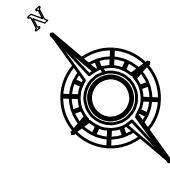


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2021CPT.10.09.10901 2021CPT.10.09.20901	1	
F.A. PROJECT NO.			

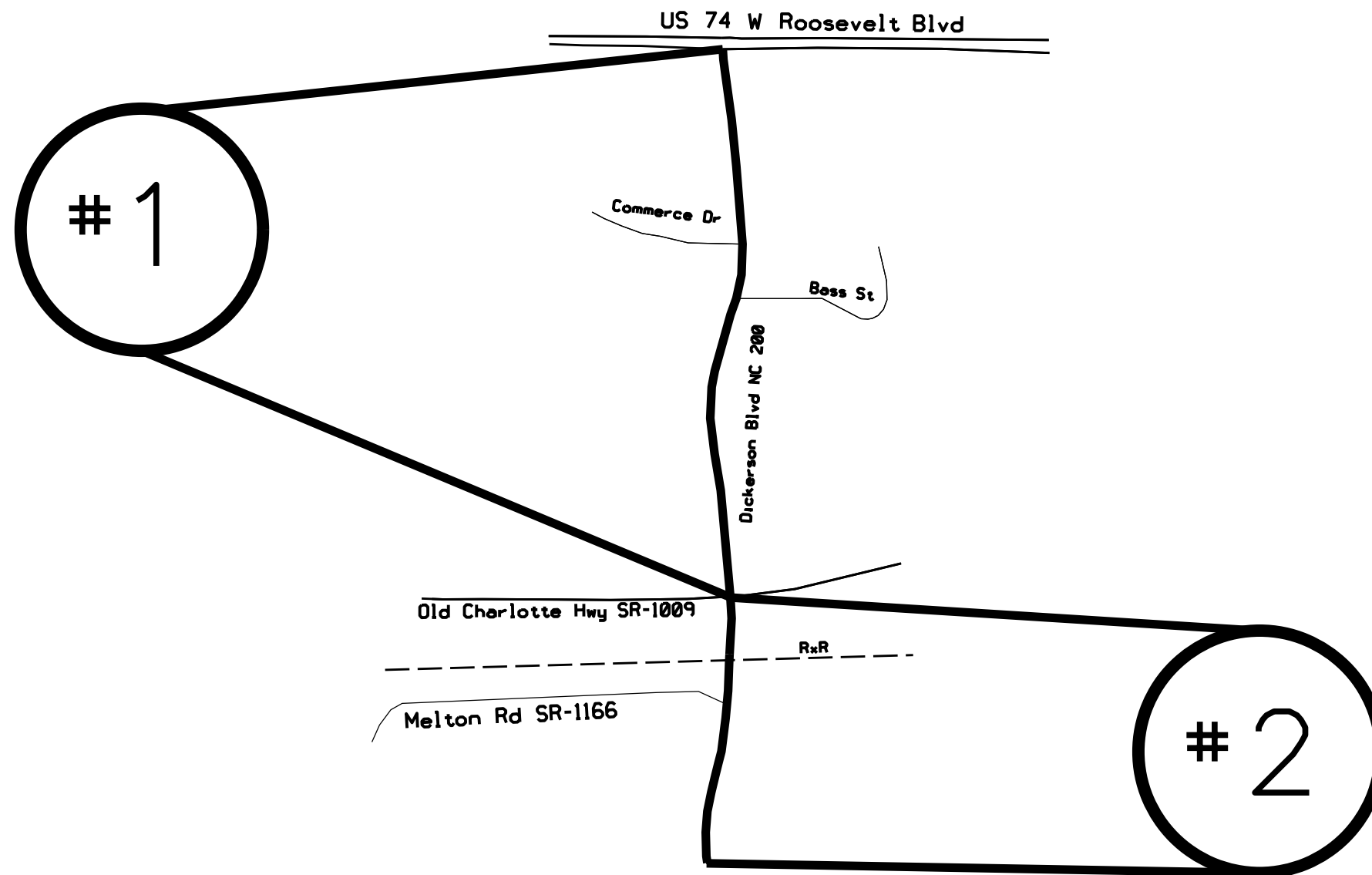


ENLARGED MUNICIPAL AND SUBURBAN AREAS
UNION COUNTY
 NORTH CAROLINA

PREPARED BY THE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 3

MAP #1 NC 200 DICKERSON BLVD
0.67 MILES
FROM US 74 TO
SR 1009 OLD CHARLOTTE HWY

MAP #2 NC 200 MLK JR BLVD
0.21 MILES
FROM SR 1009 OLD CHARLOTTE HWY
TO PVMT JOINT



STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2021CPT.10.09.10901 2021CPT.10.09.20901	2	
F.A. PROJECT NO.			

3

N Rocky River Rd SR-1007

Old Charlotte Hwy SR-1009

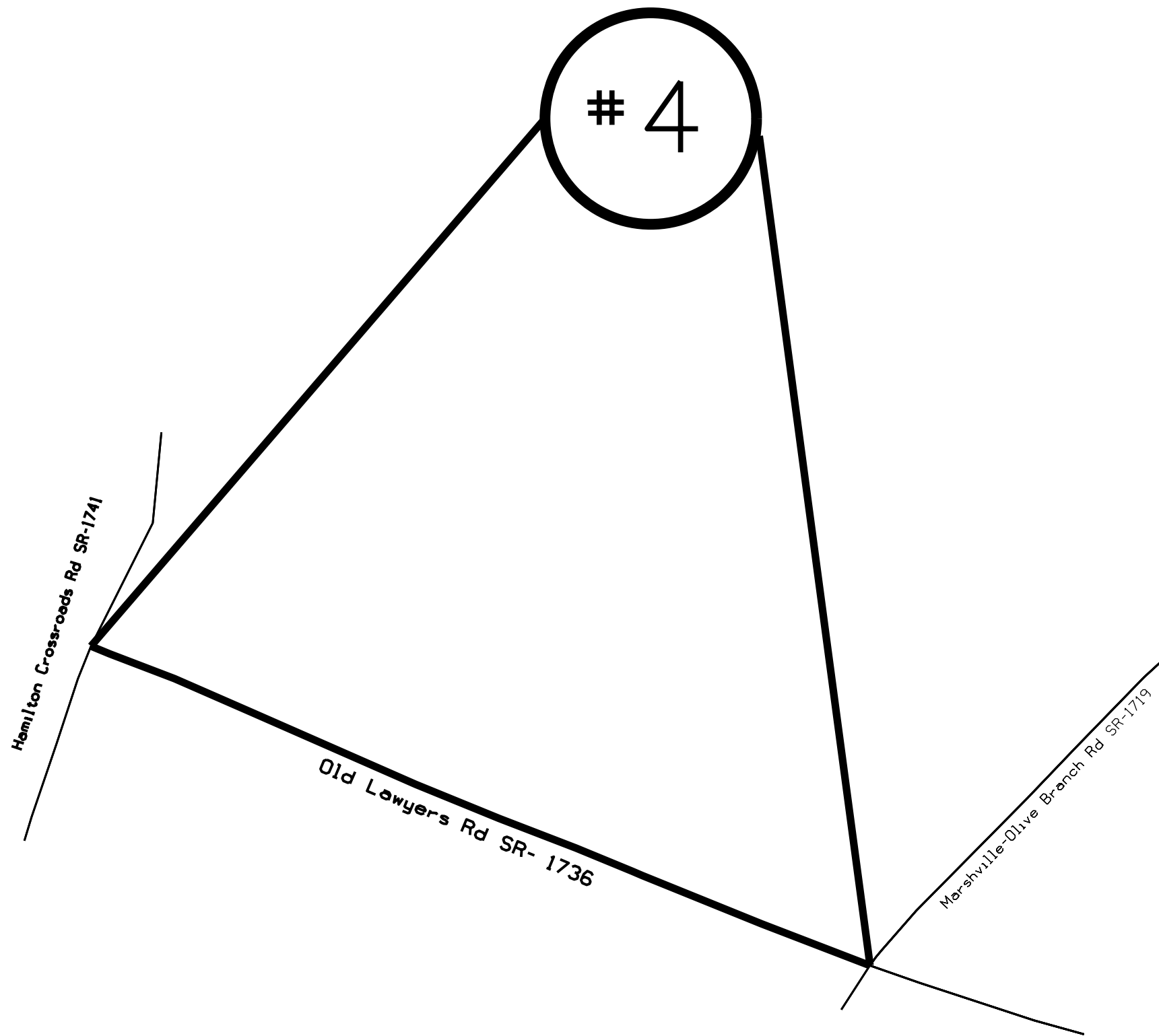
NC 200 Dickerson Blvd



ENLARGED MUNICIPAL AND SUBURBAN AREAS
UNION COUNTY
 NORTH CAROLINA
PREPARED BY THE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 3

**MAP #3 SR 1009 OLD CHARLOTTE HWY
 2.74 MILES
 FROM NC 200 DICKERSON BLVD
 TO SR 1007 N ROCKY RIVER ROAD**

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2021CPT.10.09.10901 2021CPT.10.09.20901	3	
F.A. PROJECT NO.			



ENLARGED MUNICIPAL AND SUBURBAN AREAS
UNION COUNTY
 NORTH CAROLINA
PREPARED BY THE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 3

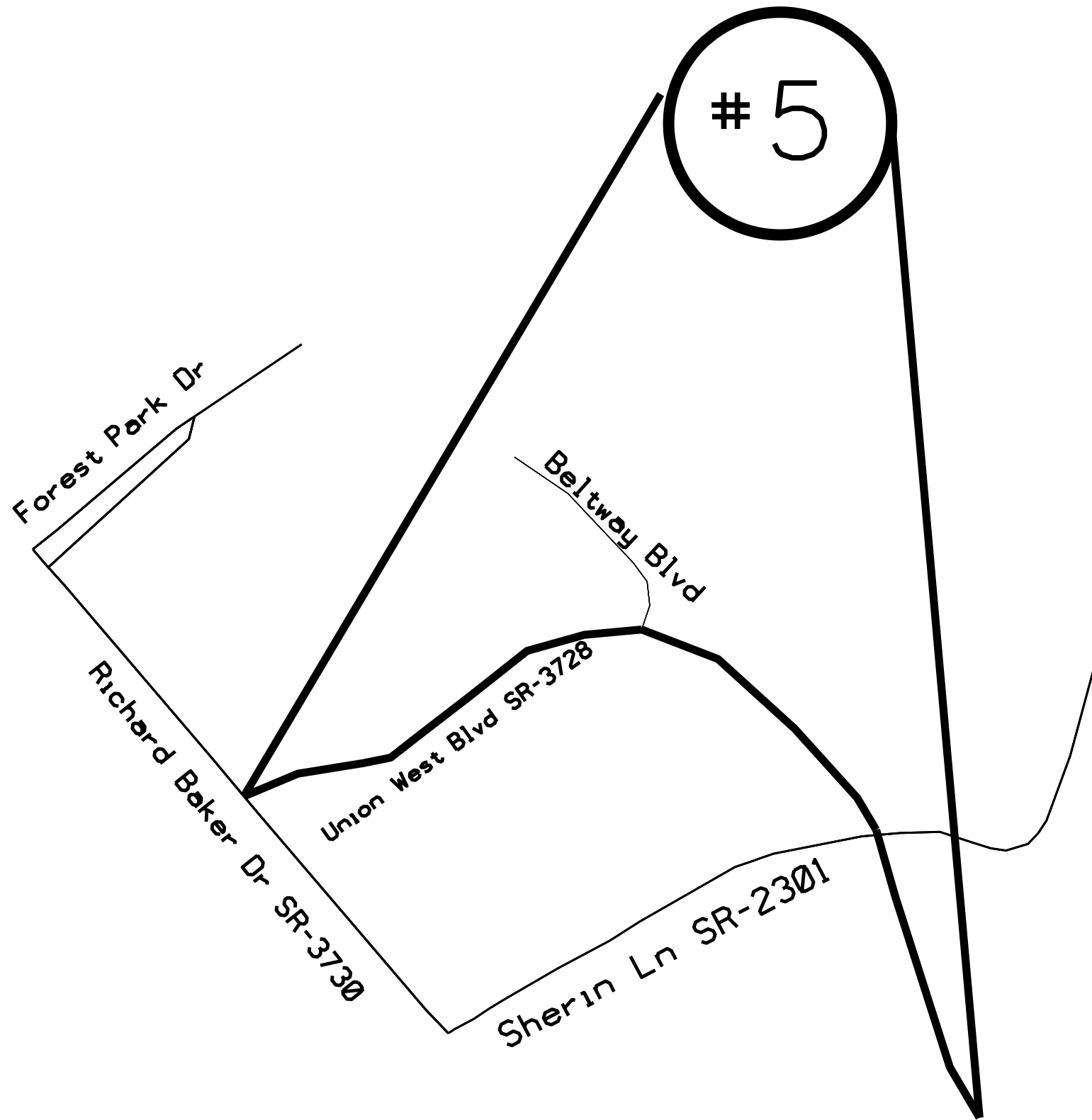
MAP #4 SR 1736 OLD LAWYERS ROAD
1.01 MILES
FROM SR 1719 MARSHVILLE OLIVE BRANCH ROAD
TO SR 1741 HAMILTONS CROSSROADS ROAD

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2021CPT.10.09.10901 2021CPT.10.09.20901	4	
F.A. PROJECT NO.			



