
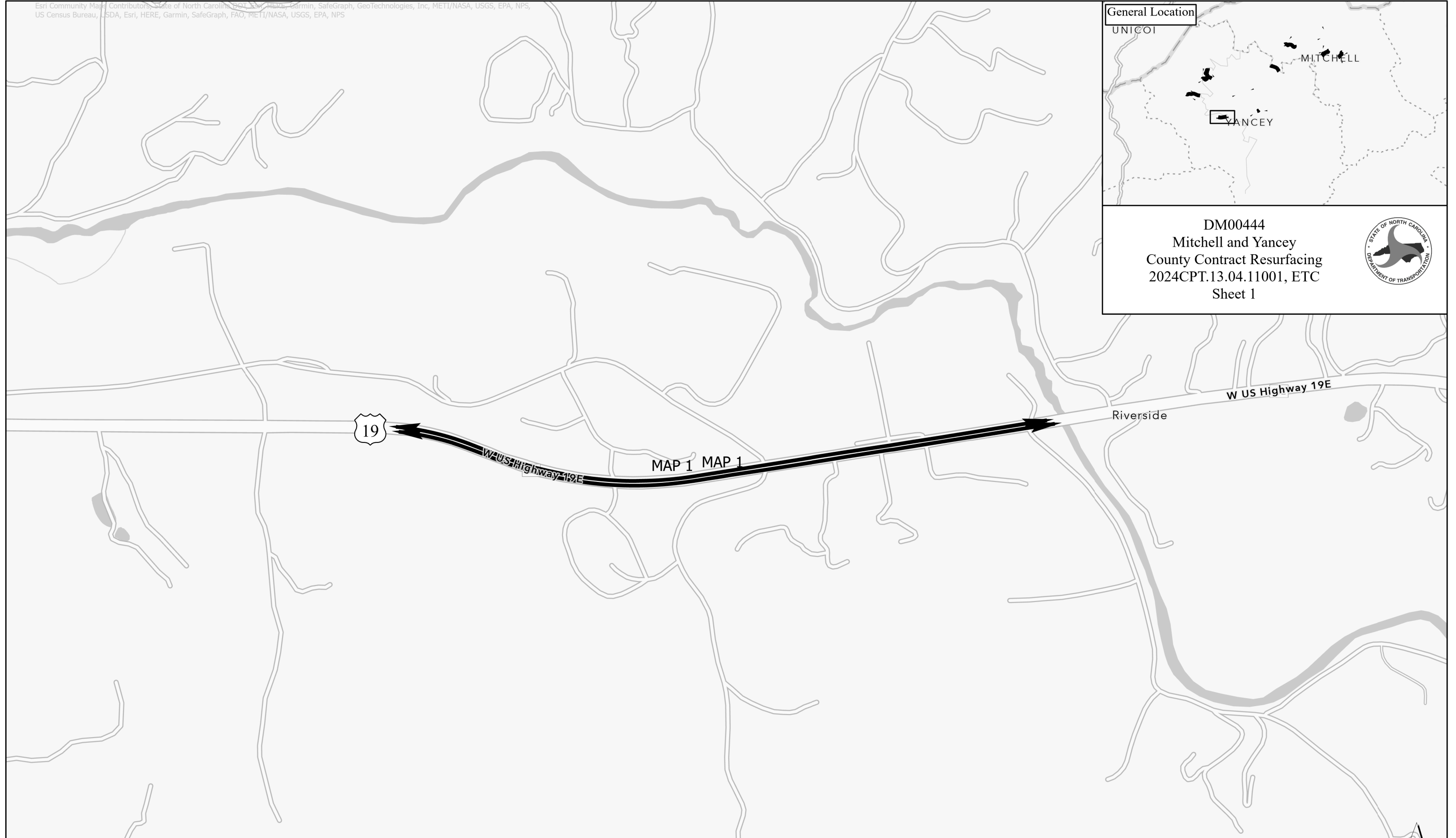
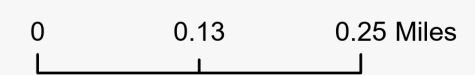
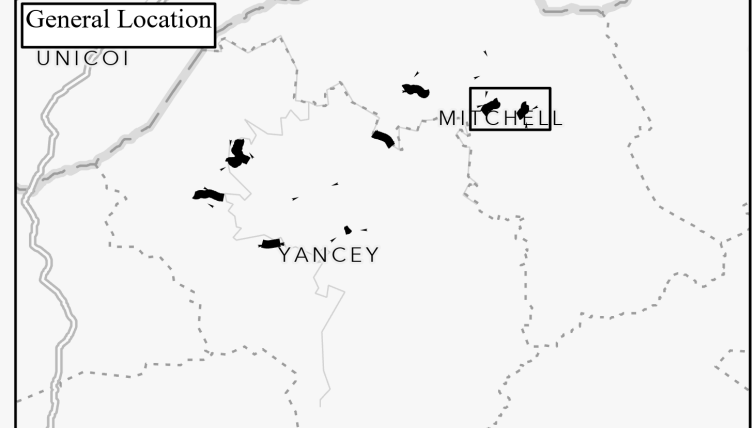


DM00444
 Mitchell and Yancey
 County Contract Resurfacing
 2024CPT.13.04.11001, ETC
 Sheet 1


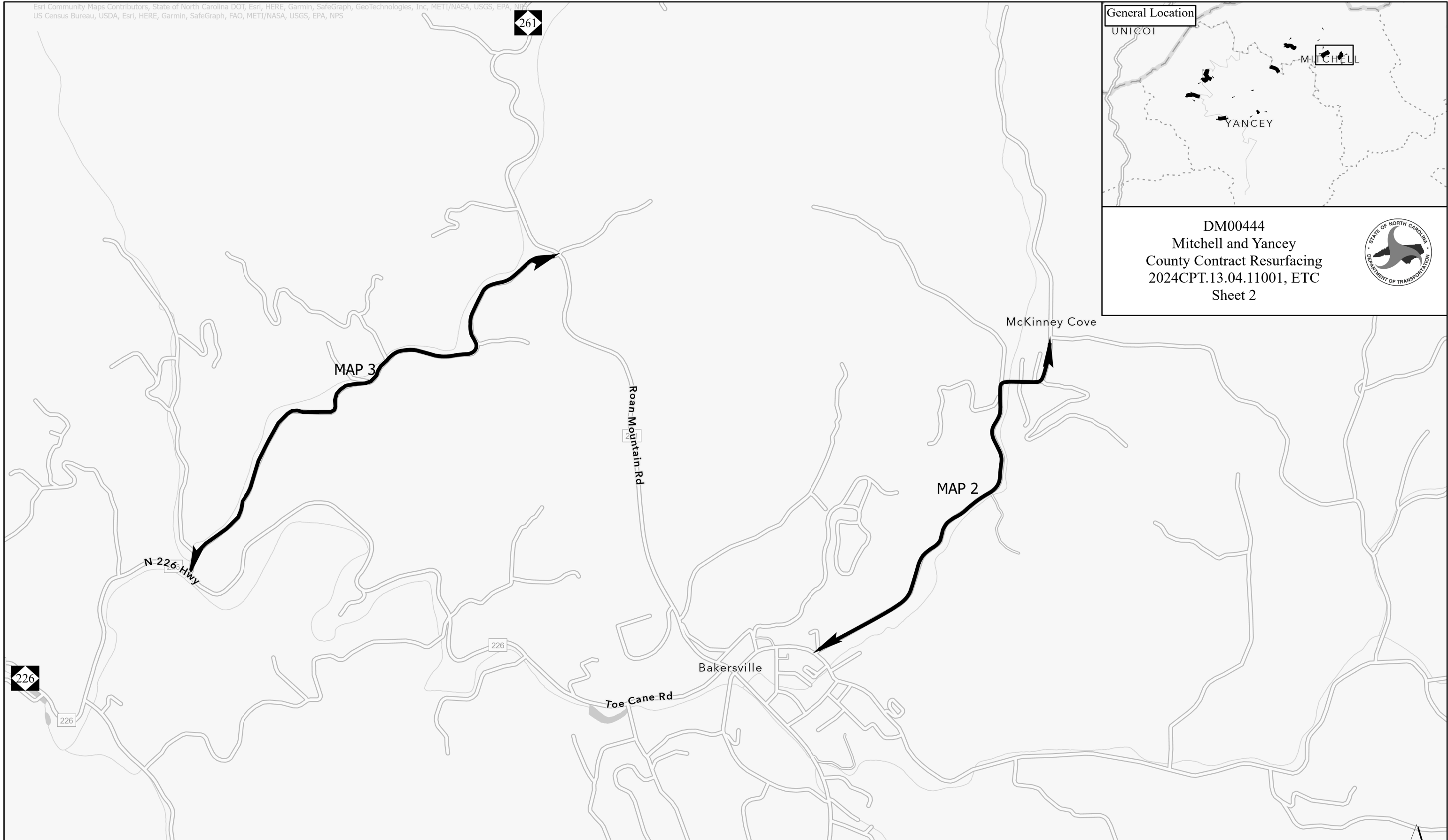



| MAP # | ROUTE NAME | FROM_DESC | TO_DESC | LENGTH |
|-------|------------|--|---|--------|
| 1 | US 19E | SR 1137 (CANE RIVER CHURCH ROAD)+ .21 MILE | BRIDGE ABUTMENT (BRIDGE 009) | 1.11 |
| 1 | US 19E | BRIDGE ABUTMENT (BRIDGE #009) | SR 1137 (CANE RIVER CHURCH ROAD) -.21 MI | 1.1 |





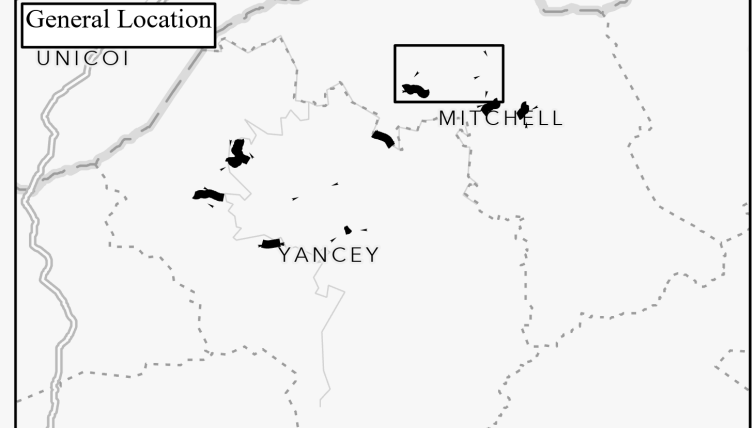
DM00444
 Mitchell and Yancey
 County Contract Resurfacing
 2024CPT.13.04.11001, ETC
 Sheet 2

