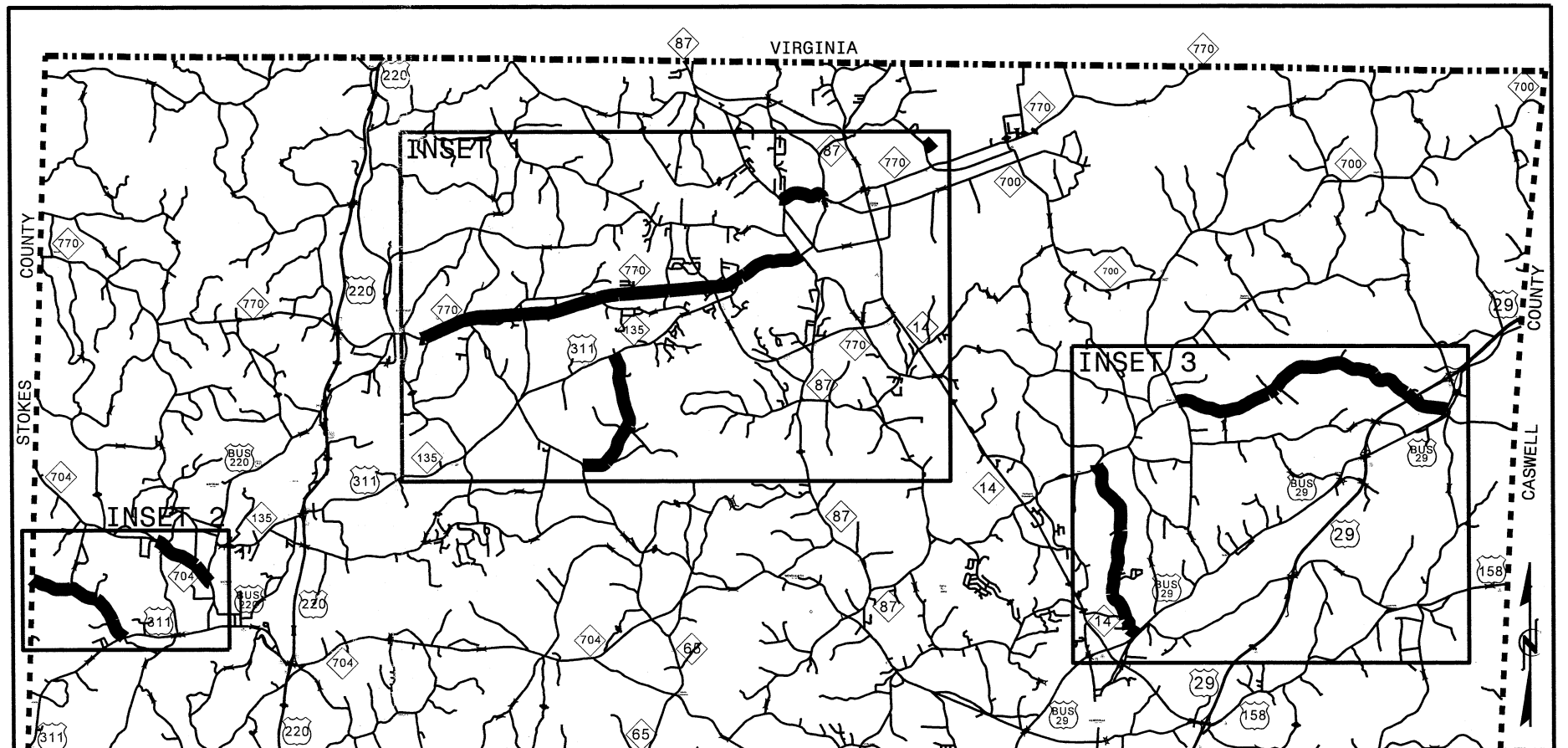
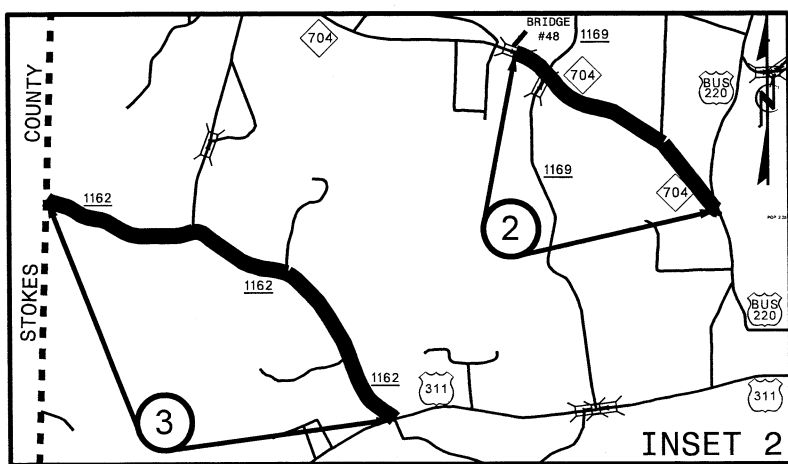
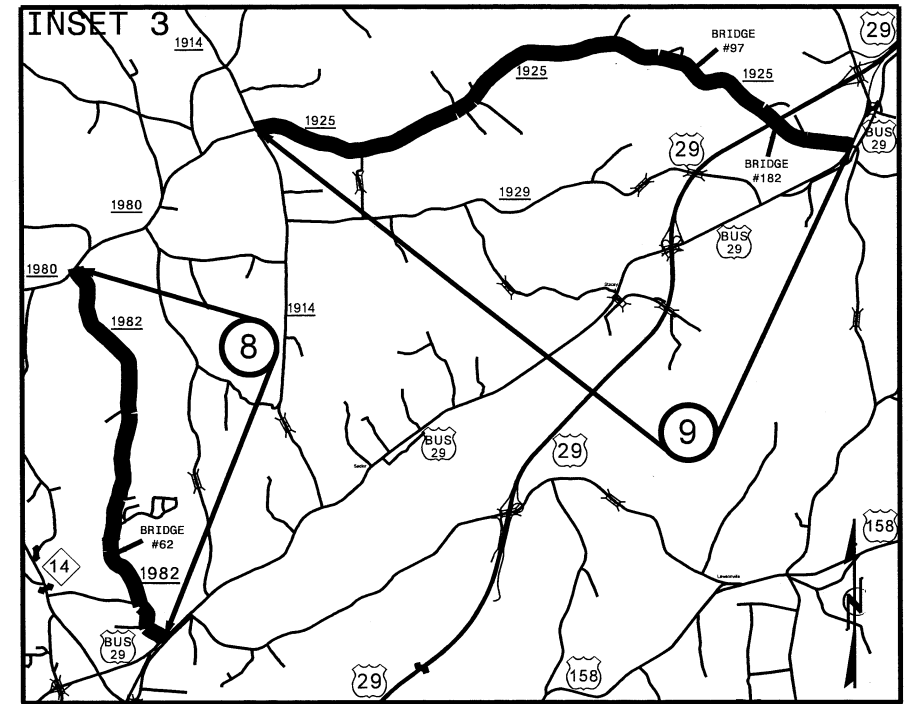
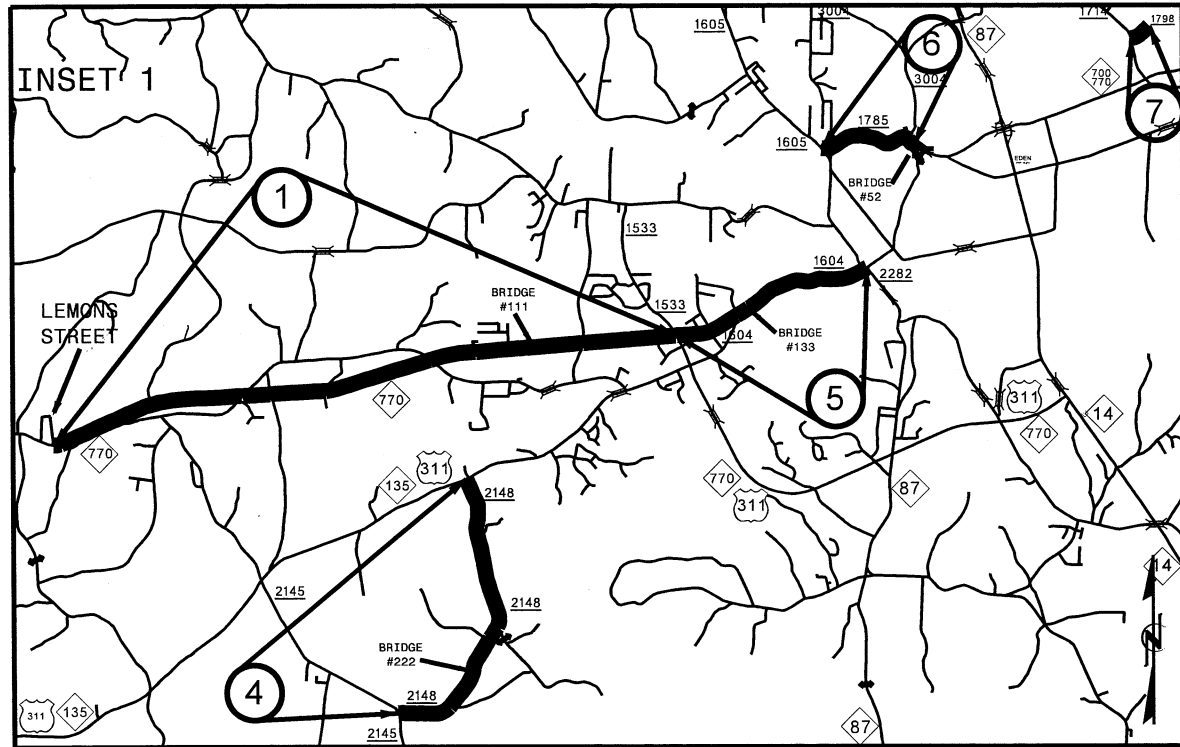


