

CALCULATIONS

Fed. Rd. Division	STATE	PROJECT			13
2	OHIO				146

LAKE COUNTY
LAK 91-(0.00)-(2.38)

B-19 AGGREGATE BASE COURSE (CON'T. FROM PREVIOUS SHT.)

CITY OF WILLOUGHBY

MAPLEGROVE ROAD

STA 3+50.00 To STA 4+30.52 = 80.52 x 21.00	x 5		÷ 324	
STA 5+76.02 To STA 12+16.00 = 639.98 x 21.00	x 5		÷ 324	= 26.1 Cu. Yds.
				= 207.4 Cu. Yds.
TOTAL B-19 AGGREGATE BASE COURSE (CITY OF WILLOUGHBY)				= 233.5 Cu. Yds.

I-22 SUBBASE

MAYFIELD VILLAGE

STA 0-388.73 To STA 0-46.73 = 342.00 x (2.25+20.25) x 1/2 x 2	x 6		÷ 324	
STA 0-46.73 To STA 0+00 = 46.73 x 39.00	x 6		÷ 324	= 121.9 Cu. Yds.
				= 33.0 Cu. Yds.
TOTAL I-22 SUBBASE (MAYFIELD VILLAGE)				= 155.7 Cu. Yds.

WILLOUGHBY HILLS VILLAGE

STA 0+00 To STA 49+25.00 = 4925.00 x 42.00	x 6		÷ 324	
STA 49+25.00 To STA 60+66.49 = 111.49 x 60.00	x 6		÷ 324	= 3830.6 Cu. Yds.
STA 60+66.49 To STA 62+16.49 = 150.00 x (60.00+72.00) (1/2)	x 6		÷ 324	= 1572.1 Cu. Yds.
STA 62+16.49 To STA 63+66.49 = 150.00 x 72.00	x 6		÷ 324	= 183.3 Cu. Yds.
STA 65+93.63 To STA 71+18.79 = 524.96 x 72.00	x 6		÷ 324	= 200.0 Cu. Yds.
STA 75+55.35 To STA 96+20.84 = 2065.49 x 62.00	x 6		÷ 324	= 699.9 Cu. Yds.
* DEDUCT FOR INTERSECTIONS * = 447.90 x 3.00	x 6		÷ 324	= 237.5 Cu. Yds.
				= -24.9 Cu. Yds.
TOTAL I-22 SUBBASE (WILLOUGHBY HILLS VILLAGE)				= 9720.6 Cu. Yds.

CITY OF WILLOUGHBY

STA 132+26.14 To STA 134+82.45 = 256.31 x 62.00	x 6		÷ 324	
STA 138+50.35 To STA 141+18.00 = 267.65 x 60.00	x 6		÷ 324	= 294.3 Cu. Yds.
STA 141+18.00 To STA 144+98.00 = 380.00 x (20.25+0.75) x 1/2 x 2	x 6		÷ 324	= 297.4 Cu. Yds.
				= 147.8 Cu. Yds.
TOTAL I-22 SUBBASE (CITY OF WILLOUGHBY)				= 935.2 Cu. Yds.

I-18 STABILIZED CRUSHED AGGREGATE SHOULDERS

MAYFIELD VILLAGE

STA 0-388.73 To STA 0-46.73 = 342.00 x 4.0 x 2	x 6		÷ 324	
				= 50.7 Cu. Yds.
TOTAL I-18 STABILIZED CRUSHED AGGREGATE SHOULDERS (MAYFIELD VILLAGE)				= 50.7 Cu. Yds.

WILLOUGHBY HILLS VILLAGE

STA 0-88.00 To STA 2+50.00 = 338.00 x 4.0 x 2	x 6		÷ 324	
STA 9+50.00 To STA 12+77.00 = 327.00 x 4.0 x 2	x 6		÷ 324	= 49.3 Cu. Yds.
				= 48.4 Cu. Yds.
TOTAL I-18 STABILIZED CRUSHED AGGREGATE SHOULDERS (WILLOUGHBY HILLS)				= 97.7 Cu. Yds.

