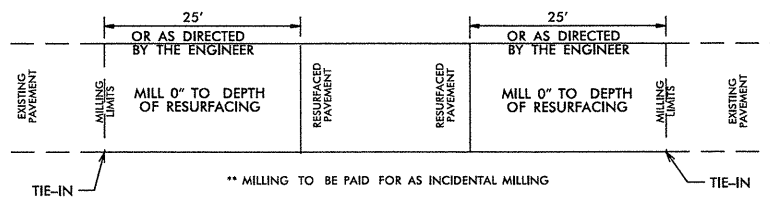
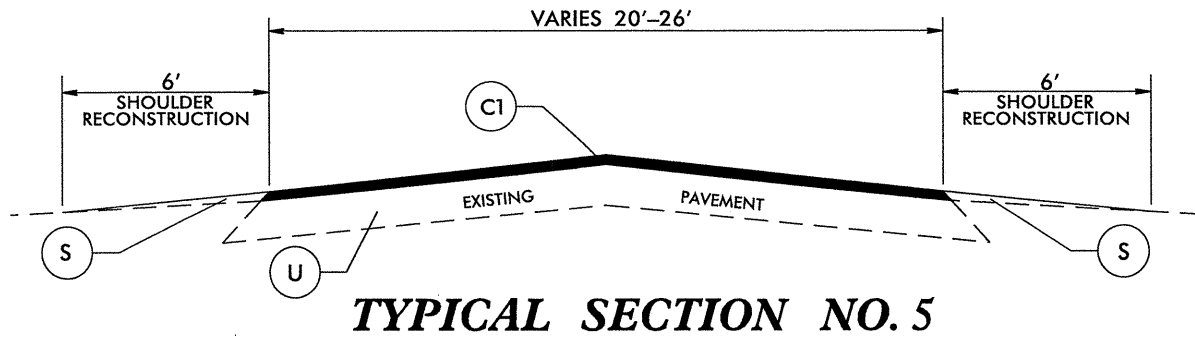
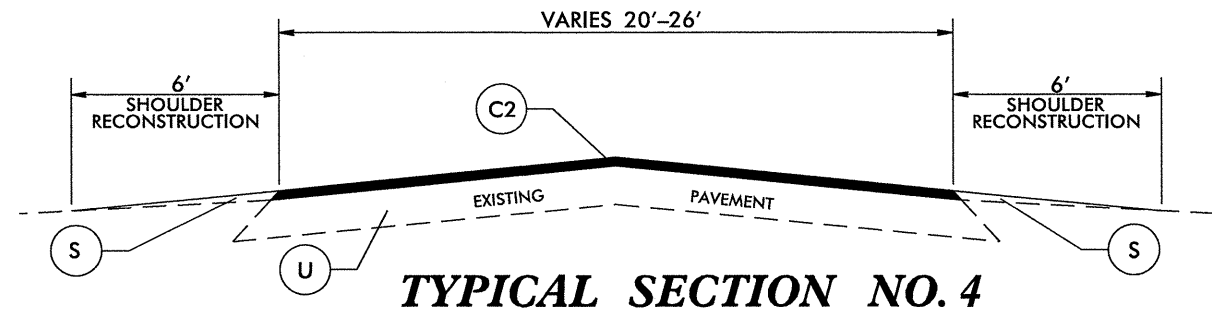