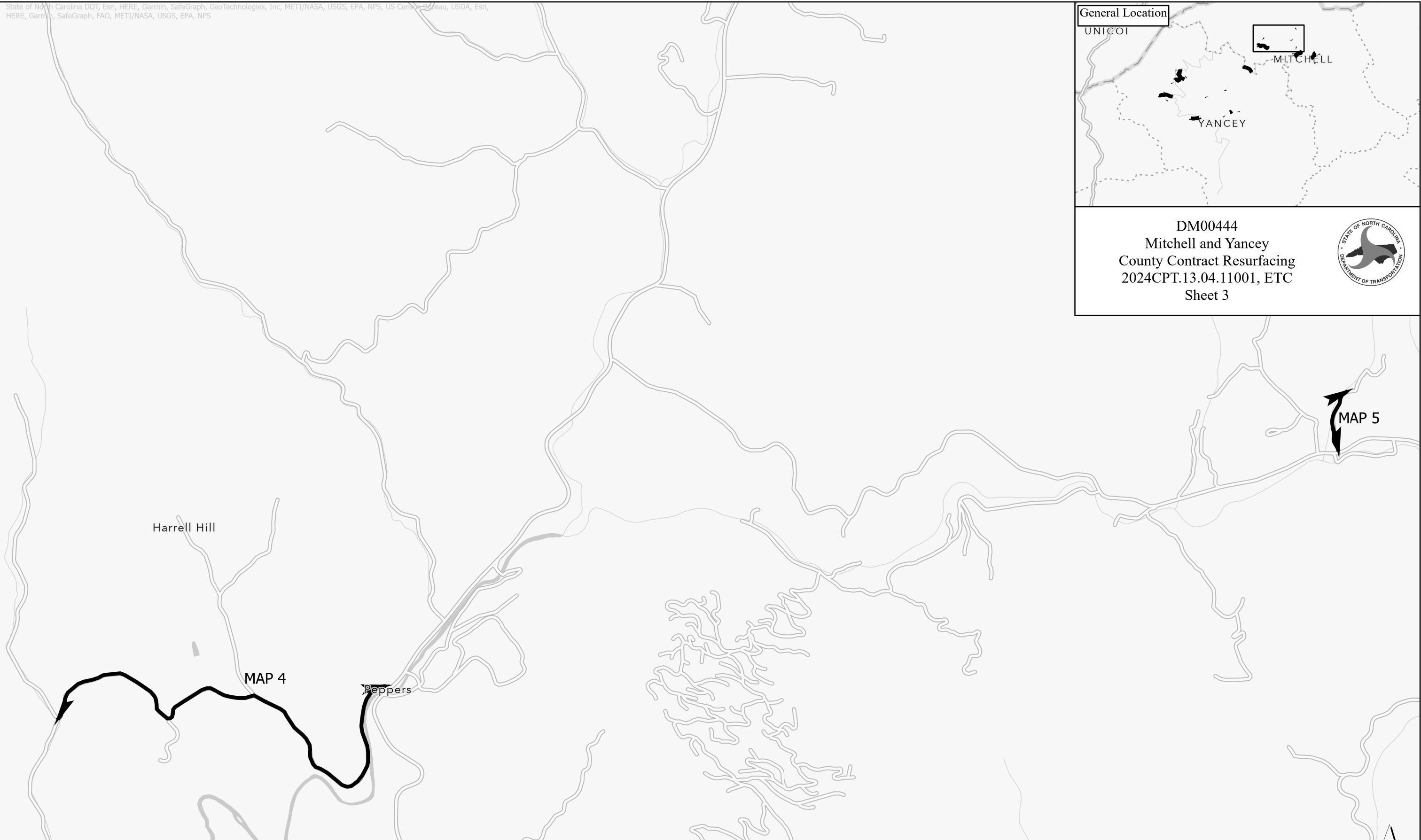
| MAP # | ROUTE NAME | FROM_DESC | TO_DESC | LENGTH |
|-------|------------------------------|--|-------------------------------------|--------|
| 2 | SR 1217 (MCKINNEY COVE ROAD) | SR 1211 (NORTH MITCHELL AVENUE) PAVEMENT JOINT | SR 1217 (GREEN YOUNG CEMETARY ROAD) | 1.12 |
| 3 | SR 1300 (CUB CREEK ROAD) | NC 226 (PAVEMENT CHANGE) | NC 261 (PAVEMENT CHANGE) | 1.43 |

0 0.13 0.25 Miles

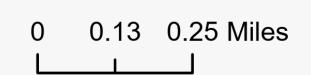


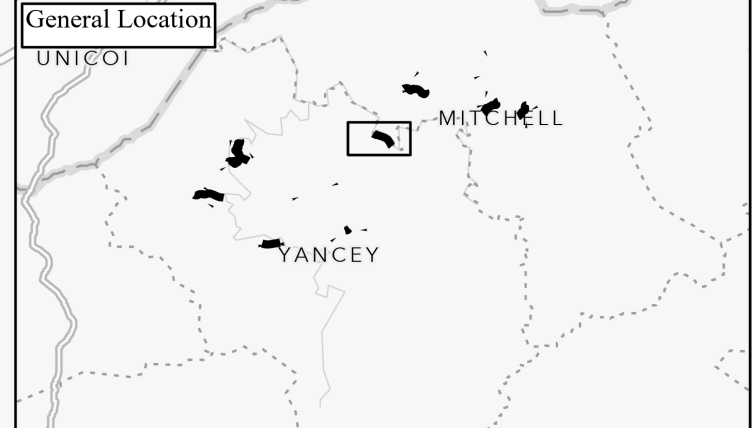


DM00444
 Mitchell and Yancey
 County Contract Resurfacing
 2024CPT.13.04.11001, ETC
 Sheet 3

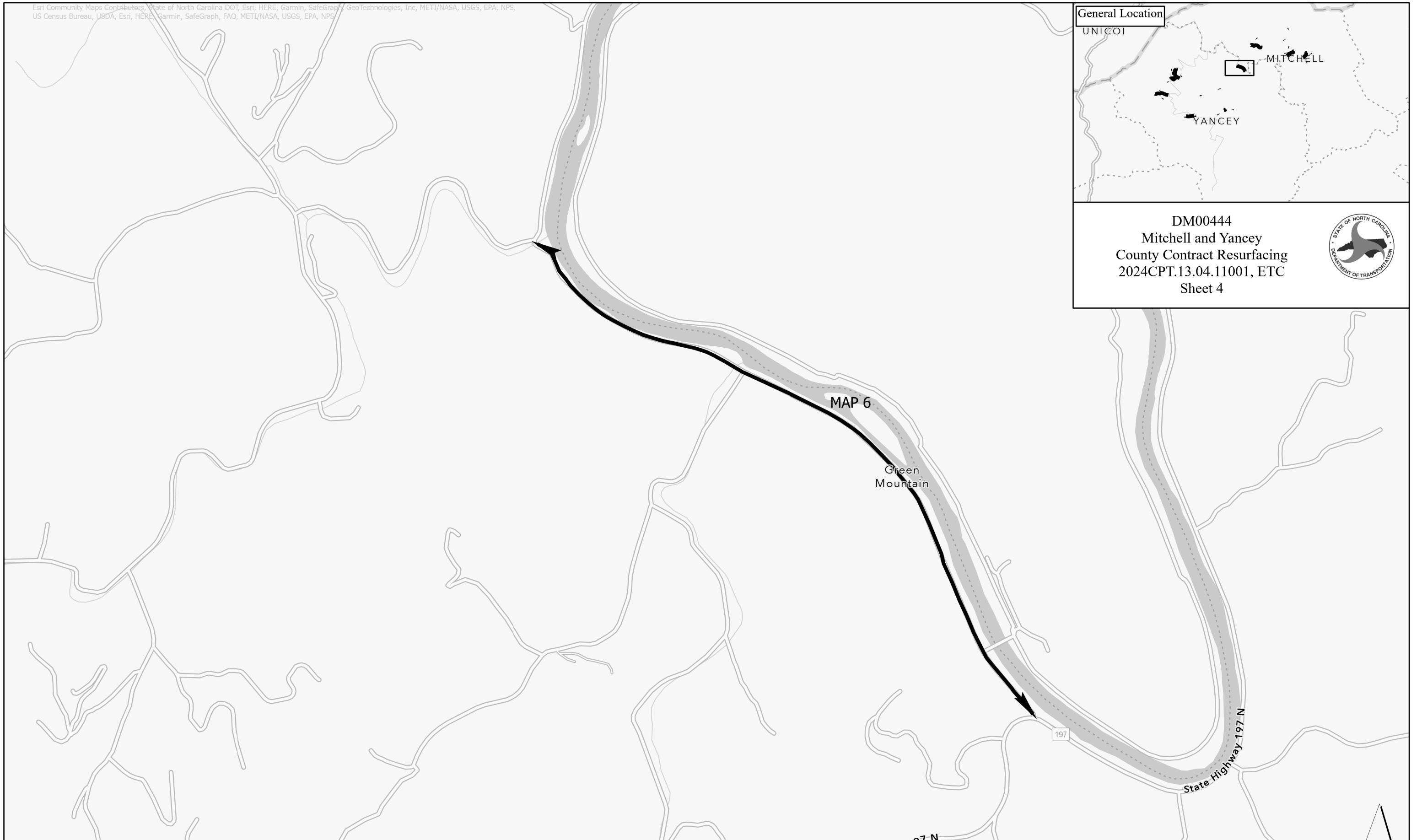


| MAP # | ROUTE NAME | FROM_DESC | TO_DESC | LENGTH |
|-------|-------------------------------|------------------------------|---------------------------|--------|
| 4 | SR 1307 (HARRELL HILL ROAD) | NC 226 PAVEMENT JOINT | SR 1309 (BEE BRANCH ROAD) | 1.8 |
| 5 | SR 1351 (CLAUDE GARLAND ROAD) | SR 1338 (FORK MOUNTAIN ROAD) | DEAD END | 0.24 |

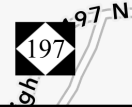




DM00444
 Mitchell and Yancey
 County Contract Resurfacing
 2024CPT.13.04.11001, ETC
 Sheet 4



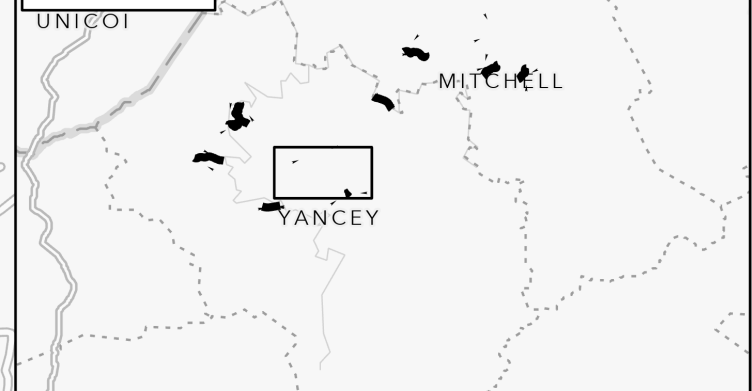
| MAP # | ROUTE NAME | FROM_DESC | TO_DESC | LENGTH |
|-------|--------------------------|---|------------------------|--------|
| 6 | SR 1336 (TOE RIVER ROAD) | SR 1338 (TOE RIVER ROAD) BRIDGE ABUTMENT DOWNSTREAM END | NC 197N PAVEMENT JOINT | 1.45 |



