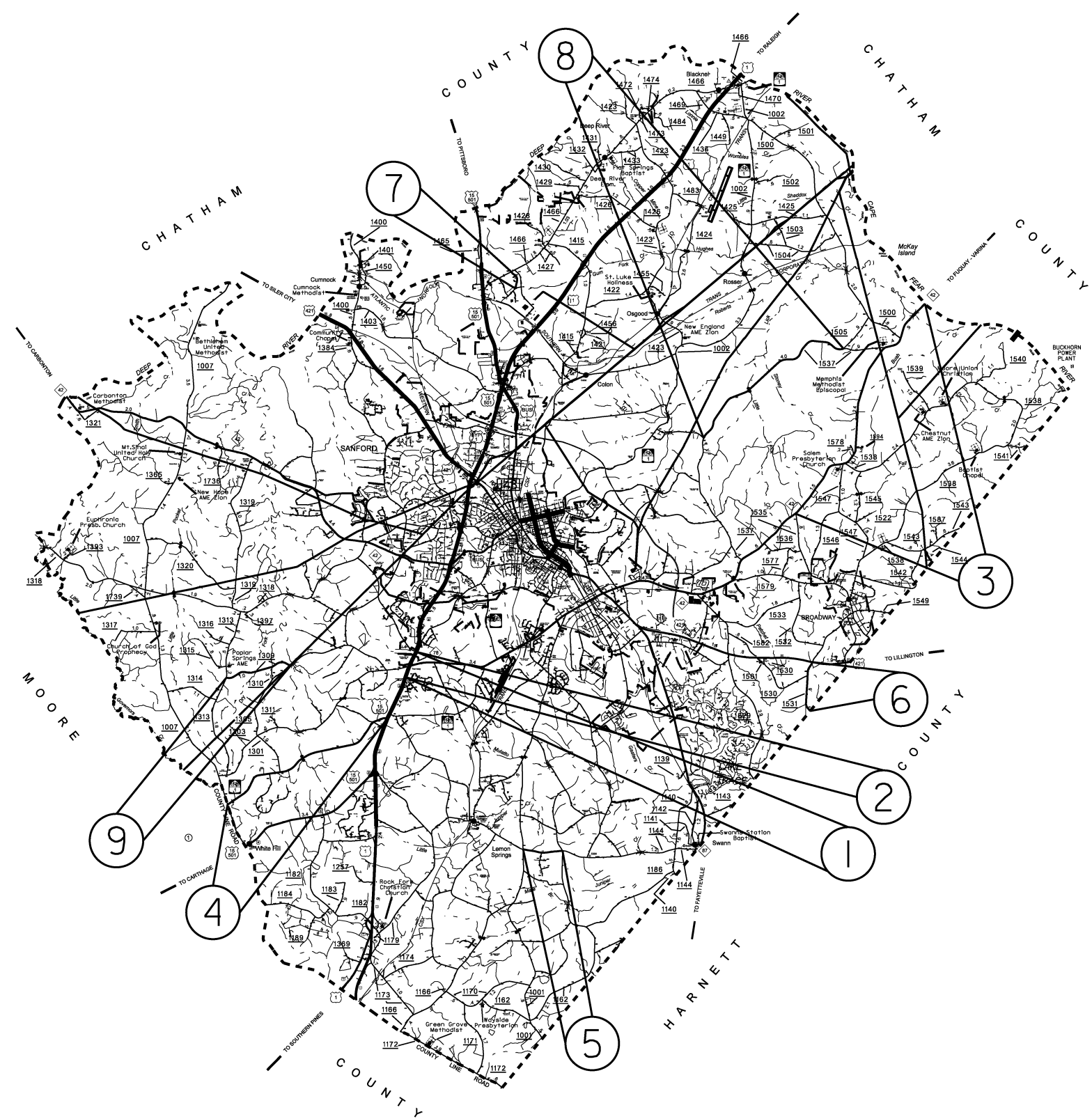


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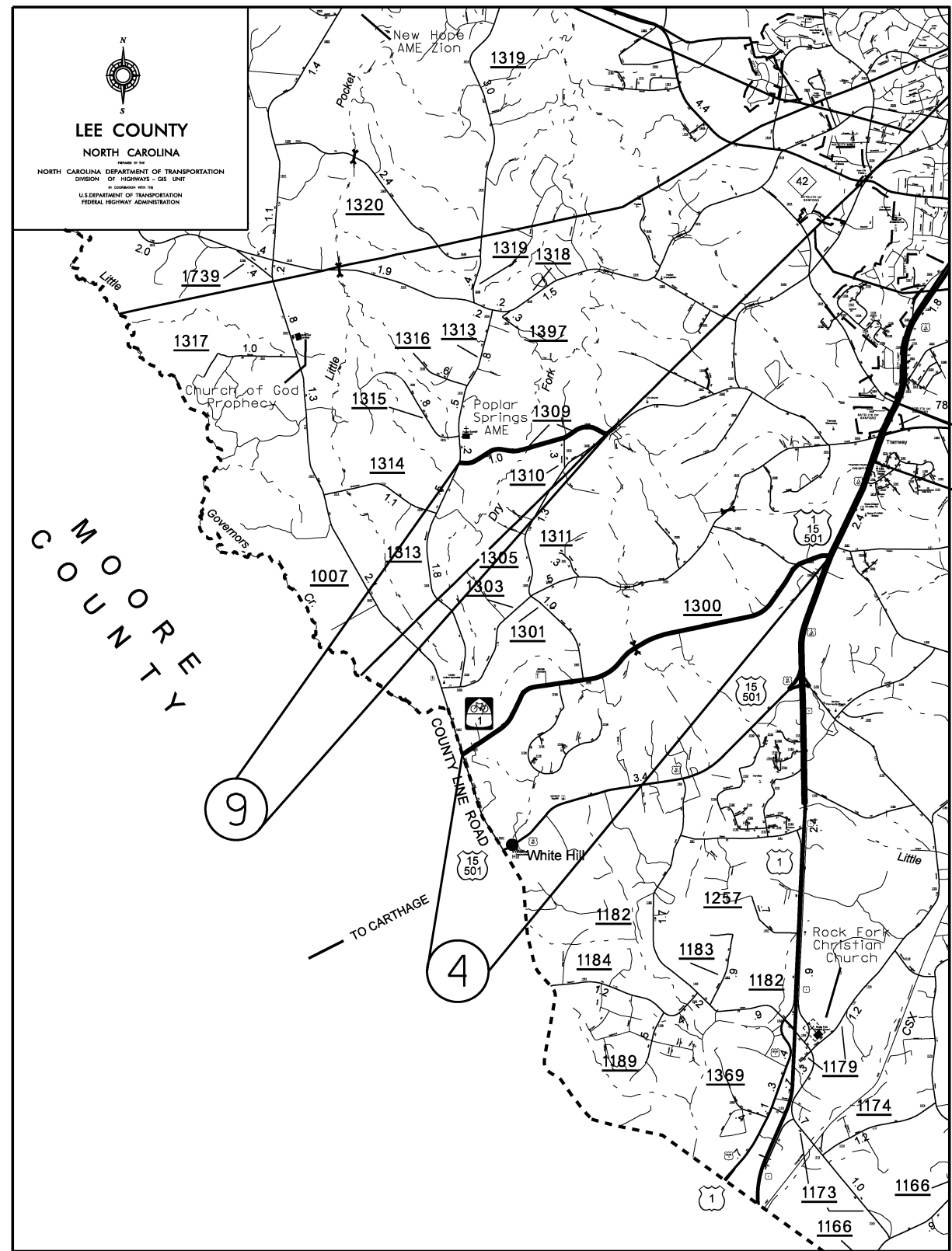
