Appendix G

Noise Calculation Worksheets

The Bloc Project

Noise Calculations Worksheets

Provided by Acoustical Engineering Services

Ambient Noise Measurements

Project: The Bloc Project
Measurements Date: 3/6/2023

Leq

Receptor	Daytime	Nighttime	CNEL (Estimated)
R1	67.7	66.3	71.3
R2	69.6	64.8	72.9
R3	68.1	65.6	70.9
R4	72.8	67.7	73.9
R5	70.5	66.5	72.3

CNEL for R1, R3, R4 and R5 are estimated based on short-term measurements
R2 levels are from the 24-hour measurements

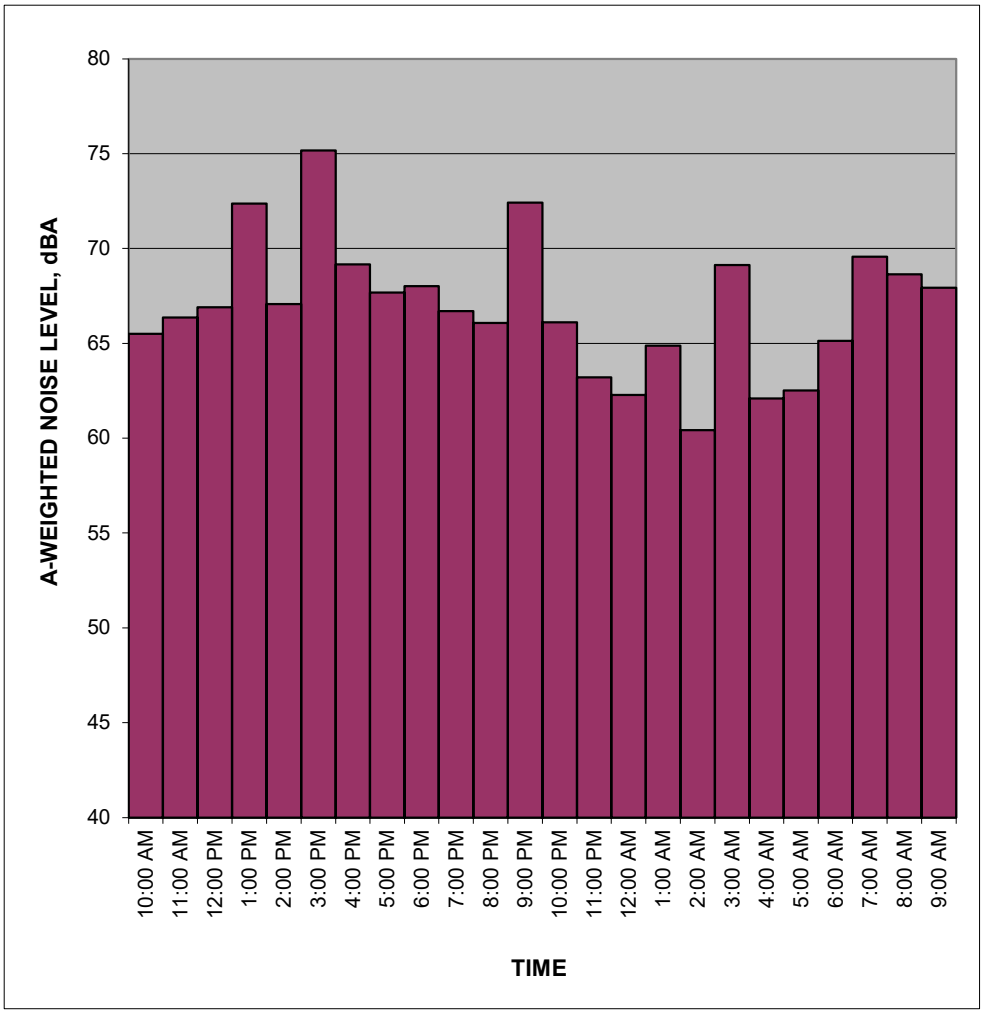
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: The Bloc Project
Location: R2
Sources: Ambient

Date: 03/06 - 03/07/2023

TIME	HNL, dB(A)
10:00 AM	65.5
11:00 AM	66.4
12:00 PM	66.9
1:00 PM	72.4
2:00 PM	67.1
3:00 PM	75.2
4:00 PM	69.2
5:00 PM	67.7
6:00 PM	68.0
7:00 PM	66.7
8:00 PM	66.1
9:00 PM	72.4
10:00 PM	66.1
11:00 PM	63.2
12:00 AM	62.3
1:00 AM	64.9
2:00 AM	60.4
3:00 AM	69.1
4:00 AM	62.1
5:00 AM	62.5
6:00 AM	65.1
7:00 AM	69.6
8:00 AM	68.6
9:00 AM	67.9
CNEL, dB(A):	**72.9**



NOTES:

Daytime average	69.6	dBA Leq
Nighttime average	64.8	dBA Leq

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R1
Date: 3/6/2023

Time	Leq
11:35:16 AM	67.3
11:35:26 AM	65.7
11:35:36 AM	62.8
11:35:46 AM	65.2
11:35:56 AM	62.5
11:36:06 AM	65.5
11:36:16 AM	64
11:36:26 AM	69.8
11:36:36 AM	72.9
11:36:46 AM	69.9
11:36:56 AM	68.7
11:37:06 AM	66.7
11:37:16 AM	69.1
11:37:26 AM	61.6
11:37:36 AM	63
11:37:46 AM	65.1
11:37:56 AM	71.2
11:38:06 AM	72.8
11:38:16 AM	70.5
11:38:26 AM	64.2
11:38:36 AM	63.7
11:38:46 AM	63.8
11:38:56 AM	61.5
11:39:06 AM	63.7
11:39:16 AM	64.8
11:39:26 AM	70
11:39:36 AM	72.1
11:39:46 AM	69.7
11:39:56 AM	64.9
11:40:06 AM	63.8
11:40:16 AM	66.9
11:40:26 AM	61
11:40:36 AM	60.3
11:40:46 AM	61.3
11:40:56 AM	72.7
11:41:06 AM	70.1
11:41:16 AM	69.1
11:41:26 AM	72.6
11:41:36 AM	64.9
11:41:46 AM	65.1
11:41:56 AM	63.7
11:42:06 AM	66.5
11:42:16 AM	67.9
11:42:26 AM	68.2

11:42:36 AM	68.5
11:42:46 AM	65.3
11:42:56 AM	62.7
11:43:06 AM	62.5
11:43:16 AM	65.5
11:43:26 AM	60.3
11:43:36 AM	61.1
11:43:46 AM	63
11:43:56 AM	67.6
11:44:06 AM	69.7
11:44:16 AM	66
11:44:26 AM	65
11:44:36 AM	67.9
11:44:46 AM	62.8
11:44:56 AM	62.3
11:45:06 AM	63.2
11:45:16 AM	63.9
11:45:26 AM	66
11:45:36 AM	69.4
11:45:46 AM	65.4
11:45:56 AM	71.9
11:46:06 AM	72.5
11:46:16 AM	65.7
11:46:26 AM	65.1
11:46:36 AM	63.8
11:46:46 AM	65.2
11:46:56 AM	66.7
11:47:06 AM	67.8
11:47:16 AM	66.3
11:47:26 AM	65.4
11:47:36 AM	68.3
11:47:46 AM	66.7
11:47:56 AM	65.6
11:48:06 AM	62.8
11:48:16 AM	65.3
11:48:26 AM	71
11:48:36 AM	69
11:48:46 AM	68.1
11:48:56 AM	68.9
11:49:06 AM	66.7
11:49:16 AM	68.5
11:49:26 AM	67.1
11:49:36 AM	65.9
11:49:46 AM	68.9
11:49:56 AM	73.5
11:50:06 AM	70.4
	67.7

Time	Leq
10:02:59 PM	68.3
10:03:09 PM	64.6
10:03:19 PM	69
10:03:29 PM	70.9
10:03:39 PM	62.4
10:03:49 PM	63.6
10:03:59 PM	60.7
10:04:09 PM	67.2
10:04:19 PM	64.6
10:04:29 PM	65.4
10:04:39 PM	69.5
10:04:49 PM	64.2
10:04:59 PM	63
10:05:09 PM	65.9
10:05:19 PM	68.8
10:05:29 PM	63.6
10:05:39 PM	66.6
10:05:49 PM	67.2
10:05:59 PM	59.7
10:06:09 PM	64.9
10:06:19 PM	69.3
10:06:29 PM	65.9
10:06:39 PM	70.1
10:06:49 PM	67.7
10:06:59 PM	70.4
10:07:09 PM	65.4
10:07:19 PM	62.5
10:07:29 PM	63.4
10:07:39 PM	64.6
10:07:49 PM	60.4
10:07:59 PM	65.2
10:08:09 PM	67.4
10:08:19 PM	64
10:08:29 PM	69.3
10:08:39 PM	62.1
10:08:49 PM	65.1
10:08:59 PM	61.2
10:09:09 PM	65
10:09:19 PM	69.3
10:09:29 PM	65.2
10:09:39 PM	65.1
10:09:49 PM	64
10:09:59 PM	60.4
10:10:09 PM	59.9
10:10:19 PM	64.1
10:10:29 PM	69.2
10:10:39 PM	66.6

10:10:49 PM	62
10:10:59 PM	61.5
10:11:09 PM	61.1
10:11:19 PM	64.5
10:11:29 PM	68
10:11:39 PM	68.2
10:11:49 PM	64.5
10:11:59 PM	62.6
10:12:09 PM	60.3
10:12:19 PM	64.1
10:12:29 PM	65.9
10:12:39 PM	65.5
10:12:49 PM	68.5
10:12:59 PM	61.9
10:13:09 PM	62.8
10:13:19 PM	62.5
10:13:29 PM	67.2
10:13:39 PM	63.7
10:13:49 PM	62.5
10:13:59 PM	66.6
10:14:09 PM	66.9
10:14:19 PM	68.4
10:14:29 PM	62.8
10:14:39 PM	65.8
10:14:49 PM	62.1
10:14:59 PM	67.1
10:15:09 PM	67.5
10:15:19 PM	64.6
10:15:29 PM	66.3
10:15:39 PM	63.9
10:15:49 PM	68.7
10:15:59 PM	66.8
10:16:09 PM	66.3
10:16:19 PM	69.9
10:16:29 PM	63.3
10:16:39 PM	64.6
10:16:49 PM	67.6
10:16:59 PM	65.1
10:17:09 PM	70.7
10:17:19 PM	64
10:17:29 PM	70.8
10:17:39 PM	65.2
10:17:49 PM	63.8
	66.3

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project
Location: R3
Date: 3/6/2023

Time	Leq
12:39:39 PM	72
12:39:49 PM	70.3
12:39:59 PM	67.3
12:40:09 PM	67.1
12:40:19 PM	65.1
12:40:29 PM	65.5
12:40:39 PM	66.1
12:40:49 PM	66.8
12:40:59 PM	67.2
12:41:09 PM	63.7
12:41:19 PM	68.5
12:41:29 PM	65.6
12:41:39 PM	64.4
12:41:49 PM	66
12:41:59 PM	67.3
12:42:09 PM	66.7
12:42:19 PM	64.8
12:42:29 PM	64.7
12:42:39 PM	67.2
12:42:49 PM	67.9
12:42:59 PM	66.2
12:43:09 PM	66.6
12:43:19 PM	66.2
12:43:29 PM	69.5
12:43:39 PM	68
12:43:49 PM	68.4
12:43:59 PM	68
12:44:09 PM	67.2
12:44:19 PM	68.2
12:44:29 PM	68.5
12:44:39 PM	73
12:44:49 PM	66.5
12:44:59 PM	67.1
12:45:09 PM	67.5
12:45:19 PM	67.4
12:45:29 PM	65.5
12:45:39 PM	65.4
12:45:49 PM	65.9
12:45:59 PM	68.1
12:46:09 PM	68
12:46:19 PM	65.8
12:46:29 PM	68.5
12:46:39 PM	68.7

12:46:49 PM	66.2
12:46:59 PM	65
12:47:09 PM	72
12:47:19 PM	71.2
12:47:29 PM	70.1
12:47:39 PM	68.1
12:47:49 PM	68.3
12:47:59 PM	69.2
12:48:09 PM	68.8
12:48:19 PM	66.7
12:48:29 PM	66.5
12:48:39 PM	69.4
12:48:49 PM	71.2
12:48:59 PM	68.2
12:49:09 PM	69.2
12:49:19 PM	65.7
12:49:29 PM	65.2
12:49:39 PM	67.2
12:49:49 PM	64.7
12:49:59 PM	64.7
12:50:09 PM	65.6
12:50:19 PM	65.6
12:50:29 PM	67.9
12:50:39 PM	67.9
12:50:49 PM	67.2
12:50:59 PM	66.4
12:51:09 PM	66.9
12:51:19 PM	67.9
12:51:29 PM	68.1
12:51:39 PM	65.8
12:51:49 PM	68.6
12:51:59 PM	66.9
12:52:09 PM	65.6
12:52:19 PM	64.4
12:52:29 PM	64.1
12:52:39 PM	67.8
12:52:49 PM	67.3
12:52:59 PM	66.5
12:53:09 PM	68.9
12:53:19 PM	68.8
12:53:29 PM	71.3
12:53:39 PM	71.4
12:53:49 PM	71.5
12:53:59 PM	70.3
12:54:09 PM	69.5
12:54:19 PM	72.1
12:54:29 PM	71.9
	68.1

Time	Leq
10:58:03 PM	61.1
10:58:13 PM	62.7
10:58:23 PM	68.3
10:58:33 PM	66.4
10:58:43 PM	67.3
10:58:53 PM	62.4
10:59:03 PM	64.2
10:59:13 PM	61.6
10:59:23 PM	61.4
10:59:33 PM	60.9
10:59:43 PM	66.2
10:59:53 PM	66.7
11:00:03 PM	66.5
11:00:13 PM	63.4
11:00:23 PM	64.7
11:00:33 PM	76.2
11:00:43 PM	63.2
11:00:53 PM	60.6
11:01:03 PM	61.4
11:01:13 PM	67.5
11:01:23 PM	65.7
11:01:33 PM	65.5
11:01:43 PM	66.2
11:01:53 PM	61.1
11:02:03 PM	60.8
11:02:13 PM	61.6
11:02:23 PM	66.7
11:02:33 PM	71.2
11:02:43 PM	63.1
11:02:53 PM	62.2
11:03:03 PM	61.9
11:03:13 PM	69.4
11:03:23 PM	66
11:03:33 PM	66.6
11:03:43 PM	65
11:03:53 PM	62.1
11:04:03 PM	62.5
11:04:13 PM	64.7
11:04:23 PM	65
11:04:33 PM	63.9
11:04:43 PM	61.3
11:04:53 PM	61.7
11:05:03 PM	61.2
11:05:13 PM	62.2
11:05:23 PM	71.8
11:05:33 PM	69.1

11:05:43 PM	62.4
11:05:53 PM	62.1
11:06:03 PM	68.6
11:06:13 PM	66
11:06:23 PM	65.5
11:06:33 PM	64.6
11:06:43 PM	67.1
11:06:53 PM	63.4
11:07:03 PM	63.1
11:07:13 PM	63.9
11:07:23 PM	62.2
11:07:33 PM	61.6
11:07:43 PM	61.2
11:07:53 PM	61.3
11:08:03 PM	62.3
11:08:13 PM	64.8
11:08:23 PM	62.9
11:08:33 PM	62.3
11:08:43 PM	62.6
11:08:53 PM	62.3
11:09:03 PM	63.2
11:09:13 PM	62.6
11:09:23 PM	63.6
11:09:33 PM	65.4
11:09:43 PM	70.9
11:09:53 PM	63.4
11:10:03 PM	62.3
11:10:13 PM	67
11:10:23 PM	64.7
11:10:33 PM	64.6
11:10:43 PM	64.5
11:10:53 PM	67
11:11:03 PM	61.2
11:11:13 PM	61.7
11:11:23 PM	66.8
11:11:33 PM	62.2
11:11:43 PM	61.6
11:11:53 PM	64.2
11:12:03 PM	61.4
11:12:13 PM	61
11:12:23 PM	66.2
11:12:33 PM	68.8
11:12:43 PM	67.2
11:12:53 PM	63.8
	65.6

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project
Location: R4
Date: 3/6/2023

Time	Leq
12:20:01 PM	70.7
12:20:11 PM	71.2
12:20:21 PM	71.6
12:20:31 PM	72.1
12:20:41 PM	71.3
12:20:51 PM	71.7
12:21:01 PM	70.4
12:21:11 PM	70
12:21:21 PM	71.2
12:21:31 PM	71.2
12:21:41 PM	72
12:21:51 PM	72.3
12:22:01 PM	72.1
12:22:11 PM	71.4
12:22:21 PM	73.9
12:22:31 PM	71.4
12:22:41 PM	71.2
12:22:51 PM	71.9
12:23:01 PM	71.9
12:23:11 PM	72.8
12:23:21 PM	73.4
12:23:31 PM	72.6
12:23:41 PM	71.9
12:23:51 PM	71.6
12:24:01 PM	71
12:24:11 PM	71.1
12:24:21 PM	71.4
12:24:31 PM	70.6
12:24:41 PM	71.2
12:24:51 PM	72.1
12:25:01 PM	72.4
12:25:11 PM	73.2
12:25:21 PM	71.3
12:25:31 PM	71.2
12:25:41 PM	72.7
12:25:51 PM	74.2
12:26:01 PM	72.5
12:26:11 PM	74.6
12:26:21 PM	73
12:26:31 PM	72.5
12:26:41 PM	72
12:26:51 PM	71.9
12:27:01 PM	71.8

