Appendix I

Noise Calculation Worksheets

6136 Manchester Project

Noise Calculations Worksheets

Provided by Acoustical Engineering Services

Ambient Noise Measurements

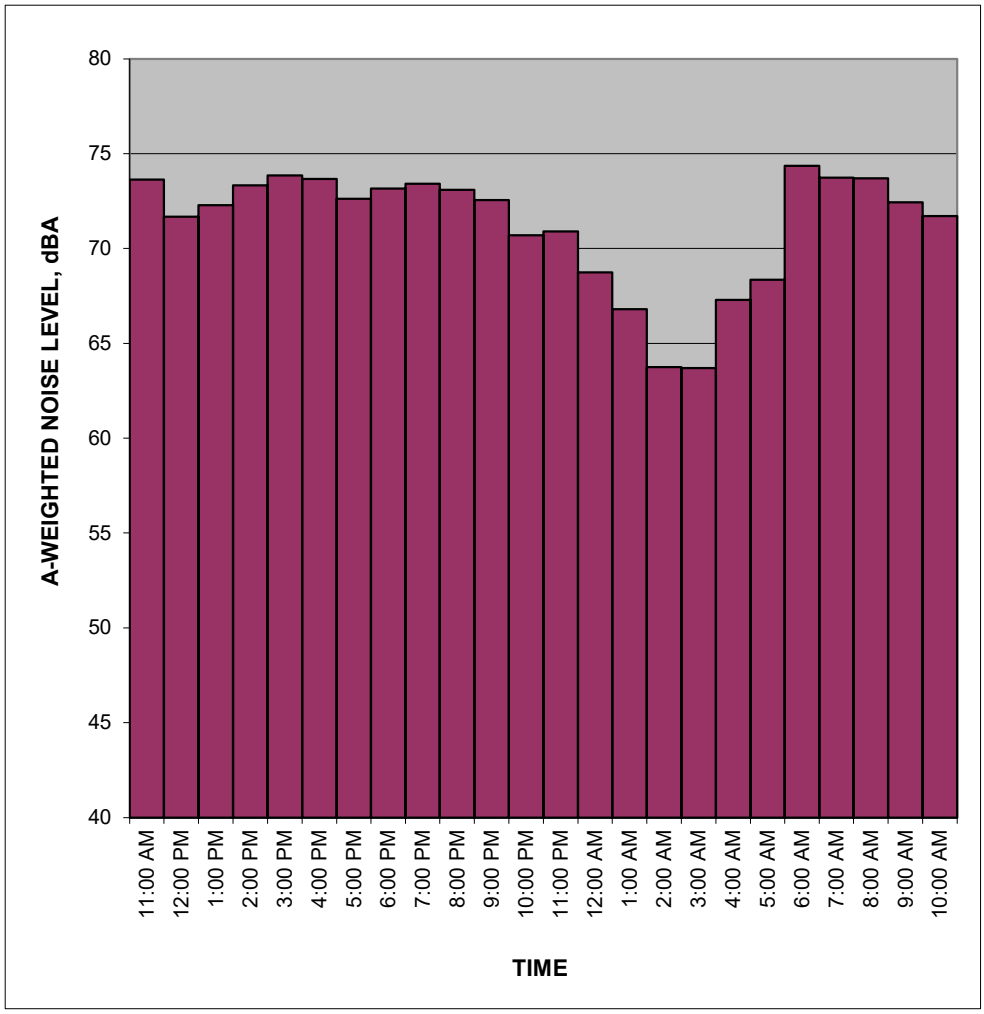
Measured Ambient Noise Levels

AES
Acoustical Engineering Services

Project: 6136 Manchester
Location: R1
Sources: Ambient

Date: 9/20 - 9/21/2022

TIME	HNL, dB(A)
11:00 AM	73.6
12:00 PM	71.7
1:00 PM	72.3
2:00 PM	73.3
3:00 PM	73.9
4:00 PM	73.7
5:00 PM	72.6
6:00 PM	73.2
7:00 PM	73.4
8:00 PM	73.1
9:00 PM	72.5
10:00 PM	70.7
11:00 PM	70.9
12:00 AM	68.7
1:00 AM	66.8
2:00 AM	63.7
3:00 AM	63.7
4:00 AM	67.3
5:00 AM	68.4
6:00 AM	74.4
7:00 AM	73.7
8:00 AM	73.7
9:00 AM	72.4
10:00 AM	71.7
CNEL, dB(A):	**77.1**



NOTES:

Daytime average	73.0	dBA Leq
Nighttime average	69.5	dBA Leq

AES
Acoustical Engineering Services

Location: R2
Date: 9/20/2022

Time	Leq
12:07:30 PM	64.6
12:07:40 PM	64.5
12:07:50 PM	70.5
12:08:00 PM	71.0
12:08:10 PM	68.4
12:08:20 PM	70.8
12:08:30 PM	70.6
12:08:40 PM	62.5
12:08:50 PM	67.1
12:09:00 PM	65.0
12:09:10 PM	59.8
12:09:20 PM	65.9
12:09:30 PM	66.6
12:09:40 PM	72.2
12:09:50 PM	71.3
12:10:00 PM	69.6
12:10:10 PM	62.3
12:10:20 PM	64.7
12:10:30 PM	65.7
12:10:40 PM	61.8
12:10:50 PM	65.4
12:11:00 PM	66.1
12:11:10 PM	66.6
12:11:20 PM	68.0
12:11:30 PM	72.0
12:11:40 PM	72.2
12:11:50 PM	65.8
12:12:00 PM	63.5
12:12:10 PM	64.9
12:12:20 PM	68.5
12:12:30 PM	68.6
12:12:40 PM	66.1
12:12:50 PM	69.6
12:13:00 PM	71.1
12:13:10 PM	74.1
12:13:20 PM	65.6
12:13:30 PM	56.6
12:13:40 PM	60.2
12:13:50 PM	72.9
12:14:00 PM	66.8
12:14:10 PM	63.8
12:14:20 PM	60.8
12:14:30 PM	62.2
12:14:40 PM	56.0

12:14:50 PM	69.5
12:15:00 PM	65.8
12:15:10 PM	62.6
12:15:20 PM	58.7
12:15:30 PM	60.8
12:15:40 PM	68.1
12:15:50 PM	65.1
12:16:00 PM	65.1
12:16:10 PM	59.0
12:16:20 PM	71.7
12:16:30 PM	65.3
12:16:40 PM	72.3
12:16:50 PM	71.1
12:17:00 PM	68.2
12:17:10 PM	65.5
12:17:20 PM	57.6
12:17:30 PM	64.5
12:17:40 PM	64.6
12:17:50 PM	63.8
12:18:00 PM	61.2
12:18:10 PM	56.9
12:18:20 PM	64.8
12:18:30 PM	64.2
12:18:40 PM	68.8
12:18:50 PM	71.1
12:19:00 PM	70.8
12:19:10 PM	67.1
12:19:20 PM	65.1
12:19:30 PM	64.8
12:19:40 PM	62.2
12:19:50 PM	63.3
12:20:00 PM	67.7
12:20:10 PM	64.1
12:20:20 PM	67.1
12:20:30 PM	66.3
12:20:40 PM	63.7
12:20:50 PM	74.5
12:21:00 PM	67.4
12:21:10 PM	66.2
12:21:20 PM	64.8
12:21:30 PM	68.0
12:21:40 PM	68.0
12:21:50 PM	65.8
12:22:00 PM	68.2
12:22:10 PM	69.4
12:22:20 PM	63.7
	67.8

AES
ACOUSTICAL ENGINEERING SERVICES

Time	Leq
10:33:16 PM	60.9
10:33:26 PM	59.8
10:33:36 PM	61.5
10:33:46 PM	64.0
10:33:56 PM	58.7
10:34:06 PM	51.2
10:34:16 PM	65.0
10:34:26 PM	67.5
10:34:36 PM	55.6
10:34:46 PM	49.4
10:34:56 PM	51.8
10:35:06 PM	64.0
10:35:16 PM	62.1
10:35:26 PM	49.8
10:35:36 PM	48.0
10:35:46 PM	48.3
10:35:56 PM	55.1
10:36:06 PM	51.4
10:36:16 PM	52.0
10:36:26 PM	61.8
10:36:36 PM	55.5
10:36:46 PM	55.2
10:36:56 PM	64.6
10:37:06 PM	64.7
10:37:16 PM	66.6
10:37:26 PM	59.9
10:37:36 PM	63.0
10:37:46 PM	67.0
10:37:56 PM	63.6
10:38:06 PM	61.5
10:38:16 PM	55.0
10:38:26 PM	66.8
10:38:36 PM	68.9
10:38:46 PM	61.1
10:38:56 PM	64.0
10:39:06 PM	61.5
10:39:16 PM	62.7
10:39:26 PM	54.1
10:39:36 PM	61.9
10:39:46 PM	61.5
10:39:56 PM	54.6
10:40:06 PM	57.1
10:40:16 PM	60.4
10:40:26 PM	66.3
10:40:36 PM	64.0
10:40:46 PM	60.0
10:40:56 PM	52.2

10:41:06 PM	56.0
10:41:16 PM	60.7
10:41:26 PM	57.1
10:41:36 PM	52.8
10:41:46 PM	57.4
10:41:56 PM	67.3
10:42:06 PM	59.5
10:42:16 PM	57.1
10:42:26 PM	60.6
10:42:36 PM	61.6
10:42:46 PM	62.8
10:42:56 PM	63.9
10:43:06 PM	65.3
10:43:16 PM	60.8
10:43:26 PM	58.1
10:43:36 PM	59.5
10:43:46 PM	56.5
10:43:56 PM	53.6
10:44:06 PM	64.4
10:44:16 PM	66.2
10:44:26 PM	67.3
10:44:36 PM	55.6
10:44:46 PM	54.5
10:44:56 PM	53.0
10:45:06 PM	52.1
10:45:16 PM	53.4
10:45:26 PM	56.9
10:45:36 PM	60.9
10:45:46 PM	66.7
10:45:56 PM	56.8
10:46:06 PM	59.5
10:46:16 PM	58.3
10:46:26 PM	61.8
10:46:36 PM	50.5
10:46:46 PM	51.8
10:46:56 PM	52.4
10:47:06 PM	49.2
10:47:16 PM	50.6
10:47:26 PM	57.7
10:47:36 PM	59.8
10:47:46 PM	65.1
10:47:56 PM	68.9
10:48:06 PM	81.0
	64.7

