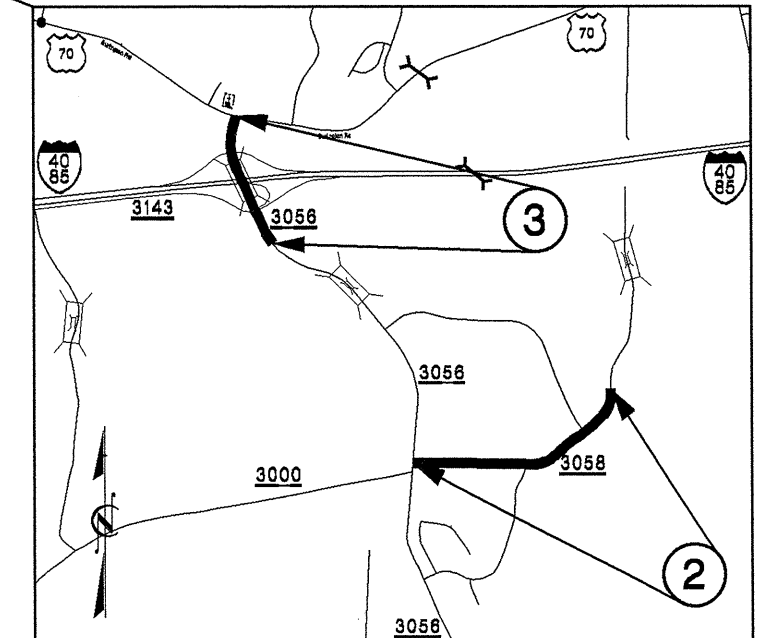
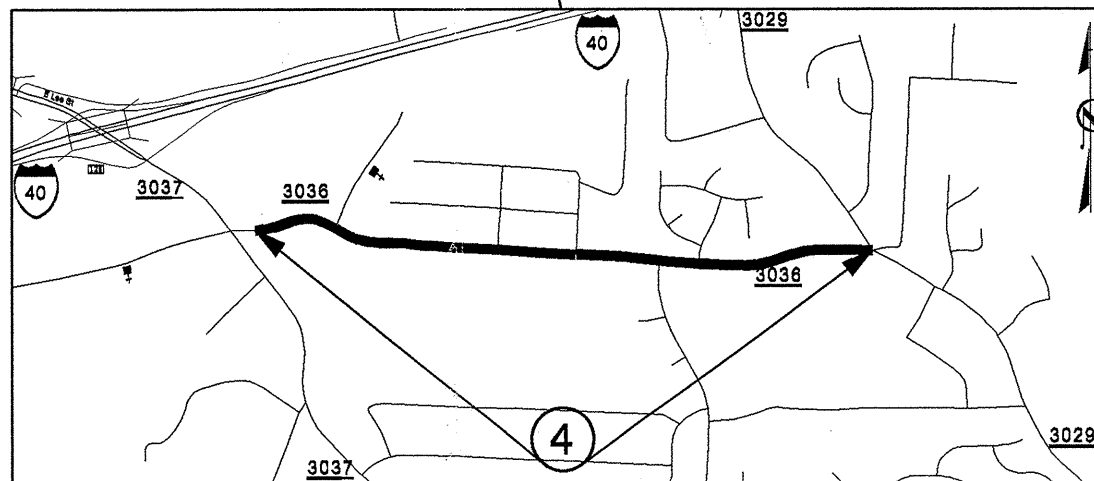