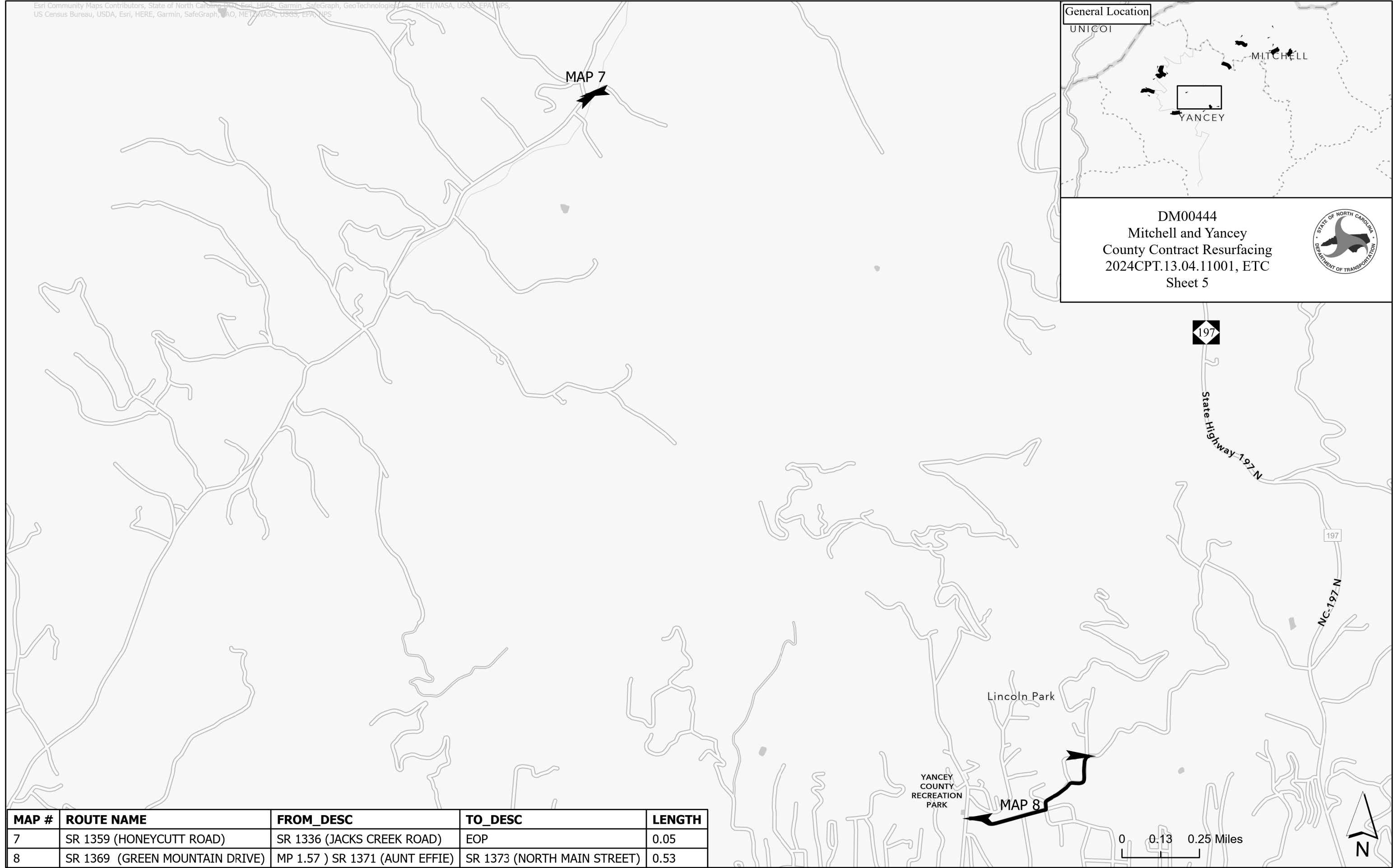
0 0.13 0.25 Miles



General Location



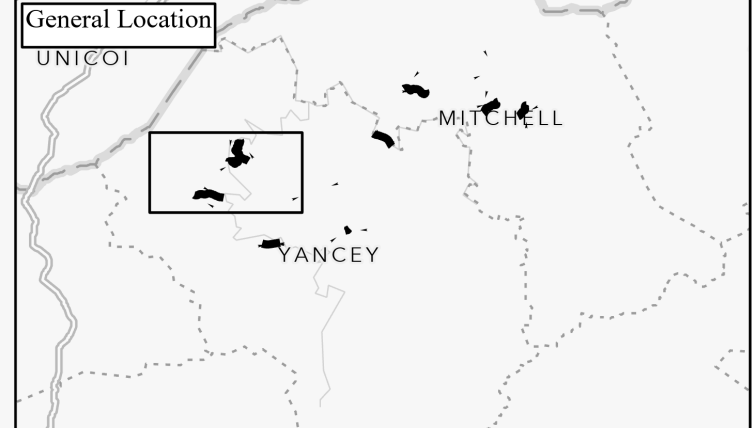
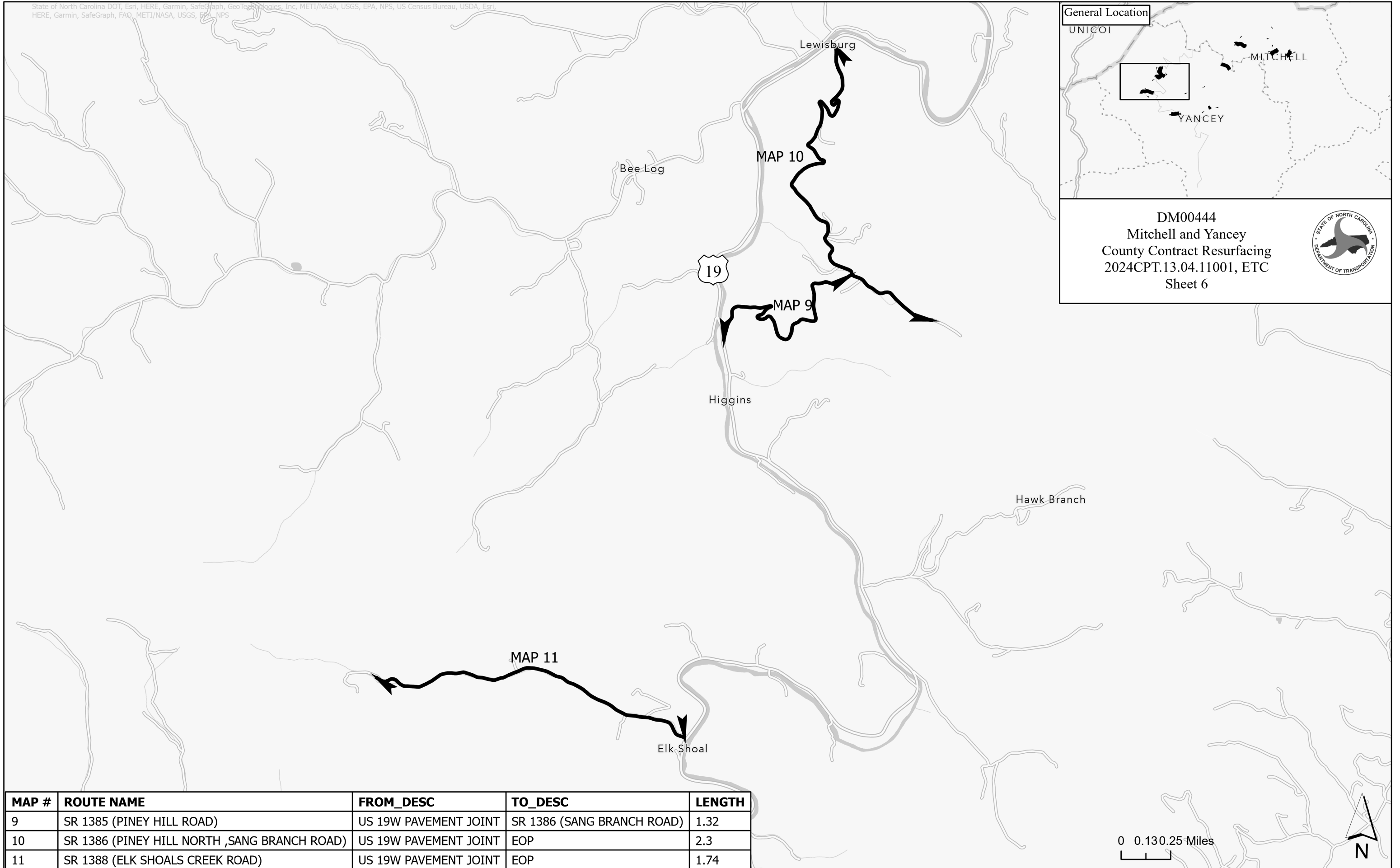
DM00444
 Mitchell and Yancey
 County Contract Resurfacing
 2024CPT.13.04.11001, ETC
 Sheet 5



| MAP # | ROUTE NAME | FROM_DESC | TO_DESC | LENGTH |
|-------|--------------------------------|--------------------------------|-----------------------------|--------|
| 7 | SR 1359 (HONEYCUTT ROAD) | SR 1336 (JACKS CREEK ROAD) | EOP | 0.05 |
| 8 | SR 1369 (GREEN MOUNTAIN DRIVE) | MP 1.57) SR 1371 (AUNT EFFIE) | SR 1373 (NORTH MAIN STREET) | 0.53 |

0 0.13 0.25 Miles



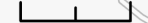


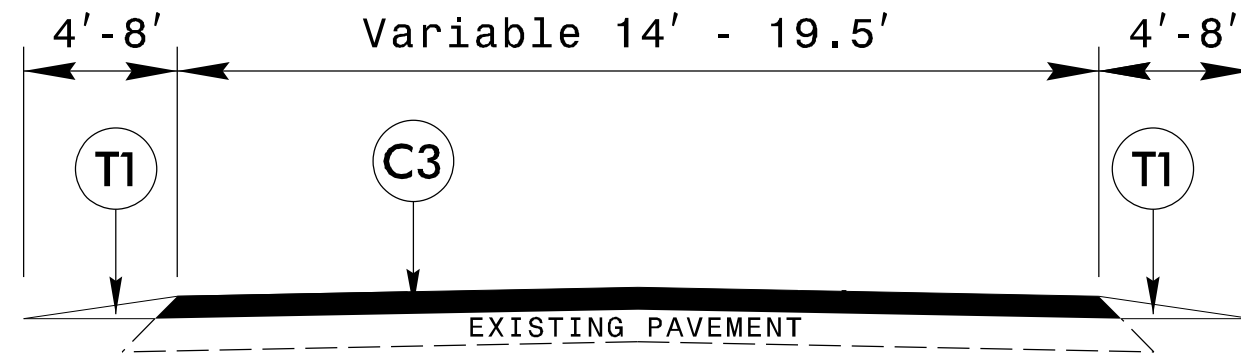
DM00444
 Mitchell and Yancey
 County Contract Resurfacing
 2024CPT.13.04.11001, ETC
 Sheet 6