ENLARGED MUNICIPAL AND SUBURBAN AREAS
UNION COUNTY
 NORTH CAROLINA
PREPARED BY THE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 3

**MAP #5 SR 3728 UNION WEST BLVD
 0.49 MILES
 FROM SR 3730 RICHARD BAKER DR
 TO END OF MAINTENANCE**



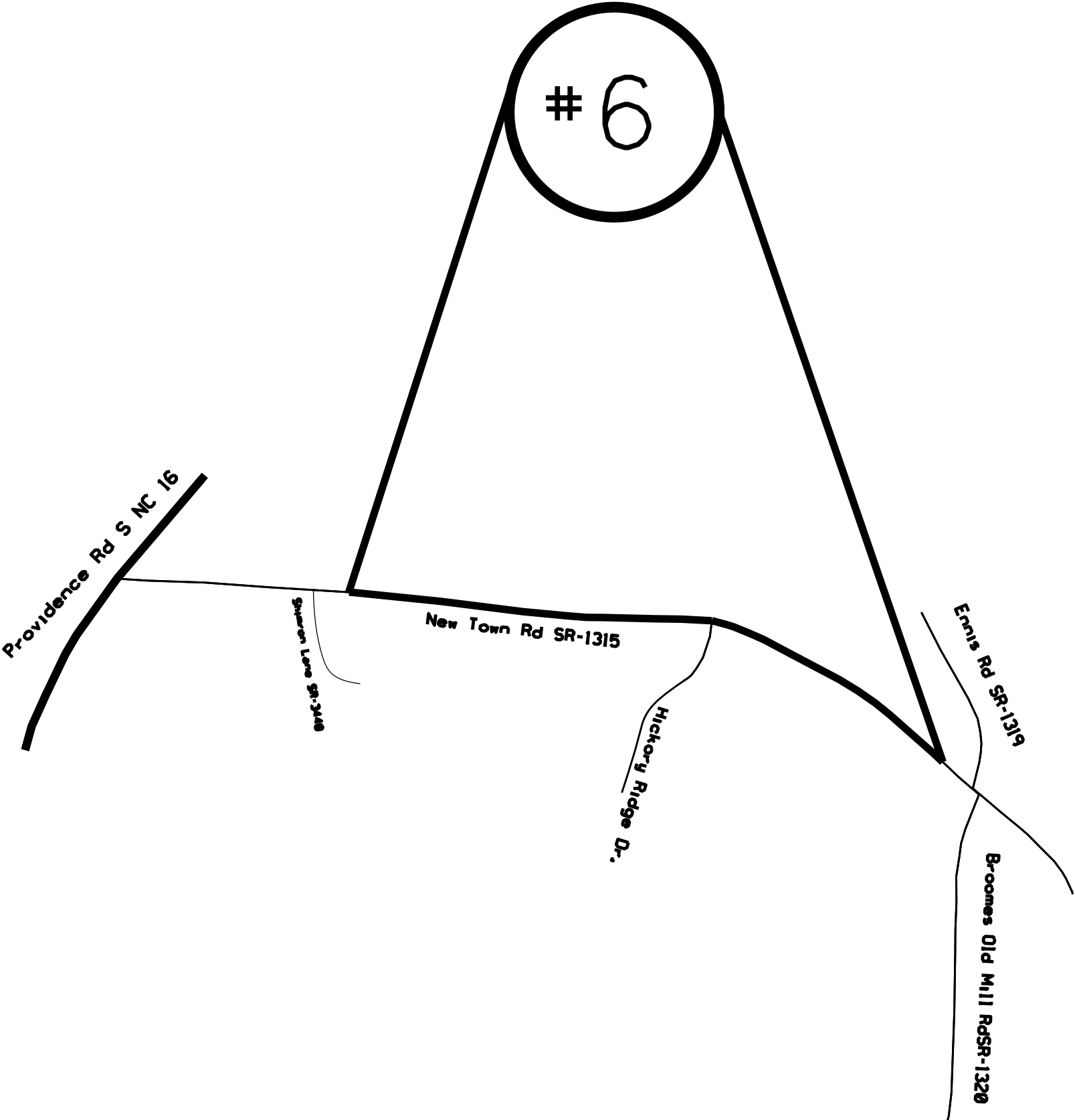
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2021CPT.10.09.10901 2021CPT.10.09.20901	5	
F.A. PROJECT NO.			



ENLARGED MUNICIPAL AND SUBURBAN AREAS
UNION COUNTY
 NORTH CAROLINA

PREPARED BY THE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 3

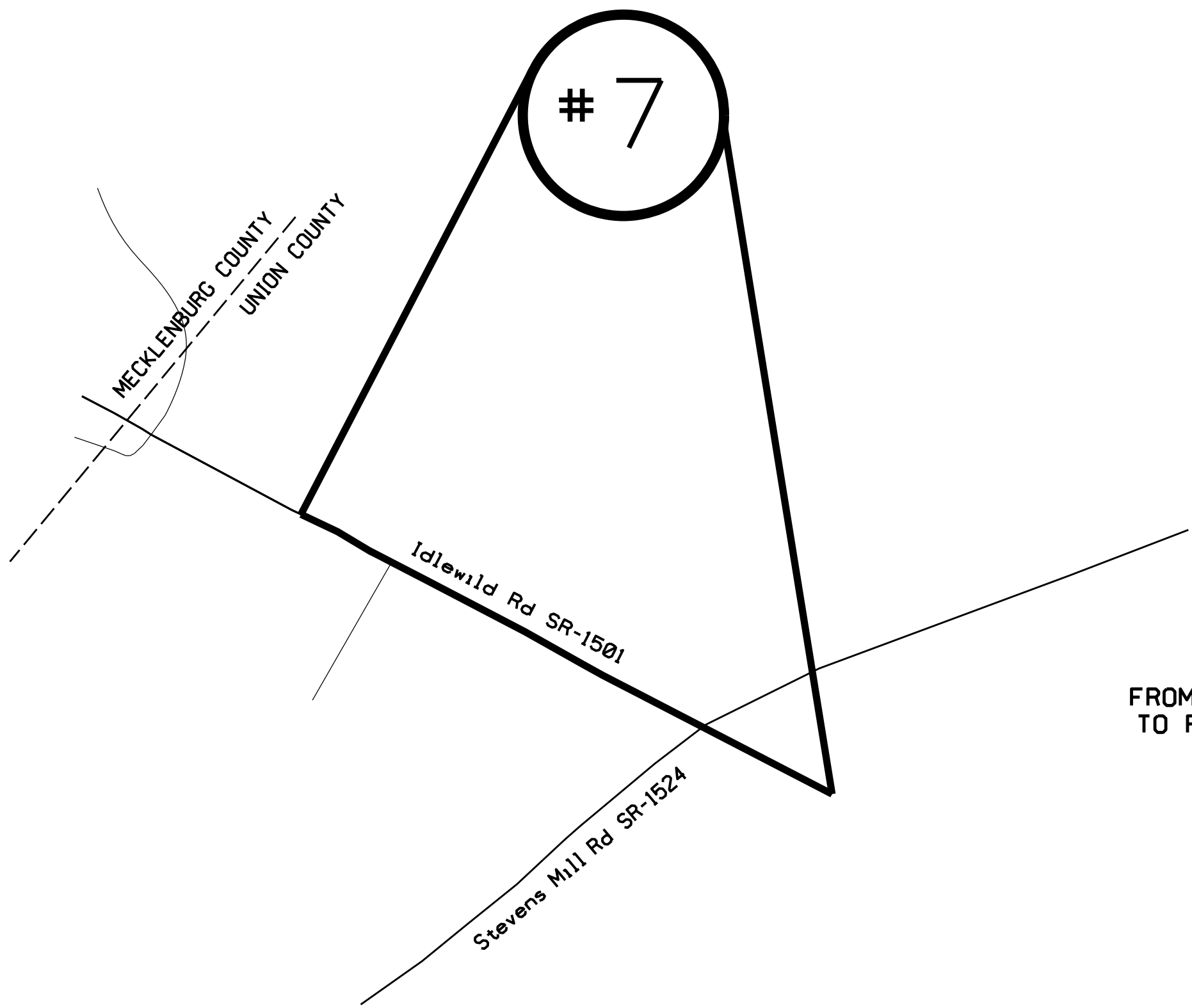
**MAP #6 SR 1315 NEW TOWN ROAD
 0.70 MILES
 FROM PVMT JOINT WEST OF SR 1319 ENNIS RD
 TO PVMT JOINT EAST OF SR 3440 SHIMRON LANE**



STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2021CPT.10.09.10901 2021CPT.10.09.20901	6	
F.A. PROJECT NO.			

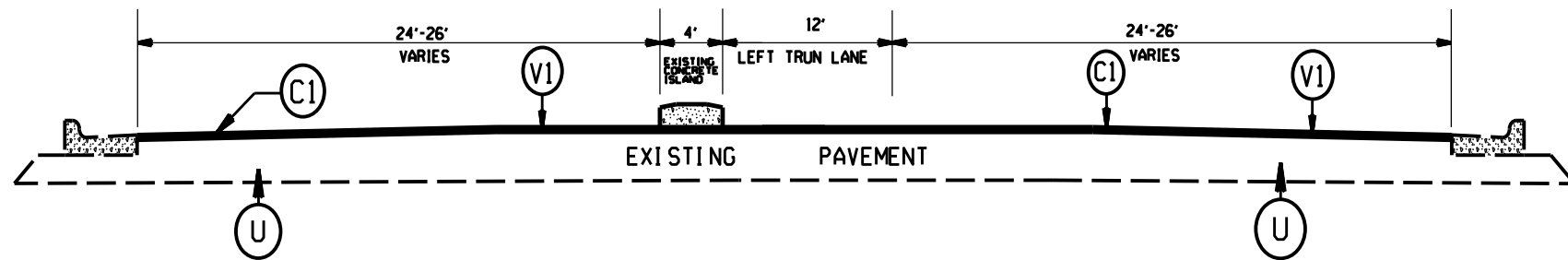


ENLARGED MUNICIPAL AND SUBURBAN AREAS
UNION COUNTY
 NORTH CAROLINA
PREPARED BY THE
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - DIVISION 10 DISTRICT 3



MAP #7 SR 1501 IDLEWILD ROAD
0.61 MILES
FROM PVMT JOINT EAST OF SR 1524 STEVENS MILL ROAD
TO PVMT JOINT BEFORE THE MECKLENBURG COUNTY LINE

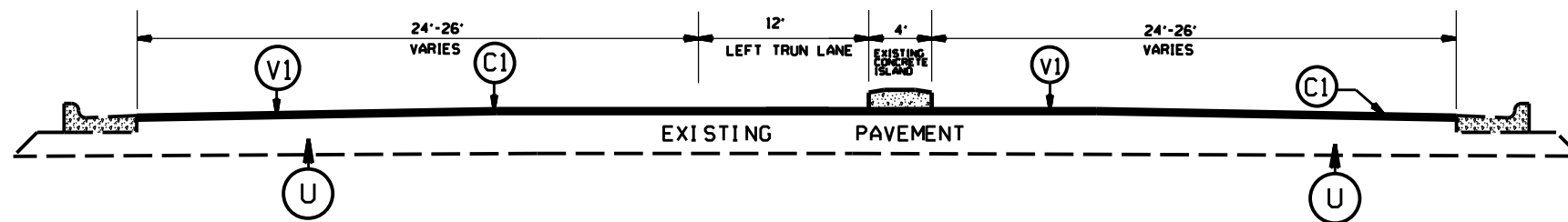
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2024CPT.10.09.10901 2024CPT.10.09.20901	7	
F.A. PROJECT NO.			



TYPICAL SECTION NO. 1
NC 200 DICKERSON BLVD (MAP 1)
APPROX. STA. 10+00 TO 17+00

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 2.0' ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 1.5' ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C3)	ASPHALT SURFACE TREATMENT, MAT COAT # 67
(D1)	PROPOSED 2.5' ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(T1)	SHOULDER RECONSTRUCTION
(U)	EXISTING PAVEMENT
(V1)	MILLING OF EXISTING PAVEMENT, 2.0' DEPTH.
(V2)	MILLING OF EXISTING PAVEMENT, 1.5' DEPTH.

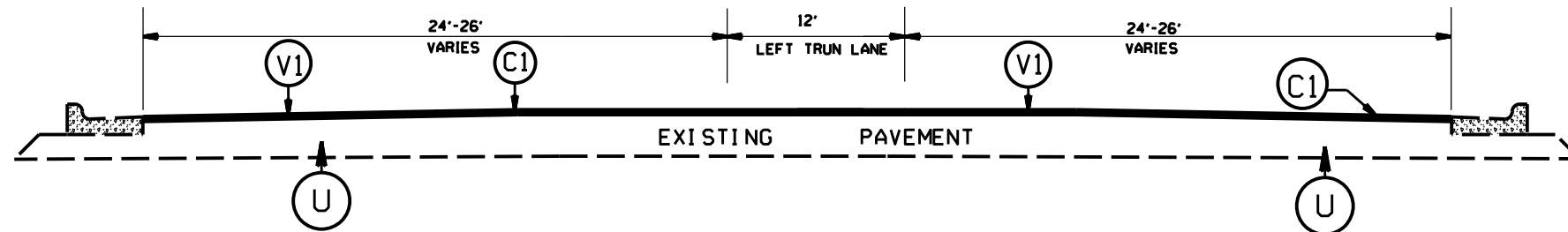


TYPICAL SECTION NO. 2
NC 200 DICKERSON BLVD (MAP 1)
APPROX. STA. 17+00 TO 22+40

2024-2025
UNION COUNTY RESURFACING

SCALE	-NA-		REVISIONS
DATE	11/23		
DWG. BY	AJB		
DESIGN BY	AJB		
APPROVED	CLA		

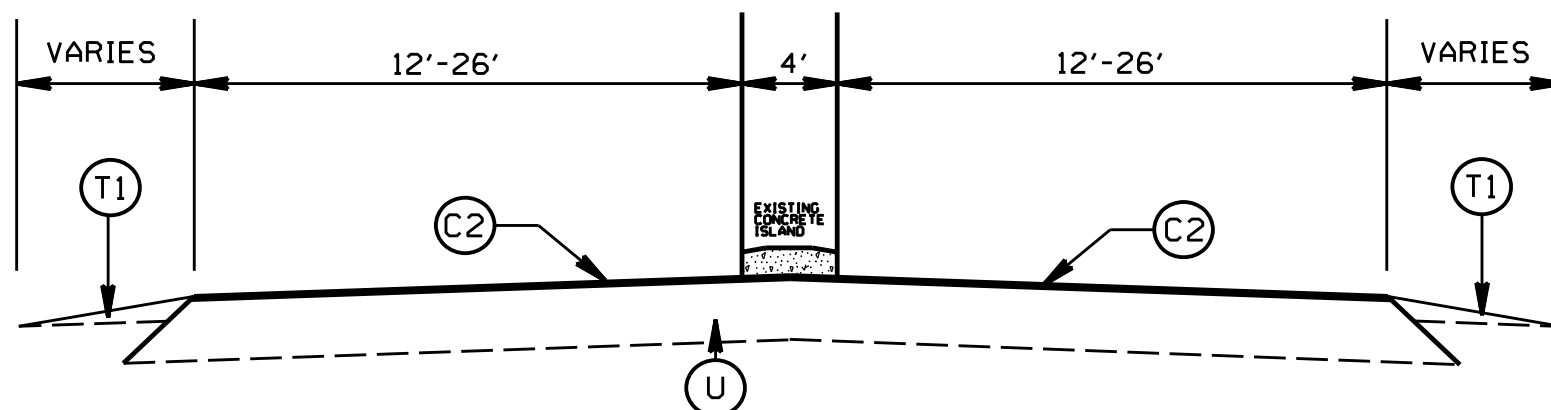
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2024CPT.10.09.10901 2024CPT.10.09.20901	8	
F.A. PROJECT NO.			