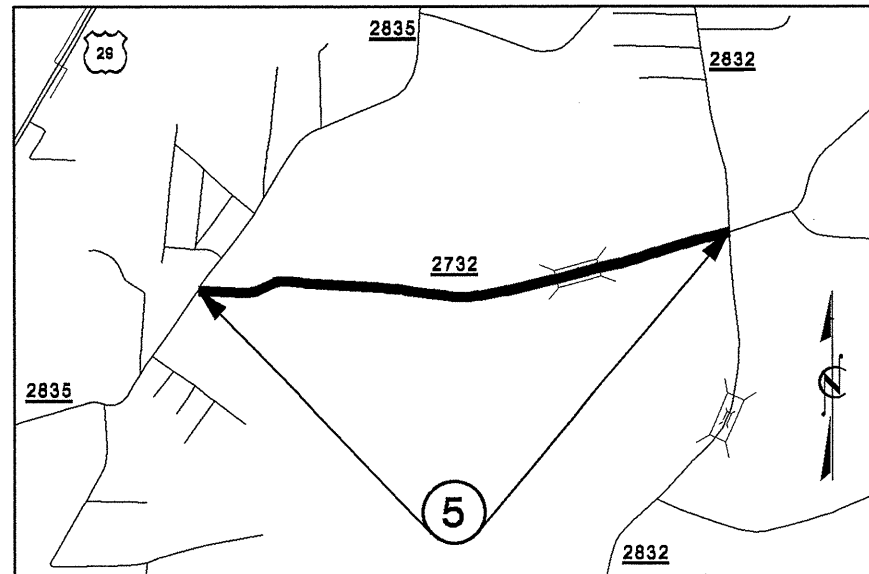
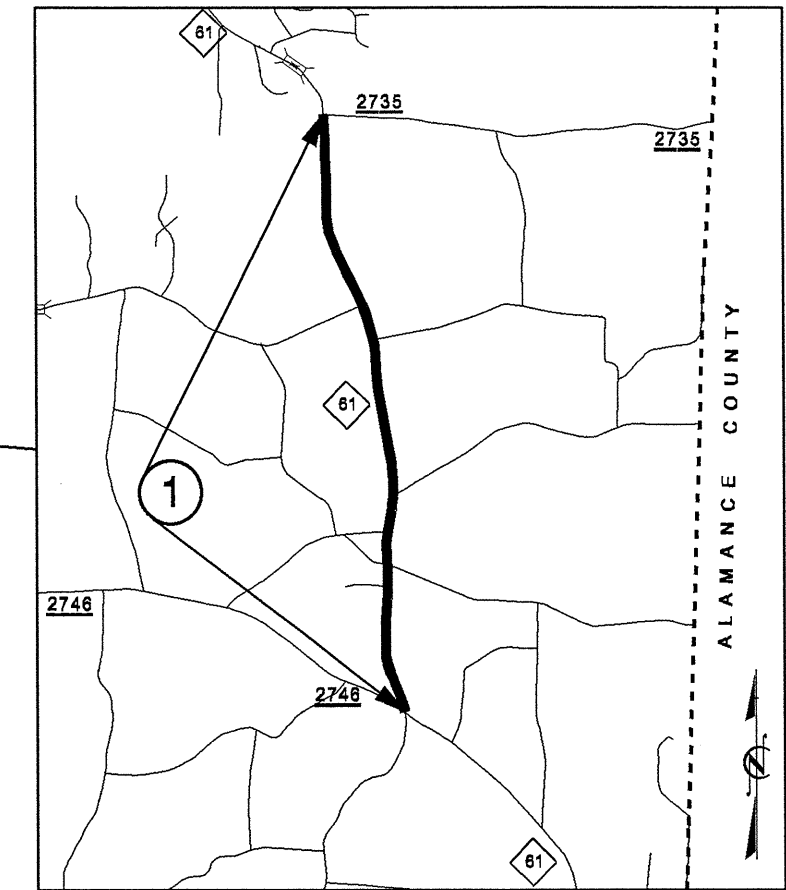
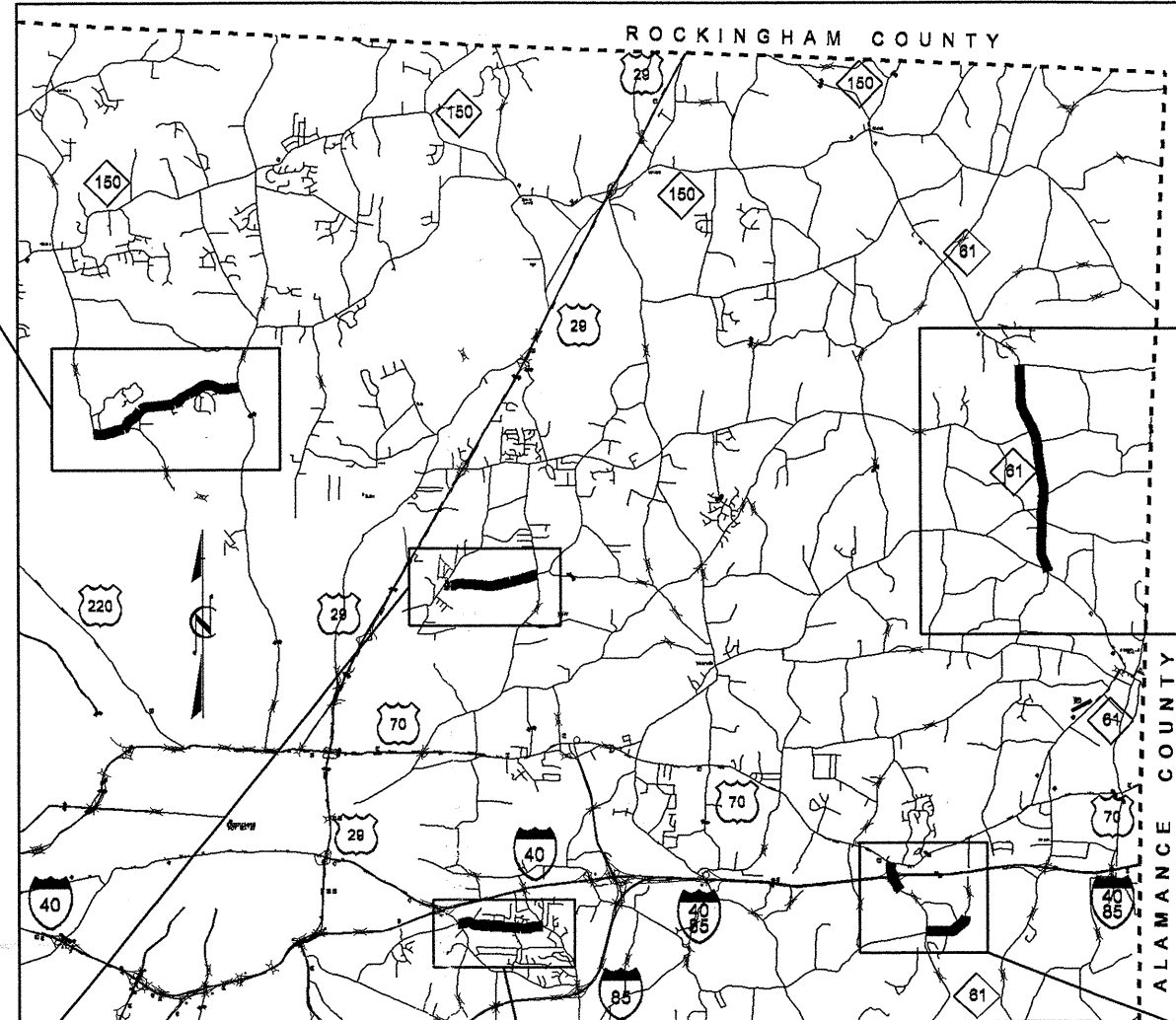
