

09/08/99

WBS PROJECT: 2019CPT.01.02.10081.1, ETC.

CONTRACT:



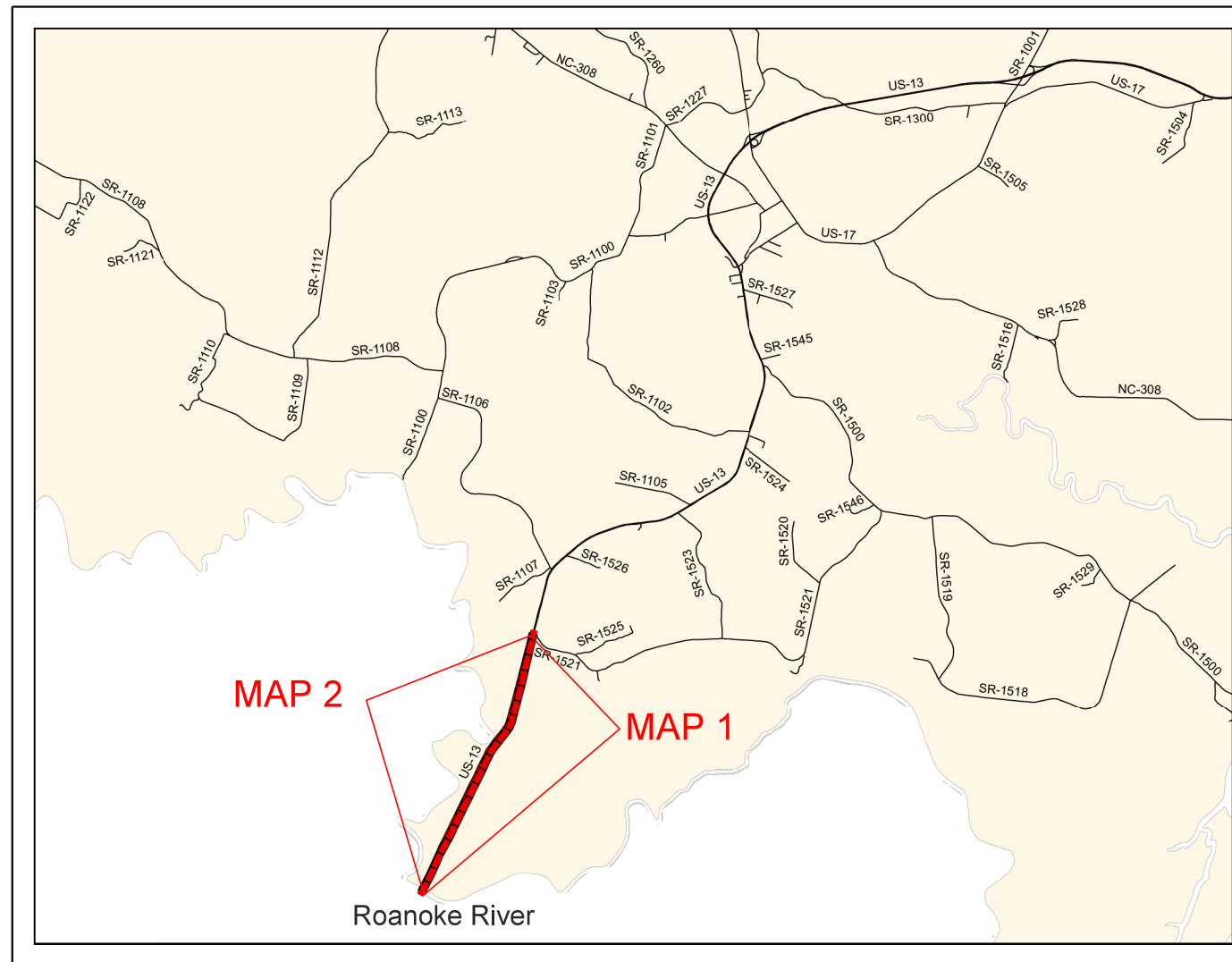
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BERTIE COUNTY

**LOCATION: MAP 1 US 13 /17 NBL FROM ROANOKE RIVER TO SR 1521
MAP 2 US 13 /17 SBL FROM SR 1521 TO ROANOKE RIVER**

TYPE OF WORK: MILLING, WIDENING, RESURFACING, AND LONG-LIFE PAVEMENT MARKINGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	2019CPT.01.02.10081.1, ETC.	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
2019CPT.01.02.10081.1		MAPS 1-2	



NTS

PROJECT LENGTH

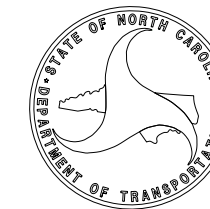
LENGTH OF ROADWAY PROJECT MAP 1 = 3.92 MI.
LENGTH OF ROADWAY PROJECT MAP 2 = 3.92 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
113 Airport Dr., Edenton NC, 27932

2018 STANDARD SPECIFICATIONS

W.B. HOBBS, P.E.
DIVISION PROJECT MANAGER

C.E. SLACHTA
DIVISION PROPOSALS ENGINEER



\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DDON\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

09/08/99

CONTRACT: 2019CPT.01.02.10081.1, ETC.

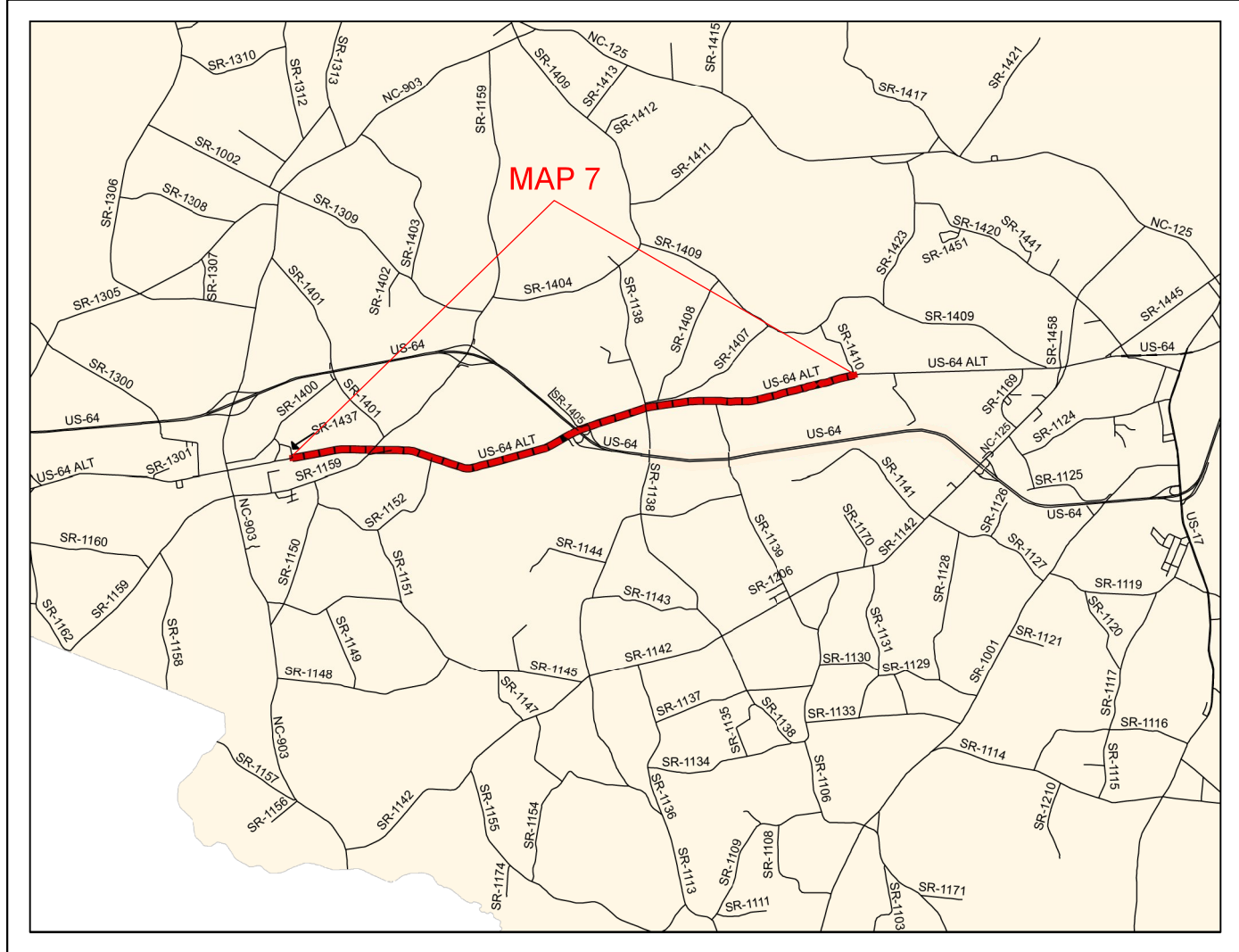
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\$\$\$\$\$DDON\$\$\$\$\$
\$\$\$\$\$SERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MARTIN COUNTY

LOCATION: MAP 7 US 64 ALT. FROM SR 1437 TO SR 1410

TYPE OF WORK: MILLING, RESURFACING, AND LONG-LIFE PAVEMENT MARKINGS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	2019CPT.01.02.10081.1, ETC.	3	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
2019CPT.01.02.10581.1		MAP 7	

NTS

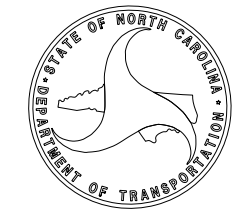
PROJECT LENGTH
LENGTH OF ROADWAY PROJECT MAP 7 = 6.72 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
113 Airport Dr., Edenton NC, 27932