AES
Acoustical Engineering Services

Project: 6136 Manchester
Location: R3
Date: 9/20/2022

Time	Leq
11:45:03 AM	62.3
11:45:13 AM	65.2
11:45:23 AM	67.7
11:45:33 AM	64.4
11:45:43 AM	66.1
11:45:53 AM	69.1
11:46:03 AM	65.3
11:46:13 AM	65.1
11:46:23 AM	65.4
11:46:33 AM	64.2
11:46:43 AM	69.2
11:46:53 AM	67.6
11:47:03 AM	64.1
11:47:13 AM	67.5
11:47:23 AM	59.7
11:47:33 AM	59.4
11:47:43 AM	69.5
11:47:53 AM	69.9
11:48:03 AM	69.2
11:48:13 AM	68.0
11:48:23 AM	67.0
11:48:33 AM	67.2
11:48:43 AM	63.3
11:48:53 AM	64.9
11:49:03 AM	67.8
11:49:13 AM	66.8
11:49:23 AM	65.9
11:49:33 AM	67.6
11:49:43 AM	69.5
11:49:53 AM	67.9
11:50:03 AM	64.1
11:50:13 AM	65.1
11:50:23 AM	64.4
11:50:33 AM	68.1
11:50:43 AM	69.1
11:50:53 AM	66.5
11:51:03 AM	69.1
11:51:13 AM	64.6
11:51:23 AM	63.8
11:51:33 AM	69.5
11:51:43 AM	63.6
11:51:53 AM	69.9
11:52:03 AM	67.8

11:52:13 AM	64.6
11:52:23 AM	69.1
11:52:33 AM	73.4
11:52:43 AM	74.0
11:52:53 AM	72.8
11:53:03 AM	74.1
11:53:13 AM	84.4
11:53:23 AM	84.8
11:53:33 AM	73.1
11:53:43 AM	61.2
11:53:53 AM	66.1
11:54:03 AM	68.8
11:54:13 AM	66.7
11:54:23 AM	70.9
11:54:33 AM	66.7
11:54:43 AM	66.0
11:54:53 AM	69.8
11:55:03 AM	68.1
11:55:13 AM	63.0
11:55:23 AM	63.8
11:55:33 AM	64.5
11:55:43 AM	71.6
11:55:53 AM	69.4
11:56:03 AM	73.7
11:56:13 AM	66.3
11:56:23 AM	61.5
11:56:33 AM	67.2
11:56:43 AM	67.9
11:56:53 AM	66.9
11:57:03 AM	68.7
11:57:13 AM	62.1
11:57:23 AM	63.2
11:57:33 AM	66.8
11:57:43 AM	67.6
11:57:53 AM	70.8
11:58:03 AM	77.4
11:58:13 AM	68.4
11:58:23 AM	70.2
11:58:33 AM	70.8
11:58:43 AM	68.8
11:58:53 AM	72.5
11:59:03 AM	67.8
11:59:13 AM	65.0
11:59:23 AM	65.0
11:59:33 AM	59.9
11:59:43 AM	69.0
11:59:53 AM	65.8
	71.3

Time	Leq
10:11:19 PM	65.8
10:11:29 PM	71.3
10:11:39 PM	67.8
10:11:49 PM	61.9
10:11:59 PM	67.2
10:12:09 PM	66.6
10:12:19 PM	68.8
10:12:29 PM	65.1
10:12:39 PM	61.1
10:12:49 PM	60.1
10:12:59 PM	68.5
10:13:09 PM	67.6
10:13:19 PM	65.3
10:13:29 PM	61.9
10:13:39 PM	59.0
10:13:49 PM	56.6
10:13:59 PM	59.0
10:14:09 PM	70.6
10:14:19 PM	60.7
10:14:29 PM	59.0
10:14:39 PM	58.6
10:14:49 PM	66.9
10:14:59 PM	67.8
10:15:09 PM	62.4
10:15:19 PM	57.9
10:15:29 PM	56.9
10:15:39 PM	68.6
10:15:49 PM	69.7
10:15:59 PM	72.3
10:16:09 PM	67.8
10:16:19 PM	61.0
10:16:29 PM	59.7
10:16:39 PM	52.1
10:16:49 PM	67.1
10:16:59 PM	68.1
10:17:09 PM	65.6
10:17:19 PM	72.1
10:17:29 PM	69.3
10:17:39 PM	63.3
10:17:49 PM	58.1
10:17:59 PM	59.8
10:18:09 PM	60.2
10:18:19 PM	61.2
10:18:29 PM	67.4
10:18:39 PM	67.1
10:18:49 PM	69.7

10:18:59 PM	75.3
10:19:09 PM	66.5
10:19:19 PM	58.0
10:19:29 PM	69.5
10:19:39 PM	60.7
10:19:49 PM	55.9
10:19:59 PM	59.8
10:20:09 PM	64.8
10:20:19 PM	70.3
10:20:29 PM	64.1
10:20:39 PM	60.7
10:20:49 PM	67.7
10:20:59 PM	62.9
10:21:09 PM	52.0
10:21:19 PM	55.6
10:21:29 PM	62.8
10:21:39 PM	62.8
10:21:49 PM	65.0
10:21:59 PM	67.4
10:22:09 PM	68.0
10:22:19 PM	65.5
10:22:29 PM	53.8
10:22:39 PM	58.9
10:22:49 PM	68.8
10:22:59 PM	77.4
10:23:09 PM	71.9
10:23:19 PM	57.3
10:23:29 PM	60.3
10:23:39 PM	58.1
10:23:49 PM	57.2
10:23:59 PM	68.4
10:24:09 PM	56.3
10:24:19 PM	54.6
10:24:29 PM	50.8
10:24:39 PM	64.3
10:24:49 PM	66.4
10:24:59 PM	57.2
10:25:09 PM	59.0
10:25:19 PM	62.2
10:25:29 PM	69.8
10:25:39 PM	59.2
10:25:49 PM	69.4
10:25:59 PM	57.2
10:26:09 PM	58.3
	66.7

AES
Acoustical Engineering Services

Project: 6136 Manchester
Location: R4
Date: 9/20/2022

Time	Leq
11:23:27 AM	51.3
11:23:37 AM	49.6
11:23:47 AM	50.6
11:23:57 AM	58.8
11:24:07 AM	50.3
11:24:17 AM	48.8
11:24:27 AM	48.8
11:24:37 AM	52.7
11:24:47 AM	51.1
11:24:57 AM	54.5
11:25:07 AM	52.7
11:25:17 AM	53.1
11:25:27 AM	50.4
11:25:37 AM	49.3
11:25:47 AM	48.3
11:25:57 AM	46.9
11:26:07 AM	47.0
11:26:17 AM	52.6
11:26:27 AM	54.5
11:26:37 AM	51.8
11:26:47 AM	54.9
11:26:57 AM	52.2
11:27:07 AM	50.3
11:27:17 AM	51.1
11:27:27 AM	56.7
11:27:37 AM	58.7
11:27:47 AM	61.3
11:27:57 AM	54.1
11:28:07 AM	50.9
11:28:17 AM	53.6
11:28:27 AM	51.3
11:28:37 AM	62.0
11:28:47 AM	65.9
11:28:57 AM	56.7
11:29:07 AM	49.8
11:29:17 AM	54.0
11:29:27 AM	53.3
11:29:37 AM	51.6
11:29:47 AM	50.3
11:29:57 AM	53.3
11:30:07 AM	56.2
11:30:17 AM	57.7
11:30:27 AM	53.7

11:30:37 AM	48.6
11:30:47 AM	46.7
11:30:57 AM	52.2
11:31:07 AM	52.2
11:31:17 AM	48.6
11:31:27 AM	49.1
11:31:37 AM	51.1
11:31:47 AM	54.4
11:31:57 AM	55.8
11:32:07 AM	54.1
11:32:17 AM	51.6
11:32:27 AM	50.4
11:32:37 AM	50.2
11:32:47 AM	50.9
11:32:57 AM	49.1
11:33:07 AM	48.4
11:33:17 AM	54.3
11:33:27 AM	63.4
11:33:37 AM	55.8
11:33:47 AM	53.5
11:33:57 AM	59.9
11:34:07 AM	59.8
11:34:17 AM	57.0
11:34:27 AM	53.3
11:34:37 AM	50.5
11:34:47 AM	50.9
11:34:57 AM	55.9
11:35:07 AM	50.8
11:35:17 AM	48.8
11:35:27 AM	47.8
11:35:37 AM	48.9
11:35:47 AM	52.8
11:35:57 AM	63.3
11:36:07 AM	59.0
11:36:17 AM	48.1
11:36:27 AM	50.9
11:36:37 AM	57.7
11:36:47 AM	52.5
11:36:57 AM	49.5
11:37:07 AM	49.9
11:37:17 AM	56.5
11:37:27 AM	62.7
11:37:37 AM	55.8
11:37:47 AM	56.1
11:37:57 AM	53.5
11:38:07 AM	52.8
11:38:17 AM	51.7
	55.6

Time	Leq
9:51:16 PM	49.1
9:51:26 PM	47.6
9:51:36 PM	47.9
9:51:46 PM	49.5
9:51:56 PM	49.1
9:52:06 PM	48.3
9:52:16 PM	50.8
9:52:26 PM	61.7
9:52:36 PM	61.9
9:52:46 PM	55.5
9:52:56 PM	53.1
9:53:06 PM	61.7
9:53:16 PM	61.2
9:53:26 PM	67.9
9:53:36 PM	61.2
9:53:46 PM	56.3
9:53:56 PM	55.8
9:54:06 PM	55.0
9:54:16 PM	52.4
9:54:26 PM	49.7
9:54:36 PM	48.8
9:54:46 PM	47.8
9:54:56 PM	48.1
9:55:06 PM	49.6
9:55:16 PM	48.4
9:55:26 PM	50.0
9:55:36 PM	53.0
9:55:46 PM	50.3
9:55:56 PM	48.8
9:56:06 PM	49.7
9:56:16 PM	48.2
9:56:26 PM	49.1
9:56:36 PM	49.2
9:56:46 PM	51.0
9:56:56 PM	50.3
9:57:06 PM	56.0
9:57:16 PM	65.6
9:57:26 PM	61.6
9:57:36 PM	50.1
9:57:46 PM	50.0
9:57:56 PM	51.3
9:58:06 PM	50.9
9:58:16 PM	51.8
9:58:26 PM	52.1
9:58:36 PM	51.7
9:58:46 PM	54.9

