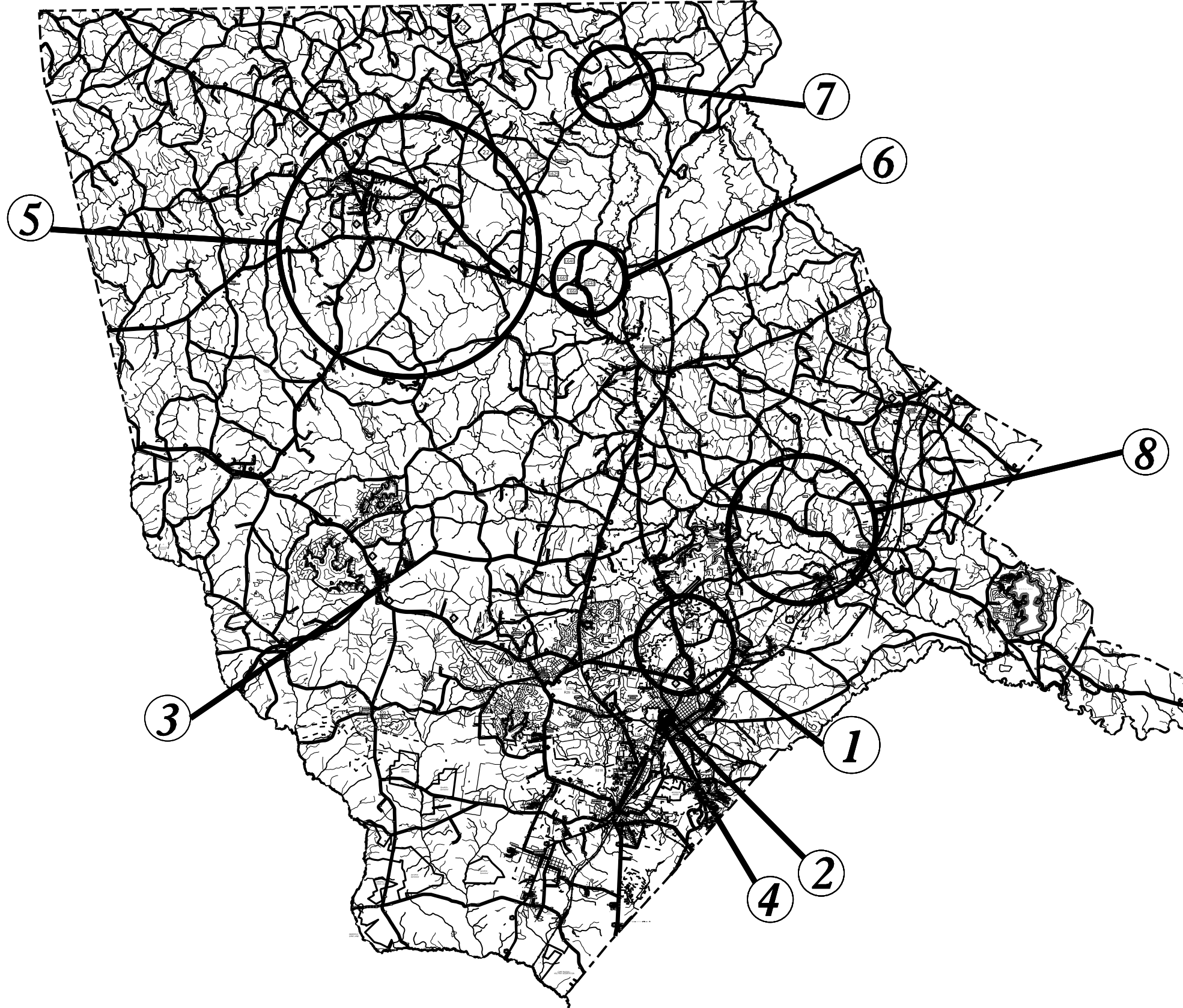


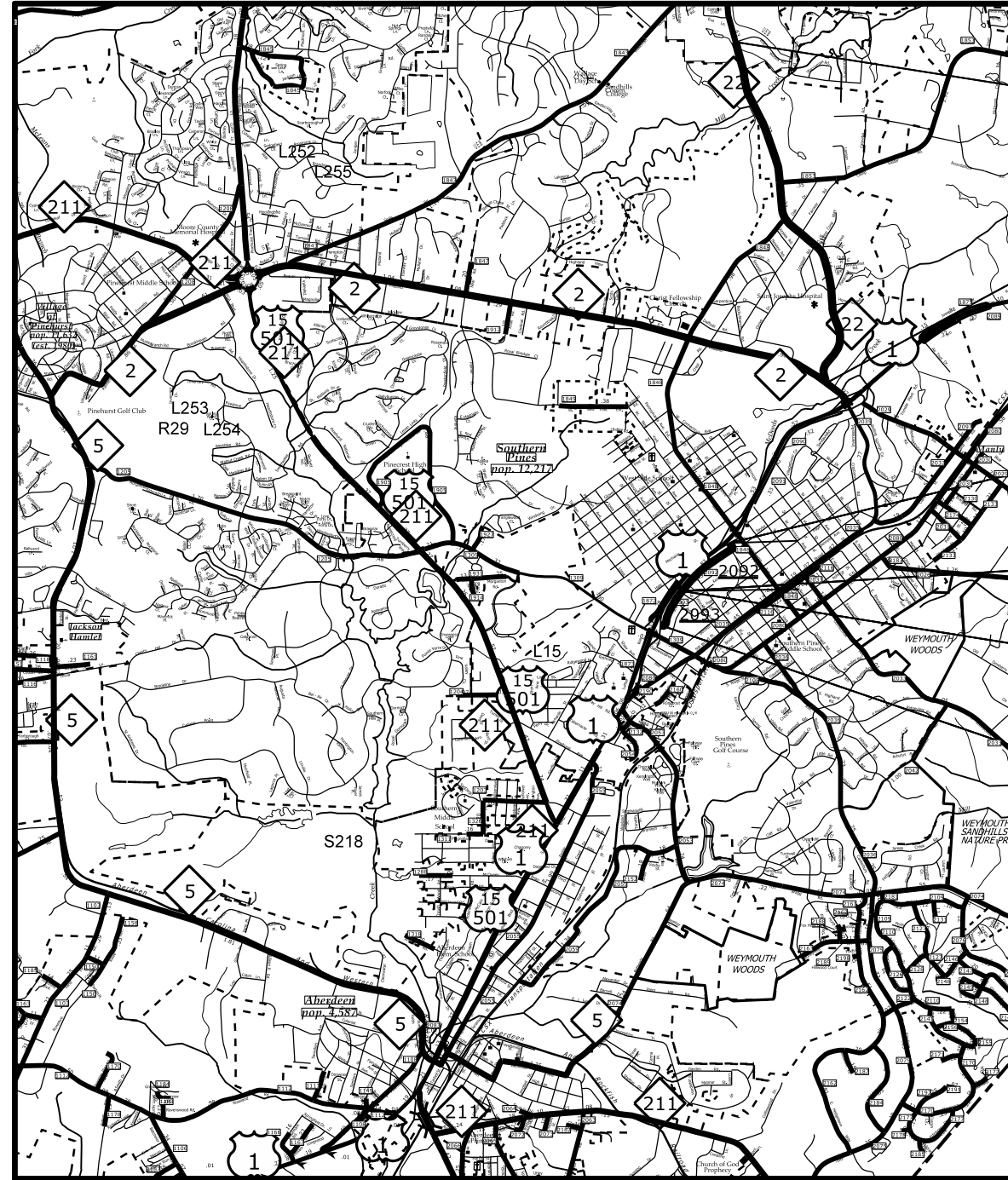
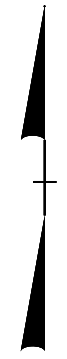
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MOORE COUNTY



1

2

4



3

MOORE COUNTY

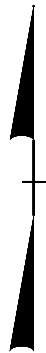
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5/28/99

