

09/08/99
 13-DEC-2012 13:16
 S:\DDC\4-0-Orange\W-5318 NC 86 Rumble Strips\Roadway\Proj\W-5318_Rdy_tsh.dgn
 \$\$\$USERNAME\$\$\$

CONTRACT NUMBER: C203193 **TIP PROJECT: W-5318**

RESURF PRJ: 7CR.10681.31

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

ORANGE COUNTY

SEE SHEET 1-B

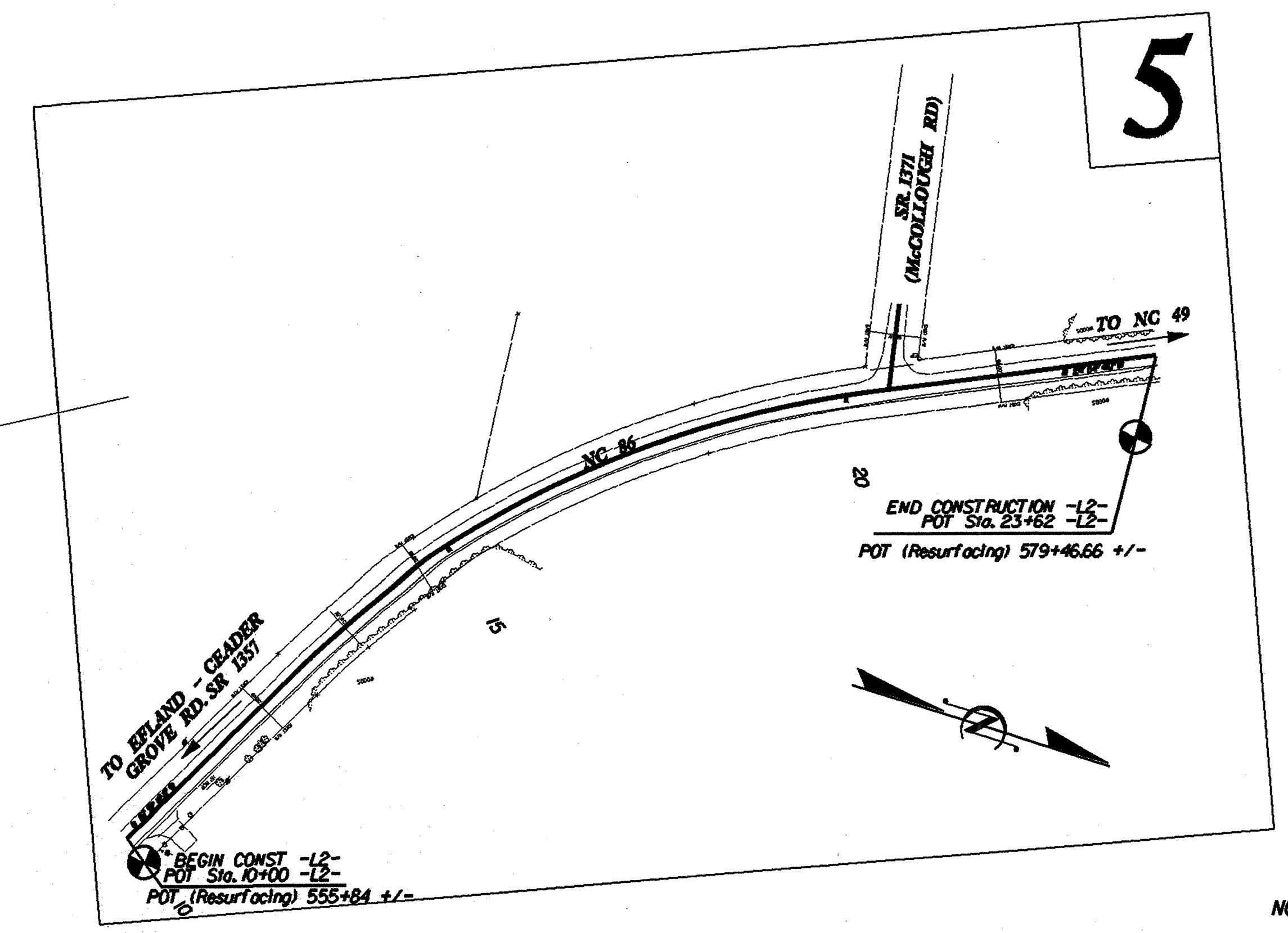
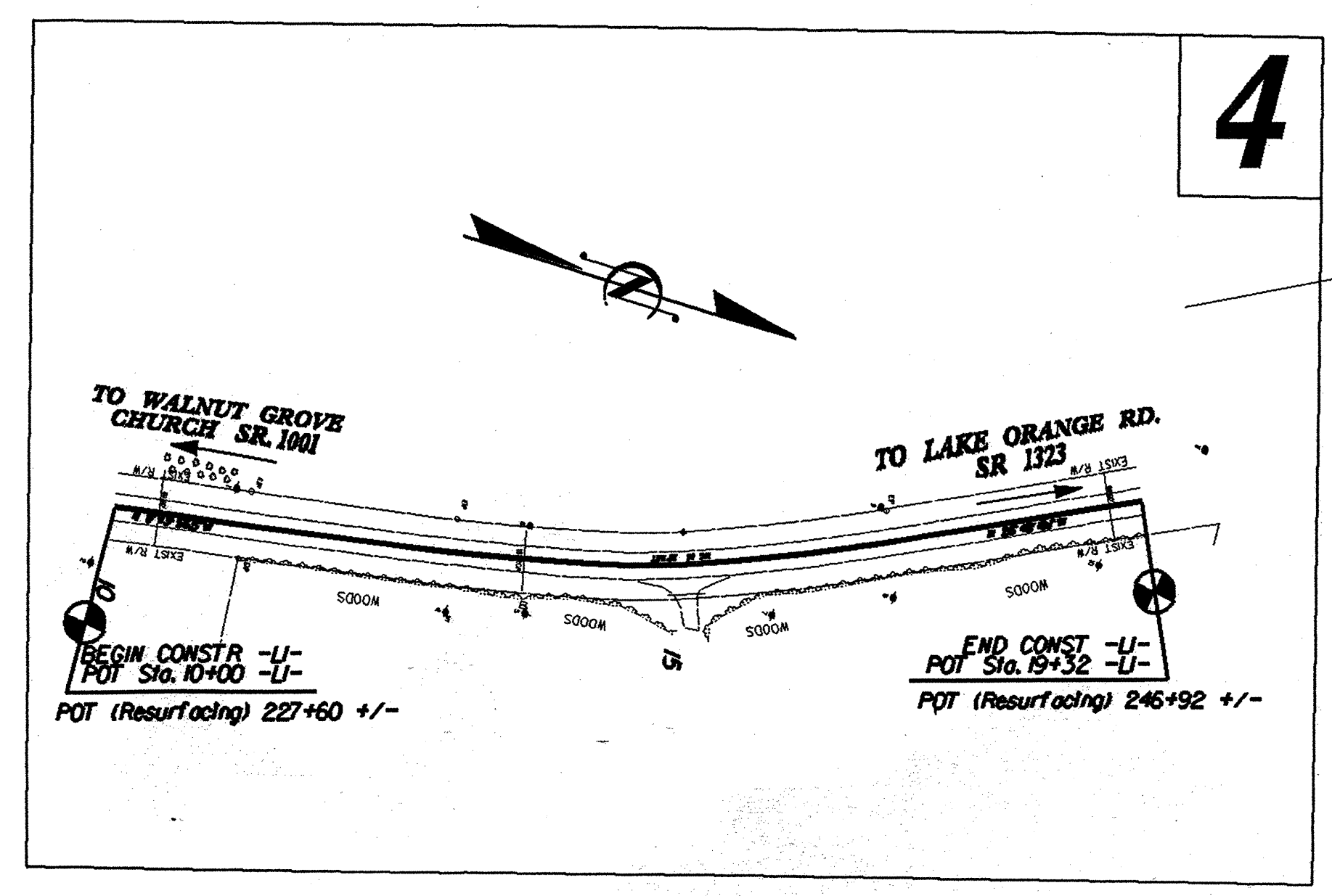
VICINITY MAP

LOCATION: NC 86 From US 70 to Caswell County Line
TYPE OF WORK: Grading, Paving, Resurfacing, Milled(Shoulder) Rumble Strips, Pavement Markings and Snowplowable Markers
TIP PROJECT: W-5318
DESCRIPTION: Provide 4 ft. Paved Shoulders and Milled (Shoulder) rumble Strips Throughout the Entire Project (12.43 Miles). MAPS 1, 2, 3, 4, 5
 Superelevate Curve 1 at SR 1371 (McCullough Rd.) - MAP 1.
 Superelevate Curve 2 Near SR 1323 (Lake Orange Rd.) - MAP 2.

