

22-NOV-2019 14:17 S:\Shared\Division One Resurfacing & Retreatment Plans\2020-2021Resurfacing\DA00473-Bertie South US 17 & Secondary\_Martin Secondary\2020CPT.01.06.10281.L-DI-DDC-shl.dgn 09/08/99

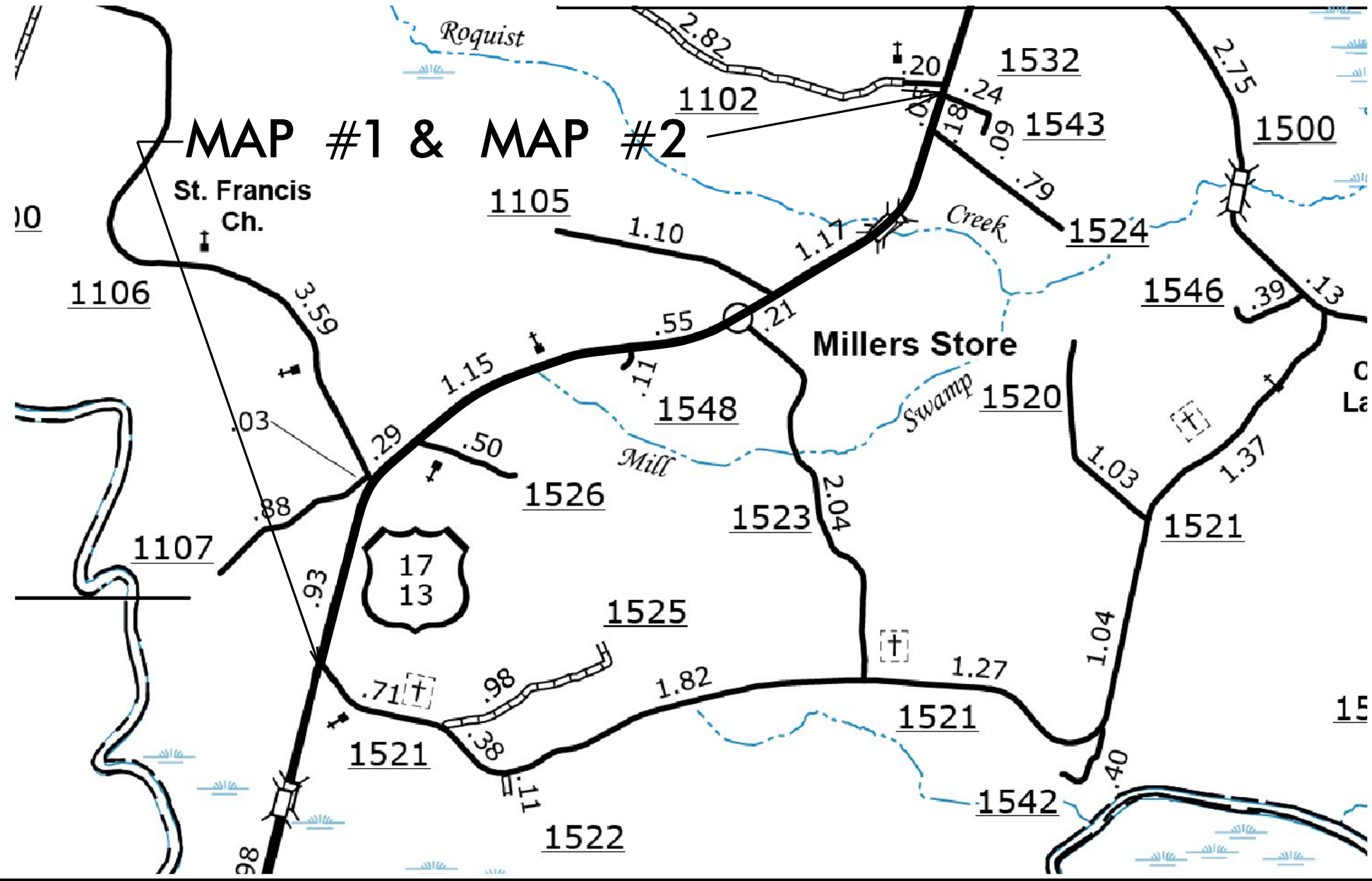
**CONTRACT: DA00473 WBS ELEMENT: 2020CPT.01.06.10081.1, ETC.**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	2020CPT.01.06.10081.1, ETC.	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
2020CPT.01.06.10081.1		PE, CONST.	

**BERTIE COUNTY (SOUTH)**

LOCATION: MAPS #1 & #2 US 17 NBSB FROM SR 1521 TO SR 1532  
TYPE OF WORK: WIDENING, MILLING & RESURFACING



GRAPHIC SCALES  
  
NTS

PROJECT LENGTH

MAP #1 (NBL) = 4.7 MILES  
MAP #2 (SBL) = 4.7 MILES

Prepared In the Office of:  
**DIVISION OF HIGHWAYS**  
113 Airport Dr., Suite 100, Edenton NC, 27944

2018 STANDARD SPECIFICATIONS

LETTING DATE:  
FEBRUARY 19, 2020

W. B. HOBBS, PE  
DIVISION PROJECT TEAM LEAD

CHRIS SLACHTA  
DIVISION PROPOSAL ENGINEER

S. P. FENWICK, P.L.S.  
DIVISION DESIGN ENGINEER



22-NOV-2019 09:42  
 S:\Shared\Division One Resurfacing & Retreatment Plans\2020-2021Resurfacing\DA00473-Bertie South US 17 & Secondary\_Martin Secondary\2020CPT.01.06.10281.1-DI-DDC-sh2.dgn  
 09/08/99  
 \$\$\$USERNAME\$\$\$

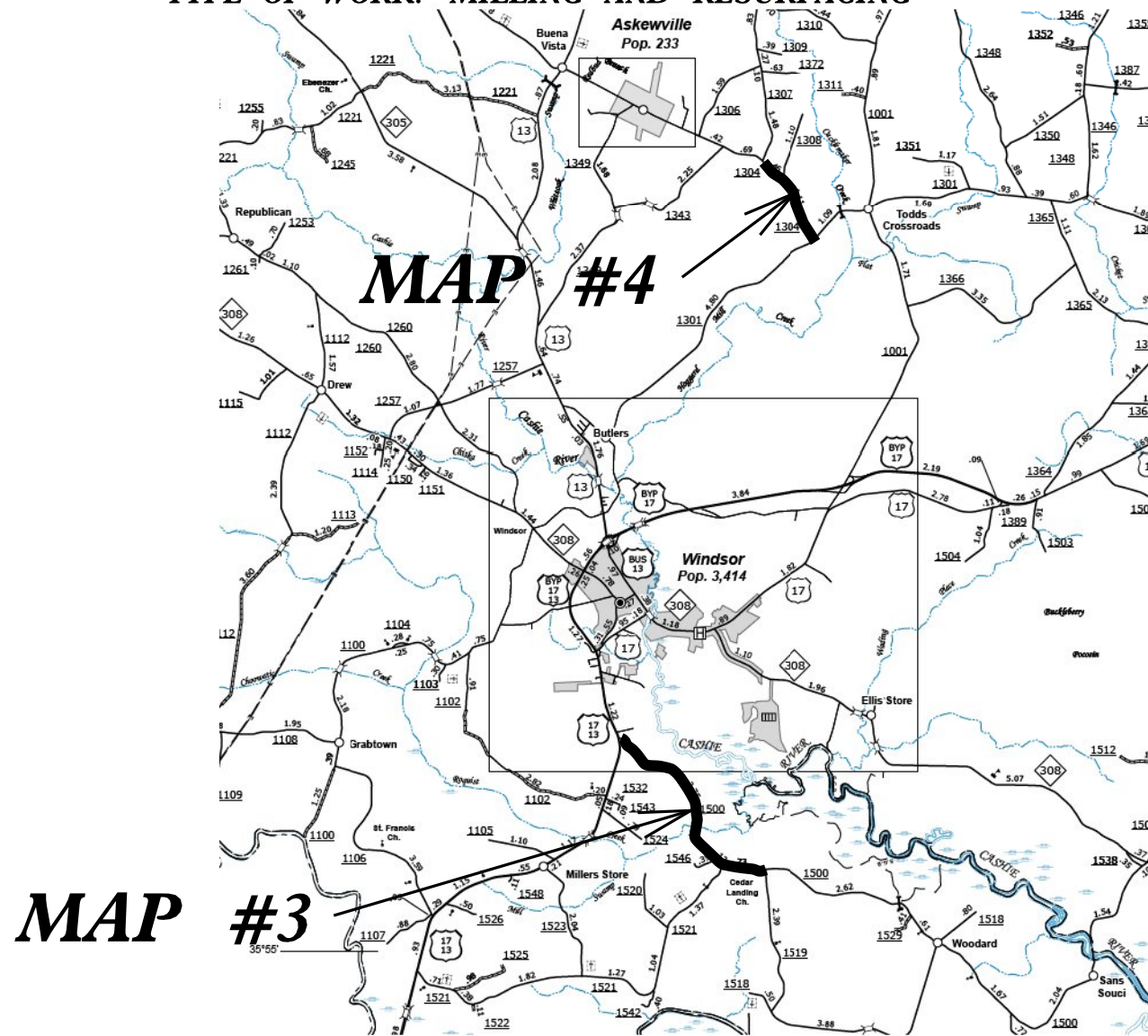
**CONTRACT: DA00473 WBS ELEMENT: 2020CPT.01.06.10081.1, ETC.**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**BERTIE COUNTY (SOUTH)**