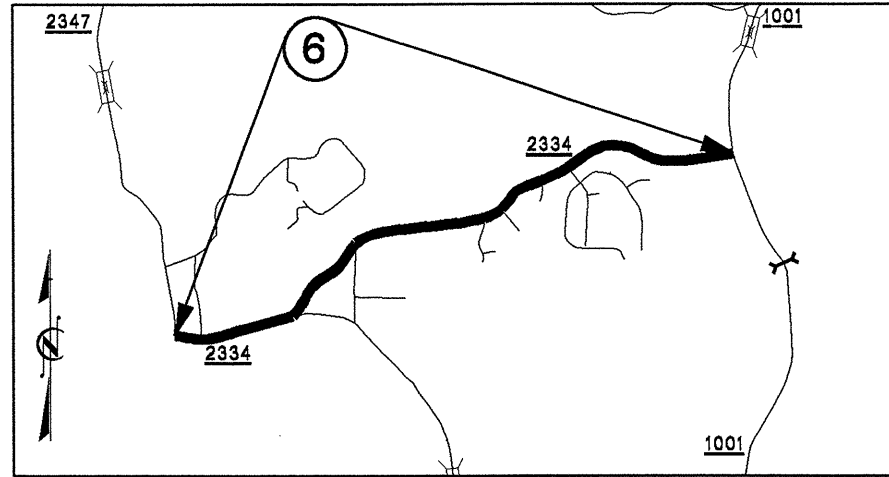
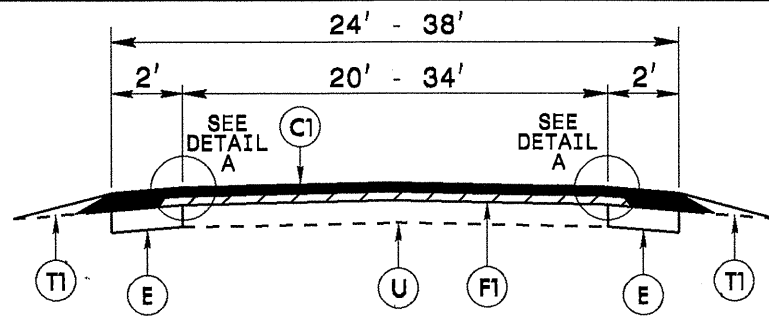