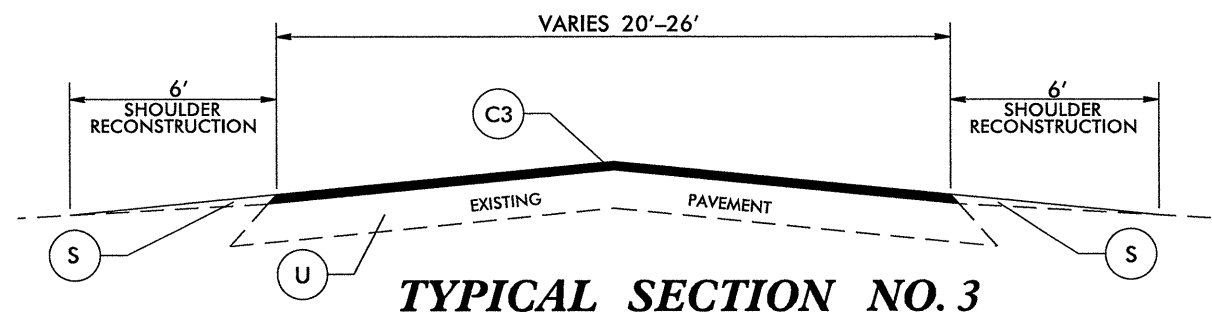
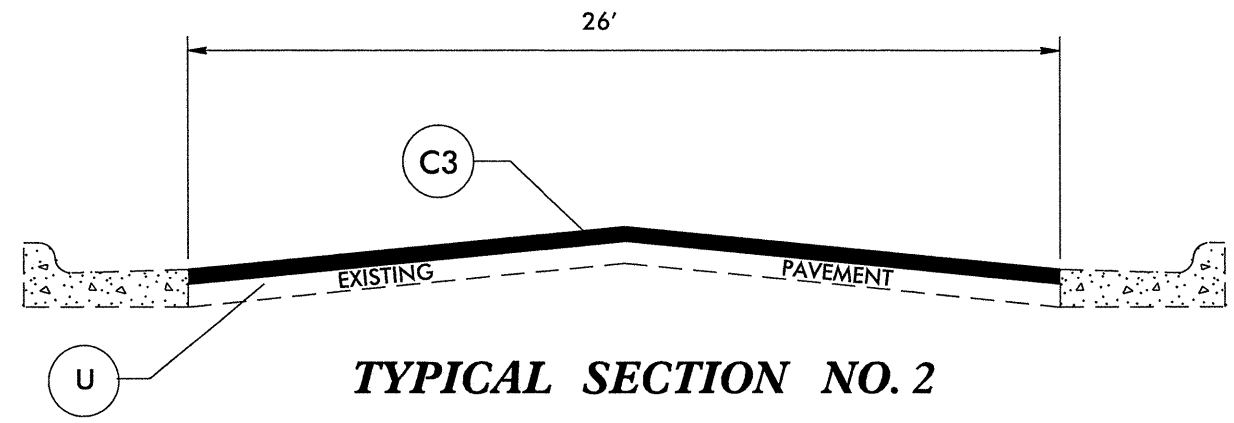
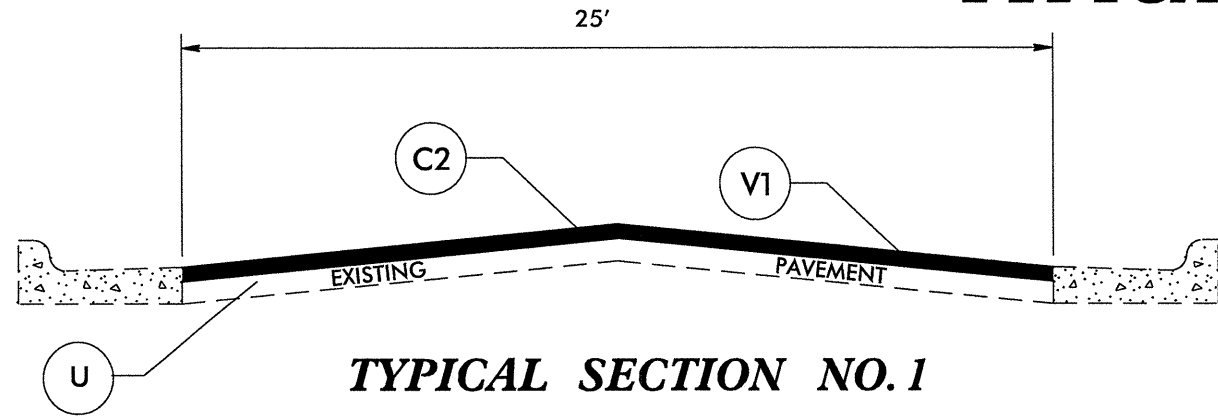


