FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-1103 (18)	

24
458

CUYAHOGA & LAKE COUNTIES
CUY-I-15.91
LAK-I-0.00

PAVEMENT, BASE & SUBBASE CALCULATIONS

See Sheet No.	Station Locations, Calculations, Etc.	E-1 Compacted Subgrade Sq. Yds.	B-219 Waterproofed Aggregate Base Course Sq. Yds.	B-35 Asph. Conc. Leveling Course(70-85) 1¼"	B-35 Asphaltic Conc. Base Course(70-85) Sq. Yds. 2¾"	B-35 Asphaltic Conc. Base Course(70-85) Sq. Yds. 3"	B-19 Aggregate Base Course Sq. Yds. 5"	B-19 Aggregate Base Course Sq. Yds. 6"	B-19 Aggregate Base Course Sq. Yds. 8"	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. 9 & 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 Asph. Conc. Surface Course(70-85) Sq. Yds. 1¼"	T-71 10" Reinf. Portland Cem. Conc. Pavt. Sq. Yds.	I-7 Reinf. Conc. Approach Slabs(T=13") Sq. Yds.	I-7 Reinf. Conc. Appr. Slabs as per Plan Sq. Yds.	I-18 5" Slab. Cr. Aggr. Sh'ldrs. & Approaches Sq. Yds.	I-22 Subbase Grading & as per Plan Cu. Yds.
5	Typical Section "A" (N.B. & S.B. Lanes) = 340.60 L.F. X 72'W. X 1/9	2,724.80																	2,724.80				
	2@10' & 2@5' Paved Shoulders = 340.60 L.F. X 30'W. X 1/9	1,135.33	1,135.33								1135.33		1,135.33										
	2@10.5' & 2@5.5' Stabilized Shoulders = 340.60 L.F. X 32'W. X 1/9																					1,211.02	
	340.60 L.F. X 52.74 Sq. Ft. End Area X 1/27																						665.31
6	Typical Section "B" (N.B. & S.B. Lanes) = 2793.88 L.F. X 72'W. X 1/9																		22,351.04				
	2@10' & 2@5' Paved Shoulders = 2793.88 L.F. X 30'W. X 1/9		9,312.93								9312.93		9,312.93										
	2@10.5' & 2@5.5' Stabilized Shoulders = 2793.88 L.F. X 32'W. X 1/9																					9,933.80	
	(N.B. Lanes) = 2519.64 L.F. X 27.06 Sq. Ft. End Area X 1/27																						2,525.24
	" " = 2519.64 L.F. (Less 1085.00 L.F. portion in Shale) = 1434.64' X 51'W. X 1/9	8,129.63																					
	(S.B. Lanes) = 3068.11 L.F. X 25.78 Sq. Ft. End Area X 1/27																						2,929.48
	" " = 3068.11 L.F. X 51'W. X 1/9	17,385.96																					
6	Typical Section "C" (N.B. & S.B. Lanes) = 3065.52 L.F. X 48'W. X 1/9																		16,349.44				
	2@10' & 2@5' Paved Shoulders = 3065.52 L.F. X 30'W. X 1/9		10,218.40								10,218.40		10,218.40										
	2@10.5' & 2@5.5' Stabilized Shoulders = 3065.52 L.F. X 32'W. X 1/9																					10,899.63	
	(N.B. Lanes) = 3339.76 L.F. X 21.06 Sq. Ft. End Area X 1/27																						2,605.01
	" " = 3339.76 L.F. (Less 2000.00 L.F. portion in Shale) = 1339.76' X 39'W. X 1/9	5,805.63																					
	(S.B. Lanes) = 2791.29 L.F. X 19.78 Sq. Ft. End Area X 1/27																						2,044.88
	" " = 2791.29 L.F. (Less 1175.00 L.F. portion in Shale) = 1616.29' X 39'W. X 1/9	2,003.92																					
	NOTE: "L" Carried Thru Euclid Spur Interchange, Extra Areas in same as follows:																						
6,266,267	Euclid Spur - Lt. Lanes - Sta. 10+00 To Sta. 14+38.54 = 438.54' L. X 36'W. X 1/9																		1,754.16				
	438.54' X 34.72 Sq. Ft. End Area X 1/27																						563.93
	10' Lt. & 5' Rt. Paved Shoulders = 438.54' X 15'W. X 1/9		730.90								730.90		730.90										
	10.5' Lt. & 5.5' Rt. Stabilized Shoulders = 438.54' X 16'W. X 1/9																					779.63	
6,266,267,268	Euclid Spur - Rt. Lanes - Sta. 10+00 To Sta. 26+25.28 = 1625.28' L. X 36'W. X 1/9																		6,501.12				
	NOTE: Subgrade in Shale from Sta. 10+00 To Sta. 23+00 = 1300.00' X 36'W. X 0.72' Avg. D. X 1/27																						1,248.00
	Sta. 23+00 To Sta. 26+25.28 = 325.28' X 36'W. X 1/9	1,301.12																					
	" " " " " = 325.28' X 36'W. X 0.5'D. X 1/27																						216.85
	Lt. Paved Shoulder = 1625.28' X 5'W. X 1/9		902.93								902.93		902.93										
	Lt. Stabilized Shoulder = 1625.28' X 5.5'W. X 1/9																					933.23	