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10411.56, 7CR.20411.56	1	
F.A. PROJ. NO.			

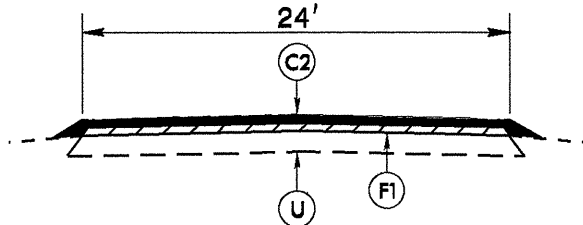
# 2013 GUILFORD COUNTY



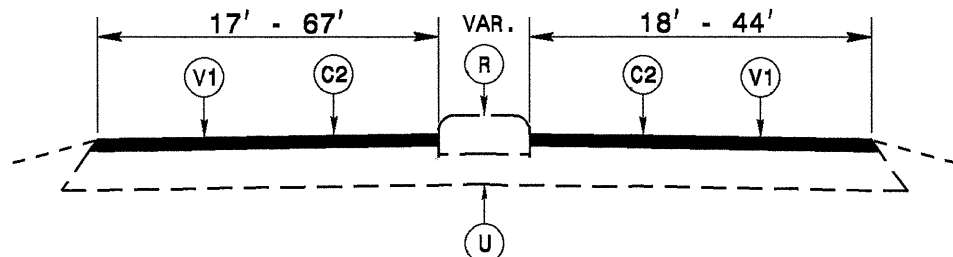
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 \$\$\$DDON\$\$\$\$  
 \$\$\$USERNAME\$\$\$\$



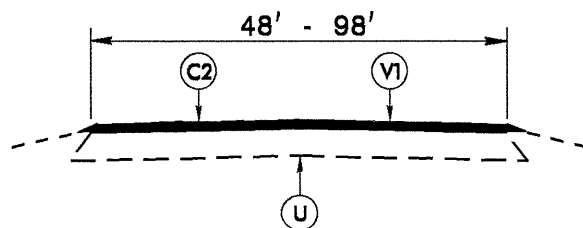
**TYPICAL SECTION NO. 1**  
TO BE USED ON MAP 1



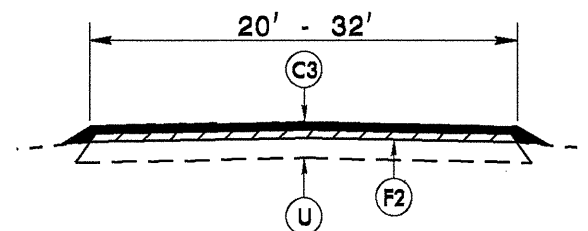
**TYPICAL SECTION NO. 2**  
TO BE USED ON MAP 2



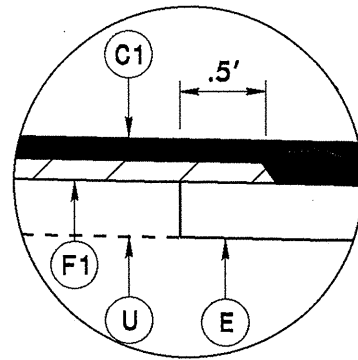
**TYPICAL SECTION NO. 3**  
TO BE USED ON MAP 3  
STA. 0+00 TO STA. 4+50  
STA. 15+90 TO STA. 19+20



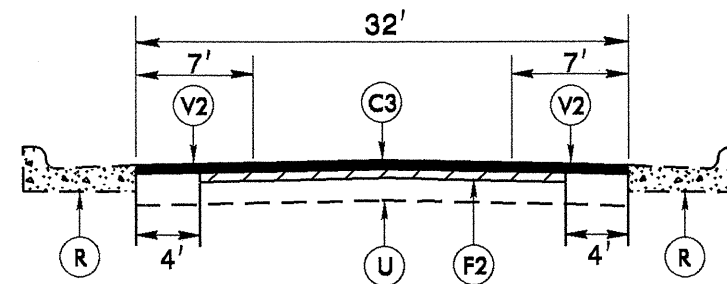
**TYPICAL SECTION NO. 4**  
TO BE USED ON MAP 3  
STA. 4+50 TO STA. 15+90  
STA. 19+20 TO STA. 20+70



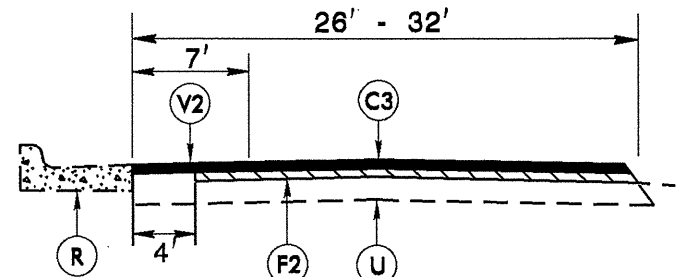
**TYPICAL SECTION NO. 5**  
TO BE USED ON MAP 4  
STA. 2+80 TO STA. 44+95  
STA. 58+35 TO STA. 69+55