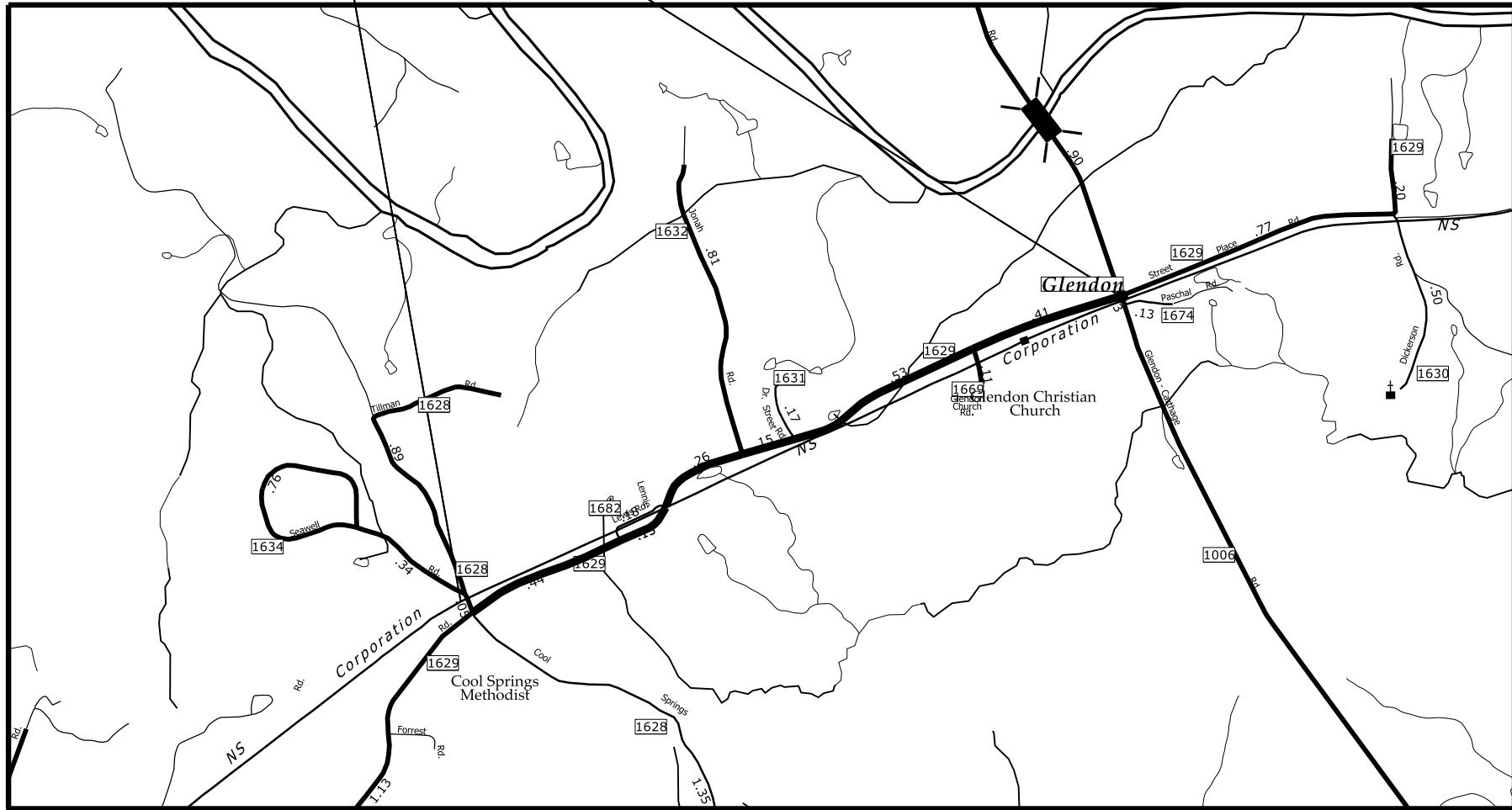


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MOORE COUNTY

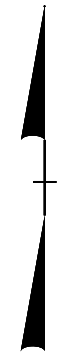
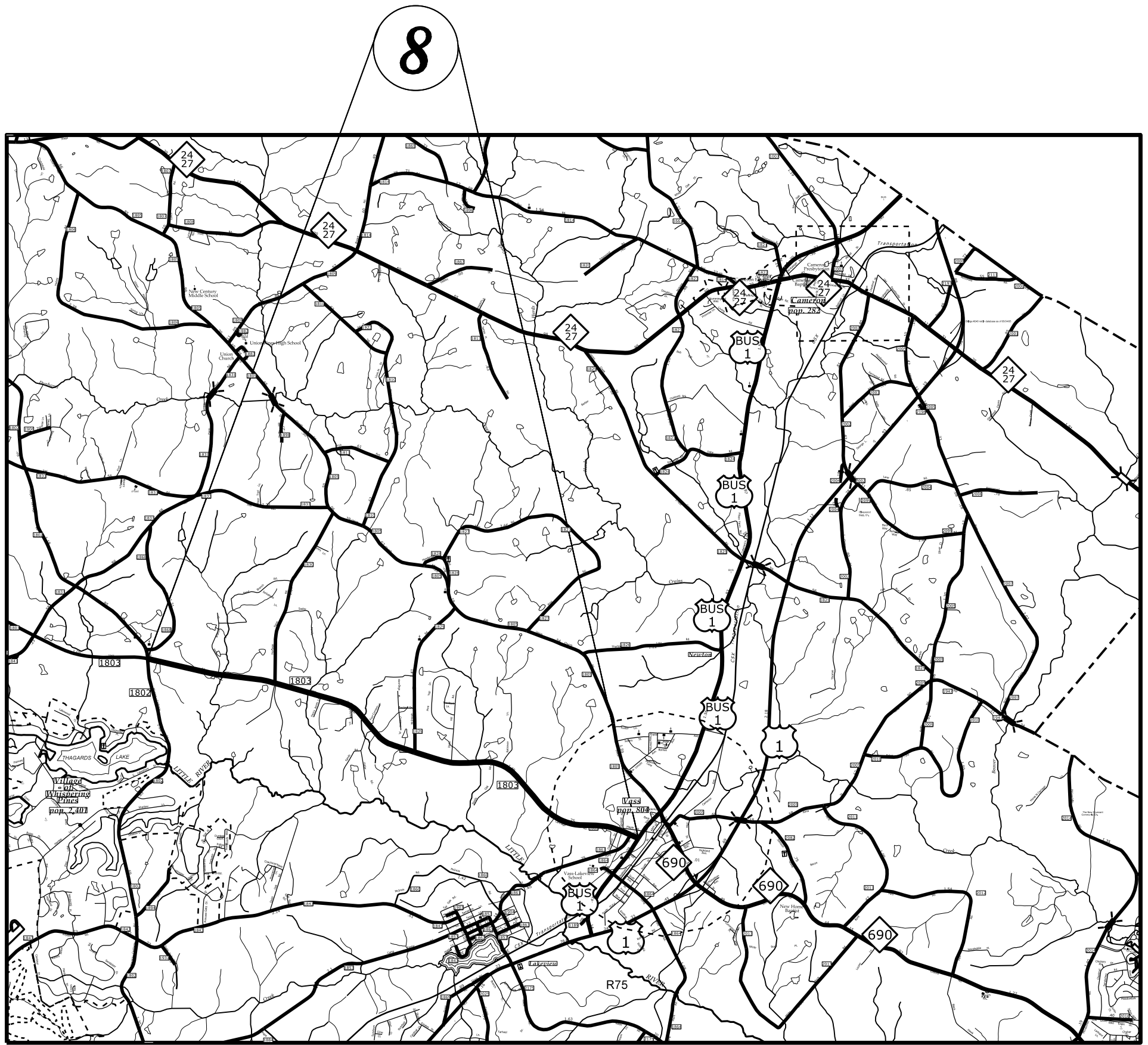


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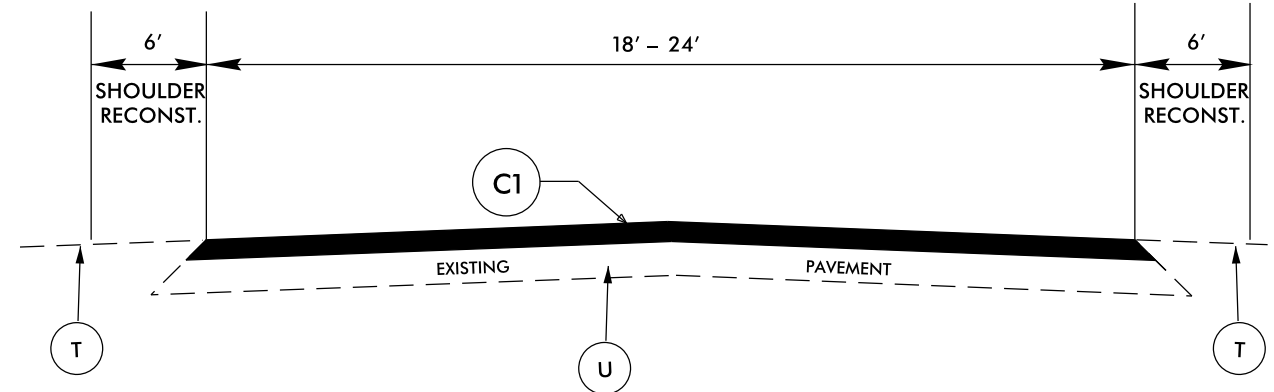


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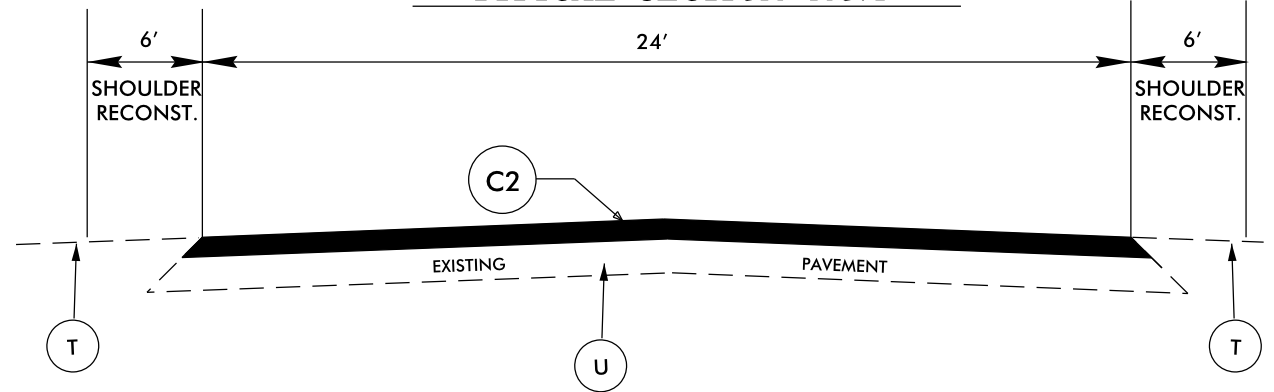
MOORE COUNTY



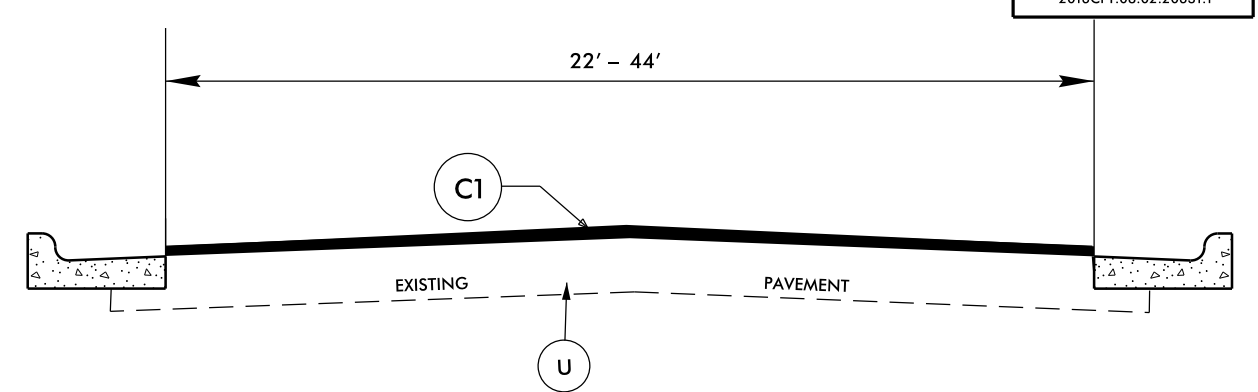
MOORE COUNTY



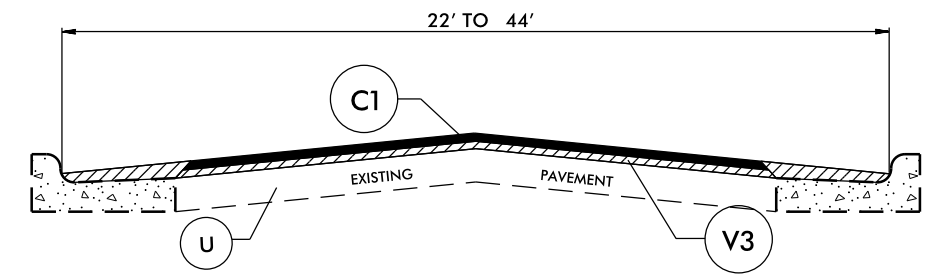
TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 3