LOCATION: MAP #3 SR 1500 (WOODARD RD.) FROM SR 1519 TO US 13  
 MAP #4 SR 1304 (ASKEWVILLE RD.) FROM SR 1301 TO SR 1307

TYPE OF WORK: MILLING AND RESURFACING



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	2020CPT.01.06.10281.1, ETC.	2	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
2020CPT.01.06.20081.1		PE, CONST.	

GRAPHIC SCALES

NTS

PROJECT LENGTH

MAP #3 = 3.56 MILES  
 MAP #4 = 1.58 MILES

Prepared In the Office of:  
**DIVISION OF HIGHWAYS**

113 Airport Dr., Suite 100, Edenton NC, 27944

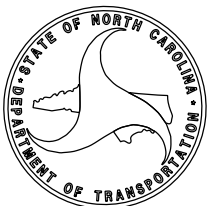
2018 STANDARD SPECIFICATIONS

LETTING DATE:  
 FEBRUARY 19, 2020

W. B. HOBBS, PE  
 DIVISION PROJECT TEAM LEAD

CHRIS SLACHTA  
 DIVISION PROPOSAL ENGINEER

S. P. FENWICK, P.L.S.  
 DIVISION DESIGN ENGINEER



10-DEC-2019 12:03  
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**CONTRACT: DA00473 WBS ELEMENT: 2020CPT.01.06.10081.1, ETC.**

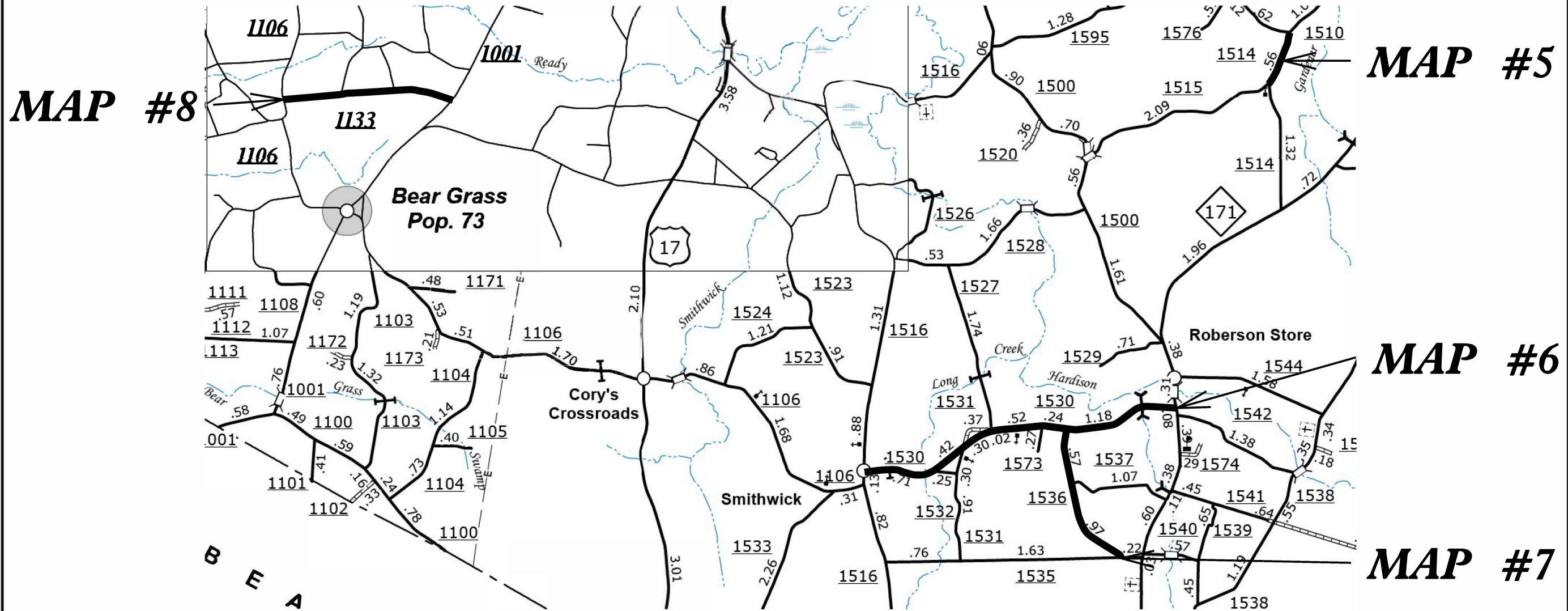
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**MARTIN COUNTY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	2020CPT.01.06.10081.1, ETC.	3	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
2020CPT.01.06.20581.1		PE, CONST.	

**LOCATION: MAP #5 SR 1514 (TAR LANDING RD.) FROM SR 1510 TO SR 1515**  
**MAP #6 SR 1530 (PINEY GROVE CHURCH RD.) FROM SR 1516 TO NC 171**  
**MAP #7 SR 1536 (NATHAN ROBERSON RD.) FROM SR 1530 TO SR 1535**  
**MAP #8 SR 1133 (FIVE CENT RD.) FROM SR 1106 TO SR 1001**

**TYPE OF WORK: AST, MILLING AND RESURFACING**



GRAPHIC SCALES

NTS

PROJECT LENGTH

MAP #5 = 0.52 MILES  
 MAP #6 = 3.38 MILES  
 MAP #7 = 1.53 MILES  
 MAP #8 = 1.73 MILES

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**

113 Airport Dr., Suite 100, Edenton NC, 27944

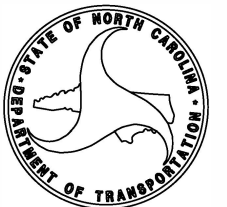
2018 STANDARD SPECIFICATIONS

LETTING DATE:  
 FEBRUARY 19, 2020

**W. B. HOBBS, PE**  
 DIVISION PROJECT TEAM LEAD

**CHRIS SLACHTA**  
 DIVISION PROPOSAL ENGINEER

**S. P. FENWICK, P.L.S.**  
 DIVISION DESIGN ENGINEER



PAVEMENT SCHEDULE

PROJECT REFERENCE NO.  
2020CPT.01.06.J0081J.ETC.