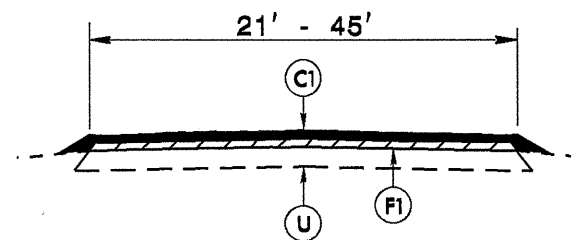
**DETAIL A**



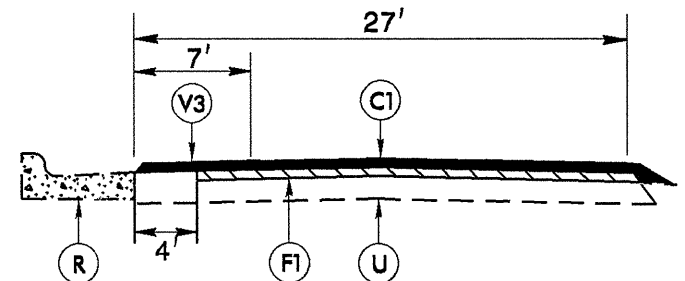
**TYPICAL SECTION NO. 6**  
TO BE USED ON MAP 4  
STA. 44+95 TO STA. 54+70



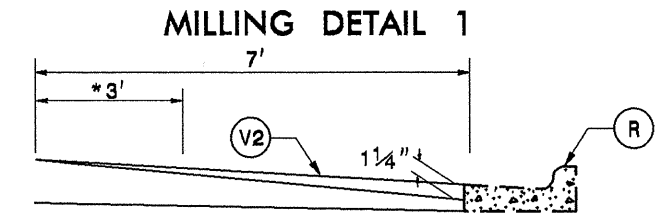
**TYPICAL SECTION NO. 7**  
TO BE USED ON MAP 4  
STA. 54+70 TO STA. 58+35



**TYPICAL SECTION NO. 8**  
TO BE USED ON MAPS 5 AND 6  
MAP 5: NO PAVEMENT ON BRIDGE #163  
STA. 55+25 TO STA. 56+05  
MAP 6: STA. 0+00 TO STA. 114+05



**TYPICAL SECTION NO. 9**  
TO BE USED ON MAP 6  
STA. 114+05 TO STA. 132+45



PROFILE MILLING 0 - 1 1/4"  
\*IF 78M OR #67 SEAL IS INVOLVED, OVERLAP 3'.

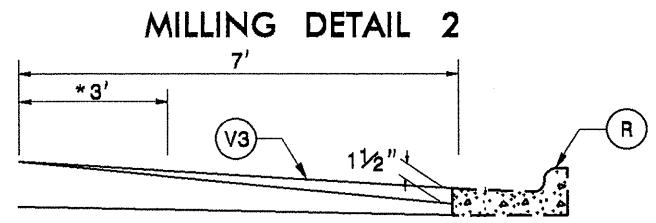
PROFILE MILL EXISTING ASPHALT PAVEMENT  
1 1/4" AT LOCATIONS AS DIRECTED BY THE  
ENGINEER.

NOTE: TO BE USED IN CONJUNCTION WITH:  
TS. NO. 6 ON MAP 4 STA. 44+95 TO STA. 54+70 LT & RT  
TS. NO. 7 ON MAP 4 STA. 54+70 TO STA. 58+35 LT

**PAVEMENT SCHEDULE**

C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 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.	
C3	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	
F1	AST MAT COAT, #67 STONE	
F2	AST MAT COAT, #78m STONE	
R	EXISTING CONCRETE STRUCTURE	
T1	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.	
U	EXISTING PAVEMENT.	
V1	1 1/2" MILLING	V2 0 TO 1 1/4" MILLING
V3	0 TO 1 1/2" MILLING	