TYPICAL SECTION NO. 3
NC 200 DICKERSON BLVD (MAP 1)
APPROX. STA. 22+40 TO 45+38

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 2.0" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C3)	ASPHALT SURFACE TREATMENT, MAT COAT # 67
(D1)	PROPOSED 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(T1)	SHOULDER RECONSTRUCTION
(U)	EXISTING PAVEMENT
(V1)	MILLING OF EXISTING PAVEMENT, 2.0" DEPTH.
(V2)	MILLING OF EXISTING PAVEMENT, 1.5" DEPTH.

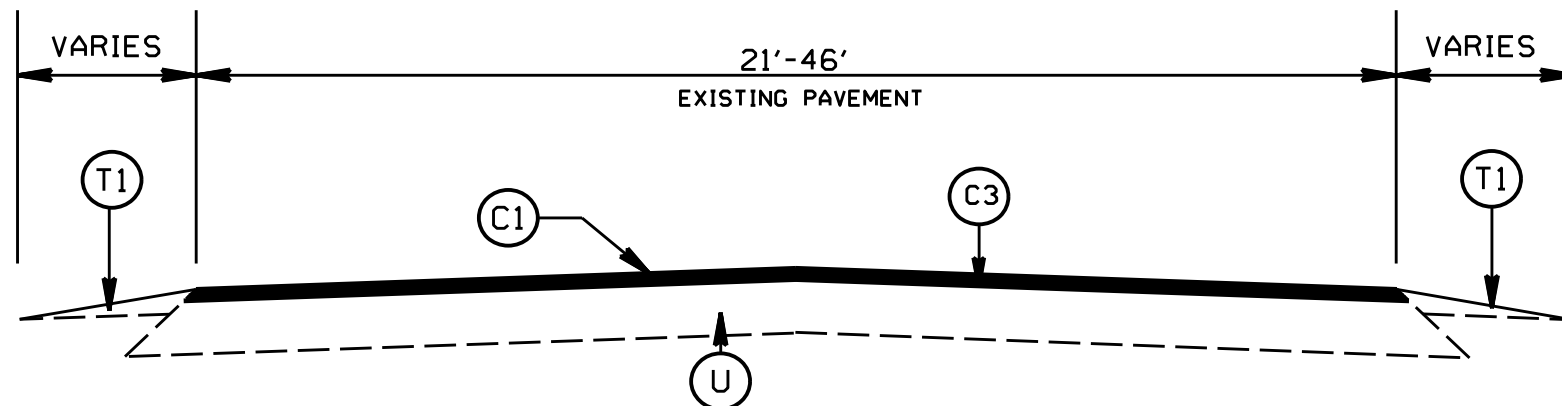


TYPICAL SECTION NO. 4
NC 200 MLK BLVD (MAP 2)
APPROX. STA. 10+00 TO 10+80
SR-1501 IDLEWILD ROAD (MAP 7)
APPROX. STA. 37+60 TO 38+30

2024-2025
UNION COUNTY RESURFACING

SCALE	1"=4'		REVISIONS
DATE	11/23		
DWG. BY	AJB		
DESIGN BY	AJB		
APPROVED	CLA		

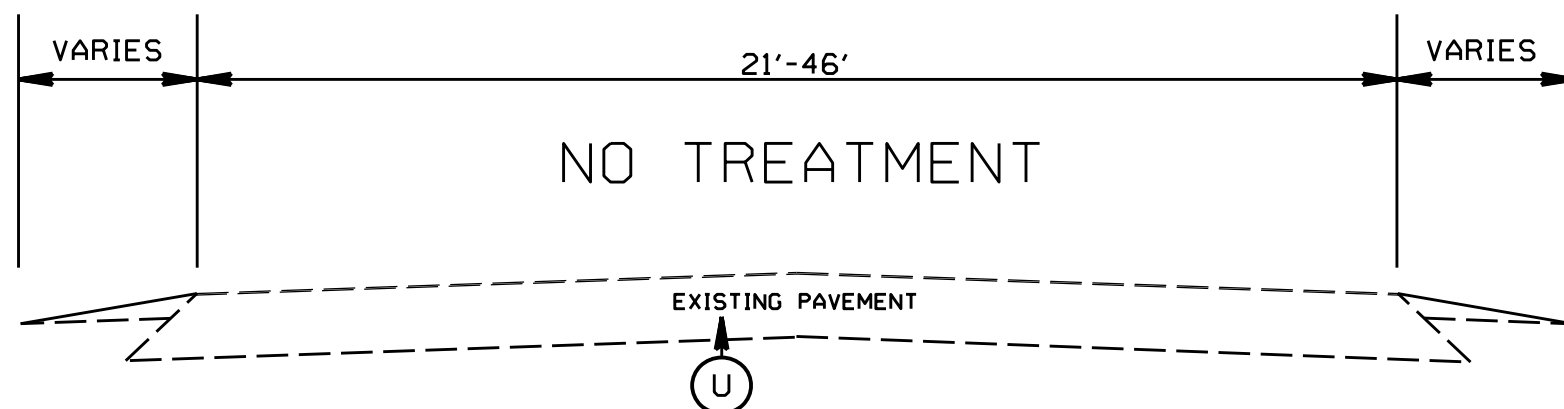
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2024CPT.10.09.10901 2024CPT.10.09.20901	9	
F.A. PROJECT NO.			



TYPICAL SECTION NO. 5
 SR-1009 OLD CHARLOTTE HWY (MAP 3)
 SR-1315 NEW TOWN ROAD (MAP 6)
 APPROX, STA, 10+00 TO 23+80
 APPROX, STA. 34+40 TO 42+40

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 2.0" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C3)	ASPHALT SURFACE TREATMENT, MAT COAT ■ 67
(D1)	PROPOSED 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(T1)	SHOULDER RECONSTRUCTION
(U)	EXISTING PAVEMENT
(V1)	MILLING OF EXISTING PAVEMENT, 2.0" DEPTH.
(V2)	MILLING OF EXISTING PAVEMENT, 1.5" DEPTH.

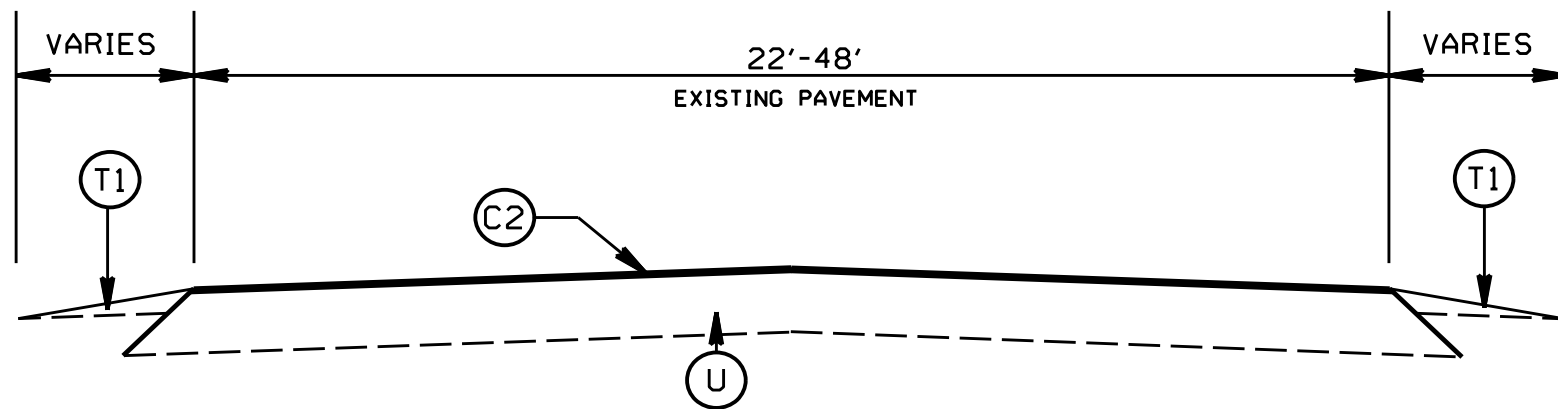


TYPICAL SECTION NO. 6
 SR-1315 NEW TOWN ROAD (MAP 6)
 APPROX. STA. 23+80 TO 34+40

2024-2025
UNION COUNTY RESURFACING

SCALE	-NA-		REVISIONS
DATE	11/23		
DWG. BY	AJB		
DESIGN BY	AJB		
APPROVED	CLA		

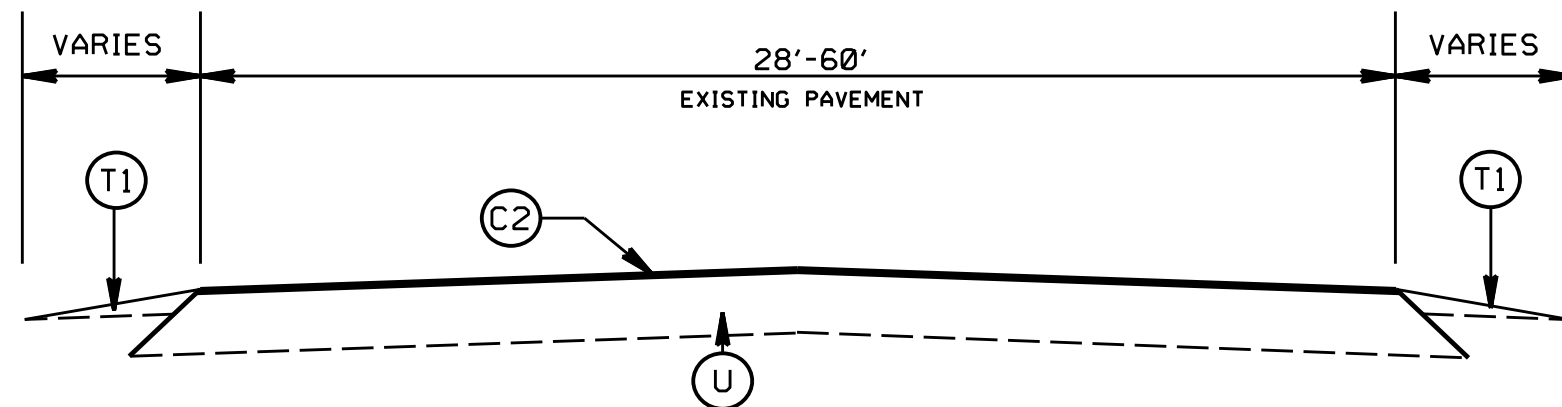
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2024CPT.10.09.10901 2024CPT.10.09.20901	10	
F.A. PROJECT NO.			




TYPICAL SECTION NO. 7
 NC 200 MLK BLVD (MAP 2)
 APPROX. STA. 10+80 TO 21+22
 SR-1501 IDLEWILD ROAD (MAP 7)
 APPROX. STA. 10+00 TO 35+10
 SR-1736 OLD LAWYERS ROAD (MAP 4)
 APPROX. STA. 24+80 TO 63+33

PAVEMENT SCHEDULE

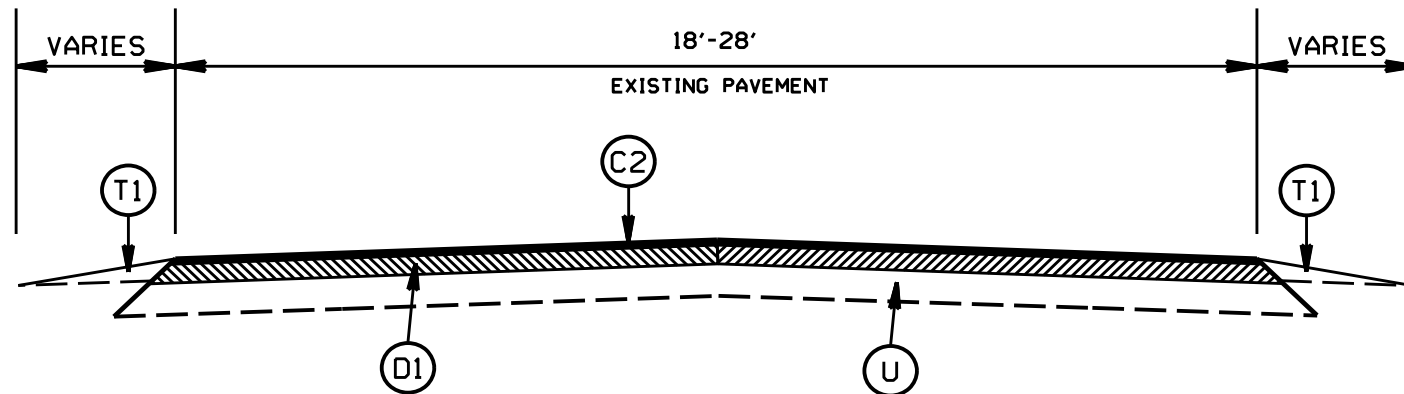
(C1)	PROP. APPROX. 2.0" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C3)	ASPHALT SURFACE TREATMENT, MAT COAT # 67
(D1)	PROPOSED 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE 119.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(T1)	SHOULDER RECONSTRUCTION
(U)	EXISTING PAVEMENT
(V1)	MILLING OF EXISTING PAVEMENT, 2.0" DEPTH.
(V2)	MILLING OF EXISTING PAVEMENT, 1.5" DEPTH.