**RICHMOND COUNTY**

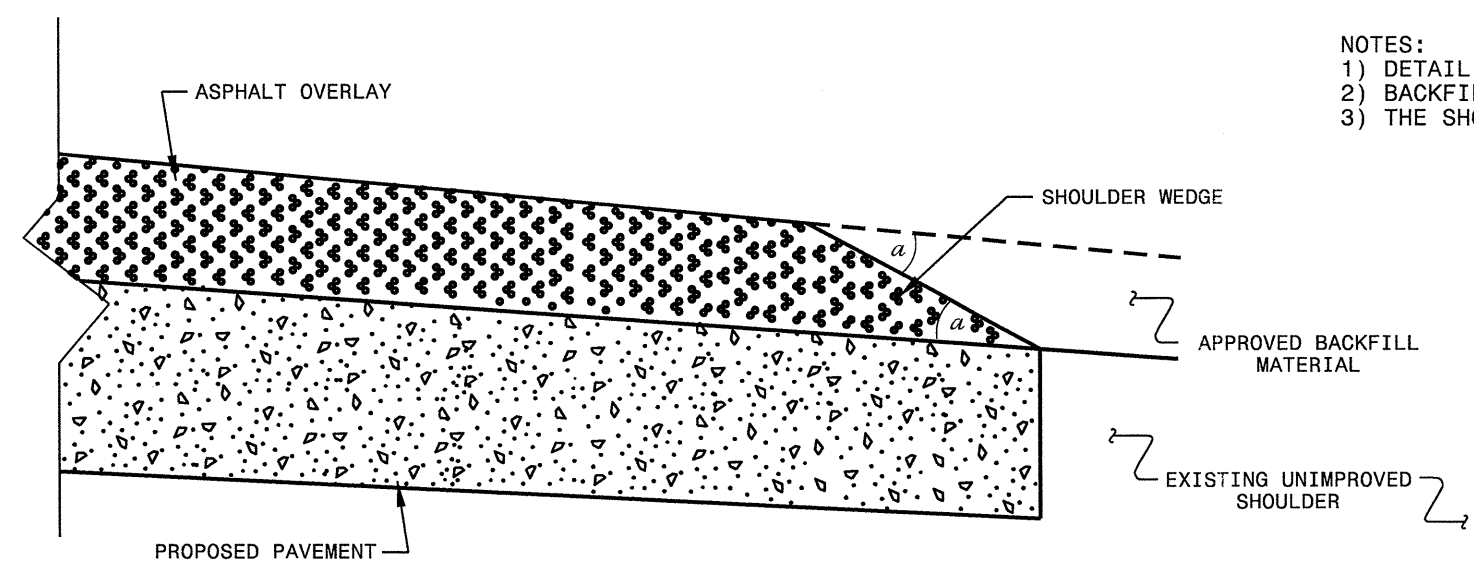
# RICHMOND COUNTY TYPICAL SECTIONS



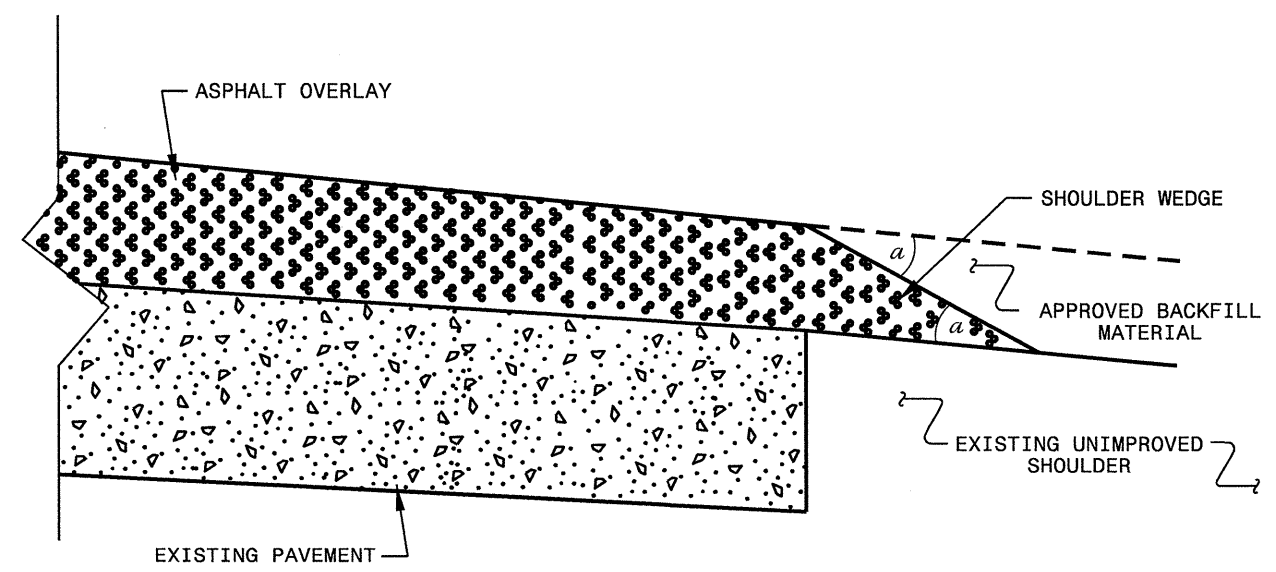
| PAVEMENT SCHEDULE |  |
|-------------------|--|
| C1                | PROP. APPROX. 1.½" ASPHALT CONCRETE SURFACE COURSE. TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.    |
| C2                | PROP. APPROX. 1.¼" ASPHALT CONCRETE SURFACE COURSE. TYPE SF9.5A AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. |
