

# COMPUTATIONS AND SUB-SUMMARIES

QUANTITY CALCULATIONS

BY \_\_\_\_\_ DATE \_\_\_\_\_

CHKD. \_\_\_\_\_ DATE \_\_\_\_\_

WOODRUFF, INC.

|                 |       |         |
|-----------------|-------|---------|
| F.R.W.A. REGION | STATE | PROJECT |
| 5               | OHIO  |         |

LAKE COUNTY

LAK-20-17.14

| 301 BITUMINOUS AGGREGATE BASE AC-20 RT-II, RT-12 |          |          |          |        |          |                                      |
|--|----------|----------|----------|--------|----------|--------------------------------------|
| STATION  | LENGTH   | WIDTH    | DEPTH    | VOLUME | REMARKS  |                                      |
| FROM   | TO       | LIN. FT. | LIN. FT. | INCHES | CU. YDS. |                                      |
| 10+88.45   | 11+79.08 | 91.63    | Varies   | 6      | 101.06   | CASEMENT AVE - ERIE ST. INTERSECTION |
| 11+79.08   | 13+18.37 | 139.29   | 25       | 6      | 64.49    | CASEMENT AVE.                        |
| 13+18.37   | 13+88.37 | 70       | 23       | 6      | 29.81    | CASEMENT AVE.                        |
| 13+88.37   | 14+50    | 61.63    | 21       | 6      | 23.97    | CASEMENT AVE.                        |
| 1+16   | 5+00     | 384      | 21       | 6      | 149.33   | ERIE ST.                             |
| <b>TOTAL</b>                                     |          |          |          |        | 369      |                                      |

| 404 ASPHALT CONCRETE AC-20 |          |          |          |          |          |                                      |
|----------------------------|----------|----------|----------|----------|----------|--------------------------------------|
| STATION                    | LENGTH   | WIDTH    | DEPTH    | VOLUME   | REMARKS  |                                      |
| FROM                       | TO       | LIN. FT. | LIN. FT. | INCHES   | CU. YDS. |                                      |
| 10+88.45                   | 11+79.08 | 91.03    | Varies   | 1        | 16.16    | CASEMENT AVE - ERIE ST. INTERSECTION |
| 11+79.08                   | 13+18.37 | 139.29   | 24       | 1        | 10.32    | CASEMENT AVE.                        |
| 13+18.37                   | 13+88.37 | 70       | 22 AVG.  | 1        | 4.75     | CASEMENT AVE.                        |
| 13+88.37                   | 14+50    | 61.63    | 20       | 1        | 3.80     | CASEMENT AVE.                        |
| 1+16                       | 5+00     | 384      | 20       | 1        | 23.70    | ERIE ST.                             |
| 5+00                       | 5+25     | 25       | 20       | 1/4 AVG. | 1.93     | ERIE ST. BUTT JOINT                  |
| 14+50                      | 14+75    | 25       | 20       | 1/4 AVG. | 1.93     | CASEMENT AVE BUTT JT.                |
| 13+65                      | 13+90    | 25       | 24       | 1/4 AVG. | 2.31     | RT. 20 BUTT JOINT                    |
| 29+00                      | 29+25    | 25       | 32       | 1/4 AVG. | 3.09     | RT. 20 BUTT JOINT                    |
| <b>TOTAL</b>               |          |          |          |          | 68       |                                      |

| 411 STABILIZED CRUSHED AGGREGATE |        |          |          |        |          |                                      |
|----------------------------------|--------|----------|----------|--------|----------|--------------------------------------|
| STATION                          | LENGTH | WIDTH    | DEPTH    | VOLUME | REMARKS  |                                      |
| FROM                             | TO     | LIN. FT. | LIN. FT. | INCHES | CU. YDS. |                                      |
| 10+88.45                         | 14+50  | 362      | 4        | 6      | 26.81    | CASEMENT AVE. (RT.)                  |
| 11+79.08                         | 14+50  | 270.92   | 4        | 6      | 20.07    | CASEMENT AVE. (LT.)                  |
| 11+79.08                         | 1+16   | 131      | 4        | 6      | 9.70     | CASEMENT AVE - ERIE ST. INTERSECTION |
| 1+16                             | 5+00   | 384      | 4        | 6      | 28.44    | ERIE ST. (RT.)                       |
| 1+16                             | 5+00   | 384      | 4        | 6      | 28.44    | ERIE ST. (LT.)                       |
| 10+88.45                         | 1+16   | 95       | 4        | 6      | 7.04     | ERIE ST. (LT.)                       |
| <b>TOTAL</b>                     |        |          |          |        | 121      |                                      |