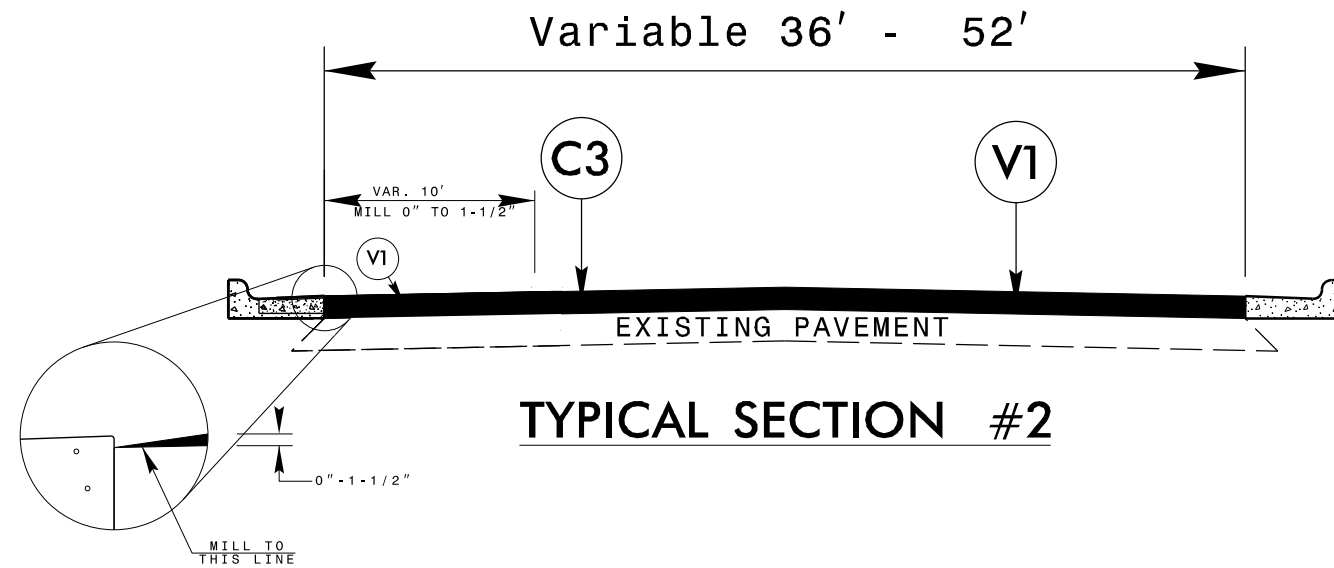
| MAP # | ROUTE NAME | FROM_DESC | TO_DESC | LENGTH |
|-------|--|-----------------------|----------------------------|--------|
| 9 | SR 1385 (PINEY HILL ROAD) | US 19W PAVEMENT JOINT | SR 1386 (SANG BRANCH ROAD) | 1.32 |
| 10 | SR 1386 (PINEY HILL NORTH ,SANG BRANCH ROAD) | US 19W PAVEMENT JOINT | EOP | 2.3 |
| 11 | SR 1388 (ELK SHOALS CREEK ROAD) | US 19W PAVEMENT JOINT | EOP | 1.74 |

0 0.130.25 Miles

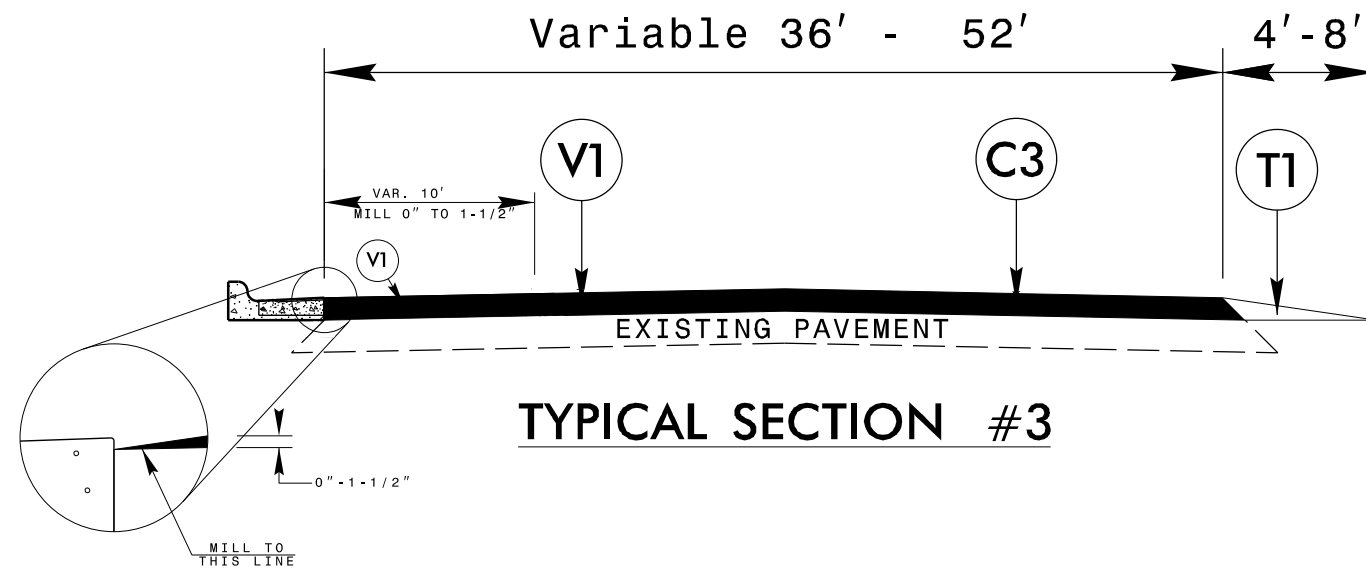




TYPICAL SECTION #1



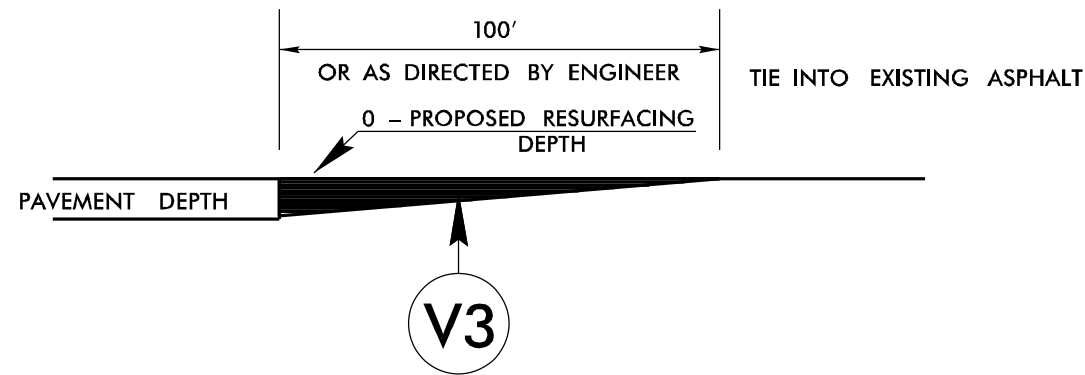
TYPICAL SECTION #2



TYPICAL SECTION #3

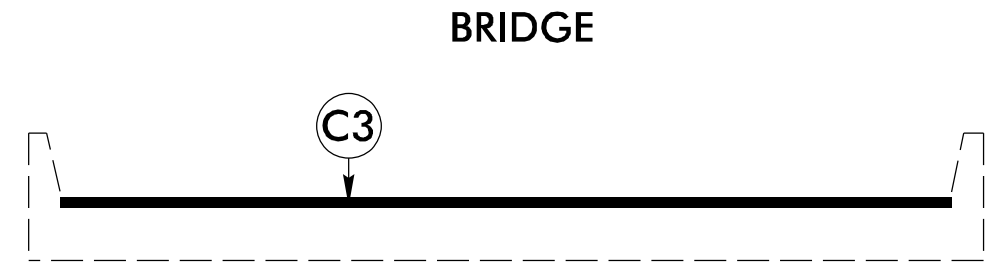
PAVEMENT SCHEDULE

| | |
|----|---|
| C3 | PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD |
| T1 | SHOULDER RECONSTRUCTION |
| V1 | MILLING ASPHALT PAVEMENT, 0 TO 1-1/2" DEPTH |
| V3 | INCIDENTAL MILLING |



DETAIL TO TIE INTO EXISTING PAVEMENT

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT HE WILL BE REQUIRED TO MILL THE EXISTING ASPHALT PAVEMENT TO ENSURE A PROPER TIE-IN WITH THE EXISTING SURFACE AT THE BEGINNING, END AND Y LINES OF EACH MAP TO BE RESURFACED WITH ASPHALT CONC SURFACE COURSE, TYPE S9.5C THIS WILL BE PAID FOR AS INCIDENTAL MILLING.

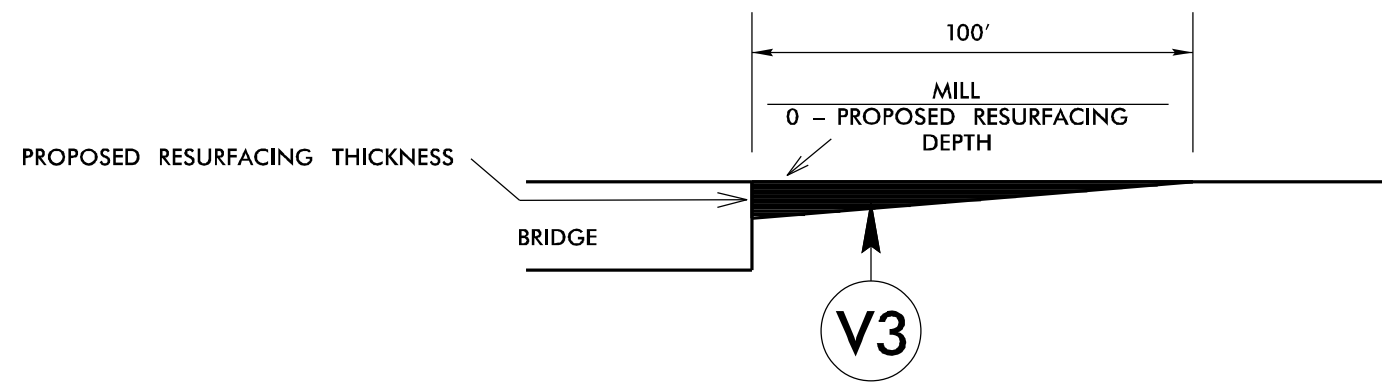


* Coordinate with Bridge Maintenance to remove existing asphalt 15 days before resurfacing begins

BRIDGE DETAIL

WHERE BRIDGES WILL BE MILLED THEN RESURFACED. SEE MAP FOR BRIDGE LOCATION.