2018 STANDARD SPECIFICATIONS

W.B. HOBBS, P.E.
DIVISION PROJECT MANAGER

C.E. SLACHTA
DIVISION PROPOSALS ENGINEER



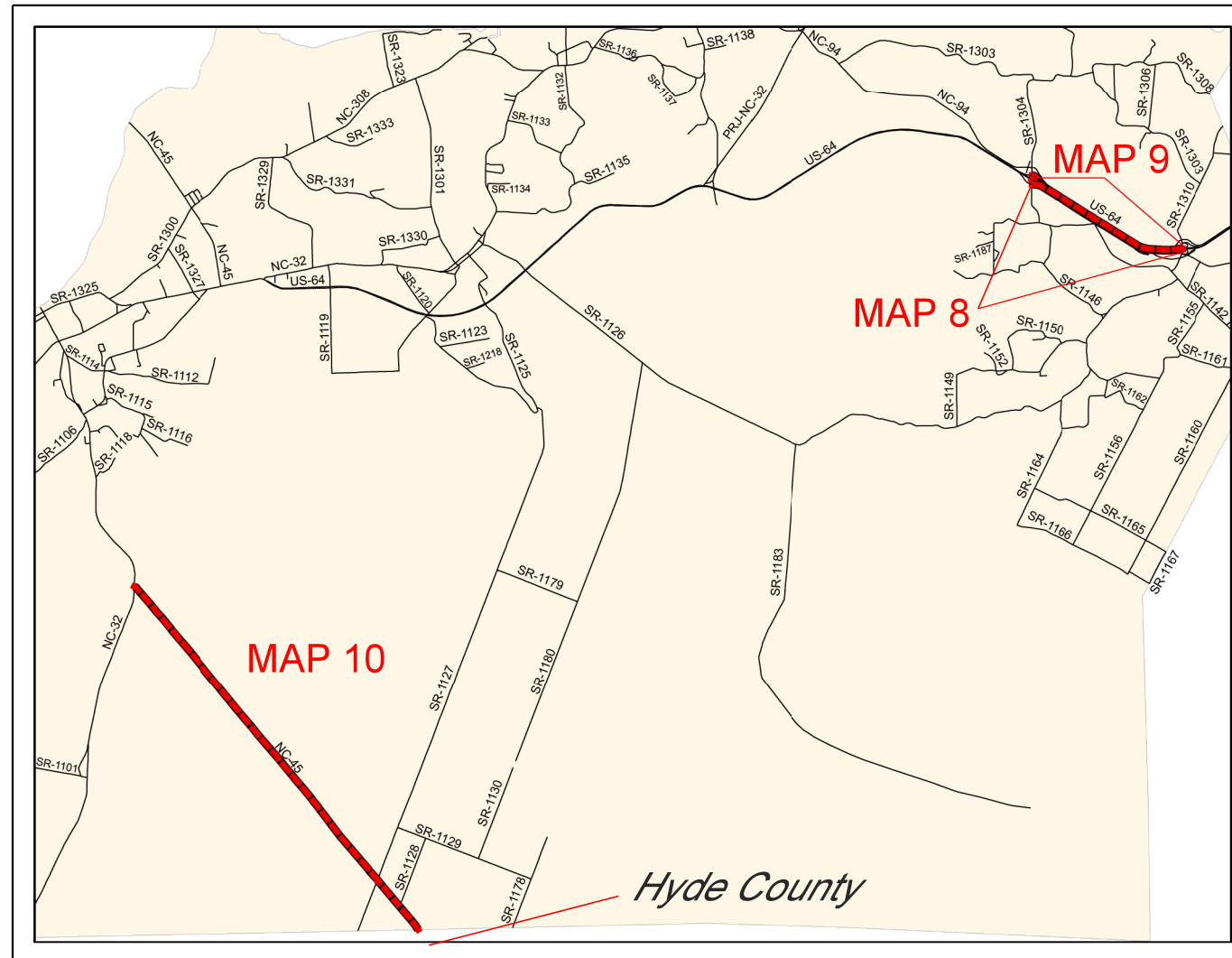
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	2019CPT.01.02.10081.1, ETC.	4	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
2019CPT.01.02.10941.1		MAPS 8-10	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WASHINGTON COUNTY

LOCATION: MAP 8 US 64 EBL FROM SR 1304 TO SR 1310
MAP 9 US 64 WBL FROM SR 1310 TO SR 1304
MAP 10 NC 45 /99 FROM NC 32 TO HYDE CO.

TYPE OF WORK: MILLING, RESURFACING, OPEN GRADE FRICTION COURSE, AND LONG-LIFE PAVEMENT MARKINGS



WBS PROJECT: 2019CPT.01.02.10081.1, ETC.

CONTRACT:

NTS

PROJECT LENGTH

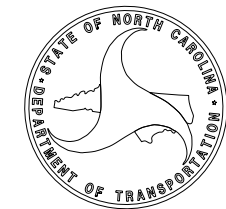
LENGTH OF ROADWAY PROJECT MAP 8 = 3.00 MI.
LENGTH OF ROADWAY PROJECT MAP 9 = 3.00 MI.
LENGTH OF ROADWAY PROJECT MAP 10 = 7.86 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
113 Airport Dr., Edenton NC, 27932

2018 STANDARD SPECIFICATIONS

W.B. HOBBS, P.E.
DIVISION PROJECT MANAGER

C.E. SLACHTA
DIVISION PROPOSALS ENGINEER



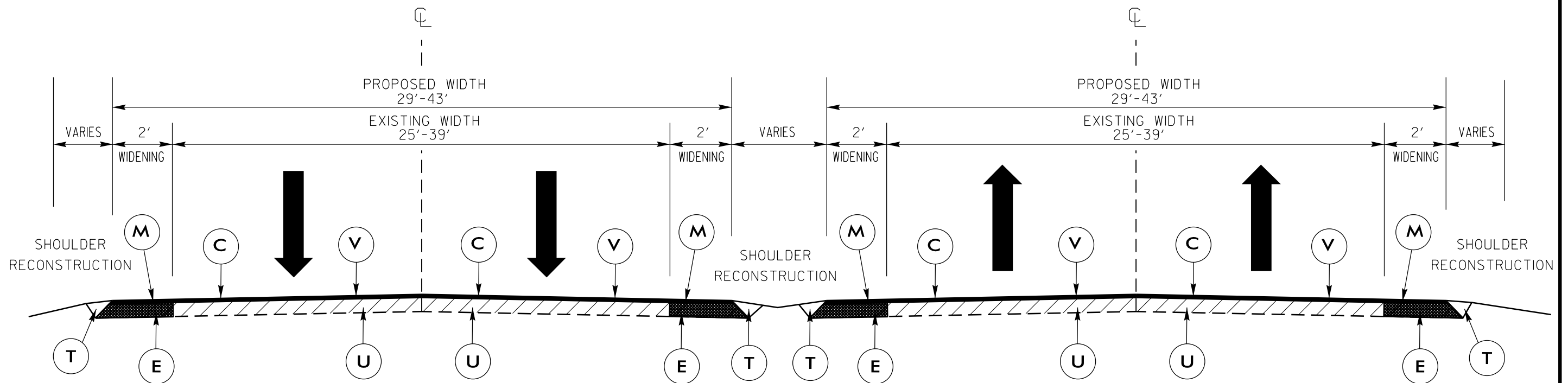
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PAVEMENT SCHEDULE

C	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.
E	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
V	MILLING ASPHALT PAVEMENT. 1½" DEPTH.
T	EARTH MATERIAL
M	PROPOSED MILLED RUMBLE STRIPS
M1	EXISTING MILLED RUMBLE STRIPS (NOT TO BE DISTURBED)
B1	PROP. APPROX. 0.75" OPEN GRADE ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.

NOTES:

- *ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII., OR AS DIRECTED BY THE ENGINEER.
- *CONTRACTOR SHALL PERFORM TEMPORARY PAVEMENT MARKINGS AT MULTILANE SECTIONS.



TYPICAL SECTION NO. 1

USE WITH MAPS 1 & 2

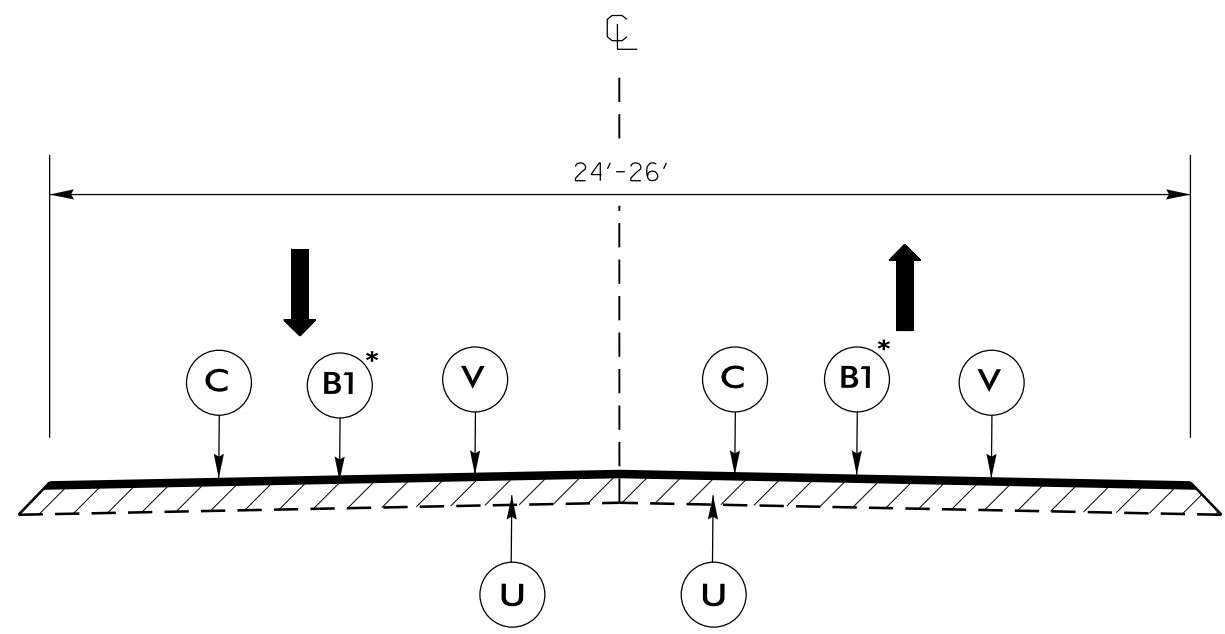
NTS

PAVEMENT SCHEDULE

C	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.
V	MILLING ASPHALT PAVEMENT. 1½" DEPTH.
B1 *	PROP. APPROX. 0.75" OPEN GRADE ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.

NOTES:

- *ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII., OR AS DIRECTED BY THE ENGINEER.
- *CONTRACTOR SHALL PERFORM TEMPORARY PAVEMENT MARKINGS AT MULTILANE SECTIONS.
- *MAP 5 SHALL INCLUDE 1000 FEET OF OGAFRC OVER THE ENTIRE WIDTH OF ROADWAY FROM STATIONS 16+00 - 26+00 ± FOR THE PURPOSE OF SKID PROTECTION IN THE CURVE ADJACENT TO THE INTERSECTION WITH SR 1316 GREENHALL RD.
- *MAP 10 SHALL INCLUDE LEVELING IN SELECT LOCATIONS TO BE DETERMINED BY THE ENGINEER. SHOULDER RECONSTRUCTION WILL BE NECESSARY AT THESE LOCATIONS.