12:27:11 PM	72.3
12:27:21 PM	72.2
12:27:31 PM	71.8
12:27:41 PM	72.5
12:27:51 PM	73
12:28:01 PM	74.2
12:28:11 PM	72.2
12:28:21 PM	72.6
12:28:31 PM	72.4
12:28:41 PM	72.9
12:28:51 PM	75.8
12:29:01 PM	73.9
12:29:11 PM	75.2
12:29:21 PM	75.1
12:29:31 PM	74.9
12:29:41 PM	74.8
12:29:51 PM	72.2
12:30:01 PM	75.1
12:30:11 PM	75.1
12:30:21 PM	73.9
12:30:31 PM	74
12:30:41 PM	72.6
12:30:51 PM	71.8
12:31:01 PM	73.1
12:31:11 PM	72.7
12:31:21 PM	72.2
12:31:31 PM	71.8
12:31:41 PM	73.4
12:31:51 PM	72.9
12:32:01 PM	72
12:32:11 PM	72.7
12:32:21 PM	72.8
12:32:31 PM	73.4
12:32:41 PM	71.9
12:32:51 PM	72
12:33:01 PM	71.6
12:33:11 PM	72.1
12:33:21 PM	74.5
12:33:31 PM	73
12:33:41 PM	73.1
12:33:51 PM	75.7
12:34:01 PM	72.4
12:34:11 PM	74.3
12:34:21 PM	73.9
12:34:31 PM	72.7
12:34:41 PM	71.7
12:34:51 PM	71.4
	72.8

Time	Leq
10:38:14 PM	64.7
10:38:24 PM	66.1
10:38:34 PM	68.7
10:38:44 PM	66.7
10:38:54 PM	67.5
10:39:04 PM	62.5
10:39:14 PM	64
10:39:24 PM	66.5
10:39:34 PM	66.7
10:39:44 PM	62.7
10:39:54 PM	68.2
10:40:04 PM	63.6
10:40:14 PM	63.7
10:40:24 PM	67.1
10:40:34 PM	65.6
10:40:44 PM	65
10:40:54 PM	65
10:41:04 PM	71.7
10:41:14 PM	68.3
10:41:24 PM	62
10:41:34 PM	59.9
10:41:44 PM	61.4
10:41:54 PM	64.8
10:42:04 PM	59.7
10:42:14 PM	66.8
10:42:24 PM	71.7
10:42:34 PM	70.3
10:42:44 PM	71
10:42:54 PM	71.2
10:43:04 PM	69.5
10:43:14 PM	64.8
10:43:24 PM	61.2
10:43:34 PM	61.6
10:43:44 PM	73.5
10:43:54 PM	70.9
10:44:04 PM	65.4
10:44:14 PM	68.7
10:44:24 PM	67.7
10:44:34 PM	68.8
10:44:44 PM	64.3
10:44:54 PM	67
10:45:04 PM	65.2
10:45:14 PM	69.1
10:45:24 PM	68.8
10:45:34 PM	67.5
10:45:44 PM	62.7

10:45:54 PM	66.4
10:46:04 PM	64.3
10:46:14 PM	63.4
10:46:24 PM	64.7
10:46:34 PM	63.6
10:46:44 PM	67.9
10:46:54 PM	67.5
10:47:04 PM	66.4
10:47:14 PM	64.4
10:47:24 PM	60.7
10:47:34 PM	61.6
10:47:44 PM	66.4
10:47:54 PM	68
10:48:04 PM	65.4
10:48:14 PM	72.3
10:48:24 PM	69.1
10:48:34 PM	60.4
10:48:44 PM	61.6
10:48:54 PM	68.2
10:49:04 PM	74
10:49:14 PM	70.3
10:49:24 PM	61.5
10:49:34 PM	61.3
10:49:44 PM	70.4
10:49:54 PM	70.6
10:50:04 PM	72.7
10:50:14 PM	65.3
10:50:24 PM	69.2
10:50:34 PM	62.6
10:50:44 PM	63.1
10:50:54 PM	67.4
10:51:04 PM	62.5
10:51:14 PM	69.5
10:51:24 PM	73.1
10:51:34 PM	72.4
10:51:44 PM	61.4
10:51:54 PM	60.8
10:52:04 PM	67.8
10:52:14 PM	68.2
10:52:24 PM	61.8
10:52:34 PM	63
10:52:44 PM	61.8
10:52:54 PM	69.4
10:53:04 PM	67.9
	67.7

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project
Location: R5
Date: 3/6/2023

Time	Leq
12:00:43 PM	64
12:00:53 PM	63.7
12:01:03 PM	69.5
12:01:13 PM	70.6
12:01:23 PM	70.9
12:01:33 PM	69.6
12:01:43 PM	65.5
12:01:53 PM	67.1
12:02:03 PM	64.2
12:02:13 PM	66.1
12:02:23 PM	65.3
12:02:33 PM	61.8
12:02:43 PM	66.6
12:02:53 PM	69.3
12:03:03 PM	65.3
12:03:13 PM	67.6
12:03:23 PM	64.2
12:03:33 PM	65.5
12:03:43 PM	67.5
12:03:53 PM	66
12:04:03 PM	64.9
12:04:13 PM	66.4
12:04:23 PM	73.3
12:04:33 PM	69.7
12:04:43 PM	65.5
12:04:53 PM	64.9
12:05:03 PM	65.4
12:05:13 PM	64.6
12:05:23 PM	64.3
12:05:33 PM	64
12:05:43 PM	66.8
12:05:53 PM	74.2
12:06:03 PM	69
12:06:13 PM	66
12:06:23 PM	65.1
12:06:33 PM	64.9
12:06:43 PM	65.8
12:06:53 PM	74.6
12:07:03 PM	69.6
12:07:13 PM	70.6
12:07:23 PM	83.9
12:07:33 PM	65.7
12:07:43 PM	66

12:07:53 PM	64.5
12:08:03 PM	66.2
12:08:13 PM	69.8
12:08:23 PM	68.7
12:08:33 PM	64.3
12:08:43 PM	73.6
12:08:53 PM	73.2
12:09:03 PM	69.1
12:09:13 PM	65
12:09:23 PM	64.8
12:09:33 PM	66.9
12:09:43 PM	68.4
12:09:53 PM	70.3
12:10:03 PM	68
12:10:13 PM	70.4
12:10:23 PM	77.8
12:10:33 PM	69.5
12:10:43 PM	67
12:10:53 PM	65.6
12:11:03 PM	65.4
12:11:13 PM	67.3
12:11:23 PM	67.4
12:11:33 PM	71.1
12:11:43 PM	73.1
12:11:53 PM	73.9
12:12:03 PM	73.4
12:12:13 PM	66.1
12:12:23 PM	66.2
12:12:33 PM	66.1
12:12:43 PM	67.4
12:12:53 PM	65.5
12:13:03 PM	67
12:13:13 PM	72.4
12:13:23 PM	72.7
12:13:33 PM	69.7
12:13:43 PM	68.9
12:13:53 PM	68
12:14:03 PM	69.4
12:14:13 PM	67.6
12:14:23 PM	68.7
12:14:33 PM	69.1
12:14:43 PM	72.9
12:14:53 PM	75.9
12:15:03 PM	68.5
12:15:13 PM	65.3
12:15:23 PM	64.3
12:15:33 PM	64.9
	70.5

Time	Leq
10:21:07 PM	68.4
10:21:17 PM	63.5
10:21:27 PM	65.6
10:21:37 PM	66.1
10:21:47 PM	63.8
10:21:57 PM	63
10:22:07 PM	62.8
10:22:17 PM	64.4
10:22:27 PM	65.9
10:22:37 PM	64.8
10:22:47 PM	61.9
10:22:57 PM	64.3
10:23:07 PM	65.5
10:23:17 PM	63.7
10:23:27 PM	66.7
10:23:37 PM	66.2
10:23:47 PM	64.5
10:23:57 PM	69.6
10:24:07 PM	65.4
10:24:17 PM	63.3
10:24:27 PM	63.2
10:24:37 PM	62.3
10:24:47 PM	64.2
10:24:57 PM	62.2
10:25:07 PM	63.6
10:25:17 PM	64.1
10:25:27 PM	72
10:25:37 PM	70.1
10:25:47 PM	67.4
10:25:57 PM	65.9
10:26:07 PM	66.7
10:26:17 PM	70.4
10:26:27 PM	63.2
10:26:37 PM	64
10:26:47 PM	63.9
10:26:57 PM	65.4
10:27:07 PM	67.9
10:27:17 PM	71.1
10:27:27 PM	66
10:27:37 PM	65.4
10:27:47 PM	63
10:27:57 PM	66
10:28:07 PM	69.2
10:28:17 PM	66.7
10:28:27 PM	70.3
10:28:37 PM	67.4

10:28:47 PM	68
10:28:57 PM	66.2
10:29:07 PM	67.8
10:29:17 PM	65.3
10:29:27 PM	66
10:29:37 PM	63.5
10:29:47 PM	65.1
10:29:57 PM	74.3
10:30:07 PM	63.8
10:30:17 PM	64.8
10:30:27 PM	64.9
10:30:37 PM	64.8
10:30:47 PM	61.1
10:30:57 PM	62
10:31:07 PM	61.8
10:31:17 PM	63.6
10:31:27 PM	67.6
10:31:37 PM	67
10:31:47 PM	64.4
10:31:57 PM	65.2
10:32:07 PM	66.8
10:32:17 PM	61.6
10:32:27 PM	61.3
10:32:37 PM	63.9
10:32:47 PM	61.2
10:32:57 PM	68.4
10:33:07 PM	61.9
10:33:17 PM	61.5
10:33:27 PM	65.7
10:33:37 PM	64.8
10:33:47 PM	62.7
10:33:57 PM	65.7
10:34:07 PM	64.8
10:34:17 PM	61.4
10:34:27 PM	72.2
10:34:37 PM	69.7
10:34:47 PM	65.6
10:34:57 PM	62.8
10:35:07 PM	64.7
10:35:17 PM	63.8
10:35:27 PM	67.4
10:35:37 PM	61.6
10:35:47 PM	61.2
10:35:57 PM	72.8
	66.5

Construction Noise & Vibration Calculations

Project: The Bloc Project

FROM SPREADSHEET

Estimated Construction Noise Levels, dBA Leq

Rec.	Closest Distance	Utility Relocation	Demolition (Existing)	Structural (Existing)	Interior (Existing)	Demolition (new tower)	Grading (new Tower)	Mat Foundation (new tower)	Building Skin	Closeout	Off-Site Utilities
R1	135	61.1	80.1	60.4	60.1	79.8	60.8	58.9	59.0	61.0	73.6
R2	85	78.3	82.8	78.7	78.0	82.4	78.9	77.3	62.5	65.0	77.1
R3	350	51.4	59.3	53.2	53.7	64.0	54.0	51.7	51.6	52.8	73.6
R4	380	50.7	58.5	52.5	53.0	63.5	53.4	51.0	50.9	52.1	53.3
R5	320	52.2	59.7	53.9	54.2	64.7	54.7	52.4	52.3	53.6	40.8

With Mitigation Measures

Rec.	Mitigation Noise Reduction, dBA	Closest Distance	Utility Relocation	Demolition (Existing)	Structural (Existing)	Interior (Existing)	Demolition (new tower)	Grading (new Tower)	Mat Foundation (new tower)	Building Skin	Closeout
R1	11	135	50.1	69.1	49.4	49.1	68.8	49.8	47.9	48.0	50.0
R2	12	85	66.3	70.8	66.7	66.0	70.4	66.9	65.3	50.5	53.0
R3	0	350	51.4	59.3	53.2	53.7	64.0	54.0	51.7	51.6	52.8
R4	0	380	50.7	58.5	52.5	53.0	63.5	53.4	51.0	50.9	52.1
R5	0	320	52.2	59.7	53.9	54.2	64.7	54.7	52.4	52.3	53.6

Overlapping Construction

Rec.	Closest Distance	Util Relo and Existing Demo	Existing Demo and New Tower demo	Existing Structural, New Tower demo	Existing Structural, New Tower grading	Existing Structural, Interior and Mat Foundation	Existing Structural, Interior	Existing Structural, Interior and Skin	Interior and Skin
R1	135	80.2	83.0	79.8	63.6	64.6	63.3	64.6	62.6
R2	85	84.1	85.6	83.9	81.8	82.8	81.4	81.4	78.1
R3	350	60.0	65.3	64.3	56.6	57.7	56.5	57.7	55.8
R4	380	59.2	64.7	63.8	56.0	57.0	55.8	57.0	55.1
R5	320	60.4	65.9	65.0	57.3	58.3	57.1	58.3	56.4

Overlapping Construction - With Mitigation

Rec.	Mitigation Noise Reduction, dBA	Closest Distance	Util Relo and Existing Demo	Existing Demo and New Tower demo	Existing Structural, New Tower demo	Existing Structural, New Tower grading	Existing Structural, Interior and Mat Foundation	Existing Structural, Interior	Existing Structural, Interior and Skin	Interior and Skin
R1	11	135	69.2	72.0	68.8	52.6	53.6	52.3	53.6	51.6
R2	12	85	72.1	73.6	71.9	69.8	70.8	69.4	69.4	66.1
R3	0	350	60.0	65.3	64.3	56.6	57.7	56.5	57.7	55.8
R4	0	380	59.2	64.7	63.8	56.0	57.0	55.8	57.0	55.1
R5	0	320	60.4	65.9	65.0	57.3	58.3	57.1	58.3	56.4

Off-Site Construction

Estimated Construction Noise Levels, dBA Leq

Rec.	Closest Distance	Off-Site Utilities	Off-Site Staging	Composite
R1	60	73.6	70.3	75.3
R2	40	77.1	77.8	80.5
R3	60	73.6	59.5	73.8
R4	620	53.3	55.0	57.2
R5	465	40.8	42.2	44.6

Off-Site Construction
With Mitigation Measures

Estimated Construction Noise Levels, dBA Leq

Rec.	Mitigation Noise Reduction, dBA	Off-Site Utilities	Off-Site Staging	Composite
R1	3	70.6	67.3	72.3
R2	6	71.1	71.8	74.5
R3	2	71.6	57.5	71.8
R4	0	53.3	55.0	57.2
R5	0	40.8	42.2	44.6

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Utility Relocation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	200	10
Roller	1	80	20%	200	10
Rough Terrain Forklift	1	75	20%	220	10
Signal Boards (electric)	2	53	50%	220	10
Skid Steer Loader (electric)	1	57	40%	245	10
Sweepers (propane)	1	72	10%	245	10
Tractors/Loaders/Backhoes	1	79	40%	270	10
Excavator (electric)	1	52	40%	270	10
Concrete Saw (electric)	1	76	20%	295	10
	10				

Receptor: ***R1***

Results:

1-hour Leq: 61.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	135	0
Crane (mobile)	1	81	16%	135	0
Excavator (electric)	1	52	40%	155	0
Concrete Saw (electric)	1	76	20%	155	0
Crawler Tractor	1	84	40%	180	0
Air Compressor (electric)	4	68	40%	180	0
Generator Sets	1	81	50%	205	0
Jackhammer	1	89	20%	205	0
Tractor/Loader/Backhoe	3	79	40%	230	0
Signal Boards (electric)	2	53	50%	230	0
Skid Steer Loader (electric)	4	57	40%	255	0
Sweepers (propane)	1	82	10%	255	0
Concrete Saw (electric)	1	76	20%	255	0
Rubber Tired Loaders	3	82	10%	255	0
Jackhammer	8	89	20%	255	0
	33				

Receptor: ***R1***

Results:

1-hour Leq: **80.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Structural (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	135	15
Crane (mobile)	1	81	16%	135	15
Forklift (electric)	1	56	20%	155	15
Pumps	1	81	50%	155	15
Air Compressor (electric)	2	68	40%	180	15
Generator Sets	2	81	50%	180	15
Plate Compactor (electric)	1	62	20%	205	15
Tractor/Loader/Backhoe	3	79	40%	205	15
Rough Terrain Forklift	2	75	20%	230	15
Crane (tower) - electric	1	71	16%	230	15
	15				

Receptor: ***R1***

Results:

1-hour Leq: 60.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Interior (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	135	15
Crane (tower) - electric	1	71	16%	135	15
Crane (mobile)	1	81	16%	155	15
Concrete Saw (electric)	1	76	20%	155	15
Air Compressor (electric)	3	68	40%	180	15
Generator Sets	2	81	50%	180	15
Plate Compactor (electric)	2	62	20%	205	15
Tractor/Loader/Backhoe	1	79	40%	205	15
Rough Terrain Forklift	3	75	20%	230	15
Aerial Lift (electric)	3	56	20%	230	15
Cement and Mortar Mixer (e	2	80	50%	255	15
Forklift (electric)	2	65	20%	255	15
Signal Boards (electric)	2	53	50%	255	15
Welders (electric)	2	64	40%	255	15
Pumps	2	81	50%	255	15
	28				