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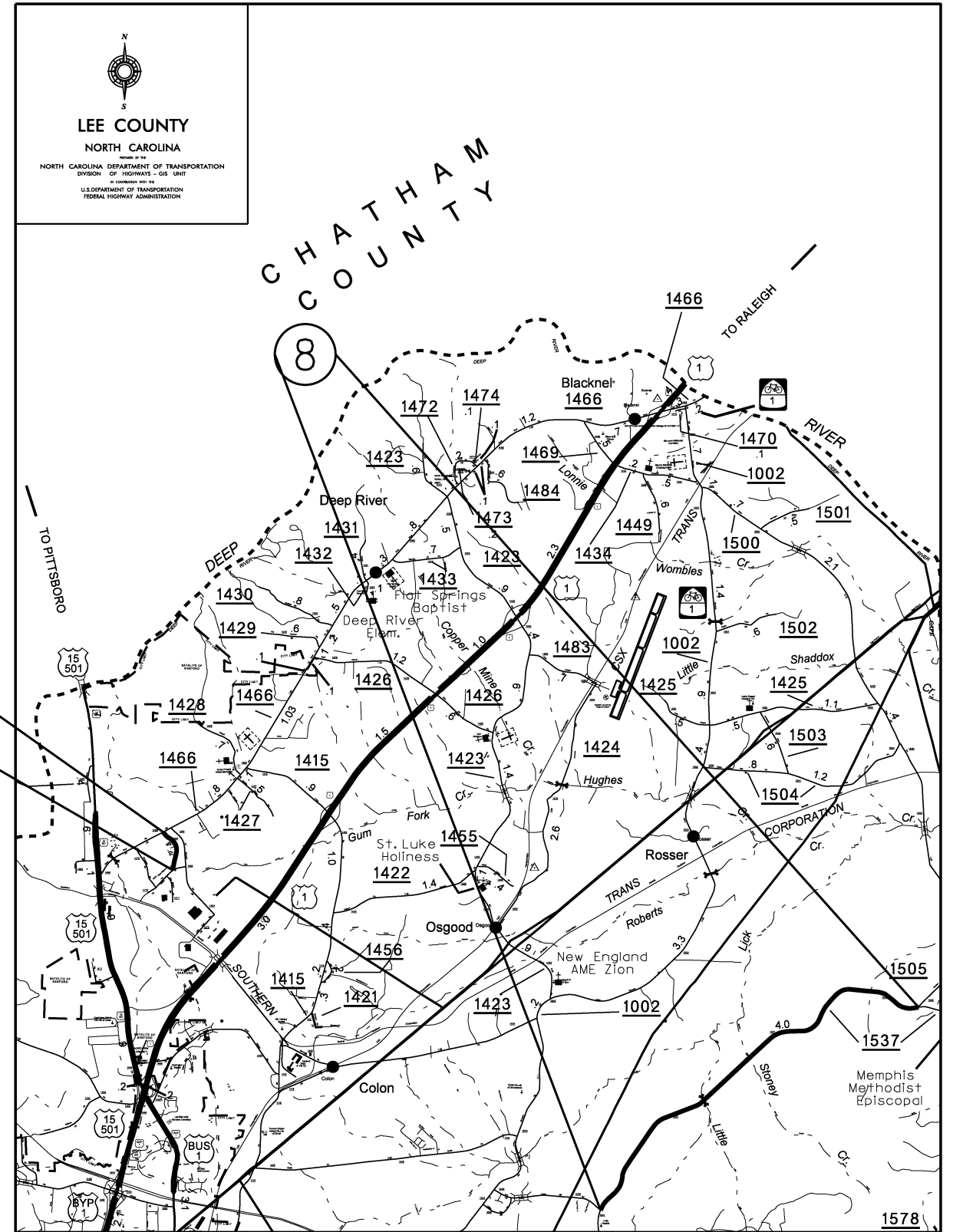
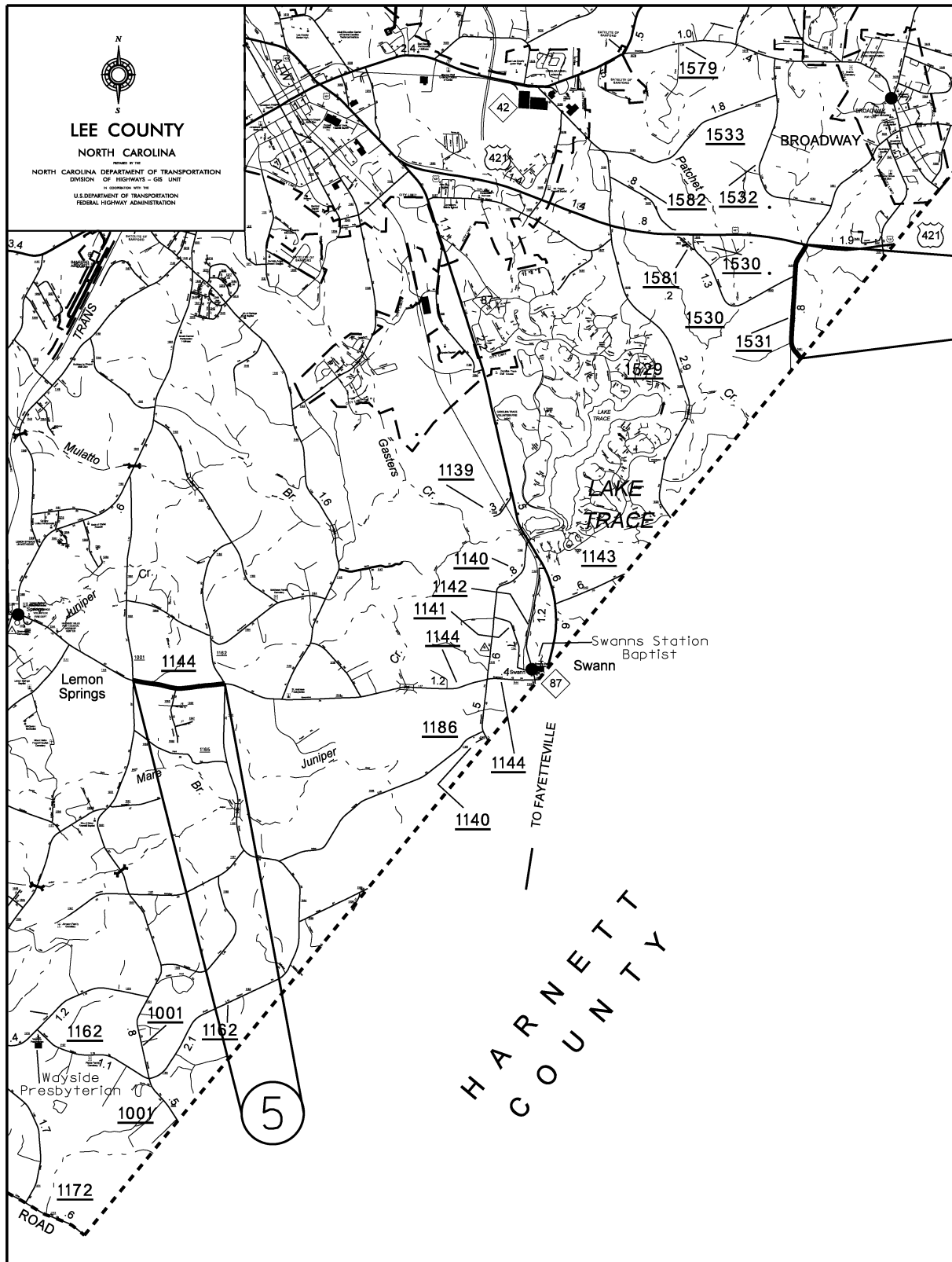
5/28/99