\$\$\$\$\$SYTIME\$\$\$\$\$  
\$\$\$\$\$DGN\$\$\$\$\$  
\$\$\$\$\$USERNAME\$\$\$\$\$



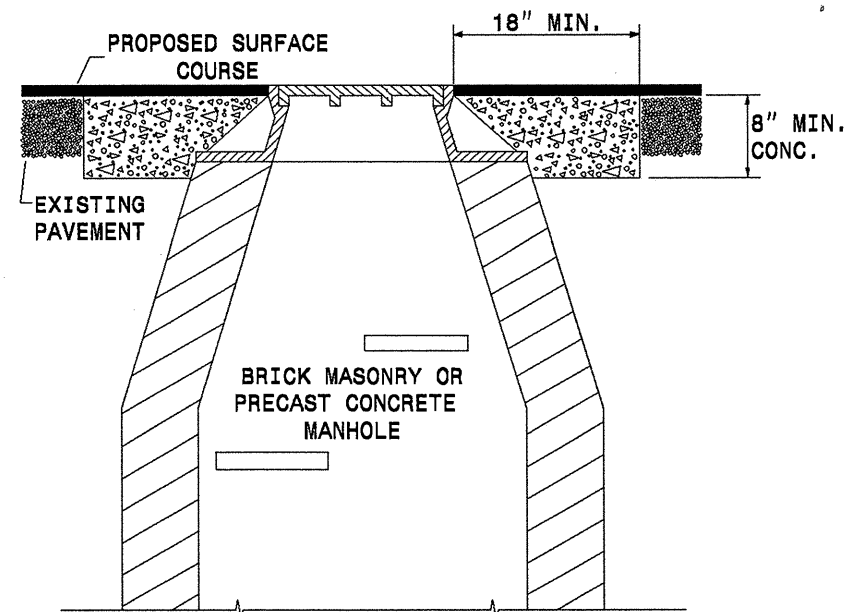
**MILLING DETAIL 2**

PROFILE MILLING 0 - 1 1/2"

\*IF 78M OR #67 SEAL IS INVOLVED, OVERLAP 3'.

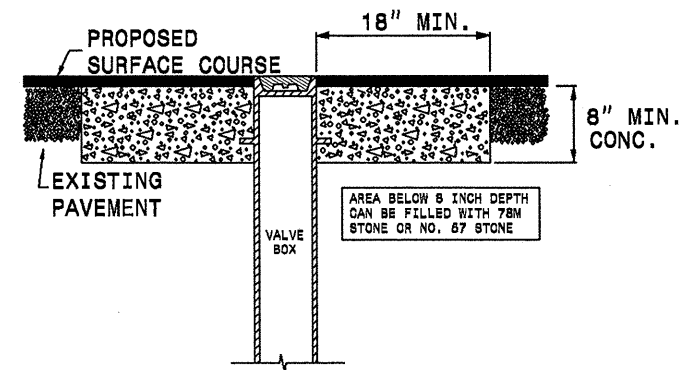
PROFILE MILL EXISTING ASPHALT PAVEMENT 1 1/2" AT LOCATIONS AS DIRECTED BY THE ENGINEER.

NOTE: TO BE USED IN CONJUNCTION WITH:  
TS. NO. 9 ON MAP 6 STA. 114+05 TO STA. 132+45 LT



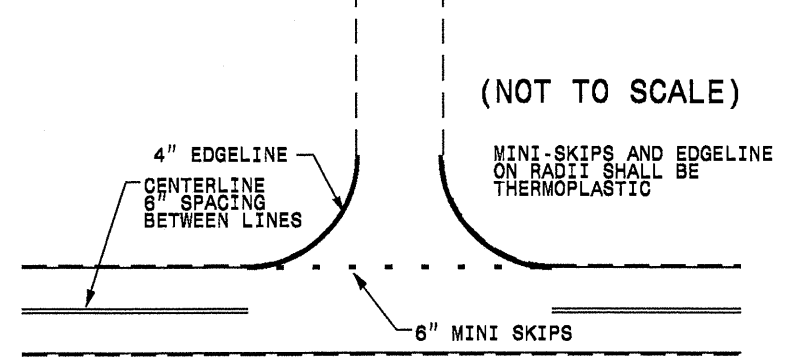
- NOTES:
1. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
  2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
  3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
  4. USE RAPID SET GROUT, MORTAR OR CONCRETE AS NOTED IN PROJECT SPECIAL PROVISIONS. CLASS B CONCRETE MAY BE USED WHEN THE ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

**STANDARD CONCRETE ENCASEMENT FOR VALVE CASTINGS IN PAVEMENT**



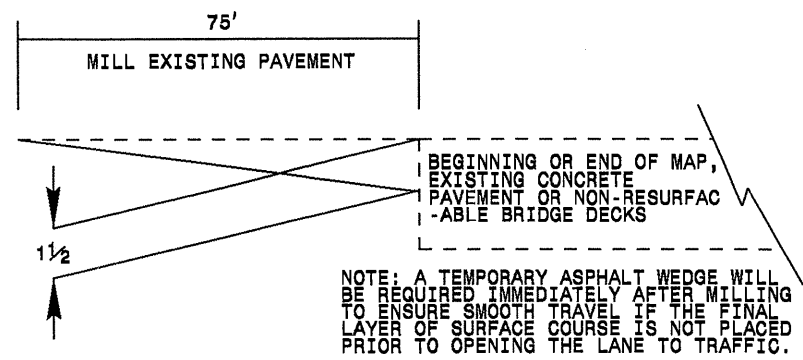
USE RAPID SET GROUT, MORTAR, OR CONCRETE CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS ARE NOT IN THE TRAVEL LANE.