Receptor: ***R1***

Results:

1-hour Leq: 60.1

Fu

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	135	0
Crane (mobile)	1	81	16%	135	0
Excavator (electric)	1	52	40%	155	0
Concrete Saw (electric)	1	76	20%	155	0
Crawler Tractor	1	84	40%	180	0
Air Compressor (electric)	4	68	40%	180	0
Generator Sets	1	81	50%	205	0
Jackhammer	1	89	20%	205	0
Tractor/Loader/Backhoe	3	79	40%	230	0
Signal Boards (electric)	2	53	50%	230	0
Skid Steer Loader (electric)	4	57	40%	255	0
Sweepers (propane)	1	82	10%	255	0
Concrete Saw (electric)	1	76	20%	280	0
Rubber Tired Loaders	3	82	10%	280	0
Jackhammer	8	89	20%	280	0
	33				

Receptor: ***R1***

Results:

1-hour Leq: 79.8

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Grading (new Tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	135	15
Sweepers	1	82	10%	135	15
Rubber Tired Loaders	2	79	40%	155	15
Skid Steer Loaders (electric	1	57	40%	155	15
Tractor/Loader/Backhoe	1	79	40%	180	15
Generator Sets	1	81	50%	180	15
Crane (mobile)	1	81	16%	205	15
Crawler Tractor	2	84	40%	205	15
Plate Compactor (electric)	2	62	20%	230	15
Signal Boards (electric)	2	53	50%	230	15
Bore/Drill Rig	1	84	20%	255	15
Excavator (electric)	1	52	40%	255	15
Excavator (electric)	1	52	40%	255	15
	17				

Receptor: ***R1***

Results:

1-hour Leq: 60.8

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Mat Foundation (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	135	15
Rough Terrain Forklift	1	75	20%	135	15
Pumps	1	81	50%	155	15
Air Compressor (electric)	1	68	40%	155	15
Cement and Mortar Mixer (e	1	61	50%	180	15
Rough Terrain Forklift	1	75	20%	180	15
Pumps	2	81	50%	205	15
Cement and Mortar Mixer (e	2	61	50%	205	15
Air Compressor (electric)	1	68	40%	230	15
Cement and Mortar Mixer (e	1	61	50%	230	15
	12				

Receptor: ***R1***

Results:

1-hour Leq: 58.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Building Skin***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor (electric)	1	68	40%	135	0
Aerial Lift (electric)	1	56	20%	135	0
Fork Lift (electric)	1	65	20%	155	0
Welders (electric)	1	64	40%	155	0
Crane (tower) - electric	1	71	16%	180	0
Aerial Lift (electric)	1	61	20%	180	0
Fork Lift (electric)	1	65	20%	205	0
Welders (electric)	1	64	40%	205	0
	8				

Receptor: ***R1***

Results:

1-hour Leq: 59.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: Closeout

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cement and Mortar Mixer (e	1	61	50%	135	0
Concrete Saw (electric)	1	76	20%	135	0
Forklifts (electric)	1	65	20%	155	0
Skid Steer Loader (electric)	1	57	40%	155	0

4

Receptor: ***R1***

Results:

1-hour Leq: 61.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
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Project: The Bloc Project

Construction Phase: Off-Site Utilities

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete Saw (electric)	1	76	20%	60	0
Skid Steer Loader (electric)	1	78	40%	60	0

2

Receptor: ***R1***

Results:

1-hour Leq: 73.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: Off-Site Staging

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Delivery Truck	1	76	40%	100	0
Delivery Truck	1	76	40%	100	0
Delivery Truck	1	76	40%	120	0

3

Receptor: ***R1***

Results:

1-hour Leq: 70.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
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Project: The Bloc Project

Construction Phase: ***Utility Relocation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	85	0
Roller	1	80	20%	85	0
Rough Terrain Forklift	1	75	20%	105	0
Signal Boards (electric)	2	53	50%	105	0
Skid Steer Loader (electric)	1	57	40%	130	0
Sweepers (propane)	1	72	10%	130	0
Tractors/Loaders/Backhoes	1	79	40%	155	0
Excavator (electric)	1	52	40%	155	0
Concrete Saw (electric)	1	76	20%	180	0
	10				

Receptor: ***R2***

Results:

1-hour Leq: **78.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	85	0
Crane (mobile)	1	81	16%	85	0
Excavator (electric)	1	52	40%	105	0
Concrete Saw (electric)	1	76	20%	105	0
Crawler Tractor	1	84	40%	130	0
Air Compressor (electric)	4	68	40%	130	0
Generator Sets	1	81	50%	155	0
Jackhammer	1	89	20%	155	0
Tractor/Loader/Backhoe	3	79	40%	180	0
Signal Boards (electric)	2	53	50%	180	0
Skid Steer Loader (electric)	4	57	40%	205	0
Sweepers (propane)	1	82	10%	205	0
Concrete Saw (electric)	1	76	20%	205	0
Rubber Tired Loaders	3	82	10%	205	0
Jackhammer	8	89	20%	205	0
	33				

Receptor: ***R2***

Results:

1-hour Leq: **82.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Structural (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	85	0
Crane (mobile)	1	81	16%	85	0
Forklift (electric)	1	56	20%	105	0
Pumps	1	81	50%	105	0
Air Compressor (electric)	2	68	40%	130	0
Generator Sets	2	81	50%	130	0
Plate Compactor (electric)	1	62	20%	155	0
Tractor/Loader/Backhoe	3	79	40%	155	0
Rough Terrain Forklift	2	75	20%	180	0
Crane (tower) - electric	1	71	16%	180	0
	15				

Receptor: ***R2***

Results:

1-hour Leq: 78.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Interior (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	85	0
Crane (tower) - electric	1	71	16%	85	0
Crane (mobile)	1	81	16%	105	0
Concrete Saw (electric)	1	76	20%	105	0
Air Compressor (electric)	3	68	40%	130	0
Generator Sets	2	81	50%	130	0
Plate Compactor (electric)	2	62	20%	155	0
Tractor/Loader/Backhoe	1	79	40%	155	0
Rough Terrain Forklift	3	75	20%	180	0
Aerial Lift (electric)	3	56	20%	180	0
Cement and Mortar Mixer (e	2	80	50%	205	0
Forklift (electric)	2	65	20%	205	0
Signal Boards (electric)	2	53	50%	205	0
Welders (electric)	2	64	40%	205	0
Pumps	2	81	50%	205	0
	28				

Receptor: ***R2***

Results:

1-hour Leq: 78.0

Fu

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	85	0
Crane (mobile)	1	81	16%	85	0
Excavator (electric)	1	52	40%	105	0
Concrete Saw (electric)	1	76	20%	105	0
Crawler Tractor	1	84	40%	130	0
Air Compressor (electric)	4	68	40%	130	0
Generator Sets	1	81	50%	155	0
Jackhammer	1	89	20%	155	0
Tractor/Loader/Backhoe	3	79	40%	180	0
Signal Boards (electric)	2	53	50%	180	0
Skid Steer Loader (electric)	4	57	40%	205	0
Sweepers (propane)	1	82	10%	205	0
Concrete Saw (electric)	1	76	20%	230	0
Rubber Tired Loaders	3	82	10%	230	0
Jackhammer	8	89	20%	230	0
	33				

Receptor: ***R2***

Results:

1-hour Leq: 82.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Grading (new Tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	85	0
Sweepers	1	82	10%	85	0
Rubber Tired Loaders	2	79	40%	105	0
Skid Steer Loaders (electric	1	57	40%	105	0
Tractor/Loader/Backhoe	1	79	40%	130	0
Generator Sets	1	81	50%	130	0
Crane (mobile)	1	81	16%	155	0
Crawler Tractor	2	84	40%	155	0
Plate Compactor (electric)	2	62	20%	180	0
Signal Boards (electric)	2	53	50%	180	0
Bore/Drill Rig	1	84	20%	205	0
Excavator (electric)	1	52	40%	205	0
Excavator (electric)	1	52	40%	205	0
	17				

Receptor: ***R2***

Results:

1-hour Leq: 78.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Mat Foundation (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	85	0
Rough Terrain Forklift	1	75	20%	85	0
Pumps	1	81	50%	105	0
Air Compressor (electric)	1	68	40%	105	0
Cement and Mortar Mixer (e	1	61	50%	130	0
Rough Terrain Forklift	1	75	20%	130	0
Pumps	2	81	50%	155	0
Cement and Mortar Mixer (e	2	61	50%	155	0
Air Compressor (electric)	1	68	40%	180	0
Cement and Mortar Mixer (e	1	61	50%	180	0
	12				

Receptor: ***R2***

Results:

1-hour Leq: 77.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Building Skin***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor (electric)	1	68	40%	85	0
Aerial Lift (electric)	1	56	20%	85	0
Fork Lift (electric)	1	65	20%	105	0
Welders (electric)	1	64	40%	105	0
Crane (tower) - electric	1	71	16%	130	0
Aerial Lift (electric)	1	61	20%	130	0
Fork Lift (electric)	1	65	20%	155	0
Welders (electric)	1	64	40%	155	0
	8				

Receptor: ***R2***

Results:

1-hour Leq: 62.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: Closeout

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cement and Mortar Mixer (e	1	61	50%	85	0
Concrete Saw (electric)	1	76	20%	85	0
Forklifts (electric)	1	65	20%	105	0
Skid Steer Loader (electric)	1	57	40%	105	0
	4				

Receptor: ***R2***

Results:

1-hour Leq: 65.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: Off-Site Utilities

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete Saw (electric)	1	76	20%	40	0
Skid Steer Loader (electric)	1	78	40%	40	0

2

Receptor: ***R2***

Results:

1-hour Leq: 77.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: Off-Site Staging

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Delivery Truck	1	76	40%	40	0
Delivery Truck	1	76	40%	40	0
Delivery Truck	1	76	40%	60	0

3

Receptor: ***R2***

Results:

1-hour Leq: 77.8

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Utility Relocation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	350	15
Roller	1	80	20%	350	15
Rough Terrain Forklift	1	75	20%	370	15
Signal Boards (electric)	2	53	50%	370	15
Skid Steer Loader (electric)	1	57	40%	390	15
Sweepers (propane)	1	72	10%	390	15
Tractors/Loaders/Backhoes	1	79	40%	410	15
Excavator (electric)	1	52	40%	410	15
Concrete Saw (electric)	1	76	20%	430	15
	10				

Receptor: ***R3***

Results:

1-hour Leq: **51.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	350	15
Crane (mobile)	1	81	16%	350	15
Excavator (electric)	1	52	40%	370	15
Concrete Saw (electric)	1	76	20%	370	15
Crawler Tractor	1	84	40%	390	15
Air Compressor (electric)	4	68	40%	390	15
Generator Sets	1	81	50%	410	15
Jackhammer	1	89	20%	410	15
Tractor/Loader/Backhoe	3	79	40%	430	15
Signal Boards (electric)	2	53	50%	430	15
Skid Steer Loader (electric)	4	57	40%	450	15
Sweepers (propane)	1	82	10%	450	15
Concrete Saw (electric)	1	76	20%	450	15
Rubber Tired Loaders	3	82	10%	450	15
Jackhammer	8	89	20%	450	15
	33				

Receptor: ***R3***

Results:

1-hour Leq: **59.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Structural (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	350	15
Crane (mobile)	1	81	16%	350	15
Forklift (electric)	1	56	20%	370	15
Pumps	1	81	50%	370	15
Air Compressor (electric)	2	68	40%	390	15
Generator Sets	2	81	50%	390	15
Plate Compactor (electric)	1	62	20%	410	15
Tractor/Loader/Backhoe	3	79	40%	410	15
Rough Terrain Forklift	2	75	20%	430	15
Crane (tower) - electric	1	71	16%	430	15
	15				

Receptor: ***R3***

Results:

1-hour Leq: 53.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Interior (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	350	15
Crane (tower) - electric	1	71	16%	350	15
Crane (mobile)	1	81	16%	370	15
Concrete Saw (electric)	1	76	20%	370	15
Air Compressor (electric)	3	68	40%	390	15
Generator Sets	2	81	50%	390	15
Plate Compactor (electric)	2	62	20%	410	15
Tractor/Loader/Backhoe	1	79	40%	410	15
Rough Terrain Forklift	3	75	20%	430	15
Aerial Lift (electric)	3	56	20%	430	15
Cement and Mortar Mixer (e	2	80	50%	450	15
Forklift (electric)	2	65	20%	450	15
Signal Boards (electric)	2	53	50%	450	15
Welders (electric)	2	64	40%	450	15
Pumps	2	81	50%	450	15
	28				

Receptor: ***R3***

Results:

1-hour Leq: **53.7**

Fu

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	350	10
Crane (mobile)	1	81	16%	350	10
Excavator (electric)	1	52	40%	370	10
Concrete Saw (electric)	1	76	20%	370	10
Crawler Tractor	1	84	40%	390	10
Air Compressor (electric)	4	68	40%	390	10
Generator Sets	1	81	50%	410	10
Jackhammer	1	89	20%	410	10
Tractor/Loader/Backhoe	3	79	40%	430	10
Signal Boards (electric)	2	53	50%	430	10
Skid Steer Loader (electric)	4	57	40%	450	10
Sweepers (propane)	1	82	10%	450	10
Concrete Saw (electric)	1	76	20%	475	10
Rubber Tired Loaders	3	82	10%	475	10
Jackhammer	8	89	20%	475	10
	33				

Receptor: ***R3***

Results:

1-hour Leq: 64.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Grading (new Tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	350	15
Sweepers	1	82	10%	350	15
Rubber Tired Loaders	2	79	40%	370	15
Skid Steer Loaders (electric	1	57	40%	370	15
Tractor/Loader/Backhoe	1	79	40%	390	15
Generator Sets	1	81	50%	390	15
Crane (mobile)	1	81	16%	410	15
Crawler Tractor	2	84	40%	410	15
Plate Compactor (electric)	2	62	20%	430	15
Signal Boards (electric)	2	53	50%	430	15
Bore/Drill Rig	1	84	20%	450	15
Excavator (electric)	1	52	40%	450	15
Excavator (electric)	1	52	40%	450	15
	17				

Receptor: ***R3***

Results:

1-hour Leq: 54.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Mat Foundation (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	350	15
Rough Terrain Forklift	1	75	20%	350	15
Pumps	1	81	50%	370	15
Air Compressor (electric)	1	68	40%	370	15
Cement and Mortar Mixer (e	1	61	50%	390	15
Rough Terrain Forklift	1	75	20%	390	15
Pumps	2	81	50%	410	15
Cement and Mortar Mixer (e	2	61	50%	410	15
Air Compressor (electric)	1	68	40%	430	15
Cement and Mortar Mixer (e	1	61	50%	430	15
	12				

Receptor: ***R3***

Results:

1-hour Leq: 51.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

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Project: The Bloc Project

Construction Phase: ***Building Skin***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor (electric)	1	68	40%	350	0
Aerial Lift (electric)	1	56	20%	350	0
Fork Lift (electric)	1	65	20%	370	0
Welders (electric)	1	64	40%	370	0
Crane (tower) - electric	1	71	16%	390	0
Aerial Lift (electric)	1	61	20%	390	0
Fork Lift (electric)	1	65	20%	410	0
Welders (electric)	1	64	40%	410	0
	8				

Receptor: ***R3***

Results:

1-hour Leq: 51.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: Closeout

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cement and Mortar Mixer (e	1	61	50%	350	0
Concrete Saw (electric)	1	76	20%	350	0
Forklifts (electric)	1	65	20%	370	0
Skid Steer Loader (electric)	1	57	40%	370	0

4

Receptor: ***R3***

Results:

1-hour Leq: 52.8

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: Off-Site Utilities

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete Saw (electric)	1	76	20%	60	0
Skid Steer Loader (electric)	1	78	40%	60	0

2

Receptor: ***R3***

Results:

1-hour Leq: 73.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: Off-Site Staging

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Delivery Truck	1	76	40%	360	0
Delivery Truck	1	76	40%	360	0
Delivery Truck	1	76	40%	380	0

3

Receptor: ***R3***

Results:

1-hour Leq: 59.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Utility Relocation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	380	15
Roller	1	80	20%	380	15
Rough Terrain Forklift	1	75	20%	400	15
Signal Boards (electric)	2	53	50%	400	15
Skid Steer Loader (electric)	1	57	40%	420	15
Sweepers (propane)	1	72	10%	420	15
Tractors/Loaders/Backhoes	1	79	40%	440	15
Excavator (electric)	1	52	40%	440	15
Concrete Saw (electric)	1	76	20%	460	15
	10				

Receptor: ***R4***

Results:

1-hour Leq: **50.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	380	15
Crane (mobile)	1	81	16%	380	15
Excavator (electric)	1	52	40%	400	15
Concrete Saw (electric)	1	76	20%	400	15
Crawler Tractor	1	84	40%	420	15
Air Compressor (electric)	4	68	40%	420	15
Generator Sets	1	81	50%	440	15
Jackhammer	1	89	20%	440	15
Tractor/Loader/Backhoe	3	79	40%	460	15
Signal Boards (electric)	2	53	50%	460	15
Skid Steer Loader (electric)	4	57	40%	480	15
Sweepers (propane)	1	82	10%	480	15
Concrete Saw (electric)	1	76	20%	500	15
Rubber Tired Loaders	3	82	10%	500	15
Jackhammer	8	89	20%	500	15
	33				

