	<b>100</b>	<b>19,929</b>	<b>1,217</b>
<b>TOTAL FOR PROJ NO. 2022CPT.06.02.10091.1</b>										<b>15.81</b>		<b>4,476</b>	<b>368</b>	<b>100</b>	<b>19,929</b>	<b>1,217</b>
2022CPT.06.02.20091.1	Bladen	2	SR 1100	FROM NC 131 TO NC 211 BYP.	2	2	2WU	NO	NO	8.57	22			4,585		220
<b>TOTAL FOR MAP NO. 2</b>										<b>8.57</b>				<b>4,585</b>		<b>220</b>
<b>TOTAL FOR PROJ NO. 2022CPT.06.02.20091.1</b>										<b>8.57</b>				<b>4,585</b>		<b>220</b>
<b>GRAND TOTAL</b>										<b>24.38</b>		<b>4,476</b>	<b>368</b>	<b>4,685</b>	<b>19,929</b>	<b>1,437</b>



# THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO. 2022CPT.06.02.10091.1, 2022CPT.06.02.20091.1	SHEET NO.	TOTAL NO.
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PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH		WIDTH	441300000-E	445700000-N	468500000-E		481000000-E		490000000-N
								MI	FT		WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	4" WHITE PAINT	4" YELLOW PAINT	YELLOW & YELLOW MARKERS
											SF	LS	LF	LF	LF	LF	EA
2022CPT.06.02.10091.1	Bladen	1	NC 242	FROM NC 53 TO CUMBERLAND CL	1	2	2WU	15.81	25		1,771	1	166,954	116,649	166,954	116,649	1,043
<b>TOTAL FOR MAP NO. 1</b>								<b>15.81</b>			<b>1,771</b>	<b>1</b>	<b>166,954</b>	<b>116,649</b>	<b>166,954</b>	<b>116,649</b>	<b>1,043</b>
<b>TOTAL FOR PROJ NO. 2022CPT.06.02.10091.1</b>								<b>15.81</b>			<b>1,771</b>	<b>1</b>	<b>166,954</b>	<b>116,649</b>	<b>166,954</b>	<b>116,649</b>	<b>1,043</b>
												<b>283,603</b>		<b>283,603</b>			
2022CPT.06.02.20091.1	Bladen	2	SR 1100	FROM NC 131 TO NC 211 BYP.	2	2	2WU	8.57	22		960						
<b>TOTAL FOR MAP NO. 2</b>								<b>8.57</b>			<b>960</b>						
<b>TOTAL FOR PROJ NO. 2022CPT.06.02.20091.1</b>								<b>8.57</b>			<b>960</b>						
<b>GRAND TOTAL</b>								<b>24.38</b>			<b>2,731</b>	<b>1</b>	<b>166,954</b>	<b>116,649</b>	<b>166,954</b>	<b>116,649</b>	<b>1,043</b>
												<b>283,603</b>		<b>283,603</b>			