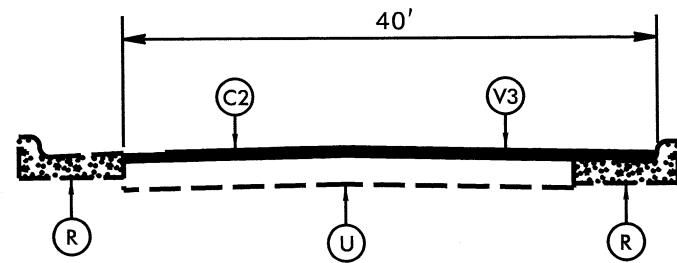
| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
|----------------|----------------------------|-----------|--------------|
| N.C. | 7CR.10791.55, 7CR.20791.55 | 1 | |
| F.A. PROJ. NO. | | | |

2015 ROCKINGHAM COUNTY



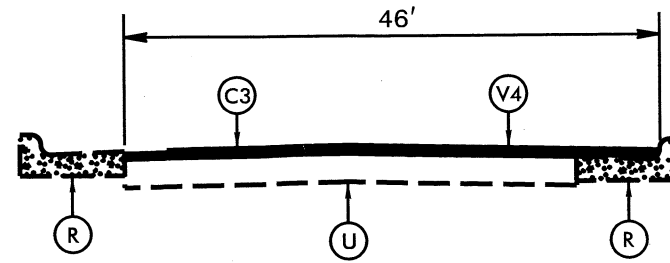
\$\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DCN\$\$\$\$\$
 \$\$\$USERNAME\$\$\$\$\$

| | | | |
|-------|----------------------------|-----------|--------------|
| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 7CR.10791.55, 7CR.20791.55 | 3 | 9 |



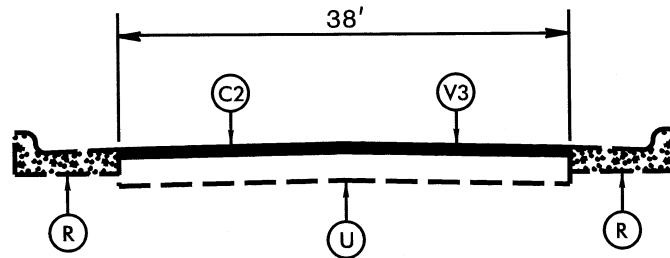
TYPICAL SECTION NO. 8

TO BE USED ON MAP 5
STA. 38+30 TO STA. 56+65



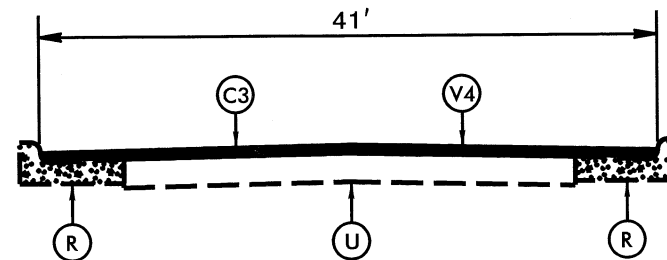
TYPICAL SECTION NO. 11

TO BE USED ON MAP 6
STA. 3+70 TO STA. 8+10



TYPICAL SECTION NO. 9

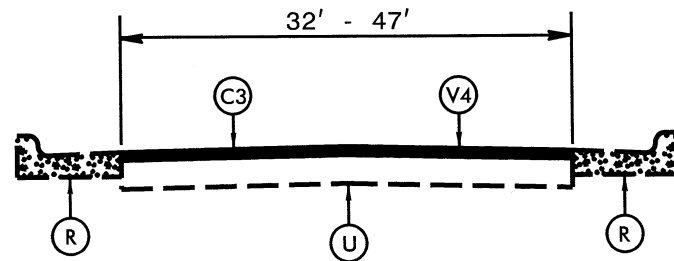
TO BE USED ON MAP 5
STA. 56+65 TO STA. 71+95