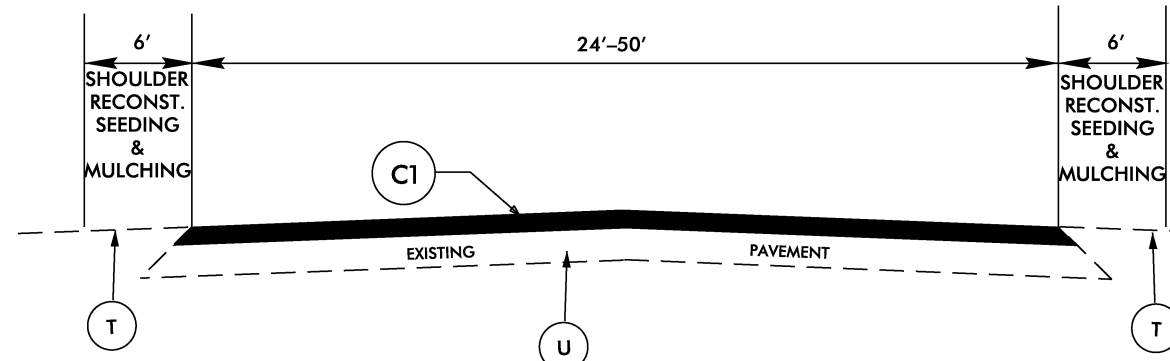
# LEE COUNTY

040397

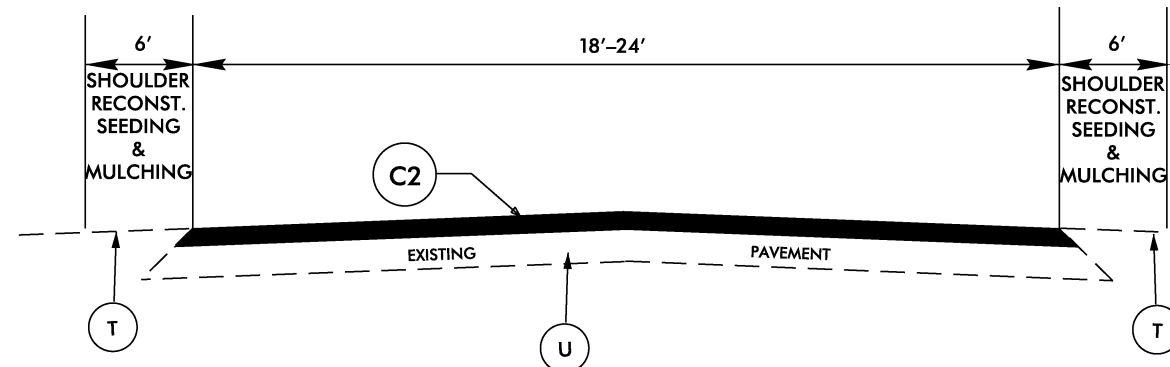




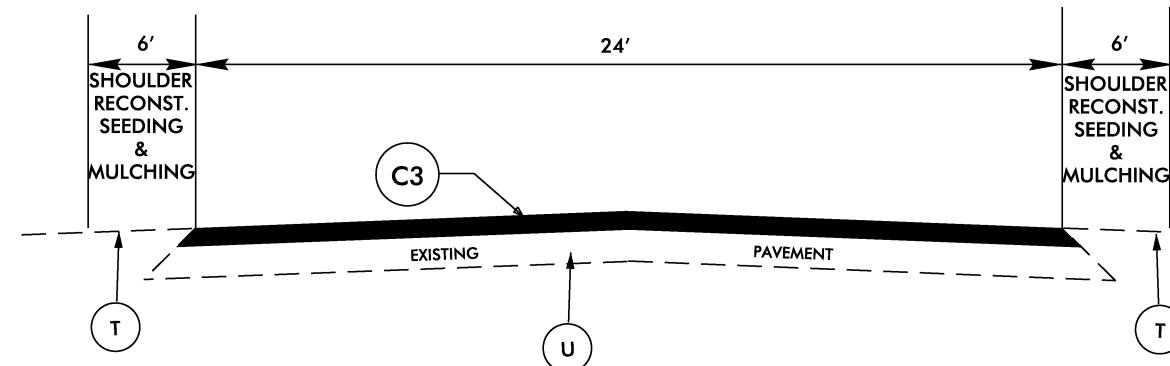
# LEE COUNTY TYPICALS



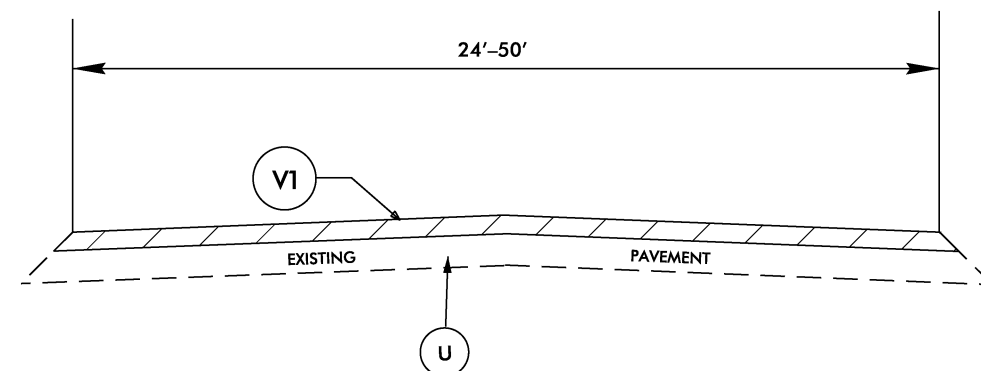
**TYPICAL SECTION NO.1**



**TYPICAL SECTION NO.2**

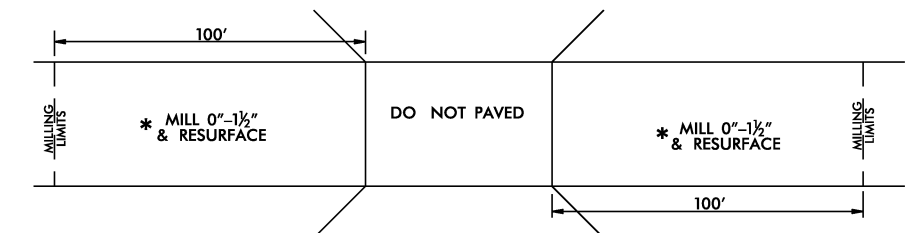


**TYPICAL SECTION NO.3**



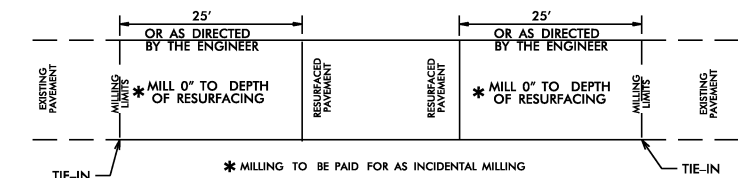
**TYPICAL SECTION NO.4**  
**NOTE: SEE MILLING DETAIL**

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C3	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T	EARTH MATERIAL
VI	1.5" MILLING
U	EXISTING PAVEMENT



**BRIDGE DRAWING FOR NC 42 (BRIDGE NO 24)**

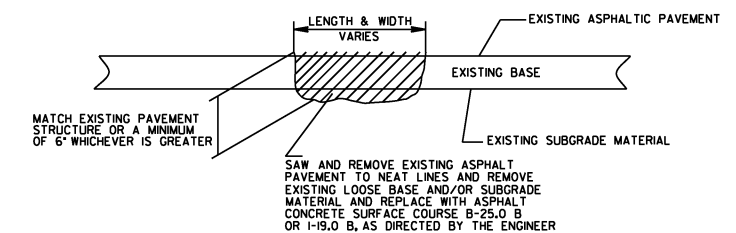
\* MILLING SHALL BE PAID FOR UNDER INCIDENTAL MILLING AND AT LOCATIONS AS DIRECTED BY THE ENGINEER.



**PAVEMENT TIE-IN DETAIL**

DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

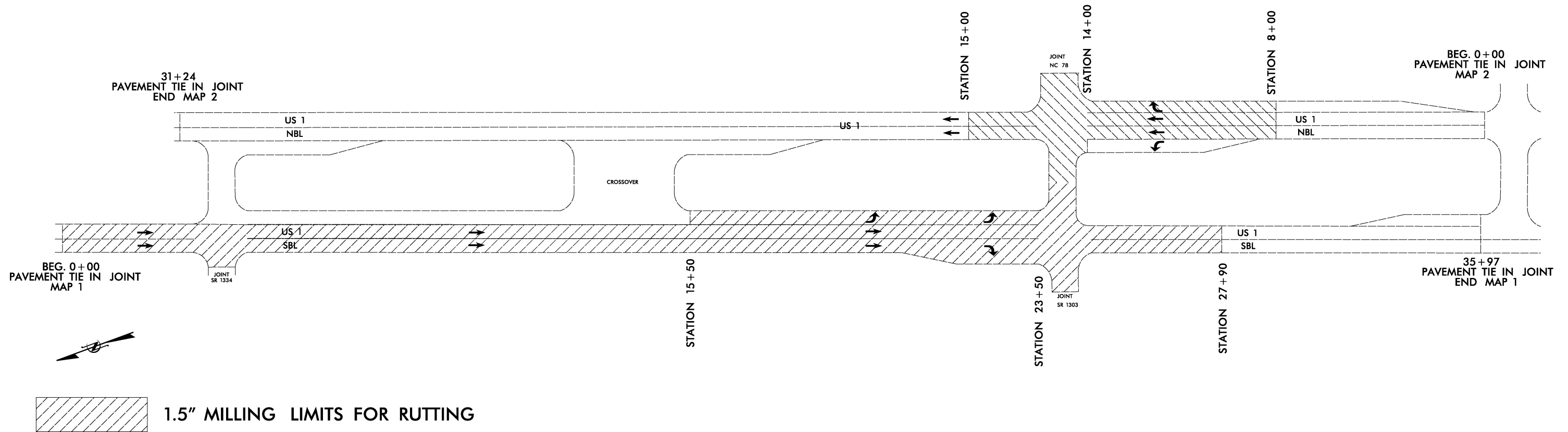
**DETAIL NO. 1**



5/28/99  
25-APR-2016 15:03  
S:\Contracts\Projects\Resurfacing Projects\Division 8\Lee June 2016\Lee-June-2016\_Typ.dgn

# LEE COUNTY

## MILLING DETAIL FOR TYPICAL NO. 4



 1.5" MILLING LIMITS FOR RUTTING

### 1.5" MILLING LIMITS FOR RUTTING

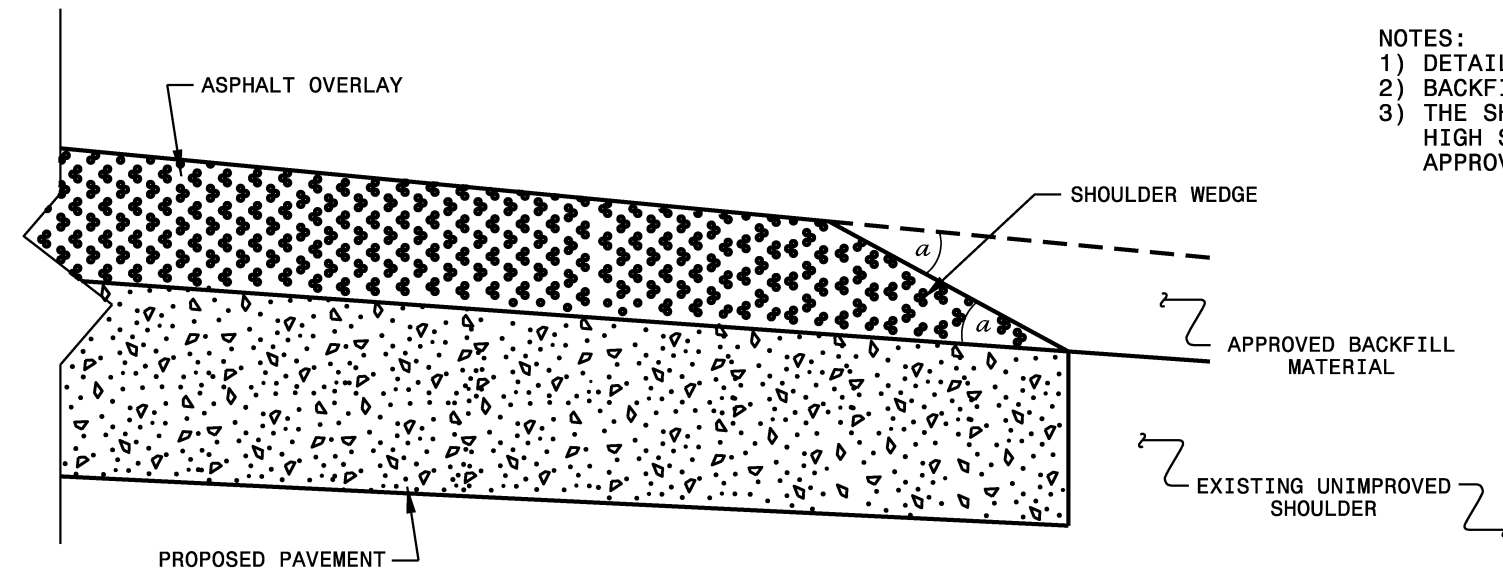
MAP NO. 1: STA 0+00 -L- (CONST JOINT @ SR 1334 PENDERGRASS ROAD)  
 MILL BOTH THROUGH LANES FROM STA 0+00-L- TO STA 27+90 -L-  
 MILL LEFT TURN LANE FOR NC 78 FROM STA 15+50 -L- TO STA 23+50 -L-  
 MILL -Y- LINE SR 1303 (CENTER CHURCH ROAD) TO RADIUS RETURN