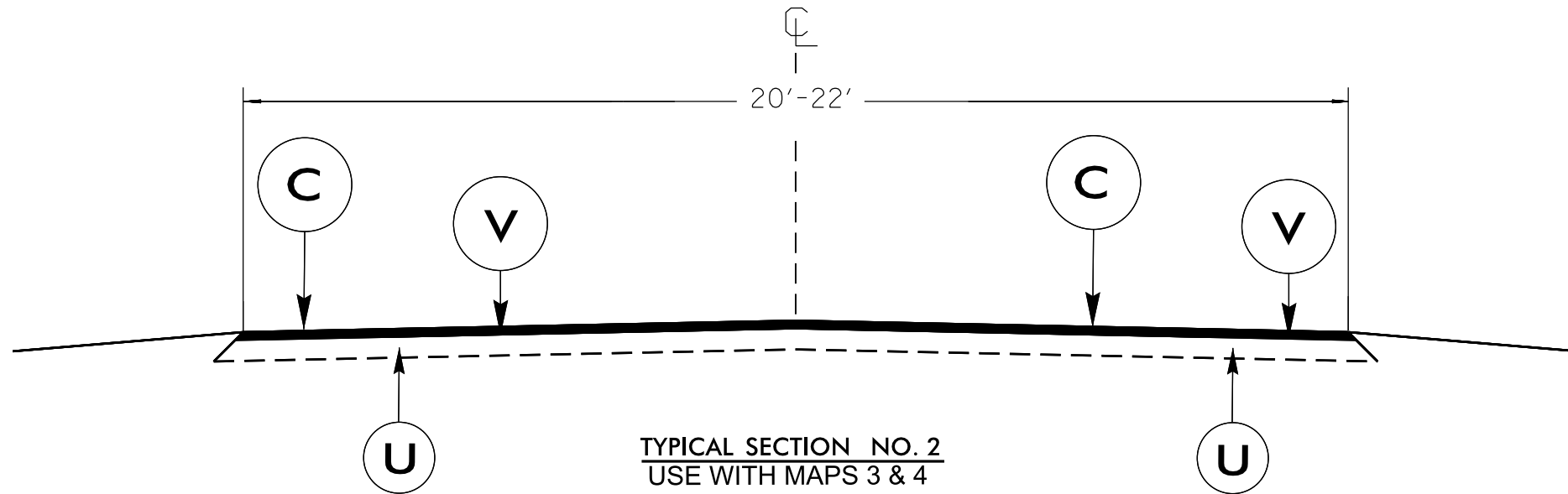
SHEET NO.  
4

C	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
E	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
F	ASPHALT SURFACE TREATMENT, DOUBLE SEAL
U	EXISTING PAVEMENT.
V	MILLING ASPHALT PAVEMENT. 1.5" IN DEPTH.

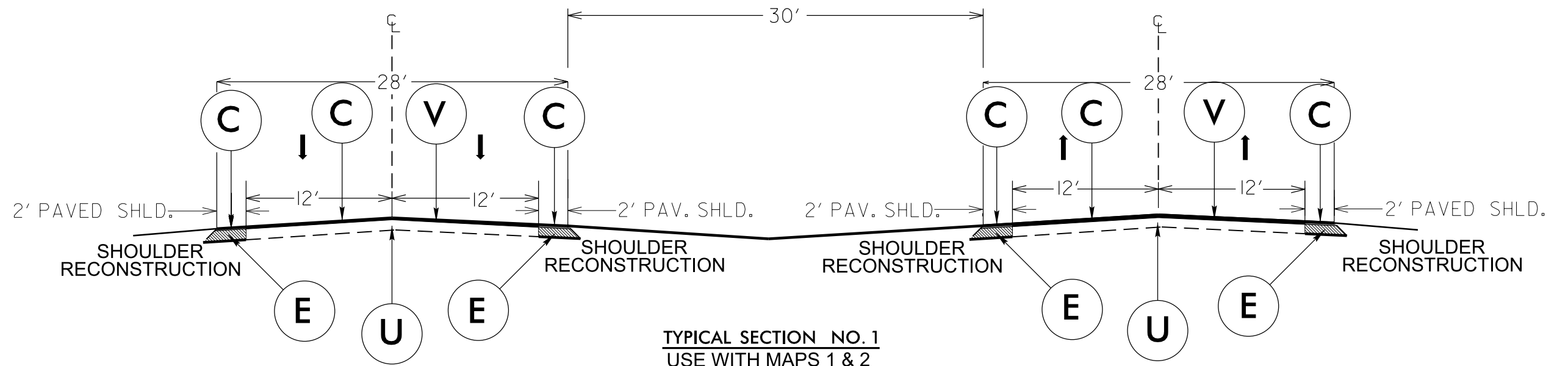
NOTES:

\*ALL PAVED S.R. ROADS OR RAMPS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER

\*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE SUMMARY OF QUANTITIES



TYPICAL SECTION NO. 2  
USE WITH MAPS 3 & 4



TYPICAL SECTION NO. 1  
USE WITH MAPS 1 & 2

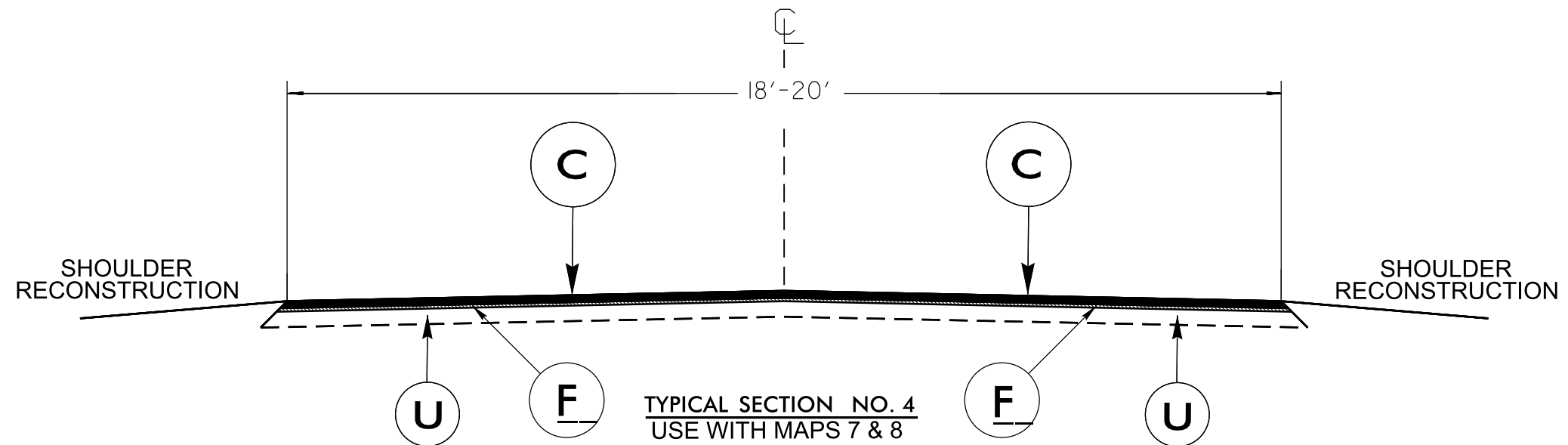
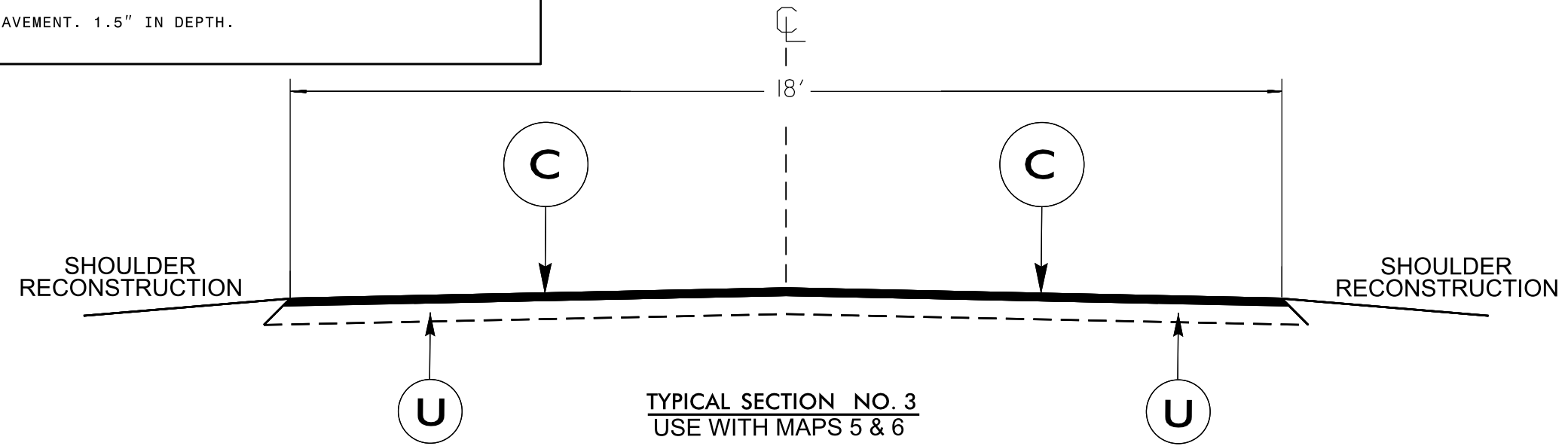
PAVEMENT SCHEDULE