TYPICAL SECTION NO. 2

USE WITH MAPS 3-7, & 10

NTS

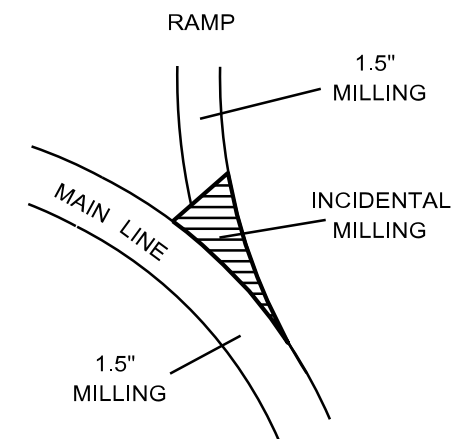
28-JUN-2018 09:49 St. Georges-Div\CC. Shores\Division One Resurfacing & Retreatment Plans\2019-2020 Primary Resurfacing\Bertie S. Chowan, Martin, Wash Primary Resurfacing Plans.dgn

PAVEMENT SCHEDULE

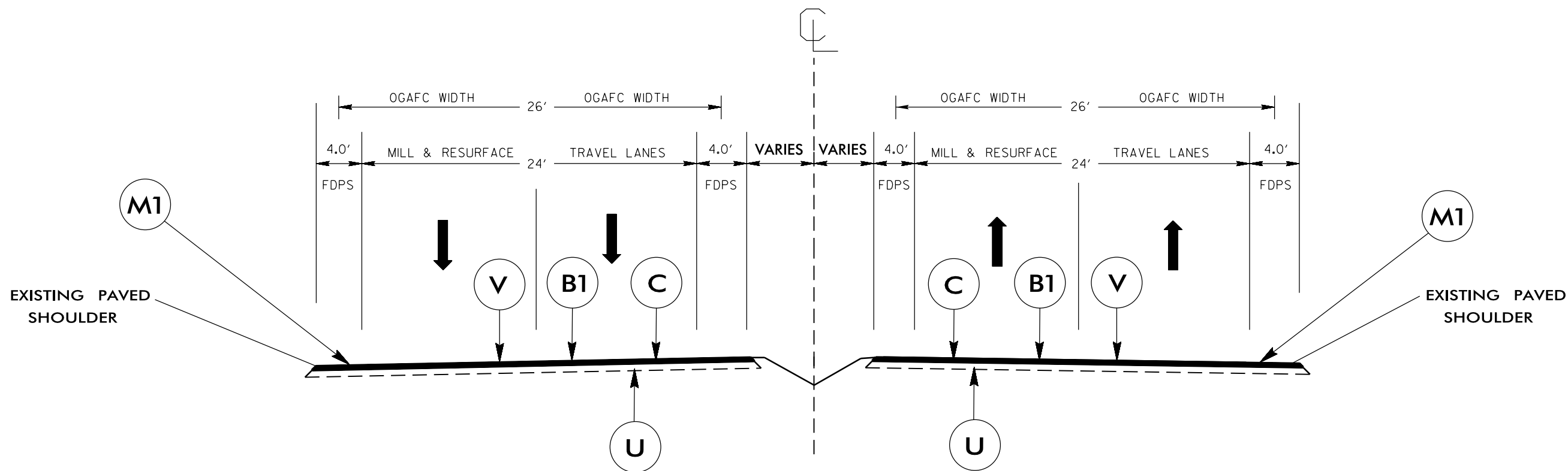
C	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
B1	PROP. APPROX. 0.75" OPEN GRADE ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
V	MILLING ASPHALT PAVEMENT. 1½" DEPTH.
U	EXISTING PAVEMENT.
M1	EXISTING MILLED RUMBLE STRIPS (NOT TO BE DISTURBED)

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
- *EXISTING MILLED RUMBLE STRIPS ARE NOT TO BE DISTURBED
- *1½" MILLING AND 1.5" OF S9.5C TO BE APPLIED IN TRAVEL LANES ONLY
- *OPEN GRADE ASPHALT FRICTION COURSE TO BE APPLIED ± 26' WIDE OR ONE FOOT BEYOND TRAVEL LANES ON EACH SIDE OF TRAVELWAY
- *EXISTING PAVED SHOULDERS NOT TO BE MILLED
- *TRANSITIONAL AREAS AT ON AND OFF RAMPS ARE TO BE PAID AT THE CONTRACT PRICE FOR INCIDENTAL MILLING. FULL WIDTH RAMPS ARE TO BE MILLED PRIOR TO OVERLAYING. THIS MILLING SHALL BE PAID AT THE CONTRACT PRICE FOR 1.5" MILLING. SEE DETAIL A FOR CLARIFICATION.



DETAIL A



TYPICAL SECTION NO. 3

USE WITH MAPS 8-9

NTS

PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.01.02.10081.1, ETC.	9	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	MATERIAL TRANSFER VEHICLE REQUIRED	LENGTH	WIDTH	010600000-E 122000000-E 124500000-E 129700000-E 133000000-E 149100000-E 152300000-E 152000000-E 157500000-E 157700000-E 166200000-E 184000000-E 600000000-E 607101200-E 608400000-E 611700000-N 744400000-E 745600000-E 334500000-E 446500000-E																							
													NEW WIDTH	BORROW	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	1 1/2" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0C	SURFACE COURSE, S9.5C	LEVELING COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX	OGAFC, TYPE FC 1 MOD	MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE)	TEMPORARY SILT FENCE	COIR FIBER WATTLE	SEEDING & MULCHING	RESPONSE FOR EROSION CONTROL	INDUCTIVE LOOP	LEAD-IN CABLE (14-2)	REMOVE & REPLACE EXISTING GUARDRAIL	TEMP CRASH CUSHIONS			
											MI	FT	FT	CY	TONS	SMI	SY	SY	TONS	TONS	TONS	TONS	TONS	TONS	LF	LF	LF	ACR	EA	EA	EA	EA	EA	EA		
2019CPT.01.02.10081.1	Bertie	1	US 13 / 17 NBL	FROM ROANOKE RIVER TO SR 1521	1	2	MD	NO	NO	YES	3.92	25-39	29-43	1,000	150	7.84	60,650	7,450	2,800	7,125	554			39,900	1,500	600	5.00	10						5,000	2	
2019CPT.01.02.10081.1	Bertie	2	US 13 / 17 SBL	FROM SR 1521 TO ROANOKE RIVER	1	2	MD	NO	NO	YES	3.92	25-39	29-43	1,000	100	7.84	60,325	1,800	2,800	6,600	522			40,800	1,500	600	5.00	10						6,000	2	
TOTAL FOR PROJ NO. 2019CPT.01.02.10081.1											7.84			2,000	250	15.68	120,975	9,250	5,600	13,725	1,076			80,700	3,000	1,200	10.00	20				11,000	4			
2019CPT.01.02.10211.1	Chowan	3	NC 32 / 37	FROM SR 1108 TO ALBEMARLE SOUND	2	2	2WU	NO	NO	YES	1.84	26					28,125	3,275				174														
2019CPT.01.02.10211.1	Chowan	4	NC 32	FROM BEGIN TURN LANE TO GATES CO.	2	2	2WU	NO	NO	YES	0.74	25					11,500	600				68														
2019CPT.01.02.10211.1	Chowan	5	NC 32	FROM END 3 LANE EDENTON TO SR 1303	2	2	2WU	NO	NO	YES	5.38	25					81,125	4,475				474	6	105												
2019CPT.01.02.10211.1	Chowan	6	NC 32	FROM SR 1303 TO SR 1305	2	2	2WU	NO	NO	YES	7.17	25					112,125	4,175				645														
TOTAL FOR PROJ NO. 2019CPT.01.02.10211.1											15.13						232,875	12,525				1,361	6	105												
2019CPT.01.02.10581.1	Martin	7	US 64 ALT	FROM SR 1437 TO SR 1410	2	2	2WU	NO	NO	YES	6.72	25					99,000	10,500				608													750	200
TOTAL FOR PROJ NO. 2019CPT.01.02.10581.1											6.72						99,000	10,500				608												750	200	
2019CPT.01.02.10941.1	Washington	8	US 64 EBL	FROM SR 1304 TO SR 1310	3	2	MD	NO	NO	YES	3.00	24-26					44,000	5,350				267	99	1,630												
2019CPT.01.02.10941.1	Washington	9	US 64 WBL	FROM SR 1310 TO SR 1304	3	2	MD	NO	NO	YES	3.00	24-26					45,250	7,600				284	101	2,350												
2019CPT.01.02.10941.1	Washington	10	NC 45 / 99	FROM NC 32 TO HYDE CO.	2	2	2WU	NO	NO	YES	7.86	24				300	110,800	2,400				734			500	150		1.82	3							
TOTAL FOR PROJ NO. 2019CPT.01.02.10941.1											13.86					300	200,050	15,350				3,980	200	3,980		500	150	1.82	3							
GRAND TOTAL											43.55			2,300	250	18.68	652,900	47,625	5,600	66,160	1,775	4,330	206	4,085	80,700	3,500	1,350	11.82	23	750	200	11,000	4			