TYPICAL SECTION NO. 12

TO BE USED ON MAP 6
STA. 44+90 TO STA. 48+05

*NOTE: NO PAVEMENT ON BRIDGE #52
STA. 47+60 TO STA. 48+05



TYPICAL SECTION NO. 10

TO BE USED ON MAP 6
STA. 0+00 TO STA. 3+70
STA. 8+10 TO STA. 44+90

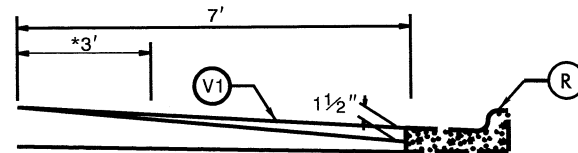
PAVEMENT SCHEDULE

| | | | |
|----|--|----|-------------|
| C1 | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | | |
| C2 | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. | | |
| C3 | PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. | | |
| F1 | AST MAT COAT #67 STONE | | |
| F2 | AST MAT COAT, #78M SEAL | | |
| R | CONCRETE CURB AND GUTTER | | |
| U | EXISTING PAVEMENT. | | |
| V1 | 0 - 1½" MILLING | V2 | 1½" MILLING |
| V3 | 1½" - 3" MILLING | V4 | 1¼" MILLING |

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

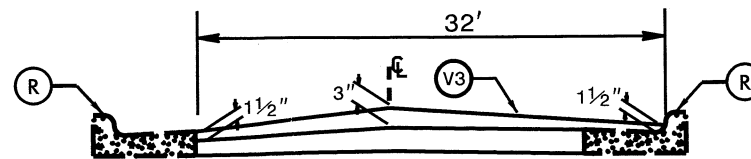
| | | | |
|-------|----------------------------|-----------|--------------|
| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 7CR.10791.55, 7CR.20791.55 | 4 | |

MILLING DETAIL 1



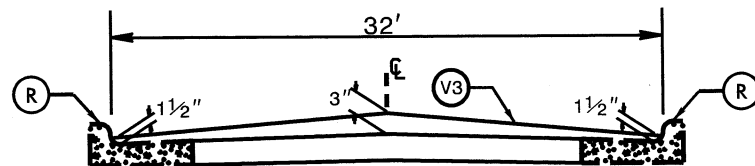
*IF #67 STONE OR 78M SEAL IS INVOLVED OVERLAP 3'.
 PROFILE MILLING 0 - 1 1/2"
 PROFILE MILL EXISTING ASPHALT PAVEMENT
 1 1/2" AT LOCATIONS AS DIRECTED BY THE
 ENGINEER.
 NOTE: TO BE USED IN CONJUNCTION WITH:
 TS. NO. 2 ON MAP 2 STA. 27+95 TO STA. 33+25 RT

MILLING DETAIL 3



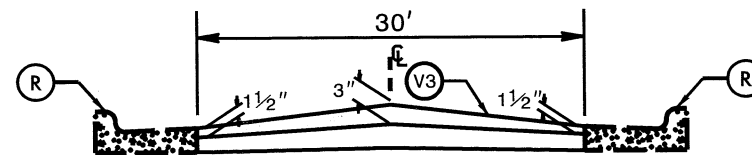
MILLING 1 1/2" - 3"
 MILL EXISTING ASPHALT PAVEMENT 1 1/2" - 3"
 AT LOCATIONS AS DIRECTED BY THE ENGINEER.
 NOTE: TO BE USED IN CONJUNCTION WITH:
 TS. NO. 8 ON MAP 5 STA. 38+30 TO STA. 56+65

MILLING DETAIL 2



MILLING 1 1/2" - 3"
 MILL EXISTING ASPHALT PAVEMENT 1 1/2" - 3"
 AT LOCATIONS AS DIRECTED BY THE ENGINEER.
 NOTE: TO BE USED IN CONJUNCTION WITH:
 TS. NO. 7 ON MAP 5 STA. 37+30 TO STA. 38+30
 TS. NO. 7 ON MAP 5 STA. 71+95 TO STA. 98+75

MILLING DETAIL 4



MILLING 1 1/2" - 3"
 MILL EXISTING ASPHALT PAVEMENT 1 1/2" - 3"
 AT LOCATIONS AS DIRECTED BY THE ENGINEER.
 NOTE: TO BE USED IN CONJUNCTION WITH:
 TS. NO. 9 ON MAP 5 STA. 56+65 TO STA. 71+95

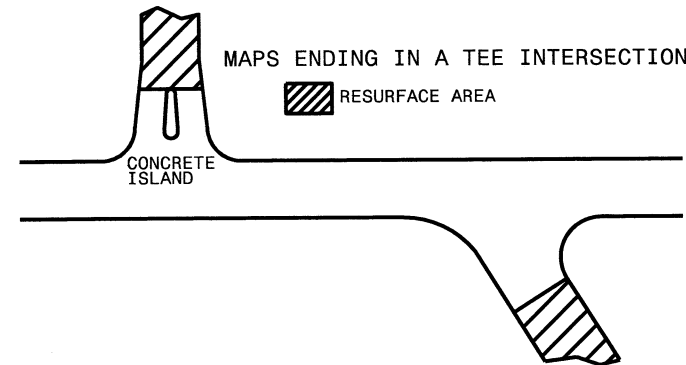
PAVEMENT SCHEDULE

| | | | |
|----|---|----|----------------|
| C1 | PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | | |
| C2 | PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 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. | | |
| F1 | AST MAT COAT #67 STONE | | |
| F2 | AST MAT COAT, #78M SEAL | | |
| R | CONCRETE CURB AND GUTTER | | |
| U | EXISTING PAVEMENT. | | |
| V1 | 0 - 1 1/2" MILLING | V2 | 1 1/2" MILLING |
| V3 | 1 1/2" - 3" MILLING | V4 | 1 1/4" MILLING |