MAP NO. 2: STA 0+00 -L- (CONST JOINT @ SR 1198 BRYAN DRIVE)  
 MILL BOTH THROUGH LANES FROM STA 8+00-L- TO STA 15+00 -L-  
 MILL RIGHT TURN LANE FOR NC 78 FROM STA 8+00 -L- TO STA 14+00 -L-  
 MILL -Y- LINE NC 78 TO RADIUS RETURN

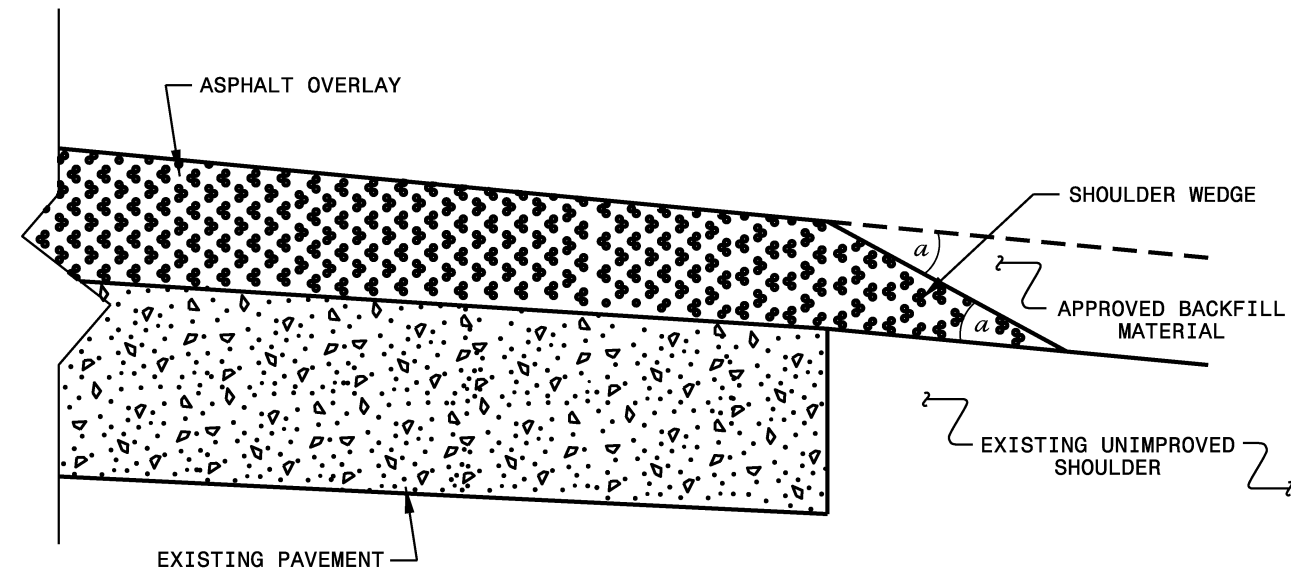
NOTE: NOT TO SCALE

**NOTES:**

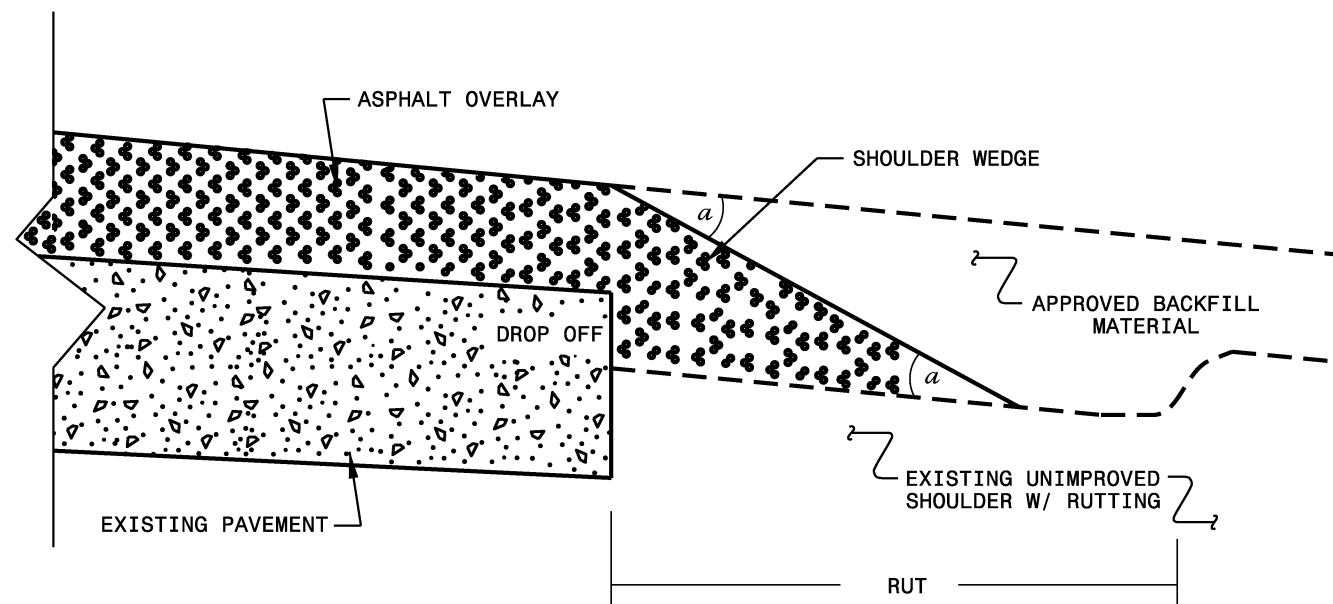
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
- 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
- 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



**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\shoulderwedgedetail.dgn			

24-MAR-2016 11:45  
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 \*\*\*\*\*USERNAME\*\*\*\*\*