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	MATERIAL TRANSFER VEHICLE REQUIRED	LENGTH	WIDTH	NEW WIDTH	436600000-E 468500000-E 468600000-E 468800000-E 469000000-E 470000000-E 469700000-E 470500000-E 471000000-E 472100000-E 472500000-E 445700000-N																					
														WORK ZONE ADVANCED/G ENEAL WARNING SIGNING	4" X 90 M WHITE THERMO	4" X 120 M WHITE THERMO	4" X 120 M YELLOW THERMO	6" X 90 M YELLOW THERMO	6" X 90 M WHITE THERMO	6" X 120 M WHITE THERMO	12" X 90 M YELLOW THERMO	8" X 120 M WHITE THERMO (WRONG WAY)	16" X 120 M WHITE THERMO	24" X 120 M WHITE THERMO	THERMO MSG SCHOOL 120 M	THERMO RXR 120 M	THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO MERGE ARROW 90 M	TEMPORARY TRAFFIC CONTROL			
											MI	FT	FT	SF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LS		
2019CPT.01.02.10081.1	Bertie	1	US 13 / 17 NBL	FROM ROANOKE RIVER TO SR 1521	1	2	MD	NO	NO	YES	3.92	25-39	29-43	1,200																				*	
2019CPT.01.02.10081.1	Bertie	2	US 13 / 17 SBL	FROM SR 1521 TO ROANOKE RIVER	1	2	MD	NO	NO	YES	3.92	25-39	29-43	1,200																				*	
TOTAL FOR PROJ NO. 2019CPT.01.02.10081.1											7.84			2,400																					
2019CPT.01.02.10211.1	Chowan	3	NC 32 / 37	FROM SR 1108 TO ALBEMARLE SOUND	2	2	2WU	NO	NO	YES	1.84	26		400	19,798	500	12,144																		
2019CPT.01.02.10211.1	Chowan	4	NC 32	FROM BEGIN TURN LANE TO GATES CO.	2	2	2WU	NO	NO	YES	0.74	25		150	7,995	150	4,904				150														
2019CPT.01.02.10211.1	Chowan	5	NC 32	FROM END 3 LANE EDENTON TO SR 1303	2	2	2WU	NO	NO	YES	5.38	25		420	57,889	500	35,508				500														
2019CPT.01.02.10211.1	Chowan	6	NC 32	FROM SR 1303 TO SR 1305	2	2	2WU	NO	NO	YES	7.17	25		650	77,149	500	47,322				750														
TOTAL FOR PROJ NO. 2019CPT.01.02.10211.1											15.13			1,620	162,831	1,650	99,878				1,400					250	30	28							
2019CPT.01.02.10581.1	Martin	7	US 64 ALT	FROM SR 1437 TO SR 1410	2	2	2WU	NO	NO	YES	6.72	25		500	72,307	500	44,352																		
TOTAL FOR PROJ NO. 2019CPT.01.02.10581.1											6.72			500	72,307	500	44,352				100	50				4	56								
2019CPT.01.02.10941.1	Washington	8	US 64 EBL	FROM SR 1304 TO SR 1310	3	2	MD	NO	NO	YES	3.00	25		1,200							15,840	15,840	4,500												
2019CPT.01.02.10941.1	Washington	9	US 64 WBL	FROM SR 1310 TO SR 1304	3	2	MD	NO	NO	YES	3.00	25		1,200							15,840	15,840	4,500												
2019CPT.01.02.10941.1	Washington	10	NC 45 / 99	FROM NC 32 TO HYDE CO.	2	2	2WU	NO	NO	YES	7.86	24		450	84,574	500	51,876																		
TOTAL FOR PROJ NO. 2019CPT.01.02.10941.1											13.86			2,850	84,574	500	51,876				31,680	31,680	9,000												
GRAND TOTAL											43.55			7,370	319,712	2,650	196,106	73,076	73,076	20,760	1,400	37	100	300	30	4	91	4	1	4	6	1			

THERMOPLASTIC AND PAINT QUANTITIES

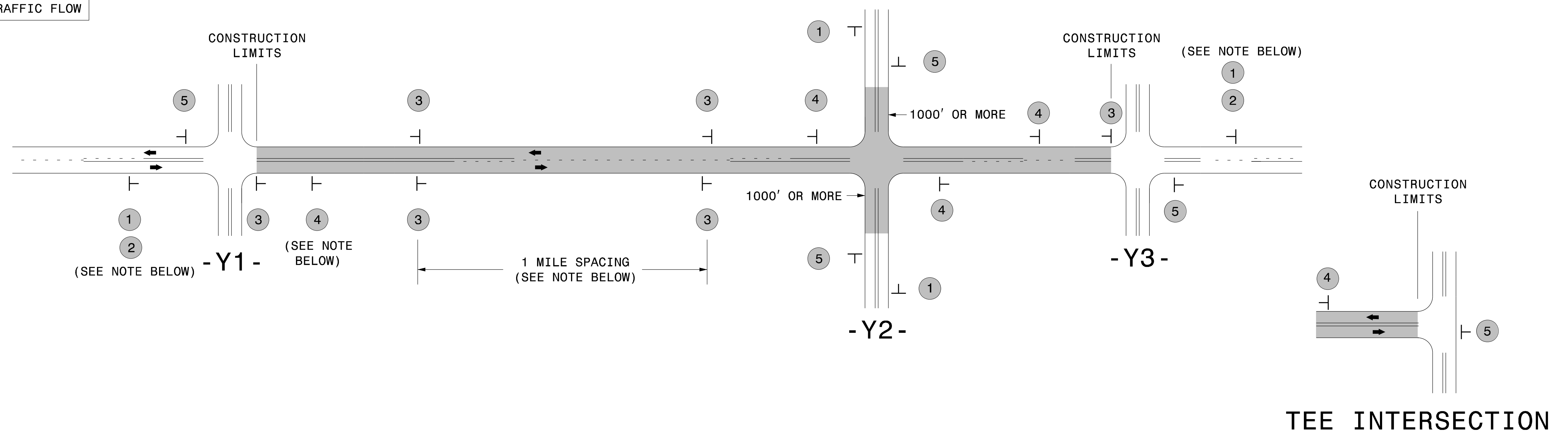
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	MATERIAL TRANSFER VEHICLE REQUIRED	LENGTH	WIDTH	NEW WIDTH	481000000-E 481500000-E 482500000-E 483000000-E 483500000-E 484000000-N 484500000-N 490000000-N 484704000-E 485000000-E 490500000-N																					
														4" WHITE PAINT	4" YELLOW PAINT	6" WHITE PAINT	6" YELLOW PAINT	12" YELLOW PAINT	16" WHITE PAINT	24" WHITE PAINT	PAINT MSG SCHOOL	PAINT MSG RXR	PAINT LT ARROW	PAINT STR ARROW	PAINT RT ARROW	PAINT STR & RT ARROW 90 M	PAINT MERGE ARROW	CRYSTAL & RED MARKERS	6" X 30 M WHITE POLYUREA	6" X 30 M YELLOW POLYUREA	REMOVAL OF PAVEMENT MARKING LINES (4")	SNOW PLOWABLE MARKERS			
											MI	FT	FT	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA		
2019CPT.01.02.10081.1	Bertie	1	US 13 / 17 NBL	FROM ROANOKE RIVER TO SR 1521	1	2	MD	NO	NO	YES	3.92	25-39	29-43																						
2019CPT.01.02.10081.1	Bertie	2	US 13 / 17 SBL	FROM SR 1521 TO ROANOKE RIVER	1	2	MD	NO	NO	YES	3.92	25-39	29-43																						
TOTAL FOR PROJ NO. 2019CPT.01.02.10081.1											7.84																								
2019CPT.01.02.10211.1	Chowan	3	NC																																

SIGNING FOR RESURFACING PROJECTS

LEGEND

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

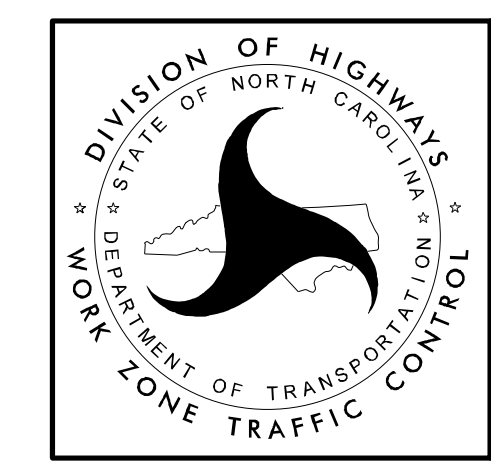
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	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"> LESS THAN 1000' OF RESURFACING ALONG -Y- LINE SUBDIVISION ROADS DEAD END ROADS <p>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.</p> <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		#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		- 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		- 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		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.

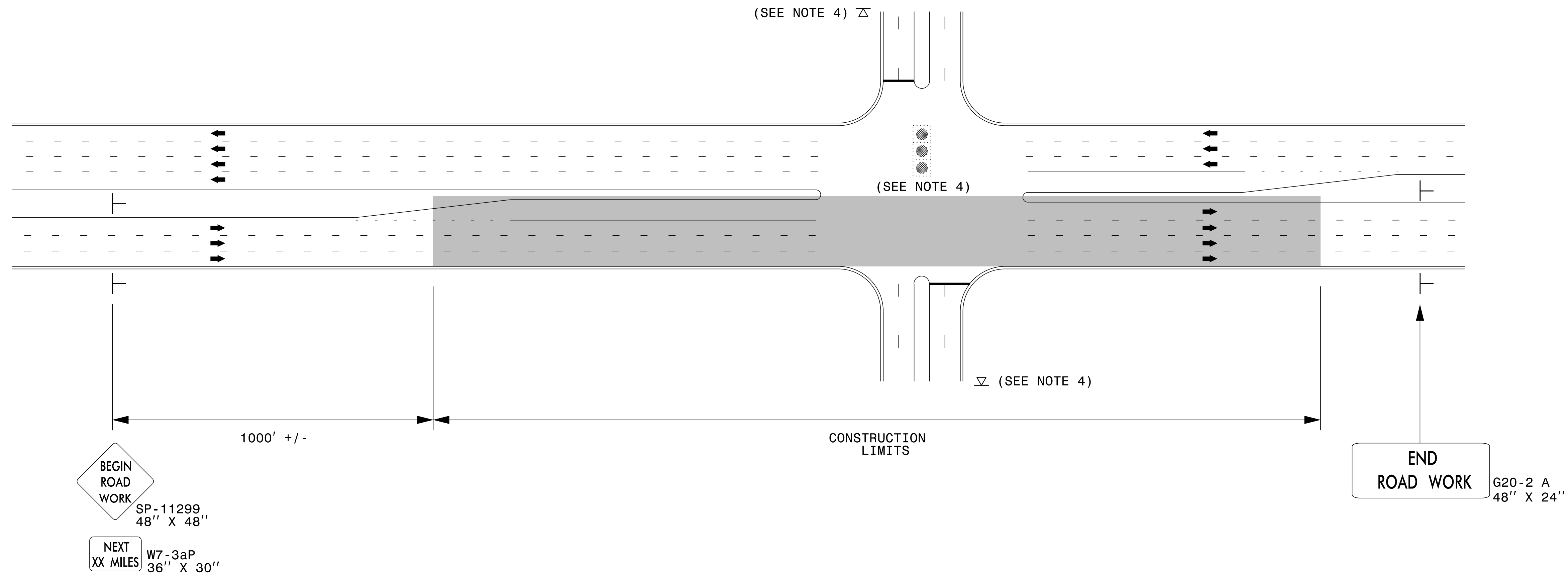
MAPS LESS THAN 2 MILES

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

URBAN / SUBURBAN WORKZONES

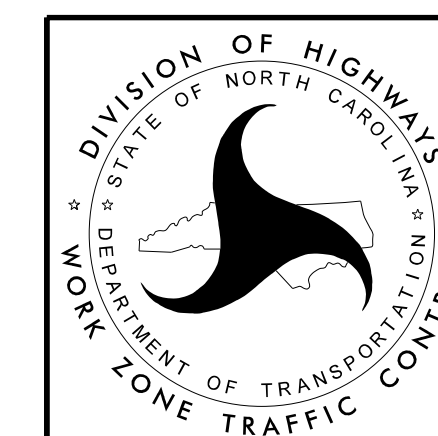


NOTES:

- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) 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.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