\$\$\$\$\$SYTIME\$\$\$\$\$
 DGN\$\$\$\$\$
 USER\$\$\$\$\$

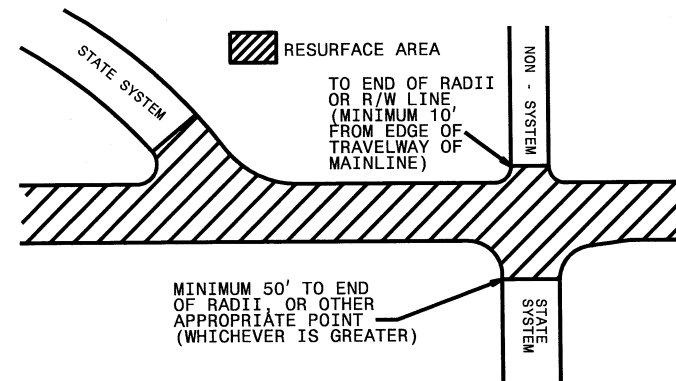
| | | | |
|-------|----------------------------|-----------|--------------|
| STATE | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 7CR.10791.55, 7CR.20791.55 | 5 | |

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

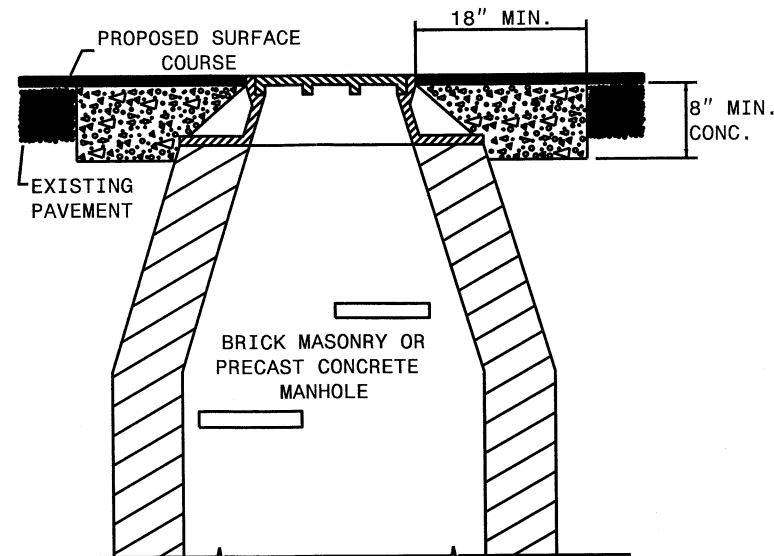
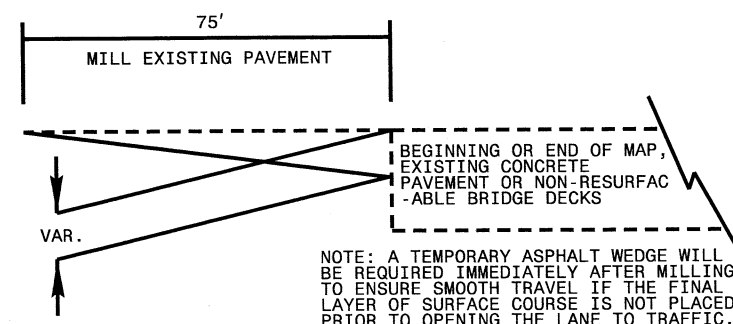


**PAVING DETAIL 2
MAIN LINE IS BEING RESURFACED**

NOTE: NON-SYSTEM (CITY STREET, PRIVATE DRIVE, SCHOOL BUS DRIVE)

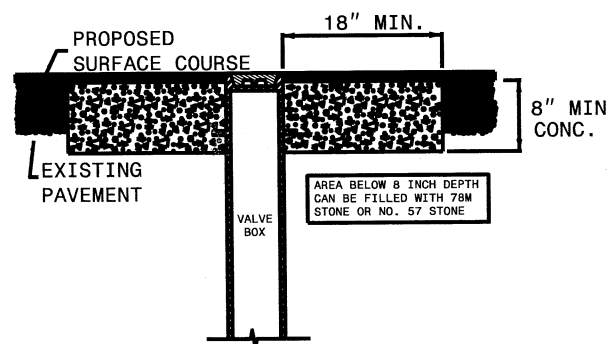


INCIDENTAL MILLING DETAIL



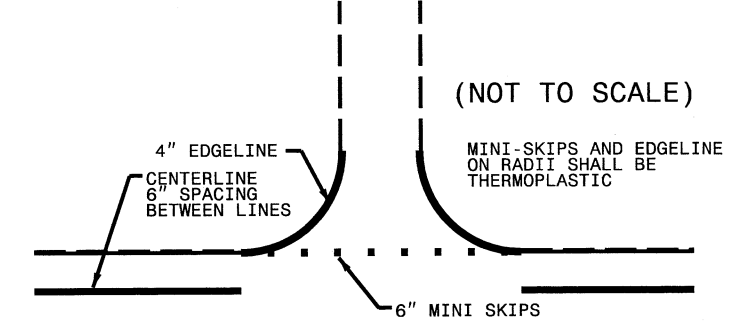
- NOTES:
1. MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
 2. ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
 3. EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
 4. USE RAPID SET GROUT, MORTAR OR CONCRETE AS NOTED IN PROJECT SPECIAL PROVISIONS. CLASS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

STANDARD CONCRETE ENCASUREMENT 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**



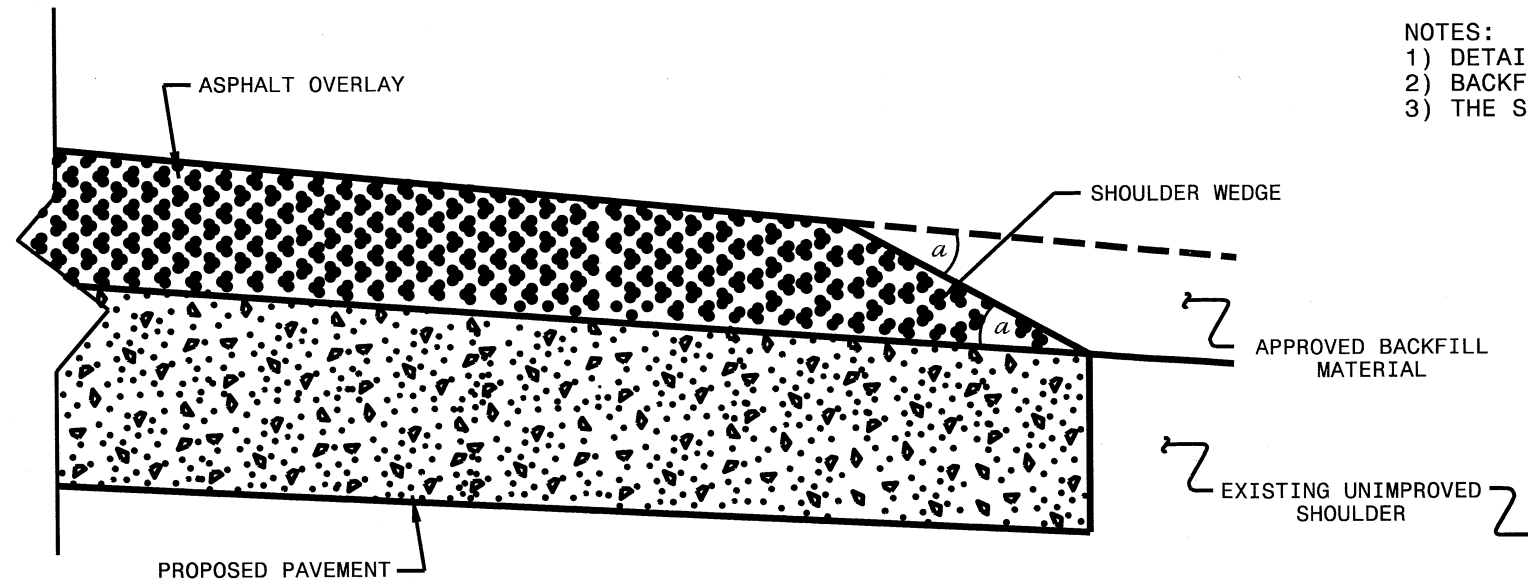
NOTE: MINI SKIPS SHALL BE PLACED ON A 10' CYCLE, CONTAINING A 6" AND 2" SKIP, THE WIDTH OF THE SKIP SHALL BE 6".

