FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-1103 (19)	

18-A 312

LAKE COUNTY
LAK-I-2.16

PAVEMENT, BASE & SUBBASE CALCULATIONS

See Sheet No.	Station Location Calculations, etc.	E-1 Compacted Subgrade Sq. Yds.	B-35 3" Asphaltic Conc. Base Course (710-85) Sq. Yds.	B-219 3" Waterproof. Aggregate Base Course Sq. Yds.	B-10 8" Aggregate Base Course Sq. Yds.	B-19 5" Aggregate Base Course Sq. Yds.	T-30 Bituminous Prime Coat Sq. Yds.	T-31 Bituminous Surf. Treat. Bit. Mat'l. Sq. Yds.	T-31 Bituminous Surf. Treat. No. 6 Aggr. Sq. Yds.	T-32 Road Mix Bituminous Material Sq. Yds.	T-32 Seal Coat Bituminous Material Sq. Yds.	T-32 No. 4 & Aggr. for Road Mix Sq. Yds.	T-32 No. 6 or 9 Aggregate for Choke Sq. Yds.	T-32 No. 6 Aggr. for Seal Coat Sq. Yds.	T-35 1½" Asphaltic Conc. Surf. Course (710-85) Sq. Yds.	T-71 8" Reinf. Portland Cem. Conc. Pavt. Sq. Yds.	T-71 10" Reinf. Portland Cem. Conc. Pavt. Sq. Yds.	B-35 1½" Asphaltic Conc. Leveling Course (710-85) Sq. Yds.	I-7 Reinf. Conc. Appr. Slabs as per Plan Sq. Yds.	I-18 5" Slab Cru. Aggr. Shldrs. & Approaches Sq. Yds.	I-22 Subbase Grading for 8" as per Plan Cu. Yds.
3	Typical Sec. "A" Sta. 114+00 To Sta. 124+34 (N.B. & S.B. Lanes) = 1034.0' x 72' x 1/9																8,272.00					
	" " " " " " " " (N.B. Lanes) = 1034.0' x 27.06 Sq. Ft. End Area x 1/27																					1,036.30
	" " " " " " " " (S.B. Lanes) = 1034.0' x 25.78 Sq. Ft. End Area x 1/27																					987.28
	" " " Sta. 114+00 To Sta. 124+00 (Begin Stone Subgrade N.B. & S.B. Lanes) = 1000.0' x 102' x 1/9	11,333.33																				
	" " " Sta. 124+34 To Sta. 128+76.23 (S.B. Lanes) = 442.23' x 36' x 1/9																1,768.92					
	" " " " " " " " " " = 442.23' x 25.78 Sq. Ft. End Area x 1/27																					422.25
	" " " " " " " " (N.B. Lanes) = 442.23' x 33.79' Avg. W. x 1/9																1,660.33					
	" " " " " " " " " " = 442.23' x 25.96 Sq. Ft. Avg. End Area x 1/27																					425.20
3	Typical Sec. "B" 8057.00 Lin. Ft. (Less portion in Transition N.B. Lanes from Sta. 134+43 To Sta. 136+34 191.00') = 7866.0' x 24' x 1/9																	20,976.00				
	" " " " " " " " " " " " = 7866.0' x 39' x 1/9	34,056.00																				
	" " " " " " " " " " " " = 7866.0' x 20.375 Sq. Ft. End Area x 1/27																					5,930.46
	" " " Sta. 134+43 To Sta. 136+34 (N.B. Lanes) = 191.0' x 24.955' Avg. W. x 1/9																529.60					
	" " " " " " " " " " " " = 191.0' x 30.955' Avg. W. x 1/9	847.93																				
	" " " " " " " " " " " " = 191.0' x 20.085 Sq. Ft. Avg. End Area x 1/27																					147.49
4	Typical Sec. "C" 5390.54 Lin. Ft. (Less portion in Transition N.B. Lanes from Sta. 128+76.23 to Sta. 134+43 = 566.77' & S.B. Lanes from Sta. 128+76.23 To Sta. 135+00 = 623.77') = 4200.00																					
	" " " " " " " " " " 4200.0' x 24.0' x 1/9																11,200.00					
	" " " " " " " " " " 4200.0' x 25.96 Sq. Ft. End Area x 1/27																					3,944.89
	" " " N.B. Lanes Sta. 128+76.23 To Sta. 134+43 = 566.77' x 28.745' Avg. W. x 1/9																1,810.20					
