

East End Approach -- Section 4

Jefferson County, Kentucky
Item No. 5-731.00

Re: Available Grain Size Information from Borings near Proposed

Date: 10/4/2011

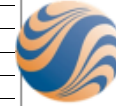
East End Approach

Boring No.	Boring Location		Depth Interval (Feet)	Classification ¹		D ₅₀ (mm)	D ₉₅ (mm)
	Station	Offset		Unified	AASHTO		
B-51	167+84.96	6 LT	2.5' - 3.0'	CL-ML	A-4	0.028	0.42
			5.0' - 6.0'	CL	A-6	0.02	0.34
			15.0' - 16.5'; 20.0' - 21.5'; 25.0' - 26.5'	SM	A-2-4	0.19	19
			30.0' - 31.5'; 35.0' - 36.5'; 40.0' - 41.5'; 45.0' - 46.5'; 50.0' - 51.5'	SP-SM	A-1-b	0.6	18
			55.0' - 56.5'	N/A	N/A	0.64	14
			60.0' - 61.5'; 65.0' - 66.5'	SW	A-1-b	1.1	16
			70.0' - 71.5'	N/A	N/A	0.43	2.4
			75.0' - 76.5'; 80.0' - 81.5'	SW-SM	A-1-b	0.86	6.8
			85.0' - 86.5'	N/A	N/A	0.38	1.7
			90.0' - 91.5'; 95.0' - 96.0'; 100.0' - 101.5'	SW-SM	A-1-b	0.69	9.2
			105.0' - 106.5'	N/A	N/A	1.3	19
			110.0' - 111.5'; 115.0' - 116.5'	SP-SM	A-1-b	0.79	16
120.0' - 121.5'; 125.0' - 126.5'	SP-SM	A-3	0.31	1.9			
B-53	167+84.96	74 RT	5.0' - 5.5'	CL	A-4	0.024	0.42
			15.0' - 16.5'; 20.0' - 21.5'; 25.0' - 26.5'; 30.0' - 31.5'	SP-SM	A-1-b	0.72	22
			35.0' - 36.5'	N/A	N/A	0.71	15
			40.0' - 41.5'; 45.0' - 46.5'	SW-SM	A-1-a	1.9	21
			50.0' - 51.5'	N/A	N/A	1.1	23
			55.0' - 56.5'; 60.0' - 61.5'	SW-SM	A-1-b	1.2	18
			65.0' - 66.5'	N/A	N/A	0.9	6.2
			70.0' - 71.5'	N/A	N/A	0.14	0.35
			75.0' - 76.5'; 80.0' - 81.5'	SW-SM	A-1-b	0.91	10
			85.0' - 86.5'	N/A	N/A	0.79	2.4
			90.0' - 91.5'; 95.0' - 96.0'	SP-SM	A-1-b	0.45	4.8
			100.0' - 101.5'	N/A	N/A	0.075	12
			105.0' - 106.5'; 110.0' - 111.5'	SW-SM	A-1-b	1.2	17
			115.0' - 116.5'	N/A	N/A	1.1	13
120.0' - 121.5'; 125.0' - 126.0'	SW-SM	A-1-b	0.71	8.2			
B-54	170+09.96	86 LT	2.0' - 2.5'	CL	A-7-6	0.016	1.4
			4.0' - 5.5'; 10.0' - 11.5'	SC	A-6	0.13	12
			15.0' - 16.5'	N/A	N/A	0.42	22
			20.0' - 21.5'; 25.0' - 26.5'; 30.0' - 31.5'	SW-SM	A-1-b	0.66	12
			35.0' - 36.5'	N/A	N/A	0.69	7.9
			40.0' - 41.5'; 45.0' - 46.5'	SP-SM	A-1-b	0.54	13
			50.0' - 51.5'	N/A	N/A	1.1	13
			55.0' - 56.5'; 60.0' - 61.5'	SP-SM	A-1-b	0.49	3.6
			65.0' - 66.5'	N/A	N/A	1.9	17
			70.0' - 71.5'; 75.0' - 76.5'	SW	A-1-b	1.2	11
			80.0' - 81.5'	N/A	N/A	0.81	19
			85.0' - 86.5'; 90.0' - 91.5'	SP	A-3	0.31	1.9
			95.0' - 96.5'	N/A	N/A	0.89	2.8
B-56	170+17.96	6 RT	2.4' - 2.9'	SC-SM	A-2-4	0.21	10
			5.0' - 5.8'	SC	A-4	0.11	18
			7.0' - 8.5'; 10.0' - 11.5'; 15.0' - 16.5'	SC	A-2-4	0.52	18
			20.0' - 21.5'	N/A	N/A	0.91	14
			25.0' - 26.5'; 30.0' - 31.5'	SW-SM	A-1-b	1.4	14
			35.0' - 36.5'	N/A	N/A	1.1	17
			40.0' - 41.5'; 45.0' - 46.5'	SM	A-1-b	1.1	20.1
			50.0' - 51.5'	N/A	N/A	0.91	17
			55.0' - 56.5'; 60.0' - 61.5'	SW-SM	A-1-b	0.92	13
			65.0' - 66.0'	N/A	N/A	0.69	13
			70.0' - 71.5'; 75.0' - 76.5'	SW-SM	A-1-b	0.91	18
			80.0' - 81.5'	N/A	N/A	0.59	28
			85.0' - 86.5'; 90.0' - 91.5'	SP	A-1-b	0.48	4.3
			95.0' - 96.0'	N/A	N/A	0.28	1.6
100.0' - 101.5'; 105.0' - 106.4'	SW-SM	A-1-b	0.79	0.87			