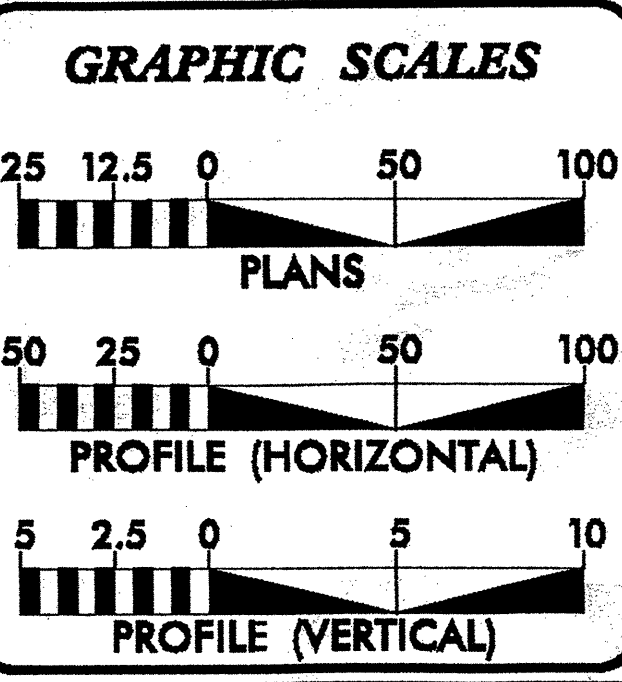
RESURFACING PROJECT: 7CR.10681.31
DESCRIPTION: Resurface NC 86 From US-70 to the Caswell Co Line - Maps 3, 4, 5

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5318	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46141.1.1	HSIP-0086(13)	P.E.	
46141.2.1	HSIP-0086(13)	R/W	
46141.3.1	HSIP-0086(13)	CONST.	
7CR.10681.31		RESURFACING	

See Sheet 1-A For Index of Sheets



NOT TO SCALE



DESIGN DATA

ADT 2009 = 12,750
 V = 60 MPH
 FUNC CLASS = MINOR ARTERIAL

PROJECT LENGTH

TOTAL LENGTH OF PROJECT W-5318 AND PROJECT 7CR.10681.31 = 12.425 MI (65605 FT)

Prepared in the Office of:
DIVISION OF HIGHWAYS
 1584 Yanceyville St., Greensboro, NC 27405

2012 STANDARD SPECIFICATIONS
 RIGHT OF WAY DATE: N/A
 LETTING DATE: FEBRUARY 19, 2013

Chris Smitherman
 PROJECT ENGINEER
 C. A. Wiles
 PROJECT DESIGN TECHNICIAN

DDC ENGINEER
 NORTH CAROLINA
 PROFESSIONAL SEAL
 030995
 CHRISTOPHER B. SMITHERMAN
 ENGINEER
 SIGNATURE

C.B. Smitherman
 12/17/12

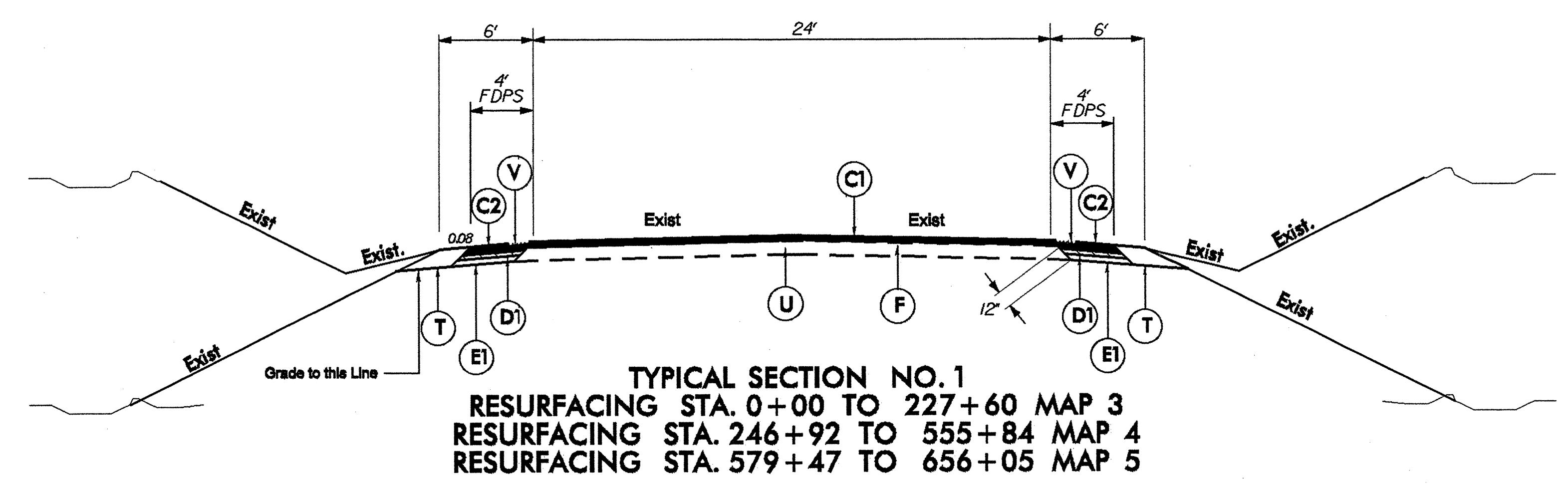
PROJECT REFERENCE NO.	SHEET NO.
W-5318	2

ROADWAY DESIGN ENGINEER

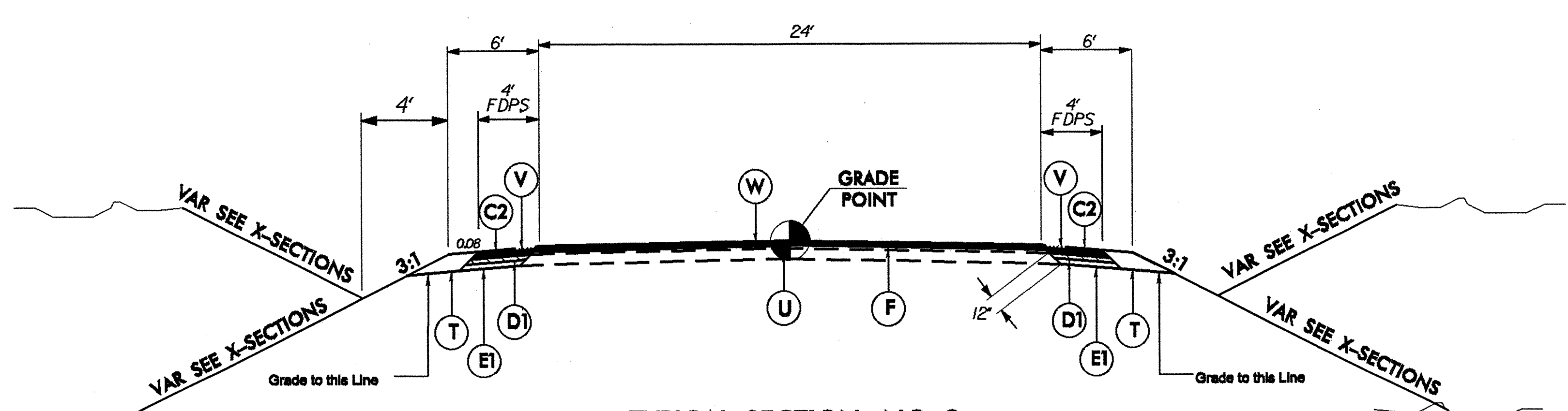
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030995