9:58:56 PM	52.3
9:59:06 PM	50.0
9:59:16 PM	50.3
9:59:26 PM	63.3
9:59:36 PM	65.4
9:59:46 PM	60.2
9:59:56 PM	63.0
10:00:06 PM	58.9
10:00:16 PM	52.0
10:00:26 PM	55.5
10:00:36 PM	56.4
10:00:46 PM	48.5
10:00:56 PM	52.0
10:01:06 PM	50.0
10:01:16 PM	48.2
10:01:26 PM	47.8
10:01:36 PM	47.5
10:01:46 PM	48.5
10:01:56 PM	49.2
10:02:06 PM	48.1
10:02:16 PM	49.4
10:02:26 PM	60.3
10:02:36 PM	61.4
10:02:46 PM	51.1
10:02:56 PM	49.1
10:03:06 PM	58.1
10:03:16 PM	57.4
10:03:26 PM	48.7
10:03:36 PM	47.8
10:03:46 PM	48.6
10:03:56 PM	55.7
10:04:06 PM	62.6
10:04:16 PM	58.6
10:04:26 PM	51.0
10:04:36 PM	54.6
10:04:46 PM	59.9
10:04:56 PM	51.6
10:05:06 PM	49.8
10:05:16 PM	50.6
10:05:26 PM	48.5
10:05:36 PM	48.2
10:05:46 PM	49.3
10:05:56 PM	50.1
10:06:06 PM	50.2
	52.5

Construction Noise & Vibration Calculations

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	100	0
Excavators	1	81	40%	100	0
Water Truck	1	82	10%	125	0
Rubber-Tired Loaders	1	79	40%	125	0
Crushing/Proc. Equipment	1	85	50%	150	0

5

Receptor: ***R1***

Results:

1-hour Leq: 79.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Grading/Excavation***

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%	100	0
Cement and Mortar Mixer	1	80	50%	100	0
Cranes (mobile)	1	81	16%	125	0
Excavators	1	81	40%	125	0
Generator Set	1	81	50%	150	0
Grader	1	85	40%	150	0
Water Truck	1	82	10%	175	0
Pumps	1	81	20%	175	0
Rough Terrain Forklift	1	75	20%	200	0
Rubber Tired Loaders	1	79	40%	200	0
Tractor/Loader/Backhoe	2	84	40%	225	0
Bore/Drill Rig	1	84	20%	225	0
Cement and Mortar Mixer	1	80	50%	250	0
Cranes (mobile)	1	81	16%	250	0
Excavators	1	81	40%	250	0
	16				

Receptor: ***R1***

Results:

1-hour Leq: 79.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Building Foundations***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	100	0
Cement and Mortar Mixer	1	80	50%	100	0
Cranes (mobile)	1	81	16%	125	0
Excavators	1	81	40%	125	0
Forklifts	1	75	20%	150	0
Pumps	1	81	20%	150	0
Rough Terrain Forklift	2	75	20%	175	0
Signal Boards	2	73	50%	175	0
Tractor/Loader/Backhoe	2	84	40%	200	0
Trenchers	1	80	60%	200	0
Cement and Mortar Mixer	1	80	50%	225	0
Cranes (mobile)	1	81	16%	225	0
Excavators	1	81	40%	250	0
Forklifts	1	75	20%	250	0
Pumps	1	81	20%	250	0
	18				

Receptor: ***R1***

Results:

1-hour Leq: 77.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Aerial Lifts	1	83	40%	100	0
Cranes (tower)	1	81	16%	100	0
Cranes (mobile)	1	81	16%	125	0
Forklifts	1	75	20%	125	0
Pumps	1	81	20%	150	0
Signal Boards	1	73	50%	150	0
Tractor/Loader/Backhoe	1	84	40%	175	0
Welders	1	74	40%	175	0
Aerial Lifts	1	83	40%	200	0
Cranes (mobile)	1	81	16%	200	0
Forklifts	3	75	20%	225	0
Signal Boards	1	73	50%	225	0
Tractor/Loader/Backhoe	1	84	40%	250	0
Welders	1	74	40%	250	0
	16				

Receptor: ***R1***

Results:

1-hour Leq: 77.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Paving/Landscape***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cranes (mobile)	1	81	16%	100	0
Surfacing Equipment	1	90	20%	100	0
Signal Boards	1	73	50%	125	0
Paving Equipment	1	77	50%	125	0
Tractor/Loader/Backhoe	1	84	40%	150	0
Paving Equipment	1	77	50%	150	0
Signal Boards	1	73	50%	175	0
Paving Equipment	1	77	50%	175	0
Paving Equipment	1	77	50%	200	0
	9				

Receptor: ***R1***

Results:

1-hour Leq: 79.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	100	0
Excavators	1	81	40%	100	0
Water Truck	1	82	10%	125	0
Rubber-Tired Loaders	1	79	40%	125	0
Crushing/Proc. Equipment	1	85	50%	150	0

5

Receptor: ***R2***

Results:

1-hour Leq: 79.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Grading/Excavation***

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%	100	0
Cement and Mortar Mixer	1	80	50%	100	0
Cranes (mobile)	1	81	16%	125	0
Excavators	1	81	40%	125	0
Generator Set	1	81	50%	150	0
Grader	1	85	40%	150	0
Water Truck	1	82	10%	175	0
Pumps	1	81	20%	175	0
Rough Terrain Forklift	1	75	20%	200	0
Rubber Tired Loaders	1	79	40%	200	0
Tractor/Loader/Backhoe	2	84	40%	225	0
Bore/Drill Rig	1	84	20%	225	0
Cement and Mortar Mixer	1	80	50%	250	0
Cranes (mobile)	1	81	16%	250	0
Excavators	1	81	40%	250	0
	16				

Receptor: ***R2***

Results:

1-hour Leq: 79.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Building Foundations***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	100	0
Cement and Mortar Mixer	1	80	50%	100	0
Cranes (mobile)	1	81	16%	125	0
Excavators	1	81	40%	125	0
Forklifts	1	75	20%	150	0
Pumps	1	81	20%	150	0
Rough Terrain Forklift	2	75	20%	175	0
Signal Boards	2	73	50%	175	0
Tractor/Loader/Backhoe	2	84	40%	200	0
Trenchers	1	80	60%	200	0
Cement and Mortar Mixer	1	80	50%	225	0
Cranes (mobile)	1	81	16%	225	0
Excavators	1	81	40%	250	0
Forklifts	1	75	20%	250	0
Pumps	1	81	20%	250	0
	18				

Receptor: ***R2***

Results:

1-hour Leq: 77.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Aerial Lifts	1	83	40%	100	0
Cranes (tower)	1	81	16%	100	0
Cranes (mobile)	1	81	16%	125	0
Forklifts	1	75	20%	125	0
Pumps	1	81	20%	150	0
Signal Boards	1	73	50%	150	0
Tractor/Loader/Backhoe	1	84	40%	175	0
Welders	1	74	40%	175	0
Aerial Lifts	1	83	40%	200	0
Cranes (mobile)	1	81	16%	200	0
Forklifts	3	75	20%	225	0
Signal Boards	1	73	50%	225	0
Tractor/Loader/Backhoe	1	84	40%	250	0
Welders	1	74	40%	250	0
	16				

Receptor: ***R2***

Results:

1-hour Leq: 77.3

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Paving/Landscape***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cranes (mobile)	1	81	16%	100	0
Surfacing Equipment	1	90	20%	100	0
Signal Boards	1	73	50%	125	0
Paving Equipment	1	77	50%	125	0
Tractor/Loader/Backhoe	1	84	40%	150	0
Paving Equipment	1	77	50%	150	0
Signal Boards	1	73	50%	175	0
Paving Equipment	1	77	50%	175	0
Paving Equipment	1	77	50%	200	0
	9				

Receptor: ***R2***

Results:

1-hour Leq: 79.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	490	0
Excavators	1	81	40%	490	0
Water Truck	1	82	10%	515	0
Rubber-Tired Loaders	1	79	40%	515	0
Crushing/Proc. Equipment	1	85	50%	540	0

5

Receptor: ***R3***

Results:

1-hour Leq: 66.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Grading/Excavation***

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%	490	0
Cement and Mortar Mixer	1	80	50%	490	0
Cranes (mobile)	1	81	16%	515	0
Excavators	1	81	40%	515	0
Generator Set	1	81	50%	540	0
Grader	1	85	40%	540	0
Water Truck	1	82	10%	565	0
Pumps	1	81	20%	565	0
Rough Terrain Forklift	1	75	20%	590	0
Rubber Tired Loaders	1	79	40%	590	0
Tractor/Loader/Backhoe	2	84	40%	615	0
Bore/Drill Rig	1	84	20%	615	0
Cement and Mortar Mixer	1	80	50%	640	0
Cranes (mobile)	1	81	16%	640	0
Excavators	1	81	40%	640	0
	16				

Receptor: ***R3***

Results:

1-hour Leq: 68.0

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Building Foundations***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	490	0
Cement and Mortar Mixer	1	80	50%	490	0
Cranes (mobile)	1	81	16%	515	0
Excavators	1	81	40%	515	0
Forklifts	1	75	20%	540	0
Pumps	1	81	20%	540	0
Rough Terrain Forklift	2	75	20%	565	0
Signal Boards	2	73	50%	565	0
Tractor/Loader/Backhoe	2	84	40%	590	0
Trenchers	1	80	60%	590	0
Cement and Mortar Mixer	1	80	50%	615	0
Cranes (mobile)	1	81	16%	615	0
Excavators	1	81	40%	640	0
Forklifts	1	75	20%	640	0
Pumps	1	81	20%	640	0
	18				

Receptor: ***R3***

Results:

