

PAVEMENT CALCULATIONS

| | | | |
|-------------------|-------|---------|------------|
| FED. RD. DIVISION | STATE | PROJECT | TYPE FUNDS |
| 2 | OHIO | H.I.F. | 1951 |

LAKE COUNTY
LAK-20-C556(5.81-10.24)

3
9

E-8 REMOVAL & DISPOSAL OF EXISTING BITUMINOUS WEARING COURSE.

VILLAGE OF WILLOUGHBY.

STA. 0-1068.50 To STA. 0-1053.50 = $15' \times 45' \div 9 = 75.0$ S.Y.
 STA. 0-895.50 To STA. 0-880.50 = $15' \times 34' \div 9 = 56.7$ S.Y.
 STA. 2+08.12 To STA. 2+23.12 = $15' \times 34' \div 9 = 56.7$ S.Y.
 TOTAL = 188.4 S.Y. (CONTINUE CALCULATION BELOW)

RURAL

STA. 444+01.70 To STA. 444+16.70 = $15' \times 36' \div 9 = 60.0$ S.Y. (CONTINUE CALCULATION BELOW)

T-35 ASPHALTIC CONCRETE SURFACE COURSE.

VILLAGE OF WILLOUGHBY

STA. 0-1068.50 To STA. 0-940.50 = $128' \times 43' \div 9 = 611.55$ S.Y.
 STA. 0-940.50 To STA. 0-880.50 = $60' \times 39' \div 9 = 260.00$ S.Y.
 STA. 2+08.12 To STA. 40+10.0 = $3801.88' \times 34.33' \div 9 = 14,502.06$ S.Y.
 STA. 40+10.0 To STA. 44+25.0 = $415.0' \times 17.17' \div 9 = 791.73$ S.Y.
 TOTAL = 16,165.34 S.Y.

AVER. $1\frac{1}{2}"$ 16,165.34 S.Y. $\times \frac{1}{2} \div 36 = 673.56$ Cu.Yds.
 EXTRA AREA $\frac{3}{4}"$ AVER. 207.0 S.Y. $\times \frac{3}{4} \div 36 = 4.31$ Cu.Yds.
 EXTRA SURFACING AVER. $1\frac{1}{4}"$ 188.4 S.Y. $\times 1\frac{1}{4} \div 36 = 9.16$ Cu.Yds.
 EXTRA SURFACING 110 C.Y. PER MILE $\times 0.834 = 91.74$ Cu.Yds.
 TOTAL = 778.77 Cu.Yds. Use 779.0 Cu.Yds.

VILLAGE OF MENTOR

STA. 129+80.0 To STA. 157+88.0 = $2808' \times 34.33' \div 9 = 10,710.96$ S.Y.
 STA. 157+88.0 To STA. 184+88.0 = $2700' \times 32.33' \div 9 = 9,699.00$ S.Y.
 STA. 184+88.0 To STA. 194+38.95 = $950.95' \times 30.33' \div 9 = 3,204.70$ S.Y.
 STA. 194+38.95 To STA. 236+05.0 = $4166.05' \times 34.33' \div 9 = 15,891.16$ S.Y.
 TOTAL = 39,505.82 S.Y.

AVER. $1\frac{1}{2}"$ 39,505.82 S.Y. $\times \frac{1}{2} \div 36 = 1,646.08$ Cu.Yds.
 EXTRA AREA $\frac{3}{4}"$ AVER. 506.0 S.Y. $\times \frac{3}{4} \div 36 = 10.54$ Cu.Yds.
 EXTRA SURFACING 110 C.Y. PER MILE $\times 2.012 = 221.32$ Cu.Yds.
 TOTAL = 1877.94 Cu.Yds. Use 1878.0 Cu.Yds.

RURAL

STA. 40+10.0 To STA. 44+25.0 = $415.0' \times 17.17' \div 9 = 791.73$ S.Y.
 STA. 44+25.0 To STA. 129+80.0 = $8,555.0' \times 34.33' \div 9 = 32,632.57$ S.Y.
 STA. 236+05.0 To STA. 444+16.70 = $20,811.70' \times 34.33' \div 9 = 79,385.07$ S.Y.
 TOTAL = 112,809.37 S.Y.

AVER. $1\frac{1}{2}"$ 112,809.37 S.Y. $\times \frac{1}{2} \div 36 = 4,700.39$ Cu.Yds.
 EXTRA AREA $\frac{3}{4}"$ 928.0 S.Y. $\times \frac{3}{4} \div 36 = 19.33$ Cu.Yds.
 EXTRA SURFACING AVER. $\frac{3}{4}"$ 60.0 S.Y. $\times 1\frac{3}{4} \div 36 = 2.92$ Cu.Yds.
 EXTRA SURFACING 110 Cu.Yds. PER MILE $\times 5.640 = 620.40$ Cu.Yds.
 TOTAL = 5343.04 Cu.Yds. Use 5343.0 Cu.Yds.

T-30 BITUMINOUS TACK COAT MS-2 OR SS-1 @ 0.10 GAL. PER SQ. YD.

VILLAGE OF WILLOUGHBY

STA. 0-1068.50 To STA. 0-940.50 = $128' \times 45' \div 9 = 640.00$ S.Y.
 STA. 0-940.50 To STA. 0-880.50 = $60' \times 41' \div 9 = 273.33$ S.Y.
 STA. 2+08.12 To STA. 40+10.0 = $3801.88' \times 36' \div 9 = 15,207.52$ S.Y.
 STA. 40+10.0 To STA. 44+25.0 = $415.0' \times 18' \div 9 = 830.00$ S.Y.
 EXTRA AREA = 207.00 S.Y.
 TOTAL = 17,157.85 S.Y. @ 0.10 GALS. PER S.Y. = 1715.78 Use 1716 GALS.