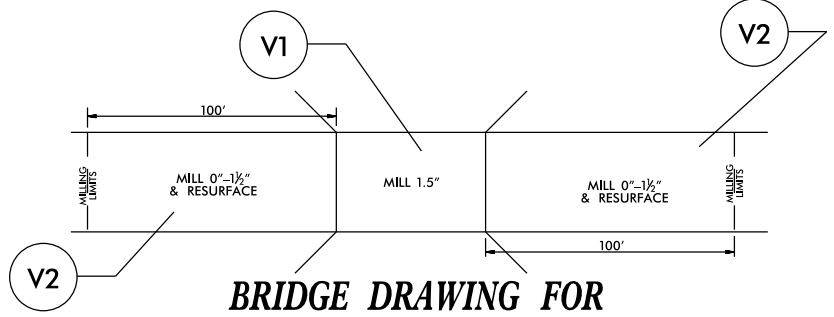


TYPICAL SECTION NO. 2



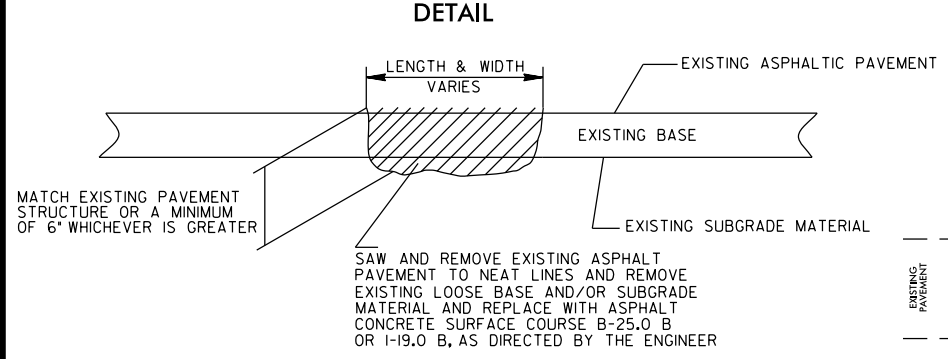
TYPICAL SECTION NO. 4

NOTE: CONTRACTOR SHALL MILL OUT GUTTER AND TO A DEPTH OF 1.5 IN. BELOW THE GUTTER EDGE

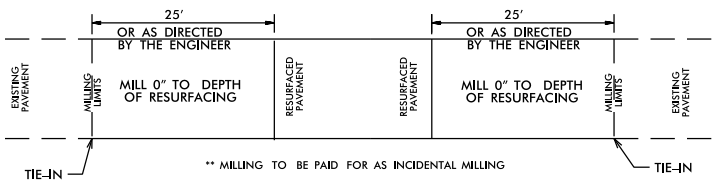


**BRIDGE DRAWING FOR
SR 1477 (BRIDGE NO. 74, MAP #5)
& SR 1640 (BRIDGE NO. 62, MAP #6)**

DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING



NOT TO SCALE



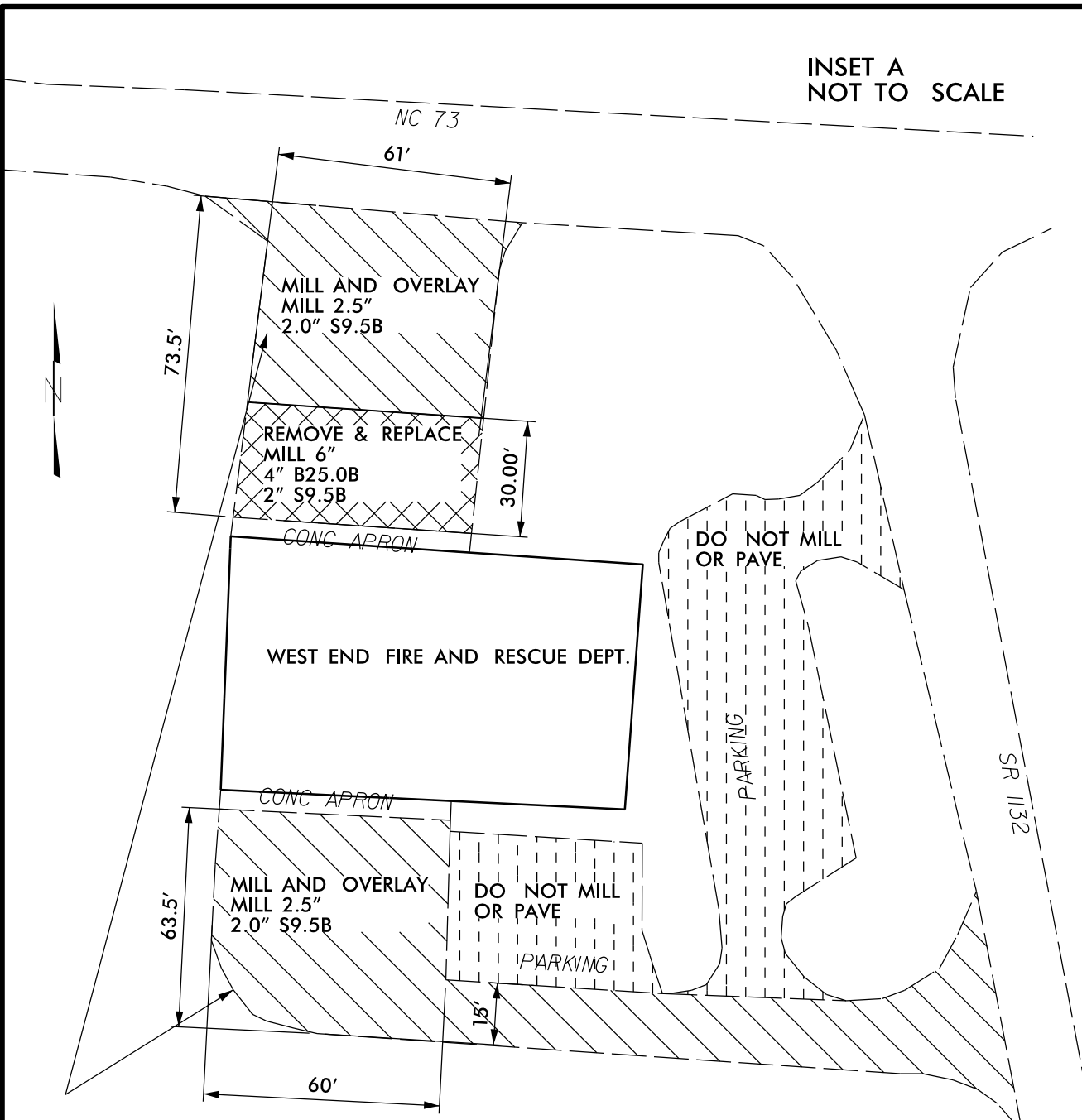
PAVEMENT TIE-IN DETAIL

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	MILLING BITUMINOUS PAVEMENT. 1 1/2" DEPTH.
V2	VARIABLE DEPTH MILLING BITUMINOUS PAVEMENT 0" TO 1 1/2" DEPTH.
V3	VARIABLE DEPTH MILLING BITUMINOUS PAVEMENT 1 1/2" TO 3" DEPTH.

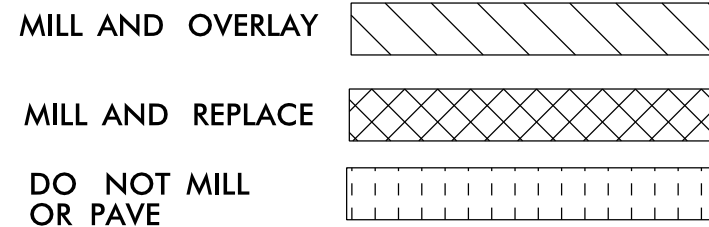
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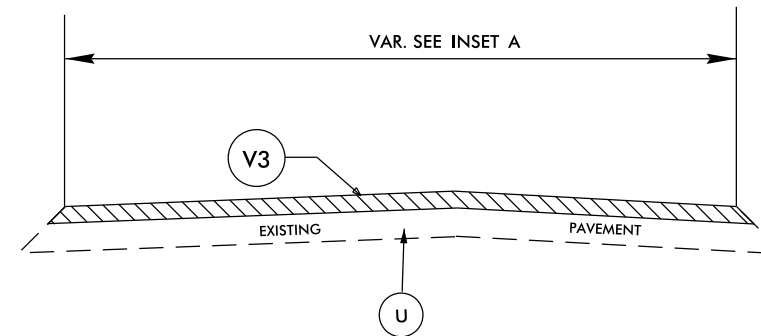
INSET A
NOT TO SCALE

NOTE:
HALF INCH MILL
TO FILL
DIFFERENCE WILL
RESULT IN
POSITIVE DRAINAGE
AWAY FROM BUILDING.

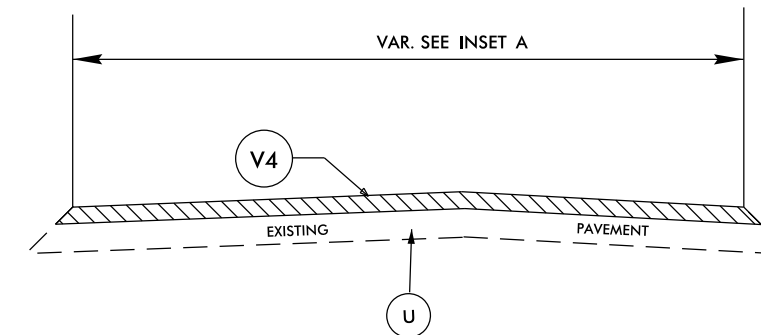


PAVEMENT SCHEDULE			
C3	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	V1	MILLING BITUMINOUS PAVEMENT. 1½"DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V3	MILLING BITUMINOUS PAVEMENT. 2½"DEPTH.
T	EARTH MATERIAL.	V4	MILLING BITUMINOUS PAVEMENT. 6"DEPTH.