1-hour Leq: 66.8

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Aerial Lifts	1	83	40%	490	0
Cranes (tower)	1	81	16%	490	0
Cranes (mobile)	1	81	16%	515	0
Forklifts	1	75	20%	515	0
Pumps	1	81	20%	540	0
Signal Boards	1	73	50%	540	0
Tractor/Loader/Backhoe	1	84	40%	565	0
Welders	1	74	40%	565	0
Aerial Lifts	1	83	40%	590	0
Cranes (mobile)	1	81	16%	590	0
Forklifts	3	75	20%	615	0
Signal Boards	1	73	50%	615	0
Tractor/Loader/Backhoe	1	84	40%	640	0
Welders	1	74	40%	640	0
	16				

Receptor: ***R3***

Results:

1-hour Leq: 66.1

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Paving/Landscape***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cranes (mobile)	1	81	16%	490	0
Surfacing Equipment	1	90	20%	490	0
Signal Boards	1	73	50%	515	0
Paving Equipment	1	77	50%	515	0
Tractor/Loader/Backhoe	1	84	40%	540	0
Paving Equipment	1	77	50%	540	0
Signal Boards	1	73	50%	565	0
Paving Equipment	1	77	50%	565	0
Paving Equipment	1	77	50%	590	0
	9				

Receptor: ***R3***

Results:

1-hour Leq: 66.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Demolition***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Concrete/Industrial Saw	1	90	20%	300	15
Excavators	1	81	40%	300	15
Water Truck	1	82	10%	325	15
Rubber-Tired Loaders	1	79	40%	325	15
Crushing/Proc. Equipment	1	85	50%	350	15
	5				

Receptor: ***R4***

Results:

1-hour Leq: 55.5

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Grading/Excavation***

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%	300	15
Cement and Mortar Mixer	1	80	50%	300	15
Cranes (mobile)	1	81	16%	325	15
Excavators	1	81	40%	325	15
Generator Set	1	81	50%	350	15
Grader	1	85	40%	350	15
Water Truck	1	82	10%	375	15
Pumps	1	81	20%	375	15
Rough Terrain Forklift	1	75	20%	400	15
Rubber Tired Loaders	1	79	40%	400	15
Tractor/Loader/Backhoe	2	84	40%	425	15
Bore/Drill Rig	1	84	20%	425	15
Cement and Mortar Mixer	1	80	50%	450	15
Cranes (mobile)	1	81	16%	450	15
Excavators	1	81	40%	450	15
	16				

Receptor: ***R4***

Results:

1-hour Leq: 56.6

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Building Foundations***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Air Compressor	1	78	40%	300	15
Cement and Mortar Mixer	1	80	50%	300	15
Cranes (mobile)	1	81	16%	325	15
Excavators	1	81	40%	325	15
Forklifts	1	75	20%	350	15
Pumps	1	81	20%	350	15
Rough Terrain Forklift	2	75	20%	375	15
Signal Boards	2	73	50%	375	15
Tractor/Loader/Backhoe	2	84	40%	400	15
Trenchers	1	80	60%	400	15
Cement and Mortar Mixer	1	80	50%	425	15
Cranes (mobile)	1	81	16%	425	15
Excavators	1	81	40%	450	15
Forklifts	1	75	20%	450	15
Pumps	1	81	20%	450	15
	18				

Receptor: ***R4***

Results:

1-hour Leq: 55.4

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Construction***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Aerial Lifts	1	83	40%	300	15
Cranes (tower)	1	81	16%	300	15
Cranes (mobile)	1	81	16%	325	15
Forklifts	1	75	20%	325	15
Pumps	1	81	20%	350	15
Signal Boards	1	73	50%	350	15
Tractor/Loader/Backhoe	1	84	40%	375	15
Welders	1	74	40%	375	15
Aerial Lifts	1	83	40%	400	15
Cranes (mobile)	1	81	16%	400	15
Forklifts	3	75	20%	425	15
Signal Boards	1	73	50%	425	15
Tractor/Loader/Backhoe	1	84	40%	450	15
Welders	1	74	40%	450	15
	16				

Receptor: ***R4***

Results:

1-hour Leq: 54.7

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
ACOUSTICAL ENGINEERING SERVICES

Project: 6136 Manchester

Construction Phase: ***Paving/Landscape***

Equipment

Description	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	Distance to Receptor, ft	Estimated Noise Shielding, dBA
Cranes (mobile)	1	81	16%	300	15
Surfacing Equipment	1	90	20%	300	15
Signal Boards	1	73	50%	325	15
Paving Equipment	1	77	50%	325	15
Tractor/Loader/Backhoe	1	84	40%	350	15
Paving Equipment	1	77	50%	350	15
Signal Boards	1	73	50%	375	15
Paving Equipment	1	77	50%	375	15
Paving Equipment	1	77	50%	400	15
	9				

Receptor: ***R4***

Results:

1-hour Leq: 55.2

Source for Ref. Noise Levels: FHWA RCNM, 2006

AES
Acoustical Engineering Services

Project: 6136 Manchester

Off-Site Haul Trucks

Daytime	Maximum Number of Truck One Way Trips (delivery/haul)		Estimated Project Noise Levels (From TNM Outputs), Leq(hr)
Phase	Per Day	Per Hour (8-hr day)	La Tijera
1. Demolition	40	7	57.9
2. Grading	260	44	65.9
3. Building Foundation	40	5	56.4
4. Building Construction	40	5	56.4
5. Paving/Landscape	10	2	52.4
Hauls: 6 hours, applicable to Demolition and Grading phases		Daytime Ambient	73.0
Hauls: Mat Foundation 24 hours		Threshold, Ambient + 5 dBA	78.0
Trucks are one-way, modeled 1/2 hourly trips			

	Estimated Noise Levels - Project + Ambient, Leq(hr)
	La Tijera
1. Demolition	73.1
2. Grading	73.8
3. Building Foundation	73.1
4. Building Construction	73.1
5. Paving/Landscape	73.0

	Estimated Noise Increase, Leq(hr)		
	La Tijera		
1. Demolition	0.1		
2. Grading	0.8		
3. Building Foundation	0.1		
4. Building Construction	0.1		
5. Paving/Landscape	0.0		
Maximum Noise Increase over Ambient, dBA (Leq)	0.8	0.0	0.0

Eyestone Environmental 16 November 2022
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 6136 Manchester
RUN: Off-site Construction - Demo Phase

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	50	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental				**16 November 2022**								
Sean Bui				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**6136 Manchester**											
RUN:	**Off-site Construction - Demo Phase**											
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	7	35	0	0	0	0
	point2	2										

Eyestone Environmental						**16 November 2022**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**6136 Manchester**										
RUN:	**Off-site Construction - Demo Phase**										
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	
Along La Tijera	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y

Eyestone Environmental
Sean Bui

16 November 2022
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 6136 Manchester
RUN: Off-site Construction - Demo Phase
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
Along La Tijera	1	1	0.0	57.9	71	57.9	5	----	57.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 16 November 2022
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 6136 Manchester
RUN: Off-site Construction - Grading Phase

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	50	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental				**16 November 2022**								
Sean Bui				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**6136 Manchester**											
RUN:	**Off-site Construction - Grading Phase**											
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	44	35	0	0	0	0
	point2	2										

Eyestone Environmental						**16 November 2022**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**6136 Manchester**										
RUN:	**Off-site Construction - Grading Phase**										
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	
Along La Tijera	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y

Eyestone Environmental
Sean Bui

16 November 2022
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 6136 Manchester
RUN: Off-site Construction - Grading Phase
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
Along La Tijera	1	1	0.0	65.9	71	65.9	5	----	65.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 16 November 2022
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 6136 Manchester
RUN: Off-site Const. - Building Foundation

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

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	50	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental **16 November 2022**
Sean Bui **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **6136 Manchester**
RUN: **Off-site Const. - Building Foundation**

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	5	35	0	0	0	0
	point2	2										

Eyestone Environmental						**16 November 2022**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**6136 Manchester**										
RUN:	**Off-site Const. - Building Foundation**										
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	
Along La Tijera	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y

Eyestone Environmental
Sean Bui

16 November 2022
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 6136 Manchester
RUN: Off-site Const. - Building Foundation
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
Along La Tijera	1	1	0.0	56.4	71	56.4	5	----	56.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental 16 November 2022
Sean Bui TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 6136 Manchester
RUN: Off-site Const. - Building Construction

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

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Haul Route	12.0	point1	1	0.0	0.0	0.00	Signal	0.00	50	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental				**16 November 2022**								
Sean Bui				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**6136 Manchester**											
RUN:	**Off-site Const. - Building Construction**											
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	5	35	0	0	0	0
	point2	2										

Eyestone Environmental						**16 November 2022**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**6136 Manchester**										
RUN:	**Off-site Const. - Building Construction**										
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	
Along La Tijera	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y

Eyestone Environmental
Sean Bui

16 November 2022
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 6136 Manchester
RUN: Off-site Const. - Building Construction
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
Along La Tijera	1	1	0.0	56.4	71	56.4	5	----	56.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

Eyestone Environmental					**16 November 2022**						
Sean Bui					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**6136 Manchester**						**a State highway agency substantiates the use**				
RUN:	**Off-site Const. - Paving/Landscape**						**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	50	Average	
		point2	2	1,000.0	0.0	0.00					

Eyestone Environmental				**16 November 2022**								
Sean Bui				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**6136 Manchester**											
RUN:	**Off-site Const. - Paving/Landscape**											
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	2	35	0	0	0	0
	point2	2										

Eyestone Environmental						**16 November 2022**					
Sean Bui						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**6136 Manchester**										
RUN:	**Off-site Const. - Paving/Landscape**										
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	
Along La Tijera	1	1	250.0	45.0	0.00	4.92	0.00	71	5.0	0.0	Y

Eyestone Environmental
Sean Bui

16 November 2022
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 6136 Manchester
RUN: Off-site Const. - Paving/Landscape
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		Increase over existing		Type Impact	With Barrier Calculated LAeq1h	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Along La Tijera	1	1	0.0	52.4	71	52.4	5	----	52.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

AES
Acoustical Engineering Services

Project: 6136 Manchester

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

		Estimated Vibration Levels at nearest off-site building structures (distance in feet), PPV						
Equipment	**Reference Vibration Levels at 25 ft., PPV**	**1- and 2-Story Buildings to the North**	**1- and 2-story Buildings to the South**	**1-story commercial Building to the East**	**1-story commercial Buildings to the West**	**Historic District to the West**		
		100	**100**	**12**	**60**	**60**		
Large Bulldozer	0.089	0.011	0.011	0.200	0.024	0.024		
Caisson Drilling	0.089	0.011	0.011	0.200	0.024	0.024		
Loaded Trucks	0.076	0.010	0.010	0.170	0.020	0.020		
Jackhammer	0.035	0.004	0.004	0.079	0.009	0.009		
Small bulldozer	0.003	0.000	0.000	0.007	0.001	0.001		
Significance Threshold, PPV		0.3	0.3	0.3	0.3	0.12		

OFF-SITE CONSTRUCTION HAUL TRUCKS

Table 2: Off-Site Haul Trucks - Building Damage

		Estimated Vibration Levels at noted distance in feet, PPV						
Equipment	**Reference Vibration Levels at 50 ft., 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)

Operation Noise Calculations

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Project Composite Noise Calculations (CNEL)

Project: 6136 Manchester Project

Receptor	Ambient	Traffic[a]	Mechanical			Outdoor		Project Composite	Ambient + Project	Increase
R1	77.1	53.2	41.5			54.5		57.0	77.1	0.0
R2	70.2	55.4	40.6			50.7		56.7	70.4	0.2
R3	72.7	54.8	39.5			48.9		55.9	72.8	0.1
R4	58.0	36.1	42.3			56.9		57.1	60.6	2.6

[a] - Project traffic noise levels at each receptor is based on the traffic noise analysis for the roadway segment in front of the receptor, adjusted for distance and barrier (if present), as provided in the table below.