Receptor: ***R4***

Results:

1-hour Leq: **58.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Structural (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	380	15
Crane (mobile)	1	81	16%	380	15
Forklift (electric)	1	56	20%	400	15
Pumps	1	81	50%	400	15
Air Compressor (electric)	2	68	40%	420	15
Generator Sets	2	81	50%	420	15
Plate Compactor (electric)	1	62	20%	440	15
Tractor/Loader/Backhoe	3	79	40%	440	15
Rough Terrain Forklift	2	75	20%	460	15
Crane (tower) - electric	1	71	16%	460	15
	15				

Receptor: ***R4***

Results:

1-hour Leq: 52.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Interior (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	380	15
Crane (tower) - electric	1	71	16%	380	15
Crane (mobile)	1	81	16%	400	15
Concrete Saw (electric)	1	76	20%	400	15
Air Compressor (electric)	3	68	40%	420	15
Generator Sets	2	81	50%	420	15
Plate Compactor (electric)	2	62	20%	440	15
Tractor/Loader/Backhoe	1	79	40%	440	15
Rough Terrain Forklift	3	75	20%	460	15
Aerial Lift (electric)	3	56	20%	460	15
Cement and Mortar Mixer (e	2	80	50%	480	15
Forklift (electric)	2	65	20%	480	15
Signal Boards (electric)	2	53	50%	500	15
Welders (electric)	2	64	40%	500	15
Pumps	2	81	50%	500	15
	28				

Receptor: ***R4***

Results:

1-hour Leq: 53.0

Fu

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Demolition (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	380	10
Crane (mobile)	1	81	16%	380	10
Excavator (electric)	1	52	40%	400	10
Concrete Saw (electric)	1	76	20%	400	10
Crawler Tractor	1	84	40%	420	10
Air Compressor (electric)	4	68	40%	420	10
Generator Sets	1	81	50%	440	10
Jackhammer	1	89	20%	440	10
Tractor/Loader/Backhoe	3	79	40%	460	10
Signal Boards (electric)	2	53	50%	460	10
Skid Steer Loader (electric)	4	57	40%	480	10
Sweepers (propane)	1	82	10%	480	10
Concrete Saw (electric)	1	76	20%	500	10
Rubber Tired Loaders	3	82	10%	500	10
Jackhammer	8	89	20%	500	10
	33				

Receptor: ***R4***

Results:

1-hour Leq: 63.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Grading (new Tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	380	15
Sweepers	1	82	10%	380	15
Rubber Tired Loaders	2	79	40%	400	15
Skid Steer Loaders (electric	1	57	40%	400	15
Tractor/Loader/Backhoe	1	79	40%	420	15
Generator Sets	1	81	50%	420	15
Crane (mobile)	1	81	16%	440	15
Crawler Tractor	2	84	40%	440	15
Plate Compactor (electric)	2	62	20%	460	15
Signal Boards (electric)	2	53	50%	460	15
Bore/Drill Rig	1	84	20%	480	15
Excavator (electric)	1	52	40%	480	15
Excavator (electric)	1	52	40%	500	15
	17				

Receptor: ***R4***

Results:

1-hour Leq: 53.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Mat Foundation (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	380	15
Rough Terrain Forklift	1	75	20%	380	15
Pumps	1	81	50%	400	15
Air Compressor (electric)	1	68	40%	400	15
Cement and Mortar Mixer (e	1	61	50%	420	15
Rough Terrain Forklift	1	75	20%	420	15
Pumps	2	81	50%	440	15
Cement and Mortar Mixer (e	2	61	50%	440	15
Air Compressor (electric)	1	68	40%	460	15
Cement and Mortar Mixer (e	1	61	50%	460	15
	12				

Receptor: ***R4***

Results:

1-hour Leq: 51.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Building Skin***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor (electric)	1	68	40%	380	0
Aerial Lift (electric)	1	56	20%	380	0
Fork Lift (electric)	1	65	20%	400	0
Welders (electric)	1	64	40%	400	0
Crane (tower) - electric	1	71	16%	420	0
Aerial Lift (electric)	1	61	20%	420	0
Fork Lift (electric)	1	65	20%	440	0
Welders (electric)	1	64	40%	440	0
	8				

Receptor: ***R4***

Results:

1-hour Leq: 50.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: Closeout

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cement and Mortar Mixer (e	1	61	50%	380	0
Concrete Saw (electric)	1	76	20%	380	0
Forklifts (electric)	1	65	20%	400	0
Skid Steer Loader (electric)	1	57	40%	400	0
	4				

Receptor: ***R4***

Results:

1-hour Leq: 52.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: Off-Site Utilities

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete Saw (electric)	1	76	20%	620	0
Skid Steer Loader (electric)	1	78	40%	620	0

2

Receptor: ***R4***

Results:

1-hour Leq: 53.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: Off-Site Staging

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Delivery Truck	1	76	40%	610	0
Delivery Truck	1	76	40%	610	0
Delivery Truck	1	76	40%	630	0

3

Receptor: ***R4***

Results:

1-hour Leq: 55.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Utility Relocation***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	320	15
Roller	1	80	20%	320	15
Rough Terrain Forklift	1	75	20%	340	15
Signal Boards (electric)	2	53	50%	340	15
Skid Steer Loader (electric)	1	57	40%	360	15
Sweepers (propane)	1	72	10%	360	15
Tractors/Loaders/Backhoes	1	79	40%	380	15
Excavator (electric)	1	52	40%	380	15
Concrete Saw (electric)	1	76	20%	400	15
	10				

Receptor: ***R5***

Results:

1-hour Leq: **52.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	320	15
Crane (mobile)	1	81	16%	320	15
Excavator (electric)	1	52	40%	340	15
Concrete Saw (electric)	1	76	20%	340	15
Crawler Tractor	1	84	40%	360	15
Air Compressor (electric)	4	68	40%	360	15
Generator Sets	1	81	50%	380	15
Jackhammer	1	89	20%	380	15
Tractor/Loader/Backhoe	3	79	40%	400	15
Signal Boards (electric)	2	53	50%	400	15
Skid Steer Loader (electric)	4	57	40%	420	15
Sweepers (propane)	1	82	10%	420	15
Concrete Saw (electric)	1	76	20%	440	15
Rubber Tired Loaders	3	82	10%	440	15
Jackhammer	8	89	20%	440	15
	33				

Receptor: ***R5***

Results:

1-hour Leq: **59.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

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ACOUSTICAL ENGINEERING SERVICES

Project: The Bloc Project

Construction Phase: ***Structural (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	320	15
Crane (mobile)	1	81	16%	320	15
Forklift (electric)	1	56	20%	340	15
Pumps	1	81	50%	340	15
Air Compressor (electric)	2	68	40%	360	15
Generator Sets	2	81	50%	360	15
Plate Compactor (electric)	1	62	20%	380	15
Tractor/Loader/Backhoe	3	79	40%	380	15
Rough Terrain Forklift	2	75	20%	400	15
Crane (tower) - electric	1	71	16%	400	15
	15				

Receptor: ***R5***

Results:

1-hour Leq: 53.9

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Interior (Existing)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	320	15
Crane (tower) - electric	1	71	16%	320	15
Crane (mobile)	1	81	16%	340	15
Concrete Saw (electric)	1	76	20%	340	15
Air Compressor (electric)	3	68	40%	360	15
Generator Sets	2	81	50%	360	15
Plate Compactor (electric)	2	62	20%	380	15
Tractor/Loader/Backhoe	1	79	40%	380	15
Rough Terrain Forklift	3	75	20%	400	15
Aerial Lift (electric)	3	56	20%	400	15
Cement and Mortar Mixer (e	2	80	50%	420	15
Forklift (electric)	2	65	20%	420	15
Signal Boards (electric)	2	53	50%	440	15
Welders (electric)	2	64	40%	440	15
Pumps	2	81	50%	440	15
	28				

Receptor: ***R5***

Results:

1-hour Leq: 54.2

Fu

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	320	10
Crane (mobile)	1	81	16%	320	10
Excavator (electric)	1	52	40%	340	10
Concrete Saw (electric)	1	76	20%	340	10
Crawler Tractor	1	84	40%	360	10
Air Compressor (electric)	4	68	40%	360	10
Generator Sets	1	81	50%	380	10
Jackhammer	1	89	20%	380	10
Tractor/Loader/Backhoe	3	79	40%	400	10
Signal Boards (electric)	2	53	50%	400	10
Skid Steer Loader (electric)	4	57	40%	420	10
Sweepers (propane)	1	82	10%	420	10
Concrete Saw (electric)	1	76	20%	440	10
Rubber Tired Loaders	3	82	10%	440	10
Jackhammer	8	89	20%	440	10
	33				

Receptor: ***R5***

Results:

1-hour Leq: 64.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Grading (new Tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Bore/Drill Rig	1	84	20%	320	15
Sweepers	1	82	10%	320	15
Rubber Tired Loaders	2	79	40%	340	15
Skid Steer Loaders (electric	1	57	40%	340	15
Tractor/Loader/Backhoe	1	79	40%	360	15
Generator Sets	1	81	50%	360	15
Crane (mobile)	1	81	16%	380	15
Crawler Tractor	2	84	40%	380	15
Plate Compactor (electric)	2	62	20%	400	15
Signal Boards (electric)	2	53	50%	400	15
Bore/Drill Rig	1	84	20%	420	15
Excavator (electric)	1	52	40%	420	15
Excavator (electric)	1	52	40%	440	15
	17				

Receptor: ***R5***

Results:

1-hour Leq: 54.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Mat Foundation (new tower)***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Pumps	1	81	50%	320	15
Rough Terrain Forklift	1	75	20%	320	15
Pumps	1	81	50%	340	15
Air Compressor (electric)	1	68	40%	340	15
Cement and Mortar Mixer (e	1	61	50%	360	15
Rough Terrain Forklift	1	75	20%	360	15
Pumps	2	81	50%	380	15
Cement and Mortar Mixer (e	2	61	50%	380	15
Air Compressor (electric)	1	68	40%	400	15
Cement and Mortar Mixer (e	1	61	50%	400	15
	12				

Receptor: ***R5***

Results:

1-hour Leq: 52.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

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Project: The Bloc Project

Construction Phase: ***Building Skin***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor (electric)	1	68	40%	320	0
Aerial Lift (electric)	1	56	20%	320	0
Fork Lift (electric)	1	65	20%	340	0
Welders (electric)	1	64	40%	340	0
Crane (tower) - electric	1	71	16%	360	0
Aerial Lift (electric)	1	61	20%	360	0
Fork Lift (electric)	1	65	20%	380	0
Welders (electric)	1	64	40%	380	0
	8				

Receptor: ***R5***

Results:

1-hour Leq: 52.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: Closeout

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cement and Mortar Mixer (e	1	61	50%	320	0
Concrete Saw (electric)	1	76	20%	320	0
Forklifts (electric)	1	65	20%	340	0
Skid Steer Loader (electric)	1	57	40%	340	0
	4				

Receptor: ***R5***

Results:

1-hour Leq: 53.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

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Project: The Bloc Project

Construction Phase: Off-Site Utilities

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete Saw (electric)	1	76	20%	465	15
Skid Steer Loader (electric)	1	78	40%	465	15

2

Receptor: ***R5***

Results:

1-hour Leq: 40.8

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: Off-Site Staging

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Delivery Truck	1	76	40%	470	15
Delivery Truck	1	76	40%	470	15
Delivery Truck	1	76	40%	490	15

3

Receptor: ***R5***

Results:

1-hour Leq: 42.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Off-Site Haul Trucks

Phase	Maximum Number of Truck One Way Trips (delivery/haul) Per Day	Per Hour (8-hr day)	Estimated Noise Levels, dBA Leq (from TNM) 6th Street	Hope St.	8th St.
		1	54.0	54.0	54.0
1. Utility Relocation	10	1	54.0	54.0	54.0
2. Existing Buildings-Selective Demolition	64	6	61.8	61.8	61.8
3. Existing Buildings and New Tower-Structural Upgrades	160	10	64.0	64.0	64.0
4. Existing Buildings and New Tower-Interior Buildout	80	5	61.0	61.0	61.0
5. New Tower-Structural Demolition	64	4	60.0	60.0	60.0
6. New Tower-Grading and Prep for Foundation	150	13	65.1	65.1	65.1
7. New Tower-Foundation (Mat Pour)	680	25	68.0	68.0	68.0
8. New Tower-Skin	20	2	57.0	57.0	57.0
9. Closeout	14	1	54.0	54.0	54.0

Trucks are on one-way streets, therefore, trips divided by two.
Haul truck (6hrs/day); mat pour (14hrs/day)

Ambient	68.1	69.6	67.7
Ambient + 5 dB	73.1	74.6	72.7

	Construction + Ambient, dBA Leq 6th Street	Hope St.	8th St.
1. Utility Relocation	68.3	69.7	67.9
2. Existing Buildings-Selective Demolition	69.0	70.3	68.7
3. Existing Buildings and New Tower-Structural Upgrades	69.5	70.7	69.2
4. Existing Buildings and New Tower-Interior Buildout	68.9	70.2	68.5
5. New Tower-Structural Demolition	68.7	70.1	68.4
6. New Tower-Grading and Prep for Foundation	69.9	70.9	69.6
7. New Tower-Foundation (Mat Pour)	71.1	71.9	70.9
8. New Tower-Skin	68.4	69.8	68.1
9. Closeout	68.3	69.7	67.9

Project: The Bloc Project

Off-Site Haul Trucks - Overlapping Construction

Phase	Maximum Number of Truck One Way Trips (delivery/haul) Per Day	Per Hour (8-hr day)	Estimated Noise Levels, dBA Leq (from TNM) 6th Street	Hope St.	8th St.
		1	54.0	54.0	54.0
1. Util Relo and Existing Demo	74	7	62.5	62.5	62.5
2. Existing Demo and New Tower demo	128	10	64.0	64.0	64.0
3. Existing Structural, New Tower demo	224	14	65.5	65.5	65.5
4. Existing Structural, New Tower grading	310	23	67.6	67.6	67.6
5. Existing Structural, Interior and Mat Foundation	920	40	70.0	70.0	70.0
6. Existing Structural, Interior	240	15	65.8	65.8	65.8
7. Existing Structural, Interior and Skin	260	17	66.3	66.3	66.3
8. Interior and Skin	100	7	62.5	62.5	62.5

Trucks are on one-way streets, therefore, trips divided by two.
Haul truck (6hrs/day); mat pour (14hrs/day)

Ambient	68.1	69.6	67.7
Ambient + 5 dB	73.1	74.6	72.7

	Construction + Ambient, dBA Leq 6th Street	Hope St.	8th St.
1. Util Relo and Existing Demo	69.2	70.4	68.8
2. Existing Demo and New Tower demo	69.5	70.7	69.2
3. Existing Structural, New Tower demo	70.0	71.0	69.7
4. Existing Structural, New Tower grading	70.9	71.7	70.7
5. Existing Structural, Interior and Mat Foundation	72.2	72.8	72.0
6. Existing Structural, Interior	70.1	71.1	69.9
7. Existing Structural, Interior and Skin	70.3	71.3	70.1
8. Interior and Skin	69.2	70.4	68.8

Eyestone Environmental 11 April 2023
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: The Bloc
RUN: Construction - 1 truck trip

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	100	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental				**11 April 2023**								
Sean Bui				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**The Bloc**											
RUN:	**Construction - 1 truck trip**											
Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Haul Route	point1	1	0	0	0	0	1	35	0	0	0	0
	point2	2										

Eyestone Environmental						**11 April 2023**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**The Bloc**										
RUN:	**Construction - 1 truck trip**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
At 25 feet from roadway CL	8	1	250.0	25.0	0.00	4.92	0.00	66	10.0	8.0	Y
At 30 feet from roadway CL	11	1	250.0	30.0	0.00	4.92	0.00	66	10.0	8.0	Y

Eyestone Environmental
Sean Bui

11 April 2023
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: The Bloc
RUN: Construction - 1 truck trip
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
At 25 feet from roadway CL	8	1	0.0	54.0	66	54.0	10	----	54.0	0.0	8	-8.0
At 30 feet from roadway CL	11	1	0.0	53.3	66	53.3	10	----	53.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Project: The Bloc Project

Construction Vibration Impacts

Reference Levels at 25 feet are based on FTA, 2006 (Transit Noise and Vibration Impact Assessment)
Calculations using FTA procedure with n= **1.5** (for receptors 25 feet or greater)
n= **1.1** (for receptors less than 25 feet, per Caltrans procedure)