CHRISTOPHER B. SMITHERMAN

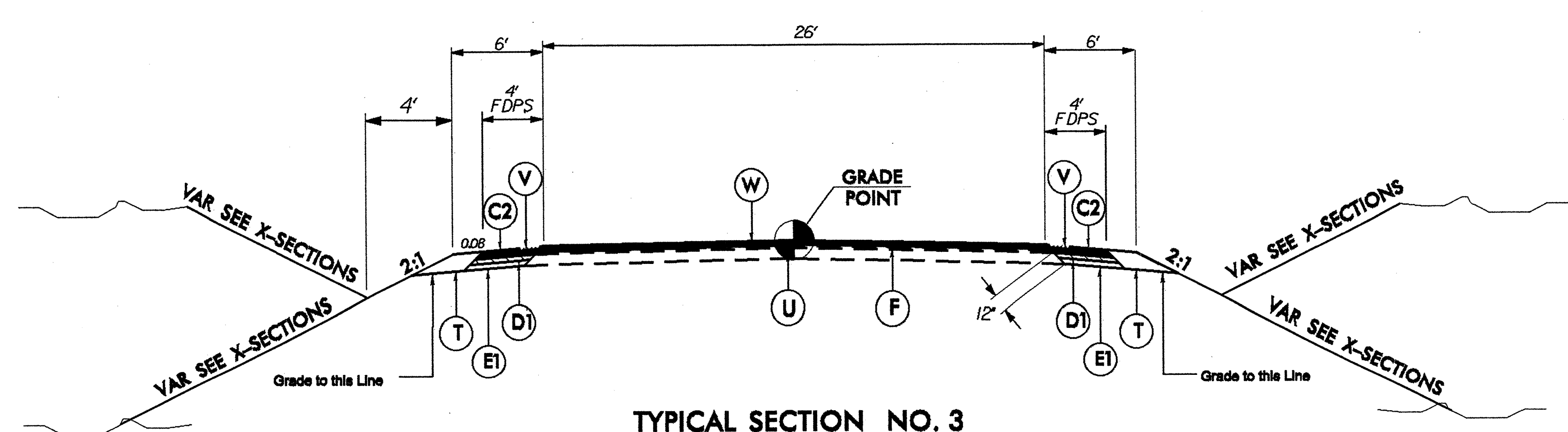
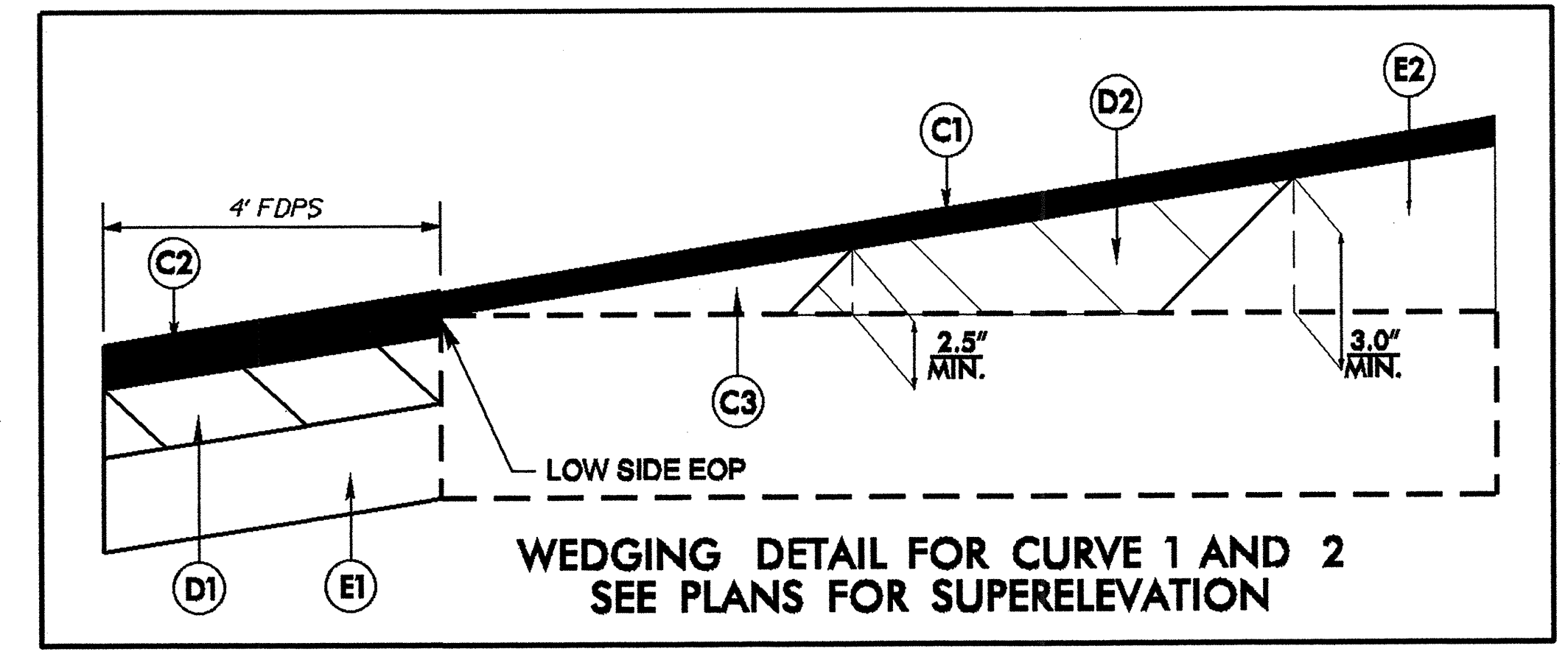
C.B. Smith 12/12



TYPICAL SECTION NO. 1
RESURFACING STA. 0+00 TO 227+60 MAP 3
RESURFACING STA. 246+92 TO 555+84 MAP 4
RESURFACING STA. 579+47 TO 656+05 MAP 5



TYPICAL SECTION NO. 2
STA. 10+00 TO 19+32.04 -L1-: Curve 1 - MAP 1



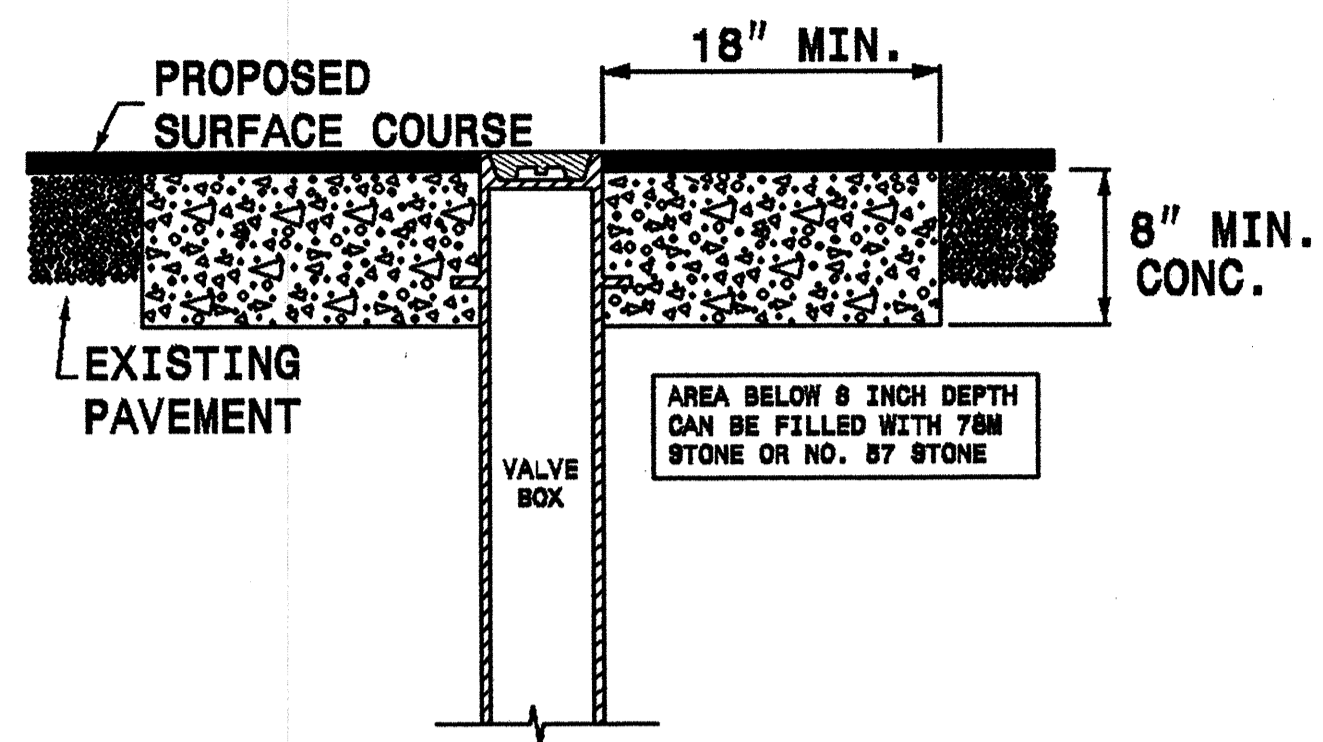
TYPICAL SECTION NO. 3
STA. 10+00 TO 23+62.66 -L2-: Curve 2 - MAP 2

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I10.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I10.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
F	AST MAT COAT 78M SEAL
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V	MILLED RUMBLE STRIPS STD 665.01
W	WEDGING (SEE WEDGING DETAIL)