PAVEMENT SCHEDULE

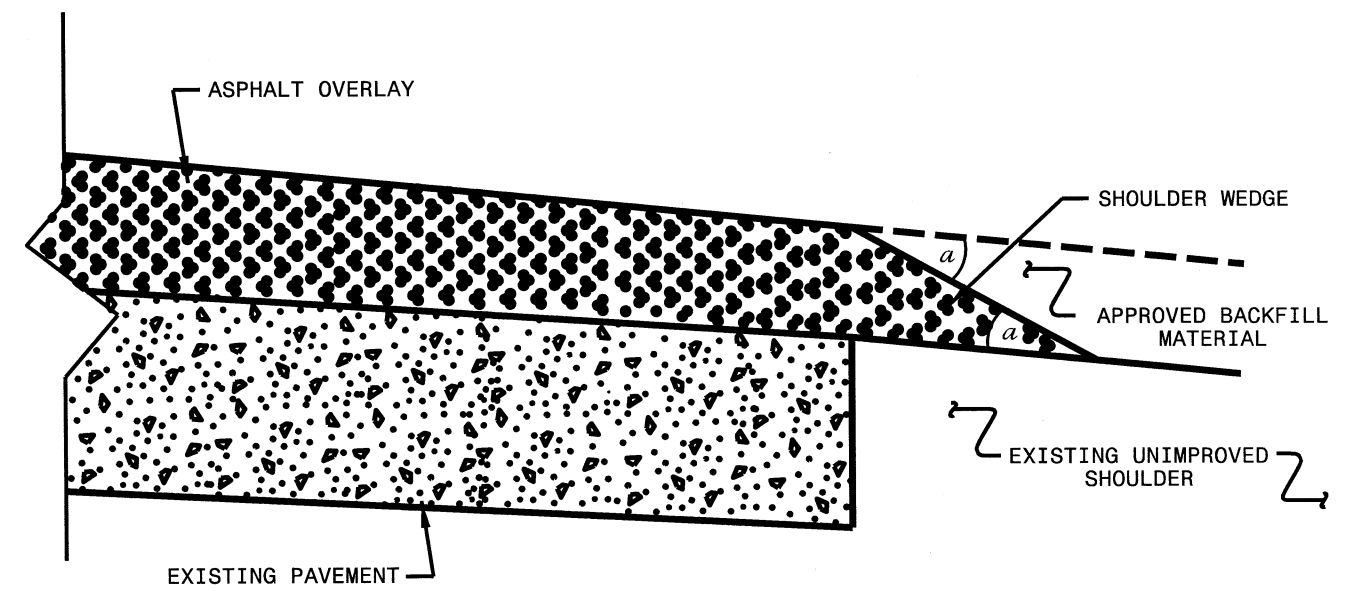
| | | |
|----|--|----------------|
| C1 | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | |
| C2 | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. | |
| C3 | PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. | |
| F1 | AST MAT COAT #67 STONE | |
| F2 | AST MAT COAT, #78M SEAL | |
| R | CONCRETE CURB AND GUTTER | |
| U | EXISTING PAVEMENT. | |
| V1 | 0 - 1½" MILLING | V2 1½" MILLING |
| V3 | 1½" - 3" MILLING | V4 1¼" MILLING |

\$\$\$\$\$SYTIME\$\$\$\$\$DCN\$\$\$\$\$SRNAME\$\$\$\$\$LISL\$\$\$\$\$

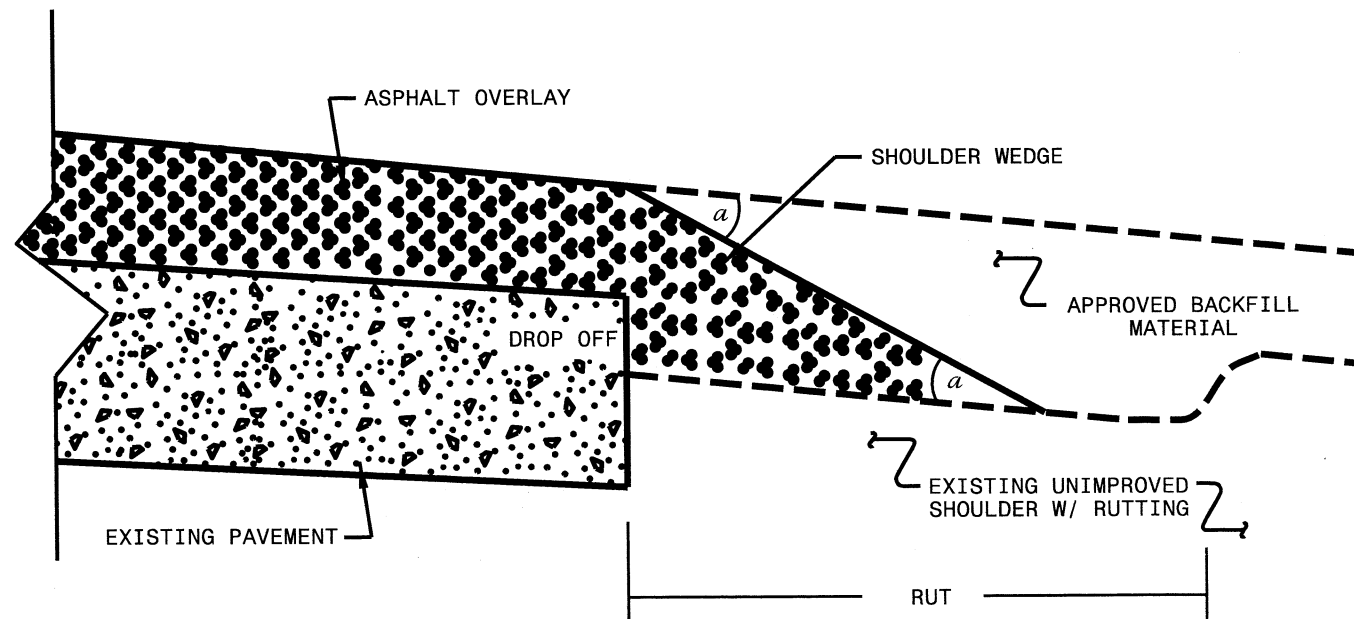
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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)