| ITEM 310 - SUBBASE, TYPE II |          |          |          |        |          |                                      |
|-----------------------------|----------|----------|----------|--------|----------|--------------------------------------|
| STATION                     | LENGTH   | WIDTH    | DEPTH    | VOLUME | REMARKS  |                                      |
| FROM                        | TO       | LIN. FT. | LIN. FT. | INCHES | CU. YDS. |                                      |
| 13+90                       | 27+65    | 3820 SY  | 451      | 6      | 636.7    | SEE #1 PAVEMENT AREA                 |
| 10+88.5                     | 11+79.08 | 91.3     | Varies   | 6      | 99.91    | CASEMENT AVE - ERIE ST. INTERSECTION |
| 11+79.08                    | 13+18.37 | 139.29   | 26       | 6      | 67.07    | CASEMENT AVE.                        |
| 13+18.37                    | 13+37    | 70       | 24 Avg.  | 6      | 31.11    | CASEMENT AVE.                        |
| 13+88.37                    | 14+50    | 61.63    | 22       | 6      | 25.11    | CASEMENT AVE.                        |
| 1+16                        | 5+00     | 384      | 22       | 6      | 156.44   | ERIE ST.                             |
| <b>TOTAL</b>                |          |          |          |        | 1017     |                                      |

| 408 BITUMINOUS PRIME COAT |        |          |          |           |         |                                      |
|---------------------------|--------|----------|----------|-----------|---------|--------------------------------------|
| STATION                   | LENGTH | WIDTH    | RATE     | VOLUME    | REMARKS |                                      |
| FROM                      | TO     | LIN. FT. | LIN. FT. | GAL./S.Y. | GAL.    |                                      |
| 10+88.45                  | 14+50  | 362      | 4        | 0.40      | 64.36   | CASEMENT AVE. (RT.)                  |
| 11+79.08                  | 14+50  | 270.92   | 4        | 0.40      | 48.16   | CASEMENT AVE. (LT.)                  |
| 11+79.08                  | 1+16   | 131      | 4        | 0.40      | 23.29   | CASEMENT AVE - ERIE ST. INTERSECTION |
| 1+16                      | 5+00   | 384      | 4        | 0.40      | 68.27   | ERIE ST. (RT.)                       |
| 1+16                      | 5+00   | 384      | 4        | 0.40      | 68.27   | ERIE ST. (LT.)                       |
| 10+88.45                  | 1+16   | 95       | 4        | 0.40      | 16.89   |                                      |
| <b>TOTAL</b>              |        |          |          |           | 290     |                                      |

| 451 9" REINFORCED CONCRETE PAVEMENT |          |          |            |          |  |
|-------------------------------------|----------|----------|------------|----------|--|
| STATION                             | LENGTH   | WIDTH    | AREA       | REMARKS  |  |
| FROM                                | TO       | LIN. FT. | LIN. FT.   | SQ. YDS. |  |
| 13+90                               | 18+66    | 476      | 29         | 1533.80  |  |
| 23+14.56                            | 24+48.63 | 134.07   | 37.35 Avg. | 556.39   |  |
| 10+22.84                            | 10+88.5  | 65.21    | Varies     | 370.44   | RT. 20 - CASEMENT AVE. INTERSECTION (SCALED) |
| 24+48.63                            | 25+66.14 | 117.51   | 41         | 535.32   |  |
| 25+66.14                            | 27+65.00 | 198.86   | 37 AVG.    | 817.54   |  |
| <b>TOTAL</b>                        |          |          |            | 3820     |  |