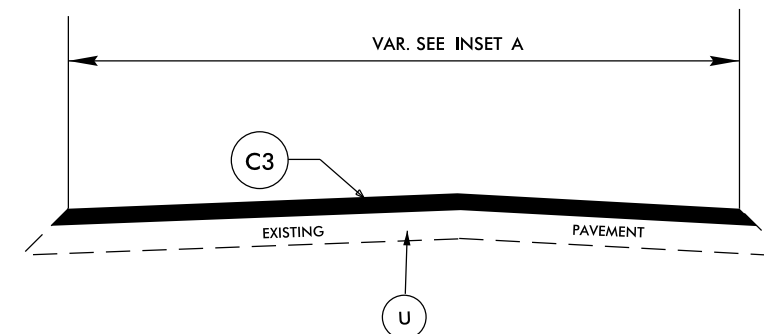
NOT TO SCALE



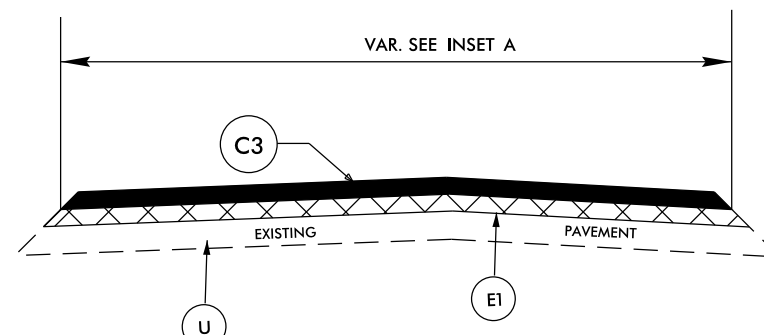
TYPICAL SECTION NO. 5



TYPICAL SECTION NO. 6

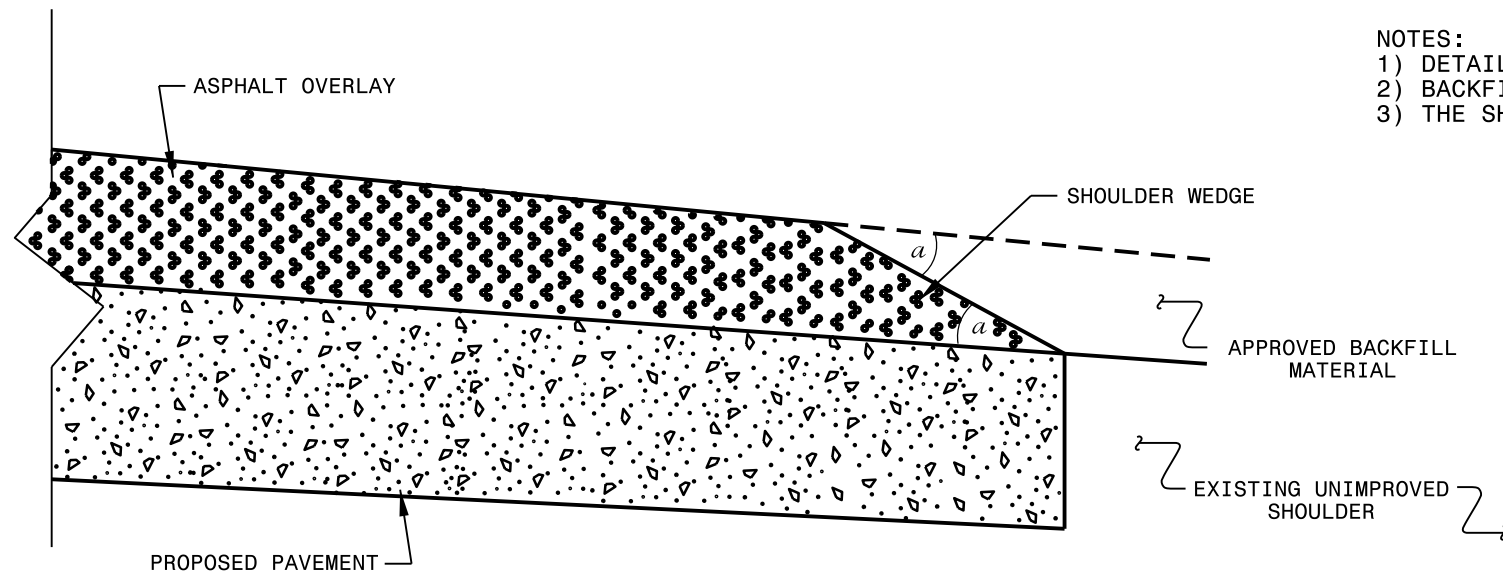


TYPICAL SECTION NO. 7

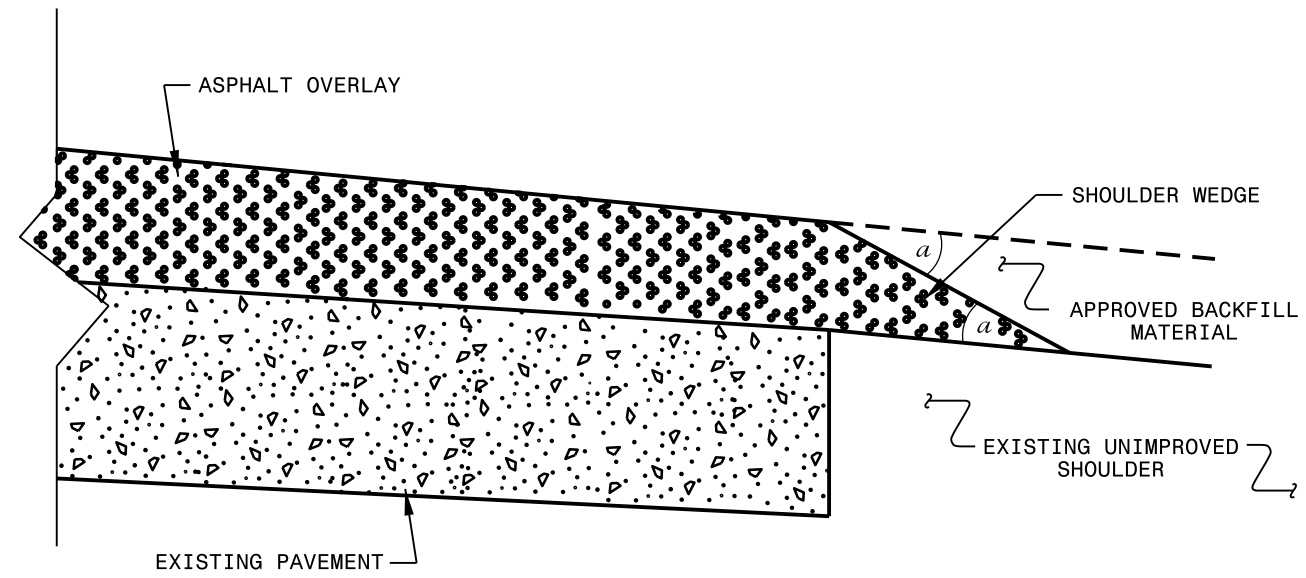


TYPICAL SECTION NO. 8

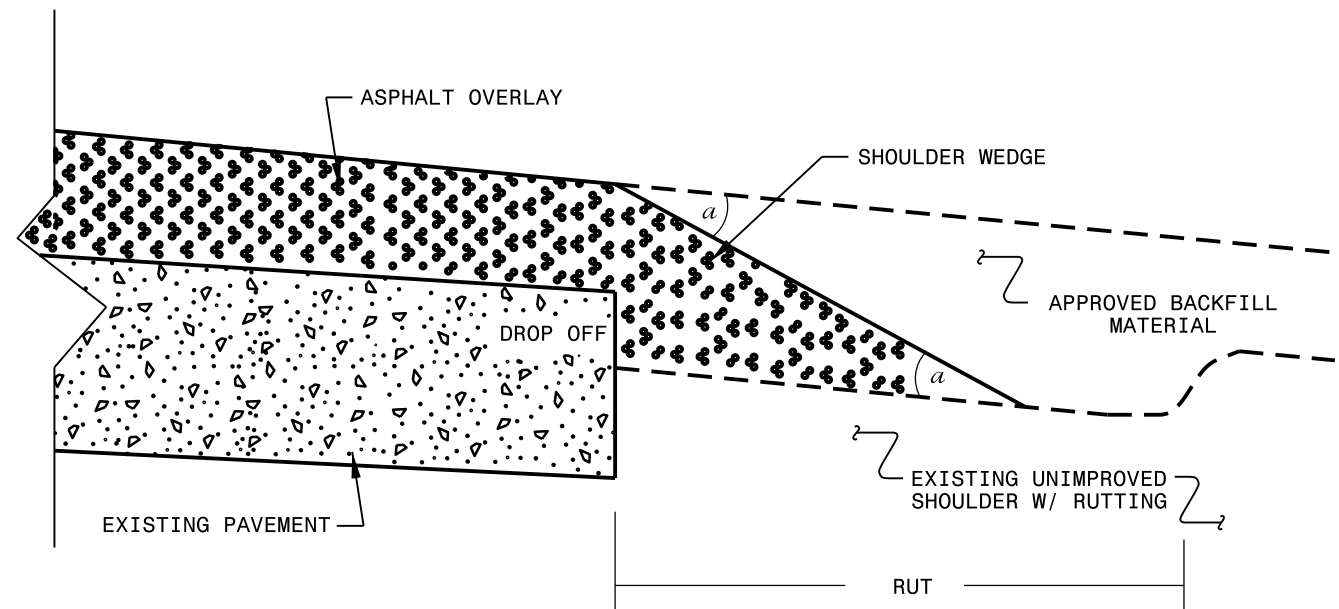
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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.: susr/details/stand/shoulderwedgedetail.dgn	