TYPICAL SECTION NO. 8
 SR 1501 IDLEWILD ROAD (MAP 7)
 APPROX. STA. 35+10 TO 37+60
 APPROX. STA. 38+30 TO 42+20

2024-2025 UNION COUNTY RESURFACING			
SCALE	-NA-		REVISIONS
DATE	11/23		
DWG. BY	AJB		
DESIGN BY	AJB		
APPROVED	CLA		

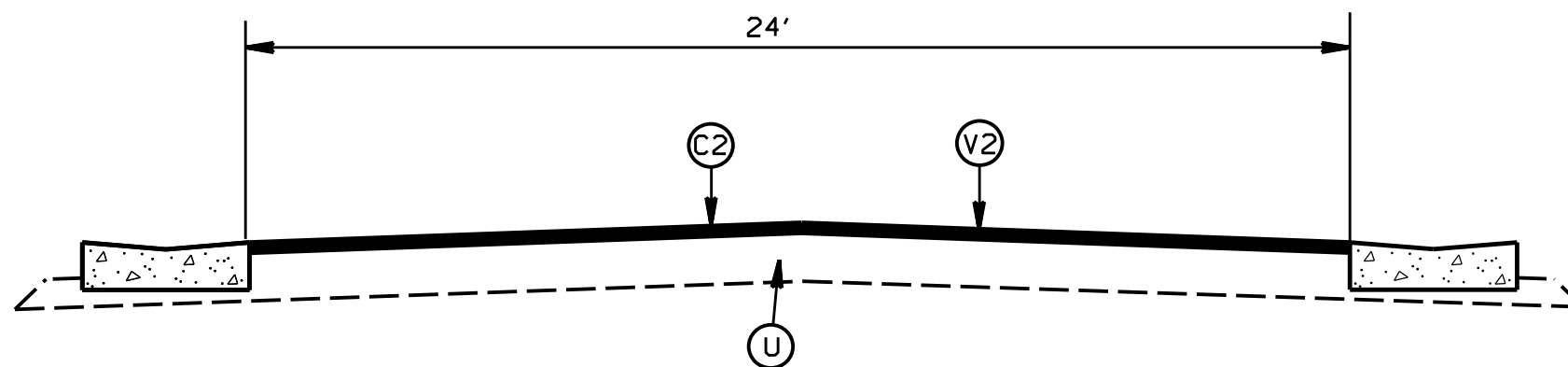
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2024CPT.10.09.10901 2024CPT.10.09.20901	11	
F.A. PROJECT NO.			



TYPICAL SECTION NO. 9
SR 1736 OLD LAWYERS ROAD (MAP 4)
APPROX. STA. 10+00 TO 24+80

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 2.0' ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 1.5' ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C3)	ASPHALT SURFACE TREATMENT, MAT COAT # 67
(D1)	PROPOSED 2.5' ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(T1)	SHOULDER RECONSTRUCTION
(U)	EXISTING PAVEMENT
(V1)	MILLING OF EXISTING PAVEMENT, 2.0' DEPTH.
(V2)	MILLING OF EXISTING PAVEMENT, 1.5' DEPTH.



TYPICAL SECTION NO. 10
SR 3728 UNION WEST BLVD (MAP 5)

2024-2025 UNION COUNTY RESURFACING			
SCALE	-1A-		REVISIONS
DATE	11/23		
DWG. BY	AJB		
DESIGN BY	AJB		
APPROVED	CLA		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2024CPT.10.09.10901 2024CPT.10.09.20901	12	
F.A. PROJECT NO.			


NOTES:

1. DEPTH OF PATCHING WILL BE AS DIRECTED BY THE ENGINEER.

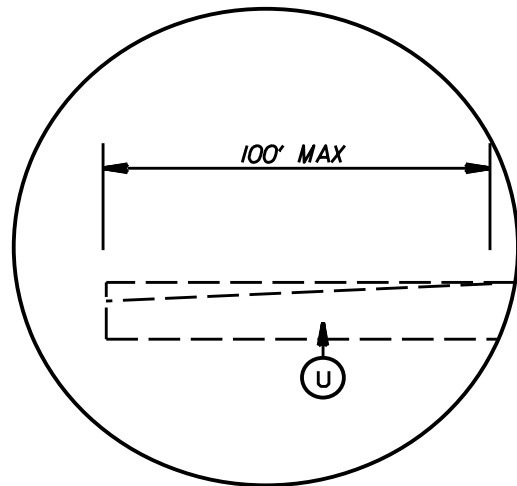
2. SHOULDER RECONSTRUCTION WILL BE AS DIRECTED BY THE ENGINEER.

3. NO TREATMENT FOR THE SECTION OF SR-1315 NEW TOWN ROAD (MAP 6) APPROX. STA. 23+80 TO 34+40 SEE TYPICAL SECTION #6.

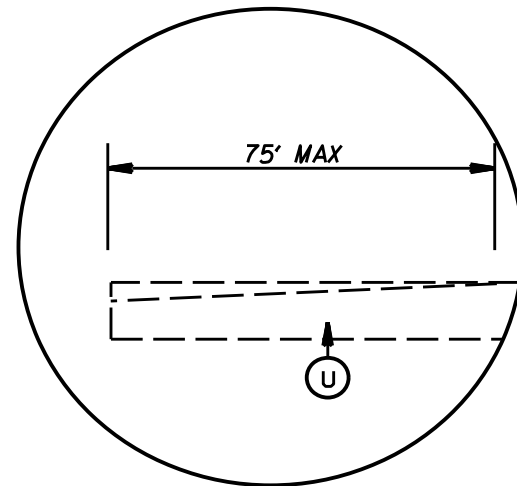
4. CURB REMOVAL AND REPLACEMENT WILL BE AS DIRECTED BY THE ENGINEER.

2024-2025 UNION COUNTY RESURFACING			
SCALE	-NA-		REVISIONS
DATE	01/20		
DWG. BY	AMC		
DESIGN BY	AMC		
APPROVED	CLA		

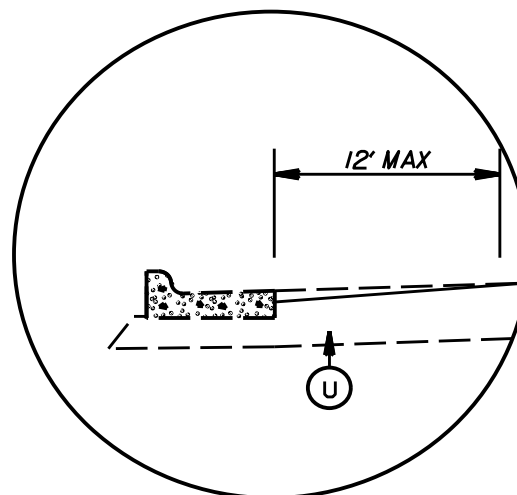
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2024CPT.10.09.10901 2024CPT.10.09.20901	13	
F.A. PROJECT NO.			



DETAIL FOR INCIDENTAL MILLING (0" TO 2.0")



DETAIL FOR INCIDENTAL MILLING (0" TO 1.5")

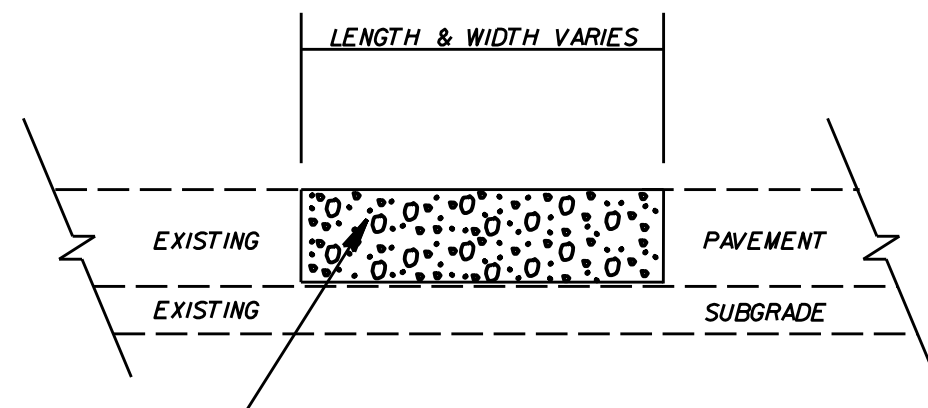


DETAIL FOR PROFILE MILLING

PAVEMENT SCHEDULE

(C1)	PROP. APPROX. 2.0" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C3)	ASPHALT SURFACE TREATMENT, MAT COAT # 67
(D1)	PROPOSED 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
(T1)	SHOULDER RECONSTRUCTION
(U)	EXISTING PAVEMENT
(V1)	MILLING OF EXISTING PAVEMENT, 2.0" DEPTH.
(V2)	MILLING OF EXISTING PAVEMENT, 1.5" DEPTH.

PATCHING DETAIL



RATE IS VARIABLE AND SHALL BE AS DIRECTED BY THE ENGINEER. ASPHALT TYPE I19.0C SHALL BE PLACED.

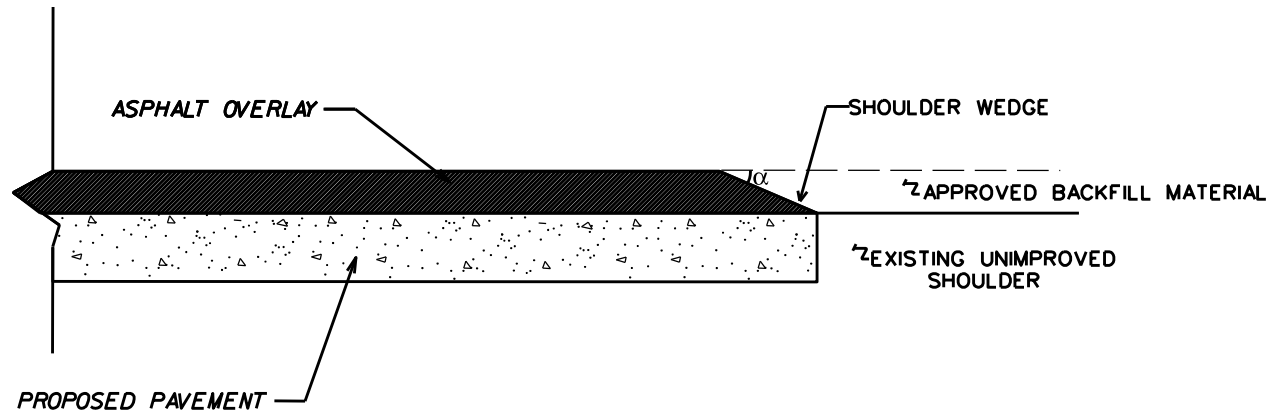
2024-2025
UNION COUNTY RESURFACING

SCALE	-NA-		REVISIONS
DATE	1/20		
DWG. BY	AMO		
DESIGN BY	AMO		
APPROVED	CLA		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2024CPT.10.09.10901 2024CPT.10.09.20901	14	
F.A. PROJECT NO.			

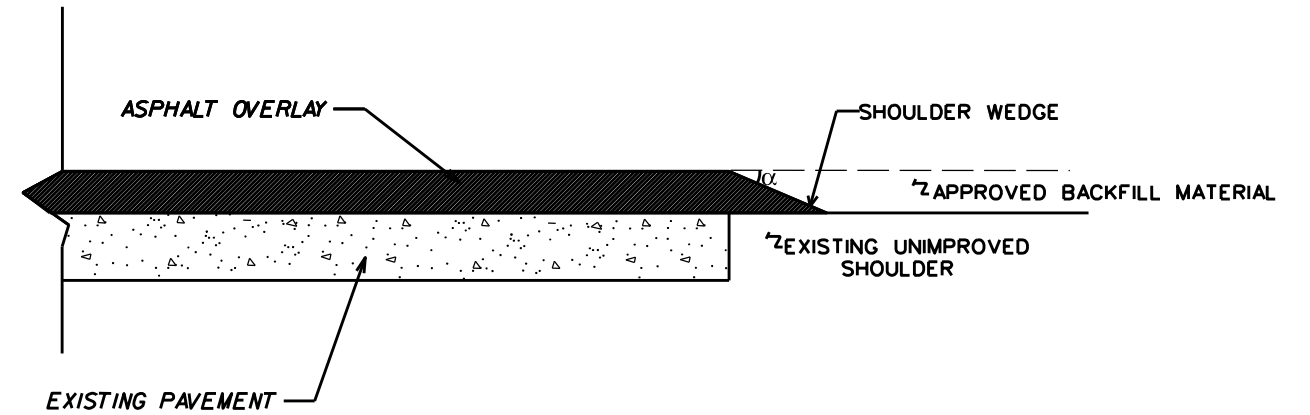
NOTES:

- 1) DETAIL DOES NOT APPLY TO OGAFD 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.