1 N/A -- Represents 200 Wash Gradation, a complete classification was not performed.



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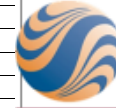
Re: Available Grain Size Information from Borings near Proposed

Date: 10/4/2011

East End Approach

Boring No.	Boring Location		Depth Interval (Feet)	Classification ¹		D ₅₀ (mm)	D ₉₅ (mm)
	Station	Offset		Unified	AASHTO		
B-59	172+84.96	6 LT	2.0' - 2.5'	CL	A-7-6	0.0058	0.56
			5.6' - 6.1'	CL	A-7-6	0.0051	0.058
			10.3 - 10.8'	CL	A-7-6	0.0046	0.041
			15.0' - 15.4'	CL	A-6	0.019	0.24
			17.0' - 18.5'; 20.0' - 21.5'	ML	A-4	1.9	20.1
			25.0' - 26.5'; 30.0' - 31.5'; 35.0' - 36.5'	SW-SM	A-1-b	1.1	14
			40.0' - 41.5'	N/A	N/A	0.6	6
			45.0' - 46.5'; 50.0' - 51.5'	SW-SM	A-1-b	1.6	13
			55.0' - 56.5'	N/A	N/A	0.95	7
			60.0' - 61.5'; 65.0' - 66.5'	SP-SM	A-1-b	0.77	5.2
			70.0' - 71.5'; 75.0' - 76.5'	CL	A-4	0.4	0.029
80.0' - 81.5'	N/A	N/A	0.69	1.8			
85.0' - 86.5'; 90.0' - 91.5'; 95.0' - 96.0'	SW-SM	A-1-b	0.81	6.9			
B-61	172+84.96	69 RT	2.3' - 2.8'	CL	A-7-6	0.0072	9
			6.0' - 6.5'	CL	A-7-6	0.0071	0.55
			10.2' - 10.7'	CL	A-7-6	0.0053	0.26
			15.5' - 16.0'	CL	A-4	0.027	0.26
			20.0' - 21.5'	N/A	N/A	--	0.35
			25.0' - 26.5'; 30.0' - 31.5'; 35.0' - 36.5'	SW-SM	A-1-b	1.4	18
			40.0' - 41.5'	N/A	N/A	0.78	6.6
			45.0' - 46.5'; 50.0' - 51.5'	SP-SM	A-3	0.26	5.2
			55.0' - 56.5'	N/A	N/A	0.44	1.8
			60.0' - 61.5'; 65.0' - 66.5'	SP-SM	A-3	0.34	1.8
			70.0' - 71.5'; 75.0' - 76.5'	CL-ML	A-4	0.068	2.9
80.0' - 81.5'	N/A	N/A	0.99	10			
85.0' - 86.5'; 90.0' - 91.5'; 95.0' - 96.1'	SW-SM	A-1-b	0.94	26			
B-62	172+59.96	86 LT	2.0' - 2.5'	CH	A-7-6	0.0036	0.039
			5.0' - 5.5'	CL	A-7-6	0.0051	0.053
			10.0' - 10.5'	CL	A-6	0.009	3.5
			15.0' - 15.5'	CL-ML	A-4	0.04	0.32
			20.0' - 20.5'	CL	A-4	0.027	0.33
			25.0' - 25.6'; 30.0' - 31.5'	GP-GM	A-1-b	5.4	37
			35.0' - 36.5'; 40.0' - 41.5'	SW-SM	A-1-b	1.1	34
			45.0' - 46.5'	N/A	N/A	0.95	5.8
			50.0' - 51.5'; 55.0' - 56.5'	SW-SM	A-1-b	0.73	5.9
			60.0' - 61.5'	N/A	N/A	0.9	9.5
			65.0' - 66.5'; 70.0' - 71.5'	SW-SM	A-1-b	0.76	8.4
75.0' - 76.5'	N/A	N/A	0.6	35			
80.0' - 81.5'; 85.0' - 86.5'; 90.0' - 91.5'	SP-SM	A-3	0.2	4			
95.0' - 96.5'	N/A	N/A	1.7	10.2			
B-64	175+59.96	6 RT	2.0' - 3.6'	CL	A-7-6	0.0049	0.05
			5.0' - 5.5'	CL	A-7-6	0.0045	0.053
			10.0' - 10.5'	CL	A-7-6	0.0065	0.079
			15.0' - 15.5'	CL	A-6	0.023	0.28
			20.0' - 21.5'	N/A	N/A	0.088	0.32
			25.0' - 26.5'	N/A	N/A	0.1	9
			30.0' - 31.5'; 35.0' - 36.5'; 40.0' - 41.5'	SW-SM	A-1-b	1.2	18
			45.0' - 46.5'	N/A	N/A	0.66	8
			50.0' - 51.5'; 55.0' - 56.5'	SW-SM	A-1-b	0.8	10
			60.0' - 61.5'	N/A	N/A	0.72	2.1
			65.0' - 66.5'; 70.0' - 71.5'; 75.0' - 76.5'	SP-SM	A-1-b	0.8	18
80.0' - 81.5'	N/A	N/A	0.4	5.2			
85.0' - 86.5'; 90.0' - 91.5'; 95.0' - 95.5'	SM	A-2-4	0.12	21			