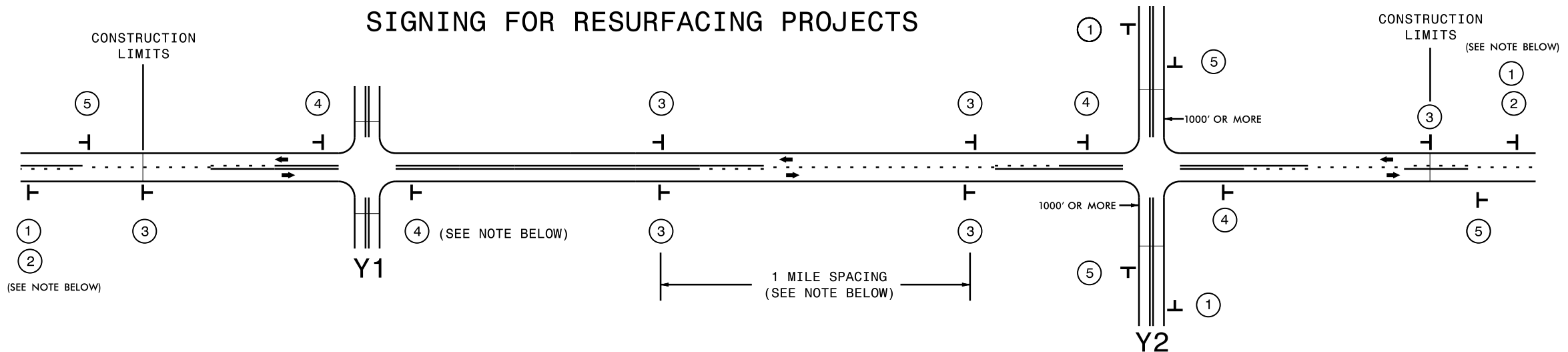
SYSTEMS DESIGN
 USER NAME

PROJECT NO.	SHEET NO.	TOTAL NO.
2016CPT.08.02.10631.1	9	
2016CPT.08.02.20631.1		

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	2.5" MILLING SY	6" MILLING SY	1.5" MILLING SY	0" TO 1.5" MILLING SY	1.5" TO 3" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TON	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA	TEMPORARY SILT FENCE LF	WATTLE LF	SEED & MULCHING AC	INDUCTIVE LOOP SAWCUT LF					
SCPT.08.02.106	Moore	1	NC 22	FROM NC 2 TO WARRIOR WOODS RD	3	2	2WU	NO	NO	2.26	22	332	160	4.53						430		3,177		191	700	3	7	226	40	3.30						
TOTAL FOR MAP NO. 1										2.26		332	160	4.53						430		3,177		191	700	3	7	226	40	3.30						
TOTAL FOR PROJ NO. 2016CPT.08.02.10631.1										2.26		332	160	4.53						430		3,177		191	700	3	7	226	40	3.30						
SCPT.08.02.206	Moore	2	SR 2092 (SE SERVICE RD)	FROM SR 2093 (SERVICE RD) TO RAMP	1	2	2WU	NO	NO	0.414	18	61		1.70						115			462	31	704			41	10	1.24						
TOTAL FOR MAP NO. 2										0.414		61		1.70						115			462	31	704			41	10	1.24						
SCPT.08.02.206	Moore	3	WEST END FIRE DEPT OFF NC 73	CORNER OF NC 73 AND SR 1132 (STANLEY ST)	5,6,7,8	2	2WU	NO	NO	0.1	VARIES				1,025	205					50	140		11												
TOTAL FOR MAP NO. 3										0.1					1,025	205				50	140		11													
SCPT.08.02.206	Moore	4	SR 2093 (SE SERVICE RD)	FROM SR 2092 (SE SERVICE RD) TO DEAD END	1	2	2WU	NO	NO	0.23	18	29		0.40						67			284	19	375			23	10	0.29						
TOTAL FOR MAP NO. 4										0.23		29		0.40					67			284	19	375			23	10	0.29							
SCPT.08.02.206	Moore	5	SR 1477 (PLANK RD)	FROM NC 24/27 TO NC 705	1,2	2	2WU	NO	NO	6.537	24	959	420	13.10						340	535		735	576	837		4	654	100	9.53	500					
TOTAL FOR MAP NO. 5										6.537		959	420	13.10					340	535		735	576	837		4	654	100	9.53	500						
SCPT.08.02.206	Moore	6	SR 1640 (KELLY PLANTATION RD)	FROM NC 24/27 TO SR 1642 (COLES MILL RD)	1	2	2WU	NO	NO	2.73	21	401	135	5.50						312	115		3,298	221	674			273	50	4.00						
TOTAL FOR MAP NO. 6										2.73		401	135	5.50					312	115		3,298	221	674			273	50	4.00							
SCPT.08.02.206	Moore	7	SR 1629 (PUTNAM-GLENDON RD)	FROM SR 1628 (COOL SPRINGS RD) TO SR 1006 (GLENDON-CARTHAGE RD)	1	2	2WU	NO	NO	1.945	20	300	155	3.89						225			2,270	152	375			274	50	5.65						
TOTAL FOR MAP NO. 7										1.945		300	155	3.89					225			2,270	152	375			274	50	5.65							
SCPT.08.02.206	Moore	8	SR 1803 (VASS-CARTHAGE RD)	FROM SR 1802 (NIAGARA-CARTHAGE RD) TO US 1 BUS. IN VASS	1,4	2	2WU	NO	NO	4.8	20-44	707	445	9.22						4,715	1,000		5,515	370	655			500	80	6.71						
TOTAL FOR MAP NO. 8										4.8		707	445	9.22					4,715	1,000		5,515	370	655			500	80	6.71							
TOTAL FOR PROJ NO. 2016CPT.08.02.20631.1										16.756		2,457	1,155	33.81					1,025	205	652	650	4,715	2,317	50	140	20,421	1,380	3,620		4	1,765	300	27.42	500	
GRAND TOTAL										19.016		2,789	1,315	38.34					1,025	205	652	650	4,715	2,747	50	3,317	20,421	1,571	4,320	3	11	1,991	340	30.72	500	

SIGNING FOR RESURFACING PROJECTS



LEGEND	
T	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	①	 <small>W20-1 48" X 48"</small>	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.
	②	 <small>W7-3aP 24" X 18"</small>	#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	 <small>SP 13107 48" X 48"</small>	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	 <small>SP 13106 48" X 48"</small>	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	 <small>G20-2 A 48" X 24"</small>	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.	

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

- 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
- 2) SUBDIVISION ROADS
- 3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.



PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.

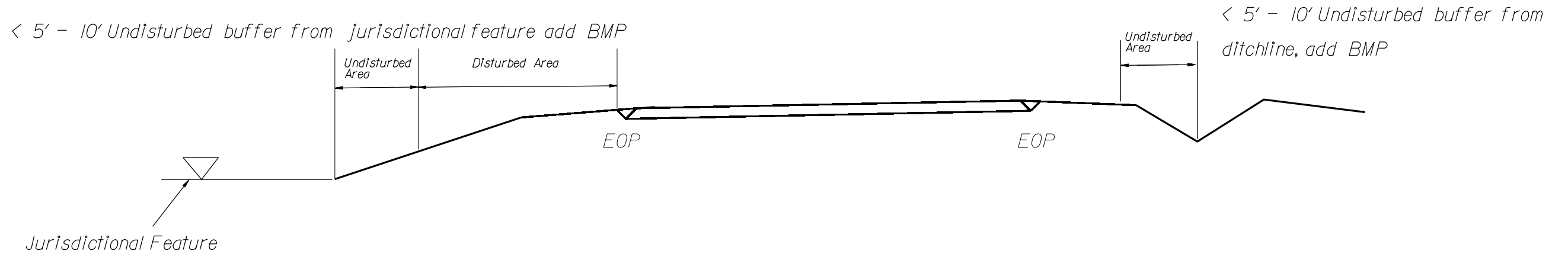
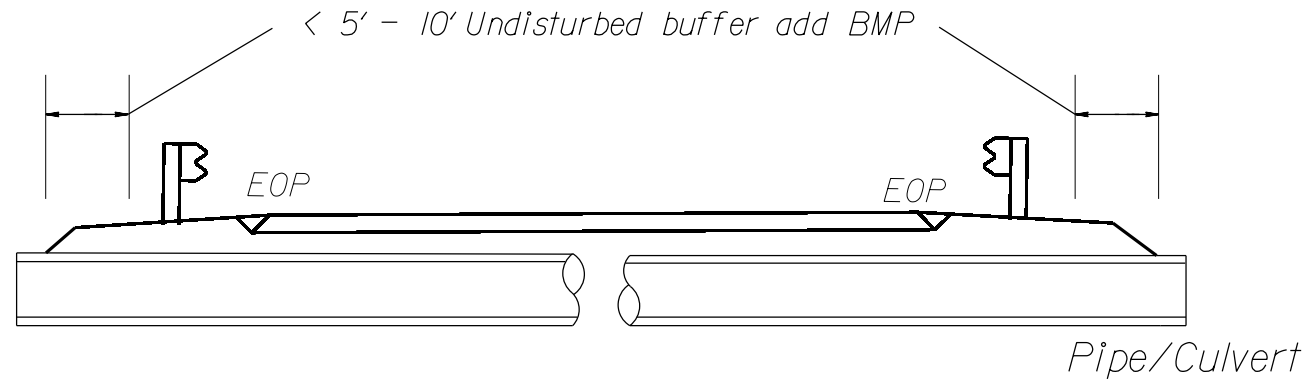


**RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS**

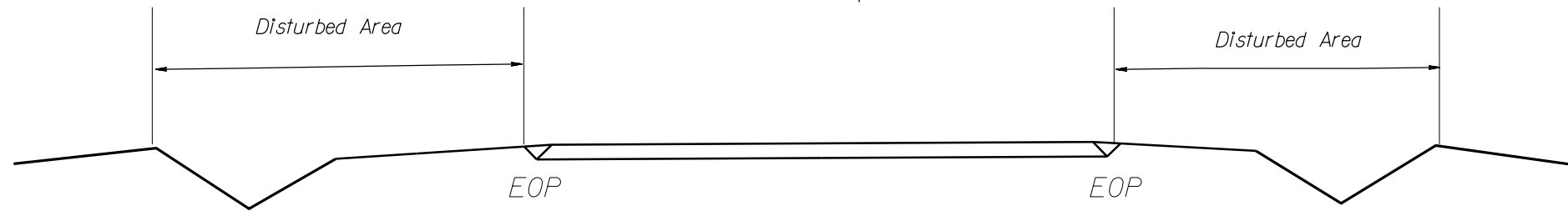
NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