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\*ALL PAVED S.R. ROADS OR RAMPS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER

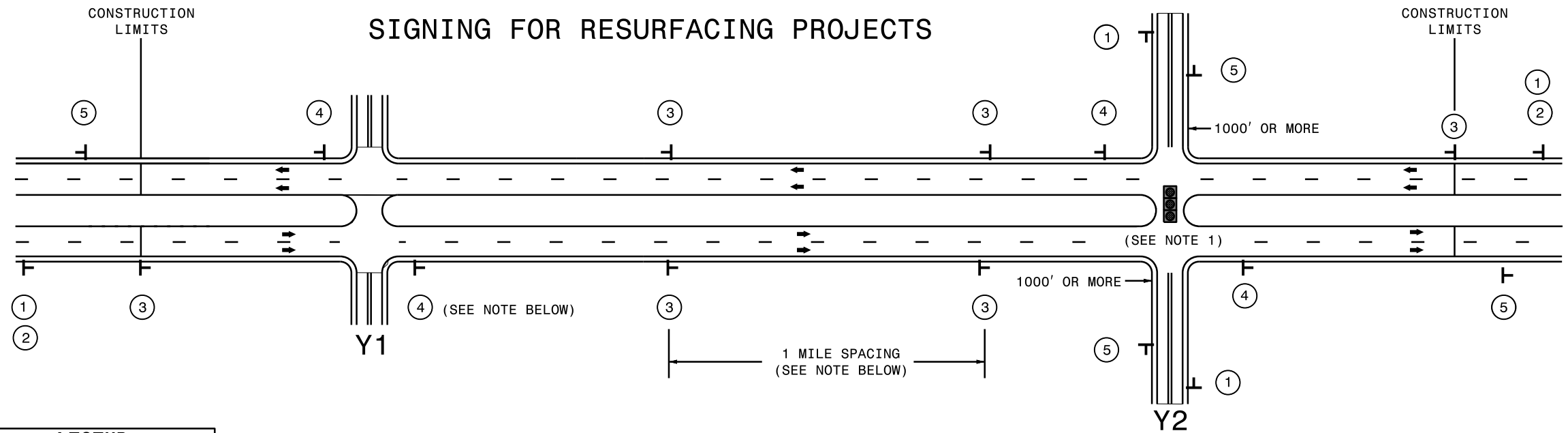
\*EDGES, PAVEMENT WIDENING, INTERSECTIONS, AND BRIDGE FLARES ARE INCLUDED IN THE SUMMARY OF QUANTITIES



16-DEC-2019 11:01 S:\Sheriff\Division One Resurfacing & Retreatment Plans\2020-2021 Resurfacing\DA00473-Bertie South US 17 & Secondary-Martin Secondary\2020CPT.01.06.102811.D1-DDC-sh5.dgn

**SUMMARY OF QUANTITIES**

PROJECT NO	COUNTY	M A P	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	MTV REQUIRED	LENGTH	WIDTH	MOBILIZATION	BORROW EXCAVATION	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	MILLING ASPHALT PAVEMENT (1 1/2")	INCIDENTAL MILLING	ASPHALT CONCRETE BASE COURSE, B25.0C	ASPHALT CONCRETE SURFACE COURSE, S9.5B	ASPHALT BINDER FOR PLANT MIX	ASPHALT SURFACE TREATMENT (DOUBLE SEAL)	EMULSION FOR ASPHALT SURFACE TREATMENT	GENERIC PAVING ITEM (FULL DEPTH PATCHING, 0-5")	GENERIC PAVING ITEM (MILL PATCHING, 0-2.5")	6" CONCRETE DRIVEWAY	STEEL BEAM GUARDRAIL	GUARDRAIL ANCHOR UNITS, TYPE B-83	GUARDRAIL END UNITS, TYPE TL-3	GUARDRAIL END UNITS, TYPE CAT-1	REMOVE EXISTING GUARDRAIL	TEMPORARY SILT FENCE	MATting FOR EROSION CONTROL	COIR FIBER WATTLE	SEED & MULCHING	RESPONSE FOR EROSION CONTROL	WORK ZONE ADV/GEN WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	THERMO PAVEMENT MARKING LINES, 6" 90 MILS (YELLOW)	THERMO PAVEMENT MARKING LINES, 6" 90 MILS (WHITE)	THERMO PAVEMENT SYMBOL 90MIL (LT ARROW)	THERMO PAVEMENT SYMBOL 90MIL (RT ARROW)	PAINT MARKING LINE (4" WHITE)	PAINT MARKING LINE (4" YELLOW)	PAINT MARKING SYMBOL	GENERIC PAVEMENT MARKING ITEM (HOT SPRAYED THERMO, 4" WHITE @ 50 MILS)	GENERIC PAVEMENT MARKING ITEM (HOT SPRAYED THERMO, 4" YELLOW @ 50 MILS)	SNOWFLOWABLE MARKER	
											MI	FT	LS	CY	TONS	SMI	SY	SY	TONS	TONS	TONS	SY	GALS	TON	TON	SY	LF	EA	EA		LF	LF	SY	SY	ACR	EA	SF	EA	EA	EA	EA	EA	EA	EA	EA				
2020CPT.01.06.10081.1	Bertie	1	US13 / US 17 NBL	FROM SR 1521 TO SR 1532	1	2	MD	NO	NO	YES	4.7	28	1	460	164	9.40	66,176	7,790	3,854	7,955	707				76	530.5	4	3	1	787	1,373	760	760	4.6	1	254	1	24,816	31,020	11	1	62,040	49,632	12			310		
2020CPT.01.06.10081.1	Bertie	2	US13 / US 17 SBL	FROM SR 1521 TO SR 1532	1	2	MD	NO	NO	YES	4.7	28	*	460	164	9.40	66,176	6,128	3,854	7,955	707				50	546.5	4	3	1	803	1,088	600	600	4.6	1	182	*	24,816	31,020	10	10	62,040	49,632	10			310		
2020CPT.01.06.20081.1	Bertie	3	SR 1500 (WOODARD RD.)	FROM SR 1519 TO US 13	2	2	ZWU	NO	NO	NO	3.56	22	*		6		45,948	1,838	3,882	260			161	6													118	*					38,306	28,195		38,306.00	28,195.00		
2020CPT.01.06.20081.1	Bertie	4	SR 1304 (ASKEWVILLE RD.)	FROM SR 1301 TO SR 1307	2	2	ZWU	NO	NO	NO	1.58	20	*		3		18,539	1,198	1,660	111			117														86	*					17,000	12,514		17,000.00	12,514.00		
2020CPT.01.06.20581.1	Martin	5	SR 1514 (TAR LANDING RD.)	FROM SR 1510 TO SR 1515	3	2	ZWU	NO	NO	NO	0.52	18	*	51	20	1.04		80	463	32			167	5												0.5	1	70	*					5,492	3,432		5,492.00	3,432.00	
2020CPT.01.06.20581.1	Martin	6	SR 1530 (PINEY GROVE CHURCH RD.)	FROM SR 1516 TO NC 171	3	2	ZWU	NO	NO	NO	3.38	18	*	331	20	6.76		2,332	3,193	214			255	74												3.4	1	198	*					35,693	22,308		35,693.00	22,308.00	
2020CPT.01.06.20581.1	Martin	7	SR 1536 (NATHAN ROBERSON RD.)	FROM SR 1530 TO SR 1535	4	2	ZWU	NO	NO	NO	1.53	18	*	150	20	3.06		631	1,412	95	16,242.00	9,745	93	106											1.5	1	102	*					16,157	10,098		16,157.00	10,098.00		
2020CPT.01.06.20581.1	Martin	8	SR 1133 (FIVE CENT RD.)	FROM SR 1106 TO SR 1001	4	2	ZWU	NO	NO	NO	1.73	20	*	170	20	3.46		90	1,700	114	19,454.00	11,672	10	95											1.7	1	118	*					18,270	11,418		18,270.00	11,418.00		
<b>GRAND TOTAL</b>												<b>21.70</b>	<b>1</b>	<b>1,622</b>	<b>417</b>	<b>33.12</b>	<b>196,839</b>	<b>20,087</b>	<b>7,708</b>	<b>28,220</b>	<b>2,240</b>	<b>35,696</b>	<b>21,417</b>	<b>803</b>	<b>286</b>	<b>126</b>	<b>1,077</b>	<b>8</b>	<b>6</b>	<b>2</b>	<b>1,590</b>	<b>2,461</b>	<b>1,360</b>	<b>1,360</b>	<b>16.3</b>	<b>6</b>	<b>1,128</b>	<b>1</b>	<b>111,672</b>	<b>22</b>	<b>442,227</b>	<b>22</b>	<b>218,883</b>	<b>620</b>					