| C3                | PROP. APPROX. 1.½" ASPHALT CONCRETE SURFACE COURSE. TYPE SF9.5A AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.   |
| S                 | AGGREGATE SHOULDER BORROW  |
| U                 | EXISTING PAVEMENT  |
| V1                | MILLING 1¼" IN DEPTH.  |

23-JAN-2014 10:39 a-cf-2014-161 Richmond\_Submittal\_Mar-2014 RICHMOND\_2014\_SEC.dgn

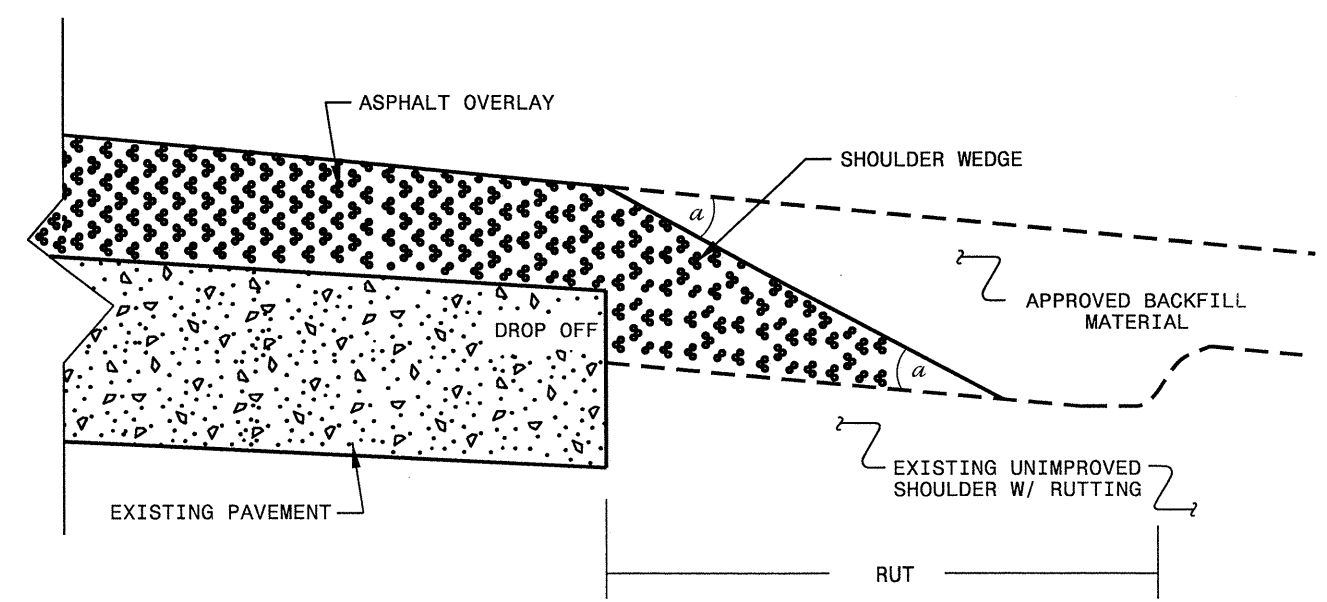
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ Widening or  
 with Existing Paved Shoulder having no dropoffs)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ NO Widening)