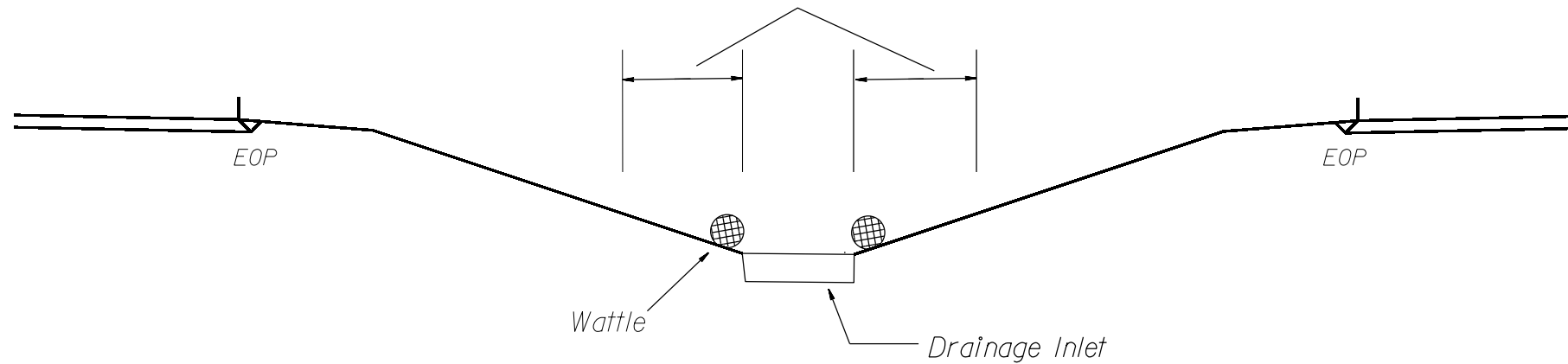
EROSION CONTROL DETAIL



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

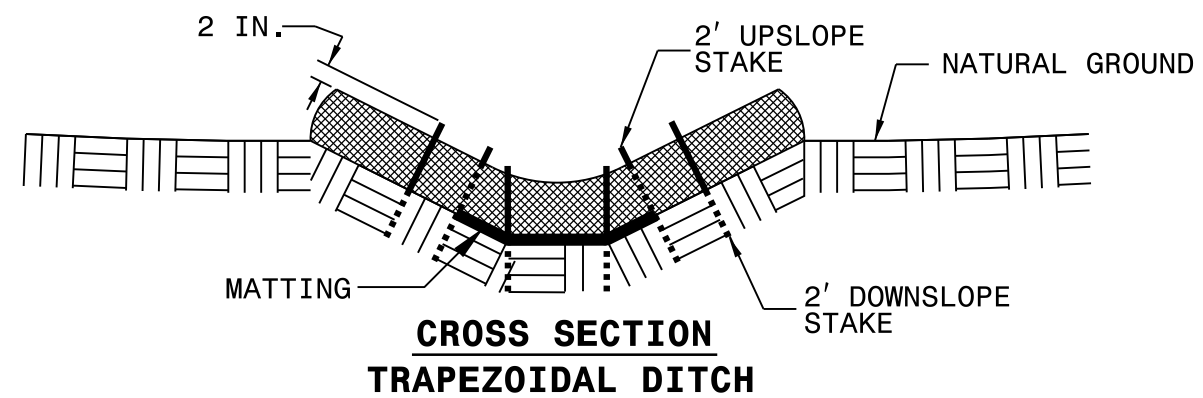
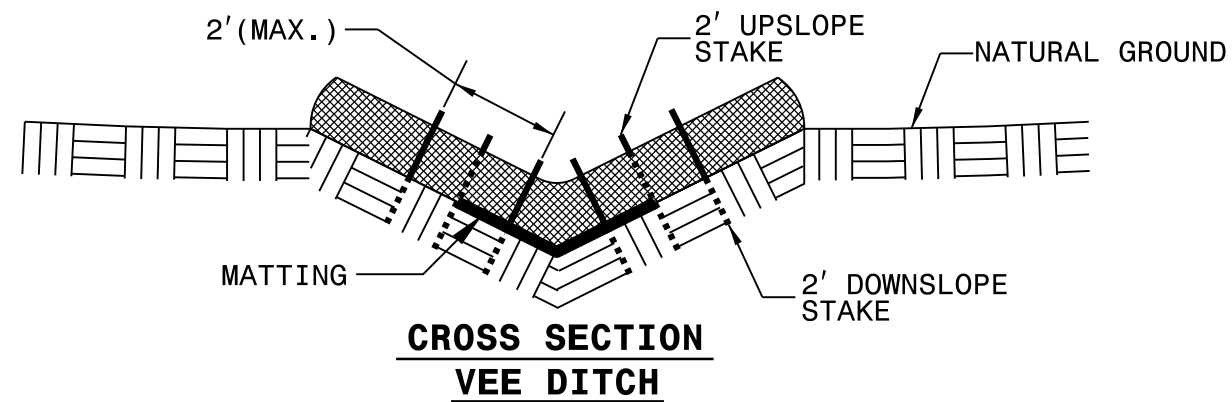
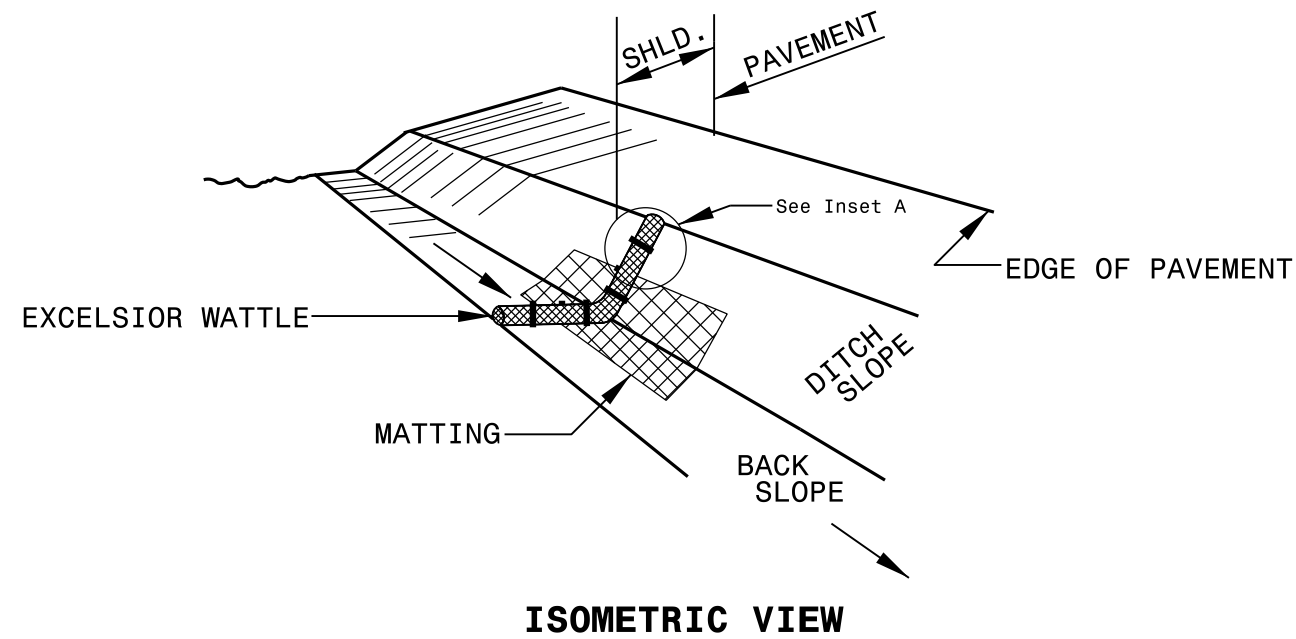


< 5' - 10' Undisturbed buffer from inlet, add wattle



NOT TO SCALE

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.

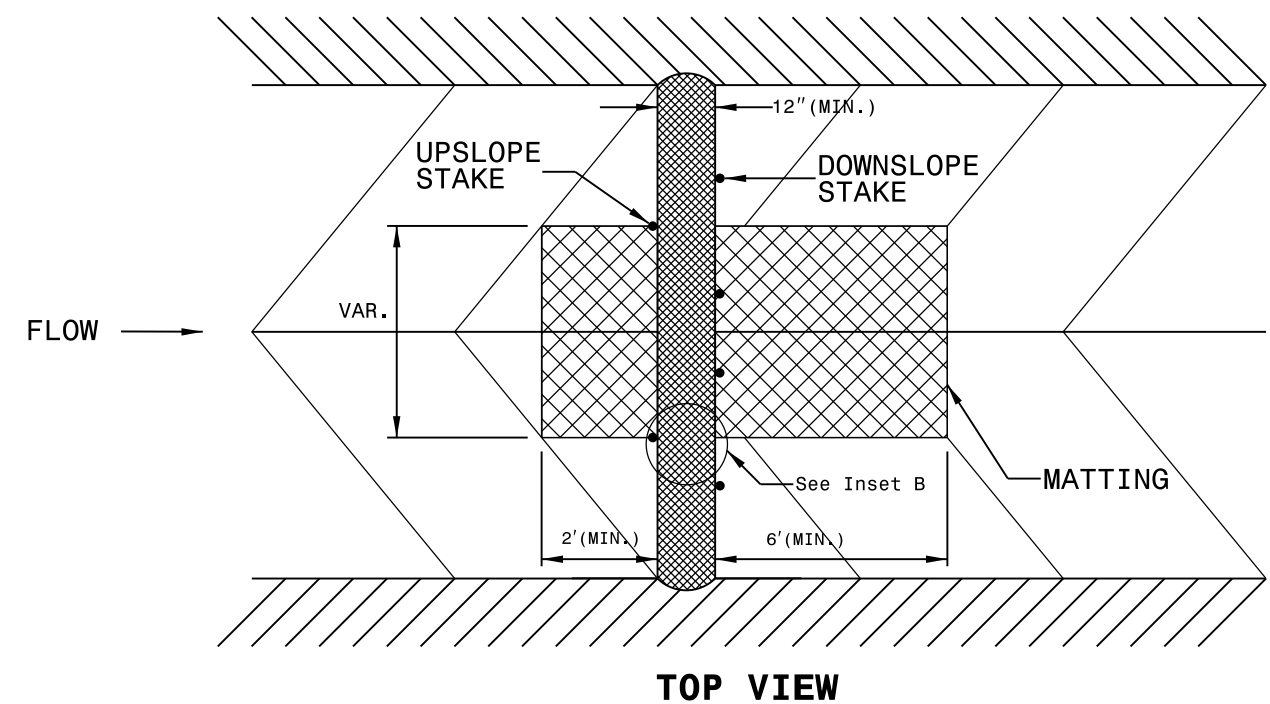
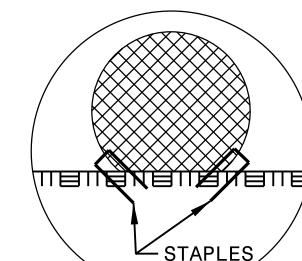
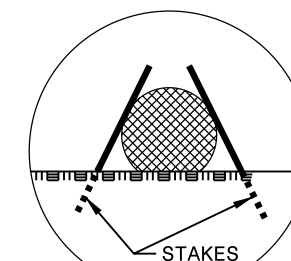
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