LEGEND	
	STATIONARY SIGN
	DIRECTION OF TRAFFIC FLOW

**MAINLINE (-L-) SIGNING**

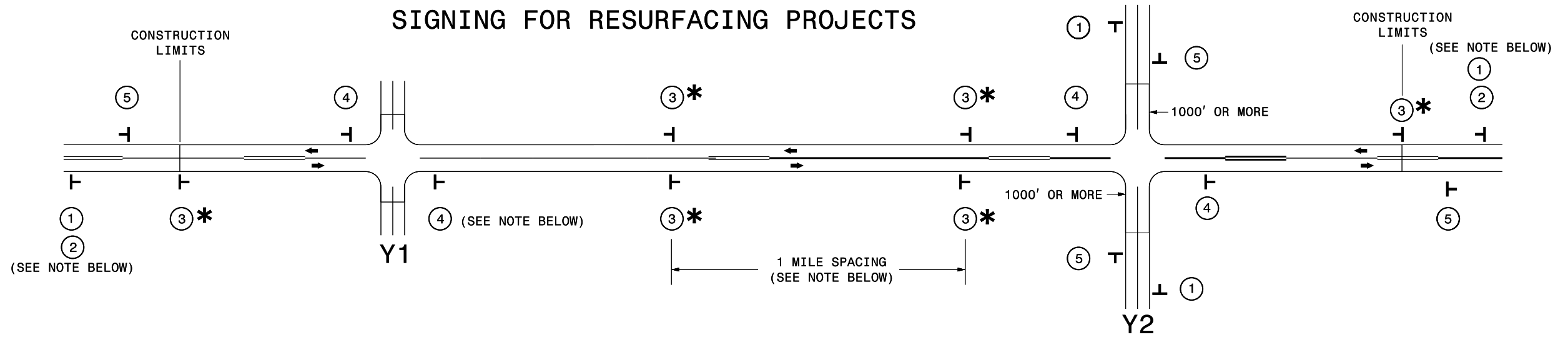
**-Y- LINE SIGNING**

SIGNING NOTES AND PLACEMENT PER DIRECTION	 	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#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)</p>	<p><b>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</b></p> <ol style="list-style-type: none"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <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;">                   PLACED 500' IN ADVANCE OF FLAGGER.             </div> <div style="text-align: center;">                   PLACED 250' IN ADVANCE OF FLAGGER.             </div> </div> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.</li> </ol>
		<p>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.</p>	
		<p>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.</p>	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	

22-NOV-2019 09:35 One Resurfacing & Retreatment Plans\2020-2021Resurfacing\DA00473-Ber-tie South US I7 & Secondary-Martin Secondary-Resurfacing-AdvWarrn\_Ur-Su-Shldr.dgn  
 User: jshelton  
 \$\$\$\$USERNAME\$\$\$\$

**RESURFACING  
 ADVANCE WARNING SIGNS  
 FOR RURAL AND SUBURBAN  
 MULTI-LANE ROADWAYS  
 W/ SHOULDER SECTIONS**

# SIGNING FOR RESURFACING PROJECTS



LEGEND	
	STATIONARY SIGN
	DIRECTION OF TRAFFIC FLOW

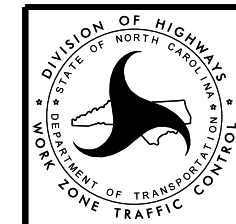
## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING	
	①		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"> <li>LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>SUBDIVISION ROADS</li> <li>DEAD END ROADS</li> </ol> <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;">   <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;">   <small>W20-7 A 48" X 48"</small> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	②		#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*		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		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		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.		

### \* SIGNING FOR ASPHALT SURFACE TREATMENTS (ONLY)

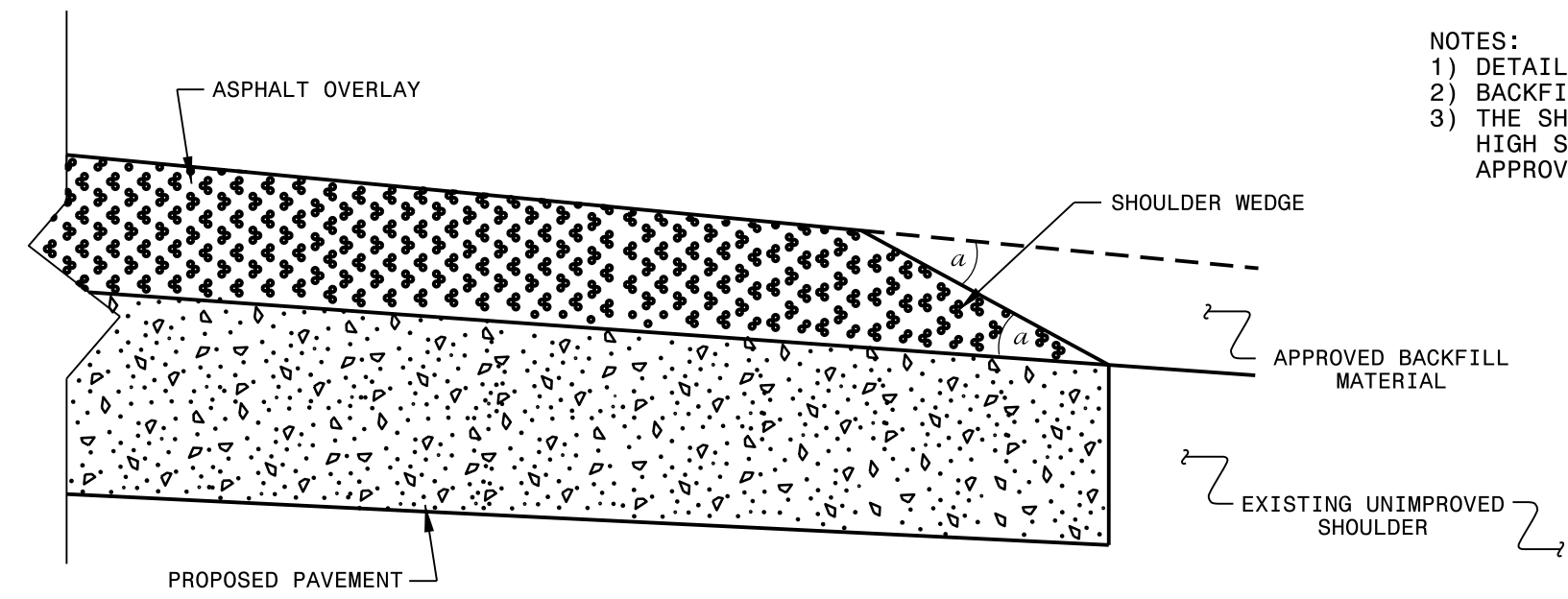
SUBSTITUTE LOW/SOFT SHOULDER SIGNS BY ALTERNATING THE FOLLOWING TWO SIGNS: STARTING WITH "UNMARKED PAVEMENT AHEAD" (SP 06026) FOLLOWED BY "LOOSE GRAVEL" (W8-7).