PROJECT NO.	SHEET NO.	TOTAL NO.
2016CPT.08.18.10531	7	
2016CPT.08.18.20531		

### SUMMARY OF QUANTITIES

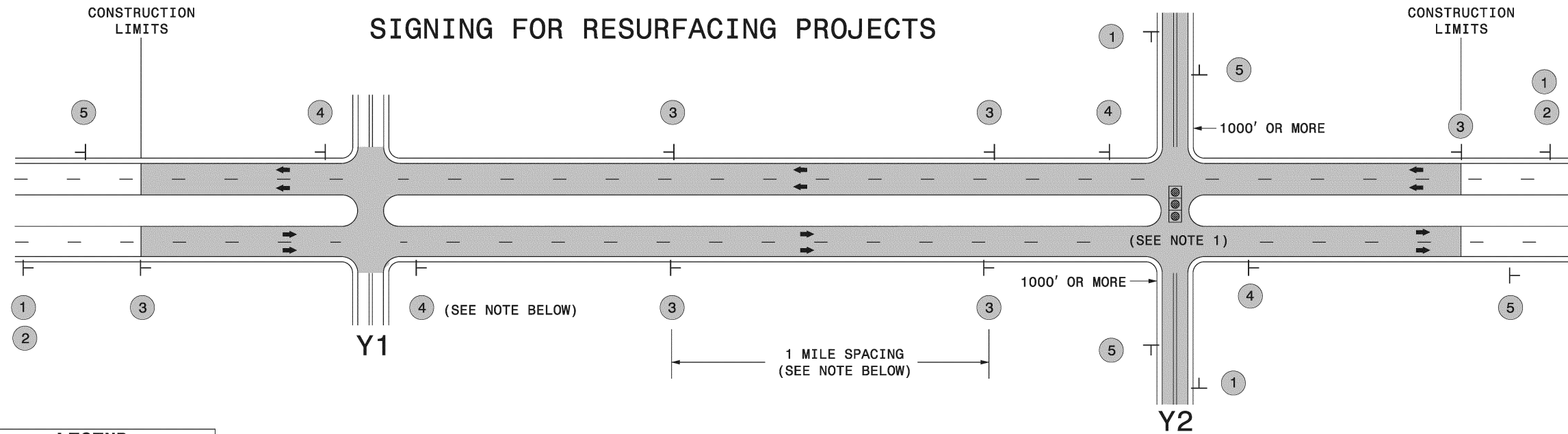
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	BORROW EXCAVATION CY	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	1.5" MILLING SY	INCIDENTAL MILLING SY	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	SURFACE COURSE, SF9.5A TON	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ADJUST MANHOLES EA	PORTABLE LIGHTING LS	TEMPORARY SILT FENCE LF	WATTLE LF	SEED & MULCHING AC	INDUCTIVE LOOP SAWCUT LF	
2016CPT.08.18.10531	Lee	1	US 1 SBL	FROM CONST JOINT @ SR 1334 (PENDERGRASS RO) TO CONST JOINT @ SR 1198 (BRYAN DR)	1,4	2	MD	NO	NO	0.681	24-50	100		1.40	12,580	120		1,260		74			*	68	20	0.99	400	
<b>TOTAL FOR MAP NO. 1</b>										<b>0.681</b>		<b>100</b>		<b>1.40</b>	<b>12,580</b>	<b>120</b>		<b>1,260</b>		<b>74</b>				<b>68</b>	<b>20</b>	<b>0.99</b>	<b>400</b>	
2016CPT.08.18.10531	Lee	2	US 1 NBL	FROM CONST JOINT @ SR 1198 (BRYAN DR) TO CONST JOINT @ SR 1334 (PENDERGRASS RD)	1,4	2	MD	NO	NO	0.592	24-42	87		1.20	4,725	85		1,155		68			*	59	10	0.86	375	
<b>TOTAL FOR MAP NO. 2</b>										<b>0.592</b>		<b>87</b>		<b>1.20</b>	<b>4,725</b>	<b>85</b>		<b>1,155</b>		<b>68</b>				<b>59</b>	<b>10</b>	<b>0.86</b>	<b>375</b>	
2016CPT.08.18.10531	Lee	3	NC 42	FROM SR 1535 (BERKE THOMAS ROAD) TO CHATHAM COUNTY LINE	3	2	2WU	NO	NO	5.581	24	819	270	11.16		450	7,800			468	1,255			558	90	8.12		
<b>TOTAL FOR MAP NO. 3</b>										<b>5.581</b>		<b>819</b>	<b>270</b>	<b>11.16</b>		<b>450</b>	<b>7,800</b>			<b>468</b>	<b>1,255</b>			<b>558</b>	<b>90</b>	<b>8.12</b>		
<b>TOTAL FOR PROJ NO. 2016CPT.08.18.10531</b>										<b>6.854</b>		<b>1,006</b>	<b>270</b>	<b>13.76</b>	<b>17,305</b>	<b>655</b>	<b>7,800</b>	<b>2,415</b>		<b>610</b>	<b>1,255</b>		<b>1</b>	<b>685</b>	<b>120</b>	<b>9.97</b>	<b>775</b>	
2016CPT.08.18.20531	Lee	4	SR 1300 (CHRIS COLE RD)	FROM CONST JOINT @ SR 1007 (PLANK RD) TO CONST JOINT @ US 1	2	2	2WU	NO	NO	4.043	24	593	385	8.09		534		5,460		366	1,432			404	70	5.88		
<b>TOTAL FOR MAP NO. 4</b>										<b>4.043</b>		<b>593</b>	<b>385</b>	<b>8.09</b>		<b>534</b>		<b>5,460</b>		<b>366</b>	<b>1,432</b>			<b>404</b>	<b>70</b>	<b>5.88</b>		
2016CPT.08.18.20531	Lee	5	SR 1144 (GREENWOOD RD)	FROM SR 1162 (SHERIFF WATSON RD) TO CONST JOINT @ SR 1001 (EDWARDS RD)	2	2	2WU	NO	NO	0.856	24	126	50	1.71		267		1,230		83	770			86	20	1.25	240	
<b>TOTAL FOR MAP NO. 5</b>										<b>0.856</b>		<b>126</b>	<b>50</b>	<b>1.71</b>		<b>267</b>		<b>1,230</b>		<b>83</b>	<b>770</b>			<b>86</b>	<b>20</b>	<b>1.25</b>	<b>240</b>	
2016CPT.08.18.20531	Lee	6	SR 1531 (SWANN STATION ROAD)	FROM HARNETT COUNTY LINE TO CONST JOINT @ US 421	2	2	2WU	NO	NO	1.078	20	159	65	2.16		195		1,140		76	114			108	20	1.56		
<b>TOTAL FOR MAP NO. 6</b>										<b>1.078</b>		<b>159</b>	<b>65</b>	<b>2.16</b>		<b>195</b>		<b>1,140</b>		<b>76</b>	<b>114</b>			<b>108</b>	<b>20</b>	<b>1.56</b>		
2016CPT.08.18.20531	Lee	7	SR 1481 (NORTH LAKES DR)	FROM CONST JOINT @ SR 1466 (DEEP RIVER RD) TO SR 1476 (CLYDE RHYNE DR)	2	2	2WU	NO	NO	0.389	20	58	40	0.78		267		485		32	404	1		39	10	0.57		
<b>TOTAL FOR MAP NO. 7</b>										<b>0.389</b>		<b>58</b>	<b>40</b>	<b>0.78</b>		<b>267</b>		<b>485</b>		<b>32</b>	<b>404</b>	<b>1</b>		<b>39</b>	<b>10</b>	<b>0.57</b>		
2016CPT.08.18.20531	Lee	8	SR 1537 (POPLAR SPRINGS CH RD)	FROM SR 1505 (GUNTHER RD) TO CONST JOINT @ SR 1508 (LICK CREEK RD)	2	2	2WU	NO	NO	3.993	18	586	250	7.99		200		3,930		263	2,359			400	60	5.81		
<b>TOTAL FOR MAP NO. 8</b>										<b>3.993</b>		<b>586</b>	<b>250</b>	<b>7.99</b>		<b>200</b>		<b>3,930</b>		<b>263</b>	<b>2,359</b>			<b>400</b>	<b>60</b>	<b>5.81</b>		
2016CPT.08.18.20531	Lee	9	SR 1309 (DYCUS RD)	FROM CONST JOINT @ SR 1305 (HENLEY RD) TO CONST JOINT @ SR 1313 (BLACKSTONE RD)	2	2	2WU	NO	NO	1.436	18	211	120	2.87		223		1,490		100	680			144	30	2.09		
<b>TOTAL FOR MAP NO. 9</b>										<b>1.436</b>		<b>211</b>	<b>120</b>	<b>2.87</b>		<b>223</b>		<b>1,490</b>		<b>100</b>	<b>680</b>			<b>144</b>	<b>30</b>	<b>2.09</b>		
<b>TOTAL FOR PROJ NO. 2016CPT.08.18.20531</b>										<b>11.795</b>		<b>1,733</b>	<b>910</b>	<b>23.60</b>		<b>1,686</b>		<b>13,735</b>		<b>920</b>	<b>5,759</b>	<b>1</b>	<b>1</b>	<b>1,181</b>	<b>210</b>	<b>17.16</b>	<b>240</b>	
<b>GRAND TOTAL</b>										<b>18.649</b>		<b>2,739</b>	<b>1,180</b>	<b>37.36</b>		<b>17,305</b>	<b>2,341</b>	<b>7,800</b>	<b>2,415</b>	<b>13,735</b>	<b>1,530</b>	<b>7,014</b>	<b>1</b>	<b>1</b>	<b>1,866</b>	<b>330</b>	<b>27.13</b>	<b>1,015</b>



PROJECT NO.	SHEET NO.	TOTAL NO.
2016CPT.08.18.10531	8	
2016CPT.08.18.20531		

### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E	4457000000-N	4510000000-N	4685000000-E		4686000000-E		4695000000-E		4710000000-E	4721000000-E					4725000000-E	4900000000-N	4905000000-N				
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING SF	TEMPORARY TRAFFIC CONTROL LS	LAW ENFORCEMENT HR	4" X 90 M WHITE THERMO LF	4" X 90 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	8" X 90 M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	24" X 120 M WHITE THERMO LF	THERMO MSG ONLY 120 M EA	THERMO STR ARROW 90 M EA	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR & LT ARROW 90 M EA	YELLOW & YELLOW MARKERS EA	SNOW PLOWABLE MARKERS C & R EA					
2016CPT.08.18.10531	Lee	1	US 1 SBL	FROM CONST JOINT @ SR 1334 (PENDERGRASS RO) TO CONST JOINT @ SR 1198 (BRYAN DR)	1,4	2	MD	0.681	24-50	158			40	3,597	3,597	2,565		1	50	185	4	10	8	8	1		165				
<b>TOTAL FOR MAP NO. 1</b>												40	3,597	3,597	2,565		1	50	185	4	10	8	8	1		165					
2016CPT.08.18.10531	Lee	2	US 1 NBL	FROM CONST JOINT @ SR 1198 (BRYAN DR) TO CONST JOINT @ SR 1334 (PENDERGRASS RD)	1,4	2	MD	0.592	24-42	158			40	3,124	3,124	2,650		350	55	250	4	8	6	14			120				
<b>TOTAL FOR MAP NO. 2</b>												40	3,124	3,124	2,650		350	55	250	4	8	6	14			120					
2016CPT.08.18.10531	Lee	3	NC 42	FROM SR 1535 (BERKE THOMAS ROAD) TO CHATHAM COUNTY LINE	3	2	2WU	5.581	24	626																	495				
<b>TOTAL FOR MAP NO. 3</b>																											495				
<b>TOTAL FOR PROJ NO. 2016CPT.08.18.10531</b>											1	80	65,656	6,721	5,215	40,525	351	105	435	8	18	14	22	1	495	285					
													72,377		45,740		456				55										
2016CPT.08.18.20531	Lee	4	SR 1300 (CHRIS COLE RD)	FROM CONST JOINT @ SR 1007 (PLANK RD) TO CONST JOINT @ US 1	2	2	2WU	4.043	24	453																					
<b>TOTAL FOR MAP NO. 4</b>													42,694			36,550															
2016CPT.08.18.20531	Lee	5	SR 1144 (GREENWOOD RD)	FROM SR 1162 (SHERIFF WATSON RD) TO CONST JOINT @ SR 1001 (EDWARDS RD)	2	2	2WU	0.856	24	96			40	9,040													57				
<b>TOTAL FOR MAP NO. 5</b>												40	9,040			7,855										57					
2016CPT.08.18.20531	Lee	6	SR 1531 (SWANN STATION ROAD)	FROM HARNETT COUNTY LINE TO CONST JOINT @ US 421	2	2	2WU	1.078	20	121																					
<b>TOTAL FOR MAP NO. 6</b>													11,384			7,690															
2016CPT.08.18.20531	Lee	7	SR 1481 (NORTH LAKES DR)	FROM CONST JOINT @ SR 1466 (DEEP RIVER RD) TO SR 1476 (CLYDE RHYNE DR)	2	2	2WU	0.389	20	44								15		25											
<b>TOTAL FOR MAP NO. 7</b>													4,110			4,120		15		25											
2016CPT.08.18.20531	Lee	8	SR 1537 (POPLAR SPRINGS CH RD)	FROM SR 1505 (GUNTHER RD) TO CONST JOINT @ SR 1508 (LICK CREEK RD)	2	2	2WU	3.993	18	448																					
<b>TOTAL FOR MAP NO. 8</b>													42,164			33,380															
2016CPT.08.18.20531	Lee	9	SR 1309 (DYCUS RD)	FROM CONST JOINT @ SR 1305 (HENLEY RD) TO CONST JOINT @ SR 1313 (BLACKSTONE RD)	2	2	2WU	1.436	18	161																					
<b>TOTAL FOR MAP NO. 9</b>													15,160			15,160															
<b>TOTAL FOR PROJ NO. 2016CPT.08.18.20531</b>											1	40	124,552			104,755	15		25							57					
													124,552		104,755		15														
<b>GRAND TOTAL</b>													18,649		2,265	1	120	190,208	6,721	5,215	145,280	366	105	460	8	18	14	22	1	552	285
													196,929			150,495		471					55								