* WHITE RD., PARKVIEW DR., METROPOLITAN PARK DR., MARTIN RD., DIXON RD. & TIMBERLINE DR.

I-18 STABILIZED CRUSHED AGGREGATE SHOULDERS (CON'T.)

CITY OF WILLOUGHBY

STA 141+18.00 To STA 144+98.00 = 380.00 x 4.0 x 2	x 6		÷ 324	
				= 56.3 Cu. Yds.
TOTAL I-18 STABILIZED CRUSHED AGGREGATE SHOULDERS (CITY OF WILLOUGHBY)				= 56.3 Cu. Yds.

T-30 BITUMINOUS TACK COAT

MAYFIELD VILLAGE

STA 0-388.73 To STA 0+00 = 388.73 x 20.00 x 1/9	x 0.1			
				= 88.6 GALLONS
TOTAL T-30 BITUMINOUS TACK COAT (MAYFIELD VILLAGE)				= 88.6 GALLONS

WILLOUGHBY HILLS VILLAGE

STA 0+00 To STA 49+25.00 = 4925.00 x 18.00 x 1/9	x 0.1			
				= 985.0 GALLONS
STA 49+25.00 To STA 60+66.49 = 111.49 x 60.00 x 1/9	x 0.1			
				= 76.2 GALLONS
STA 60+66.49 To STA 62+16.49 = 150.00 x 72.00 x 1/9	x 0.1			
				= 74.8 GALLONS
TOTAL T-30 BITUMINOUS TACK COAT (WILLOUGHBY HILLS VILLAGE)				= 1136.0 GALLONS

CITY OF WILLOUGHBY

STA 141+18.00 To STA 145+08.00 = 390.00 x 18.00 x 1/9	x 0.1			
				= 78.0 GALLONS
TOTAL T-30 BITUMINOUS TACK COAT (CITY OF WILLOUGHBY)				= 78.0 GALLONS

E-8 REMOVAL AND DISPOSAL OF EXISTING RIGID PAVEMENT

WILLOUGHBY HILLS VILLAGE

STA 49+25.00 To STA 60+66.49 = 111.49 x 18.00 x 1/9	x 0.1			
				= 340.0 Sq. Yds.
STA 60+66.49 To STA 62+16.49 = 150.00 x 18.00 x 1/9	x 0.1			
				= 440.0 Sq. Yds.
STA 62+16.49 To STA 63+66.49 = 150.00 x 18.00 x 1/9	x 0.1			
				= 741.7 Sq. Yds.
TOTAL E-8 REMOVAL AND DISPOSAL OF EXISTING PAVEMENT (WILLOUGHBY HILLS)				= 8541.7 Sq. Yds.

CITY OF WILLOUGHBY

STA 132+26.14 To STA 134+82.45 = 256.31 x 18.00 x 1/9	x 0.1			
				= 47.7 Sq. Yds.
STA 138+50.35 To STA 141+18.00 = 267.65 x 18.00 x 1/9	x 0.1			
				= 535.3 Sq. Yds.
TOTAL E-8 REMOVAL AND DISPOSAL OF EXISTING PAVEMENT (CITY OF WILLOUGHBY)				= 583.0 Sq. Yds.

T-30 BITUMINOUS PRIME COAT

WILLOUGHBY HILLS VILLAGE

STA 0-100.00 To STA 3+87.41 = 487.41 x 20.00 x 1/9	x 0.4			
				= 433.3 GALLONS
STA 6+58.13 To STA 9+00.00 = 246.87 x 20.00 x 1/9	x 0.4			
				= 219.4 GALLONS
TOTAL T-30 BITUMINOUS PRIME COAT (WILLOUGHBY HILLS VILLAGE)				= 652.7 GALLONS

CITY OF WILLOUGHBY

STA 3+50.00 To STA 4+30.52 = 80.52 x 20.00 x 1/9	x 0.4			
				= 71.6 GALLONS
STA 5+76.02 To STA 12+16.00 = 639.98 x 20.00 x 1/9	x 0.4			
				= 568.9 GALLONS
TOTAL T-30 BITUMINOUS PRIME COAT (CITY OF WILLOUGHBY)				= 640.5 GALLONS