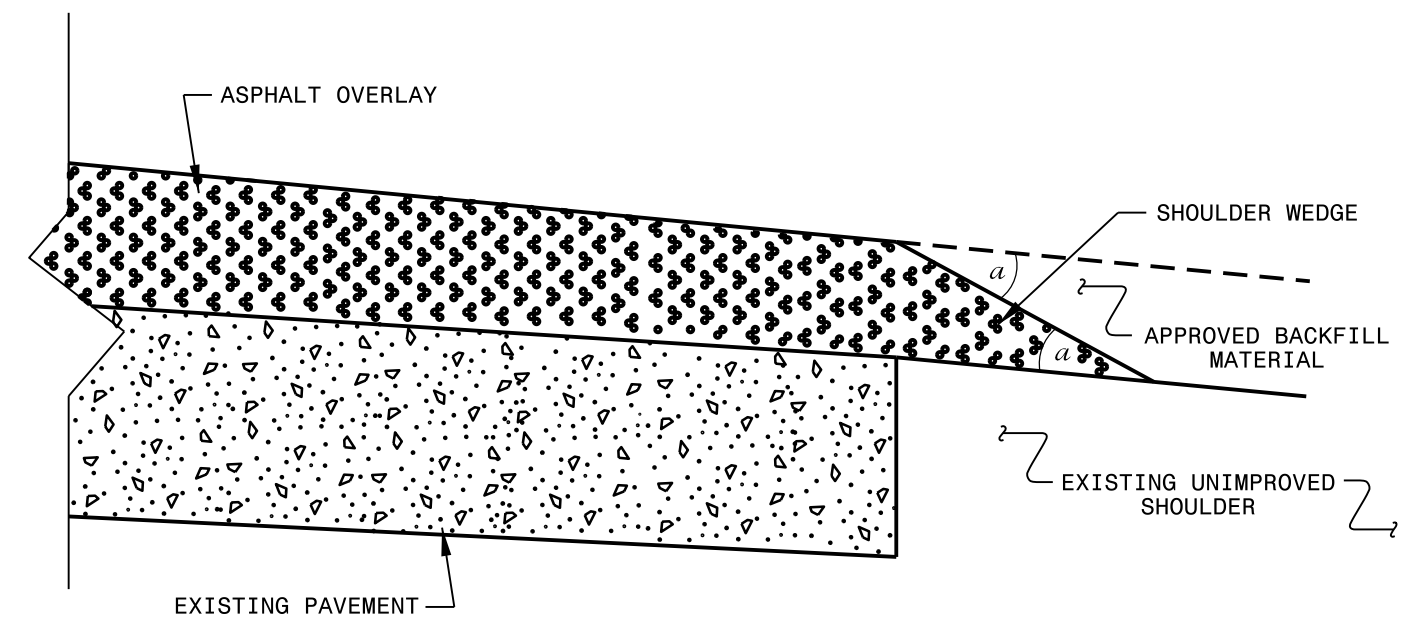
RESURFACING  
ADVANCE WARNING SIGNS  
FOR  
RURAL AND SUBURBAN  
2 LANE ROADWAYS



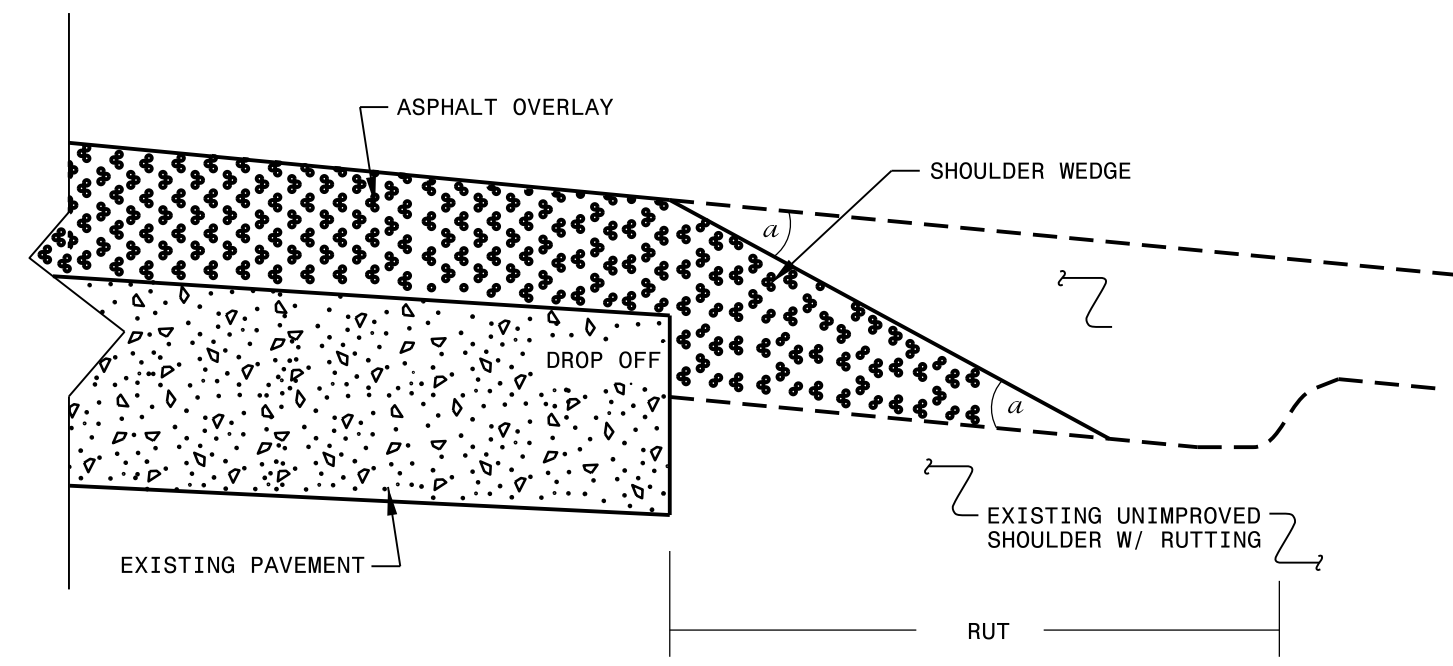
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



**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: 2/2/16
CHECKED BY:	DATE:
FILE SPEC: s:\usr\details\stand\shoulderwedge\std1.dgn	

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

22-NOV-2019 10:37 S:\Shared\Division\One Resurfacing & Retreatment Plans\2020-2021 Resurfacing\DA00473-Ber-tie South US 17 & Secondary\_Martin\_Secondary\2020CPT.01.06.10281.1.D1-DDC-sh9.dgn

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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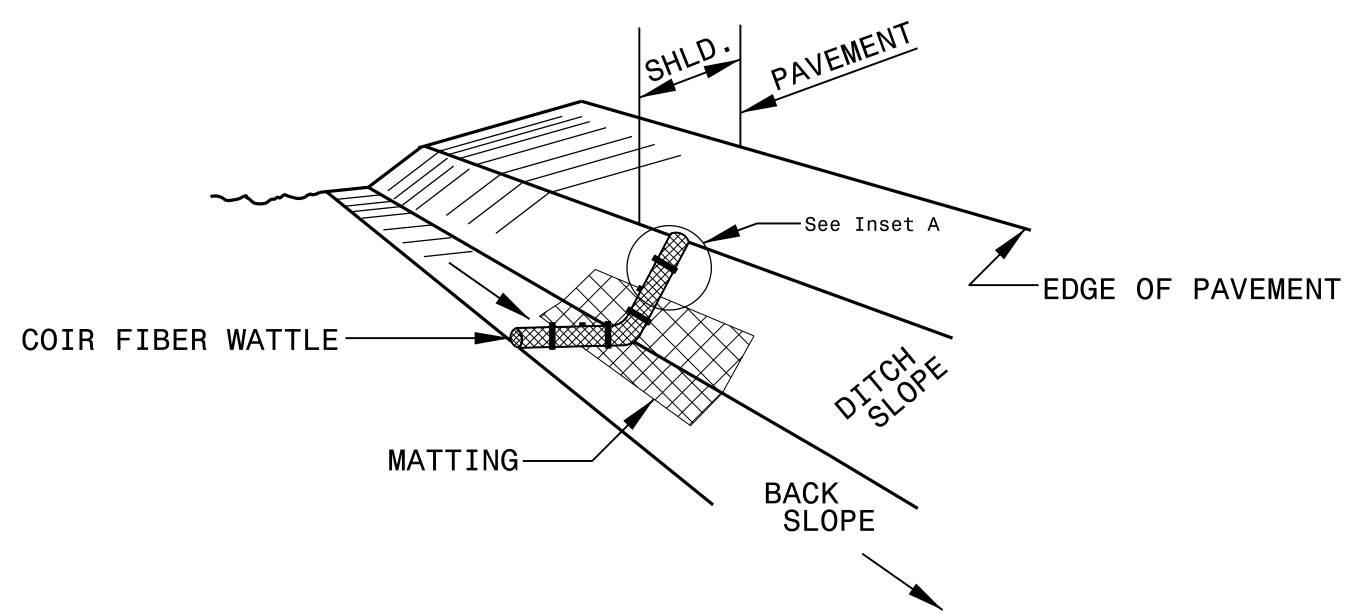