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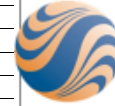
East End Approach

Boring No.	Boring Location		Depth Interval (Feet)	Classification ¹		D ₅₀ (mm)	D ₉₅ (mm)
	Station	Offset		Unified	AASHTO		
B-66	177+84.96	86 LT	2.0' - 2.5'	CL	A-7-6	0.0058	0.13
			5.0' - 6.8'	CH	A-7-6	0.004	0.075
			10.0 - 10.5	CL-ML	A-4	0.07	0.33
			15.0' - 15.5'	CL-ML	A-4	0.041	0.31
			20.0' - 21.5'; 25.0' - 26.5'	CL-ML	A-4	0.044	0.3
			30.0' - 31.5'	N/A	N/A	22	12.6
			35.0' - 36.5'; 40.0' - 41.5'	SW-SM	A-1-a	2	24
			45.0' - 46.5'	N/A	N/A	1.7	19
			50.0' - 51.5'; 55.0' - 56.5'	SW-SM	A-1-b	1.3	17
			60.0' - 61.5'	N/A	N/A	1.1	14
			65.0' - 66.5'; 75.0' - 76.5'	SP-SM	A-1-b	1.1	29
			80.0' - 81.5'	N/A	N/A	1.1	33
			85.0' - 86.5'; 90.0' - 91.5'	SP	A-3	0.3	14
95.0' - 95.5'	N/A	N/A	1.8	29			
100.0' - 100.5'	N/A	N/A	0.3	23			
B-70	180+00.96	86 LT	2.0' - 2.5'	CL	A-6	0.013	0.17
			5.0' - 5.5'	CL	A-6	0.015	0.23
			10.0' - 10.5'	CL	A-6	0.007	0.2
			15.0' - 15.8'	SM	A-4	0.89	0.33
			17.0' - 18.5'	N/A	N/A	0.09	0.34
			20.0' - 21.5'; 25.0' - 26.5'	CL-ML	A-4	0.04	0.31
			30.0' - 31.5'	N/A	N/A	1.1	16
			35.0' - 36.5'; 40.0' - 41.5'	SW-SM	A-1-b	1.1	10
			45.0' - 46.5'	N/A	N/A	1.3	15
			50.0' - 51.5'; 55.0' - 56.5'	SW-SM	A-1-b	1.3	18
			60.0' - 61.5'	N/A	N/A	0.39	2.5
			65.0' - 66.5'; 70.0' - 71.5'	SW-SM	A-1-b	0.88	7.5
			75.0' - 76.5'	N/A	N/A	1.3	6.5
80.0' - 81.5'	N/A	N/A	1.7	30			
85.0' - 86.5'; 90.0' - 91.5'	SM	A-1-b	0.5	3.3			
95.0' - 95.5'; 100.0' - 101.5'	SW-SM	A-1-b	0.69	12			
B-75	182+70.96	6 LT	2.6' - 3.1'	CL	A-6	0.0075	0.23
			5.0' - 5.5'	SM	A-2-4	0.13	0.35
			10.0' - 10.5'	CL	A-6	0.025	0.32
			15.0' - 16.5'; 20.0' - 21.5'	SM	A-4	0.09	0.34
			25.0' - 26.5'	N/A	N/A	0.15	0.45
			30.0' - 31.5'	N/A	N/A	6	33
			35.0' - 36.5'; 40.0' - 41.5'; 45.0' - 46.5'	SW-SM	A-1-b	1.5	13
			50.0' - 51.5'	N/A	N/A	1.1	9
			55.0' - 56.5'; 60.0' - 61.5'	SP	A-1-b	0.6	7.5
			65.0' - 66.5'	N/A	N/A	0.71	2.9
			70.0' - 71.5'; 75.0' - 76.5'	SW-SM	A-1-b	1.3	9
			80.0' - 81.5'	N/A	N/A	0.89	1.9
			85.0' - 86.5'; 90.0' - 91.5'	SW-SM	A-1-b	0.7	6
95.0' - 95.5'	N/A	N/A	0.89	9.5			
B-77	182+70.96	69 RT	2.0' - 2.5'	CL	A-6	0.016	0.35
			5.0' - 5.5'	CL	A-6	0.009	0.28
			12.0' - 13.5'; 15.0' - 16.5'	CL-ML	A-4	0.069	0.32
			20.0' - 21.5'	N/A	N/A	0.088	0.35
			25.0' - 26.5'	N/A	N/A	0.11	0.55
			30.0' - 31.5'	N/A	N/A	3	11.4
			35.0' - 36.5'; 40.0' - 41.5'; 45.0' - 46.5'	SM	A-1-b	0.59	11.2
			50.0' - 51.5'	N/A	N/A	0.91	2.0
			55.0' - 56.5'; 60.0' - 61.5'; 65.0' - 66.5'	SW-SM	A-1-b	0.85	4.8
			70.0' - 71.5'	N/A	N/A	3.5	14
			75.0' - 76.5'; 80.0' - 81.5'	SW-SM	A-1-b	1.2	12
			85.0' - 86.5'; 90.0' - 91.5'	SW	A-1-b	0.95	9.5
			95.0' - 96.5'	N/A	N/A	0.8	2.2