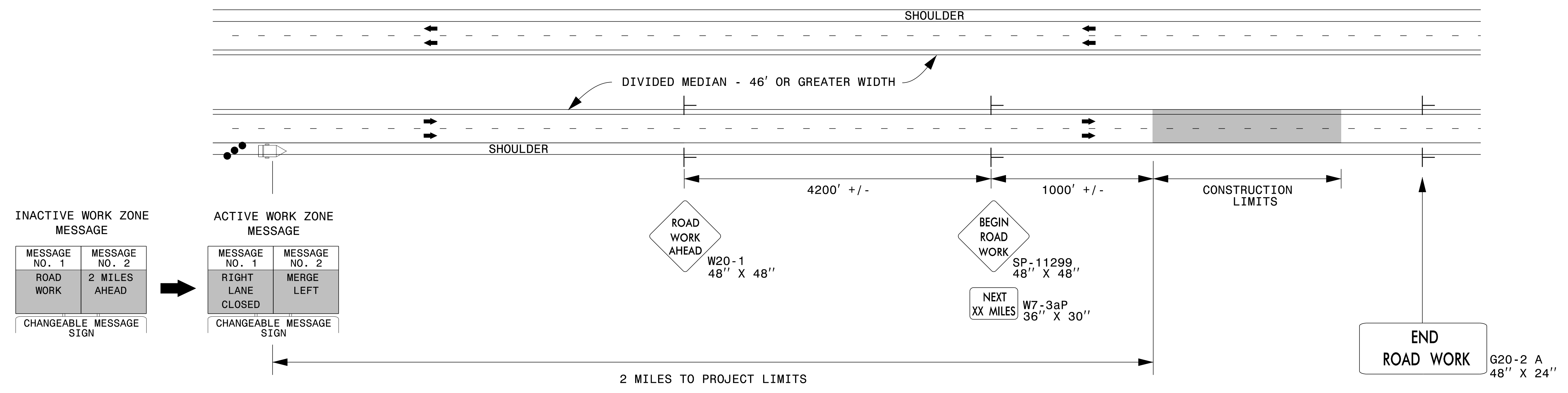
LEGEND

- ┆ STATIONARY SIGN
- ➔ DIRECTION OF TRAFFIC FLOW

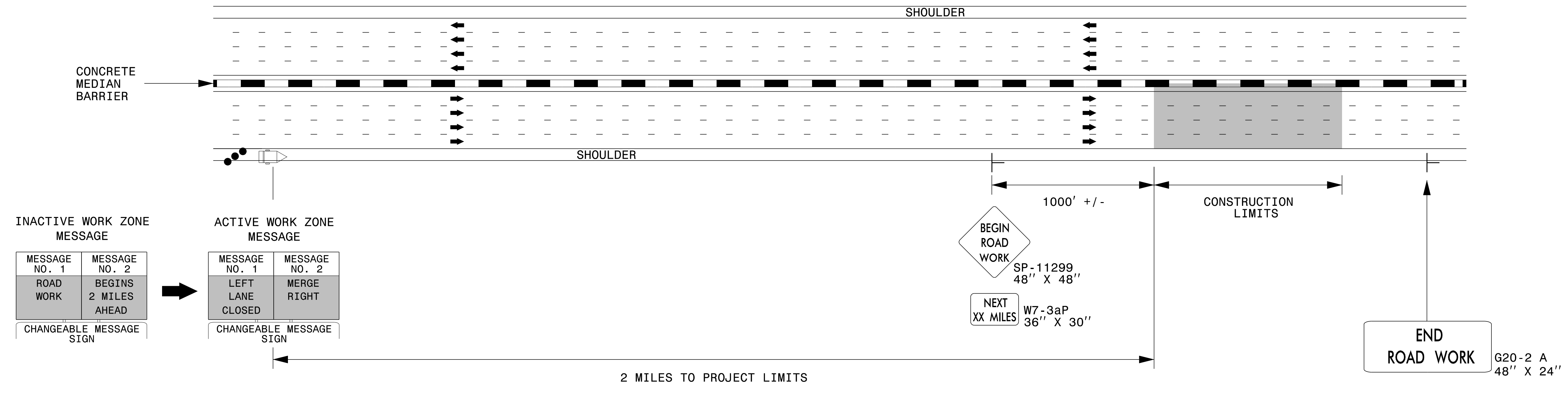


**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



DIVIDED MEDIANS WITH WIDTHS LESS THAN 46' OR WITH PERMANENT MEDIAN BARRIER

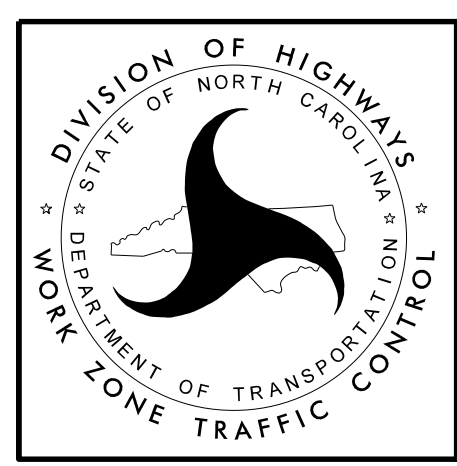


NOTES:

- 1) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 6' AS MEASURED FROM THE EDGE OF PAVEMENT.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) FOR MEDIAN WIDTHS LESS THAN 46' (MEASURED EDGELINE TO EDGELINE) USE THE BOTTOM DRAWING.
- 4) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 5) INSTALL "ROAD WORK AHEAD" (W20-1) ALONG ENTRANCE RAMP 500' PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMP WITHIN THE WORK ZONE.
- 6) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER AND WITH DIVIDED MEDIANS OF 46' OR GREATER. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND

- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM



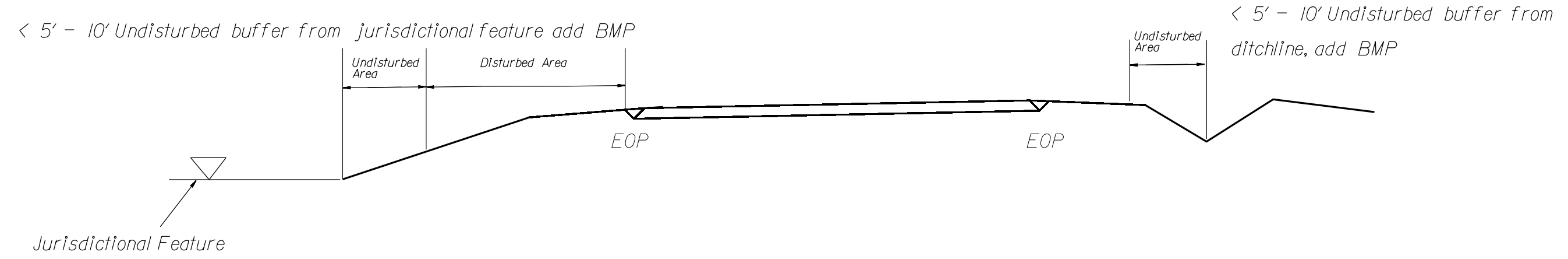
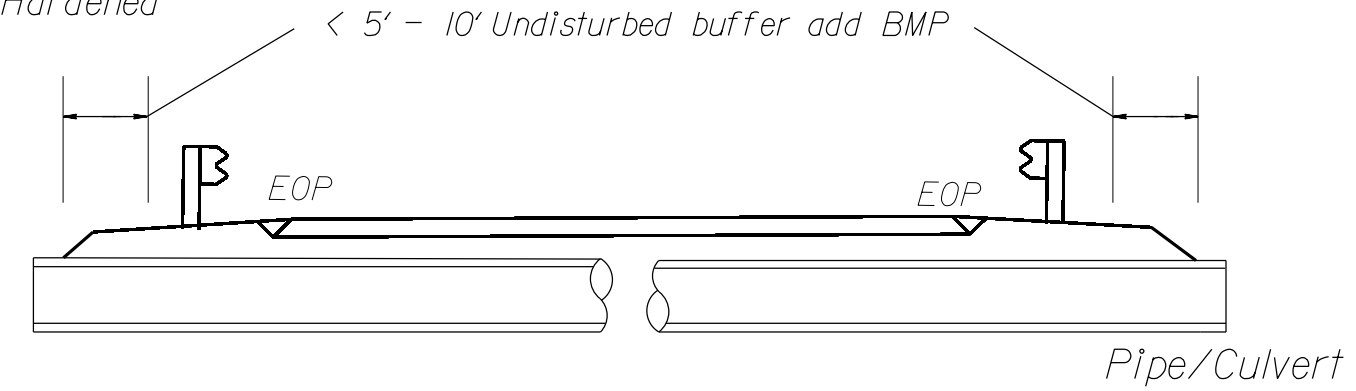
**RESURFACING ADVANCE
WARNING SIGNS FOR
HIGH SPEED FACILITIES
≥ 60 MPH**

3/23/2015 C:\Users\rmgarrrett\Downloads\Resurfacing_AdvWarn_HSpd.dgn User:rmgarrrett

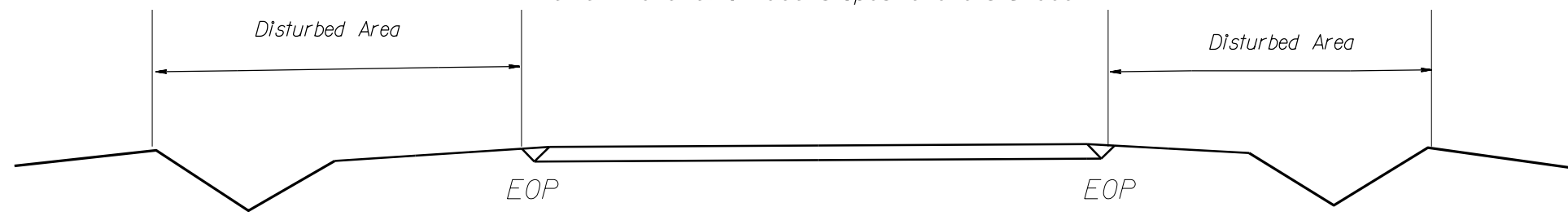
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

EROSION CONTROL DETAIL

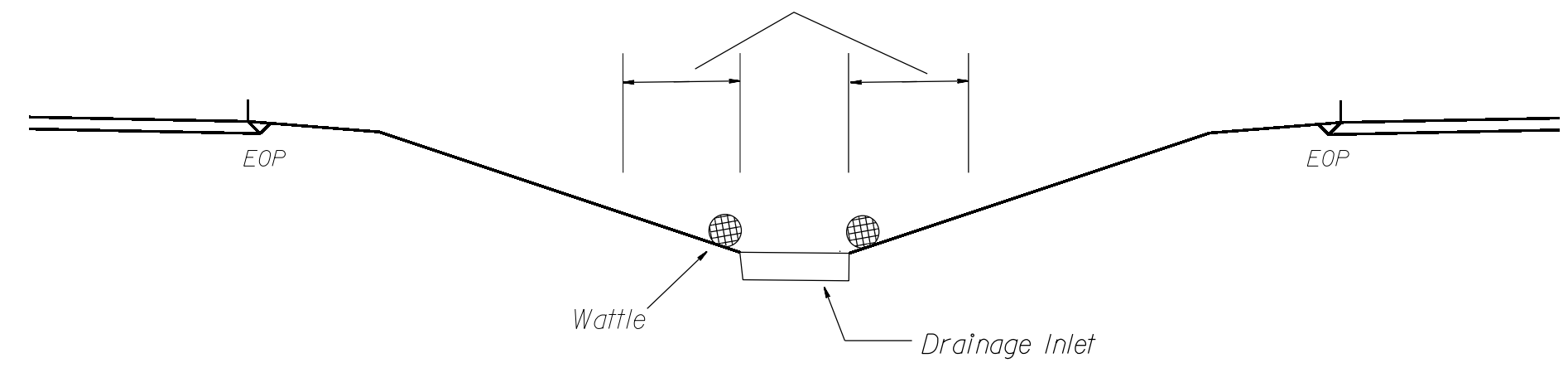
BMP Options: Wattle, Silt Fence or Hardened Aggregate.