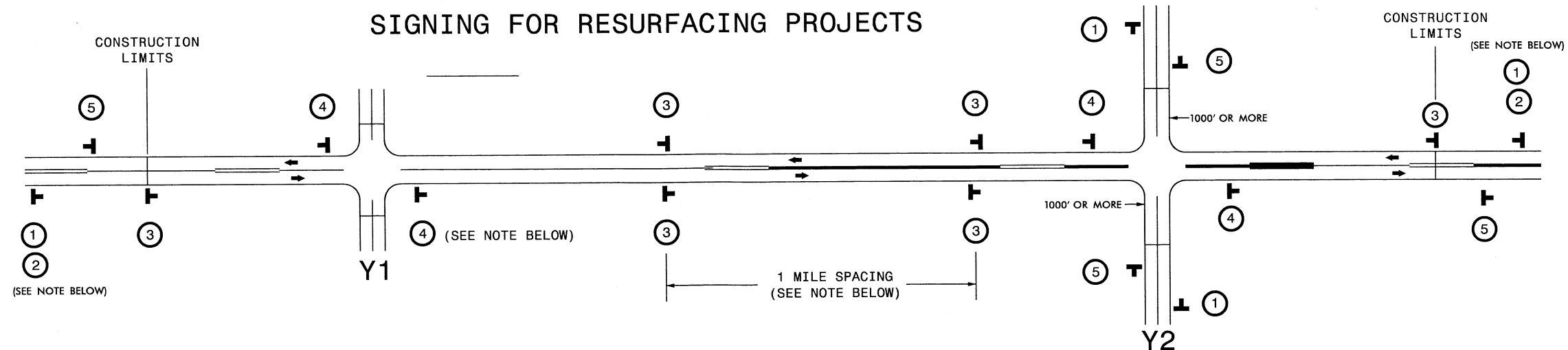
- SHOULDER WEDGE ANGLE = 30°

| | |
|---|------------------|
| 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: s:\usr\details\stand\shoulderwedgedetail.dgn | |