USE AT BRIDGE NUMBER: 172 MAP 6
225 MAP 7
157 MAP 12

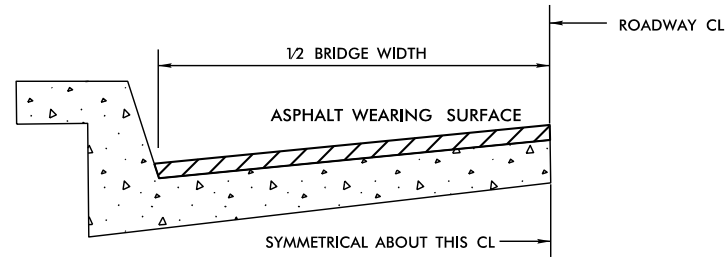


MILLING DETAIL AT BRIDGE APPROACHES

WHERE BRIDGES WILL NOT BE RESURFACED. THIS WILL BE PAID FOR AS INCIDENTAL MILLING. USE AT BRIDGE NUMBER: 09 MAP 1
171 MAP 6

PAVEMENT SCHEDULE

| | |
|----|---|
| C3 | PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD |
| T1 | SHOULDER RECONSTRUCTION |
| V1 | MILLING ASPHALT PAVEMENT, 0 TO 1-1/2" DEPTH |
| V3 | INCIDENTAL MILLING |



BRIDGE HALF TYPICAL SECTION

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1/2", S9.5B 1", S9.5C,D 1.5" - 2". ULTRA-THIN HOT MIX ASPHALT - TYPE A 3/4". ULTRA-THIN HOT MIX ASPHALT - TYPE B 5/8". ULTRA-THIN HOT MIX ASPHALT - TYPE C 1/2". THE MAXIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1", S9.5B 1.5", S9.5C,D 2". ULTRA-THIN HOT MIX ASPHALT - TYPE A 3/4", ULTRA-THIN HOT MIX ASPHALT - TYPE B 5/8", ULTRA-THIN HOT MIX ASPHALT - TYPE C 1/2".

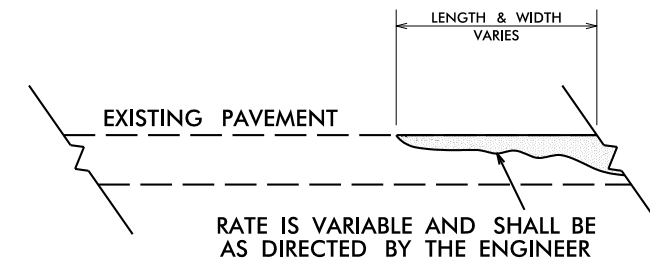
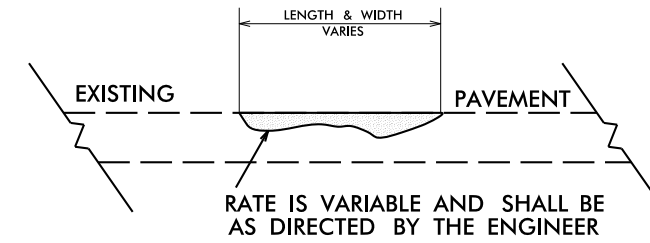
NOTES

ALL UNPAVED ROADS TO BE RESURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT. ALL PAVED S. R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.

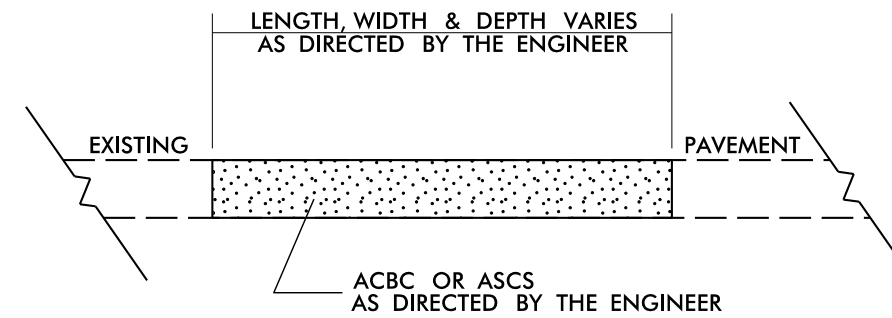
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.

SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED.