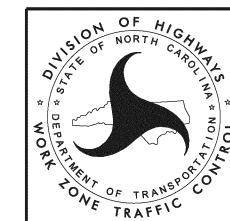


LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

### MAINLINE (-L-) SIGNING

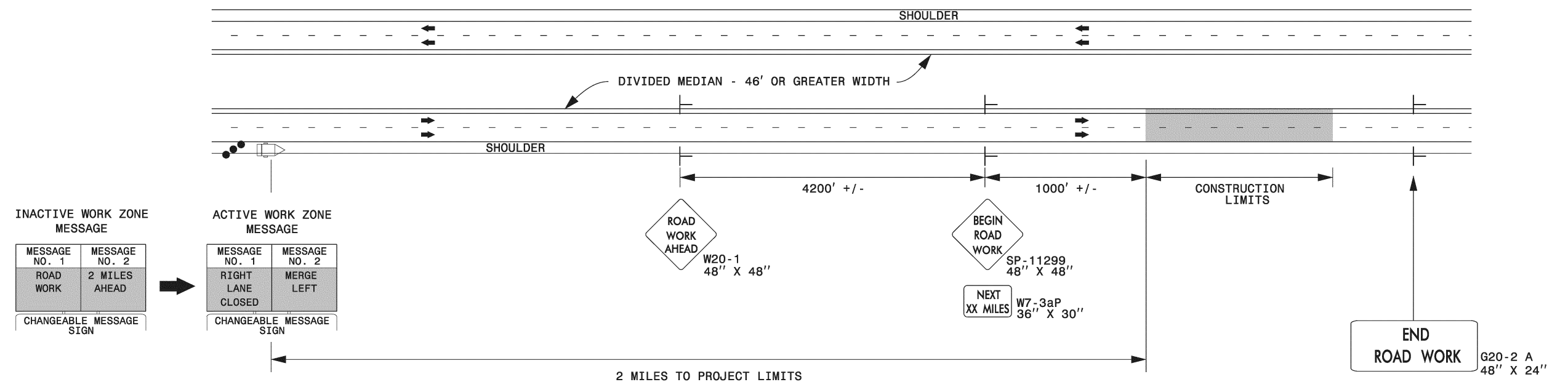
### -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING		
	1	 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.	<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;">             W20-1            48" X 48"         </div> <div style="text-align: center;">             W20-7 A            48" X 48"         </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> <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>	
	2	 W7-3aP 24" X 18"	#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	 SP 13107 48" X 48"	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	 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.		
5	 G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.			

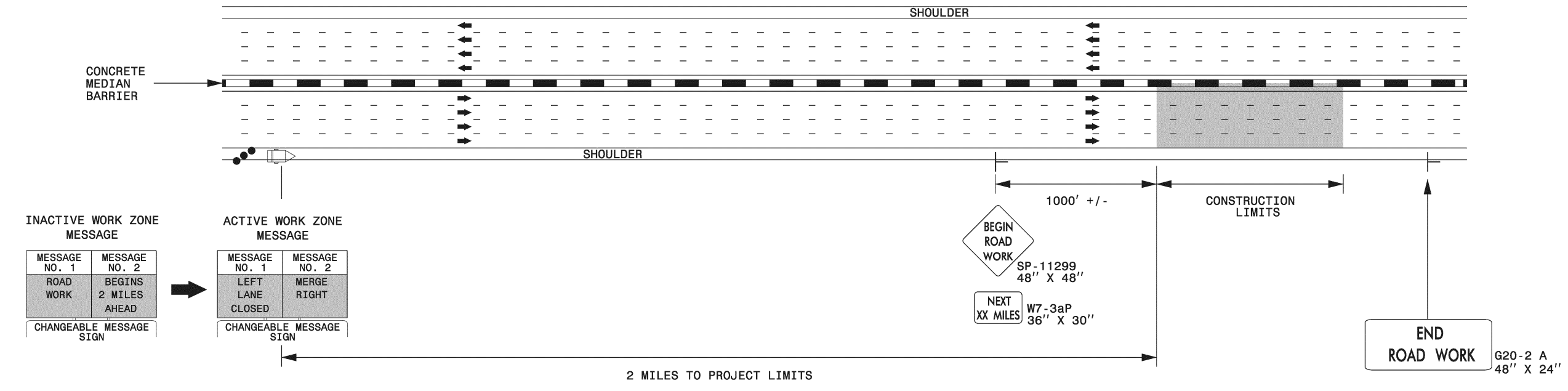


**RESURFACING  
ADVANCE WARNING SIGNS  
FOR RURAL AND SUBURBAN  
MULTI-LANE ROADWAYS  
W/ SHOULDER SECTIONS**

### DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



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

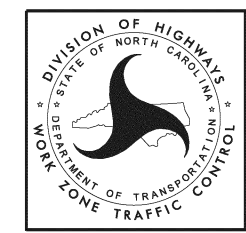


**NOTES:**

- 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



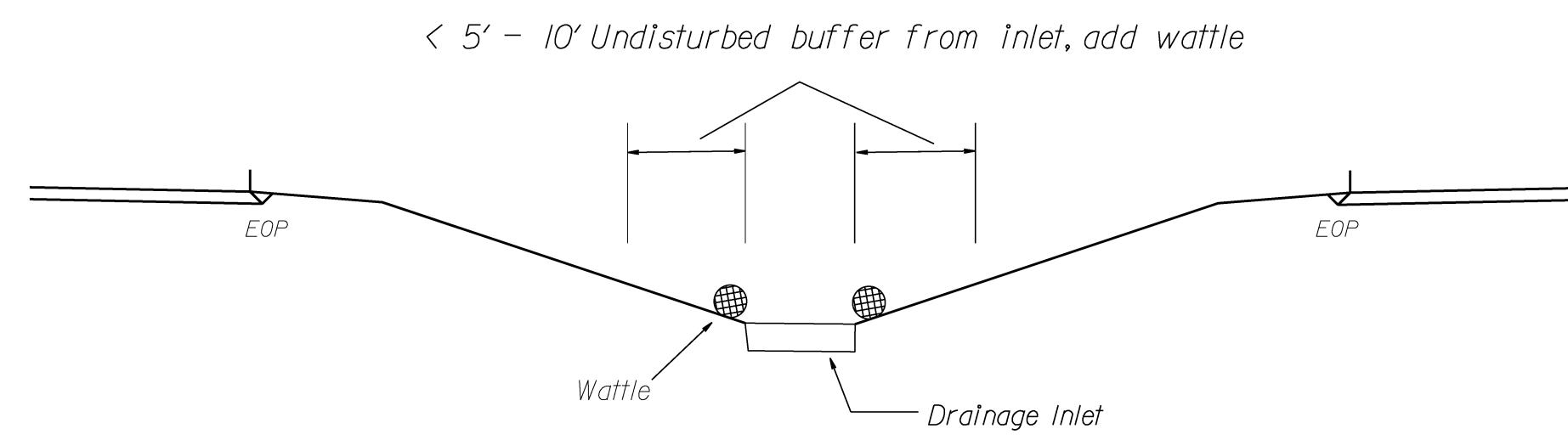
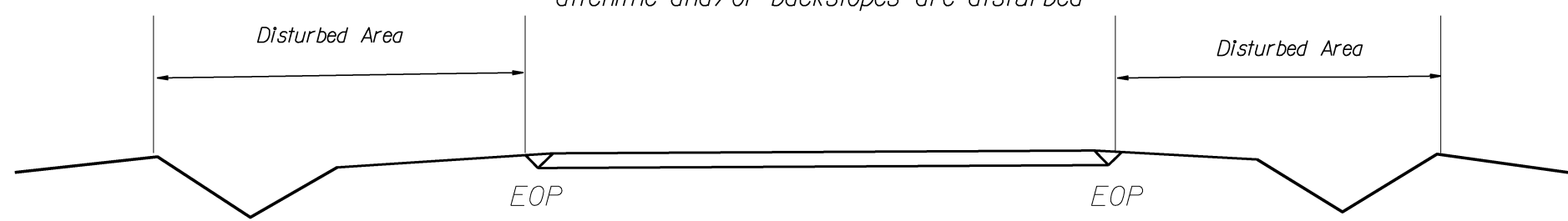
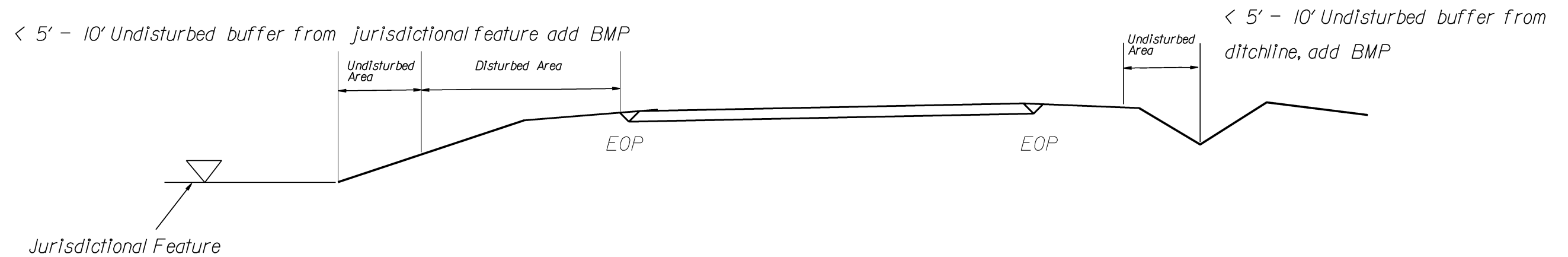
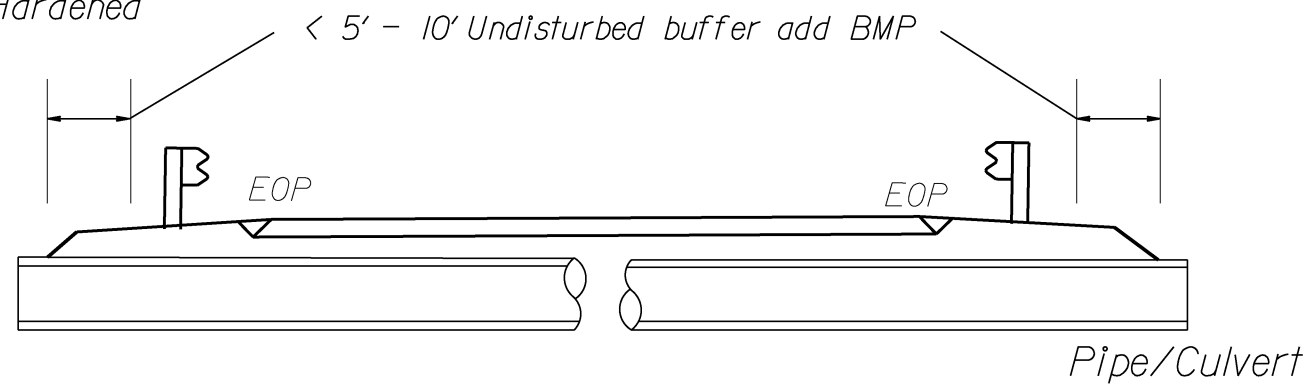
**RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH**