		Traffic Noise Levels, CNEL								
Receptor	Roadway Segment	Existing	Existing + Project	Project Only	distance to roadway, ft	Existing	Existing + Project	barrier	distance to Center Line	adj. for distance
R1	La Tijera Blvd.	69.5	69.6	53.2	10	69.5	69.6	0	45	0.0
R2	Manchester	71.7	71.8	55.4	10	71.7	71.8	0	55	0.0
R3	Manchester	71.1	71.2	54.8	10	71.1	71.2	0	55	0.0
R4	La Tijera Blvd.	52.4	52.5	36.1	210	69.8	69.9	10	45	-7.4

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Outdoor Mechanical Equipment Noise Calculations

Project: 6136 Manchester Project

	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	34.8	41.5	34.8	34.8	34.8
R2	33.9	40.6	33.9	33.9	33.9
R3	32.8	39.5	32.8	32.8	32.8
R4	35.6	42.3	35.6	35.6	35.6

Receptor	Ambient CNEL	Ambient + Project (CNEL)	Increase (CNEL)	ambient (Leq)	Ambient + Project (Leq)
R1	77.1	77.1	0.0	69.5	69.5
R2	70.2	70.2	0.0	64.7	64.7
R3	72.7	72.7	0.0	66.7	66.7
R4	58.0	58.1	0.1	52.5	52.6

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Outdoor Noise Calculations

Project: 6136 Manchester Project

	Estimated noise levels, Leq (FROM SOUNDPLAN)				Hours of Operations Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor	Sound System	Occupants	Total, Leq	CNEL	12	3	2
R1	51.5	43.0	52.1	54.5	52.1	52.1	45.6
R2	47.9	38.1	48.3	50.7	48.3	48.3	41.8
R3	46.3	33.9	46.5	48.9	46.5	46.5	40.0
R4	54.3	41.6	54.5	56.9	54.5	54.5	48.0

Receptor	Project (CNEL)	Ambient (CNEL)	Ambient + Project (CNEL)	Increase (CNEL)	Project Noise, (Leq)	Ambient (Leq)	Ambient + Project (Leq)
R1	54.5	77.1	77.1	0.0	52.1	69.5	69.6
R2	50.7	70.2	70.2	0.0	48.3	64.7	64.8
R3	48.9	72.7	72.7	0.0	46.5	66.7	66.7
R4	56.9	58.0	60.5	2.5	54.5	52.5	56.6

6136 Manchester
Source Levels in dB(A) - Mechanical

Name	Source type	Lw dB(A)	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical L6 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	

6136 Manchester
Source Levels in dB(A) - Mechanical

Name	Source type	Lw dB(A)	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	

6136 Manchester
Source Levels in dB(A) - Mechanical

Name	Source type	Lw dB(A)	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	
Mechanical Level 08 Roof	Point	80.0	

6136 Manchester
Contribution level - Mechanical

Source	Source type	Leq,d dB(A)	
Receiver R1 Leq,d 34.8 dB(A)			
Mechanical L6 Roof	Point	18.9	
Mechanical L6 Roof	Point	19.3	
Mechanical L6 Roof	Point	19.5	
Mechanical L6 Roof	Point	19.5	
Mechanical L6 Roof	Point	19.6	
Mechanical L6 Roof	Point	22.2	
Mechanical L6 Roof	Point	22.4	
Mechanical L6 Roof	Point	22.6	
Mechanical L6 Roof	Point	23.2	
Mechanical L6 Roof	Point	23.4	
Mechanical L6 Roof	Point	23.9	
Mechanical Level 08 Roof	Point	12.8	
Mechanical Level 08 Roof	Point	13.1	
Mechanical Level 08 Roof	Point	13.3	
Mechanical Level 08 Roof	Point	13.6	
Mechanical Level 08 Roof	Point	14.2	
Mechanical Level 08 Roof	Point	14.2	
Mechanical Level 08 Roof	Point	15.4	
Mechanical Level 08 Roof	Point	16.7	
Mechanical Level 08 Roof	Point	17.6	
Mechanical Level 08 Roof	Point	18.5	
Mechanical Level 08 Roof	Point	19.1	
Mechanical Level 08 Roof	Point	18.8	
Mechanical Level 08 Roof	Point	14.8	
Mechanical Level 08 Roof	Point	14.5	
Mechanical Level 08 Roof	Point	14.1	
Mechanical Level 08 Roof	Point	14.0	
Mechanical Level 08 Roof	Point	13.7	
Mechanical Level 08 Roof	Point	13.2	
Mechanical Level 08 Roof	Point	13.0	
Mechanical Level 08 Roof	Point	12.4	
Mechanical Level 08 Roof	Point	11.8	
Mechanical Level 08 Roof	Point	12.6	
Mechanical Level 08 Roof	Point	11.8	
Mechanical Level 08 Roof	Point	15.5	
Mechanical Level 08 Roof	Point	17.2	
Mechanical Level 08 Roof	Point	12.5	
Mechanical Level 08 Roof	Point	12.9	
Mechanical Level 08 Roof	Point	11.3	
Mechanical Level 08 Roof	Point	11.9	

Source	Source type	Leq,d dB(A)
Mechanical Level 08 Roof	Point	10.0
Mechanical Level 08 Roof	Point	9.4
Mechanical Level 08 Roof	Point	9.1
Mechanical Level 08 Roof	Point	10.3
Mechanical Level 08 Roof	Point	10.7
Mechanical Level 08 Roof	Point	14.4
Mechanical Level 08 Roof	Point	12.9
Mechanical Level 08 Roof	Point	11.0
Mechanical Level 08 Roof	Point	10.0
Mechanical Level 08 Roof	Point	12.0
Mechanical Level 08 Roof	Point	12.5
Mechanical Level 08 Roof	Point	11.2
Mechanical Level 08 Roof	Point	8.3
Mechanical Level 08 Roof	Point	7.6
Mechanical Level 08 Roof	Point	7.5
Mechanical Level 08 Roof	Point	7.5
Mechanical Level 08 Roof	Point	7.3
Mechanical Level 08 Roof	Point	7.3
Mechanical Level 08 Roof	Point	7.3
Mechanical Level 08 Roof	Point	7.2
Mechanical Level 08 Roof	Point	6.8
Mechanical Level 08 Roof	Point	6.8
Mechanical Level 08 Roof	Point	6.9
Mechanical Level 08 Roof	Point	6.3
Mechanical Level 08 Roof	Point	5.7
Mechanical Level 08 Roof	Point	6.1
Mechanical Level 08 Roof	Point	6.3
Mechanical Level 08 Roof	Point	6.4
Mechanical Level 08 Roof	Point	6.6
Mechanical Level 08 Roof	Point	6.7
Mechanical Level 08 Roof	Point	6.9
Mechanical Level 08 Roof	Point	7.1
Mechanical Level 08 Roof	Point	10.8
Mechanical Level 08 Roof	Point	10.8
Mechanical Level 08 Roof	Point	8.9
Mechanical Level 08 Roof	Point	10.0
Mechanical Level 08 Roof	Point	10.1
Mechanical Level 08 Roof	Point	8.8
Mechanical Level 08 Roof	Point	12.0
Mechanical Level 08 Roof	Point	9.0
Mechanical Level 08 Roof	Point	9.1

Source	Source type	Leq,d dB(A)	
Mechanical Level 08 Roof	Point	9.0	
Mechanical Level 08 Roof	Point	9.3	
Mechanical Level 08 Roof	Point	10.0	
Mechanical Level 08 Roof	Point	9.8	
Mechanical Level 08 Roof	Point	10.9	
Mechanical Level 08 Roof	Point	11.2	
Mechanical Level 08 Roof	Point	11.4	
Mechanical Level 08 Roof	Point	11.8	
Mechanical Level 08 Roof	Point	12.1	
Mechanical Level 08 Roof	Point	12.5	
Receiver R2 Leq,d 33.9 dB(A)			
Mechanical L6 Roof	Point	5.8	
Mechanical L6 Roof	Point	6.1	
Mechanical L6 Roof	Point	7.3	
Mechanical L6 Roof	Point	7.3	
Mechanical L6 Roof	Point	7.6	
Mechanical L6 Roof	Point	6.4	
Mechanical L6 Roof	Point	7.4	
Mechanical L6 Roof	Point	7.3	
Mechanical L6 Roof	Point	7.0	
Mechanical L6 Roof	Point	6.0	
Mechanical L6 Roof	Point	6.5	
Mechanical Level 08 Roof	Point	14.0	
Mechanical Level 08 Roof	Point	12.6	
Mechanical Level 08 Roof	Point	13.3	
Mechanical Level 08 Roof	Point	11.5	
Mechanical Level 08 Roof	Point	11.1	
Mechanical Level 08 Roof	Point	10.6	
Mechanical Level 08 Roof	Point	10.9	
Mechanical Level 08 Roof	Point	9.5	
Mechanical Level 08 Roof	Point	9.5	
Mechanical Level 08 Roof	Point	9.1	
Mechanical Level 08 Roof	Point	9.5	
Mechanical Level 08 Roof	Point	9.5	
Mechanical Level 08 Roof	Point	8.4	
Mechanical Level 08 Roof	Point	10.0	
Mechanical Level 08 Roof	Point	10.1	
Mechanical Level 08 Roof	Point	10.0	
Mechanical Level 08 Roof	Point	10.0	
Mechanical Level 08 Roof	Point	10.0	
Mechanical Level 08 Roof	Point	10.0	

