

CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

7
57

LAKE COUNTY
LAK. - 2 - 1.80
QUANTITY CALCULATIONS
BY K. N. M. DATE 2/2/73
CHKD. J. A. W. DATE 2/2/73
E. A. THOMAS & ASSOC. INC.

ITEM 304 7" AGGREGATE BASE

RAMP No. 5
 STA: 11+00 TO STA: 11+34 (8 LF x 10 LF) ÷ 2 x 34 LF x 0.58 FT ÷ 27 = 6.6 CU. YDS. ✓
 STA: 11+34 TO STA: 14+00 8 LF x 266 LF x 0.58 FT ÷ 27 = 45.7
 STA: 14+00 TO STA: 14+94 (8 LF + 2 LF) ÷ 2 x 94 LF x 0.58 FT ÷ 27 = 10.1

RAMP No. 8
 STA: 13+50 TO STA: 13+68 6 LF x 18 LF x 0.58 FT ÷ 27 = 2.3
 STA: 13+68 TO STA: 18+19 3 LF x 451 LF x 0.58 FT ÷ 27 = 29.1

LAKELAND BOULEVARD (WEST)
 STA: 1+20 TO STA: 1+74 4 LF x 54 LF x 0.58 FT ÷ 27 = 4.6
 STA: 2+20 TO STA: 3+65 4 LF x 145 LF x 0.58 FT ÷ 27 = 12.5
 STA: 4+16 TO STA: 5+50 (8 LF + 4 LF) ÷ 2 x 134 LF x 0.58 FT ÷ 27 = 17.3
 STA: 5+50 TO STA: 5+60 10 LF x 10 LF x 0.58 FT ÷ 27 = 2.1

LAKELAND BOULEVARD (EAST)
 STA: 1+00 TO STA: 1+57 4 LF x 57 LF x 0.58 FT ÷ 27 = 4.9
 STA: 2+00 TO STA: 3+10 4 LF x 110 LF x 0.58 FT ÷ 27 = 9.5
 STA: 3+38 TO STA: 4+76 (4 LF + 8 LF) ÷ 2 x 138 LF x 0.58 FT ÷ 27 = 17.8
 TOTAL = 163 CU. YDS.

ITEM 305 9" PORTLAND CEMENT CONCRETE BASE

LAKELAND BOULEVARD (WEST)
 STA: 1+50 TO STA: 3+00 10 LF x 150 LF ÷ 9 = 166.7 SQ. YDS.
 STA: 3+00 TO STA: 5+50 (10 LF + 2 LF) ÷ 2 x 250 LF ÷ 9 = 166.7

LAKELAND BOULEVARD (EAST)
 STA: 0+55 TO STA: 2+00 (14 LF + 10 LF) ÷ 2 x 145 LF ÷ 9 = 193.3
 STA: 2+00 TO STA: 4+75 (10 LF + 2 LF) ÷ 2 x 275 LF ÷ 9 = 183.3
 TOTAL = 710 SQ. YDS.

ITEM 310 SUBBASE

FOREST GROVE ROAD
 STA: 1+24.69 TO STA: 1+92.27 67.58 LF x 26 LF x 0.50 FT ÷ 27 = 32.5 CU. YDS.
 STA: 1+24.69 (CUL-DE-SAC) = 60.6
 STA: 1+24.69 TO STA: 1+59 (13 LF + 25 LF) ÷ 2 x 34.3 LF x 0.50 FT ÷ 27 = 12.1
 STA: 1+59 TO STA: 1+67 (8 LF + 25 LF) ÷ 2 x 0.50 FT ÷ 27 = .3
 STA: 1+59 TO STA: 1+92.27 (2449 LF x 35.5 LF - 31417 x 35.5² x (69.20° + 360°)) x 0.50 FT ÷ 27 = 2.0

RAMP No. 5
 STA: 11+00 TO STA: 14+98 (18 LF + 2 LF) ÷ 2 x 398 LF x 0.50 FT ÷ 27 = 73.7
 STA: 14+98 TO STA: 15+45.04 17.5 LF x 47.04 LF x 0.50 FT ÷ 27 = 15.2
 TURNOUT (LEFT) 2326.24 SQ. FT. x 0.50 FT ÷ 27 = 43.1
 STA: 11+00 TO STA: 14+98 273 CU. FT. ÷ 27 = 10.1
 TRAFFIC ISLAND (AREA ON 3 FT. BERM) 638.4 CU. FT. ÷ 27 = 23.6

RAMP No. 8
 STA: 13+50 TO STA: 13+68 6 LF x 18 LF x 0.50 FT ÷ 27 = 2.0
 STA: 13+68 TO STA: 16+50 (4 LF + 22 LF) ÷ 2 x 282 LF x 0.50 FT ÷ 27 = 67.9
 STA: 16+50 TO STA: 18+23 22 LF x 173 LF x 0.50 FT ÷ 27 = 70.5
 TURNOUT (LEFT) 1926.90 SQ. FT. x 0.50 FT ÷ 27 = 35.7
 STA: 13+68 TO STA: 18+23 191.10 CU. FT. ÷ 27 = 7.1
 (AREA ON 3 FT. BERM)

(CONT.) ITEM 310 SUBBASE

LAKELAND BOULEVARD (WEST)
 STA: 1+50 TO STA: 3+00 11 LF x 150 LF x 0.50 FT ÷ 27 = 30.6 CU. YDS.
 STA: 3+00 TO STA: 5+50 (11 LF + 3 LF) ÷ 2 x 250 LF x 0.50 FT ÷ 27 = 32.4

LAKELAND BOULEVARD (EAST)
 STA: 0+55 TO STA: 2+00 (15 LF + 11 LF) ÷ 2 x 145 LF x 0.50 FT ÷ 27 = 34.9
 STA: 2+00 TO STA: 4+75 (11 LF + 3 LF) ÷ 2 x 275 LF x 0.50 FT ÷ 27 = 35.6

EAST 305 th. STREET
 STA: 1+76 TO STA: 3+82 4 LF x 206 LF x 0.50 FT ÷ 27 = 15.3
 TOTAL = 605 CU. YDS.