**TO BE USED AT ALL NON-SIGNALIZED INTERSECTIONS**

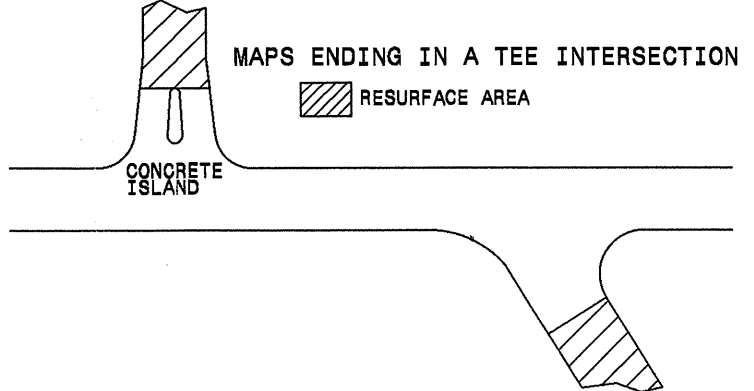


NOTE: MINI SKIPS SHALL BE PLACED ON A 6' CYCLE, CONTAINING AN 6' AND 2' SKIP, THE WIDTH OF THE SKIP SHALL BE 6".

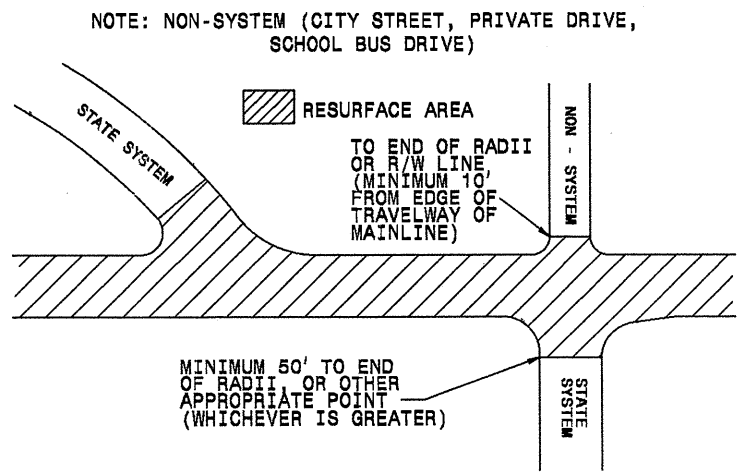
**INCIDENTAL MILLING DETAIL**



**PAVING DETAIL 1 MAIN LINE IS NOT BEING RESURFACED**



**PAVING DETAIL 2 MAIN LINE IS BEING RESURFACED**



**PAVEMENT SCHEDULE**

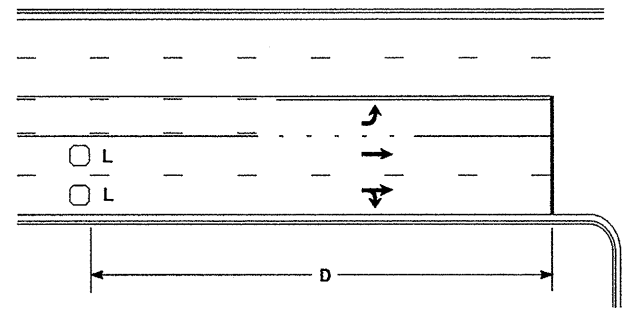
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.		
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.		
E	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
F1	AST MAT COAT, #67 STONE		
F2	AST MAT COAT, #78M STONE		
R	EXISTING CONCRETE STRUCTURE		
T1	SHOULDER RECONSTRUCTION, AS DIRECTED BY THE ENGINEER.		
U	EXISTING PAVEMENT.		
V1	1 1/2" MILLING	V2	0 TO 1 1/4" MILLING
V3	0 TO 1 1/2" MILLING		

SYSTEMS  
 DGN  
 US  
 11/11/11





### High Speed Detection [≥40 mph (64 km/hr)]

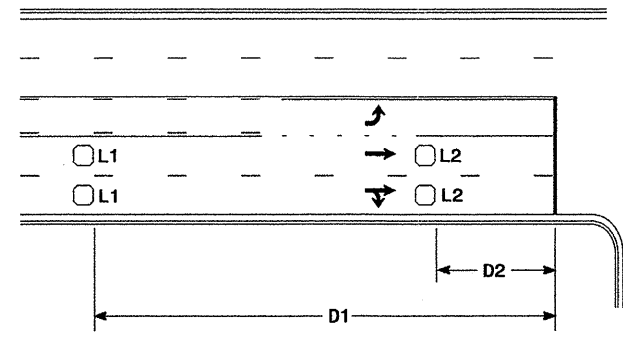


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers

Volume Density Operation

OR

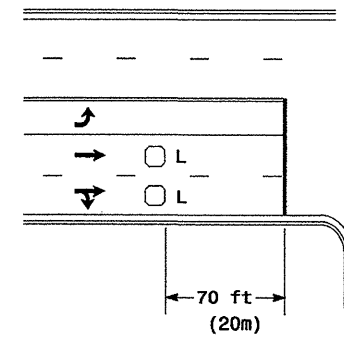


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series  
L2 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series