ON-SITE CONSTRUCTION ACTIVITIES

Table 1: Construction Equipment Vibration Levels (PPV) - Building Damages

Equipment	Reference Vibration Levels at 25 ft., PPV	Estimated Vibration Levels at nearest off-site building structures (distance in feet), PPV								
		Multi-Story Residential building to the north	Multi-Story Residential Building to the south	Multi-Story parking structure to the east	Multi-Story parking structure to the west	General Petroleum Corp. Parking Garage to the West (HR2)	Sawyer Building to the Southwest (HR3)	Milner hotel to the Southwest (HR4)	SoCal Gas Company Complex (HR5)	Air Raid Siren (HR6)
		350	**75**	**80**	**80**	**80**	**125**	**190**	**75**	**120**
Large Bulldozer	0.089	0.002	0.017	0.016	0.016	0.016	0.008	0.004	0.017	0.009
Caisson Drilling	0.089	0.002	0.017	0.016	0.016	0.016	0.008	0.004	0.017	0.009
Loaded Trucks	0.076	0.002	0.015	0.013	0.013	0.013	0.007	0.004	0.015	0.007
Jackhammer	0.035	0.001	0.007	0.006	0.006	0.006	0.003	0.002	0.007	0.003
Small bulldozer	0.003	0.000	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.000
Significance Threshold, PPV		0.5	0.5	0.5	0.5	0.12	0.12	0.12	0.12	0.12

Table 1b: Construction Equipment Vibration Levels (PPV) - Building Damages

Equipment	Reference Vibration Levels at 25 ft., PPV	Estimated Vibration Levels at nearest off-site building structures (distance in feet), PPV								
		Auto Center Garage (HR7)	Third Church of Christ Scientist Reading Room (HR8)	JW Robinson's Department Store (HR17)	7th Street Commercial Historic District (HR13)					
		80	**100**	**120**	**120**					
Large Bulldozer	0.089	0.016	0.011	0.009	0.009					
Caisson Drilling	0.089	0.016	0.011	0.009	0.009					
Loaded Trucks	0.076	0.013	0.010	0.007	0.007					
Jackhammer	0.035	0.006	0.004	0.003	0.003					
Small bulldozer	0.003	0.001	0.000	0.000	0.000					
Significance Threshold, PPV		0.12	0.12	0.12	0.12					

Table 2: Construction Equipment Vibration Levels (VdB) - Human Annoyance

Equipment	Reference Vibration Levels at 25 ft., VdB	Estimated Vibration Levels at Off-Site Receptors (at note distance in feet), VdB								
		R1	R2	R3	R4	R5				
		200	**80**	**350**	**380**	**320**				
Large Bulldozer	87	59.9	71.8	52.6	51.5	53.8				
Caisson Drilling	87	59.9	71.8	52.6	51.5	53.8				
Loaded Trucks	86	58.9	70.8	51.6	50.5	52.8				
Jackhammer	79	51.9	63.8	44.6	43.5	45.8				
Small bulldozer	58	30.9	42.8	23.6	22.5	24.8				
Significance Threshold, VdB		72	72	72	72	72				

OFF-SITE CONSTRUCTION HAUL TRUCKS

Table 3: Off-Site Haul Trucks - Building Damage

Equipment	Reference Vibration Levels at 50 ft., PPV	Estimated Vibration Levels at noted distance in feet, PPV								
		20								
Typical road surface	0.00565	0.022								
Significance Threshold, PPV		0.12								

Ref. Levels based on FTA Figure 7-3 (converted from VdB to PPV)

Table 4: Off-Site Haul Trucks - Human Annoyance

Equipment	Reference Vibration Levels at 50 ft., VdB	Estimated Vibration Levels at noted distance in feet, VdB								
		22								
Typical road surface	63	73.7								
Significance Threshold, VdB		72								

Ref. Levels based on FTA Figure 7-3

Date Printed: 5/1/2023

Operation Noise Calculations

Project Composite Noise Calculations (CNEL)

Project: The Bloc Project EIR

Receptor	Ambient	Traffic[a]	Mechanical	Parking		Outdoor		Project Composite	Ambient + Project	Increase
R1	71.3	54.4	36.4	51.7		50.6		57.3	71.5	0.2
R1U	71.3	46.2	38.4	52.5		69.3		69.4	73.5	2.2
R2	72.9	51.8	33.7	52.6		51.7		56.8	73.0	0.1
R2U	72.9	44.2	34.4	61.5		58.8		63.4	73.4	0.5
R3	70.9	53.5	30.2	50.0		55.2		58.2	71.1	0.2
R3U	70.9	46.4	31.4	55.7		64.8		65.4	72.0	1.1
R4	73.9	55.6	32.8	46.5		45.7		56.5	74.0	0.1
R4U	73.9	52.0	35.2	54.7		53.2		58.2	74.0	0.1
R5	72.3	55.5	36.3	49.5		48.0		57.1	72.4	0.1
R5U	72.3	49.2	36.4	50.1		48.2		54.1	72.4	0.1

[a] - Project traffic noise levels at each receptor is based on the traffic noise analysis for the roadway segment in front of the receptor. Project traffic noise level is equal to "Baseline+Project" minus "Baseline" traffic noise levels, as provided in the table below.

U - Represents upper levels.

		Traffic Noise Levels, CNEL								
Receptor	Roadway Segment	Existing	Existing + Project	Project Only	distance to roadway, ft	Baseline	Baseline + Project	barrier	distance to Center Line	adj. for distance
R1	8th Street	70.7	70.8	54.4	15	71.3	71.4	0	35	-0.6
R1U	8th Street	62.5	62.6	46.2	240	71.3	71.4	0	35	-8.8
R2	Hope Street	68.1	68.2	51.8	10	68.1	68.2	0	40	0.0
R2U	Hope Street	60.5	60.6	44.2	200	68.1	68.2	0	40	-7.6
R3	7th Street	69.8	69.9	53.5	10	69.8	69.9	0	35	0.0
R3U	7th Street	62.7	62.8	46.4	155	69.8	69.9	0	35	-7.1
R4	8th Street	71.9	72.0	55.6	10	71.9	72.0	0	35	0.0
R4U	8th Street	68.3	68.4	52.0	55	71.9	72.0	0	35	-3.6
R5	Flower Street	71.8	71.9	55.5	10	71.8	71.9	0	35	0.0
R5U	Flower Street	65.5	65.6	49.2	125	71.8	71.9	0	35	-6.3

Receptor	Ambient	Traffic	Mechanical	Parking	Loading	Outdoor		Project Composite	Ambient + Project	Increase
R1	71.3	46.2	38.4	52.5	0.0	69.3		69.4	73.5	2.2
R2	72.9	44.2	34.4	61.5	0.0	58.8		63.4	73.4	0.5
R3	70.9	46.4	31.4	55.7	0.0	64.8		65.4	72.0	1.1
R4	73.9	52.0	35.2	54.7	0.0	53.2		58.2	74.0	0.1
R5	72.3	55.5	36.3	49.5	0.0	48.0		57.1	72.4	0.1

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Outdoor Mechanical Equipment Noise Calculations

Project: The Bloc Project EIR

	Estimated Noise Levels, Leq from SOUNDPLAN		Hours of Operations: Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	12	3	9
R1	29.7	36.4	29.7	29.7	29.7
R1U	31.7	38.4	31.7	31.7	31.7
R2	27.0	33.7	27.0	27.0	27.0
R2U	27.7	34.4	27.7	27.7	27.7
R3	23.5	30.2	23.5	23.5	23.5
R3U	24.7	31.4	24.7	24.7	24.7
R4	26.1	32.8	26.1	26.1	26.1
R4U	28.5	35.2	28.5	28.5	28.5
R5	29.6	36.3	29.6	29.6	29.6
R5U	29.7	36.4	29.7	29.7	29.7

Receptor	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	ambient (Leq)	Ambient + Project (Leq)
R1	71.3	71.3	0.0	66.3	66.3
R1U	71.3	71.3	0.0	66.3	66.3
R2	72.9	72.9	0.0	64.8	64.8
R2U	72.9	72.9	0.0	64.8	64.8
R3	70.9	70.9	0.0	65.6	65.6
R3U	70.9	70.9	0.0	65.6	65.6
R4	73.9	73.9	0.0	67.7	67.7
R4U	73.9	73.9	0.0	67.7	67.7
R5	72.3	72.3	0.0	66.5	66.5
R5U	72.3	72.3	0.0	66.5	66.5

Receptor	Ambient	Project	Amb+Project	Criteria	Exceedance
R1	66.3	31.7	66.3	71.3	0.0
R2	64.8	27.7	64.8	69.8	0.0
R3	65.6	24.7	65.6	70.6	0.0
R4	67.7	28.5	67.7	72.7	0.0
R5	66.5	29.7	66.5	71.5	0.0

AES
ACOUSTICAL ENGINEERING SERVICES

Outdoor Noise Calculations

Project: The Bloc Project EIR

ALL LEVEL

Hours of Operations

Estimated noise levels, Leq (FROM SOUNDPLAN)					Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Sound System	Occupants	Total, Leq	CNEL	12	3	3
R1	47.1	33.9	47.3	50.6	47.3	47.3	42.5
R1U	65.7	53.7	66.0	69.3	66.0	66.0	61.2
R2	48.2	33.7	48.4	51.7	48.4	48.4	43.6
R2U	55.4	38.9	55.5	58.8	55.5	55.5	50.7
R3	51.8	32.6	51.9	55.2	51.9	51.9	47.1
R3U	61.5	40.2	61.5	64.8	61.5	61.5	56.7
R4	42.2	29.1	42.4	45.7	42.4	42.4	37.6
R4U	49.7	36.6	49.9	53.2	49.9	49.9	45.1
R5	44.5	31.5	44.7	48.0	44.7	44.7	39.9
R5U	44.7	31.8	44.9	48.2	44.9	44.9	40.1

Receptor	Project (CNEL)	Ambient (CNEL)	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Ambient (Leq)	Ambient + Project (Leq)
R1	50.6	71.3	71.3	0.0	47.3	66.3	66.4
R1U	69.3	71.3	73.4	2.1	66.0	66.3	69.2
R2	51.7	72.9	72.9	0.0	48.4	64.8	64.9
R2U	58.8	72.9	73.1	0.2	55.5	64.8	65.3
R3	55.2	70.9	71.0	0.1	51.9	65.6	65.8
R3U	64.8	70.9	71.9	1.0	61.5	65.6	67.0
R4	45.7	73.9	73.9	0.0	42.4	67.7	67.7
R4U	53.2	73.9	73.9	0.0	49.9	67.7	67.8
R5	48.0	72.3	72.3	0.0	44.7	66.5	66.5
R5U	48.2	72.3	72.3	0.0	44.9	66.5	66.5

Receptor	Ambient	Project	Amb+Project	Criteria	Exceedance
R1	66.3	66.0	69.2	71.3	0.0
R2	64.8	55.5	65.3	69.8	0.0
R3	65.6	61.5	67.0	70.6	0.0
R4	67.7	49.9	67.8	72.7	0.0
R5	66.5	44.9	66.5	71.5	0.0

AES
ACOUSTICAL ENGINEERING SERVICES

Parking Structure Noise Calculations

Project: The Bloc Project EIR

	Estimated Noise Levels, Leq from SOUNDPLAN		Hours of Operations: Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Leq	CNEL	12	3	9
R1	45.0	51.7	45.0	45.0	45.0
R1U	45.8	52.5	45.8	45.8	45.8
R2	45.9	52.6	45.9	45.9	45.9
R2U	54.8	61.5	54.8	54.8	54.8
R3	43.3	50.0	43.3	43.3	43.3
R3U	49.0	55.7	49.0	49.0	49.0
R4	39.8	46.5	39.8	39.8	39.8
R4U	48.0	54.7	48.0	48.0	48.0
R5	42.8	49.5	42.8	42.8	42.8
R5U	43.4	50.1	43.4	43.4	43.4

Receptor	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	nighttime ambient (Leq)	Ambient + Project (Leq)
R1	71.3	71.3	0.0	66.3	66.3
R1U	71.3	71.4	0.1	66.3	66.3
R2	72.9	72.9	0.0	64.8	64.9
R2U	72.9	73.2	0.3	64.8	65.2
R3	70.9	70.9	0.0	65.6	65.6
R3U	70.9	71.0	0.1	65.6	65.7
R4	73.9	73.9	0.0	67.7	67.7
R4U	73.9	74.0	0.1	67.7	67.7
R5	72.3	72.3	0.0	66.5	66.5
R5U	72.3	72.3	0.0	66.5	66.5

Receptor	Ambient	Project	Amb+Projec	Criteria	Exceedance
R1	66.3	45.8	66.3	71.3	0.0
R2	64.8	54.8	65.2	69.8	0.0
R3	65.6	49.0	65.7	70.6	0.0
R4	67.7	48.0	67.7	72.7	0.0
R5	66.5	43.4	66.5	71.5	0.0

The Bloc
Source Levels in dB(A) - Mechanical

Name	Source type	Lw dB(A)	
Mechanical	Point	90.0	
Mechanical	Point	90.0	
Mechanical	Point	90.0	
Mechanical	Point	90.0	
Mechanical	Point	90.0	
Mechanical	Point	90.0	
Mechanical	Point	90.0	
Mechanical	Point	90.0	
Mechanical	Point	90.0	
Mechanical	Point	90.0	
Mechanical	Point	90.0	

The Bloc
Contribution level - Mechanical

Source	Source type	Leq,d dB(A)	
Receiver R1 Fl G Leq,d 29.7 dB(A)			
Mechanical	Point	18.0	
Mechanical	Point	18.2	
Mechanical	Point	18.6	
Mechanical	Point	20.4	
Mechanical	Point	19.3	
Mechanical	Point	18.7	
Mechanical	Point	21.9	
Mechanical	Point	18.0	
Mechanical	Point	16.2	
Mechanical	Point	21.6	
Mechanical	Point	17.9	
Receiver R1 Fl F2 Leq,d 31.7 dB(A)			
Mechanical	Point	19.0	
Mechanical	Point	19.3	
Mechanical	Point	19.6	
Mechanical	Point	21.6	
Mechanical	Point	20.8	
Mechanical	Point	20.7	
Mechanical	Point	23.4	
Mechanical	Point	21.5	
Mechanical	Point	21.0	
Mechanical	Point	23.1	
Mechanical	Point	21.5	
Receiver R2 Fl G Leq,d 22.3 dB(A)			
Mechanical	Point	10.9	
Mechanical	Point	11.0	
Mechanical	Point	11.1	
Mechanical	Point	11.7	
Mechanical	Point	11.7	
Mechanical	Point	11.7	
Mechanical	Point	13.0	
Mechanical	Point	11.8	
Mechanical	Point	12.7	
Mechanical	Point	12.6	
Mechanical	Point	11.6	
Receiver R2a Fl G Leq,d 27.0 dB(A)			
Mechanical	Point	13.4	
Mechanical	Point	13.2	
Mechanical	Point	14.7	
Mechanical	Point	19.7	
Mechanical	Point	16.7	
Mechanical	Point	16.2	

Source	Source type	Leq,d dB(A)	
Mechanical	Point	19.1	
Mechanical	Point	15.1	
Mechanical	Point	15.4	
Mechanical	Point	18.4	
Mechanical	Point	15.3	
Receiver R2a Fl F2 Leq,d 27.7 dB(A)			
Mechanical	Point	15.6	
Mechanical	Point	15.6	
Mechanical	Point	16.3	
Mechanical	Point	19.7	
Mechanical	Point	17.8	
Mechanical	Point	16.6	
Mechanical	Point	19.3	
Mechanical	Point	15.6	
Mechanical	Point	15.8	
Mechanical	Point	18.7	
Mechanical	Point	15.7	
Receiver R3 Fl G Leq,d 23.5 dB(A)			
Mechanical	Point	16.3	
Mechanical	Point	15.5	
Mechanical	Point	12.4	
Mechanical	Point	16.0	
Mechanical	Point	11.3	
Mechanical	Point	11.2	
Mechanical	Point	11.1	
Mechanical	Point	11.2	
Mechanical	Point	10.9	
Mechanical	Point	11.2	
Mechanical	Point	11.2	
Receiver R3 Fl F2 Leq,d 24.7 dB(A)			
Mechanical	Point	17.7	
Mechanical	Point	17.1	
Mechanical	Point	14.9	
Mechanical	Point	16.0	
Mechanical	Point	13.8	
Mechanical	Point	13.8	
Mechanical	Point	11.4	
Mechanical	Point	11.5	
Mechanical	Point	11.4	
Mechanical	Point	11.4	
Mechanical	Point	11.5	
Receiver R4 Fl G Leq,d 26.1 dB(A)			
Mechanical	Point	17.4	

The Bloc
Contribution level - Mechanical

Source	Source type	Leq,d dB(A)	
Mechanical	Point	17.3	
Mechanical	Point	15.4	
Mechanical	Point	18.0	
Mechanical	Point	15.2	
Mechanical	Point	14.6	
Mechanical	Point	15.4	
Mechanical	Point	13.4	
Mechanical	Point	13.6	
Mechanical	Point	15.9	
Mechanical	Point	12.8	
Receiver R4 Fl F2 Leq,d 28.5 dB(A)			
Mechanical	Point	19.4	
Mechanical	Point	19.2	
Mechanical	Point	17.9	
Mechanical	Point	19.3	
Mechanical	Point	18.0	
Mechanical	Point	17.6	
Mechanical	Point	18.7	
Mechanical	Point	15.8	
Mechanical	Point	16.2	
Mechanical	Point	18.8	
Mechanical	Point	15.5	
Receiver R5 Fl G Leq,d 29.6 dB(A)			
Mechanical	Point	18.3	
Mechanical	Point	17.4	
Mechanical	Point	17.7	
Mechanical	Point	21.2	
Mechanical	Point	20.1	
Mechanical	Point	19.4	
Mechanical	Point	21.1	
Mechanical	Point	16.8	
Mechanical	Point	17.3	
Mechanical	Point	21.4	
Mechanical	Point	16.9	
Receiver R5 Fl F2 Leq,d 29.7 dB(A)			
Mechanical	Point	18.4	
Mechanical	Point	17.4	
Mechanical	Point	17.8	
Mechanical	Point	21.3	
Mechanical	Point	20.2	
Mechanical	Point	19.5	
Mechanical	Point	21.2	
Mechanical	Point	16.8	