 SYSTEMS

THERMOPLASTIC AND PAINT QUANTITIES

| PROJECT NO | COUNTY | MAP NO | ROUTE | DESCRIPTION | TYP | LANES | LANE TYPE | LENGTH | WIDTH | 4413000000-E | 4457000000-N | 4685000000-E | 4686000000-E | 4690000000-E | 4695000000-E | 4697000000-E | 4710000000-E | 4721000000-E | 4725000000-E | | | | | 4810000000-E | 4815000000-E | 4820000000-E | | 4835000000-E | | 4840000000-N | | 4845000000-N | | | | 4905000000-N | | | | | | | | | | |
|---------------------------------|-----------------------------|---|--------------------------------|--|-------|-------|-----------|--------|--------|---|---------------------------|------------------------|-------------------------|--------------------------|-------------------------|------------------------|-------------------------|-------------------------|--------------------------|-----------------------|-------------------------|----------------------|-----------------------|----------------------|----------------------------|----------------------------|------------------------------|----------------|-----------------|----------------|----------------|-----------------|-----------------|------------------|----------------|----------------|-----------------|----------------|----------------------|----------------------|------------------------|-----------------------------|-----|---|---|-----|
| | | | | | | | | | | WORK ZONE ADVANCE/GENERAL WARNING SIGNING | TEMPORARY TRAFFIC CONTROL | 4" X 90 M WHITE THERMO | 4" X 120 M WHITE THERMO | 4" X 120 M YELLOW THERMO | 6" X 120 M WHITE THERMO | 8" X 90 M WHITE THERMO | 8" X 90 M YELLOW THERMO | 8" X 120 M WHITE THERMO | 24" X 120 M WHITE THERMO | THERMO MSG ONLY 120 M | THERMO MSG SCHOOL 120 M | THERMO LT ARROW 90 M | THERMO STR ARROW 90 M | THERMO RT ARROW 90 M | THERMO STR & RT ARROW 90 M | THERMO STR & LT ARROW 90 M | THERMO MERGE LEFT ARROW 90 M | 4" WHITE PAINT | 4" YELLOW PAINT | 6" WHITE PAINT | 8" WHITE PAINT | 8" YELLOW PAINT | 24" WHITE PAINT | PAINT MSG SCHOOL | PAINT MSG ONLY | PAINT LT ARROW | PAINT STR ARROW | PAINT RT ARROW | PAINT STR & RT ARROW | PAINT STR & LT ARROW | PAINT MERGE LEFT ARROW | SNOW/PLAWE PAVEMENT MARKERS | | | | |
| NO | | NO | | | NO | | | | | SF | LS | LF | LF | LF | LF | LF | LF | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | | | | | | | | | | |
| 7CR.10791.55 | Rockingham | 1 | NC 770 | FROM EAST RADIUS OF SR 1533 (SHADY GROVE ROAD) - 13.88 TO EAST RADIUS OF NON-SYSTEM (LEMONS STREET) - 8.12 | 1 | 2 | 2WU | 5.756 | 48 | 646 | 1 | 60,790 | 304 | 31,736 | 240 | | | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | | | |
| | | TOTAL FOR MAP NO. 1 | | | | | | | | | 646 | 1 | 60,790 | 304 | 31,736 | 240 | | | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | | |
| | | 2 | NC 704 | FROM BRIDGE #48 - 2.90 TO US 220 BUSINESS (HIGHWAY STREET) - 4.19 | 1-3 | 2 | 2WU | 1.294 | 32 | 196 | | | 6,120 | 2,810 | 18,025 | | 100 | 886 | 100 | 468 | 8 | 24 | 23 | 2 | 4 | 6 | 4 | 3 | 2,454 | 15,225 | | 200 | 886 | 468 | 24 | 8 | 23 | 2 | 4 | 6 | 4 | 3 | 300 | | | |
| TOTAL FOR MAP NO. 2 | | | | | | | | | 196 | | 6,120 | 2,810 | 18,025 | | 100 | 886 | 100 | 468 | 8 | 24 | 23 | 2 | 4 | 6 | 4 | 3 | 2,454 | 15,225 | | 200 | 886 | 468 | 24 | 8 | 23 | 2 | 4 | 6 | 4 | 3 | 300 | | | | | |
| TOTAL FOR PROJ NO. 7CR.10791.55 | | | | | | | | | 842 | 1 | 66,910 | 3,114 | 49,761 | 240 | 100 | 886 | 100 | 468 | 8 | 24 | 23 | 2 | 4 | 6 | 4 | 3 | 2,454 | 15,225 | | 200 | 886 | 468 | 24 | 8 | 23 | 2 | 4 | 6 | 4 | 3 | 800 | | | | | |
| | | | | | | | | | | 52,875 | | | | | 986 | | | | 32 | | 42 | | | 17,679 | | 1,086 | | 32 | | 42 | | | | | | | | | | | | | | | | |
| 7CR.20791.55 | Rockingham | 3 | SR 1162 (K-FORK ROAD) | FROM US 311 - 0.00 TO STOKES COUNTY LINE - 2.21 | 4 | 2 | 2WU | 2.207 | 20 | 248 | | 225 | | | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | TOTAL FOR MAP NO. 3 | | | | | | | | | 248 | | 225 | | 50 | | | | | | | | | | | | | 46,170 | 45,798 | | | | | | | | | | | | | | | | | |
| | | 4 | SR 2148 (WHETSTONE CREEK ROAD) | FROM NC 135 - 2.65 TO SR 2145 (SETTLE BRIDGE ROAD) - 0.00 | 5 | 2 | 2WU | 2.654 | 20 | 297 | | | 225 | | | 46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | TOTAL FOR MAP NO. 4 | | | | | | | | | 297 | | 225 | | 46 | | | | | | | | | | | | | | | | 55,610 | 50,783 | | | | | | | | | | | | | | |
| | | 5 | SR 1604 (WASHINGTON STREET) | FROM EAST RADIUS OF SR 1533 (SHADY GROVE ROAD) - 0.00 TO JOINT JUST EAST OF SR 2282 (SOUTH HAMILTON STREET) - 1.87 | 4,6-9 | 2 | 2WU | 1.871 | 30 | 210 | | | 6,300 | 905 | 23,725 | | 42 | 190 | 154 | 242 | | | 42 | 6 | 4 | 3 | | | | 821 | 16,675 | | 196 | | 242 | | | 40 | 6 | 4 | 3 | | | | | |
| | | TOTAL FOR MAP NO. 5 | | | | | | | | | 210 | | 6,300 | 905 | 23,725 | | 42 | 190 | 154 | 242 | | | 42 | 6 | 4 | 3 | | | | 821 | 16,675 | | 196 | | 242 | | | 40 | 6 | 4 | 3 | | | | | |
| | | 6 | SR 1785 (CHURCH STREET) | FROM SR 1605 (BRIDGE STREET/OAKLAND STREET) - 0.00 TO JOINT JUST SOUTH OF BRIDGE #52 - 0.91 | 10-12 | 2 | 2WU | 0.909 | 44 | 101 | | | | 350 | 9,610 | 16 | 95 | | | 48 | | | 2 | 3 | 4 | | | | 350 | 9,610 | 16 | 95 | | 48 | | | 2 | 3 | 4 | | | | | | | |
| | | TOTAL FOR MAP NO. 6 | | | | | | | | | 101 | | | 350 | 9,610 | 16 | 95 | | 48 | | | 2 | 3 | 4 | | | | 350 | 9,610 | 16 | 95 | | 48 | | | 2 | 3 | 4 | | | | | | | | |
| | | 7 | SR 1798 (INDUSTRIAL DRIVE) | FROM SR 1714 (SUMMIT ROAD/AIKEN ROAD) - 0.00 TO END OF MAINTENANCE - 0.12 | 1 | 2 | 2WU | 0.116 | 26 | 14 | | | 1,230 | | 1,230 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | TOTAL FOR MAP NO. 7 | | | | | | | | | 14 | | 1,230 | | 1,230 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | SR 1982 (WOLF ISLAND ROAD) | FROM US 29 BUSINESS - 0.00 TO SR 1980 (MT. CARMEL CHURCH ROAD) - 3.59 | 5 | 2 | 2WU | 3.59 | 27 | 403 | | | 375 | | 122 | | | | | | | | | | | | | | 75,050 | 74,453 | | | | | | | | | | | | | | | | | | |
| TOTAL FOR MAP NO. 8 | | | | | | | | | 403 | | 375 | | 122 | | | | | | | | | | | | | | | | | | 75,050 | 74,453 | | | | | | | | | | | | | | |
| 9 | SR 1925 (WORSHAM MILL ROAD) | FROM SR 1914 (OREGON HILL ROAD) - 0.00 TO US 29 BUSINESS - 5.73 | 5 | 2 | 2WU | 5.724 | 20 | 642 | | | 17,071 | | 1,915 | | | 750 | 122 | | | | | | | | | | 113,540 | 107,643 | | | | | | | | | | | | | | | | | | |
| TOTAL FOR PROJ NO. 7CR.20791.55 | | | | | | | | | 17,071 | | 1,915 | | 9,105 | 1,255 | 34,565 | 356 | 137 | 190 | 154 | 290 | | | 44 | 9 | 8 | 3 | | | | | | 291,541 | 304,962 | 16 | 291 | | 290 | | | 42 | 9 | 8 | 3 | | | |
| GRAND TOTAL | | | | | | | | | | 24,121 | | 2,757 | | 76,015 | 4,369 | 84,326 | 596 | 237 | 1,076 | 254 | 758 | | | 8 | 24 | 67 | 11 | 12 | 9 | 4 | 3 | 293,995 | 320,187 | 16 | 491 | 886 | 758 | 24 | 8 | 65 | 11 | 12 | 9 | 4 | 3 | 800 |
| | | | | | | | | | | | | | | 88,695 | | | | 1,313 | | | | | 32 | | 106 | | | 614,182 | 614,182 | 1,377 | 32 | | 104 | | | | | | | | | | | | | |



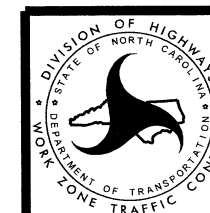
| LEGEND | |
|--------|---------------------------|
| | STATIONARY SIGN |
| | DIRECTION OF TRAFFIC FLOW |