VILLAGE OF MENTOR

STA. 129+80.0 To STA. 157+88.0 = $2808.0' \times 36' \div 9 = 11,232.00$ S.Y.
 STA. 157+88.0 To STA. 184+88.0 = $2700.0' \times 34' \div 9 = 10,200.00$ S.Y.
 STA. 184+88.0 To STA. 194+38.95 = $950.95' \times 32' \div 9 = 3,381.16$ S.Y.
 STA. 194+38.95 To STA. 236+05.0 = $4166.05' \times 36' \div 9 = 16,664.20$ S.Y.
 EXTRA AREA = 506.00 S.Y.
 TOTAL = 41,983.36 S.Y. @ 0.10 GALS. PER S.Y. = 4,198.36 Use 4198 GALS.

RURAL

STA. 40+10.0 To STA. 44+25.0 = $415.0' \times 18' \div 9 = 830.0$ S.Y.
 STA. 44+25.0 To STA. 129+80.0 = $8,555.0' \times 36' \div 9 = 34,220.0$ S.Y.
 STA. 236+05.0 To STA. 444+16.70 = $20,811.70' \times 36' \div 9 = 83,246.80$ S.Y.
 EXTRA AREA = 928.00 S.Y.
 TOTAL = 119,224.80 S.Y. @ 0.10 GALS. PER S.Y. = 11,922.48 Use 11,922 GALS.

E-8 REMOVAL & DISPOSAL OF EXISTING BITUMINOUS WEARING COURSE

LOCATION TO BE AS DIRECTED BY THE ENGINEER

VILLAGE OF WILLOUGHBY

148 Sq.Yds. + 188.4 (AS ABOVE) = 336.4 Sq.Yds.

VILLAGE OF MENTOR

356 Sq.Yds. = 356.0 Sq.Yds.

RURAL

996 Sq.Yds. + 60.0 (AS ABOVE) = 1056.0 Sq.Yds.

Use 336 Sq.Yds.
 Use 356 Sq.Yds.
 Use 1056 Sq.Yds.

| GENERAL SUMMARY | | | | | | |
|-----------------|--------|----------|------------|----------|----------|---|
| ITEM | UNIT | PROJECT | WILLOUGHBY | MENTOR | RURAL | DESCRIPTION |
| | | TOTAL | VILLAGE | VILLAGE | RURAL | |
| | | QUANTITY | QUANTITY | QUANTITY | QUANTITY | |
| E-8 | S.Y. | 1,748 | 336 | 356 | 1,056 | REMOVAL & DISPOSAL OF EXISTING WEARING COURSE |
| T-35 | Cu.Yd. | 8,000 | 779 | 1,878 | 5,343 | ASPHALTIC CONCRETE SURFACE COURSE, TYPE "C" (60-70) |
| T-30 | GAL. | 17,836 | 1,716 | 4,198 | 11,922 | BITUMINOUS TACK COAT, SEC. M55 MS-2 OR SS-1 |
| I-8 | EACH | 28 | 4 | 8 | 16 | MONUMENT BOXES ADJUSTED TO GRADE |
| I-8 | EACH | 12 | 1 | 6 | 5 | MANHOLES ADJUSTED TO GRADE |
| I-8 | EACH | 3 | 1 | 1 | 1 | WATER VALVE BOXES ADJUSTED TO GRADE |
| I-8 | EACH | 1 | 1 | | | CATCH BASIN ADJUSTED TO GRADE |
| I-8 | EACH | 4 | 1 | 1 | 2 | MONUMENT BOXES |

| SUMMARY OF QUANTITIES | | | | | | | | | | |
|-----------------------------------|----------------|-----------|--------------|-------------|----------------|-----------|--------------|----------------|-----------|--------------|
| CASTINGS ADJUSTED TO GRADE - EACH | | | | | | | | | | |
| SHEET NO. | WILLOUGHBY | | | MENTOR | | | RURAL | | | |
| | MONUMENT BOXES | MAN HOLES | WATER VALVES | CATCH BASIN | MONUMENT BOXES | MAN HOLES | WATER VALVES | MONUMENT BOXES | MAN HOLES | WATER VALVES |
| 4 | 4 | 1 | 1 | 1 | | | | 2 | | |
| 5 | | | | | 1 | | | 5 | 2 | 1 |
| 6 | | | | | 7 | 6 | 1 | | 1 | |
| 7 | | | | | | | | 4 | 1 | |
| 8 | | | | | | | | 5 | 1 | |
| TOTALS | 4 | 1 | 1 | 1 | 8 | 6 | 1 | 16 | 5 | 1 |

| SUMMARY OF QUANTITIES | | | |
|--|------------|----------|----------|
| EXTRA AREA AVERAGE $\frac{3}{4}"$ T-35 (FEATHERED INTERSECTIONS) | | | |
| SHEET NO. | WILLOUGHBY | MENTOR | RURAL |
| 4 | 207 | | |
| 5 | | 50 | 250 |
| 6 | | 456 | |
| 7 | | | 300 |
| 8 | | | 328 |
| 9 | | | 50 |
| TOTALS | 207 S.Y. | 506 S.Y. | 928 S.Y. |