BRIDGES ARE TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

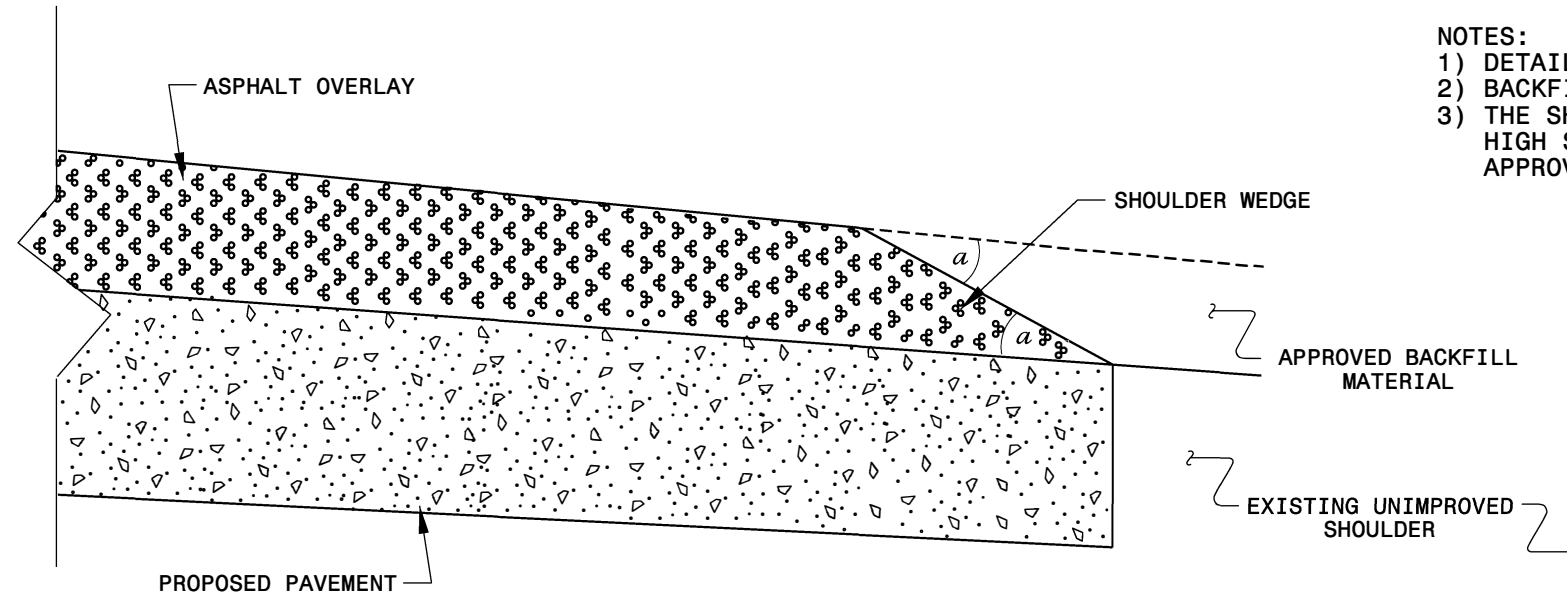


DETAIL SHOWING METHOD OF WEDGING

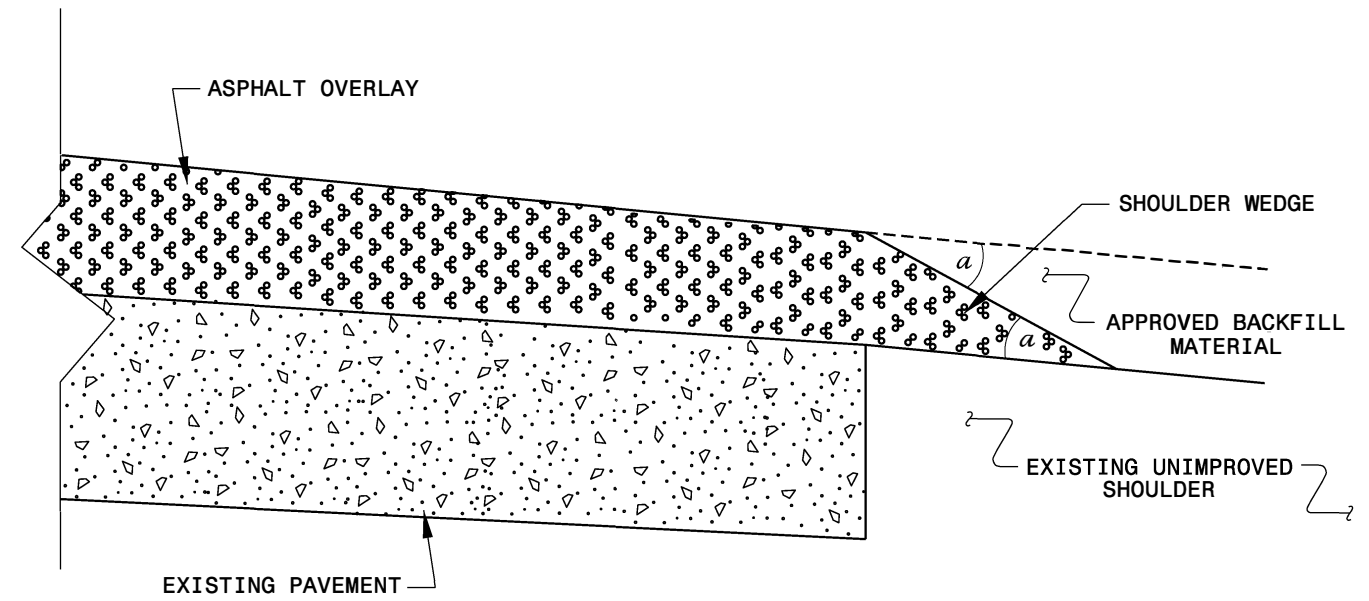


PATCHING EXISTING PAVEMENT

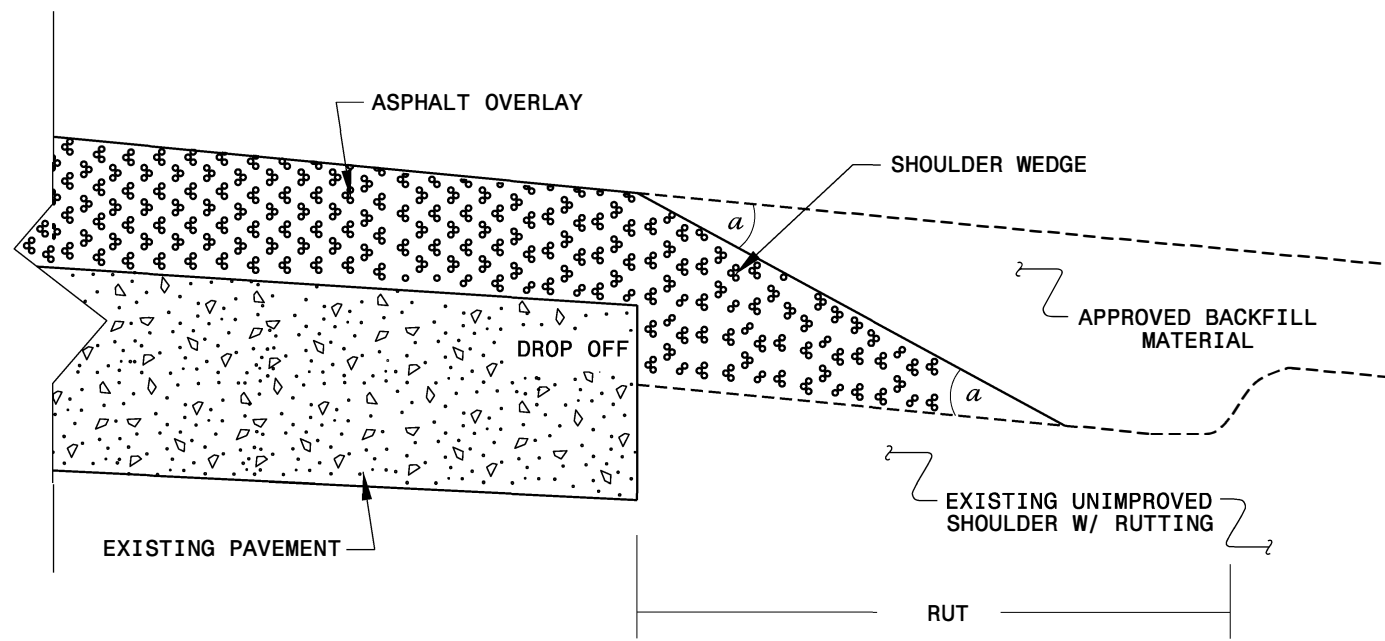
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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: 2/2/16 |
| CHECKED BY: | DATE: |
| FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn | |

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SUMMARY OF QUANTITIES

| PROJECT NO | COUNTY | MAP NO | ROUTE | DESCRIPTION | FROM MP | TO MP | TYP NO | LENGTH | WIDTH | 1245000000-E | 1260000000-E | 1308000000-E | 1330000000-E | 1523000000-E | 1524000000-E | 1575000000-E | 1704000000-E | 2830000000-N | 2845000000-N | 7444000000-E |
|---|----------|--------|--|--|---------|-------|--------|--------------|-------|-------------------------|---------------------------|--|--------------------|---|-----------------------------|------------------------------|----------------------------|------------------------|--|-----------------------|
| | | | | | | | | | | SHOULDER RECONSTRUCTION | AGGREGATE SHOULDER BORROW | MILLING ASPHALT PAVEMENT, 0" TO 1-1/2" DEPTH | INCIDENTAL MILLING | ASPHALT CONC SURFACE COURSE, TYPE S9.5C | LEVELING COURSE, TYPE S9.5C | ASPHALT BINDER FOR PLANT MIX | PATCHING EXISTING PAVEMENT | ADJUSTMENT OF MANHOLES | ADJUSTMENT OF METER BOXES OR VALVE BOXES | INDUCTIVE LOOP SAWCUT |
| | | | | | | | | MI | FT | SMI | | SY | SY | TON | TONS | TON | TON | EA | EA | LF |
| 2024CPT.13.04.11001 | Yancey | 1 | US-19 E / US-19 EAST | FROM SR 1137 (CANE RIVER CHURCH ROAD)+ .21 MI TO BRIDGE ABUTMENT (BRIDGE #009) | 1.65 | 2.76 | 2,3 | 1.11 | 37.0 | 1.48 | 192 | 8,661 | 2,106 | 2,038 | | 132 | 210 | | | 460 |
| | | | | FROM BRIDGE ABUTMENT (BRIDGE #009) TO SR 1137 (CANE RIVER CHURCH ROAD) -.21 MI | 11.92 | 13.02 | 2,3 | 1.10 | 36.0 | 0.98 | | 127 | 7,873 | 1,817 | 2,035 | | 132 | 210 | 1 | 3 |
| TOTAL FOR PROJ NO. 2024CPT.13.04.11001.1 | | | | | | | | 2.21 | | 2.46 | 319 | 16,534 | 3,923 | 4,073 | | 264 | 420 | 1 | 3 | 785 |
| 2024CPT.13.04.20611 | Mitchell | 2 | SR 1217 (MCKINNEY COVE ROAD) | FROM SR 1211 (NORTH MITCHELL AVENUE) PAVEMENT JOINT TO SR 1217 (GREEN YOUNG CEMETARY ROAD) | 0.01 | 1.13 | 1 | 1.12 | 18.0 | 2.24 | 146 | | 266 | 1,000 | 20 | 63 | 26 | 1 | | |
| 2024CPT.13.04.20611 | Mitchell | 3 | SR 1300 (CUB CREEK ROAD) | FROM NC 226 PAVEMENT CHANGE TO NC 261 PAVEMENT CHANGE | 0.01 | 1.45 | 1 | 1.44 | 18.0 | 2.89 | 187 | | 375 | 1,327 | 100 | 95 | 175 | | | |
| 2024CPT.13.04.20611 | Mitchell | 4 | SR 1307 (HARRELL HILL ROAD) | FROM NC 226 PAVEMENT JOINT TO SR 1309 (BEE BRANCH ROAD) | 0.02 | 1.18 | 1 | 1.80 | 18.0 | 3.63 | 234 | | 266 | 1,608 | 100 | 105 | 48 | | | |
| 2024CPT.13.04.20611 | Mitchell | 5 | SR 1351 (CLAUDE GARLAND ROAD) | FROM SR 1338 (FORK MOUNTAIN ROAD) TO DEAD END | 0.00 | 0.24 | 1 | 0.24 | 16.0 | 0.48 | 31 | | 133 | 192 | 20 | 13 | 10 | | | |
| TOTAL FOR PROJ NO. 2024CPT.13.04.20611.1 | | | | | | | | 4.60 | | 9.24 | 598 | | 1,040 | 4,127 | 240 | 276 | 259 | 1 | | |
| 2024CPT.13.04.21001 | Yancey | 6 | SR 1336 (TOE RIVER ROAD) | FROM SR 1338 (TOE RIVER ROAD) BRIDGE ABUTMENT DOWNSTREAM END | 10.20 | 11.65 | 1 | 1.45 | 18.0 | 2.50 | 325 | | 620 | 1,295 | 50 | 86 | 96 | | | |
| 2024CPT.13.04.21001 | Yancey | 7 | SR 1359 (HONEYCUTT ROAD) | FROM SR 1336 (JACKS CREEK ROAD) TO EOP | 0.00 | 0.05 | 1 | 0.05 | 14.0 | 0.10 | 7 | | 266 | 36 | 10 | 4 | 15 | | | |
| 2024CPT.13.04.21001 | Yancey | 8 | SR 1369 (GREEN MOUNTAIN DRIVE) | FROM MP 1.57 SR 1371 (AUNT EFFIE) TO SR 1373 (NORTH MAIN STREET) | 1.57 | 2.10 | 1,2 | 0.53 | 19.5 | 0.47 | 138 | 1,456 | 545 | 531 | 50 | 37 | 34 | 1 | 3 | |
| 2024CPT.13.04.21001 | Yancey | 9 | SR 1385 (PINEY HILL ROAD) | FROM US 19W PAVEMENT JOINT TO SR 1386 (SANG BRANCH ROAD) | 0.02 | 1.34 | 1 | 1.32 | 19.0 | 2.60 | 344 | | 125 | 1,238 | 100 | 107 | 545 | | | |
| 2024CPT.13.04.21001 | Yancey | 10 | SR 1386 (PINEY HILL NORTH, SANG BRANCH ROAD) | FROM US 19W PAVEMENT JOINT TO EOP | 0.01 | 2.31 | 1 | 2.30 | 19.0 | 4.60 | 299 | | 149 | 2,160 | 200 | 173 | 625 | | | |
| 2024CPT.13.04.21001 | Yancey | 11 | SR 1388 (ELK SHOALS CREEK ROAD) | FROM US 19W PAVEMENT JOINT TO EOP | 0.01 | 1.75 | 1 | 1.74 | 19.0 | 3.48 | 266 | | 534 | 1,630 | 50 | 108 | 152 | | | |
| TOTAL FOR PROJ NO. 2024CPT.13.04.21001.1 | | | | | | | | 16.58 | | 14 | 1,379 | 1,456 | 2,239 | 6,890 | 460 | 515 | 1,467 | 1 | 3 | |
| GRAND TOTAL | | | | | | | | 23.39 | | 25.45 | 2,296 | 17,990 | 7,202 | 15,090 | 700 | 1,055 | 2,146 | 3 | 6 | 785 |

