



## Denver Zoological Foundation Baseline Noise Monitoring Summary

**Background:** As part of the Certificate of Designation application, Denver Zoo was asked to take baseline measurements for noise associated with the operations around the Waste Management Building. Provided below is a summary of the data collected on October 3, 2013.

**Summary:**

On October 3, 2013, between approx. 10:00 a.m. – 3:00 p.m., area noise monitoring was conducted at the Denver Zoo Waste Management Building, using an Extech 407355 Data-logging Noise Dosimeter (calibrated locally by PMC on 9/24/14).

The device was positioned on a platform outside & above the main entryway into the building, in order to monitor and record noise levels generated from heavy equipment operating in the immediate area, including a waste roll-off service, various onsite heavy-equipment use, and minor site construction.

The device is programmed to log a value of “67.9 dB(A)” whenever noise levels are below 68.0 dB(A), so the TWA of 70.3 dB(A) is likely an elevated representation of the ambient noise level in the area during heavy equipment operation.

Data recorded during this time frame is provided as an attachment to this summary document.

Report provided by John Scott, Safety Manager for Denver Zoo

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 Noise Monitoring\_Waste Management Building

No.	Date	Time	dB(A)
"1	10/3/2013	9:52	76.5
"2	10/3/2013	9:53	73.8
"3	10/3/2013	9:54	73.4
"4	10/3/2013	9:55	67.9
"5	10/3/2013	9:56	67.9
"6	10/3/2013	9:57	67.9
"7	10/3/2013	9:58	67.9
"8	10/3/2013	9:59	67.9
"9	10/3/2013	10:00	67.9
"10	10/3/2013	10:01	67.9
"11	10/3/2013	10:02	67.9
"12	10/3/2013	10:03	67.9
"13	10/3/2013	10:04	67.9
"14	10/3/2013	10:05	67.9
"15	10/3/2013	10:06	67.9
"16	10/3/2013	10:07	67.9
"17	10/3/2013	10:08	67.9
"18	10/3/2013	10:09	67.9
"19	10/3/2013	10:10	77.8
"20	10/3/2013	10:11	67.9
"21	10/3/2013	10:12	67.9
"22	10/3/2013	10:13	67.9
"23	10/3/2013	10:14	75.3
"24	10/3/2013	10:15	73.7
"25	10/3/2013	10:16	73.4
"26	10/3/2013	10:17	73.4
"27	10/3/2013	10:18	74
"28	10/3/2013	10:19	67.9
"29	10/3/2013	10:20	67.9
"30	10/3/2013	10:21	67.9
"31	10/3/2013	10:22	67.9
"32	10/3/2013	10:23	70.2
"33	10/3/2013	10:24	79.8
"34	10/3/2013	10:25	67.9
"35	10/3/2013	10:26	67.9
"36	10/3/2013	10:27	67.9
"37	10/3/2013	10:28	67.9
"38	10/3/2013	10:29	67.9
"39	10/3/2013	10:30	73.8
"40	10/3/2013	10:31	74.2
"41	10/3/2013	10:32	74.3
"42	10/3/2013	10:33	67.9
"43	10/3/2013	10:34	67.9
"44	10/3/2013	10:35	67.9
"45	10/3/2013	10:36	67.9

Average (mean)                      Time            (in minutes)  
 69.868438                              5:18            318

Sum dB(A)            **Time-Weighted Average**  
 22357.9                              **70.30786**

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"46	10/3/2013	10:37	67.9
"47	10/3/2013	10:38	67.9
"48	10/3/2013	10:39	67.9
"49	10/3/2013	10:40	67.9
"50	10/3/2013	10:41	67.9
"51	10/3/2013	10:42	67.9
"52	10/3/2013	10:43	67.9
"53	10/3/2013	10:44	67.9
"54	10/3/2013	10:45	67.9
"55	10/3/2013	10:46	67.9
"56	10/3/2013	10:47	67.9
"57	10/3/2013	10:48	67.9
"58	10/3/2013	10:49	67.9
"59	10/3/2013	10:50	67.9
"60	10/3/2013	10:51	67.9
"61	10/3/2013	10:52	67.9
"62	10/3/2013	10:53	67.9
"63	10/3/2013	10:54	67.9
"64	10/3/2013	10:55	67.9
"65	10/3/2013	10:56	67.9
"66	10/3/2013	10:57	67.9
"67	10/3/2013	10:58	67.9
"68	10/3/2013	10:59	67.9
"69	10/3/2013	11:00	67.9
"70	10/3/2013	11:01	67.9
"71	10/3/2013	11:02	67.9
"72	10/3/2013	11:03	67.9
"73	10/3/2013	11:04	67.9
"74	10/3/2013	11:05	67.9
"75	10/3/2013	11:06	67.9
"76	10/3/2013	11:07	67.9
"77	10/3/2013	11:08	67.9
"78	10/3/2013	11:09	67.9
"79	10/3/2013	11:10	67.9
"80	10/3/2013	11:11	67.9
"81	10/3/2013	11:12	76
"82	10/3/2013	11:13	67.9
"83	10/3/2013	11:14	67.9
"84	10/3/2013	11:15	74.1
"85	10/3/2013	11:16	73.8
"86	10/3/2013	11:17	76.3
"87	10/3/2013	11:18	67.9
"88	10/3/2013	11:19	67.9
"89	10/3/2013	11:20	67.9
"90	10/3/2013	11:21	67.9
"91	10/3/2013	11:22	67.9
"92	10/3/2013	11:23	67.9