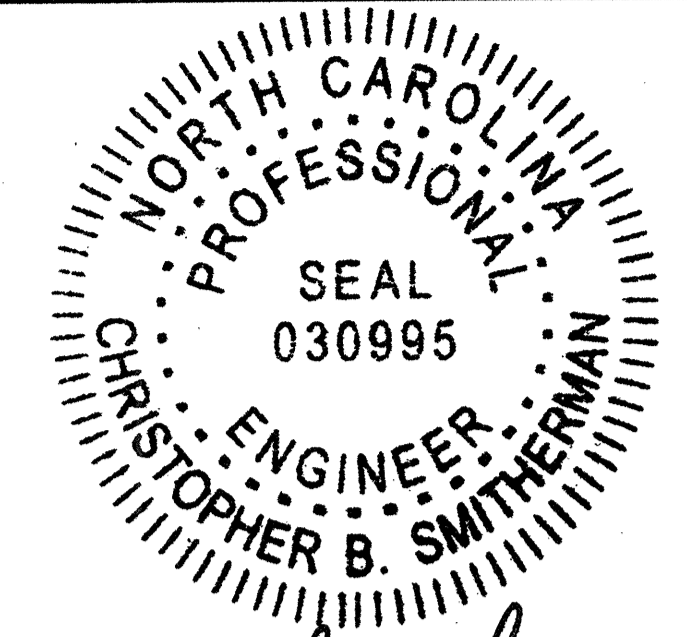
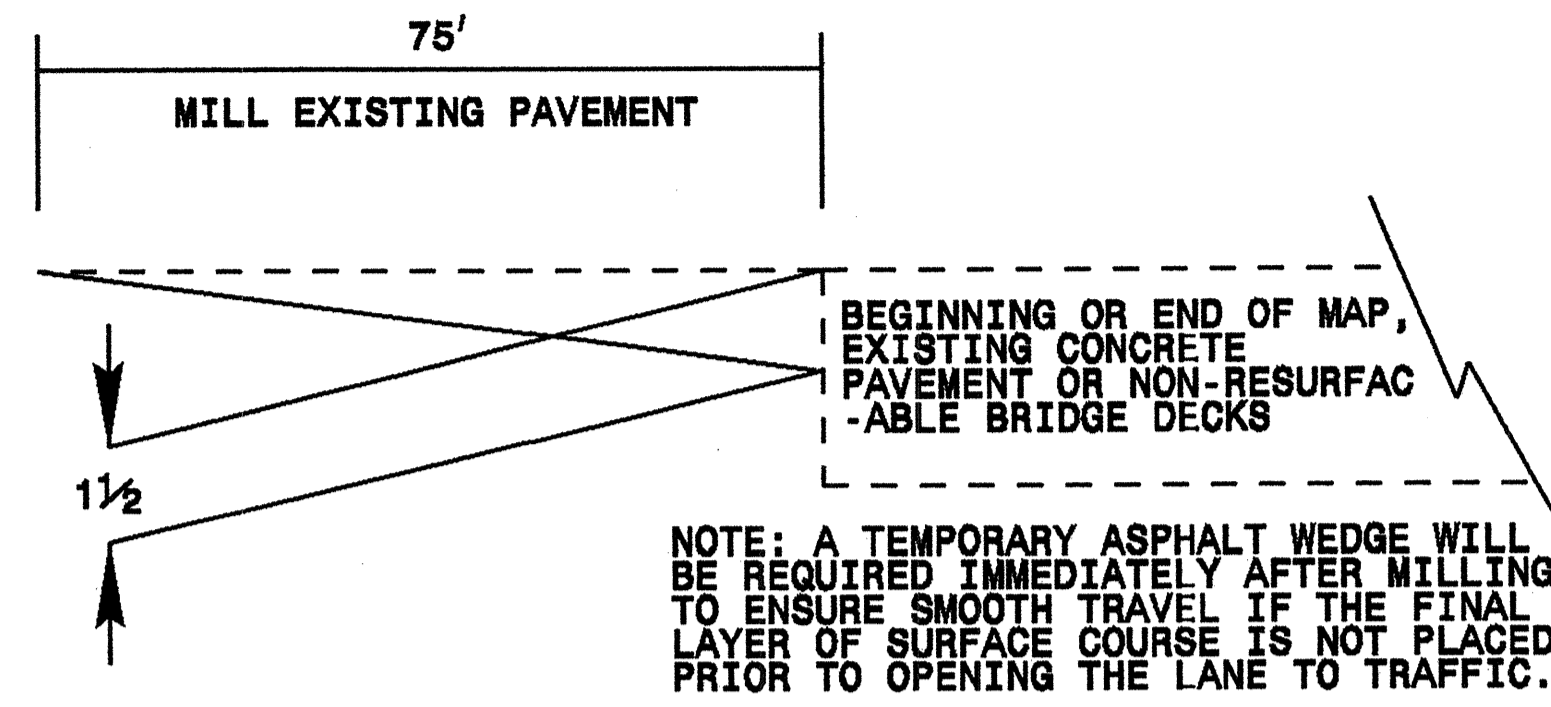
6/22/99
 I:\DEC-2002\1108\5-NBC\4-D-range\W-5318_NC_86_Rumble Strips\Roadway\Proj\W-5318_Rdy_sjy.dgn
 12/12/12

STANDARD CONCRETE ENCASEMENT FOR VALVE CASTINGS IN PAVEMENT



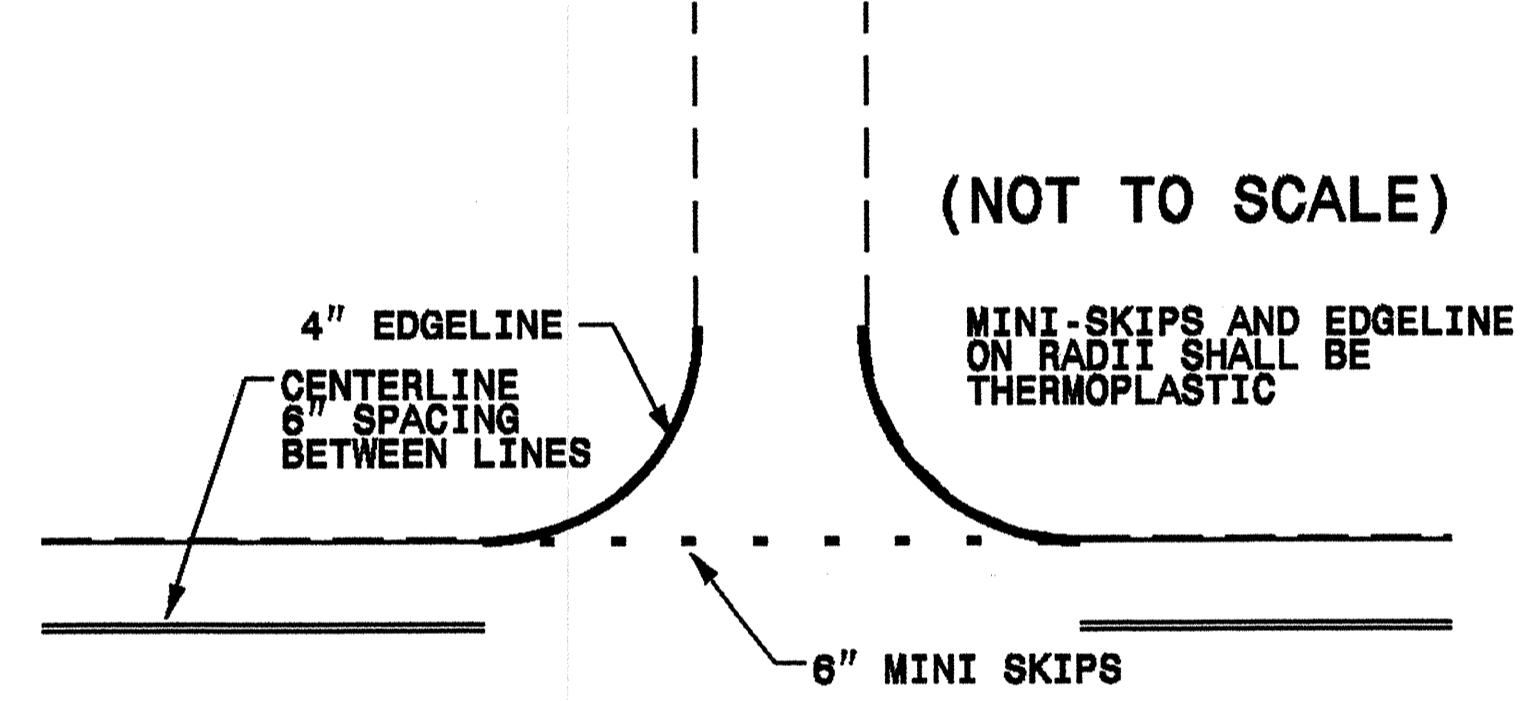
USE RAPID SET GROUT, MORTAR, OR CONCRETE CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