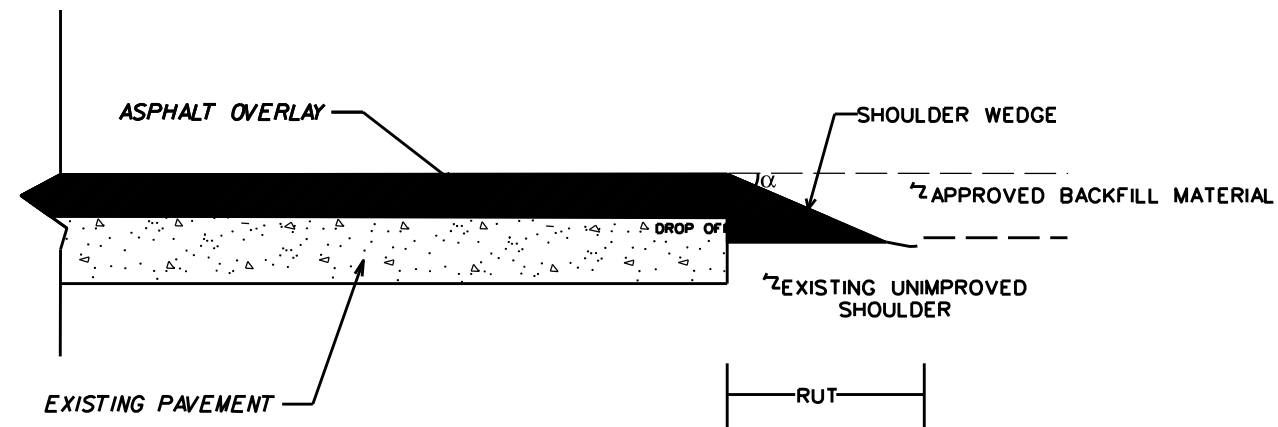
SHOULDER WEDGE DETAIL

(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)

$\alpha = 30$ DEGREES

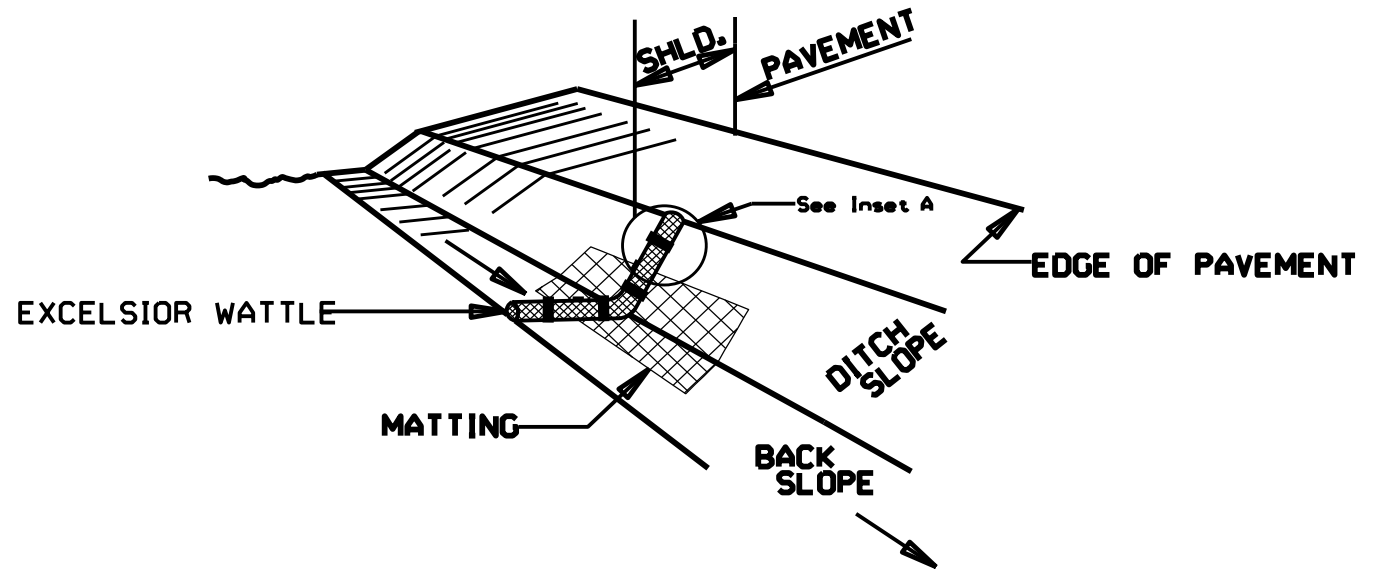
SHOULDER WEDGE DETAILS		
SCALE	-NA-	REVISIONS
DATE	08/18	
DWG. BY	AMO	
DESIGN BY	AMO	
APPROVED	CLA	



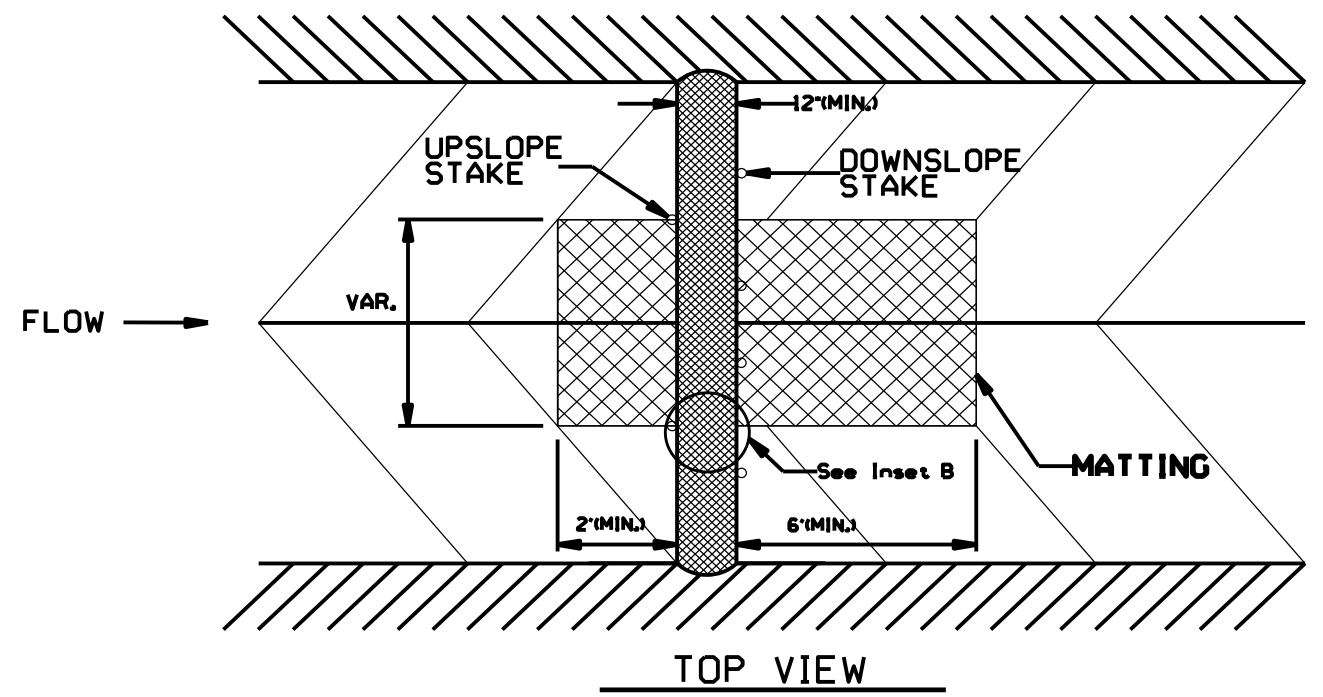
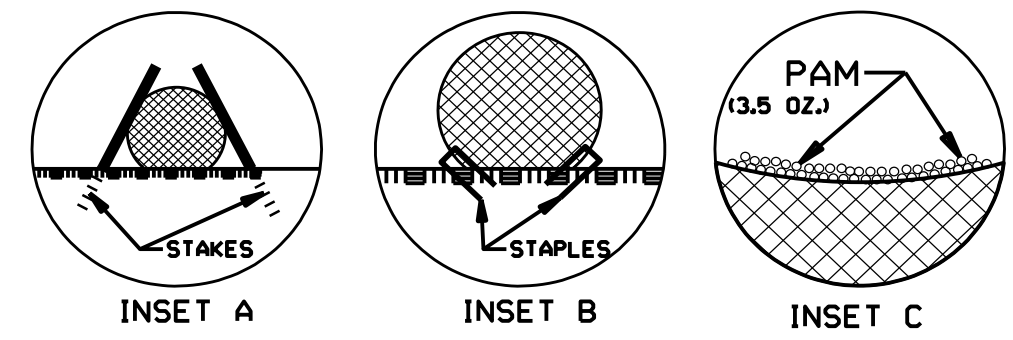
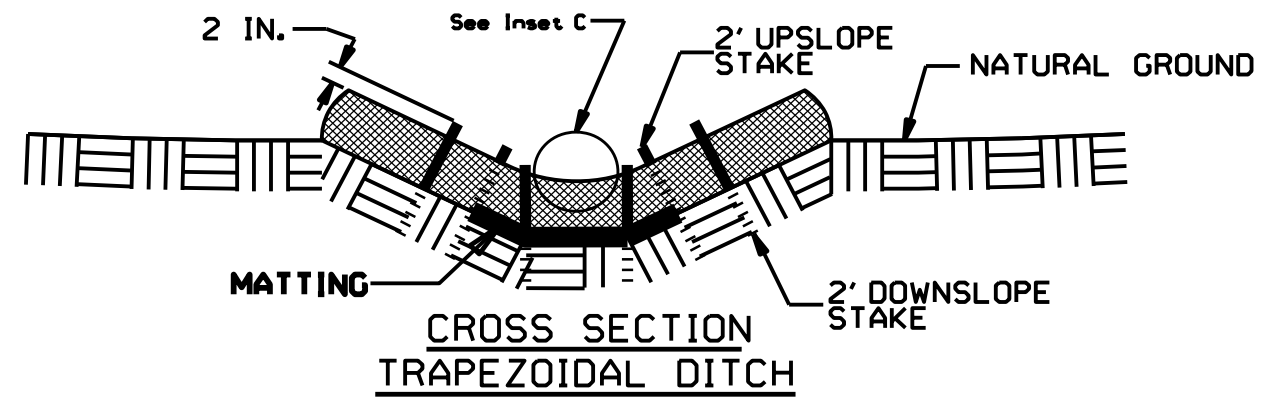
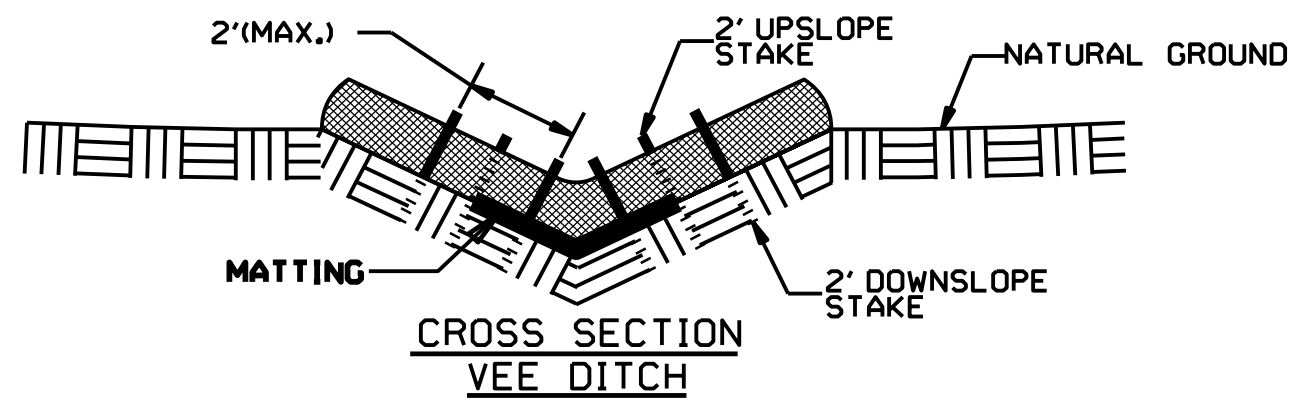
WATTLE WITH POLYACRYLAMIDE DETAIL

NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.
- 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.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



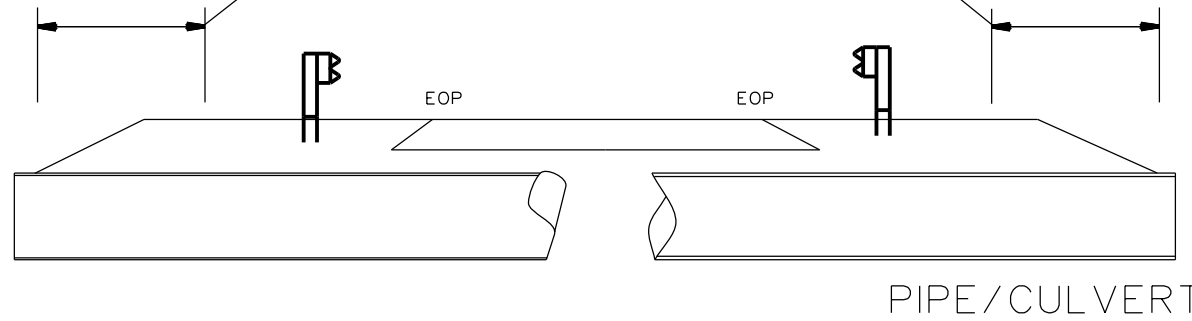
ISOMETRIC VIEW



NOTES: LESS THAN 5' - 10' UNDISTURBED BUFFER FROM ROW, DITCHLINE, WATER FEATURE, OR DRAINAGE INLET, ADD BMP.