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"93	10/3/2013	11:24	67.9
"94	10/3/2013	11:25	69.3
"95	10/3/2013	11:26	67.9
"96	10/3/2013	11:27	69.6
"97	10/3/2013	11:28	67.9
"98	10/3/2013	11:29	67.9
"99	10/3/2013	11:30	68.6
"100	10/3/2013	11:31	67.9
"101	10/3/2013	11:32	74.1
"102	10/3/2013	11:33	70.2
"103	10/3/2013	11:34	67.9
"104	10/3/2013	11:35	67.9
"105	10/3/2013	11:36	68.4
"106	10/3/2013	11:37	67.9
"107	10/3/2013	11:38	67.9
"108	10/3/2013	11:39	67.9
"109	10/3/2013	11:40	67.9
"110	10/3/2013	11:41	67.9
"111	10/3/2013	11:42	69.9
"112	10/3/2013	11:43	72.5
"113	10/3/2013	11:44	72.2
"114	10/3/2013	11:45	80.9
"115	10/3/2013	11:46	67.9
"116	10/3/2013	11:47	78
"117	10/3/2013	11:48	76.8
"118	10/3/2013	11:49	83.5
"119	10/3/2013	11:50	67.9
"120	10/3/2013	11:51	73.5
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"122	10/3/2013	11:53	67.9
"123	10/3/2013	11:54	72.9
"124	10/3/2013	11:55	69.1
"125	10/3/2013	11:56	72
"126	10/3/2013	11:57	74.2
"127	10/3/2013	11:58	71
"128	10/3/2013	11:59	71.9
"129	10/3/2013	12:00	68.5
"130	10/3/2013	12:01	72.4
"131	10/3/2013	12:02	73.2
"132	10/3/2013	12:03	72.2
"133	10/3/2013	12:04	74
"134	10/3/2013	12:05	81.1
"135	10/3/2013	12:06	69.9
"136	10/3/2013	12:07	67.9
"137	10/3/2013	12:08	67.9
"138	10/3/2013	12:09	67.9
"139	10/3/2013	12:10	76.8

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"140	10/3/2013	12:11	67.9
"141	10/3/2013	12:12	67.9
"142	10/3/2013	12:13	67.9
"143	10/3/2013	12:14	67.9
"144	10/3/2013	12:15	67.9
"145	10/3/2013	12:16	67.9
"146	10/3/2013	12:17	78.1
"147	10/3/2013	12:18	67.9
"148	10/3/2013	12:19	67.9
"149	10/3/2013	12:20	67.9
"150	10/3/2013	12:21	67.9
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"164	10/3/2013	12:35	67.9
"165	10/3/2013	12:36	67.9
"166	10/3/2013	12:37	67.9
"167	10/3/2013	12:38	69.3
"168	10/3/2013	12:39	67.9
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"178	10/3/2013	12:49	67.9
"179	10/3/2013	12:50	67.9
"180	10/3/2013	12:51	68.1
"181	10/3/2013	12:52	67.9
"182	10/3/2013	12:53	67.9
"183	10/3/2013	12:54	67.9
"184	10/3/2013	12:55	67.9
"185	10/3/2013	12:56	67.9
"186	10/3/2013	12:57	73.9