INCIDENTAL MILLING DETAIL



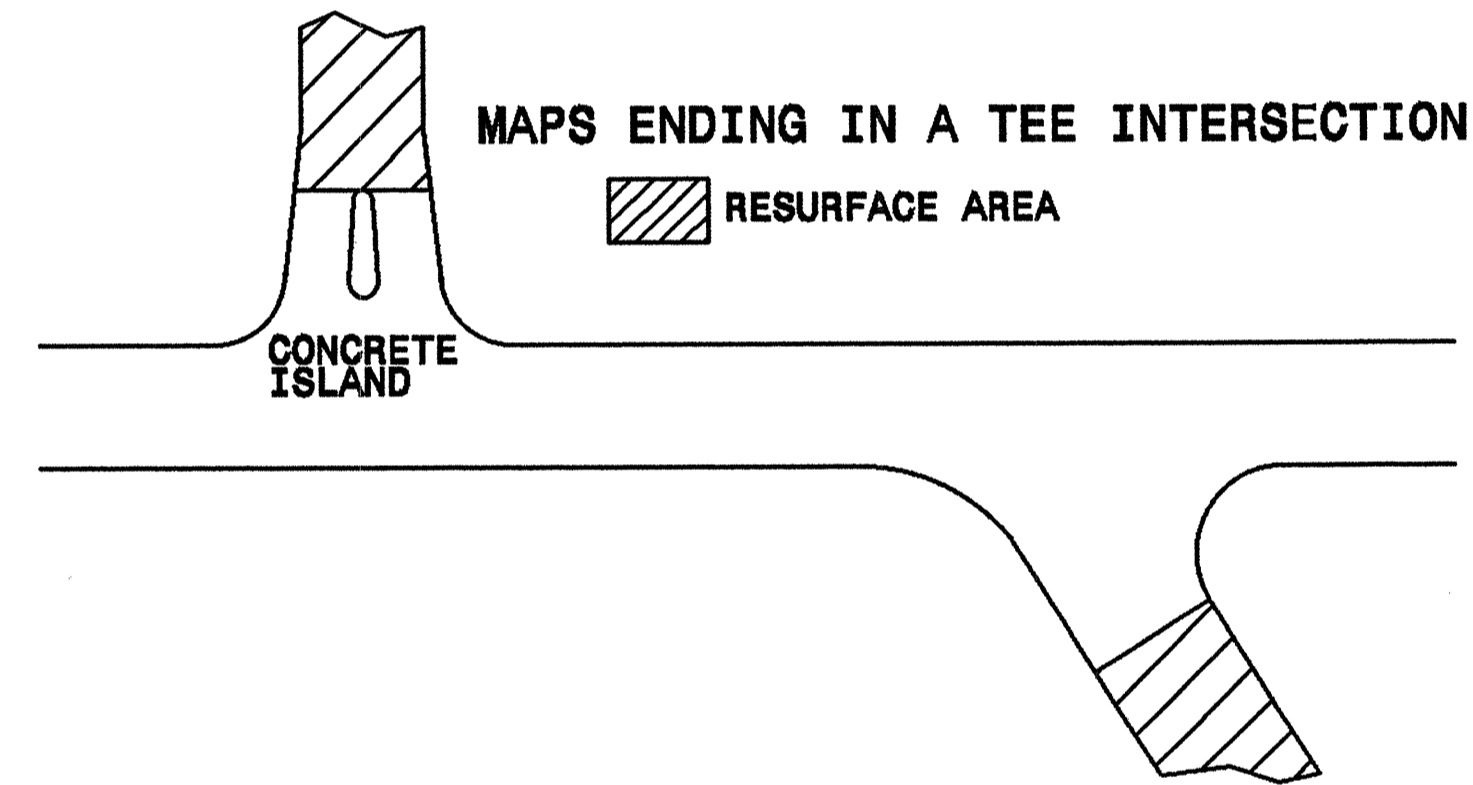
C.B. Smitherman 12/19/12

TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS

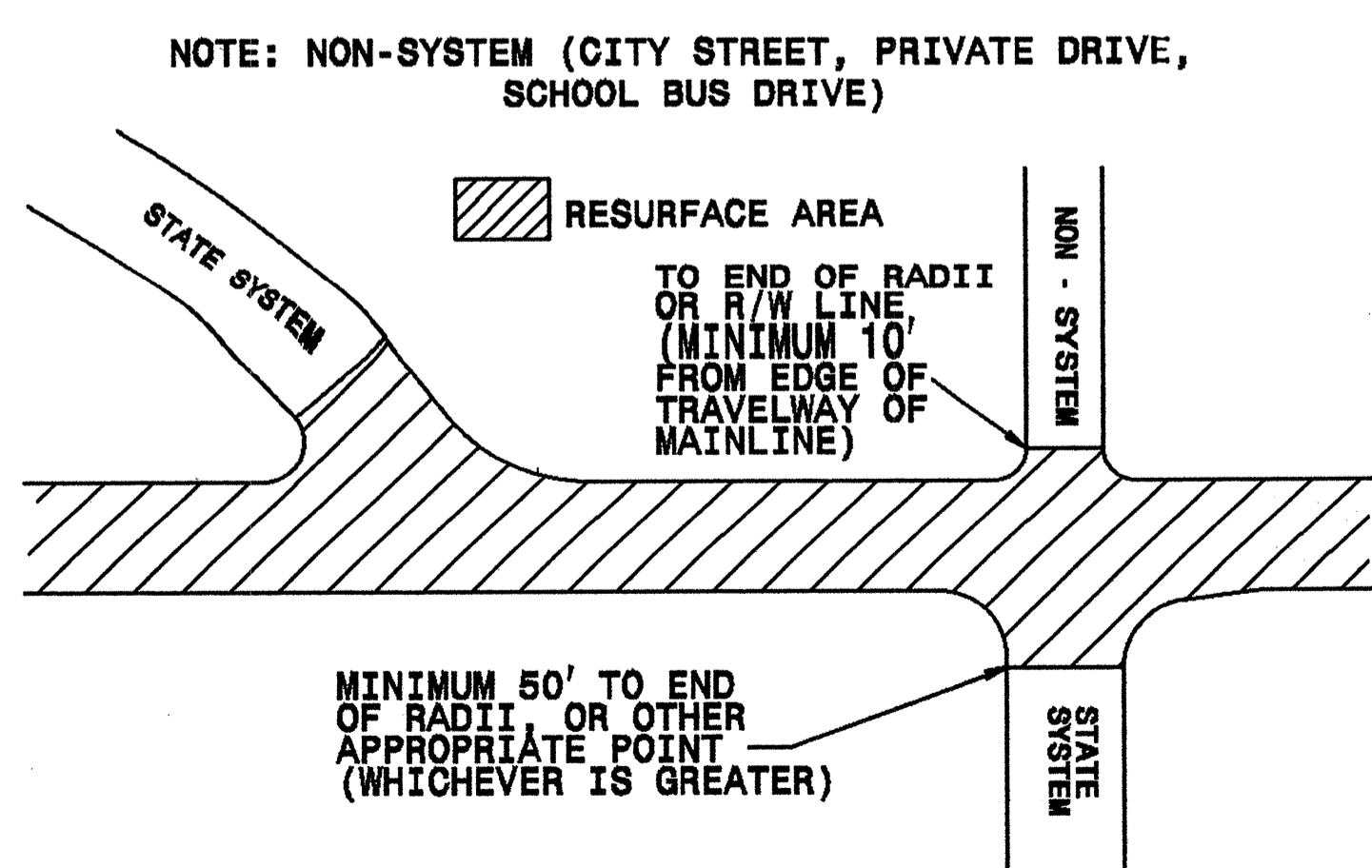


NOTE: MINI SKIPS SHALL BE PLACED ON A 8' CYCLE, CONTAINING AN 6' AND 2' SKIP, THE WIDTH OF THE SKIP SHALL BE 6".