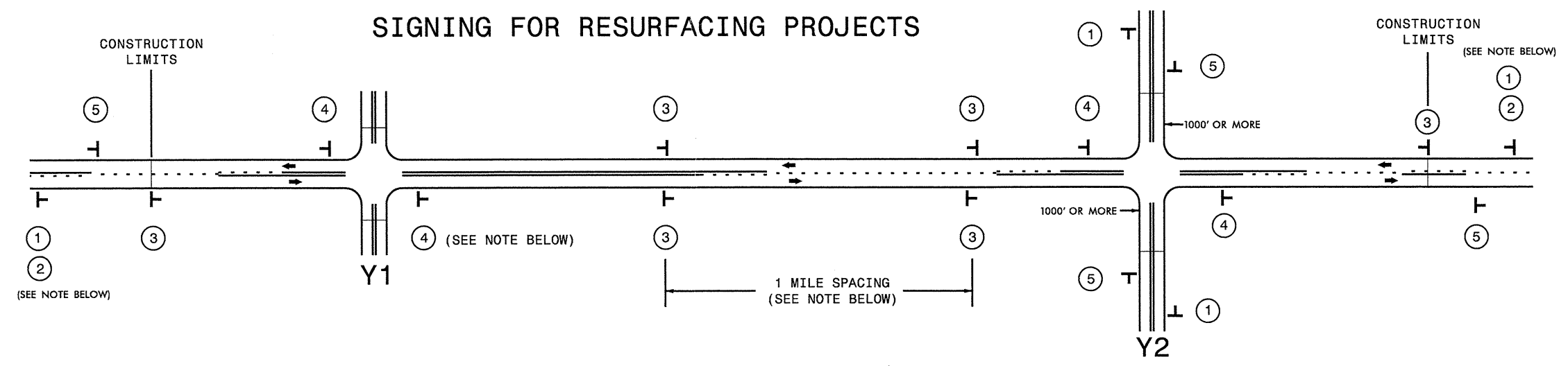
**SHOULDER WEDGE DETAIL**  
 (Resurfacing Adjacent to  
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

|  |                |
|--|----------------|
| <b>CONTRACT STANDARDS<br/>AND DEVELOPMENT UNIT</b>     |                |
| Office 919-707-6950 FAX 919-250-4119                   |                |
| <b>SHOULDER WEDGE<br/>DETAILS</b>                      |                |
| ORIGINAL BY: T.SPELL                                   | DATE: 7-19-11  |
| MODIFIED BY:   | DATE: 10/16/12 |
| CHECKED BY:  | DATE:          |
| FILE SPEC: scusr/details/stand/shoulderwedgedetail.dgn |                |