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"187	10/3/2013	12:58	79
"188	10/3/2013	12:59	74
"189	10/3/2013	13:00	86.5
"190	10/3/2013	13:01	73.6
"191	10/3/2013	13:02	73.5
"192	10/3/2013	13:03	73.8
"193	10/3/2013	13:04	73.8
"194	10/3/2013	13:05	82
"195	10/3/2013	13:06	75.4
"196	10/3/2013	13:07	73.5
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"198	10/3/2013	13:09	67.9
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"201	10/3/2013	13:12	67.9
"202	10/3/2013	13:13	77.6
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"204	10/3/2013	13:15	67.9
"205	10/3/2013	13:16	67.9
"206	10/3/2013	13:17	73.3
"207	10/3/2013	13:18	74.1
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"223	10/3/2013	13:34	73.5
"224	10/3/2013	13:35	67.9
"225	10/3/2013	13:36	67.9
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"229	10/3/2013	13:40	67.9
"230	10/3/2013	13:41	67.9
"231	10/3/2013	13:42	67.9
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"233	10/3/2013	13:44	67.9

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"234	10/3/2013	13:45	73.9
"235	10/3/2013	13:46	81.6
"236	10/3/2013	13:47	75.3
"237	10/3/2013	13:48	73.8
"238	10/3/2013	13:49	73.9
"239	10/3/2013	13:50	74.5
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"241	10/3/2013	13:52	73.8
"242	10/3/2013	13:53	73.6
"243	10/3/2013	13:54	76.2
"244	10/3/2013	13:55	75.4
"245	10/3/2013	13:56	74
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"247	10/3/2013	13:58	67.9
"248	10/3/2013	13:59	67.9
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"252	10/3/2013	14:03	67.9
"253	10/3/2013	14:04	67.9
"254	10/3/2013	14:05	67.9
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"256	10/3/2013	14:07	74
"257	10/3/2013	14:08	74.5
"258	10/3/2013	14:09	74
"259	10/3/2013	14:10	74.4
"260	10/3/2013	14:11	74
"261	10/3/2013	14:12	73.5
"262	10/3/2013	14:13	73.8
"263	10/3/2013	14:14	67.9
"264	10/3/2013	14:15	67.9
"265	10/3/2013	14:16	67.9
"266	10/3/2013	14:17	67.9
"267	10/3/2013	14:18	67.9
"268	10/3/2013	14:19	67.9
"269	10/3/2013	14:20	67.9
"270	10/3/2013	14:21	67.9
"271	10/3/2013	14:22	67.9
"272	10/3/2013	14:23	67.9
"273	10/3/2013	14:24	67.9
"274	10/3/2013	14:25	67.9
"275	10/3/2013	14:26	77.2
"276	10/3/2013	14:27	67.9
"277	10/3/2013	14:28	67.9
"278	10/3/2013	14:29	67.9
"279	10/3/2013	14:30	67.9
"280	10/3/2013	14:31	67.9

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"281	10/3/2013	14:32	67.9
"282	10/3/2013	14:33	67.9
"283	10/3/2013	14:34	67.9
"284	10/3/2013	14:35	67.9
"285	10/3/2013	14:36	67.9
"286	10/3/2013	14:37	67.9
"287	10/3/2013	14:38	67.9
"288	10/3/2013	14:39	73.2
"289	10/3/2013	14:40	75.7
"290	10/3/2013	14:41	73.2
"291	10/3/2013	14:42	71.8
"292	10/3/2013	14:43	67.9
"293	10/3/2013	14:44	68.3
"294	10/3/2013	14:45	67.9
"295	10/3/2013	14:46	67.9
"296	10/3/2013	14:47	71.5
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"298	10/3/2013	14:49	67.9
"299	10/3/2013	14:50	72.6
"300	10/3/2013	14:51	71.7
"301	10/3/2013	14:52	71.9
"302	10/3/2013	14:53	72
"303	10/3/2013	14:54	71.8
"304	10/3/2013	14:55	67.9
"305	10/3/2013	14:56	67.9
"306	10/3/2013	14:57	67.9
"307	10/3/2013	14:58	67.9
"308	10/3/2013	14:59	67.9
"309	10/3/2013	15:00	67.9
"310	10/3/2013	15:01	67.9
"311	10/3/2013	15:02	67.9
"312	10/3/2013	15:03	67.9
"313	10/3/2013	15:04	67.9
"314	10/3/2013	15:05	67.9
"315	10/3/2013	15:06	67.9
"316	10/3/2013	15:07	67.9
"317	10/3/2013	15:08	67.9
"318	10/3/2013	15:09	71.8
"319	10/3/2013	15:10	71.9
"320	10/3/2013	15:11	71.9