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



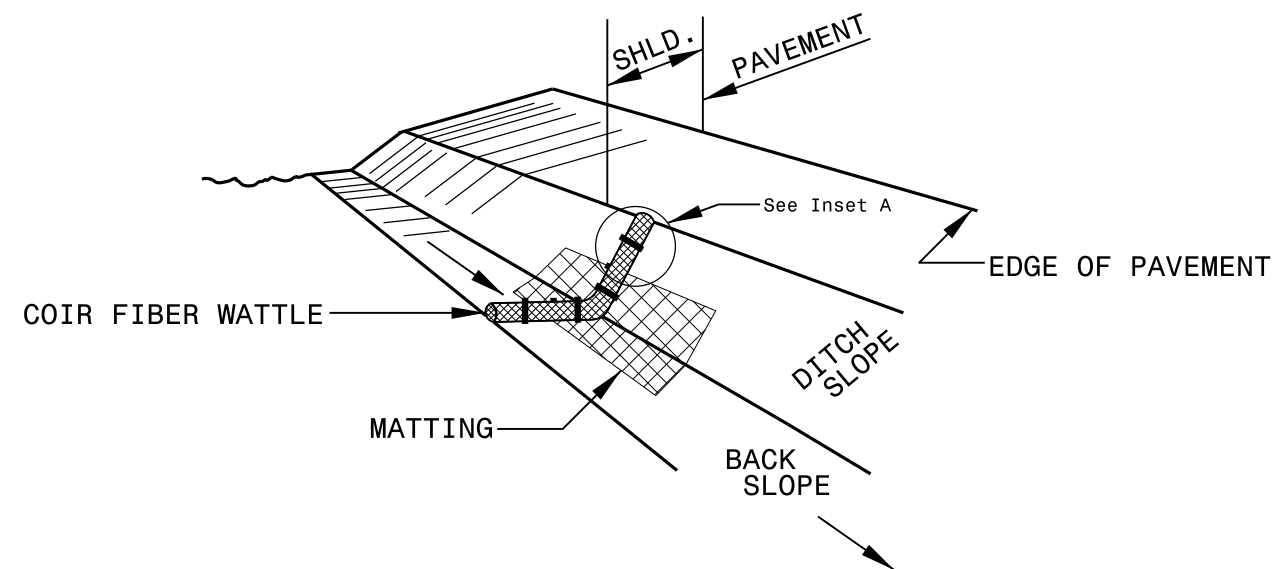
< 5' - 10' Undisturbed buffer from inlet, add wattle



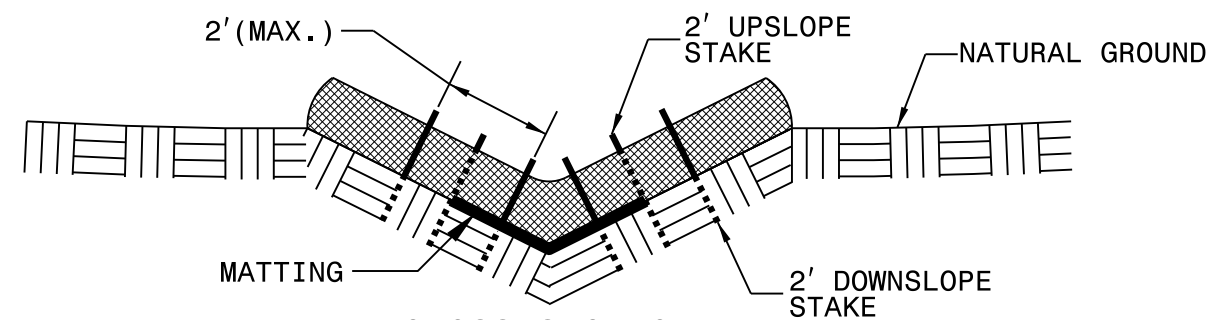
NOT TO SCALE

PROJECT REFERENCE NO. 2019CPT.01.02100811, ETC.	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

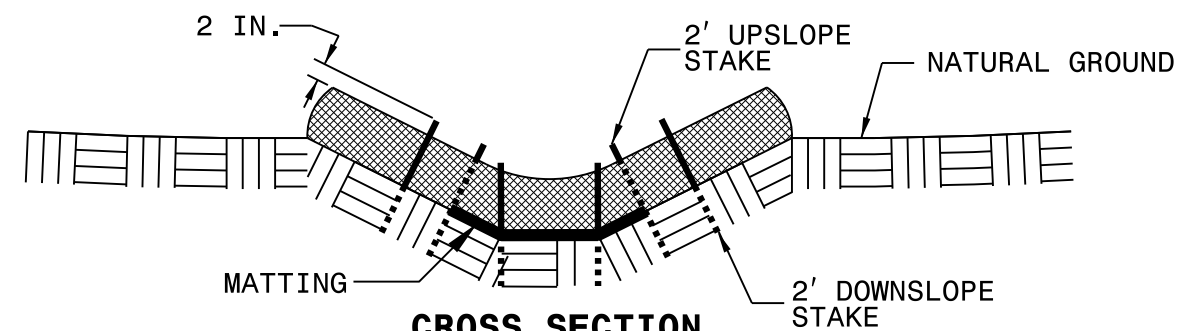
COIR FIBER WATTLE DETAIL



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.

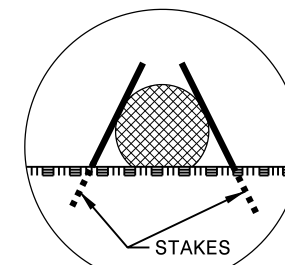
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

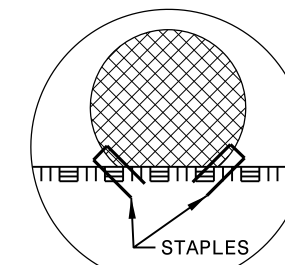
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

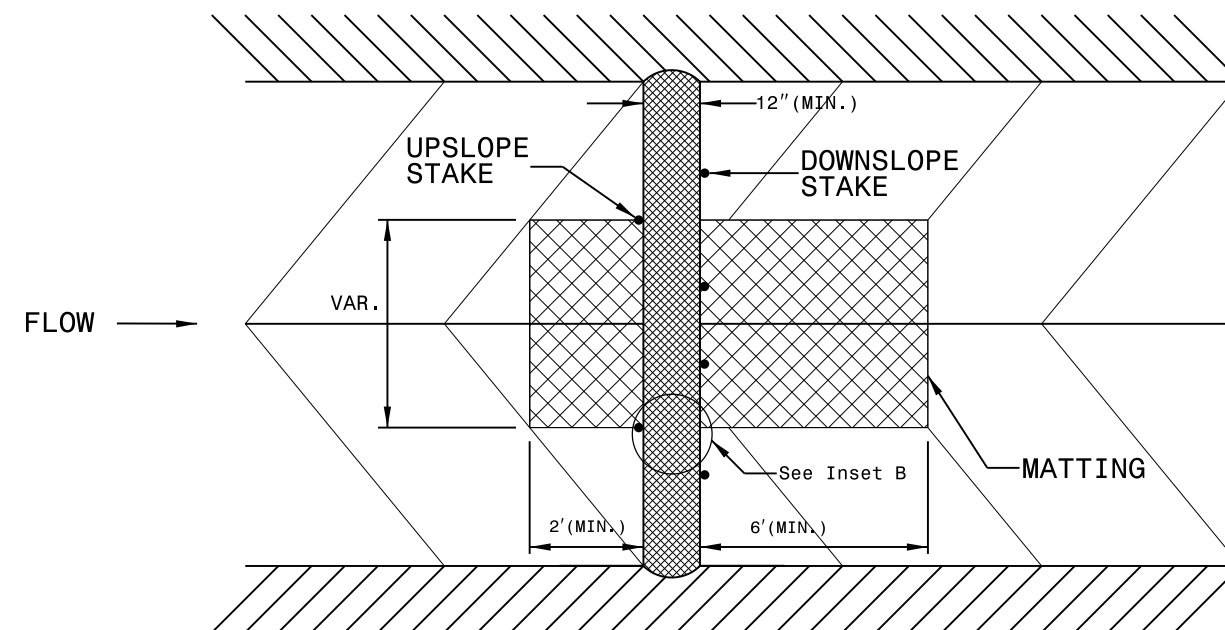
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A