\*\*\*\*\*  
 TIME \*\*\*\*\*  
 DATE \*\*\*\*\*  
 NAME \*\*\*\*\*  
 \*\*\*\*\*

## SIGNING FOR RESURFACING PROJECTS



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

### MAINLINE (-L-) SIGNING

### -Y- LINE SIGNING

|  |   |   |  |
|--|---|---|--|
| SIGNING NOTES AND<br>PLACEMENT PER DIRECTION | ① | <br><small>W20-1<br/>48" X 48"</small>    | PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS.<br>ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.  |
|  | ② | <br><small>W7-3aP<br/>24" X 18"</small>   | #2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH.<br>ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)  |
|  | ③ | <br><small>SP 13107<br/>48" X 48"</small> | PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART<br>THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE<br>CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.  |
|  | ④ | <br><small>SP 13106<br/>48" X 48"</small> | THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND<br>SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM<br>EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT<br>ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL<br>WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT<br>INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. |
|  | ⑤ | <br><small>G20-2 A<br/>48" X 24"</small>  | PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.   |

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

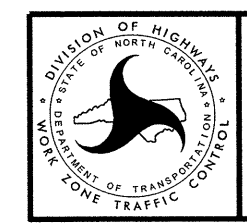
- 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
- 2) SUBDIVISION ROADS
- 3) DEAD END ROADS

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.

30 - JAN - 2014 10:21  
 C:\div\projects\Resurfacing\Mar.ch.2014\Montgomery.Montgomery\_Submittal\_Mar2014\Resurfacing\_AdvWarn\_2Ln.dgn  
 AT 05CAD-270410



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

|              |           |           |
|--------------|-----------|-----------|
| PROJECT NO.  | SHEET NO. | TOTAL NO. |
| 8CR.20771.23 | 4         |           |