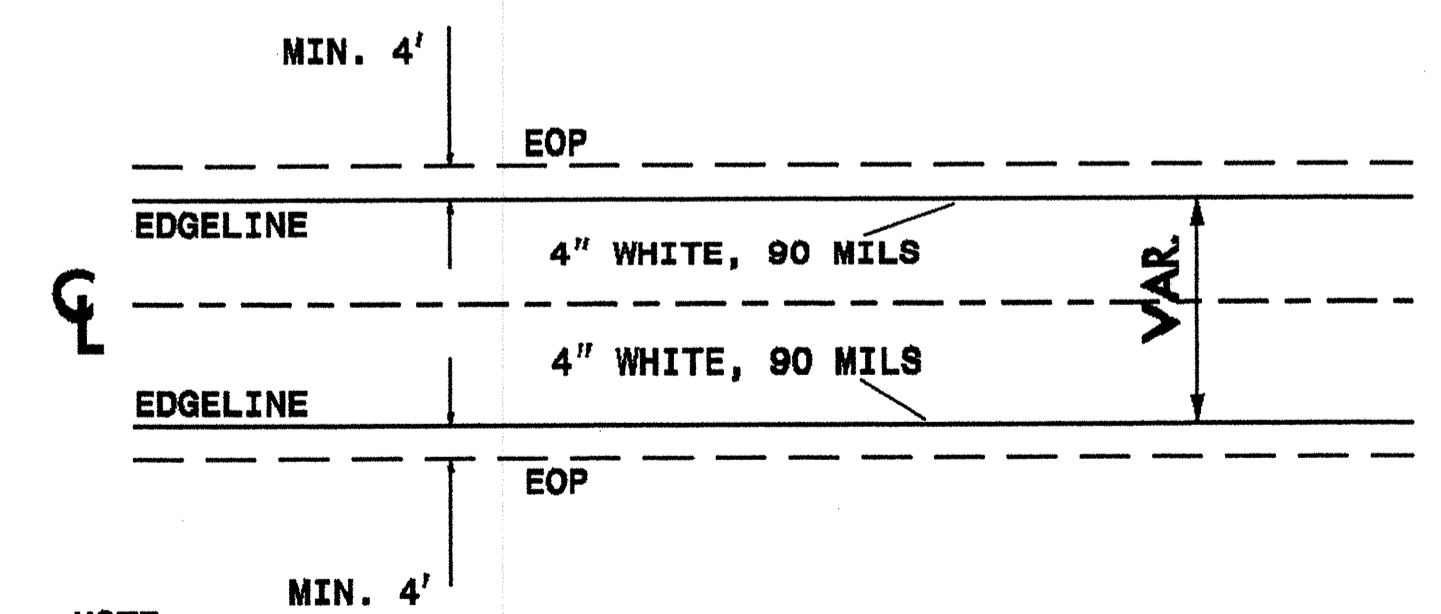
PAVING DETAIL 1 MAIN LINE IS NOT BEING RESURFACED



PAVING DETAIL 2 MAIN LINE IS BEING RESURFACED



STRIPING DETAIL 1 GENERAL STRIPING DETAIL FOR ENTIRE PROJECT

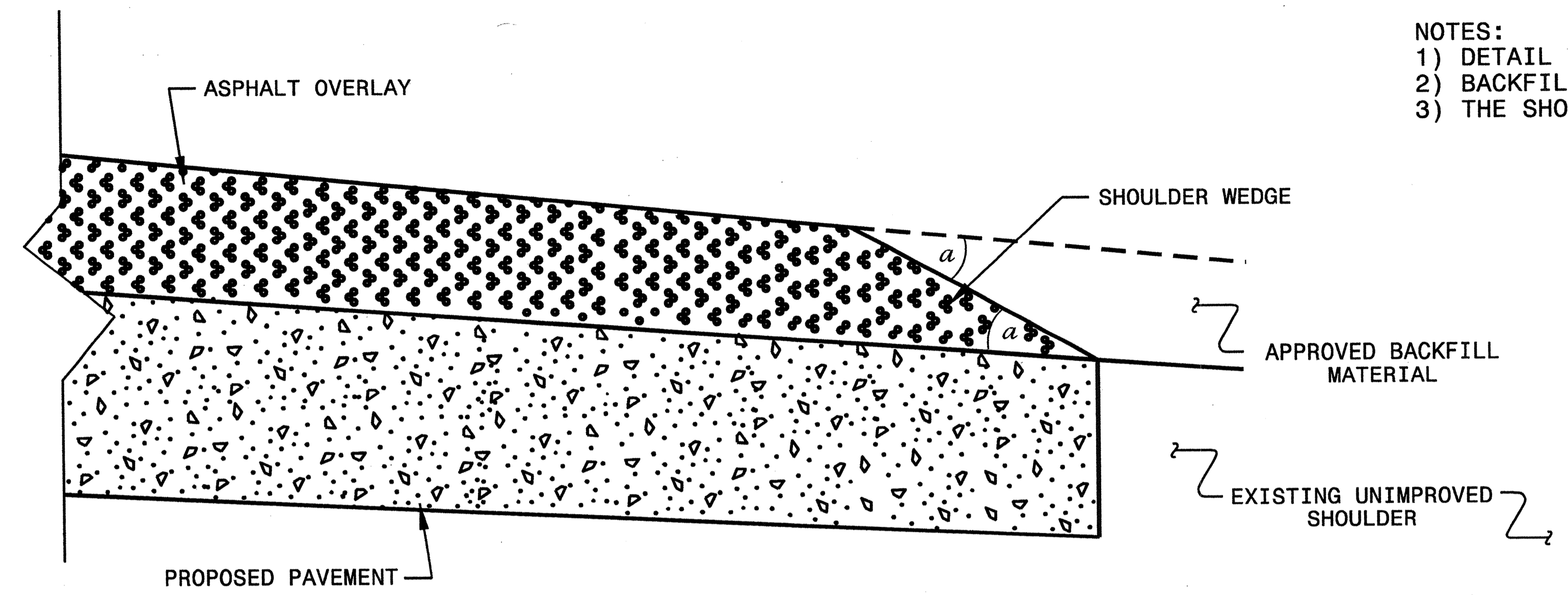


NOTE:
 1. TO BE USED IN CONJUNCTION WITH TYPICAL SECTION NO. 1, 3, AND 8
 2. USE IN CONJUNCTION WITH THE EXISTING PAVEMENT MARKINGS TO ESTABLISH THE STRIPING.
 3. USE IN CONJUNCTION WITH THE NCDOT STANDARD DRAWINGS.

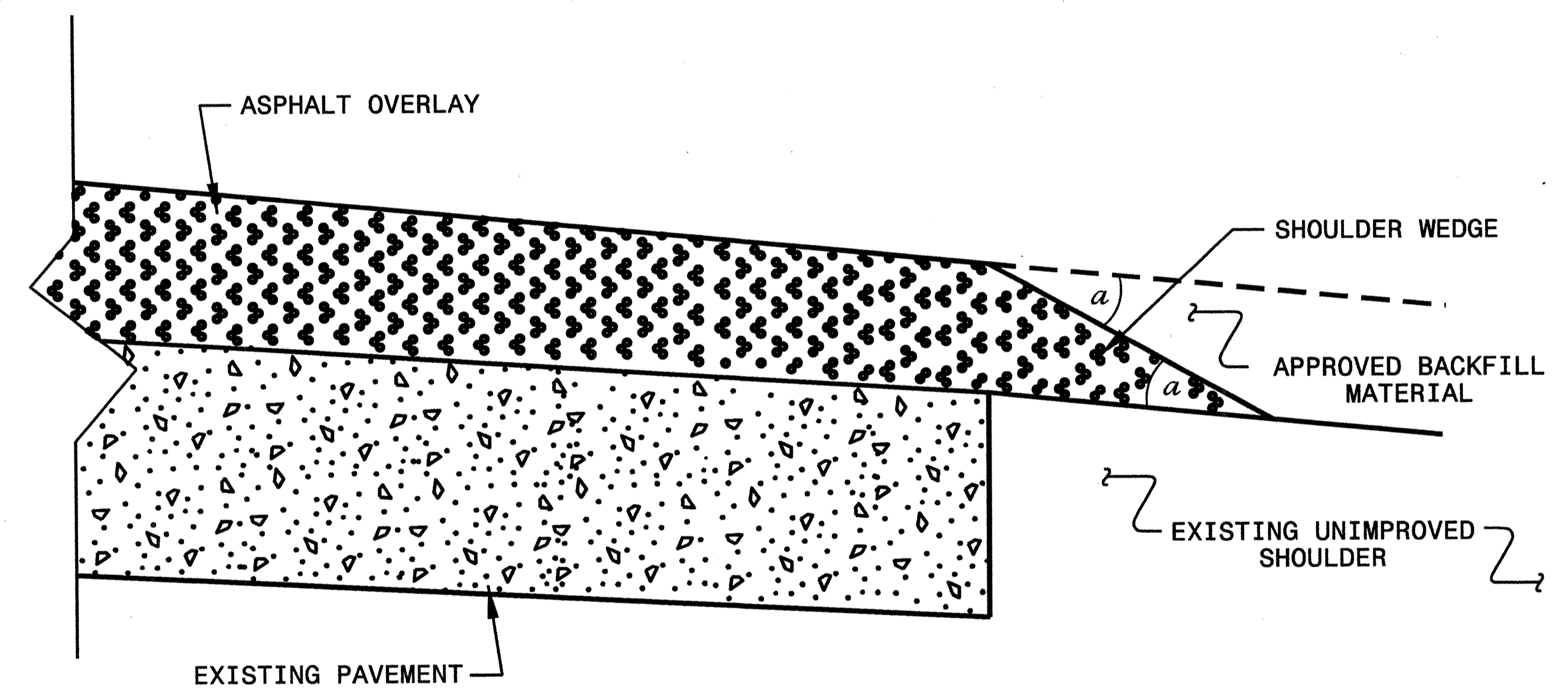
PAVEMENT SCHEDULE	
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C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
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F	AST MAT COAT 76M SEAL
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT
V	MILLED RUMBLE STRIPS STD 665.01
W	WEDGING (SEE WEDGING DETAIL)

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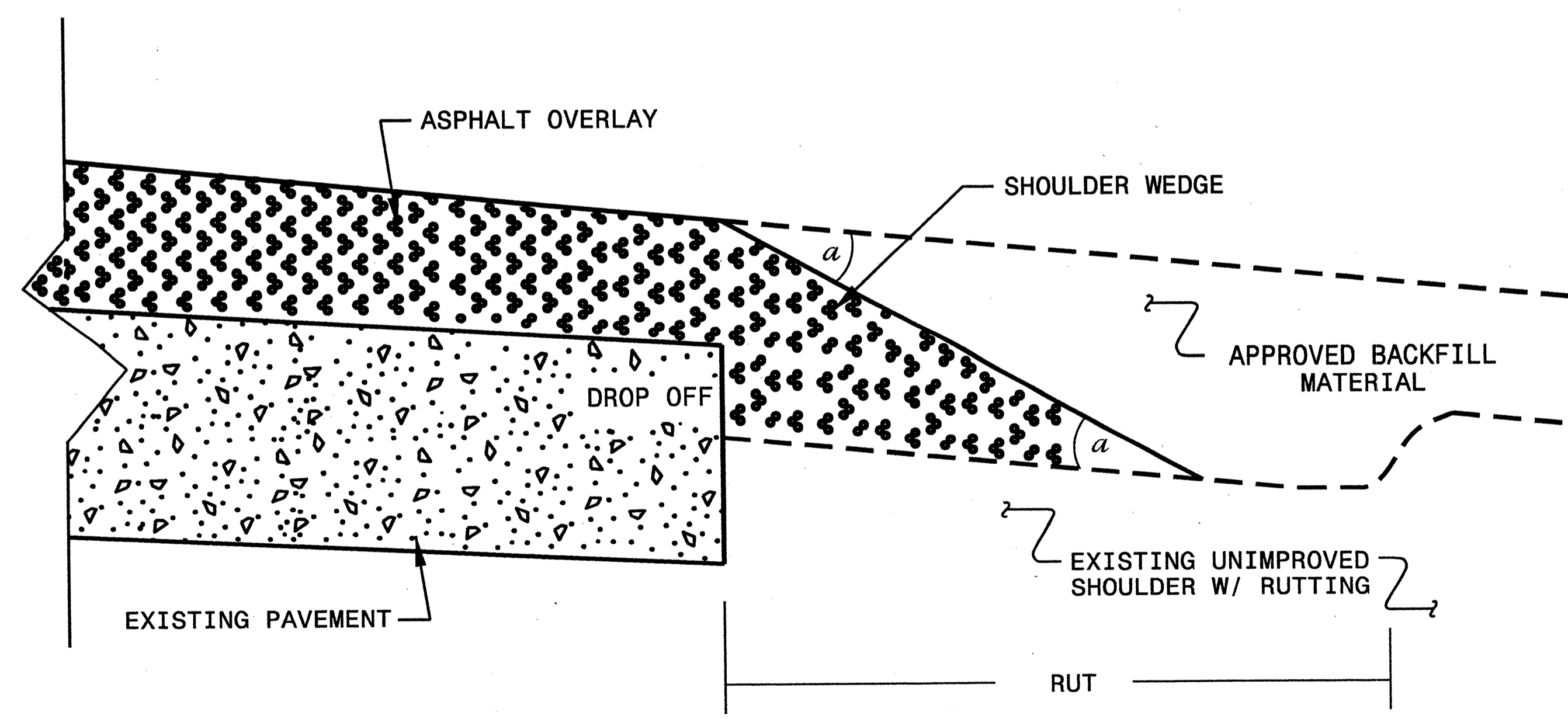
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFG AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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: s:\usr\detail\stand\shoulderwedgedetail.dgn	