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.

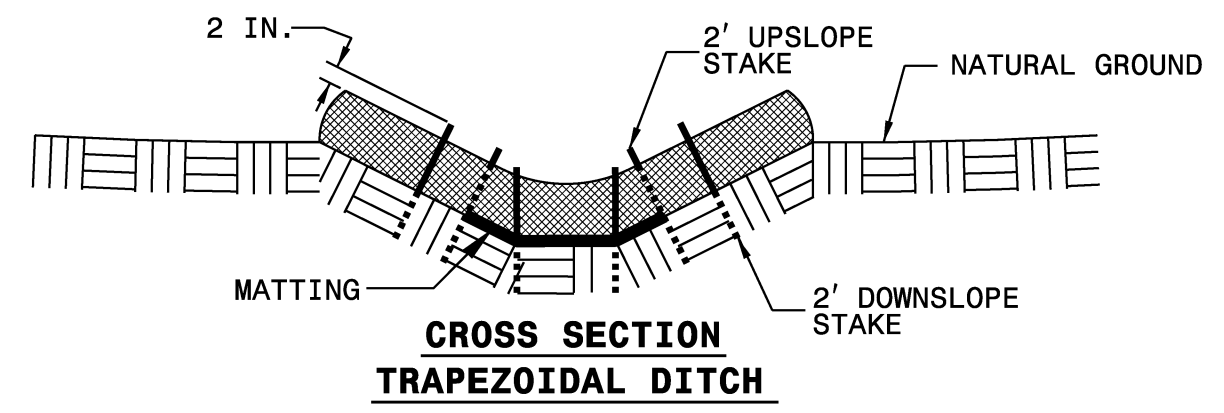
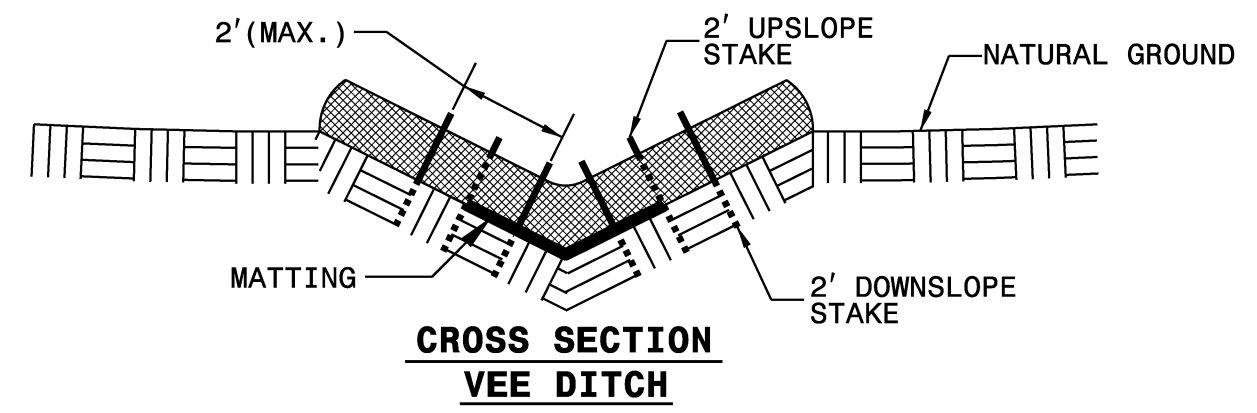
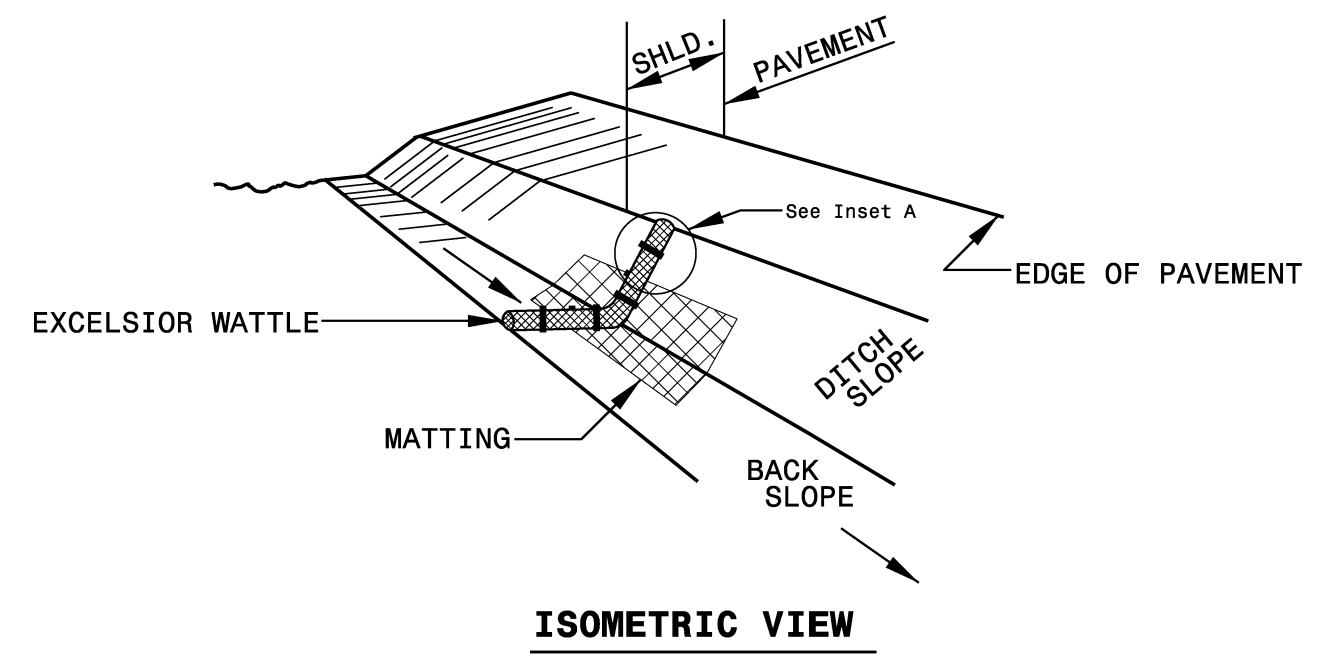
BMP Options: Wattle, Silt Fence or Hardened Aggregate.

