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

16
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 (70-85) Sq. Yds.	B-219 3" Water proof, 8" Aggregate Base Course Sq. Yds.	B-19 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. 4A 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 (70-85) Sq. Yds.	T-71 9" Reinf. Portland Cem Conc. Pavt. Sq. Yds.	T-71 10" Reinf. Portland Cem Conc. Pavt. Sq. Yds.	B-35 1½" Asphaltic Conc. Leveling Course (70-85) Sq. Yds.	I-7 Reinf. Conc. Appr. Slabs as per Plan Sq. Yds.	I-18 5" Stab. Cru. Aggr. Shldrs & Approaches Sq. Yds.	I-22 Subbase Grading "A or B" as per Plan Cu. Yds.
162 & 163	Lt. Ramp "B" Sta. 5+14.39 To Sta. 20+17 = 1500.21' Avg. L. X 8.5' W. X 0.52' Avg. D. X 1/27																					245.59
163	" " " Sta. 20+17 To Sta. 21+17 = 100.00' L. X 8.5' Avg. W. X 1/9	94.44		94.44				94.44	94.44													
	" " " " " " " " = 100.00' L. X 9.0' Avg. W. X 1/9																				100.00	
	" " " " " " " " = 100.00' L. X 9.0' Avg. W. X 0.52' Avg. D X 1/27																					17.33
9 & 172	Ramp "C-D" Intersection Sta. 5+23.01 To Sta. 5+73.01 (P) = 333.95 SY Pavt.	333.95															333.95					
	" " " " " " " " (333.95 SY @ 0.5'D) = 333.95 X 1/6																					55.66
	" " " " " " " " (P) = 22.14 SY Median Shoulders	22.14		22.14				22.14	22.14													
	" " " " " " " " (P) = 32.05 SY Median Shoulder Base																				32.05	
	" " " " " " " " (P) = 32.05 SY X 9 X 0.67 D X 1/27 = Median Subbase																					7.16
	" " " " " " " " (P) = 108.93 SY Outside Shoulders.	108.93		108.93				108.93	108.93													
	" " " " " " " " (P) = 116.60 SY Outside Shoulder Base																				116.60	
	" " " " " " " " = (116.60 SY @ 0.5'D) = 116.60 X 1/6 Outside Shldr Subbase																					19.43
172	" " Lt. Lanes Sta. 5+73.01 To Sta. 6+53.13 = 80.12' X 24' W. X 1/9	213.65															213.65					
	" " " " " " " " " " 80.12' X 24' W. X 0.5' D X 1/27																					35.61
172	" " " " Sta. 6+53.13 To Sta. 7+88.61 (P) = 330.50 SY	330.50															330.50					
	" " " " " " " " " " (330.50 SY @ 0.5'D) = 330.50 X 1/6																					55.10
172	" " " " Sta. 7+88.61 To Sta. 10+49.98 = 255.90 Avg. L. X 17.54 Avg. W. X 1/9	498.72															498.72					
	" " " " " " " " " " 255.90 Avg. L. X 17.54 Avg. W. X 0.5' X 1/27																					83.12
172	" " " " Sta. 10+49.98 To Sta. 13+60.70 = 311.35' Avg. L. X 16' W. X 1/9	553.51															553.51					
	" " " " " " " " " " 311.35' Avg. L. X 16' W. X 0.5' D. X 1/27																					92.25
172	" " Rt. Lanes Sta. 5+73.01 To Sta. 13+60.70 = 812.18' Avg. L. X 16' W. X 1/9	1443.88															1443.88					
	" " " " " " " " " " 812.18' Avg. L. X 16' W. X 0.5' D. X 1/27																					240.64
172	Lt. Ramp "C-D" Sta. 5+73.01 To Sta. 13+60.70 = 767.57' Avg. L. X 18' W. X 1/9	682.28		682.28				682.28	682.28													
	" " " " " " " " " " 767.57 Avg. L. X 8.5' W. X 1/9																				724.93	
	" " " " " " " " " " 767.57' X 8.5' W. X 0.52' Avg. D. X 1/27																					125.65
172	Rt. Ramp "C-D" " " " " " = 827.05' Avg. L. X 8' W. X 1/9	735.16		735.16				735.16	735.16													
	" " " " " " " " " " 827.05 Avg. L. X 8.5' W. X 1/9																				781.10	
	" " " " " " " " " " 827.05' X 8.5' W. X 0.52' Avg. D. X 1/27																					135.39
172	Ramp "C-D" Median Shoulder Sta. 5+73.01 To Sta. 13+60.70 = 786.60' X 6' W. X 1/9	531.13		531.13				531.13	531.13													
	" " " " " " " " " " 786.60' X 9' W. X 1/9																				796.69	
	" " " " " " " " " " 786.60' X 9' W. X 0.67' D. X 1/27																					177.93