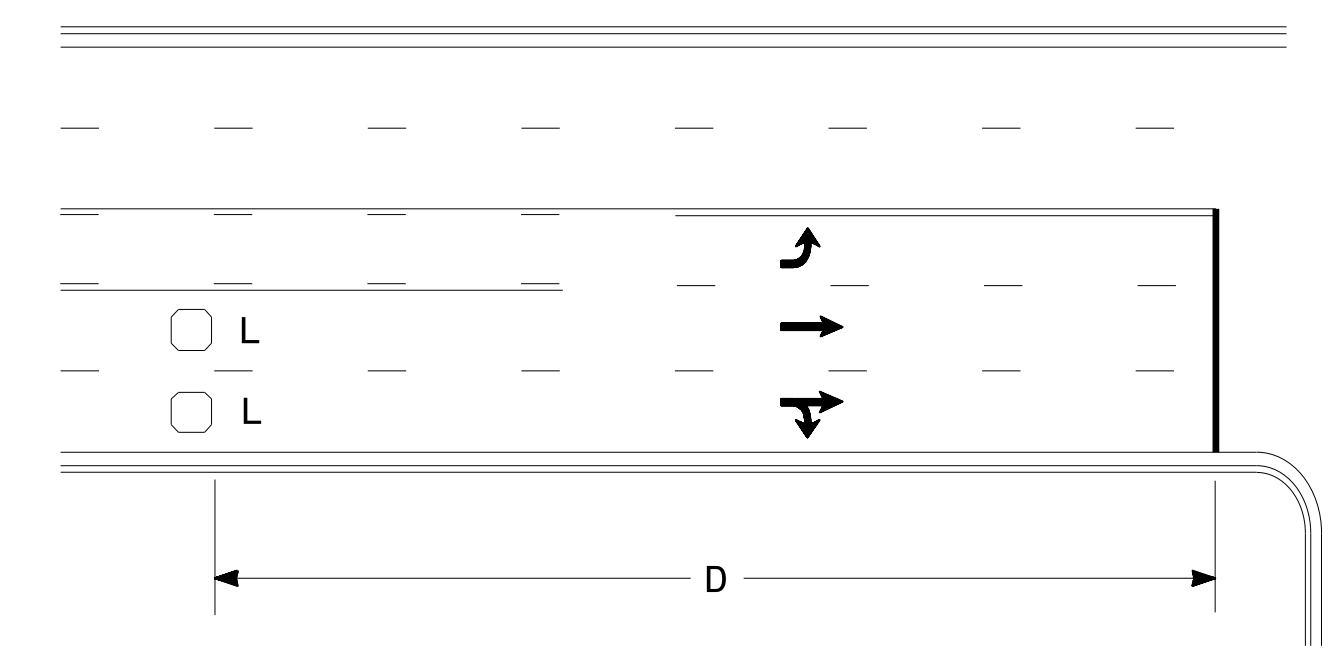
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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)

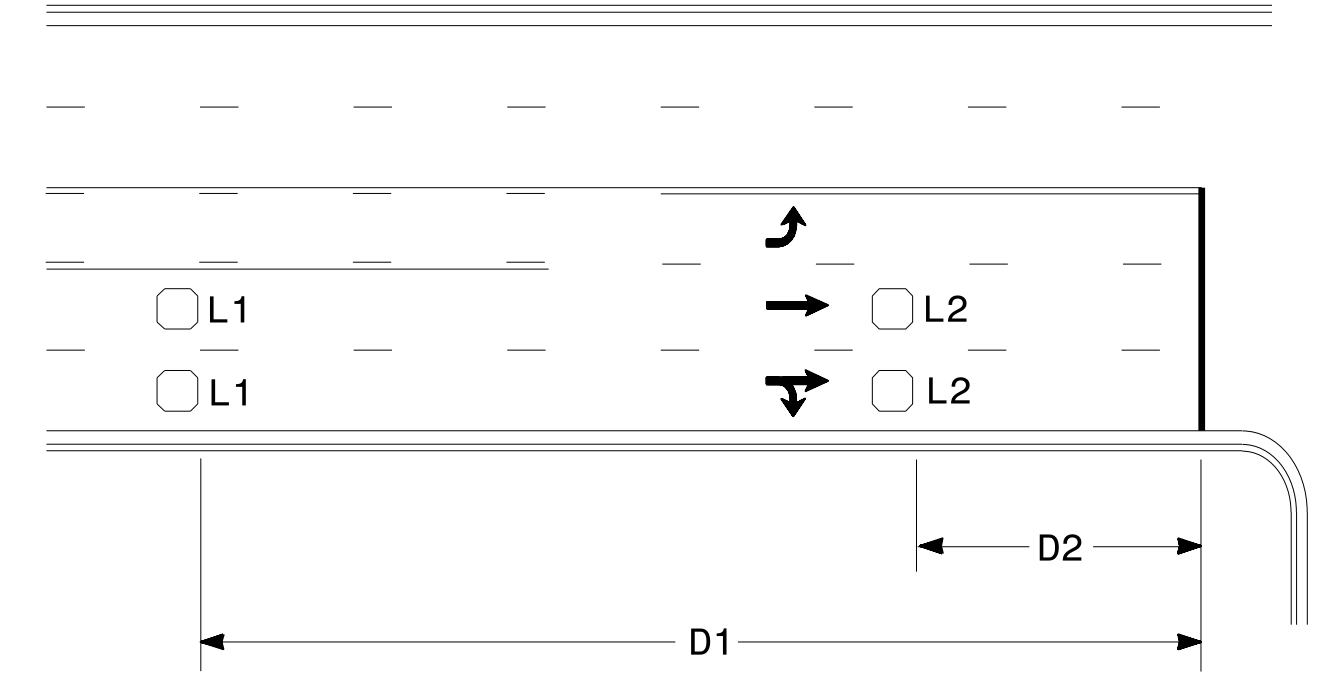


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

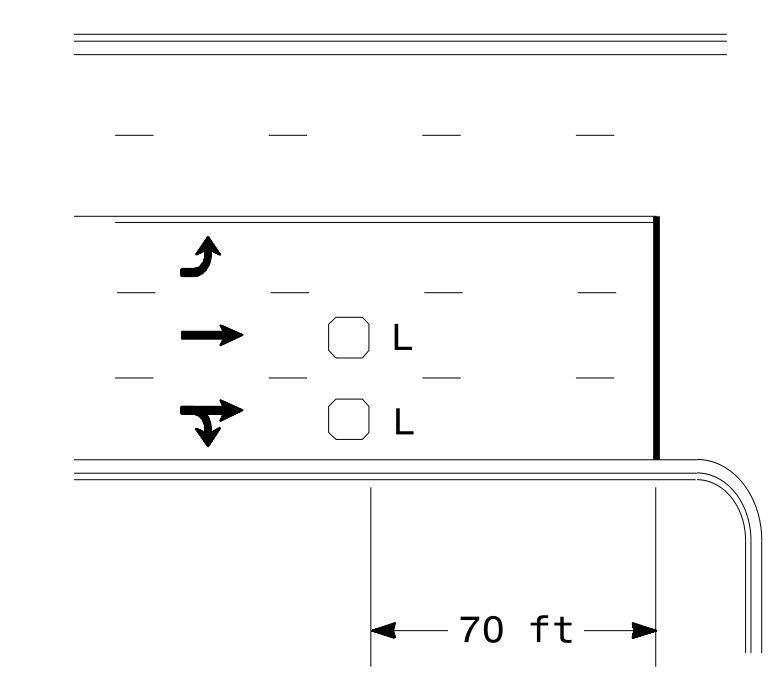


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

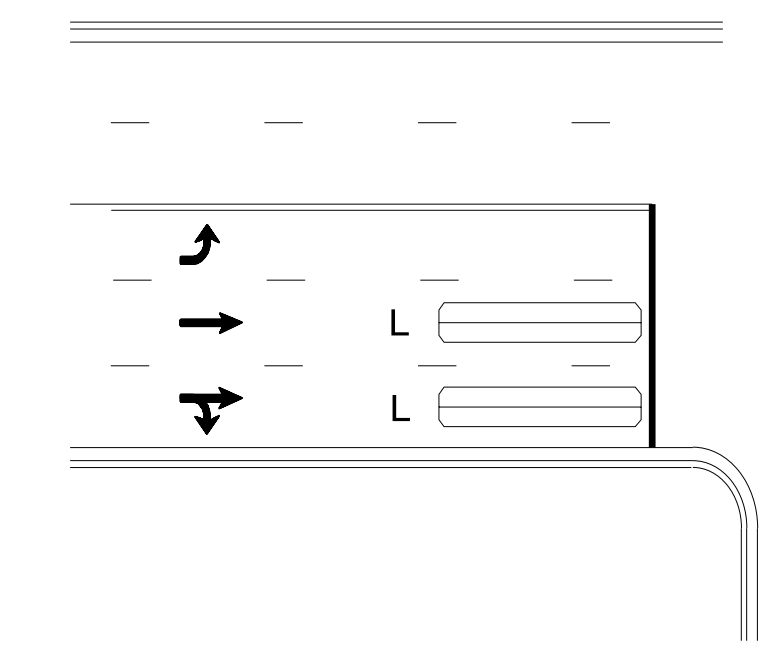
"Stretch" Operation

Low Speed Detection (≤35 mph)