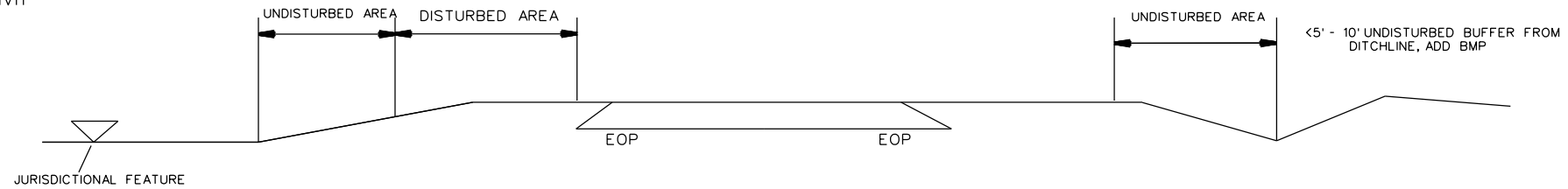
BMP OPTIONS: WATTLE OR SILT FENCE

<5' - 10' UNDISTURBED BUFFER ADD BMP

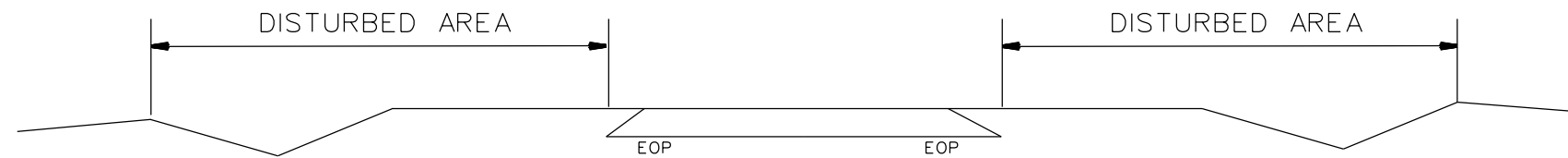


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2024.CPT.10.09.10901 2024.CPT.10.09.20901	EC2	
F.A. PROJECT NO.			

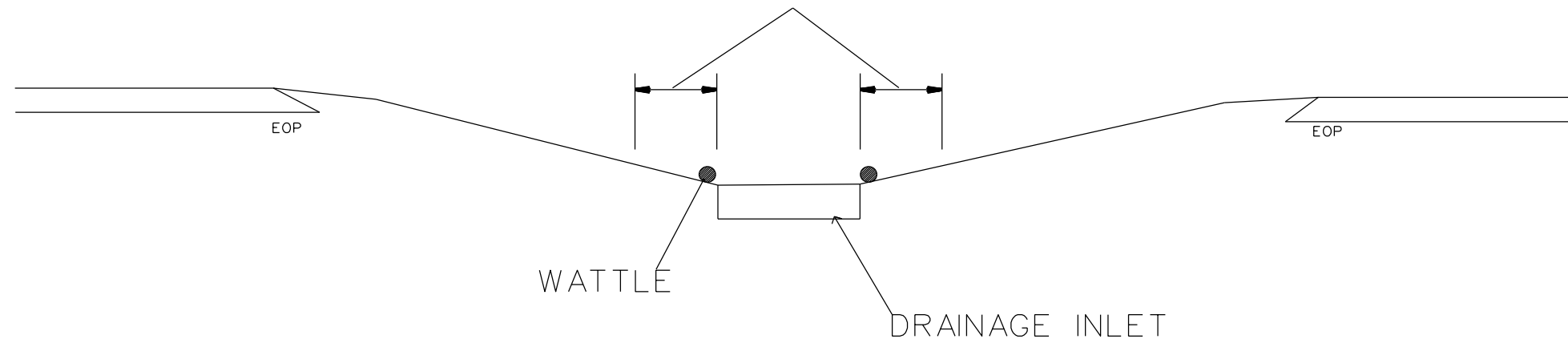
<5' - 10' UNDISTURBED BUFFER FROM JURISDICTIONAL FEATURE ADD BMP



USE BMP'S IF SHOULDERS AND/OR FRONTSLOPES AND/OR DITCHLINE AND/OR BACKSLOPES ARE DISTURBED

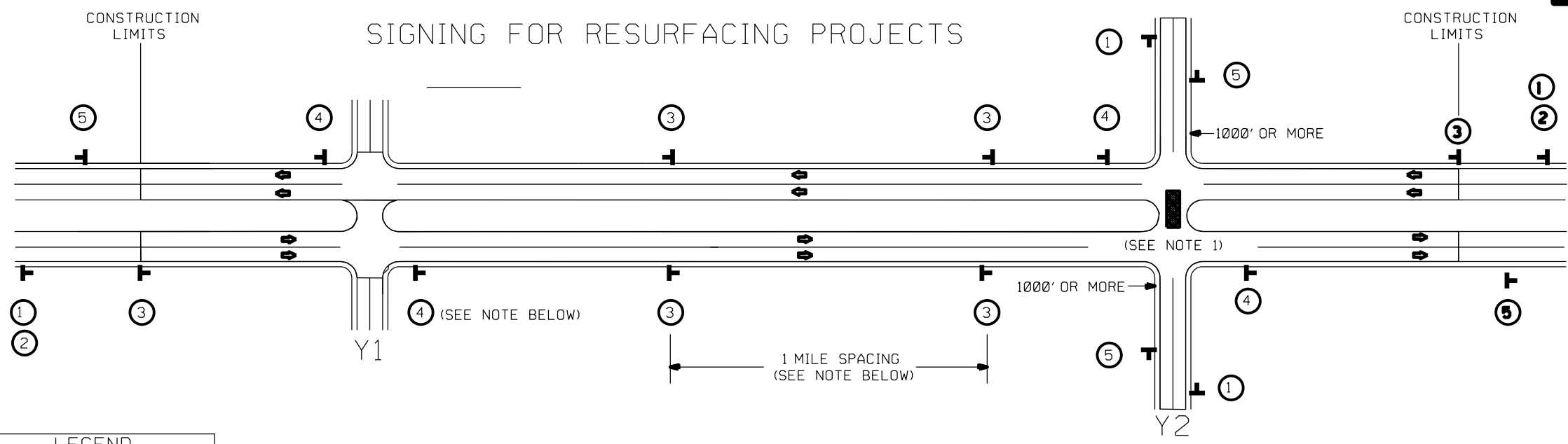


<5' - 10' UNDISTURBED BUFFER FROM INLET, ADD WATTLE



EROSION CONTROL DETAIL

SCALE	-NA-		REVISIONS
DATE	1/20		
DWG. BY	AMO		
DESIGN BY	AMO		
APPROVED	CLA		



LEGEND	
T	STATIONARY SIGN
→	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING



-Y- LINE SIGNING

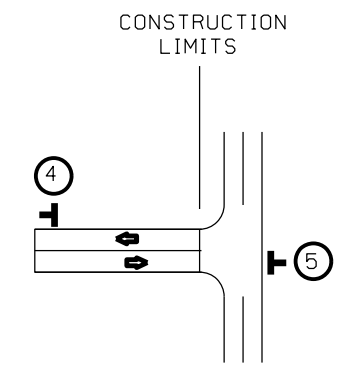
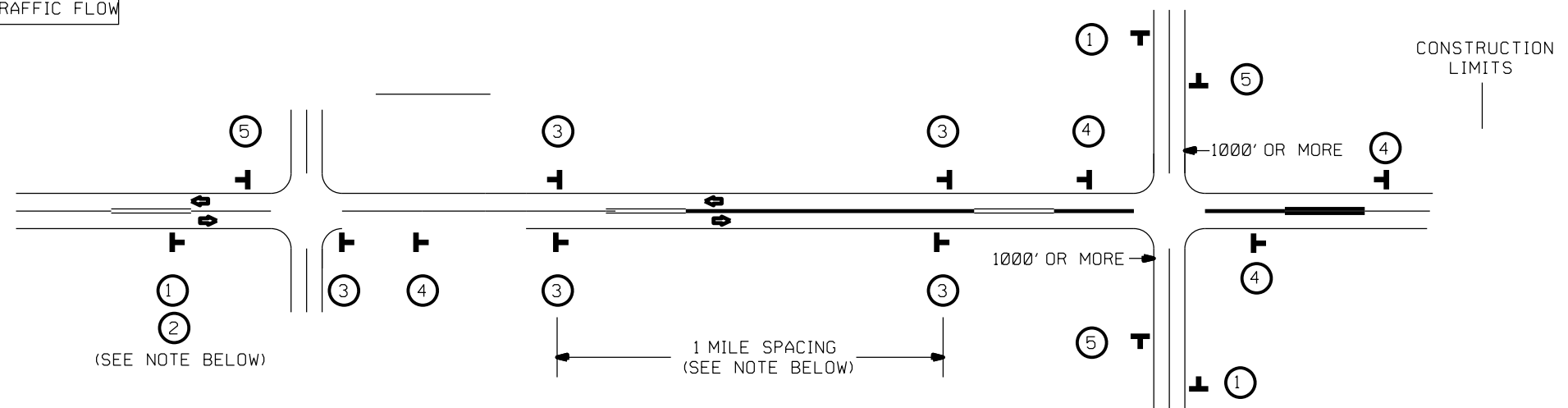
SIGNING NOTES AND PLACEMENT PER DIRECTION	①	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p>	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <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> <p>W20-1 48" X 48"</p> </div> <div> <p>W20-7 A 48" X 48"</p> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	②	<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>	
	③	<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>	
	④	<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>	
	⑤	<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	
		<p>NOTES:</p> <ol style="list-style-type: none"> 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. 	



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

SIGNING FOR RESURFACING PROJECTS


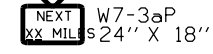


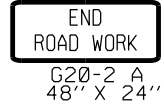
LEGEND
 STATIONARY SIGN
 DIRECTION OF TRAFFIC FLOW



TEE INTERSECTION

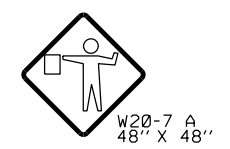
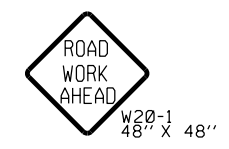
MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	 	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.
		
		<ul style="list-style-type: none"> - 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.
		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.

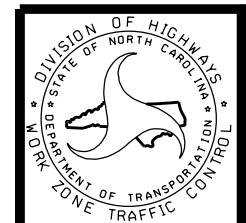
NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

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



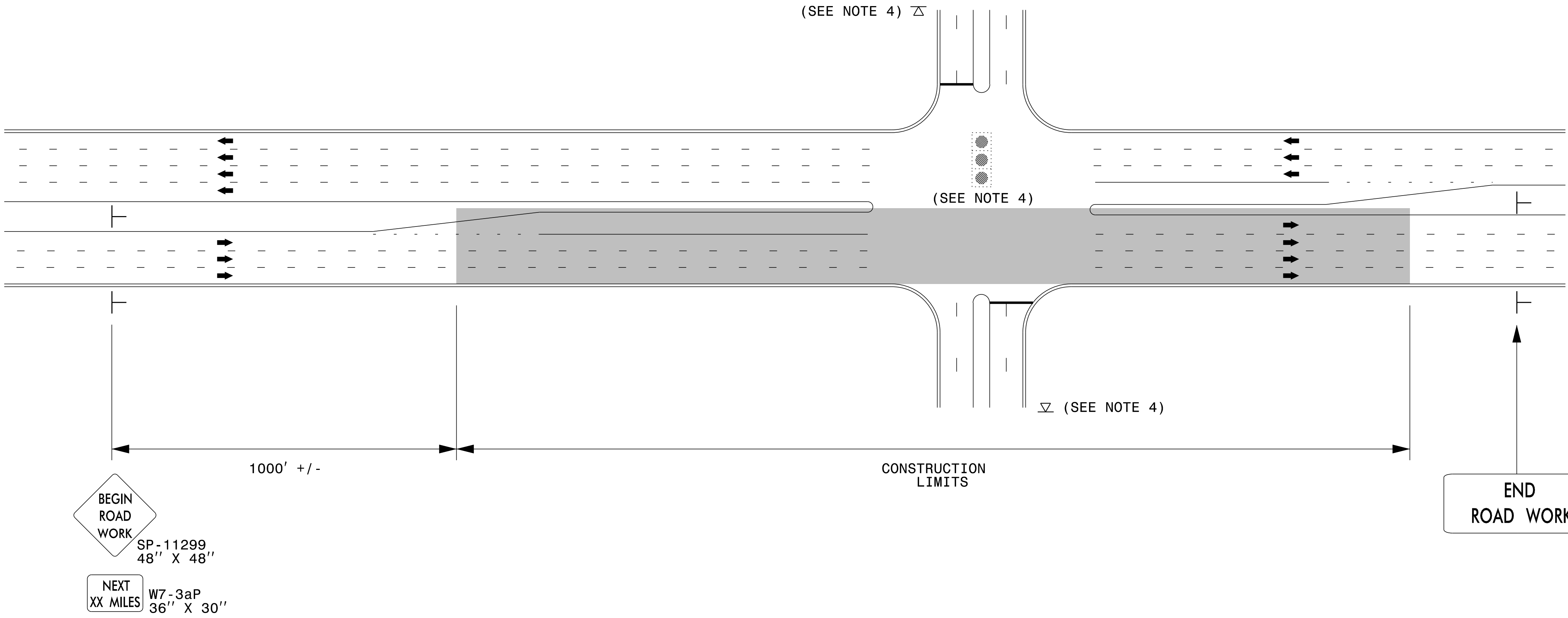
MAPS LESS THAN 2 MILES

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

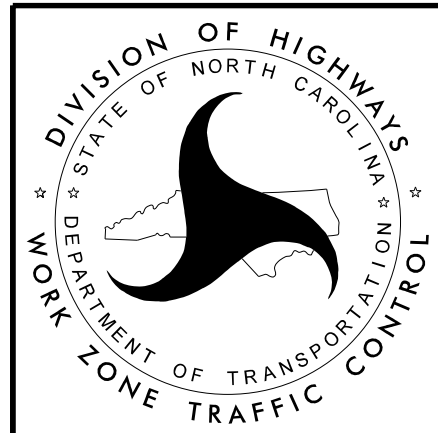
URBAN / SUBURBAN WORKZONES



NOTES:

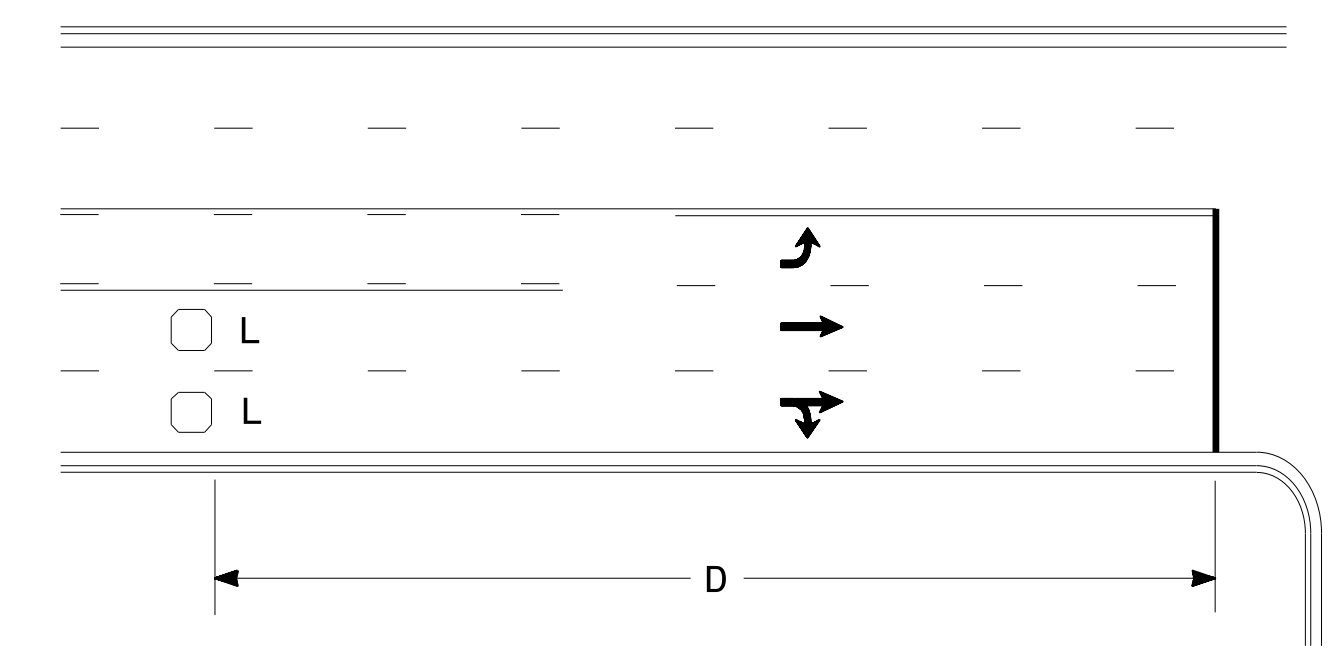
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. 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**

High Speed Detection (≥40 mph)

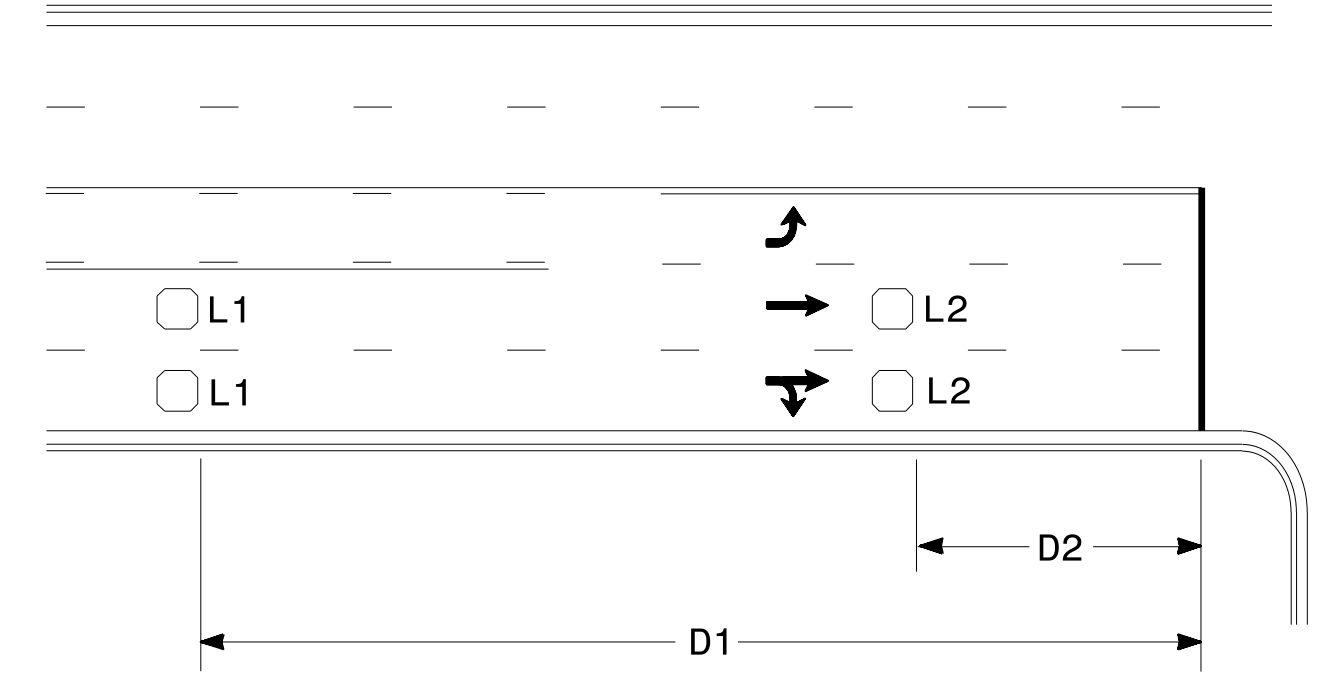


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

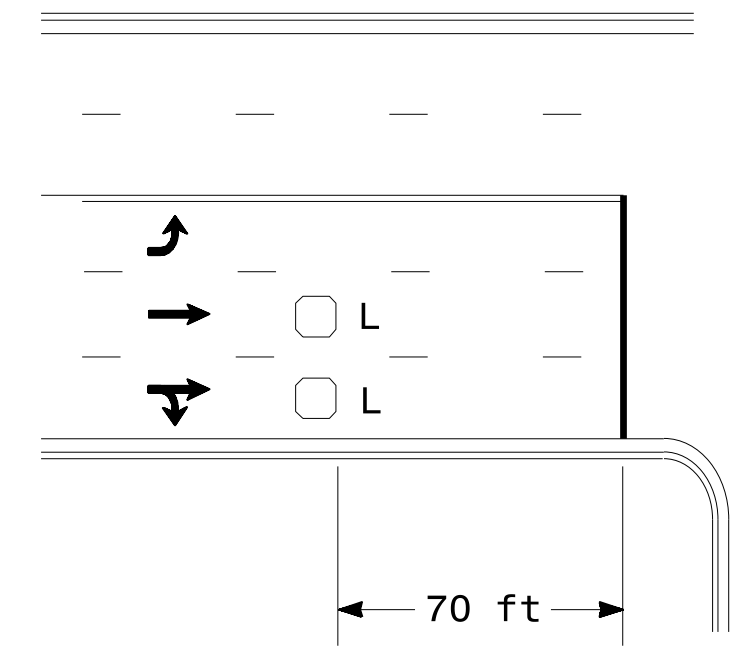


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

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

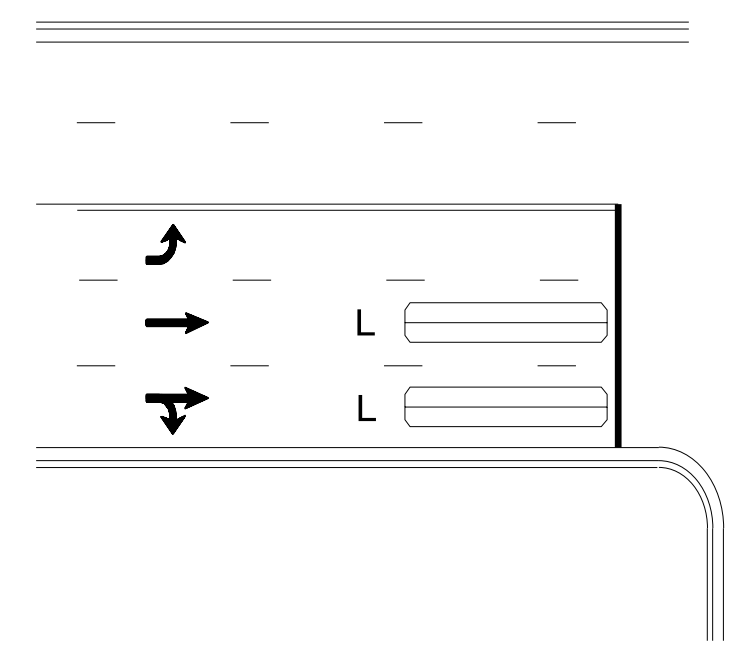
"Stretch" Operation

Low Speed Detection (≤35 mph)



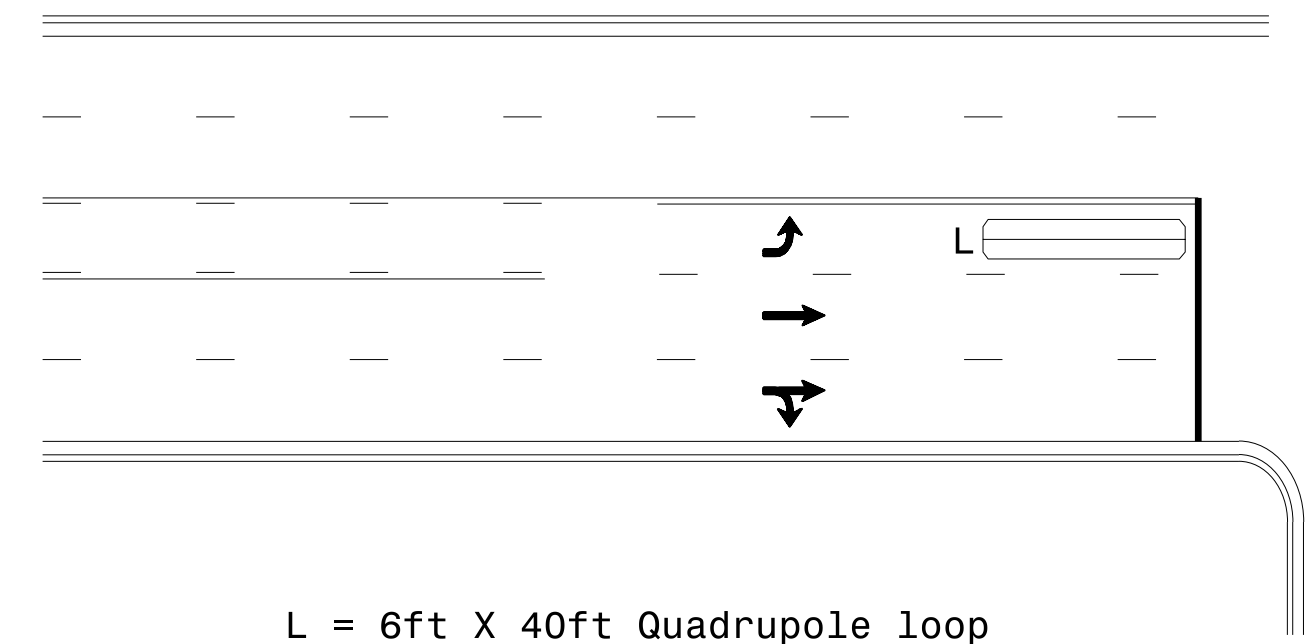
L = 6ft X 6ft
Wired in series

OR



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

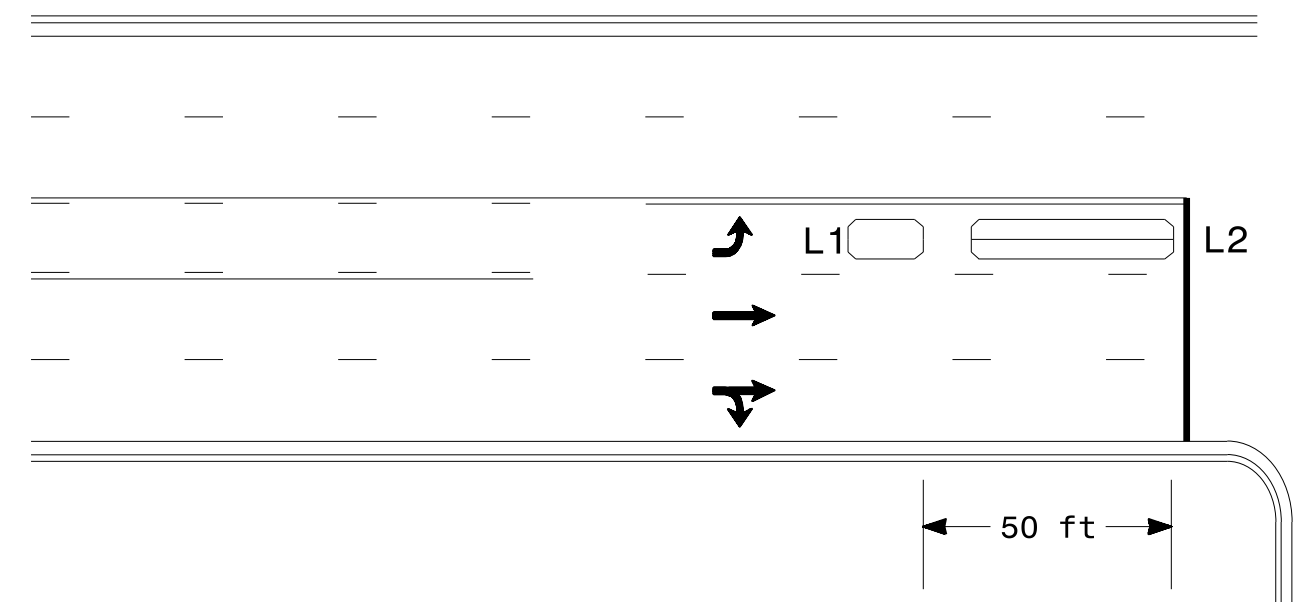
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