8 & 179	Ramp "C" Sta. 3+60.70 To Sta. 10+44 = 694.64' Avg. L. X 16' W. X 1/9	1234.92															1234.92					
	" " " " " " " " 694.64' Avg. L. X 16' W. X 0.5' D. X 1/27																					205.82
179	" " " 10+44 " " 11+43.98 101.37' Avg. L. X 17' Avg. W. X 1/9	191.48															191.48					
	" " " " " " " " 101.37' Avg. L. X 17' Avg. W. X 0.5' D. X 1/27																					31.91
179	" " " 11+43.98 " " 114+00 (P) = 2,033.30 SY	2033.30															2033.30					
	" " " " " " " " (2,033.30 SY @ 0.5'D) = 2,033.30 X 1/6																					338.88
179	Lt. Ramp "C" Sta. 3+60.70 To Sta. 8+93.98 = 516.21' Avg. L. X 8' W. X 1/9	458.85		458.85				458.85	458.85													
	" " " " " " " " 516.21' Avg. L. X 8.5' W. X 1/9																				487.53	
	" " " " " " " " 516.21' X 8.5' W. X 0.52' Avg. D. X 1/27																					84.51
179	" " " 8+93.98 " " 10+44 = 65.44' Avg. L. X 8.6' Avg. W. X 1/9	62.53		62.53				62.53	62.53													
	" " " " " " " " 65.44' Avg. L. X 9.1' Avg. W. X 1/9																				66.17	
	" " " " " " " " 65.44' X 9.1 Avg. W. X 0.52 Avg. D. X 1/27																					11.47
179	Rt. Ramp "C" " 3+60.70 " " 4+72 (P) = 47.56 SY	47.56		47.56				47.56	47.56													
	" " " " " " " " 47.56 SY X 9 X 0.67 Avg. D. X 1/27																				47.56	
179	" " " 4+72 " " 10+44 = 612.31' Avg. L. X 3' W. X 1/9	204.10		204.10				204.10	204.10													
	" " " " " " " " 612.31' Avg. L. X 3.5' W. X 1/9																				238.12	
	" " " " " " " " 612.31' X 3.5' W. X 0.57' Avg. D. X 1/27																					45.24
179	" " " 10+44 " " 11+43.98 = 101.98' Avg. L. X 3' W. X 1/9	33.99		33.99				33.99	33.99													
	" " " " " " " " 101.98' Avg. L. X 3' W. X 0.54' Avg. D. X 1/27																				33.99	
8 & 184	Ramp "D" " 13+60.70 " " 23+50 = 983.64' Avg. L. X 16' W. X 1/9	1748.60															1748.60					6.12
	" " " " " " " " 983.64' Avg. L. X 16' W. X 0.5' D. X 1/27																					291.45
184	" " " 23+50 " " 25+49.60 = 200.48' Avg. L. X 17' Avg. W. X 1/9	378.70															378.70					
	" " " " " " " " 200.48' Avg. L. X 18' Avg. W. X 0.5' D. X 1/27																					66.83
184	" " " 25+49.60 " " 28+49.60 = 300.00' X 15' Avg. W. X 1/9	500.00															500.00					
	" " " " " " " " 300.00' X 16' Avg. W. X 0.5' D. X 1/27																					88.89
184	" " " 28+49.60 " " 151+53.60 = 1304.00' X 11.69' Avg. W. X 1/9	1694.45															1694.45					
	" " " " " " " " 1304.00' X 11.69' Avg. W. X 0.5' D. X 1/27																					282.41
184	Rt. Ramp "D" Sta. 13+60.70 To Sta. 22+99.60 = 928.40' Avg. L. X 8' W. X 1/9	825.32		825.32				825.32	825.32													
	" " " " " " " " 928.40' Avg. L. X 8.5' W. X 1/9																				876.91	
	" " " " " " " " 928.40' X 8.5' W. X 0.52' Avg. D. X 1/27																					152.00
184	" " " " 22+99.60 To " 25+49.60 = 249.35' Avg. L. X 8' Avg. W. X 1/9	249.35		249.35				249.35	249.35													
	" " " " " " " " 249.35' Avg. L. X 9.5' Avg. W. X 1/9																				263.20	
	" " " " " " " " 249.35' X 9.5' Avg. W. X 0.52 Avg. D. X 1/27																					45.62
184	" " " 25+49.60 To " 28+49.60 = 300.00' X 10' W. X 1/9	333.33		333.33				333.33	333.33													
	" " " " " " " " 300.00' X 10.5' W. X 1/9																				350.00	
	" " " " " " " " 300.00' X 10.5' W. X 0.52' Avg. D. X 1/27																					60.67
	Sub-Totals	15,544.95		4,389.11				4,389.11	4,389.11								11,155.84				4,014.85	3,013.30

NOTE: (P) Denotes Area Obtained by Planimeter

MICHAEL BAKER, JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

STATE HIGHWAY NO. 1
C-43
PAVEMENT BASE & SUBBASE CALCULATIONS

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

PAVEMENT, BASE & SUBBASE CALCULATIONS