# EROSION CONTROL DETAIL



NOT TO SCALE

# WATTLE DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

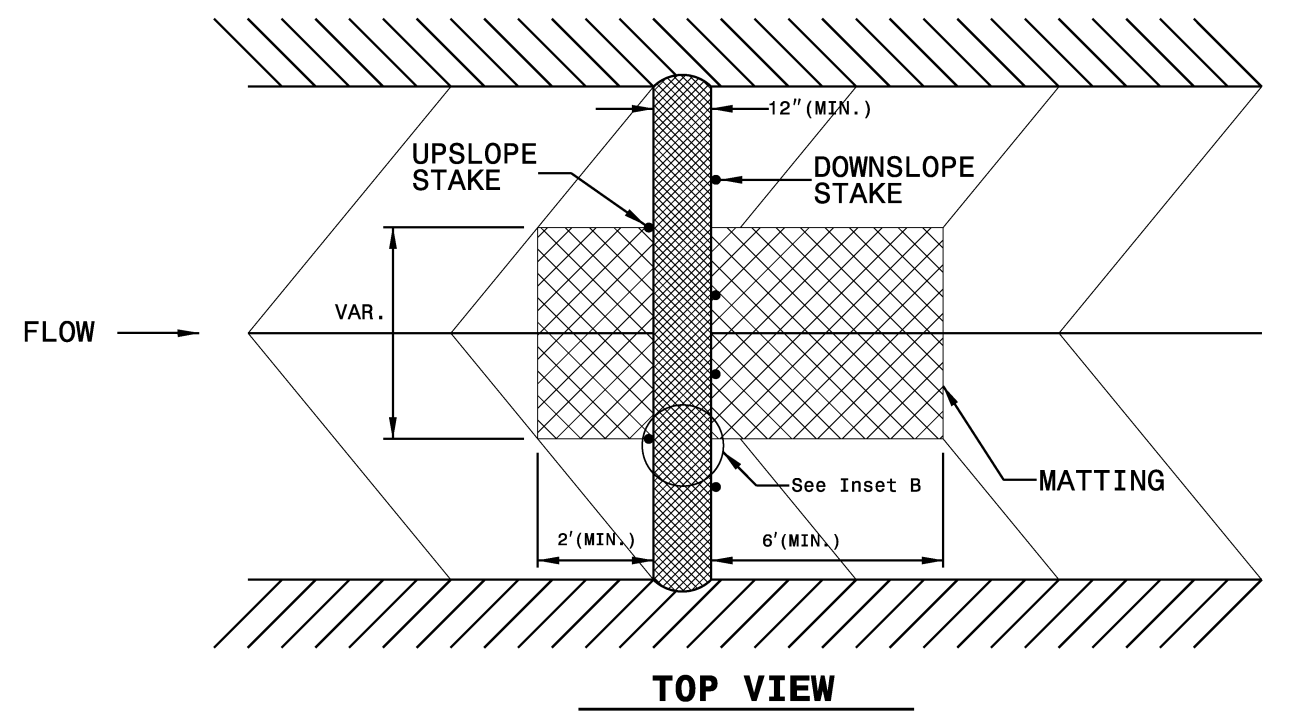
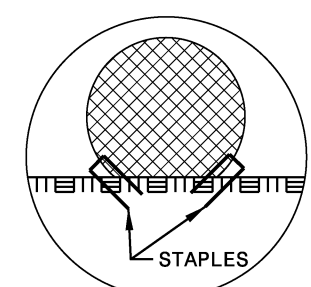
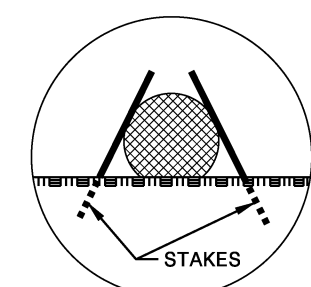
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

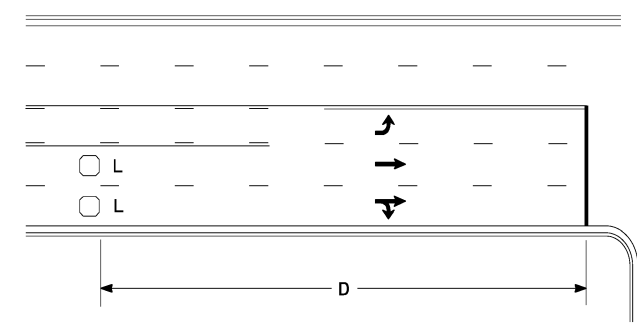
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.



### High Speed Detection (≥40 mph)

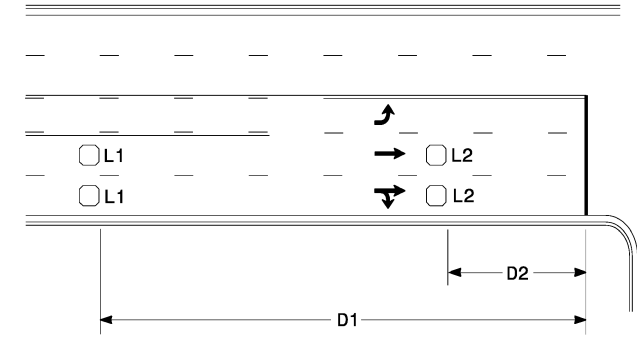


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

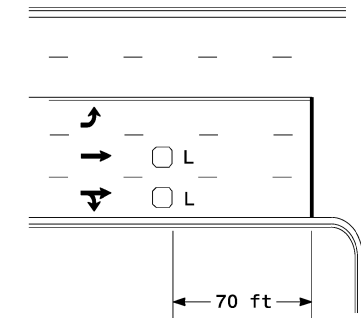


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

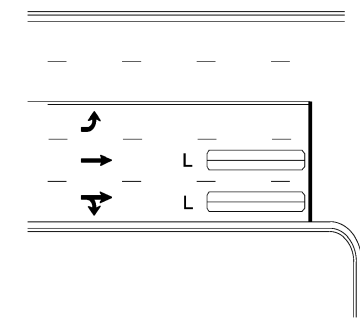
"Stretch" Operation

### Low Speed Detection (≤35 mph)



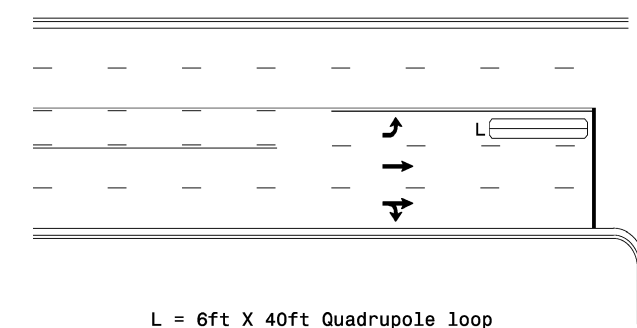
L = 6ft X 6ft  
Wired in series

OR



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

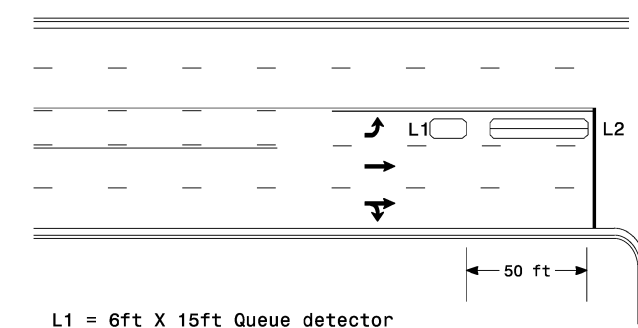
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

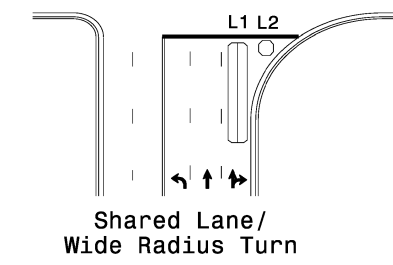
OR



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

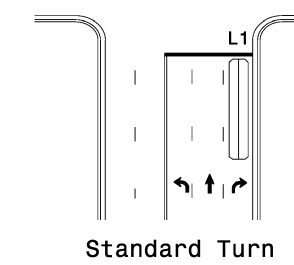
Queue Loop Detection

### Right Turn Lane Detection

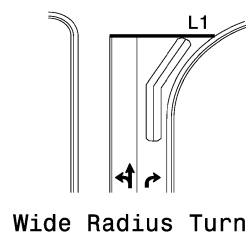


Shared Lane/  
Wide Radius Turn

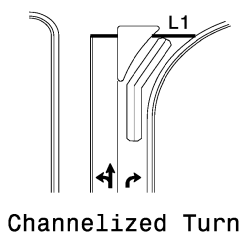
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

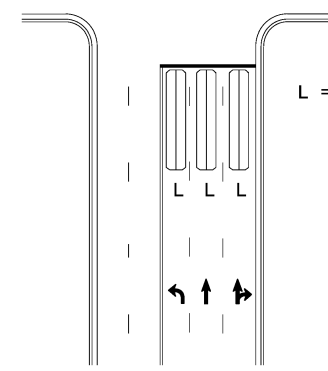


Wide Radius Turn



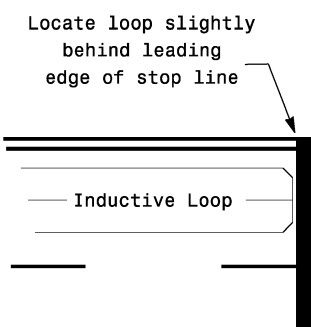
Channelized Turn

### 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

Inductive Loop

#### 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

	<b>Typical Signal Loop Locations</b>		
	PLAN DATE: January 2015 PREPARED BY: PLA	REVIEWED BY: JPG REVIEWED BY:	
REVISIONS		INIT. DATE	1/30/2015
SIG. INVENTORY NO.			DATE