The Bloc
Contribution level - Mechanical

Source	Source type	Leq,d dB(A)	
Mechanical	Point	17.4	
Mechanical	Point	21.6	
Mechanical	Point	17.0	

The Bloc
Source Levels in dB(A) - People

Name	Source type	Lw dB(A)	
People Level 12 Deck	Area	97.1	
People Level 51 Deck	Area	93.3	

Source	Source type	Leq,d dB(A)	
Receiver R1 Fl G Leq,d 33.9 dB(A)			
People Level 12 Deck	Area	33.8	
People Level 51 Deck	Area	18.8	
Receiver R1 Fl F2 Leq,d 53.7 dB(A)			
People Level 12 Deck	Area	53.7	
People Level 51 Deck	Area	23.7	
Receiver R2 Fl G Leq,d 30.4 dB(A)			
People Level 12 Deck	Area	30.1	
People Level 51 Deck	Area	19.6	
Receiver R2a Fl G Leq,d 33.7 dB(A)			
People Level 12 Deck	Area	33.4	
People Level 51 Deck	Area	21.2	
Receiver R2a Fl F2 Leq,d 38.9 dB(A)			
People Level 12 Deck	Area	38.8	
People Level 51 Deck	Area	22.6	
Receiver R3 Fl G Leq,d 32.6 dB(A)			
People Level 12 Deck	Area	32.3	
People Level 51 Deck	Area	21.8	
Receiver R3 Fl F2 Leq,d 40.2 dB(A)			
People Level 12 Deck	Area	40.1	
People Level 51 Deck	Area	23.0	
Receiver R4 Fl G Leq,d 29.1 dB(A)			
People Level 12 Deck	Area	28.9	
People Level 51 Deck	Area	14.7	
Receiver R4 Fl F2 Leq,d 36.6 dB(A)			
People Level 12 Deck	Area	36.5	
People Level 51 Deck	Area	17.1	
Receiver R5 Fl G Leq,d 31.5 dB(A)			
People Level 12 Deck	Area	31.3	
People Level 51 Deck	Area	16.9	
Receiver R5 Fl F2 Leq,d 31.8 dB(A)			
People Level 12 Deck	Area	31.6	
People Level 51 Deck	Area	17.0	

The Bloc
Source Levels in dB(A) - Speakers

Name	Source type	Lw dB(A)	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
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Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 12	Point	108.6	
Speakers Level 51	Point	113.6	
Speakers Level 51	Point	113.6	
Speakers Level 51	Point	113.6	
Speakers Level 51	Point	113.6	
Speakers Level 51	Point	113.6	
Speakers Level 51	Point	113.6	
Speakers Level 51	Point	113.6	
Speakers Level 51	Point	113.6	
Speakers Level 51	Point	113.6	

The Bloc
Contribution level - Speakers

Source	Source type	Leq,d dB(A)
Receiver R1 Fl G Leq,d 47.1 dB(A)		
Speakers Level 12	Point	36.7
Speakers Level 12	Point	37.3
Speakers Level 12	Point	38.2
Speakers Level 12	Point	39.2
Speakers Level 12	Point	39.1
Speakers Level 12	Point	37.9
Speakers Level 12	Point	38.7
Speakers Level 12	Point	29.8
Speakers Level 12	Point	28.4
Speakers Level 12	Point	26.4
Speakers Level 12	Point	25.6
Speakers Level 12	Point	20.2
Speakers Level 12	Point	16.4
Speakers Level 12	Point	13.4
Speakers Level 12	Point	15.2
Speakers Level 12	Point	14.8
Speakers Level 12	Point	14.5
Speakers Level 12	Point	14.4
Speakers Level 12	Point	15.9
Speakers Level 12	Point	15.8
Speakers Level 12	Point	14.9
Speakers Level 12	Point	16.2
Speakers Level 12	Point	16.3
Speakers Level 12	Point	16.9
Speakers Level 12	Point	16.3
Speakers Level 51	Point	18.6
Speakers Level 51	Point	17.6
Speakers Level 51	Point	17.0
Speakers Level 51	Point	17.1
Speakers Level 51	Point	17.3
Speakers Level 51	Point	18.9
Speakers Level 51	Point	19.1
Speakers Level 51	Point	23.7
Speakers Level 51	Point	26.3
Receiver R1 Fl F2 Leq,d 65.7 dB(A)		
Speakers Level 12	Point	54.0
Speakers Level 12	Point	55.0
Speakers Level 12	Point	56.0
Speakers Level 12	Point	57.1
Speakers Level 12	Point	58.2
Speakers Level 12	Point	57.6
Speakers Level 12	Point	58.6

Source	Source type	Leq,d dB(A)	
Speakers Level 12	Point	50.0	
Speakers Level 12	Point	48.9	
Speakers Level 12	Point	46.3	
Speakers Level 12	Point	45.4	
Speakers Level 12	Point	41.5	
Speakers Level 12	Point	33.0	
Speakers Level 12	Point	27.2	
Speakers Level 12	Point	26.7	
Speakers Level 12	Point	27.4	
Speakers Level 12	Point	27.7	
Speakers Level 12	Point	27.3	
Speakers Level 12	Point	20.5	
Speakers Level 12	Point	22.1	
Speakers Level 12	Point	30.3	
Speakers Level 12	Point	24.2	
Speakers Level 12	Point	23.9	
Speakers Level 12	Point	23.9	
Speakers Level 12	Point	24.3	
Speakers Level 51	Point	22.2	
Speakers Level 51	Point	22.0	
Speakers Level 51	Point	30.0	
Speakers Level 51	Point	30.0	
Speakers Level 51	Point	29.9	
Speakers Level 51	Point	27.7	
Speakers Level 51	Point	28.0	
Speakers Level 51	Point	29.4	
Speakers Level 51	Point	31.1	
Receiver R2 Fl G Leq,d 45.9 dB(A)			
Speakers Level 12	Point	24.3	
Speakers Level 12	Point	21.6	
Speakers Level 12	Point	33.3	
Speakers Level 12	Point	34.2	
Speakers Level 12	Point	27.6	
Speakers Level 12	Point	33.7	
Speakers Level 12	Point	35.5	
Speakers Level 12	Point	21.5	
Speakers Level 12	Point	18.4	
Speakers Level 12	Point	16.1	
Speakers Level 12	Point	13.7	
Speakers Level 12	Point	14.9	
Speakers Level 12	Point	18.6	
Speakers Level 12	Point	27.2	
Speakers Level 12	Point	30.0	

Source	Source type	Leq,d dB(A)	
Speakers Level 12	Point	24.2	
Speakers Level 12	Point	25.3	
Speakers Level 12	Point	26.6	
Speakers Level 12	Point	19.5	
Speakers Level 12	Point	26.9	
Speakers Level 12	Point	28.9	
Speakers Level 12	Point	34.9	
Speakers Level 12	Point	35.4	
Speakers Level 12	Point	37.2	
Speakers Level 12	Point	39.9	
Speakers Level 51	Point	17.5	
Speakers Level 51	Point	18.1	
Speakers Level 51	Point	19.2	
Speakers Level 51	Point	20.6	
Speakers Level 51	Point	19.1	
Speakers Level 51	Point	22.5	
Speakers Level 51	Point	25.9	
Speakers Level 51	Point	26.3	
Speakers Level 51	Point	26.0	
Receiver R2a Fl G Leq,d 48.2 dB(A)			
Speakers Level 12	Point	39.0	
Speakers Level 12	Point	37.5	
Speakers Level 12	Point	36.3	
Speakers Level 12	Point	36.4	
Speakers Level 12	Point	41.5	
Speakers Level 12	Point	39.4	
Speakers Level 12	Point	39.3	
Speakers Level 12	Point	25.9	
Speakers Level 12	Point	24.8	
Speakers Level 12	Point	23.7	
Speakers Level 12	Point	19.8	
Speakers Level 12	Point	19.1	
Speakers Level 12	Point	16.5	
Speakers Level 12	Point	16.4	
Speakers Level 12	Point	16.5	
Speakers Level 12	Point	15.5	
Speakers Level 12	Point	15.9	
Speakers Level 12	Point	27.5	
Speakers Level 12	Point	27.9	
Speakers Level 12	Point	28.5	
Speakers Level 12	Point	34.7	
Speakers Level 12	Point	23.0	
Speakers Level 12	Point	28.0	

Source	Source type	Leq,d dB(A)	
Speakers Level 12	Point	29.3	
Speakers Level 12	Point	32.8	
Speakers Level 51	Point	17.7	
Speakers Level 51	Point	17.8	
Speakers Level 51	Point	18.1	
Speakers Level 51	Point	18.2	
Speakers Level 51	Point	19.0	
Speakers Level 51	Point	28.1	
Speakers Level 51	Point	28.5	
Speakers Level 51	Point	28.4	
Speakers Level 51	Point	28.8	
Receiver R2a Fl F2 Leq,d 55.4 dB(A)			
Speakers Level 12	Point	48.4	
Speakers Level 12	Point	43.8	
Speakers Level 12	Point	42.0	
Speakers Level 12	Point	40.2	
Speakers Level 12	Point	46.2	
Speakers Level 12	Point	46.2	
Speakers Level 12	Point	46.5	
Speakers Level 12	Point	32.9	
Speakers Level 12	Point	31.6	
Speakers Level 12	Point	30.3	
Speakers Level 12	Point	23.1	
Speakers Level 12	Point	21.7	
Speakers Level 12	Point	19.6	
Speakers Level 12	Point	18.7	
Speakers Level 12	Point	18.7	
Speakers Level 12	Point	17.7	
Speakers Level 12	Point	18.0	
Speakers Level 12	Point	33.8	
Speakers Level 12	Point	35.3	
Speakers Level 12	Point	41.1	
Speakers Level 12	Point	47.0	
Speakers Level 12	Point	27.2	
Speakers Level 12	Point	34.4	
Speakers Level 12	Point	37.2	
Speakers Level 12	Point	41.3	
Speakers Level 51	Point	19.5	
Speakers Level 51	Point	25.8	
Speakers Level 51	Point	19.9	
Speakers Level 51	Point	19.6	
Speakers Level 51	Point	20.8	
Speakers Level 51	Point	28.8	

Source	Source type	Leq,d dB(A)	
Speakers Level 51	Point	29.3	
Speakers Level 51	Point	29.4	
Speakers Level 51	Point	29.9	
Receiver R3 Fl G Leq,d 51.8 dB(A)			
Speakers Level 12	Point	10.2	
Speakers Level 12	Point	10.1	
Speakers Level 12	Point	10.0	
Speakers Level 12	Point	9.9	
Speakers Level 12	Point	10.5	
Speakers Level 12	Point	12.8	
Speakers Level 12	Point	12.5	
Speakers Level 12	Point	16.0	
Speakers Level 12	Point	13.1	
Speakers Level 12	Point	13.3	
Speakers Level 12	Point	15.8	
Speakers Level 12	Point	16.2	
Speakers Level 12	Point	19.2	
Speakers Level 12	Point	30.9	
Speakers Level 12	Point	31.9	
Speakers Level 12	Point	37.1	
Speakers Level 12	Point	38.6	
Speakers Level 12	Point	42.7	
Speakers Level 12	Point	45.4	
Speakers Level 12	Point	46.2	
Speakers Level 12	Point	44.7	
Speakers Level 12	Point	35.1	
Speakers Level 12	Point	32.1	
Speakers Level 12	Point	28.3	
Speakers Level 12	Point	26.5	
Speakers Level 51	Point	30.7	
Speakers Level 51	Point	27.9	
Speakers Level 51	Point	27.3	
Speakers Level 51	Point	29.4	
Speakers Level 51	Point	29.2	
Speakers Level 51	Point	22.1	
Speakers Level 51	Point	15.4	
Speakers Level 51	Point	15.3	
Speakers Level 51	Point	15.2	
Receiver R3 Fl F2 Leq,d 61.5 dB(A)			
Speakers Level 12	Point	13.1	
Speakers Level 12	Point	12.7	
Speakers Level 12	Point	12.6	
Speakers Level 12	Point	13.8	

Source	Source type	Leq,d dB(A)	
Speakers Level 12	Point	16.1	
Speakers Level 12	Point	14.4	
Speakers Level 12	Point	13.1	
Speakers Level 12	Point	14.5	
Speakers Level 12	Point	11.7	
Speakers Level 12	Point	12.0	
Speakers Level 12	Point	16.8	
Speakers Level 12	Point	17.7	
Speakers Level 12	Point	23.9	
Speakers Level 12	Point	41.2	
Speakers Level 12	Point	42.8	
Speakers Level 12	Point	46.1	
Speakers Level 12	Point	48.2	
Speakers Level 12	Point	53.5	
Speakers Level 12	Point	55.5	
Speakers Level 12	Point	55.8	
Speakers Level 12	Point	53.5	
Speakers Level 12	Point	45.4	
Speakers Level 12	Point	43.7	
Speakers Level 12	Point	41.1	
Speakers Level 12	Point	38.9	
Speakers Level 51	Point	34.5	
Speakers Level 51	Point	30.7	
Speakers Level 51	Point	29.7	
Speakers Level 51	Point	31.2	
Speakers Level 51	Point	31.5	
Speakers Level 51	Point	22.1	
Speakers Level 51	Point	18.0	
Speakers Level 51	Point	17.2	
Speakers Level 51	Point	16.5	
Receiver R4 Fl G Leq,d 42.2 dB(A)			
Speakers Level 12	Point	13.8	
Speakers Level 12	Point	13.8	
Speakers Level 12	Point	15.2	
Speakers Level 12	Point	16.1	
Speakers Level 12	Point	15.7	
Speakers Level 12	Point	14.2	
Speakers Level 12	Point	14.7	
Speakers Level 12	Point	28.0	
Speakers Level 12	Point	31.7	
Speakers Level 12	Point	32.1	
Speakers Level 12	Point	32.6	
Speakers Level 12	Point	36.0	

The Bloc
Contribution level - Speakers

Source	Source type	Leq,d dB(A)	
Speakers Level 12	Point	32.8	
Speakers Level 12	Point	27.4	
Speakers Level 12	Point	29.4	
Speakers Level 12	Point	30.0	
Speakers Level 12	Point	29.4	
Speakers Level 12	Point	28.7	
Speakers Level 12	Point	26.7	
Speakers Level 12	Point	19.0	
Speakers Level 12	Point	13.9	
Speakers Level 12	Point	9.6	
Speakers Level 12	Point	10.7	
Speakers Level 12	Point	9.3	
Speakers Level 12	Point	9.2	
Speakers Level 51	Point	18.1	
Speakers Level 51	Point	15.4	
Speakers Level 51	Point	14.8	
Speakers Level 51	Point	14.7	
Speakers Level 51	Point	14.6	
Speakers Level 51	Point	12.7	
Speakers Level 51	Point	12.7	
Speakers Level 51	Point	14.0	
Speakers Level 51	Point	14.9	
Receiver R4 Fl F2 Leq,d 49.7 dB(A)			
Speakers Level 12	Point	18.7	
Speakers Level 12	Point	18.4	
Speakers Level 12	Point	18.8	
Speakers Level 12	Point	18.0	
Speakers Level 12	Point	17.3	
Speakers Level 12	Point	22.5	
Speakers Level 12	Point	22.7	
Speakers Level 12	Point	34.6	
Speakers Level 12	Point	40.0	
Speakers Level 12	Point	39.6	
Speakers Level 12	Point	39.9	
Speakers Level 12	Point	40.3	
Speakers Level 12	Point	37.9	
Speakers Level 12	Point	29.9	
Speakers Level 12	Point	39.9	
Speakers Level 12	Point	40.8	
Speakers Level 12	Point	38.9	
Speakers Level 12	Point	38.6	
Speakers Level 12	Point	36.7	
Speakers Level 12	Point	19.3	