INSET B



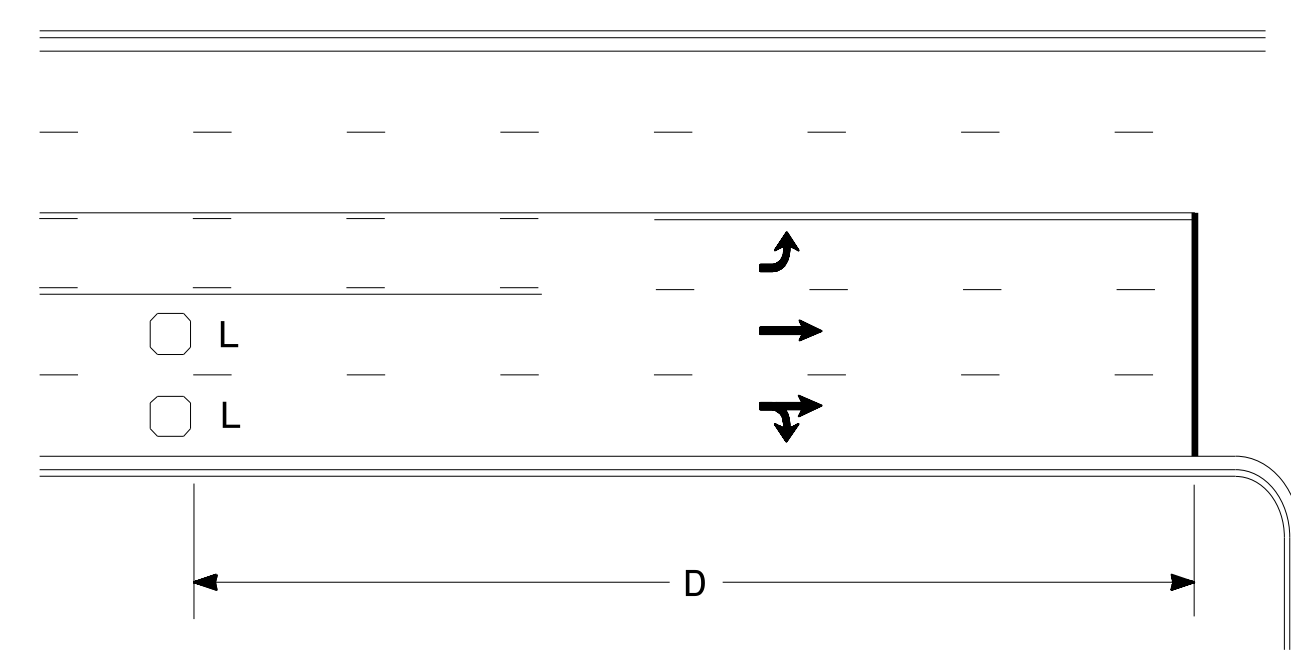
TOP VIEW

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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.

High Speed Detection (≥40 mph)

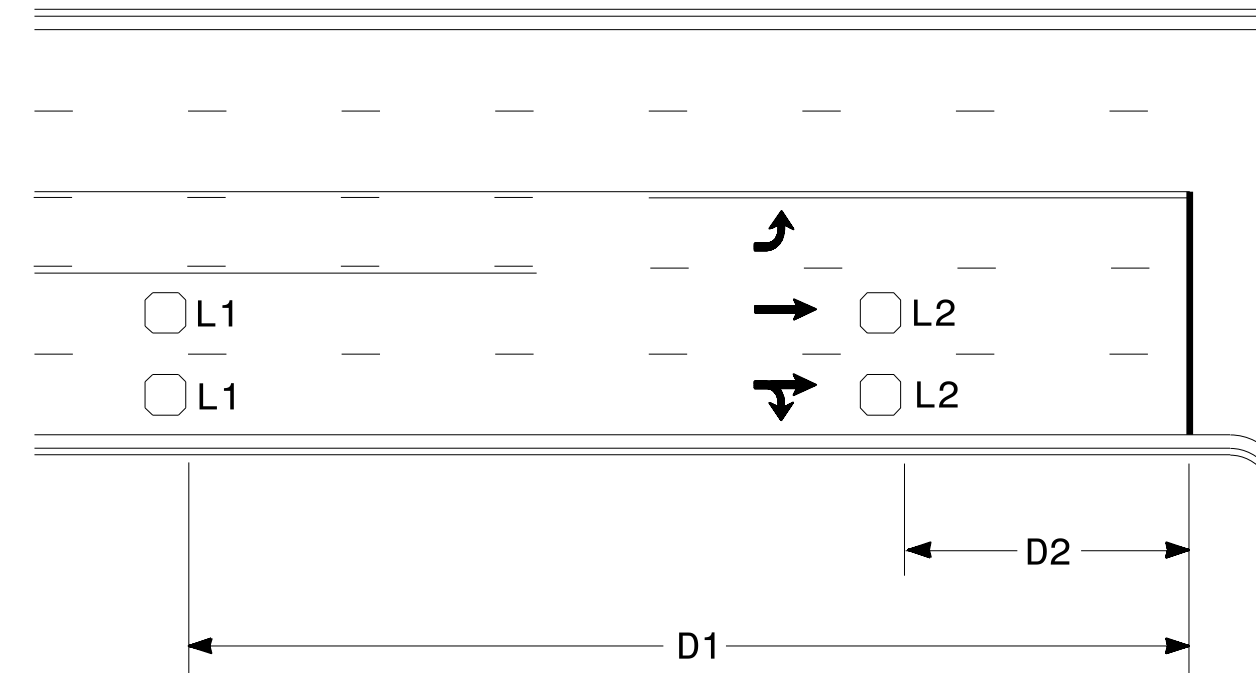


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired in series for TS1
Controllers
Wired separately for TS2,
170, and 2070L Controllers

Volume Density Operation

OR

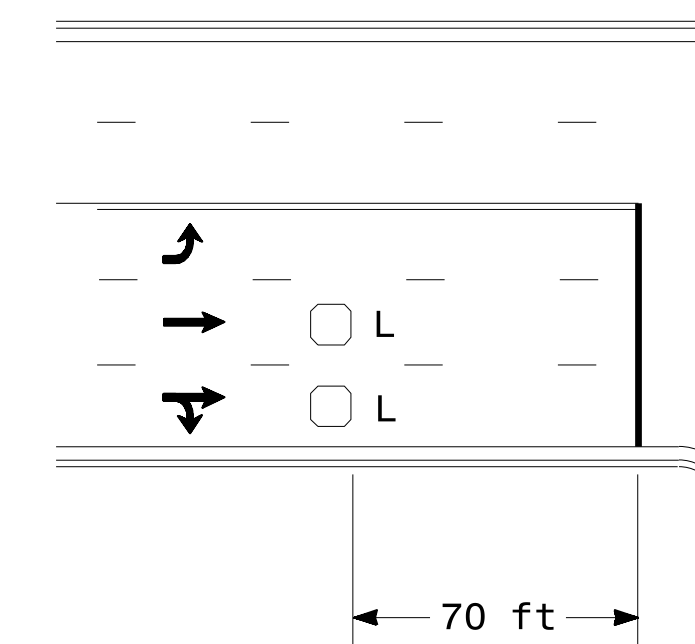


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series
L2 = 6ft X 6ft
Wired in series

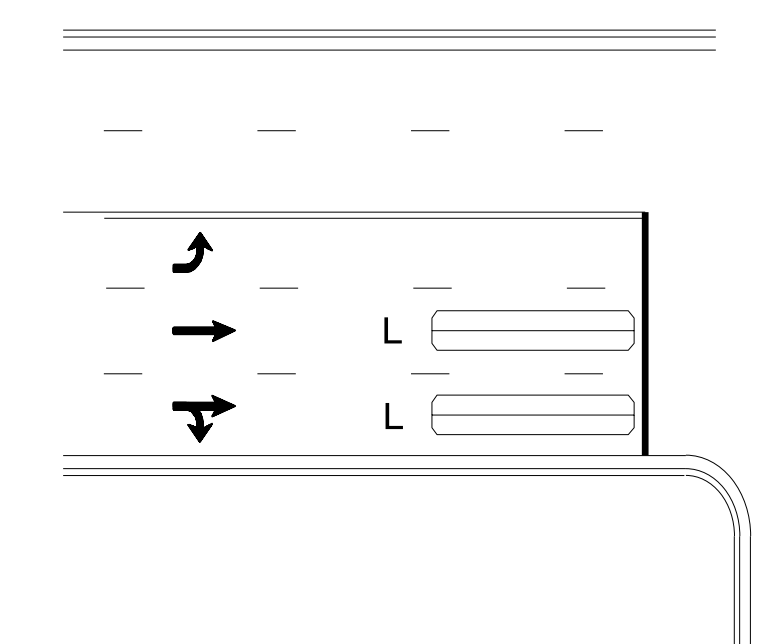
"Stretch" Operation

Low Speed Detection (≤35 mph)