	Lt. Shoulder Sta. 10+00 To Sta. 23+00 = 1300.00' X 5.5'W. X 0.42' Avg. D. X 1/27																						111.22
	Lt. Shoulder Sta. 23+00 To Sta. 26+25.28 = 325.28' X 5.5'W. X 0.5' Avg. D. X 1/27																						33.79
	" " " " " " = 325.28' X 5'W. X 1/9	180.71																					
	Rt. Paved Shoulder Sta. 10+00 To Sta. 20+84.86 = 1084.86' X 10'W. X 1/9		1,205.40								1,205.40		1,205.40										
	Rt. Stabilized Shoulder Sta. 10+00 To Sta. 20+84.86 = 1084.86' X 10.5'W. X 1/9																					1,265.67	
	" " " " " " " = 1084.86' X 10.5'W. X 0.07' Avg. D. X 1/27																						299.54
6,10,268	Euclid Spur - Rt. Lanes - Sta. 26+25.28 To Sta. 35+79.29 = 954.01' L. X 24'W. X 1/9	2,544.03																	2,544.03				
	954.01' L. X 24'W. X 0.5'D. X 1/27																						424.00
	Lt. Paved Shoulder = 954.01' X 5'W. X 1/9	530.01	530.01								530.01		530.01										
	Lt. Stabilized Shoulder = 954.01' X 5.5'W. X 1/9																					583.01	
	" " " = 954.01' X 5.5'W. X 0.51' Avg. D. X 1/27																						99.11
	Extra Rt. Sta. 26+25.28 To Sta. 29+75 = 349.72' X 7.71' Avg. W. X 1/9	299.59																	299.59				
	" " " " " " = 349.72' X 7.71' Avg. W. 10.5'D. X 1/27																						49.93
	" " " 27+75 To Sta. 29+75 = 200.00' X 6' Avg. W. X 1/9	133.33	133.33								133.33		133.33										
	" " " " " " = 200.00' X 6.5' Avg. W. X 1/9																					144.44	
	" " " " " " = 200.00' X 6.5' Avg. W. X 0.54' Avg. D. X 1/27																						26.00
	Rt. Paved Shoulder Sta. 29+75 To Sta. 35+79.29 = 604.29' L. X 10'W. X 1/9	671.43	671.43								671.43		671.43										
	Rt. Stabilized Shoulder " " " " = 604.29' L. X 10.5'W. X 1/9																					705.00	
	" " " " " " " = 604.29' L. X 10.5'W. X 0.54' Avg. D. X 1/27																						126.90
10,267,281	Ramp "A" Sta. 0+84.86 To Sta. 6+21.71 (P) = 758.28 S.Y.																		758.28				
	NOTE: Subgrade in Shale from Sta. 0+84.86 To Sta. 3+00 (P) = 52.55 S.Y. @ 0.78'D. = 52.55' X 0.78 D. X 1/3																						13.66
	Sta. 3+00 To Sta. 6+21.71 (P) = 758.28 S.Y. Less 52.55 S.Y. = 705.73 S.Y. X 0.5 D. X 1/3	705.73																					117.62
	Sta. 6+21.71 To Sta. 6+97 = 75.59' Avg. L. X 30.5' Avg. W. X 1/9	256.17																	256.17				
	75.59' Avg. L. X 30.5' Avg. W. X 0.5'D. X 1/27																						42.70
	Sta. 6+97 To Sta. 7+47 = 50.38' Avg. L. 29'W. X 1/9	162.34																	162.34				
	50.38' Avg. L. X 29'W. X 0.5'D. X 1/27																						27.06
	Sta. 7+47 To Sta. 8+22 = 75.49' Avg. L. X 25.5' Avg. W. X 1/9	213.89																	213.89				
	75.49' Avg. L. X 25.5' Avg. W. X 0.5'D. X 1/27																						35.65
281,282,324	Sta. 8+22 To Sta. 25+46.12 = 1740.43' Avg. L. X 24'W. X 1/9	4,641.15																	4,641.15				
	1740.43' Avg. L. X 24'W. X 0.5'D. X 1/27																						773.53
282,324	Sta. 25+46.12 To Sta. 29+12.53 (P) = 709.20 S.Y.	709.20																	709.20				
	709.20 S.Y. X 0.5'D. X 1/3																						118.20
46,324	Extra Lt. & Sta. 56+97.07 To Sta. 57+65.60 = 132.47' Avg. L. X 11.34' Avg. W. X 1/9	166.91																	166.91				
	" " " " " " " = 132.47' Avg. L. X 11.34' Avg. W. X 0.5'D. X 1/27																						27.82
45,46,324	" " " " 57+65.60 " " 58+00 = 565.60' X 7.85' Avg. W. X 1/9	493.33																	493.33				
	" " " " " " " = 565.60' X 7.85' Avg. W. X 0.5'D. X 1/27																						82.22
	Sub Totals:	55,194.21	24,840.66								24,840.66		24,840.66						59,925.45			26,515.43	15,207.65

NOTE (P) Denotes Area Obtained By Planimeter.

MICHAEL BAKER, JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

STATE HIGHWAY NO. I
C-42
PAVEMENT, BASE & SUBBASE CALCULATIONS

Designed	Drawn	Traced	Checked	Reviewed Date	Revised
B.P.	E.P.C.	K.L.G.	R.E.F.		