	" " " " " " " " " " = 566.77' x 30.30 Sq. Ft. Avg. End Area x 1/27																					636.04
	" " " S.B. Lanes Sta. 128+76.23 To Sta. 132+50 = 373.77' x 36' x 1/9																1,495.08					
	" " " " " " " " " " = 373.77' x 34.12 Sq. Ft. End Area x 1/27																					480.64
	" " " " " Sta. 132+50 To Sta. 135+00 = 250.0' x 30.0' Avg. W. x 1/9																833.33					
	" " " " " " " " " " = 250.0' x 30.14 Sq. Ft. Avg. End Area x 1/27																					279.07
4	Typical Sec. "D" 1600.00 Lin. Ft. 1600.0' x 24' x 1/9																4,266.67					
	" " " " " " 1600.0' x 25.36 Sq. Ft. End Area x 1/27																					1,502.81
3 & 4	Typical Sec. "A" 1476.23 L.F., "B" 4028.5 L.F., "C" 2695.27 L.F., "D" 1600.00 L.F. Total = 9800.00 L.F.																					
	" " " 10' Outside Shoulders = 9800.0' x 2 (N.B. & S.B. Lanes) = 19,600.0' x 10' x 1/9			21,777.78				21,777.78	21,777.78													
	" " " " " " " " " " " " = 19,600.0' x 10.5' x 1/9																				22,866.67	
	" " " 5' Inside Shoulders = 19,600.0' plus 0.35' added Length for Transitions = 19,600.35' x 5' x 1/9			10,889.08				10,889.08	10,889.08													
	= 19,600.35' x 5.5' x 1/9																				11,977.39	
	Sub-Totals:	46,267.26		32,666.86				32,666.86	32,666.86								52,812.13			34,844.66	15,796.43	
	From Sheet No. 15 " "	12,151.04		4,094.44				4,094.44	4,094.44								8,056.60			4,412.76	1,887.86	
	" " " 16 " "	15,544.95		4,389.11				4,389.11	4,389.11								11,155.84			4,914.85	3,013.30	
	" " " 17 " "	12,667.88		1,961.90				1,961.90	1,961.90								10,705.98			2,149.26	2,228.44	
	" " " 18 " "	10,920.45	4706.31	177.28	4900.18	4818.12	9614.43	177.28	177.28	4,530.86	4,530.86	4,530.86	4,530.86	4,530.86	4,530.86	4,706.31	2870.62		4706.31	536.38	2,601.50	3,726.77
	Totals:	106,560.58	4706.31	43,289.50	4900.18	4818.12	9614.43	43,289.50	43,289.50	4,530.86	4,530.86	4,530.86	4,530.86	4,530.86	4,530.86	4,706.31	2,870.62	82,730.55	4,706.31	536.38	40,013.12	26,652.80
	Rates of Application:						0.35 Gal./S.Y.	0.25 Gal./S.Y.	0.008 C.Y./S.Y.	0.030 Gal./S.Y.	0.25 Gal./S.Y.	0.056 C.Y./S.Y.	0.004 C.Y./S.Y.	0.008 C.Y./S.Y.								
	Conversion To Cu. Yds., Gals. & etc.	106,560.58 S.Y.	300.60 C.Y.	43,289.50 S.Y.	1090.03 C.Y.	660.18 C.Y.	3366.05 Gal.	10823 Gal.	346.32 C.Y.	4086.87 Gal.	1,134.07 Gal.	254.23 C.Y.	18.16 C.Y.	36.32 C.Y.	166.54 C.Y.	0.870.62 S.Y.	82,730.55 S.Y.	166.54 C.Y.	536.38 S.Y.	6,807.38 C.Y.	26,652.80 C.Y.	
				3,608 C.Y.	1760.11 C.Y.																	

Above Quantity Based on Course 3" Thick With Course 2¾" Thick and 6" Wider Deduct 28 Cu. Yds. To General Summary 372 Cu. Yds.

Above Quantity Based on Course 8" Thick. With same Thickness and 6" Wider Add 11 Cu. Yds. To General Summary 1771 Cu. Yds.

Above Quantity Based on Width of B-35 Base Course With Application 6" Wider Add 15 Gal. To General Summary 3380 Gal.

Above Quantity Based on Course 1½" Thick With Thickness 1½" Add 34 Cu. Yds. To General Summary 201 Cu. Yds.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
STATE HIGHWAY NO. I
C-43
PAVEMENT BASE & SUBBASE CALCULATIONS

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
B.P.	A.L.H.	K.A.	R.E.F.			