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

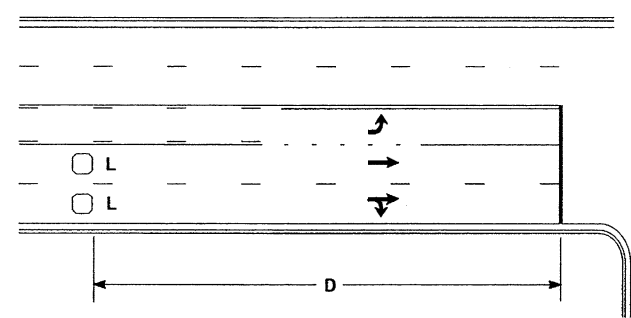
| | | | |
|---|------|--|--|
| SIGNING NOTES AND PLACEMENT PER DIRECTION | | <p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)</p> | <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 style="text-align: center;"> <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;"> <small>W20-7 A 48" X 48"</small> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> |
| | | <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> | |
| | | <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> | |
| | | <p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p> | |

***** SYSTEME *****
 ***** ADDITION *****
 ***** *****
 ***** *****



RESURFACING
 ADVANCE WARNING SIGNS
 FOR
 RURAL AND SUBURBAN
 2 LANE ROADWAYS

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

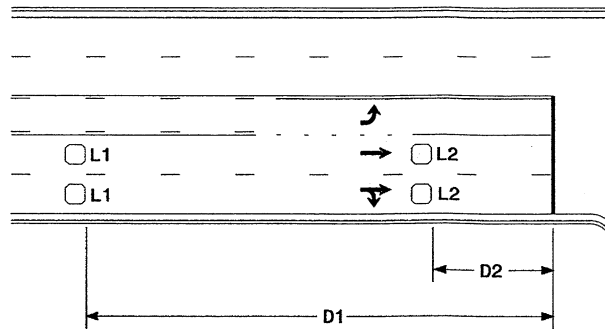


| Speed Limit mph (km/hr) | D ft (m) |
|----------------------------|-------------|
| 40 (64) | 250 (75) |
| 45 (72) | 300 (90) |
| 50 (80) | 355 (110) |
| 55 (88) | 420 (130) |

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

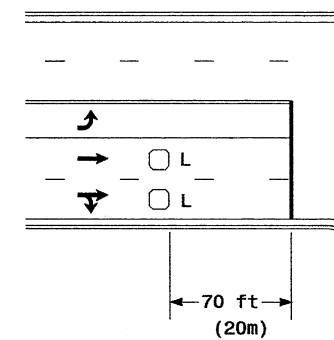


| Speed Limit mph (km/hr) | D1 ft (m) | D2 ft (m) |
|----------------------------|--------------|--------------|
| 40 (64) | 250 (75) | 80 (25) |
| 45 (72) | 300 (90) | 90 (27) |
| 50 (80) | 355 (110) | 100 (30) |
| 55 (88) | 420 (130) | 110 (35) |

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

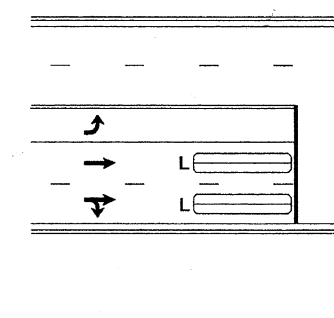
"Stretch" Operation

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



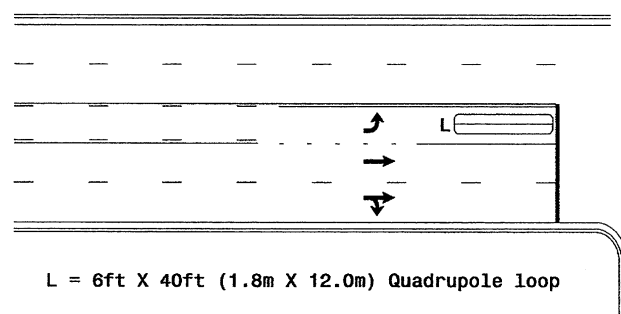
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

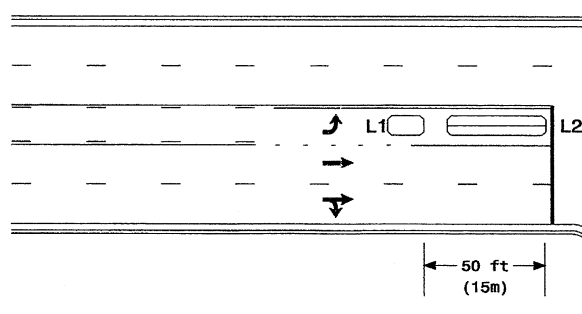
Left Turn Lane Detection



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

Presence Loop Detection

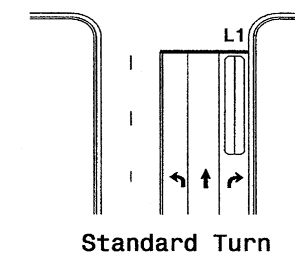
OR



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

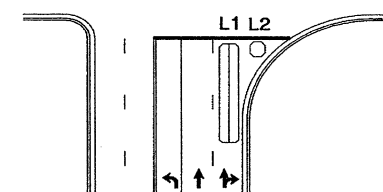
Queue Loop Detection

Right Turn Lane Detection

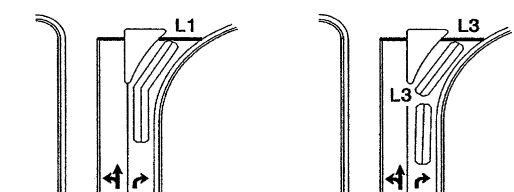


Standard Turn

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

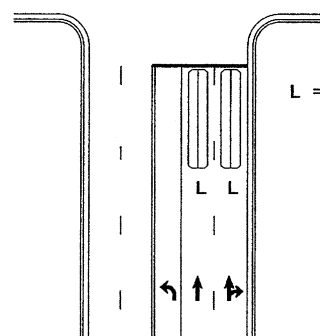


Wide Radius Turn



Channelized Turn

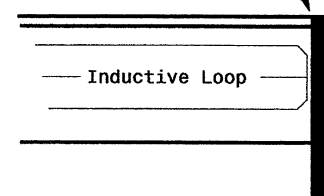
Side Street Detection



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

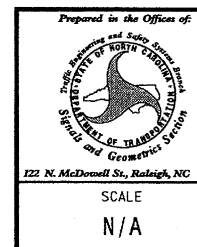
Single 6' X 6' (1.8m X 1.8m)
loop (wired separately):

| 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



Typical Loop Locations

PLAN DATE: June 2006
PREPARED BY: P. L. Alexander

REVIEWED BY:

REVISIONS
Revise pavement markings

INIT. DATE
ao 12/15/06

SCALE
N/A

SIGNATURE DATE
SIG. INVENTORY NO.