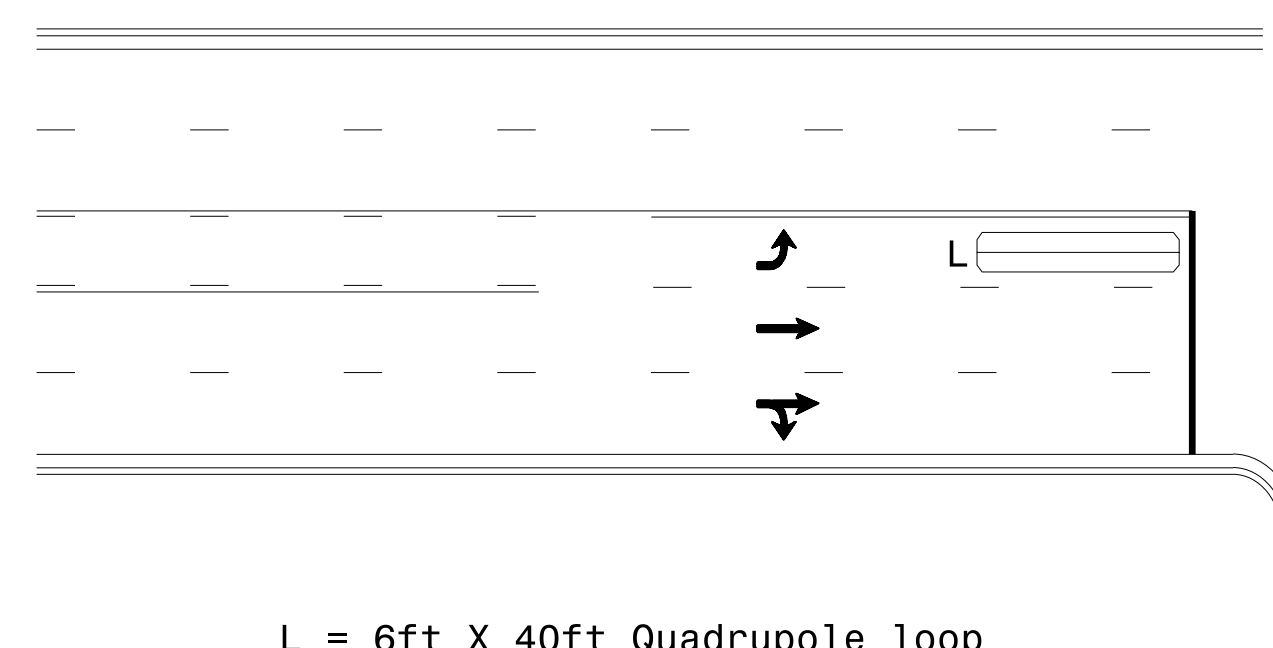
L = 6ft X 6ft
Wired in series

OR



L = 6ft X 40ft
Quadrupole loop, wired separately

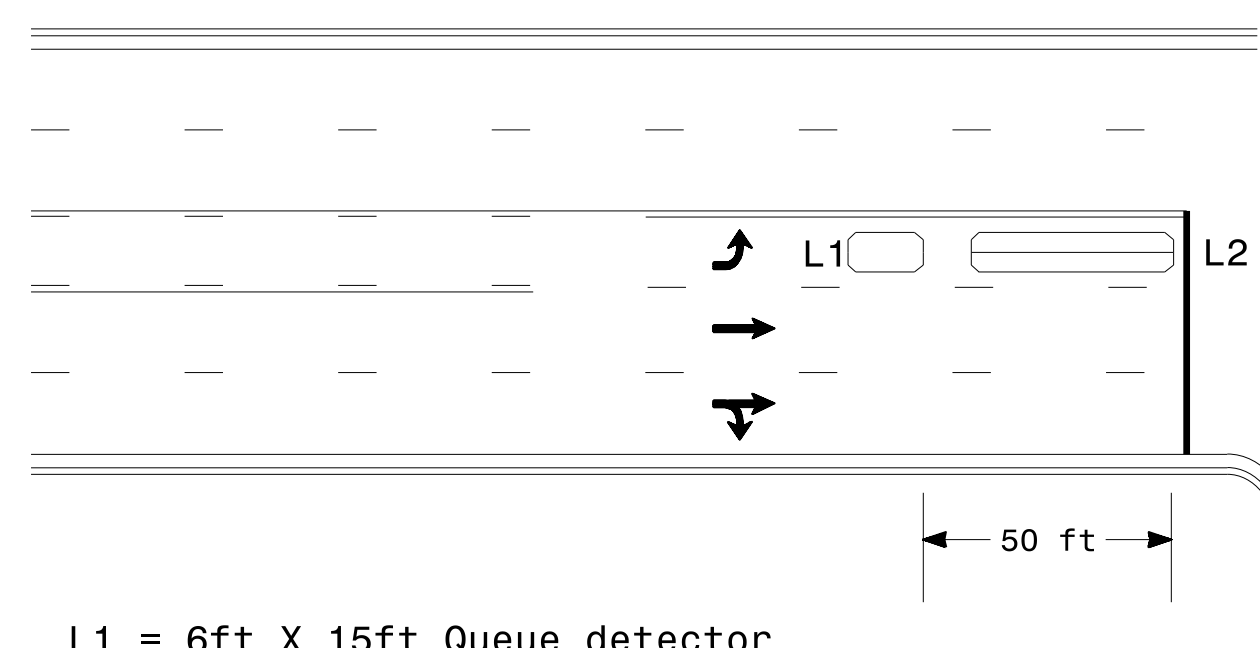
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

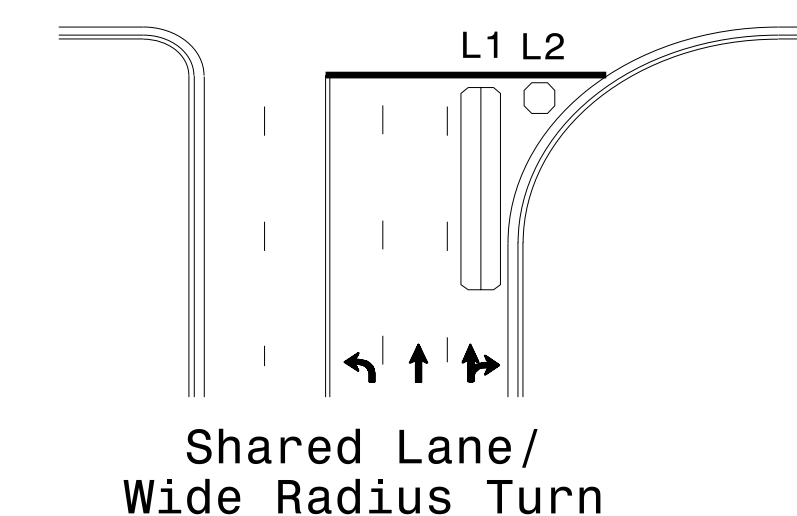
OR



L1 = 6ft X 15ft Queue detector
L2 = 6ft X 40ft Quadrupole loop

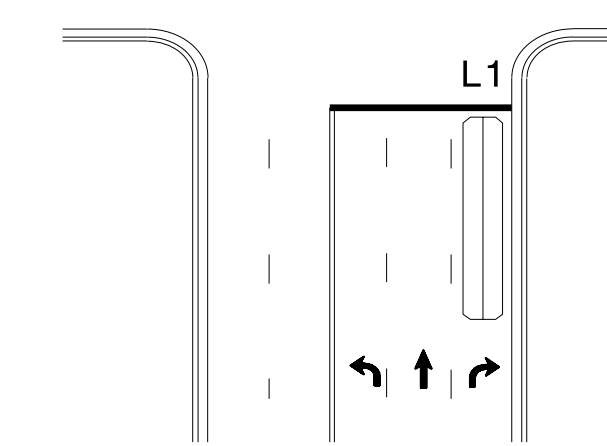
Queue Loop Detection

Right Turn Lane Detection

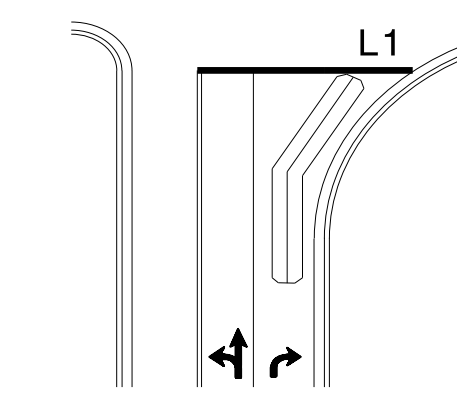


Shared Lane/
Wide Radius Turn

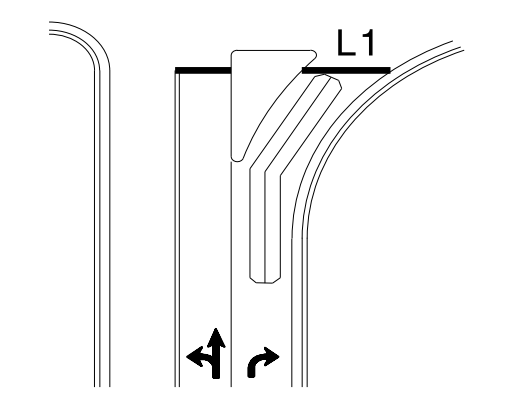
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

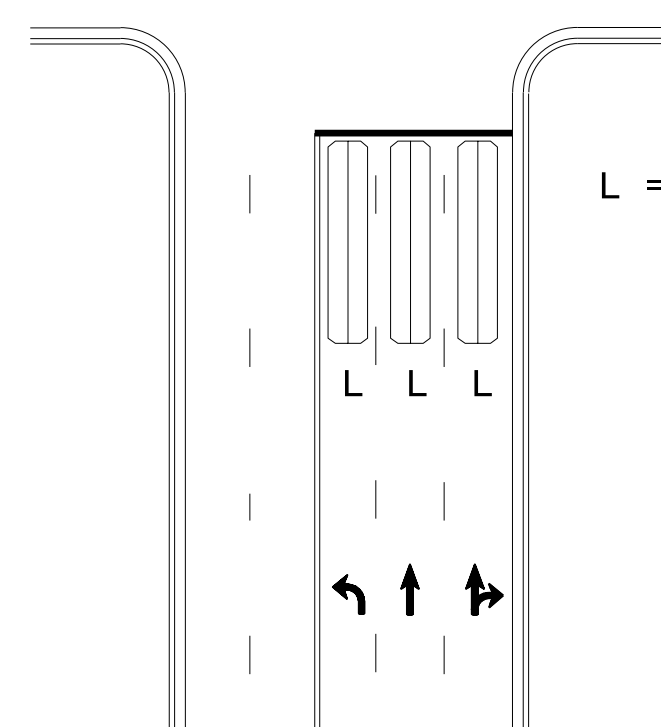


Wide Radius Turn



Channelized Turn

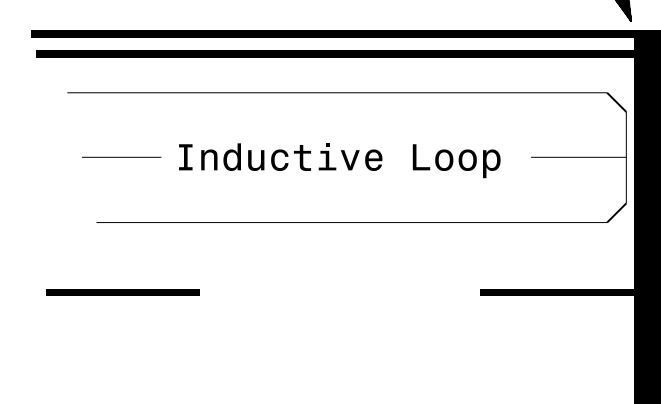
Side Street Detection



L = 6ft X 40ft
Quadrupole loop
Wired to separate
detectors/channels

Presence Loop Placement at Stop Lines

Locate loop slightly
behind leading
edge of stop line



Note:

- Loop may be located in advance of stop line under any of the following conditions:
- 1) stop line is greater than 15' from edge of intersecting roadway
 - 2) loop detects a permissive or protected/permissive left turn
 - 3) for an exclusive right turn lane

Recommended Number of Turns

Single 6' X 6' loop
(when wired separately):

Length of Lead-in ft	Number of Turns
< 250	3
250-375	4
375-525	5
> 525	6

Quadrupole loops: Use 2-4-2 turns

6' X 15' Loops:

- Lead-in < 150', use 2 turns
- Lead-in > 150', use 3 turns

	<p>Prepared In the Offices of:</p> <p>TRANSPORTATION MOBILITY AND SAFETY DIVISION DEPARTMENT OF TRANSPORTATION SIGNAL DESIGN SECTION 750 N. Greenfield Pkwy, Garner, NC 27529</p>		<p>SEAL NORTH CAROLINA PROFESSIONAL ENGINEER PAMELA L. ALEXANDER 23489</p>
	<p>Typical Signal Loop Locations</p>		
<p>SCALE N/A</p>	<p>PLAN DATE: January 2015 PREPARED BY: PLA</p>	<p>REVIEWED BY: JPG REVIEWED BY:</p>	<p>DocuSigned by: P. Alexander 1/30/2015 10:44:44 AM B4756E00CE4E4ED SIG. INVENTORY NO.</p>