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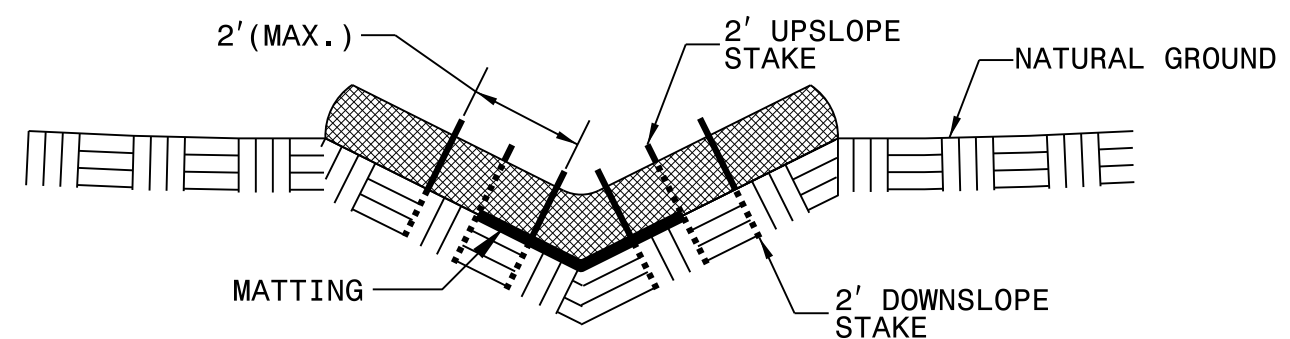
# *SOIL STABILIZATION TIMEFRAMES*

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

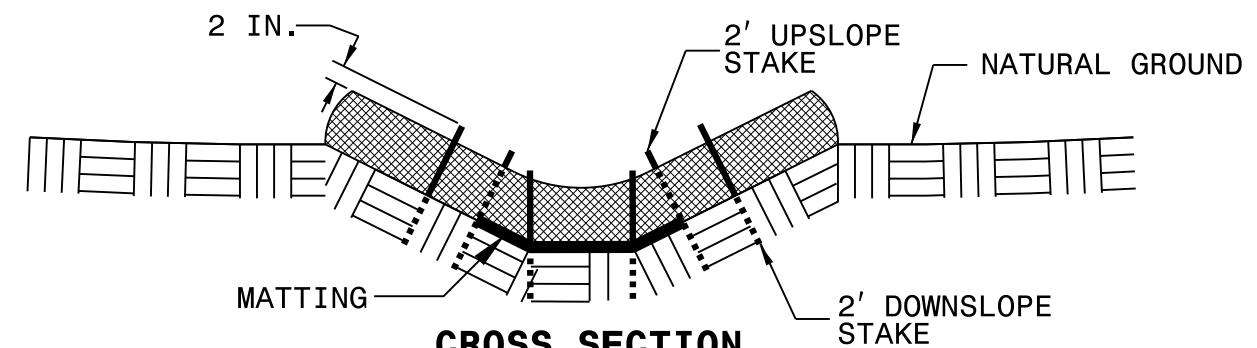
# COIR FIBER WATTLE DETAIL



**ISOMETRIC VIEW**

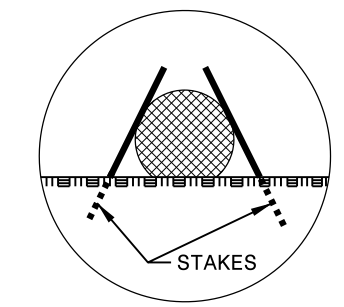


**CROSS SECTION VEE DITCH**

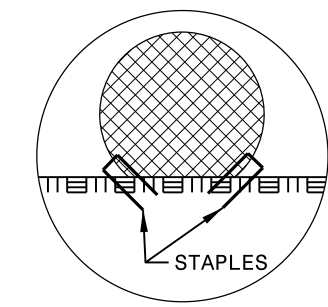


**CROSS SECTION TRAPEZOIDAL DITCH**

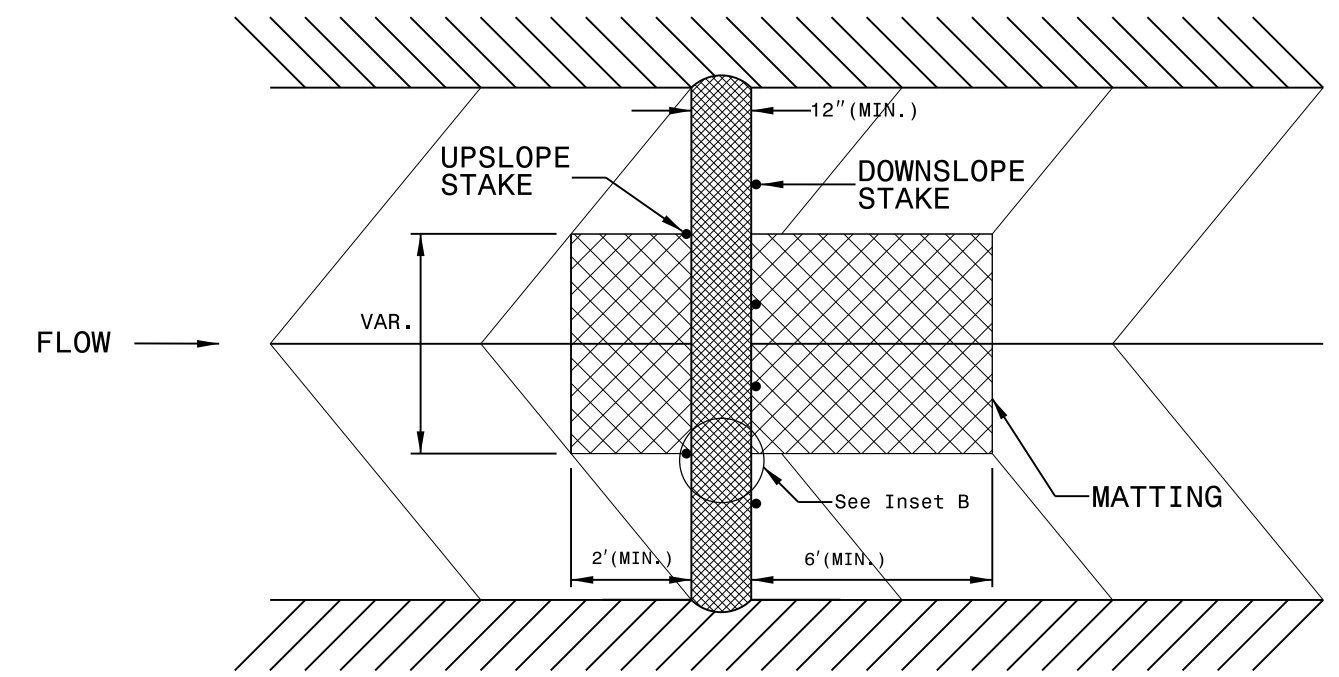
- NOTES:
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
  - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
  - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
  - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
  - PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
  - INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
  - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A