Source	Source type	Leq,d dB(A)
Mechanical Level 08 Roof	Point	10.1
Mechanical Level 08 Roof	Point	10.6
Mechanical Level 08 Roof	Point	10.7
Mechanical Level 08 Roof	Point	12.1
Mechanical Level 08 Roof	Point	11.3
Mechanical Level 08 Roof	Point	18.4
Mechanical Level 08 Roof	Point	11.4
Mechanical Level 08 Roof	Point	10.1
Mechanical Level 08 Roof	Point	10.1
Mechanical Level 08 Roof	Point	10.1
Mechanical Level 08 Roof	Point	11.1
Mechanical Level 08 Roof	Point	10.9
Mechanical Level 08 Roof	Point	10.6
Mechanical Level 08 Roof	Point	10.2
Mechanical Level 08 Roof	Point	10.1
Mechanical Level 08 Roof	Point	20.3
Mechanical Level 08 Roof	Point	19.8
Mechanical Level 08 Roof	Point	19.8
Mechanical Level 08 Roof	Point	19.9
Mechanical Level 08 Roof	Point	19.7
Mechanical Level 08 Roof	Point	19.7
Mechanical Level 08 Roof	Point	19.7
Mechanical Level 08 Roof	Point	20.1
Mechanical Level 08 Roof	Point	19.9
Mechanical Level 08 Roof	Point	19.7
Mechanical Level 08 Roof	Point	19.5
Mechanical Level 08 Roof	Point	19.4
Mechanical Level 08 Roof	Point	19.3
Mechanical Level 08 Roof	Point	19.4
Mechanical Level 08 Roof	Point	19.1
Mechanical Level 08 Roof	Point	18.9
Mechanical Level 08 Roof	Point	18.8
Mechanical Level 08 Roof	Point	18.6
Mechanical Level 08 Roof	Point	17.5
Mechanical Level 08 Roof	Point	13.6
Mechanical Level 08 Roof	Point	12.8
Mechanical Level 08 Roof	Point	12.1
Mechanical Level 08 Roof	Point	11.8
Mechanical Level 08 Roof	Point	11.2
Mechanical Level 08 Roof	Point	10.7
Mechanical Level 08 Roof	Point	10.3

Source	Source type	Leq,d dB(A)	
Mechanical Level 08 Roof	Point	10.0	
Mechanical Level 08 Roof	Point	9.7	
Mechanical Level 08 Roof	Point	9.4	
Mechanical Level 08 Roof	Point	9.1	
Mechanical Level 08 Roof	Point	7.8	
Mechanical Level 08 Roof	Point	9.6	
Mechanical Level 08 Roof	Point	8.4	
Mechanical Level 08 Roof	Point	10.0	
Mechanical Level 08 Roof	Point	7.6	
Mechanical Level 08 Roof	Point	7.3	
Mechanical Level 08 Roof	Point	7.3	
Mechanical Level 08 Roof	Point	7.2	
Mechanical Level 08 Roof	Point	7.2	
Mechanical Level 08 Roof	Point	7.0	
Mechanical Level 08 Roof	Point	6.3	
Mechanical Level 08 Roof	Point	6.0	
Mechanical Level 08 Roof	Point	5.8	
Mechanical Level 08 Roof	Point	5.6	
Mechanical Level 08 Roof	Point	5.4	
Mechanical Level 08 Roof	Point	5.6	
Receiver R3 Leq,d 32.8 dB(A)			
Mechanical L6 Roof	Point	11.9	
Mechanical L6 Roof	Point	11.6	
Mechanical L6 Roof	Point	11.1	
Mechanical L6 Roof	Point	10.6	
Mechanical L6 Roof	Point	10.1	
Mechanical L6 Roof	Point	15.7	
Mechanical L6 Roof	Point	15.8	
Mechanical L6 Roof	Point	16.0	
Mechanical L6 Roof	Point	16.5	
Mechanical L6 Roof	Point	12.9	
Mechanical L6 Roof	Point	11.2	
Mechanical Level 08 Roof	Point	17.1	
Mechanical Level 08 Roof	Point	17.1	
Mechanical Level 08 Roof	Point	17.1	
Mechanical Level 08 Roof	Point	17.0	
Mechanical Level 08 Roof	Point	17.0	
Mechanical Level 08 Roof	Point	16.9	
Mechanical Level 08 Roof	Point	16.6	
Mechanical Level 08 Roof	Point	16.8	
Mechanical Level 08 Roof	Point	16.8	

Source	Source type	Leq,d dB(A)
Mechanical Level 08 Roof	Point	16.5
Mechanical Level 08 Roof	Point	15.8
Mechanical Level 08 Roof	Point	15.3
Mechanical Level 08 Roof	Point	15.2
Mechanical Level 08 Roof	Point	14.9
Mechanical Level 08 Roof	Point	14.6
Mechanical Level 08 Roof	Point	14.3
Mechanical Level 08 Roof	Point	14.0
Mechanical Level 08 Roof	Point	13.7
Mechanical Level 08 Roof	Point	13.5
Mechanical Level 08 Roof	Point	13.2
Mechanical Level 08 Roof	Point	13.0
Mechanical Level 08 Roof	Point	12.8
Mechanical Level 08 Roof	Point	12.6
Mechanical Level 08 Roof	Point	12.4
Mechanical Level 08 Roof	Point	12.2
Mechanical Level 08 Roof	Point	12.0
Mechanical Level 08 Roof	Point	8.5
Mechanical Level 08 Roof	Point	9.2
Mechanical Level 08 Roof	Point	9.8
Mechanical Level 08 Roof	Point	10.0
Mechanical Level 08 Roof	Point	10.2
Mechanical Level 08 Roof	Point	10.5
Mechanical Level 08 Roof	Point	10.5
Mechanical Level 08 Roof	Point	10.3
Mechanical Level 08 Roof	Point	17.0
Mechanical Level 08 Roof	Point	16.9
Mechanical Level 08 Roof	Point	16.9
Mechanical Level 08 Roof	Point	15.0
Mechanical Level 08 Roof	Point	14.5
Mechanical Level 08 Roof	Point	13.9
Mechanical Level 08 Roof	Point	13.3
Mechanical Level 08 Roof	Point	12.8
Mechanical Level 08 Roof	Point	12.4
Mechanical Level 08 Roof	Point	11.9
Mechanical Level 08 Roof	Point	11.5
Mechanical Level 08 Roof	Point	11.1
Mechanical Level 08 Roof	Point	10.7
Mechanical Level 08 Roof	Point	10.3
Mechanical Level 08 Roof	Point	10.0
Mechanical Level 08 Roof	Point	9.7

Source	Source type	Leq,d dB(A)	
Mechanical Level 08 Roof	Point	9.5	
Mechanical Level 08 Roof	Point	9.5	
Mechanical Level 08 Roof	Point	9.1	
Mechanical Level 08 Roof	Point	9.4	
Mechanical Level 08 Roof	Point	9.9	
Mechanical Level 08 Roof	Point	11.9	
Mechanical Level 08 Roof	Point	11.4	
Mechanical Level 08 Roof	Point	10.9	
Mechanical Level 08 Roof	Point	11.9	
Mechanical Level 08 Roof	Point	13.0	
Mechanical Level 08 Roof	Point	12.6	
Mechanical Level 08 Roof	Point	12.0	
Mechanical Level 08 Roof	Point	10.5	
Mechanical Level 08 Roof	Point	10.5	
Mechanical Level 08 Roof	Point	10.3	
Mechanical Level 08 Roof	Point	10.2	
Mechanical Level 08 Roof	Point	9.3	
Mechanical Level 08 Roof	Point	8.2	
Mechanical Level 08 Roof	Point	10.7	
Mechanical Level 08 Roof	Point	10.5	
Mechanical Level 08 Roof	Point	10.5	
Mechanical Level 08 Roof	Point	5.2	
Mechanical Level 08 Roof	Point	5.2	
Mechanical Level 08 Roof	Point	5.2	
Mechanical Level 08 Roof	Point	7.9	
Mechanical Level 08 Roof	Point	8.4	
Mechanical Level 08 Roof	Point	8.8	
Mechanical Level 08 Roof	Point	9.1	
Mechanical Level 08 Roof	Point	9.3	
Mechanical Level 08 Roof	Point	9.6	
Receiver R4 Leq,d 35.6 dB(A)			
Mechanical L6 Roof	Point	20.8	
Mechanical L6 Roof	Point	18.9	
Mechanical L6 Roof	Point	18.8	
Mechanical L6 Roof	Point	18.7	
Mechanical L6 Roof	Point	18.7	
Mechanical L6 Roof	Point	20.7	
Mechanical L6 Roof	Point	20.6	
Mechanical L6 Roof	Point	20.6	
Mechanical L6 Roof	Point	20.9	
Mechanical L6 Roof	Point	21.4	