Source	Source type	Leq,d dB(A)	
Speakers Level 12	Point	13.4	
Speakers Level 12	Point	11.5	
Speakers Level 12	Point	8.9	
Speakers Level 12	Point	10.1	
Speakers Level 12	Point	16.4	
Speakers Level 51	Point	22.7	
Speakers Level 51	Point	21.5	
Speakers Level 51	Point	19.7	
Speakers Level 51	Point	20.0	
Speakers Level 51	Point	16.3	
Speakers Level 51	Point	22.1	
Speakers Level 51	Point	22.3	
Speakers Level 51	Point	22.7	
Speakers Level 51	Point	23.4	
Receiver R5 Fl G Leq,d 44.5 dB(A)			
Speakers Level 12	Point	23.0	
Speakers Level 12	Point	23.8	
Speakers Level 12	Point	22.9	
Speakers Level 12	Point	22.7	
Speakers Level 12	Point	23.0	
Speakers Level 12	Point	24.1	
Speakers Level 12	Point	23.8	
Speakers Level 12	Point	35.2	
Speakers Level 12	Point	36.9	
Speakers Level 12	Point	37.7	
Speakers Level 12	Point	36.6	
Speakers Level 12	Point	35.5	
Speakers Level 12	Point	30.7	
Speakers Level 12	Point	26.3	
Speakers Level 12	Point	30.4	
Speakers Level 12	Point	30.8	
Speakers Level 12	Point	19.2	
Speakers Level 12	Point	16.5	
Speakers Level 12	Point	16.5	
Speakers Level 12	Point	16.1	
Speakers Level 12	Point	13.0	
Speakers Level 12	Point	12.1	
Speakers Level 12	Point	12.0	
Speakers Level 12	Point	12.1	
Speakers Level 12	Point	12.2	
Speakers Level 51	Point	20.4	
Speakers Level 51	Point	17.1	
Speakers Level 51	Point	16.0	

Source	Source type	Leq,d dB(A)	
Speakers Level 51	Point	15.7	
Speakers Level 51	Point	15.4	
Speakers Level 51	Point	15.7	
Speakers Level 51	Point	15.5	
Speakers Level 51	Point	17.5	
Speakers Level 51	Point	17.4	
Receiver R5 Fl F2 Leq,d 44.7 dB(A)			
Speakers Level 12	Point	23.1	
Speakers Level 12	Point	23.8	
Speakers Level 12	Point	22.9	
Speakers Level 12	Point	22.8	
Speakers Level 12	Point	23.1	
Speakers Level 12	Point	24.2	
Speakers Level 12	Point	23.9	
Speakers Level 12	Point	35.3	
Speakers Level 12	Point	37.1	
Speakers Level 12	Point	38.0	
Speakers Level 12	Point	36.8	
Speakers Level 12	Point	35.6	
Speakers Level 12	Point	31.0	
Speakers Level 12	Point	26.3	
Speakers Level 12	Point	30.5	
Speakers Level 12	Point	30.8	
Speakers Level 12	Point	19.3	
Speakers Level 12	Point	16.6	
Speakers Level 12	Point	16.6	
Speakers Level 12	Point	16.2	
Speakers Level 12	Point	13.1	
Speakers Level 12	Point	12.1	
Speakers Level 12	Point	12.1	
Speakers Level 12	Point	12.1	
Speakers Level 12	Point	12.2	
Speakers Level 51	Point	20.4	
Speakers Level 51	Point	17.1	
Speakers Level 51	Point	16.1	
Speakers Level 51	Point	15.8	
Speakers Level 51	Point	15.5	
Speakers Level 51	Point	15.8	
Speakers Level 51	Point	15.5	
Speakers Level 51	Point	17.6	
Speakers Level 51	Point	17.5	

The Bloc
Input data parking lots - Parking 2

Parking lot	PLT	Parking Spaces	
Parking Level 04	Housing estate	44	
Parking Level 04	Housing estate	44	
Parking Level 04	Housing estate	44	
Parking Level 04	Housing estate	44	
Parking Level 05	Housing estate	44	
Parking Level 05	Housing estate	44	
Parking Level 05	Housing estate	45	
Parking Level 05	Housing estate	45	
Parking Level 06	Housing estate	58	
Parking Level 06	Housing estate	58	
Parking Level 06	Housing estate	57	
Parking Level 06	Housing estate	57	
Parking Level 07	Housing estate	57	
Parking Level 07	Housing estate	57	
Parking Level 07	Housing estate	58	
Parking Level 07	Housing estate	58	
Parking Level 08	Housing estate	57	
Parking Level 08	Housing estate	57	
Parking Level 08	Housing estate	58	
Parking Level 08	Housing estate	58	
Parking Level 09	Housing estate	51	
Parking Level 09	Housing estate	51	
Parking Level 09	Housing estate	51	
Parking Level 09	Housing estate	51	
Parking Level 10	Housing estate	55	
Parking Level 10	Housing estate	55	
Parking Level 10	Housing estate	55	
Parking Level 10	Housing estate	55	
Parking Level 11	Housing estate	55	
Parking Level 11	Housing estate	55	
Parking Level 11	Housing estate	55	
Parking Level 11	Housing estate	55	

The Bloc
Source Levels in dB(A) - Parking

Name	Source type	Lw dB(A)	
Parking Level 04	PLot	95.5	
Parking Level 05	PLot	95.6	
Parking Level 06	PLot	97.0	
Parking Level 07	PLot	97.0	
Parking Level 08	PLot	97.0	
Parking Level 09	PLot	96.3	
Parking Level 10	PLot	96.7	
Parking Level 11	PLot	96.8	

The Bloc
Contribution level - Parking 2

Source	Source type	Leq,d dB(A)	
Receiver R1 Fl G Leq,d 45.0 dB(A)			
Parking Level 04	PLot	27.3	
Parking Level 04	PLot	32.3	
Parking Level 04	PLot	33.4	
Parking Level 04	PLot	25.7	
Parking Level 05	PLot	24.9	
Parking Level 05	PLot	31.5	
Parking Level 05	PLot	32.7	
Parking Level 05	PLot	25.1	
Parking Level 06	PLot	25.7	
Parking Level 06	PLot	32.5	
Parking Level 06	PLot	33.2	
Parking Level 06	PLot	25.9	
Parking Level 07	PLot	25.1	
Parking Level 07	PLot	31.9	
Parking Level 07	PLot	32.6	
Parking Level 07	PLot	25.4	
Parking Level 08	PLot	24.7	
Parking Level 08	PLot	31.5	
Parking Level 08	PLot	31.9	
Parking Level 08	PLot	24.9	
Parking Level 09	PLot	23.7	
Parking Level 09	PLot	30.4	
Parking Level 09	PLot	30.6	
Parking Level 09	PLot	23.8	
Parking Level 10	PLot	24.9	
Parking Level 10	PLot	34.0	
Parking Level 10	PLot	33.9	
Parking Level 10	PLot	25.0	
Parking Level 11	PLot	23.4	
Parking Level 11	PLot	30.0	
Parking Level 11	PLot	29.8	
Parking Level 11	PLot	23.6	
Receiver R1 Fl F2 Leq,d 45.8 dB(A)			
Parking Level 04	PLot	25.9	
Parking Level 04	PLot	28.0	
Parking Level 04	PLot	29.1	
Parking Level 04	PLot	26.2	
Parking Level 05	PLot	26.0	
Parking Level 05	PLot	29.4	
Parking Level 05	PLot	29.9	
Parking Level 05	PLot	28.2	
Parking Level 06	PLot	28.0	

The Bloc
Contribution level - Parking 2

Source	Source type	Leq,d dB(A)	
Parking Level 06	PLot	31.3	
Parking Level 06	PLot	31.8	
Parking Level 06	PLot	29.0	
Parking Level 07	PLot	28.2	
Parking Level 07	PLot	31.1	
Parking Level 07	PLot	32.7	
Parking Level 07	PLot	27.9	
Parking Level 08	PLot	27.9	
Parking Level 08	PLot	31.5	
Parking Level 08	PLot	33.5	
Parking Level 08	PLot	28.4	
Parking Level 09	PLot	27.3	
Parking Level 09	PLot	31.6	
Parking Level 09	PLot	33.6	
Parking Level 09	PLot	28.5	
Parking Level 10	PLot	26.8	
Parking Level 10	PLot	31.1	
Parking Level 10	PLot	31.7	
Parking Level 10	PLot	27.9	
Parking Level 11	PLot	30.8	
Parking Level 11	PLot	33.2	
Parking Level 11	PLot	37.6	
Parking Level 11	PLot	30.1	
Receiver R2 Fl G Leq,d 42.7 dB(A)			
Parking Level 04	PLot	20.1	
Parking Level 04	PLot	31.5	
Parking Level 04	PLot	25.0	
Parking Level 04	PLot	26.1	
Parking Level 05	PLot	19.6	
Parking Level 05	PLot	30.6	
Parking Level 05	PLot	24.5	
Parking Level 05	PLot	25.8	
Parking Level 06	PLot	20.7	
Parking Level 06	PLot	31.9	
Parking Level 06	PLot	25.3	
Parking Level 06	PLot	26.8	
Parking Level 07	PLot	20.2	
Parking Level 07	PLot	31.7	
Parking Level 07	PLot	25.1	
Parking Level 07	PLot	26.5	
Parking Level 08	PLot	19.8	
Parking Level 08	PLot	32.3	
Parking Level 08	PLot	24.7	

Source	Source type	Leq,d dB(A)	
Parking Level 08	PLot	26.3	
Parking Level 09	PLot	19.0	
Parking Level 09	PLot	30.9	
Parking Level 09	PLot	23.5	
Parking Level 09	PLot	25.5	
Parking Level 10	PLot	19.6	
Parking Level 10	PLot	33.0	
Parking Level 10	PLot	28.1	
Parking Level 10	PLot	28.0	
Parking Level 11	PLot	19.3	
Parking Level 11	PLot	30.7	
Parking Level 11	PLot	22.6	
Parking Level 11	PLot	25.2	
Receiver R2a Fl G Leq,d 45.9 dB(A)			
Parking Level 04	PLot	25.6	
Parking Level 04	PLot	34.3	
Parking Level 04	PLot	32.1	
Parking Level 04	PLot	26.7	
Parking Level 05	PLot	24.8	
Parking Level 05	PLot	33.5	
Parking Level 05	PLot	31.6	
Parking Level 05	PLot	26.2	
Parking Level 06	PLot	25.7	
Parking Level 06	PLot	34.4	
Parking Level 06	PLot	32.3	
Parking Level 06	PLot	26.9	
Parking Level 07	PLot	25.1	
Parking Level 07	PLot	34.4	
Parking Level 07	PLot	31.9	
Parking Level 07	PLot	26.6	
Parking Level 08	PLot	24.7	
Parking Level 08	PLot	33.8	
Parking Level 08	PLot	31.4	
Parking Level 08	PLot	26.1	
Parking Level 09	PLot	23.7	
Parking Level 09	PLot	32.6	
Parking Level 09	PLot	30.2	
Parking Level 09	PLot	25.0	
Parking Level 10	PLot	24.5	
Parking Level 10	PLot	35.3	
Parking Level 10	PLot	34.6	
Parking Level 10	PLot	27.7	
Parking Level 11	PLot	23.5	

The Bloc
Contribution level - Parking 2

Source	Source type	Leq,d dB(A)	
Parking Level 11	PLot	32.5	
Parking Level 11	PLot	31.0	
Parking Level 11	PLot	26.3	
Receiver R2a Fl F2 Leq,d 54.8 dB(A)			
Parking Level 04	PLot	29.7	
Parking Level 04	PLot	41.4	
Parking Level 04	PLot	37.4	
Parking Level 04	PLot	32.2	
Parking Level 05	PLot	31.5	
Parking Level 05	PLot	42.6	
Parking Level 05	PLot	38.0	
Parking Level 05	PLot	33.9	
Parking Level 06	PLot	34.9	
Parking Level 06	PLot	47.0	
Parking Level 06	PLot	40.6	
Parking Level 06	PLot	36.8	
Parking Level 07	PLot	36.3	
Parking Level 07	PLot	43.8	
Parking Level 07	PLot	42.7	
Parking Level 07	PLot	38.5	
Parking Level 08	PLot	35.4	
Parking Level 08	PLot	42.7	
Parking Level 08	PLot	40.3	
Parking Level 08	PLot	36.8	
Parking Level 09	PLot	32.5	
Parking Level 09	PLot	40.5	
Parking Level 09	PLot	37.4	
Parking Level 09	PLot	35.1	
Parking Level 10	PLot	33.6	
Parking Level 10	PLot	46.4	
Parking Level 10	PLot	39.6	
Parking Level 10	PLot	35.8	
Parking Level 11	PLot	28.7	
Parking Level 11	PLot	37.2	
Parking Level 11	PLot	34.7	
Parking Level 11	PLot	31.4	
Receiver R3 Fl G Leq,d 43.3 dB(A)			
Parking Level 04	PLot	21.4	
Parking Level 04	PLot	27.3	
Parking Level 04	PLot	20.9	
Parking Level 04	PLot	30.7	
Parking Level 05	PLot	20.6	
Parking Level 05	PLot	26.5	

Source	Source type	Leq,d dB(A)	
Parking Level 05	PLot	20.7	
Parking Level 05	PLot	31.6	
Parking Level 06	PLot	22.0	
Parking Level 06	PLot	27.3	
Parking Level 06	PLot	21.8	
Parking Level 06	PLot	32.7	
Parking Level 07	PLot	21.8	
Parking Level 07	PLot	26.3	
Parking Level 07	PLot	21.3	
Parking Level 07	PLot	32.6	
Parking Level 08	PLot	22.0	
Parking Level 08	PLot	25.7	
Parking Level 08	PLot	20.8	
Parking Level 08	PLot	31.7	
Parking Level 09	PLot	21.4	
Parking Level 09	PLot	24.4	
Parking Level 09	PLot	19.6	
Parking Level 09	PLot	30.9	
Parking Level 10	PLot	23.6	
Parking Level 10	PLot	27.1	
Parking Level 10	PLot	21.2	
Parking Level 10	PLot	37.4	
Parking Level 11	PLot	22.2	
Parking Level 11	PLot	23.8	
Parking Level 11	PLot	20.2	
Parking Level 11	PLot	30.9	
Receiver R3 Fl F2 Leq,d 49.0 dB(A)			
Parking Level 04	PLot	27.6	
Parking Level 04	PLot	30.7	
Parking Level 04	PLot	26.7	
Parking Level 04	PLot	38.6	
Parking Level 05	PLot	28.3	
Parking Level 05	PLot	31.2	
Parking Level 05	PLot	25.6	
Parking Level 05	PLot	38.5	
Parking Level 06	PLot	30.5	
Parking Level 06	PLot	33.7	
Parking Level 06	PLot	29.5	
Parking Level 06	PLot	39.4	
Parking Level 07	PLot	31.0	
Parking Level 07	PLot	33.8	
Parking Level 07	PLot	29.0	
Parking Level 07	PLot	38.8	

The Bloc
Contribution level - Parking 2

Source	Source type	Leq,d dB(A)	
Parking Level 08	PLot	31.4	
Parking Level 08	PLot	34.8	
Parking Level 08	PLot	30.6	
Parking Level 08	PLot	37.9	
Parking Level 09	PLot	31.1	
Parking Level 09	PLot	34.3	
Parking Level 09	PLot	29.9	
Parking Level 09	PLot	36.3	
Parking Level 10	PLot	29.7	
Parking Level 10	PLot	32.4	
Parking Level 10	PLot	29.5	
Parking Level 10	PLot	34.9	
Parking Level 11	PLot	30.7	
Parking Level 11	PLot	33.5	
Parking Level 11	PLot	30.7	
Parking Level 11	PLot	34.4	
Receiver R4 Fl G Leq,d 39.8 dB(A)			
Parking Level 04	PLot	26.1	
Parking Level 04	PLot	18.1	
Parking Level 04	PLot	21.8	
Parking Level 04	PLot	20.5	
Parking Level 05	PLot	26.0	
Parking Level 05	PLot	17.8	
Parking Level 05	PLot	21.4	
Parking Level 05	PLot	20.6	
Parking Level 06	PLot	27.6	
Parking Level 06	PLot	18.8	
Parking Level 06	PLot	22.3	
Parking Level 06	PLot	22.0	
Parking Level 07	PLot	27.6	
Parking Level 07	PLot	18.5	
Parking Level 07	PLot	22.0	
Parking Level 07	PLot	22.3	
Parking Level 08	PLot	27.7	
Parking Level 08	PLot	18.1	
Parking Level 08	PLot	23.9	
Parking Level 08	PLot	22.2	
Parking Level 09	PLot	26.9	
Parking Level 09	PLot	16.0	
Parking Level 09	PLot	24.5	
Parking Level 09	PLot	21.7	
Parking Level 10	PLot	33.6	
Parking Level 10	PLot	18.4	