### SUMMARY OF QUANTITIES

| PROJECT NO                                   | COUNTY   | MAP NO | ROUTE                        | DESCRIPTION                                     | TYP NO | FINAL SURFACE TESTING REQUIRED | WARM MIX ASPHALT REQUIRED | LENGTH MI   | WIDTH FT | AGGREGATE SHOULDER BORROW TON | SHOULDER RECONSTRUCTION SMI | 1.25" MILLING SY | INCIDENTAL MILLING SY | SURFACE COURSE, S9.5B TONS | SURFACE COURSE, SF9.5A TON | ASPHALT BINDER FOR PLANT MIX TONS | ADJ. OF MANHOLES EA | ADJ. OF METER OR VALVE BOXES EA |
|--|----------|--------|------------------------------|---|--------|--------------------------------|---------------------------|-------------|----------|-------------------------------|-----------------------------|------------------|-----------------------|----------------------------|----------------------------|-----------------------------------|---------------------|---------------------------------|
| 8CR.20771.23                                 | Richmond | 1      | SR 1615 (GRACE CHAPEL CH RD) | FROM NC 381 TO SR 1842 (EDDIE'S LN)             | 5      | NO                             | NO                        | 0.55        | 22       | 154                           | 1.10                        |                  | 125                   | 640                        |                            | 38                                |                     |                                 |
| 8CR.20771.23                                 | Richmond | 2      | SR 1842 (EDDIES LN)          | FROM SR 1615 (GRACE CHAPEL CH RD) TO END MAINT. | 5      | NO                             | NO                        | 0.51        | 20       | 143                           | 1.02                        |                  | 125                   | 506                        |                            | 30                                |                     |                                 |
| 8CR.20771.23                                 | Richmond | 3      | SR 1108 (MIZPAH RD)          | FROM SR 1966 (AIRPORT RD) TO HWY 1              | 4      | NO                             | NO                        | 2.35        | 22       | 660                           | 4.70                        |                  | 125                   |                            | 2,275                      | 152                               |                     |                                 |
| 8CR.20771.23                                 | Richmond | 4      | SR 1108 (ROSYLAN RD)         | FROM US HWY 1 TO SR 1109 (GALESTOWN RD)         | 4      | NO                             | NO                        | 0.87        | 22       | 242                           | 1.74                        |                  | 125                   |                            | 876                        | 59                                |                     |                                 |
| 8CR.20771.23                                 | Richmond | 5      | SR 1103 (OLD CHERAW HWY)     | FROM 1109 (ROSALYN RD) TO SR 1107 (PECAN RD)    | 4      | NO                             | NO                        | 0.49        | 22       | 135                           | 0.98                        |                  | 125                   |                            | 476                        | 32                                |                     |                                 |
| 8CR.20771.23                                 | Richmond | 6      | SR 1313 (WALLACE RD)         | FROM US 220 TO NC 73                            | 4      | NO                             | NO                        | 1.28        | 19       | 352                           | 2.56                        |                  | 100                   |                            | 1,000                      | 67                                |                     |                                 |
| 8CR.20771.23                                 | Richmond | 7      | SR 1453 (CRAWFORD RD)        | FROM 1499 (CHURCH ST) TO END C&G                | 1      | NO                             | NO                        | 0.11        | 25       |                               |                             | 1,614            |                       |                            | 111                        | 7                                 | 2                   | 1                               |
| 8CR.20771.23                                 | Richmond | 8      | SR 1309 (PAGE ST)            | FROM HWY 220 TO SR 1310 (BENNETT RD)            | 2&3    | NO                             | NO                        | 0.75        | 26       | 70                            | 0.25                        |                  | 150                   |                            | 966                        | 65                                | 6                   | 2                               |
| 8CR.20771.23                                 | Richmond | 9      | SR 1437 (SNEAD AVE)          | FROM HWY 220 TO SR 1418 (NORTHAM RD)            | 4      | NO                             | NO                        | 0.55        | 22       | 151                           | 1.10                        |                  | 125                   |                            | 530                        | 36                                |                     | 1                               |
| 8CR.20771.23                                 | Richmond | 10     | SR 1845 (INDUSTRY DR)        | FROM HWY 38 TO END MAINT.                       | 5      | NO                             | NO                        | 1.07        | 24       | 294                           | 2.14                        |                  | 150                   | 1,372                      |                            | 82                                |                     |                                 |
| <b>GRAND TOTAL FOR PROJ NO. 8CR.20771.23</b> |          |        |                              |   |        |                                |                           | <b>8.53</b> |          | <b>2,201</b>                  | <b>15.59</b>                | <b>1,614</b>     | <b>1,150</b>          | <b>2,518</b>               | <b>6,234</b>               | <b>568</b>                        | <b>8</b>            | <b>4</b>                        |