* NOTE - ALL MAPS, LANES = 2, LANE TYPE = 2WU, FINAL SURFACE TESTING REQUIRED = NO, WARM MIX ASPHALT REQUIRED = NO

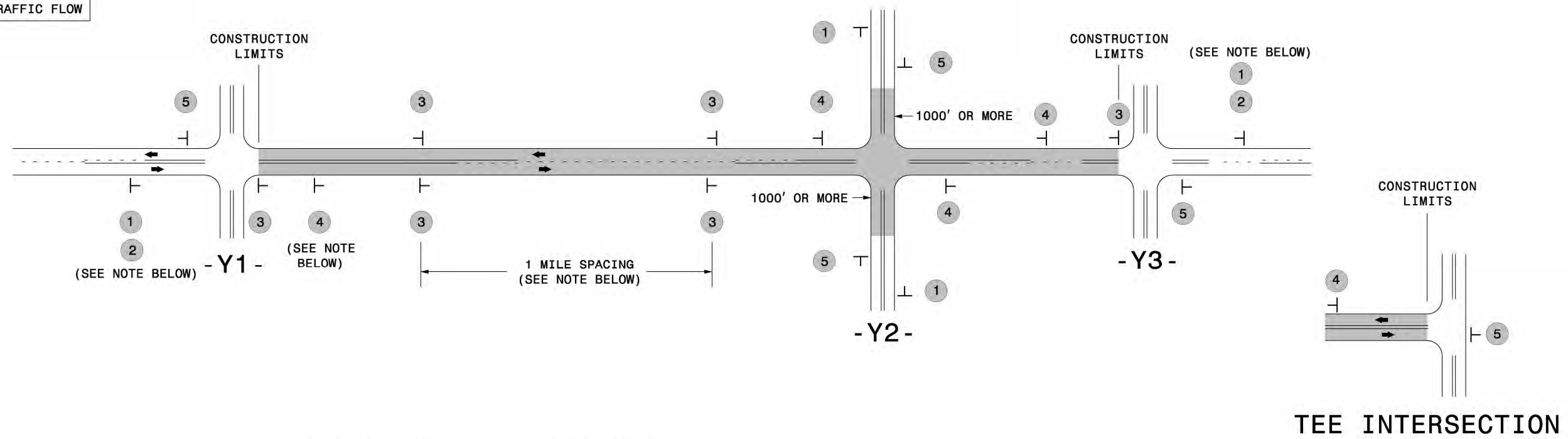
THERMOPLASTIC AND PAINT QUANTITIES

| PROJECT NO | COUNTY | MAP NO | ROUTE | DESCRIPTION | FROM MP | TO MP | TYP NO | LENGTH | WIDTH | 441300000-E | 445700000-N | 470900000-E | 472500000-E | | | | 489000000-E | | 490510000-N | | |
|---|----------|--------|--|--|---------|-------|--------|-------------|--------------|--|---------------------------|---|--|--|---|--|---|--|--|---|--|
| | | | | | | | | | | WORK ZONE ADVANCE/ GENERAL WARNING SIGNING | TEMPORARY TRAFFIC CONTROL | THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) (WHITE) | THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) LT ARROW | THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) RT ARROW | THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) STR ARROW | THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) STR & LT ARROW | HOT SPRAY THERMOPLASTIC PAVEMENT MARKING LINES (4", 55 MILS) (YELLOW) | HOT SPRAY THERMOPLASTIC PAVEMENT MARKING LINES (4", 55 MILS) (WHITE) | NON-CAST IRON SNOWPLOWABLE PAVMENT MARKERS (DOUBLE YELLOW) | NON-CAST IRON SNOWPLOWABLE PAVMENT MARKERS (RED/ WHITE) | |
| | | | | | | | | | | SF | LS | LF | EA | EA | EA | EA | LF | LF | EA | EA | |
| 2024CPT.13.04.11001 | Yancey | 1 | US-19 E / US-19 EAST | FROM SR 1137 (CANE RIVER CHURCH ROAD)+ .21 MI TO BRIDGE ABUTMENT (BRIDGE #009) | 1.65 | 2.76 | 2,3 | 1.11 | 37.0 | 126 | | 112 | 15 | 3 | 20 | 1 | | 9,148 | 2 | 139 | |
| | | | | FROM BRIDGE ABUTMENT (BRIDGE #009) TO SR 1137 (CANE RIVER CHURCH ROAD) -.21 MI | 11.92 | 13.02 | 2,3 | 1.10 | 36.0 | 126 | | 142 | 13 | 2 | 16 | 1 | 200 | 9,437 | 2 | 132 | |
| TOTAL FOR PROJ NO. 2024CPT.13.04.11001.1 | | | | | | | | 2.21 | | 252 | | 254 | 28 | 5 | 36 | 2 | 200 | 18,585 | 4 | 271 | |
| | | | | | | | | | | | | | 71 | 18,785 | | 275 | | | | | |
| 2024CPT.13.04.20611 | Mitchell | 2 | SR 1217 (MCKINNEY COVE ROAD) | FROM SR 1211 (NORTH MITCHELL AVENUE) PAVEMENT JOINT TO SR 1217 (GREEN YOUNG CEMETARY ROAD) | 0.01 | 1.13 | 1 | 1.12 | 18.0 | 127 | * | | | | | | 11,827 | 11,827 | | | |
| 2024CPT.13.04.20611 | Mitchell | 3 | SR 1300 (CUB CREEK ROAD) | FROM NC 226 PAVEMENT CHANGE TO NC 261 PAVEMENT CHANGE | 0.01 | 1.45 | 1 | 1.44 | 18.0 | 161 | | | | | | | | 15,301 | 15,301 | | |
| 2024CPT.13.04.20611 | Mitchell | 4 | SR 1307 (HARRELL HILL ROAD) | FROM NC 226 PAVEMENT JOINT TO SR 1309 (BEE BRANCH ROAD) | 0.02 | 1.18 | 1 | 1.80 | 18.0 | 202 | | | | | | | | 19,008 | 19,008 | | |
| 2024CPT.13.04.20611 | Mitchell | 5 | SR 1351 (CLAUDE GARLAND ROAD) | FROM SR 1338 (FORK MOUNTAIN ROAD) TO DEAD END | 0.00 | 0.24 | 1 | 0.24 | 16.0 | 27 | | | | | | | | | | | |
| TOTAL FOR PROJ NO. 2024CPT.13.04.20611.1 | | | | | | | | 4.60 | | 517 | | | | | | | | 46,136 | 46,136 | | |
| | | | | | | | | | | | | | 92,272 | | | | | | | | |
| 2024CPT.13.04.21001 | Yancey | 6 | SR 1336 (TOE RIVER ROAD) | FROM SR 1338 (TOE RIVER ROAD) BRIDGE ABUTMENT DOWNSTREAM END TO NC 197N PAVEMENT JOINT | 10.20 | 11.65 | 1 | 1.45 | 18.0 | 140 | * | | | | | | 15,295 | 15,295 | | | |
| 2024CPT.13.04.21001 | Yancey | 7 | SR 1359 (HONEYCUTT ROAD) | FROM SR 1336 (JACKS CREEK ROAD) TO EOP | 0.00 | 0.05 | 1 | 0.05 | 14.0 | 6 | | | | | | | | | | | |
| 2024CPT.13.04.21001 | Yancey | 8 | SR 1369 (GREEN MOUNTAIN DRIVE) | FROM MP 1.57 SR 1371 (AUNT EFFIE) TO SR 1373 (NORTH MAIN STREET) | 1.57 | 2.10 | 1,2 | 0.53 | 19.5 | 59 | | | | | | | | 5,599 | 4,231 | | |
| 2024CPT.13.04.21001 | Yancey | 9 | SR 1385 (PINEY HILL ROAD) | FROM US 19W PAVEMENT JOINT TO SR 1386 (SANG BRANCH ROAD) | 0.02 | 1.34 | 1 | 1.32 | 19.0 | 150 | | | | | | | | 13,960 | 13,960 | | |
| 2024CPT.13.04.21001 | Yancey | 10 | SR 1386 (PINEY HILL NORTH ,SANG BRANCH ROAD) | FROM US 19W PAVEMENT JOINT TO EOP | 0.01 | 2.31 | 1 | 2.30 | 19.0 | 258 | | | | | | | | 25,661 | 25,661 | | |
| 2024CPT.13.04.21001 | Yancey | 11 | SR 1388 (ELK SHOALS CREEK ROAD) | FROM US 19W PAVEMENT JOINT TO EOP | 0.01 | 1.75 | 1 | 1.74 | 19.0 | 198 | | | | | | | | 17,846 | 17,846 | | |
| TOTAL FOR PROJ NO. 2024CPT.13.04.21001.1 | | | | | | | | 7.39 | | 811 | | | | | | | 78,361 | 76,993 | | | |
| | | | | | | | | | | | | | 155,354 | | | | | | | | |
| GRAND TOTAL | | | | | | | | | 14.20 | 1,580 | 1 | 254 | 28 | 5 | 36 | 2 | 124,697 | 141,714 | 4 | 271 | |
| | | | | | | | | | | | | | 71 | | | | 266,411 | | 275 | | |

* NOTE - ALL MAPS, LANES = 2, LANE TYPE = 2WU, FINAL SURFACE TESTING REQUIRED = NO, WARM MIX ASPHALT REQUIRED = NO

SIGNING FOR RESURFACING PROJECTS

LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

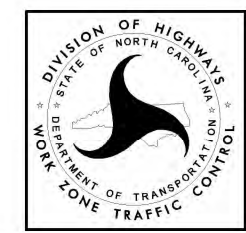
-Y- LINE SIGNING

| | | | | |
|---|---|--|---|---|
| SIGNING NOTES AND PLACEMENT PER DIRECTION | 1 | | PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. | <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, PORTABLE ADVANCE WARNING 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;"> PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> PLACED 250' IN ADVANCE OF FLAGGER. </div> </div> |
| | 2 | | #2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS) | |
| | 3 | | - PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER. | |
| | 4 | | - 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. | |
| | 5 | | PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION. | |

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

MAPS LESS THAN 2 MILES

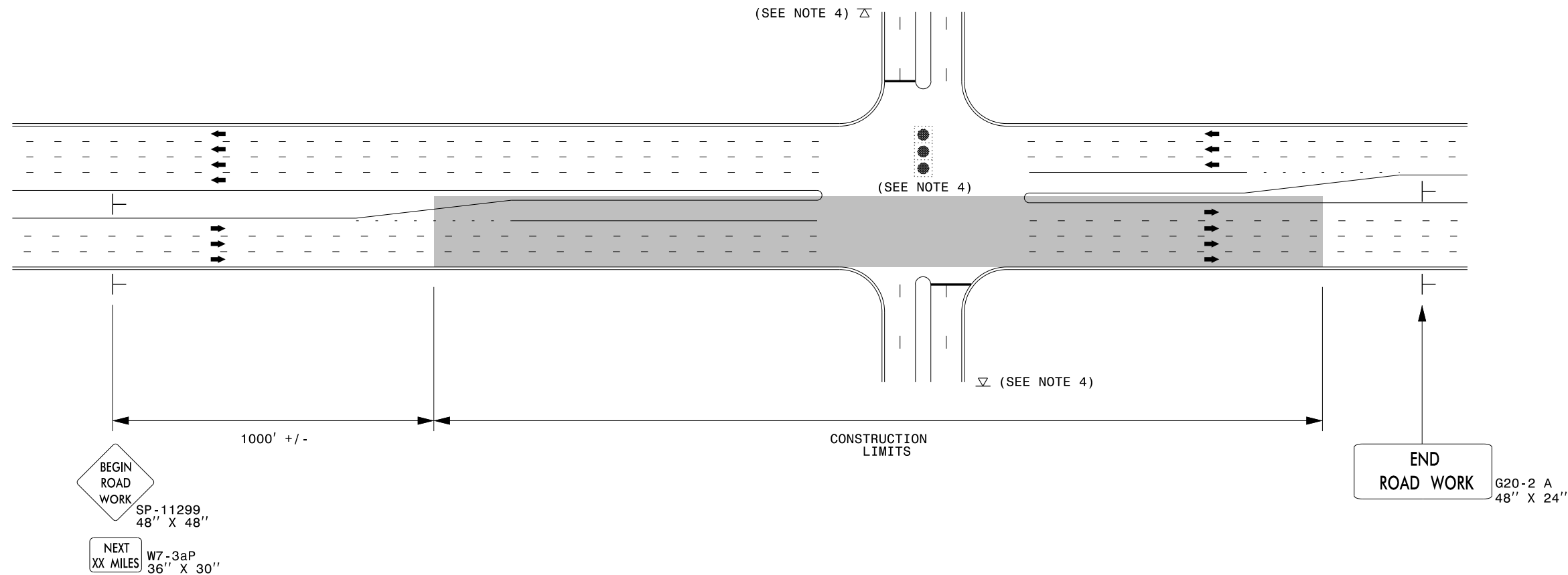
FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.



ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

5/15/2017 S:\T\13\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing_AdvWarn_2Ln.dgn User:keads

URBAN / SUBURBAN WORKZONES

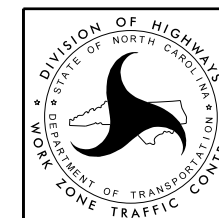


NOTES:

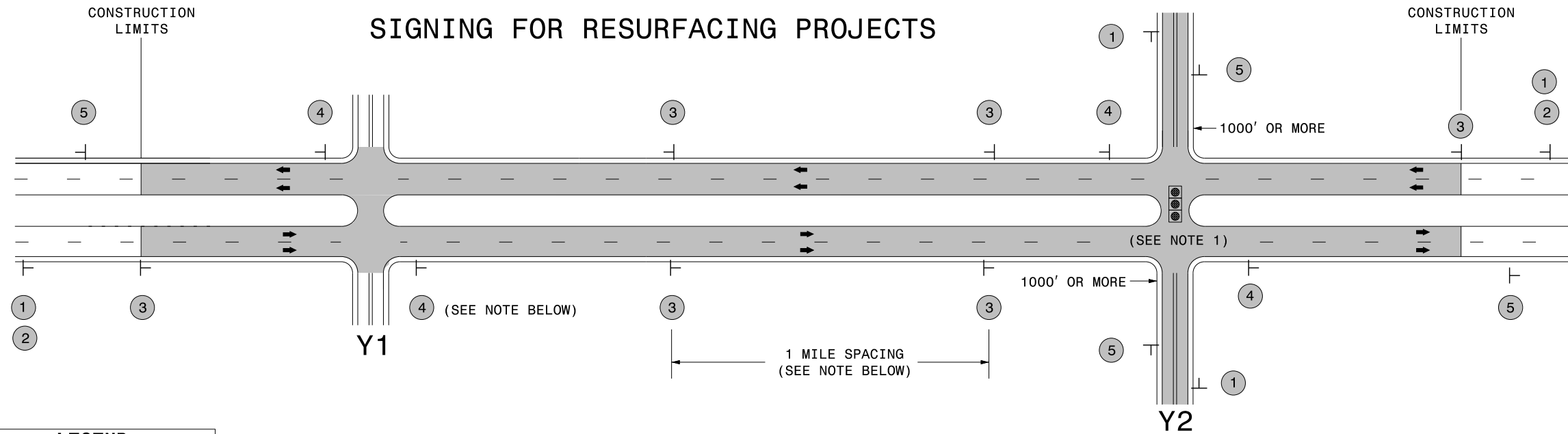
- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT.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



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

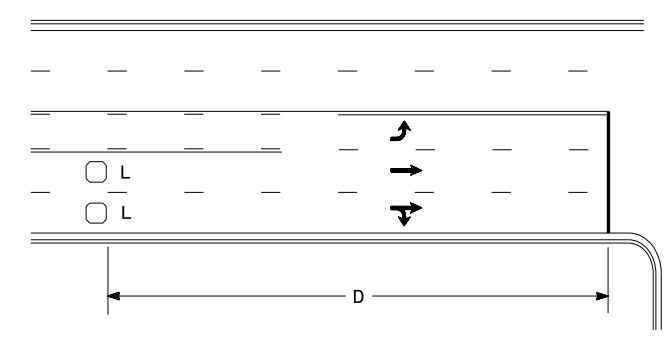
MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

| SIGNING NOTES AND PLACEMENT PER DIRECTION | MAINLINE (-L-) SIGNING | | -Y- LINE SIGNING | |
|---|--------------------------|--|---|--|
| | 1 | W20-1 48" X 48" | PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. | <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> W20-1 48" X 48" </div> <div> W20-7 A 48" X 48" </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> |
| | 2 | W7-3aP 24" X 18" | #2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS) | |
| | 3 | SP 13107 48" X 48" | PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER. | |
| | 4 | SP 13106 48" X 48" | THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. | |
| 5 | G20-2 A 48" X 24" | PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS. | | |
| | | | <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**

High Speed Detection (≥40 mph)

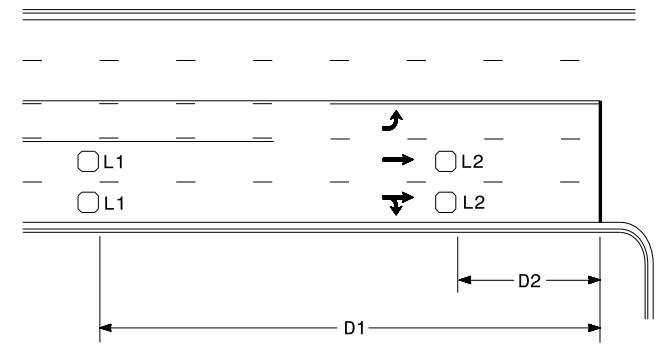


| Speed Limit mph | D ft |
|-----------------|------|
| 40 | 250 |
| 45 | 300 |
| 50 | 355 |
| 55 | 420 |

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

Volume Density Operation

OR

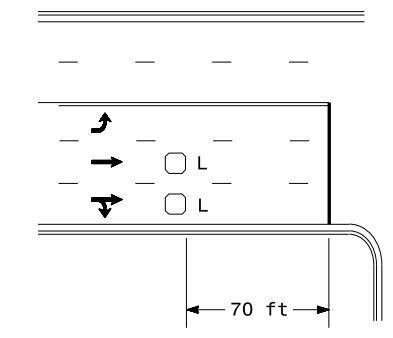


| Speed Limit mph | D1 ft | D2 ft |
|-----------------|-------|-------|
| 40 | 250 | 80 |
| 45 | 300 | 90 |
| 50 | 355 | 100 |
| 55 | 420 | 110 |

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

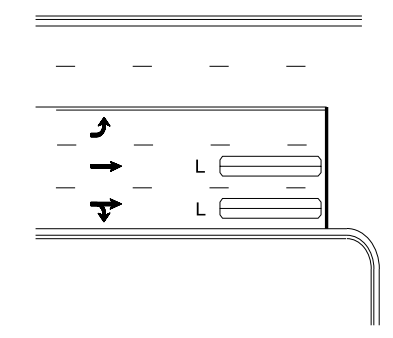
"Stretch" Operation

Low Speed Detection (≤35 mph)



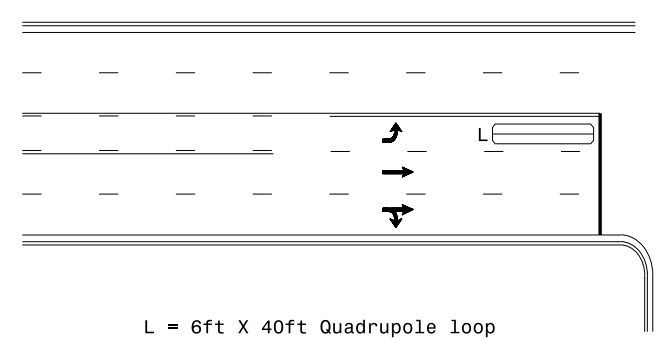
L = 6ft X 6ft
Wired in series

OR



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

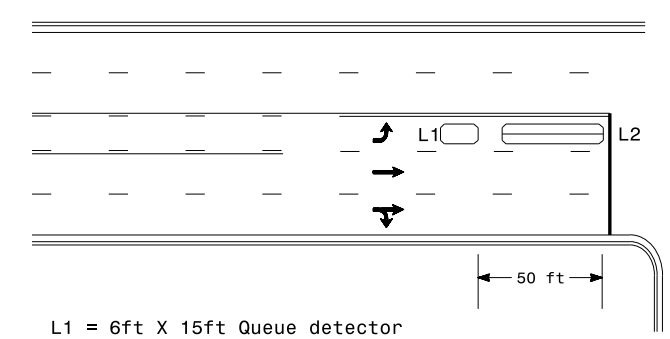
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

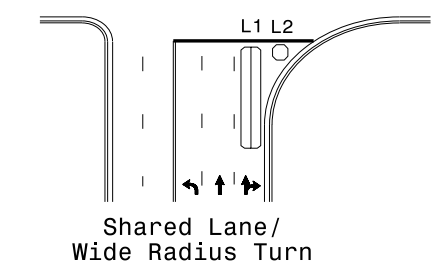
OR



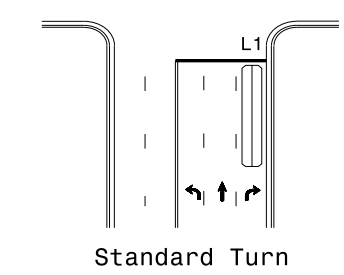
L1 = 6ft X 15ft Queue detector
L2 = 6ft X 40ft Quadrupole loop

Queue Loop Detection

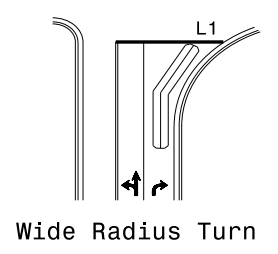
Right Turn Lane Detection



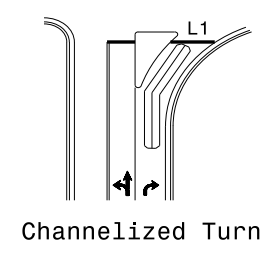
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

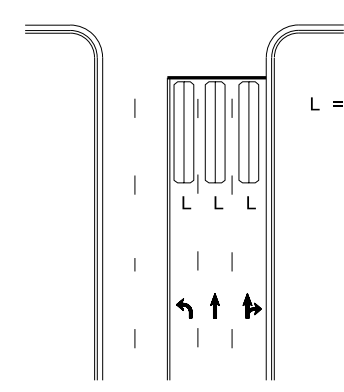


Wide Radius Turn



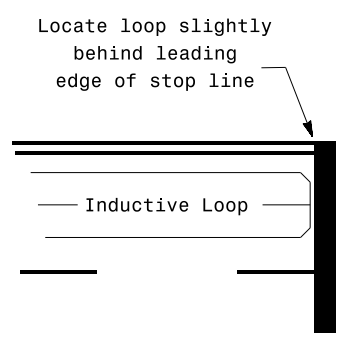
Channelized Turn

Side Street Detection



L = 6ft X 40ft
Quadrupole loop
Wired to separate detectors/channels

Presence Loop Placement at Stop Lines



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

Typical Signal Loop Locations

| | |
|-------------------------|-----------------------|
| PLAN DATE: January 2015 | REVIEWED BY: JPG |
| PREPARED BY: PLA | REVIEWED BY: |
| SCALE: N/A | REVISIONS: INIT. DATE |

1/30/2015

30-JAN-2015 12:39 S:\11565\11565\SIGNAL\Design\Section\Eastern_Reg\loop\loop\lca12015.dgn pal/alexander