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	Station	Offset		Unified	AASHTO		
B-78	184+86.96	86 LT	2.0' - 2.5'	CL	A-6	0.0071	0.09
			5.0' - 5.5'	CH	A-7-6	0.005	0.075
			10.0' - 10.5'	CH	A-7-6	0.0034	0.04
			15.0' - 15.5'	CL	A-6	0.018	0.2
			20.0' - 21.5'; 25.0' - 26.5'	CL-ML	A-4	0.038	0.31
			30.0' - 31.5'	N/A	N/A	3.5	10.7
			35.0' - 36.5'; 40.0' - 41.5'	SP-SM	A-1-b	1.4	10.3
			45.0' - 46.5'	N/A	N/A	0.11	0.7
			50.0' - 51.5'; 55.0' - 56.5'	SP-SM	A-1-b	0.94	6.5
			60.0' - 61.5'	N/A	N/A	1.1	14
			70.0' - 71.5'; 75.0' - 76.5'	SW-SM	A-1-b	1	11
			80.0' - 81.5'; 85.0' - 86.5'	SP-SM	A-1-b	0.49	7
90.0' - 91.5'	N/A	N/A	0.9	15			
B-79	184+86.96	6 LT	2.0' - 4.0'	CL	A-6	0.007	0.12
			5.0' - 7.0'	CH	A-7-6	0.0037	0.041
			10.0' - 12.0'	CH	A-7-6	0.0039	0.049
			15.0' - 16.5'; 20.0' - 21.5'	ML	A-4	0.07	0.32
			25.0' - 26.5'	N/A	N/A	0.9	0.4
			30.0' - 31.5'; 35.0' - 36.5'; 40.0' - 41.5'	SW-SM	A-1-b	0.97	0.95
			45.0' - 46.5'	N/A	N/A	1	8
			50.0' - 51.5'; 55.0' - 56.5'	SM	A-1-b	0.74	6.3
			60.0' - 61.5'	N/A	N/A	0.89	2
			65.0' - 66.5'; 70.0' - 71.5'	SW-SM	A-1-b	0.91	4.2
			75.0' - 76.5'	N/A	N/A	1.1	3.5
			80.0' - 81.5'; 85.0' - 86.5'	SP-SM	A-1-b	0.49	9.1
90.0' - 91.5'	N/A	N/A	0.9	7			
95.0' - 96.5'	N/A	N/A	0.4	14			

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