I:\REF-2012\1644
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 J:\eremakoski AT D7CAD00251707

COMPUTED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. **W-5318** SHEET NO. **3**

**SUMMARY OF EARTHWORK
 IN CUBIC YARDS**

STATION	STATION	UNCL. EXCAV.	UNDERCUT ESTIMATION	EMBANK. +%	BORROW	WASTE
CURVE 1						
-L1- 10+00	-L1- 19+00	121		700	579	
CURVE 2						
-L2- 10+00	-L2- 23+50	149		594	445	
SUBTOTALS:		270		1294	1024	
GRAND TOTAL:		270		1294	1024	

ESTIMATED UNDERCUT = 50 CY

Earthwork quantities are calculated by the Roadway Design Unit.
 Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, and Clearing and Grubbing will be paid for at the contract lump sum price for "Grading."

NOTE: LUMP SUM GRADING APPLICABLE TO MAPS 1 AND 2 ONLY.

12/06/07
 07 JAN 2013 15:09
 C:\projects\Resurfacing Projects\Division 7\W-5318\Revised Files\W-5318.dwg
 4/24/06
 12-17-12 New Revisions\Revised Earthwork\W-5318.Rdy.sht3.dgn

PROJECT NO. 46141.3.1, 7CR.10681.31	SHEET NO. 3B	TOTAL NO.
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SUMMARY OF QUANTITIES (FOR OVERLAY OF ENTIRE PROJECT EXCEPT FOR CURVES L1 AND L2)

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	UNDERCUT EXCAVATION CY	GRADING LS	BORROW EXCAVATION	SHOULDER RECONSTR.	INCIDENTAL STONE BASE TONS	INCIDENTAL MILLING SY	ASPHALT CONC BASE COURSE, TYPE B25.0B TONS	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B TONS	ASPHALT CONC SURFACE COURSE, TYPE S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TONS	ASPHALT SURFACE TREATMENT, MAT COAT, #78M STONE SY	MILLED RUMBLE STRIPS (ASPHALT CONCRETE) LF	6" CONCRETE DRIVEWAYS SY	ADJUSTMENT OF METER BOXES OR VALVE BOXES EA	UNPAVED TRENCHING (1" (2")) LF	JUNCTION BOX (STANDARD SIZE) EA									
7CR.10681.31	Orange	3	NC 86	FROM THE JOINT AT US 70 TO CURVE L1	1	NO	0.011	35									23	1	226			1											
					1	NO	0.021	24-35												39	2	363											
					1	NO	0.163	24													298	18	2,295										
					1	NO	0.037	24-27														61	4	554									
					1	NO	0.056	27-34															107	6	1,002								
					1	NO	0.009	34															19	1	180								
					1	NO	0.022	34-44																51	3	503							
					1	NO	0.024	44																62	4	620							
					1	NO	0.034	35-44																160	10	788							
					1	NO	0.047	35										740						100	6	965							
					1	NO	0.064	24-35																119	7	1,108							
					1	NO	0.265	24																440	26	3,731							
					1	NO	0.051	24-36																96	6	898							
					1	NO	0.036	36																78	5	760							
					1	NO	0.017	36-50																63	4	429							
					1	NO	0.018	50																52	3	528							
					1	NO	0.031	28-50																72	4	709							
					1	NO	0.025	24-28																42	3	381							
					1	NO	0.493	24																800	48	6,941							
					1	NO	0.018	24-28																30	2	275							
					1	NO	0.068	28-38																138	8	1,317							
					1	NO	0.066	38																170	10	1,471							
					1	NO	0.066	24-38																131	8	1,237							
					1	NO	0.068	24-38																4,319	259	37,523							
					1	NO	2.665	24																			1						
					TOTAL FOR MAP NO. 3							4.309						740					7,470	448	64,804								
					Orange 4 NC 86							5.99	24											9,743	585	84,339							
					TOTAL FOR MAP NO. 4							0.05	27												87	5	792						
					Orange 5 NC 86							6.04												9,830	590	85,131							
					TOTAL FOR MAP NO. 5							1.259	24													2,033	122	17,727					
					TOTAL FOR PROJ NO. 7CR.10681.31							11.989							740							20,339	1,220	176,882					
					GRAND TOTAL FOR 46141.3.1 AND 7CR.10681.31							12.425			50	1	480	23.98	750	400	18,144	14,406	26,546	3,081	183,373	131,210	400	1	775	7			

SUMMARY OF QUANTITIES (FOR OVERLAY OF ENTIRE PROJECT EXCEPT FOR CURVES L1 AND L2)

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	2" RISER WITH WEATHERHEAD EA	INDUCTIVE LOOP SAWCUT LF	LEAD-IN CABLE (14-2) LF	TEMPORARY SILT FENCE LF	STONE FOR EROSION CONTROL, CLASS A TON	STONE FOR EROSION CONTROL, CLASS B TON	SEDIMENT CONTROL STONE TON	TEMPORARY MULCHING ACR	SEED FOR TEMPORARY SEEDING LB	FERTILIZER FOR TEMPORARY SEEDING TON	TEMPORARY SLOPE DRAINS LF	MATTING FOR EROSION CONTROL SY	COIR FIBER WATTLE LF	POLYACRYLAMIDE (PAM) LB	SEEDING & MULCHING AC	RESIDENTIAL SEEDING AC							
7CR.10681.31	Orange	3	NC 86	FROM THE JOINT AT US 70 TO CURVE L1	1	NO	0.011	35																							
					1	NO	0.021	24-35																							
					1	NO	0.163	24																							
					1	NO	0.037	24-27																							
					1	NO	0.056	27-34																							
					1	NO	0.009	34																							
					1	NO	0.022	34-44																							
					1	NO	0.024	44																							
					1	NO	0.034	35-44																							
					1	NO	0.047	35																							
					1	NO	0.064	24-35																							
					1	NO	0.265	24																							
					1	NO	0.051	24-36																							
					1	NO	0.036	36																							
					1	NO	0.017	36-50																							
					1	NO	0.018	50																							
					1	NO	0.031	28-50																							
					1	NO	0.025	24-28																							
					1	NO	0.493	24																							
					1	NO	0.018	24-28																							
					1	NO	0.068	28-38																							
					1	NO	0.066	38																							
					1	NO	0.068	24-38																							
					1	NO	0.068	24-38																							
					1	NO	2.665	24																							
					TOTAL FOR MAP NO. 3							4.309																			
					Orange 4 NC 86							5.99	24																		
					TOTAL FOR MAP NO. 4							0.05	27																		
					Orange 5 NC 86							6.04																			
					TOTAL FOR MAP NO. 5							1.259	24																		
					TOTAL FOR PROJ NO. 7CR.10681.31							11.989																			
					GRAND TOTAL FOR 46141.3.1 AND 7CR.10681.31							12.425		3	1,600	1,075	6,300	95	420	135	9	350	2	200	1,400	900	120	7.15	1.89		