Source	Source type	Leq,d dB(A)
Mechanical L6 Roof	Point	22.1
Mechanical Level 08 Roof	Point	13.4
Mechanical Level 08 Roof	Point	13.4
Mechanical Level 08 Roof	Point	13.6
Mechanical Level 08 Roof	Point	14.0
Mechanical Level 08 Roof	Point	14.3
Mechanical Level 08 Roof	Point	14.6
Mechanical Level 08 Roof	Point	14.9
Mechanical Level 08 Roof	Point	16.5
Mechanical Level 08 Roof	Point	17.0
Mechanical Level 08 Roof	Point	17.7
Mechanical Level 08 Roof	Point	17.6
Mechanical Level 08 Roof	Point	17.6
Mechanical Level 08 Roof	Point	17.5
Mechanical Level 08 Roof	Point	17.5
Mechanical Level 08 Roof	Point	17.4
Mechanical Level 08 Roof	Point	17.4
Mechanical Level 08 Roof	Point	17.4
Mechanical Level 08 Roof	Point	17.4
Mechanical Level 08 Roof	Point	17.4
Mechanical Level 08 Roof	Point	17.3
Mechanical Level 08 Roof	Point	17.3
Mechanical Level 08 Roof	Point	17.2
Mechanical Level 08 Roof	Point	17.4
Mechanical Level 08 Roof	Point	17.4
Mechanical Level 08 Roof	Point	17.0
Mechanical Level 08 Roof	Point	14.7
Mechanical Level 08 Roof	Point	14.2
Mechanical Level 08 Roof	Point	14.1
Mechanical Level 08 Roof	Point	16.0
Mechanical Level 08 Roof	Point	15.2
Mechanical Level 08 Roof	Point	14.8
Mechanical Level 08 Roof	Point	14.7
Mechanical Level 08 Roof	Point	14.1
Mechanical Level 08 Roof	Point	13.7
Mechanical Level 08 Roof	Point	13.4
Mechanical Level 08 Roof	Point	12.6
Mechanical Level 08 Roof	Point	12.1
Mechanical Level 08 Roof	Point	10.8
Mechanical Level 08 Roof	Point	12.4
Mechanical Level 08 Roof	Point	12.3

Source	Source type	Leq,d dB(A)	
Mechanical Level 08 Roof	Point	11.3	
Mechanical Level 08 Roof	Point	11.1	
Mechanical Level 08 Roof	Point	10.9	
Mechanical Level 08 Roof	Point	10.8	
Mechanical Level 08 Roof	Point	10.6	
Mechanical Level 08 Roof	Point	10.4	
Mechanical Level 08 Roof	Point	10.2	
Mechanical Level 08 Roof	Point	10.0	
Mechanical Level 08 Roof	Point	9.8	
Mechanical Level 08 Roof	Point	9.6	
Mechanical Level 08 Roof	Point	9.5	
Mechanical Level 08 Roof	Point	9.3	
Mechanical Level 08 Roof	Point	8.2	
Mechanical Level 08 Roof	Point	8.5	
Mechanical Level 08 Roof	Point	8.7	
Mechanical Level 08 Roof	Point	9.0	
Mechanical Level 08 Roof	Point	9.2	
Mechanical Level 08 Roof	Point	10.8	
Mechanical Level 08 Roof	Point	11.1	
Mechanical Level 08 Roof	Point	11.4	
Mechanical Level 08 Roof	Point	11.8	
Mechanical Level 08 Roof	Point	12.1	
Mechanical Level 08 Roof	Point	12.5	
Mechanical Level 08 Roof	Point	14.1	
Mechanical Level 08 Roof	Point	11.8	
Mechanical Level 08 Roof	Point	12.1	
Mechanical Level 08 Roof	Point	12.3	
Mechanical Level 08 Roof	Point	12.4	
Mechanical Level 08 Roof	Point	12.6	
Mechanical Level 08 Roof	Point	13.8	
Mechanical Level 08 Roof	Point	13.2	
Mechanical Level 08 Roof	Point	16.9	
Mechanical Level 08 Roof	Point	16.6	
Mechanical Level 08 Roof	Point	16.6	
Mechanical Level 08 Roof	Point	16.9	
Mechanical Level 08 Roof	Point	16.9	
Mechanical Level 08 Roof	Point	17.0	
Mechanical Level 08 Roof	Point	17.0	
Mechanical Level 08 Roof	Point	17.9	
Mechanical Level 08 Roof	Point	19.3	

6136 Manchester
Source Levels in dB(A) - People

Name	Source type	Lw dB(A)	
People Level 01	Area	88.9	
People Level 03 Courtyard N	Area	94.1	
People Level 03 Courtyard S	Area	94.8	
People Level 03 Terrace	Area	85.2	
People Level 05	Area	92.5	
People Level 06	Area	88.5	
People Level 07 - Terrace NE	Area	86.0	
People Level 08 - Terrace NW	Area	86.5	
People Level 08 - Terrace S	Area	88.8	

6136 Manchester
Contribution level - People

Source	Source type	Leq,d dB(A)	
Receiver R1 Leq,d 43.0 dB(A)			
People Level 01	Area	29.0	
People Level 03 Courtyard S	Area	32.2	
People Level 03 Courtyard N	Area	29.5	
People Level 03 Terrace	Area	12.0	
People Level 05	Area	39.6	
People Level 06	Area	38.6	
People Level 08 - Terrace NW	Area	10.3	
People Level 08 - Terrace S	Area	23.8	
People Level 07 - Terrace NE	Area	14.8	
Receiver R2 Leq,d 38.1 dB(A)			
People Level 01	Area	12.5	
People Level 03 Courtyard S	Area	22.8	
People Level 03 Courtyard N	Area	30.9	
People Level 03 Terrace	Area	-4.7	
People Level 05	Area	16.1	
People Level 06	Area	12.4	
People Level 08 - Terrace NW	Area	29.2	
People Level 08 - Terrace S	Area	12.0	
People Level 07 - Terrace NE	Area	36.1	
Receiver R3 Leq,d 33.9 dB(A)			
People Level 01	Area	12.9	
People Level 03 Courtyard S	Area	26.3	
People Level 03 Courtyard N	Area	19.4	
People Level 03 Terrace	Area	2.3	
People Level 05	Area	25.6	
People Level 06	Area	20.3	
People Level 08 - Terrace NW	Area	25.0	
People Level 08 - Terrace S	Area	17.7	
People Level 07 - Terrace NE	Area	30.3	
Receiver R4 Leq,d 41.6 dB(A)			
People Level 01	Area	24.8	
People Level 03 Courtyard S	Area	34.0	
People Level 03 Courtyard N	Area	24.4	
People Level 03 Terrace	Area	2.8	
People Level 05	Area	37.8	
People Level 06	Area	36.0	
People Level 08 - Terrace NW	Area	8.3	
People Level 08 - Terrace S	Area	31.9	
People Level 07 - Terrace NE	Area	15.2	

6136 Manchester
Source Levels in dB(A) - Speakers

Name	Source type	Lw dB(A)	
Speakers Level 01	Point	104.2	
Speakers Level 01	Point	104.2	
Speakers Level 01	Point	104.2	
Speakers Level 01	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 03	Point	104.2	
Speakers Level 05	Point	104.2	
Speakers Level 05	Point	104.2	
Speakers Level 05	Point	104.2	
Speakers Level 05	Point	104.2	
Speakers Level 05	Point	104.2	
Speakers Level 05	Point	104.2	
Speakers Level 06	Point	104.2	
Speakers Level 06	Point	104.2	
Speakers Level 06	Point	104.2	
Speakers Level 06	Point	104.2	
Speakers Level 07	Point	104.2	
Speakers Level 07	Point	104.2	
Speakers Level 08	Point	104.2	
Speakers Level 08	Point	104.2	
Speakers Level 08	Point	104.2	
Speakers Level 08	Point	104.2	
Speakers Level 08	Point	104.2	
Speakers Level 08	Point	104.2	
Speakers Level 08	Point	104.2	

Source	Source type	Leq,d dB(A)	
Receiver R1 Leq,d 51.5 dB(A)			
Speakers Level 01	Point	21.0	
Speakers Level 01	Point	15.8	
Speakers Level 01	Point	19.5	
Speakers Level 01	Point	19.2	
Speakers Level 03	Point	35.8	
Speakers Level 03	Point	35.2	
Speakers Level 03	Point	39.6	
Speakers Level 03	Point	35.3	
Speakers Level 03	Point	32.3	
Speakers Level 03	Point	27.3	
Speakers Level 03	Point	38.2	
Speakers Level 03	Point	34.6	
Speakers Level 03	Point	33.6	
Speakers Level 03	Point	34.8	
Speakers Level 03	Point	13.7	
Speakers Level 03	Point	12.6	
Speakers Level 05	Point	24.1	
Speakers Level 05	Point	34.0	
Speakers Level 05	Point	33.7	
Speakers Level 05	Point	39.5	
Speakers Level 05	Point	45.8	
Speakers Level 05	Point	35.1	
Speakers Level 06	Point	44.5	
Speakers Level 06	Point	32.0	
Speakers Level 06	Point	34.8	
Speakers Level 06	Point	40.0	
Speakers Level 08	Point	25.7	
Speakers Level 08	Point	29.8	
Speakers Level 08	Point	32.7	
Speakers Level 08	Point	33.6	
Speakers Level 08	Point	18.6	
Speakers Level 08	Point	12.8	
Speakers Level 08	Point	20.9	
Speakers Level 07	Point	20.5	
Speakers Level 07	Point	29.5	
Receiver R2 Leq,d 47.9 dB(A)			
Speakers Level 01	Point	11.8	
Speakers Level 01	Point	2.2	
Speakers Level 01	Point	9.4	

Source	Source type	Leq,d dB(A)	
Speakers Level 01	Point	3.2	
Speakers Level 03	Point	27.5	
Speakers Level 03	Point	31.3	
Speakers Level 03	Point	29.6	
Speakers Level 03	Point	28.5	
Speakers Level 03	Point	32.2	
Speakers Level 03	Point	30.3	
Speakers Level 03	Point	37.6	
Speakers Level 03	Point	40.4	
Speakers Level 03	Point	38.2	
Speakers Level 03	Point	37.0	
Speakers Level 03	Point	-1.3	
Speakers Level 03	Point	-0.8	
Speakers Level 05	Point	12.3	
Speakers Level 05	Point	17.7	
Speakers Level 05	Point	13.9	
Speakers Level 05	Point	12.4	
Speakers Level 05	Point	22.9	
Speakers Level 05	Point	22.5	
Speakers Level 06	Point	24.0	
Speakers Level 06	Point	12.0	
Speakers Level 06	Point	23.1	
Speakers Level 06	Point	18.5	
Speakers Level 08	Point	10.7	
Speakers Level 08	Point	11.3	
Speakers Level 08	Point	17.3	
Speakers Level 08	Point	13.6	
Speakers Level 08	Point	35.1	
Speakers Level 08	Point	37.1	
Speakers Level 08	Point	41.1	
Speakers Level 07	Point	34.5	
Speakers Level 07	Point	31.6	
Receiver R3 Leq,d 46.3 dB(A)			
Speakers Level 01	Point	7.7	
Speakers Level 01	Point	0.9	
Speakers Level 01	Point	6.6	
Speakers Level 01	Point	3.0	
Speakers Level 03	Point	23.8	
Speakers Level 03	Point	19.1	
Speakers Level 03	Point	21.8	
Speakers Level 03	Point	22.4	