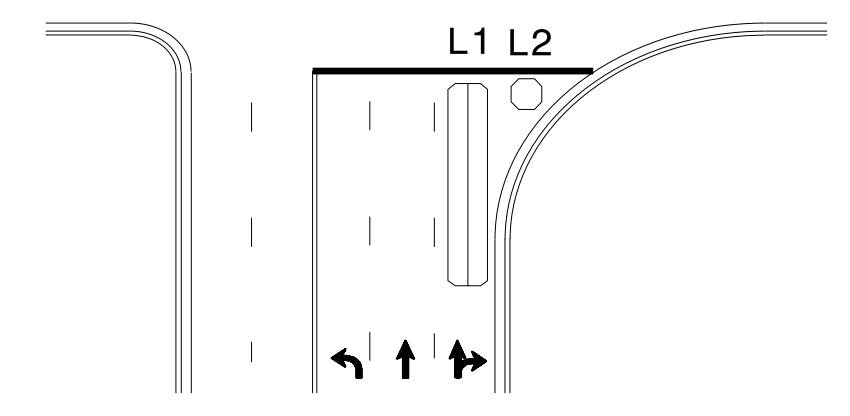
OR



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

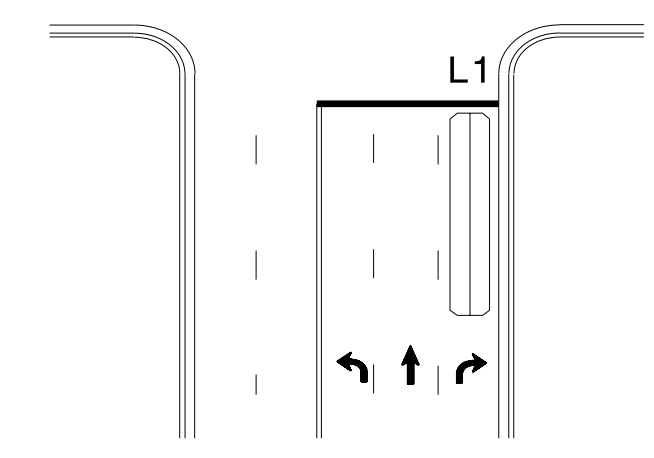
Queue Loop Detection

Right Turn Lane Detection

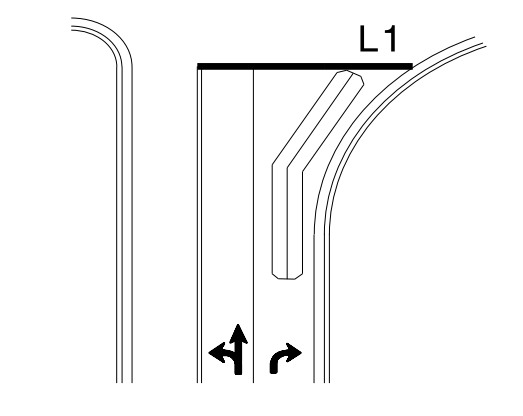


Shared Lane/
Wide Radius Turn

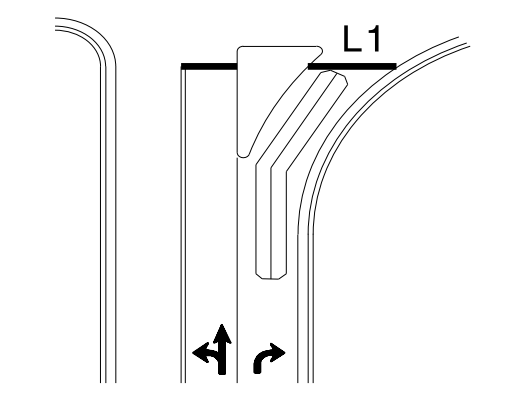
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

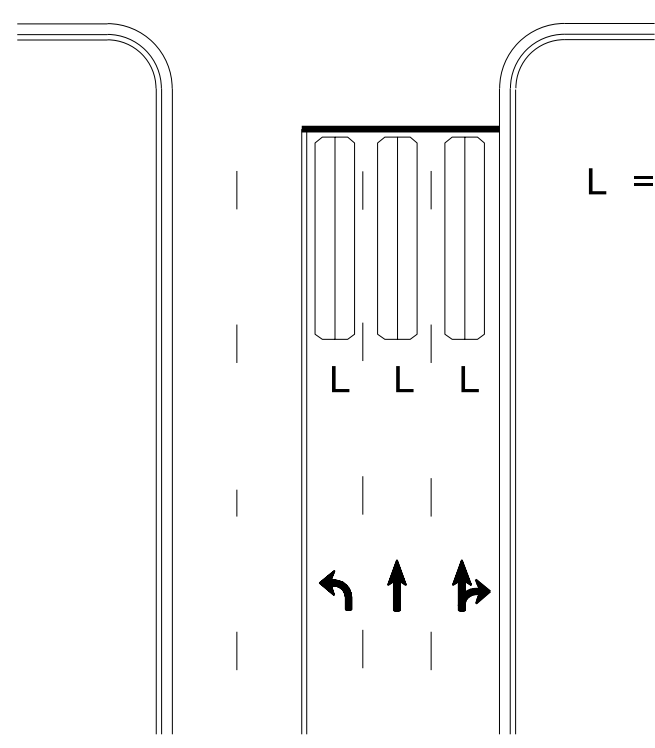


Wide Radius Turn



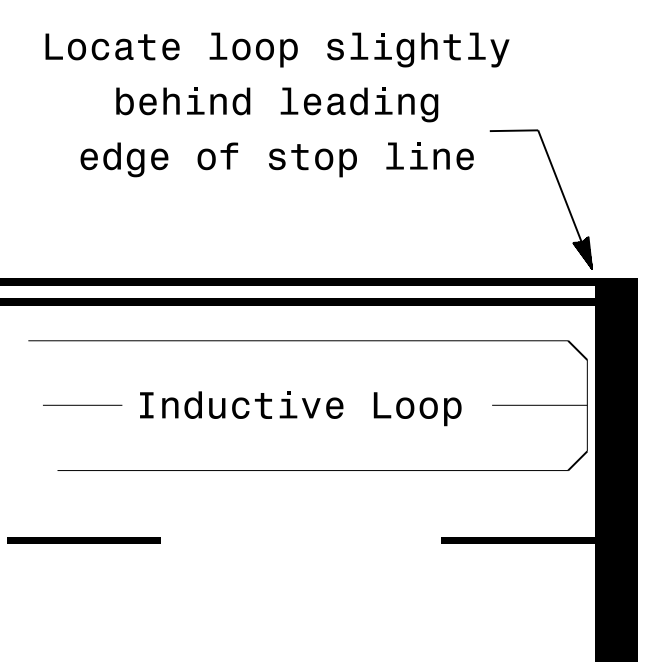
Channelized Turn

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
NORTH CAROLINA
PROFESSIONAL ENGINEER
PAMELA L. ALEXANDER
23489

1/30/2015

3D:\146-2015-12-29-SIGNAL\Signal Design\Section\Eastern\Region\loop\yp\ca\2015.dgn
 P:\alexander

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARRANTY ASPHALT REQUIRED	LENGTH	WIDTH	122000000-E	124000000-E	125000000-E	127000000-E	130000000-E	133000000-E	135000000-E	137000000-E	139000000-E	141000000-E	143000000-E	145000000-E	147000000-E	149000000-E	151000000-E	153000000-E	155000000-E	157000000-E	159000000-E	161000000-E	163000000-E	165000000-E	167000000-E	169000000-E	171000000-E	
												INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	2" MILLING	1 1/2" MILLING	1" TO 2 1/2" MLL	1" TO 1 1/2" MILLING	INCIDENTAL MILLING	INTERMEDIATE COURSE, 115 OC	SURFACE COURSE, 99.5C	LEVELING COURSE, 99.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ASPHALT SURFACE TREATMENT, MATS/DOT, 407 STONE	EROSION FOR ASPHALT SURFACE TREATMENT	GENERIC DRAINAGE ITEM (L) REMOVE AND REPLACE CONCRETE CURB AND GUTTER	DRIVEWAYS	PORTABLE LIGHTING	TEMPORARY SILT FENCE	STONE FOR EROSION CONTROL, CLASS B	SEGMENT CONTROL STONE	FLOCCULANT	WATTLE	INDUCTIVE LOOP		
MI	FT	TONS	SMB	TON	SY	SY	SY	SY	SY	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	SY	GAL	LF	SY	LS	LF	TON	TON	LB	LF	LF						
2024.09.10001	Union	1	NC 200 / DICKERSON BLVD ROUTE ID: 3000020000	FROM SR-1009 OLD CHARLOTTE HWY TO E. US 74 FROM MP 17.14 TO MP 17.81		1,2,3	5	ND	ND	0.67	64				25,370						3,246	201	200					50			0.25	101	13	7	0.30	101	1,390
TOTAL FOR MAP NO. 1										0.67					25,370						3,246	201	200					50			0.25	101	13	7	0.30	101	1,390
2024.09.10001	Union	2	NC 200 / MLK ROUTE ID: 3000030000	FROM SR-1009 OLD CHARLOTTE HWY TO PUMPT JT SOUTH OF MELTON RD SR 1456 FROM MP 13.12 TO MP 16.81			2	ZWU	ND	0.21	47									1,880	435	28	50							0.25	32	4	2	0.10	32	340	
TOTAL FOR MAP NO. 2										0.21										1,880	435	28	50							0.25	32	4	2	0.10	32	340	
TOTAL FOR PROJ NO. 2024.09.10001										0.88					25,370						3,960	870	78	100				50			0.50	133	17	9	0.40	133	1,730
2024.09.20001	Union	3	SR-1009 / OLD CHARLOTTE HWY ROUTE ID: 4000100000	FROM NC 200 / DICKERSON BLVD TO SR-1007 ROCKY RIVER RD FROM MP 1.65 TO MP 4.36			2	ZWU	ND	2.74	26	315	5.48	1,296		400	2,000		5,489	600	383	500	41,794	14,830			486	0.25	411	55	27	1	411	230			
TOTAL FOR MAP NO. 3										2.74		315	5.48	1,296		400	2,000		5,489	600	383	500	41,794	14,830			486	0.25	411	55	27	1	411	230			
2024.09.20001	Union	4	SR-1736 / OLD LAWYERS RD ROUTE ID: 4000173600	FROM SR-1739 MAARSHVILLE OLIVE BRANCH RD TO HAMILTON CROSSROADS RD SR-1741 FROM MP 2.37 TO MP 1.86			2	ZWU	ND	1.01	20	60	2.02	747			750	600		1,172		117	400							151	20	10	0.40	151	151		
TOTAL FOR MAP NO. 4										1.01		60	2.02	747			750	600		1,172		117	400							151	20	10	0.40	151	151		
2024.09.20001	Union	5	SR-3728 / UNION WEST BLVD ROUTE ID: 6000178000	FROM SR-3730 RICHARD BAKER DR TO EGM FROM MP 0.60 TO MP 0.49			2	ZWU	ND	0.49	24					7,213				726		57	300				200			74	10	5	0.20	74	74		
TOTAL FOR MAP NO. 5										0.49					7,213					726		57	300				200			74	10	5	0.20	74	74		
2024.09.20001	Union	6	SR-1315 / NEW TOWN RD ROUTE ID: 4000131500	FROM PUMPT JT AT RAB WEST OF SR-1139 ENNIS RD TO PUMPT JT EAST OF SR-340 SHARPLES LN FROM MP 10.40 TO MP 11.50			2	ZWU	ND	0.7	22	65	0.83	191			1,222			723		58	310	5,329	1,870		54			62	8	4	0.20	62	62		
TOTAL FOR MAP NO. 6										0.7		65	0.83	191			1,222			723		58	310	5,329	1,870		54			62	8	4	0.20	62	62		
2024.09.20001	Union	7	SR-1501 / IDEWILD RD ROUTE ID: 4000150100	PUMPT JOINT EAST OF SR-1524 STEVENS MILL TO PUMPT JT BEFORE HECKLEBURG COUNTY LINE FROM MP 9.75 TO MP 10.36			2	ZWU	ND	0.61	26	40	1.22	170			160	915		1,255	305	107	305							0.25	91	12	6	0.20	91	700	
TOTAL FOR MAP NO. 7										0.61		40	1.22	170			160	915		1,255	305	107	305							0.25	91	12	6	0.20	91	700	
TOTAL FOR PROJ NO. 2024.09.20001										5.35	460	9.95	2,214			7,213	400	160	6,807	600	3,960	872	1,415	47,123	16,500	200	540			0.50	789	105	22	0.80	789	990	
GRAND TOTAL										6.45	460	9.97	2,474			25,370	7,213	400	160	8,697	600	3,966	905	951	2,805	47,123	16,500	250	540	1	922	122	61	2.46	922	2,560	