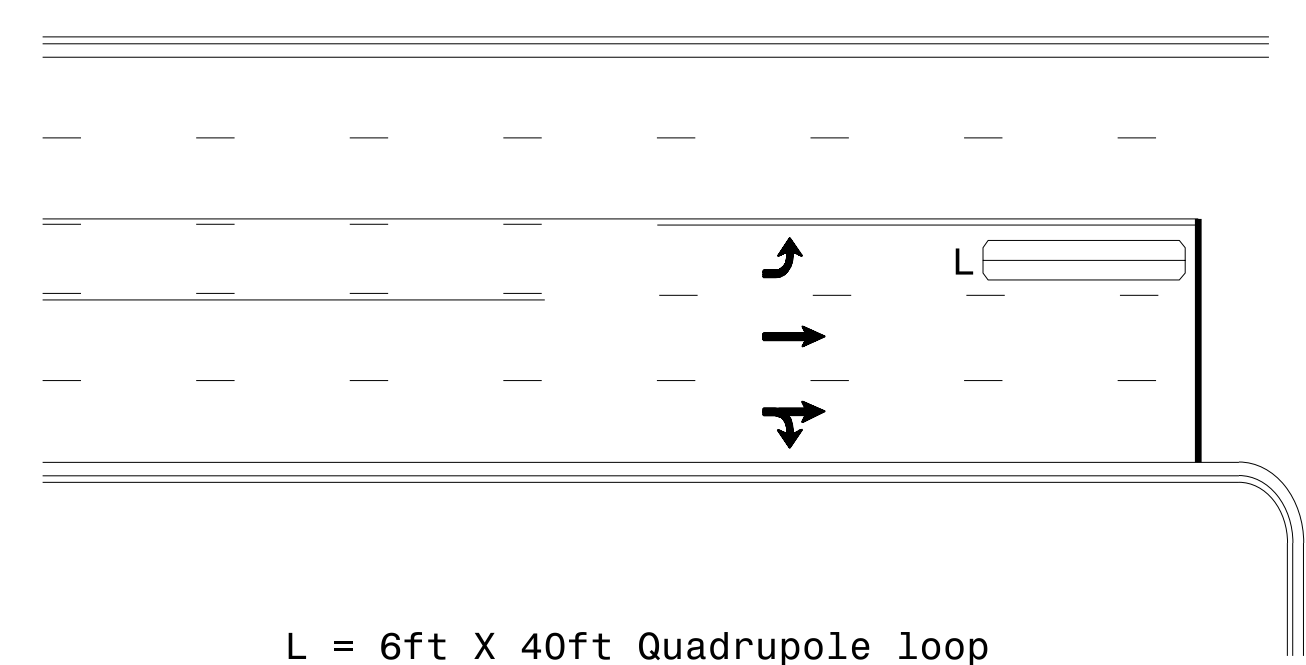
L = 6ft X 6ft
Wired in series

OR



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

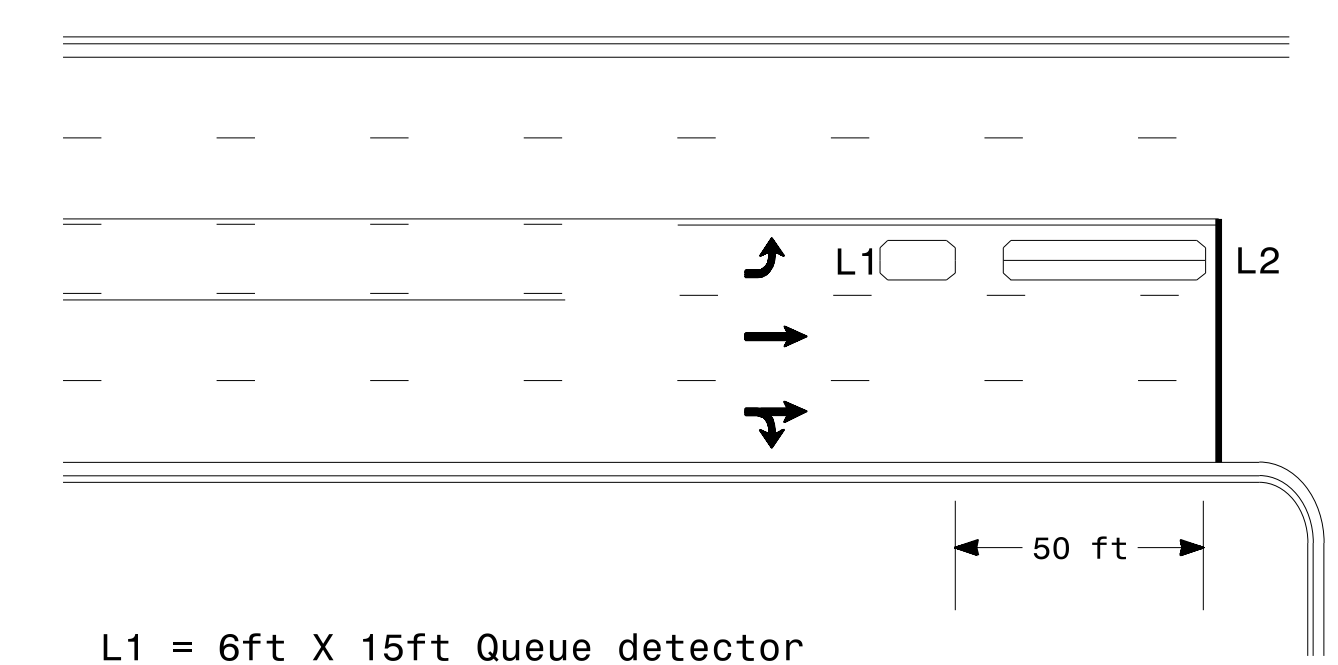
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

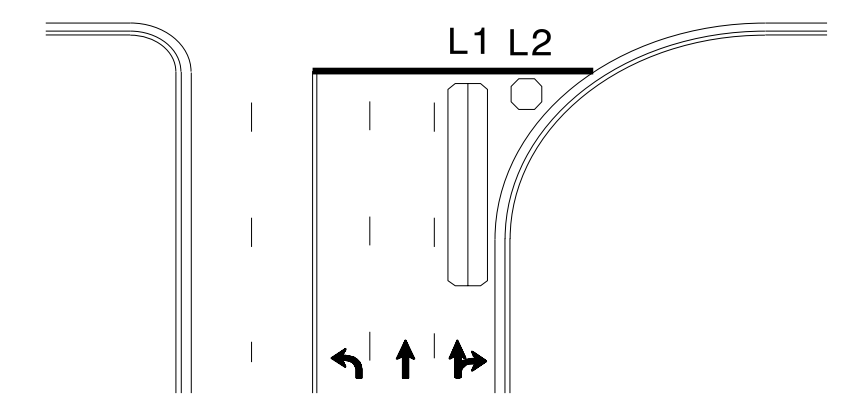
OR



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

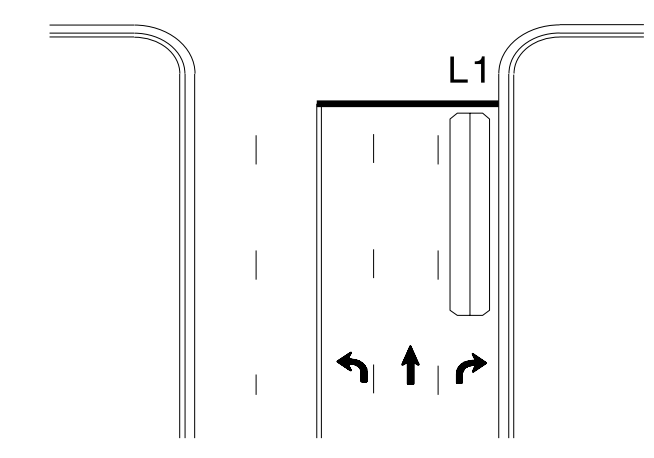
Queue Loop Detection

Right Turn Lane Detection

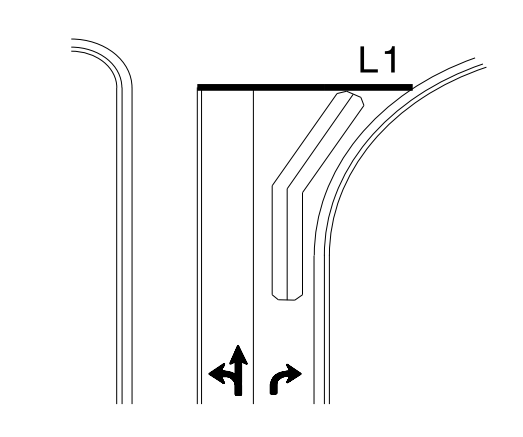


Shared Lane/
Wide Radius Turn

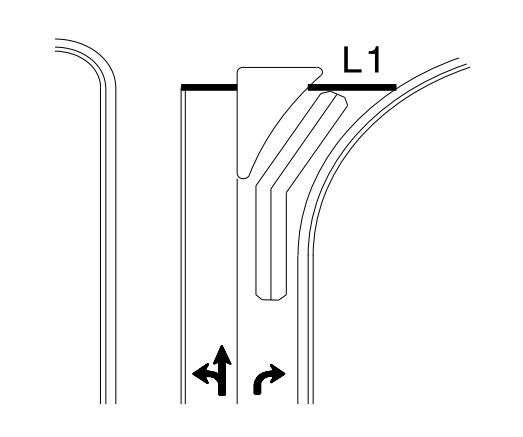
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

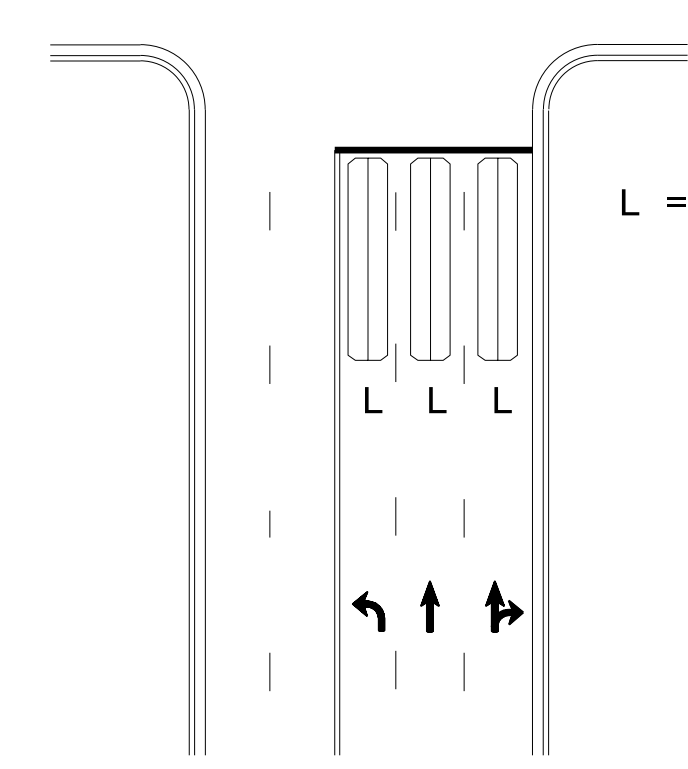


Wide Radius Turn



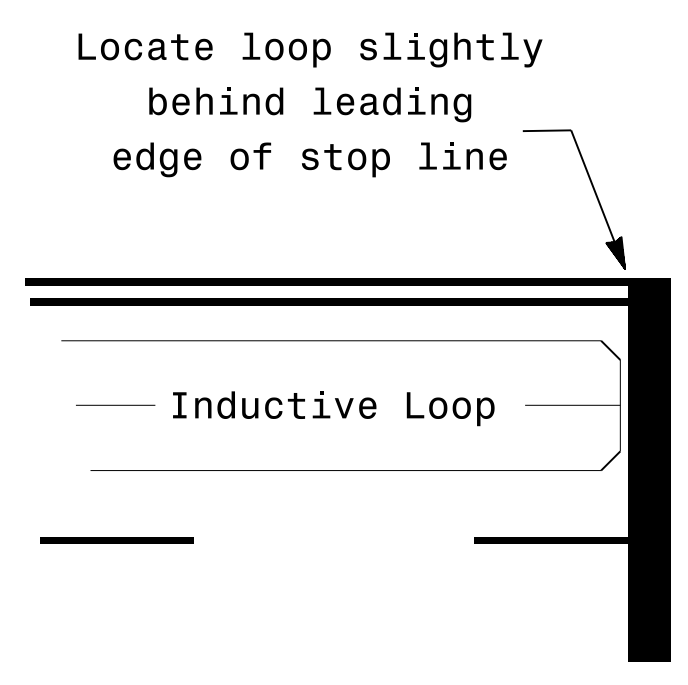
Channelized Turn

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

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

750 N. Greenfield Pkwy, Garner, NC 27529

Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:
REVISIONS	INIT. DATE

SEAL
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PROFESSIONAL ENGINEER
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1/30/2015

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