| 402 ASPHALT CONCRETE AC-20 |          |          |          |          |          |                                      |
|----------------------------|----------|----------|----------|----------|----------|--------------------------------------|
| STATION                    | LENGTH   | WIDTH    | DEPTH    | VOLUME   | REMARKS  |                                      |
| FROM                       | TO       | LIN. FT. | LIN. FT. | INCHES   | CU. YDS. |                                      |
| 10+88.45                   | 11+79.08 | 91.63    | Varies   | 1 1/2    | 24.21    | CASEMENT AVE - ERIE ST. INTERSECTION |
| 11+79.08                   | 13+18.37 | 139.29   | 24       | 1 1/2    | 15.48    | CASEMENT AVE.                        |
| 13+18.37                   | 13+88.37 | 70       | 22 AVG.  | 1 1/2    | 7.13     | CASEMENT AVE.                        |
| 13+88.37                   | 14+50    | 61.63    | 20       | 1 1/2    | 5.71     | CASEMENT AVE.                        |
| 1+16                       | 5+00     | 384      | 20       | 1 1/2    | 35.56    | ERIE ST.                             |
| 5+00                       | 5+12.50  | 12.50    | 20       | 7/8 AVG. | 0.65     | ERIE ST. BUTT JOINT                  |
| 14+50                      | 14+75    | 25       | 20       | 7/8 AVG. | 1.35     | CASEMENT RD BUTT JT.                 |
| 13+77.50                   | 13+90    | 12.50    | 24       | 7/8 AVG. | 0.81     | RT. 20 BUTT JOINT                    |
| 29+00                      | 29+12.5  | 12.50    | 32       | 7/8 AVG. | 1.08     | RT. 20 BUTT JOINT                    |
| <b>TOTAL</b>               |          |          |          |          | 92       |                                      |

| 409 SEAL COAT BITUMINOUS MATERIAL |        |          |          |           |         |                                      |
|-----------------------------------|--------|----------|----------|-----------|---------|--------------------------------------|
| STATION                           | LENGTH | WIDTH    | RATE     | VOLUME    | REMARKS |                                      |
| FROM                              | TO     | LIN. FT. | LIN. FT. | GAL./S.Y. | GAL.    |                                      |
| 10+88.45                          | 14+50  | 362      | 4        | 0.30      | 48.27   | CASEMENT AVE. (RT.)                  |
| 11+79.08                          | 14+50  | 270.92   | 4        | 0.30      | 36.12   | CASEMENT AVE. (LT.)                  |
| 11+79.08                          | 1+16   | 131      | 4        | 0.30      | 17.47   | CASEMENT AVE - ERIE ST. INTERSECTION |
| 1+16                              | 5+00   | 384      | 4        | 0.30      | 51.20   | ERIE ST. (RT.)                       |
| 1+16                              | 5+00   | 384      | 4        | 0.30      | 51.20   | ERIE ST. (LT.)                       |
| 10+88.45                          | 1+16   | 95       | 4        | 0.30      | 12.67   |                                      |
| <b>TOTAL</b>                      |        |          |          |           | 217     |                                      |

| 409 SEAL COAT COVER AGGREGATE NO. 8 |        |          |          |           |          |                                  |
|-------------------------------------|--------|----------|----------|-----------|----------|----------------------------------|
| STATION                             | LENGTH | WIDTH    | RATE     | VOLUME    | REMARKS  |                                  |
| FROM                                | TO     | LIN. FT. | LIN. FT. | C.Y./S.Y. | CU. YDS. |                                  |
| 10+89                               | 14+50  | 362      | 4        | 0.008     | 1.29     | Casement Ave. (RT.)              |
| 11+79.08                            | 14+50  | 270.92   | 4        | 0.008     | 0.96     | Casement Ave. (LT.)              |
| 11+79.08                            | 1+16   | 131      | 4        | 0.008     | 0.72     | Casement - Erie St. Intersection |
| 1+16                                | 5+00   | 384      | 4        | 0.008     | 1.37     | Erie St. (RT.)                   |
| 1+16                                | 5+00   | 384      | 4        | 0.008     | 1.37     | Erie St. (LT.)                   |
| 10+88.45                            | 1+16   | 95       | 4        | 0.008     | 0.34     |                                  |
| <b>TOTAL</b>                        |        |          |          |           | 6        |                                  |