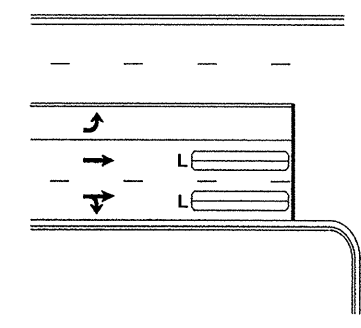
"Stretch" Operation

### Low Speed Detection [≤35 mph (56 km/hr)]



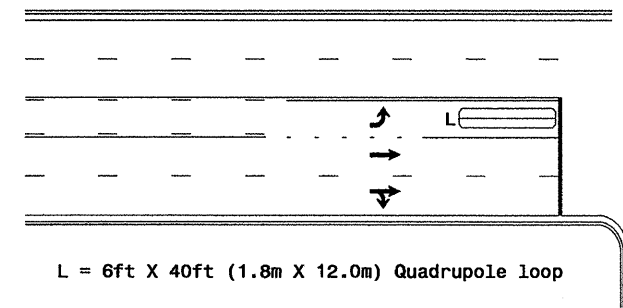
L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)  
Quadrupole loop, wired separately

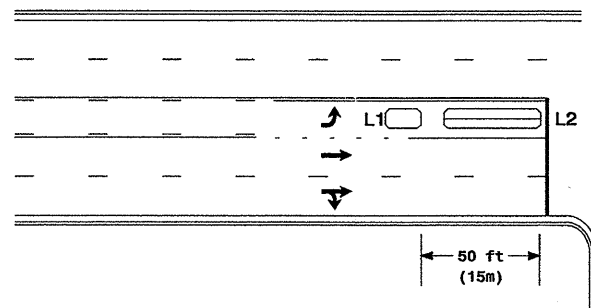
### Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

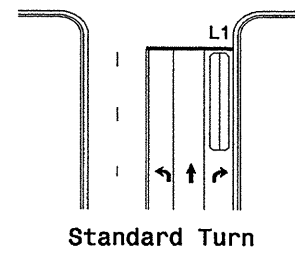
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector  
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

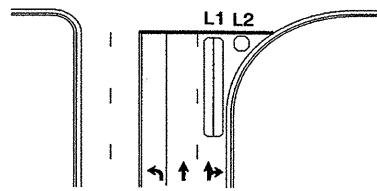
Queue Loop Detection

### Right Turn Lane Detection

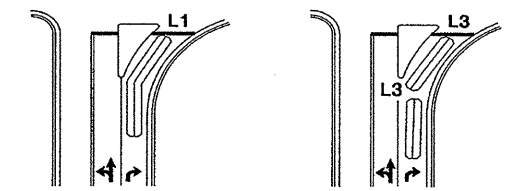


Standard Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop  
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop  
Wired separately  
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop  
Wired in series

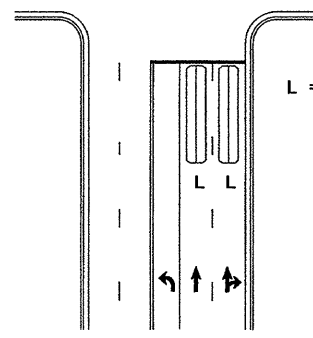


Wide Radius Turn



Channelized Turn

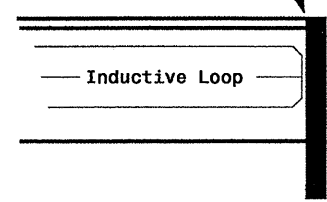
### Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)  
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 when stop line is  
greater than 15' (4.5m) from edge  
of intersecting roadway; or, when  
loop detects a permissive or  
protected/permissive left turn.

### Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)  
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns  
6' X 15' (1.8m X 4.6m) Loops:  
Lead-in < 150' (45 m), use 2 turns  
Lead-in > 150' (45 m), use 3 turns

	<b>Typical Loop Locations</b>		
	PLAN DATE: June 2006 PREPARED BY: P. L. Alexander	REVIEWED BY: REVIEWED BY:	
SCALE N/A	SIGNATURE DATE		SIG. INVENTORY NO.