ITEM 402 1 3/4" ASPHALT CONCRETE

LAKELAND BOULEVARD (WEST)
 STA: 1+50 TO STA: 3+00 10 LF x 150 LF x 0.146 FT ÷ 27 = 8.1 CU. YDS.
 STA: 3+00 TO STA: 5+50 (10 LF + 2 LF) ÷ 2 x 250 LF x 0.146 FT ÷ 27 = 8.1

LAKELAND BOULEVARD (EAST)
 STA: 0+55 TO STA: 2+00 (4 LF + 10 LF) ÷ 2 x 145 LF x 0.146 FT ÷ 27 = 9.4
 STA: 2+00 TO STA: 4+75 (10 LF + 2 LF) ÷ 2 x 275 LF x 0.146 FT ÷ 27 = 8.9
 TOTAL = 35 CU. YDS.

ITEM 404 1 1/4" ASPHALT CONCRETE

LAKELAND BOULEVARD (WEST)
 STA: 1+50 TO STA: 3+00 10 LF x 150 LF x 0.104 FT ÷ 27 = 5.8 CU. YDS.
 STA: 3+00 TO STA: 5+50 (10 LF + 2 LF) ÷ 2 x 250 LF x 0.104 FT ÷ 27 = 5.8

LAKELAND BOULEVARD (EAST)
 STA: 0+55 TO STA: 2+00 (14 LF + 10 LF) ÷ 2 x 145 LF x 0.104 FT ÷ 27 = 6.7
 STA: 2+00 TO STA: 4+75 (10 LF + 2 LF) ÷ 2 x 275 LF x 0.104 FT ÷ 27 = 6.4
 TOTAL = 25 CU. YDS.

ITEM 407 TACK COAT

LAKELAND BOULEVARD (WEST)
 STA: 1+50 TO STA: 3+00 10 LF x 150 LF ÷ 9 x 0.10 GALS. = 16.7 GALS.
 STA: 3+00 TO STA: 5+50 (10 LF + 2 LF) ÷ 2 x 250 LF ÷ 9 x 0.10 GALS. = 16.7

LAKELAND BOULEVARD (EAST)
 STA: 0+55 TO STA: 2+00 (14 LF + 10 LF) ÷ 2 x 145 LF ÷ 9 x 0.10 GALS. = 19.3
 STA: 2+00 TO STA: 4+75 (10 LF + 2 LF) ÷ 2 x 275 LF ÷ 9 x 0.10 GALS. = 18.3
 TOTAL = 71 GALS.

ITEM 408 BITUMINOUS PRIME COAT

LAKELAND BOULEVARD (WEST)
 STA: 1+20 TO STA: 1+74 4 LF x 54 LF ÷ 9 x 0.40 GALS. = 9.6 GALS.
 STA: 2+20 TO STA: 3+65 4 LF x 145 LF ÷ 9 x 0.40 GALS. = 25.8
 STA: 4+16 TO STA: 5+50 (8 LF + 4 LF) ÷ 2 x 134 LF ÷ 9 x 0.40 GALS. = 35.7
 STA: 5+50 TO STA: 5+60 10 LF x 10 LF ÷ 9 x 0.40 GALS. = 4.4

LAKELAND BOULEVARD (EAST)
 STA: 1+00 TO STA: 1+57 4 LF x 57 LF ÷ 9 x 0.40 GALS. = 10.1
 STA: 2+00 TO STA: 3+10 4 LF x 110 LF ÷ 9 x 0.40 GALS. = 19.6
 STA: 3+38 TO STA: 4+76 (4 LF + 8 LF) ÷ 2 x 138 LF ÷ 9 x 0.40 GALS. = 36.8
 TOTAL = 142 GALS.

ITEM 409 SEAL COAT BITUMINOUS MATERIAL

LAKELAND BOULEVARD (WEST)
 STA: 1+20 TO STA: 1+74 4 LF x 54 LF ÷ 9 x 0.30 GALS. = 7.2 GALS.
 STA: 2+20 TO STA: 3+65 4 LF x 145 LF ÷ 9 x 0.30 GALS. = 19.3
 STA: 4+16 TO STA: 5+50 (8 LF + 4 LF) ÷ 2 x 134 LF ÷ 9 x 0.30 GALS. = 26.8
 STA: 5+50 TO STA: 5+60 10 LF x 10 LF ÷ 9 x 0.30 GALS. = 3.3

LAKELAND BOULEVARD (EAST)
 STA: 1+00 TO STA: 1+57 4 LF x 57 LF ÷ 9 x 0.30 GALS. = 7.6
 STA: 2+00 TO STA: 3+10 4 LF x 110 LF ÷ 9 x 0.30 GALS. = 14.7
 STA: 3+38 TO STA: 4+76 (4 LF + 8 LF) ÷ 2 x 138 LF ÷ 9 x 0.30 GALS. = 27.6
 TOTAL = 107 GALS.

LAKELAND FREEWAY & E. 305th ST. INTERCHANGE