### THERMOPLASTIC AND PAINT QUANTITIES

| PROJECT NO                                   | COUNTY   | MAP NO | ROUTE                        | DESCRIPTION                                     | TYP NO | LANES | LANE TYPE | LENGTH      | WIDTH | 4413000000-E                         | 4457000000-E                 | 4695000000-E               | 4710000000-E                | 4721000000-E               | 4725000000-E            |                         |                          |                   | 4810000000-E       |               |
|--|----------|--------|------------------------------|---|--------|-------|-----------|-------------|-------|--------------------------------------|------------------------------|----------------------------|-----------------------------|----------------------------|-------------------------|-------------------------|--------------------------|-------------------|--------------------|---------------|
|  |          |        |                              |   |        |       |           |             |       | WORK ZONE ADVANCE/GENERAL WARNING SF | TEMPORARY TRAFFIC CONTROL LS | 8" X 90 M YELLOW THERMO LF | 24" X 120 M WHITE THERMO LF | THERMO MSG SCHOOL 120 M EA | THERMO LT ARROW 90 M EA | THERMO RT ARROW 90 M EA | THERMO STR ARROW 90 M EA | 4" WHITE PAINT LF | 4" YELLOW PAINT LF |               |
| 8CR.20771.23                                 | Richmond | 1      | SR 1615 (GRACE CHAPEL CH RD) | FROM NC 381 TO SR 1842 (EDDIE'S LN)             | 5      | 2     | 2WU       | 0.55        | 22    |                                      |                              |                            |                             |                            |                         |                         |                          |                   | 11,836             | 7,260         |
| 8CR.20771.23                                 | Richmond | 2      | SR 1842 (EDDIES LN)          | FROM SR 1615 (GRACE CHAPEL CH RD) TO END MAINT. | 5      | 2     | 2WU       | 0.51        | 20    |                                      |                              |                            |                             |                            |                         |                         |                          |                   | 10,975             | 6,732         |
| 8CR.20771.23                                 | Richmond | 3      | SR 1108 (MIZPAH RD)          | FROM SR 1966 (AIRPORT RD) TO HWY 1              | 4      | 2     | 2WU       | 2.35        | 22    |                                      |                              | 220                        | 126                         | 12                         | 4                       | 1                       | 6                        |                   | 50,572             | 31,020        |
| 8CR.20771.23                                 | Richmond | 4      | SR 1108 (ROSYLAN RD)         | FROM US HWY 1 TO SR 1109 (GALESTOWN RD)         | 4      | 2     | 2WU       | 0.87        | 22    |                                      |                              |                            |                             |                            |                         |                         |                          |                   | 18,722             | 11,484        |
| 8CR.20771.23                                 | Richmond | 5      | SR 1103 (OLD CHERAW HWY)     | FROM 1109 (ROSALYN RD) TO SR 1107 (PECAN RD)    | 4      | 2     | 2WU       | 0.49        | 22    | *                                    | *                            |                            |                             |                            |                         |                         |                          |                   | 10,545             | 6,468         |
| 8CR.20771.23                                 | Richmond | 6      | SR 1313 (WALLACE RD)         | FROM US 220 TO NC 73                            | 4      | 2     | 2WU       | 1.28        | 19    |                                      |                              |                            |                             |                            |                         |                         |                          |                   | 27,546             | 16,896        |
| 8CR.20771.23                                 | Richmond | 7      | SR 1453 (CRAWFORD RD)        | FROM SR 1499 (CHURCH ST) TO END C&G             | 1      | 2     | 2WU       | 0.11        | 25    |                                      |                              |                            |                             |                            |                         |                         |                          |                   |                    | 1,452         |
| 8CR.20771.23                                 | Richmond | 8      | SR 1309 (PAGE ST)            | FROM HWY 220 TO SR 1310 (BENNETT RD)            | 2&3    | 2     | 2WU       | 0.75        | 26    |                                      |                              |                            |                             |                            |                         |                         |                          |                   | 4,750              | 9,900         |
| 8CR.20771.23                                 | Richmond | 9      | SR 1437 (SNEAD AVE)          | FROM HWY 220 TO SR 1418 (NORTHAM RD)            | 4      | 2     | 2WU       | 0.55        | 22    |                                      |                              |                            |                             |                            |                         |                         |                          |                   | 11,836             | 7,260         |
| 8CR.20771.23                                 | Richmond | 10     | SR 1845 (INDUSTRY DR)        | FROM HWY 38 TO END MAINT.                       | 5      | 2     | 2WU       | 1.07        | 24    |                                      |                              |                            |                             |                            |                         |                         |                          |                   |                    |               |
| <b>GRAND TOTAL FOR PROJ NO. 8CR.20771.23</b> |          |        |                              |   |        |       |           | <b>8.53</b> |       | <b>956</b>                           | <b>1</b>                     | <b>220</b>                 | <b>126</b>                  | <b>12</b>                  | <b>4</b>                | <b>1</b>                | <b>6</b>                 |                   | <b>146,782</b>     | <b>98,472</b> |
|  |          |        |                              |   |        |       |           |             |       |                                      |                              |                            |                             |                            |                         | <b>11</b>               | <b>245,254</b>           |                   |                    |               |