Source	Source type	Leq,d dB(A)	
Parking Level 10	PLot	26.0	
Parking Level 10	PLot	23.8	
Parking Level 11	PLot	27.0	
Parking Level 11	PLot	15.7	
Parking Level 11	PLot	26.3	
Parking Level 11	PLot	22.2	
Receiver R4 Fl F2 Leq,d 48.0 dB(A)			
Parking Level 04	PLot	35.4	
Parking Level 04	PLot	31.5	
Parking Level 04	PLot	33.3	
Parking Level 04	PLot	33.2	
Parking Level 05	PLot	34.8	
Parking Level 05	PLot	30.6	
Parking Level 05	PLot	32.7	
Parking Level 05	PLot	32.8	
Parking Level 06	PLot	35.8	
Parking Level 06	PLot	31.3	
Parking Level 06	PLot	32.9	
Parking Level 06	PLot	33.5	
Parking Level 07	PLot	35.2	
Parking Level 07	PLot	29.6	
Parking Level 07	PLot	32.3	
Parking Level 07	PLot	32.7	
Parking Level 08	PLot	34.6	
Parking Level 08	PLot	28.1	
Parking Level 08	PLot	30.9	
Parking Level 08	PLot	31.7	
Parking Level 09	PLot	33.5	
Parking Level 09	PLot	26.5	
Parking Level 09	PLot	29.3	
Parking Level 09	PLot	30.5	
Parking Level 10	PLot	40.0	
Parking Level 10	PLot	28.6	
Parking Level 10	PLot	33.2	
Parking Level 10	PLot	33.2	
Parking Level 11	PLot	32.7	
Parking Level 11	PLot	24.9	
Parking Level 11	PLot	29.0	
Parking Level 11	PLot	28.9	
Receiver R5 Fl G Leq,d 42.8 dB(A)			
Parking Level 04	PLot	31.4	
Parking Level 04	PLot	20.8	
Parking Level 04	PLot	28.7	

Source	Source type	Leq,d dB(A)	
Parking Level 04	PLot	25.2	
Parking Level 05	PLot	30.6	
Parking Level 05	PLot	20.1	
Parking Level 05	PLot	28.3	
Parking Level 05	PLot	24.4	
Parking Level 06	PLot	31.3	
Parking Level 06	PLot	21.0	
Parking Level 06	PLot	29.7	
Parking Level 06	PLot	24.5	
Parking Level 07	PLot	30.5	
Parking Level 07	PLot	20.3	
Parking Level 07	PLot	29.3	
Parking Level 07	PLot	23.7	
Parking Level 08	PLot	31.5	
Parking Level 08	PLot	19.9	
Parking Level 08	PLot	29.0	
Parking Level 08	PLot	23.2	
Parking Level 09	PLot	29.2	
Parking Level 09	PLot	18.9	
Parking Level 09	PLot	27.2	
Parking Level 09	PLot	22.0	
Parking Level 10	PLot	33.3	
Parking Level 10	PLot	19.8	
Parking Level 10	PLot	31.6	
Parking Level 10	PLot	22.6	
Parking Level 11	PLot	29.1	
Parking Level 11	PLot	18.2	
Parking Level 11	PLot	26.3	
Parking Level 11	PLot	21.6	
Receiver R5 Fl F2 Leq,d 43.4 dB(A)			
Parking Level 04	PLot	32.3	
Parking Level 04	PLot	21.6	
Parking Level 04	PLot	29.6	
Parking Level 04	PLot	26.3	
Parking Level 05	PLot	31.4	
Parking Level 05	PLot	20.8	
Parking Level 05	PLot	29.0	
Parking Level 05	PLot	25.4	
Parking Level 06	PLot	32.1	
Parking Level 06	PLot	21.5	
Parking Level 06	PLot	29.8	
Parking Level 06	PLot	25.3	
Parking Level 07	PLot	31.9	

The Bloc
Contribution level - Parking 2

Source	Source type	Leq,d dB(A)	
Parking Level 07	PLot	20.8	
Parking Level 07	PLot	29.8	
Parking Level 07	PLot	24.4	
Parking Level 08	PLot	30.6	
Parking Level 08	PLot	20.2	
Parking Level 08	PLot	29.3	
Parking Level 08	PLot	23.8	
Parking Level 09	PLot	30.9	
Parking Level 09	PLot	19.0	
Parking Level 09	PLot	27.5	
Parking Level 09	PLot	22.5	
Parking Level 10	PLot	33.7	
Parking Level 10	PLot	20.1	
Parking Level 10	PLot	32.0	
Parking Level 10	PLot	23.2	
Parking Level 11	PLot	29.8	
Parking Level 11	PLot	18.2	
Parking Level 11	PLot	26.6	
Parking Level 11	PLot	22.0	

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: The Bloc Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

EXISTING CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Flower Street										
- Between Wilshire Blvd. and 7th St.	60	10	40	35	1,781	17,810	10%	0	0	71.4
- Between 7th St. and 8th St.	60	10	40	35	1,989	19,890	10%	0	0	71.8
- Between 8th St. and 9th St.	60	10	40	35	1,905	19,050	10%	0	0	71.7
Hope Street										
- Between Wilshire Blvd. and 7th St.	60	10	40	35	801	8,010	10%	0	0	67.9
- Between 7th St. and 8th St.	60	10	40	35	842	8,420	10%	0	0	68.1
- Between 8th St. and 9th St.	60	10	40	35	875	8,750	10%	0	0	68.3
7th Street										
- Between Figueroa St. and Flower St.	50	10	35	35	1,084	10,840	10%	0	0	69.8
- Between Flower St. and Hope St.	50	10	35	35	1,353	13,530	10%	0	0	70.8
- Between Hope St. and Grand Ave.	50	10	35	35	1,733	17,330	10%	0	0	71.8
8th Street										
- Between Figueroa St. and Flower St.	50	10	35	35	1,750	17,500	10%	0	0	71.9
- Between Flower St. and Hope St.	50	10	35	35	1,538	15,380	10%	0	0	71.3
- Between Hope St. and Grand Ave.	50	10	35	35	1,597	15,970	10%	0	0	71.5

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 4/11/2023

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: The Bloc Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

EXISTING + PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Flower Street										
- Between Wilshire Blvd. and 7th St.	60	10	40	35	1,784	17,840	10%	0	0	71.4
- Between 7th St. and 8th St.	60	10	40	35	2,003	20,030	10%	0	0	71.9
- Between 8th St. and 9th St.	60	10	40	35	1,912	19,120	10%	0	0	71.7
Hope Street										
- Between Wilshire Blvd. and 7th St.	60	10	40	35	809	8,090	10%	0	0	67.9
- Between 7th St. and 8th St.	60	10	40	35	855	8,550	10%	0	0	68.2
- Between 8th St. and 9th St.	60	10	40	35	923	9,230	10%	0	0	68.5
7th Street										
- Between Figueroa St. and Flower St.	50	10	35	35	1,096	10,960	10%	0	0	69.9
- Between Flower St. and Hope St.	50	10	35	35	1,361	13,610	10%	0	0	70.8
- Between Hope St. and Grand Ave.	50	10	35	35	1,741	17,410	10%	0	0	71.9
8th Street										
- Between Figueroa St. and Flower St.	50	10	35	35	1,776	17,760	10%	0	0	72.0
- Between Flower St. and Hope St.	50	10	35	35	1,563	15,630	10%	0	0	71.4
- Between Hope St. and Grand Ave.	50	10	35	35	1,625	16,250	10%	0	0	71.6

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

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AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: The Bloc Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

FUTURE NO PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Flower Street										
- Between Wilshire Blvd. and 7th St.	60	10	40	35	2,415	24,150	10%	0	0	72.7
- Between 7th St. and 8th St.	60	10	40	35	2,585	25,850	10%	0	0	73.0
- Between 8th St. and 9th St.	60	10	40	35	2,447	24,470	10%	0	0	72.7
Hope Street										
- Between Wilshire Blvd. and 7th St.	60	10	40	35	884	8,840	10%	0	0	68.3
- Between 7th St. and 8th St.	60	10	40	35	948	9,480	10%	0	0	68.6
- Between 8th St. and 9th St.	60	10	40	35	1,059	10,590	10%	0	0	69.1
7th Street										
- Between Figueroa St. and Flower St.	50	10	35	35	1,550	15,500	10%	0	0	71.4
- Between Flower St. and Hope St.	50	10	35	35	1,815	18,150	10%	0	0	72.0
- Between Hope St. and Grand Ave.	50	10	35	35	2,262	22,620	10%	0	0	73.0
8th Street										
- Between Figueroa St. and Flower St.	50	10	35	35	2,339	23,390	10%	0	0	73.1
- Between Flower St. and Hope St.	50	10	35	35	2,125	21,250	10%	0	0	72.7
- Between Hope St. and Grand Ave.	50	10	35	35	2,125	21,250	10%	0	0	72.7

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 4/11/2023

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: The Bloc Project

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to ADT factor 10%

FUTURE + PROJECT CONDITIONS

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Flower Street										
- Between Wilshire Blvd. and 7th St.	60	10	40	35	2,418	24,180	10%	0	0	72.7
- Between 7th St. and 8th St.	60	10	40	35	2,599	25,990	10%	0	0	73.0
- Between 8th St. and 9th St.	60	10	40	35	2,454	24,540	10%	0	0	72.8
Hope Street										
- Between Wilshire Blvd. and 7th St.	60	10	40	35	892	8,920	10%	0	0	68.4
- Between 7th St. and 8th St.	60	10	40	35	961	9,610	10%	0	0	68.7
- Between 8th St. and 9th St.	60	10	40	35	1,107	11,070	10%	0	0	69.3
7th Street										
- Between Figueroa St. and Flower St.	50	10	35	35	1,562	15,620	10%	0	0	71.4
- Between Flower St. and Hope St.	50	10	35	35	1,823	18,230	10%	0	0	72.1
- Between Hope St. and Grand Ave.	50	10	35	35	2,270	22,700	10%	0	0	73.0
8th Street										
- Between Figueroa St. and Flower St.	50	10	35	35	2,365	23,650	10%	0	0	73.2
- Between Flower St. and Hope St.	50	10	35	35	2,151	21,510	10%	0	0	72.8
- Between Hope St. and Grand Ave.	50	10	35	35	2,153	21,530	10%	0	0	72.8

* Estimated based on Google Earth map.

** Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Date Printed: 4/11/2023

Alternatives Analysis

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Alternative of Eliminate Significant Noise and Vibration Impacts - Extended Construction Duration

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	135	0
Crane (mobile)	1	81	16%	135	0
Excavator (electric)	1	52	40%	155	0
Concrete Saw (electric)	1	76	20%	155	0
Crawler Tractor	1	84	40%	180	0
Air Compressor (electric)	1	68	40%	180	0
Generator Sets	1	81	50%	205	0
Jackhammer		89	20%		
Tractor/Loader/Backhoe	1	79	40%	230	0
Signal Boards (electric)	1	53	50%	230	0
Skid Steer Loader (electric)	1	57	40%	255	0
Sweepers (propane)	1	82	10%	255	0
Concrete Saw (electric)		76	20%		
Rubber Tired Loaders	2	82	10%	255	0
Jackhammer	4	89	20%	255	0
	17				

Receptor: ***R1***

Results:

1-hour Leq: **78.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Alternative of Eliminate Significant Noise and Vibration Impacts - Extended Construction Duration

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	85	0
Crane (mobile)	1	81	16%	85	0
Excavator (electric)	1	52	40%	105	0
Concrete Saw (electric)	1	76	20%	105	0
Crawler Tractor	1	84	40%	130	0
Air Compressor (electric)	1	68	40%	130	0
Generator Sets	1	81	50%	155	0
Jackhammer		89	20%		
Tractor/Loader/Backhoe	1	79	40%	180	0
Signal Boards (electric)	1	53	50%	180	0
Skid Steer Loader (electric)	1	57	40%	205	0
Sweepers (propane)	1	82	10%	205	0
Concrete Saw (electric)		76	20%		
Rubber Tired Loaders	2	82	10%	205	0
Jackhammer	4	89	20%	205	0
	17				

Receptor: ***R2***

Results:

1-hour Leq: 81.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Alternative of Eliminate Significant Noise and Vibration Impacts - Extended Construction Duration

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	350	15
Crane (mobile)	1	81	16%	350	15
Excavator (electric)	1	52	40%	370	15
Concrete Saw (electric)	1	76	20%	370	15
Crawler Tractor	1	84	40%	390	15
Air Compressor (electric)	1	68	40%	390	15
Generator Sets	1	81	50%	410	15
Jackhammer		89	20%		
Tractor/Loader/Backhoe	1	79	40%	430	15
Signal Boards (electric)	1	53	50%	430	15
Skid Steer Loader (electric)	1	57	40%	450	15
Sweepers (propane)	1	82	10%	450	15
Concrete Saw (electric)		76	20%		
Rubber Tired Loaders	2	82	10%	450	15
Jackhammer	4	89	20%	450	15
	17				

Receptor: ***R3***

Results:

1-hour Leq: **56.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Alternative of Eliminate Significant Noise and Vibration Impacts - Extended Construction Duration

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	380	15
Crane (mobile)	1	81	16%	380	15
Excavator (electric)	1	52	40%	400	15
Concrete Saw (electric)	1	76	20%	400	15
Crawler Tractor	1	84	40%	420	15
Air Compressor (electric)	1	68	40%	420	15
Generator Sets	1	81	50%	440	15
Jackhammer		89	20%		
Tractor/Loader/Backhoe	1	79	40%	460	15
Signal Boards (electric)	1	53	50%	460	15
Skid Steer Loader (electric)	1	57	40%	480	15
Sweepers (propane)	1	82	10%	480	15
Concrete Saw (electric)		76	20%		
Rubber Tired Loaders	2	82	10%	500	15
Jackhammer	4	89	20%	500	15
	17				

Receptor: ***R4***

Results:

1-hour Leq: 56.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Alternative of Eliminate Significant Noise and Vibration Impacts - Extended Construction Duration

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	320	15
Crane (mobile)	1	81	16%	320	15
Excavator (electric)	1	52	40%	340	15
Concrete Saw (electric)	1	76	20%	340	15
Crawler Tractor	1	84	40%	360	15
Air Compressor (electric)	1	68	40%	360	15
Generator Sets	1	81	50%	380	15
Jackhammer		89	20%		
Tractor/Loader/Backhoe	1	79	40%	400	15
Signal Boards (electric)	1	53	50%	400	15
Skid Steer Loader (electric)	1	57	40%	420	15
Sweepers (propane)	1	82	10%	420	15
Concrete Saw (electric)		76	20%		
Rubber Tired Loaders	2	82	10%	440	15
Jackhammer	4	89	20%	440	15
	17				

Receptor: ***R5***

Results:

1-hour Leq: **57.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Alternative of Eliminate Significant Noise and Vibration Impacts - Single Equipment

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	135	0
Crane (mobile)		81	16%		
Excavator (electric)		52	40%		
Concrete Saw (electric)		76	20%		
Crawler Tractor		84	40%		
Air Compressor (electric)		68	40%		
Generator Sets		81	50%		
Jackhammer		89	20%		
Tractor/Loader/Backhoe		79	40%		
Signal Boards (electric)		53	50%		
Skid Steer Loader (electric)		57	40%		
Sweepers (propane)		82	10%		
Concrete Saw (electric)		76	20%		
Rubber Tired Loaders		82	10%		
Jackhammer		89	20%		
	1				

Receptor: ***R1***

Results:

1-hour Leq: **73.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Alternative of Eliminate Significant Noise and Vibration Impacts - Single Equipment

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	85	0
Crane (mobile)		81	16%		
Excavator (electric)		52	40%		
Concrete Saw (electric)		76	20%		
Crawler Tractor		84	40%		
Air Compressor (electric)		68	40%		
Generator Sets		81	50%		
Jackhammer		89	20%		
Tractor/Loader/Backhoe		79	40%		
Signal Boards (electric)		53	50%		
Skid Steer Loader (electric)		57	40%		
Sweepers (propane)		82	10%		
Concrete Saw (electric)		76	20%		
Rubber Tired Loaders		82	10%		
Jackhammer		89	20%		
	1				

Receptor: ***R2***

Results:

1-hour Leq: **77.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Alternative of Eliminate Significant Noise and Vibration Impacts - Reduced Development

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	425	0
Crane (mobile)	1	81	16%	425	0
Excavator (electric)	1	52	40%	445	0
Concrete Saw (electric)	1	76	20%	445	0
Crawler Tractor	1	84	40%	470	0
Air Compressor (electric)	4	68	40%	470	0
Generator Sets	1	81	50%	495	0
Jackhammer	1	89	20%	495	0
Tractor/Loader/Backhoe	3	79	40%	520	0
Signal Boards (electric)	2	53	50%	520	0
Skid Steer Loader (electric)	4	57	40%	545	0
Sweepers (propane)	1	82	10%	545	0
Concrete Saw (electric)	1	76	20%	545	0
Rubber Tired Loaders	3	82	10%	545	0
Jackhammer	8	89	20%	545	0
	33				

Receptor: ***R1***

Results:

1-hour Leq: **72.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

Project: The Bloc Project

Construction Phase: ***Demolition (Existing)***

Alternative of Eliminate Significant Noise and Vibration Impacts - Reduced Development

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Jackhammer	1	89	20%	330	0
Crane (mobile)	1	81	16%	330	0
Excavator (electric)	1	52	40%	350	0
Concrete Saw (electric)	1	76	20%	350	0
Crawler Tractor	1	84	40%	375	0
Air Compressor (electric)	4	68	40%	375	0
Generator Sets	1	81	50%	400	0
Jackhammer	1	89	20%	400	0
Tractor/Loader/Backhoe	3	79	40%	425	0
Signal Boards (electric)	2	53	50%	425	0
Skid Steer Loader (electric)	4	57	40%	450	0
Sweepers (propane)	1	82	10%	450	0
Concrete Saw (electric)	1	76	20%	450	0
Rubber Tired Loaders	3	82	10%	450	0
Jackhammer	8	89	20%	450	0
	33				

Receptor: ***R2***

Results:

1-hour Leq: **74.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006