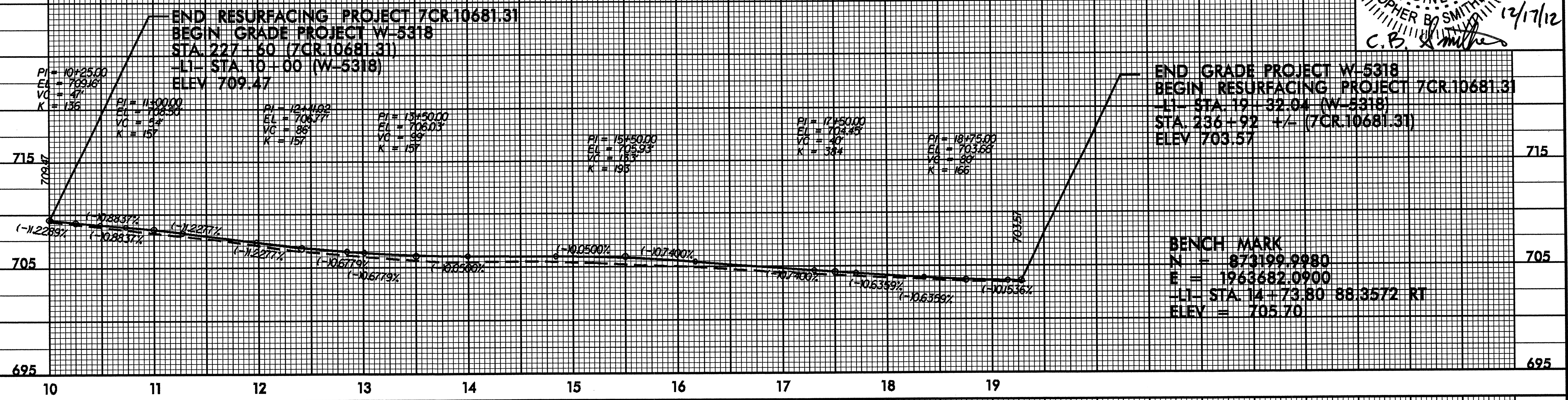
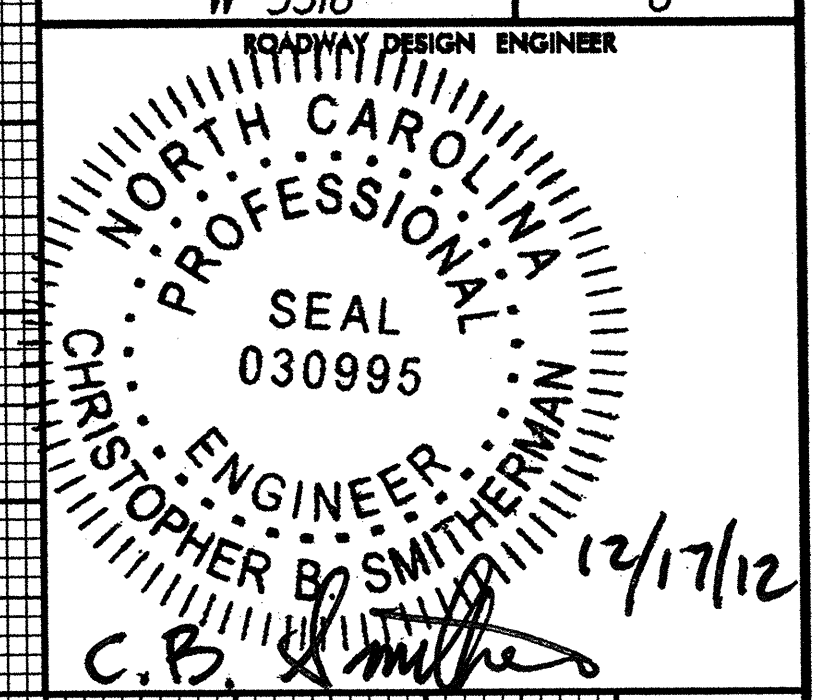
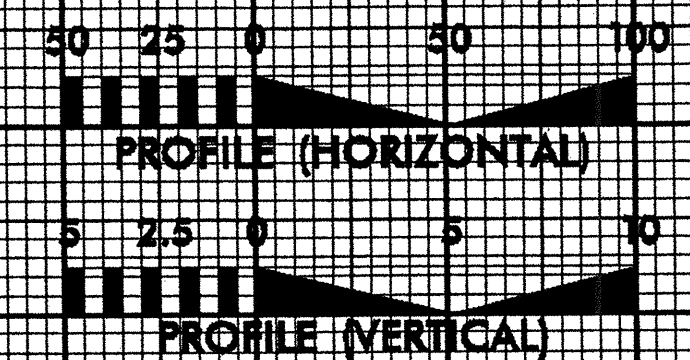
PROJECT NO.	SHEET NO.	TOTAL NO.
46141.3.1, 7CR.10681.31	3C	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	4399000000-N	4685000000-E	4686000000-E		4695000000-E	4710000000-E	4810000000-E		4725000000-E				4905000000-N		
							TEMPORARY TRAFFIC CONTROL LS	4" X 90M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	4" X 120M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	24" X 120 M WHITE THERMO LF	4" YELLOW PAINT LF	4" WHITE PAINT LF	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	SNOWPLOWABLE PAVEMENT MARKERS YELLOW/YELLOW EA	SNOWPLOWABLE PAVEMENT MARKERS CRYSTAL/RED EA	
46141.3.1	Orange	1	CURVE L1 (LAKE ORANGE RD)	CURVE L1	0.177	24	1	1,864	1,864				1,870	1,870					12		
TOTAL FOR MAP NO. 1					0.177		1	1,864	1,864				1,870	1,870					12		
46141.3.1	Orange	2	CURVE L2 (MCCOLLOUGH RD)	CURVE L2	0.208	27		2,200	1,557				2,196	2,196					14		
TOTAL FOR MAP NO. 2					0.05	24		526	526	16			528	528					3		
TOTAL FOR PROJ NO. 46141.3.1					0.258			2,726	2,083	16			2,724	2,724					17		
					0.434		1	4590	3947	16			4594	4594					29		
									3,963				9,188							29	
7CR.10681.31	Orange	3, 4, and 5	NC 86	FROM US 70 TO CASWELL COUNTY LINE EXCEPT FOR CURVE L1 AND CURVE L2	4.309	24-60		123,876	86,145	1,913	948	140			9	6	3	3	919	92	
TOTAL FOR MAPS NO. 3, 4, AND 5					11.991			123,876	86,145	1,913	948	140			9	6	3	3	919	92	
TOTAL FOR PROJ NO. 7CR.10681.31					11.991			123,876	86,145	1,913	948	140			9	6	3	3	919	92	
									88,058							21				1,011	
GRAND TOTAL FOR PROJECT 46141.3.1 AND PROJECT 7CR.10681.31					12.425		1	128,466	90,092	1,929	948	140	4,594	4,594	9	6	3	3	948	92	
									92,021				9,188			21				1,040	

5/28/99

Curve 1 Profile -L1-



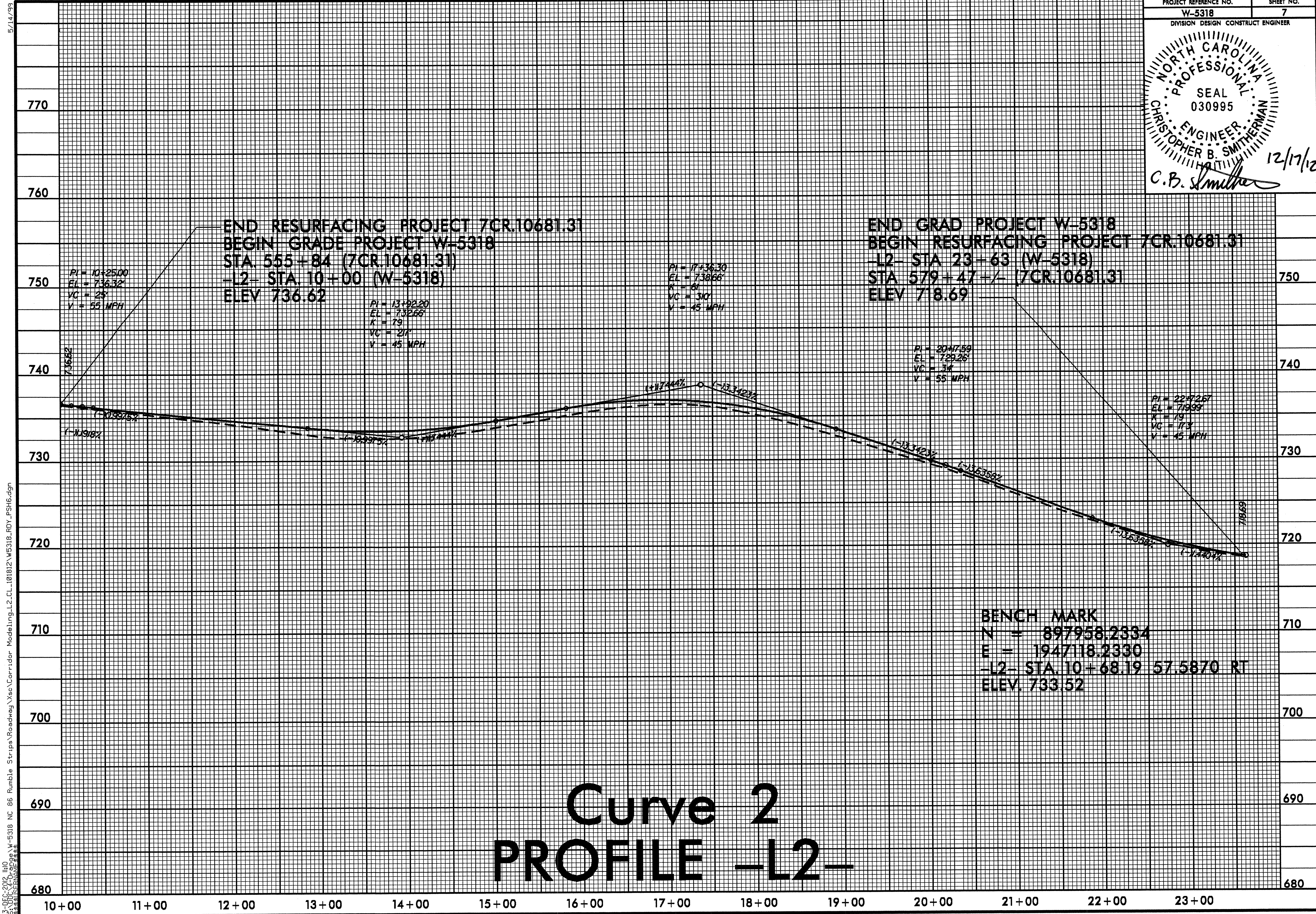
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5/14/99

PROJECT REFERENCE NO. W-5318	SHEET NO. 7
DIVISION DESIGN CONSTRUCT ENGINEER	

NORTH CAROLINA
PROFESSIONAL
SEAL
030995
ENGINEER
CHRISTOPHER B. SMITHERMAN

12/17/12
C.B. Smitherman



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