Source	Source type	Leq,d dB(A)	
Speakers Level 03	Point	25.1	
Speakers Level 03	Point	20.9	
Speakers Level 03	Point	18.8	
Speakers Level 03	Point	20.2	
Speakers Level 03	Point	17.6	
Speakers Level 03	Point	18.8	
Speakers Level 03	Point	3.4	
Speakers Level 03	Point	-8.9	
Speakers Level 05	Point	15.2	
Speakers Level 05	Point	23.9	
Speakers Level 05	Point	22.1	
Speakers Level 05	Point	23.3	
Speakers Level 05	Point	35.1	
Speakers Level 05	Point	20.1	
Speakers Level 06	Point	33.0	
Speakers Level 06	Point	13.8	
Speakers Level 06	Point	21.5	
Speakers Level 06	Point	20.5	
Speakers Level 08	Point	11.1	
Speakers Level 08	Point	13.8	
Speakers Level 08	Point	20.9	
Speakers Level 08	Point	22.6	
Speakers Level 08	Point	17.5	
Speakers Level 08	Point	30.6	
Speakers Level 08	Point	41.7	
Speakers Level 07	Point	41.7	
Speakers Level 07	Point	35.2	
Receiver R4 Leq,d 54.3 dB(A)			
Speakers Level 01	Point	11.3	
Speakers Level 01	Point	9.9	
Speakers Level 01	Point	14.5	
Speakers Level 01	Point	17.3	
Speakers Level 03	Point	30.0	
Speakers Level 03	Point	30.1	
Speakers Level 03	Point	31.2	
Speakers Level 03	Point	28.6	
Speakers Level 03	Point	26.3	
Speakers Level 03	Point	19.8	
Speakers Level 03	Point	33.1	
Speakers Level 03	Point	30.3	
Speakers Level 03	Point	28.9	

Source	Source type	Leq,d dB(A)	
Speakers Level 03	Point	27.7	
Speakers Level 03	Point	-5.9	
Speakers Level 03	Point	8.3	
Speakers Level 05	Point	36.0	
Speakers Level 05	Point	40.5	
Speakers Level 05	Point	47.2	
Speakers Level 05	Point	47.0	
Speakers Level 05	Point	42.4	
Speakers Level 05	Point	28.9	
Speakers Level 06	Point	40.4	
Speakers Level 06	Point	39.0	
Speakers Level 06	Point	34.6	
Speakers Level 06	Point	46.9	
Speakers Level 08	Point	35.5	
Speakers Level 08	Point	43.7	
Speakers Level 08	Point	43.7	
Speakers Level 08	Point	35.6	
Speakers Level 08	Point	10.7	
Speakers Level 08	Point	12.5	
Speakers Level 08	Point	18.0	
Speakers Level 07	Point	18.4	
Speakers Level 07	Point	29.7	

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: 6136 Manchester

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
Sepulveda Boulevard										
- Between 83rd St. and Manchester Ave.	90	10	55	35	3,670	36,700	10%	0	0	73.1
- Between Manchester Ave. and La Tijera Blvd.	90	10	55	35	3,277	32,770	10%	0	0	72.6
- Between La Tijera Blvd. and Westchester Pkwy	90	10	55	35	3,625	36,250	10%	0	0	73.0
Truxton Avenue										
- Between 83rd St. and Manchester Ave.	30	10	25	25	255	2,550	10%	0	0	65.1
- Between Manchester Ave. and La Tijera Blvd.	30	10	25	25	223	2,230	10%	0	0	64.5
Manchester Avenue										
- Between Kenwood Ave. and Sepulveda Blvd.	70	10	45	35	2,287	22,870	10%	0	0	71.9
- Between Sepulveda Blvd. and Truxton Ave.	80	10	50	35	2,370	23,700	10%	0	0	71.6
- Between Truxton Ave. and La Tijera Blvd.	80	10	50	35	2,405	24,050	10%	0	0	71.7
- Between La Tijera Blvd. and Airport Blvd.	80	10	50	35	2,122	21,220	10%	0	0	71.1
La Tijera Boulevard										
- Between Sepulveda Blvd. and Sepulveda Eastw	70	10	45	35	1,165	11,650	10%	0	0	69.0
- Between Sepulveda East Dwy and Truxton	70	10	45	35	1,321	13,210	10%	0	0	69.6
- Between Truxton and Manchester Ave.	70	10	45	35	1,295	12,950	10%	0	0	69.5
- Between Manchester Ave. and 83rd St.	70	10	45	35	1,381	13,810	10%	0	0	69.8

* Estimated based on Google Earth map.

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

Date Printed: 11/17/2022

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: 6136 Manchester

Traffic Distribution as % of ADT				
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
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	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
Sepulveda Boulevard										
- Between 83rd St. and Manchester Ave.	90	10	55	35	3,699	36,990	10%	0	0	73.1
- Between Manchester Ave. and La Tijera Blvd.	90	10	55	35	3,277	32,770	10%	0	0	72.6
- Between La Tijera Blvd. and Westchester Pkwy	90	10	55	35	3,651	36,510	10%	0	0	73.1
Truxton Avenue										
- Between 83rd St. and Manchester Ave.	30	10	25	25	255	2,550	10%	0	0	65.1
- Between Manchester Ave. and La Tijera Blvd.	30	10	25	25	294	2,940	10%	0	0	65.7
Manchester Avenue										
- Between Kenwood Ave. and Sepulveda Blvd.	70	10	45	35	2,313	23,130	10%	0	0	72.0
- Between Sepulveda Blvd. and Truxton Ave.	80	10	50	35	2,444	24,440	10%	0	0	71.7
- Between Truxton Ave. and La Tijera Blvd.	80	10	50	35	2,480	24,800	10%	0	0	71.8
- Between La Tijera Blvd. and Airport Blvd.	80	10	50	35	2,156	21,560	10%	0	0	71.2
La Tijera Boulevard										
- Between Sepulveda Blvd. and Sepulveda Eastw	70	10	45	35	1,219	12,190	10%	0	0	69.2
- Between Sepulveda East Dwy and Truxton	70	10	45	35	1,385	13,850	10%	0	0	69.8
- Between Truxton and Manchester Ave.	70	10	45	35	1,338	13,380	10%	0	0	69.6
- Between Manchester Ave. and 83rd St.	70	10	45	35	1,415	14,150	10%	0	0	69.9

* Estimated based on Google Earth map.

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

Date Printed: 11/17/2022

AES
ACOUSTICAL ENGINEERING SERVICES

Off-Site Traffic Noise Calculations
Project: 6136 Manchester

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
Sepulveda Boulevard										
- Between 83rd St. and Manchester Ave.	90	10	55	35	3,956	39,560	10%	0	0	73.4
- Between Manchester Ave. and La Tijera Blvd.	90	10	55	35	3,625	36,250	10%	0	0	73.0
- Between La Tijera Blvd. and Westchester Pkwy	90	10	55	35	4,076	40,760	10%	0	0	73.6
Truxton Avenue										
- Between 83rd St. and Manchester Ave.	30	10	25	25	267	2,670	10%	0	0	65.3
- Between Manchester Ave. and La Tijera Blvd.	30	10	25	25	234	2,340	10%	0	0	64.7
Manchester Avenue										
- Between Kenwood Ave. and Sepulveda Blvd.	70	10	45	35	2,485	24,850	10%	0	0	72.3
- Between Sepulveda Blvd. and Truxton Ave.	80	10	50	35	2,584	25,840	10%	0	0	72.0
- Between Truxton Ave. and La Tijera Blvd.	80	10	50	35	2,620	26,200	10%	0	0	72.0
- Between La Tijera Blvd. and Airport Blvd.	80	10	50	35	2,426	24,260	10%	0	0	71.7
La Tijera Boulevard										
- Between Sepulveda Blvd. and Sepulveda Eastw	70	10	45	35	1,390	13,900	10%	0	0	69.8
- Between Sepulveda East Dwy and Truxton	70	10	45	35	1,517	15,170	10%	0	0	70.2
- Between Truxton and Manchester Ave.	70	10	45	35	1,491	14,910	10%	0	0	70.1
- Between Manchester Ave. and 83rd St.	70	10	45	35	1,505	15,050	10%	0	0	70.1

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Off-Site Traffic Noise Calculations
Project: 6136 Manchester

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
Sepulveda Boulevard										
- Between 83rd St. and Manchester Ave.	90	10	55	35	3,985	39,850	10%	0	0	73.5
- Between Manchester Ave. and La Tijera Blvd.	90	10	55	35	3,625	36,250	10%	0	0	73.0
- Between La Tijera Blvd. and Westchester Pkwy	90	10	55	35	4,098	40,980	10%	0	0	73.6
Truxton Avenue										
- Between 83rd St. and Manchester Ave.	30	10	25	25	267	2,670	10%	0	0	65.3
- Between Manchester Ave. and La Tijera Blvd.	30	10	25	25	305	3,050	10%	0	0	65.9
Manchester Avenue										
- Between Kenwood Ave. and Sepulveda Blvd.	70	10	45	35	2,511	25,110	10%	0	0	72.4
- Between Sepulveda Blvd. and Truxton Ave.	80	10	50	35	2,658	26,580	10%	0	0	72.1
- Between Truxton Ave. and La Tijera Blvd.	80	10	50	35	2,695	26,950	10%	0	0	72.2
- Between La Tijera Blvd. and Airport Blvd.	80	10	50	35	2,460	24,600	10%	0	0	71.8
La Tijera Boulevard										
- Between Sepulveda Blvd. and Sepulveda Eastw	70	10	45	35	1,444	14,440	10%	0	0	70.0
- Between Sepulveda East Dwy and Truxton	70	10	45	35	1,581	15,810	10%	0	0	70.3
- Between Truxton and Manchester Ave.	70	10	45	35	1,534	15,340	10%	0	0	70.2
- Between Manchester Ave. and 83rd St.	70	10	45	35	1,539	15,390	10%	0	0	70.2

* Estimated based on Google Earth map.

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