INSET B

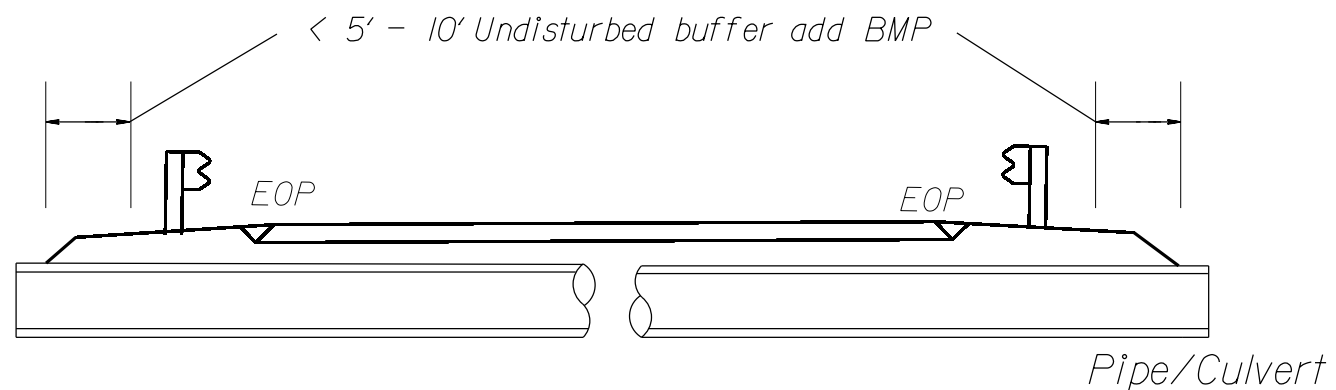


**TOP VIEW**

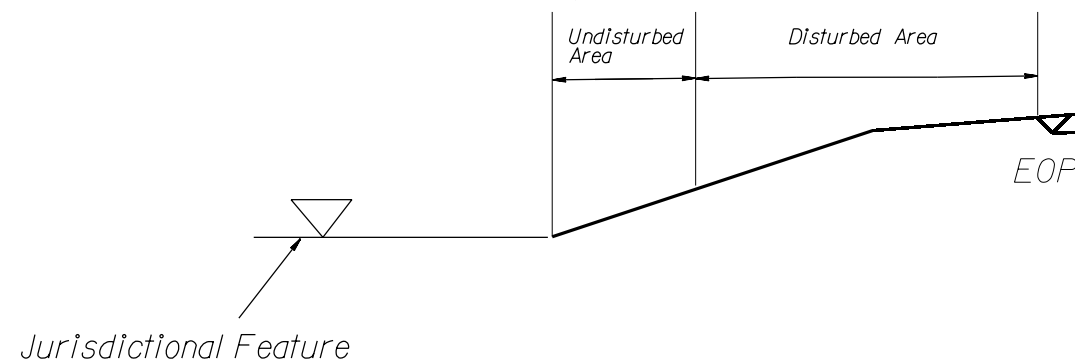
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

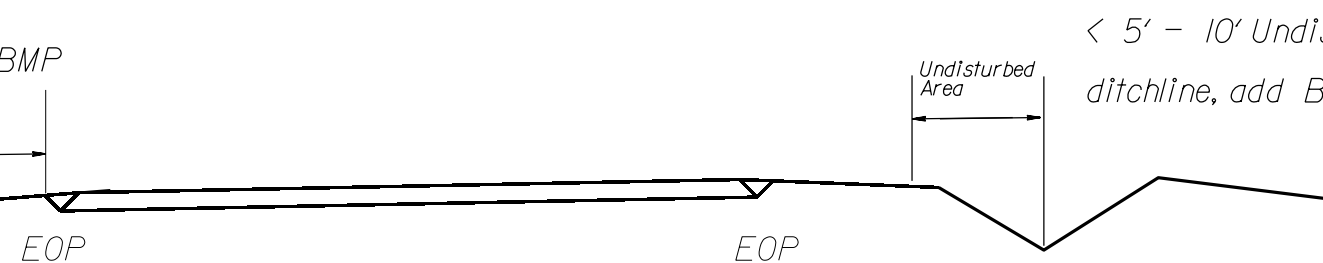
# EROSION CONTROL DETAIL



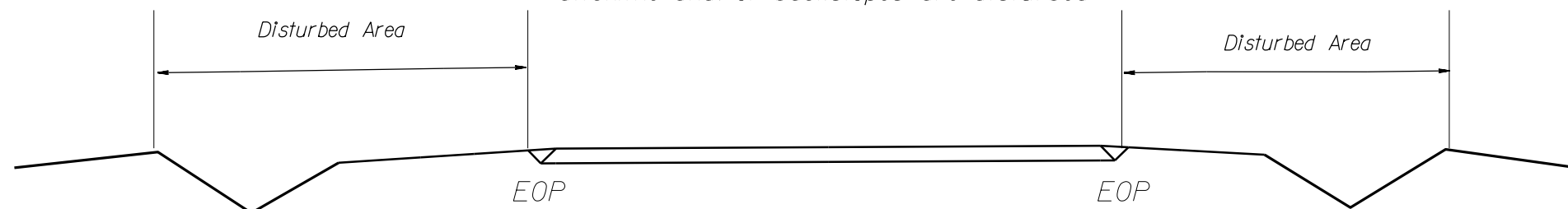
< 5' - 10' Undisturbed buffer from jurisdictional feature add BMP



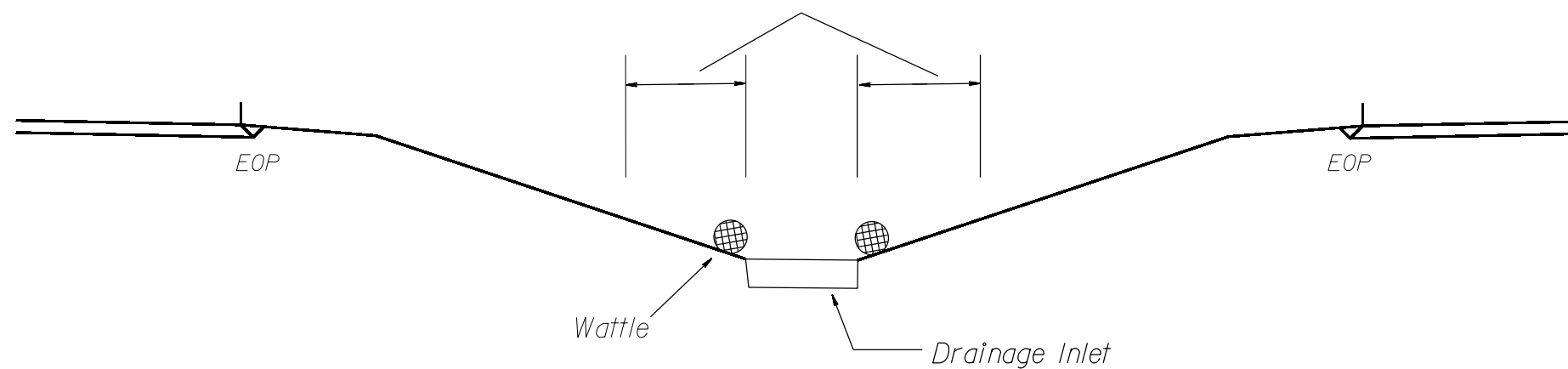
< 5' - 10' Undisturbed buffer from ditchline, add BMP



Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed



< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

### STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.  
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.  
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.  
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.  
 G = GATING IMPACT ATTENUATOR TYPE 350  
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

### GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE TL-3			REMOVE EXISTING GUARDRAIL	REMARKS	
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE III	*	GREU T-3	*	*	CAT-1	*	B-83	*	EA	G			NG
US 13/17 NBL			NBL-RT	225																						225	BRIDGE OVER ROQUIST CREEK	
US 13/17 NBL			NBL-MEDIAN	212																						212	BRIDGE OVER ROQUIST CREEK	
US 13/17 NBL			NBL-MEDIAN	175																						175	BRIDGE OVER ROQUIST CREEK	
US 13/17 NBL			NBL-RT	175																						175	BRIDGE OVER ROQUIST CREEK	
US 13/17 SBL			SBL-RT	217																						217	BRIDGE OVER ROQUIST CREEK	
US 13/17 SBL			SBL-MEDIAN	228																						228	BRIDGE OVER ROQUIST CREEK	
US 13/17 SBL			SBL-RT	179																						179	BRIDGE OVER ROQUIST CREEK	
US 13/17 SBL			SBL-MEDIAN	179																						179	BRIDGE OVER ROQUIST CREEK	
LESS ANCHOR DEDUCTIONS																												
			GREU TL-3	6 @ 50.0'	=	-300'																						
			GREU CAT-1	2 @ 6.5'	=	-13'																						
			B-83	8 @ 25.0'	=	-200'																						
			TOTAL			1077											6									2	8	1590

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